1st X

MISSOURI
STATE HIGHWAY COMMISSION
PLAN AND PROFILE
OF PROPOSED
STATE ROAD

FEDERAL AID PROJECT

CLAY COUNTY

COUNTY	CLAY
STATE ROUTE NO.	I-29
PROJECT NO.	I29-1(22)6,UA

FINAL PLANS

INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS (3 Sheets)	2
SUMMARY (Sheet)	2-A
PLAN-PROFILE & B SHEETS	3-10
REFERENCE POINTS	11
SPECIAL SHEETS	12-23
LIGHTING	24-29A
SIGNALS	
SIGNING	30-45
CULVERT SECTIONS	46-58
BRIDGE PLANS	59-123
STANDARDS	42 Sheets
CROSS SECTIONS	1-54

RAMP
DESIGN DESIGNATION
A.D.T. (1975) = 6890
A.D.T. (1988) = 8890
D.H.V. (1988) = 889
D=50%
T= 6%
V=40m.p.h.

LIMITED ACCESS HIGHWAY

This shall be a limited access highway between Station 739+46 and Station 340+10.42 Except at locations and as otherwise specifically shown on these plans, no abutter's rights or of direct access to, from, or across the highway or its right of way shall attach or belong to any property abutting on said section of highway, or to any person merely because of ownership of such abutting property. There shall be the usual right of access over any location either (1) shown on these plans as a property entrance (P.E.), field entrance (F.E.), or private underpass, or (2) where and when any such entrance, underpass, or an open public highway is being maintained by the governmental agency having authority therefor. Wherever an adjacent outer-roadway is so shown or maintained, there shall be the usual right of direct access between the abutting property and such outer-roadway to which access is not specifically prohibited by the special symbol denoting "no Right of Access" as shown on the plans, and along it to and from the nearest lane of the thruway or a public highway.

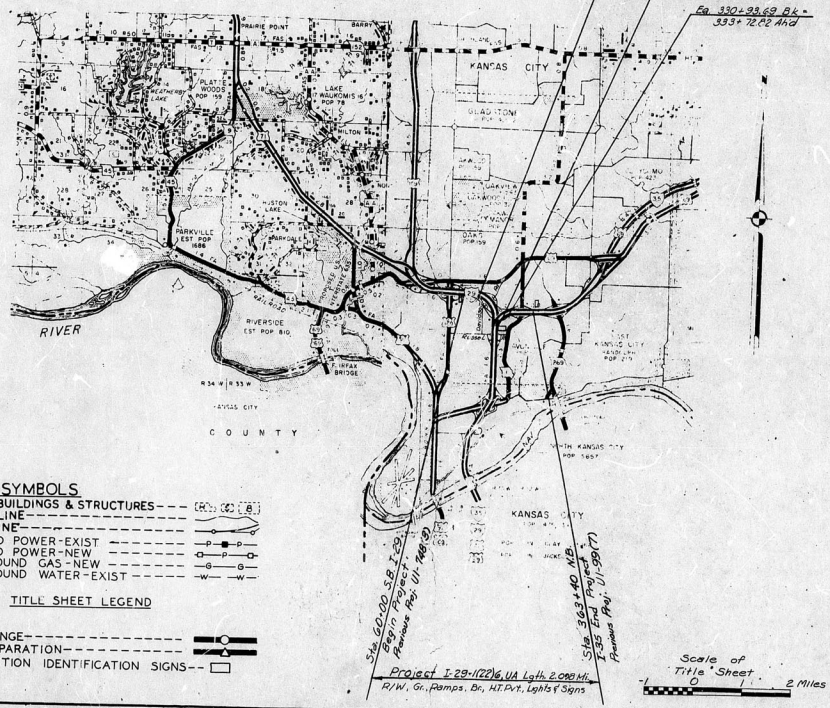
LEGEND

BEGINNING AND ENDING OF LIMITED ACCESS

LIMITED ACCESS

NO RIGHT OF ACCESS (OR CROSSING OF LINES BEARING THIS SYMBOL WILL BE PERMITTED UNDER ANY CIRCUMSTANCES.

KEY MAP
SHOWING LOCATION OF COUNTY



Scale of Title Sheet
0 1 2 Miles

CONVENTIONAL SYMBOLS

STATE LINE	EXISTING BUILDINGS & STRUCTURES
COUNTY LINE	GROUND LINE
CITY LIMITS	GRADE LINE
TOWNSHIP OR RANGE LINE	OVERHEAD POWER-EXIST
OTHER LAND SURVEY LINES	OVERHEAD POWER-NEW
FENCE LINE	UNDERGROUND GAS-NEW
GUARD RAIL	UNDERGROUND WATER-EXIST
PROPERTY LINE	
RIGHT OF WAY LINE	
RIGHT OF WAY MARKER	
RAILROAD	
SURVEY CENTER-LINE	
CULVERT	
OVERHEAD TELEPHONE NEW	
OVERHEAD TELEPHONE EXIST	

TITLE SHEET LEGEND

INTERCHANGE
GRADE SEPARATION
CONSTRUCTION IDENTIFICATION SIGNS

STATE OF MISSOURI
M. L. SHIRK
NUMBER E-623

SUBMITTED BY DATE

CHIEF ENGINEER
MISSOURI STATE HIGHWAY COMMISSION
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

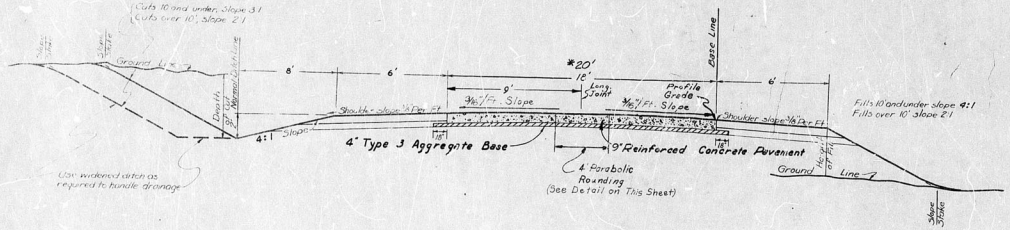
DIVISION ENGINEER DATE

164

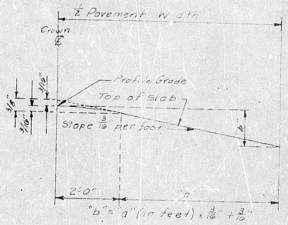
596

5	I-29-1(22)		2
4	CLAY	I-29	

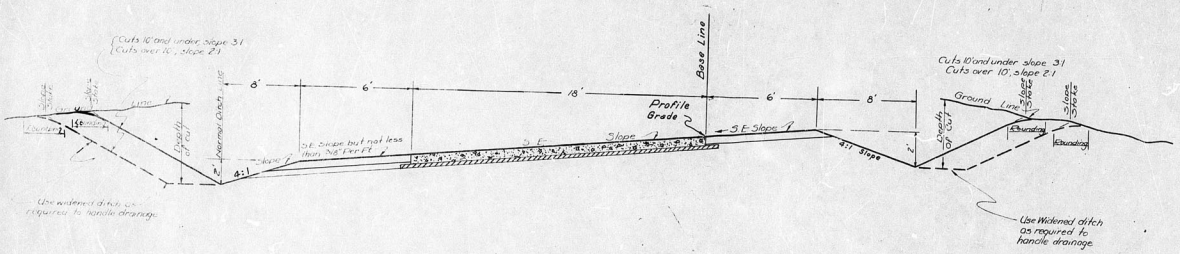
FINAL PLANS



SECTION ON TANGENT



STANDARD CROWN



CUT SECTION ON SUPERELEVATED CURVE (ALL CURVES OVER 30 MINUTES)

NOTE: Fill sections on superelevated curve to be identical to this section from shoulder to shoulder. Beyond shoulders use same as shown for "Section on Tangent."

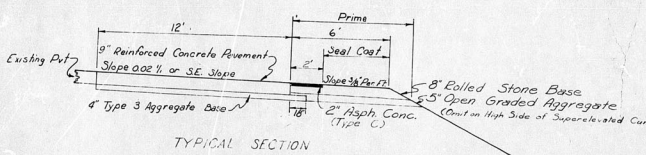
GENERAL NOTES:

For details of superelevation & widening of horizontal curves, undergrading, rounding, all pav't appurtenances, drainage items, etc., see other dwgs & Std. Dwg. 2140.

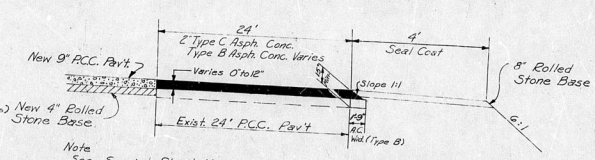
In transitioning from one cut or fill slope to another, use a 25' transition beginning at a point 25' back along that which would normally be the flatter slope and ending the transition at the actual point where the steeper slope is required. If the actual limits requiring a steeper slope is less than 25' in length, do not change to the steeper slope.

All information shown on these Typical Sections is for the purpose of indicating general design and construction details. Actual construction of roadway widths, slopes, depths and type of ditches, undergraded cuts, and other features shall conform to the details shown on Cross Sections and Plan-Profile sheets or as directed by the Engineer.

This drawing not to scale, follow dimensions.



TYPICAL SECTION
ACCELERATION & DECELERATION LANES
TYPE B STABILIZED SHOULDER TYPICAL SECTION FOR NORTH RAMP, SOUTH RAMP, NEW AND EXISTING RAMP H AT ANTIOCH RD.



Note
See Special Sheet No. 2
For X-Slope.

TYPICAL SECTION
RESURF. N.B. I-29
Sta. 100+75 To Sta. 105+00

NORTH AND SOUTH RAMPS

*** RAMP 'H' AT ANTIOCH RD**

MISSOURI STATE HIGHWAY COMMISSION
PRIMARY SYSTEM
TYPICAL SECTIONS
FOR
30 FT. GRADED EARTH
AND
18 FT. CONCRETE PAVEMENT

(DESIGN SPEED M.P.H.)
ROUTE: I-29 COUNTY: CLAY
PROJ. OR SEC. I-29-1(22)

APPROVED [signature] ENGR. SURVEYS & PLANS
APPROVED M. J. Snider CHIEF ENGINEER

SHEET NO. 1 OF 3

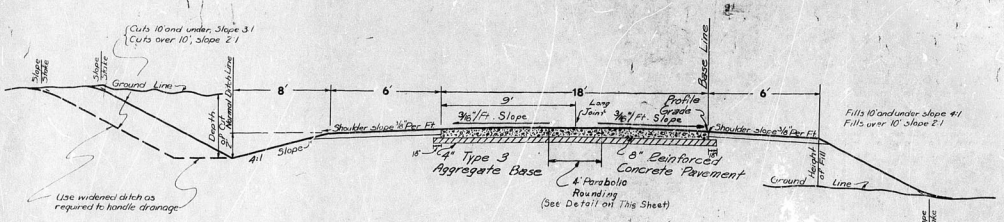
21.10

165

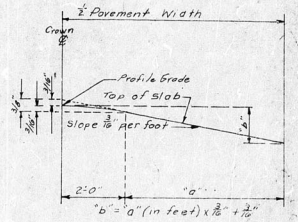
596

COUNTY	STATE	FEDERAL PROJECT No.	SHEET	TOTAL SHEETS
5	MO	I-29-1(22)	2	
DIV. NO. 4	CLAY		ROUTE NO. I-29	

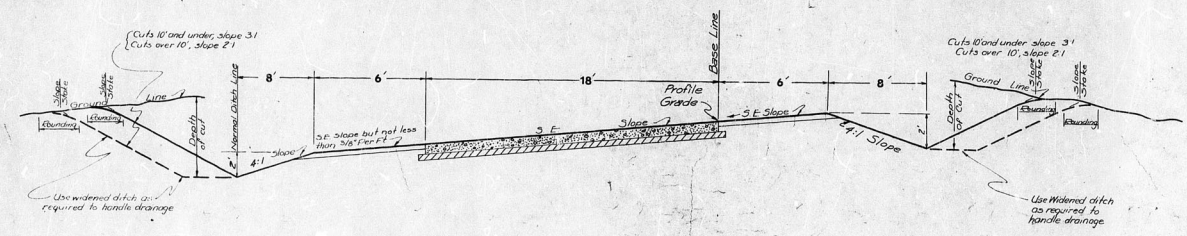
FINAL PLANS



SECTION ON TANGENT



STANDARD CROWN



CUT SECTION ON SUPERELEVATED CURVE (ALL CURVES OVER 30 MINUTES)

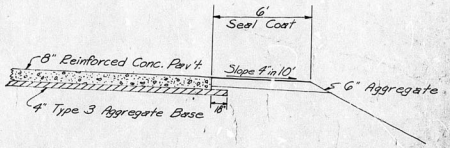
NOTE: Fill sections on superelevated curve to be identical to this section from shoulder to shoulder. Beyond shoulders use same as shown for "Section on Tangent".

GENERAL NOTES:

For details of superelevation & widening of horizontal curves, undergrading, rounding, all pav't appurtenances, drainage items, etc. see other dwgs. Std. Dwg. 2140

In transitioning from one cut or fill slope to another, use a 25' transition beginning at a point 25 back along that which would normally be the flatter slope and ending the transition at the actual point where the steeper slope is required. If the actual limits requiring a steeper slope is less than 25' in length, do not change to the steeper slope.

All information shown on these Typical Sections is for the purpose of indicating general design and construction details. Actual construction of roadway widths, slopes, depths and type of ditches, undergraded curb, and other features shall conform to the details shown on Cross-Sections and Plan-Profile sheets or as directed by the Engineer.



TYPICAL SECTION
TYPE A STABILIZED SHOULDER
RAMP "U"

RAMP "U" AT DAVIDSON RD

MISSOURI STATE HIGHWAY COMMISSION
PRIMARY SYSTEM
TYPICAL SECTIONS
FOR
30' GRADED EARTH
AND
18 FT. CONCRETE PAVEMENT

(DESIGN SPEED M.P.H.)
ROUTE: COUNTY:
PROJ. OR SEC.

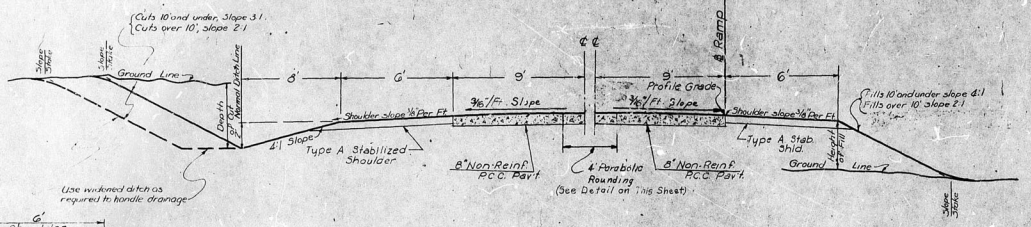
APPROVED _____ ENGR. SURVEYS & PLANS
APPROVED _____ CHIEF ENGINEER

SHEET No. 2 OF 3 21.10

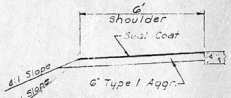
166

596

DIST.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.	TOTAL SHEETS
5	MO.	I-29-1(22)		2
SUB. NO.	COUNTY		PAGE	
4	CLAY		I-35	

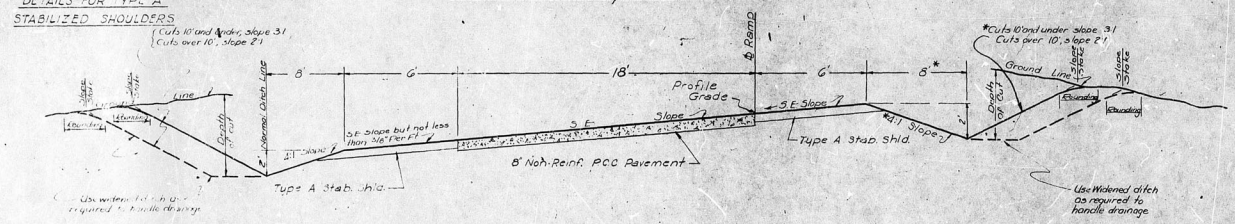


SECTION ON TANGENT



DETAILS FOR TYPE A STABILIZED SHOULDERS

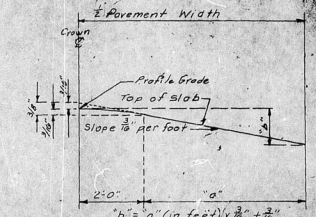
TYPICAL SECTIONS FOR RAMPS



CUT SECTION ON SUPERELEVATED CURVE (ALL CURVES OVER 30 MINUTES)

NOTE Fill sections on superelevated curve to be identical to this section from shoulder to shoulder Beyond shoulders use same as shown for "Section on Tangent"

* Ramp # 4 between I-35 Sta. 337+40 and 342+50
Use 6:1 inslope and 4:1 backslope to Shldr. elev. See X-sections for addl details



STANDARD CROWN

GENERAL NOTES:

For details of superelevation & widening of horizontal curves, undergrading, rounding, all pavt. appurtenances, drainage items, etc., see other dwgs. & Std. Dwg. 21.40

In transitioning from one cut or fill slope to another, use a 25' transition beginning at a point 25' back along that which would normally be the flatter slope and ending the transition at the actual point where the steeper slope is required. If the actual limits requiring a steeper slope is less than 25' in length, do not change to the steeper slope

All information shown on these Typical Sections is for the purpose of indicating general design and construction details. Actual construction & roadway widths, slopes, depths and type of ditches, undergraded cu's, and other features shall conform to the details shown on Cross-Sections and Plan-Profile sheets or as directed by the Engineer.

MISSOURI STATE HIGHWAY COMMISSION

TYPICAL SECTIONS
FOR
RAMPS B AND F AT ANTIOCH RD
STABILIZED SHOULDER DETAILS
EXISTING RAMP G AT ANTIOCH RD

(DESIGN SPEED M.P.H.)
ROUTE I-29 COUNTY CLAY
PROJ. OR SEC. I-29-1(22)

APPROVED _____ ENGR. SURVEYS & PLANS
APPROVED _____ CHIEF ENGINEER

SHEET 3 OF 3

167

526

B-P-2A

MISSOURI STATE HIGHWAY COMMISSION

SUMMARY OF QUANTITIES

Sheet 1 of 3

FED. ROAD DIV. No.	STATE	PROJECT	SHEET No.	TOTAL SHEETS
5	MO.	I-29-1(22)	1-A	
DIST. No.	COUNTY		ROUTE	SEC. No.
4	CLAY		I-29	

LOCATION I-29 at I-35 INTERCHANGE in KANSAS CITY

TYPE GRADING, CULVERTS, BRIDGES, LIGHTING, SIGNING and 12 FOOT CONCRETE RAMP PAVEMENT

FINAL PLANS

RECAPITULATION FROM "B" SHEETS

PLAN SHEET NUMBERS	3	4	5	6	7	SUB-TOTALS
		213.3	2159		585	
	13%	685	3123	8	227	
					28.9%	28.9
	5.1%	8.8%	382%	0.9%	6.3%	
	10.0%	80.0%	2990%	70.2%	3750%	
		50%	31%			
			110%		26%	136
		46%	45%			91
		106%	225%			
					62%	62
		37%	152		12%	201
		111%	120%	24%		255
		48%	306%		98%	450
			160%		38%	198
			20%			20
		151%				151
	10%					10
			170%			170
			72%			72
			435%			435
			1%			1
		1%				1
			339%			
		2%	3%	1.2%	6%	10
	20%	10%			24%	54
			3960%			
			3960%			
			825%			
		552.2%	1159.3%		860.5%	
		449%				
		40%	60%			
		23%				
			163%			
		383.3%	1644%		346.2%	
			106%			
		21%	22%		6%	
	325%	975%	6297%	625%	1600%	
	5.1%	10%	16%	5%	12%	
		3%	9%		2%	
		6%	17%	2%	4%	29
	2.6%				2%	4
		190%			190%	380
			1%			1
			3%			
	341%	865%	1601%	793%		

GENERAL SUMMARY

TOTALS	UNIT	ITEM	DESCRIPTION	REMARKS
147,680	Cu.Yd.	21004	Class A Excavation (Includes 9886CY. Slide Exc. & 1600CY. Rounding)	
7,602	Cu.Yd.	21024	Class C Excavation	
104,918	Cu.Yd.	21100	Embankment in Place	
12,459	Cu.Yd.	21204	Compacting Embankment	
5208	Cu.Yd.	21214	Compacting in Cut	
0	100 Gal.	21507	Water	
1	L.Sum	24300	Miscellaneous Removals (Urban Areas)	
1	Each	24410	Removal of Buildings, Class I	
10,407	Ton	31015	Type 1 Aggregate for Base	Est., at 2.10 Ton/Cu.Yd.
7,706	Ton	31035	Type 3 Aggregate for Base	Est., at 2.10 Ton/Cu.Yd.
3,070	Ton	31045	Type 4 Aggregate for Base	Est., at 1.60 Ton/Cu.Yd.
1.69	Mile	31162	Processing Type 1 Aggregate (6")	Est., at 1910 Tons
2.83	Mile	31182	Processing Type 1 Aggregate (8")	Est., at 7145 Tons
2.10	Mile	31342	Processing Type 3 Aggregate (4")	Est., at 6988 Tons
2.83	Mile	31452	Processing Type 4 Aggregate (5")	Est., at 3056 Tons
5490	Gal.	37007	Primer (AC-0 or RC-0)	
3	Ton	37015	Sanding Primer	Est., at 6 Lb./Sq.Yd.
539	Ton	43025	Type B Asphaltic Concrete	Est., at 1.98 Ton/Cu.Yd.
638	Ton	43035	Type C Asphaltic Concrete	Est., at 1.98 Ton/Cu.Yd.
225	Ton	44035	Cover Aggregate (Grade B)	Est., at 0.125 Ton/Sq.Yd.
2880	Gal.	44221	Bituminous Material (2nd. Appl.) (RC-1)	Est., at 0.23 Gal./Sq.Yd.
4220	Gal.	44717	Bituminous Material (1st. Appl.) (1SC-300 P.A.)	Est., at 0.35 Gal./Sq.Yd.
22842	Sq.Yd.	48183	Concrete Pavement (8" Non-Reinf.)	
3252.7	Sq.Yd.	48283	Concrete Pavement (8" Reinf.)	
23241.5	Sq.Yd.	48293	Concrete Pavement (9" Reinf.)	
687.7	Sq.Yd.	48303	Approach Slab for Bridges	
3854	Cu.Yd.	50014	Class 3 Excavation for Structures	
28.9	Cu.Yd.	53021	Class B Concrete (Culverts)	
559	Cu.Yd.	53022	Class B Concrete (Misc.)	
7760	Lb.	54000	Reinforcing Steel	
93	Lin.Ft.	60412	12" Bit. Coated C.M.P. Culvert (Paved Invert)	
136	Lin.Ft.	60415	15" Bit. Coated C.M.P. Culvert (Paved Invert)	
91	Lin.Ft.	60418	18" Bit. Coated C.M.P. Culvert (Paved Invert)	
331	Lin.Ft.	60508	8" Bit. Coated C.M.P. Culvert (Plain)	
62	Lin.Ft.	60512	12" Bit. Coated C.M.P. Culvert (Plain)	
201	Lin.Ft.	61312	12" Class III Reinf. Conc. Pipe Culvert	
255	Lin.Ft.	61315	15" Class III Reinf. Conc. Pipe Culvert	
450	Lin.Ft.	61318	18" Class III Reinf. Conc. Pipe Culvert	
198	Lin.Ft.	61324	24" Class III Reinf. Conc. Pipe Culvert	
20	Lin.Ft.	61327	27" Class III Reinf. Conc. Pipe Culvert	
151	Lin.Ft.	61330	30" Class III Reinf. Conc. Pipe Culvert	
10	Lin.Ft.	61336	36" Class III Reinf. Conc. Pipe Culvert	
170	Lin.Ft.	61448	48" Class IV Reinf. Conc. Pipe Culvert	
72	Lin.Ft.	61530	30" Class V Reinf. Conc. Pipe Culvert	
435	Lin.Ft.	61610	10" Vitrified Clay Culvert and Sewer Pipe	
1	Each	80200	Adjusting Manholes	
1	Each	80201	Adjusting Catch Basins and Inlets	
339	Lin.Ft.	80340	Concrete Encasement	
10	Each	80500	Pipe Collar	
54	Lin.Ft.	82000	Class A Underdrains	
5786	Cu.Yd.	83000	Furnishing Rock Fill	
9215	Cu.Yd.	83010	Placing Rock Fill	
3960	Cu.Yd.	83106	Furnishing Type 2 Rock Blanket	
3960	Cu.Yd.	83117	Placing Type 2 Rock Blanket	
8250	Sq.Yd.	83360	Grouted Rock Surface	
2372.0	Sq.Yd.	83548	Concrete Slope Protection (4")	
849	Lin.Ft.	84200	Curb and Gutter (Type B)	
100	Lin.Ft.	84200	Curb and Gutter (Type C)	
23	Lin.Ft.	84216	Concrete Curb and Gutter (Special)	
163	Lin.Ft.	84300	Concrete Gutter (Type B)	
1373.9	Sq.Yd.	84403	Paved Ditch	
1060	Lin.Ft.	84700	Integral Curb (6" Height and Under)	
89	Lin.Ft.	84701	Integral Curb (Over 6" Height)	
9822	Lin.Ft.	86006	Guard Rail, Type 4 (Steel) (16'- 3" Post Spacing)	
44	Each	86010	Terminal Sections	
14	Each	86017	Bridge Anchor Sections	
11277	Lin.Ft.	86160	Property Fence (66")	
9	Each	87020	Movable Barricades	
1	L.Sum	87100	Construction Signs	
29	Each	88000	Right of Way Markers	
4	Each	88020	Drain Markers	
380	Lb.	89000	Grates and Bearing Plates	
1	Each	89200	Manhole Frame and Cover (Type 2)	
3	Each	89200	Manhole Frame and Cover (Type 4)	
23.4	Acre	90126	Type 2 Mulch	
4000	Gal.	90131	Asphalt Emulsion	Est., at 250 Gal./Acre
3400	Sq.Yd.	90209	Sodding	
27.6	Acre	90400	Seeding	
0	Sq.Yd.	90503	Erosion Control Netting (Type 1)	
1	L.Sum	99003	Field Laboratories	

LENGTH OF PROJECT

END OF PROJECT	STATION	363 + 40 Abt. L.=Ba
BEGINNING OF PROJECT	STATION	60 + 00 Sta. L.=Ay
APPARENT LENGTH		30240.00 FEET
EQUATIONS AND EXCEPTIONS		
Sta. 85 + 95.30 Bk. (I-29) = Sta. 86 + 90.37 Ah. (I-29 Proj.)		+ 5.70'
Sta. 135 + 16.3 Bk. (I-29 Proj.) = Sta. 325 + 05.1 Ah. (I-35)		-18988.80'
Sta. 330 + 93.69 Bk. (I-35) = Sta. 331 + 72.82 Ah. (I-35)		- 379.13'
TOTAL CORRECTION		-19062.93 FEET
NET LENGTH OF PROJECT		11177.07 FEET
STATE LENGTH		2.098 MILES
FEDERAL LENGTH		2.098 MILES

RECEIVED
MAR 2 0 1972
STATE HIGHWAY DEPT. OF CONSTRUCTION

Prepared By _____ Date _____ 19__ Checked in Dist. Office By SCHUMA Date 12-13 19 71 Checked in Central Office By [illegible] Date 12-14 19 71 Revised By _____ Date _____ 19__

168

S-A-P-2A

MISSOURI STATE HIGHWAY COMMISSION

SUMMARY OF QUANTITIES

FED. ROAD DIST. No.	STATE	PROJECT	SHEET No.	TOTAL SHEETS
7	MO.	I-29-1(22)	2 of 3	
DIST. No.		COUNTY	ROUTE	SEC. No.
4		CLAY	I-29	

LOCATION I-29 at I-35 INTERCHANGE in KANSAS CITY

TYPE GRADING, CULVERTS, BRIDGES, LIGHTING, SIGNING and 18 FOOT CONCRETE RAMP PAVEMENT

Sheet 2 of 3

LENGTH OF PROJECT FINAL PLANS

END OF PROJECT STATION

BEGINNING OF PROJECT STATION

APPARENT LENGTH FEET

EQUATIONS AND EXCEPTIONS

TOTAL CORRECTIONS FEET

NET LENGTH OF PROJECT FEET

STATE LENGTH MILES

FEDERAL LENGTH MILES

RECAPITULATION FROM "B" SHEETS

PLAN SHEET NUMBERS 24	25	26 & 27	28	29	37	38	39	40	SUB-TOTALS
4	1	4	1						
5	15	1	1	6					
9	16	5	4	6					
1									
1	1								
212	342	68		72					
22	52	52							
		24	22						
1558	5988	1821	2360	2635					
137	23		15	88					
	5	1	2	3					
686	1248	368	236	480					
2390	6990			3080					
		2270	2270						
9	16	5	4	6					
9	16	5	4	6					
					1				
					18.49				18.49
					5.45		162.58	16.89	185.1
					1				
					1				
					1				
					1				
					1				
					12410				12410
					43				
					44				
					180				
					1				
					47				
					2053.3				2053.3
					391.0				
					139.7				139.7
					185.8				185.8
					80				

GENERAL SUMMARY

TOTALS	UNIT	ITEM	DESCRIPTION	REMARKS
			HIGHWAY LIGHTING	
12	Each	70010	6' Bracket Arm	
28	Each	70010	16' Bracket Arm	
40	Each	70011	250 Watt Mercury Luminaire	
1	Each	70032	120/240 Volt Pole Mounted Control Station (Std. 70.184)	
1	Each	70032	240 Volt Pole Mounted Control Station (Std. 70.224)	
2	Each	70032	30' Service Pole, Class 4	
622	Lin.Ft.	70040	2" Rigid Steel Conduit (Pushed)	
72	Lin.Ft.	70040	3" Rigid Steel Conduit (Pushed)	
126	Lin.Ft.	70041	2" Rigid Steel Conduit (In Trench)	
48	Lin.Ft.	70041	3" Rigid Steel Conduit (In Trench)	
1434	Lin.Ft.	70054	Type III Trenching and Backfilling	
259	Lin.Ft.	70055	Type III Trenching and Backfilling	
11	Each	70061	Type B Concrete Handhole	
3080	Lin.Ft.	70072	No. 10 Single Conductor Pole and Bracket Cable	
12360	Lin.Ft.	70073	1" Cable-Conduit, 2 No. 8 Conductors	
5040	Lin.Ft.	70073	1" Cable-Conduit, 2 No. 4 Conductors	
40	Each	70104	Type A-30 Lighting Pole	
40	Each	70106	Concrete Foundation (Pole)	
			HIGHWAY SIGNING	
1	Each	70032	120/240 Volt Pole Mounted Control Sta. (Std. 70.184)	
18.5	Cu.Yd.	72000	Class B or B1 Concrete Footing (Embedded)	
185.10	Cu.Yd.	73001	Class B Concrete Footings	
1	L.Sum	72002	63' Overhead Truss (Sign No. 1)	
1	L.Sum	72002	74' Overhead Truss (Sign No. 4)	
1	L.Sum	72002	76' Overhead Truss (Sign No. 13)	
1	L.Sum	72002	171' Overhead Truss (Sign No. 16)	
1	L.Sum	72002	74' Overhead Truss (Sign No. 38)	
1	L.Sum	72003	25' Cantilever Truss (Sign No. 40)	
12410	Lb.	72006	Structural Steel Posts	
43	Each	72007	Breakaway Assembly	
44	Each	72010	Delineators (Single White)	
180	Each	72012	Delineators (Double Amber)	
1	Each	72019	30' Service Pole, Class 4	
47	Lin.Ft.	72029	Type III Trenching and Backfilling	
2053	Sq.Ft.	72031	Type STBC Signs	
391	Sq.Ft.	72032	Type STRC Signs	
139	Sq.Ft.	72040	Type SHBS Signs	
186	Sq.Ft.	72050	Type SHBS Signs	
80	Lin.Ft.	72091	1" Cable-Conduit, 2 No. 8 Conductors	
			RET. WALL Sta. 11 + 24 (Ramp U)	
			Dwg. No. A-2202	
121	Cu.Yd.	50014	Class I Excavation for Structures	
128.5	Cu.Yd.	53029	Class B Concrete	
13130	Lb.	54000	Reinforcing Steel	
			BRIDGE Sta. 19 + 67.17 (North Ramp)	
			Dwg. No. A-1760	
1679	Cu.Yd.	50034	Class 3 Excavation for Structures	
1040.0	Cu.Yd.	53020	Class B Concrete	
118140	Lb.	54000	Reinforcing Steel	
			BRIDGE Sta. 21 + 48.57 (North Ramp)	
			Dwg. No. A-1761	
1532	Cu.Yd.	50014	Class I Excavation for Structures	
167	Lin.Ft.	52005	Steel Piles in Place (10")	
8	Lin.Ft.	52405	Steel Piles in Place (14")	
28.5	Cu.Yd.	53023	Class B Concrete	
548.4	Cu.Yd.	53036	Class B1 Concrete	
63700	Lb.	54000	Reinforcing Steel	
344	Lin.Ft.	56001	Bridge Rail (Single Tube Type)	
			BRIDGE Sta. 99 + 12.31 (South Ramp)	
			Dwg. No. A-1762	
495	Cu.Yd.	50014	Class I Excavation for Structures	
437	Lin.Ft.	52005	Steel Piles in Place (10")	
13.3	Cu.Yd.	53023	Class B Concrete	
328.5	Cu.Yd.	53035	Class B1 Concrete	
88090	Lb.	54000	Reinforcing Steel	
328	Lin.Ft.	56001	Bridge Rail (Single Tube Type)	

Prepared By _____ Date _____ 19__ Checked in Dist. Office By _____ Date _____ 19__ Checked in Central Office By _____ Date _____ 19__ Revised By _____ Date _____ 19__

169

G & P-2A

MISSOURI STATE HIGHWAY COMMISSION

SUMMARY OF QUANTITIES

LOCATION I-29 at I-35 INTERCHANGE in KANSAS CITY

TYPE GRADING, CULVERTS, BRIDGES, LIGHTING, SIGNING and 15 FOOT CONCRETE RAMP PAVEMENT

Sheet 3 of 9

FED. ROAD DIV. No.	STATE	PROJECT	SHEET No.	TOTAL SHEETS
5	MO.	I-29-1(22)	2-A	
DIST. No.	COUNTY		ROUTE	SEC. No.
4	CLAY		I-29	

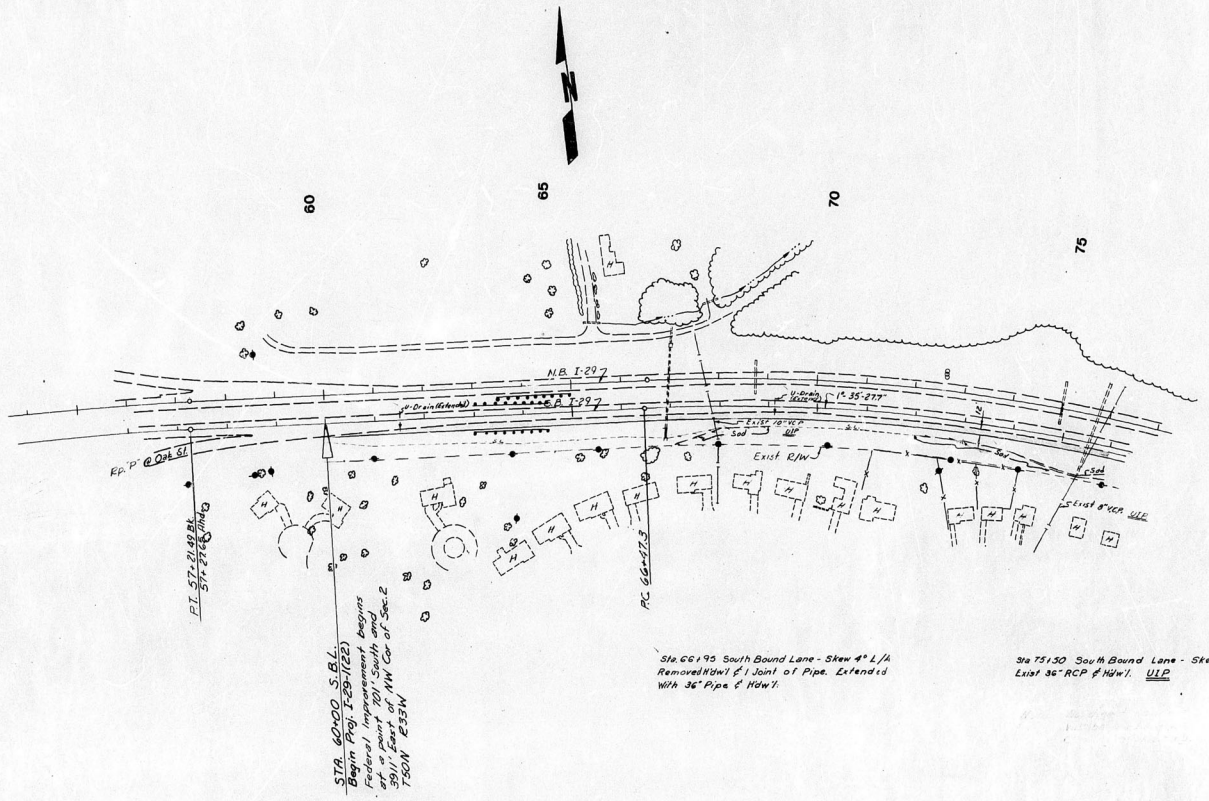
FINAL PLANS

RECAPITULATION FROM "B" SHEETS

| PLAN SHEET NUMBERS | | |

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	3
DIST. NO.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS



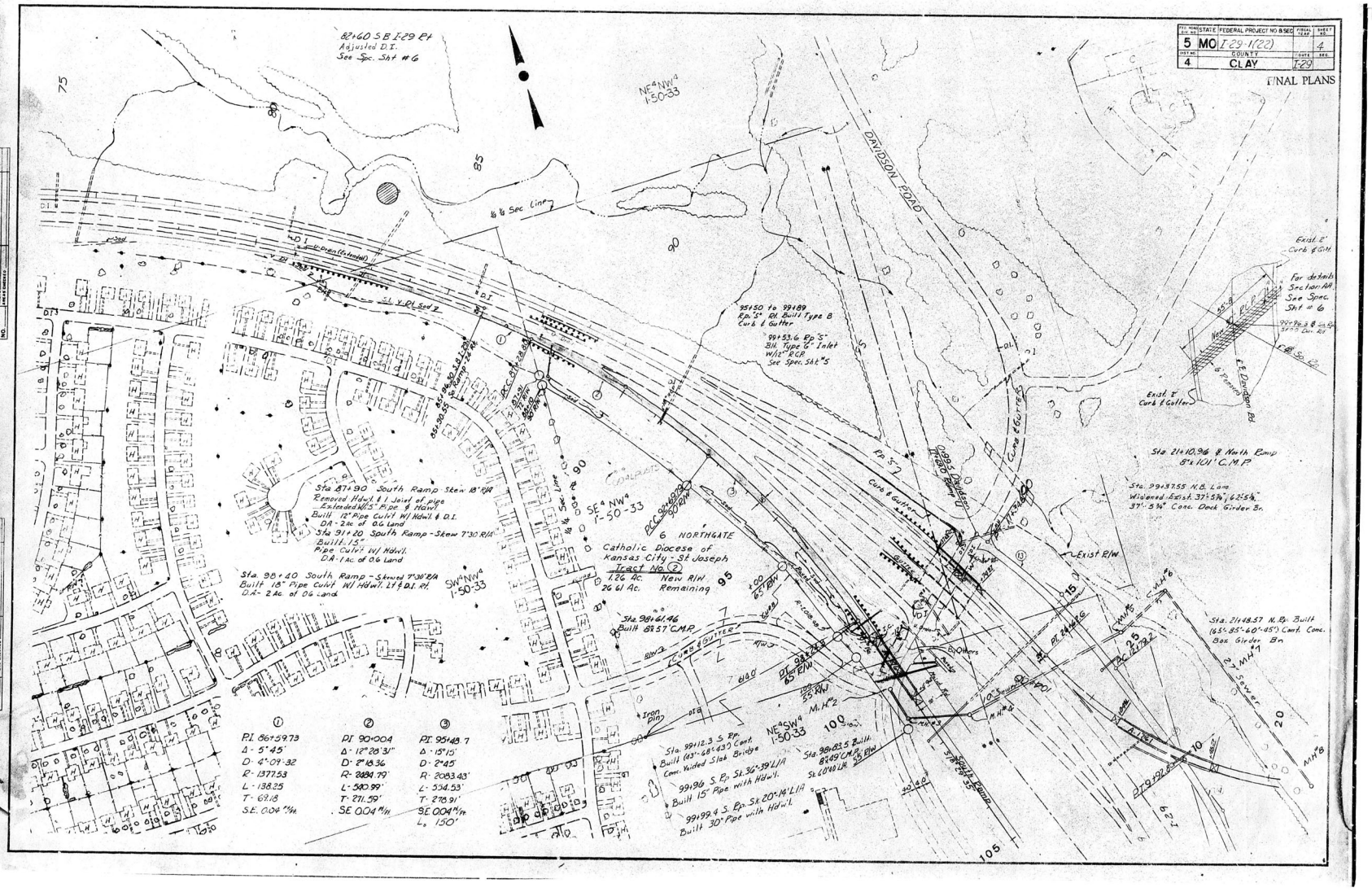
Sta. 66+95 South Bound Lane - Skew 4° L/A
Removed H'dw'l & 1 Joint of Pipe. Extended
With 36" Pipe & H'dw'l.

Sta 75+50 South Bound Lane - Skew 11°20' L/A
Exist 36" RCP & H'dw'l. UIP

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

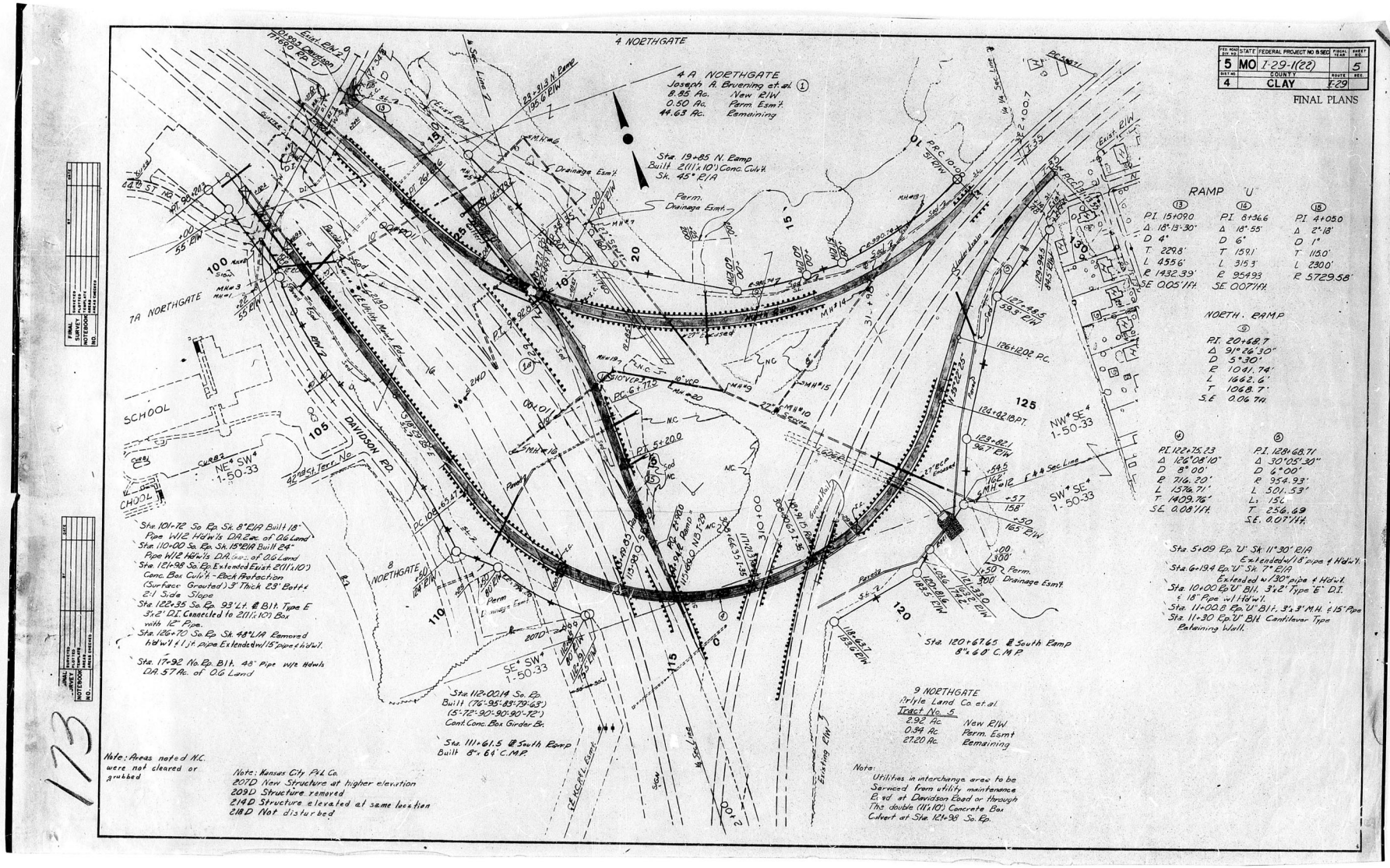
171



STATE	FEDERAL PROJECT NO. & SEC	FISCAL YEAR	SHEET NO.
5 MO	I 29-1(22)		4
COUNTY NO.	COUNTY	DIST.	SEC.
4	CLAY		I-29

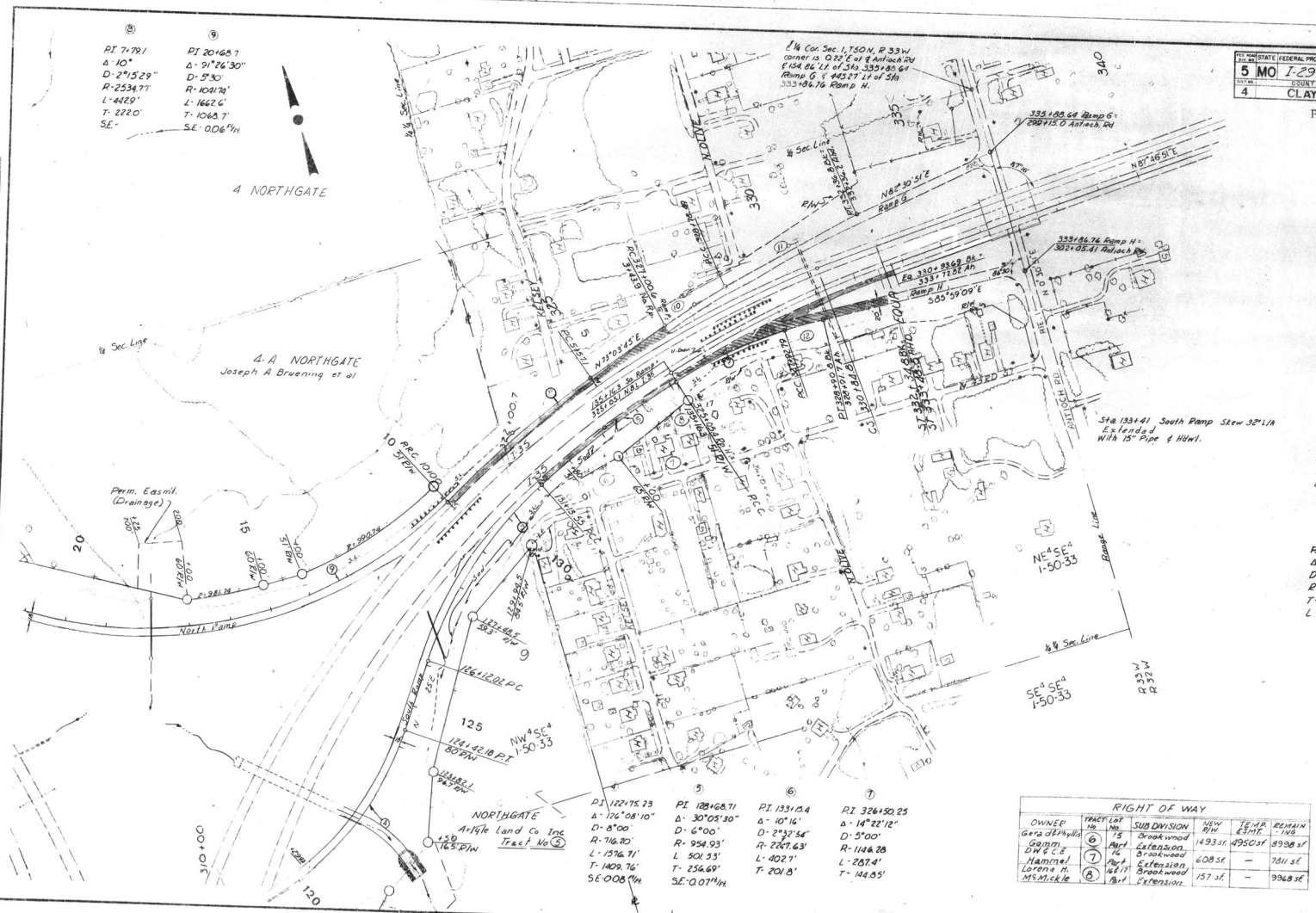
FINAL PLANS

NO.	NOTE BOOK	PAGE	INITIALS


4 NORTHGATE
4A NORTHGATE
Joseph A. Bruening et al. (1)
8.85 Ac. New R/W
0.50 Ac. Perm. Esmt.
44.63 Ac. Remaining
7A NORTHGATE
8 NORTHGATE
9 NORTHGATE
Arlyle Land Co. et al.
Tract No. 5
2.92 Ac. New R/W
0.94 Ac. Perm. Esmt
27.20 Ac. Remaining
Sta. 19+85 N. Ramp
Built 2(11'x10') Conc. Culv't.
Sk. 45° R/A
Perm. Drainage Esmt.
Drainage Esmt.
Sta. 101+72 So. Ep. Sk. 8° R/A Built 18" Pipe W/2 Hdw'ls DA 2 ac. of OG Land
Sta. 110+00 So. Ep. Sk. 15° R/A Built 24" Pipe W/2 Hdw'ls DA [illegible] of OG Land
Sta. 121+98 So. Ep. Extended Exist. 2(11'x10') Conc. Box Culv't - Rock Protection (Surface Grouted) 3' Thick 23' Bottom 2:1 Side Slope
Sta. 122+35 So. Ep. 93' Lt. @ B.H. Type E 3'x2' D.I. Connected to 21'x5' Box with 12" Pipe.
Sta. 125+70 So. Ep. Sk. 48° L/A Removed 48"W.H. & 1 Jt. pipe Extended w/18" pipe & H.W.
Sta. 17+92 No. Ep. B.H. 48" Pipe W/2 Hdw'ls DA 57 Ac. of OG Land
Sta. 112+00.19 So. Ep. Built (76'-95'-83'-79'-63') (5'-72'-90'-90'-90'-72') Cont. Conc. Box Girder Br.
Sta. 111+61.5 @ South Ramp Built 8'x 6' C.M.P.
Sta. 120+67.65 @ South Ramp 8'x 6' C.M.P.
Sta. 5+09 Ep. 'U' Sk. 11°30' R/A Extended w/18" pipe & H.W.'s
Sta. G+19.4 Ep. 'V' Sk. 7° R/A Extended w/30" pipe & H.W.'s
Sta. 10+00 Ep. 'U' B.H. 3'x2' Type 'E' D.I. & 18" Pipe w/ H.W.'s
Sta. 11+00.8 Ep. 'U' B.H. 3'x3' M.H. & 15" Pipe
Sta. 11+30 Ep. 'U' B.H. Cantilever Type Retaining Wall.
RAMP 'U'
(13) P.I. 15+10.90 Δ 18°13'30" D 4° T 229.8' L 455.6' R 1432.39' S.E. 0.05' /ft.
(16) P.I. 8+36.6 Δ 18°55' D 6° T 159.1' L 315.3' R 954.93 S.E. 0.07' /ft.
(18) P.I. 4+05.0 Δ 2°18' D 1° T 115.0' L 230.0' R 5729.58'
NORTH RAMP
(2) P.I. 20+68.7 Δ 91°26'30" D 5°30' R 1041.74' L 1662.6' T 1068.7' S.E. 0.06 /ft.
(4) P.I. 122+75.23 Δ 126°08'10" D 8°00' R 716.20' L 1574.71' T 1409.76' S.E. 0.08'/ft.
(6) P.I. 128+68.71 Δ 30°05'30" D 6°00' R 954.93' L 501.53' L1 150' T 256.69 S.E. 0.07'/ft.
Note: Areas noted N.C. were not cleared or grubbed
Note: Kansas City P&L Co.
207D New Structure at higher elevation
209D Structure removed
214D Structure elevated at same location
218D Not disturbed
Note: Utilities in interchange area to be Serviced from utility maintenance Easement at Davidson Road or through the double (11'x10') Concrete Box Culvert at Sta. 121+98 So. Ep.
SCHOOL
DAVIDSON RD.
40th St. Terr. No.
NE¼ SW¼ 1-50-33
SE¼ SW¼ 1-50-33
NW¼ SE¼ 1-50-33
SW¼ SE¼ 1-50-33
Existing R/W
Exist. R/W
Sec. Line
Perm. Drainage Esmt.
Perm. Esmt.
Ground Rail
Retaining Wall
Fence
Guard Rail
Sidewalk
Grade Line
Sta. 106+12.02 P.C.
Sta. 122+42 P.T.
Sta. 129+80.1 96.7' E/W
Sta. 127+48.5 39.3' E/W
Sta. 118+63.7 153.6' E/W
Sta. 129+94.5 863.2' E/W
Sta. 123+39.0 153.2' E/W
Sta. 118+82.6 182.5' E/W
Sta. 112+00.19 P.C.C.
Sta. 111+61.5 P.C.C.
Sta. 109+63.47 P.C.
Sta. 102+00.7 P.R.C.C.
Sta. 129+94.5 P.R.C.C.
Sta. 127+48.5 P.R.C.C.
Sta. 106+12.02 P.C.
Sta. 122+42 P.T.
Sta. 129+80.1 P.C.C.
Sta. 118+63.7 P.C.C.
Sta. 123+39.0 P.C.C.
Sta. 118+82.6

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO. & SEC.	FISCAL YEAR	SHEET NO.
5	MO	I-29-1(22)		6
DIST. NO.		COUNTY	ROUTE	NO.
4		CLAY	I-29	

FINAL PLANS



(8) P.I. 7+79.1
Δ - 10°
D - 2°15'29"
R - 2534.77'
L - 442.9'
T - 222.0'
S.E. -

(9) P.I. 20+68.7
Δ - 91°26'30"
D - 5°30'
R - 1041.74'
L - 1662.6'
T - 1068.7'
S.E. - 0.06 ft/ft

(10) P.I. 327+89.5
Δ - 2°-40'-06"
D - 1°30'
R - 3819.83
L - 171.89
T - 88.4'

(11) P.I. 330+57.9
Δ - 6°-47'
D - 1°53'-36"
R - 3376.33
T - 179.35
L - 358.3

(12) P.I. 328+41.8
Δ - 3°-54'-44"
D - 3°59'-32"
R - 1435.39
T - 49.03
L - 98.01

(5) P.I. 122+75.23
Δ - 126°08'10"
D - 8°00'
R - 716.20'
L - 1576.71'
T - 1409.76'
S.E. - 0.08 ft/ft

(6) P.I. 128+68.71
Δ - 30°05'30"
D - 6°00'
R - 954.93'
L - 501.53'
T - 256.69'
S.E. - 0.07 ft/ft

(7) P.I. 133+15.4
Δ - 10°16'
D - 2°32'54"
R - 2247.63'
L - 402.7'
T - 201.8'

(7) P.I. 326+50.25
Δ - 14°22'12"
D - 5°00'
R - 1146.28
L - 287.4'
T - 144.85'

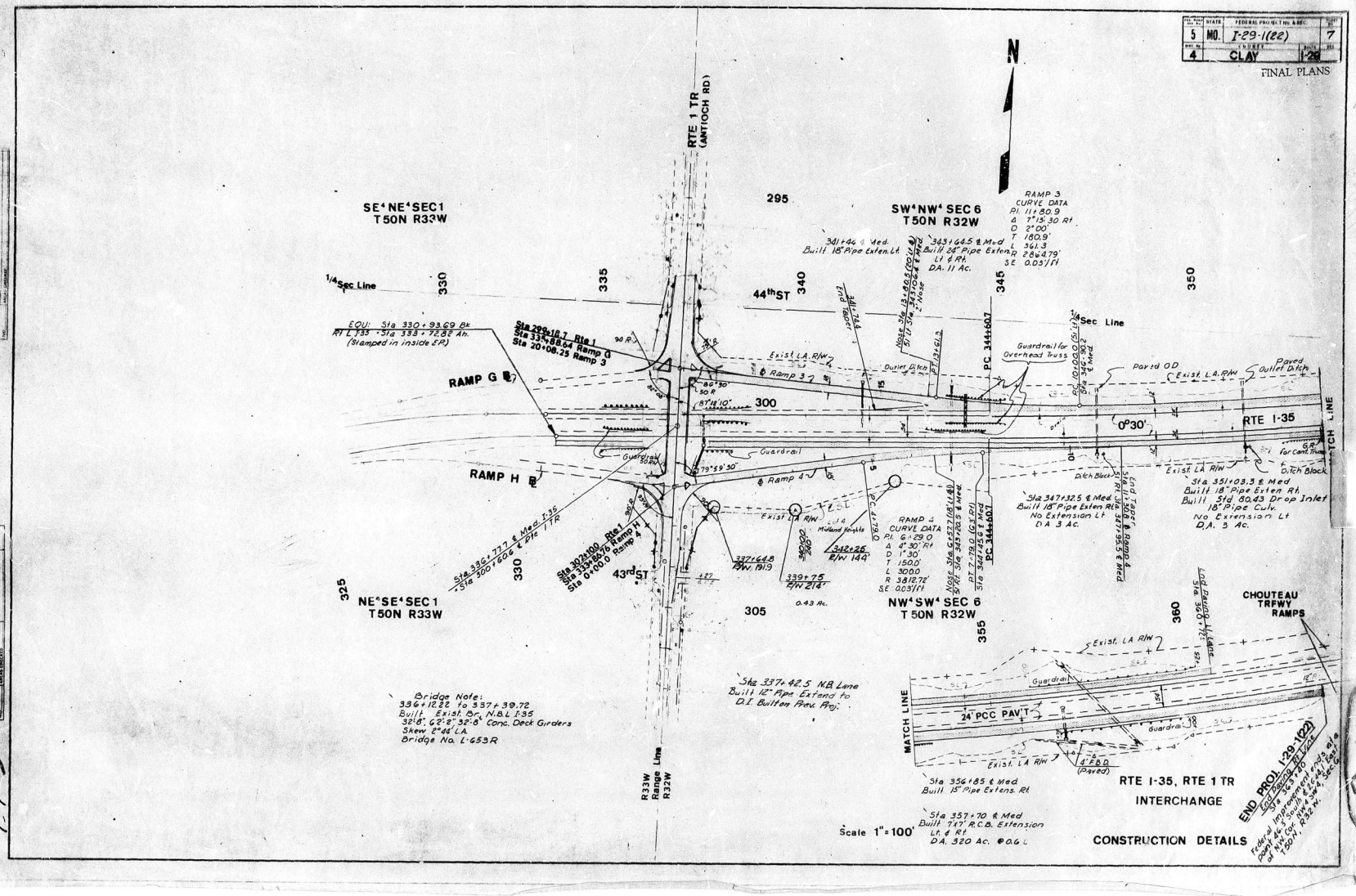
RIGHT OF WAY

OWNER	TRACT No	LOT No	SUB DIVISION	NEW R/W	TEMP. ESMT.	REMAIN-ING
Gerald Phyllis Gamm	6	15 Part	Brookwood Extension	1493 sf.	4950 sf	8998 sf
DW & C.E. Hammel	7	16 Part	Brookwood Extension	608 sf.	—	7811 sf.
Lorene H. McMickle	8	16 & 17 Part	Brookwood Extension	157 sf.	—	9968 sf.

