

DESIGN DESIGNATION	
Current A.D.T. (1986) =	5930
Design A.D.T. (1996) =	7512
D.H.V. =	1127
D. =	60%
T. =	4.6%
V. =	55 mph
Legal Speed =	55 mph

* Design Exceptions Noted On Sheet No. 2

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

BEL-7-8.71 MEAD TOWNSHIP BELMONT COUNTY

OHIO	1
FHWA REGION 5	36
FR-1 (130)	FEDERAL PROJECT

FR-1 (130)

BEL-7-8.71

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

1987 SPECIFICATIONS

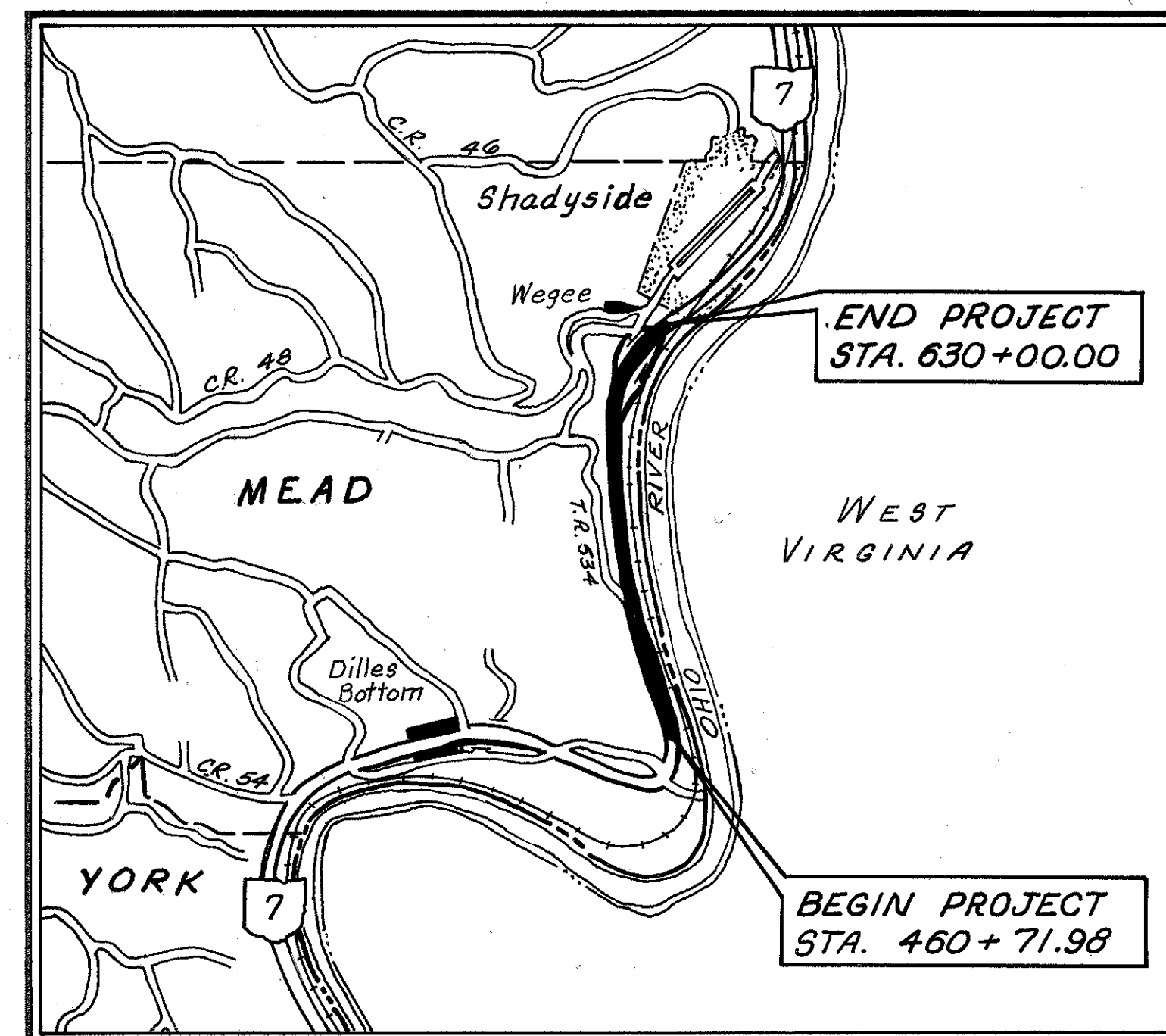
The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

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 set forth on the plans and estimates.

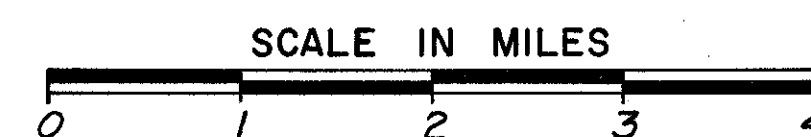
MICROFILMED
FEB 24 1992

CONVENTIONAL SIGNS			
County Line	-----	Limited Access (only)	----- LA
Township Line	-----	Right of Way (only)	----- RW
Section Line	-----	Limited Access & Right of Way	----- LA & RW
Corporation Line	----- or -----	Existing Right of Way	-----
Fence Line (existing)	-x-x- (proposed) -x-x-	Property Line	--- (in existing fence) -x-x-
Center Line	352 ----- 353	Railroad	----- or -----
Trees	(to be removed)	Guardrail (existing)	----- (proposed) -----
Utility Poles:	Telephone ϕ , Power ϕ , Light ϕ .		

INDEX OF SHEETS	
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LOCATION MAP



Portion to be improved: _____
State & Federal Routes: _____
Other Roads: _____

SCALES

Plan: _____
Profile: _____ Horizontal _____, Vertical _____
Cross Section: Horizontal _____, Vertical _____

SUPPLEMENTAL SPECIFICATIONS	
847	10-17-83
850	2-25-86
947	10-17-83
846	11-24-86

LINE DATA	
BEGIN PROJECT	STA. 460+71.98
END PROJECT	STA. 630+00.00
LENGTH OF PROJECT	16,928.02 L.F. or 3.206 Mile
ADD FOR WORK:	
STA. 457+00.00 TO STA. 460+71.98	= 371.98 L.F.
STA. 630+00.00 TO STA. 630+62.50	= 62.50 L.F.
DEDUCTION	-7.76 L.F.
LENGTH OF WORK	17,354.74 L.F. or 3.287 Mile

UNDERGROUND UTILITIES
2 Working Days
BEFORE YOU DIG
Call--800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
TC-41.10	8-29-84	DBR-2-73	4-10-73
TC-41.20	3-26-79		
TC-41.50	3-26-79	BP-5	1-11-85
TC-42.10	8-19-77		
TC-42.20	3-26-79	GR-1	1-11-85
TC-51.10	1-20-84	GR-2B	2-5-82
TC-51.11	1-20-84	GR-3	1-21-85
TC-52.10	4-3-79	GR-4	2-5-82
TC-52.20	4-3-79	GR-4A	1-30-84
TC-71.10	4-9-79		
TC-72.20	2-26-82	F-2	5-1-76
TC-61.10	4-5-82	F-6	5-1-76

Approved _____
Date 9/18/86 District Deputy Director of Transportation

Approved _____
Date 11-18-86 Engineer, Bureau of Bridges and Structural Design

Approved _____
Date 2-19-87 Chief Engineer, Planning and Design

Approved _____
Date 2-19-87 Director, Department of Transportation

Plan Prepared By:
OHIO DEPARTMENT
OF TRANSPORTATION
DISTRICT II

SEAL

Project: BEL-7-8.71
Date of Letting: 19____, Contract No. _____

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

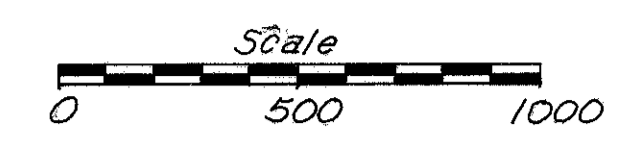
APPROVED:

DIVISION ADMINISTRATOR

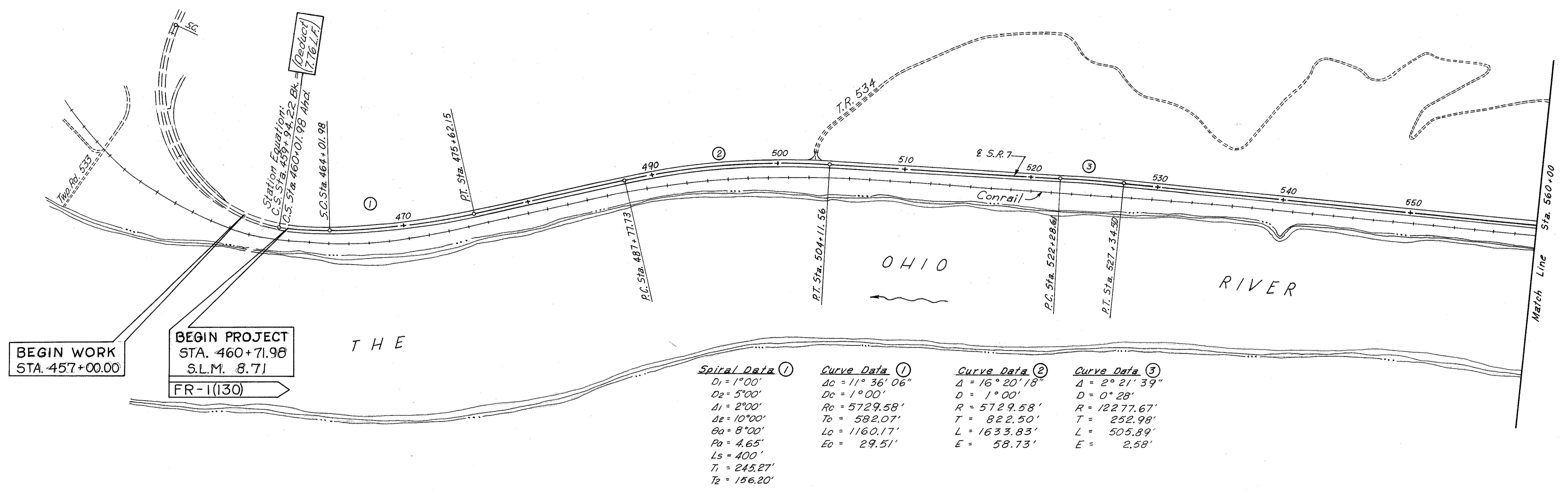
DATE

SCHEMATIC PLAN

BEL-7-8.71



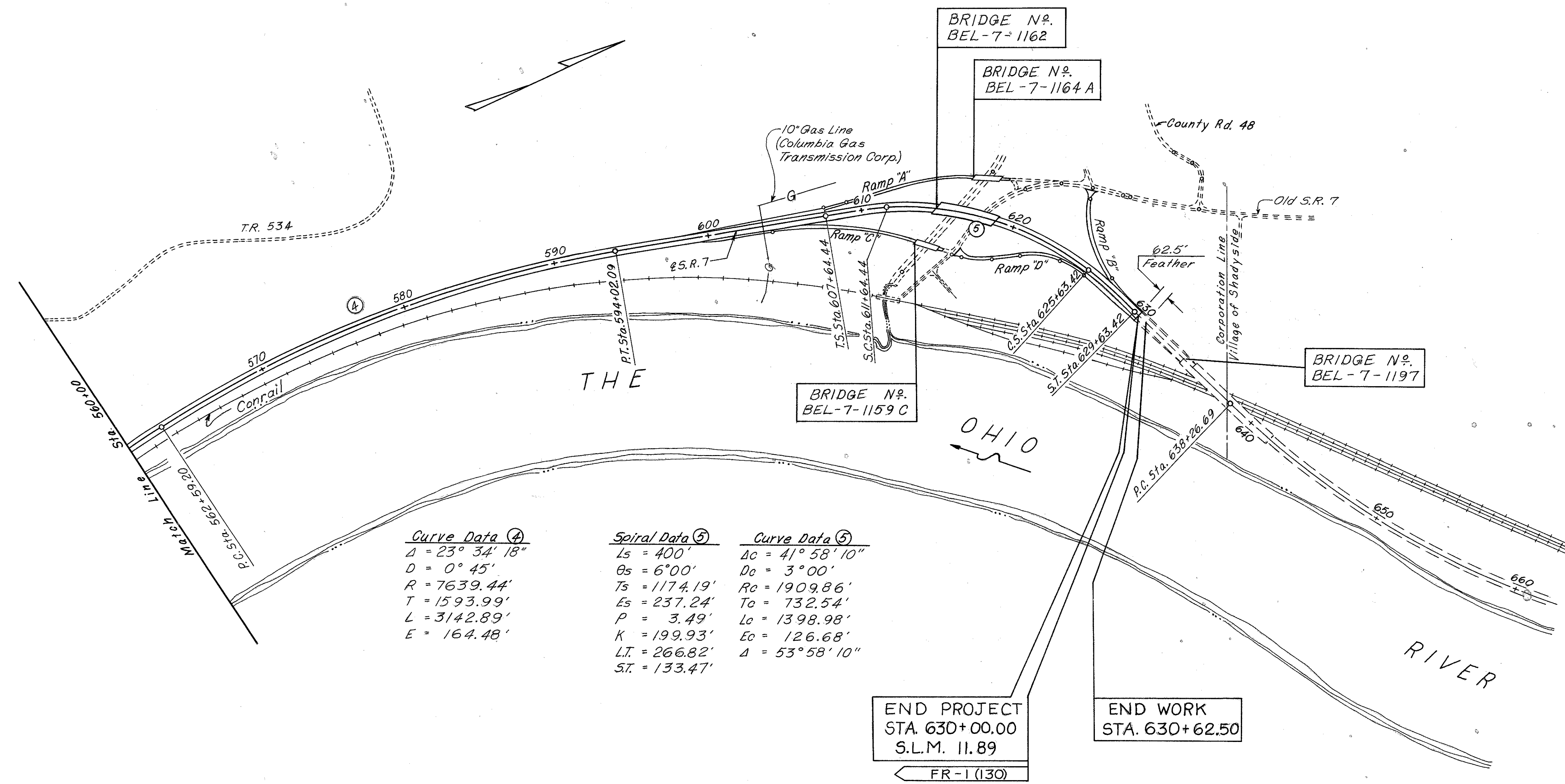
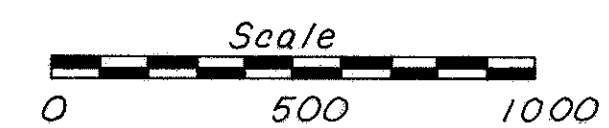
DESIGN EXCEPTIONS (Design Speed = 55 M.P.H.)					
GRADED SHOULDER WIDTH	ROADWAY SECTION TYPE	EXISTING WIDTH	REQUIRED WIDTH		
	Cut	10'	14'		
	Fill	12'			
SUPERELEVATION	HORIZONTAL CURVE DATA		SUPERELEVATION RATE (FT./FT.)		
	Degree of Curve	Curve Location		Existing	Required
		From	To		
	1° 00' Lt.	464+01.98	475+62.15	0.024	0.025
	1° 00' Rt.	478+77.73	504+11.56	0.024	0.025
0° 28' Rt.	522+28.61	527+34.50	Normal Crown	0.016	
0° 45' Rt.	562+59.20	574+02.09	0.017	0.019	
BRIDGE WIDTH	BRIDGE NO. BEL-7-1162		EXISTING WIDTH	REQUIRED WIDTH	
			71'-6"	73'	
HORIZONTAL CLEARANCE			EXIST. HORIZ. CLEAR.	REQ'D. HORIZ. CLEAR.	
			9'-3"	10'-0"	



SCHEMATIC PLAN

FHWA REGION	STATE	PROJECT
5	OHIO	

BEL-7-8.71



Curve Data ④
 $\Delta = 23^\circ 34' 18''$
 $D = 0^\circ 45'$
 $R = 7639.44'$
 $T = 1593.99'$
 $L = 3142.89'$
 $E = 164.48'$

Spiral Data ⑤
 $L_s = 400'$
 $\theta_s = 6^\circ 00'$
 $T_s = 1174.19'$
 $E_s = 237.24'$
 $P = 3.49'$
 $K = 199.93'$
 $L.T. = 266.82'$
 $S.T. = 133.47'$

Curve Data ⑤
 $\Delta c = 41^\circ 58' 10''$
 $D_c = 3^\circ 00'$
 $R_c = 1909.86'$
 $T_c = 732.54'$
 $L_c = 1398.98'$
 $E_c = 126.68'$
 $\Delta = 53^\circ 58' 10''$

END PROJECT
 STA. 630+00.00
 S.L.M. 11.89
 ← FR-1 (130)

END WORK
 STA. 630+62.50

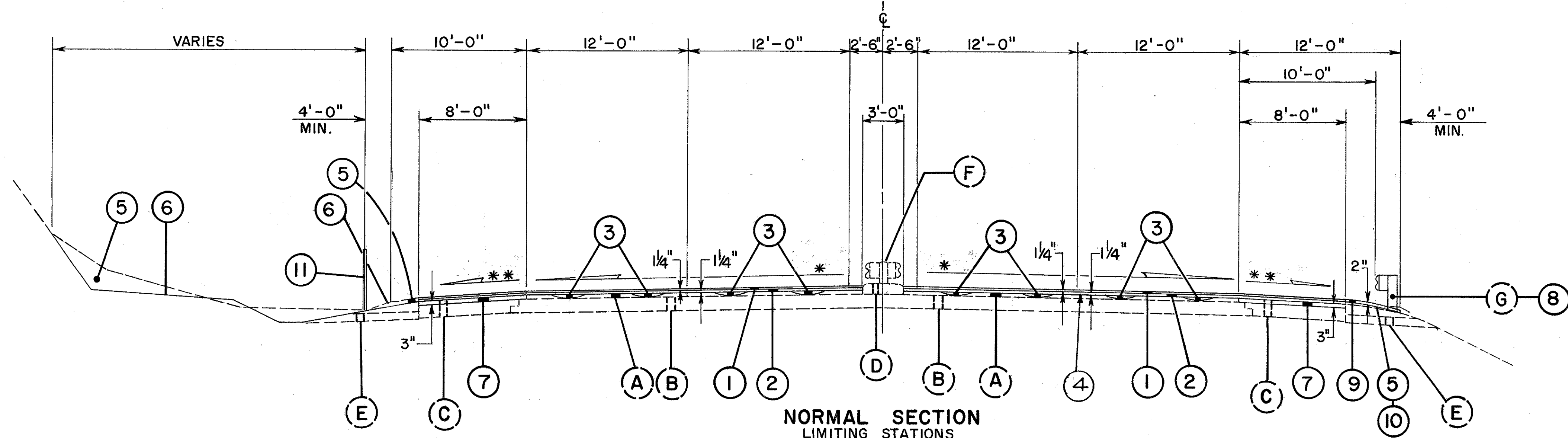
TYPICAL SECTIONS

TYPE 846



FHWA REGION	STATE	PROJECT	4
5	OHIO		36

BEL-7-8.71



NORMAL SECTION
LIMITING STATIONS

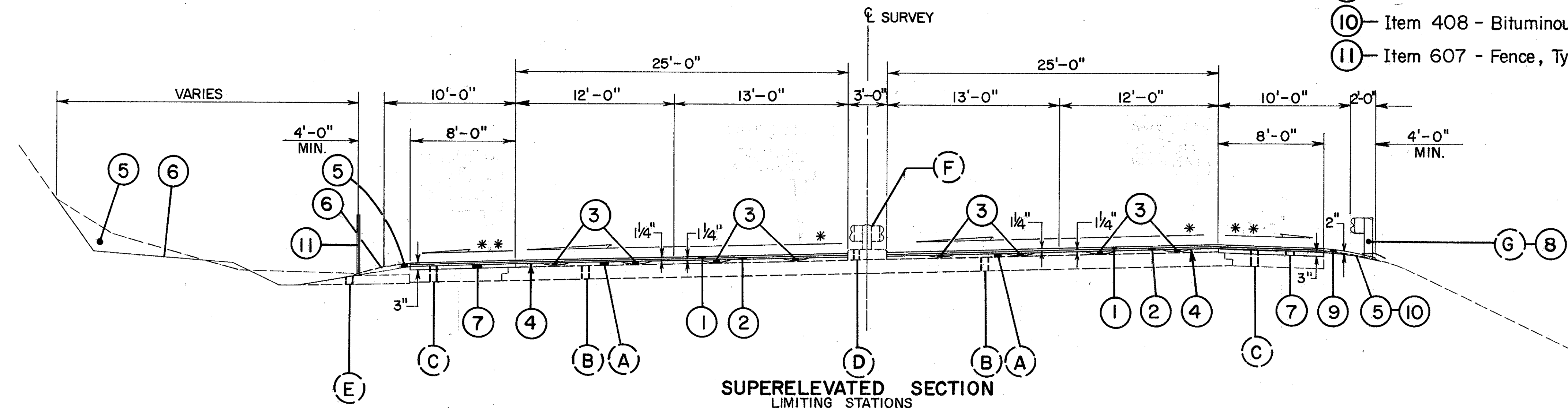
STA. 478 + 75	TO	STA. 483 + 75	=	500 L.F.
STA. 508 + 00	TO	STA. 559 + 75	=	5175 L.F.
STA. 596 + 75	TO	STA. 605 + 75	=	900 L.F.
				6575 L.F.

* Same as Existing Pavement Cross-Slope
(original plan slope was 3/16"/ft. in normal sections)

** Same as Existing Shoulder Cross-Slope
(original plan slope was 3/4"/ft. or same slope as pavement if greater than 3/4"/ft.)

- EXISTING LEGEND —**
- (A) Existing 2 1/2" Asphalt Concrete
 - (B) Existing 9" Bituminous Aggregate Base
 - (C) Existing Aggregate Base
 - (D) Existing Concrete Median
 - (E) Existing Aggregate Drains
 - (F) Existing Guardrail, Barrier Type 5
 - (G) Existing Guardrail, Type 5

- PROPOSED LEGEND —**
- (1) Item 846 - 1/4" Asphalt Concrete Surface Course, Type 1, AC-20
 - (2) Item 846 - 1/4" Asphalt Concrete Intermediate Course, Type 1, AC-20
 - (3) Item 448 - 0" Minimum Asphalt Concrete Intermediate Course, Type 1, AC-20
 - (4) Item 407 - Tack Coat, As per plan
 - (5) Item 203 - Linear Grading (See General Note)
 - (6) Item 659 - Seeding and Mulching (See General Note)
 - (7) Item 301 - Bituminous Aggregate Base: AC-20
 - (8) Item 606 - Guardrail, Type 5
 - (9) Item 448 - 2" Asphalt Concrete Surface Course, Type 1, AC-20 (under guardrail)
 - (10) Item 408 - Bituminous Prime Coat, As Per Plan (See General Note)
 - (11) Item 607 - Fence, Type 47, As Per Plan (For Locations See Sheet No. 10)



SUPERELEVATED SECTION
LIMITING STATIONS

STA. 460 + 01.98	TO	STA. 478 + 75	=	1873.02 L.F.
STA. 483 + 75	TO	STA. 508 + 00	=	2425 L.F.
STA. 559 + 75	TO	STA. 596 + 75	=	3700 L.F.
STA. 605 + 75	TO	STA. 634 + 42.25	=	2867.25 L.F.
				10,865.27 L.F.

DEDUCT FOR BRIDGE NO. BEL-7-1162 & APPROACH SLABS = (- 399.15 L.F.)
TOTAL = 17,041.12 L.F.

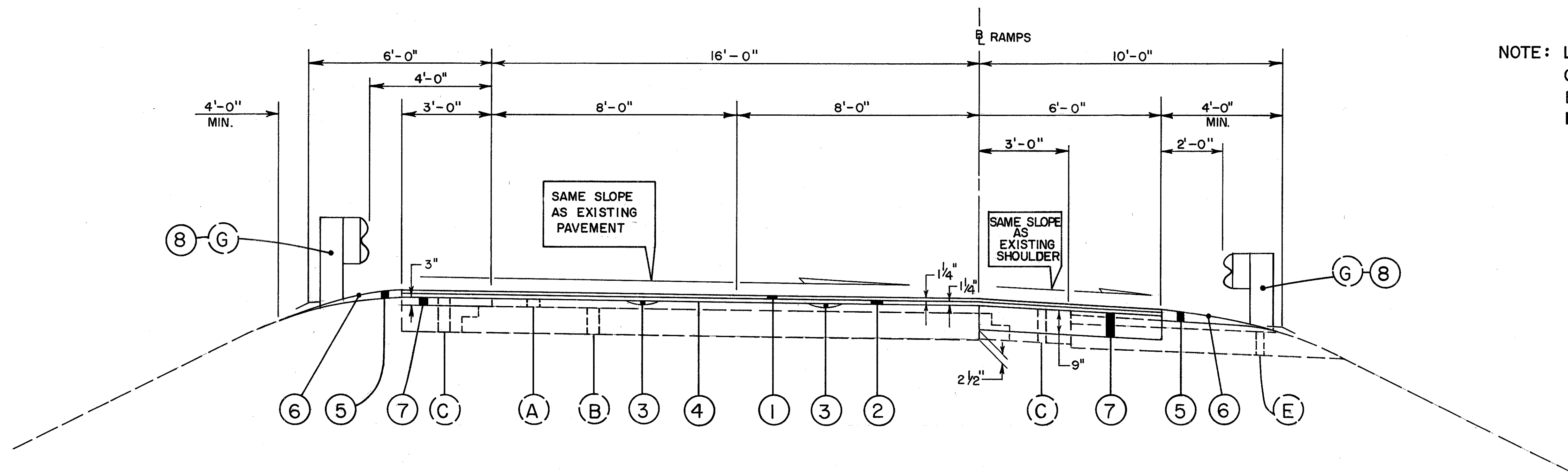
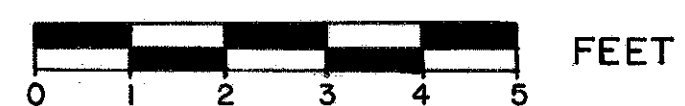
TYPICAL SECTIONS

TYPE 846

FHWA REGION	STATE	PROJECT	
5	OHIO		

5
36

BEL-7-871



NORMAL SECTIONS

LIMITING STATIONS

RAMP A	— STA. 7+64.44 TO STA. 19+60.17	= 1195.73 L.F.
RAMP B	— STA. 20+71.55 TO STA. 26+89.61	= 618.06 L.F.
RAMP C	— STA. 6+30.54 TO STA. 15+80.03	= 949.49 L.F.
RAMP D	— STA. 17+22.18 TO STA. 25+63.42	= 841.24 L.F.
	SUBTOTAL	= 3604.52 L.F.

FOR LEGEND SEE SHEET NO. 4

DEDUCT FOR BRIDGE NO'S

BEL-7-1164 A	= 191.04 L.F.
BEL-7-1159 C	= 206.02 L.F.
SUBTOTAL	= 397.06 L.F.

NET LENGTH OF RAMPS = 3207.46 L.F.

QUANTITIES			
Calc.	R.D.A.	Chk'd.	S.H.G.
Date	7-23-86	Date	7-28-86

FHWA REGION	STATE	PROJECT
5	OHIO	

6
36

BEL-7-8.71

PLAN NO.

MAINLINE PAVEMENT (NORTHBOUND)

LOCATION	STATION		LENGTH	WIDTH	AREA	407	448		846				REMARKS	
						TACK COAT AT 0.10 GAL./S.Y. A.P.P. 'A'	AVERAGE THICKNESS	0" MIN. ASPH. CONC. INTERM. COURSE, TYPE 1	THICKNESS	1-1/4" ASPH. CONC. INTERM. COURSE, TYPE 1	THICKNESS	1-1/4" ASPH. CONC. INTERM. COURSE, TYPE 1		
						GAL	INCH	CU. YD.	INCH	CU. YD.	INCH	CU. YD.		
FEATHER	460+01.98	460+36.98	35	25	97	9.7	.75	2.0	---	---	1.25	3.4		
	460+36.98	460+71.98	35	25	97	9.7	.75	2.0	---	---	1.875 avg.	5.1		
N. B. PAVEMENT	460+71.98	498+92.03	3820.05	25	10,611	1061.1	.75	221.1	1.25	368.4	1.25	368.4		
	498+92.03	501+42.03	250	30.5 avg	847	84.7	.75	17.6	1.25	29.4	1.25	29.4		
	501+42.03	502+42.03	100	36	400	40.0	.75	8.3	1.25	13.9	1.25	13.9		
	502+42.03	503+43.72	101.69	37.5	424	42.4	.75	8.8	1.25	14.7	1.25	14.7	T.R. 534 INTERSECTION	
	503+43.72	504+11.93	68.21	31.3 avg	237	23.7	.75	4.9	1.25	8.2	1.25	8.2		
	504+11.93	598+31.71	9419.78	25	26,166	2616.6	.75	545.1	1.25	908.5	1.25	908.5		
	598+31.71	599+31.71	100	31 avg	345	34.5	.75	7.2	1.25	12.0	1.25	12.0		
	599+31.71	603+10.32	378.61	37	1557	155.7	.75	32.4	1.25	54.1	1.25	54.1	INCLUDES RAMP "C" SPEED CHANGE LANE	
	603+10.32	606+31.71	321.39	50.5 avg	1804	180.4	.75	37.6	1.25	62.6	1.25	62.6		
	606+31.71	614+35.78	804.07	25	2234	223.4	.75	46.5	1.25	77.6	1.25	77.6		
FEATHER	614+35.78	614+73.28	37.5	25	104	10.4	.75	2.2	---	---	1.75 avg.	5.1		
	614+73.28	614+98.28	25	25	70	7.0	.75	1.5	1.5	2.9	0.5 avg.	1.0		
FEATHER	BRIDGE No. BEL-7-1162	618+50.78	618+75.78	25	25	70	7.0	.75	1.5	1.5	2.9	0.5 avg.	1.0	
	618+75.78	619+13.28	37.5	25	104	10.4	.75	2.2	---	---	1.75 avg.	5.1		
N. B. PAVEMENT	619+13.28	625+63.42	650.14	25	1806	180.6	.75	37.6	1.25	62.7	1.25	62.7		
	625+63.42	630+00	436.58	44.6 avg	2161	216.1	.75	45.0	1.25	75.0	1.25	75.0		
FEATHER	630+00	630+31.25	31.25	38.7 avg	135	13.5	.75	2.8	---	---	1.875 avg.	7.0	INCLUDES RAMP "D" SPEED CHANGE LANE	
	630+31.25	630+62.5	31.25	37.9 avg	132	13.2	.75	2.8	---	---	1.25	4.6		

MAINLINE PAVEMENT (SOUTHBOUND)

FEATHER	460+01.98	460+36.98	35	25	97	9.7	.75	2.0	---	---	1.25	3.4		
	460+36.98	460+71.98	35	25	97	9.7	.75	2.0	---	---	1.875 avg.	5.1		
S. B. PAVEMENT	460+71.98	502+42.03	4170.05	25	11,584	1158.4	.75	241.3	1.25	402.2	1.25	402.2		
	502+42.03	503+43.72	101.69	26.5	300	30.0	.75	6.3	1.25	10.4	1.25	10.4	T.R. 534 INTERSECTION	
	503+43.72	597+64.44	9420.72	25	26,169	2616.9	.75	545.2	1.25	908.6	1.25	908.6		
	597+64.44	607+64.44	1000	37.5	4167	416.7	.75	86.8	1.25	144.7	1.25	144.7	INCLUDES RAMP "A" SPEED CHANGE LANE	
	607+64.44	614+53.58	689.14	25	1915	191.5	.75	39.9	1.25	66.5	1.25	66.5		
FEATHER	614+53.58	614+91.08	37.5	25	104	10.4	.75	2.2	---	---	1.75 avg.	5.1		
	614+91.08	615+16.08	25	25	70	7.0	.75	1.5	1.5	2.9	0.5 avg.	1.0		
FEATHER	BRIDGE No. BEL-7-1162	618+61.95	618+86.95	25	25	70	7.0	.75	1.5	1.5	2.9	0.5 avg.	1.0	
	618+86.95	619+24.45	37.5	25	104	10.4	.75	2.2	---	---	1.75 avg.	5.1		
S. B. PAVEMENT	619+24.45	626+90.66	766.21	25	2129	212.9	.75	44.4	1.25	73.9	1.25	73.9		
	626+90.66	629+81.92	291.26	50.5 avg	1634	163.4	.75	34.0	1.25	56.7	1.25	56.7		
	629+81.92	630+00	18.08	37	75	7.5	.75	1.6	1.25	2.6	1.25	2.6		
FEATHER	630+00	630+31.25	31.25	37	129	12.9	.75	2.7	---	---	1.875 avg.	6.7	INCLUDES RAMP "B" SPEED CHANGE LANE	
	630+31.25	630+62.5	31.25	37	129	12.9	.75	2.7	---	---	1.25	4.5		
TOTALS - CARRIED TO SHEET No. 9						9,817.4		2,045.4		3,364.3		3,416.9		

OLD S.R. 7 INTERCHANGE RAMP PAVEMENT & T.R. 534 RETURN

QUANTITIES			
Calc.	R.D.A	Chk'd.	S.H.G
Date 7-23-86		Date 7-28-86	

FHWA REGION	STATE	PROJECT	7 36
5	OHIO		
			PLAN NO.

BEL-7-8.71

LOCATION	STATION		LENGTH	WIDTH	AREA	407	448		846				REMARKS	
						TACK COAT AT 0.10 GAL./S.Y. A.P.P. 'A'	AVERAGE THICKNESS	0" MIN. ASPH. CONC. INTERM. COURSE, TYPE 1	THICKNESS	1-1/4" ASPH. CONC. INTERM. COURSE, TYPE 1	THICKNESS	1-1/4" ASPH. CONC. INTERM. COURSE, TYPE 1		
						GAL	INCH	CU. YD.	INCH	CU. YD.	INCH	CU. YD.		
RAMP A	19+60.17	19+35.17	25	18.4 avg.	51	5.1	.75	1.1	---	---	1.0	1.4	FORWARD FEATHER AT BR. No. BEL-7-1164A	
	19+35.17	19+24.19	10.98	16.6 avg.	20	2.0	.75	0.4	1.5	0.8	0.78 avg.	0.4		
	19+24.19	19+10.17	14.02	16	25	2.5	.75	0.5	1.5	1.0	0.28 avg.	0.2		
	BRIDGE No. BEL-7-1164A													
	17+19.13	16+94.13	25	16	45	4.5	.75	0.9	1.5	1.9	0.5 avg.	0.6		REAR FEATHER AT BRIDGE No. BEL-7-1164A
	16+94.13	16+69.13	25	16	45	4.5	.75	0.9	---	---	1.0	1.3		
RAMP B	16+69.13	16+31.63	37.5	16	67	6.7	.75	1.4	---	---	1.75 avg.	3.3		
	16+31.63	7+64.44	867.19	16	1542	154.2	.75	32.1	1.25	53.5	1.25	53.5		
	26+89.61	26+10.94	78.67	16	140	14.0	.75	2.9	1.25	4.9	1.25	4.9		
	26+10.94	22+89.52	325.01 (1)	16	578	57.8	.75	12.0	1.25	20.1	1.25	20.1		
	22+89.52	21+70.61	121.57 (2)	16	216	21.6	.75	4.5	1.25	7.5	1.25	7.5		
	21+70.61	21+29.76	40.85	16	73	7.3	.75	1.5	1.25	2.5	1.25	2.5		
	AREAS CARRIED FROM DETAIL ON SH. No. 25.					128	12.8	.75	2.7	1.25	4.4	1.25		4.4
	AREAS CARRIED FROM DETAIL ON SH. No. 25.					151	15.1	.75	3.1	---	---	1.75 avg.		7.3
RAMP C	6+30.54	13+19.01	688.47	16	1224	122.4	.75	25.5	1.25	42.5	1.25	42.5	REAR FEATHER AT BRIDGE No. BEL-7-1159C	
	13+19.01	13+29.01	10	16	18	1.8	.75	0.4	---	---	2.0 avg.	1.0		
	13+29.01	13+54.01	25	16	45	4.5	.75	0.9	1.5	1.9	1.25 avg.	1.6		
	BRIDGE No. BEL-7-1159C													
RAMP D	15+60.03	15+80.03	20	16	36	3.6	.75	0.8	1.5	1.5	1.0 avg.	1.0	FORWARD FEATHER AT BR. No. BEL-7-1159C	
	AREAS CARRIED FROM DETAIL ON SH. No. 25.					100	10.0	.75	2.1	1.25	3.5	1.25	3.5	
	AREAS CARRIED FROM DETAIL ON SH. No. 25.					55	7.8	.75	1.6	---	---	1.75 avg.	3.8	FEATHER AT OLD S.R. 7
	17+72.45	18+12.45	40	18 avg.	80	8.0	.75	1.7	1.25	2.8	1.25	2.8		
	18+12.45	21+43.42	330.97	16	589	58.9	.75	12.3	1.25	20.5	1.25	20.5		
	21+43.42	23+83.42	244.02 (3)	16	434	43.4	.75	9.0	1.25	15.1	1.25	15.1		
T.R. 534 RETURN	AREAS CARRIED FROM DETAIL ON SH. No. 25.					72	7.2	.75	1.5	1.25	2.5	1.25	2.5	
	AREAS CARRIED FROM DETAIL ON SH. No. 25.					116	11.6	.75	2.4	---	---	1.875 avg.	6.0	FEATHER TO EXISTING T.R. 534
	AREAS CARRIED FROM DETAIL ON SH. No. 25.					59	5.9	.75	1.2	---	---	1.25	2.0	
TOTALS - CARRIED TO SHEET No. 9						625.5		130.1		198.1		220.9		

ARC LENGTH CORRECTIONS:

(1) 321.41' X (724.20'/716.20') = 325.01'

(2) 118.91' X (366.10'/358.10') = 121.57'

(3) 240.00' X (485.46'/477.46') = 244.02'

(4) 180.00' X (826.51'/818.51') = 181.76'

OLD S.R. 7 INTERCHANGE RAMP SHOULDERS &
T.R. 534 RETURN SHOULDERS

QUANTITIES			
Calc.	R.D.A.	Chk'd.	S.H.G.
Date 7-24-86	Date	9-24-86	

FHWA REGION	STATE	PROJECT
5	OHIO	

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BEL-7-8.71

PLAN NO.

LOCATION	STATION		LENGTH	WIDTH	AREA	SIDE	203		301		407	448		846				REMARKS
							T H I C K	EXCAVATION	T H I C K	BITUMINOUS AGGREGATE BASE	TACK COAT AT 0.10 GAL./S.Y. AS PER 'B'	T A H V I G. C K	0" MIN. ASPH. CONC. INTERM. COURSE, TYPE 1	T H I C K	1-1/4" ASPH. CONC. INTERM. COURSE, TYPE 1	T H I C K	1-1/4" ASPH. CONC. INTERM. COURSE, TYPE 1	
RAMP A	19+60.17	19+35.17	25	3.9 avg.	11	RT.	9	3	9	3	1.1	.75	0.2	---	---	1.0	0.3	
	19+35.17	19+19.23	15.94	5.4 avg.	10	RT.	9	3	9	3	1.0	.75	0.2	---	---	0.5 avg.	0.1	
	BRIDGE No. BEL-7-1164A																	
	17+28.19	16+94.13	34.06	6	23	RT.	9	6	9	6	2.3	.75	0.5	---	---	0.5 avg.	0.3	
	16+94.13	16+69.13	25	6	17	RT.	9	5	9	5	1.7	.75	0.4	---	---	1.0	0.5	
	16+69.13	16+31.63	37.5	6	25	RT.	9	7	9	7	2.5	.75	0.5	---	---	1.75 avg.	1.2	
	16+31.63	8+44.44	787.19	6	525	RT.	9	132	9	132	52.5	.75	10.9	1.25	18.2	1.25	18.2	
	8+44.44	7+64.44	80	7 avg.	62	RT.	9	16	9	16	6.2	.75	1.3	1.25	2.2	1.25	2.2	
	19+60.17	19+35.17	25	3	9	LT.	3	1	3	1	0.9	.75	0.2	---	---	1.0	0.3	
	19+35.17	19+02.34	32.83	3	11	LT.	3	1	3	1	1.1	.75	0.2	---	---	0.5 avg.	0.2	
	BRIDGE No. BEL-7-1164A																	
	17+11.30	16+94.13	17.17	3	6	LT.	3	1	3	1	0.6	.75	0.1	---	---	0.5 avg.	0.1	
	16+94.13	16+69.13	25	3	9	LT.	3	1	3	1	0.9	.75	0.2	---	---	1.0	0.3	
	16+69.13	16+31.63	37.5	3	13	LT.	3	1	3	1	1.3	.75	0.3	---	---	1.75 avg.	0.6	
	16+31.63	9+64.44	667.19	3	224	LT.	3	19	3	19	22.4	.75	4.7	1.25	7.8	1.25	7.8	
9+64.44	8+64.44	100	2 avg.	22	LT.	3	2	3	2	2.2	.75	0.5	1.25	0.8	1.25	0.8		
26+89.61	25+89.61	100	7 avg.	78	RT.	9	20	9	20	7.8	.75	1.6	1.25	2.7	1.25	2.7		
25+89.61	21+29.76	459.85	6	307	RT.	9	77	9	77	30.7	.75	6.4	1.25	10.7	1.25	10.7		
LENGTHS CARRIED FROM																		
DETAIL ON SH. No. 25																		
26+89.61	21+29.76	559.85	3	187	LT.	3	16	3	16	18.7	.75	3.9	1.25	6.5	1.25	6.5		
LENGTHS CARRIED FROM																		
DETAIL ON SH. No. 25																		
6+30.54	7+30.54	100	7 avg.	78	RT.	9	20	9	20	7.8	.75	1.6	1.25	2.7	1.25	2.7		
7+30.54	13+19.01	588.47	6	393	RT.	9	99	9	99	39.3	.75	8.2	1.25	13.6	1.25	13.6		
13+19.01	13+29.01	10	6	7	RT.	9	2	9	2	0.7	.75	0.1	---	---	2.0 avg.	0.4		
13+29.01	13+48.52	19.51	6	13	RT.	9	4	9	4	1.3	.75	0.3	---	---	1.25 avg.	0.5		
BRIDGE No. BEL-7-1159C																		
15+54.54	15+80.03	25.49	4.5 avg.	13	RT.	9	4	9	4	1.3	.75	0.3	---	---	1.0 avg.	0.4		
6+30.54	13+19.01	688.47	3	230	LT.	3	19	3	19	23.0	.75	4.8	1.25	8.0	1.25	8.0		
13+19.01	13+29.01	10	3	4	LT.	3	1	3	1	0.4	.75	0.1	---	---	2.0 avg.	0.2		
13+29.01	13+58.75	29.74	3	10	LT.	3	1	3	1	1.0	.75	0.2	---	---	1.25 avg.	0.3		
BRIDGE No. BEL-7-1159C																		
15+64.77	15+80.03	15.26	3	5	LT.	3	1	3	1	0.5	.75	0.1	---	---	1.0 avg.	0.1		
FROM DETAIL ON SH. No. 25																		
17+72.45	24+83.42	710.97	6	474	RT.	9	119	9	119	47.4	.75	9.9	1.25	16.5	1.25	16.5		
24+83.42	25+63.42	80	7 avg.	62	RT.	9	16	9	16	6.2	.75	1.3	1.25	2.2	1.25	2.2		
LENGTHS CARRIED FROM																		
DETAIL ON SH. No. 25																		
17+72.45	23+63.42	590.97	3	197	LT.	3	17	3	17	19.7	.75	4.1	1.25	6.8	1.25	6.8		
23+63.42	24+63.42	100	2 avg.	22	LT.	3	2	3	2	2.2	.75	0.5	1.25	0.8	1.25	0.8		
LENGTHS CARRIED FROM																		
DETAIL ON SH. No. 25																		
35.1	3	12	RT.	9	3	9	3	9	3	1.2	.75	0.2	---	---	1.875 avg.	0.6		
26.3	3	9	RT.	9	3	9	3	9	3	0.9	.75	0.2	---	---	1.25	0.3		
32.7	3	11	LT.	3	1	3	1	3	1	1.1	.75	0.2	---	---	1.875 avg.	0.6		
26.5	3	9	LT.	3	1	3	1	3	1	0.9	.75	0.2	---	---	1.25	0.3		
TOTALS - CARRIED BELOW								656		656	321.9		67.3		101.9		112.4	

RESURFACING SUMMARY

FROM SHEET NUMBER	DESCRIPTION	203		301	407		448	846	
		EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	CU. YD.	BITUMINOUS AGGREGATE BASE	TACK COAT AT 0.10 GAL./S.Y.	TACK COAT AT 0.10 GAL./S.Y., AS PER PLAN 'B'	0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1	1-1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1	1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1
6	MAINLINE PAVEMENT				9817.4		2045.4		3416.9
7	RAMP & T.R. 534 RETURN PAVEMENT				625.5		130.1		220.9
8	MAINLINE SHOULDERS	2436		2436		2964.0	617.3		1031.3
9	RAMP & T.R. 534 RETURN SHOULDERS	656		656		321.9	67.3		112.4
TOTALS - CARRIED TO GENERAL SUMMARY		3,092		3,092	10,442.9		2,860.1		4,781.5

LINEAR GRADING, METHOD 1					
STATION	L A N E	S I D E	LENGTH	203	
				LINEAR GRADING, METHOD 1	STATION
FROM	TO		LIN. FT.		
460+01.98	461+28	RT.	126.02		1.26
564+45	569+94	RT.	549		5.49
590+04.4	612+30.6	RT.	2226.2		22.26
618+59.9	630+62.5	RT.	1202.6		12.03
460+01.98	502+65	LT.	4263.02		42.63
503+43	615+14	LT.	1117.1		11.17
620+29.9	630+62.5	LT.	1032.6		10.33
TOTAL - CARRIED TO GENERAL SUMMARY					205.71

LINEAR GRADING, METHOD 2 & ASPHALT CONCRETE SHOULDER TREATMENT											
GUARD-RAIL REF. NO.	STATION OF PAVING		L A N E	S I D E	LENGTH	203			448		408
	FROM	TO				LINEAR GRADING, METHOD 2	W I D T H	A R E A	T H I C K.	2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1	BITUMINOUS PRIME COAT @ 0.5 GAL./SQ. YD. AS PER PLAN
	LIN. FT.	STATION				FT.	SQ. YD.	IN.	CU. YD.	GAL.	
1-GR	461+28	564+45		RT.	10,312.5	103.13	4	4584	2	254.7	2292.0
5-GR	564+19	565+69		RT.	125	1.25	4	56	2	3.1	28.0
6-GR	569+94	590+04.4		N.B.	2000	20.00	4	889	2	49.4	444.5
12-GR	612+30.6	614+68.1		RT.	237.5	2.38	4	106	2	5.9	53.0
13-GR	618+92.4	620+29.9		S.B.	137.5	1.38	4	61	2	3.4	30.5
TOTALS - CARRIED TO GENERAL SUMMARY						128.14		316.5			2848.0

QUANTITIES				FHWA REGION	STATE	PROJECT
CALC. 5. H. G. CHK'D R.D.A.				5	OHIO	
DATE 8-8-88	DATE 9-24-88					

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ITEM 659 - SEEDING & MULCHING
LINEAR GRADING, METHOD 1: 20,571 L.F. x 4' + 9 = 9,143 S.Y.
LINEAR GRADING, METHOD 3: 3,205 L.F. x 4' + 9 = 1,425 S.Y.
LINEAR GRADING, METHOD 4: 2,482 L.F. x 4' + 9 = 1,103 S.Y.
LINEAR GRADING, (DITCH CLEANOUT): 10,200 L.F. x 20' + 9 = 22,667 S.Y.
TOTAL - ITEM 659-SEEDING & MULCHING 34,338 S.Y.

LINEAR GRADING, METHOD 3					
STATION	R A M P	S I D E	LENGTH	203	
				LINEAR GRADING, METHOD 2	STATION
FROM	TO		LIN. FT.		
17+30.67	7+64.44	A	RT.	966.23	9.66
26+89.61	31+59.66 [‡]	B	RT.	678.85	6.79
6+30.54	13+47.03	C	RT.	716.49	7.17
17+20.45	25+63.42	D	RT.	842.97	8.43
TOTAL - CARRIED TO GENERAL SUMMARY					32.05

LINEAR GRADING (DITCH CLEANOUT)					
STATION	L A N E	S I D E	LENGTH	203	
				LINEAR GRADING (DITCH CLEANOUT)	STATION
FROM	TO		LIN. FT.		
457+00	497+00		LT.	4000	40.00
524+00	528+00	S.B.	LT.	400	4.00
542+00	600+00		LT.	5800	58.00
TOTAL - CARRIED TO GENERAL SUMMARY					102.00

FENCE SUMMARY						
FENCE REF. NO.	STATION		S	607	SEE SH. NO.	
	FROM	TO				
1-F	460+72	491+92	LT.	3120	16-17	
2-F	532+00	539+44	LT.	744	18	
3-F	543+62	593+30	LT.	4968	19-20	
TOTALS - Carried to General Summary				8,832		

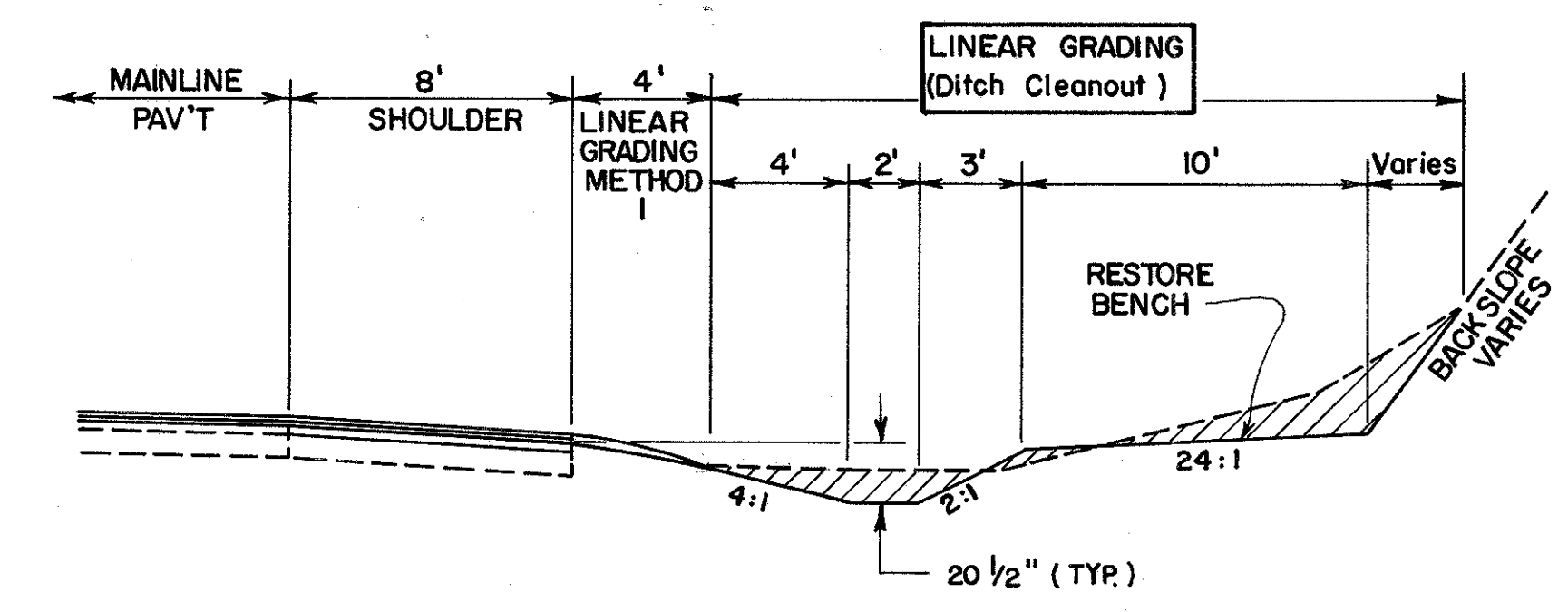
⊗ See General Note on Sheet No. 12.

ITEM 659 - COMMERCIAL FERTILIZER
$\frac{34,338 \text{ S.Y.} \times 9 \times 20}{2000 \times 1000} = 3.09 \text{ TON}$

ITEM 659 - AGRICULTURAL LIMING
$\frac{34,338 \text{ S.Y.} \times 9 \times 100}{2000 \times 1000} = 15.45 \text{ TON}$

QUANTITIES CARRIED TO GENERAL SUMMARY

LINEAR GRADING, METHOD 4					
STATION	R A M P	S I D E	LENGTH	203	
				LINEAR GRADING, METHOD 4	STATION
FROM	TO		LIN. FT.		
17+10.06	9+25.16	A	LT.	784.90	7.85
26+89.61	30+16.25 [‡]	B	LT.	626.65	6.27
6+30.54	13+59.49	C	LT.	728.95	7.29
20+65.85 [‡]	24+06.34	D	LT.	340.49	3.41
TOTAL - CARRIED TO GENERAL SUMMARY					24.82



MAINLINE DITCH CLEANOUT DETAIL
(SEE GENERAL NOTE ON SHEET NO. 11.)

ITEM SPECIAL - CRACK SEALING, HOT APPLIED, 705.04 ASTM D-3405
(SEE PROPOSAL NOTE FOR ITEM SPECIAL - CRACK SEALING, HOT APPLIED, 705.04, ASTM D-3405 ESTIMATED QUANTITIES FOR THIS ITEM OF WORK HAVE BEEN PROVIDED IN THE GENERAL SUMMARY BASED UPON FIELD INSPECTION AS FOLLOWS:

LONGITUDINAL CRACKS - assumed to be 5/8" wide x 1" deep
 7,300 L.F. (N.B.) + 7,000 L.F. (S.B.) = 14,300 L.F.
 Application rate for 5/8" width x 1" depth = 27.5 LBS./100 L.F.
 14,300 L.F. x 27.5 LBS./100 L.F. = 3932.5 LBS.
 Allow 20% increase for spillage and pavement deterioration:
 1.2 x 3932.5 LBS. = 4719 LBS. USE 4700 LBS.

TRANSVERSE CRACKS - assumed to be 1/2" to 5/8" wide x 1" deep
 120 cracks/mile (N.B.) + 100 cracks/mile (S.B.) = 220 cracks/mile
 Application rate for 1/2" to 5/8" width x 1" depth = 250 LBS./100 L.F.
 220 cracks/mile x 3.21 mile x 250 LBS./100 L.F. = 4414 LBS.
 Allow 20% increase for spillage and pavement deterioration:
 1.2 x 4414 LBS. = 5297 LBS. USE 5300 LBS.

TOTAL 10,000 LBS. (carried to General Summary)

GUARDRAIL SUMMARY													
GUARD-RAIL REF. NO.	STATION (±)		202		606					SEE SHEET NO.	COMMENTS		
	FROM	TO	GUARDRAIL REMOVED FOR STORAGE	GUARDRAIL BARRIER DESIGN, REMOVED FOR STORAGE	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5, AS PER PLAN	GUARDRAIL, BARRIER DESIGN, TYPE 5	MODIFICATION OF EXISTING ANCHOR ASSEMBLY	BRIDGE TERMINAL ASSEMBLY, STD. TYPE			ANCHOR ASSEMBLY, STANDARD TYPE	
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	A	B			T	
1-GR	459+78	460+03										16-19	
	460+03	461+28	125		125								
	461+28	564+45	10,312.5		10,312.5								
2-GR	501+99	502+24										17	
3-GR	503+48	503+73										17	
4-GR	540+15	541+90	175									18-19	Includes 2 Type A Anchor Assemblies
	564+19	565+69	125										
	568+44	568+69											
6-GR	568+69	569+94	125		125							19-20	
	569+94	590+04.4	2000		2000								
	574+60	575+22.5		62.5			62.5						
8-GR	593+12	593+37		25			25					20	
9-GR	10+96	11+21				225						21	connect to new bridge railing
	11+21	13+46	225		225								
10-GR	15+52	15+64.5	12.5		12.5							21	connect to new bridge railing
	15+64.5	15+77	12.5										
11-GR	12+10	12+35										21	connect to new bridge railing
	12+35	13+60	125		125								
12-GR	612+05.6	612+30.6										21	* with wheelguard
	612+30.6	614+68.1	237.5		237.5								
13-GR	618+92.4	620+29.9	137.5		137.5							21	* with wheelguard
	620+29.9	620+54.9											
14-GR	16+59	17+09	50		50							21	connect to new bridge railing
15-GR	17+07	17+32	25		25							21	connect to new bridge railing
16-GR	15+66	15+78.5	12.5		12.5							21	connect to new bridge railing & existing guardrail
17-GR	19+00	19+12.5	12.5		12.5							21	
18-GR	19+23	19+35.5	12.5		12.5							21	
19-GR	629+52	629+77										22	
TOTALS - Quantities Carried to General Summary			13,725	87.5	725	12,812.5	87.5	10	2	8	1		

GENERAL NOTES

BEL-7-8.71

FHWA REGION	STATE	PROJECT	11
5	OHIO		36

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 400 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

UNDERGROUND UTILITIES

THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

GAS: COLUMBIA GAS TRANSMISSION CORP.
P.O. BOX 1273
CHARLESTON, WEST VIRGINIA 25325-1273
PH. (304) 357-2000
LARRY A. SHINN

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR PLAN ITEMS SET UP TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ALIGNMENT AND PROFILE

THE WORK PROPOSED BY THIS PROJECT IS FOR THE RESURFACING OF EXISTING PAVEMENT. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT EXCEPT THAT IT WILL BE RAISED AN AMOUNT EQUAL TO THE THICKNESS OF THE RESURFACING COURSES SPECIFIED IN THESE PLANS.

ITEM 407 - TACK COAT AS PER PLAN 'A'

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE DETERMINED AT A PRE-CONSTRUCTION CONFERENCE AS PER 407.05. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY. IF COVER AGGREGATE IS REQUIRED, AN APPLICATION RATE OF 7 LBS./S.Y. MAY BE USED FOR ESTIMATING PURPOSES. THE COVER AGGREGATE OPERATION SHALL BE IN ACCORDANCE WITH SPEC. 407.06 AND SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 407 - TACK COAT, AS PER PLAN 'A'

PREVIOUS CONSTRUCTION PLANS

THE FOLLOWING CONSTRUCTION PLANS ARE AVAILABLE FOR REFERENCE BY CONTACTING THE DISTRICT 11 OFFICE IN NEW PHILADELPHIA, OHIO.

BEL - 7 - 8.68 (1972)

ITEM 203 - LINEAR GRADING

THIS WORK SHALL INCLUDE ALL EXCAVATION AND EMBANKMENT REQUIRED TO CONSTRUCT PAVED SHOULDERS AND ANY GRADING BEYOND PAVED SHOULDERS. ANY EXCESS TURF, MATERIAL BUILDUP OR EXCAVATED MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR OR WASTED OVER FILL SLOPES AT THE DIRECTION OF THE ENGINEER. LINEAR GRADING WIDTHS SHOWN ON THE PLANS REPRESENT MINIMUM REQUIREMENTS AND THE ENGINEER MAY INCREASE THESE WIDTHS AS DETERMINED BY HIS ANALYSIS OF PROJECT CONDITIONS AT NO ADDITIONAL COST. THE METHOD OF MEASUREMENT SHALL BE CONSIDERED AS ONE STATION PER 100 LINEAR FEET MEASURED SEPARATELY FOR NORTHBOUND AND SOUTHBOUND LANES AND FOR EACH SIDE OF RAMPS. PAYMENT FOR THIS WORK WILL BE MADE AS FOLLOWS:

1. ITEM 203 - LINEAR GRADING, METHOD 1 - THIS ITEM SHALL APPLY TO MAINLINE AND SPEED CHANGE LANE OUTSIDE SHOULDER AREAS WITHOUT ASPHALT CONCRETE SHOULDER TREATMENT.
2. ITEM 203 - LINEAR GRADING, METHOD 2 - THIS ITEM SHALL APPLY TO MAINLINE AND SPEED CHANGE LANE OUTSIDE SHOULDER AREAS WITH GUARDRAIL AND ASPHALT CONCRETE SHOULDER TREATMENT.
3. ITEM 203 - LINEAR GRADING, METHOD 3 - THIS ITEM SHALL APPLY TO RAMP SHOULDERS WITH RAMP SHOULDER WIDENING.
4. ITEM 203 - LINEAR GRADING, METHOD 4 - THIS ITEM SHALL APPLY TO RAMP SHOULDERS WITHOUT RAMP SHOULDER WIDENING.

ITEM 203 - LINEAR GRADING (DITCH CLEANOUT)

THIS ITEM SHALL CONSIST OF REGRADING MAINLINE ROADWAY DITCHES IN CUT SECTIONS TO RE-ESTABLISH THE ORIGINAL FLOW LINE AND SHALL INCLUDE ALL EXCAVATION NECESSARY TO RE-CONSTRUCT THE DITCH AND 10' BENCH IN ACCORDANCE WITH THE DIMENSIONS SHOWN ON THE DETAIL ON SHEET No. 10.

ESTIMATED QUANTITIES AND APPROXIMATE LOCATIONS ARE SHOWN ON SHEET No. 10. THE ENGINEER SHALL DETERMINE THE NEED FOR THIS ITEM AT EACH LOCATION DURING CONSTRUCTION AND SHALL NON-PERFORM THIS WORK IN ANY AREAS WHERE IT IS NOT NECESSARY.

THE METHOD OF MEASUREMENT SHALL BE CONSIDERED AS ONE STATION PER 100 LINEAR FEET MEASURED SEPARATELY FOR EACH DIRECTIONAL ROADWAY OR RAMP.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER STATION FOR ITEM 203 - LINEAR GRADING (DITCH CLEANOUT).

ITEM 407 - TACK COAT, AS PER PLAN 'B'

IN ADDITION TO THE REQUIREMENTS OF 407.04, THE PAVED SURFACE OF ALL MAINLINE OUTSIDE SHOULDERS AND ANY OTHER SHOULDER AREAS AS MAY BE DESIGNATED BY THE ENGINEER SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATERIAL AND VEGETATION BY BROOMING, HIGH PRESSURE WATER BLASTING AND FLUSHING.

WHERE ACCUMULATION OF VEGETATION, SOIL, OR FOREIGN MATERIAL AT THE SHOULDER EDGE OBSTRUCT DRAINAGE OF THE SHOULDER SURFACE AND ITEM 203 LINEAR GRADING IS NOT SPECIFIED, SUCH MATERIALS SHALL BE REMOVED FLUSH WITH THE SHOULDER SURFACE PRIOR TO BROOMING AND WATER BLASTING. THE EXCESS MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR OR WASTED OVER FILL SLOPES AT THE DIRECTION OF THE ENGINEER.