FINAL SURVEY | NOTEBOOK | NO. | DIRECTED | PLOTTED | TEMPLATE | AREAS | AREAS CHECKED | BY | DATE

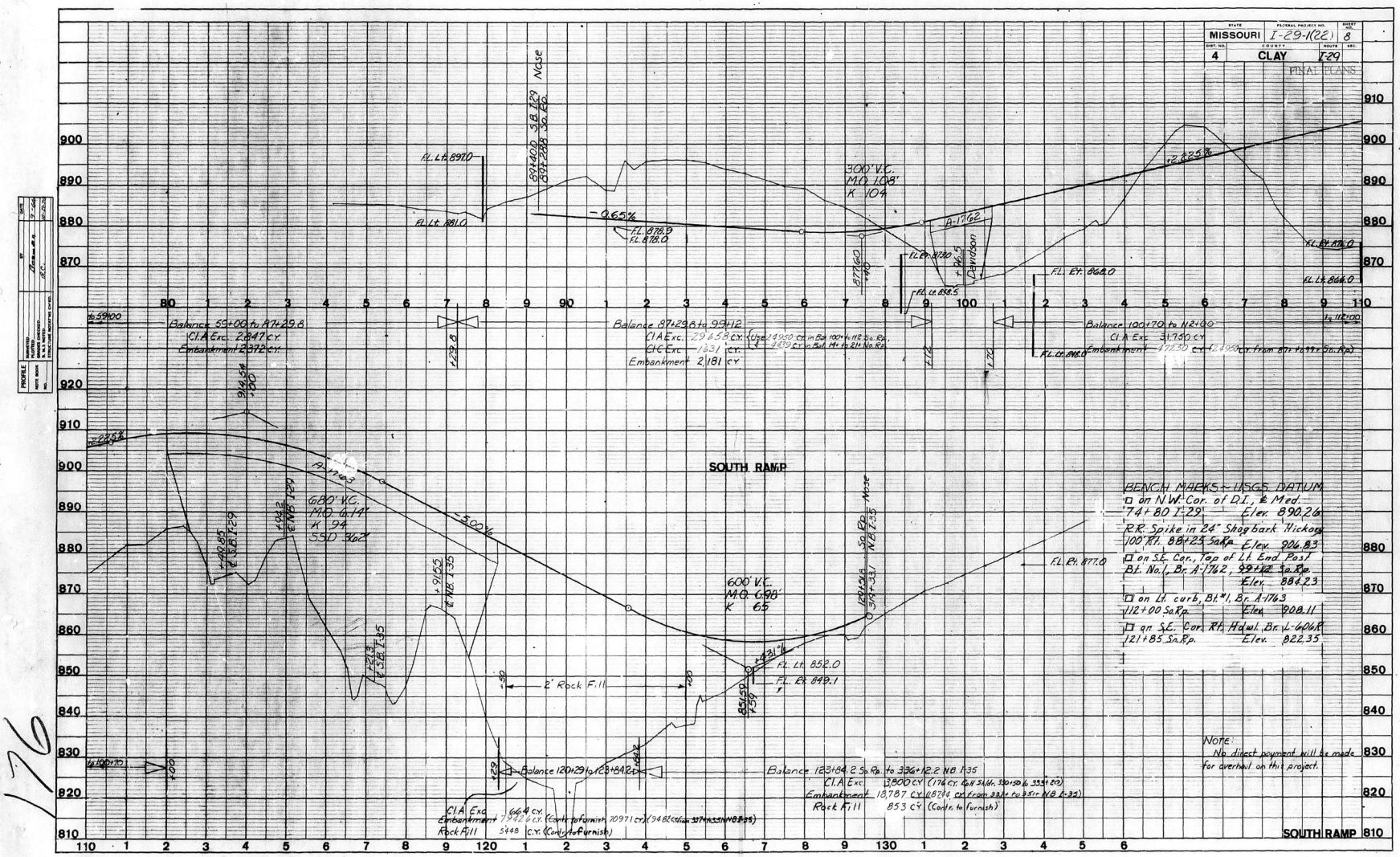
ORIGINAL SURVEY | NOTEBOOK | NO. | DIRECTED | PLOTTED | TEMPLATE | AREAS | AREAS CHECKED | BY | DATE

174



5 MO. I-29-1(22) 7
4 CLAY I-29
FINAL PLANS
N
RTE 1 TR (ANTIOCH RD)
SE¼ NE¼ SEC 1 T50N R33W
SW¼ NW¼ SEC 6 T50N R32W
NE¼ SE¼ SEC 1 T50N R33W
NW¼ SW¼ SEC 6 T50N R32W
295
300
305
325
330
335
340
345
350
355
360
44th ST
43rd ST
1/4 Sec Line
RAMP G
RAMP H
RTE I-35
MATCH LINE
CHOUTEAU TRFWY RAMPS
24' PCC PAV'T
RAMP 3 CURVE DATA
RAMP 4 CURVE DATA
Bridge Note:
336+12.22 to 337+39.72
Built Exist. Br. N.B.L I-35
32'-8", 62'-2", 32'-8" Conc. Deck Girders
Skew 2°44' L.A.
Bridge No. L-653R
Sta 337+42.5 N.B. Lane
Built 12" Pipe Extend to
D.I. Bulton Prev. Proj.
Sta 356+85 ℄ Med
Built 15" Pipe Extens. Rt.
Sta 357+70 ℄ Med
Built 7'x7' R.C.B. Extension
Lt. & Rt.
D.A. 320 Ac. @ 0.6 L
Scale 1" = 100'
RTE I-35, RTE 1 TR
INTERCHANGE
CONSTRUCTION DETAILS
END PROJ. I-29-1(22)

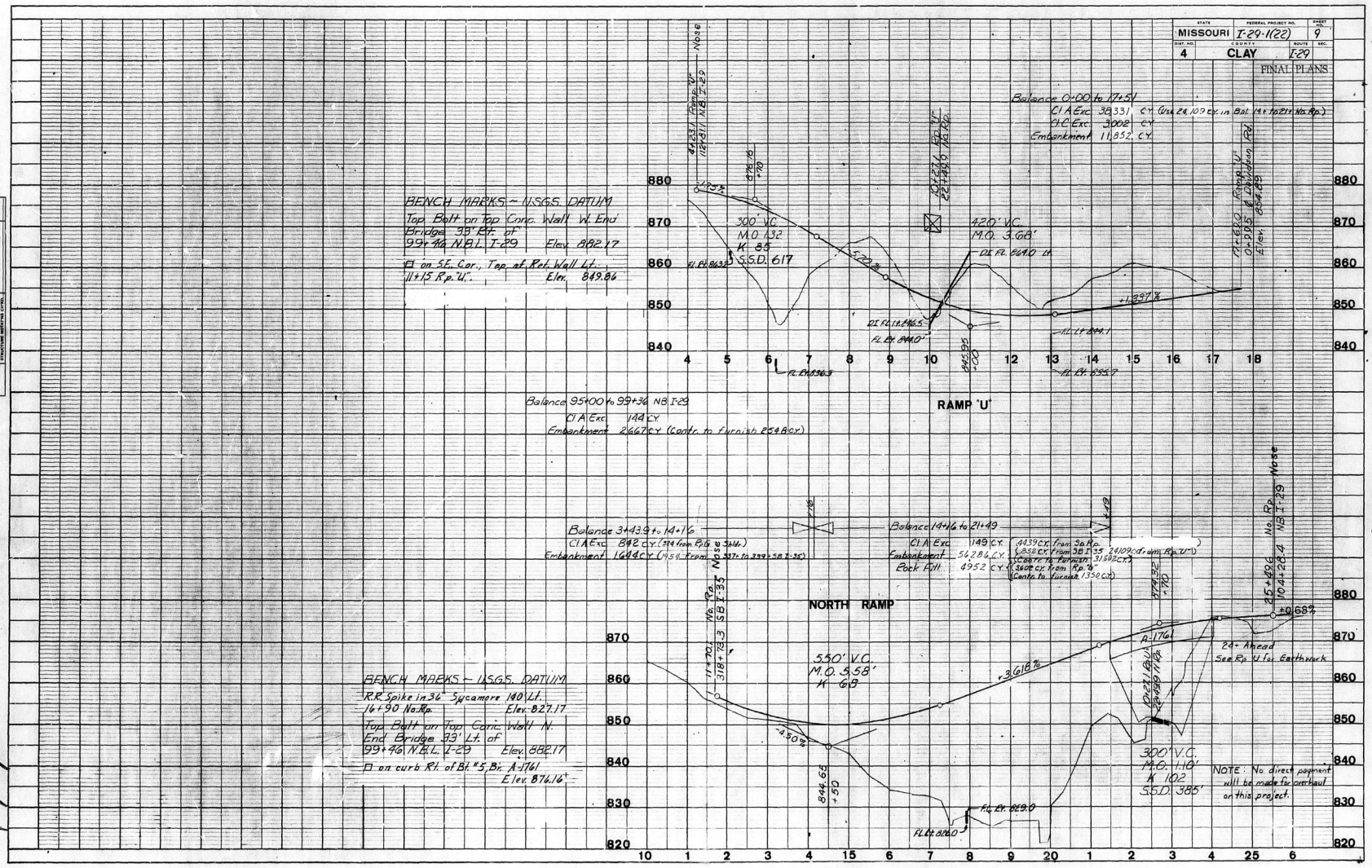
175



MISSOURI
I-29-1(22)
8
4
CLAY
I-29
FINAL PLANS
SOUTH RAMP
Balance 59+00 to 87+29.8
Cl.A Exc. 2,847 C.Y.
Embankment 2,372 C.Y.
Balance 87+29.8 to 99+12
Cl.A Exc. 29,658 C.Y.
Cl.C Exc. 1,631 C.Y.
Embankment 2,181 C.Y.
Balance 100+70 to 112+00
Cl.A Exc. 31,750 C.Y.
Embankment 47,230 C.Y.
300' V.C.
M.O. 1.08'
K 104
680' V.C.
M.O. 6.14'
K 94
SSD 362'
600' V.C.
M.O. 6.98'
K 65
2' Rock Fill
Balance 120+29 to 123+84.2
Cl.A Exc. 664 C.Y.
Embankment 79,426 C.Y. (Contr. to furnish 70,971 C.Y.)
Rock Fill 5448 C.Y. (Contr. to furnish)
Balance 123+84.2 So. Rp. to 336+12.2 NB I-35
Cl.A Exc. 3,800 C.Y.
Embankment 18,787 C.Y.
Rock Fill 853 C.Y. (Contr. to furnish)
BENCH MARKS ~ USGS DATUM
on N.W. Cor. of D.I., ℄ Med.
74+80 I-29 Elev. 890.26
R.R. Spike in 24" Shagbark Hickory
100' Rt. 88+25 So. Rp. Elev. 906.83
on S.E. Cor., Top of Lt. End Post
Bt. No. 1, Br. A-1762, 99+12 So. Rp.
Elev. 884.23
on Lt. curb, Bt. #1, Br. A-1763
112+00 So. Rp. Elev. 908.11
on S.E. Cor. Rt. Hdwl. Br. L-606R
121+85 So. Rp. Elev. 822.35
Note:
No direct payment will be made for overhaul on this project.

176

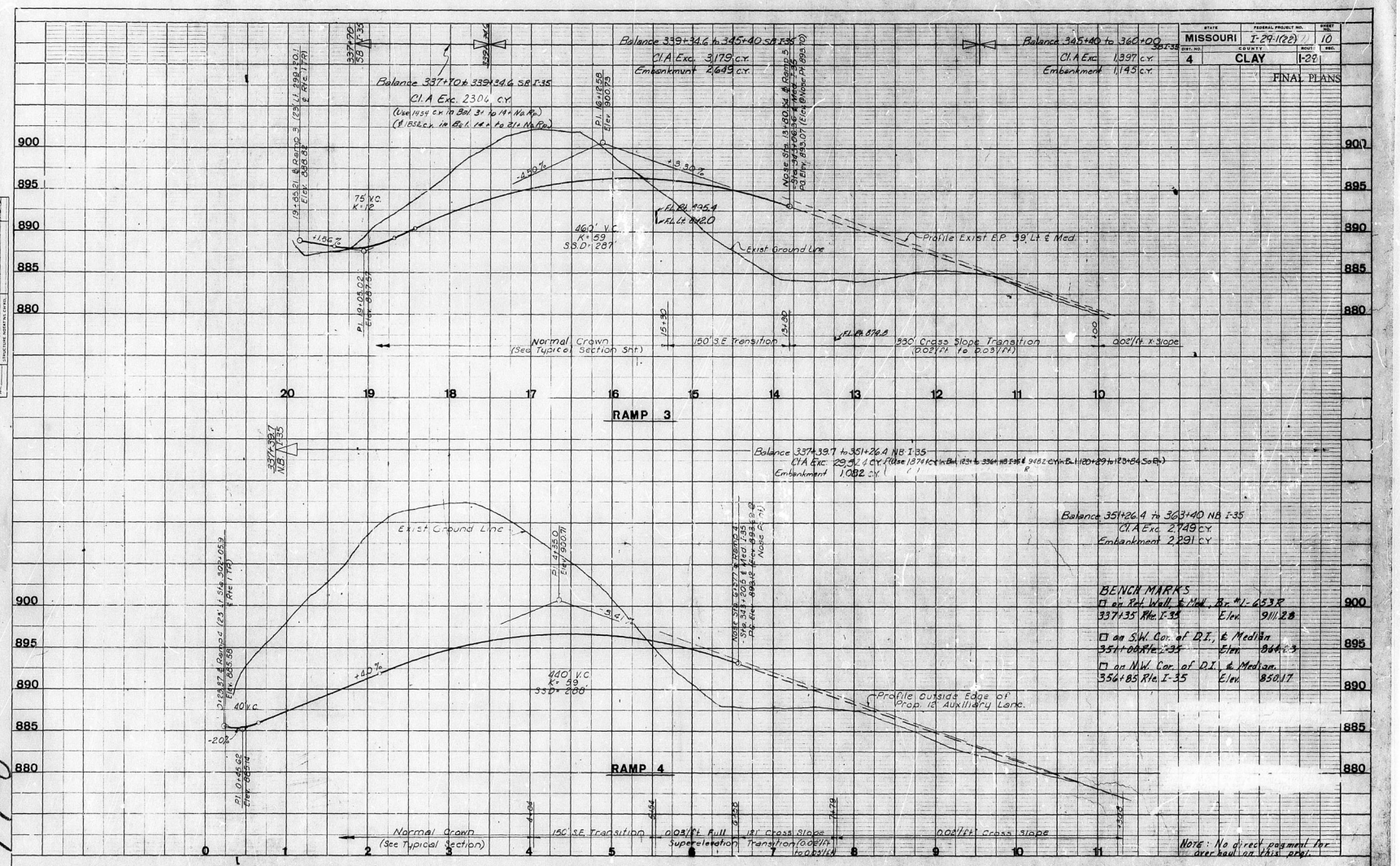
596



STATE MISSOURI
FEDERAL PROJECT NO. I-29-1(22)
SHEET NO. 9
DIST. NO. 4
COUNTY CLAY
ROUTE I-29
SEC.
FINAL PLANS
Balance 0+00 to 17+51
Cl A Exc 38,331 C.Y. (Use 24,109 C.Y. in Bal. 14+ to 21+ No. Rp.)
Cl C Exc. 3,002 C.Y.
Embankment 11,852 C.Y.
BENCH MARKS ~ U.S.G.S. DATUM
Top Bolt on Top Conc. Wall W. End Bridge 33' Rt. of 99+46 N.B.L. I-29 Elev. 882.17
□ on S.E. Cor., Top of Ret. Wall Lt. 11+15 Rp. "U". Elev. 849.86
300' V.C.
M.O. 1.32
K 85
S.S.D. 617
420' V.C.
M.O. 3.68'
DI FL. 864.0 Lt.
DI FL. Lt. 846.5
FL. Rt. 844.0
FL. Lt. 844.1
FL. Rt. 835.7
FL. Rt. 836.3
FL. Rt. 863.2
RAMP "U"
Balance 95+00 to 99+36 NB I-29
Cl A Exc 144 C.Y.
Embankment 2,667 C.Y. (Contr. to furnish 2548 C.Y.)
Balance 3+43.9 to 14+16
Cl A Exc 842 C.Y. (324 from Rp. G Shldr.)
Embankment 1644 C.Y. (1454 from 337+ to 339+ SB I-35)
Balance 14+16 to 21+49
Cl A Exc 149 C.Y. (4439 C.Y. from Sp. Rp. 852 C.Y. from SB I-35 24109 C.Y. from Rp. "U")
Embankment 56286 C.Y. (Contr. to furnish 31582 C.Y.)
Rock Fill 4952 C.Y. (3602 C.Y. from Rp. "U" Contr. to furnish 1350 C.Y.)
NORTH RAMP
550' V.C.
M.O. 5.58'
K 68
BENCH MARKS ~ U.S.G.S. DATUM
R.R. Spike in 36" Sycamore 140' Lt. 16+90 No. Rp. Elev. 827.17
Top Bolt on Top Conc. Wall N. End Bridge 33' Lt. of 99+46 N.B.L. I-29 Elev. 882.17
□ on curb Rt. of Bt. #5, Br. A-1761 Elev. 876.16
300' V.C.
M.O. 1.10'
K 102
S.S.D. 385'
NOTE: No direct payment will be made for overhaul on this project.
24+ Ahead See Rp. U for Earthwork
FL. Rt. 829.0
FL. Lt. 826.0

177

596

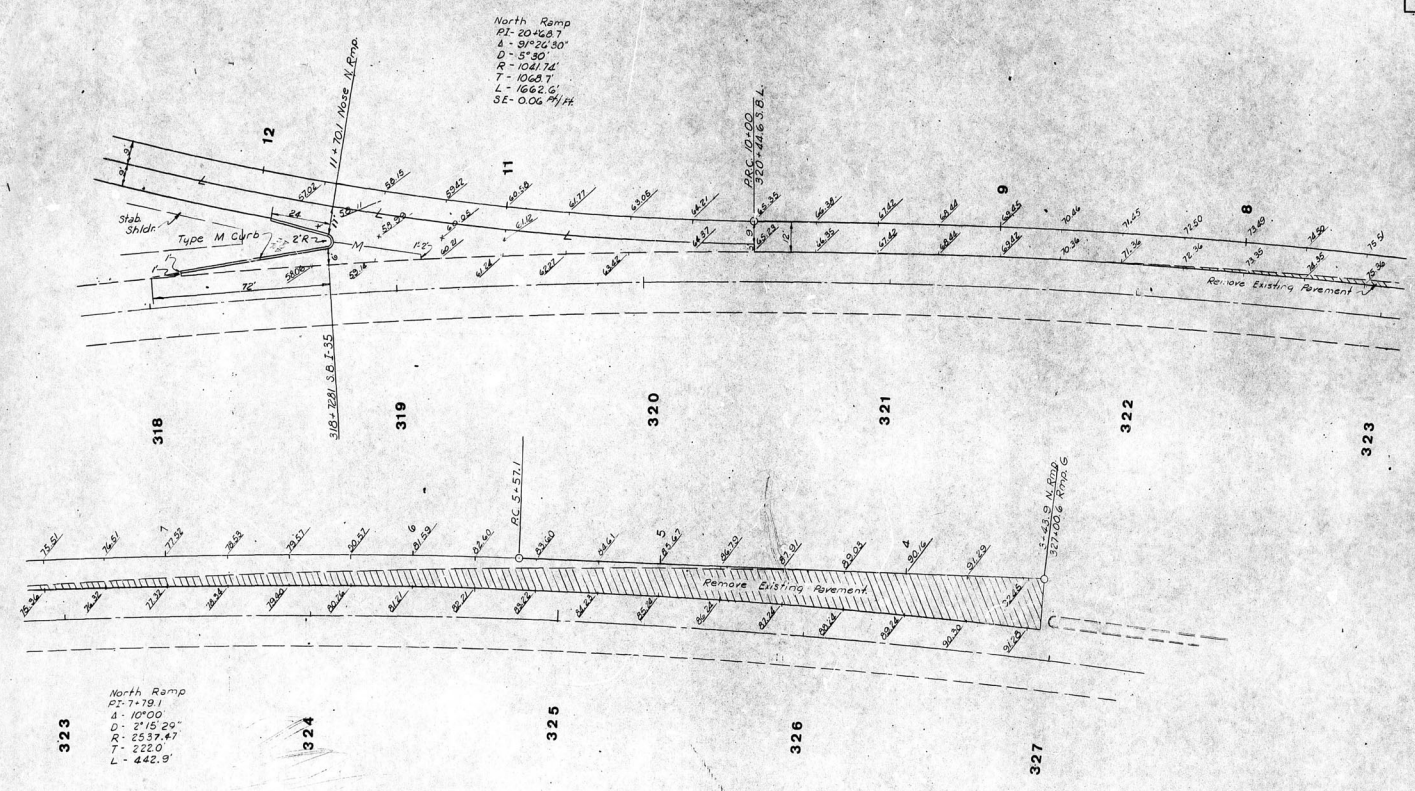


MISSOURI
I-29-1(22)
10
4
CLAY
I-29
FINAL PLANS
Balance 339+34.6 to 345+40 SB I-35
Cl. A Exc. 3,179 C.Y.
Embankment 2,649 C.Y.
Balance 345+40 to 360+00 SB I-35
Cl. A Exc. 1,397 C.Y.
Embankment 1,145 C.Y.
Balance 337+70 to 339+34.6 SB I-35
Cl. A Exc. 2306 C.Y.
Exist Ground Line
Profile Exist E.P. 39' Lt. & Med.
Normal Crown (See Typical Section Sht.)
150' S.E. Transition
330' Cross Slope Transition (0.02'/ft. to 0.03'/ft.)
0.02'/ft. X-Slope
RAMP 3
Balance 337+39.7 to 351+26.4 NB I-35
Cl. A Exc. 29,524 C.Y.
Embankment 1,082 C.Y.
Balance 351+26.4 to 363+40 NB I-35
Cl. A Exc. 2,749 C.Y.
Embankment 2,291 C.Y.
BENCH MARKS
□ on Ret. Wall, & Med., Br. #1-653R
337+35 Rte. I-35 Elev. 911.28
□ on S.W. Cor. of D.I., & Median
351+00 Rte. I-35 Elev. 864.23
□ on N.W. Cor. of D.I., & Median
356+85 Rte. I-35 Elev. 850.17
Exist Ground Line
Profile Outside Edge of Prop. 12' Auxiliary Lane.
RAMP 4
Normal Crown (See Typical Section)
150' S.E. Transition
0.03'/ft. Full Superelevation
121' Cross Slope Transition (0.02'/ft. to 0.03'/ft.)
0.02'/ft. Cross Slope
NOTE: No direct payment for over haul on this proj.

178

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	12
DIST. NO.		COUNTY	SHEET NO.
4		CLAY	I-29

FINAL PLANS



PAVING LAYOUT
AND
NOSE DETAILS
FOR
NORTH RAMP

ROUTE I-29 CLAY COUNTY

0 20 40 60 80
Scale in feet

Special Sheet 1 of 12

FINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

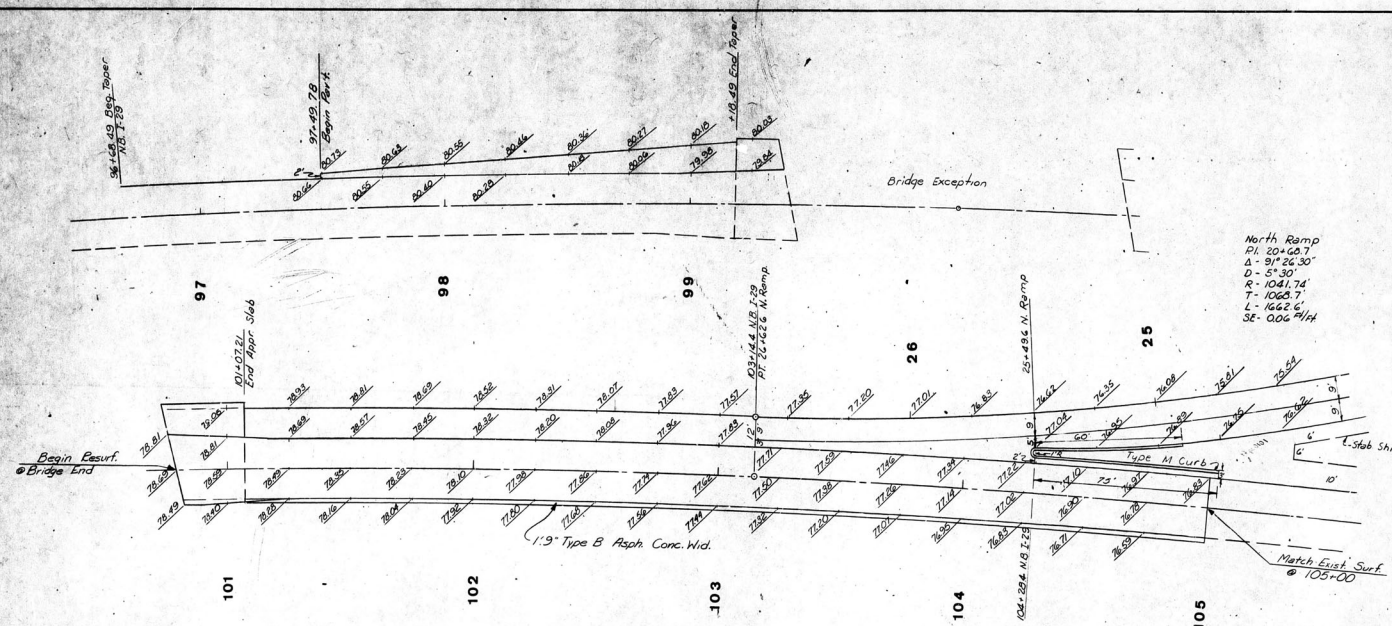
Hartsberg

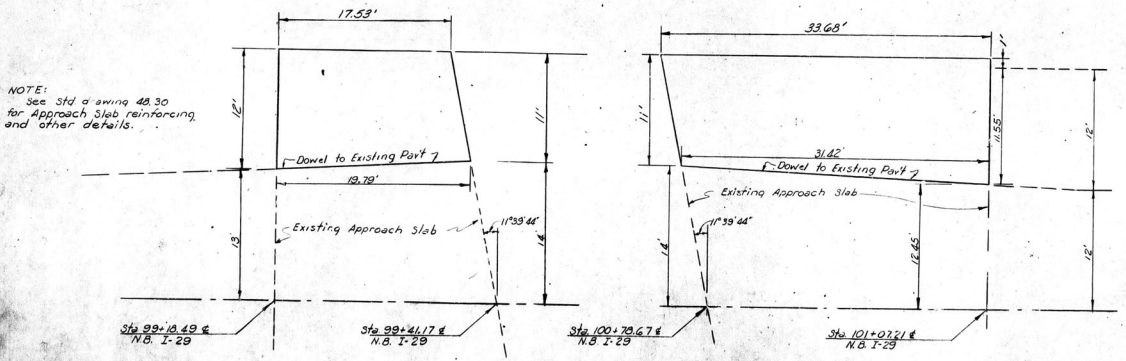
1/8

596

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO. & SEC.	SHT. NO.
5	MO.	I-29-1(22)	13
DIST. NO.	COUNTY		BRDG. NO.
4	CLAY	I-29	

FINAL PLANS





NOTE:
See Std. drawing 48.30 for Approach Slab reinforcing and other details.

NOTE:
These drawings not to scale, follow dimensions

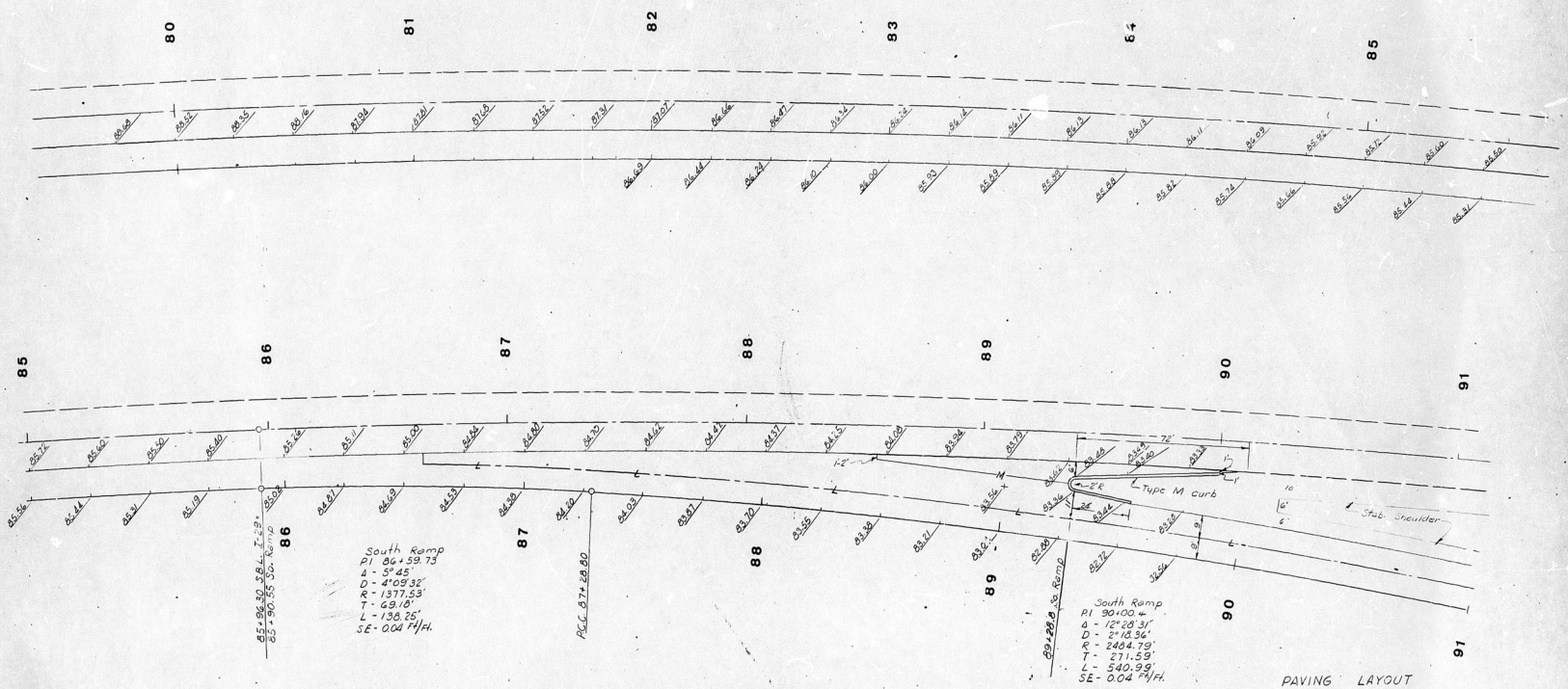
PAVING LAYOUT - NOSE DETAILS
AND
BRIDGE APPROACH SLABS
FOR
NORTH RAMP
ROUTE I-29 CLAY COUNTY

Special sheet 2 of 12

590

FED. ROAD DIV. No.	STATE	FEDERAL PROJECT No. & SEC.	SHEET No.
5	MO.	I-29-1 (22)	14
DIST. No.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS



PAVING LAYOUT
AND
NOSE DETAILS
FOR
SOUTH RAMP
ROUTE I-29 CLAY COUNTY

0 20 40 60 80
Scale in feet

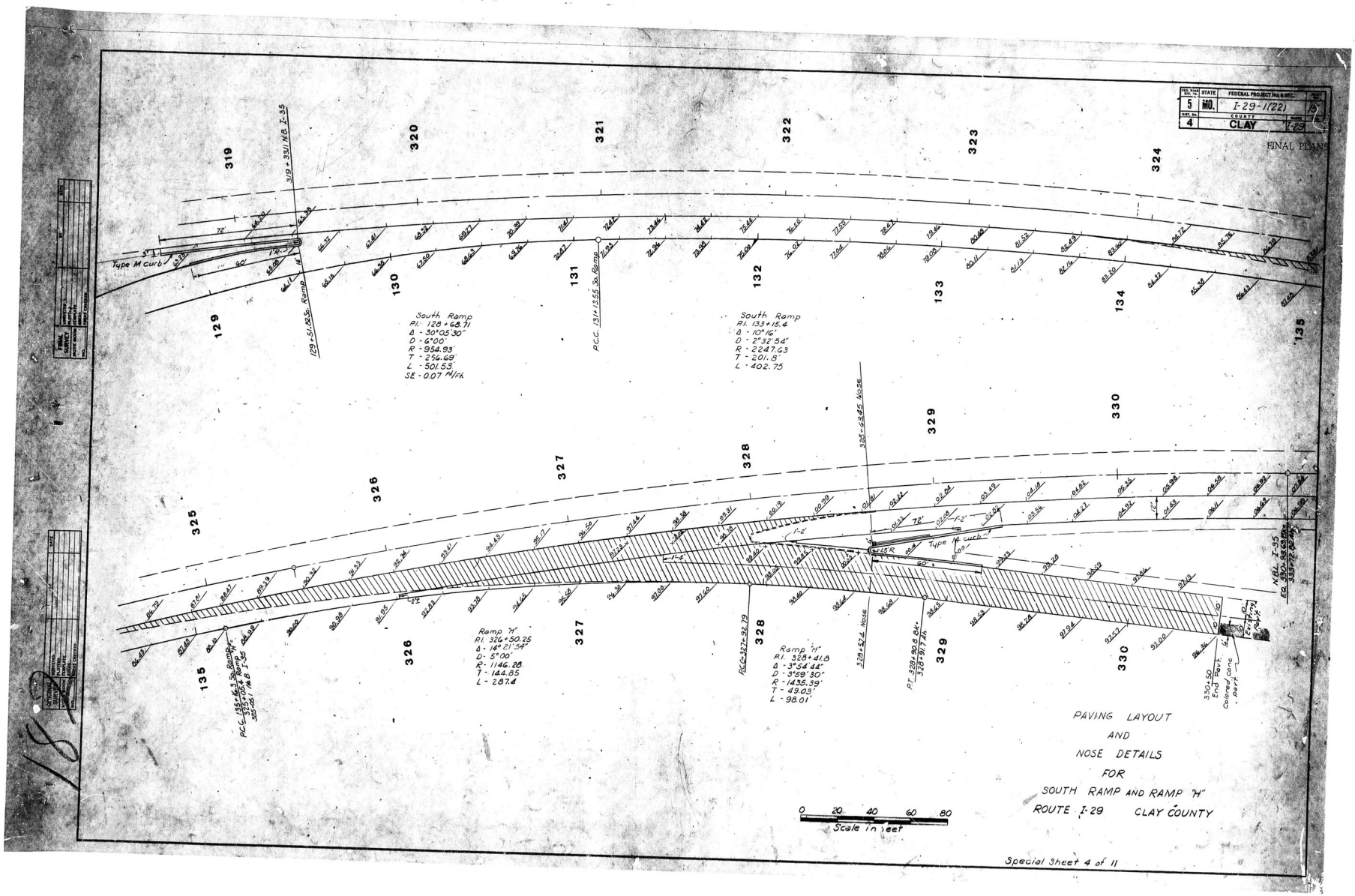
Special Sheet 3 of 12

FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

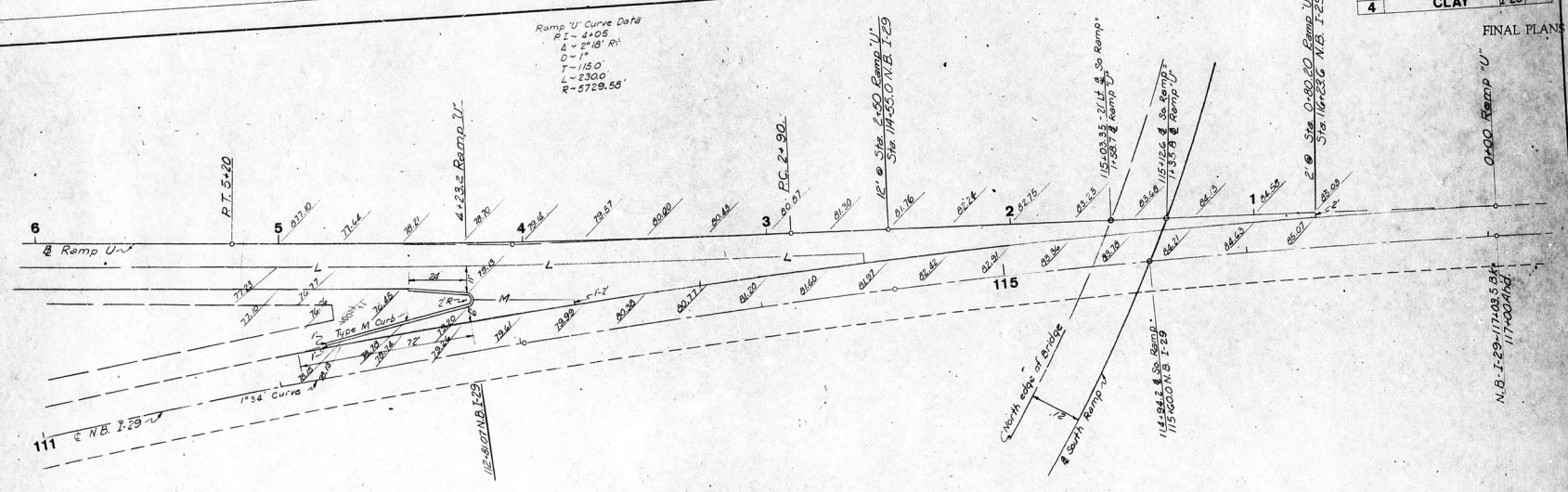
181

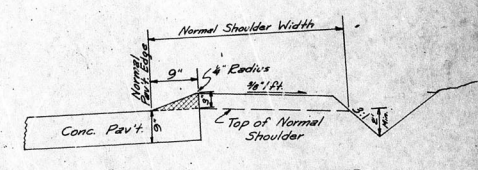
506


STATE
FEDERAL PROJECT No.
5
NO.
I-29-1(22)
COUNTY
CLAY
4
FINAL PLANS
South Ramp
PI. 129 + 68.71
Δ - 30°05'30"
D - 6°00'
R - 954.93'
T - 254.69'
L - 501.53'
SE - 0.07 ft/ft.
South Ramp
PI. 133+15.4
Δ - 10°16'
D - 2°32'54"
R - 2247.63
T - 201.8'
L - 402.75
Ramp "H"
PI. 326+50.25
Δ - 14°21'54"
D - 5°00'
R - 1146.28
T - 144.85
L - 287.4
Ramp "H"
PI. 328+41.8
Δ - 3°54'44"
D - 3°59'30"
R - 1435.39'
T - 49.03'
L - 98.01'
Type M curb
Type M curb
PAVING LAYOUT
AND
NOSE DETAILS
FOR
SOUTH RAMP AND RAMP "H"
ROUTE I-29 CLAY COUNTY
0 20 40 60 80
Scale in Feet
Special Sheet 4 of 11

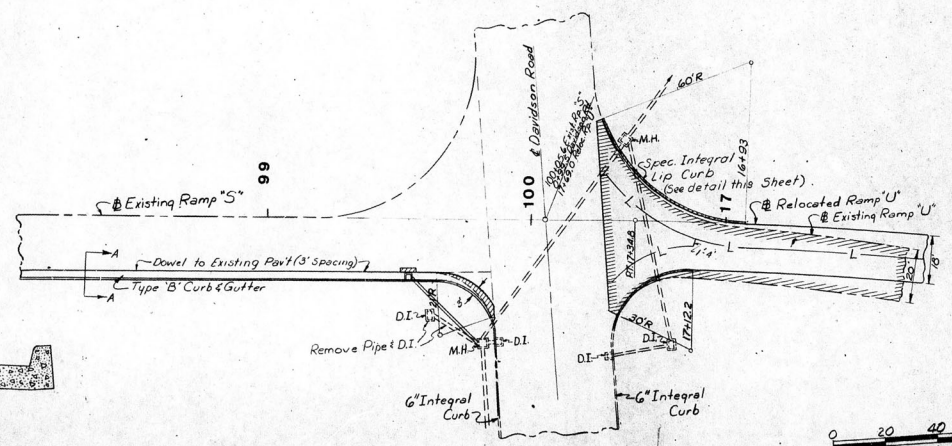
FED. ROAD DIV. No.	STATE	FEDERAL PROJECT No. & SEC.	SHEET No.
5	MO.	I-29 1(22)	16
DIST. No.		COUNTY	ROUTE
4		CLAY	I-29

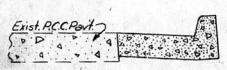
FINAL PLANS





SPECIAL INTEGRAL LIP CURB





SECTION A-A

Pavement Removal

0 20 40 60 80
Scale in feet

PAVING LAYOUT
AND
NOSE DETAILS
FOR
RAMP "U"
Route I-29 Clay County

Special Sheet 5 of 12

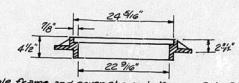
FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

183

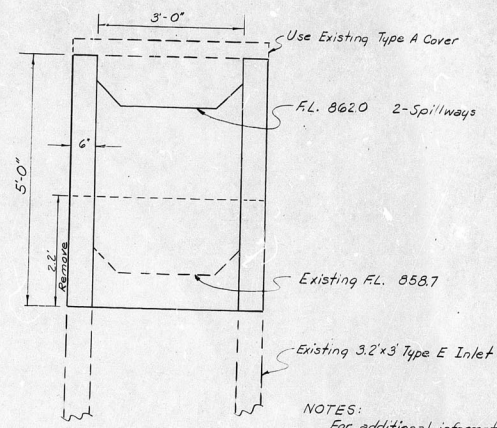
FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	17
DIST. NO.		COUNTY	ROUTE / SEC.
4		CLAY	I-29

FINAL PLANS



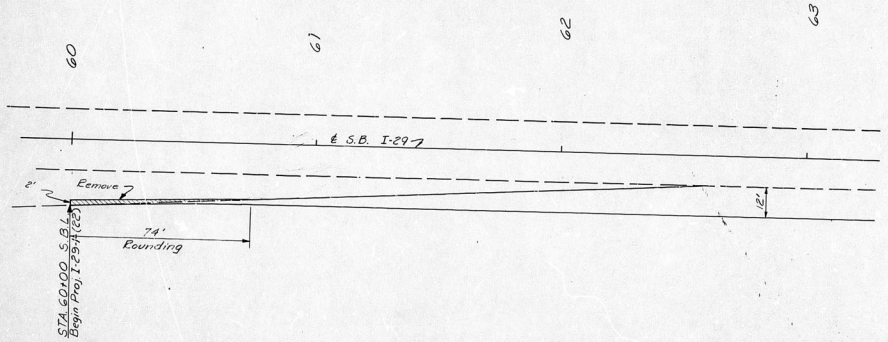
Note: Manhole frame and cover shown is Kansas City Standard. Cover is "Standard 24", Kansas City, Mo. Clay & Bailey No. 2006 or equivalent. Approximate weight = 330 Lbs.

TYPE 4 MANHOLE FRAME & COVER



INLET ADJUSTMENT
STA. 82+60
78.5' Rt. S.B. I-35

NOTES:
For additional information see Standard Drawing 80.44
Tie new reinforcing steel to reinforcing in existing structure



PAVEMENT DETAILS SOUTH OF OAK STREET "ON" RAMP

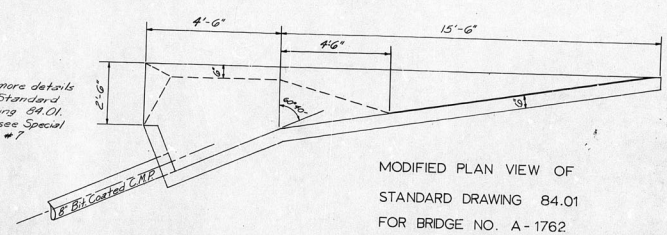
TABULATION OF QUANTITIES

Bar Bill	A	#4	4	3'-9"
	A	#4	8	4'-9"
	B	#4	10	3'-9"
	C	#4	12	3'-11"
	S	#6	4	2'-9"

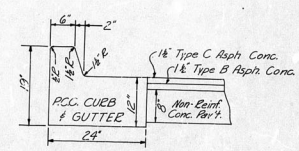
Conc. = 1.2 Cu. Yds.
Steel = 110 Lbs.

NOTE:
These drawings are not To Scale ~ Follow dimensions.

Note:
For more details See Standard Drawing 84.01. Also see Special Sheet #7



MODIFIED PLAN VIEW OF
STANDARD DRAWING 84.01
FOR BRIDGE NO. A-1762



SECTION A-A
(Plan Sheet #4)

Special Sheet 6 of 12

FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

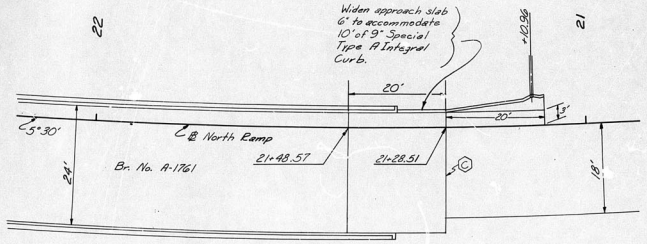
ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

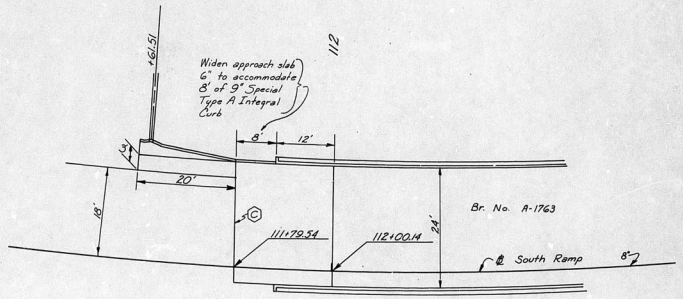
184

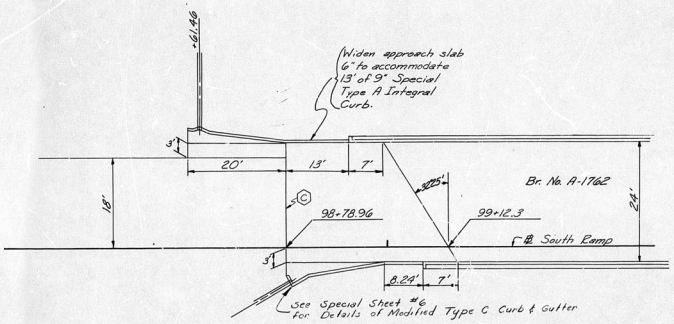
596

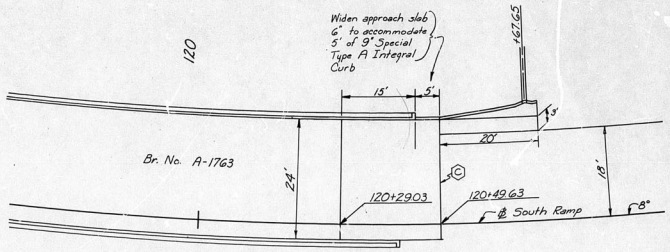
FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	18
DIST. NO.	COUNTY	ROUTE	SEC.
4	CLAY	129	

FINAL PLANS









Note: For details not shown on this drawing See std. drawings 48.30 & 84.01.

Scale in Feet
-10 0 10 20

APPROACH SLAB DETAILS

SPECIAL SHEET NO. 7 OF 12

ORIGINAL SURVEY	BY	DATE
SURVEYED		
NOTES		
NOTE BOOK		
AREA		
NO.	AREA CHECKED	

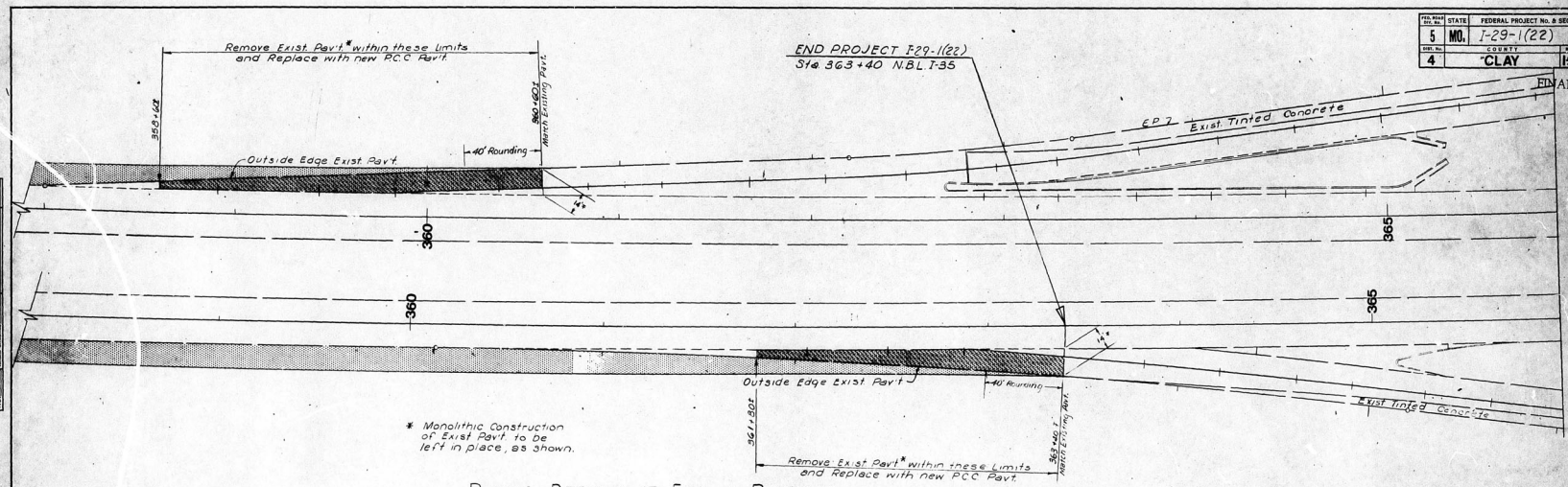
FINAL SURVEY	BY	DATE
SURVEYED		
NOTES		
NOTE BOOK		
AREA		
NO.	AREA CHECKED	

185

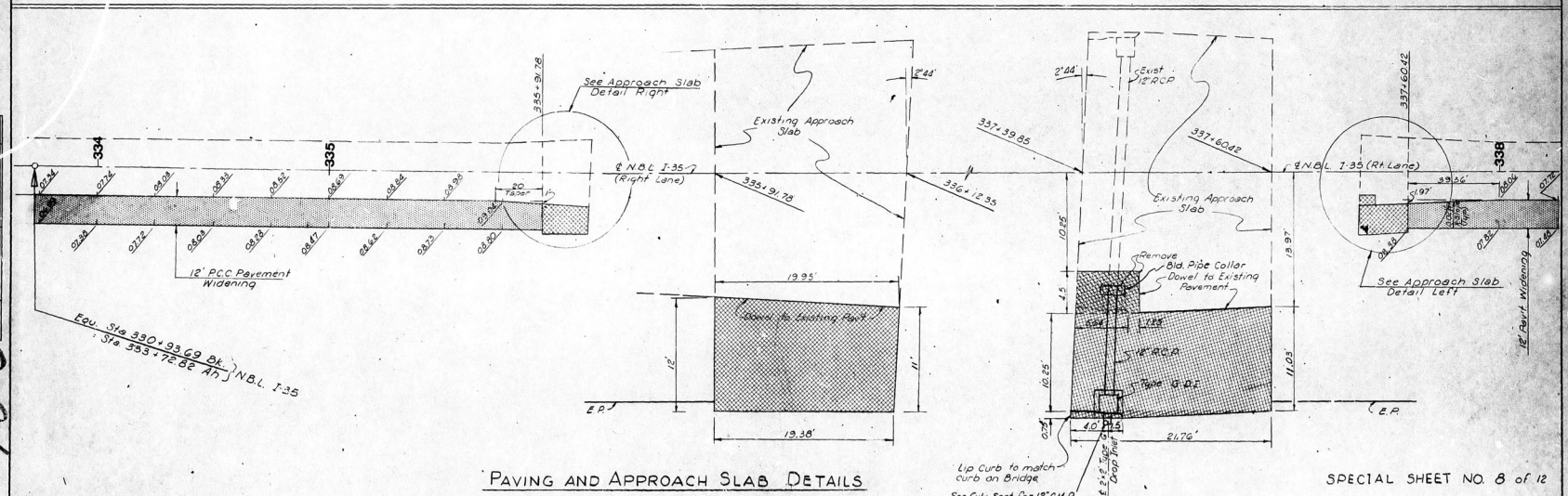
570

FED. ROAD SYS. No.	STATE	FEDERAL PROJECT No. & SEC.	SHEET No.
5	MO.	I-29-1(22)	19
SHT. No.	COUNTY	ROUTE	SEC.
4	CLAY	129	

FINAL PLANS

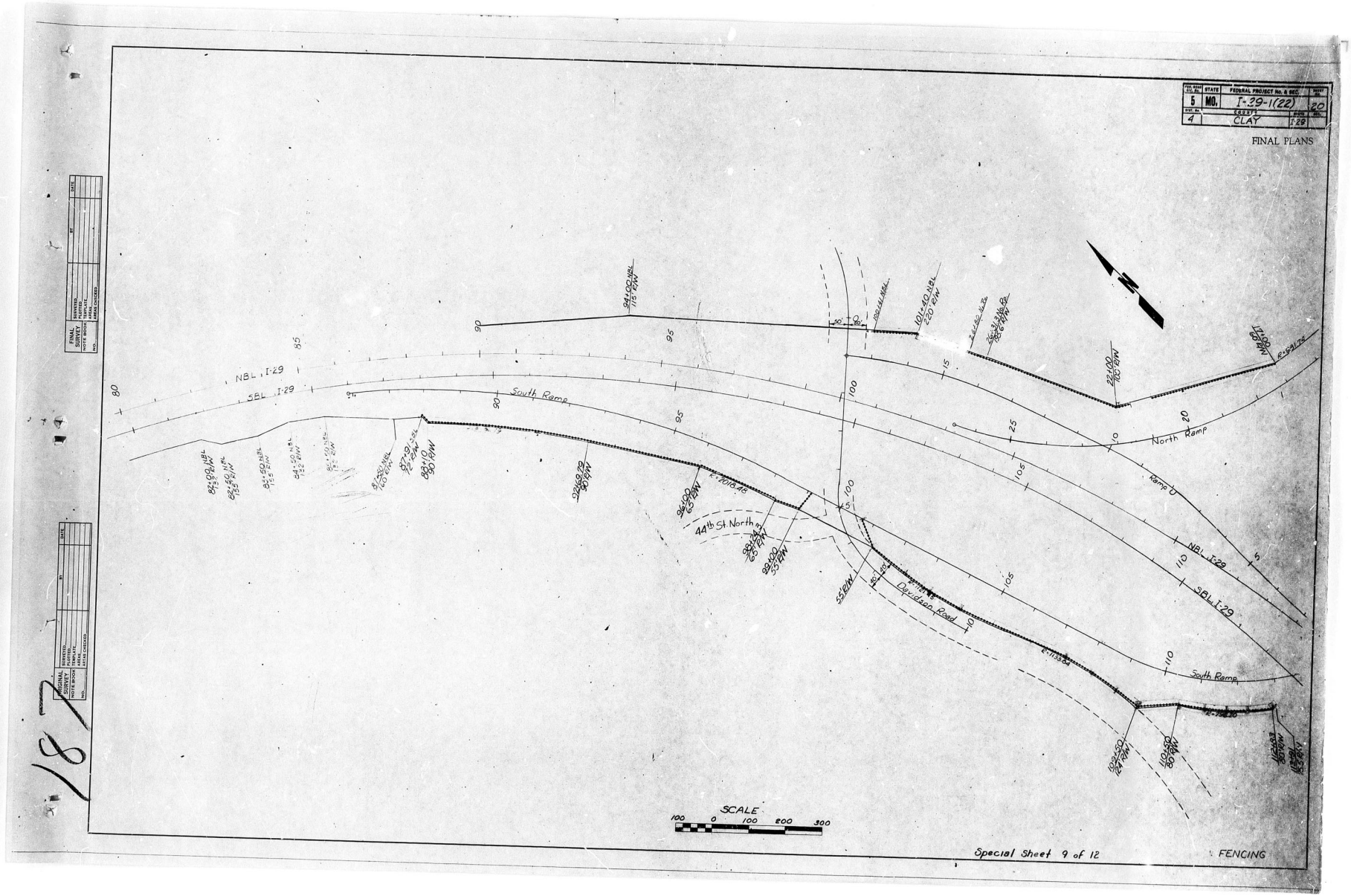


PAVING DETAILS AT END OF PROJECT



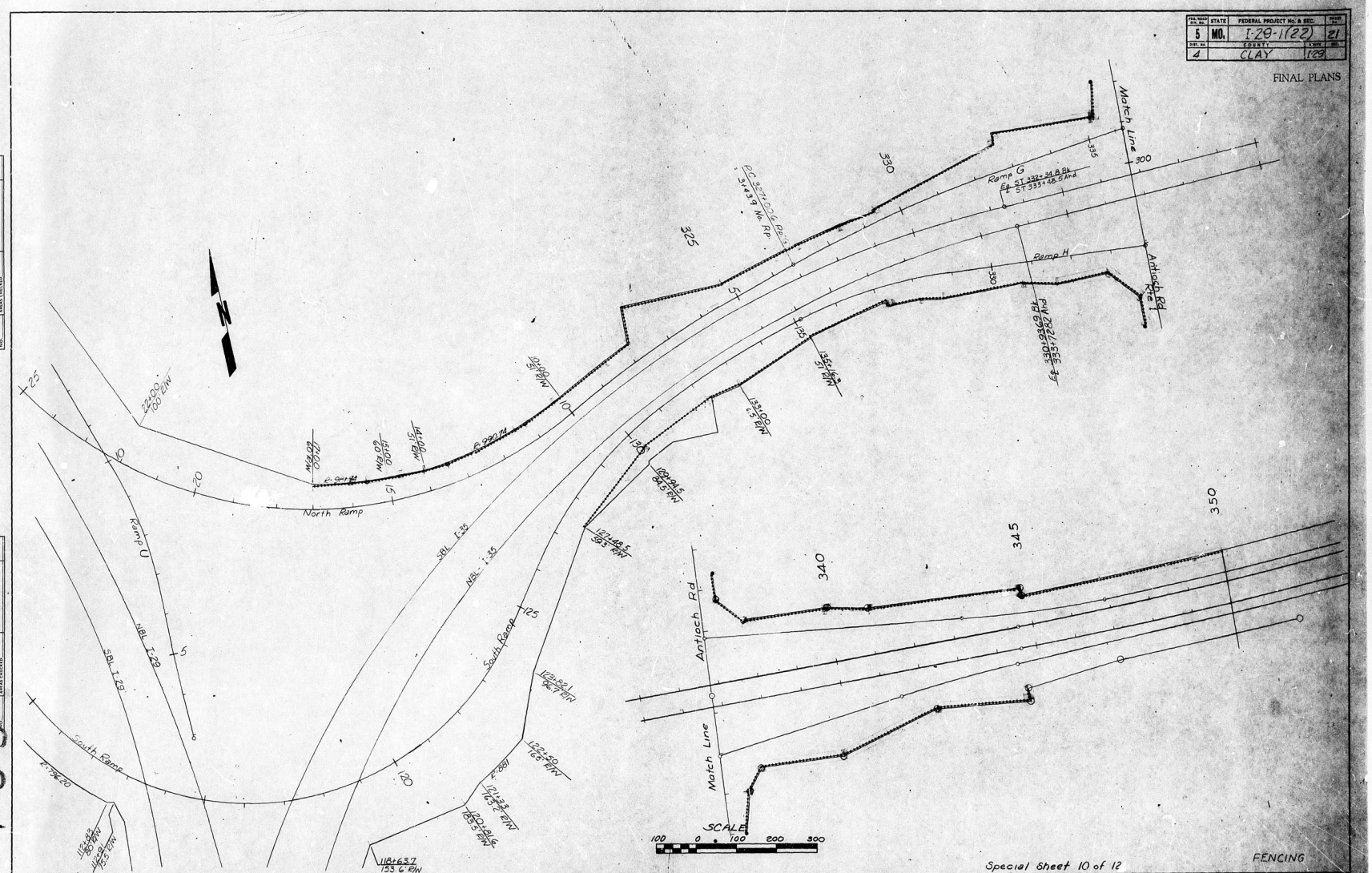
PAVING AND APPROACH SLAB DETAILS

SPECIAL SHEET NO. 8 of 12


FINAL PLANS
NBL I-29
SBL I-29
South Ramp
North Ramp
Ramp U
44th St North
Davidson Road
SCALE
100 0 100 200 300
Special Sheet 9 of 12
FENCING

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	21
DIST. NO.		COUNTY	S. DIST.
4		CLAY	I-29

FINAL PLANS



Special Sheet 10 of 12

FENCING

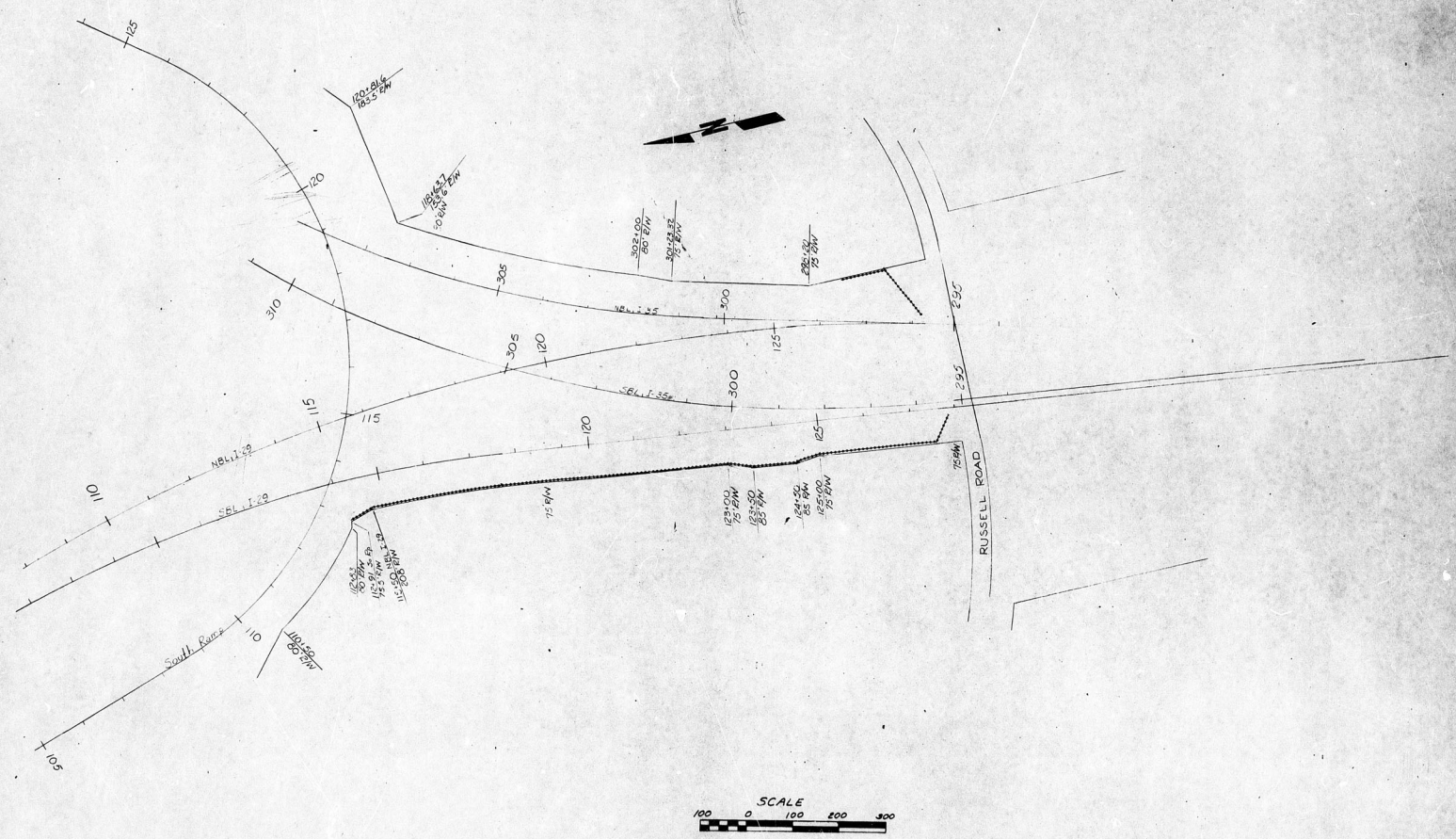
FINAL SURVEY | NOTE BOOK | NO. | SURVEYED | PLOTTED | TEMPLATE | AREAS | AREAS CHECKED | BY | DATE

ORIGINAL SURVEY | NOTE BOOK | NO. | SURVEYED | PLOTTED | TEMPLATE | AREAS | AREAS CHECKED | BY | DATE

188

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	22
DIST. NO.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS



Special Sheet 11 of 12

FENCING

FINAL SURVEY NOTE BOOK NO. SURVEYED PLOTTED TEMPLATE AREAS AREAS CHECKED BY DATE

ORIGINAL SURVEY NOTE BOOK NO. SURVEYED PLOTTED TEMPLATE AREAS AREAS CHECKED BY DATE

189

596

B SHEET

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
S-S	MO.	I-29-1(22)	24
COUNTY		ROUTE	SEC.
CLAY		I-29	

Plan Sheet 1 of 6

13

HIGHWAY LIGHTING

FINAL PLANS

24B

POLES AND LUMINAIRES

Pole No.	Location	Side	Poles Conc. A-30	Conc. Fdn. (Pole)	Bracket Arms 6'	Bracket Arms 10'	*240 V. Internal Ballast 250 W. Luminaires* Distribution Type III M.S
101 B	89+01 South Ramp	Rt.	1	1	1		1
102 B	90+95 I-29 (S.B.)	Rt.	1	1		1	1
103 B	90+25 I-29 (N.B.)	Lt.	1	1		1	1
104 B	89+00 I-29 (N.B.)	Lt.	1	1		1	1
105 B	93+62 I-29 (S.B.)	Rt.	1	1		1	1
106 B	95+40 I-29 (S.B.)	Rt.	1	1		1	1
107 B	97+90 I-29 (N.B.)	Lt.	1	1	1		1
108 B	99+15 I-29 (N.B.)	Lt.	1	1	1		1
109 B	26+68 North Ramp	Rt.	1	1	1		1
		TOTALS =	9	9	4	5	9

RIGID STEEL CONDUIT

Circuit No.	Location	2" In Trench	2" Pushed
100 B	90+76± South Ramp	22'	—
"	90+95± S.B.L. I-29	—	44'
"	91+25± N.B.L. I-29	—	56'
"	95+45± Exist. Ramp "T"	—	32'
"	95+45± S.B.L. I-29	—	40'
"	95+88± N.B.L. I-29	—	40'
	TOTALS =	22'	212'

CABLE, CABLE-CONDUIT & TRENCHING AND BACKFILLING

Circuit No.	1" Cable-Conduit with 2 #8 Conductors	1-C. #10 P&B Cable	Trenching & Backfilling Type II	Trenching & Backfilling Type III
100 B	TOTALS = 2290 L.F.	688 L.F.	1558 L.F.	137 L.F.

190

120/240 VOLT POLE MOUNTED CONTROL STATION (STD. 70.18A) ~ 1 Each

AND

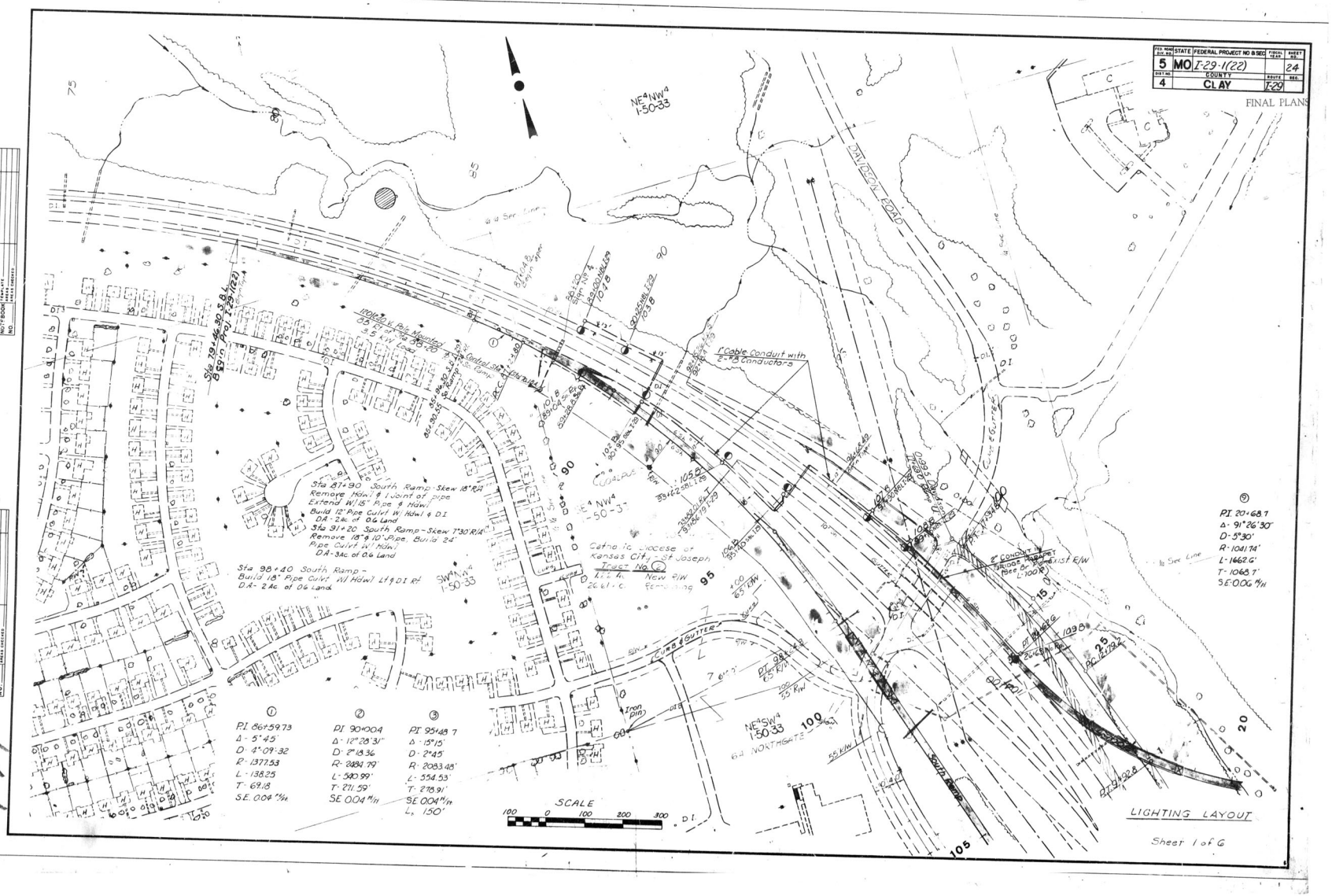
30' CLASS 4 SERVICE POLE ~ 1 Each

(85' Rt. of Sta. 88+20 ℄ South Ramp)

Circuit No. 100 B: 30 Amp Circuit Breakers (Trip Rating)

596

1 TO 12


FED. ROAD DIST. NO. 5
STATE MO
FEDERAL PROJECT NO & SEC I-29-1(22)
FISCAL YEAR
SHEET NO. 24
DIST. NO. 4
COUNTY CLAY
ROUTE I-29
REG.
FINAL PLANS
DAN CROW ROAD
NE¼NW¼ 1-50-33
NE¼SW¼ 1-50-33
SW¼NW¼ 1-50-33
SE¼NW¼ 1-50-33
Sta 87+90 South Ramp - Skew 18° RA
Remove Hdwl & 1 Joint of pipe
Extend W 18" Pipe & Hdwl
Build 12" Pipe Culvt W Hdwl & DI
DA - 21ac of 0G Land
Sta 91+20 South Ramp - Skew 130° RA
Remove 18" & 10" Pipe, Build 24"
Pipe Culvt W Hdwl
DA - 3ac of 0G Land
Sta 98+40 South Ramp -
Build 18" Pipe Culvt, W Hdwl, LH & DI Rt
DA - 24c of 0G Land
Catholic Diocese of Kansas City 1st Joseph
Tract No. 2
New R/W remaining
26.61 - c
1 cable Conduit with 5-#3 conductors
2" CONDUIT IN BRIDGE RAILING
EXIST E/W
SOUTH RAMP
NORTHGATE
CURB & GUTTER
SCALE
100 0 100 200 300
LIGHTING LAYOUT
Sheet 1 of 6
① P.I. 86+59.73 Δ - 5°45' D - 4°09'32" R - 1377.53 L - 138.25 T - 69.18 SE. 004 ft/ft
② P.I. 90+00.4 Δ - 12°28'31" D - 2°18.36 R - 2484.79' L - 540.99' T - 271.59' SE 004 ft/ft
③ P.I. 95+48.7 Δ - 15°15' D - 2°45' R - 2083.48' L - 554.53' T - 278.91' SE 004 ft/ft L = 150'
⑨ P.I. 20+68.7 Δ - 91°26'30" D - 5°30' R - 1041.74' L - 1662.6' T - 1068.7' SE 006 ft/ft
FINAL SURVEY PLOTTED TRACED NOTEBOOK CHECKED NO.
ORIGINAL SURVEY PLOTTED TRACED NOTEBOOK CHECKED NO.

B SHEET

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5-S	MO.	I-29-1(22)	25
COUNTY		ROUTE	SEC.
CLAY		I-29	

Plan Sheet 2 of 6

14

HIGHWAY LIGHTING @ RUSSELL ROAD

FINAL PLANS

25B

POLES AND LUMINAIRES

240 V. Internal Ballast 250 W. Luminaires Distribution Type III M.S

Pole No.	Location	Side	Poles A-30	Cond. Extn. (Pole)	Bracket Arms 6'	Bracket Arms 10'	Remarks
101C	127+00 I-29 (S.B.)	Rt.	1	1		1	
102C	125+00 I-29 (S.B.)	Rt.	1	1		1	
103C	112+00 I-29 (S.B.)	Rt.	1	1		1	
104C	109+09 I-29 (S.B.)	Rt.	1	1		1	
105C	3+98 Ramp "U"	Rt.	1	1	1		
106C	111+30 I-29 (N.B.)	Lt.	1	1		1	
201C	300+43 I-35 (N.B.)	Rt.	1	1		1	
202C	302+15 I-35 (N.B.)	Lt.	1	1		1	
203C	121+75 I-29 (N.B.)	Lt.	1	1		1	
301C	290+00 I-35 (N.B.)	Rt.	1	1		1	
302C	285+73 I-35 (N.B.)	Rt.	1	1		1	
303C	284+01 Ramp "F"	Rt.	1	1		1	
401C	289+63 I-35 (S.B.)	Lt.	1	1		1	
402C	287+93 I-35 (S.B.)	Lt.	1	1		1	
403C	280+00 I-35 (S.B.)	Lt.	1	1		1	
404C	278+75 I-35 (S.B.)	Lt.	1	1		1	
	TOTALS =		16	16	1	15	

Pole No.	Type III	Remarks
101C	1	
102C	1	
103C	1	
104C	1	See Plan Sheet No. 26
105C	1	
106C	1	
201C	1	
202C	1	
203C	1	
301C	1	
302C	1	
303C	1	
401C	1	
402C	1	
403C	1	
404C	1	
	16	

RIGID STEEL CONDUIT

Circuit No.	Location	2" In Trench	2" Pushed
100C	53+60± Russell Rd.	—	40'
100C	112+08± S.B.L. I-29	—	44'
100C	3+90± Ramp "U" & NBL	50'	38'
100C	5+75± Ramp "U"	22'	—
200C	56+28± Russell Rd.	—	40'
200C	302+00± I-35 (N.B.)	—	44'
300C	55'± East of I-35 & Rp. F	—	36'
300C	284+65± Off Ramp F	—	32'
400C	290+30± off Ramp E	—	36'
400C	283+20± On Ramp "E"	—	32'
	TOTALS =	52'	342'

CONCRETE HANDHOLES

Handhole No.	Location	Side	Type B
HH-1	56+28± Russell Rd.	28' Rt. of E.P.	1
HH-2	293+15 I-35 (S.B.)	Lt. (W. Side)	1
HH-3	283+20 Ramp "E"	Lt. (W. Side)	1
HH-4	121+00 I-29 (S.B.)	Rt. (W. Side)	1
HH-5	116+50 I-29 (S.B.)	Rt. (W. Side)	1
See Plan Sht. #26		TOTAL =	5

CABLE, CABLE-CONDUIT & TRENCHING AND BACKFILLING

Circuit No.	1" Cable-Conduit with 2#8 Conductors	#10 #8 Cable	Trenching & Backfilling Type II	Trenching & Backfilling Type III	Junction Boxes	Remarks
100C	2850	472	2250	11		*
200C	970	240	805		1	* (for connecting to Exist. Sign Truss)
300C	1200	232	1082		1	* (for connecting to Exist. Sign Truss)
400C	1970	304	1851			
TOTALS =	6990	1248	5988	11	2	

Also See Pl. Sht. #26

CIRCUIT BREAKERS

Circuit No.	Trip Rating
100C	15 A.
200C	15 A.
300C	15 A.
400C	10 A.

240 VOLT POLE MOUNTED CONTROL STATION (STD. 70.23) ~ 1 Each AND

30' CLASS 4 SERVICE POLE ~ 1 Each

(28' Rt. of E.P. @ Sta. 56+32 ± Russell Rd.)

596

1 TO 12

FED. ROAD DIST. No.	STATE	FEDERAL PROJECT No. & SEC.	SHEET No.
5	MO.	I-29-1(22)	25
DIST. No.		COUNTY	SHEET No.
4		CLAY	I-29

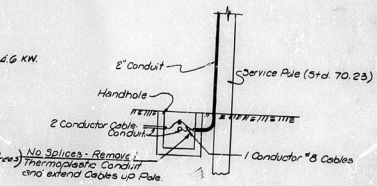
FINAL PLANS

GENERAL NOTES:

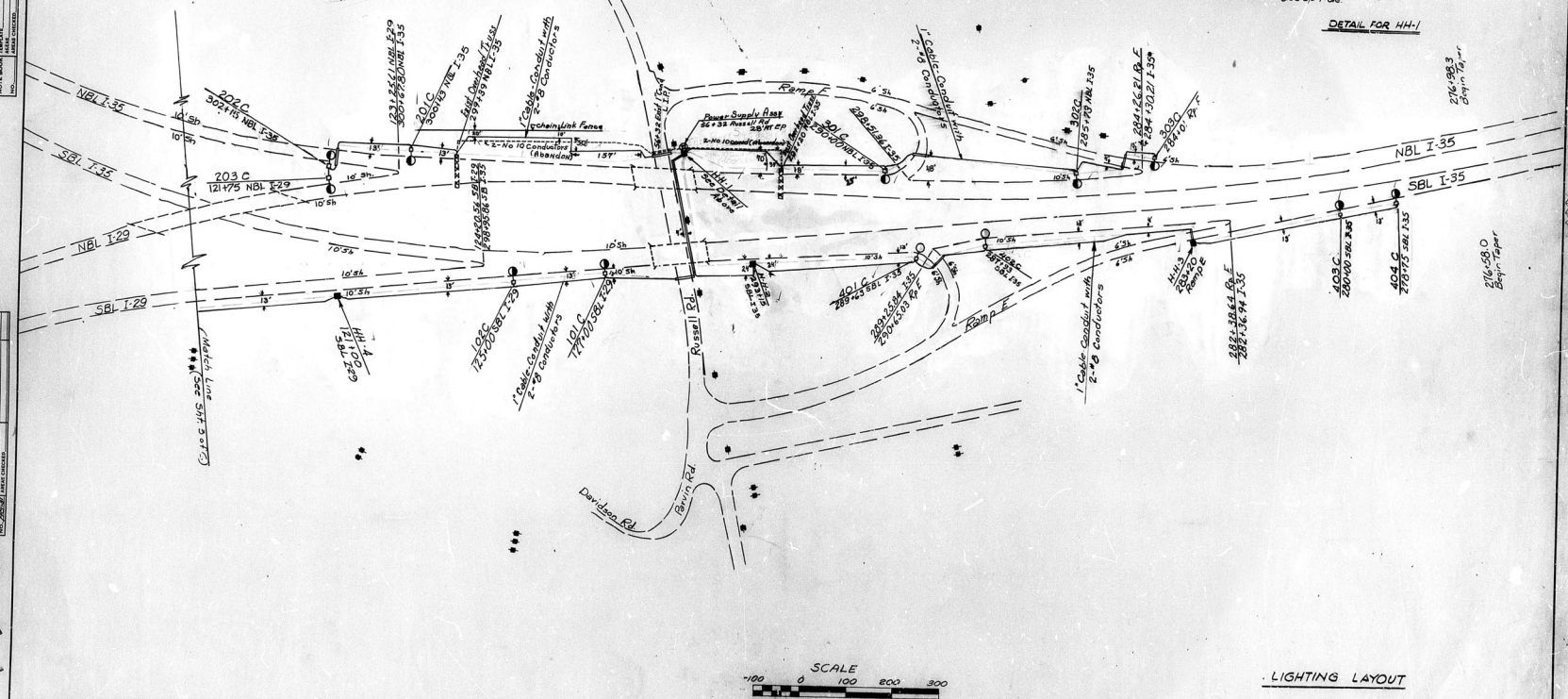
* Removed Exist. Power Supply Assembly and replaced with New Pole Mounted Control Station (240 Volt) (Std. 70.23). Additional Load 4.6 KW.

Disconnected Exist. No. 10 Direct Burial Cable from Power Source and Trusses and Abandoned. Connected Trusses to new circuits. No direct Payment.

* Removal of Exist. Power Supply Assembly And Service Pole [redacted] Included Under ITEM 24300, Miscellaneous Removals (Urban Areas)



DETAIL FOR HH-1



LIGHTING LAYOUT

Sheet 2 of 6

193

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

596

B SHEET

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5-S	MO.	I-29-1(22)	26 27
COUNTY		ROUTE	SEC.
CLAY		I-29	

Plan Sheets 3 & 4 of 6

15

HIGHWAY LIGHTING

FINAL PLANS

26B

POLES AND LUMINAIRES

Pole No.	Location	Side	Poles A-30	Conc. Fdn. (Pole)	Bracket Arms 6'	Bracket Arms 10'	*240 V. Internal Ballast 250 W. Luminaires* Distribution Type III
302A	330+15 I-35 (N.B.)	Rt.	1	1	1		1
303A	328+32 Ramp "H"	Rt.	1	1	1		1
304A	131+14 South Rp.	Rt.	1	1	1		1
305A	11+45 North Rp.	Rt.	1	1	1		1
306A	317+35 I-35 (S.B.)	Lt.	1	1		1	1
	TOTALS		5	5	4	1	5

CONCRETE HANDHOLE

Handhole No.	Loc.	Type B
H-2	134+00 S. Ramp Rt.	1
	TOTAL	1

CABLE, CABLE-CONDUIT & TRENCHING AND BACKFILLING

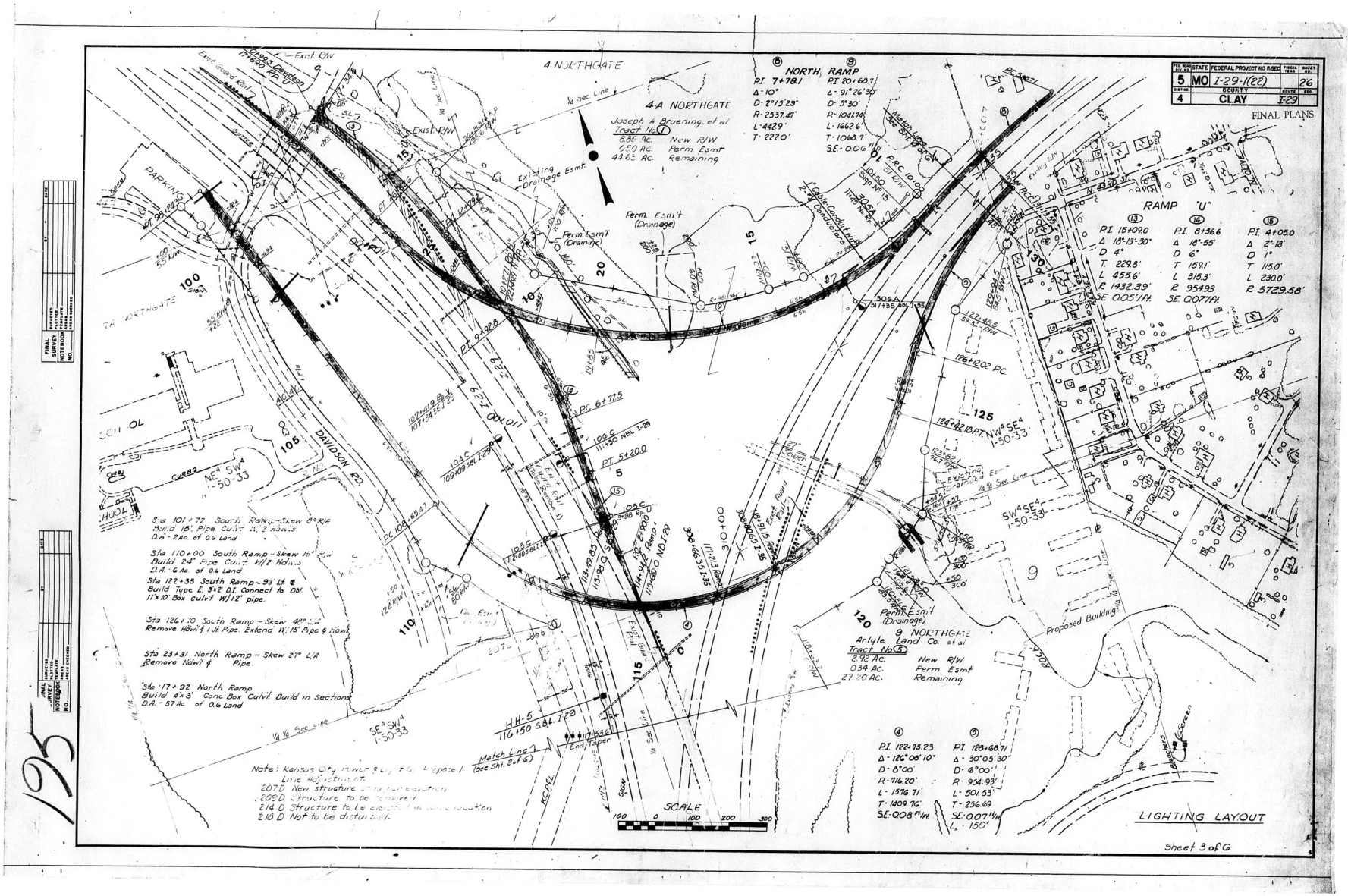
Circuit No.	1" Cable-Conduit w/2-#4 Condtrs	1C-#10 #8 Cable	Trenching & Backfilling Type II	Type III
300A	2,270'	368	1821	
TOTALS	2,270'	368'	1821	

RIGID STEEL CONDUIT

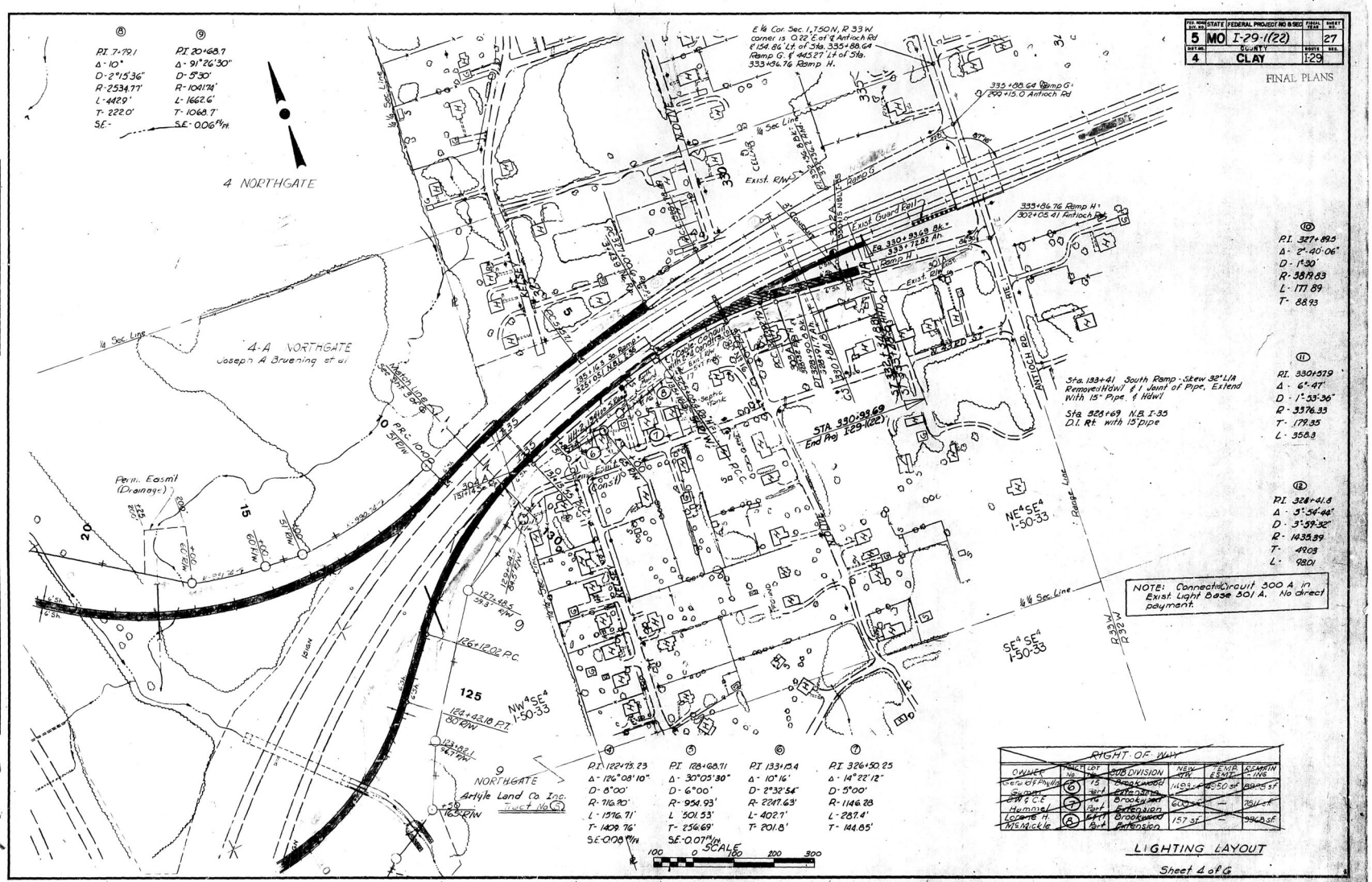
Location	2" In Trench	2" Pushed	3" In Trench
330+06 Ramp H	—	—	24'
131+14 South Rp. & NB I-35	16'	34'	—
8+04± North Rp. & S.B. I-35	14'	34'	—
13+00 North Ramp	22'	—	—
TOTALS	52'	68'	24'

596

1 TO 12


FED. ROAD DIST. NO. 5
STATE MO
FEDERAL PROJECT NO. R-SEC I-29-1(22)
FISCAL YEAR
SHEET NO. 26
DIST. NO. 4
COUNTY CLAY
ROUTE I-29
SEC.
FINAL PLANS
4 NORTHGATE
4-A NORTHGATE
Joseph A Bruening, et al
Tract No 1
0.82 Ac. New R/W
2.50 Ac. Perm. Esmt
44.65 Ac. Remaining
NORTH RAMP
P.I. 7+78.1
Δ - 10°
D - 2°15'29"
R - 2537.47'
L - 442.9'
T - 222.0'
RAMP
P.I. 20+60.71
Δ - 91°26'30"
D - 5°30'
R - 1041.76'
L - 1662.6'
T - 1068.7'
SE - 0.06 ft/ft
RAMP "U"
P.I. 15+09.0
Δ 18°-13'-30"
D 4°
T 229.8'
L 455.6'
R 1432.39'
SE 0.05'/ft
P.I. 8+36.6
Δ 18°-55'
D 6°
T 159.1'
L 315.3'
R 954.93
SE 0.07'/ft
P.I. 4+05.0
Δ 2°-18'
D 1°
T 115.0'
L 230.0'
R 5729.58'
9 NORTHGATE
Arlyle Land Co. et al
Tract No 3
2.92 Ac. New R/W
0.34 Ac. Perm. Esmt
27.20 Ac. Remaining
P.I. 122+73.23
Δ - 126°08'10"
D - 8°00'
R - 716.20'
L - 1576.71'
T - 1409.76'
SE - 0.08 ft/ft
P.I. 128+68.71
Δ - 30°05'30"
D - 6°00'
R - 954.93'
L - 501.53'
T - 256.69
SE - 0.07 ft/ft
L - 150'
DAVIDSON RD.
SCHOOL
PARKING
NE¼ SW¼ 1-50-33
SE¼ SW¼ 1-50-33
SW¼ SE¼ 1-50-33
NW¼ SE¼ 1-50-33
Sta 101+72 South Ramp - Skew 89° Rt Ahead
Build 18" Pipe Culvt W/2 Hdwls
D.A. - 2Ac. of 0.6 Land
Sta 110+00 South Ramp - Skew 15° Rt Ahead
Build 24" Pipe Culvt W/2 Hdwls
D.A. - 6 Ac. of 0.6 Land
Sta 122+35 South Ramp - 93° Lt @
Build Type E 3'-2" D.I. Connect to Dbl
11'x10' Box culvt W/12" pipe.
Sta 126+70 South Ramp - Skew 42° Lt Ahead
Remove Hdwl & 1-24" Pipe. Extend W. 15" Pipe & Hdwl
Sta 23+31 North Ramp - Skew 27° Lt Ahead
Remove Hdwl & Pipe.
Sta 17+92 North Ramp
Build 4'x3' Conc. Box Culvt. Build in Sections
D.A. - 57 Ac. of 0.6 Land
Note: Kansas City Power & Light Co. (Explore) Line Holdings Inc.
207 D New structure at this location
208 D Structure to be removed
214 D Structure to be extended in same location
218 D Not to be disturbed
SCALE
100 0 100 200 300
LIGHTING LAYOUT
Sheet 3 of 6
FINAL SURVEY NOTEBOOK NO.
195

596


FED. ROAD DIST. NO. 5 | STATE MO | FEDERAL PROJECT NO. & SEC. I-29-1(22) | FISCAL YEAR | SHEET NO. 27
DIST. NO. 4 | COUNTY CLAY | ROUTE NO. I-29
FINAL PLANS
⑧ P.I. 7+79.1 Δ - 10° D - 2°15'36" R - 2534.77' L - 442.9' T - 222.0' S.E. -
⑨ P.I. 20+68.7 Δ - 91°26'30" D - 5°30' R - 1041.74' L - 1662.6' T - 1068.7' S.E. - 0.06 ft/ft
4 NORTHGATE
4-A NORTHGATE Joseph A Bruening et ux
E ¼ Cor. Sec. 1, T50N, R 33W corner is 0.22' E of ℄ Antioch Rd
E 154.86' Lt. of Sta. 335+88.64 Ramp G & 445.27' Lt of Sta. 333+86.76 Ramp H.
335+88.64 Ramp G 200+15.0 Antioch Rd
333+86.76 Ramp H 302+05.41 Antioch Rd
Exist. R/W
Exist. Guard Rail
Exist. 12in W
Exist. 8in W
Exist. 6in W
Exist. 8in S
Exist. 12in S
Exist. 8in Gas
Exist. 6in Gas
Exist. 12in Gas
Exist. 8in Sanitary Sewer
Exist. Fire Hydrant
Exist. Gas Valve
Exist. Gas Meter
Exist. Power Pole
Exist. Guy Anchor
Exist. Telephone Pedestal
Exist. Telephone Manhole
Exist. Telephone Booth
Exist. Telephone Riser
Exist. Telephone Cable Marker
Exist. Telephone Cable Pedestal
Exist. Telephone Cable Riser
Exist. Telephone Cable Manhole
Exist. Telephone Cable Booth

P. SHEET

Plan
Sheet 5 of 6

16

FINAL PLANS

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5-S	MO.	I-29-1(22)	28
COUNTY		ROUTE	SEC.
CLAY		I-29	

HIGHWAY LIGHTING

POLES AND LUMINAIRES

* 240 V. Internal Ballast 250 W. Luminaires* Distribution Type III

Pole No.	Location	Side	Poles A-30	Conc. Fdn. (Pole)	Bracket Arms 6'	Bracket Arms 10'	250 W. Luminaires* Distribution Type III
103 A	3+80 Ramp 4	Rt.	1	1	1		1
104 A	9+67 Ramp 4	Rt.	1	1	1		1
205 A	341+60 I-35 (S.B.)	Lt.	1	1		1	1
206 A	13+53 Ramp 3	Rt.	1	1	1		1
		TOTALS	4	4	3	1	4

RIGID STEEL CONDUIT

Location	In Trench 3"
15+30 Ramp 3	22"
TOTAL	22'

CABLE, CABLE-CONDUIT & TRENCHING AND BACKFILLING

Circuit No.	1 Cable-Conduit w/2-#4 Condtrs.	1-C #10 P&B Cable	Trenching & Backfilling Type II	Trenching & Backfilling Type III
100 A	1930	144	1609	15
200 A	840	152	751	
TOTALS	2770	296	2360	15

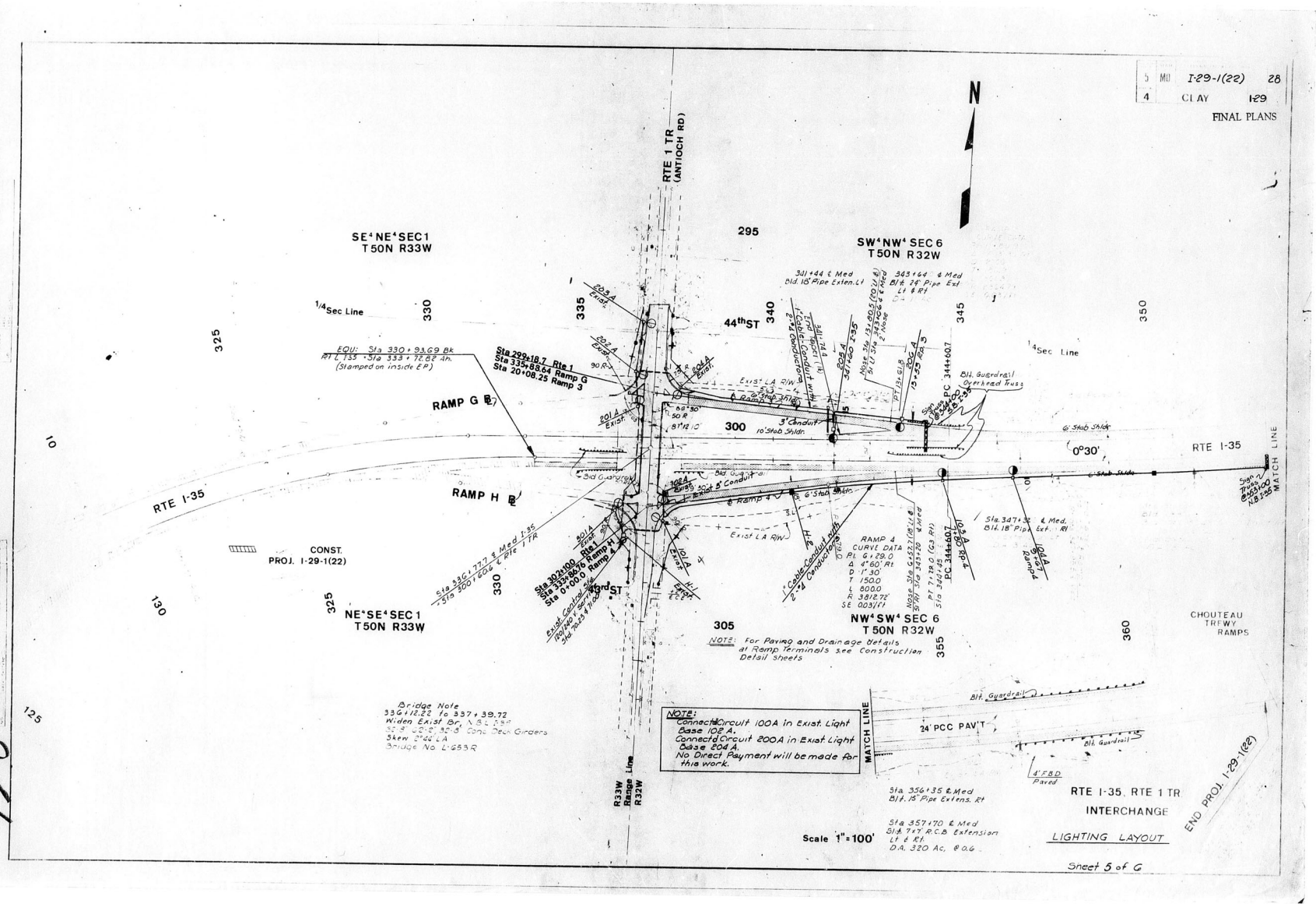
CONCRETE HANDHOLE

Handhole No.	Location	Side	Type B
H-2	3+80 Ramp 4	Rt.	1
H-3	350+00 N.B. I-35	Rt.	1
	TOTAL		2

28B

596

1 TO 12



5 MO I-29-1(22) 28
4 CLAY 129
FINAL PLANS
N
RTE 1 TR (ANTIOCH RD)
SE⁴NE⁴SEC1 T50N R33W
SW⁴NW⁴SEC 6 T50N R32W
NE⁴SE⁴SEC1 T50N R33W
NW⁴SW⁴SEC 6 T50N R32W
1/4 Sec Line
44th ST
43rd ST
RAMP G
RAMP H
RTE I-35
0°30'
CONST. PROJ. I-29-1(22)
CHOUTEAU TRFWY RAMPS
MATCH LINE
R33W Range Line R32W
24' PCC PAV'T
Blt. Guardrail
4' FBD Paved
Bridge Note
336+12.22 to 337+39.72
Widen Exist Br.
Skew 2°44' LA
Bridge No. L-653R
NOTE: For Paving and Drainage Details at Ramp Terminals see Construction Detail sheets
NOTE: Connect Circuit 100A in Exist. Light Base 102 A. Connect Circuit 200A in Exist. Light Base 204 A. No Direct Payment will be made for this work.
Sta 356+35 ℄ Med Blt. 15" Pipe Extens. Rt
Sta 357+70 ℄ Med Blt. 7x7' R.C.B Extension Lt & Rt. D.A. 320 Ac. @ 0.6
Scale 1"=100'
RTE I-35, RTE 1 TR INTERCHANGE
LIGHTING LAYOUT
Sheet 5 of 6
END PROJ. I-29-1(22)

198

590

B SHEET

Plan

Sheet 6 of 6

17

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5-S	MO.	I-29-1(22)	29
COUNTY		ROUTE	SEC.
CLAY		I-29	

HIGHWAY LIGHTING @ CHOUTEAU TFWY. & I-35

FINAL PLANS

29B

POLES AND LUMINAIRES

240 V. Internal Ballast 250 W. Luminaires Distribution Type III

Pole No.	Location	Side	Poles A-30	Conc. F'dn. (Pole)	Bracket Arms 10'	
103 D	382+90 Ramp "N"	Rt.	1	1	1	1
104 D	384+25 I-35 (N.B)	Rt.	1	1	1	1
203 D	376+95 I-35 (S.B)	Lt.	1	1	1	1
206 D	379+30 Ramp "M"	Lt.	1	1	1	1
301 D	366+65 I-35 (N.B)	Rt.	1	1	1	1
302 D	364+90 Ramp "L"	Rt.	1	1	1	1
	TOTALS		6	6	6	6

RIGID STEEL CONDUIT

Location	Pushed 3"	
368+65 Ramp "L"	24'	Pushed in Wrong Location
366+65 Ramp "L"	24'	
377+60 Ramp "M"	24'	
TOTAL	72	

CABLE, CABLE CONDUIT & TRENCHING AND BACKFILLING

Circuit No.	1" Cable Conduit w/ 2-#8 Condtrs	1-C #10 PAB Cable	Trenching & Backfilling Type II	Type III
100 D	1213	160	1145	28
200 D	842	160	623	68
300 D	1025	160	846	
TOTALS	3080'	480'	2614	96'

CONCRETE HANDHOLES

Handhole No.	Location	Side	Type B
H-2	375+75 Ramp "M"	Lt.	1
H-3	368+80 Ramp "L"	Rt.	1
H-4	377+90 Ramp "N"	Rt.	1
	TOTAL		3

CIRCUIT BREAKERS

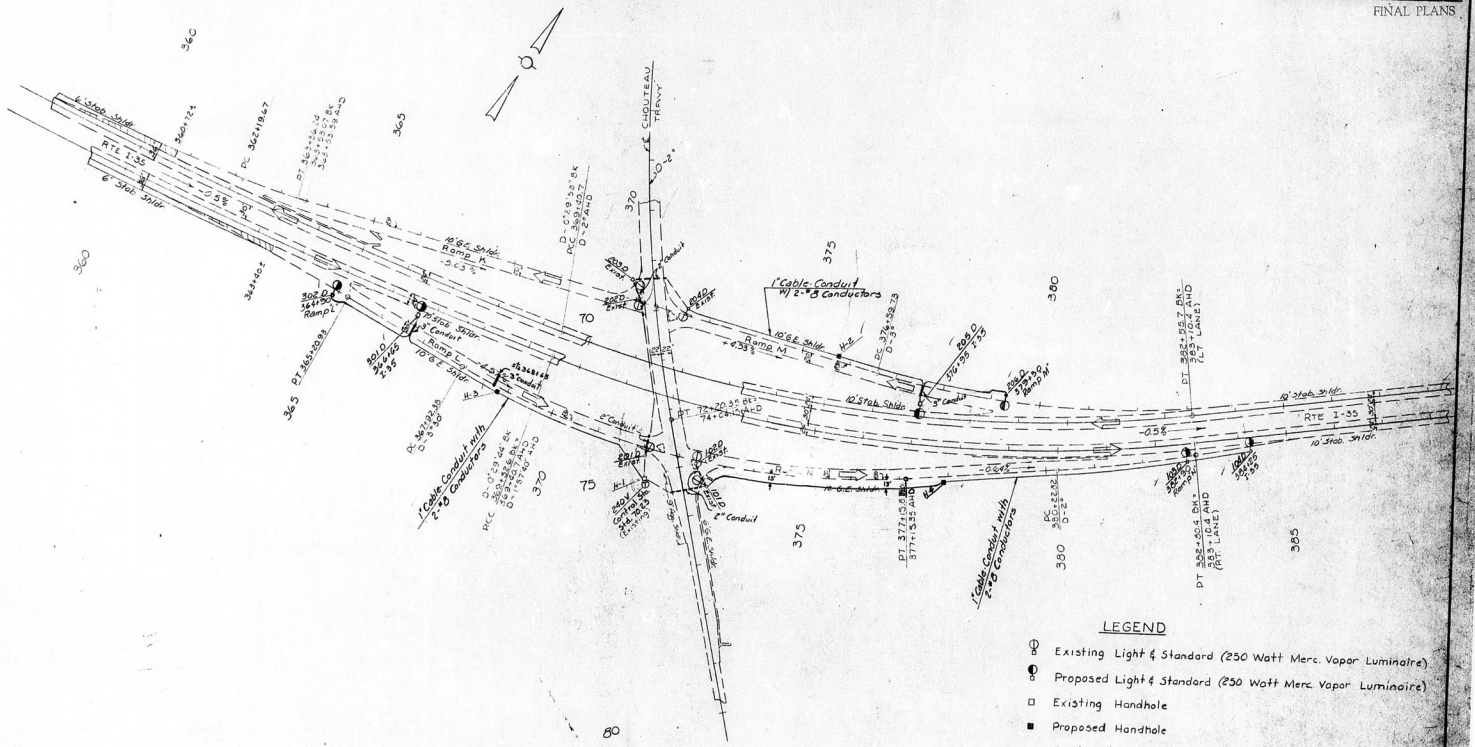
Circuit No.	Trip Rating	Remarks
100 D	15 A.	Use Present 15 Amp. Cir. Bkr.
200 D	15 A.	Use Present 15 Amp. Cir. Bkr.
300 D	10 A.	