INCLUDING COVER AGGREGATE IF NEEDED

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER GALLON FOR ITEM 407 - TACK COAT, AS PER PLAN, B

ITEM 846 - ASPHALT CONCRETE

ON THIS PROJECT, SUPPLEMENTAL SPECIFICATION 846, TABLE 2-2, PROPERTIES OF MIXTURES FOR MEDIUM TRAFFIC VOLUMES SHALL APPLY.

UNDERGROUND UTILITIES

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

MAINTAINING TRAFFIC

S.R. 7: AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AT ALL TIMES. THE LENGTH OF RESTRICTED TRAFFIC ZONES SHALL BE KEPT TO A MINIMUM CONSISTENT WITH THE SPECIFICATION REQUIREMENTS FOR THE PROTECTION OF WORK ITEMS WHICH NECESSITATE THE RESTRICTION. THE LIMITS AND DURATION OF LANE CLOSURES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. CONSTRUCTION WORK SHALL BE PERMITTED ON ONLY ONE SIDE OF THE DIRECTIONAL ROADWAY AT A TIME AND ANY PAVEMENT OPENING SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH BARRICADES, DRUMS OR VERTICAL PANELS.

NO PAVEMENT OPENINGS SHALL REMAIN UNFILLED BETWEEN 4:00 PM FRIDAY AND 8:00 AM MONDAY AND 4:00 PM PRECEDING AND 8:00 AM AFTER A LEGAL HOLIDAY.

BRIDGES: TWO LANES OF TRAFFIC SHALL NOT BE PERMITTED ACROSS A DIRECTIONAL ROADWAY BRIDGE ON WHICH ONLY ONE LANE OF REHABILITATION HAS BEEN COMPLETED.

SPEED CHANGE LANES: SPEED CHANGE LANE TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF PORTIONS OF THE EXISTING AND/OR RESURFACED PAVEMENT AND EXISTING SHOULDERS.

OLD S.R. 7 INTERCHANGE RAMPS: RAMP TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF PORTIONS OF THE EXISTING AND/OR RESURFACED PAVEMENT AND EXISTING SHOULDERS.

GENERAL: TRAFFIC SHALL BE MAINTAINED AS SPECIFIED BY USE OF THE EXISTING AND/OR RESURFACED PAVEMENT, THE EXISTING SHOULDER AND/OR TEMPORARY ROADWAYS ON EXISTING SHOULDERS SURFACED WITH ITEM 404 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC.

THE LIMITS AND DURATION OF USE OF TEMPORARY ROADWAYS SHALL BE HELD TO AN ABSOLUTE MINIMUM AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE PURPOSE OF MAINTAINING TRAFFIC AS SPECIFIED ABOVE:

ITEM 404 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC ----- 25 CU. YDS.

PAYMENT FOR ALL OF THE ABOVE EXCEPT ITEM 404 SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

PAVEMENT FEATHERING AT MEDIAN INLETS

ALL MEDIAN INLET OPENINGS SHALL BE MAINTAINED BY PROVIDING A 12 INCH WIDE DEPRESSED APRON FOR THE LENGTH OF THE INLET OPENING THAT SLOPES FROM THE TOP OF THE SURFACE COURSE TO THE ORIGINAL GUTTER ELEVATION.

COST FOR PERFORMING THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE APPROPRIATE ASPHALT CONCRETE ITEM.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE WORK LIMITS AS SHOWN ON THE TYPICAL SECTIONS.

ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE

S.R. 7 - 450 EACH (CARRIED TO GENERAL SUMMARY)

GENERAL NOTES

BEL-7-8.71

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5	OHIO		

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36

CURB REMOVED, AS PER PLAN

WHERE CALLED FOR ON THE PLANS, CURB REMOVED SHALL INCLUDE ALL EXCAVATION AND EMBANKMENT NECESSARY TO GRADE THE ADJACENT AREA TO THE LEVEL OF THE EXISTING PAVED SHOULDER AND SLOPED TO DRAIN. ALL GRADED AREAS NOT PAVED SHALL BE SEEDED IN ACCORDANCE WITH 659. ALL WORK SHALL BE AS DIRECTED BY THE ENGINEER.

ALL COSTS IN PERFORMING THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 - CURB REMOVED, AS PER PLAN.

WEARING COURSE REMOVED

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING WEARING COURSE FROM THE FORWARD AND REAR APPROACHES OF BRIDGE No.'S BEL-7-1162, BEL-7-1165A, AND BEL-7-1159C, AT BOTH ENDS OF THE PROJECT AND AT T.R. 534 FOR THE PURPOSE OF CONSTRUCTING THE BUTT JOINT AS SHOWN IN THE DETAILS ON SHEET No. 23. ADDITIONALLY, IF ANY EXISTING ASPHALT PATCH ON THE MAINLINE OR RAMPS IS RAVELED OR DETERIORATED, IT SHALL BE REMOVED AS DIRECTED PRIOR TO THE APPLICATION OF THE HOT APPLIED CRACK SEALANT.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE PURPOSE OF REMOVING THE WEARING COURSE AS SPECIFIED ABOVE:

ITEM 202 - WEARING COURSE REMOVED ----- 1525 SQ.YD.

PROFILE CORRECTION

THE PROFILE CORRECTION TABLE ON SHEET No. 26 INDICATES STATIONS AND CORRECTIVE DEPTHS OF 301 BITUMINOUS AGGREGATE BASE TO BE ADDED FOR PROFILE CORRECTION OF PAVEMENT SETTLEMENT. WHEN THE 301 BITUMINOUS AGGREGATE BASE CORRECTION IS COMPLETE, IT SHALL CONFORM TO THE ORIGINAL PROFILE GRADE LINE OF THE PROJECT AND PAVEMENT CROSS-SLOPE AS SHOWN ON THE DETAILS ON SHEET No. 26.

PAYMENT FOR THE ABOVE WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 301 - BITUMINOUS AGGREGATE BASE.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR ACTUAL TIME NECESSARY TO REMOVE, GRADE, AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE.

GUARDRAIL REMOVED FOR STORAGE

GUARDRAIL DESIGNATED FOR REMOVAL ON THIS PROJECT SHALL BE CAREFULLY DISMANTLED AND THE SALVAGEABLE RAIL ELEMENTS STORED FOR REMOVAL BY STATE FORCES. ALL POSTS, BLOCKS, BOLTS, DAMAGED RAIL AND OTHER MATERIAL NOT CONSIDERED SALVAGEABLE SHALL BE DISPOSED OF AS DIRECTED.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR ITEM 202 - GUARDRAIL REMOVED FOR STORAGE MEASURED BY THE LINEAR FOOT CENTER TO CENTER OF TERMINAL POSTS OR CENTER OF BRIDGE CONNECTION SPLICES.

MODIFICATION OF EXISTING ANCHOR ASSEMBLY

WHERE THE PLANS SHOW AN EXISTING TYPE "A" ANCHOR ASSEMBLY (BURIED APPROACH END, SINGLE OR BARRIER RAIL) TO REMAIN IN PLACE, IF AN EXISTING

INTERMEDIATE POST IS PRESENTLY LOCATED 12'-6" FROM THE CONCRETE ANCHOR, THE EXPOSED PORTION OF THAT POST (INCLUDING SPACERS) SHALL BE REMOVED FLUSH WITH THE TOP OF THE EXISTING CONCRETE ENCASMENT SO AS TO CONFORM WITH GR-4. AT THE DIRECTION OF THE ENGINEER, THE 25' RAIL ELEMENT OF ANY ANCHOR ASSEMBLY MAY BE REPLACED IF THE RAIL ELEMENT IS DAMAGED OR BADLY WEATHERED.

COST OF THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR EACH AS ITEM 606 - MODIFICATION OF EXISTING ANCHOR ASSEMBLY.

CONNECTIONS TO EXISTING GUARDRAIL

THE CONTRACTOR SHALL CONNECT NEW GUARDRAIL TO ANY EXISTING GUARDRAIL ELEMENTS WHICH WILL REMAIN IN PLACE, SUCH AS EXISTING GUARDRAIL OR EXISTING ANCHOR ASSEMBLIES. THE COST OF THE CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE GUARDRAIL ITEM.

SHOULDER TREATMENT AND 408 PRIME COAT, AS PER PLAN

A 4'-0" WIDTH ADJACENT TO THE EXISTING OUTSIDE PAVED SHOULDER WHERE NEW GUARDRAIL IS 10'-0" FROM THE OUTSIDE EDGE OF PAVEMENT SHALL BE PAVED WITH A 2 INCH COMPACTED COURSE OF ITEM 448 ASPHALT CONCRETE AS SHOWN ON THE TYPICAL SECTIONS.

PRIOR TO PLACING THIS MATERIAL, A SOIL STERILIZER USING ONE OF THE FOLLOWING BRANDS SHALL BE APPLIED AT THE RATE RECOMMENDED BY THE MANUFACTURER:

1. PARAQUAT C.L. BY ORTHO
2. PRAMITEL
3. KROVAR BY DIAMOND SHAMROCK
4. AN APPROVED EQUAL

ITEM 408 BITUMINOUS PRIME COAT SHALL BE APPLIED AT THE RATE OF 0.5 GALLONS PER SQ. YD. PRIOR TO PLACING THE 448 ASPHALT CONCRETE.

AFTER THE 448 ASPHALT CONCRETE HAS BEEN PLACED AND COMPACTED, HOLES FOR GUARDRAIL POSTS SHALL THEN BE BORED THROUGH THE 448 AND THE POST INSTALLED. THE DISTURBED AREA AROUND EACH POST SHALL THEN BE BACKFILLED WITH 448.

PAYMENT FOR ALL OF THE ABOVE DESCRIBED RESURFACING SHALL BE INCLUDED IN ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (UNDER GUARDRAIL) WITH THE FOLLOWING EXCEPTIONS:

THE SOIL STERILANT AND PRIME COAT SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 408 - BITUMINOUS PRIME COAT, AS PER PLAN. PAYMENT FOR GUARDRAIL SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 606 - GUARDRAIL, TYPE 5, AS PER PLAN.

ITEM 606 - GUARDRAIL, TYPE 5, AS PER PLAN

THIS WORK SHALL CONSIST OF CONSTRUCTING THE TYPE 5 GUARDRAIL AS PER STANDARD DRAWING GR-2B AND SHALL INCLUDE BORING THROUGH THE 448 BERM TREATMENT FOR A DEPTH OF 6 INCHES AT EACH POST LOCATION.

ITEM 606 - GUARDRAIL, BARRIER DESIGN, TYPE 5

IN ADDITION TO THE QUANTITY GIVEN IN THE GUARDRAIL SUMMARY ON SHEET No. 10, THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AT THE DIRECTION OF THE ENGINEER IN THE EVENT THAT ADDITIONAL BARRIER GUARDRAIL IS NEEDED AT THE TIME OF CONSTRUCTION.

ITEM 202 - GUARDRAIL, BARRIER DESIGN, REMOVED FOR STORAGE --- 125 LIN. FT.
ITEM 606 - GUARDRAIL, BARRIER DESIGN, TYPE 5 ----- 125 LIN. FT.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

REFERENCES TO SUPPLEMENTAL SPECIFICATIONS 857, 858, 859, 957, 958, AND 959 ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS 630, 631, 632, 730, 731 AND 732.

ITEM 607 - FENCE, TYPE 47, MODIFIED AS PER PLAN

END AND INTERMEDIATE ANCHOR POST ASSEMBLIES AS INDICATED ON STANDARD CONSTRUCTION DRAWINGS F-2 AND F-6 DO NOT APPLY. END AND INTERMEDIATE ANCHOR POSTS SHALL CONSIST OF A "LINE POST" ENCASED IN CONCRETE AS INDICATED BY "LINE POST IN DIP SECTION".

LINE OF FENCE TO BE APPROXIMATELY FOUR (4) FEET FROM THE EDGE OF THE PAVED SHOULDER AS DIRECTED BY THE ENGINEER. FENCE SHALL NOT BE CONSTRUCTED IN AN AREA TO OBSTRUCT NORMAL FLOW OF WATER IN OR TO DITCH LINE. FENCE SHALL BE LOCATED BEHIND GUARDRAIL, WHERE PRESENT.

ROUND WOOD POST, 1" TURNBUCKLE OR BRACERODS, BARBED WIRE DO NOT APPLY.

12'-0" FUTURE MAINTENANCE OPENING SHALL BE PROVIDED, AS PER STANDARD DRAWING F-6, AT APPROXIMATELY 1,000 FOOT INTERVALS. EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER. PAYMENT FOR FUTURE MAINTENANCE OPENINGS SHALL BE INCLUDED IN THE PAYMENT FOR ITEM 607 - FENCE, TYPE 47, AS PER PLAN.

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

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

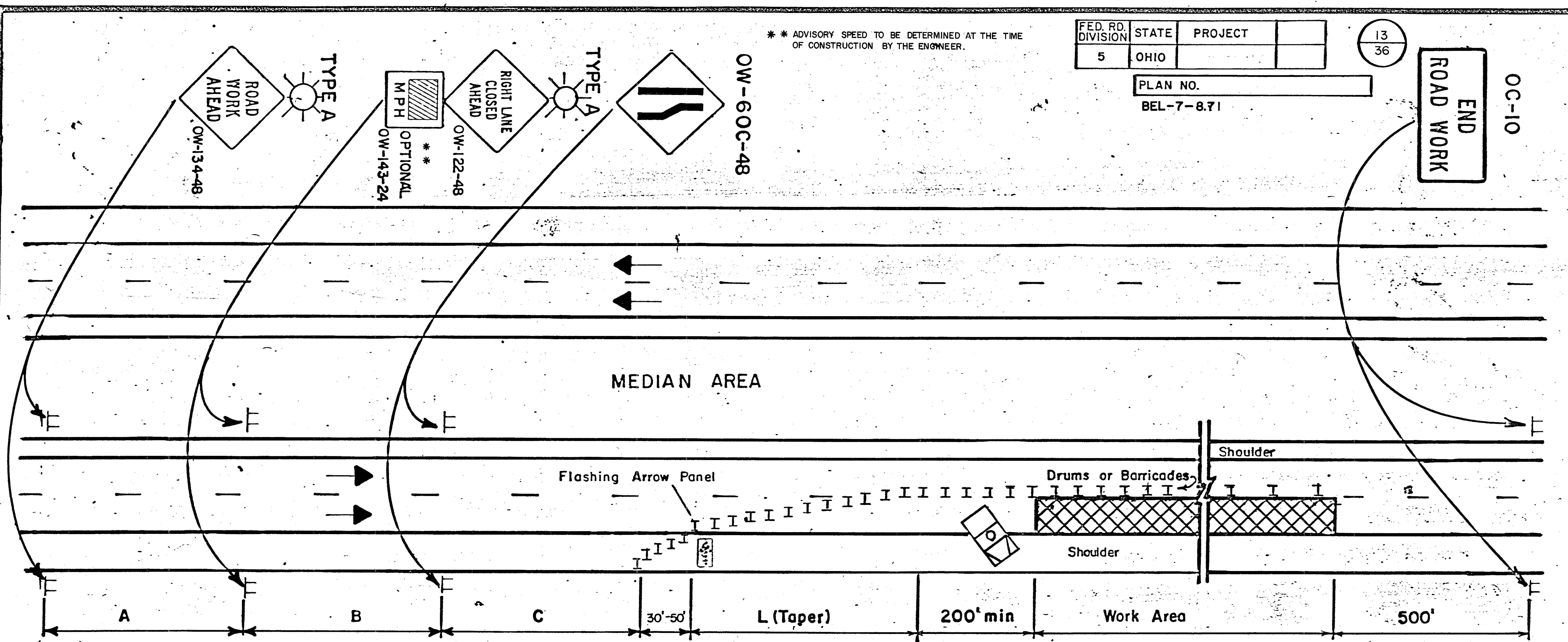
13
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PLAN NO.
BEL-7-8.71

END
ROAD WORK

OC-10

** ADVISORY SPEED TO BE DETERMINED AT THE TIME OF CONSTRUCTION BY THE ENGINEER.



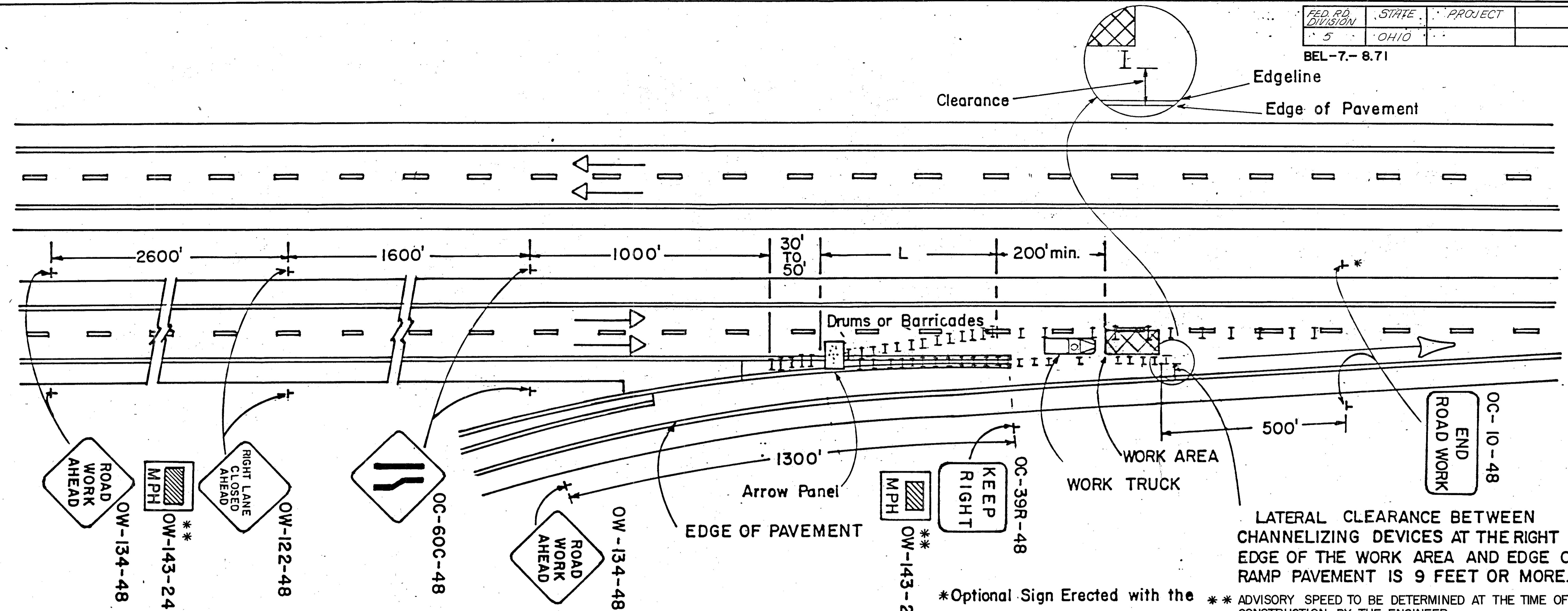
GENERAL NOTES:

- The taper length (L) shall be in accordance with Section 7F-17 of the CMUTCD. The location of the transition taper and location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. In order to determine the minimum number of channelizing devices for the transition taper see Table 7-5 CMUTCD. For a 55 MPH prevailing speed and a 12 ft. lane, not less than thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Not less than five (5) drums or barricades shall be used to form the taper on the shoulder. Drums or barricades shall be spaced approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100 to 120 feet for the balance of the work area. Cones may be substituted for barricades or drums for short term daylight lane closures only.
- The major standard level warning sign sizes may be used on divided streets or highways that are not classified as freeways or expressways.
- When work is being performed in the lane adjacent to the median on a divided highway an OW-123-48 sign(s) shall be substituted for the OW-122-48 sign(s) and an OW-60D-48 sign(s) shall be substituted for the OW-60C sign(s).
- The work vehicle shown at the beginning of the work area shall be in place and unoccupied whenever workers are in the work area. This work vehicle shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer. The vehicle shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of a 1/4 mile.
- The flashing arrow panel shall meet requirements contained in TC-35.10.
- Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1.
- Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.
- Some work area locations may require more than just static or conventional signs to enhance communication with the driver. At these locations Portable Changeable Message Signs (PCMS) units are recommended. These devices should be located approximately 2000-4000 ft. in advance of a lane closure or other point of required action. See Section 7G-8.1, CMUTCD for further guidance on use of PCMS units.

MINIMUM DISTANCE	A	B	C
MAJOR STANDARD	500'	500'	500'
URBAN FREEWAY & EXPRESSWAY	500' TO 1000'	500' TO 1000'	500' TO 1000'
RURAL FREEWAY & EXPRESSWAY	2600'	1600'	1000'

OHIO DEPARTMENT OF TRANSPORTATION
 CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY
 DATE 2/82

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LATERAL CLEARANCE BETWEEN CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND EDGE OF RAMP PAVEMENT IS 9 FEET OR MORE.

*Optional Sign Erected with the Approval of the Engineer.

** ADVISORY SPEED TO BE DETERMINED AT THE TIME OF CONSTRUCTION BY THE ENGINEER.

GENERAL NOTES

- THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL BE EMPLOYED WHEN THE LATERAL CLEARANCE BETWEEN THE CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND THE EDGE OF THE RAMP PAVEMENT IS 9 FEET OR MORE. WHEN THE CLEARANCE IS LESS THAN 9 FEET, THE TRAFFIC CONTROL ON "LANE CLOSURE AT ENTRANCE RAMP: PLAN B" SHOULD BE USED, OR THE RAMP SHOULD BE CLOSED, OR ALLOWING RAMP TRAFFIC TO USE THE BERM SHOULD BE CONSIDERED PROVIDED THE OPERATION IS "SHORT" IN DURATION. WHEN THE RAMP IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
- THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS.
- RAMP SIGNS SHALL BE DUAL MOUNTED ON MULTILANE RAMPS.
- FOR NIGHT CLOSURES, EACH OF THE FIRST TWO SIGNS IN THE SEQUENCE (ROAD WORK AHEAD and RIGHT LANE CLOSED AHEAD) IS REQUIRED TO BE SUPPLEMENTED BY A TYPE "A" FLASHING BARRICADE WARNING LIGHT.
- THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMAN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED. Work vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of 1/4 mile.
- TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS, CONES OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND (⊙) CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA. ⊙ 100' to 120'
- THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

6a.) The flashing arrow panel shall be in accordance with TC-35.10.

7. TAPER FORMULAE:

$L = S \times W$ FOR SPEEDS OF 45 OR MORE.
 $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.

WHERE:

L = MINIMUM LENGTH OF TAPER
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

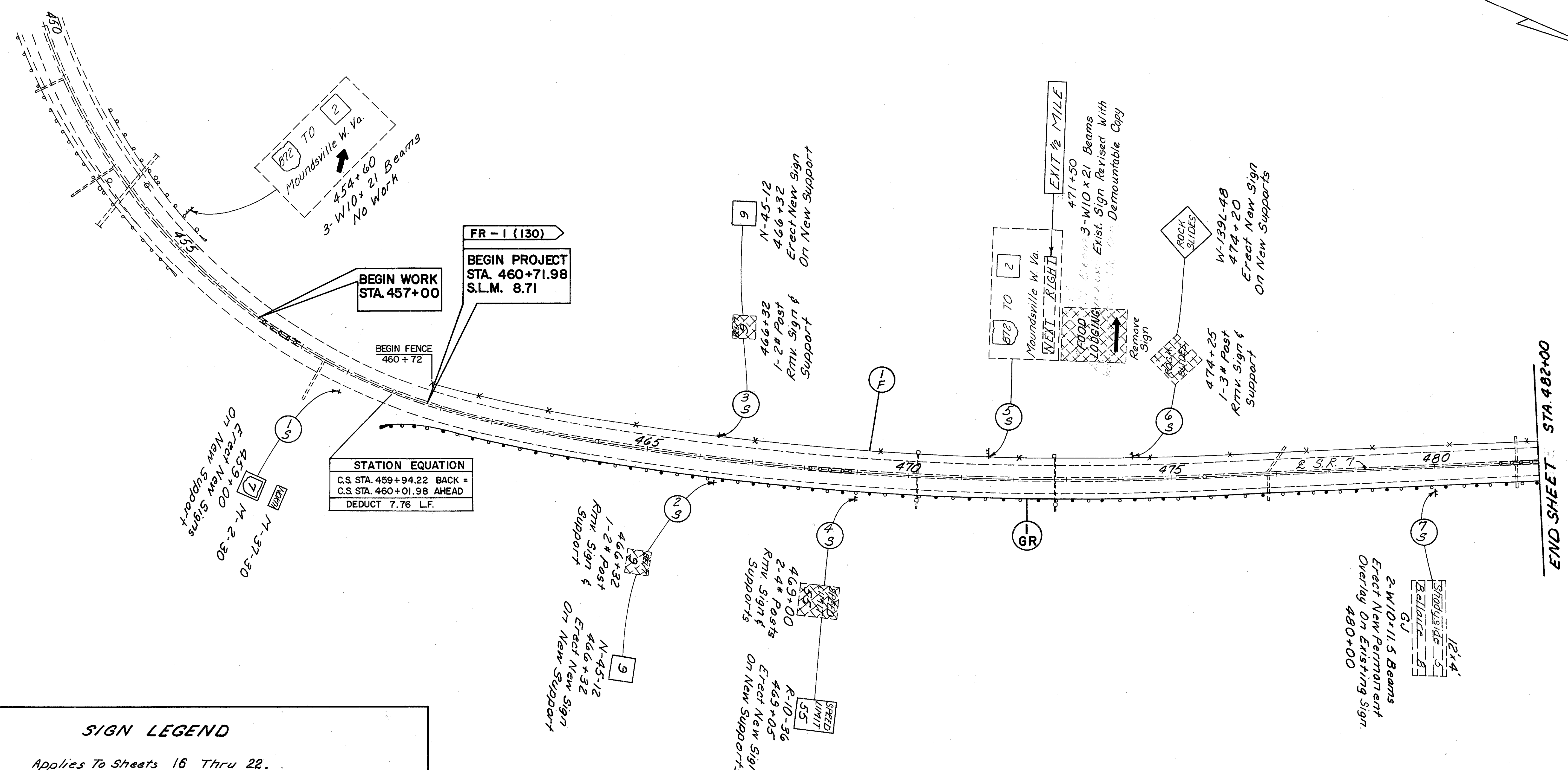
OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT ENTRANCE RAMP: PLAN A	DATE 8-3-79

GENERAL SUMMARY

CALC. BY <u>S.H.G.</u>	OHIO	<div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> 15 36 </div>
DATE <u>8/11/86</u>	FHWA REGION <u>5</u>	
CHKD. BY <u>R.D.A.</u>	BEL-7-8.71	FEDERAL PROJECT
DATE <u>9/26/86</u>		

ITEM	SHEET NUMBER										ITEM	QUANT.	UNIT	DESCRIPTION
	9	10	11	12	24	26								
- ROADWAY -														
202				1,525							202	1,525	SQ.YD.	WEARING COURSE REMOVED
202					562						202	562	LIN.FT.	CURB REMOVED, AS PER PLAN
202		13,725									202	13,725	LIN.FT.	GUARDRAIL REMOVED FOR STORAGE
202		87.5		125							202	212.5	LIN.FT.	GUARDRAIL, BARRIER DESIGN, REMOVED FOR STORAGE
202			450								202	450	EACH	RAISED PAVEMENT MARKERS REMOVED FOR STORAGE
202					1						202	1	EACH	CATCH BASIN ABANDONED
203		206									203	206	STA.	LINEAR GRADING, METHOD 1
203		128									203	128	STA.	LINEAR GRADING, METHOD 2
203		32									203	32	STA.	LINEAR GRADING, METHOD 3
203		25									203	25	STA.	LINEAR GRADING, METHOD 4
203		102									203	102	STA.	LINEAR GRADING (DITCH CLEANOUT)
203	3,092										203	3,619	CU.YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203						527					203	1,648	SQ.YD.	SUBGRADE COMPACTION
						1648								
404				25							404	25	CU.YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
606		725									606	725	LIN.FT.	GUARDRAIL, TYPE 5
606		12,812.5									606	12,812.5	LIN.FT.	GUARDRAIL, TYPE 5, AS PER PLAN
606		87.5		125							606	212.5	LIN.FT.	GUARDRAIL, BARRIER DESIGN, TYPE 5
606		10									606	10	EACH	MODIFICATION OF EXISTING ANCHOR ASSEMBLY
606		1									606	1	EACH	ANCHOR ASSEMBLY, STANDARD TYPE T
606		2									606	2	EACH	BRIDGE TERMINAL ASSEMBLY, STANDARD TYPE A
606		8									606	8	EACH	BRIDGE TERMINAL ASSEMBLY, STANDARD TYPE B
607		8,832									607	8,832	LIN.FT.	FENCE, TYPE 47, MODIFIED AS PER PLAN
- EROSION CONTROL -														
659		34,338									659	34,338	SQ.YD.	SEEDING AND MULCHING
659		3.09									659	3.09	TON	COMMERCIAL FERTILIZER
659		15.45									659	15.45	TON	AGRICULTURAL LIMING
- PAVEMENT -														
301	3,092				12			564			301	3,668	CU.YD.	BITUMINOUS AGGREGATE BASE: AC-20
407	10,443										407	10,443	GAL.	TACK COAT, AS PER PLAN A
407	3,286										407	3,286	GAL.	TACK COAT, AS PER PLAN B
408		2848									408	2848	GAL.	BITUMINOUS PRIME COAT, AS PER PLAN
846	4,782				2						846	4,784	CU.YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
846	4,678				2						846	4,680	CU.YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
448			317								448	317	CU.YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 (UNDER GUARDRAIL)
448	2,860				1			14			448	2,875	CU.YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
SPEC.		10,000									SPEC.	10,000	LB.	CRACK SEALING, HOT APPLIED, 705.04
- TRAFFIC CONTROL -														
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET No. 30.														
- STRUCTURES OVER 20' SPAN -														
BRIDGE No. BEL-7-1159C: SEE SHEET No. 35.														
BRIDGE No. BEL-7-1164C: SEE SHEET No. 35.														
BRIDGE No. BEL-7-1162: SEE SHEET No. 35.														
614											614	LUMP		MAINTAINING TRAFFIC
619											619	LUMP		FIELD OFFICE
624											624	LUMP		MOBILIZATION

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SIGN LEGEND

Applies To Sheets 16 Thru 22.

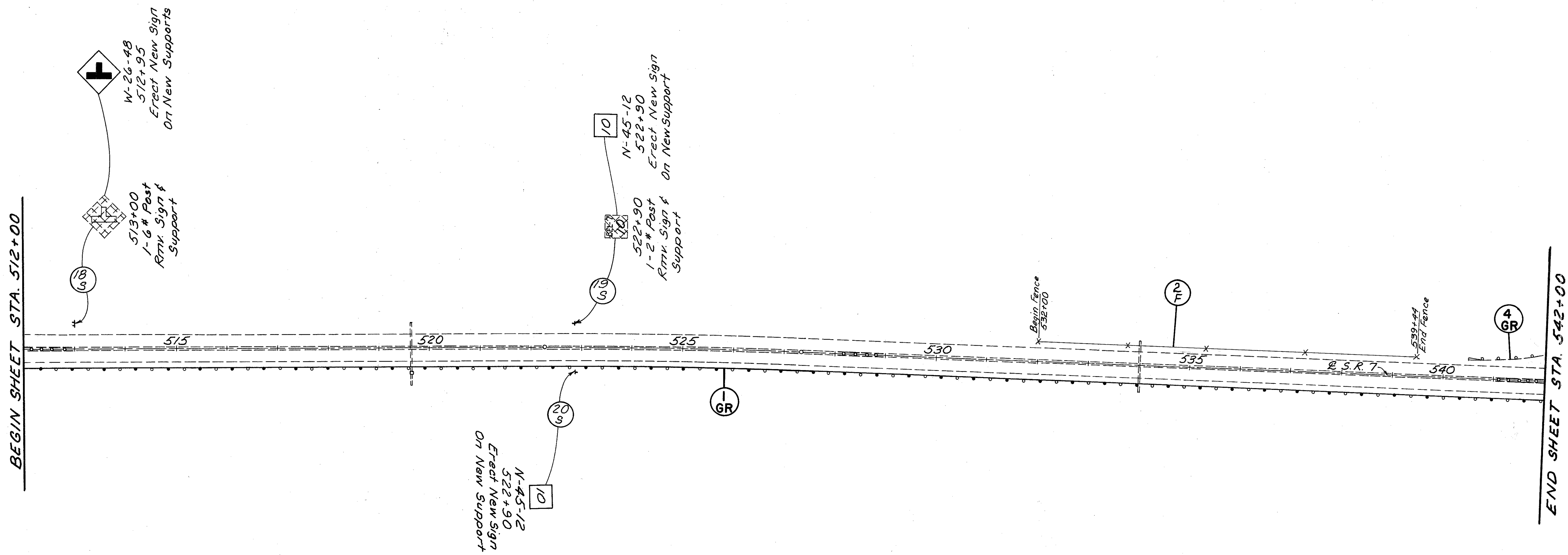
- ~ New Sign
- ~ Existing Sign (No Work)
- ~ Existing Sign (To Be Removed)
- ~ Overlaid Sign

For Traffic Control Quantities, See Sheet No. 31
 For Guardrail and Fence Quantities, See Sheet No. 10

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W-26-48
512+95
Erect New Sign
On New Supports

513+00
1-6 # Post
Rtnk Sign &
Support

10
N-45-12
522+90
Erect New Sign
On New Support

10
N-45-12
522+90
Erect New Sign
On New Support

Begin Fence
532+00

2 F

539+44
End Fence

4 GR

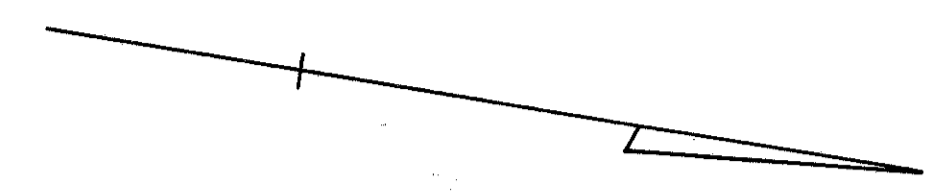
For Traffic Control Quantities, See Sheet No. 31
For Guardrail and Fence Quantities, See Sheet No. 10

STA 512+00 TO STA 542+00

FHWA REGION	STATE	PROJECT
5	OHIO	

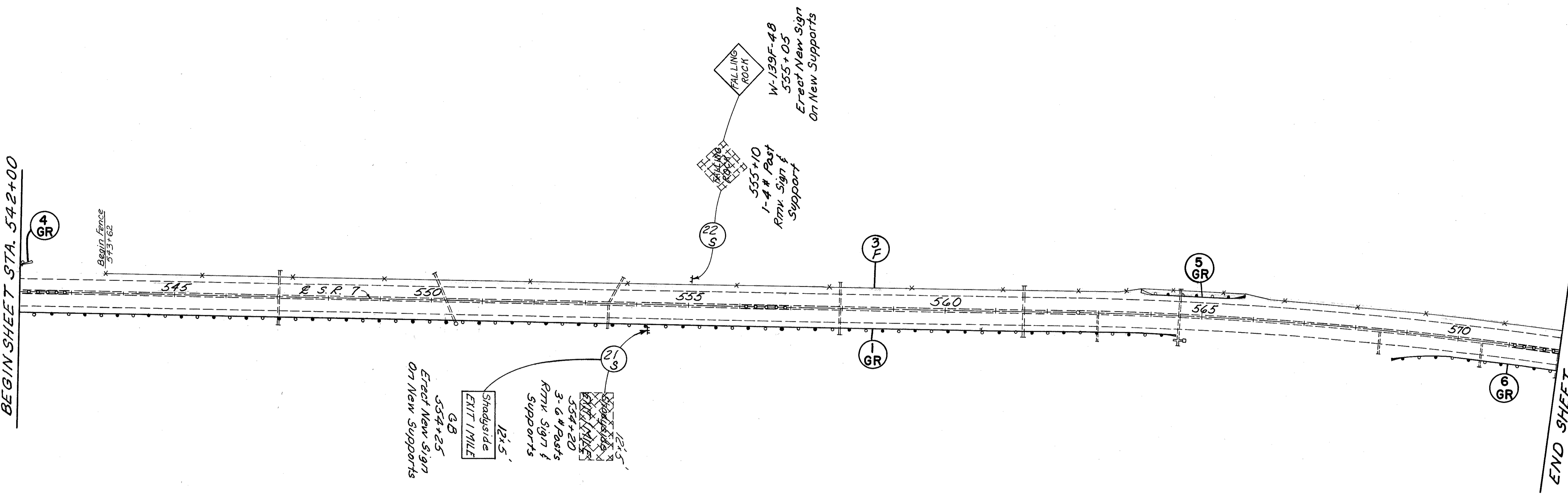
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BEL-7-8.71



BEGIN SHEET STA. 542+00

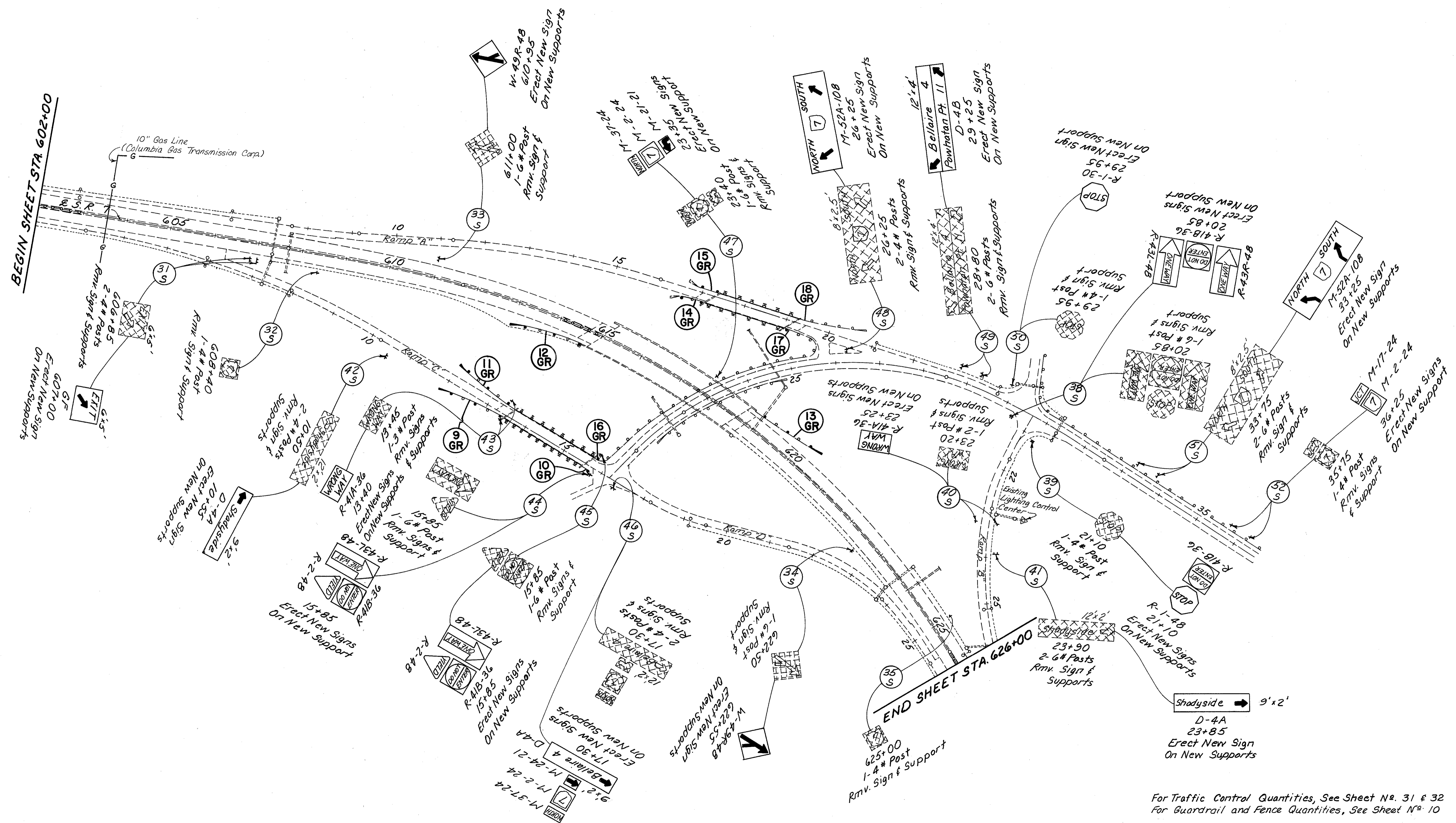
END SHEET STA. 572+00



For Traffic Control Quantities, See Sheet No. 31
For Guardrail and Fence Quantities, See Sheet No. 10

STA. 542+00 TO STA. 572+00

BEL-7-8.71

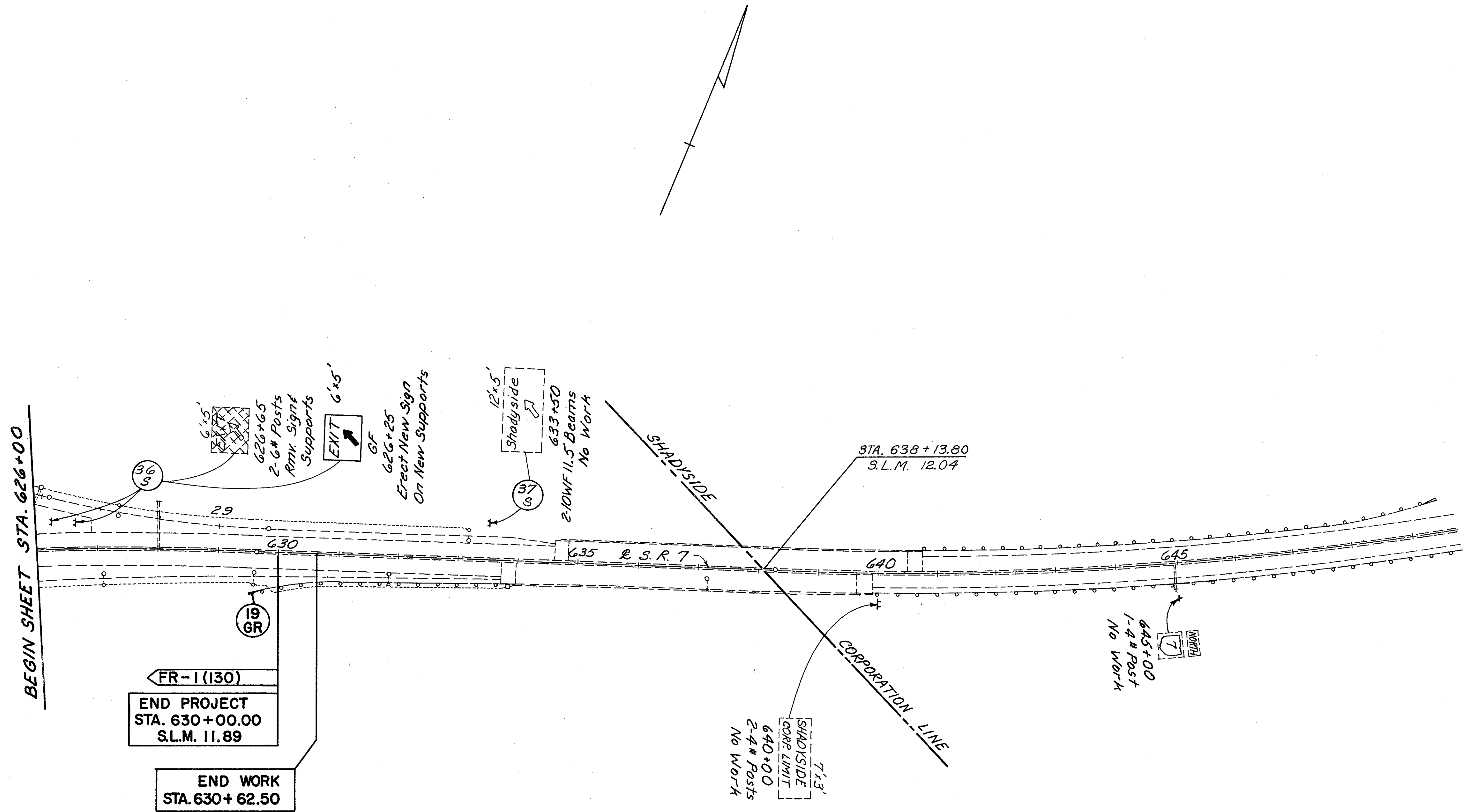


For Traffic Control Quantities, See Sheet No. 31 & 32
For Guardrail and Fence Quantities, See Sheet No. 10

FHWA REGION	STATE	PROJECT
5	OHIO	

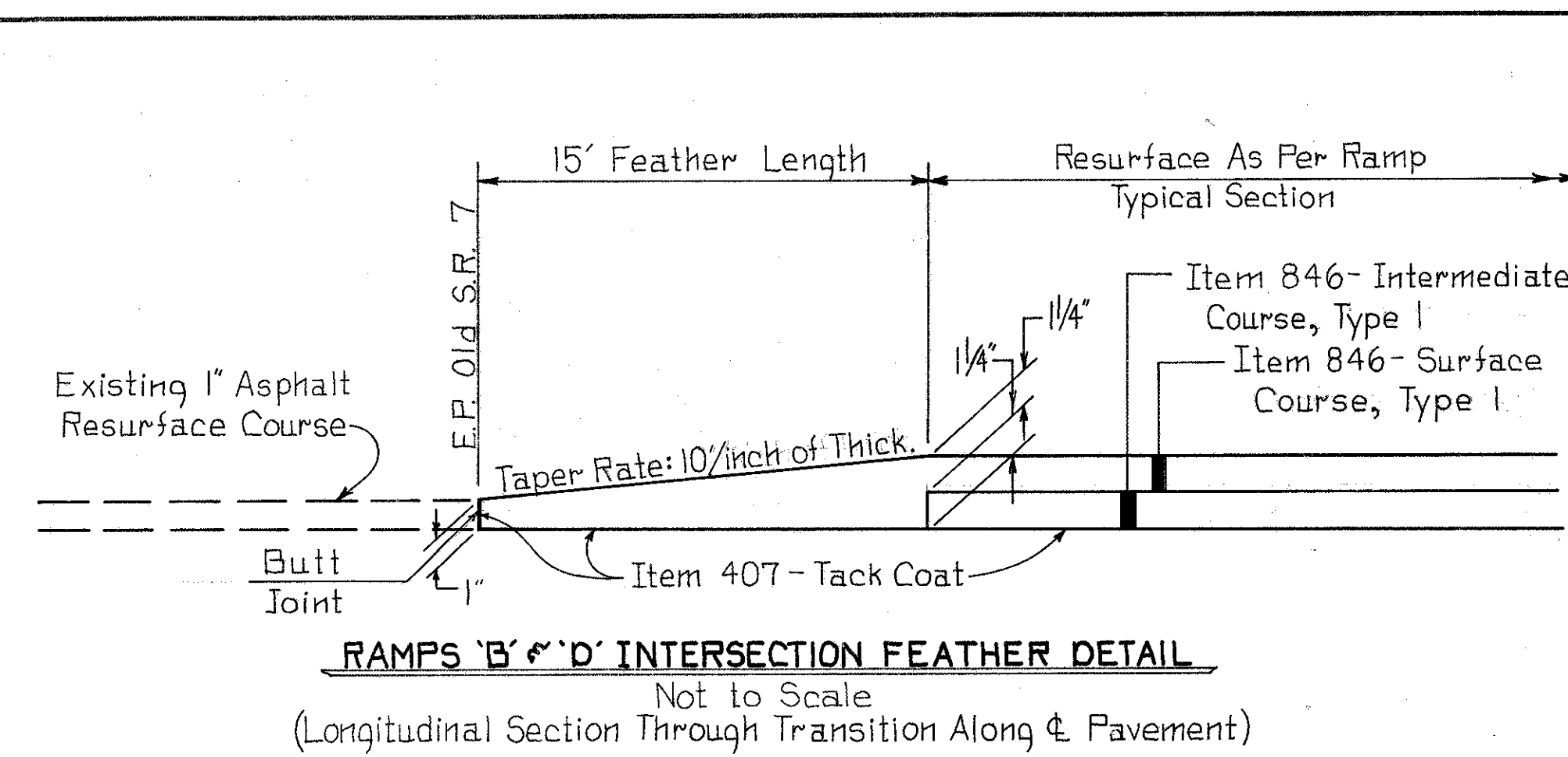
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BEL-7-8.71

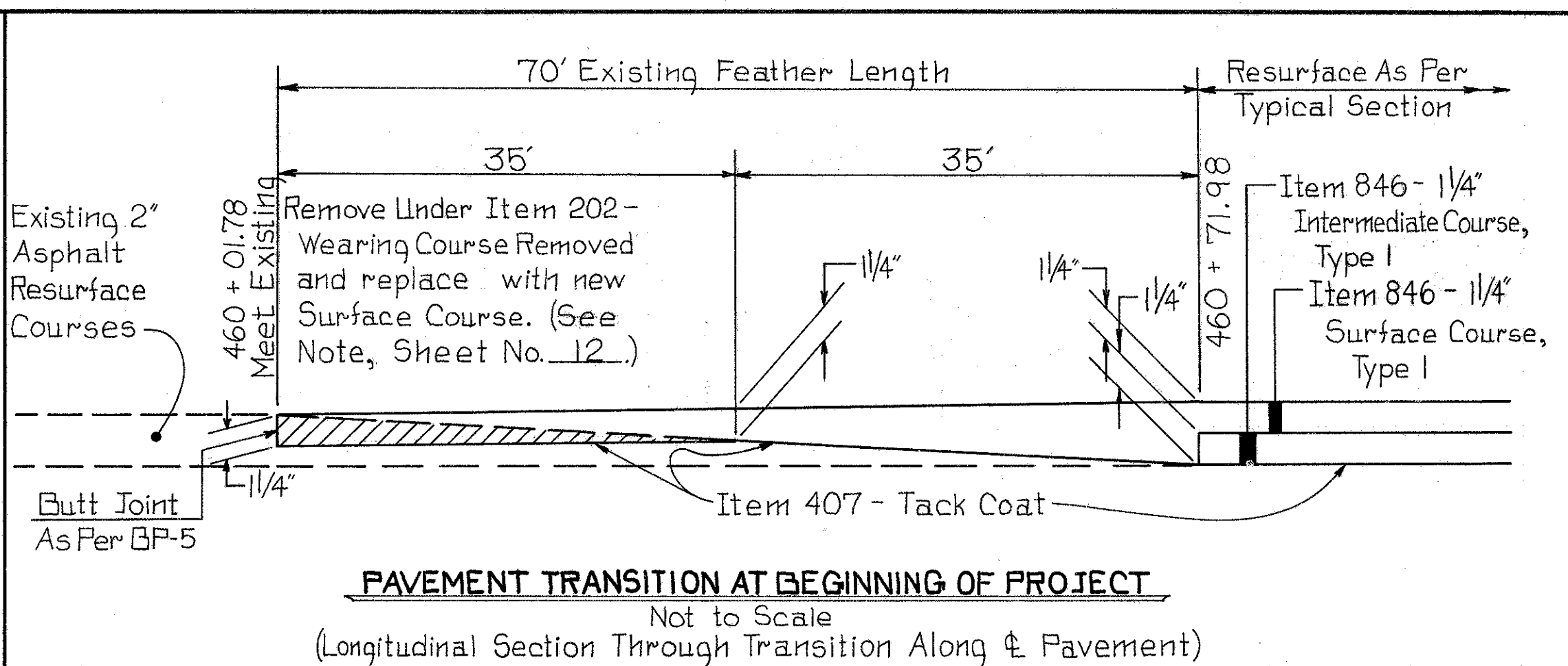


For Traffic Control Quantities, See Sheet N^o 32
For Guardrail Quantities, See Sheet N^o 10

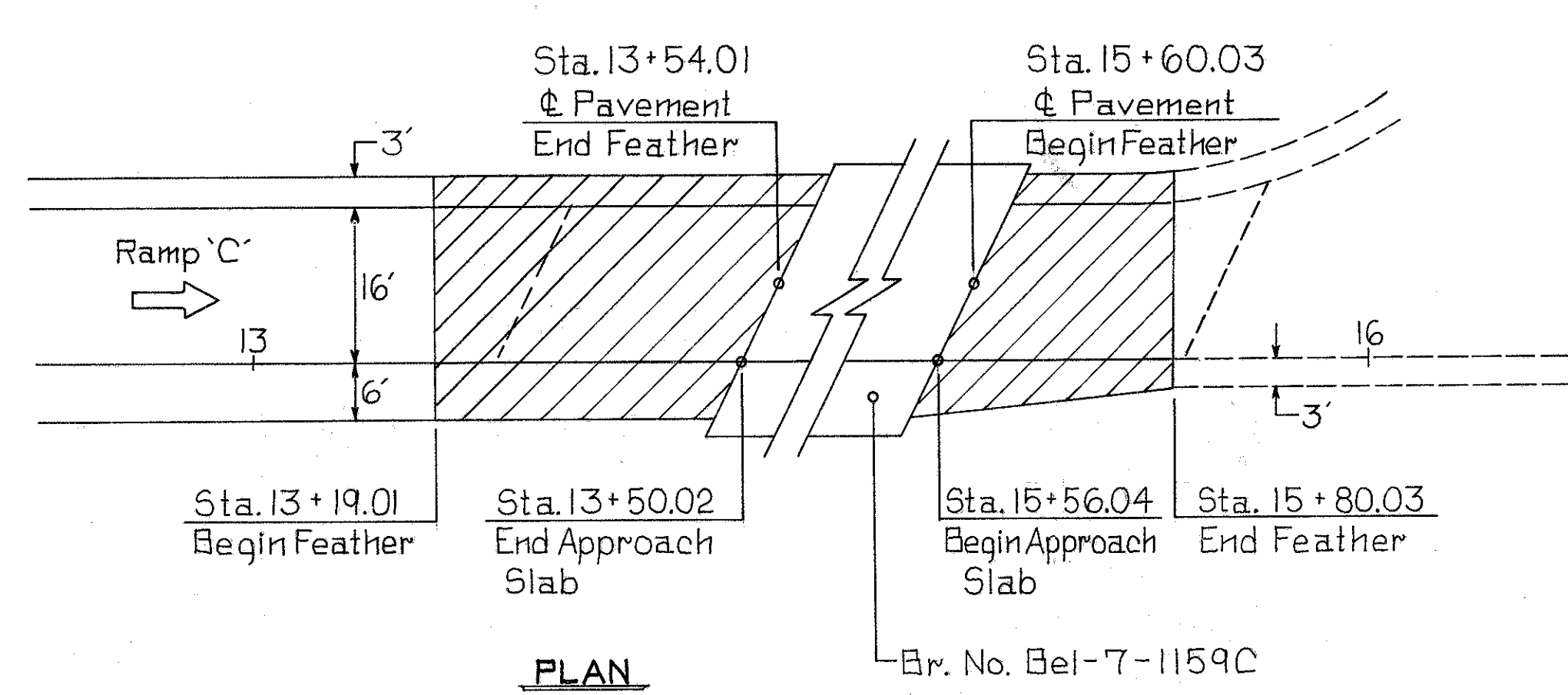
BEL-7-8.71



RAMP 'B' & 'D' INTERSECTION FEATHER DETAIL
Not to Scale
(Longitudinal Section Through Transition Along ϕ Pavement)



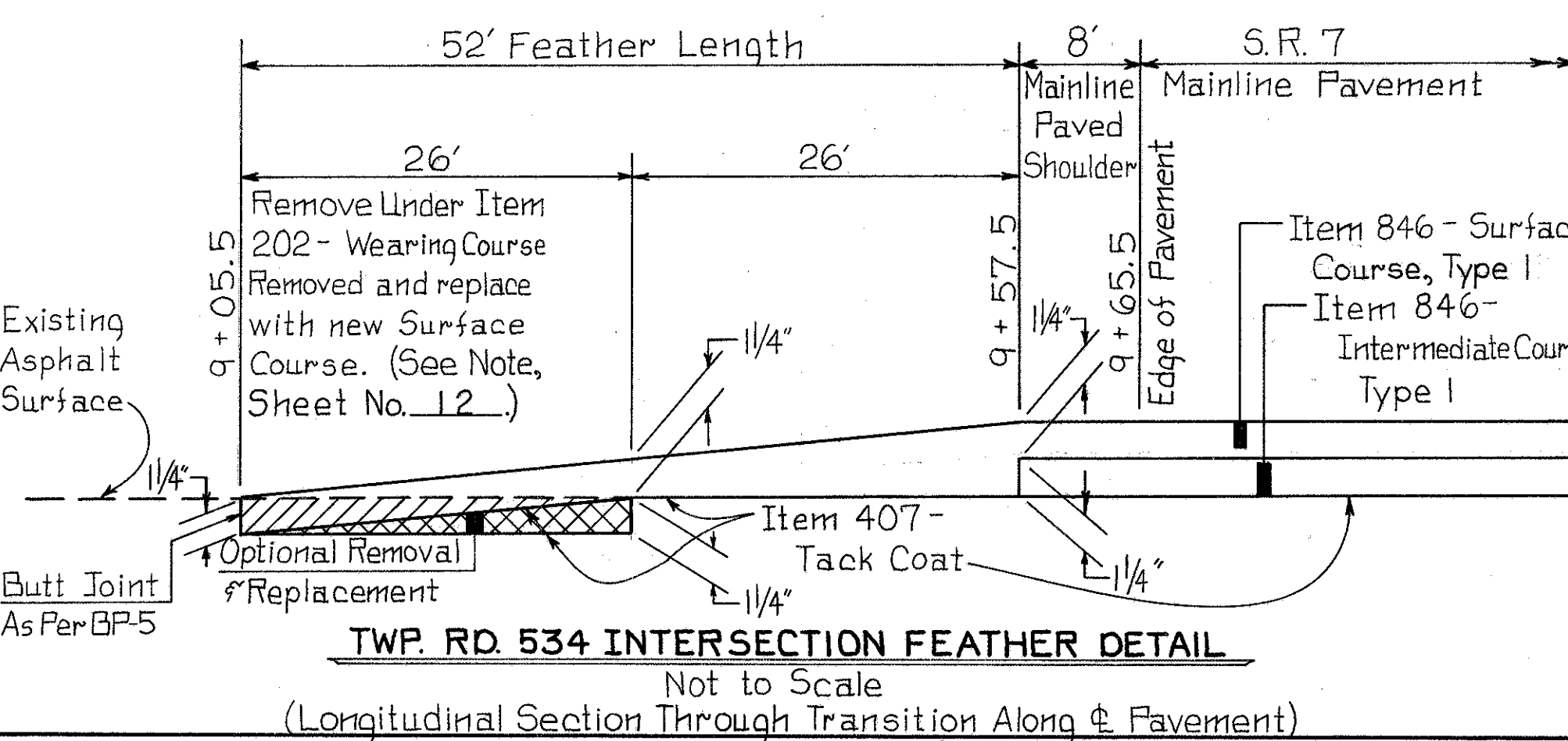
PAVEMENT TRANSITION AT BEGINNING OF PROJECT
Not to Scale
(Longitudinal Section Through Transition Along ϕ Pavement)



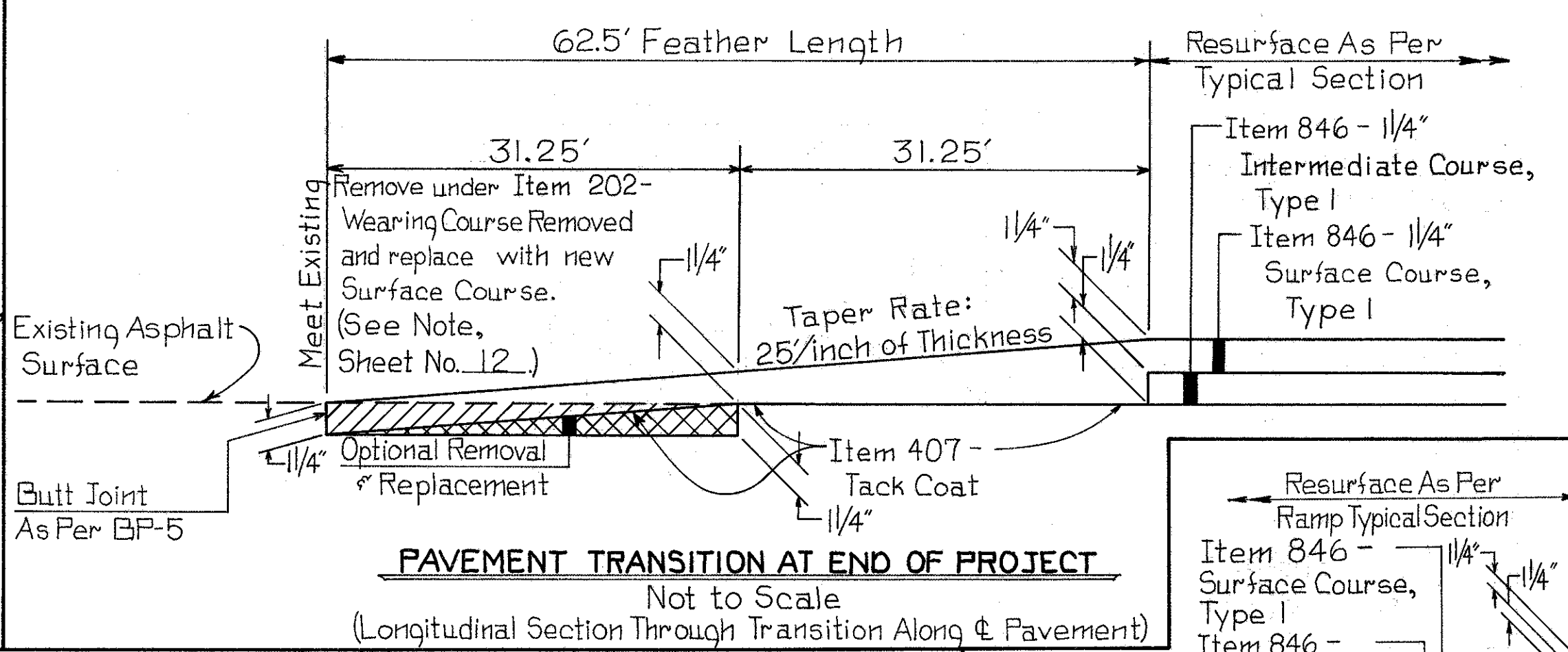
PLAN

Br. No. Bel-7-1159C

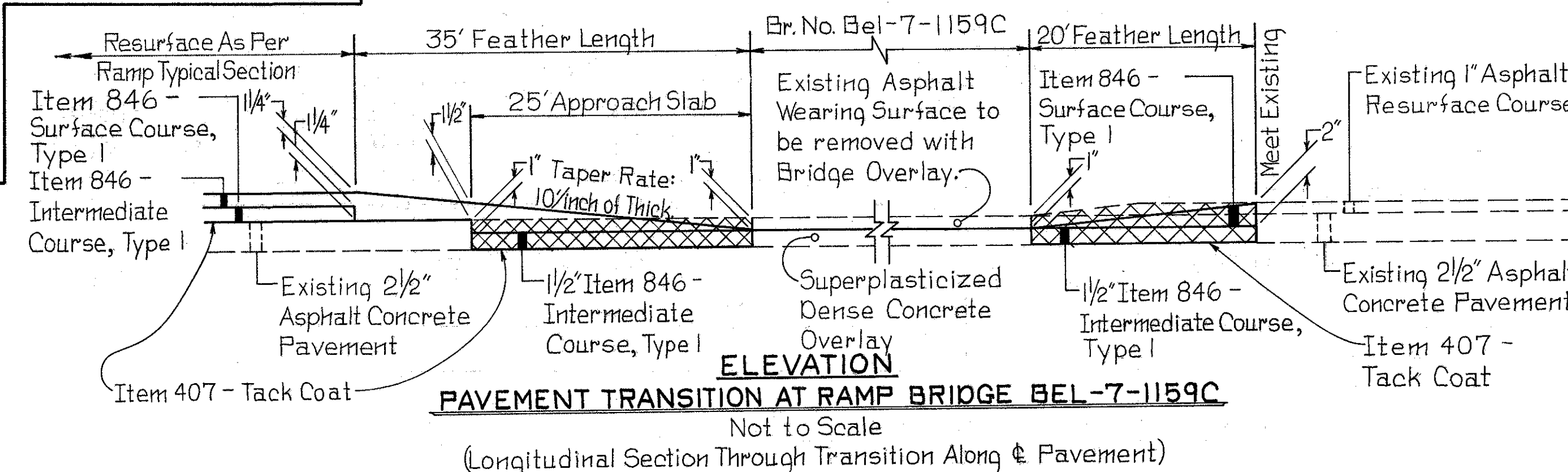
- Feather Area
- Item 202 - Wearing Course Removed (See General Note on Sheet No. 12.)