596

1 TO 12

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	29
DIST. NO.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS



LEGEND

- Existing Light & Standard (250 Watt Merc. Vapor Luminaire)
- Proposed Light & Standard (250 Watt Merc. Vapor Luminaire)
- Existing Handhole
- Proposed Handhole
- Existing 1" Cable-Conduit (With 2-#8 Cond.)
- Proposed 1" Cable-Conduit (With 2-#8 Cond.)

NOTE: No direct payment will be made for Connecting new circuits in exist. pole bases or in exist. control cabinet on present service pole.

NOTE: Connected Circuit 100.0 in Exist. Light Base 101.0.
Connected Circuit 200.0 in Exist. Light Base 204.0.
Connected Circuit 300.0 to Exist. Control Station.

LIGHTING LAYOUT

ROUTE I-35 & CHOUTEAU TRFWY

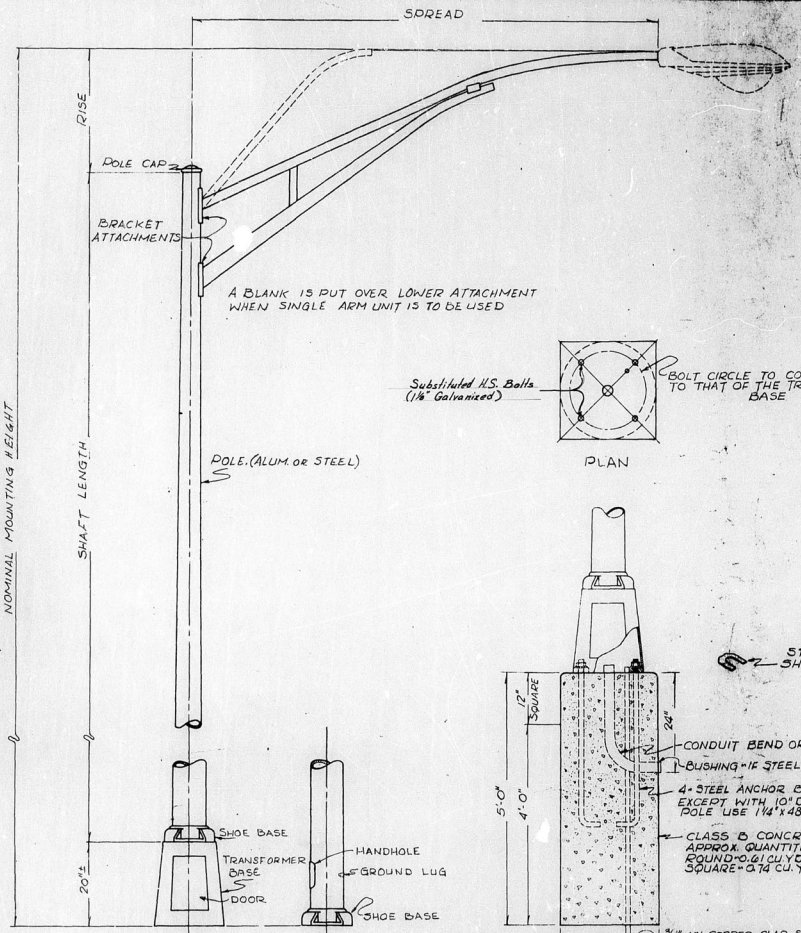
Sheet 6 of 6

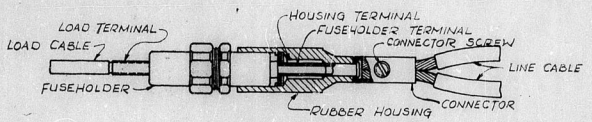
200

596

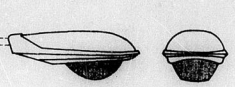
FED. ROAD PROJ. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	29A
DIST. NO.	COUNTY	ROUTE	SEC.
4	Clay	29	

FINAL PLANS



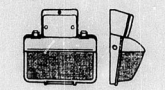


FUSED CONNECTOR ASSEMBLY
USE MIDGET TIME DELAY CARTRIDGE FUSE
4 AMPERE WITH 240V
2 AMPERE WITH 480V



A&A LAMPS		
DESIGNATION	WATTS	LUMENS
H31-5 KB	250	11,000
H33-1 CD	400	21,000

ROADWAY



A&A LAMPS		
DESIGNATION	WATTS	LUMENS
H31-5 KB	250	11,000

UNDERPASS

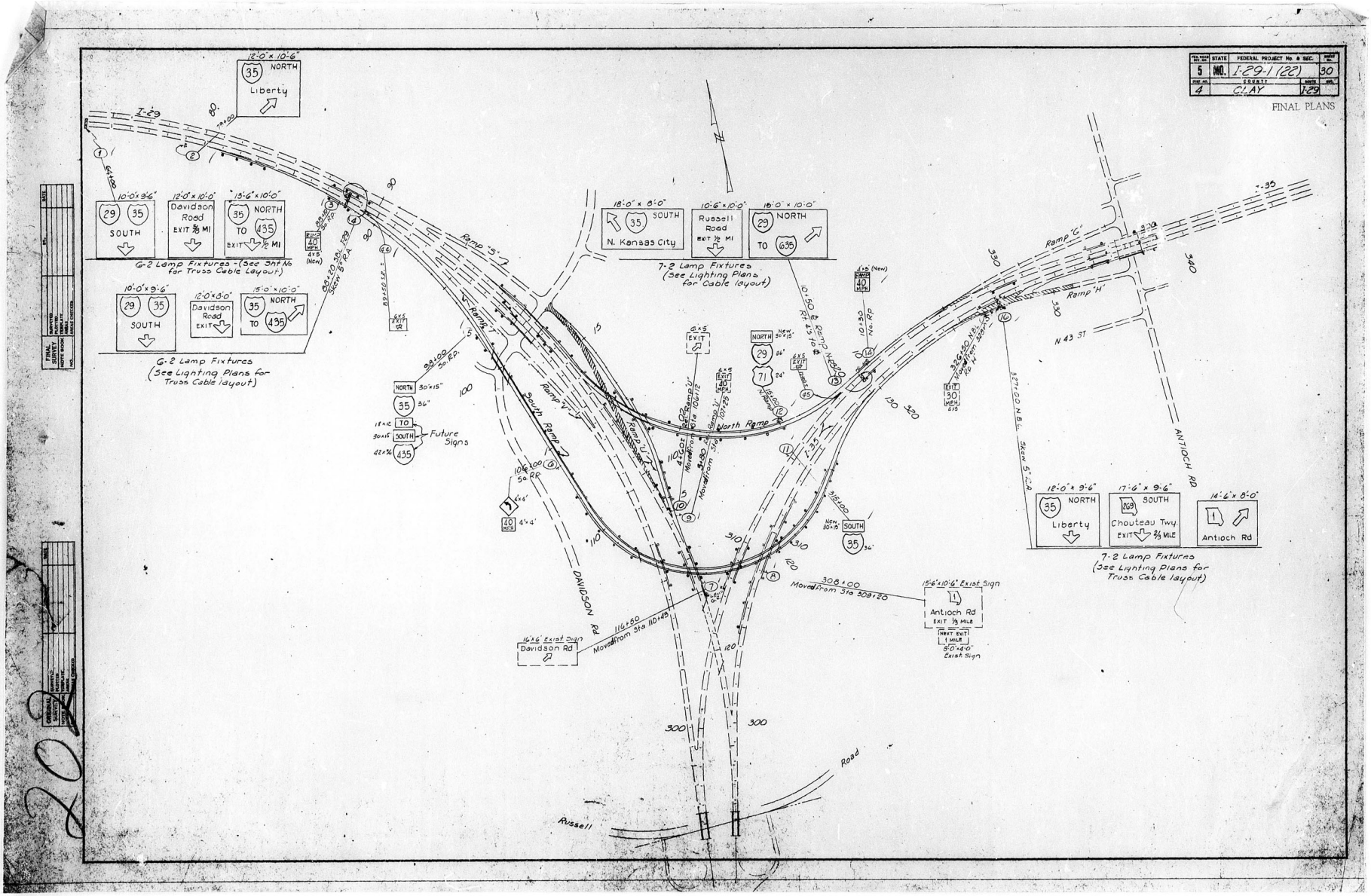
MERCURY VAPOR LUMINAIRES

NOTE: SHOP DRAWINGS WILL BE REQUIRED ON THE POLE (ALUMINUM or STEEL) TRANSFORMER BASE AND BRACKET ARMS TO BE SUPPLIED FOR THIS PROJECT.

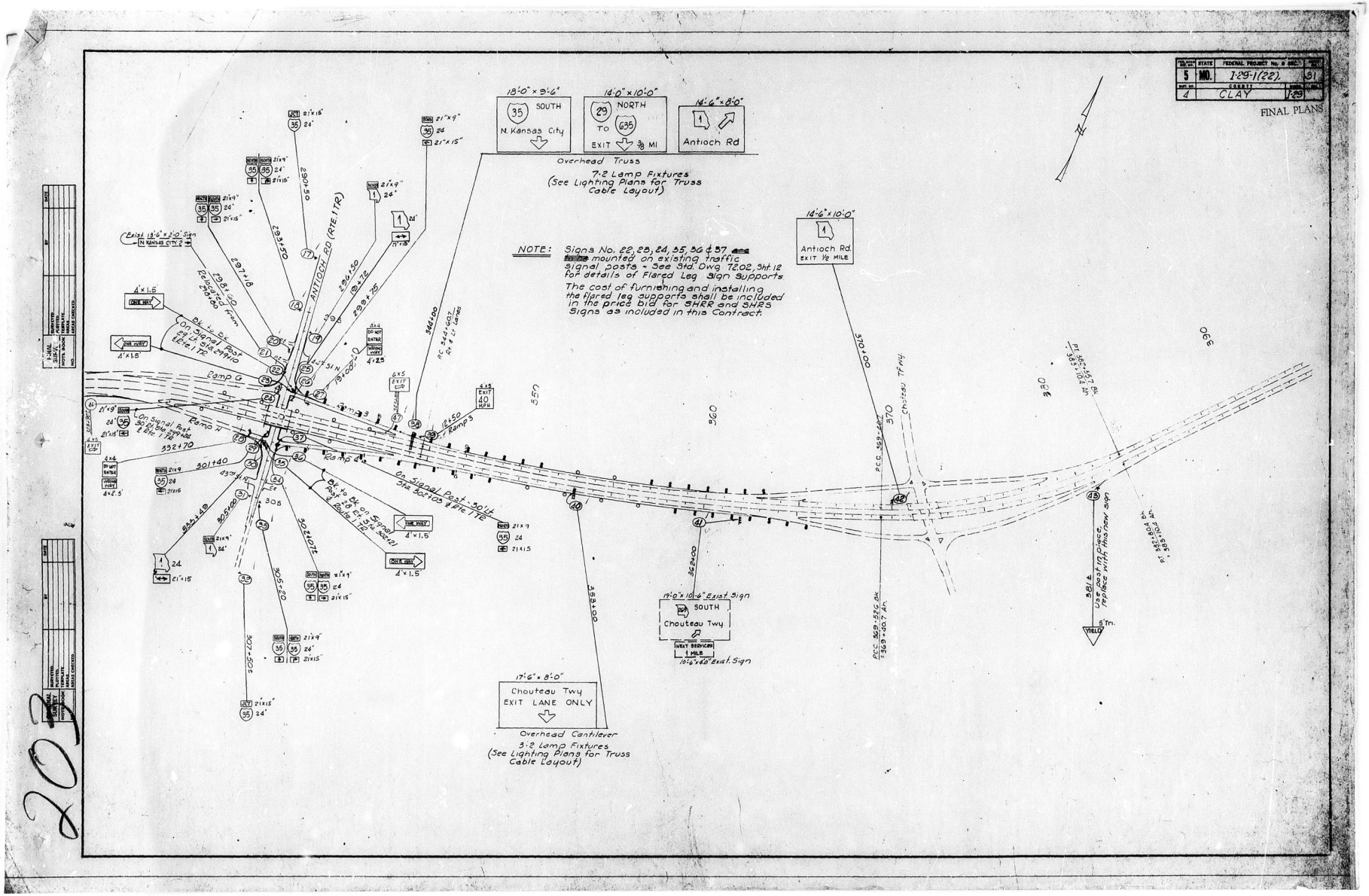
HIGHWAY LIGHTING
TRANSFORMER BASE & SHOE BASE POLES
(SEE SPECIAL PROV)

SPECIAL SHEET NO. 29A

596



FEDERAL PROJECT No. & SEC.
5
MO.
I-29-1 (22)
30
COUNTY
4
CLAY
I-29
FINAL PLANS
12'-0" x 10'-6"
35 NORTH
Liberty
I-29
10'-0" x 9'-6"
29 35
SOUTH
12'-0" x 10'-0"
Davidson Road
EXIT 5/8 MI
13'-6" x 10'-0"
35 NORTH
TO 435
EXIT 1/2 MI
6-2 Lamp Fixtures - (See Sht No for Truss Cable Layout)
10'-0" x 9'-6"
29 35
SOUTH
12'-0" x 8'-0"
Davidson Road
EXIT
15'-0" x 10'-0"
35 NORTH
TO 435
6-2 Lamp Fixtures
(See Lighting Plans for Truss Cable layout)
18'-0" x 8'-0"
35 SOUTH
N. Kansas City
10'-6" x 10'-0"
Russell Road
EXIT 1/2 MI
15'-0" x 10'-0"
29 NORTH
TO 635
7-2 Lamp Fixtures
(See Lighting Plans for Cable layout)
Ramp "S"
Ramp "T"
Ramp "U"
Ramp "V"
South Ramp
North Ramp
Ramp "G"
Ramp "H"
N 43 ST
ANTIOCH RD
DAVIDSON Rd
Russell Road
NORTH
35
TO
SOUTH
435
Future Signs
12'-0" x 9'-6"
35 NORTH
Liberty
17'-6" x 9'-6"
269 SOUTH
Chouteau Twy.
EXIT 2/3 MILE
14'-6" x 8'-0"
1
Antioch Rd
7-2 Lamp Fixtures
(See Lighting Plans for Truss Cable layout)
15'-6" x 10'-6" Exist Sign
1
Antioch Rd
EXIT 1/3 MILE
NEXT EXIT 1 MILE
8'-0" x 4'-0" Exist Sign
16'-6" Exist Sign
Davidson Rd
Moved from Sta 110+45
Moved from Sta 309+20
308+00
116+50

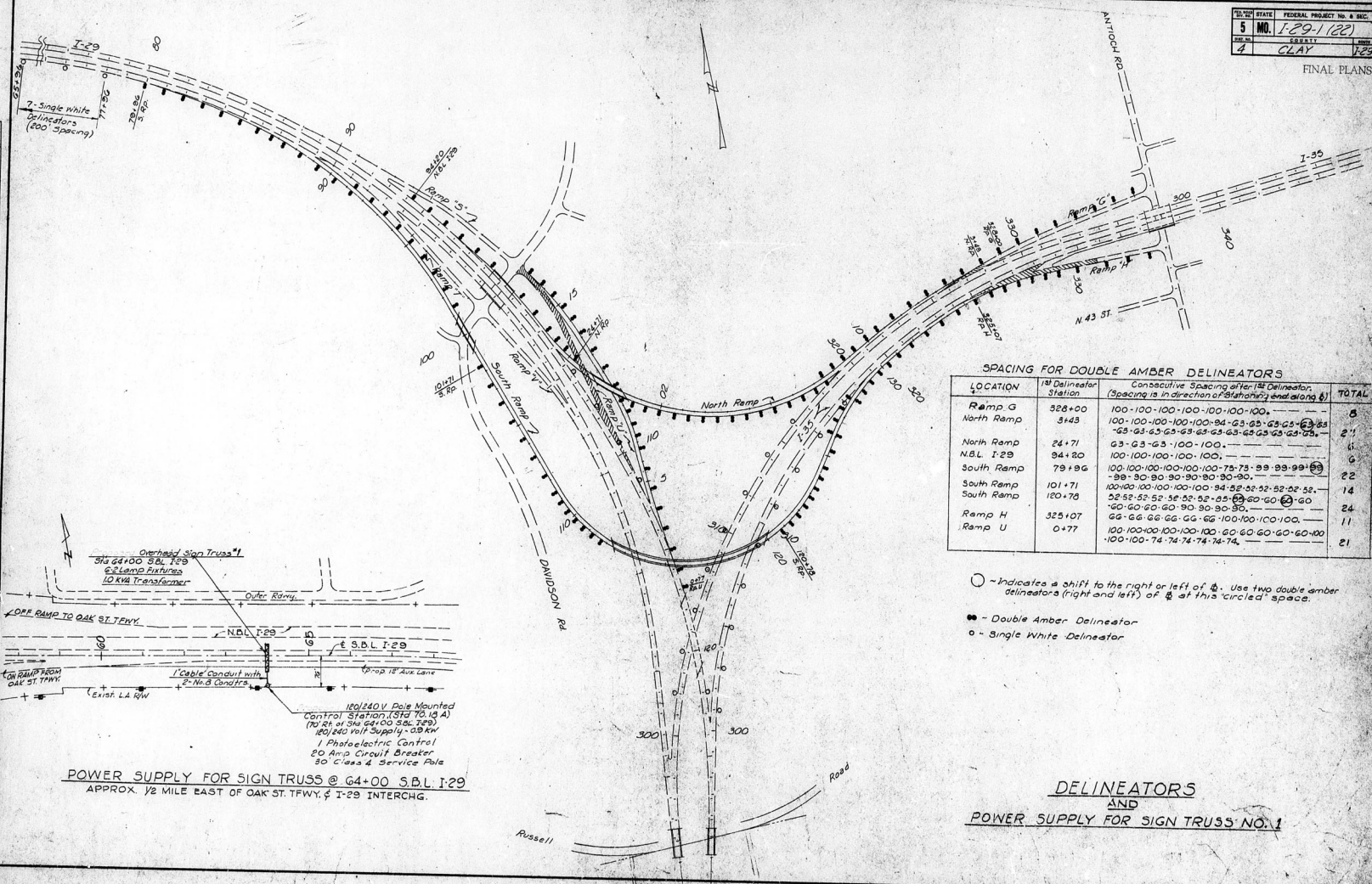


FEDERAL PROJECT No. 8 SEC.
STATE
MO.
I-29-1(22)
31
COUNTY
CLAY
I-29
FINAL PLANS
18'-0" × 9'-6"
35 SOUTH
N. Kansas City
14'-0" × 10'-0"
29 NORTH
TO 635
EXIT 3/8 MI
14'-6" × 8'-0"
Antioch Rd
Overhead Truss
7-2 Lamp Fixtures
(See Lighting Plans for Truss Cable Layout)
NOTE: Signs No. 22, 23, 24, 35, 36 & 37 are mounted on existing traffic signal posts - See Std. Dwg. T2.02, Sht. 12 for details of Flared Leg Sign Supports.
The cost of furnishing and installing the flared leg supports shall be included in the price bid for SHRR and SHRS Signs as included in this Contract.
14'-6" × 10'-0"
Antioch Rd.
EXIT 1/2 MILE
ANTIOCH RD (RTE. 1 TR)
Ramp G
Ramp H
Ramp 3
Ramp 4
On Signal Post - 30' Lt. Sta. 302+05 ℄ Rte. 1 TR
19'-0" × 10'-6" Exist. Sign
SOUTH
Chouteau Twy
NEXT SERVICES 1 MILE
10'-6" × 4'-0" Exist. Sign
17'-6" × 8'-0"
Chouteau Twy
EXIT LANE ONLY
Overhead Cantilever
3-2 Lamp Fixtures
(See Lighting Plans for Truss Cable Layout)
Chouteau Twy
Use post in place, replace with this new sign
YIELD

202

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1 (22)	32
DIST. NO.	COUNTY		SHEET NO.
4	CLAY	I-29	

FINAL PLANS



POWER SUPPLY FOR SIGN TRUSS @ 64+00 S.B.L. I-29

APPROX. 1/2 MILE EAST OF OAK ST. TFWY. & I-29 INTERCHG.

SPACING FOR DOUBLE AMBER DELINEATORS

LOCATION	1st Delineator Station	Consecutive Spacing after 1st Delineator. (Spacing is in direction of Stationing and along ℄)	TOTAL
Ramp G	328+00	100-100-100-100-100-100-100.	8
North Ramp	3+43	100-100-100-100-100-94-63-63-63-63-63-63-63-63-63-63-63-63-63-63-63-63-63-63-63.	2[illegible]
North Ramp	24+71	63-63-63-100-100.	6
N.B.L. I-29	94+20	100-100-100-100-100.	6
South Ramp	79+96	100-100-100-100-100-100-75-75-99-99-99-99-99-90-90-90-90-90-90-90.	22
South Ramp	101+71	100-100-100-100-100-100-94-52-52-52-52-52-52.	14
South Ramp	120+78	52-52-52-52-52-52-52-85-85-60-60-60-60-60-60-60-60-90-90-90-90.	24
Ramp H	325+07	66-66-66-66-66-66-100-100-100-100.	11
Ramp U	0+77	100-100-100-100-100-100-60-60-60-60-60-100-100-100-74-74-74-74-74-74.	21

○ - Indicates a shift to the right or left of ℄. Use two double amber delineators (right and left) of ℄ at this "circled" space.

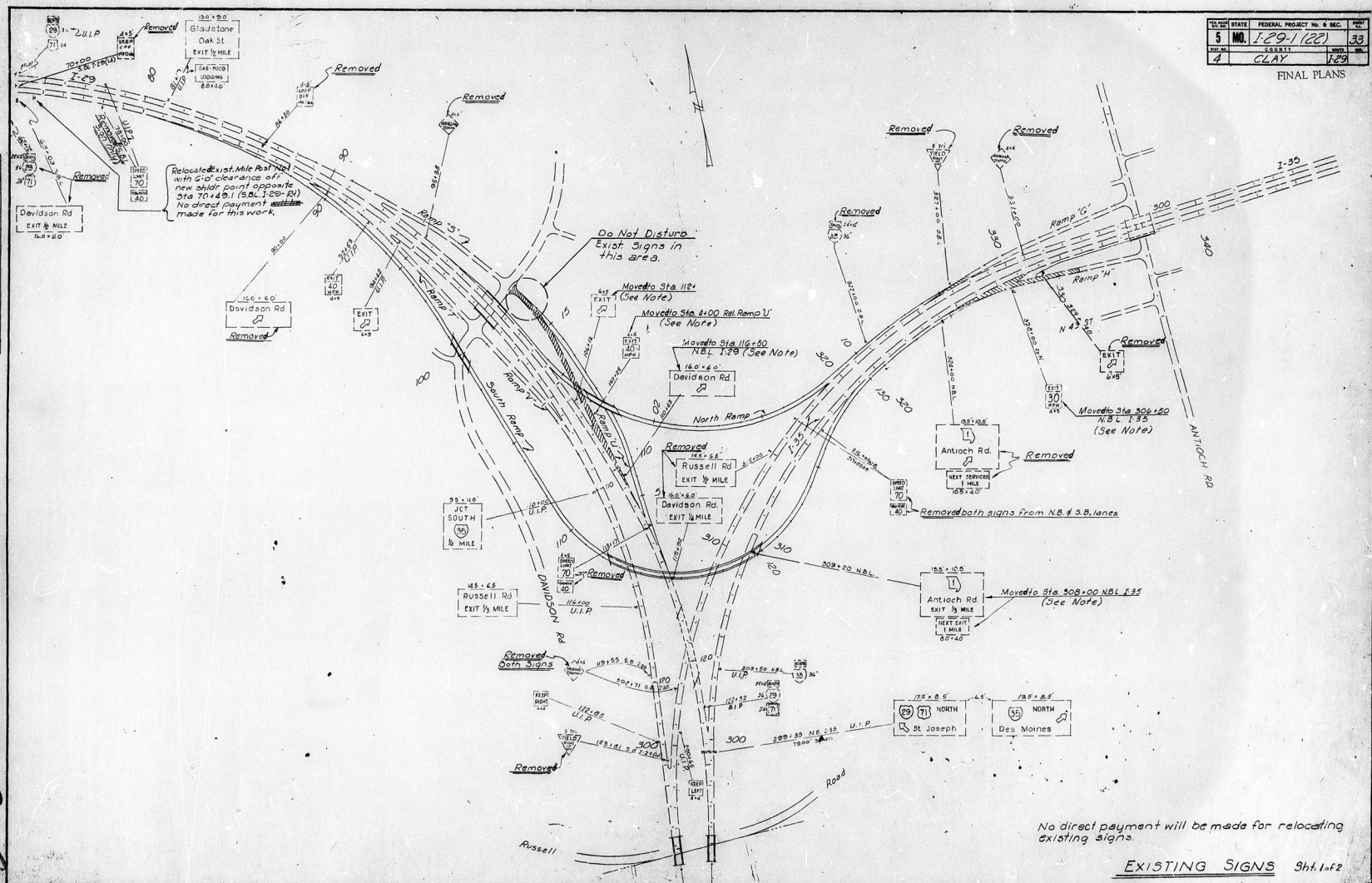
●● - Double Amber Delineator

o - Single White Delineator

DELINEATORS AND POWER SUPPLY FOR SIGN TRUSS NO. 1

204

506



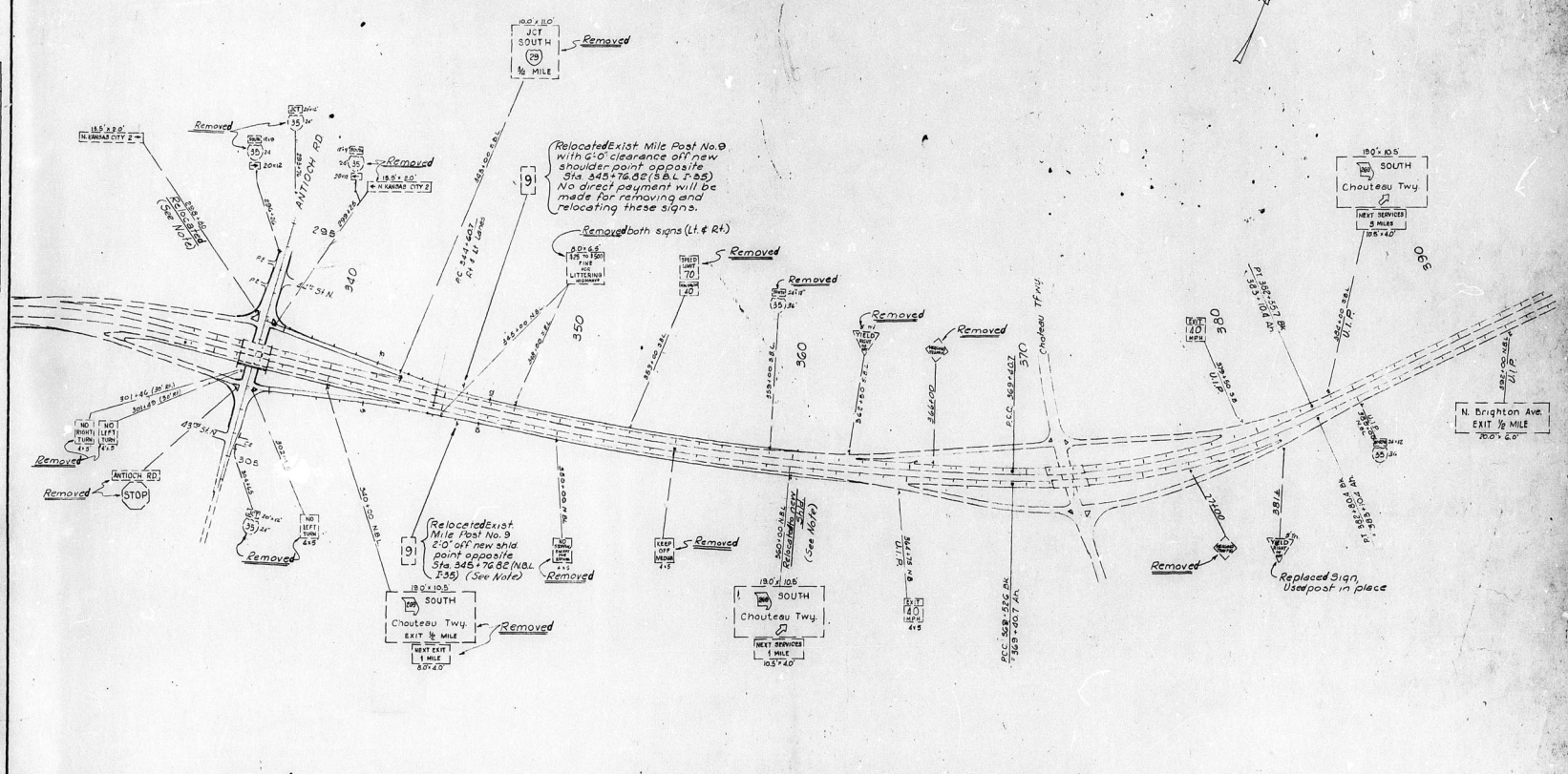
FEDERAL PROJECT No. & SEC.
5 MO. I-29-1 (22) 33
4 CLAY I-29
FINAL PLANS
Gladstone Oak St. EXIT ½ MILE
Davidson Rd EXIT ½ MILE
Relocated Exist. Mile Post No. 1 with 6'-0" clearance off new shldr point opposite Sta 70+49.1 (S.B.L. I-29-R1) No direct payment made for this work.
Do Not Disturb Exist. Signs in this area.
Movedto Sta. 112+ (See Note)
Movedto Sta. 4+00 Rel. Ramp "U" (See Note)
Movedto Sta. 116+50 N.B.L. I-29 (See Note)
Davidson Rd
Ramp "S"
Ramp "T"
Ramp "V"
Ramp "U"
South Ramp
North Ramp
Ramp "G"
Ramp "H"
Russell Rd EXIT ½ MILE
Davidson Rd. EXIT ¼ MILE
JCT SOUTH 35 ¼ MILE
Russell Rd EXIT ⅓ MILE
DAVIDSON Rd
Removed both signs from N.B. & S.B. lanes
Antioch Rd. EXIT ⅓ MILE
Movedto Sta. 306+50 N.B.L. I-35 (See Note)
Movedto Sta. 308+00 NBL I-35 (See Note)
ANTIOCH RD
Removed Both Signs
St Joseph
Des Moines
Russell Road
No direct payment will be made for relocating existing signs.
EXISTING SIGNS Sht. 1 of 2

205

596

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	34
SHT. NO.	COUNTY		SHEET NO.
4	CLAY		I-29

FINAL PLANS

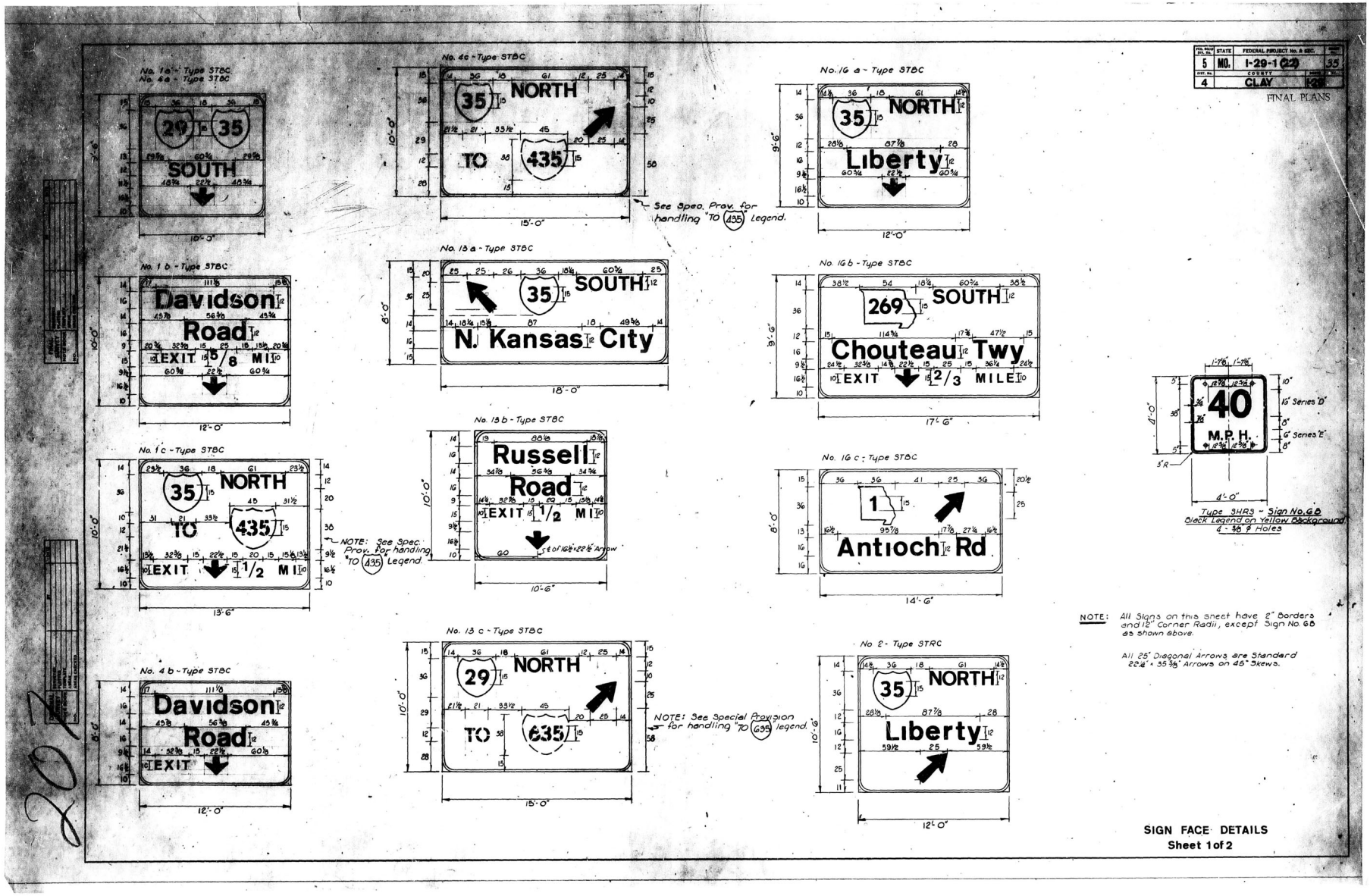


No direct payment will be made for relocating existing signs.

EXISTING SIGNS Sht. 2 of 2

206

596



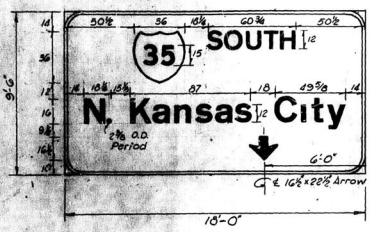
FEDERAL PROJECT No. & SEC.
5 MO. I-29-1 (22) 35
4 CLAY I-29
FINAL PLANS
No. 1a - Type STBC
No. 4a - Type STBC
29 35
SOUTH
No. 4c - Type STBC
35 NORTH
TO 435
See Spec. Prov. for handling "TO 435" Legend.
No. 16 a - Type STBC
35 NORTH
Liberty
No. 1 b - Type STBC
Davidson Road
EXIT 5/8 MI
No. 13 a - Type STBC
35 SOUTH
N. Kansas City
No. 16 b - Type STBC
269 SOUTH
Chouteau Twy
EXIT 2/3 MILE
No. 1 c - Type STBC
35 NORTH
TO 435
EXIT 1/2 MI
NOTE: See Spec. Prov. for handling "TO 435" Legend.
No. 13 b - Type STBC
Russell Road
EXIT 1/2 MI
No. 16 c - Type STBC
1
Antioch Rd
40
M.P.H.
16" Series "D"
6" Series "E"
Type SHRS - Sign No. 6B
Black Legend on Yellow Background
4 - 3/8 ø Holes
No. 4 b - Type STBC
Davidson Road
EXIT
No. 13 c - Type STBC
29 NORTH
TO 635
NOTE: See Special Provision for handling "TO 635" legend.
No. 2 - Type STRC
35 NORTH
Liberty
NOTE: All Signs on this sheet have 2" Borders and 12" Corner Radii, except Sign No. 6B as shown above.
All 25" Diagonal Arrows are Standard 22¼" × 35⅜" Arrows on 45° Skews.
SIGN FACE DETAILS
Sheet 1 of 2

207

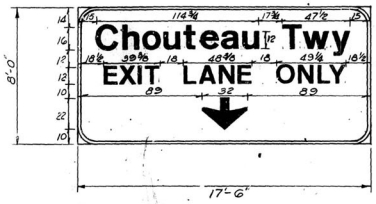
FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	36
DIST. No.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS

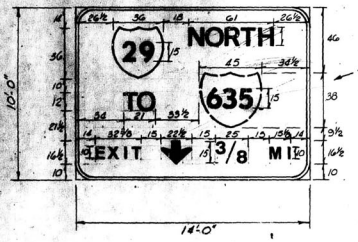
No. 38 a ~ Type STBC



No. 40 ~ Type STBC

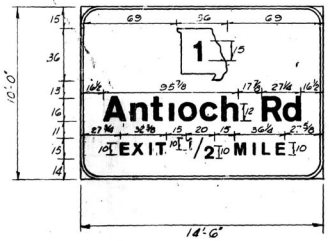


No. 38 b ~ Type STBC

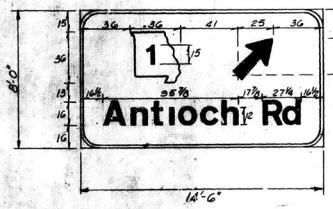


NOTE: See Special Provision for handling "TO (635) Legend.

No. 42 ~ Type STRC



No. 38 c ~ Type STBC



NOTE: All signs on this sheet have 2" Borders and 12" Corner Radii.

SIGN FACE DETAILS
Sheet 2 of 2

SP-29 REVISED 1-1-67

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	37
DIST. NO.	COUNTY		ROUTE NO.
4	CLAY	I-29	

FINAL PLANS

SIGN POSTS

SIGN NO.	STATION	SIGN DETAIL SHEET NO.	LOCATION	SIGN SIZE	6×4 W PSTS @ 8.5# PER FT. CUTOFF EA. POST 3 LBS. EA.	LIN FT.	POUNDS	STD 72.03 STRUCTURAL STEEL POSTS: W POSTS POST DESIGN	POST 1 NO.	LIN. FT.	POST 2 LIN. FT.	POST 3 LIN. FT.	TOTAL LIN. FT.	LBS. PER FT.	CUTOFF LBS.	TOTAL LBS.	COVER PLATES TOTAL LIN. FT.	LBS PER FT.	TOTAL LBS.	3" ZEE ASSEMBLY NO. EA.	POST SPACE	TOTAL LBS.	BASE PLATE LBS.	ASSEMBLY CROSS-BARS 2×3# BARS @ 2.55# PER LIN. FT. NO. EA.	LENGTH INCHES	TOTAL LIN. FT.	TOTAL LBS.	BRK. AWAY POST ASSEMBLY EACH	TOTAL STRUCT. STEEL POST POUNDS	CL B OR BI CONC. FOOT'N'S EMBED CU YD.	CLASS B CONC. FOOTNS BOLT DOWN CU YD.	HORZ CLEAR IF NOT STD.
1	Overhead Truss																																
2	179+00		S.B.L. I-29-Rt.	12'0"×10'6"				G	21'-9"	20'-3"	—	42.0'	21	-18	864'														2'	864'	2.85	—	4.0
3	188+10		Std. South Rp.-Rt.	4'×5'				JOIST	15'-9"	15'-9"	—	31.5'	8.5	-4	264'														~	264'	0.33	—	—
4	Overhead Truss																																
5	198+00		Sta. South Rp.-Rt.	Assembly				JOIST	18'-9"	—	—	18.8'	8.5	-2	158'														1'	158'	0.14	—	—
6	106+00	<	South Rp.-Rt.	4×4 Dbl.				JOISTS	16'-9"	17'-6"	—	34.3'	8.5	-4	288'														2'	288'	0.28	—	—
7	116+50		Exist. N.B.L. I-29-Lt.	Exist. 6#6 Sign				4	14'-4"	16'-6"	19'-6"	50.0'	17	-18	832'														~	979'	~	2.37	—
8	308+00		Exist. N.B.L. I-35-Rt.	8#8 & 8#6 Signs				7	23'-3"	24'-4"	25'-6"	73.3'	25	-33	1800'			USE EXIST. ZEE ASSEMBLY											3'	1,800	4.23	—	4.0'
9	31+80		St. Ramp U"- Rt.	Exist. 4×5				JOISTS	13'-10"	14'-4"	—	28.2'	8.5	-4	236'														2'	236	0.28	—	—
10	4+60±		Std. Ramp U"- Lt.	Exist. G×5				JOISTS	14'-0"	14'-0"	—	28.0'	8.5	-4	234'														2'	234	0.28	—	—
11	315+00		Std. S.B.L. I-35-Lt.	New 30'×5# Exist. 35' Steel New 50'×10# Exist. 50' Steel				JOIST	13'-4"	—	—	13.3'	8.5	-2	111'														1'	111	0.14	—	—
12	15+00		Std. North Ramp-Rt.	Exist. 3#6 Sign				JOIST	15'-5"	—	—	15.4'	8.5	-2	129'														1'	129	0.14	—	—
13	Overhead Truss																																
14	10+30		Std. North Rp.-Rt.	4'×5'				JOISTS	15'-9"	15'-9"	—	31.5'	8.5	-4	264'														~	264'	0.33	—	—
15	326+50		Std. N.B.L. I-35-Rt.	Exist. 4×5				JOISTS	16'-3"	16'-3"	—	32.5'	8.5	-4	272'														~	272'	0.35	—	—
16	Overhead Truss																																
17	290+50		Std. Antioch Rd.-Rt.	Assem.				JOIST	9'-5"	—	—	9.3'	8.5	-2	77'														1'	77'	0.15	—	—
18	293+50		Std. " " "	-Rt. "				JOIST	10'-0"	—	—	10.0'	8.5	-2	83'												5'	1'-45°	35"	21.7	+55	1'	138'	0.15	—	0.50'
19	296+50		Std. " " "	-Lt. "				JOIST	11'-1"	—	—	11.1'	8.5	-2	92'														1'	92'	0.15	—	—
20	297+18		Std. " " "	-Rt. "				JOIST	10'-3"	—	—	10.3'	8.5	-2	86'												5'	1'-48°	35"	21.7	+55	1'	141'	0.14	—	—
21	298+60		Exist. Sign " "	-Rt. 13'6"×20'				1	12'-5"	9'-3	—	21.7	13	-4	278														2'	278	0.76		
22	299+10		Std. " " "	-Lt. 4'×1.5'				Mount Back to Back with Sign #23 on exist Signal Post 29 Lt Sta 299+10																												
23	299+10		Std. " " "	-Lt. 4'×1.5'				See Sign #22, above																												
24	299+24		Std. " " "	-Rt. Assem.				Mount on exist signal post 30' Rt Sta 299+24																												
25	19+78		Std. Ramp 3-Tal.	Rt. Assem.				JOIST	10'-9"	—	—	10.8'	8.5	-2	90'														1'	90'	0.14	—	—
26	299+75		Std. Antioch Rd.-Lt.	Assem.				JOIST	11'-8"	—	—	11.7'	8.5	-2	97'														1'	97'	0.14	—	—
27	19+00		Std. Ramp 3- Lt.	4'×4'×2.5'				JOISTS	15'-10"	16'-4"	—	32.2'	8.5	-4	270'														2'	270'	0.28	—	—
28	332+10		Std. Ramp H-Lt.	4'×4'×2.5'				JOISTS	15'-10"	16'-4"	—	32.2'	8.5	-4	270'														2'	270'	0.28	—	—
29	301+40		Std. Antioch Rd.-Lt.	Assem.				JOIST	11'-8"	—	—	11.7'	8.5	-2	97'														1'	97'	0.14	—	—
30	333+49		Std. Ramp H-Tal.	Lt. "				JOIST	10'-9"	—	—	10.8'	8.5	-2	90'														1'	90'	0.14	—	—
31	305+00		Std. Antioch Rd.-	Rt. "				JOIST	11'-8"	—	—	11.7'	8.5	-2	97'														1'	97'	0.14	—	—
32	307+50±		Std. " " "	-Lt. "				JOIST	13'-1"	—	—	13.1'	8.5	-2	109'														1'	109'	0.15	—	—
33	305+80		Std. " " "	-Lt. "				JOIST	13'-4"	—	—	13.3'	8.5	-2	111'												5'	1'-45°	35"	21.7	+55	1'	166'	0.14	—	—
34	302+07±		Std. " " "	-Lt. "				JOIST	11'-5"	—	—	11.4'	8.5	-2	95'												5'	1'-45°	35"	21.7	+55	1'	150'	0.14	—	—
35	302+21		Std. " " "	-Rt. 4'×1.5'				Mount Back to Back with Sign #36 on exist Signal Post 28 Rt Sta 302+21																												
36	302+21		Std. " " "	-Rt. 4'×1.5'				See Sign #35, above																												
37	302+03		Std. " " "	-Lt. Assem.				Mount on exist signal post 30 Lt Sta 302+03																												
38	Overhead Truss																																
39	18+50		Std. Ramp 3-Rt.	4'×5'				JOISTS	17'-0"	17'-0"	—	34.0'	8.5	-4	285'														~	285'	0.36	—	—
40	Overhead Cantilever																																
41	362+00	2 Sheets	N.B.L. I-35-Rt	19'6"×10'6" & 8'×5'×60°				8	22'-11"	24'-5"	26'-1"	73.4'	29	-36	2093'			USE EXIST. ASSEM.											3'	2,093	4.62	—	4.0'
42	370+00	60°	S.B.L. I-35-Lt	14'6"×10'0"				8	18'-6"	23'-0"	—	41.5'	29	-24	1180'			+154											~	1364'	~	3.28	—
43	Use Exist Post in Place																																
44	189+50		Std. Sa.Rp.	Gore-Lt. 6'×5'				JOISTS	13'-6"	13'-6"	—	27.0'	8.5	-4	226'														2'	226	0.28		
45	12+00		Std. Na.Rp.	Gore-Lt. 6'×5'				JOISTS	13'-6"	13'-6"	—	27.0'	8.5	-4	226'														2'	226	0.28		
46	328+90		Std. Ramp H	Gore-Lt. 6'×5'				JOISTS	14'-0"	13'-6"	—	27.5'	8.5	-4	230'														2'	230	0.28		
47	14+10		Std. Ramp 3	Gore-Lt. 6'×5'				JOISTS	13'-6"	13'-6"	—	27.0'	8.5	-4	226'														2'	226	0.28		

SP-30 REVISED

STANDARD SIGN ASSEMBLIES

SIGN NO.	STATION	LOCATION	TYPE	SIGN DESCRIPTIONS, SIZES & NUMBER OF EACH
5	88+00	South Rp-Rt	SHRR	1
11	315+00	SB L 135-Lt	SHRR	1
12	15+00	North Rp-Rt	SHRR	1
17	290+50	Antioch Rd-Rt	SHRS	1
18	285+50	" " & " -Rt	SHRS	2
19	296+50	" " " " -Lt	SHRS	1
20	297+18	" " " " -Rt	SHRS	2
24	293+24	" " " " -Rt	SHRS	1
25	19+72	Ramp B-Lt & Rt	SHRR	1
26	299+75	Antioch Rd-Lt	SHRS	1
29	301+40	" " " -Rt	SHRS	1
30	333+49	Ramp H-Tall-Rt	SHRS	1
31	305+00	Antioch Rd-Rt	SHRS	1
32	303+00±	" " " -Lt	SHRS	1
33	306+00	" " " -Lt	SHRS	2
34	302+07±	" " " -Lt	SHRS	2
37	302+03	" " " -Lt	SHRS	1
		TOTALS-	SHRR	1
			SHRR	2
			SHRR	1
			SHRR	2
			SHRR	1
			SHRR	14
			SHRR	4
			SHRR	2
			SHRR	6
			SHRR	6
			SHRR	1
			SHRR	1
			SHRR	4
			SHRR	2
			SHRR	4
			SHRR	2
			SHRR	2
			SHRS	2

SIGN SUMMARY

STATE	FED. PROJ. NO. & SEC.	SHEET NO.
MO.	I-29-1(22)	38
COUNTY		SHEETS
CLAY	I-29	

FINAL PLANS

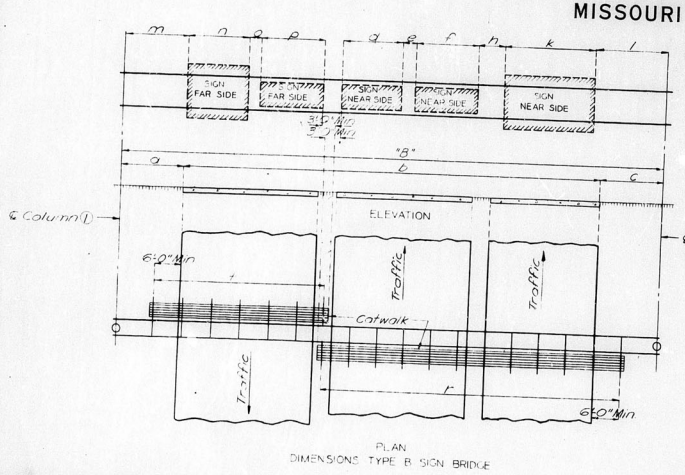
STANDARD SIGN OR SPECIAL SIGN NO.	SIGN DETAIL SHEET NO.	NO. EACH	TYPE & SQ. FT. SIZE	STBC	STRC	STRS	SHRR	SHRS	36" STOP EACH
2		1	12'-0"×10'-6"		126.0				
1a, 4a		2	10'-0"×9'-6"	190.0					
1b		1	12'-0"×10'-0"	120.0					
1c		1	13'-6"×10'-0"	135.0					
2b		1	12'-0"×8'-0"	96.0					
4c		1	15'-0"×10'-0"	150.0					
13a		1	18'-0"×8'-0"	144.0					
13b		1	10'-6"×10'-0"	105.0					
13c		1	15'-0"×10'-0"	150.0					
16a		1	12'-0"×9'-6"	114.0					
16b		1	17'-6"×9'-6"	166.3					
16c		1	18'-6"×8'-0"	116.0					
33a		1	18'-0"×9'-6"	171.0					
33b		1	14'-0"×10'-0"	140.0					
39a		1	16'-6"×8'-0"	116.0					
40		1	17'-6"×8'-0"	140.0					
42		1	14'-6"×10'-0"		145.0				
EXIT 40 M.P.H.-"39	Std.	1	4'×5'					20.0	
RAMP 40 M.P.H.-"3, "14	Std.	2	4'×5'					40.0	
DO NOT ENTER-"27a 42a	Std.	2	4'×4'					32.0	
"6A (Black on White)		1	4'×4'					16.0	
YIELD-"45	Std.	1	5' Tri.					10.8	
WRONG WAY-"27b 42b	Std.	2	4'×2.5				20.0		
40 -"6D		1	4'×4'					16.0	
ONE WAY-"22 & 35	Std.	2	4'×1.5					12.0	
ONE WAY-"23 & 36	Std.	2	4'×1.5					12.0	
I-29 Shield	Std.	1	36"×36"				9.0		
I-35 Shield	Std.	2	36"×36"				18.0		
Rte. 71 Shield	Std.	1	24"×24"					4.0	
Cardinal Directions	Std.	3	30"×15"				9.3		
I-35 Shield	Std.	14	24"×24"				86.0		
Mo. Rte. 1 Shield	Std.	4	24"×24"					16.0	
JCT	Std.	2	21"×15"				4.4		
Cardinal Directions	Std.	12	21"×9"				15.6		
Cardinal Directions	Std.	2	21"×9"					2.6	
Directional Arrows	Std.	12	21"×15"				26.4		
Directional Arrows	Std.	2	21"×15"					4.4	
EXIT-"46 "45, "46, "47	Std.	4	6'×5'		120.0				
TOTALS				2053.3	391.0	~	158.7	185.8	~

Relocate/Exist. Signs-No. 7, 8A & 8B, 9, 10, 15, 21 & 41.