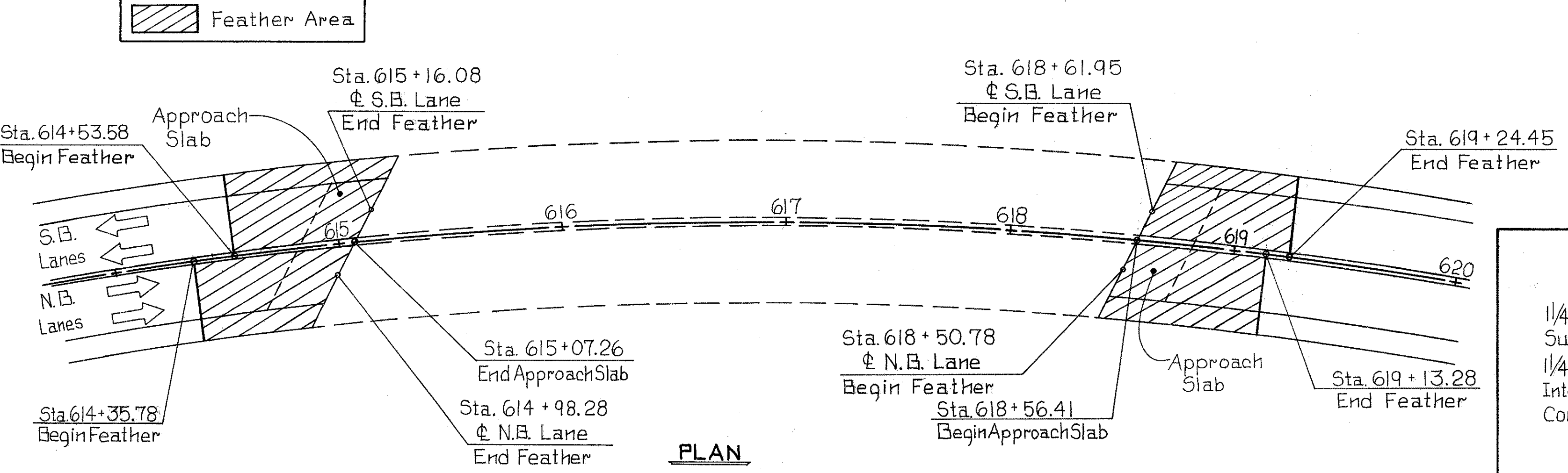
TWP. RD. 534 INTERSECTION FEATHER DETAIL
Not to Scale
(Longitudinal Section Through Transition Along ϕ Pavement)



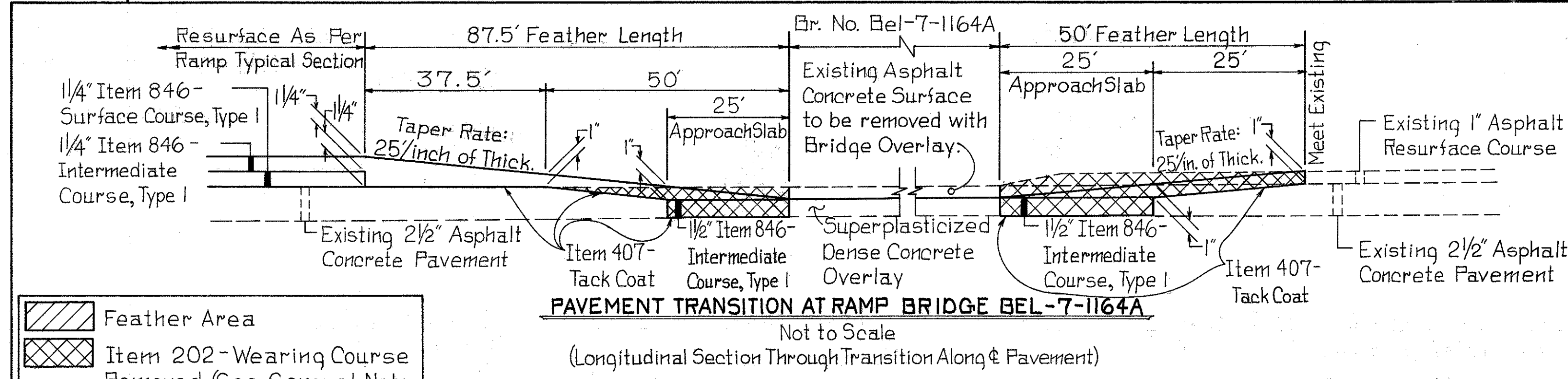
PAVEMENT TRANSITION AT END OF PROJECT
Not to Scale
(Longitudinal Section Through Transition Along ϕ Pavement)



PAVEMENT TRANSITION AT RAMP BRIDGE BEL-7-1159C
Not to Scale
(Longitudinal Section Through Transition Along ϕ Pavement)



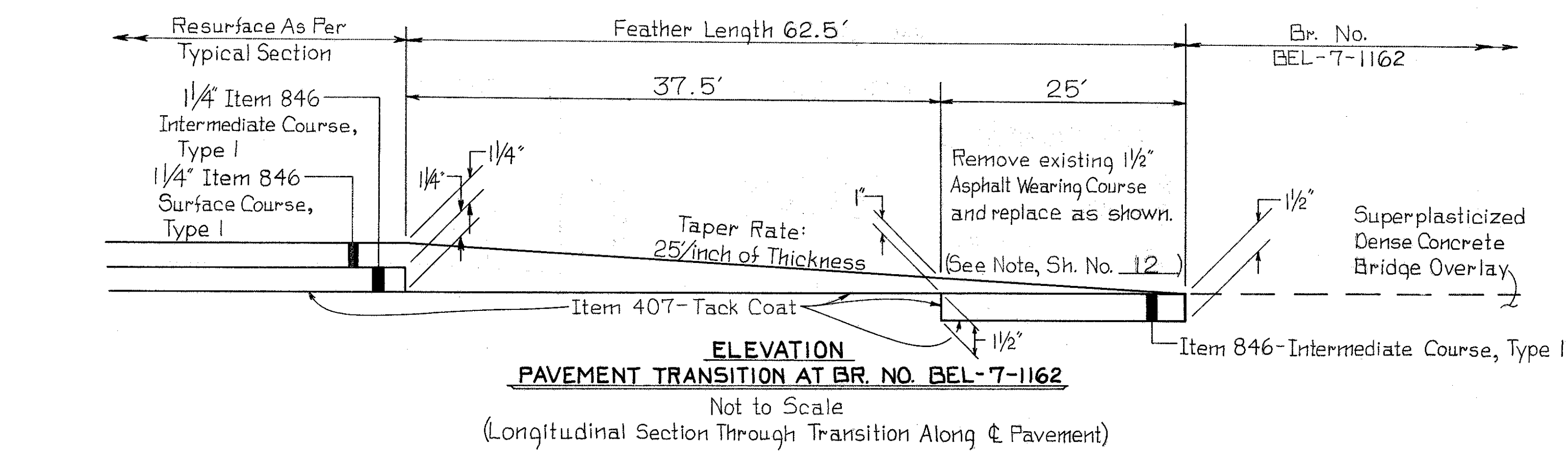
PLAN



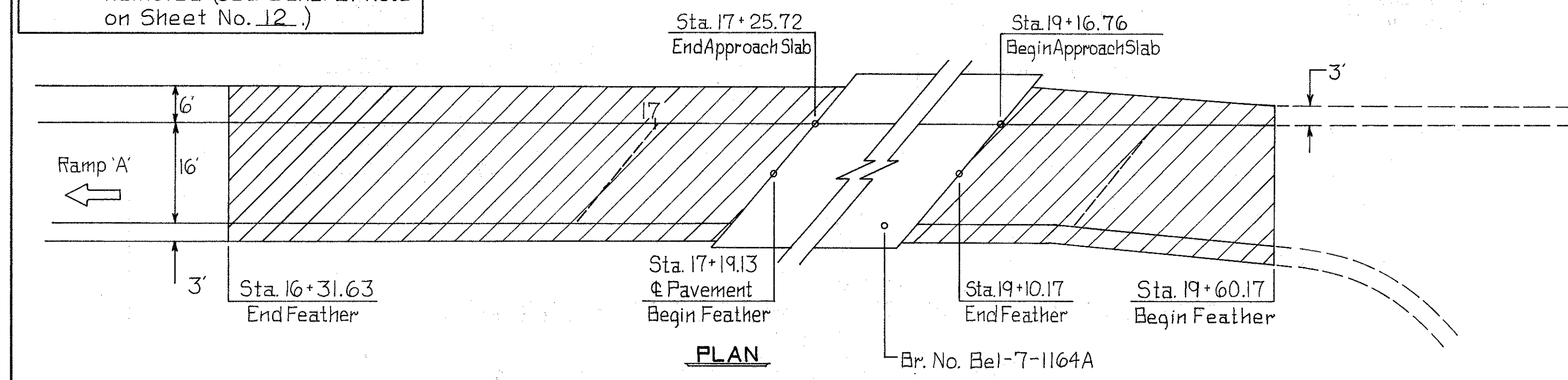
PAVEMENT TRANSITION AT RAMP BRIDGE BEL-7-1164A
Not to Scale
(Longitudinal Section Through Transition Along ϕ Pavement)

Br. No. BEL-7-1162

- Feather Area
- Item 202 - Wearing Course Removed (See General Note on Sheet No. 12.)



PAVEMENT TRANSITION AT BR. NO. BEL-7-1162
Not to Scale
(Longitudinal Section Through Transition Along ϕ Pavement)

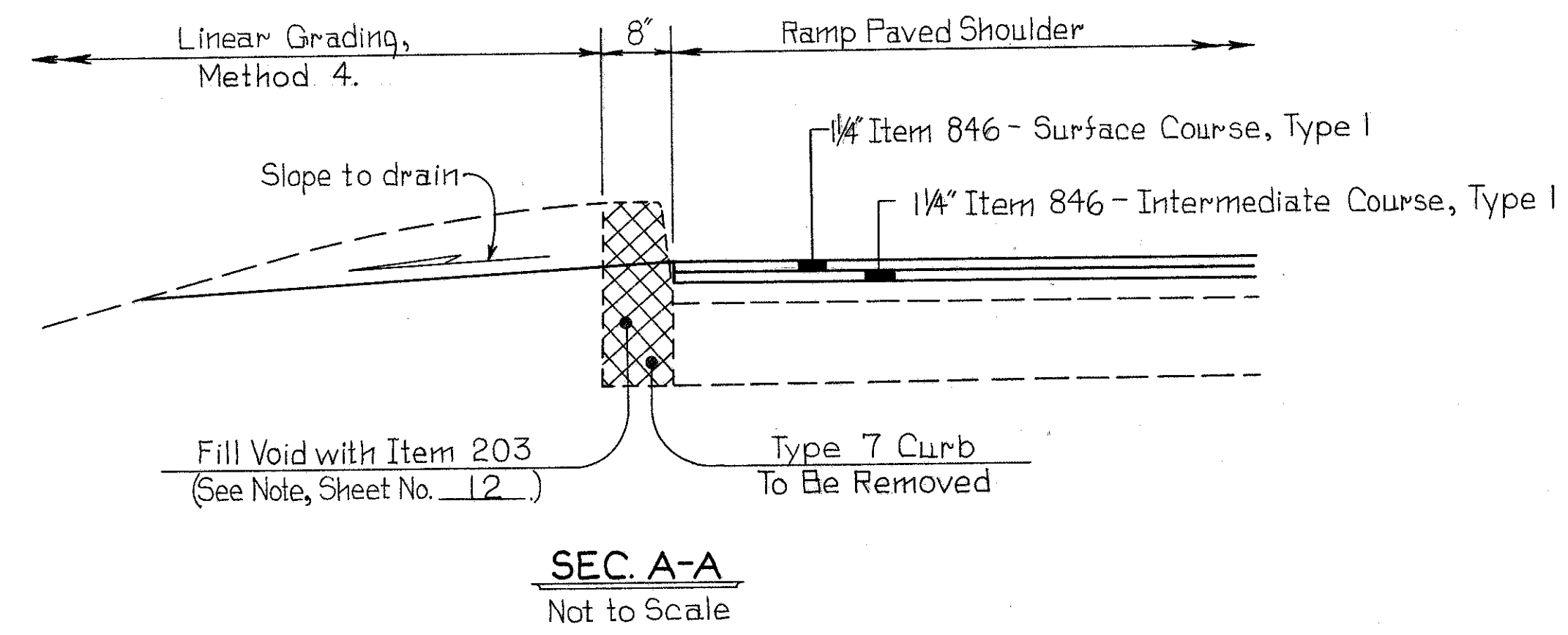
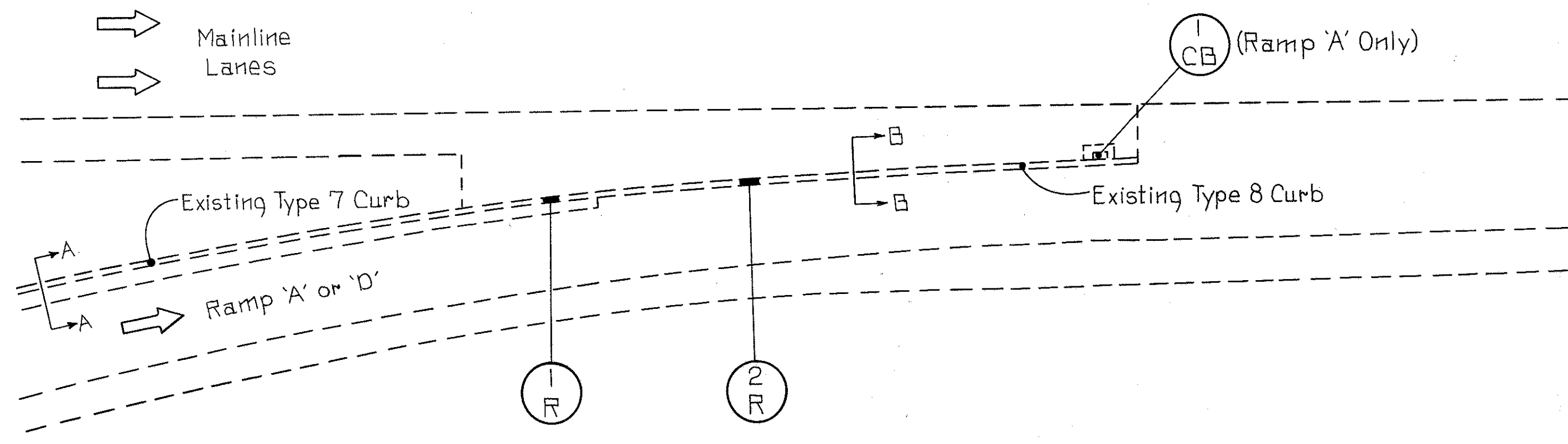


PLAN

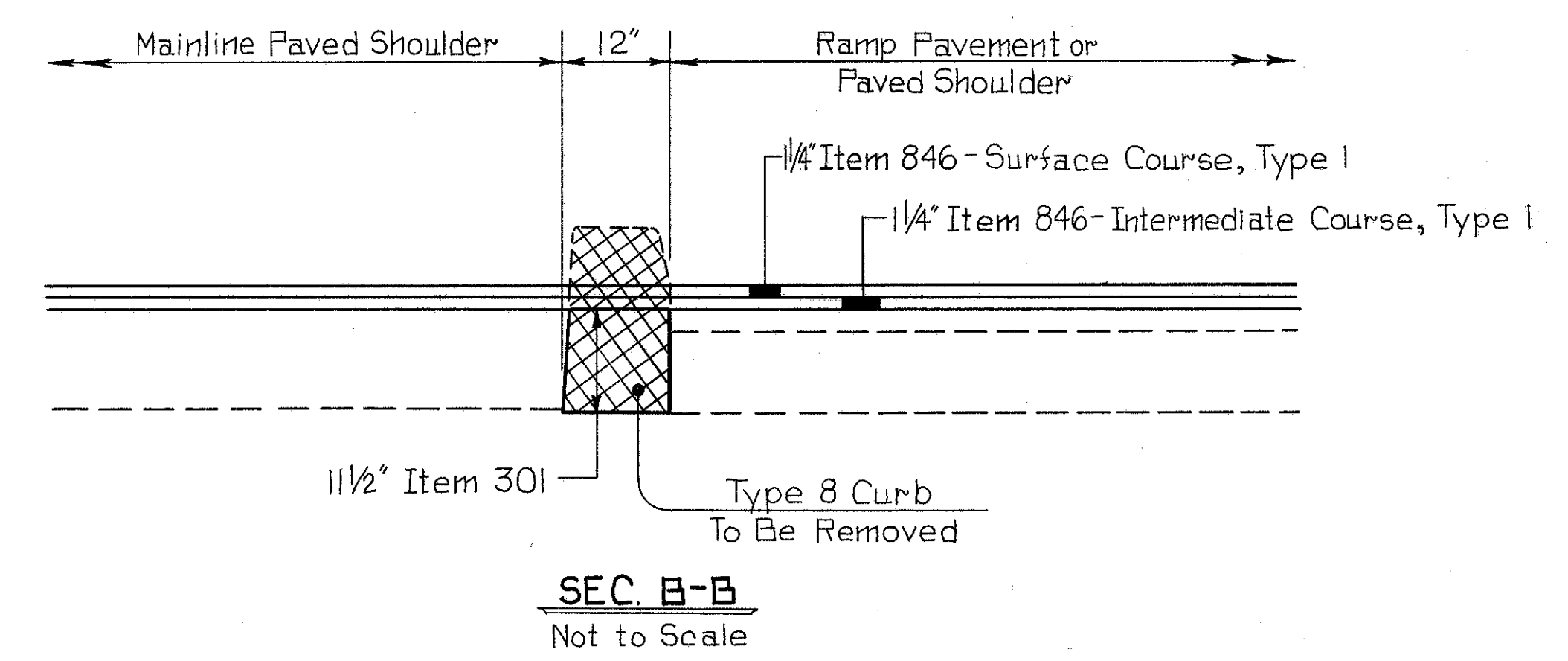
QUANTITIES	
Calc. by: <i>S.H.G.</i>	Chk'd. by: <i>S.H.G.</i>
Date: <i>7-30-86</i>	Date: <i>8-5-86</i>

FHWA REGION	STATE	PROJECT
5	OHIO	

BEL-7-8.71



SEC. A-A
Not to Scale



SEC. B-B
Not to Scale

REFERENCE NO.	QUANTITIES					
	202		301	448	846	
	Curb Removed As Per Plan	Catch Basin Abandoned *	Bituminous Aggregate Base	0" Min. Asphalt Concrete Intermediate Course, Type I	1 1/4" Asphalt Concrete Intermediate Course, Type I	1 1/4" Asphalt Concrete Surface Course, Type I
	Lin. Ft.	Each	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.
Ramp 'A'						
1-R	138					
2-R	162		5.8	0.4	0.6	0.6
1-CB		1				
Ramp 'B'						
1-R	102					
2-R	160		5.7	0.4	0.6	0.6
TOTALS	562	1	11.5	0.8	1.2	1.2

* Plugged and Abandoned

Quantities Carried to General Summary.

CALCULATIONS

Ramp 'A'

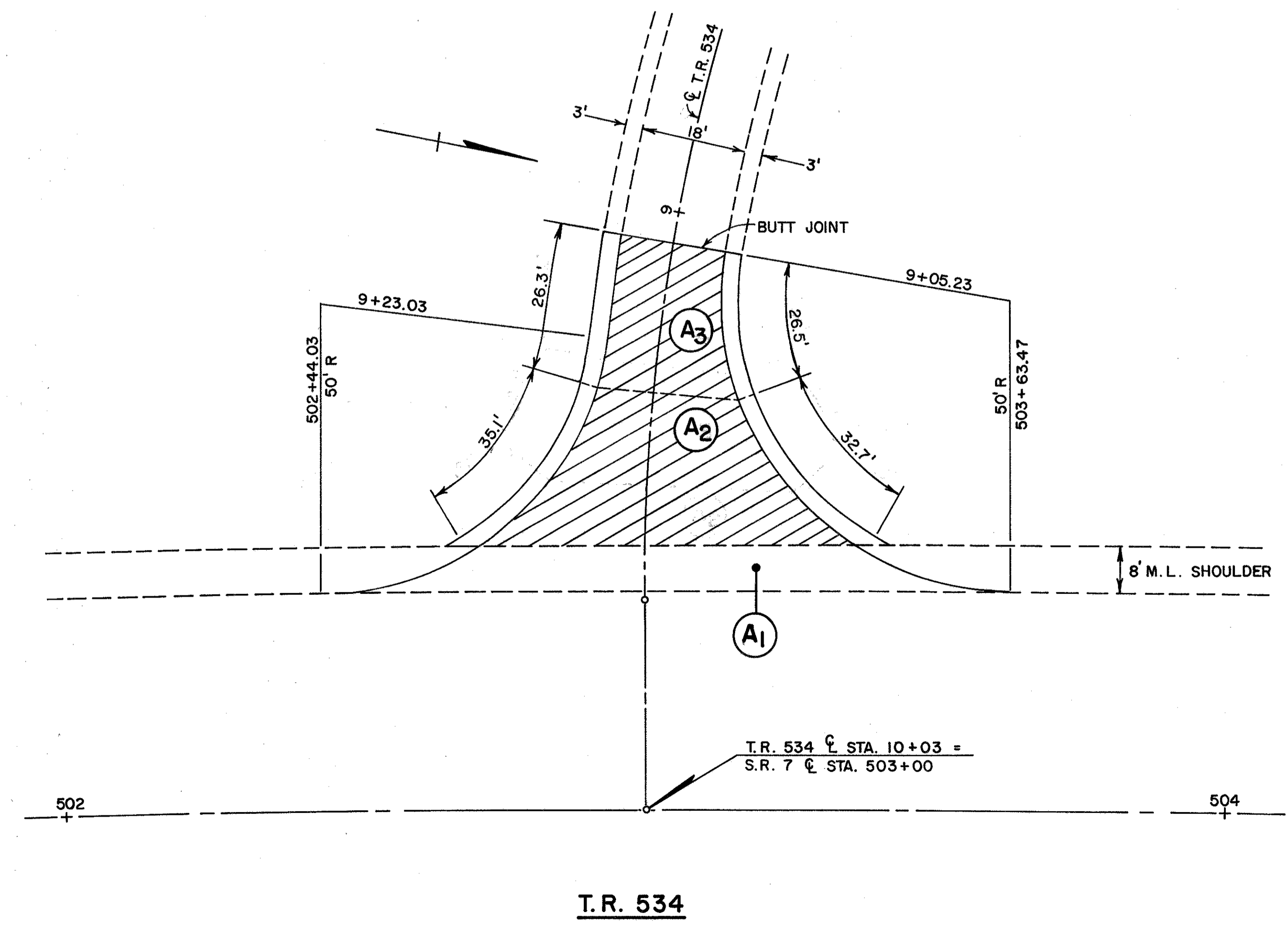
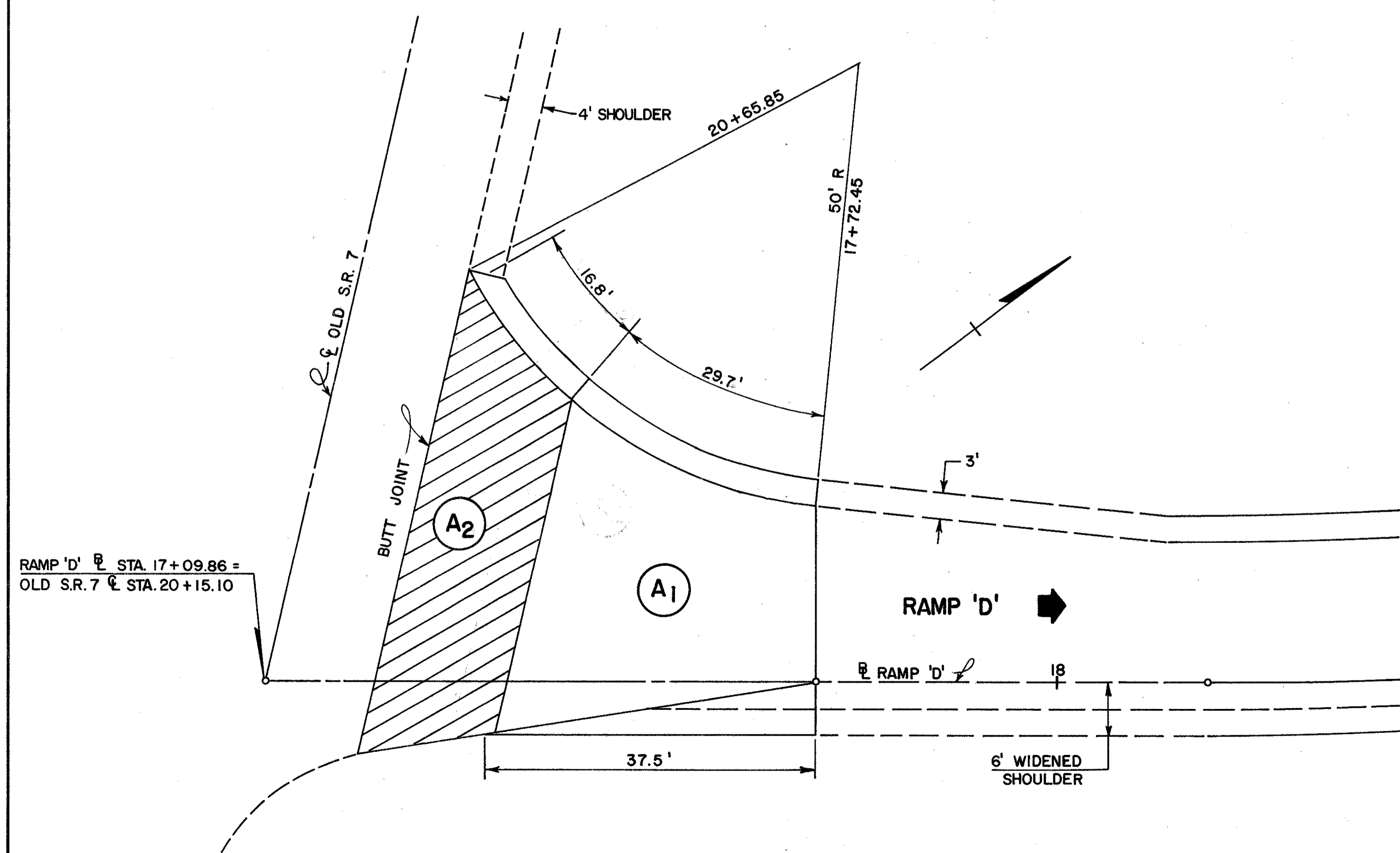
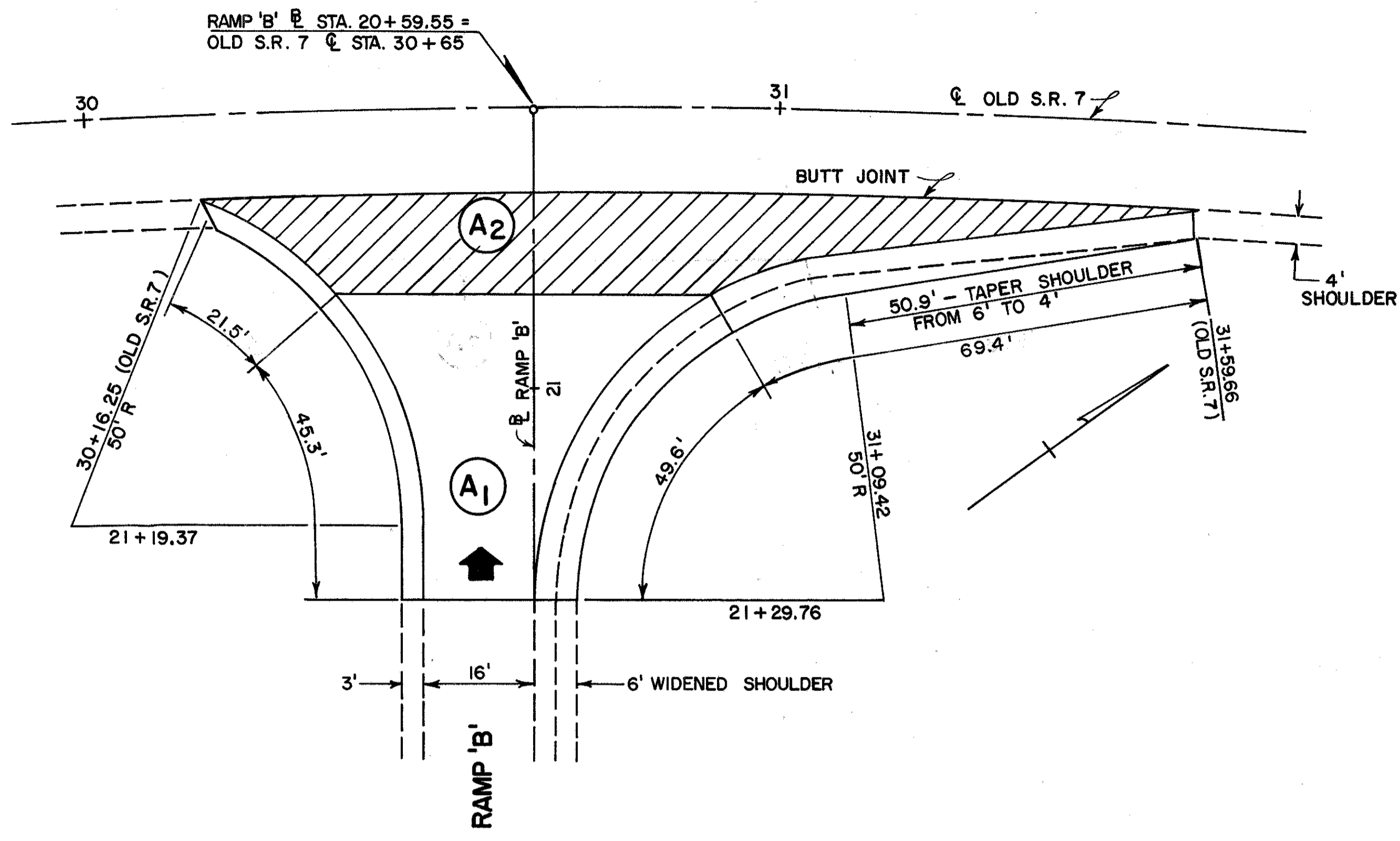
2-R { Item 301 ~ 162' x 1' x 11.5/12 ÷ 27 = 5.8 Cu. Yd.
Item 448 ~ 162' x 1' x 0.75/12 ÷ 27 = 0.4 Cu. Yd.
Item 846 ~ 162' x 1' x 1.25/12 ÷ 27 = 0.6 Cu. Yd.
Item 846 ~ 162' x 1' x 1.25/12 ÷ 27 = 0.6 Cu. Yd.