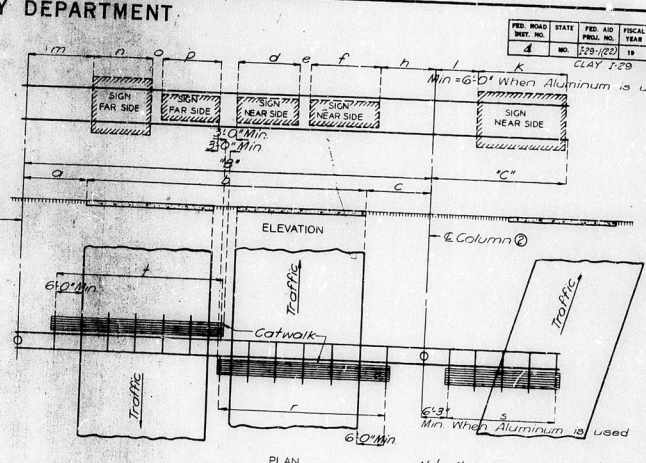
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD INST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MO.	329-1(22)	19	39	

CLAY 1-29 FINAL PLANS



PLAN
DIMENSIONS TYPE B SIGN BRIDGE



PLAN
DIMENSIONS TYPE BC SIGN BRIDGE

Note: Above, "Min." are recommended dimensions

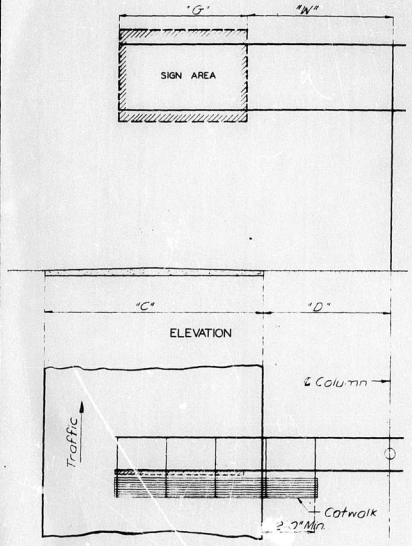
Sign No	Station No	Truss Description: Type	"B"	"C"	Chord Alum Steel	Roadway Description: a	b	c	SIGN BRIDGE DIMENSIONS: Sign Spacing: Near Side: d	ht	e	f	ht	h	k	ht	l	For Side: m	n	ht	o	p	ht	Catwalk: Near Side r*	s*	Far Side t*	Column Data: Col 1 H	Type	Col 2 H	Type	Ftg & Pad C.Y. Cl. B Conc.	Lighting Data: Power to Col No.	Photo Rec. Switch	Luminaires Lamp Qty.	Transformer KVA	Sign No.
1	64+00.0 Rt. Rp.	B	69.00	—	4½"x½" 4"x4"x⅜"	16.0'	36.0'	11.0'	10'-0"	9'-6"	1'-0"	12'-0"	10'-0"	0'-6"	13'-6"	10'-0"	10'-0"							55'			19'-7"	III	19'-1"	III	31.44	2	1	—	G	1.0	1
4	88+20.0 Rt. Rp.	B	74.00	—	4½"x½" 4"x4"x⅜"	16.40'	47'	10.60'	10'-0"	9'-6"	1'-0"	12'-0"	8'-0"	0'-6"	15'-0"	10'-0"	10.10'							64'			18'-7"	III	19'-1"	III	29.52	2	—	—	G	1.0	4
13	10+30.0 Na. Rp.	B	70.00	—	4½"x⅜" 4"x4"x⅜"	20.9'	38.2'	10.9	18'-0"	8'-0"	0'-6"	10'-6"	10'-0"	0'-6"	13'-0"	10'-0"	9'-6"							58.5'			19'-6"	III	18'-0"	III	30.96	2	—	—	7	1.5	13
16	327+00.0 Rt. Rp.	B	77.00	—	4½"x⅜" 4"x4"x⅜"	20.0'	46'	11.0'	12'-0"	9'-6"	6'-0"	17'-6"	9'-6"	0'-6"	14'-6"	8'-0"	6'-6"							63'			17'-7"	III	19'-1"	IV	33.89	2	—	—	7	1.5	16
38	344+00.0 Rt. Rp.	B	74.00	—	4½"x½" 4"x4"x⅜"	15.0	48.71	10.29	18'-0"	9'-6"	0'-6"	14'-0"	10'-0"	0'-6"	14'-6"	8'-0"	17'-6"							62.3'			18'-5"	IV	18'-11"	IV	36.77	2	—	—	7	1.5	38

MISSOURI STATE HIGHWAY DEPARTMENT

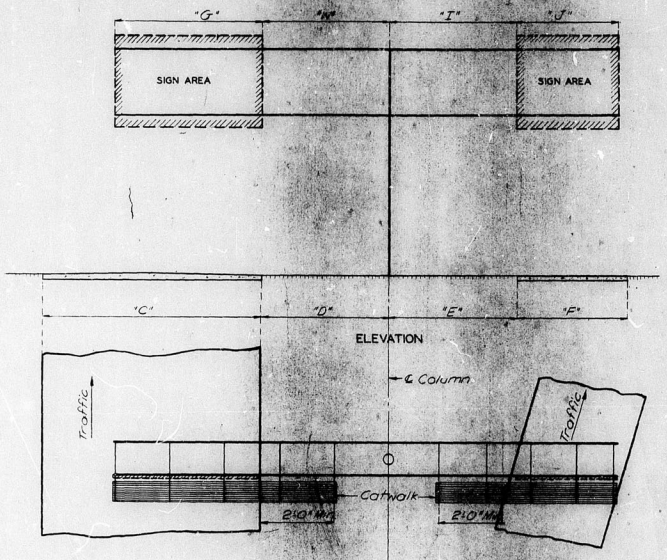
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MO.	I-29-1(22)	19	40	

CLAY I-29

FINAL PLANS



PLAN
CANTILEVER OVERHEAD SIGN TRUSS



PLAN
BUTTERFLY OVERHEAD SIGN TRUSS

GENERAL NOTES:

Design Specifications Joint A.A.S.H.O.-A.R.B.A. Special Subcommittee Specifications for the Design and Construction of Structural Supports for Highway Signs, of November 1960.

Basic Assumptions Wind Velocity 85 mi/hr. Wind Pressure on Sign Area = 40#/□' Ice Load 3#/□'

Structural Steel Stress 20,000#/□" A.S.T.M.-A36)

Reinforcing Steel Stress 20,000#/□"

Concrete Class "B" Stress 1,200#/□"

Footing Soil Pressure 2,750#/□'

Allowable unit stresses due to wind load or wind load in combination with other forces are increased 45%.

Minimum Clearance: Vertical roadway clearance 17'-0"

Reinforcement: Embedment is to ℄ of bar and is 2½" to main reinforcement, except as noted.

Truss shall be all-welded construction. All welding to be continuous unless otherwise shown.

Qualification of welding operators will be required.

Structural Steel welding and welder qualification shall be performed in accordance with A.W.S. Specifications for Bridges.

Paint: All structural steel except as noted, Shop, one coat of red lead; Field; contact surfaces of bolted field connections one coat of red lead and surfaces inaccessible after erection two coats of red lead. All other exposed surfaces, second coat brown and third coat aluminum. Payment for cleaning and painting such surfaces will be included in price bid for items painted. As an alternate the above surfaces may be galvanized according to 55.2.8 of the Standard Specifications.

Permits must be obtained for all truck loads over legal length.

Electrical: See fluorescent sign lighting equipment sheet.

Aluminum welding and welder qualification shall be performed in accordance with Section 9, A.S.M.E.

Do not paint contact surfaces of H.S. bolted field connections.

OVERHEAD SIGN DIMENSIONS

Sign No.	Station No	Type Sign Cant.	Type Sign Butterfly	Col. H	Col. Type	Roadway Description "C"	"D"	"E"	"F"	Sign Spacing "G"	Ht	"W"	"I"	"J"	Ht	Footing & Pedestal C.Y. Cl. B	Lighting Data Photo Elec. Switch	Luminaires 1 Lamp	Luminaires 2 Lamp	Transformer KVA	Sign No.
40	353+000 NB	25.00'	—	18'-0"	IV	36.0'	10.0'	—	—	17'-6"	8'-0"	7'-3"	—	—	—	16.89	—	—	3	0.75	40
																16.89 C.Y. Cl. B Conc.					

[redacted] & CANTILEVER OVERHEAD SIGN TRUSSES
STRUCTURAL STEEL

ASSEMBLED 19 BY
Checked 19 by

Note: This drawing is not to scale. Follow dimensions.

DATA SHEET (SEE STANDARD 72.12)

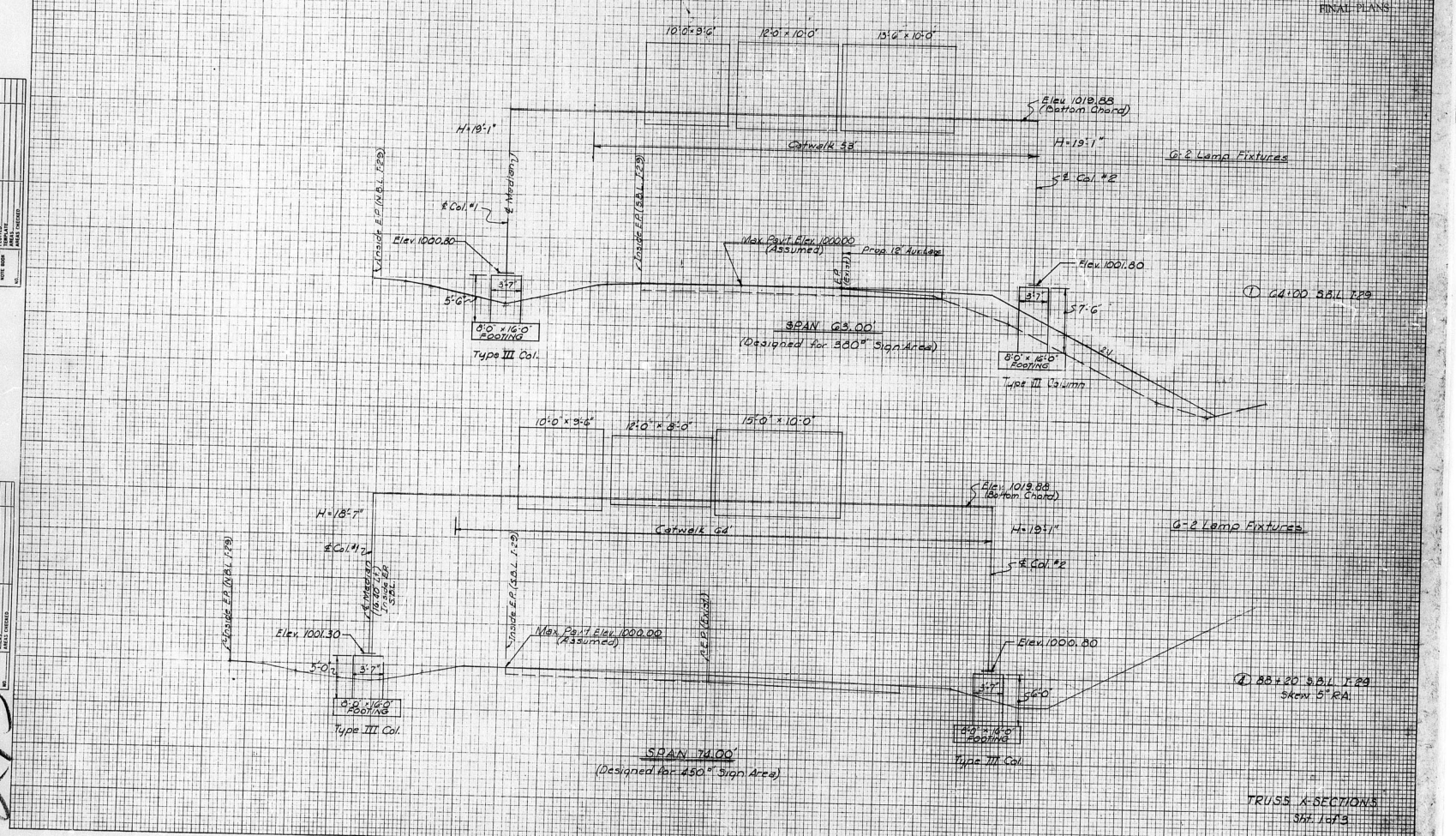
Revised:

212

596

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	41
DIST. NO. 4	COUNTY CLAY	PROJ. I-29	

FINAL PLANS

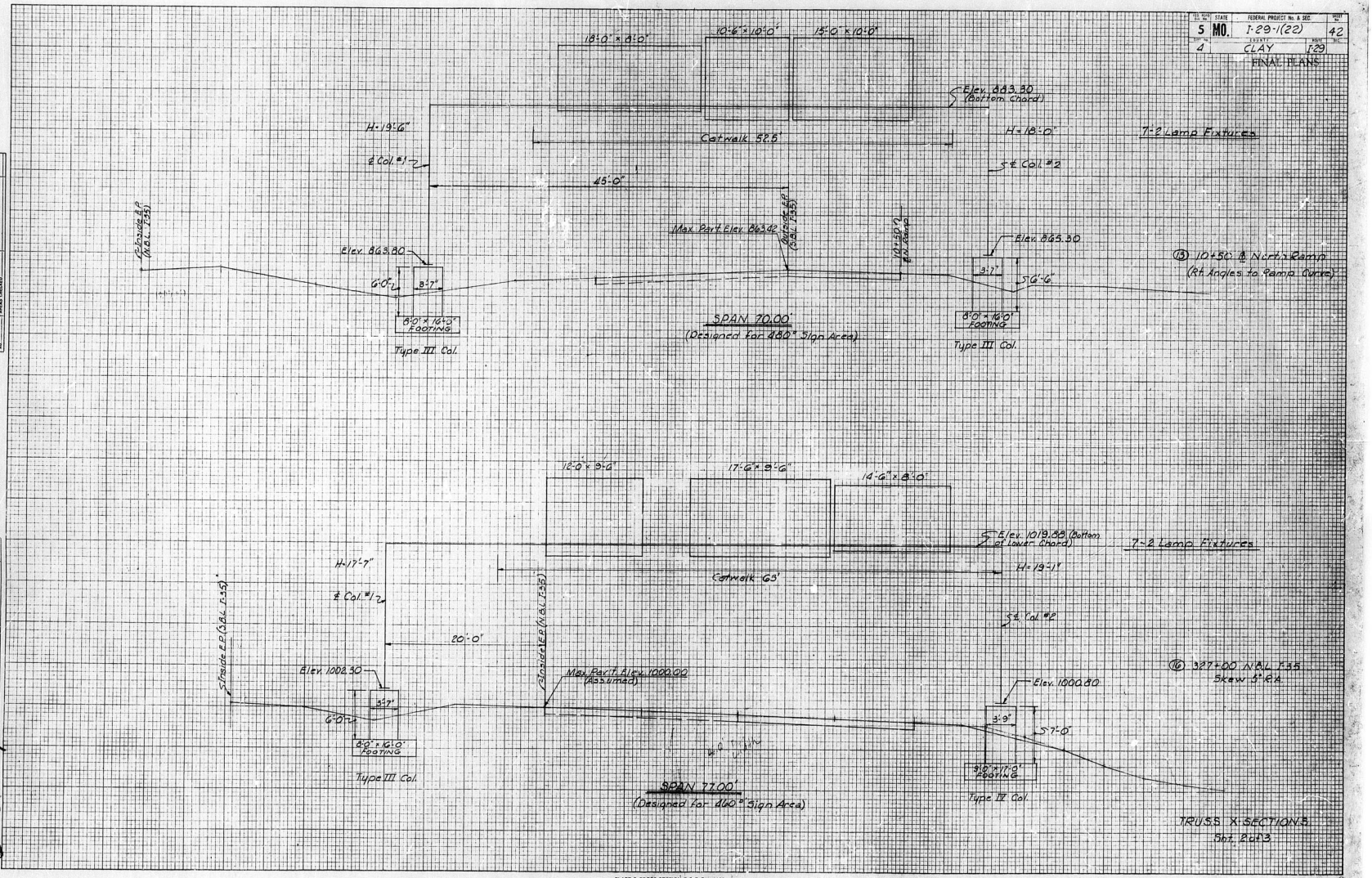


TRUSS X-SECTIONS
Sht. 1 of 3

213

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO NEW YORK

596

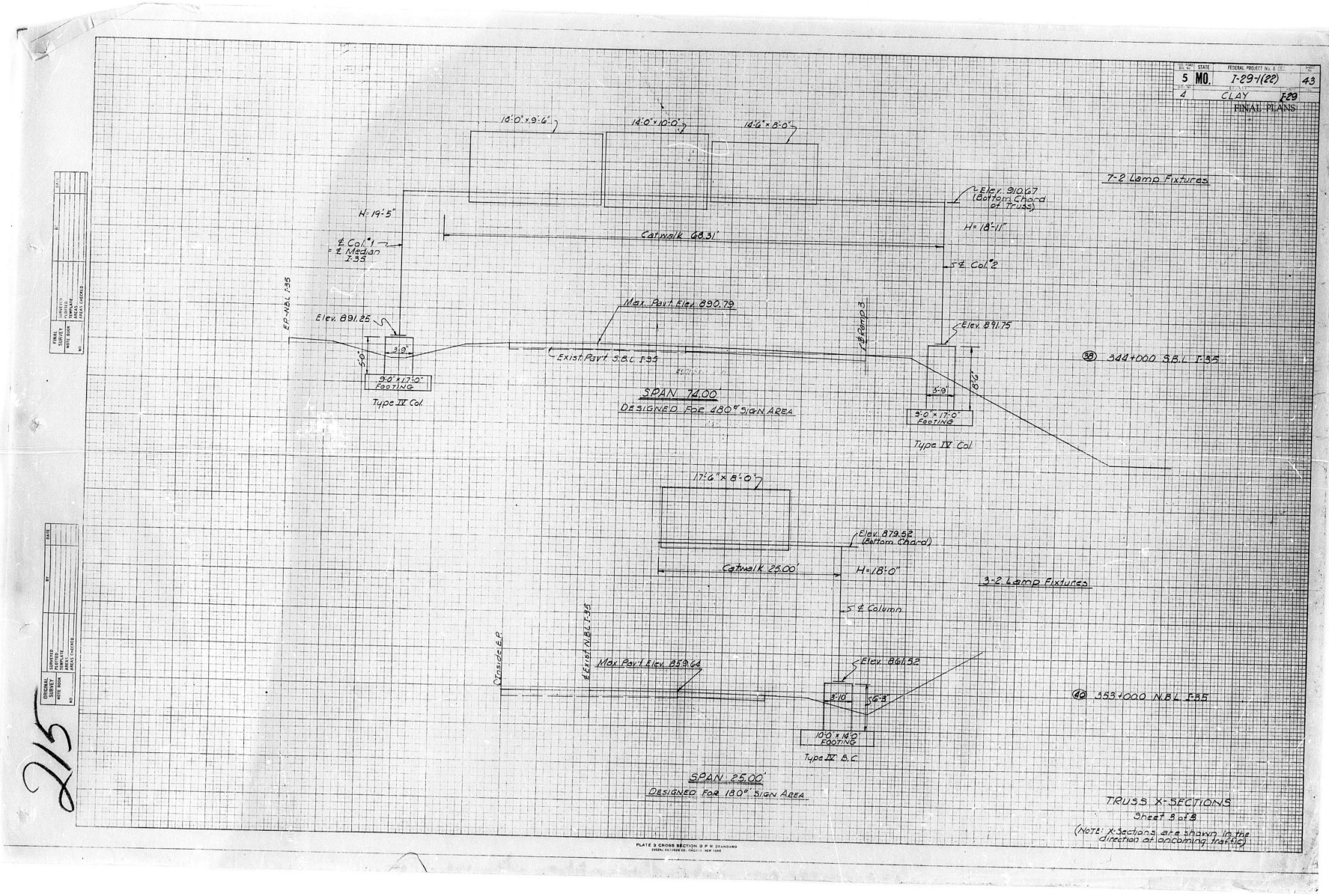


ST. ROUTE NO.	STATE	FEDERAL PROJECT No. & SEC	SHEET NO.
5	MO.	1-29-1(22)	42
DIST.	COUNTY		SHEET INC.
4	CLAY		129

FINAL PLANS

214

596



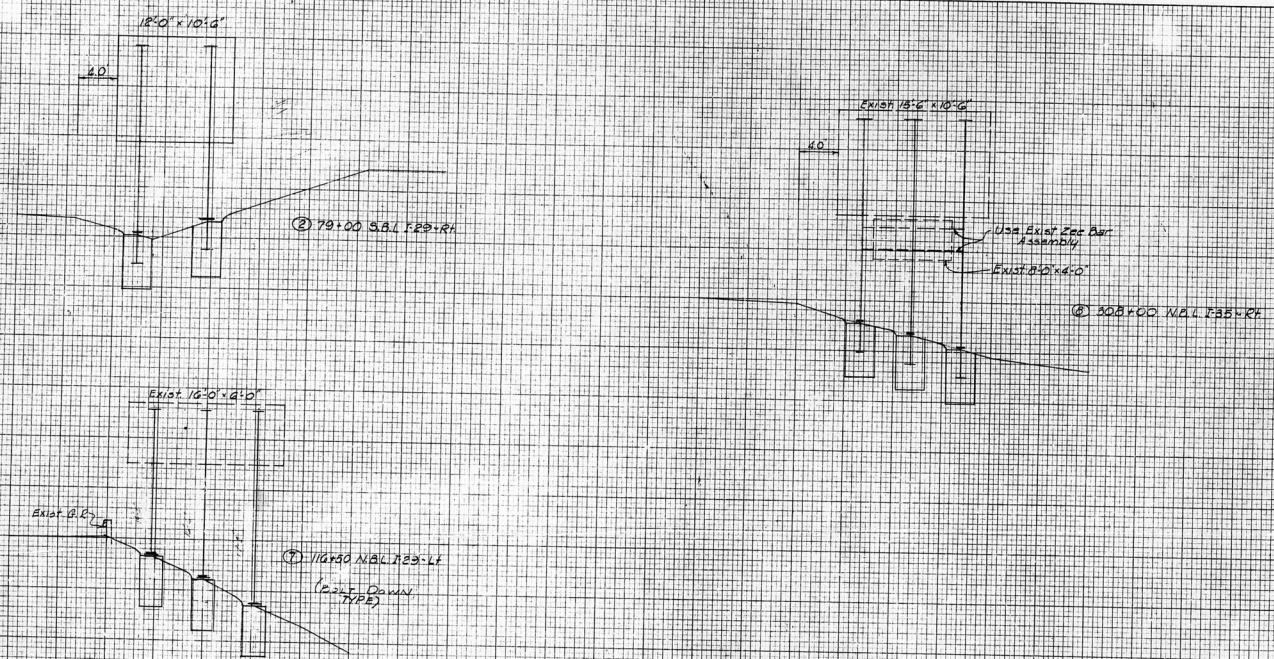
STATE 5 MO. FEDERAL PROJECT No. I-29-1(22) SHEET NO. 43
CLAY 529
FINAL PLANS

215

506

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	44
DIST. NO. 4		COUNTY CLAY	ROUTE I-29

FINAL PLANS

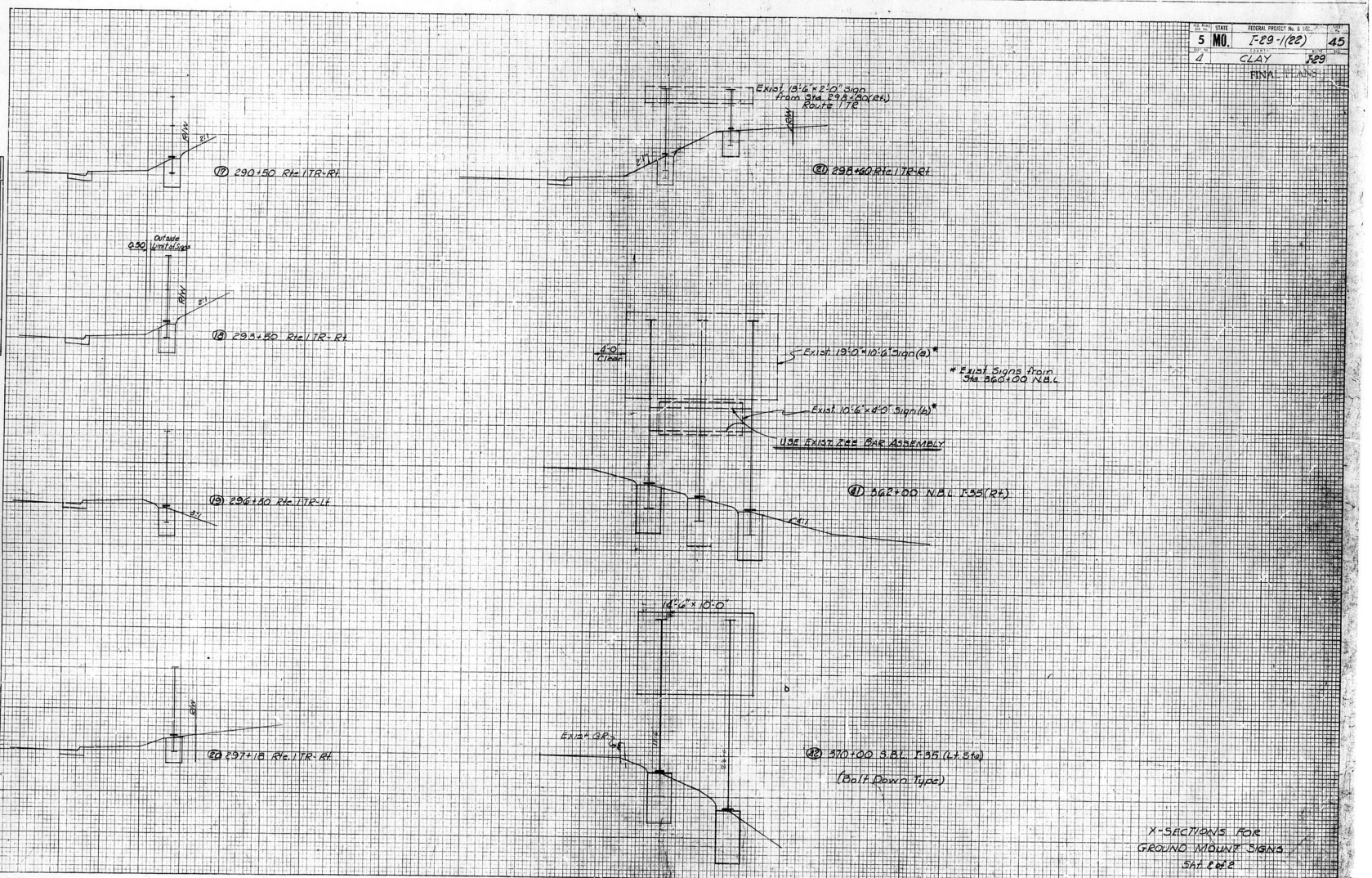


GROUND MOUNT X-SECTIONS
Sheet 1 of 2

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

216

506



5 MO. I-29-1(22) 45
4 CLAY I-29
FINAL PLANS
Exist. 13'-6" x 2'-0" Sign from Sta. 298+80 (Rt.) Route 1TR
(17) 290+50 Rte. 1TR-Rt.
(21) 298+60 Rte. 1TR-Rt.
0.50 Outside Limit of Signs
(18) 293+50 Rte. 1TR-Rt.
4'-0" Clear
Exist. 19'-0" x 10'-6" Sign (a)*
* Exist. Signs from Sta. 360+00 N.B.L.
Exist. 10'-6" x 4'-0" Sign (b)*
USE EXIST. ZEE BAR ASSEMBLY
(19) 296+50 Rte. 1TR-Lt.
(41) 362+00 N.B.L. I-35 (Rt.)
14'-6" x 10'-0"
Exist. GR.
(20) 297+18 Rte. 1TR-Rt.
(42) 370+00 S.B.L. I-35 (Lt. Sta.)
(Bolt Down Type)
X-SECTIONS FOR GROUND MOUNT SIGNS
Sht. 2 of 2
PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

217

506

LIST OF STANDARD PLANS

1 of 2

PROJ.	SHEET
I-29-1(22) UA	46
CO. CLAY	RTE. I-29

21.40		9-64	72.02	2 of 12	3-1-66	72.12	4 of 7	6-25-65
21.52		6-1-61	72.02	3 of 12	9-1-62	72.12	5 of 7	6-25-65
21.60		12-7-64)	72.02	4 of 12	5-1-66	72.12	6 of 7	
48.10		3-1-67	72.02	5 of 12	5-1-67	72.12	7 of 7	5-64
48.12		2-1-63	72.02	6 of 12	9-1-64	72.12	7 of 7	9-66
48.30		3-1-67	72.02	7 of 12	3-1-66	72.60	1 of 7	6-25-65
53.30		10-6-61	72.02	8 of 12	1-1-63	72.60	2 of 7	
53.35			72.02	9 of 12	3-1-66	72.60	3 of 7	8-20-64
53.40		1-1-67	72.02	10 of 12	3-1-66	72.60	4 of 7	6-25-65
53.41		1-1-67	72.02	12 of 12	6-1-67	72.60	5 of 7	6-25-65
54.00		12-1-67	72.03	1 of 6	9-1-67	72.60	6 of 7	
61.00		6-1-64	72.03	2 of 6	5-1-67	72.60	7 of 7	9-66
70.00		1-1-67	72.03	3 of 6	1-1-67	80.40		9-10-61
70.01		7-66	72.03	4 of 6	1-1-67	80.43		1-1-61
70.18		4-1-67	72.03	5 of 6	1-1-67	80.44		10-20-61
70.23		Now 12-65	72.03	6 of 6	1-1-67	80.46		1-1-61
72.00	1 of 5	6-19-61	72.10	1 of 8	6-25-65	80.50		3-1-62
72.00	2 of 5	6-19-61	72.10	2 of 8		82.00		1-1-64
72.00	3 of 5	6-19-61	72.10	3 of 8	8-19-64	84.01		11-1-63
72.00	4 of 5	6-19-61	72.10	4 of 8	8-17-64	84.03		6-1-61
72.00	5 of 5	6-19-61	72.10	5 of 8	1-5-66	86.00	1 of 5	12-67
72.01	1 of 5	3-1-66	72.10	6 of 8	9-66	86.00	2 of 5	12-67
72.01	2 of 5	3-1-66	72.10	7 of 8		86.00	3 of 5	12-67
72.01	3 of 5	8-15-62	72.10	8 of 8	9-66	86.00	4 of 5	12-67
72.01	4 of 5	8-15-62	72.12	1 of 7	6-25-65	86.00	5 of 5	New 12-2-67
72.01	5 of 5	8-15-62	72.12	2 of 7		86.10		2-15-61
72.02	1 of 12	1-1-63	72.12	3 of 7	8-18-64	87.00		6-64

212

596

LIST OF STANDARD PLANS

2 of 2

PROJ.	SHEET
I-29-1(22) UA	47
CO. CLAY	RTE. I-29

87.10	1-1-65		
87.20	11-1-67		
89.00	8-67		
90.50	New 7-1-63		

219

1st X

MISSOURI
STATE HIGHWAY COMMISSION
PLAN AND PROFILE OF PROPOSED STATE ROAD

FEDERAL AID PROJECT

CLAY COUNTY

COUNTY
CLAY
STATE ROUTE NO.
I-29
PROJECT NO.
I-29-1(22)6,UA

FINAL PLANS

INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS (3 Sheets)	2
SUMMARY (Sheet)	2-A
PLAN-PROFILE & B SHEETS	3-10
REFERENCE POINTS	11
SPECIAL SHEETS	12-23
LIGHTING	24-29A
SIGNALS	
SIGNING	30-45
CULVERT SECTIONS	46-58
BRIDGE PLANS	59-123
STANDARDS	42 Sheets
CROSS SECTIONS	1-54

RAMP DESIGN DESIGNATION

A.D.T. (1975) - 6890
A.D.T. (1988) - 8890
D.H.V. (1988) - 889
D = 50%
T = 6%
V = 40 m.p.h.

LIMITED ACCESS HIGHWAY

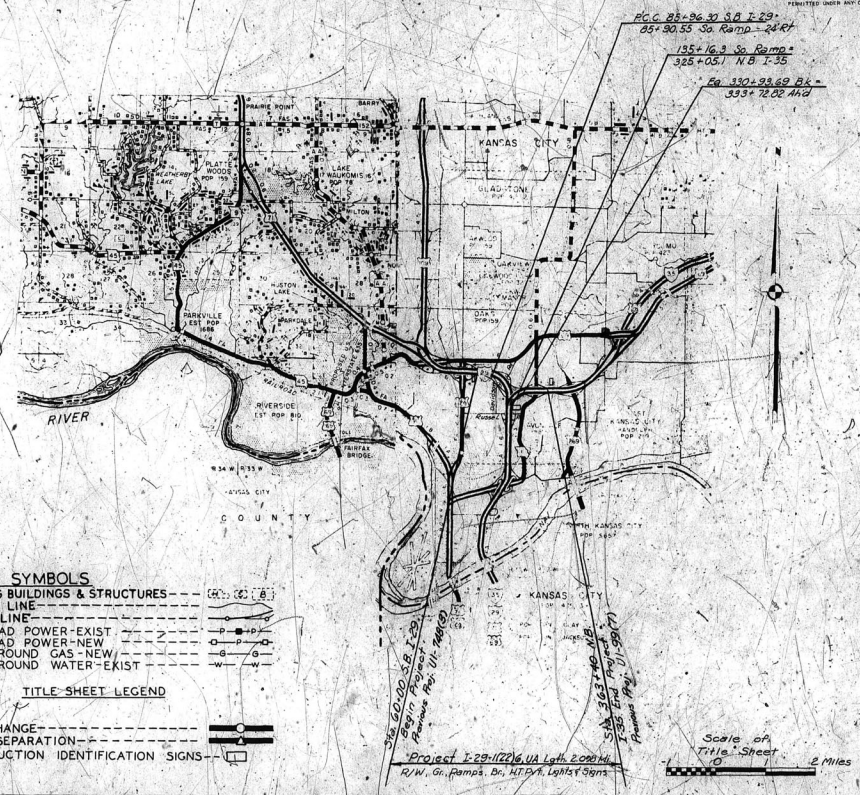
This shall be a limited access highway between Station 79+46, Sand Station 340+10.42 Except at locations and as otherwise specifically shown on these plans, no abutter's rights in, or of direct access to, from, or across the highway or its right of way shall attach or belong to any property abutting on said section of highway, or to any person merely because of ownership of such abutting property. There shall be the usual right of access over any location either (1) shown on these plans as a property entrance (P.E.), field entrance (F.E.), or private underpass, or (2) where and when any such entrance, underpass, or an open public highway is being maintained by the governmental agency having authority therefor. Wherever an adjacent outer-roadway is so shown or maintained, there shall be the usual right of direct access between the abutting property and such outer-roadway to which access is not specifically prohibited by the special symbol denoting "No Right of Access" as shown on the plans, and along it to and from the nearest lane of the thruway or public highway.

LEGEND

- BEGINNING AND ENDING OF LIMITED ACCESS
- LIMITED ACCESS
- NO RIGHT OF ACCESS OR CROSSING OF LINES BEARING THIS SYMBOL WILL BE PERMITTED UNDER ANY CIRCUMSTANCES.



KEY MAP
SHOWING LOCATION OF COUNTY



CONVENTIONAL SYMBOLS

STATE LINE	EXISTING BUILDINGS & STRUCTURES
COUNTY LINE	GROUND LINE
CITY LIMITS	GRADE LINE
TOWNSHIP OR RANGE LINE	OVERHEAD POWER-EXIST
OTHER LAND SURVEY LINES	OVERHEAD POWER-NEW
FENCE LINE	UNDERGROUND GAS-NEW
GUARD RAIL	UNDERGROUND WATER-EXIST
PROPERTY LINE	
RIGHT OF WAY LINE	
RIGHT OF WAY MARKER	
RAILROAD	
SURVEY CENTER-LINE	
CULVERT	
OVERHEAD TELEPHONE NEW	
OVERHEAD TELEPHONE EXIST	

TITLE SHEET LEGEND

INTERCHANGE	
GRADE SEPARATION	
CONSTRUCTION IDENTIFICATION SIGNS	

STATE OF MISSOURI
M. J. SNIDER
NUMBER E-623
REGISTERED PROFESSIONAL ENGINEER

SUBMITTED BY DATE

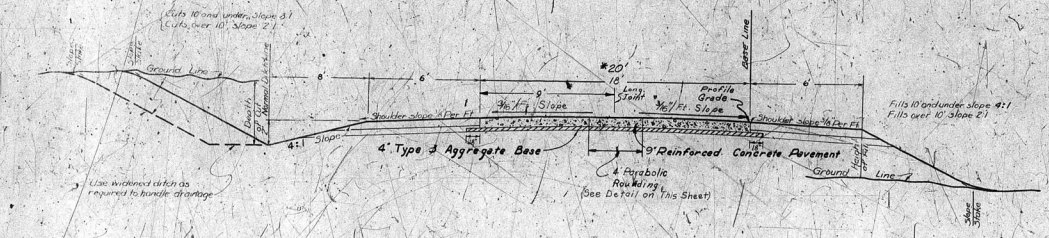
CHIEF ENGINEER
MISSOURI STATE HIGHWAY COMMISSION
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

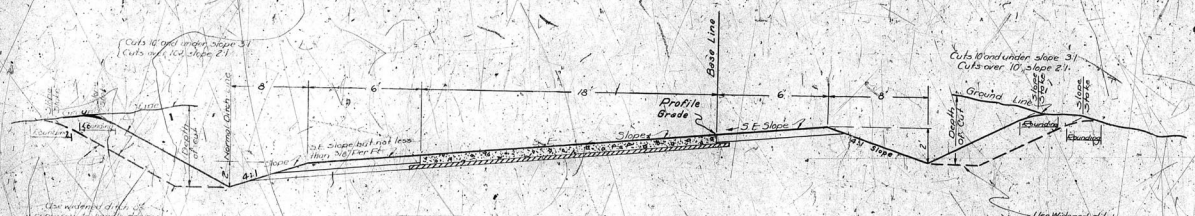
DIVISION ENGINEER DATE

164

596

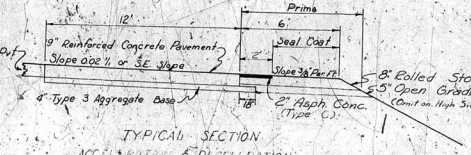


SECTION ON TANGENT

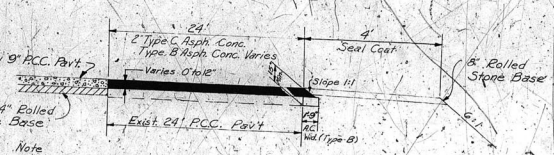


CUT SECTION ON SUPERELEVATED CURVE (ALL CURVES OVER 30 MINUTES)

NOTE: Fill sections on superelevated curve to be identical to this section from shoulder to shoulder. Beyond shoulders use same as shown for "Section on Tangent"



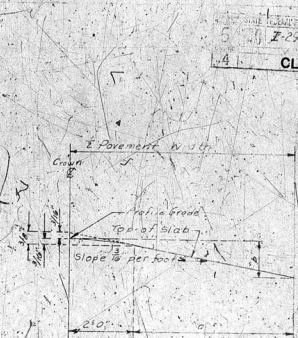
TYPICAL SECTION
ACCELERATION & DECELERATION LANES
TYPE E, STABILIZED SHOULDER TYPICAL SECTION
FOR NORTH RAMP, SOUTH RAMP, NEW AND EXISTING PAVING AT ANTIOCH RD.



New 4" Rolled Stone Base

Note
See Special Sheet No. 2 For X-Slope.

TYPICAL SECTION
I 229 SUBF. N.B. I-29
Sta. 100+75 To Sta. 105+00



STANDARD CROWN

GENERAL NOTES:

For details of superelevation & widening of horizontal curves, undergrading, rounding, all pav't appurtenances, drainage items, etc., see other dwgs & Std. Dwg. 2140.

A transitioning from one cut or fill slope to another use a 4:1 transition beginning at point on back slope that would normally be the flatter slope and ending the transition at the actual point where the steeper slope is required. If the actual limits requiring a steeper slope is less than 25' in length do not change to the steeper slope.

All information shown on these Typical Sections is for the purpose of indicating general design and construction details. Actual construction of roadway widths, slopes depths and type of ditches, undergraded cuts, and other features shall conform to the details shown on Cross Sections and Plan-Profile sheets or as directed by the Engineer.

This drawing not to scale, follow dimensions.

NORTH AND SOUTH RAMPS

*** RAMP H AT ANTIOCH RD**

MISSOURI STATE HIGHWAY COMMISSION
PRIMARY SYSTEM
TYPICAL SECTIONS
FOR
30' F.T. GRADED EARTH
AND
18 FT. CONCRETE PAVEMENT

(DESIGN SPEED M.P.H.)
ROUTE I-29 COUNTY CLAY
PROJ. OR SEC. I 29-1(22)

APPROVED _____ APPROVED _____
ENGR. SURVEYS & PLANS CHIEF ENGINEER

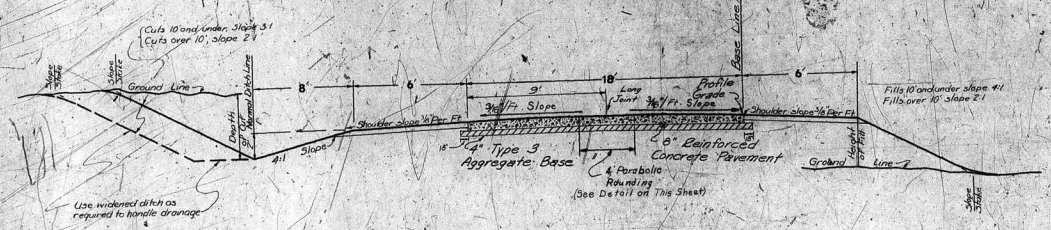
SHEET NO. 1 OF 3 SHEETS 21.10

I-29-1(22) 1 2
4 CLAY 29
FINAL PLANS

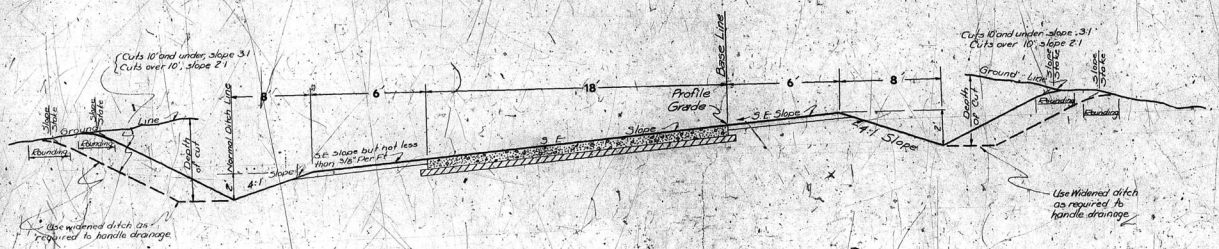
165

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No.	FISCAL YEAR	SHEET NO.	SHEETS
5	MO	I-29-1(22)		2	
DIV. NO.		COUNTY		ROUTE	SEC.
4		CLAY		I-29	

FINAL PLANS

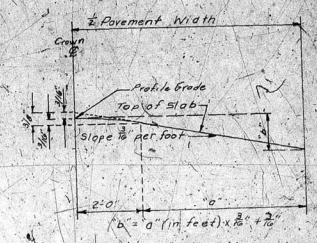


SECTION ON TANGENT



CUT SECTION ON SUPERELEVATED CURVE (ALL CURVES OVER 30 MINUTES)

NOTE: Fill sections on superelevated curve to be identical to this section from shoulder to shoulder. Beyond shoulders use same as shown for "Section on Tangent."



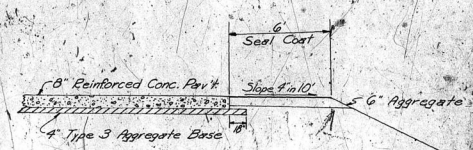
STANDARD CROWN

GENERAL NOTES:

For details of superelevation & widening of horizontal curves, undergrading, rounding, all pav't appurtenances, drainage items, etc., see other dwgs & Std. Dwg. 21.40.

In transitioning from one cut or fill slope to another, use a 25' transition beginning at a point 25' back along that which would normally be the flatter slope and ending the transition at the actual point where the steeper slope is required. If the actual limits requiring a steeper slope is less than 25' in length do not change to the steeper slope.

All information shown on these Typical Sections is for the purpose of indicating general design and construction details. Actual construction of roadway widths, slopes, depths and type of ditches, undergraded cuts, and other features shall conform to the details shown on Cross Sections and Plan-Profile sheets or as directed by the Engineer.



TYPICAL SECTION
TYPE A STABILIZED SHOULDER
RAMP "U"

RAMP "U" AT DAVIDSON RD

MISSOURI STATE HIGHWAY COMMISSION
PRIMARY SYSTEM
TYPICAL SECTIONS
FOR
30' GRADED EARTH
AND
18' FT. CONCRETE PAVEMENT

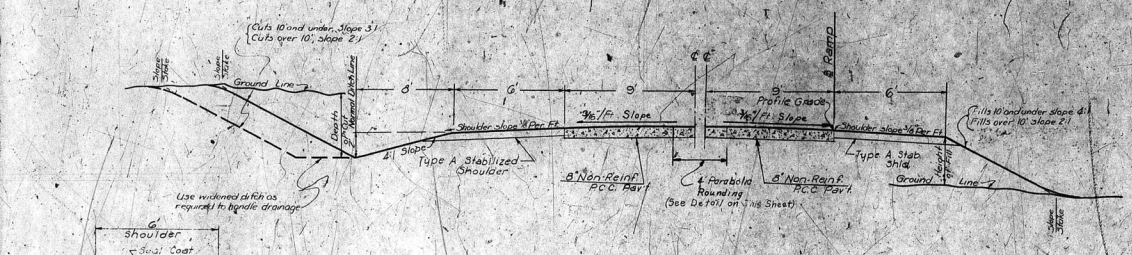
(DESIGN SPEED M.P.H.)
ROUTE: COUNTY:
PROJ. OR SEC.

APPROVED [signature] ENGR. SURVEYS & PLANS APPROVED M. J. Snider CHIEF ENGINEER

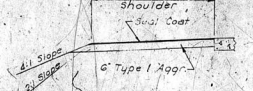
SHEET NO. 2 OF 3 21.10

166

5	MO.	I-29-1(22)		2
4		CLAY		I-35

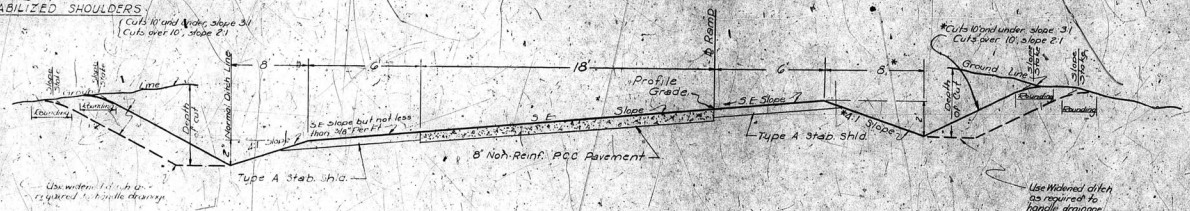


SECTION ON TANGENT



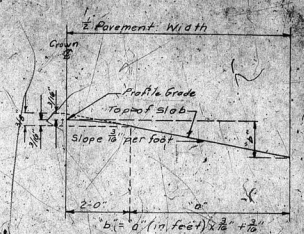
DETAILS FOR TYPE A STABILIZED SHOULDERS

TYPICAL SECTIONS FOR RAMPS



CUT SECTION ON SUPERELEVATED CURVE (ALL CURVES OVER 30 MINUTES)

NOTE: Fill sections on superelevated curve to be identical to this section from shoulder to shoulder. Beyond shoulders use same as shown for "Section on Tangent."



STANDARD CROWN

GENERAL NOTES:

For details of superelevation & widening of horizontal curves, undergrading, rounding, all pav't appurtenances, drainage items, etc., see other dwgs. & Std. Dwg. 21.40

In transitioning from one cut or fill slope to another, use a 25' transition beginning at a point 25' back along that which would normally be the flatter slope and ending the transition at the actual point where the steeper slope is required. If the actual limits requiring a steeper slope is less than 25' in length, do not change to the steeper slope.

All information shown on these Typical Sections is for the purpose of indicating general design and construction details. Actual construction of roadway widths, slopes, depths and type of ditches, undergraded cuts, and other features shall conform to the details shown on Cross-Sections and Plan-Profile sheets or as directed by the Engineer.

* Ramp #4 between I-35 Sta. 337+40 and 342+50
Use 6:1 inslope and 4:1 backslope to Shldr. elev. See X-sections for add'l details.