Ramp 'B'

2-R { Item 301 ~ 160' x 1' x 11.5/12 ÷ 27 = 5.7 Cu. Yd.
Item 448 ~ 160' x 1' x 0.75/12 ÷ 27 = 0.4 Cu. Yd.
Item 846 ~ 160' x 1' x 1.25/12 ÷ 27 = 0.6 Cu. Yd.
Item 846 ~ 160' x 1' x 1.25/12 ÷ 27 = 0.6 Cu. Yd.

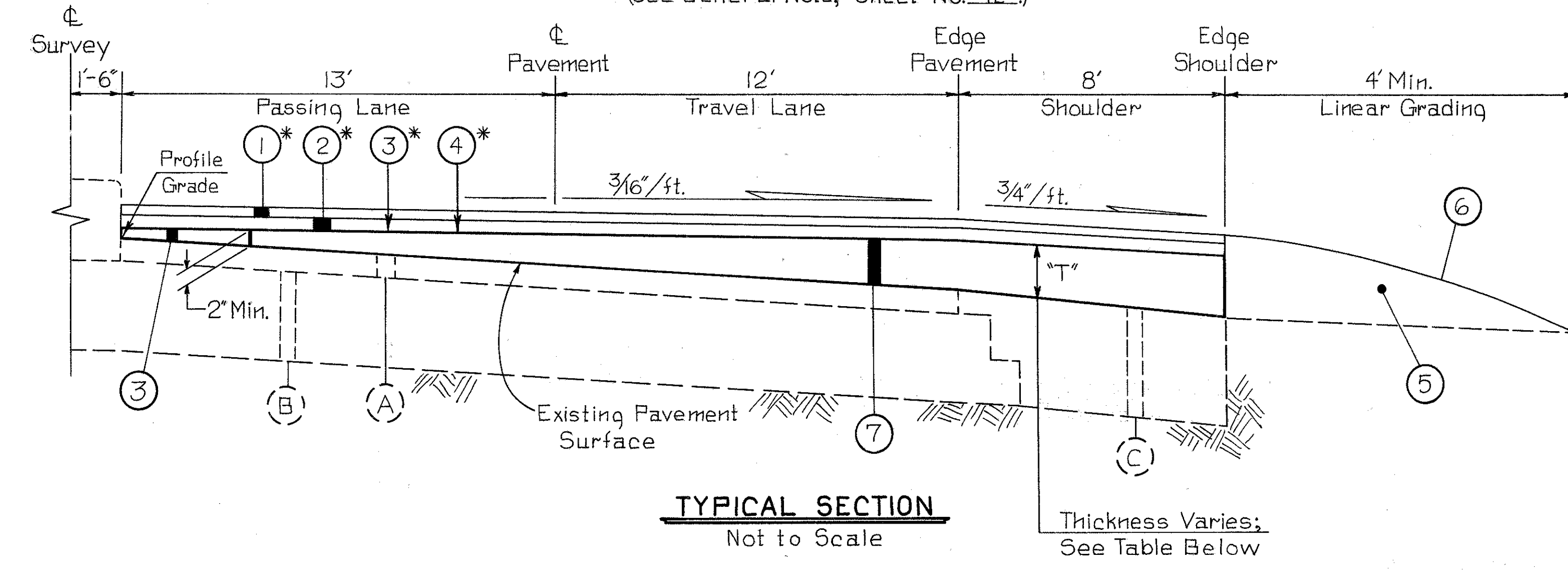
LOCATION	PLANIMETERED AREAS USED IN PAVEMENT CALCULATIONS (SQ. YD.)				LENGTHS USED IN SHOULDER CALCULATIONS (LIN. FT.)							
	A ₁	A ₂	A ₃	SEE SHEET NO.	LA ₁		LA ₂		LA ₃		SEE SHEET NO.	
					LT.	RT.	LT.	RT.	LT.	RT.		
RAMP 'B'	128	151	—	7	45.3	49.6	21.5	69.4	—	—	9	
RAMP 'D'	100	78	—	7	29.7	37.5	16.8	—	—	9		
T. R. 534	72	116	59	7	—	—	32.7	35.1	26.5	26.3	9	

NOTE: LEFT & RIGHT CONFIGURATION ON RAMPS IS REFERENCED TO THE DIRECTION OF TRAVEL.
 FEATHER AREAS



BEL-7-8.71

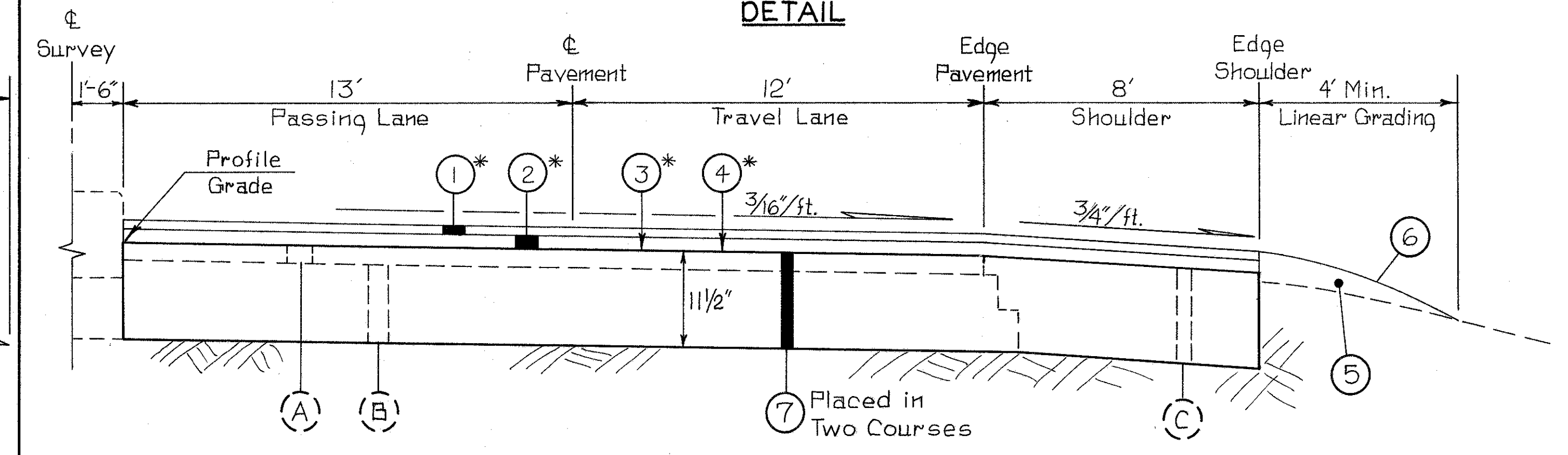
PROFILE CORRECTION DETAIL
 (See General Note, Sheet No. 12.)



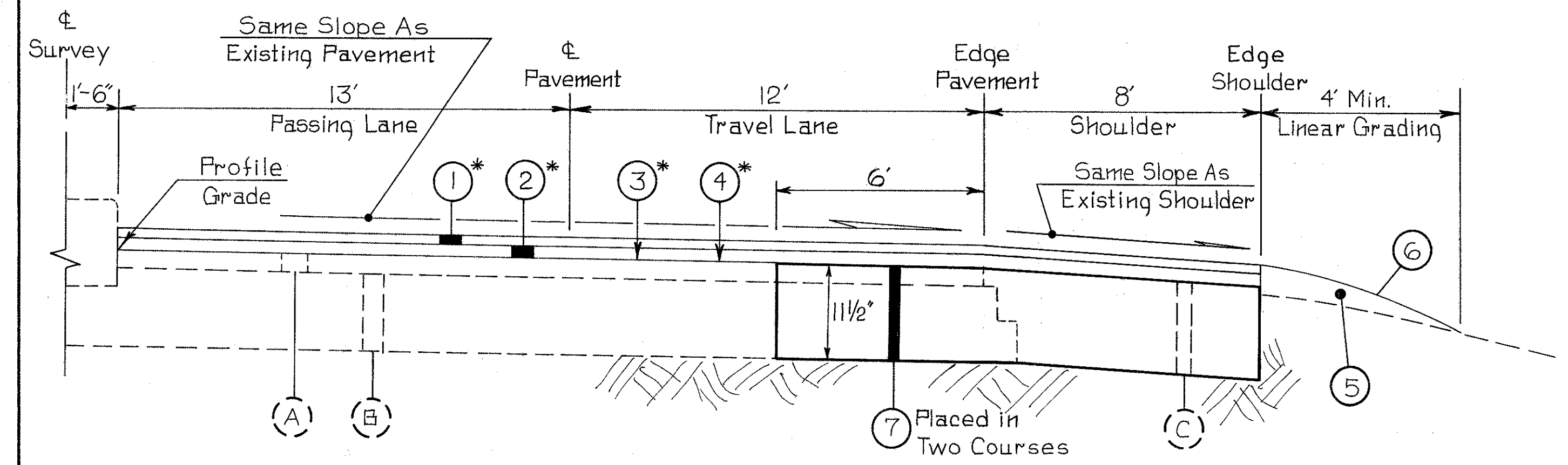
TYPICAL SECTION
 Not to Scale

Thickness Varies;
 See Table Below

**FULL DEPTH FLEXIBLE PAVEMENT
 REMOVAL & FLEXIBLE REPLACEMENT
 DETAIL**



STA. 555 + 25 TO STA. 557 + 25 (S.B. Only)



STA. 494 + 20 TO STA. 495 + 20 (N.B. Only)

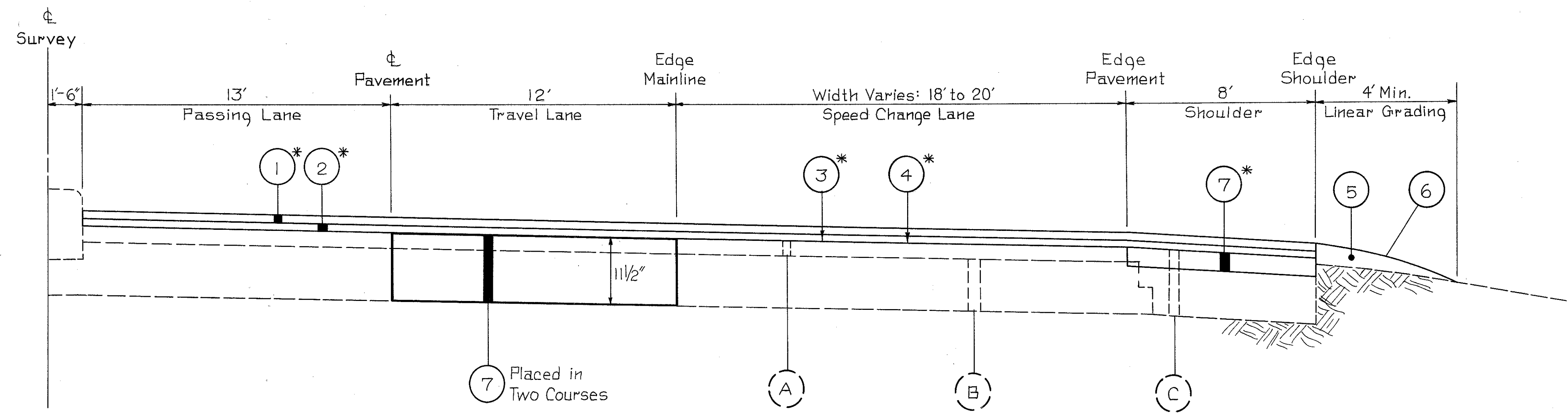
STA. 604 + 45 TO STA. 605 + 45 (S.B. Only)
 See Detail on Sheet No. 27.

PROFILE CORRECTION QUANTITIES							301	448
STATION	L A N E	Depth "T", Feet				END AREA Sq. Ft.	Bituminous Aggregate Base	0" Min. Asphalt Concrete Interm. Course, Type I
		Profile Grade	Edge of Pavement	Edge of Pavement	Edge of Shoulder		Cu. Yd.	Cu. Yd.
Sta. 528+00 to Sta. 529+50								
528+00	Southbound Lanes	.0	.0	.0	.0	0	0.1	0.7
528+25		.0	.04	.04	.21	1.74	1.0	2.0
528+50		.07	.13	.15	.30	4.78	3.5	1.9
528+75		.11	.20	.26	.26	6.86	1.3	1.9
529+00		.0	.0	.0	.0	0	0.1	0.5
529+25		.0	.0	.04	.22	1.28	0.1	0.5
529+50	.0	.0	.0	.0	0	0.1	0.5	
SUBTOTAL							6.1	7.5
Sta. 538+75 to Sta. 540+50								
538+75	Southbound Lanes	.0	.0	.0	.0	0	—	0.5
539+00		.17	.0	.0	.0	1.11	—	0.8
539+25		.09	.0	.0	.0	0.59	3.2	1.3
539+50		.14	.26	.34	.40	9.16	7.3	0.2
539+67		.12	.44	.62	.56	14.72	4.5	0.1
539+75		.11	.51	.64	.70	16.29	11.7	0.5
540+00	.04	.23	.48	.50	9.94	4.3	1.2	
540+25	.0	.0	.11	.20	1.90	0.4	0.5	
540+50	.0	.0	.0	.0	0	0.4	0.5	
SUBTOTAL							31.4	5.1
Sta. 492+75 to Sta. 493+25								
492+75	N.B. Lanes	.0	.0	.0	.0	0	—	0.4
493+00		.13	.0	.0	.0	0.85	—	0.4
493+25		.0	.0	.0	.0	0	—	0.8
SUBTOTAL							—	0.8
TOTAL Quantity Carried to General Summary							37.5	13.4

*NOTE: Quantities for Items ①, ②, ③, ④ & ⑦ on Mainline Pavement & Shoulders are included in the Resurfacing Calculations, Sheet No's. 6 & 8, respectively.
 For Legend, See Sheet No. 4.

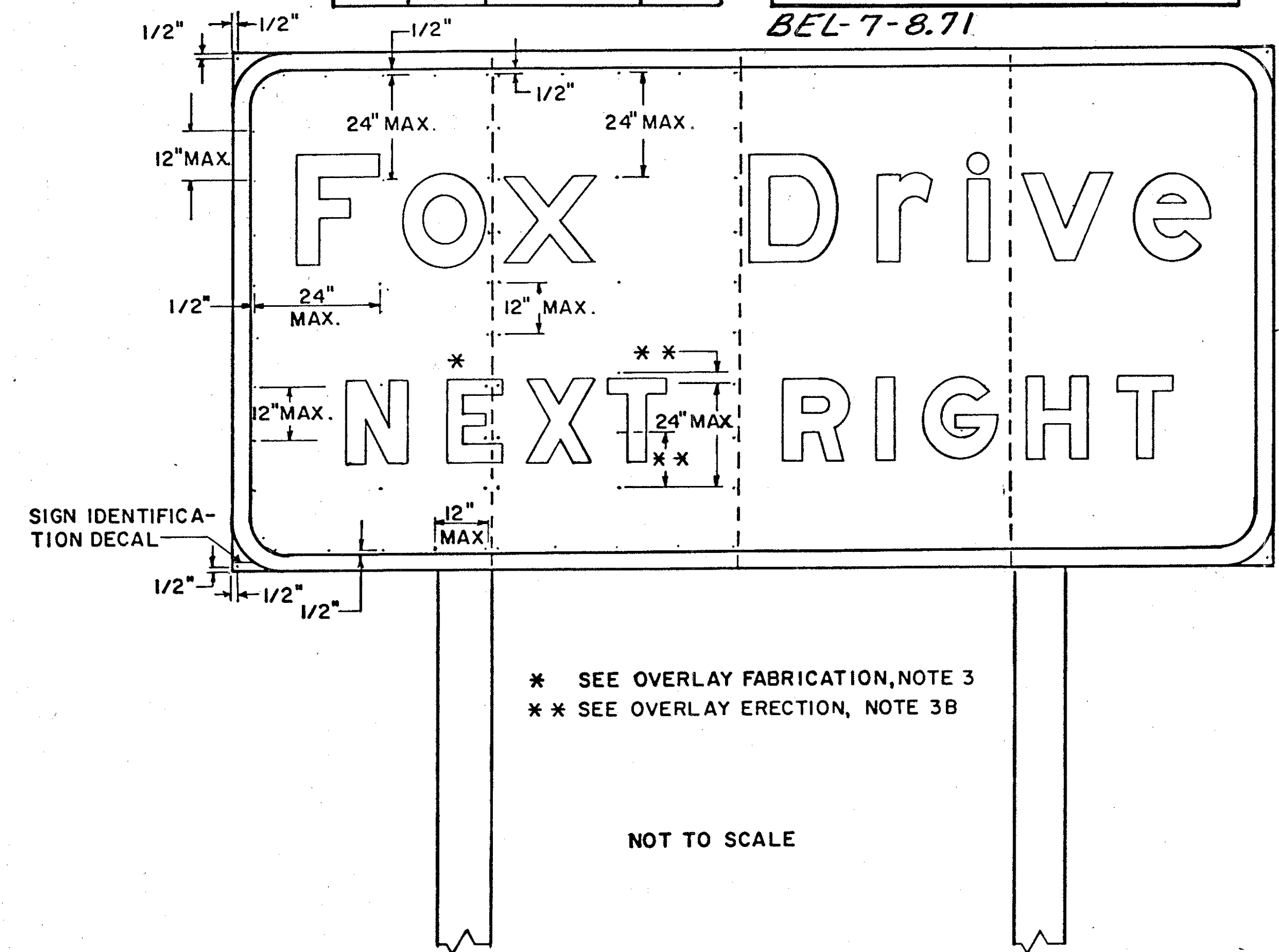
TYPICAL SECTIONS
 Not to Scale

FULL DEPTH FLEXIBLE REMOVAL & FLEXIBLE REPLACEMENT QUANTITIES							
STATION	ROADWAY	WIDTH	LENGTH	203		301	
				Excavation not including Emb. Const.	Subgrade Compaction	1 1/2" Bitum. Aggregate Base	
From	To	Ft.	Lin. Ft.	Cu. Yd.	Sq. Yd.	Cu. Yd.	
494+20	495+20	N.B.	14	100	49.7	155.6	49.7
555+25	557+25	S.B.	33	200	234.3	733.3	234.3
604+45	605+45	S.B.	12	100	42.6	133.3	42.6
To Be Used As Directed By The Engineer				200	625	200	
TOTALS Quantities Carried to General Summary					526.6	1647.2	526.6



STA. 604 + 45 to STA. 605 + 45

* For Quantities and Additional Information,
See Sheet No. 26.



* SEE OVERLAY FABRICATION, NOTE 3
 ** SEE OVERLAY ERECTION, NOTE 3B

NOT TO SCALE

DESCRIPTION

The work shall consist of removing all copy from the extrusheet aluminum signs and furnishing and erecting permanent overlays (including new reflective background and copy). The overlays will be directly attached to the aluminum extrusheet on the sign proper, the exit number panel, and the glare shield when needed. The Contractor is responsible for furnishing all material, labor, and equipment necessary to perform the work.

REMOVAL

In addition to the requirements of Item 630.12, the Contractor shall remove and dispose of all existing copy, including legend, border, shields and existing overlays. The Contractor's removal technique shall not damage the extrusheet aluminum and shall leave the surface of the extrusheet aluminum smooth, with no indentations or protrusions from fasteners, no aluminum burrs, and no scaling from reflective sheeting, which will impair the appearance or function of the overlays when attached. The cost of removing all existing copy shall be included under Item 630, Signs, Permanent Overlay.

MATERIAL

- Flat Sheet Aluminum and Fiberglass Reinforced Plastics - Overlays, shields and service symbol signs shall be fabricated from .040 inch flat sheet aluminum, ASTM B209, 6061-T6 in accordance with Item 730.11 or .075 inch fiberglass reinforced plastics (FRP) meeting the "Recommended Traffic Control Sign Panel Specification" published by the Society of the Plastics Industry. Overlays for glare shields may also be .075 inch FRP "tinted" to match the color of the sign under daylight viewing conditions per Item 630.04(6).
- Reflective Sheeting - shall be Type F or G as required in the plan and meet the requirements of Item 630.02.
- Nonreflective Sheeting - Glare shield overlays fabricated from .040 inch flat sheet aluminum shall be covered with nonreflective sheeting per Item 630.02 and Item 630.04(6).
- Copy
 - Legends and Borders - shall be white, demountable embossed copy with reflector units meeting the requirements of Item 630.02, except that when black is required for shields it shall be direct applied copy meeting the requirements of Item 630.04(5g) and when black is required for EXIT ONLY panels and FREEWAY/LANE ENDS signs it shall be demountable embossed copy meeting the requirements of Item 630.04(5b).
 - Service Symbol Signs - shall be demountable and fabricated from .040 inch flat sheet aluminum or .075 inch Fiberglass reinforced plastic covered with Type G white reflective sheeting in accordance with Item 630.04(3) and the legend shall be formed from reverse screened blue paste conforming to Item 730.22.
 - Shields - Interstate, U.S. and Ohio shields shall be fabricated in accordance with Item 630.04(5e), with the exception that the reflective sheeting shall be Type G.
- Fasteners
 - Copy - including legends, border, shields and service symbol signs shall be fastened to the overlays with Avex #1601-0414 rivets having a .1265 inch diameter, .205 inch head diameter, and .445 inch maximum length. Rivets shall be used to attach shields to the overlays in lieu of steel truss head bolts as specified in Item 630.04(5e).
 - Overlays - shall be fastened to the extrusheet aluminum with Avex #1601-0619 rivets having a .188 inch diameter, .339 inch head diameter, .602 inch maximum length or #10, 3/4-inch self-drilling screws, fabricated from stainless steel alloy #410.

OVERLAY FABRICATION

- The number of individual overlays per sign shall be kept to a minimum and approximately equal in size with no overlay having a length or width dimension less than 18 inches, except as noted in item 6 below. Overlay signs shall be furnished in sections no larger than 5 by 4 feet. Where sign dimensions will permit, vertical joints shall be used in lieu of horizontal joints.
- The legend (i.e. word or symbol) on overlays shall be laid out according to the FHWA Standard Highway Signs Booklet and the ODOT Design Manual for Directional Guide Signs. The sign design and layout of service symbol signs shall be in accordance with the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways and the ODOT Standard Sign Design Manual.

In lieu of the eight sets of drawings required in Item 630.03 the Contractor shall submit to the Director two sets of sign legend working drawings prior to fabrication. Sign legend working drawings submitted shall show all guide sign legend with copy type, character size and spacing; shall include reference and/or code numbers; and shall be in accordance with all other requirements of Item 630.03.
- All copy including legends, borders, shields and service symbol signs, shall be shop mounted except for any copy which when attached would be common to two or more individual overlays.
- A sign identification decal in accordance with Item 630.04(7) shall be applied by the sign fabricator to the front, bottom, lefthand corner of the left most overlay for each sign, in the area outside the border. Similarly, a sign identification decal in accordance with Item 630.04(7) shall be applied to the back, bottom, left-hand corner of the extrusheet aluminum by the Contractor.
- All overlays shall be packaged, shipped, stored and erected in such a manner that they are not scratched, dented, bent or damaged in any way which would reduce the effective life of the reflective sheeting or components of the copy. They shall be stored in such a manner that packaging paper or cardboard material does not become wet. If paper packaging material or slip sheeting becomes wet, the paper shall be removed from contact with sign faces before it dries to prevent damage to the reflective sheeting. Damage to the overlays will be cause for rejection.
- Should it be found that a sign overlay does not evenly fit the existing extrusheet sign, the Contractor shall be paid under Item Special Signs Permanent Overlay Reworked, on a per square foot basis, for the additional work and material needed to reduce or enlarge the size of the overlay to conform to the following tolerances. A quantity of 100 square feet has been placed on the General Summary for this type of work, to be used as directed by the Engineer.

If the complete overlay is too small to cover the existing sign, it shall be centered on the existing extrusheet and additional overlay material of the same type shall be furnished and installed by the Contractor to cover the remaining portion of the sign. If the additional material measures more than 6 inches on a side the border shall be adjusted to the outside edge of the additional overlay material.

If the complete overlay when centered on the extrusheet overhangs the existing sign by more than 6 inches on a side, the Contractor shall rework the overlay using the incorrect overlay material to the greatest extent practicable so that it fits the existing sign within this tolerance.

Legend spacing shall comply with all overlay fabrication requirements stated above (Overlay Fabrication, paragraph 2) to the greatest extent practicable as determined by the Engineer.

OVERLAY ERECTION

- Sequence of Work - The Contractor may use more than one crew to perform the work; however, only one directional guide sign per direction per interchange or intersection may be overlaid at one time. Additionally, where two or more signs are placed on the same support, only one sign may be overlaid at one time.
- Repairing Existing Extrusheet Aluminum Surface - Dents and abrasions originating on the back of the extrusheet sign and protruding to the front shall be hammered flush with the remaining extrusheet surface prior to overlaying to avoid bulges, dimples, etc. in the overlay when erected.
- Fastener Spacing for Attaching Overlays to Extrusheet Aluminum
 - The maximum fastener spacing around the perimeter of each overlay shall be 12 inches. Fasteners shall be set back one-half inch from each edge of the overlay panel, except where borders exist. In this case, rivets shall be set back one-half inch from the inside of the border.
 - The maximum fastener spacing within the interior of each overlay shall be 24 inches. Fasteners used in attaching overlays to the extrusheet aluminum shall not be fastened through any demountable embossed copy, shields or service symbol signs.
 - An additional fastener shall be placed one-half inch from each edge at the four corners of the sign.
- Joints - All joints between individual overlays shall be butt jointed with no gaps between adjacent overlays.

METHOD OF MEASUREMENT

Permanent overlays will be measured as the area, in square feet, of overlay furnished and erected in place, and includes the removal and disposal of all existing copy. Permanent overlays reworked will be measured as the difference in the area, in square feet, between the oversized or undersized overlay and the final reworked overlay in place; this will include additional labor, overlay material, border, copy and fasteners as needed.

BASIS OF PAYMENT

Quantities of permanent overlays and "overlays reworked" measured as provided above, in place, complete and accepted, will be paid for under:

Item	Unit	Description
630	Square Foot	Signs, Permanent Overlay
Special	Square Foot	Signs, Permanent Overlay Reworked

BUREAU OF TRAFFIC DEPARTMENT OF TRANSPORTATION	
HIGHWAY SIGNING	DATE 10/6/82 12/2/82 12/20/82 8/1/84
PERMANENT OVERLAY PANEL INSTALLATION	
PLAN DESIGN DRAWING	HS-1.00

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE EVALUATED BY THE ENGINEER IN ACCORDANCE WITH THE THREE PERFORMANCE PARAMETERS CONTAINED IN SUPPLEMENT 1047. THE MARKINGS SHALL BE REPAIRED OR REPLACED WHEN THE NUMERICAL RATING OF A PARAMETER IS (a) SIX OR LOWER FOR DURABILITY, (b) FOUR OR LOWER FOR VISUAL EFFECTIVENESS AND (c) FOUR OR LOWER FOR NIGHT VISIBILITY. THE CONTRACTOR SHALL REPAIR OR REPLACE UNSATISFACTORY MARKINGS IMMEDIATELY AND AT NO ADDITIONAL COST TO THE STATE.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMUTCD FULL PATTERN STANDARD DIMENSION EDGE LINE OR CENTER LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167-36) SIGN OR "UNMARKED NO PASSING ZONES" (OW-168-36) SIGN OR BOTH AS MAY BE APPROPRIATE. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL ALSO BE ERECTED ON EACH ENTRANCE RAMP, AT INTERSECTIONS OF THROUGH ROADS TO WARN ENTERING OR TURNING TRAFFIC OF THE CONDITION AND AT LEAST ONCE EVERY TWO MILES ALONG THE ROADWAY. THESE SIGNS SHALL BE REMOVED WHEN THEY NO LONGER APPLY.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR C PREFORMED MATERIAL.

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) PARAGRAPH 621.14 SHALL NOT APPLY, (2) WHERE THE MARKINGS ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT SURFACES OR PLANED ASPHALT PAVEMENT SURFACES, THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

WIDTH OF LINE, IN.	GALLONS PER MILE OF LINE				
SOLID LINE	4	6	8	12	24
DASHED LINE	24	36	48	72	144
DOTTED LINE	6	9			
	8	12			

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT, INCLUDING RAMPS, PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

LINE PLACEMENT TOLERANCE FOR FINAL SURFACES SHALL BE IN ACCORDANCE WITH 621.052. ON SURFACES OTHER THAN THE FINAL, THE TOLERANCE PERMITTED SHALL BE TWICE THAT IN 621.052.

LAYOUT AND PREMARKING SHALL BE IN ACCORDANCE WITH 621.051.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE FULL DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

- 1) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 2) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 3) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 2.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE AND 24 GALLONS PER MILE FOR GORE MARKINGS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

INTERIM MARKINGS

WITHIN 21 CALENDAR DAYS AFTER OPENING ANY LENGTH OF PAVEMENT TO TRAFFIC, THE 621 OR 847 PAVEMENT MARKINGS CALLED FOR IN THE PLANS SHALL BE APPLIED. EQUIVALENT 614 CLASS I, PAINT MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I PAINT MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF \$200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS _____, *
614	MILES	TEMPORARY CENTER LINES, CLASS _____, *
614	LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, _____, *
614	MILES	TEMPORARY EDGE LINES, CLASS I, _____, *
614	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II, _____, *
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, _____, *
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, _____, *
614	EACH	TEMPORARY LANE ARROWS, CLASS I, _____, *
614	EACH	TEMPORARY RAILROAD SYMBOL MARKINGS, CLASS I, _____, *
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, _____, *
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, _____, *
614	LIN. FT.	TEMPORARY DOTTED LINES, CLASS I, _____, *

*TYPE MATERIAL (621 PAINT, 947.03 TYPE B OR 947.03 TYPE C OR LEFT BLANK TO PERMIT ANY OF THE THREE)

fh4

621 EDGE LINES ON NEW ASPHALT PAVEMENTS

~~EDGE LINES SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) ON EVERY ROADWAY AND RAMP, EDGE LINES SHALL BE IN PLACE PRIOR TO EXPOSING IT TO TRAFFIC, (2) WHERE THE EDGE LINES ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT THE SPECIFIED APPLICATION RATE SHALL BE 24 GALLONS PER MILE.~~

614 WORK ZONE MARKING SIGNS

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE WORK ZONE MARKING SIGNS (OW-167 AND OW-168) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT DEPARTMENT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19. WORK ZONE MARKING SIGNS SHALL BE PROVIDED WITH SUITABLE YIELDING SUPPORTS OF SUFFICIENT STRENGTH AND STABILITY.