MISSOURI STATE HIGHWAY COMMISSION

TYPICAL SECTIONS
FOR
RAMPS 8 AND 8 AT ANTIOCH RD
STABILIZED SHOULDER DETAILS
EXISTING RAMP G AT ANTIOCH RD

(DESIGN SPEED M.P.H.)
ROUTE I-29 COUNTY CLAY
PROJ. OR SEC. I-29-1(22)

APPROVED [signature] ENGR. SURVEYS & PLANS APPROVED [signature] CHIEF ENGINEER

SHEET 3 OF 3

167

590

LOCATION I-29 at I-35 INTERCHANGE in KANSAS CITY

TYPE GRADING, CULVERTS, BRIDGES, LIGHTING, SIGNING and 25 FOOT CONCRETE RAMP PAVEMENT

MISSOURI STATE HIGHWAY COMMISSION

SUMMARY OF QUANTITIES

FED. ROAD DIV. No.	STATE	PROJECT	SHEET No.	TOTAL SHEETS
7	MO.	I-29 (12)	1-3	
DIST. No.	COUNTY		ROUTE	SEC. No.
4	CLAY		I-29	

Sheet 1 of 3

RECAPITULATION FROM "B" SHEETS

PLAN SHEET NUMBERS	3	4	5	6	7	SUB-TOTALS
		213.3	2159			585
	13%	485	3123	8	227	
					28.9	28.9
	8.8%		382	09	6.3	
	150	800	2990	70	950	
		50	41			
			110		26	136
		46	45			91
		106	225			
					62	62
		37	152		12	201
		111	120	24		255
		48	304		98	450
			160		38	198
			20			20
		151				151
	10					10
			170			170
			72			72
			435			435
			1			1
		1				1
			339			
		2	3	1	4	10
		10			24	54
			3960			
			3960			
			4250			
		5522	1159.3		840.5	
		449				
		40	60			
		23				
			163			
		383.3	8444			346.2
			106			
		31	22			6
	325	975	6297	225		1600
	5	10	14	5		12
		3	9			2
		6	77	2	4	29
	2				2	4
		190			190	380
			1			
			33			
	341	885	1601	793		

GENERAL SUMMARY

TOTALS	UNIT	ITEM	DESCRIPTION	REMARKS
147,680	Cu.Yd.	21004	Class A Excavation (Includes 9886CY Slide Exc. & 1600CY Round (14))	
7,602	Cu.Yd.	21024	Class C Excavation	
106,818	Cu.Yd.	21100	Embankment In Place	
126599	Cu.Yd.	21204	Compacting Embankment	
5208	Cu.Yd.	21214	Compacting In Cut	
0	100 Gal.	21507	Water	
1	L.Sum	24300	Miscellaneous Removals (Urban Areas)	
1	Each	24410	Removal of Buildings, Class 1	
10407	Ton	31015	Type 1 Aggregate for Base	Est. at 2.10 Ton/Cu.Yd.
7706	Ton	31035	Type 3 Aggregate for Base	Est. at 2.10 Ton/Cu.Yd.
3020	Ton	31045	Type 4 Aggregate for Base	Est. at 1.60 Ton/Cu.Yd.
0.69	Mile	31102	Processing Type 1 Aggregate (6")	Est. at 1910 Tons
2.83	Mile	31162	Processing Type 1 Aggregate (8")	Est. at 7746 Tons
2.10	Mile	31342	Processing Type 3 Aggregate (4")	Est. at 6988 Tons
2.83	Mile	31452	Processing Type 4 Aggregate (5")	Est. at 3056 Tons
3990	Gal.	37001	Primer (MC-0 or RC-0)	
3	Ton	37015	Banking Primer	Est. at 8 Lbs/Sq.Yd.
539	Ton	43025	Type B Asphaltic Concrete	Est. at 1.96 Ton/Cu.Yd.
634	Tons	43035	Type C Asphaltic Concrete	Est. at 1.98 Ton/Cu.Yd.
225	Ton	44035	Cover Aggregate (Grade 6)	Est. at 0.125 Ton/Sq.Yd.
2080	Gal.	44221	Bituminous Material (2nd. Appl.) (RC-1)	Est. at 0.25 Gal./Sq.Yd.
4220	Gal.	44417	Bituminous Material (1st. Appl.) (150-300 P.A.S.)	Est. at 0.35 Gal./Sq.Yd.
58867	Sq.Yd.	48103	Concrete Pavement (8" Mat-Reinf.)	
52527	Sq.Yd.	48283	Concrete Pavement (10" Reinf.)	
232415	Sq.Yd.	48293	Concrete Pavement (9" Reinf.)	
487.7	Sq.Yd.	48301	Approach Slab for Bridges	
3858	Cu.Yd.	50014	Class 3 Excavation for Structures	
28.9	Cu.Yd.	53021	Class B Concrete (Culverts)	
559	Cu.Yd.	53022	Class B Concrete (Misc.)	
7760	Lb.	54000	Reinforcing Steel	
93	Lin.Ft.	60412	12" Bit. Coated C.M.P. Culvert (Paved Invert)	
136	Lin.Ft.	60415	15" Bit. Coated C.M.P. Culvert (Paved Invert)	
91	Lin.Ft.	60418	18" Bit. Coated C.M.P. Culvert (Paved Invert)	
331	Lin.Ft.	60508	8" Bit. Coated C.M.P. Culvert (Plain)	
62	Lin.Ft.	80512	12" Bit. Coated C.M.P. Culvert (Plain)	
201	Lin.Ft.	61312	12" Class III Reinf. Conc. Pipe Culvert	
255	Lin.Ft.	61315	15" Class III Reinf. Conc. Pipe Culvert	
450	Lin.Ft.	61318	18" Class III Reinf. Conc. Pipe Culvert	
198	Lin.Ft.	61324	24" Class III Reinf. Conc. Pipe Culvert	
20	Lin.Ft.	61327	27" Class III Reinf. Conc. Pipe Culvert	
151	Lin.Ft.	61330	30" Class III Reinf. Conc. Pipe Culvert	
10	Lin.Ft.	61336	36" Class III Reinf. Conc. Pipe Culvert	
170	Lin.Ft.	61648	48" Class IV Reinf. Conc. Pipe Culvert	
72	Lin.Ft.	61730	30" Class V Reinf. Conc. Pipe Culvert	
435	Lin.Ft.	61610	10" Vitrified Clay Culvert-Old Sewer Pipe	
1	Each	80200	Adjusting Manholes	
1	Each	80201	Adjusting Catch Basins and Inlets	
339	Lin.Ft.	80340	Concrete Encasement	
10	Each	80590	Pipe Collar	
54	Lin.Ft.	82000	Class A Underdrains	
5786	Cu.Yd.	83000	Furnishing Rock Fill	
9515	Cu.Yd.	83610	Placing Rock Fill	
3960	Cu.Yd.	83102	Furnishing Type 2 Rock Blanket	
3960	Cu.Yd.	83112	Placing Type 2 Rock Blanket	
42507	Sq.Yd.	83504	Grouted Rock Surface	
2572.0	Sq.Yd.	83544	Concrete Slope Protection (4")	
449	Lin.Ft.	84200	Curb and Gutter (Type B)	
100	Lin.Ft.	84200	Curb and Gutter (Type C)	
231	Lin.Ft.	84210	Concrete Curb and Gutter (Special)	
163	Lin.Ft.	84300	Concrete Gutter (Type B)	
1573.9	Sq.Yd.	84403	Paved Ditch	
1060	Lin.Ft.	84706	Integral Curb (6" Height and Under)	
48	Lin.Ft.	84781	Integral Curb (Over 6" Height)	
9822	Lin.Ft.	86006	Guard Rail, Type A (Steel Posts 2'-0" Post Spacing)	
46	Each	86610	Terminal Sections	
14	Each	86617	Bridge Anchor Sections	
11277	Lin.Ft.	86100	Property Fence (60")	
9	Each	87020	Movable Barricades	
1	L.Sum	87100	Construction Signs	
29	Each	88000	Right of Way Markers	
4	Each	88020	Drain Markers	
380	Lb.	89000	Grates and Bearing Plates	
1	Each	89260	Manhole Frame and Cover (Type 2)	
3	Each	89200	Manhole Frame and Cover (Type 4)	
27.6	Acre	90120	Type 2 Mulch	
4000	Gal.	90121	Asphalt Emulsion	Est. at 250 Gal./Acre
3400	Sq.Yd.	90200	Sodding	
27.6	Acre	90400	Seeding	
0	Sq.Yd.	90503	Erosion Control Netting (Type 1)	
1	L.Sum	99003	Field Laboratories	

LENGTH OF PROJECT — FINAL PLANS

END OF PROJECT	STATION	363 + 48 Abl. 1-35
BEGINNING OF PROJECT	STATION	60 + 00 Sta. 1-29
APPARENT LENGTH		30348.0 FEET
EQUATIONS AND EXCEPTIONS		Sta. 85 + 96.30 Ba. (1-29) = Sta. 85 + 00.39 Ah. (I-35) = 0 FEET
		Sta. 135 + 76.3 Ba. (I-35 Resp.) = Sta. 135 + 05.1 Ah. (I-29) = 19986.80 FEET
		Sta. 336 + 93.69 Ba. (I-35) = Sta. 333 + 72.82 Ah. (I-35) = 376.87 FEET
TOTAL CORRECTIONS =		19626.48 FEET
NET LENGTH OF PROJECT		31072.82 FEET
	STATE LENGTH:	5.883 MILES
	FEDERAL LENGTH:	5.998 MILES

Prepared By _____ Date _____ 19__

Checked In Dist. Office By J.R. Thurman Date 12/5 19 71

Checked In Central Office By [illegible] Date 12-17 19 71

Revised By _____ Date _____ 19__

168

LOCATION I-29 at I-35 INTERCHANGE to KANSAS CITY

TYPE GRADING, CULVERTS, BRIDGES, LIGHTING, SIGNING and 18 FOOT CONCRETE RAMP PAVEMENT

MISSOURI STATE HIGHWAY COMMISSION

SUMMARY OF QUANTITIES

FED. ROAD DIV. No.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
7	MO.	I-29-1(28)	2	3
DIST. No.	COUNTY		ROUTE	SEC. No.
4	CLAY		71-29	

Sheet 2 of 3

LENGTH OF PROJECT FINAL PLANS

END OF PROJECT	STATION	
BEGINNING OF PROJECT	STATION	
APPARENT LENGTH		FEET
EQUATIONS AND EXCEPTIONS		
TOTAL CORRECTIONS		FEET
NET LENGTH OF PROJECT		FEET
STATE LENGTH		MILES
FEDERAL LENGTH		MILES

RECAPITULATION FROM "B" SHEETS

PLAN SHEET NUMBERS 24	25	26 & 27	28	29	37	38	39	40	SUB-TOTALS
2	1	4							
5	15	1		6					
9	16	5	4	6					
	1								
				3					
213	343	69							
				72					
28	52	52							
		26	22						
1558	5988	1021	2360	2655					
137	29		16	88					
		1	2	3					
688	1248	368	296	480					
2390	6990			3080					
		2270	2270						
9	16	5	4	6					
9	16	5	4	6					
					11				
					18.49				18.49
					3.65		162.66	16.89	185.1
						1			
						1			
						1			
						1			
						1			
						1			
					12410				12410
					43				
					44				
					180				
					1				
					47				
						2053.3			2053.3
					391.0				
					159.7				159.7
					185.8				185.8
					180				

GENERAL SUMMARY

TOTALS	UNIT	ITEM	DESCRIPTION	REMARKS
			HIGHWAY LIGHTING	
12	Each	70010	8' Bracket Arm	
28	Each	70010	10' Bracket Arm	
40	Each	70011	250 Watt Mercury Luminaire	
1	Each	70032	120/240 Volt Pole Mounted Control Station (Std. 70.184)	
1	Each	70033	240 Volt Pole Mounted Control Station (Std. 70.23)	
3	Each	70034	30' Service Pole, Class 4	
622	Lin.Ft.	70040	2" Rigid Steel Conduit (Pushed)	
72	Lin.Ft.	70040	3" Rigid Steel Conduit (Pushed)	
126	Lin.Ft.	70041	2" Rigid Steel Conduit (In Trench)	
46	Lin.Ft.	70041	3" Rigid Steel Conduit (In Trench)	
14341	Lin.Ft.	70054	Type U Trenching and Backfilling	
259	Lin.Ft.	70055	Type III Trenching and Backfilling	
10	Each	70061	Type B Concrete Handhole	
3080	Lin.Ft.	70072	No. 10 Single Conductor Pole and Bracket Cable	
12360	Lin.Ft.	70073	1" Cable Conduit, 2-No. 8 Conductors	
5040	Lin.Ft.	70073	1" Cable Conduit, 3-2 No. 4 Conductors	
40	Each	70104	Type A-30 Lighting Pole	
40	Each	70106	Concrete Foundation (Pole)	
			HIGHWAY SIGNING	
11	Each	70032	(120/240 Volt Pole Mounted Control Sta. (Std. 70.184)	
18.5	Cu.Yd.	72000	Class B or B1 Concrete Footings (Extended)	
185.10	Cu.Yd.	72001	Class B Concrete Footings	
1	L.Sum	72002	63' Overhead Truss (Sign No. 1)	
1	L.Sum	72002	74' Overhead Truss (Sign No. 2)	
1	L.Sum	72002	70' Overhead Truss (Sign No. 3)	
1	L.Sum	72002	77' Overhead Truss (Sign No. 16)	
1	L.Sum	72002	74' Overhead Truss (Sign No. 38)	
1	L.Sum	72003	25' Cantilever Truss (Sign No. 40)	
12410	Lb.	72006	Structural Steel Posts	
43	Each	72007	Breakaway Assembly	
44	Each	72010	Delineators (Single White)	
180	Each	72012	Delineators (Double Amber)	
1	Each	72019	30' Service Pole, Class 4	
47	Lin.Ft.	72029	Type U Trenching and Backfilling	
2053	Sq.Ft.	72031	Type STBC Signs	
391	Sq.Ft.	72032	Type STAC Signs	
159	Sq.Ft.	72040	Type SHAR Signs	
186	Sq.Ft.	72050	Type SHBS Signs	
180	Lin.Ft.	72091	1" Cable Conduit; 2 No. 8 Conductors	
			RET. WALL Sta. 13 + 24 (Ramp U)	
			Dwg. No. A-2202	
121.5	Cu.Yd.	50014	Class 'I' Excavation for Structures	
124.5	Cu.Yd.	53029	Class 'b' Concrete	
13130	Lb.	54000	Reinforcing Steel	
			BRIDGE Sta. 19 + 67.17 (North Ramp)	
			Dwg. No. A-1760	
1679	Cu.Yd.	50034	Class 3 Excavation for Structures	
1040.0	Cu.Yd.	53020	Class 'B' Concrete	
118100	Lb.	54000	Reinforcing Steel	
			BRIDGE Sta. 21 + 48.57 (north Ramp)	
			Dwg. No. A-1761	
153.5	Cu.Yd.	50014	Class C Excavation for Structures	
67	Lin.Ft.	52005	Steel Piles, in Place (10#)	
8	Lin.Ft.	52405	Steel Piles, in Place (40#)	
29.5	Cu.Yd.	53003	Class B Concrete	
548.4	Cu.Yd.	53036	Class B1 Concrete	
63700	Lb.	54000	Reinforcing Steel	
544	Lin.Ft.	56001	Bridge Rail (Single Tube Type)	
			BRIDGE Sta. 99 + 12.31 (South Ramp)	
			Dwg. No. A-1762	
49.5	Cu.Yd.	50014	Class C Excavation for Structures	
437	Lin.Ft.	52005	Steel Piles, in Place (10#)	
13.5	Cu.Yd.	53023	Class B Concrete	
320.5	Cu.Yd.	53035	Class B1 Concrete	
38090	Lb.	54000	Reinforcing Steel	
380	Lin.Ft.	56001	Bridge Rail (Single Tube Type)	

Prepared By _____ Date _____ 19__ Checked in Dist. Office By _____ Date _____ 19__ Checked in Central Office By _____ Date _____ 19__ Revised By _____ Date _____ 19__

GAP 12a

MISSOURI STATE HIGHWAY COMMISSION

SUMMARY OF QUANTITIES

LOCATION I-29 at I-35 INTERCHANGE in KANSAS CITY

TYPE GRADING, CULVERTS, BRIDGES, LIGHTING, SIGNING and 18-FOOT CONCRETE RAMP PAVEMENT

Sheet 3 of 9

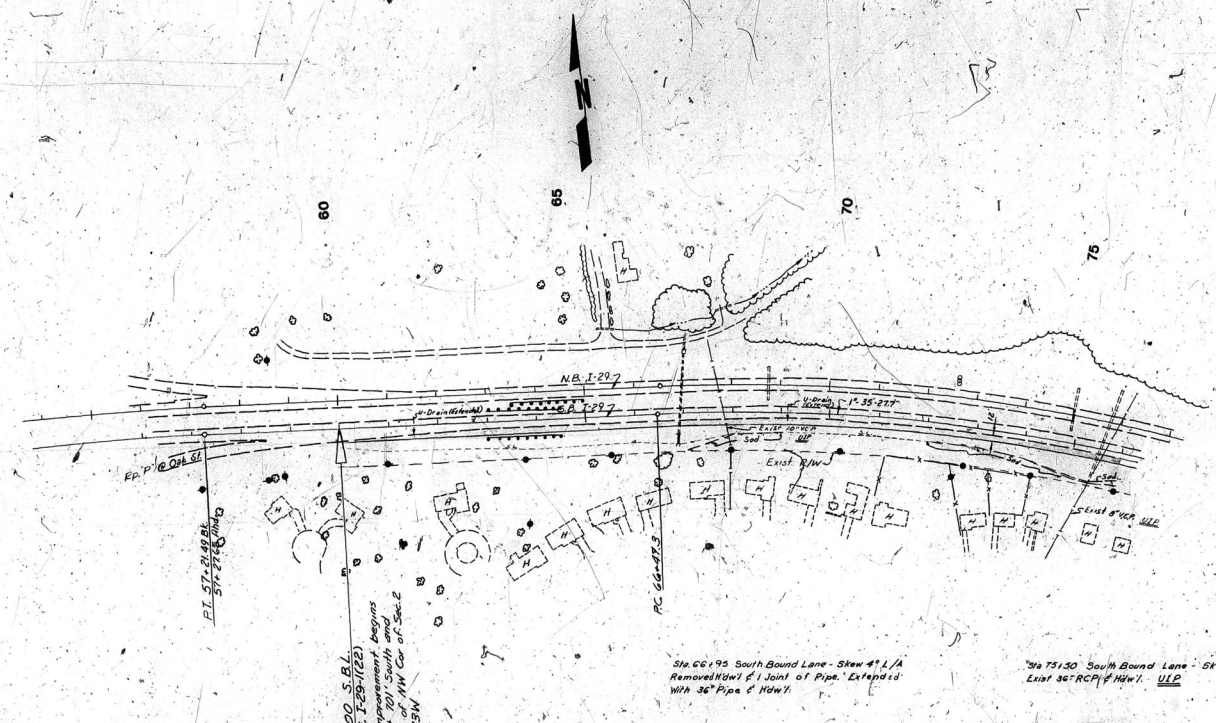
FED. ROAD DIV. No.	STATE	PROJECT	SHEET No.	TOTAL SHEETS
7	MO.	I-29-1(22)	2-A	
DIST. No.	COUNTY		ROUTE	SEC. No.
4	CLAY		I-29	

RECAPITULATION FROM "B" SHEETS

| PLAN SHEET NUMBERS | | |

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	3
DIST. NO.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

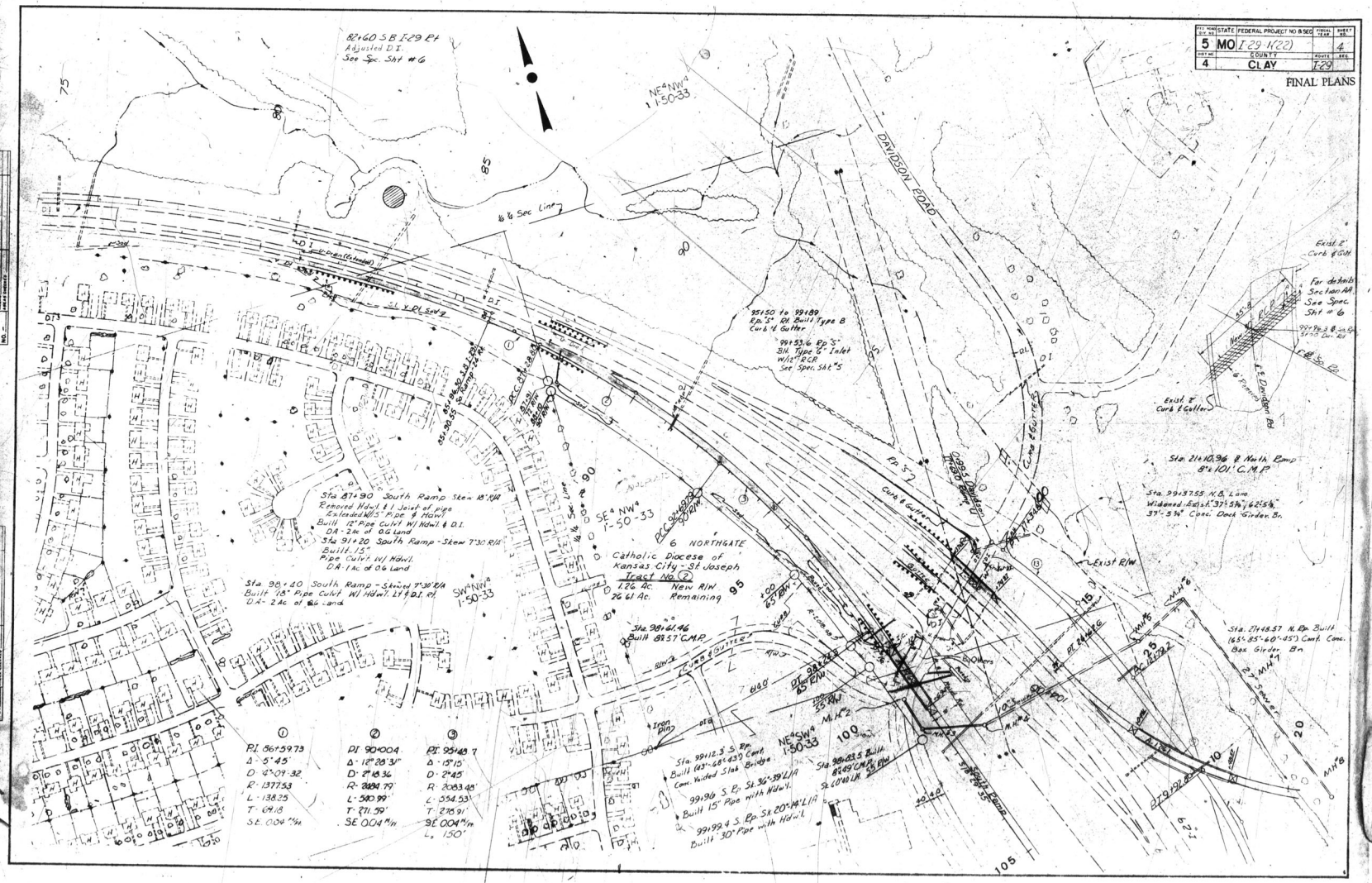
FINAL PLANS

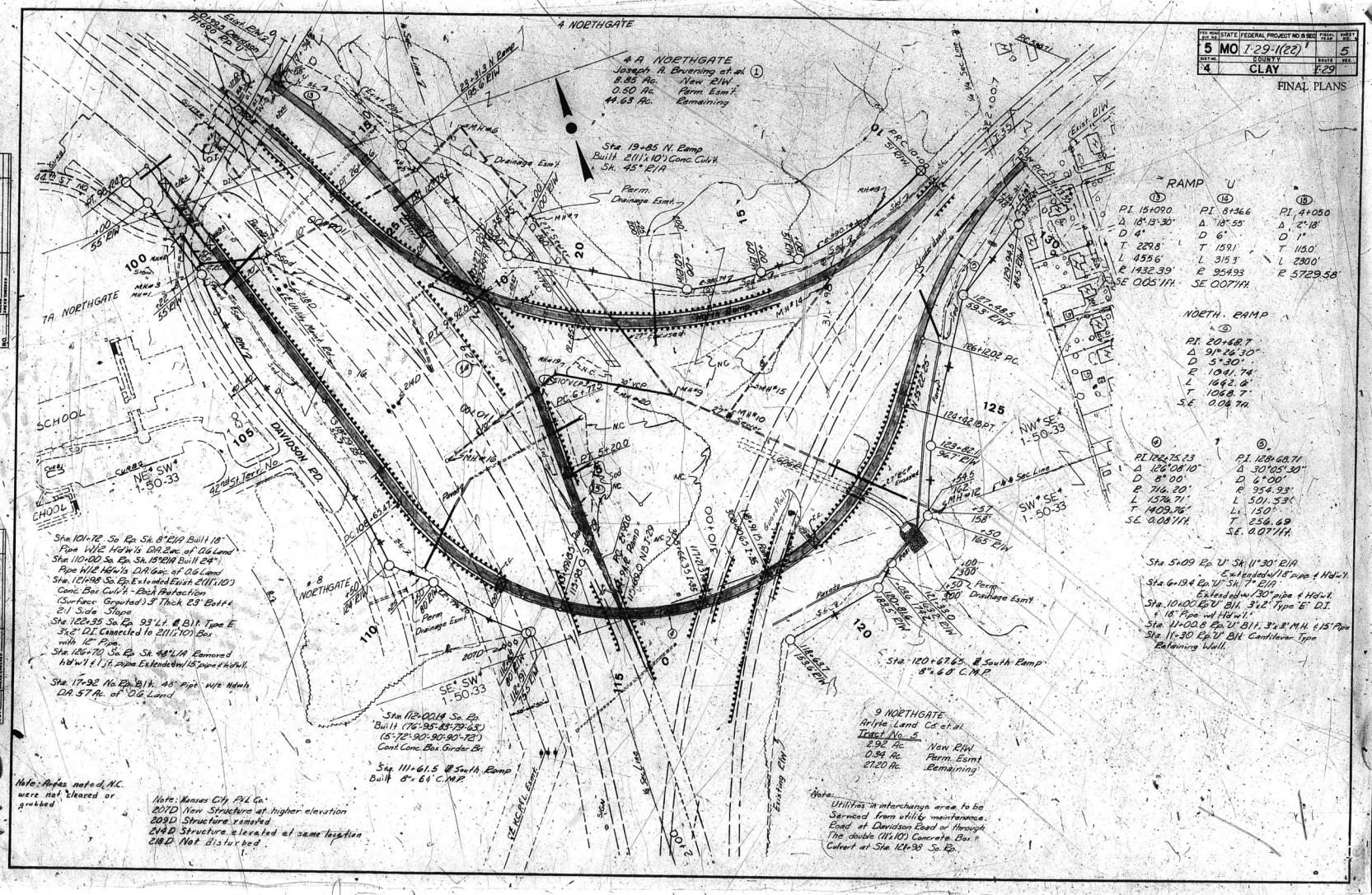


FINAL SURVEY			
NOTE BOOK	SURVEYED	BY	DATE
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY			
NOTE BOOK	SURVEYED	BY	DATE
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

171


FINAL PLANS
DAVIDSON ROAD
82+60 SB I-29 P.I.
Adjusted D.I.
See Spec. Sht #6
NE¼NW¼ 1-50-33
SE¼NW¼ 1-50-33
SW¼NW¼ 1-50-33
NE¼SW¼ 1-50-33
6 NORTHGATE
Catholic Diocese of Kansas City - St. Joseph
Tract No. 2
1.26 Ac. New R/W
26.61 Ac. Remaining
Sta 87+90 South Ramp Skew 18° Rt Ahead
Removed Hdwl. & I. Joist of pipe
Extended W.S. Pipe & Hdwl.
Built 12" Pipe Culvt W/ Hdwl. & D.I.
DA - 2ac of 0.6 Land
Sta 91+20 South Ramp - Skew 7°30 Rt Ahead
Built 15" Pipe Culvt W/ Hdwl.
DA - 1 Ac of 0.6 Land
Sta 90+40 South Ramp - Skewed 7°30 Rt Ahead
Built 18" Pipe Culvt W/ Hdwl. Lt & D.I. at
DA - 2 Ac of 0.6 Land
Sta 98+61.46
Built 83.57 C.M.P.
Sta 99+12.3 S. Rp.
Built (43'-68'-43') Cont. Welded Stl. Bridge
99+96 S. Rp. Sk 36°-39' Lt Ahead
Built 15" Pipe with Hdwl.
99+99.4 S. Rp. Sk 20°-Ahead Lt
Built 30" Pipe with Hdwl.
Sta 99+23.5 Built 83.49 C.M.P. Sk 0°40' Lt Ahead
95+50 to 99+89 Rp 'S' Rt. Built Type B Curb & Gutter
99+53.6 Rp 'S' Bk. Type 'B' Inlet W/12" RCP See Spec. Sht "S"
Exist. 2' Curb & Gutter
For details Section AA See Spec. Sht #6
Exist. 7' Curb & Gutter
Sta. 214+10.96 8 North Ramp 8'x10'1' C.M.P.
Sta. 99+37.55 N.B. Line Widened Exist. 37'-5¾" & 42'-5¾" 37'-3¾" Conc. Deck Girder Br.
Sta. 214+48.57 N. Rp. Built 165'-85'-60'-45') Cont. Conc. Box Girder Br.
Exist R/W
Curb & Gutter
Iron pin
Br. Ow.
Sanitary Sewer
Curb & Gutter
① P.I. 86+59.73 Δ - 5°-45' D - 4°-09'-32" R - 1377.53 L - 138.25 T - 69.18 SE .004 "/ft
② P.I. 90+00.4 Δ - 12°-28'-31" D - 2°-18'-34" R - 2484.79' L - 540.99' T - 271.59' SE .004 "/ft
③ P.I. 95+48.7 Δ - 15°-15' D - 2°-45' R - 2083.48' L - 554.53' T - 278.91' SE .004 "/ft L = 150'



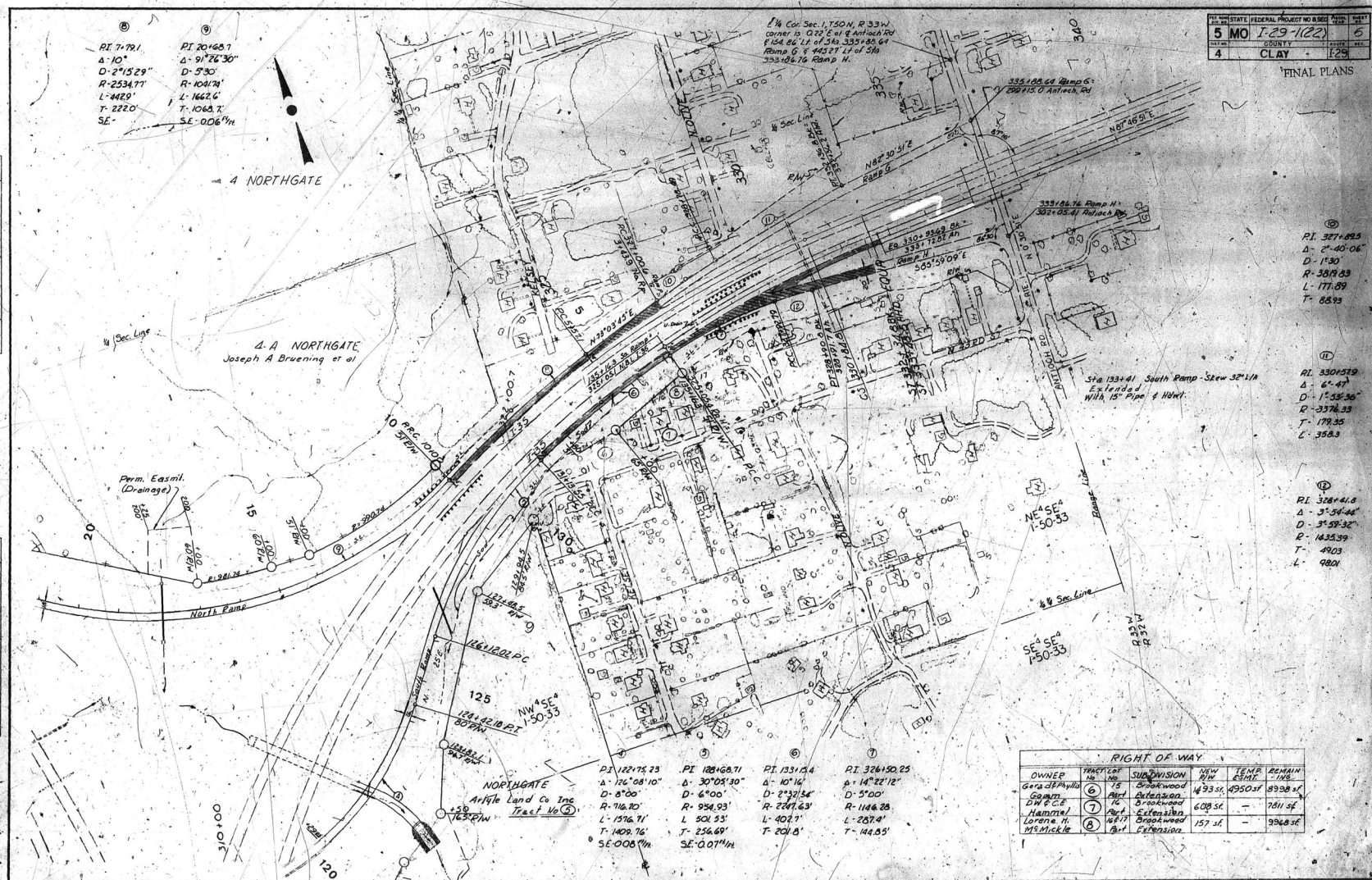
FED. HWY. DIV. NO.	STATE	FEDERAL PROJECT NO. & SEC.	FISCAL YEAR	SHEET NO.
5	MO	I-29-1(22)'		5
DISTRICT	COUNTY		ROUTE	REF.
4	CLAY		I-29	

FINAL PLANS

123

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO. & SEC.	FISCAL YEAR	SHEET NO.
5	MO	I-29-1(22)		6
DIST. NO.		COUNTY	ROUTE	SEC.
4		CLAY	I-29	

FINAL PLANS



⑧	⑨
P.I. 7+79.1	P.I. 20+68.7
Δ - 10°	Δ - 91°26'30"
D - 2°15'29"	D - 5°30'
R - 2534.77'	R - 1041.74'
L - 442.9'	L - 1662.6'
T - 222.0'	T - 1068.7'
S.E. -	S.E. - 0.06 ft/ft

⑩
P.I. 327+89.5
Δ - 2°-40'-06"
D - 1°30'
R - 3819.83
L - 177.89
T - 88.93

⑪
P.I. 330+57.9
Δ - 6°-47'
D - 1°-53'-36"
R - 3376.33
T - 179.35
L - 358.3

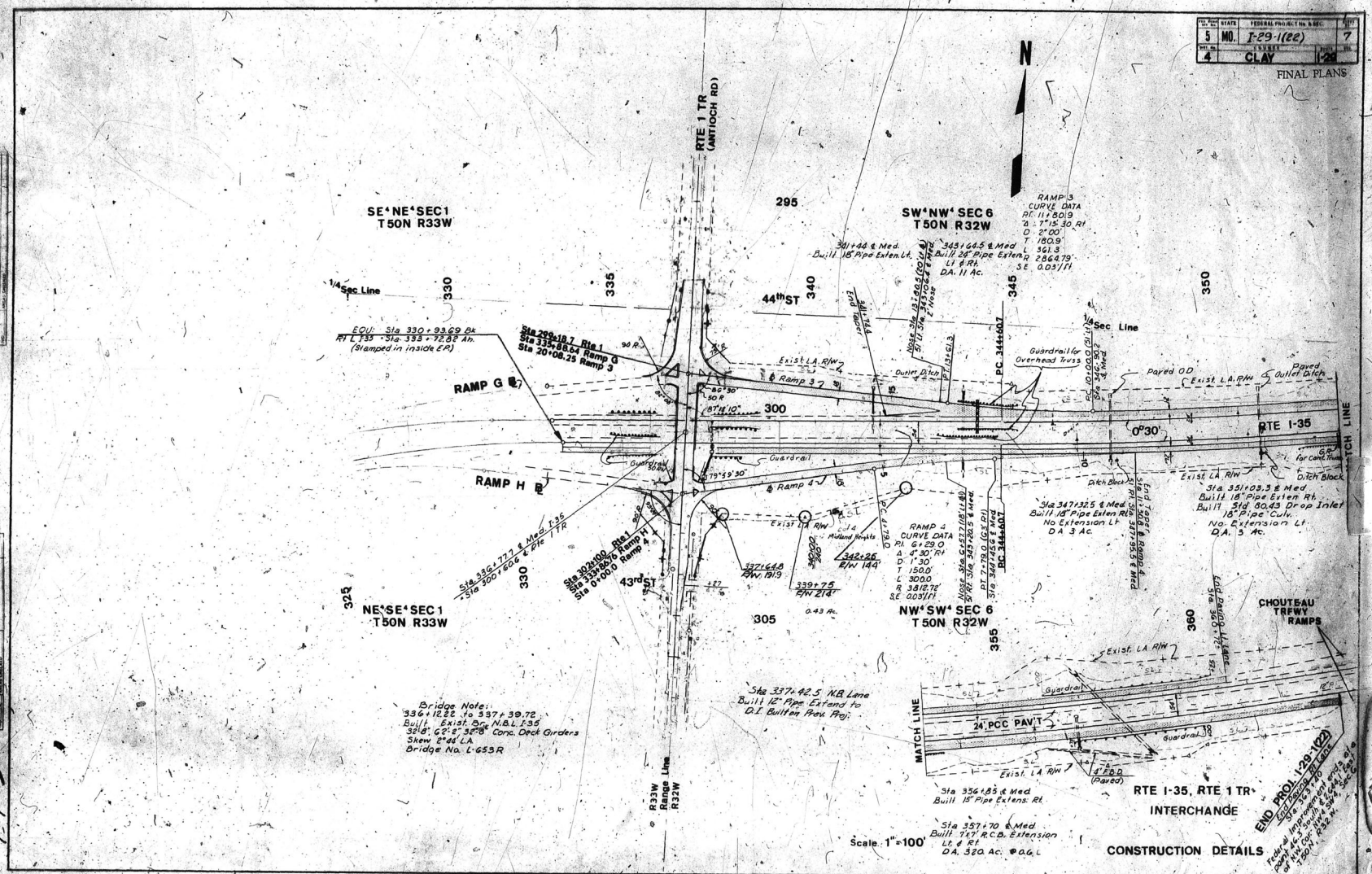
⑫
P.I. 328+41.8
Δ - 3°-54'-44"
D - 3°-59'-32"
R - 1435.39
T - 49.03
L - 98.01

④	⑤	⑥	⑦
P.I. 122+75.23	P.I. 128+68.71	P.I. 133+15.4	P.I. 326+50.25
Δ - 126°08'10"	Δ - 30°05'30"	Δ - 10°16'	Δ - 14°22'12"
D - 8°00'	D - 6°00'	D - 2°32'36"	D - 5°00'
R - 716.20'	R - 954.93'	R - 2247.63'	R - 1146.28
L - 1576.71'	L - 501.53'	L - 402.7'	L - 287.4'
T - 1409.76'	T - 256.69'	T - 201.8'	T - 144.85'
S.E. - 0.08 ft/ft	S.E. - 0.07 ft/ft		

RIGHT OF WAY

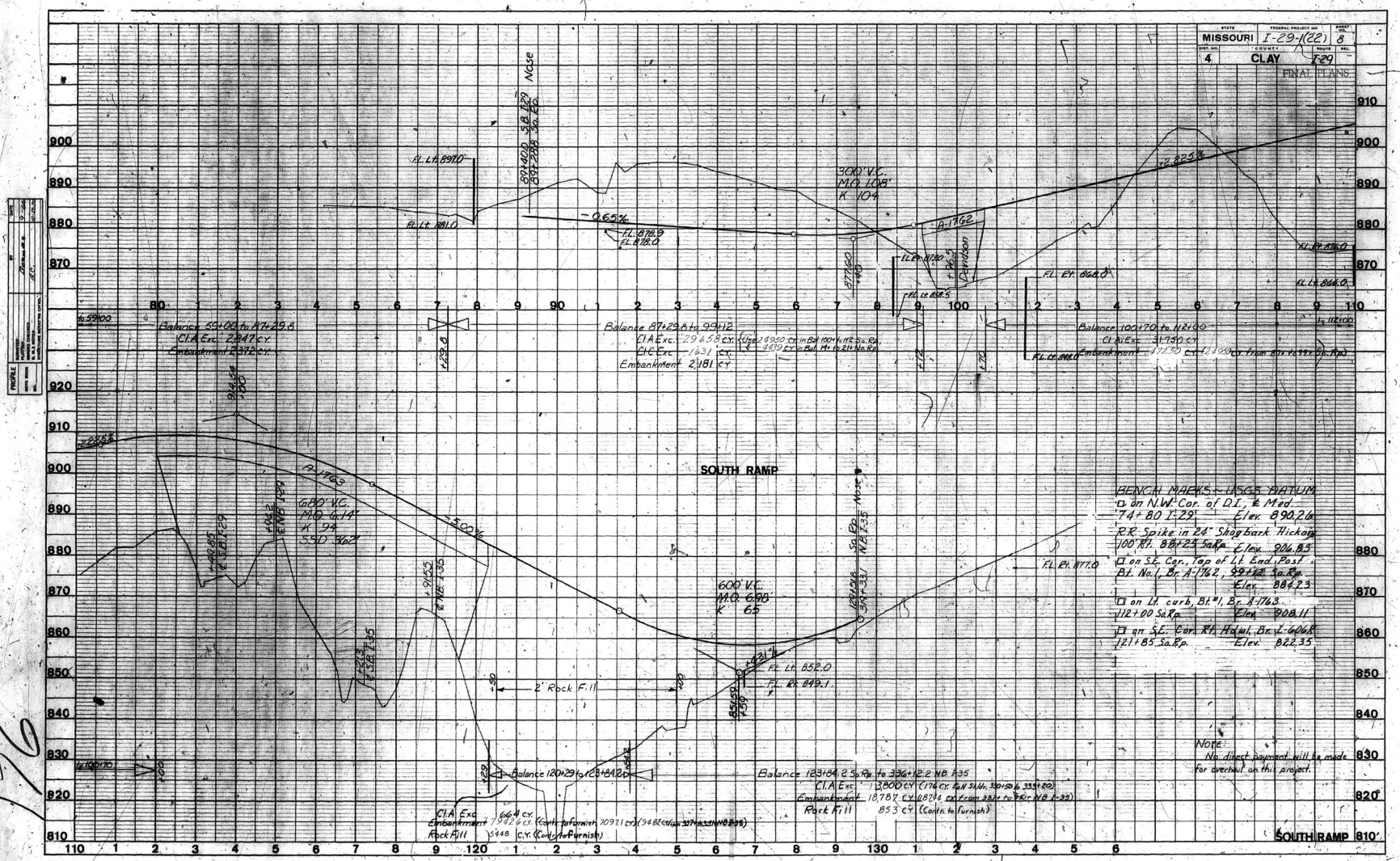
OWNER	TRACT No	LOT No	SUBDIVISION	NEW R/W	TEMP. ESMT.	REMAIN-ING
Gerald & Phyllis Gomm	6	15 Part	Brookwood Extension	1493 sf.	4950 sf.	8998 sf.
D.W. & C.E. Hammel	7	16 Part	Brookwood Extension	608 sf.	—	7811 sf.
Lorene H. McMickle	8	16 & 17 Part	Brookwood Extension	157 sf.	—	9968 sf.

174.



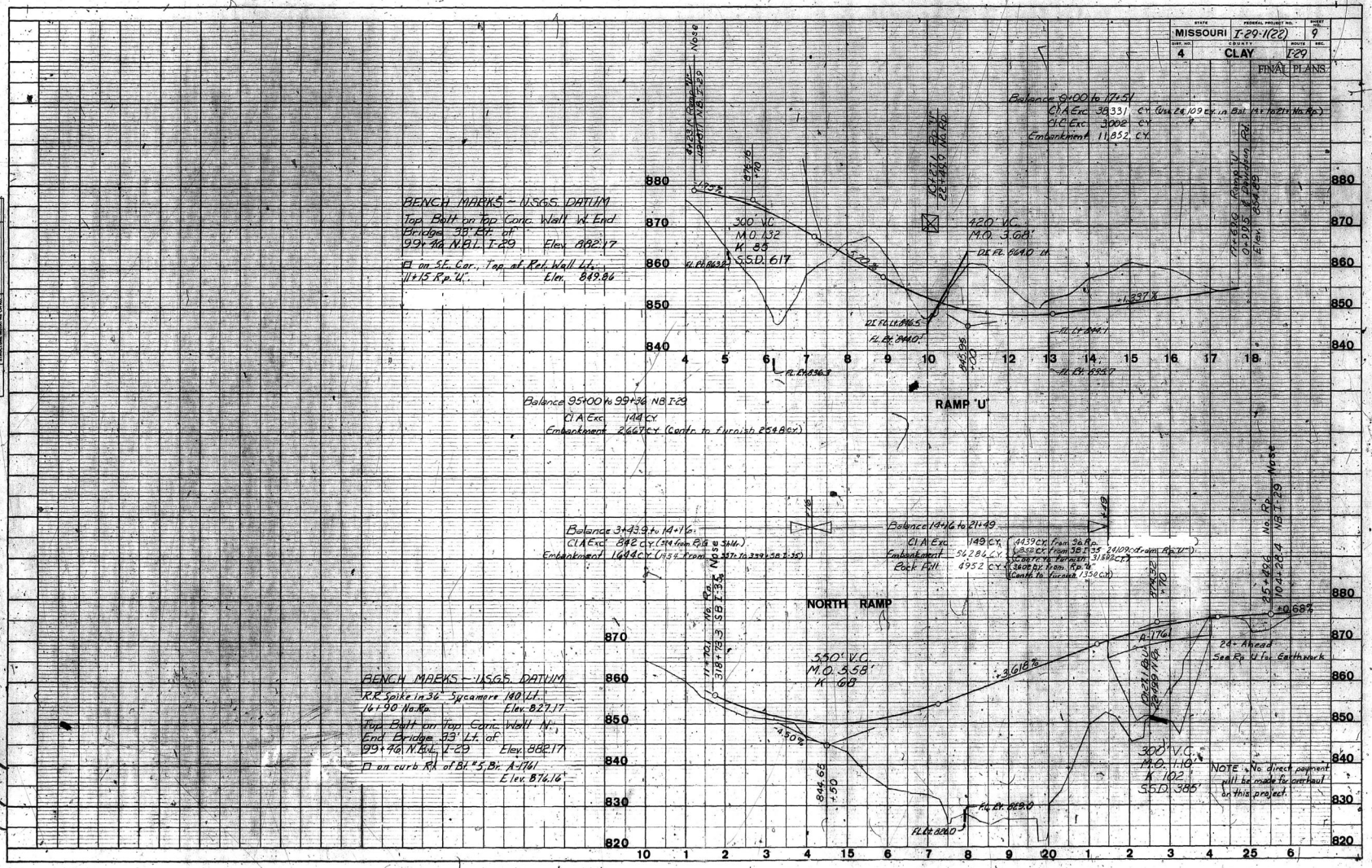
5 MO. I-29-1(22) 7
4 CLAY I-29
FINAL PLANS
N
RTE 1 TR (ANTIOCH RD)
SE¼NE¼SEC1 T50N R33W
SW¼NW¼SEC 6 T50N R32W
NE¼SE¼SEC 1 T50N R33W
NW¼SW¼SEC 6 T50N R32W
RAMP G
RAMP H
RAMP 3 CURVE DATA
RAMP 4 CURVE DATA
44th ST
43rd ST
RTE I-35
MATCH LINE
CHOUTEAU TRFWY RAMPS
24' PCC PAV'T
Bridge Note: 336+12.22 to 337+39.72 Built Exist. Br. N.B.L. I-35 32'-8", 62'-2", 32'-8" Conc. Deck Girders Skew 2°44' L.A. Bridge No. L-653R
Sta 337+42.5 N.B. Lane Built 12" Pipe Extend to D.I. Bulton Prev. Proj.
Sta 356+85 ℄ Med Built 15" Pipe Extens. Rt.
Sta 357+70 ℄ Med Built 7'x7' R.C.B. Extension Lt. & Rt. DA. 320 Ac. @ 0.6 L
Scale 1"=100'
RTE I-35, RTE 1 TR INTERCHANGE
CONSTRUCTION DETAILS
END PROJ. I-29-1(22)

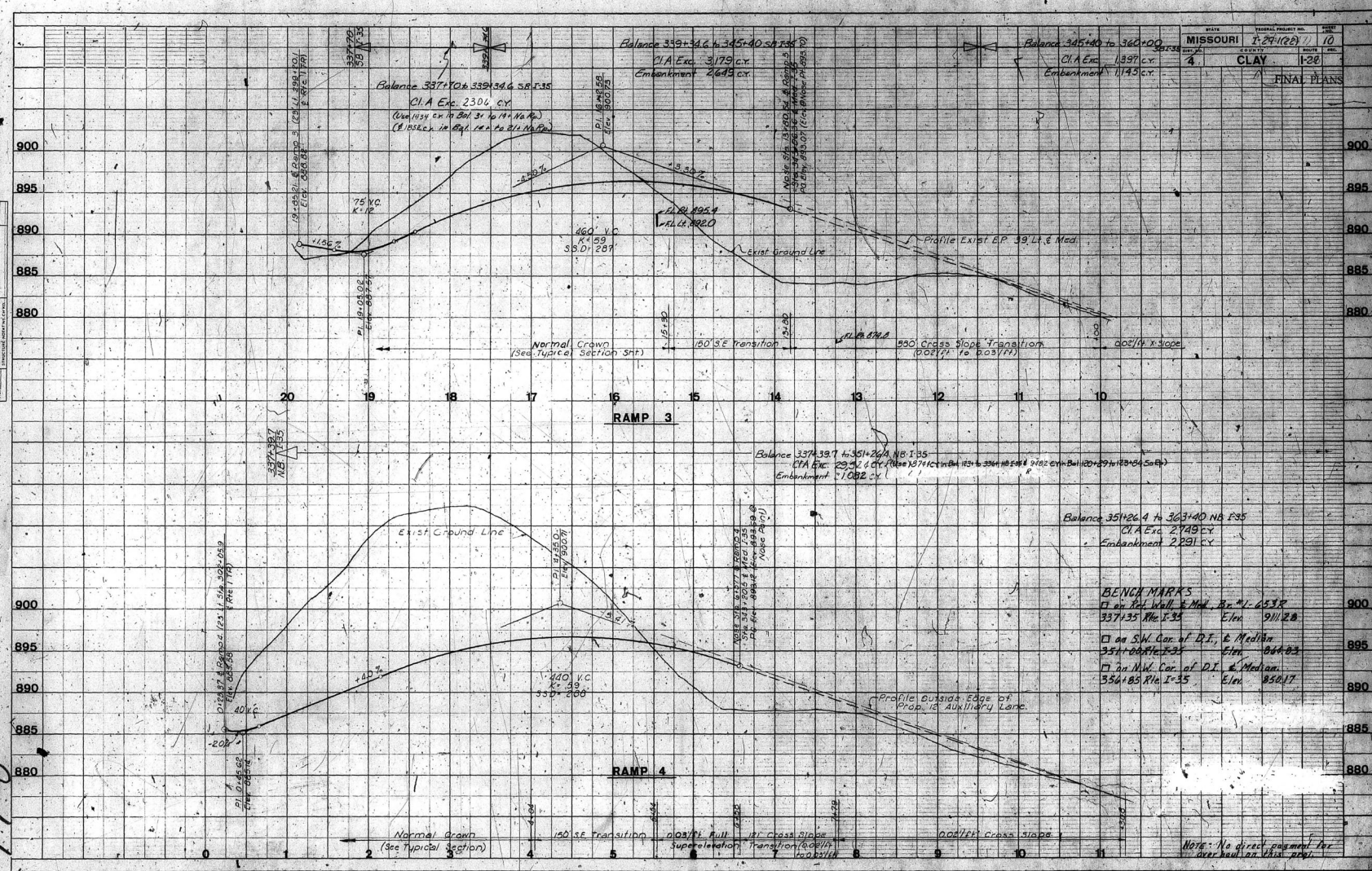
596


STATE MISSOURI
FEDERAL PROJECT NO. I-29-1(22)
SHEET NO. 8
DIST. NO. 4
COUNTY CLAY
ROUTE I-29
SEC.
FINAL PLANS
SOUTH RAMP
300' V.C.
M.O. 108'
K 104
600' V.C.
M.O. 6.98'
K 65
-0.65%
+2.25%
+3.00%
Balance 89+00 to 89+29.8
Cl A Exc. 284 C.Y.
Embankment 231 C.Y.
Balance 89+29.8 to 99+12
Cl A Exc. 2965 C.Y. (Use 2450 C.Y. in Bal. 100+41 to 112+00 Sa. Rp.)
Cl C Exc. 1431 C.Y. (Use 1339 C.Y. in Bal. Mi to 21+No Rp.)
Embankment 2181 C.Y.
Balance 100+70 to N2190
Cl A Exc. 31750 C.Y.
Embankment 47750 C.Y. (12000 C.Y. from Bor. to 111+00 Sa. Rp.)
Balance 120+29 to 123+84.25
Cl A Exc. 664 C.Y.
Embankment 7972 C.Y. (Contr. to furnish 7092.1 C.Y.) (948 C.Y. from 337+35 NW 8.38)
Rock Fill 548 C.Y. (Cont. to Furnish)
Balance 123+84.25 to 336+12.2 NB I-35
Cl A Exc. 3800 C.Y. (1176 C.Y. on S.W. 330+96 to 339+20)
Embankment 18787 C.Y. (11874 C.Y. from 338+ to 340+ NB I-35)
Rock Fill 853 C.Y. (Cont. to Furnish)
2' Rock Fill
Fl. Lt. 852.0
Fl. Rt. 849.1
Fl. Lt. 878.9
Fl. Rt. 878.0
Fl. Lt. 881.0
Fl. Lt. 869.0
Fl. Rt. 877.0
Fl. Rt. 866.0
Fl. Lt. 866.0
Fl. Rt. 865.5
Fl. Rt. 880.0
Fl. Lt. 876.0
Fl. Rt. 877.1
A-1762
A-1763
Johnson
BENCH MARKS - USGS DATUM
□ on N.W. Cor. of D.I., ℄ Med. 74+80 I-29 Elev. 890.26
RR Spike in 24" Shagbark Hickory 100' Rt. 88+23 Sa.Rp. Elev. 906.83
□ on S.E. Cor., Top of Lt. End Post, Bt. No.1, Br. A-1762, 99+12 Sa.Rp. Elev. 884.23
□ on Lt. curb, Bt. #1, Br. A-1763, 112+00 Sa.Rp. Elev. 908.11
□ on S.E. Cor. Rt. Hdwl. Br. L-6068, 121+85 Sa.Rp. Elev. 822.35
Note:
No direct payment will be made for overhaul on this project.
SOUTH RAMP

176

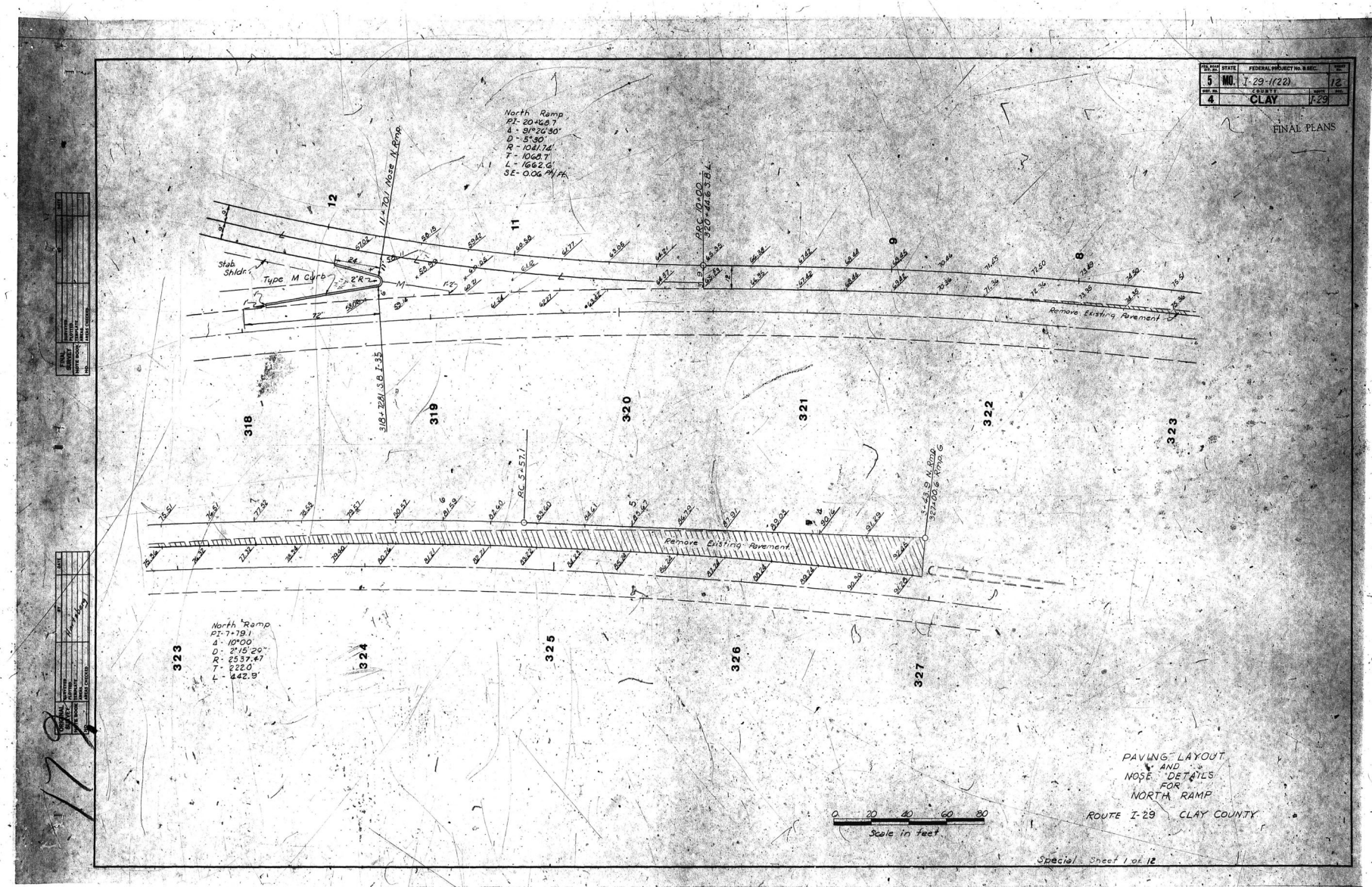
596


STATE MISSOURI
FEDERAL PROJECT NO. I-29-1(22)
SHEET NO. 9
DIST. NO. 4
COUNTY CLAY
ROUTE I-29
SEC.
FINAL PLANS
Balance 9+00 to 17+51
C.I.A. Exc. 3933 C.Y. (Use 28,109 C.Y. in Bal. 14+76 to 21+49 No. Rp.)
C.C. Exc. 3002 C.Y.
Embankment 11,852 C.Y.
BENCH MARKS – U.S.G.S. DATUM
Top Bolt on Top Conc. Wall W. End Bridge 33' Rt. of 99+76 N.B.L. I-29 Elev. 882.17
⊡ on S.E. Cor., Top of Ret. Wall Lt. 11+15 Rp. "U". Elev. 849.86
300' V.C. M.O. 1.32 K 88 S.S.D. 617
420' V.C. M.O. 3.68' K 114 S.S.D. 660
RAMP "U"
Balance 95+00 to 99+36 NB I-29
C.I.A. Exc. 144 C.Y.
Embankment 2667 C.Y. (Contr. to Furnish 258 B.C.Y.)
Balance 3+43.9 to 14+76
C.I.A. Exc. 842 C.Y. (394 from Rp. 5 Nose)
Embankment 1644 C.Y. (454 from Rp. 357+76.3 399+58.3 & 7+35)
Balance 14+76 to 21+49
C.I.A. Exc. 149 C.Y. (1439 C.Y. from 36 Rp. 6,838 C.Y. from 38 I-35, 24,109 C.Y. from Rp. "U")
Embankment 54,284 C.Y. (Contr. to furn. 31,892 C.Y.)
Rock Fill 4952 C.Y. (3600 C.Y. from Rp. "U" Contr. to Furnish 1350 C.Y.)
NORTH RAMP
550' V.C. M.O. 3.58' K 68
300' V.C. M.O. 1.10' K 102 S.S.D. 386'
BENCH MARKS – U.S.G.S. DATUM
R.R. Spike in 36" Sycamore 180' Lt. 16+90 No. Rp. Elev. 827.17
Top Bolt on Top Conc. Wall N. End Bridge 33' Lt. of 99+76 N.B.L. I-29 Elev. 882.17
⊡ on curb Rt. of Bl. "5, Br. A-1761 Elev. 874.16
24+ Ahead See Rp. U for Earthwork
NOTE – No direct payment will be made for overhaul on this project.
No. Rp. Nose N.B.T. I-29
No. Rp. Nose S.B.T. I-35
Rp. 5 Nose
Rp. 6 Nose
Rp. 7 Nose
Rp. 8 Nose
Rp. 9 Nose
Rp. 10 Nose
Rp. 11 Nose
Rp. 12 Nose
Rp. 13 Nose
Rp. 14 Nose
Rp. 15 Nose
Rp. 16 Nose
Rp. 17 Nose
Rp.



MISSOURI
I-29-1(22)
10
4
CLAY
I-29
FINAL PLANS
Balance 339+34.6 to 345+40 SB I-35
Cl. A Exc. 3,179 C.Y.
Embankment 2,649 C.Y.
Balance 345+40 to 360+00 SB I-35
Cl. A Exc. 1,397 C.Y.
Embankment 1,145 C.Y.
Balance 337+70 to 339+34.6 SB I-35
Cl. A Exc. 2306 C.Y.
Profile Exist E.P. 39' Lt. & Med.
Exist Ground Line
Normal Crown (See Typical Section Sht.)
150' S.E. Transition
330' Cross Slope Transition (0.02'/ft. to 0.03'/ft.)
0.02'/ft. X Slope
RAMP 3
Balance 337+39.7 to 351+26.4 NB I-35
Cl. A Exc. 29,524 C.Y.
Embankment 1,082 C.Y.
Balance 351+26.4 to 363+40 NB I-35
Cl. A Exc. 2,749 C.Y.
Embankment 2,291 C.Y.
Exist Ground Line
Profile Outside Edge of Prop. 12' Auxiliary Lane
RAMP 4
BENCH MARKS
□ on Ret. Wall, ℄ Med., Br. #1-653R
337+35 Rte. I-35 Elev. 911.28
□ on S.W. Cor. of D.I., ℄ Median
351+00 Rte. I-35 Elev. 864.83
□ on N.W. Cor. of D.I., ℄ Median
356+85 Rte. I-35 Elev. 850.17
Normal Crown (See Typical Section)
150' S.E. Transition
0.03'/ft. Full Superelevation
121' Cross Slope Transition (0.02'/ft. to 0.03'/ft.)
0.02'/ft. Cross Slope
NOTE: No direct payment for over haul on this proj.

178

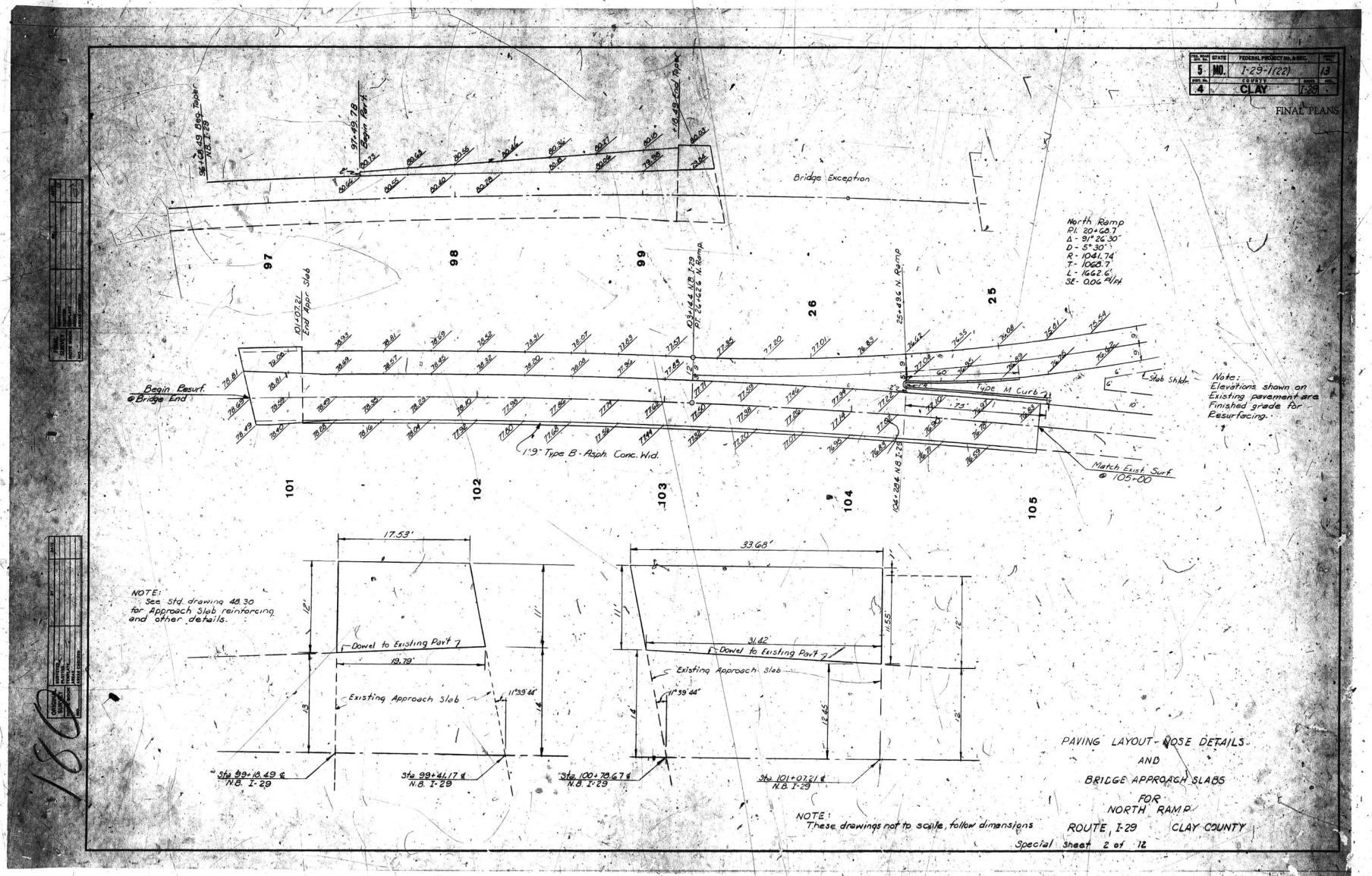


FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	12
DIST. NO.	COUNTY		DIST.
4	CLAY		I-29

FINAL PLANS

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5	MO.	I-29-1(22)	13
STATE DIST.	COUNTY		TOTAL SHTS.
4	CLAY	I-29	

FINAL PLANS



PAVING LAYOUT - NOSE DETAILS AND BRIDGE APPROACH SLABS FOR NORTH RAMP

ROUTE I-29 CLAY COUNTY

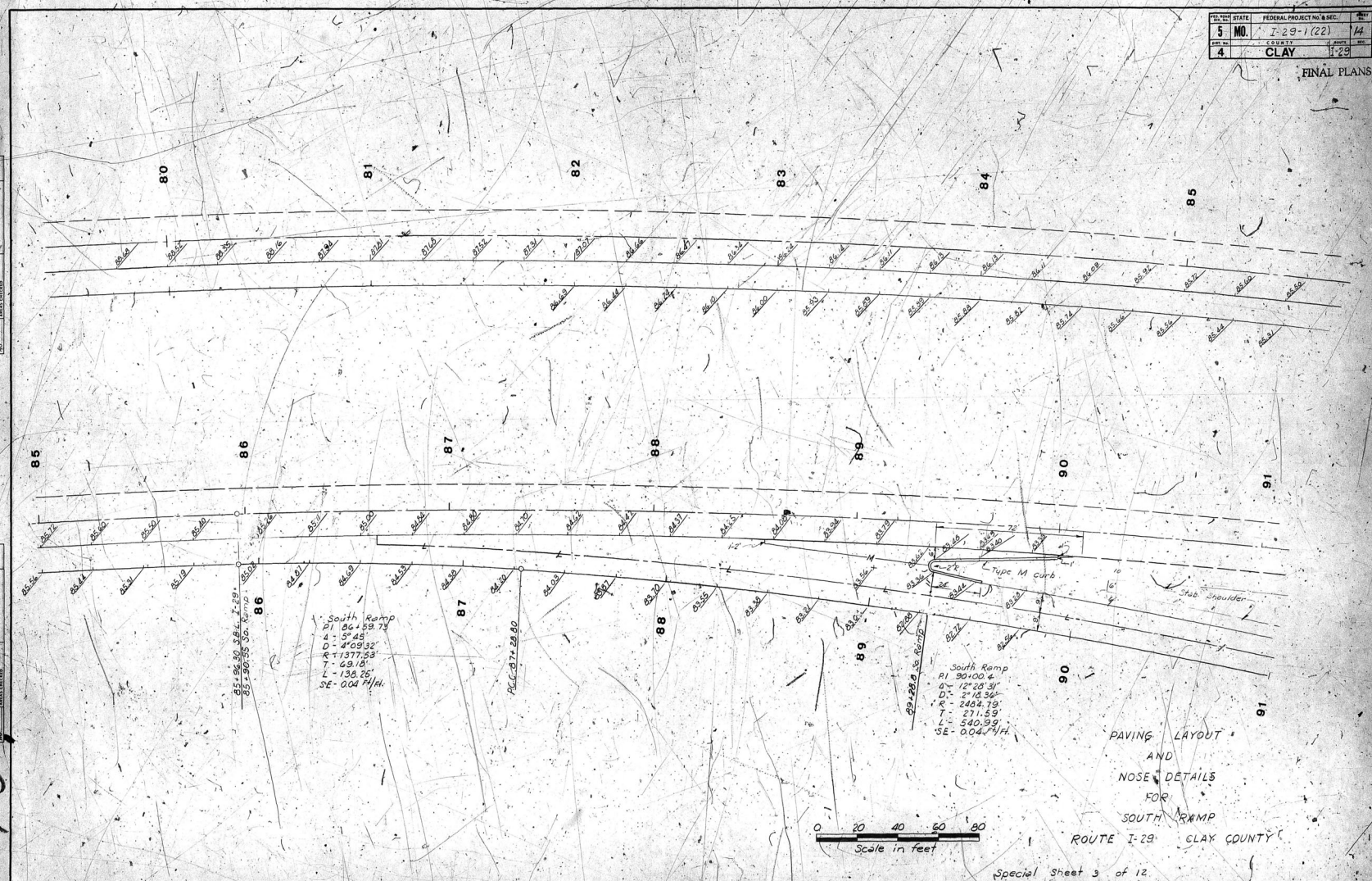
Special Sheet 2 of 12

1868

596

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	14
DIST. No.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS



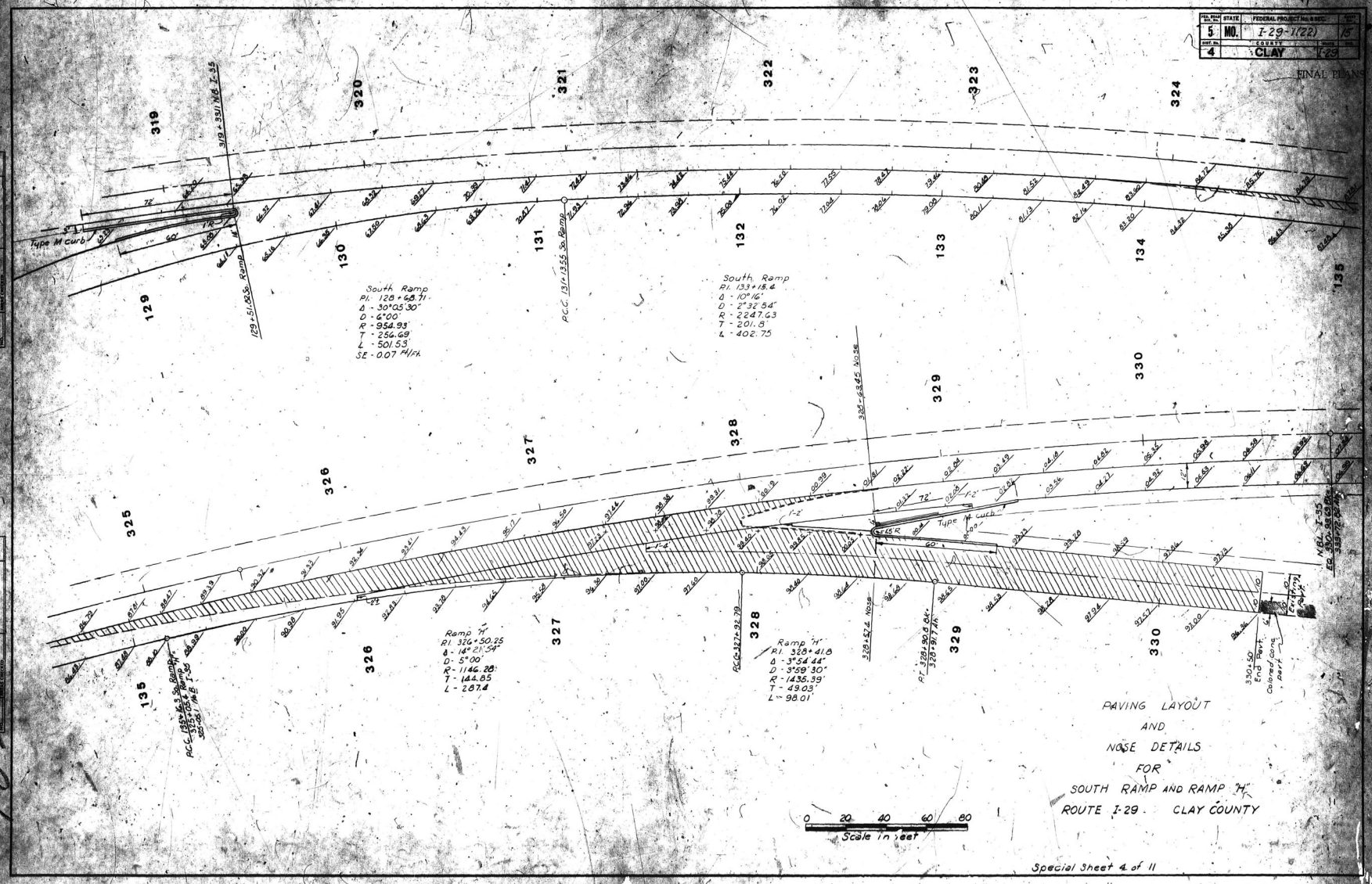
PAVING LAYOUT
AND
NOSE DETAILS
FOR
SOUTH RAMP
ROUTE I-29 CLAY COUNTY

Special Sheet 3 of 12

181

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

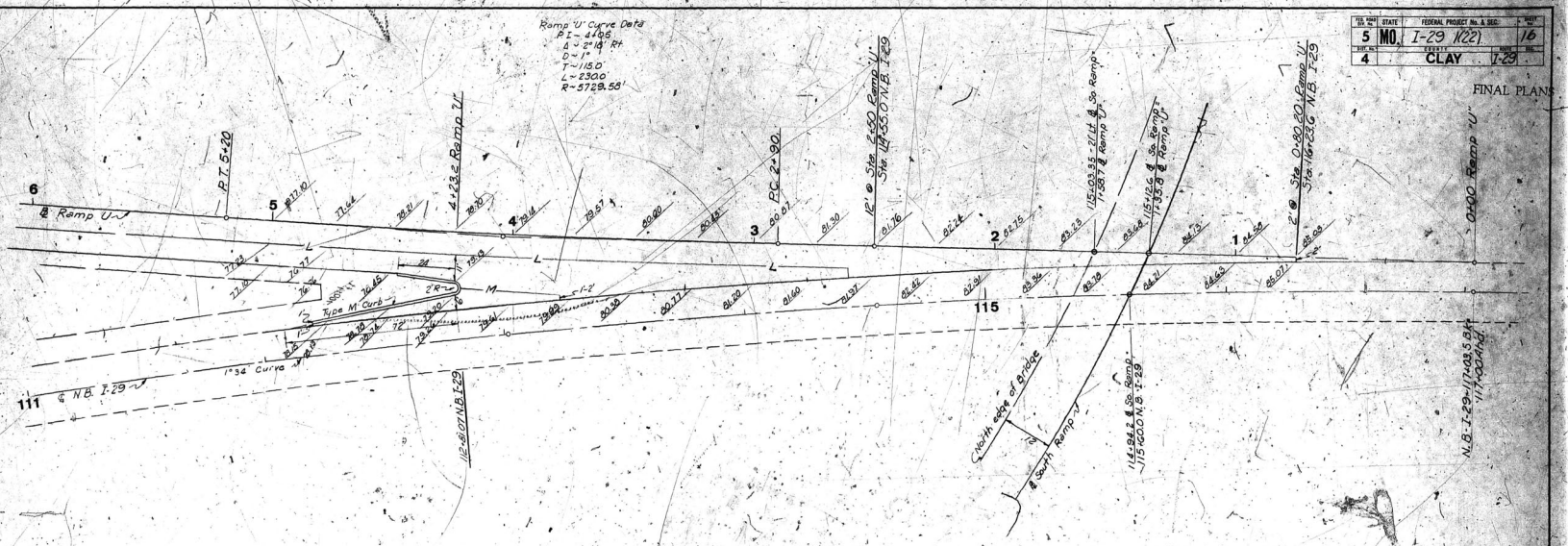
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

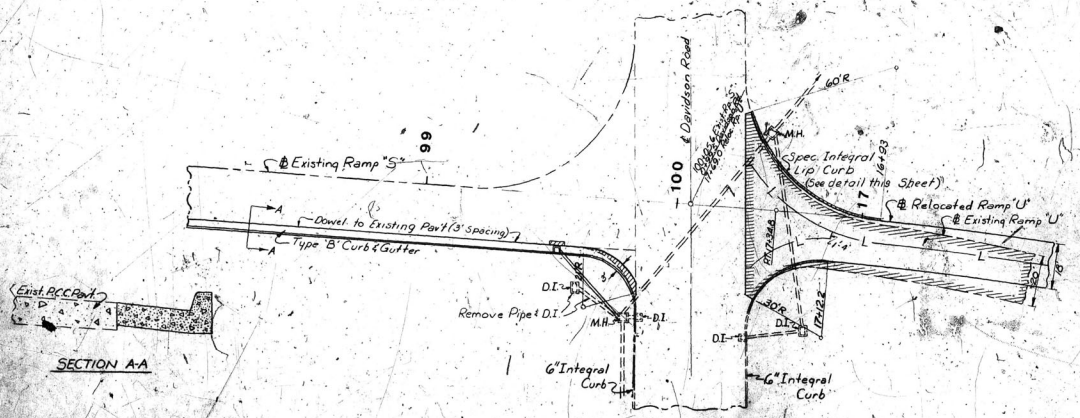


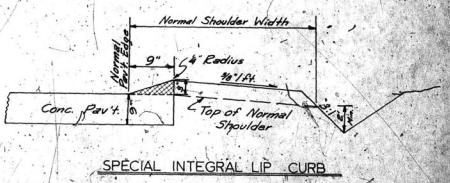
FED. ROAD DIV. No. 5
STATE MO.
FEDERAL PROJECT No. & SEC. I-29-1(22)
SHEET No. 15
DIST. No. 4
COUNTY CLAY
ROUTE I-29
FINAL PLANS
South Ramp
Pl. 128+68.71
Δ - 30°05'30"
D - 6°00'
R - 954.93'
T - 256.69'
L - 501.53'
SE - 0.07 Ft/Ft.
South Ramp
Pl. 133+15.4
Δ - 10°16'
D - 2°32'54"
R - 2247.63
T - 201.8'
L - 402.75
Ramp "H"
Pl. 326+50.25
Δ - 14°21'54"
D - 5°00'
R - 1146.28'
T - 144.85
L - 287.4
Ramp "H"
Pl. 328+41.8
Δ - 3°54'44"
D - 3°59'30"
R - 1435.39'
T - 49.03'
L - 98.01'
Type M curb
Scale in feet
0 20 40 60 80
PAVING LAYOUT
AND
NOSE DETAILS
FOR
SOUTH RAMP AND RAMP "H"
ROUTE I-29 CLAY COUNTY
Special Sheet 4 of 11

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29 1(22)	16
DIST. NO.	COUNTY	ROUTE NO.	
4	CLAY	I-29	

FINAL PLANS







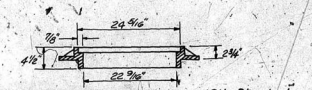
PAVING LAYOUT AND NOSE DETAILS FOR RAMP 'U'

Route I-29 Clay County

Special Sheet 5 of 12

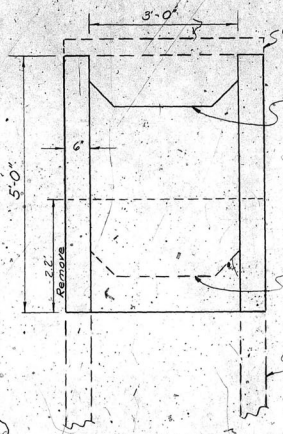
FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	17
DIST. NO. 4	COUNTY CLAY	ROUTE I-29	SEC.

FINAL PLANS



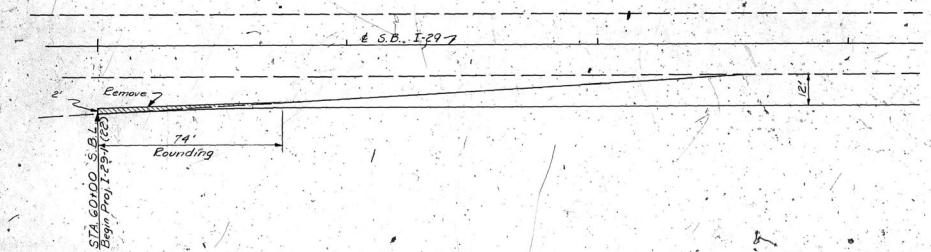
Note: Manhole frame and cover shown is Kansas City Standard. Cover is "Standard 24" Kansas City, Mo. City & Bailey No. 2006 or equivalent. Approximate weight = 330 Lbs.

TYPE 4 MANHOLE FRAME & COVER



INLET ADJUSTMENT
STA 82+60
78.5' Rt. S.B. I-35

NOTES:
For additional information see Standard Drawing 80.44
Tie new reinforcing steel to reinforcing in existing structure.



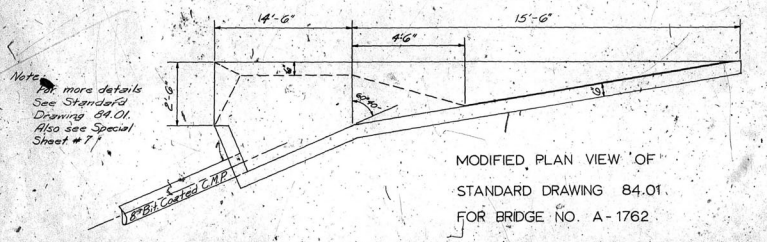
PAVEMENT DETAILS SOUTH OF OAK STREET "ON" RAMP

TABULATION OF QUANTITIES

			D	
Bar Bill	A	#4	4	3'-0"
	A	#4	8	4'-9"
	B	#4	10	3'-9"
	C	#4	12	5'-11"
	D	#6	4	2'-9"

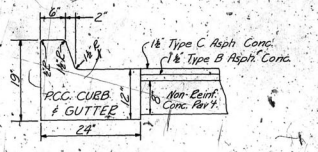
Conc. = 1.2 Cu. Yds.
Steel = 110 Lbs.

NOTE
These drawings are not To Scale ~ Follow dimensions.



Note: For more details See Standard Drawing 84.01. Also see Special Sheet #7

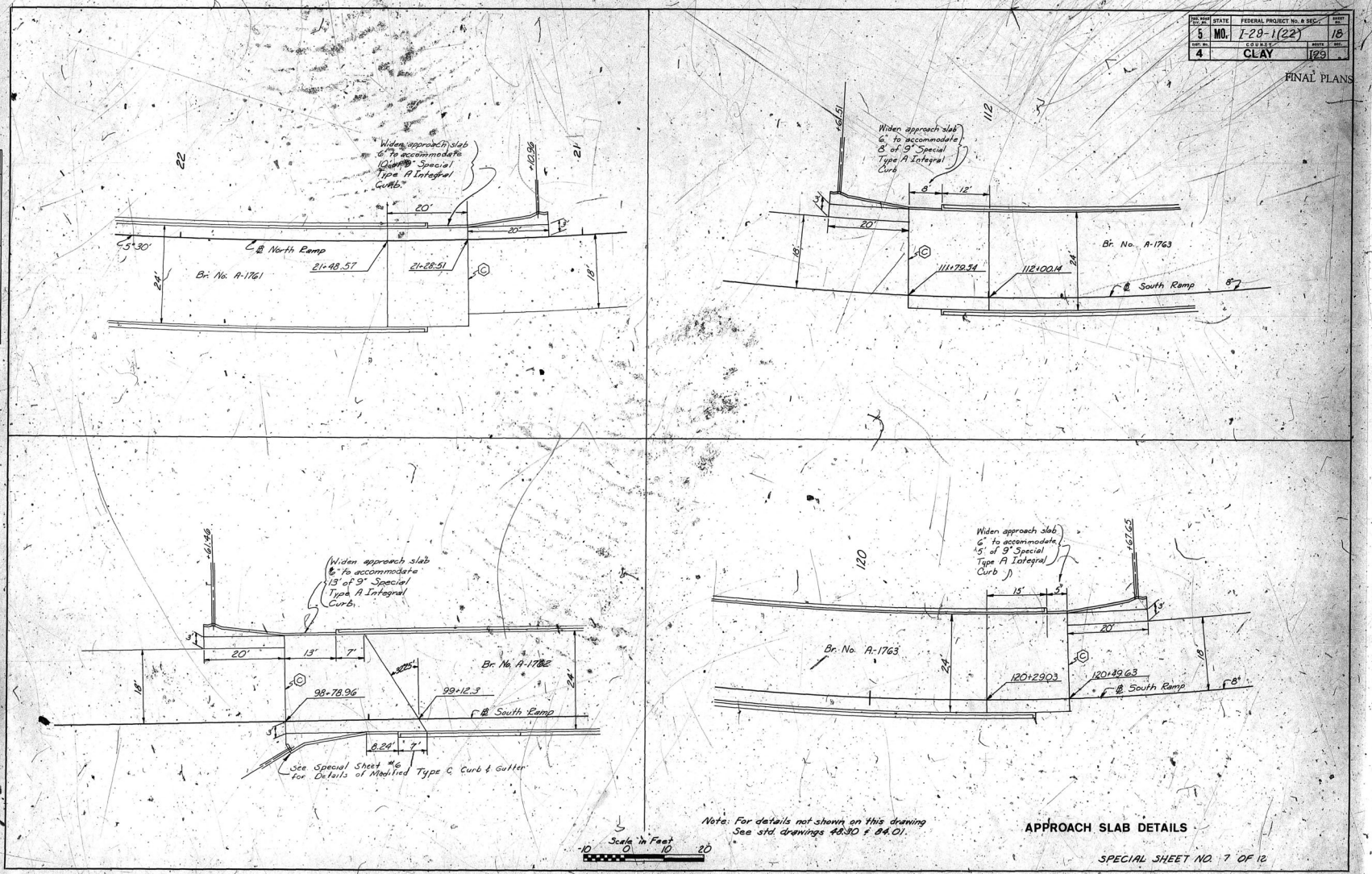
MODIFIED PLAN VIEW OF
STANDARD DRAWING 84.01
FOR BRIDGE NO. A-1762



SECTION A-A
(Plan Sheet #4)

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	18
SUBT. NO.		COUNTY	ROUTE / SEC.
4		CLAY	I29

FINAL PLANS



Note: For details not shown on this drawing See std. drawings 48.30 & 84.01.

APPROACH SLAB DETAILS

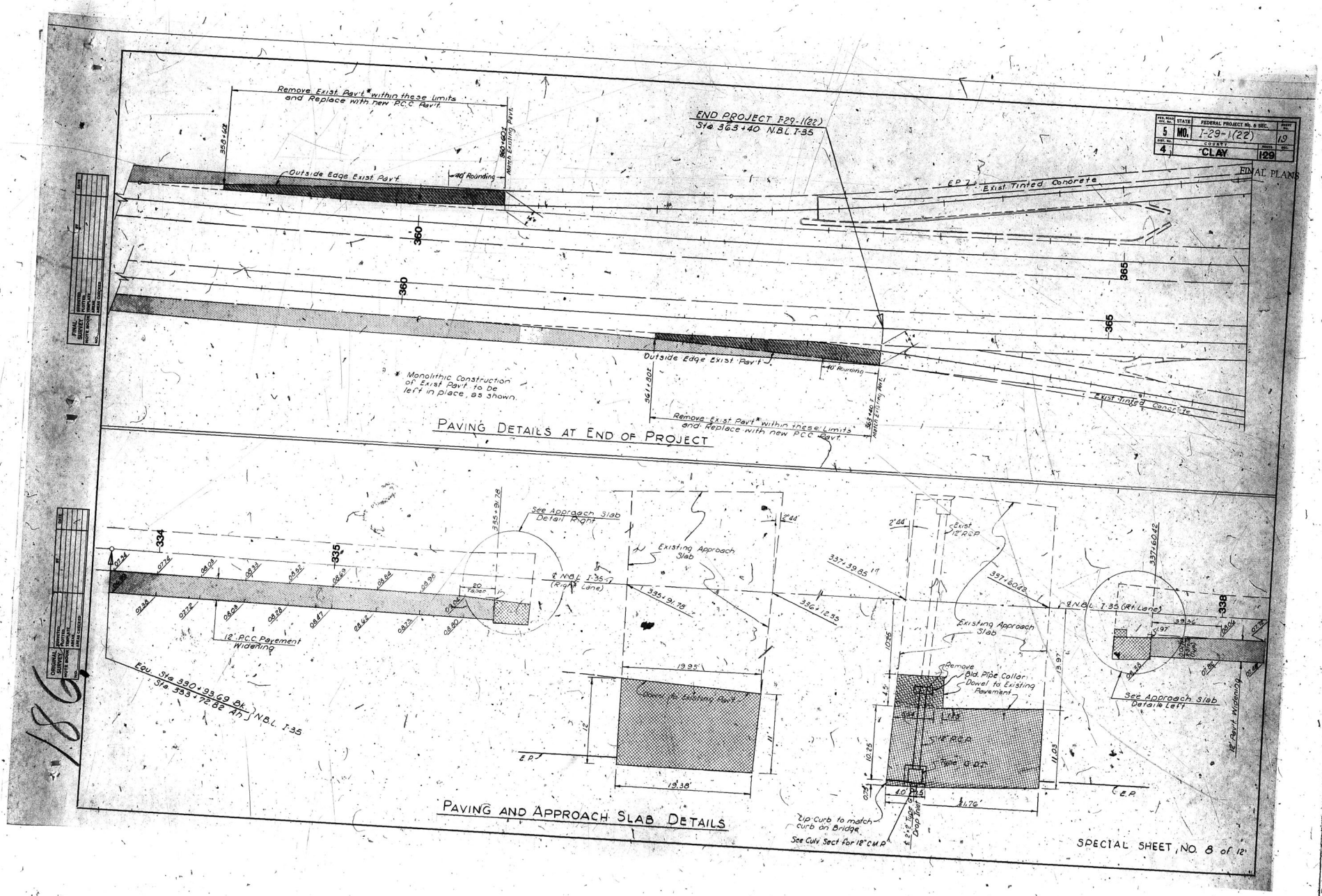
SPECIAL SHEET NO. 7 OF 12

FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

185

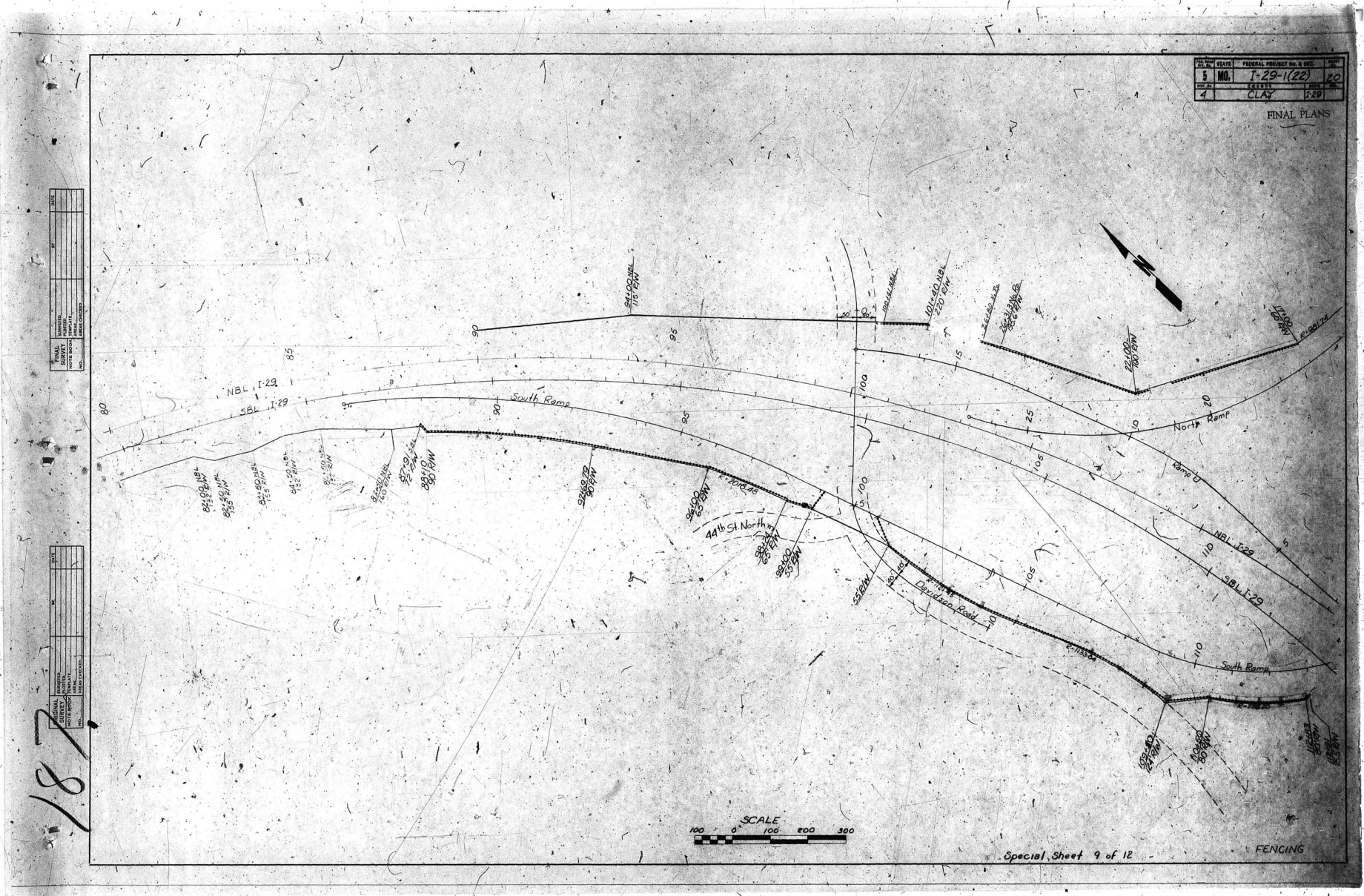
596

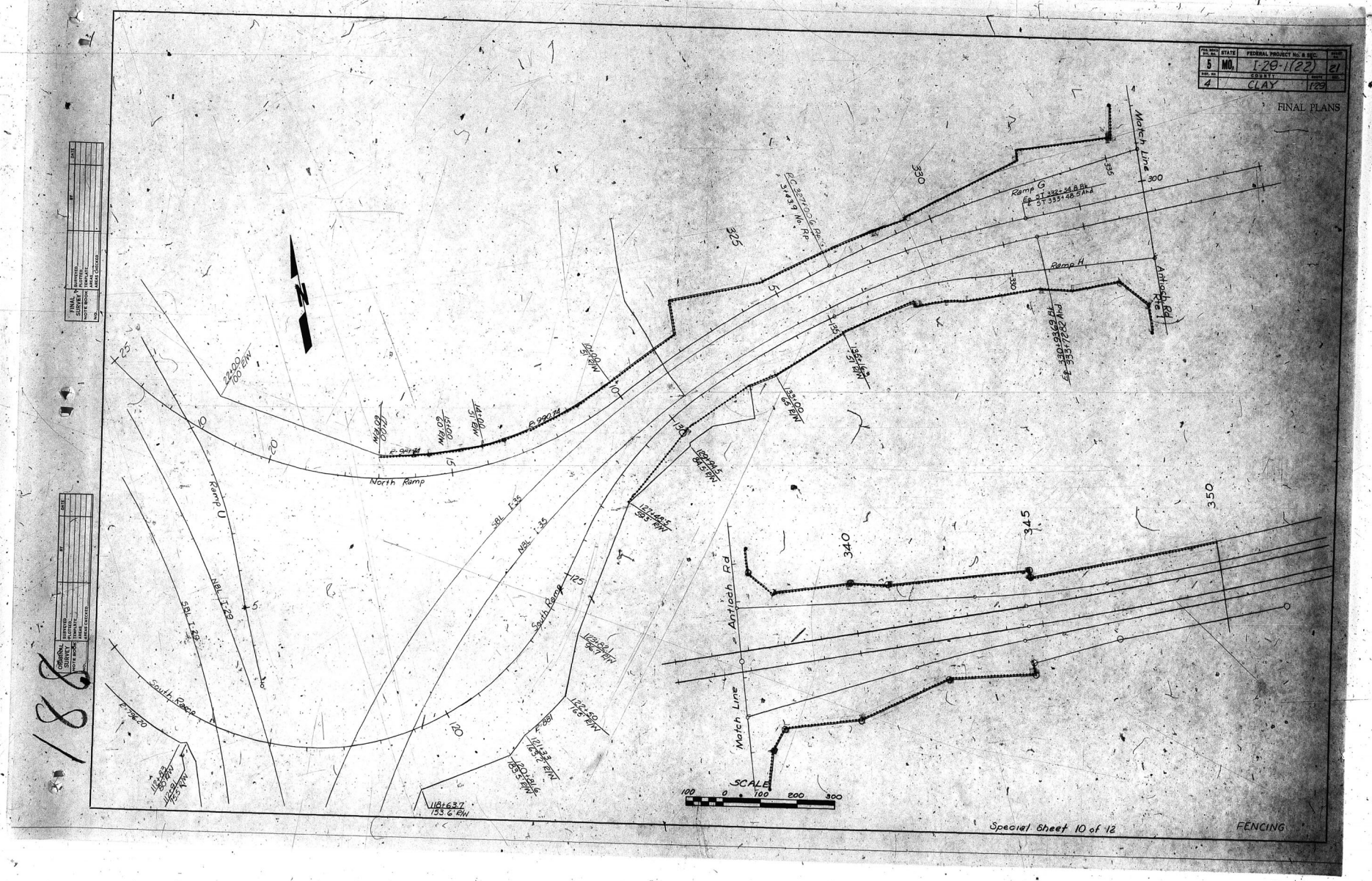


FEDERAL PROJECT No. & SEC.
I-29-1(22)
MO.
CLAY
129
FINAL PLANS
END PROJECT I-29-1(22)
Sta. 363+40 N.B.L. I-35
Remove Exist. Pav't* within these limits and Replace with new P.C.C. Pav't.
Outside Edge Exist. Pav't.
40' Rounding
Match Existing Pav't.
Exist. Tinted Concrete
* Monolithic Construction of Exist. Pav't. to be left in place, as shown.
PAVING DETAILS AT END OF PROJECT
See Approach Slab Detail Right
Existing Approach Slab
12' P.C.C. Pavement Widening
Equ. Sta. 330+93.69 Bk. Sta. 333+72.82 Ah. N.B.L. I-35
Dowel to Existing Pav't.
Exist. 12" R.C.P.
Remove Bld. Pipe Collar
Dowel to Existing Pavement
12" R.C.P.
Type G.D.T.
Lip Curb to match curb on Bridge
See Culv. Sect. for 12" C.M.P.
See Approach Slab Detail Left
12' Pav't. Widening
PAVING AND APPROACH SLAB DETAILS
SPECIAL SHEET, NO. 8 of 12

186

596

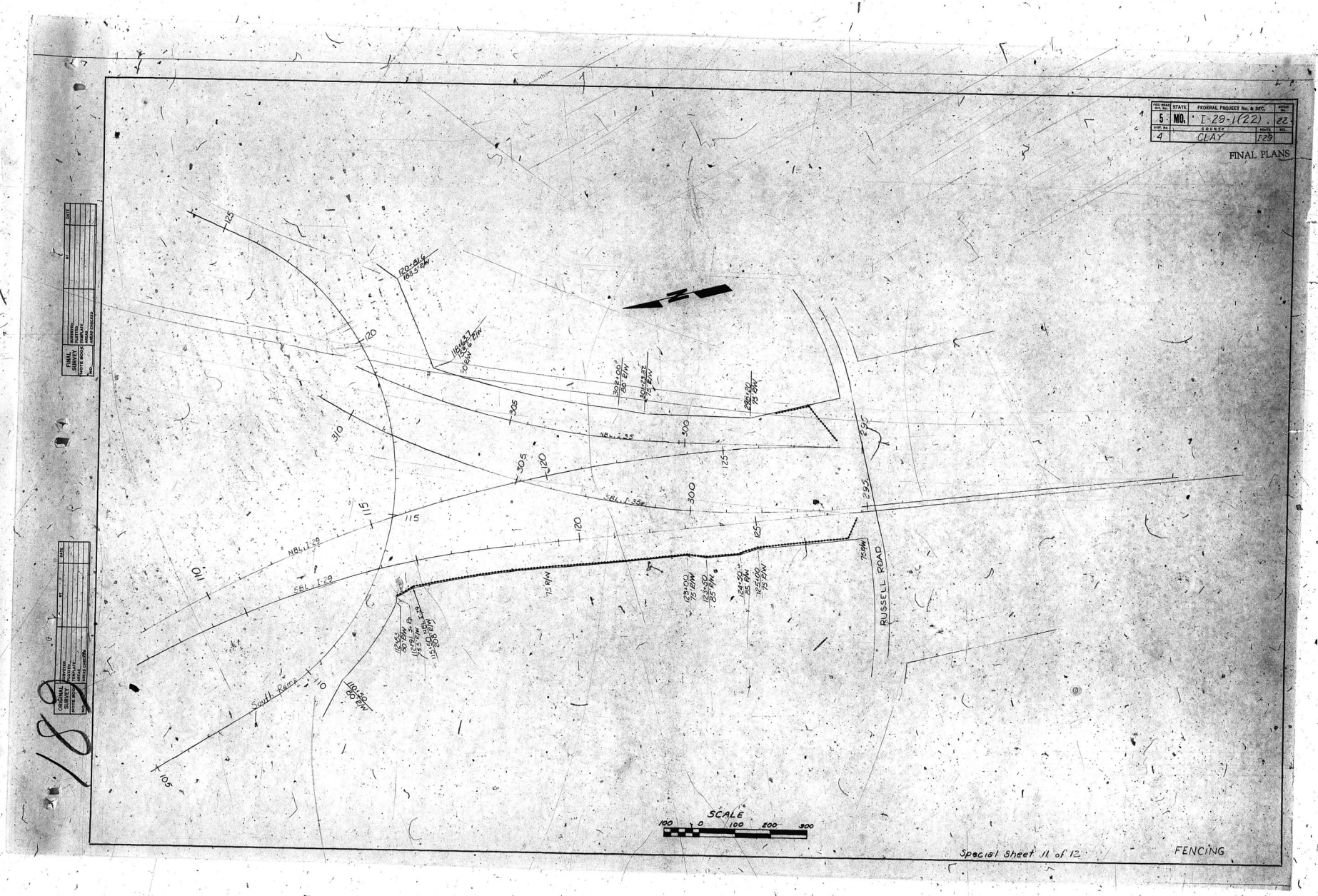

STATE
5
MO.
FEDERAL PROJECT No. & SEC.
I-29-1(22)
20
COUNTY
CLAY
I-29
FINAL PLANS
NBL I-29
SBL I-29
South Ramp
North Ramp
Ramp D
44th St. North
Davidson Road
SCALE
100 0 100 200 300
Special Sheet 9 of 12
FENCING



FEDERAL PROJECT No. & SEC.
5
MO.
I-29-1(22)
21
4
CLAY
I-29
FINAL PLANS
Match Line
Ramp G
Ramp H
Antioch Rd
North Ramp
South Ramp
Ramp U
SBL I-35
NBL I-35
SBL I-29
NBL I-29
SCALE
100 0 100 200 300
Special Sheet 10 of 12
FENCING

188

596


FED. ROAD PROJ. NO.
STATE
FEDERAL PROJECT No. & SEC.
SHEET NO.
5
MO.
I-29-1(22)
22
DIST. NO.
COUNTY
ROUTE
SEC.
4
CLAY
FINAL PLANS
RUSSELL ROAD
SCALE
100 0 100 200 300
Special Sheet 11 of 12
FENCING
FINAL SURVEY
FINAL SURVEY
596

B SHEET

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5-S.	MO.	I-29-1(82)	24
COUNTY		ROUTE	SEC.
CLAY		I-29	

Plan Sheet 1 of 6

HIGHWAY LIGHTING

13

FINAL PLANS

24B

POLES AND LUMINAIRES

Pole No.	Location	Side	Poles Conc. A-30	Poles Conc. Fdn. (Pole)	Bracket Arms 6'	Bracket Arms 10'	*240 V. Internal Ballast 250 W. Luminaires* Distribution Type III M.S
101B	89+01 South Ramp	Rt.	1	1	1		1
102B	90+95 I-29 (S.B.)	Rt.	1	1		1	1
103B	90+25 I-29 (N.B.)	Lt.	1	1		1	1
104B	89+00 I-29 (N.B.)	Lt.	1	1		1	1
105B	93+62 I-29 (S.B.)	Rt.	1	1		1	1
106B	95+40 I-29 (S.B.)	Rt.	1	1		1	1
107B	97+90 I-29 (N.B.)	Lt.	1	1	1		1
108B	99+15 I-29 (N.B.)	Lt.	1	1	1		1
109B	26+63 North Ramp	Rt.	1	1	1		1
		TOTALS =	9	9	4	5	9

RIGID STEEL CONDUIT

Circuit No.	Location	2" In Trench	2" Pushed
100B	90+76± South Ramp	22'	—
"	90+95± S.B.L. I-29	—	44'
"	91+25± N.B.L. I-29	—	56'
"	95+45± Exist. Ramp "T"	—	32'
"	95+45± S.B.L. I-29	—	40'
"	95+88± N.B.L. I-29	—	40'
	TOTALS =	22'	212'

CABLE, CABLE-CONDUIT & TRENCHING AND BACKFILLING

Circuit No.	1" Cable-Conduit with 2 #8 Conductors	I-C. #10 PoB Cable	Trenching & Backfilling Type II	Trenching & Backfilling Type III
100B	TOTALS = 2290 L.F.	688 L.F.	1558 L.F.	137 L.F.