WORK ZONE MARKING SIGNS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. ALL OTHER WORK ZONE SIGNS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND REMOVAL OF THE SIGNS.

ITEM	UNIT	DESCRIPTION
614	EACH	WORK ZONE MARKING SIGNS

A QUANTITY OF 6 EACH WORK ZONE MARKING SIGNS (3 EACH "NO EDGE LINES" OW-167 AND 3 EACH "UNMARKED NO PASSING ZONES" OW-168) ARE CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

GENERAL SUMMARY

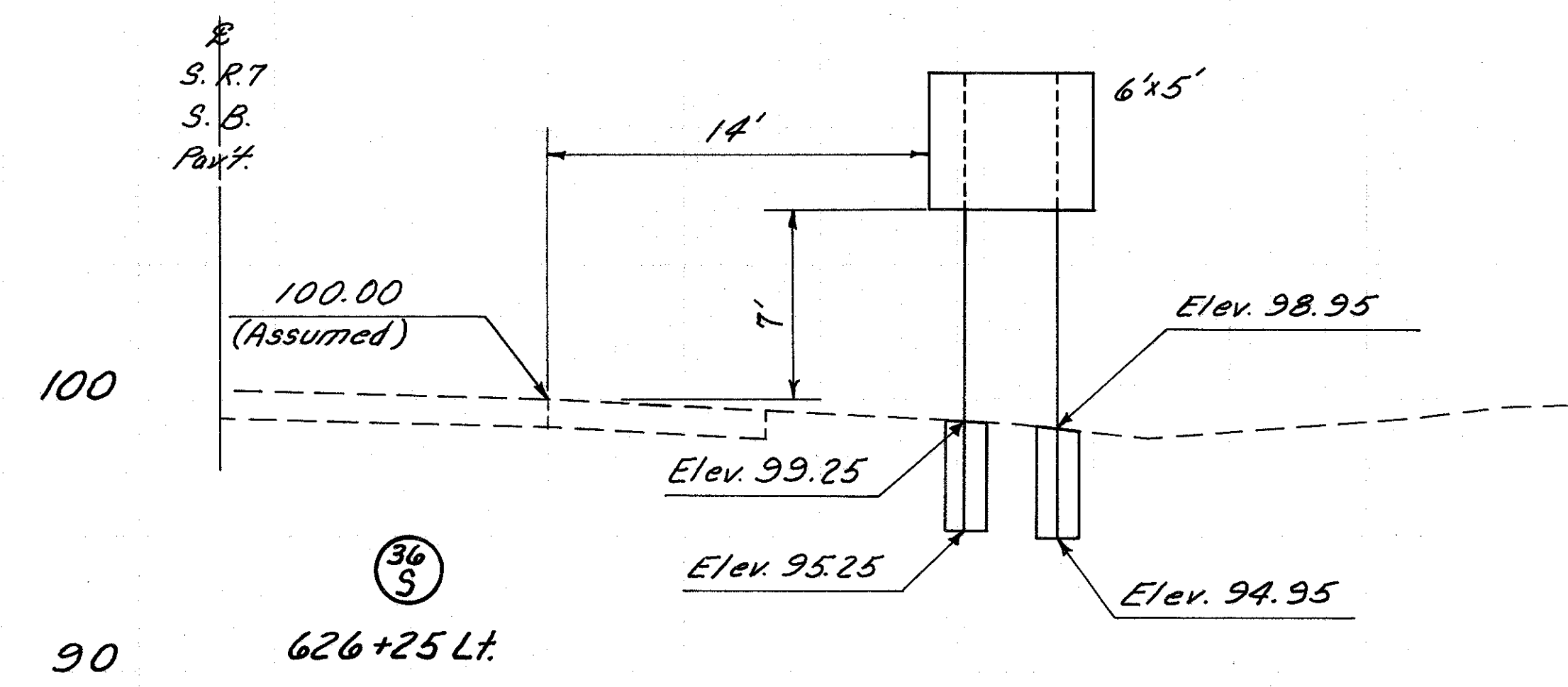
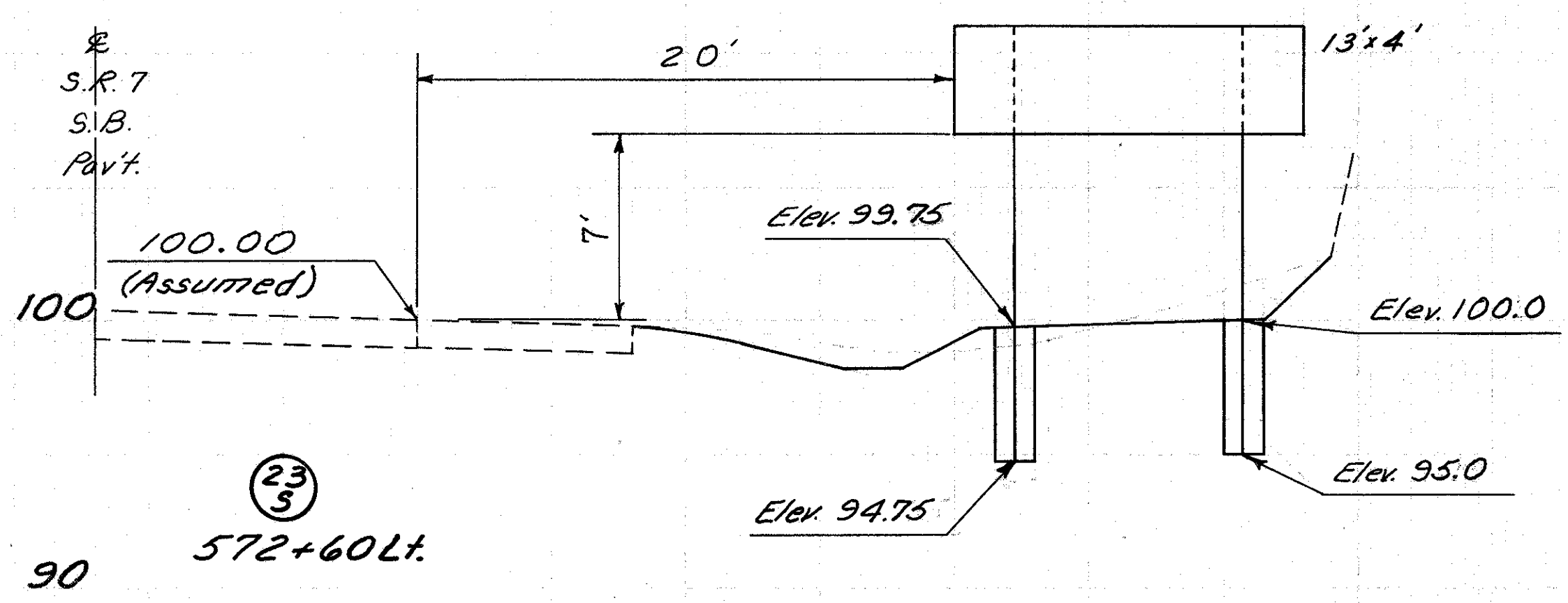
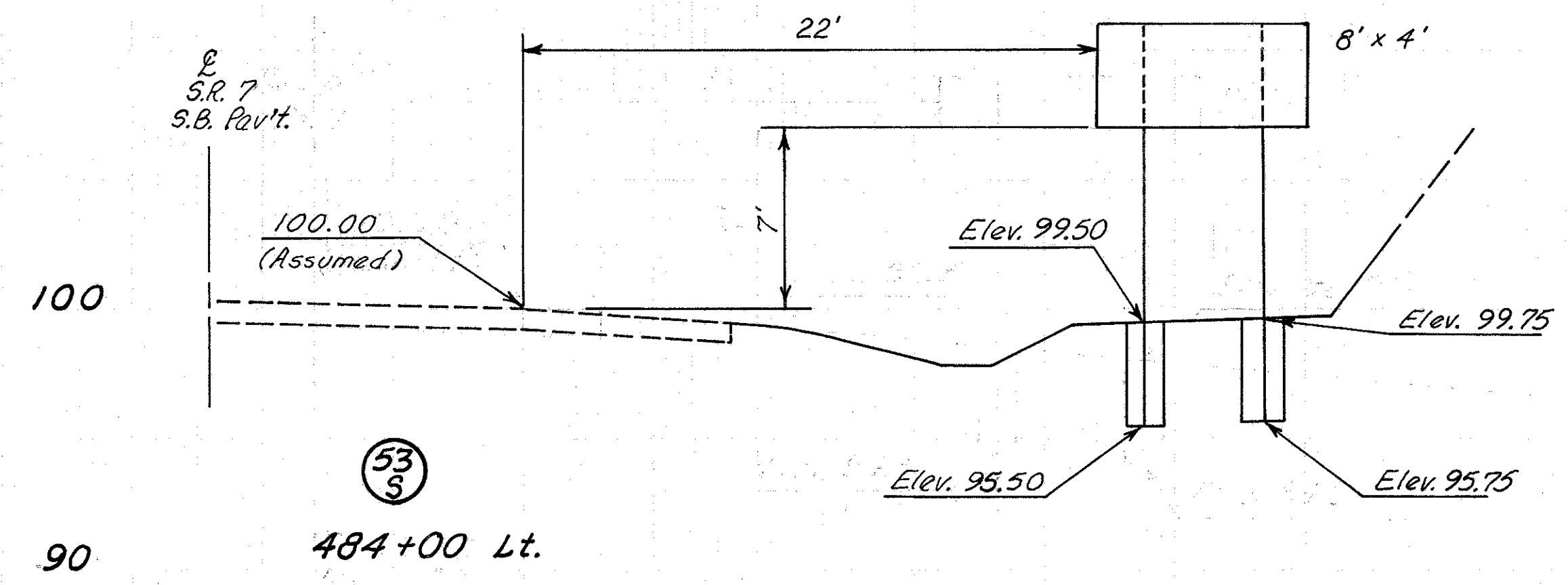
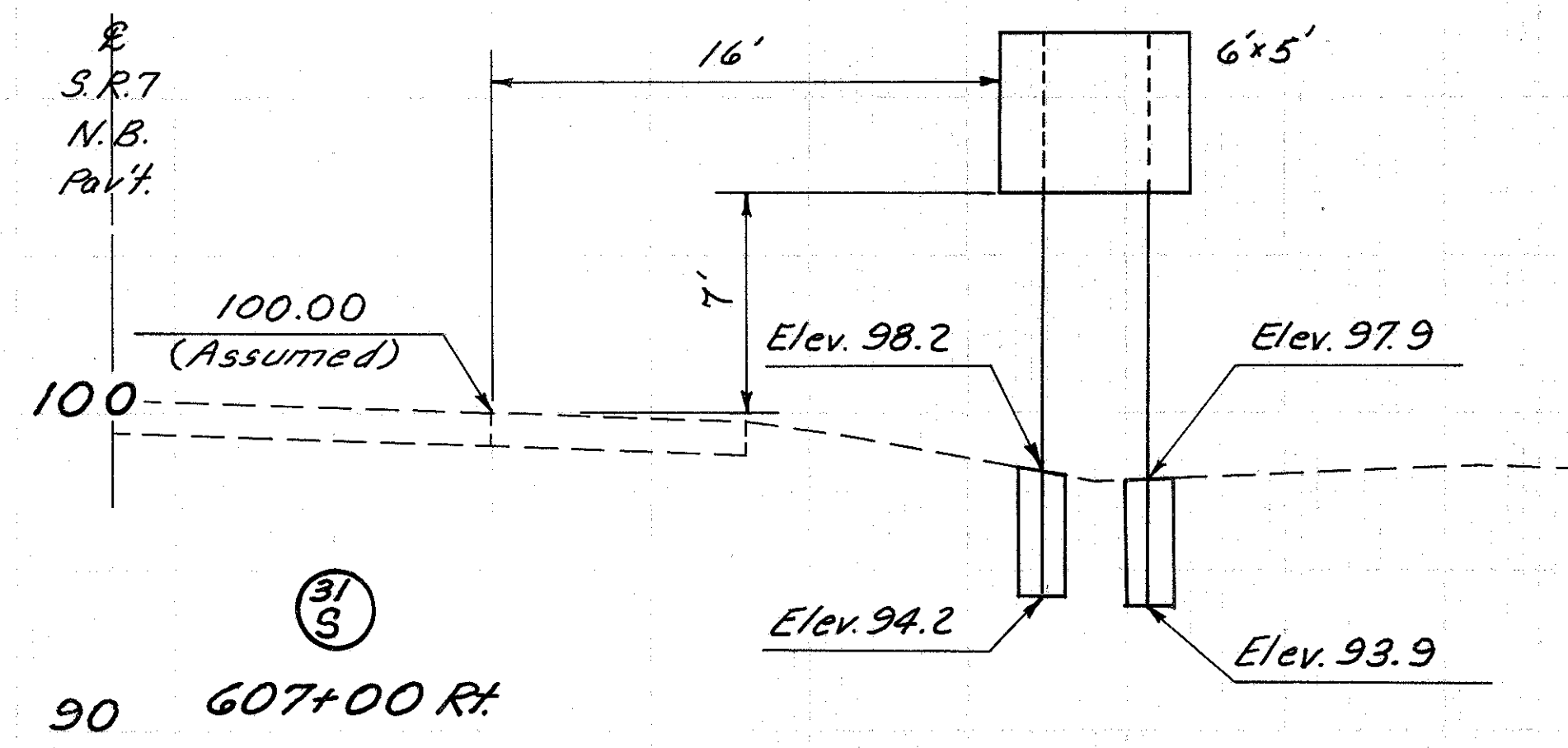
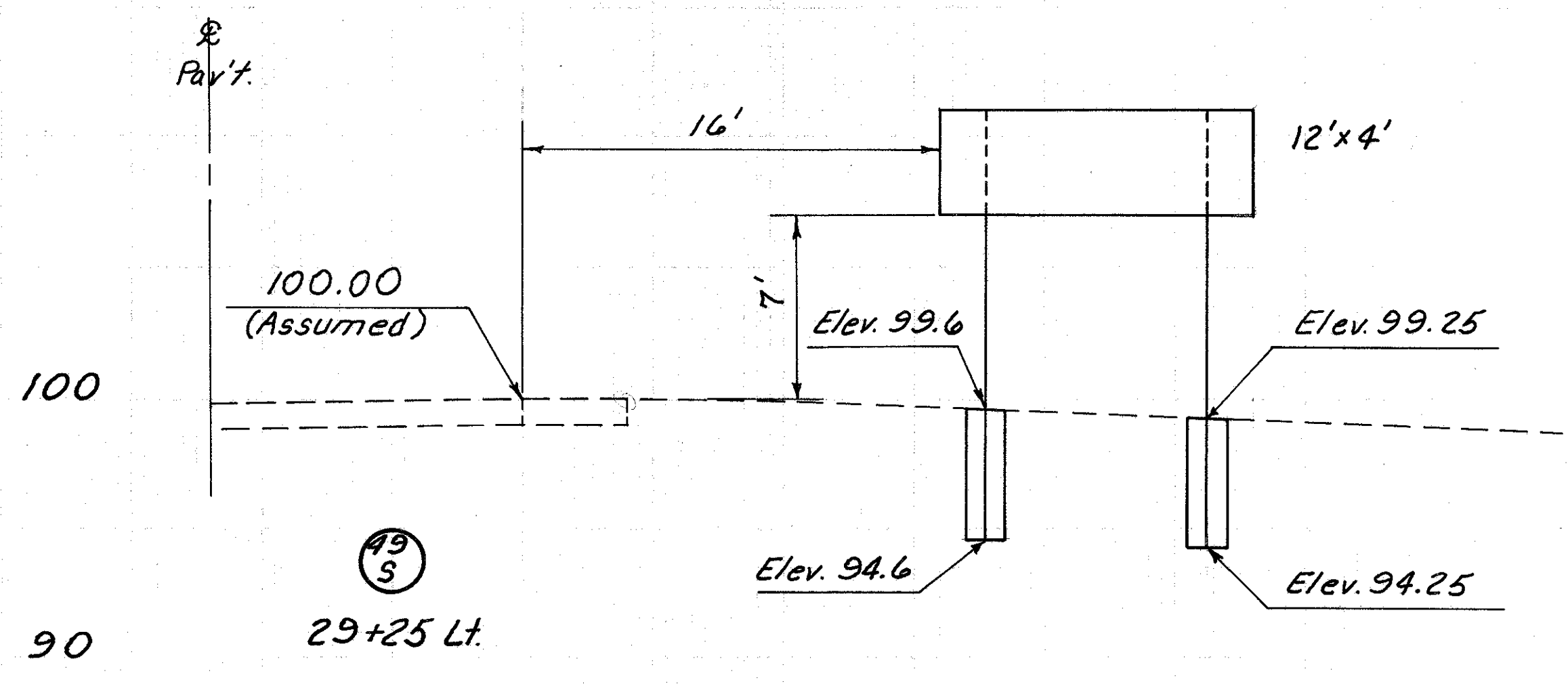
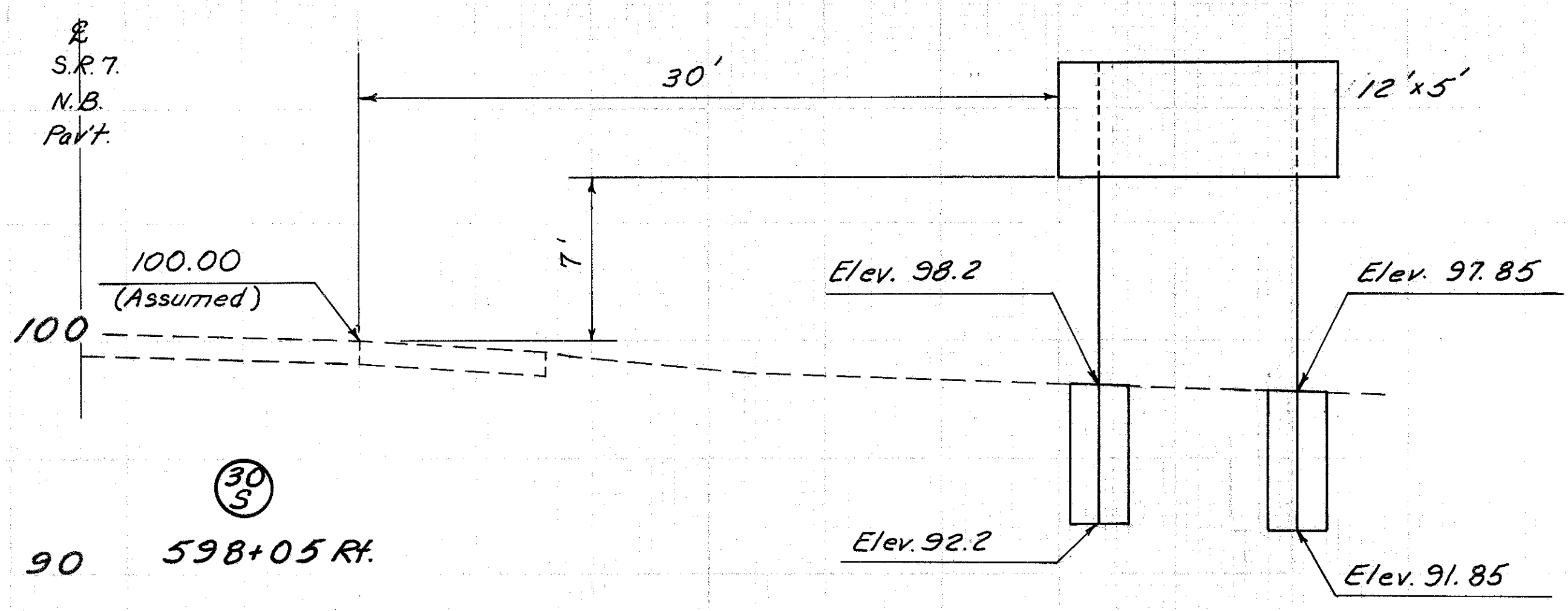
CALC.
BY J.C.H.
DATE 7/22/76
CHKD.
BY H.E.B.
DATE 7/22/76

OHIO
FHWA
REGION 5

30
36

BEL-7-8.71

ITEM	SHEET NUMBER			ITEM	QUANT.	UNIT	DESCRIPTION
	28	32	34				
			19.91	614	19.91	Miles	Temporary Lane Lines, Class II
			600	614	600	Lin. Ft.	Temporary Gore Marking, Class II
			6	614	6	Each	Work Zone Marking Signs
			14.36	621	14.36	Miles	Edge Lines
			6.52	621	6.52	Miles	Lane Lines
			1273	621	1273	Lin. Ft.	Channelizing Lines
			121	621	121	Lin. Ft.	Curb Marking
			133	621	133	Sq. Ft.	Island Marking
			436	847	436	Lin. Ft.	Transverse Lines, 947.02
			91	847	91	Lin. Ft.	Stop Lines, 947.02
			1	847	1	Each	Lane Arrows, 947.02
			1	847	1	Each	Word On Pavement, "ONLY", 947.02
			58	630	58	Each	Removal Of Ground Mounted Sign & Storage
			4	630	4	Each	Removal Of Ground Mounted Major Sign & Storage
			66	630	66	Each	Removal Of Ground Mounted Post Support
			2	630	2	Each	Removal Of Ground Mounted Beam Support
			48	630	48	Sq. Ft.	Signs, Permanent Overlay, Type G
			343	630	343	Sq. Ft.	Signs, Flatsheet, Type G
			504	630	504	Sq. Ft.	Signs, Extrusheet, Type G
			1	630	1	Each	Existing Signs Revised With Demountable Copy
			87	630	87	Lin. Ft.	Ground Mounted Supports, N ^o 2 Post
			209	630	209	Lin. Ft.	Ground Mounted Supports, N ^o 3 Post
			534	630	534	Lin. Ft.	Ground Mounted Supports, N ^o 4 Post
			45	630	45	Lin. Ft.	One Way Supports, N ^o 4 Post
			166	630	166	Lin. Ft.	Ground Mounted Supports, 34 x 7.7 Beam
			66	630	66	Lin. Ft.	Ground Mounted Supports, W 6 x 9 Beam
			124	630	124	Lin. Ft.	Ground Mounted Supports, W 10 x 12 Beam
			14	630	14	Each	Breakaway Beam Connection
			8.42	630	8.42	Cu. Yd.	Concrete For Embedded Foundations
		100		Special	100	Sq. Ft.	Signs, Permanent Overlay, Reworked
			117	620	117	Each	Delineator, Removed For Disposal
			4	620	4	Each	Delineator, Type C, Bracket Mounted
			109	620	109	Each	Delineator, Type C, Flexible Post Mounted
			12	620	12	Each	Delineator, Type D, Flexible Post Mounted



BEL-7-8.71

Calc. By
J.C.N.
12-19-85

Chd. By
H.E.B.
7/22/86

PAVEMENT MARKING

STATIONS		LANE OR RAMP	SIDE	ITEM 621, Edge Lines			ITEM 847, 947.02, AS PER PLAN								
From	To			Yellow	White	Total	Lane Lines	Channelizing Lines	Curb Marking	Island Marking	Transverse Lines	Stop Lines	Lane Arrows	Word On Pavement 96" ONLY	
Lin. Ft.	Lin. Ft.			Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Ft.	Lin. Ft.	Lin. Ft.	Each	Each	
460+01.98	630+00	Northbound Lane	Ctr.			16,998.02									
460+01.98	627+63.42			Rt.	16,761.44	16,761.44									
625+63.42	630+00			Rt.	436.58	436.58									
460+01.98	502+43.53			Lt.	4241.55	4241.55									
503+42.22	630+00			Lt.	12,657.78	12,657.78									
501+42.03	502+42.03			Lt.				100							
501+77.03				Lt.										1	
502+12.03				Lt.										1	
460+01.98	502+42.03			Southbound Lane	Ctr.			4240.05							
503+43.72	630+00					Ctr.			12,656.28						
460+01.98	502+43.53	Rt.	4241.55			4241.55									
503+42.22	630+00	Rt.	12,657.78			12,657.78									
460+01.98	502+44.05	Lt.				4242.07	4242.07								
503+63.47	607+64.44	Lt.				10,400.97	10,400.97								
605+64.44	630+00	Lt.				2435.56	2435.56								
9+56		TR.534	Rt.										27		
5+64.44	7+64.44	Ramp "A"	Rt.						200						
7+64.44	25+60.65 387 Conn.		Rt-Lt.			1259.95	1259.95								
7+64.44	22+93.88		Lt.		1529.44	1529.44									
20+11.79	20+82.29		Rt.					121	133						
20+82		Ramp "B"	Lt-Rt.								64				
20+73	26+89.61		Rt.	630.24	630.24										
20+73	26+89		Lt.		682.31	682.31									
26+89	28+61		Rt.				356		199						
28+61	31+24	Rt.				263.0									
1+81	4+30	Ramp "C"	Lt.			250.0									
4+30	6+31.71		Lt.				417		237						
6+31.71	16+15.5		Lt.	990.67	990.67										
6+31.71	16+07.5		Rt.		975.79	975.79									
17+20	25+63.42	Ramp "D"	Rt.		843.42	843.42									
17+31	25+63.42		Lt.	840.78	840.78										
25+63.42	27+63.42		Lt.				200								
TOTALS (Carried To Sheet No. 30)					37,520.30	38,307.58	75,827.88	34,407.35	1273	121	133	436	91	1	1
					14.36 Miles		6.52 Mi.								

ITEM 620 ~ DELINEATORS									
LOCATION		LANE OR RAMP	SIDE	Type C		Type D	Delineator Spacing Feet	Delineator Removed For Disposal Each	
From	To			Bracket Mounted Each	Flexible Post Mounted Each	Flexible Post Mounted Each			
457+00	630+00	N.B. Lanes	Rt.					41	
457+00	459+94.22Bk				1		400		
460+01.98Ah	598+00				35		400		
610+00	622+00				1	3	400		
457+00	630+00	S.B. Lanes	Lt.					40	
457+00	459+94.22Bk				1		400		
460+01.98Ah	594+00				34		400		
610+00	626+00				1	4	400		
597+65	607+65	Ramp "A"	Lt.		6		200	3	
7+65	22+94				1	6	200	7	
21+00	29+00	Ramp "B"	Lt. & Rt.					8	
21+00	23+40					5	60		
23+40	25+00						2	80	
25+00	29+00					3	200		
598+32	606+32	Ramp "C"	Rt.		4		200	4	
6+31	14+20				1	3	200	4	
17+54	25+64	Ramp "D"	Lt. & Rt.					10	
17+45	20+90					5	70		
20+30	23+70						5	70	
23+70	25+64					2	200		
625+64	630+00		Rt.		2		200		
TOTALS (Carried To Sheet No. 30)					4	109	12	117	

614 ~ WORKZONE PAVEMENT MARKING						
Station		LANE OR RAMP	SIDE	Temporary Lane Lines Class II Lin. Ft.	Temporary Gore Marking Class II Lin. Ft.	Temporary Edge Lines
From	To					
459+21.98	634+42.25	N.B.	Ctr.	52560.81		70,261.0
459+21.98	634+42.25			S.B.	Ctr.	52560.81
607+15	607+65	Ramp "A"	Lt.		300	
625+65	626+15	Ramp "D"	Rt.		300	
TOTALS (Carried To Sheet No. 30)				Lin. Ft. 105121.62	600	140,522.0
				Miles 19.91		22.75

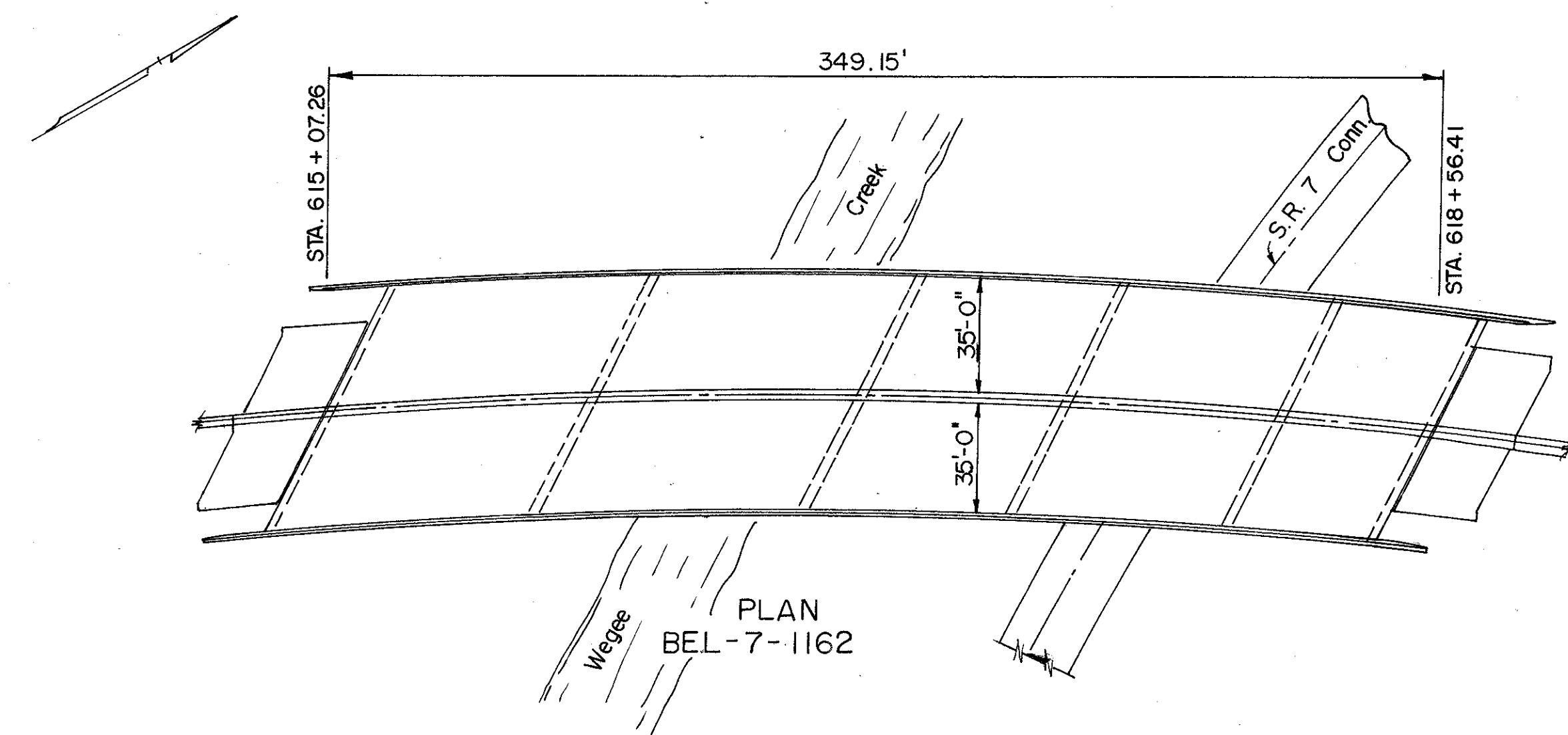
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Calc.	WRG	Chk'd.	SHG
Date	8/1/86	Date	9/24/86

FHWA REGION	STATE	PROJECT
5	OHIO	

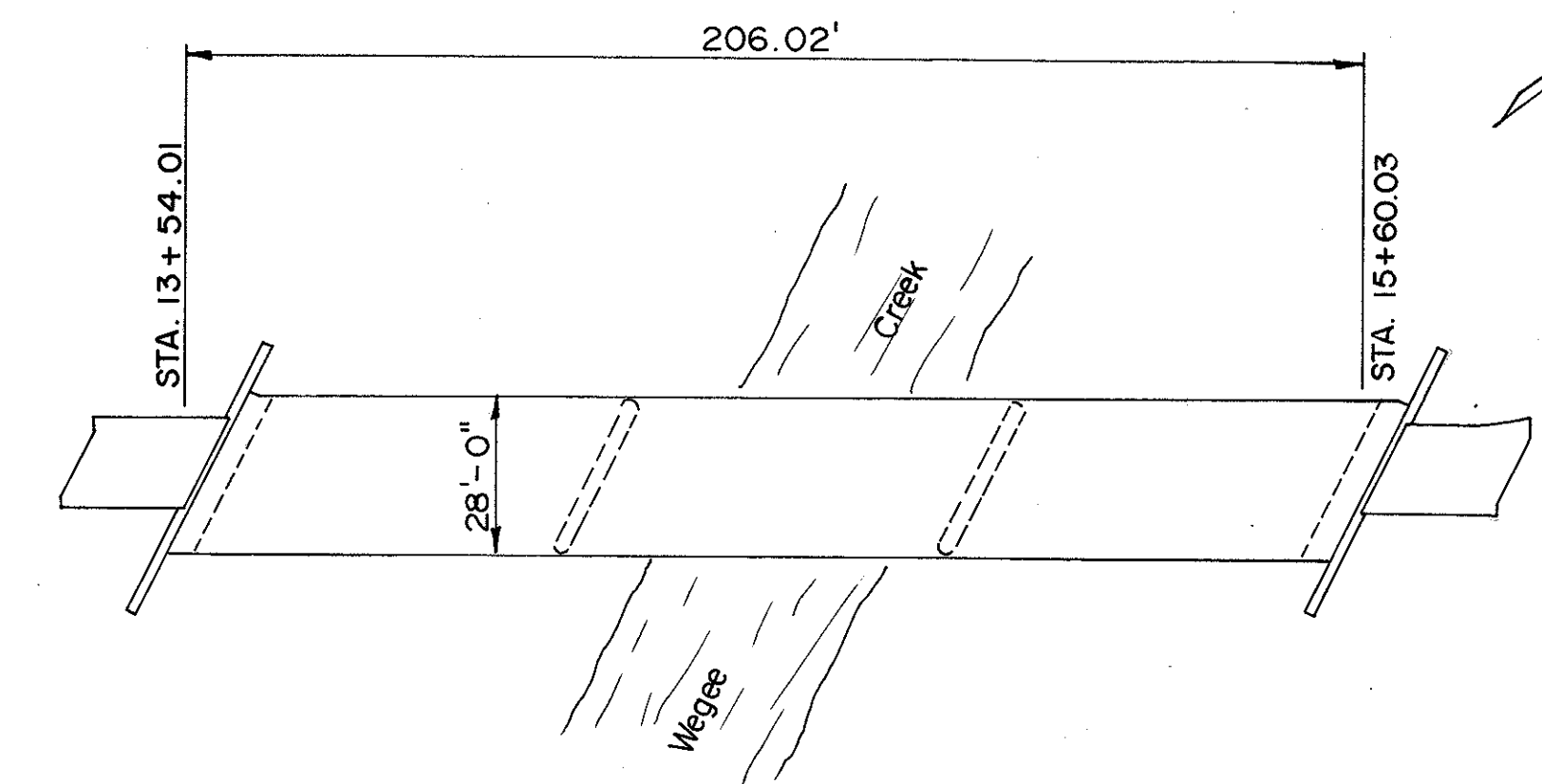
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BEL-7-8.71

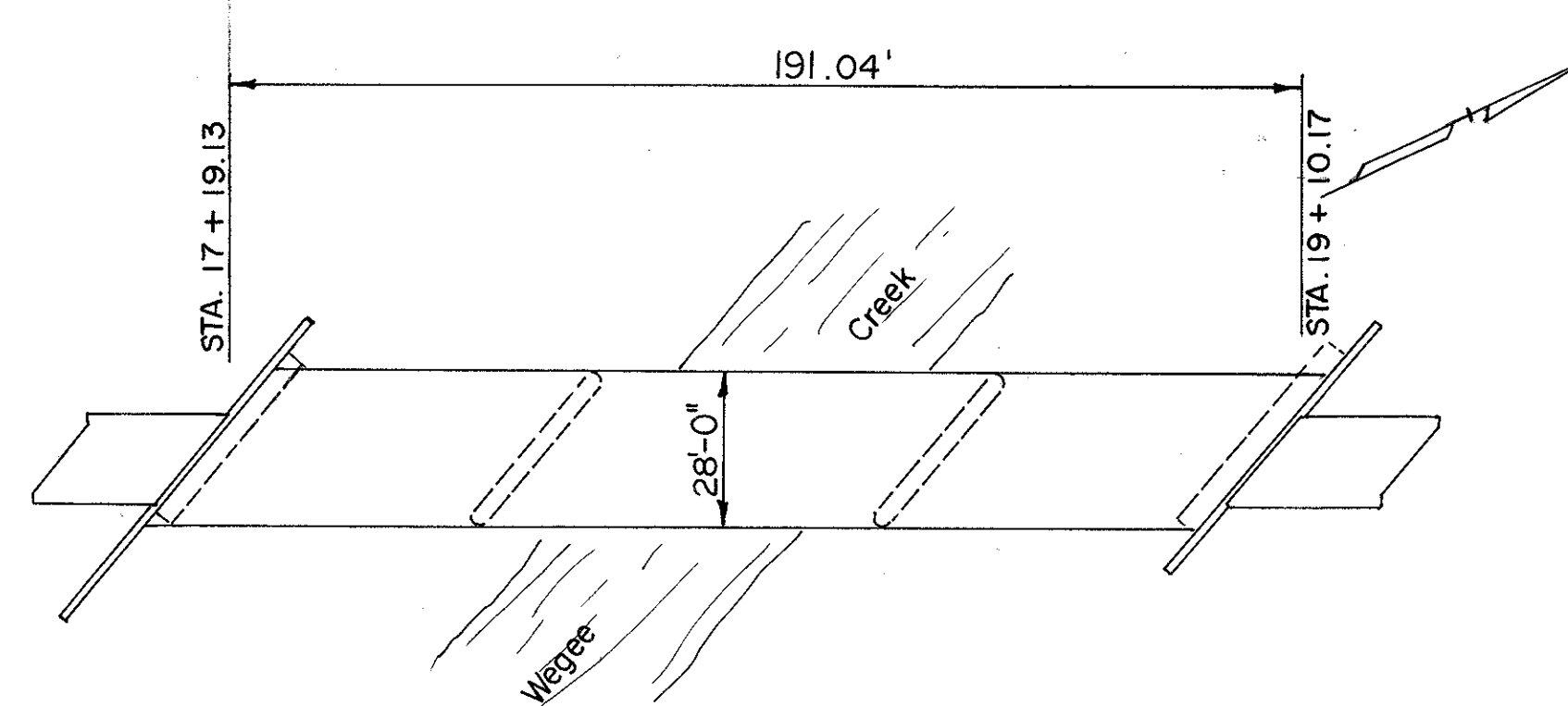
PLAN NO.



PLAN BEL-7-1162



PLAN BEL-7-1159C



PLAN BEL-7-1165A

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02. CONTRACT BID PRICES SHALL BE BASED UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ESTIMATED QUANTITIES:

SPECIFIC LOCATIONS AND USAGE OF THE ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED AS DIRECTED BY THE ENGINEER SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIALS SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

ALIGNMENT AND PROFILE:

THE WORK PROPOSED BY THE PROJECT IS FOR THE RESURFACING OF THE BRIDGE DECKS. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED, AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT EXCEPT THAT IT WILL BE RAISED AN AMOUNT EQUAL TO THE THICKNESS OF THE OVERLAY AS SPECIFIED IN THESE PLANS.

MAINTAINING TRAFFIC:

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED DECK REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY AFFECTED BY THE WORK DONE UNDER THIS CONTRACT. (See Sheet No. 11)

ITEM SPECIAL - SEALING OF CONCRETE SURFACES

A CONCRETE SEALER, EITHER A NON-EPOXY OR AN EPOXY SEALER SHALL BE APPLIED TO THE SURFACES AS SHOWN ON THE TYPICAL SECTIONS FOR THE FULL LENGTH OF THE BRIDGE. SEE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS AND APPLICATION PROCEDURES.

PART 1 = BEL-7-1159C

PART 2 = BEL-7-1165A

PART 3 = BEL-7-1162

FOR SCUPPER DETAIL SEE SHEET 2/2

FOR DRIP STRIP DETAIL SEE SHEET 2/2

FOR TYPICAL SECTIONS SEE SHEET 2/2

BRIDGE QUANTITIES

PART 1	PART 2	PART 3	ITEM	TOTAL	UNIT	DESCRIPTION
640	594	2716	202	3950	SQ.YD.	WEARING COURSE REMOVED
425	3875	—	202	812.5	LIN.FT.	GUARDRAIL REMOVED
425	3875	—	517	812.5	LIN.FT.	RAILING (DEEP BEAM RAIL W/STEEL TUBULAR BACKUP, TYPE 2 POSTS AND BOLTS)
1	1	1	850	3	CU.YD.	FULL DEPTH REPAIR
8	8	34	850	50	CU.YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS)
640	594	2716	850	3950	SQ.YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1-3/4" THICK)
254	215	—	SPECIAL	469	SQ.FT.	STEEL DRIP STRIP
113	104	427	SPECIAL	644	SQ.YD.	SEALING OF CONCRETE SURFACES (SEE PROPOSAL NOTE)

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF MAINTENANCE

1/2

**GENERAL PLAN &
BRIDGE QUANTITIES**
BEL-7-1159C
BEL-7-1165A
BEL-7-1162

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.R.G.	W.R.G.	W.R.G.	SHG			

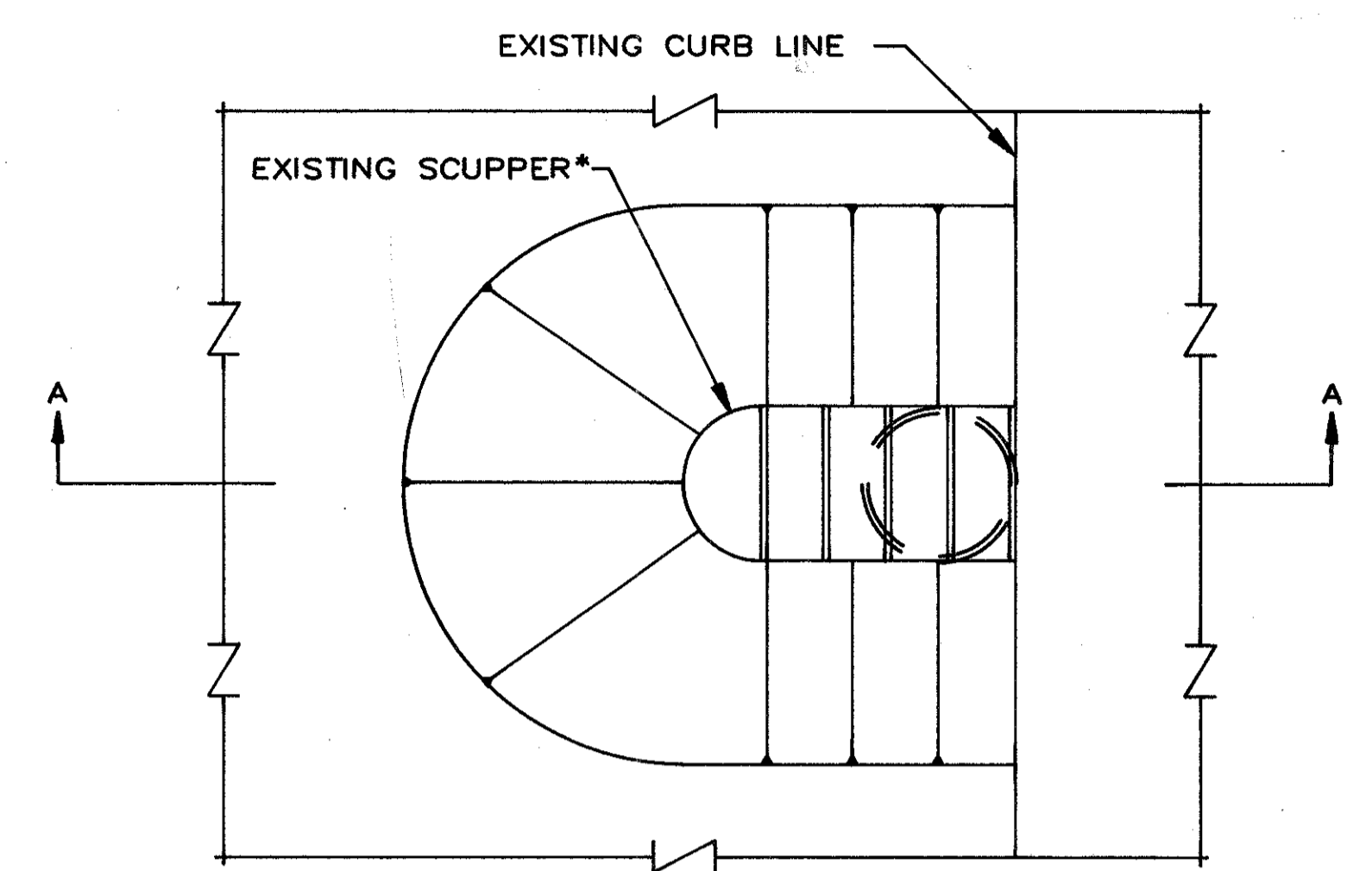
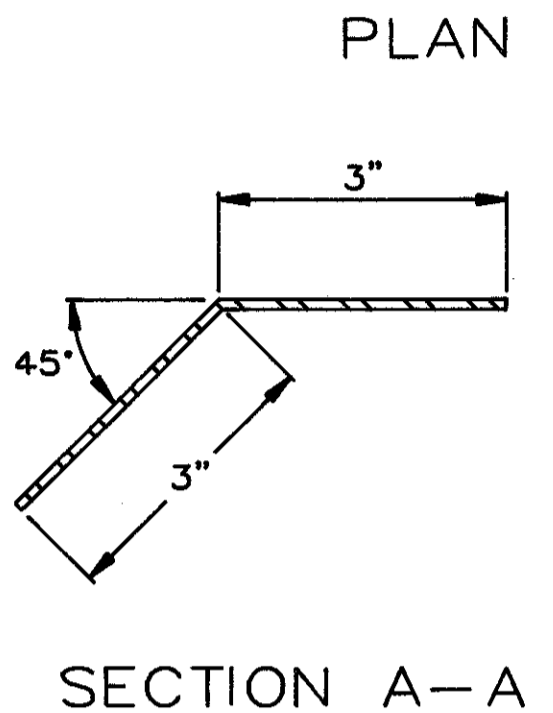
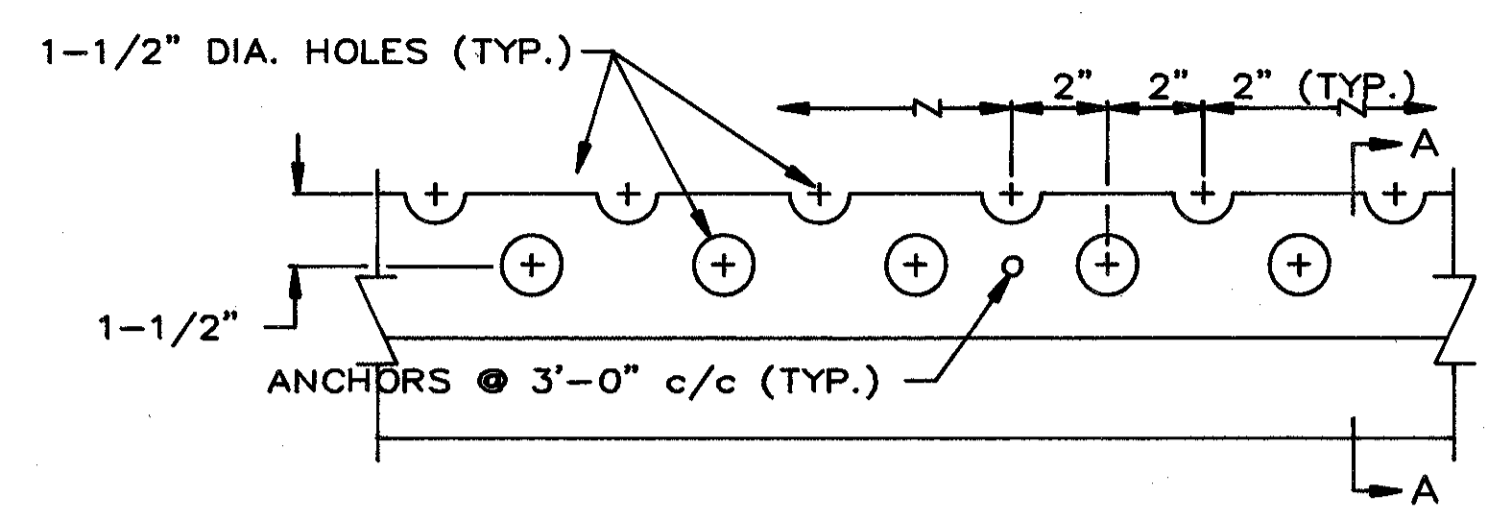
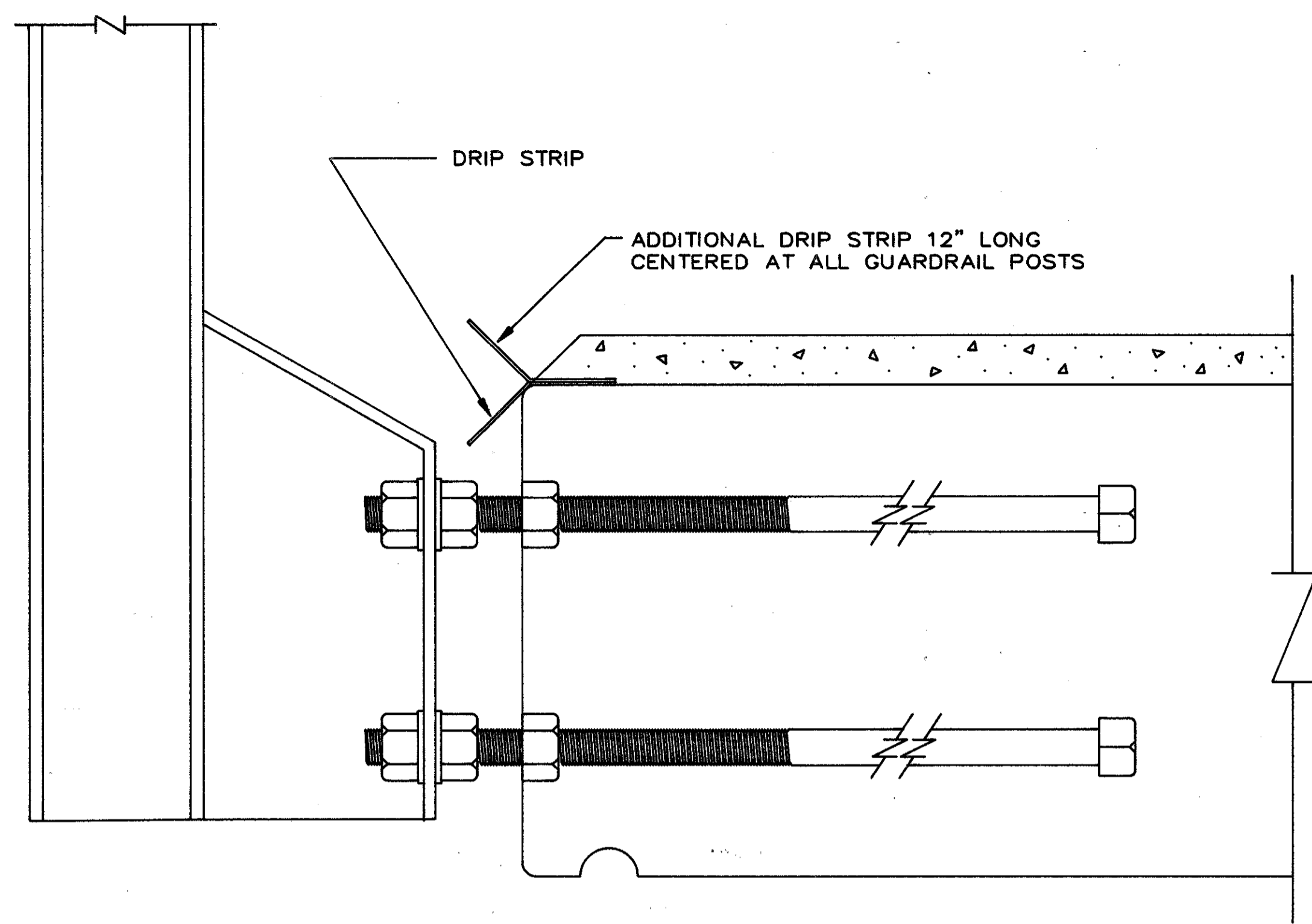
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Calc.	WRG	Chk'd.	SHG
Date	8/1/86	Date	9/24/86

FHWA REGION	STATE	PROJECT
5	OHIO	

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36

BEL-7-8.71

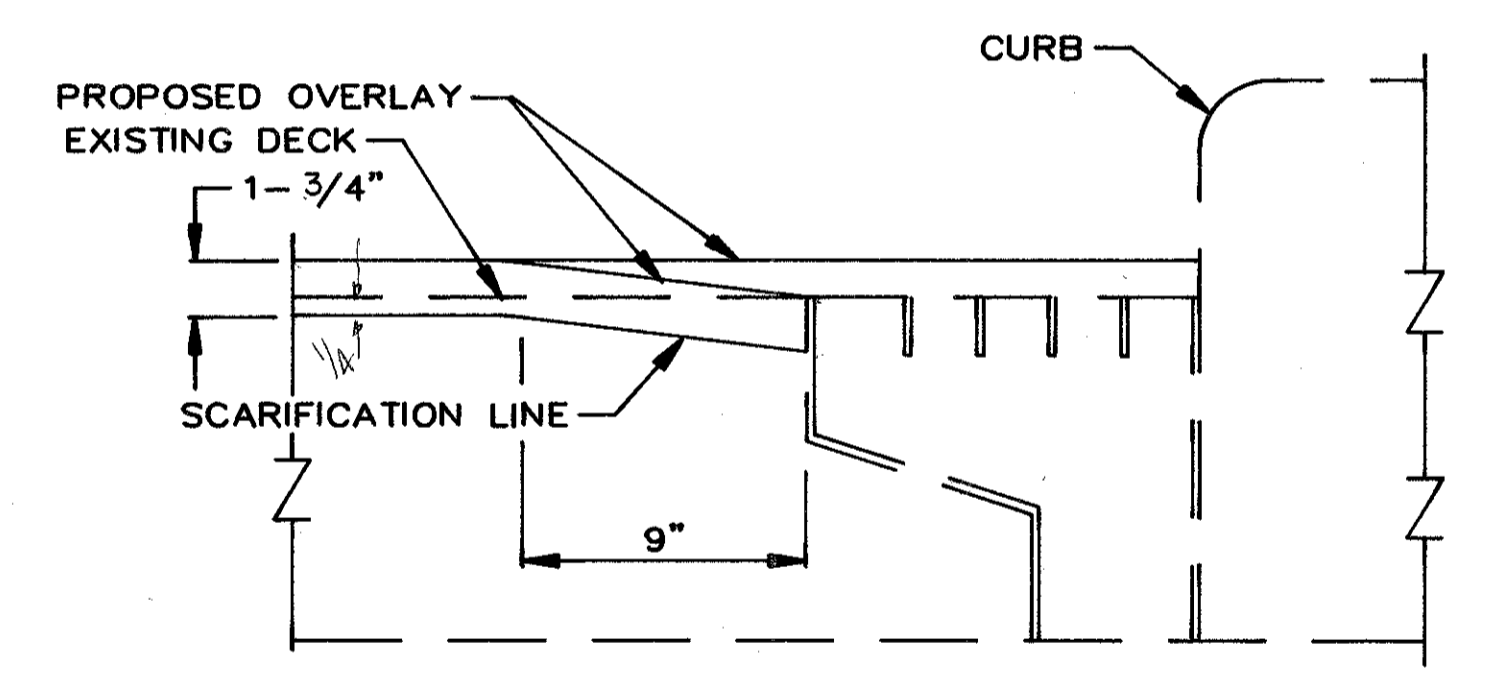
PLAN NO.



PLAN VIEW

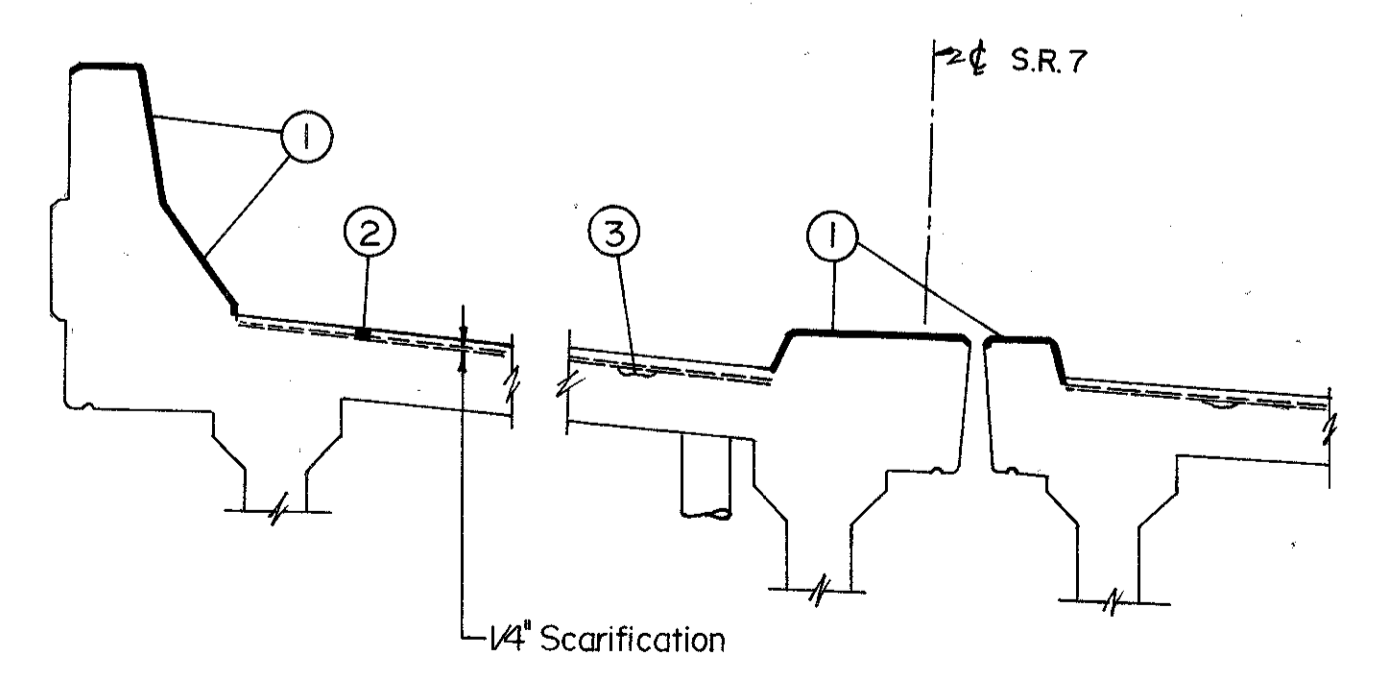
AFTER THE DECK IS SCARIFIED AND BEFORE THE CONCRETE OVERLAY IS PLACED, A STEEL DRIP STRIP, AS DETAILED, SHALL BE INSTALLED ALONG THE FULL LENGTH OF EACH SIDE OF THE BRIDGE. THE STRIPS SHALL BE FASTENED AT 3'-0" c/c MAXIMUM WITH POWER DRIVEN PINS OR No.10 GALVANIZED SKREWS AND EXPANSION ANCHORS. WHERE SPLICES ARE REQUIRED, THE INDIVIDUAL PIECES SHALL BE BUTTED TIGHTLY TOGETHER, NOT LAPPED. STEEL FOR GALVANIZED STRIPS SHALL BE 0.105" THICK AND SHALL MEET THE REQUIREMENTS OF ASTM A568 WITH GALVANIZING IN ACCORDANCE WITH 711.02. STAINLESS STEEL SHALL BE 20 GAUGE ASTM A167, TYPE 304, MILL FINISH. PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL, SQ.FT., STEEL DRIP STRIP, AS PER PLAN, AND SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

DRIP STRIP DETAIL FOR BRIDGE DECKS WITH CONCRETE OVERLAYS



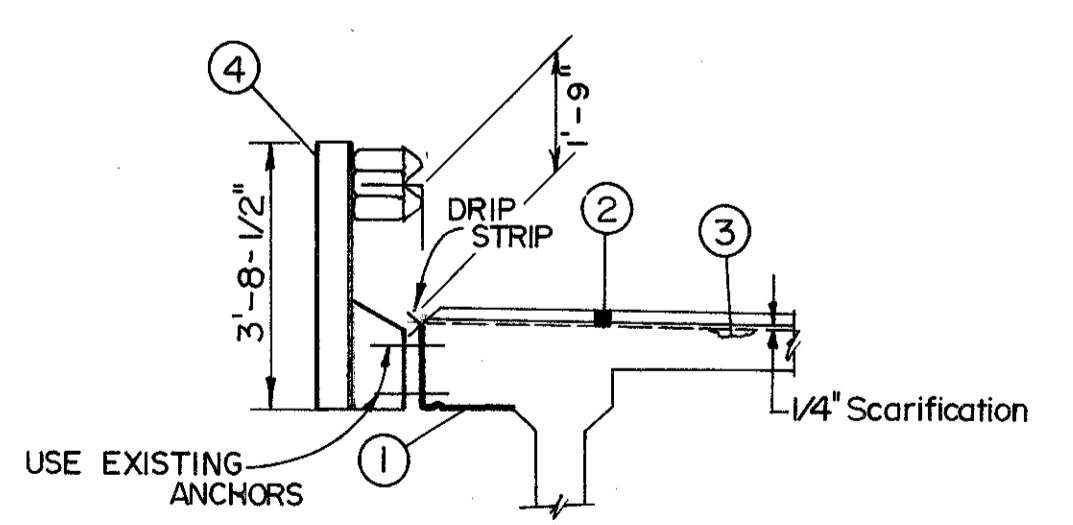
SECTION A-A

* SCUPPERS AS FOUND MAY BE REVERSED 180° OR OF ANOTHER TYPE THAN THAT SHOWN



TYPICAL SECTION
BEL-7-1162

- ①—ITEM SPECIAL—Sealing of concrete surfaces (For full length of deck - TYP.)
- ②—ITEM 850—Superplasticized dense concrete overlay (1-3/4" thick)
- ③—ITEM 850—Superplasticized dense concrete overlay (Variable thickness)
- ④—ITEM 517—Railing (deep beam w/tubular backup, type 2 posts and bolts)



TYPICAL SECTION
BEL-7-1159C
BEL-7-1165A

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF MAINTENANCE					
SUPERSTRUCTURE DETAILS					2 / 2
BEL-7-1159C BEL-7-1165A BEL-7-1162					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
W.R.G.	W.R.G.	W.R.G.	S.H.G.		