120/240 VOLT POLE MOUNTED CONTROL STATION (STD. 70.18A) ~ 1 Each

AND

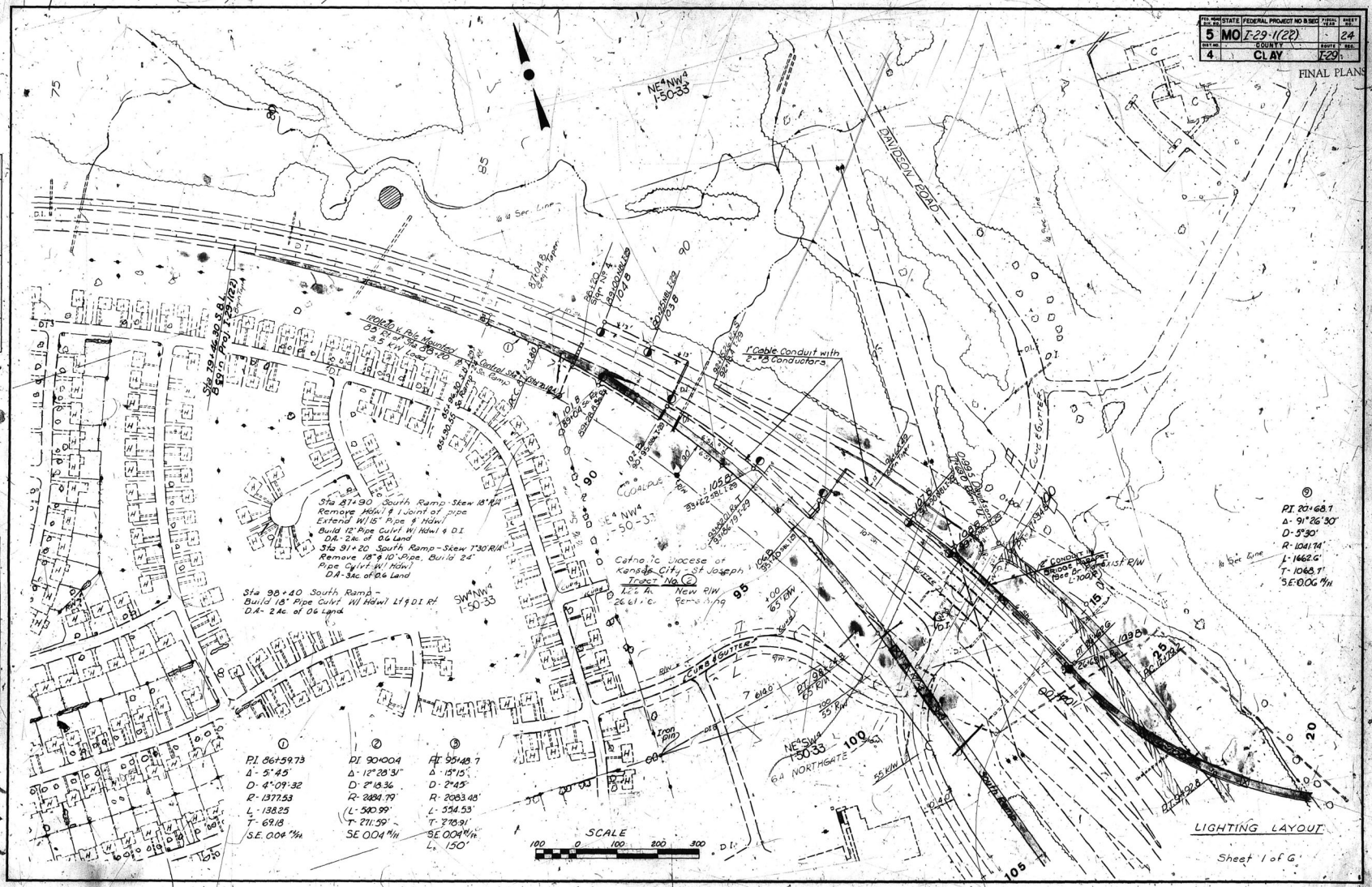
30' CLASS 4 SERVICE POLE ~ 1 Each

(85' Rt. of Sta. 88+20 ℄ South Ramp)

Circuit No. 100B: 30 Amp Circuit Breakers (Trip Rating)

596

1 TO 12



FED. ROAD DIV. NO. 5
STATE MO
FEDERAL PROJECT NO & SEC I-29-1(22)
FISCAL YEAR
SHEET NO. 24
DIST. NO. 4
COUNTY CLAY
ROUTE I-29
SEC.
FINAL PLANS
NE4NW4 1-50-33
DAVIDSON ROAD
1" Cable Conduit with 2-#8 Conductors
Sta 87+90 South Ramp - Skew 18" R/A Remove Hdwl & 1 Joint of pipe Extend W/15" Pipe & Hdwl Build 12" Pipe Culvt W/ Hdwl & D.I. DA - 2 Ac. of 0.6 Land
Sta 91+20 South Ramp - Skew 7°30' R/A Remove 18" & 10" Pipe, Build 24" Pipe Culvt W/ Hdwl DA - 3 Ac. of 0.6 Land
Sta 98+40 South Ramp - Build 18" Pipe Culvt W/ Hdwl Lt & D.I. Rt DA - 2 Ac. of 0.6 Land
SW4NW4 1-50-33
SE4NW4 1-50-33
Catholic Diocese of Kansas City - St Joseph
Tract No. 2
New R/W
Remaining
NE4SW4 1-50-33
64 NORTHGATE
CURB & GUTTER
Iron Pin
SCALE
100 0 100 200 300
① P.I. 86+59.73 Δ - 5°45' D - 4°09'32 R - 1377.53 L - 138.25 T - 69.18 S.E. 0.04 ft/ft
② P.I. 90+00.4 Δ - 12°28'31" D - 2°18.36 R - 2484.79' L - 540.99' T - 271.59' SE 0.04 ft/ft
③ P.I. 95+48.7 Δ - 15°15' D - 2°45' R - 2083.48' L - 554.53' T - 278.91' SE 0.04 ft/ft L - 150'
⑨ P.I. 20+68.7 Δ - 91°26'30" D - 5°30' R - 1041.74' L - 1662.6' T - 1068.7' S.E. 0.06 ft/ft
LIGHTING LAYOUT
Sheet 1 of 6

161

B SHEET

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5-S	MO.	I-29-1(22)	25
COUNTY		ROUTE	SEC.
CLAY		I-29	

Plan Sheet 2 of 6

14

HIGHWAY LIGHTING @ RUSSELL ROAD

FINAL PLANS

25B

POLES AND LUMINAIRES

*240 V. Internal Ballast
250 W. Luminaires*

Pole No.	Location	Side	Poles A-30	Conc. Fdn. (Pole)	Bracket Arms 6'	Bracket Arms 10'	Distribution Type III M.S	Remarks
101C	127+00 I-29 (S.B)	Rt.	1	1		1	1	
102C	125+00 I-29 (S.B)	Rt.	1	1		1	1	
103C	112+00 I-29 (S.B)	Rt.	1	1		1	1	See Plan Sheet No 26
104C	109+09 I-29 (S.B)	Rt.	1	1		1	1	
105C	3+98 Ramp "U"	Rt.	1	1	1		1	
106C	111+30 I-29 (N.B)	Lt.	1	1		1	1	
201C	300+43 I-35 (N.B)	Rt.	1	1		1	1	
202C	302+15 I-35 (N.B)	Lt	1	1		1	1	
203C	121+75 I-29 (N.B)	Lt.	1	1		1	1	
301C	290+00 I-35 (N.B)	Rt.	1	1		1	1	
302C	285+73 I-35 (N.B)	Rt.	1	1		1	1	
303C	284+01 Ramp "F"	Rt.	1	1		1	1	
401C	289+63 I-35 (S.B)	Lt.	1	1		1	1	
402C	287+93 I-35 (S.B)	Lt.	1	1		1	1	
403C	280+00 I-35 (S.B)	Lt.	1	1		1	1	
404C	278+75 I-35 (S.B)	Lt.	1	1		1	1	
		TOTALS =	16	16	1	15	16	

RIGID STEEL CONDUIT

Circuit No.	Location	2" In Trench	2" Pushed
100C	53+60± Russell Rd.	—	40'
100C	112+08± S.B.L I-29	—	44'
100C	3+90± Ramp "U" & NBL	30'	38'
100C	5+75± Ramp "U"	22'	—
200C	56+28± Russell Rd.	—	40'
200C	302+00± I-35 (N.B)	—	44'
300C	55'± East of I-35 & Rp. F	—	36'
300C	284+65± Off Ramp F	—	32'
400C	290+30± Off Ramp E	—	36'
400C	283+20± On Ramp "E"	—	32'
	TOTALS =	52'	342'

CONCRETE HANDHOLES

Handhole No.	Location	Side	Type B
HH-1	56+28± Russell Rd.	28' Rt. of E.P.	1
HH-2	293+15 I-35 (S.B)	Lt. (W. Side)	1
HH-3	283+20 Ramp "E"	Lt. (W. Side)	1
HH-4	121+00 I-29 (S.B)	Rt. (W. Side)	1
* HH-5	116+50 I-29 (S.B)	Rt. (W. Side)	1
		TOTAL =	5

* See Plan Sht. #26

CABLE, CABLE-CONDUIT & TRENCHING AND BACKFILLING

Circuit No.	1" Cable-Conduit with 2#8 Conductors	IC-#10 P&B Cable	Trenching & Backfilling Type II	Trenching & Backfilling Type III	Junction Boxes	Remarks
100C	2850	472	2250	11		
200C	970	240	805		1	(for connecting to Exist. Sign Truss)
300C	1200	232	1082		1	(for connecting to Exist. Sign Truss)
400C	1970	304	1851			
TOTALS =	6990	1248	5988	11	2	

Also See Pl. Sht. #26

CIRCUIT BREAKERS

Circuit No.	Trip Rating
100C	15 A.
200C	15 A.
300C	15 A.
400C	10 A.

240 VOLT POLE MOUNTED CONTROL STATION (STD. 70.23) ~ 1 Each
AND
30' CLASS 4 SERVICE POLE ~ 1 Each
(28' Rt. of E.P. @ Sta. 56+32 & Russell Rd.)

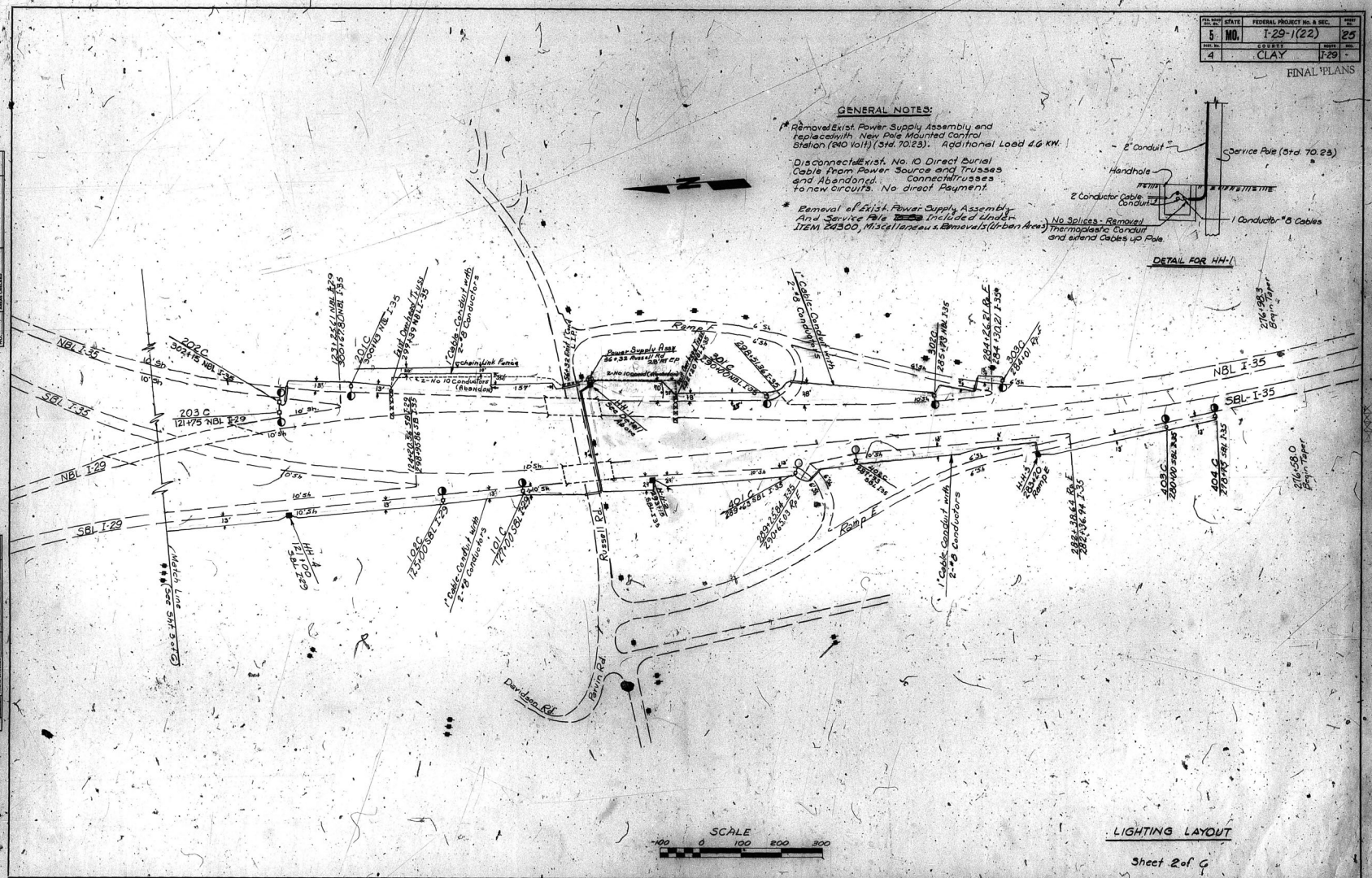
192

596

1 TO 12

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	25
DIST. NO.		COUNTY	ROUTE NO.
4		CLAY	I-29

FINAL PLANS



LIGHTING LAYOUT

Sheet 2 of 6

193

596

B SHEET

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
5-S	MO.	I-29-1(22)	26 27
# COUNTY		ROUTE	SEC.
CLAY		I-29	

Plan Sheets 3 & 4 of 6

15

HIGHWAY LIGHTING

FINAL PLANS

26B

POLES AND LUMINAIRES

Pole No.	Location	Side	Poles A-30	Conc. F-1a (Pole)	Bracket Arms 6'	Bracket Arms 10'	*240 V. Internal ballast 250 W. Luminaires* Distribution Type III
302A	330+15 I-35 (N.B.)	Rt.	1	1	1		1
303A	328+32 Ramp "H"	Rt.	1	1	1		1
304A	131+14 South Rp.	Rt.	1	1	1		1
305A	11+45 North Rp.	Rt.	1	1	1		1
306A	(317+35 I-35 (S.B.)	Lt.	1	1		1	1
	TOTALS		5	5	4	1	5

CONCRETE HANDHOLE

Handhole No.	Loc.	Type B
H-Z	134+00 S. Ramp Rt.	1
	TOTAL	1

CABLE, CABLE CONDUIT & TRENCHING AND BACKFILLING

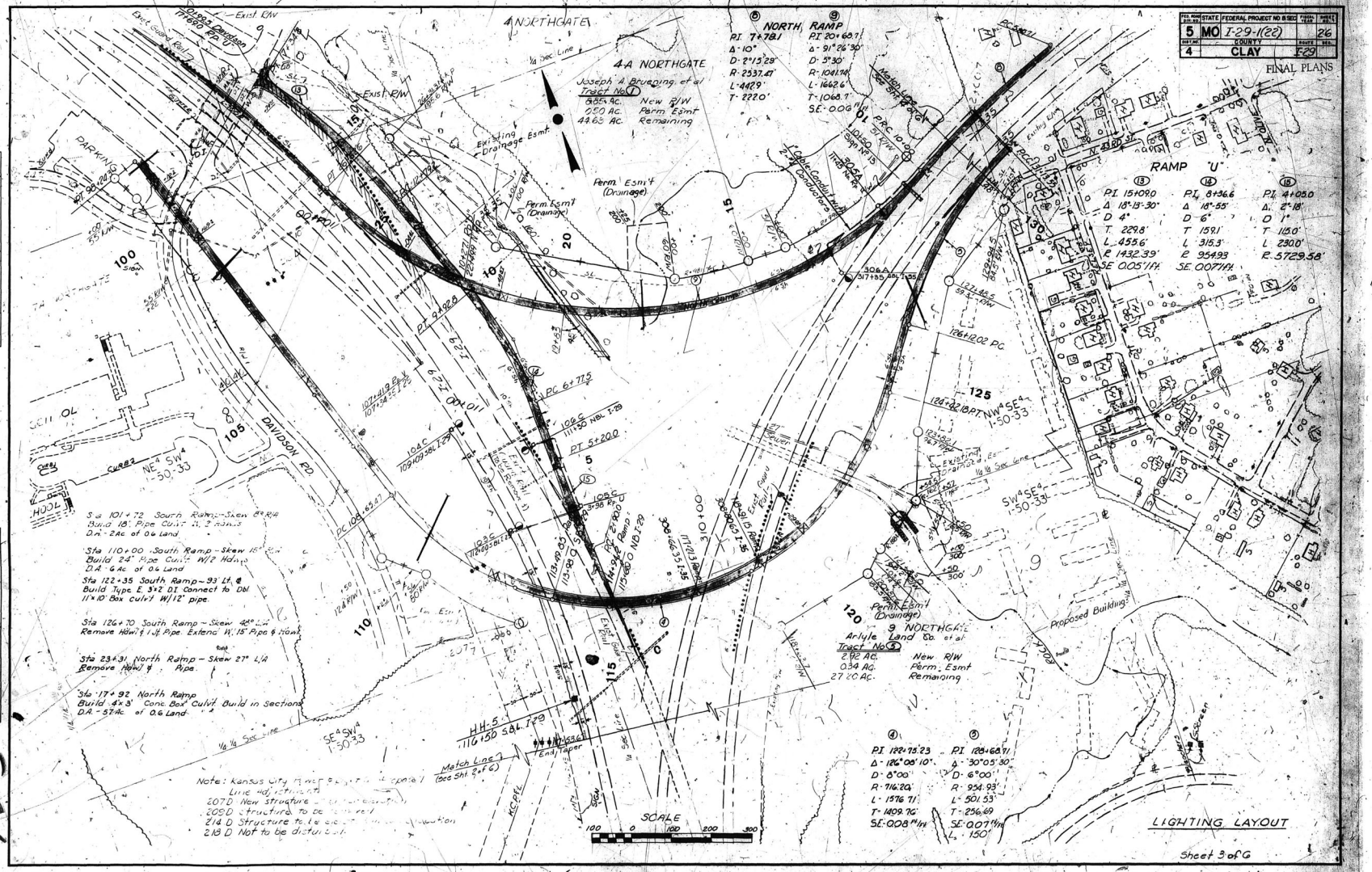
Circuit No.	1" Cable Conduit w/ 2-#4 Condtrs	12-#10 P&B Cable	Trenching & Backfilling Type II	Trenching & Backfilling Type III
300A	2270'	368	1821	
TOTALS	2270'	368	1821	

RIGID STEEL CONDUIT

Location	2" In Trench	2" Pushed	3" In Trench
330+06 Ramp H	—	—	24'
131+18 South Rp. & N.B. I-35	16'	34'	—
6+04 North Rp. & S.B. I-35	14'	34'	—
13+00 North Ramp	22'	—	—
TOTALS	52'	68'	24'

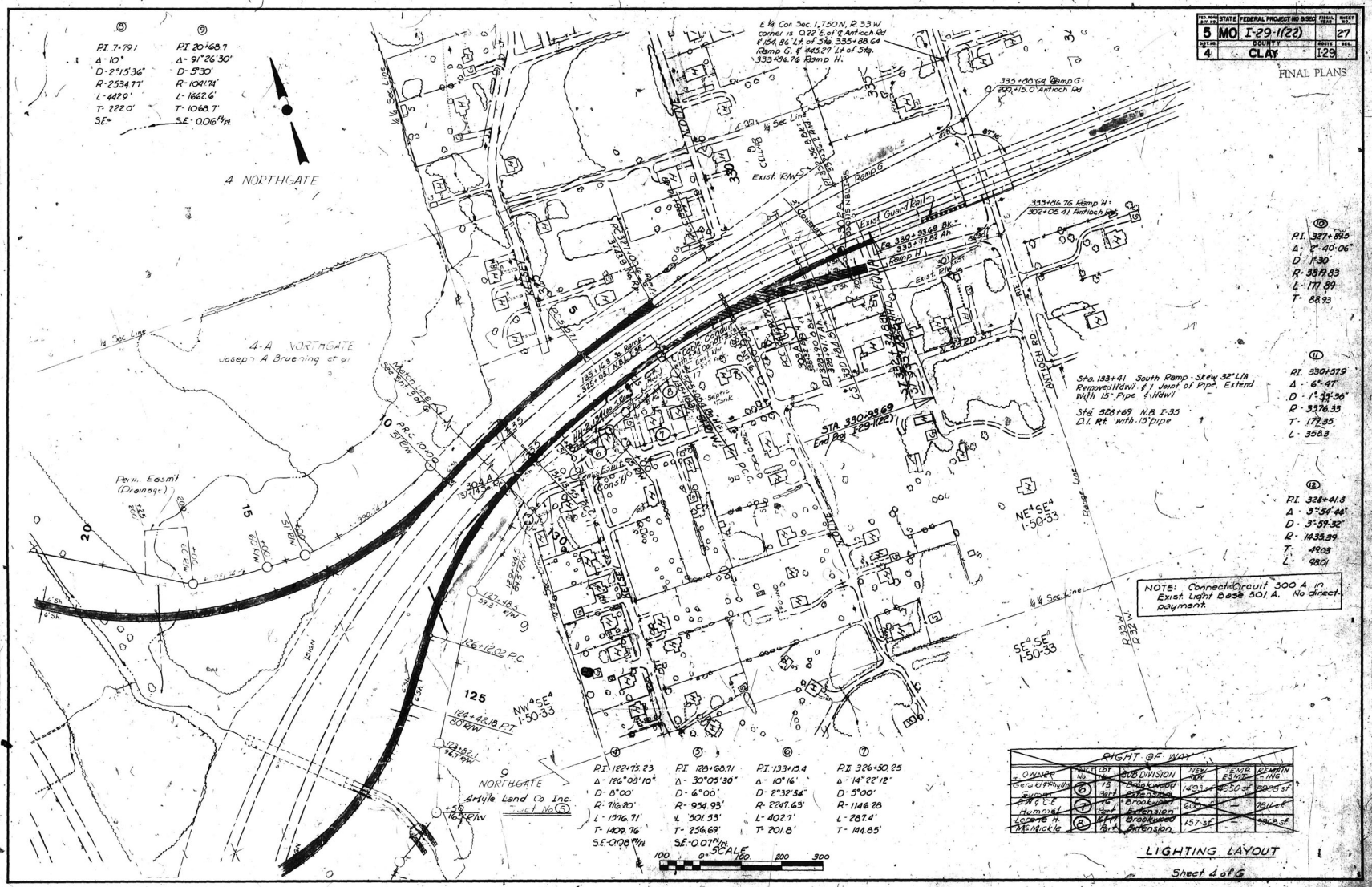
596

1 TO 12



FEDERAL PROJECT NO. & SEC.
5 MO I-29-1(22) 26
4 CLAY I-29
FINAL PLANS
4 NORTHGATE
4-A NORTHGATE
Joseph A. Brueping et al
Tract No. 1
8.85 Ac. New R/W
0.50 Ac. Perm. Esmt
44.63 Ac. Remaining
NORTH RAMP
P.I. 7+78.1
Δ - 10°
D - 2°15'29"
R - 2537.47'
L - 442.9'
T - 222.0'
P.I. 20+68.7
Δ - 91°26'30"
D - 5°30'
R - 1041.74'
L - 1662.6'
T - 1068.7'
SE - 0.06'
RAMP "U"
P.I. 15+09.0
Δ 18°-13'-30"
D 4°
T 229.8'
L 455.6'
R 1432.39'
SE 0.05'/ft.
P.I. 8+36.6
Δ 18°-55'
D 6°
T 159.1'
L 315.3'
R 954.93'
SE 0.07'/ft.
P.I. 4+05.0
Δ 2°-18'
D 1°
T 115.0'
L 230.0'
R 5729.58'
9 NORTHGATE
Arlyle Land Co. et al
Tract No. 5
2.92 Ac. New R/W
0.34 Ac. Perm. Esmt
27.20 Ac. Remaining
P.I. 122+75.23
Δ - 126°08'10"
D - 8°00'
R - 716.20'
L - 1576.71'
T - 1409.76'
SE - 0.08'/ft.
P.I. 128+68.71
Δ - 30°05'30"
D - 6°00'
R - 954.93'
L - 501.53'
T - 256.69'
SE - 0.07'/ft.
L - 150'
Sta 101+72 South Ramp - Skew 8° R/A
Build 18" Pipe Culvt. W/ 2 Hdwls
D.A. - 2 Ac of 0.6 Land
Sta 110+00 South Ramp - Skew 15° R/A
Build 24" Pipe Culvt. W/2 Hdwls
D.A. - 6 Ac of 0.6 Land
Sta 122+35 South Ramp - 93' Lt. @
Build Type E 3'x2' D.I. Connect to Dbl.
11'x10' Box culvt. W/12" pipe.
Sta 126+70 South Ramp - Skew 48° L/A
Remove Hdwl. & 1 Jt. Pipe. Extend W/ 15" Pipe & Hdwl.
Sta 23+31 North Ramp - Skew 27° L/A
Remove Hdwl. & Pipe.
Sta 17+92 North Ramp
Build 4'x3' Conc. Box Culvt. Build in Sections
D.A. - 57 Ac of 0.6 Land
Note: Kansas City Power & Light Proposed Line Adjustments
207 D New structure
209 D Structure to be removed
214 D Structure to be elevated
218 D Not to be disturbed
SCALE
100 0 100 200 300
LIGHTING LAYOUT
Sheet 3 of 6
DAVIDSON RD.
PARKING
Proposed Building
Match Line (See Sht. 2 of 6)

195


FED. ROAD DIST. NO. | STATE | FEDERAL PROJECT NO. | FISCAL YEAR | SHEET NO.
5 | MO | I-29-1(22) | | 27
DIST. NO. | COUNTY | ROUTE | SEC.
4 | CLAY | I-29 |
FINAL PLANS
E ¼ Cor. Sec. 1, T50N, R 33 W. corner is 0.22' E of ℄ Antioch Rd
℄ 154.86' Lt of Sta. 335+88.64 Ramp G, ℄ 445.27' Lt of Sta. 333+36.76 Ramp H.
335+88.64 Ramp G
329+15.0 Antioch Rd
333+36.76 Ramp H
302+05.41 Antioch Rd
4 NORTHGATE
4-A NORTHGATE
Joseph A Bruening et ux
Perm. Easmt (Drainage)
Exist. R/W
Exist. Guard Rail
Exist. Fence
Exist. Cable Condolet with #6 Cu Gnd
Exist. Septic Tank
Exist. Cable Condolet with #6 Cu Gnd
Exist. Gas Line
Exist. Water Line
Exist. Power Pole
Exist. Power Line
Exist. Gas Valve
Exist. Gas Meter
Exist. Water Valve
Exist. Water Meter
Exist. Fire Hydrant
Exist. Telephone Pedestal
Exist. Telephone Manhole
Exist. Telephone Line
Exist. Gas Line
Exist. Water Line
Exist. Power Line
Exist. Power Pole

B SHEET

Plan
Sheet 5 of 6

16

FINAL PLANS

28B

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
S-S	MO.	I-29-1(22)	28
COUNTY		ROUTE	SEC.
CLAY		I-29	

HIGHWAY LIGHTING

POLES AND LUMINAIRES

* 240 V. Internal Ballast 250 W. Luminaires* Distribution Type III

Pole No.	Location	Side	Poles A-30	Conc. Fdn. (Pole)	Bracket Arms 6'	Bracket Arms 10'	250 W. Luminaires* Distribution Type III
103A	7+80 Ramp 4	Rt.	1	1	1		1
104A	9+67 Ramp 4	Rt.	1	1	1		1
205A	341+60 I-35 (S.B.)	Lt.	1	1		1	1
206A	13+53 Ramp 3	Rt.	1	1	1		1
		TOTALS	4	4	3	1	4

RIGID STEEL CONDUIT

Location	In Trench 3"
15+30 Ramp 3	22"
TOTAL	22'

CABLE, CABLE-CONDUIT & TRENCHING AND BACKFILLING

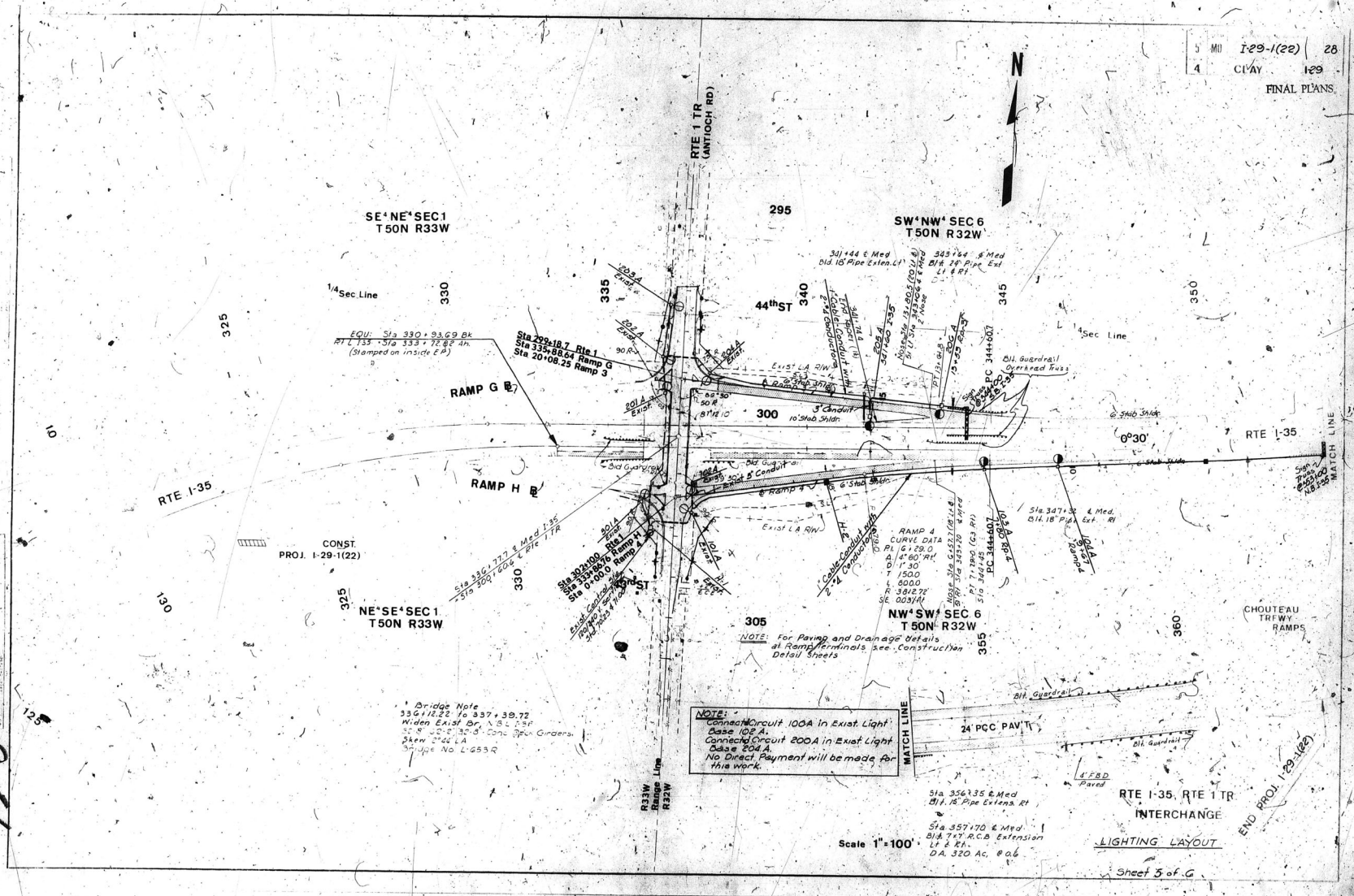
Circuit No.	1 Cable-Conduit w/2-#4 Condtrs	1-C #10 P&B Cable	Trenching & Backfilling Type II	Trenching & Backfilling Type III
100A	1930	144	1609	15
200A	840	152	751	
TOTALS	2770	296	2360	15

CONCRETE HANDHOLE

Handhole No.	Location	Side	Type B
H-2	3+80 Ramp 4	Rt.	1
H-3	350+00 N.B. I-35	R.t.	1
		TOTAL	2

596

1 TO 12



5 MO I-29-1(22) 28
4 CLAY I-29
FINAL PLANS
N
RTE 1 TR (ANTIOCH RD)
SE¼ NE¼ SEC 1 T50N R33W
SW¼ NW¼ SEC 6 T50N R32W
NE¼ SE¼ SEC 1 T50N R33W
NW¼ SW¼ SEC 6 T50N R32W
1/4 Sec Line
44th ST
RAMP G
RAMP H
RTE I-35
CONST. PROJ. I-29-1(22)
CHOUTEAU TREWY RAMPS
MATCH LINE
0°30'
295
300
305
330
335
340
345
350
325
130
125
R33W Range Line R32W
24' PCC PAV'T
Scale 1"=100'
RTE I-35, RTE 1 TR INTERCHANGE
END PROJ. I-29-1(22)
LIGHTING LAYOUT
Sheet 5 of 6
NOTE: For Paving and Drainage details at Ramp terminals see Construction Detail Sheets
NOTE: Connect Circuit 100A in Exist. Light Base 102 A. Connect Circuit 200A in Exist. Light Base 204 A. No Direct Payment will be made for this work.
Bridge Note
Bridge No L-653R

596

B SHEET

Plan
Sheet 6 of 6

17

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
S-S	MO.	I-29-1(22)	29
COUNTY		ROUTE	SEC.
CLAY		I-29	

HIGHWAY LIGHTING @ CHOUTEAU TFWY. & I-35

FINAL PLANS

29B

POLES AND LUMINAIRES

240 V. Internal Ballast 250 W. Luminaires Distribution Type III

Pole No.	Location	Side	Poles A-30	Conc. Fdn. (Pole)	Bracket Arms 10'	
103 D	382+90 Ramp "N"	Rt.	1	1	1	1
104 D	384+25 I-35 (N.B.)	Rt.	1	1	1	1
205 D	376+95 I-35 (S.B.)	Lt.	1	1	1	1
206 D	379+30 Ramp "M"	Lt.	1	1	1	1
301 D	366+65 I-35 (N.B.)	Rt.	1	1	1	1
302 D	364+90 Ramp "L"	Rt.	1	1	1	1
	TOTALS		6	6	6	6

RIGID STEEL CONDUIT

Location	Pushed 3"	
368+65 Ramp "L"	24'	Pushed in Wrong Location
366+65 Ramp "L"	24'	
377+60 Ramp "M"	24'	
TOTAL	72	

CABLE, CABLE CONDUIT & TRENCHING AND BACKFILLING

Circuit No.	1" Cable Conduit w/ 2-#8 Condtrs	1-C #10 P&B Cable	Trenching & Backfilling Type II	Type III
100 D	1213	160	1145	28
200 D	842	160	623	68
300 D	1025	160	846	
TOTALS	3080'	480'	2614'	96

CONCRETE HANDHOLES

Handhole No.	Location	Side	Type B
H-2	375+75 Ramp "M"	Lt.	1
H-3	368+80 Ramp "L"	Rt.	1
H-4	377+90 Ramp "N"	Rt.	1
	TOTAL		3

CIRCUIT BREAKERS

Circuit No.	Trip Rating	Remarks
100 D	15 A.	Use Present 15 Amp. Cir. Bkr.
200 D	15 A.	Use Present 15 Amp. Cir. Bkr.
300 D	10 A.	

596

1 TO 12

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1 (22)	29
DIST. NO.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS



LEGEND

- Existing Light & Standard (250 Watt Merc. Vapor Luminaire)
- Proposed Light & Standard (250 Watt Merc. Vapor Luminaire)
- Existing Handhole
- Proposed Handhole
- Existing 1" Cable-Conduit (With 2-#8 Cond.)
- Proposed 1" Cable-Conduit (With 2-#8 Cond.)

NOTE: Connected Circuit 100 D in Exist. Light Base 101 D.
Connected Circuit 200 D in Exist. Light Base 204 D.
Connected Circuit 300 D to Exist. Control Station.

NOTE: No direct payment made for Connecting new circuits in exist. pole bases or in exist. control cabinet on present service pole.

LIGHTING LAYOUT

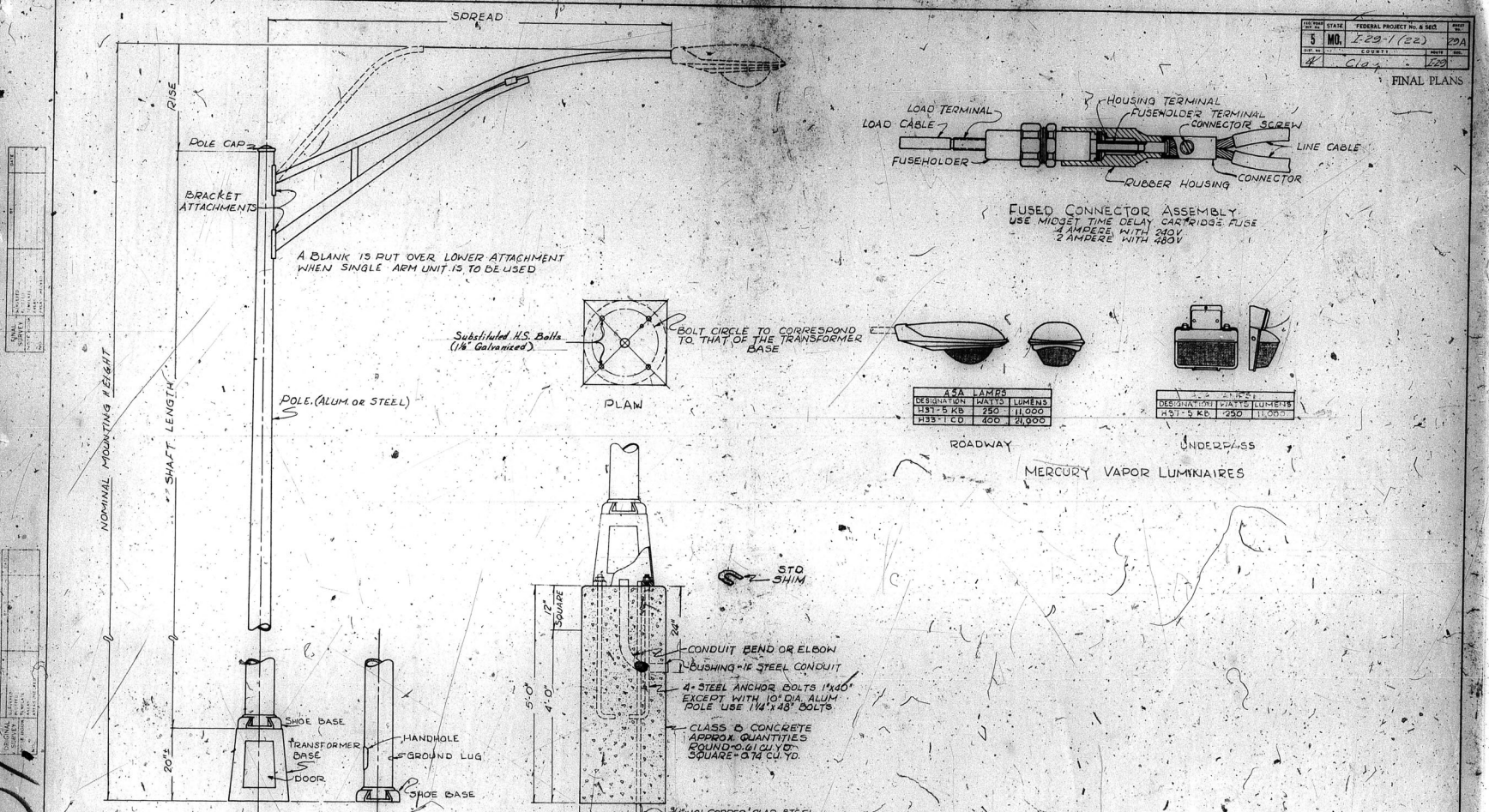
ROUTE I-35 & CHOUTEAU TRFWY

Sheet 6 of 6

200

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	29A
DIST. NO.	COUNTY	ROUTE	SEC.
4	Clay	169	

FINAL PLANS



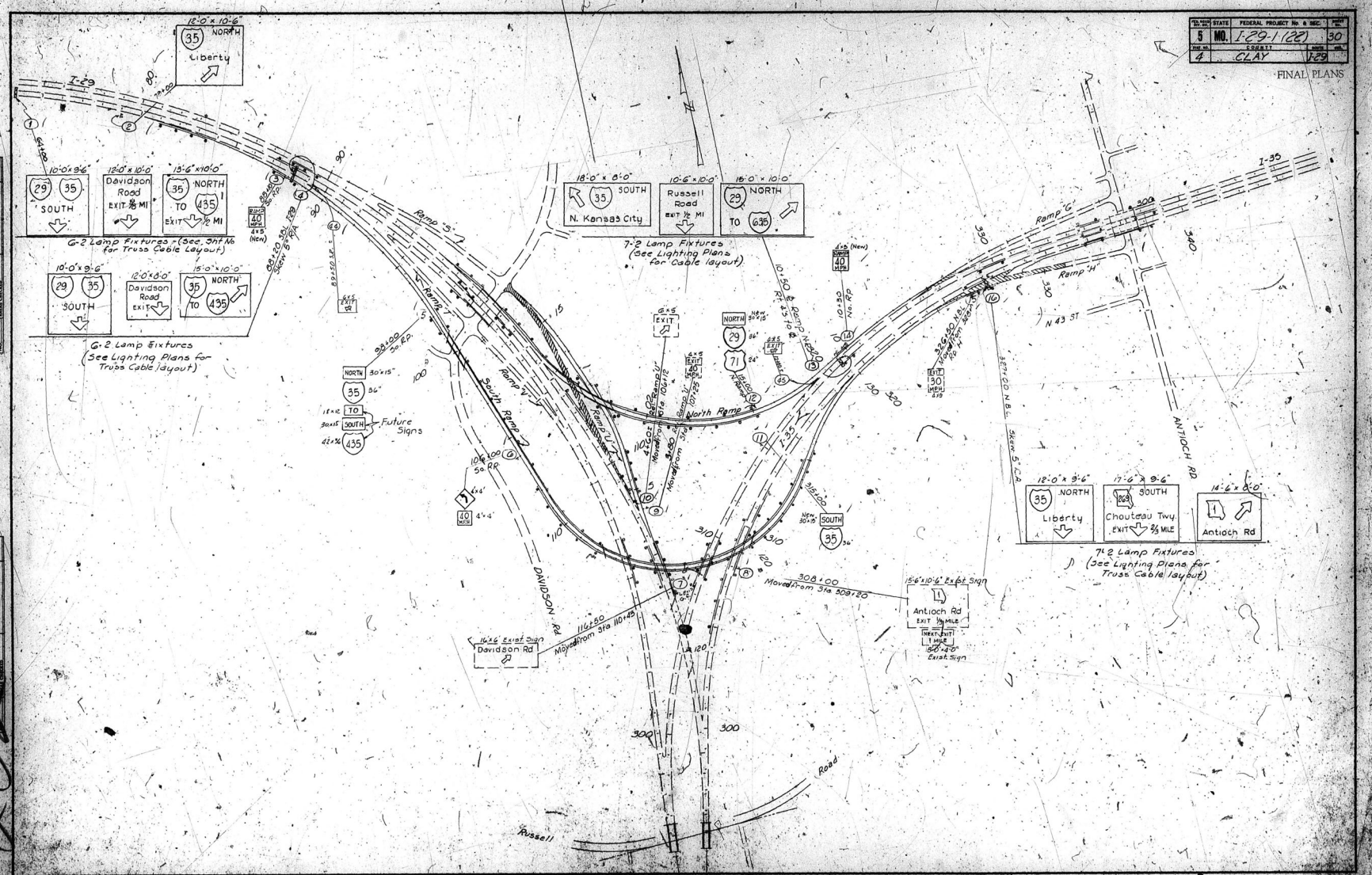
NOTE: SHOP DRAWINGS WILL BE REQUIRED ON THE POLE (ALUMINUM OR STEEL) TRANSFORMER BASE AND BRACKET ARMS TO BE SUPPLIED FOR THIS PROJECT.

HIGHWAY LIGHTING
TRANSFORMER BASE & SHOE BASE POLES
(SEE SPECIAL PROV.)

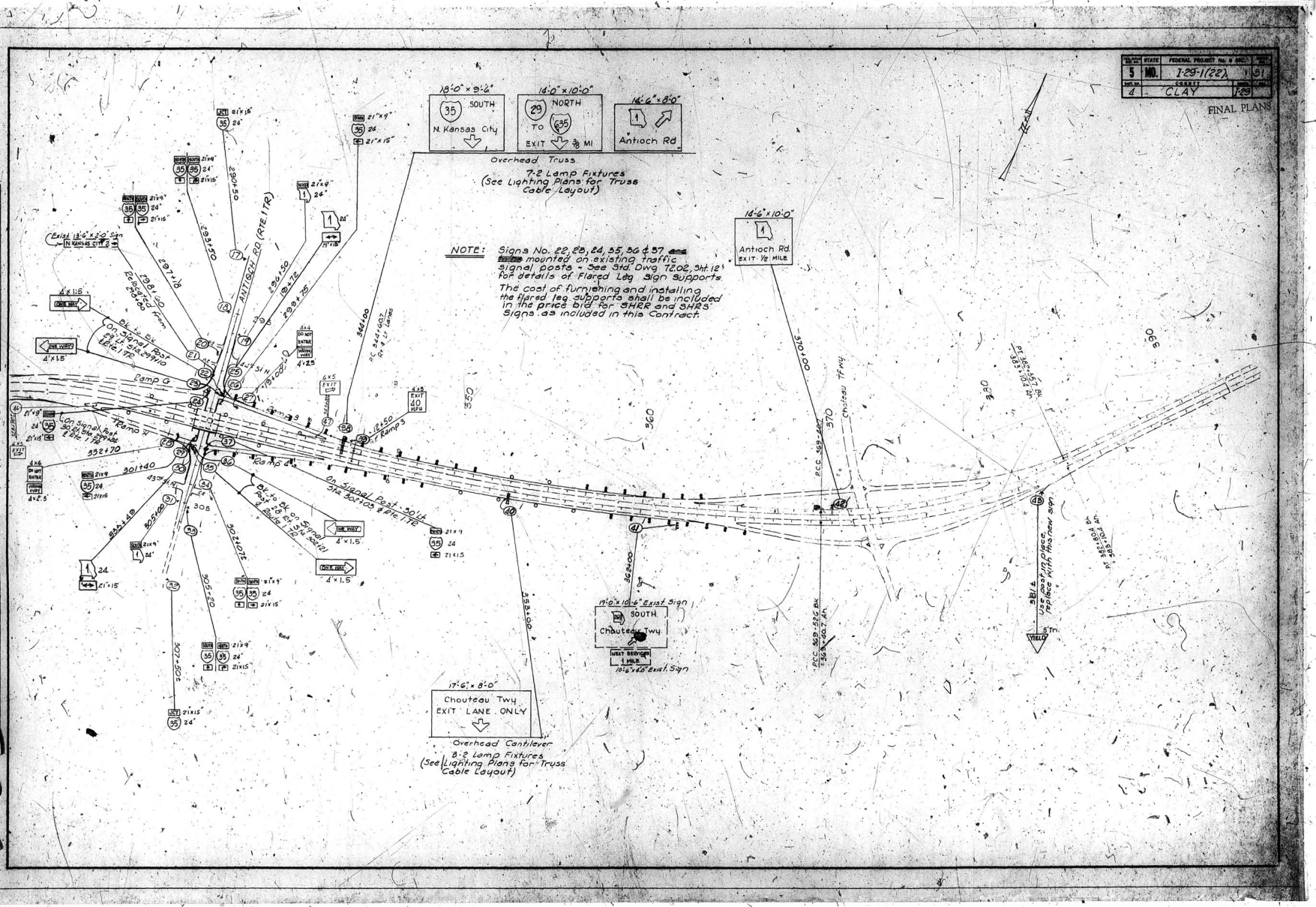
SPECIAL SHEET NO.

201

570

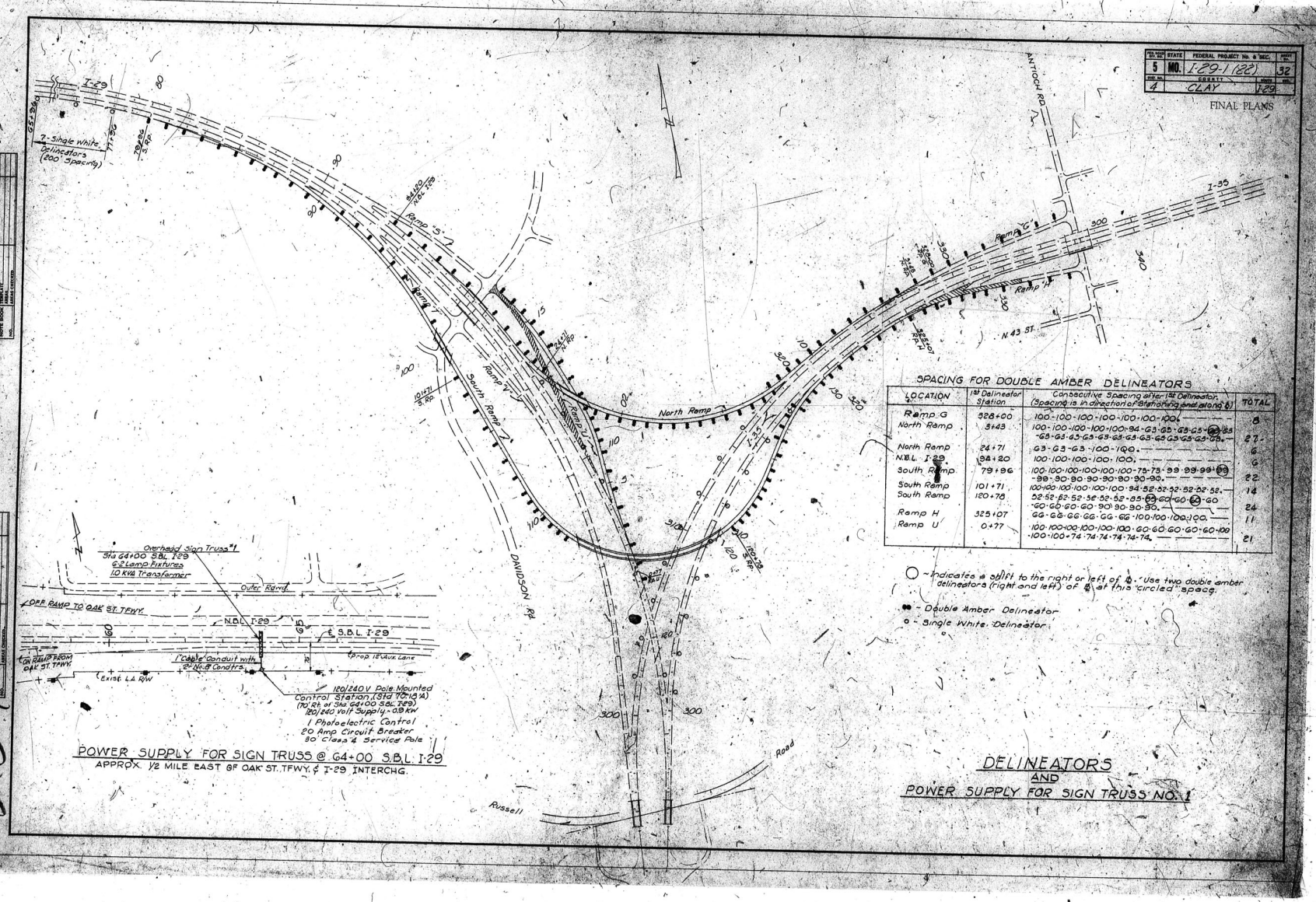


FEDERAL PROJECT No. & SEC.
5 MO. I-29-1 (22) 30
4 CLAY I-29
FINAL PLANS
12'-0" x 10'-6"
35 NORTH
Liberty
I-29
10'-0" x 9'-6"
29 35
SOUTH
12'-0" x 10'-0"
Davidson Road
EXIT 5/8 MI
13'-6" x 10'-0"
35 NORTH
TO 435
EXIT 1/2 MI
6-2 Lamp Fixtures (See Sht No for Truss Cable Layout)
10'-0" x 9'-6"
29 35
SOUTH
12'-0" x 8'-0"
Davidson Road
EXIT
15'-0" x 10'-0"
35 NORTH
TO 435
6-2 Lamp Fixtures (See Lighting Plans for Truss Cable layout)
18'-0" x 8'-0"
35 SOUTH
N. Kansas City
10'-6" x 10'-0"
Russell Road
EXIT 1/2 MI
15'-0" x 10'-0"
29 NORTH
TO 635
7-2 Lamp Fixtures (See Lighting Plans for Cable layout)
NORTH 30"x15"
35 36"
TO
SOUTH
435
Future Signs
Ramp "S"
Ramp "T"
Ramp "V"
South Ramp
North Ramp
Ramp "G"
Ramp "H"
I-35
N 43 ST
ANTIOCH RD
DAVIDSON Rd
Russell Road
12'-0" x 9'-6"
35 NORTH
Liberty
17'-6" x 9'-6"
269 SOUTH
Chouteau Twy.
EXIT 2/3 MILE
14'-6" x 8'-0"
1
Antioch Rd
7-2 Lamp Fixtures (See Lighting Plans for Truss Cable layout)
15'-6" x 10'-6" Exist Sign
1
Antioch Rd
EXIT 1/3 MILE
NEXT EXIT 1 MILE
8'-0" x 4'-0" Exist Sign
16'-6" Exist Sign
Davidson Rd
Moved from Sta 110+45
Moved from Sta 309+20
308+00
Moved from Sta 309+20
116+50
Moved from Sta 110+45


18'-0" x 9'-6"
35 SOUTH
N. Kansas City
14'-0" x 10'-0"
29 NORTH
TO 635
EXIT 3/8 MI
14'-6" x 8'-0"
1
Antioch Rd
Overhead Truss
7-2 Lamp Fixtures
(See Lighting Plans for Truss Cable Layout)
NOTE: Signs No. 22, 23, 24, 35, 36 & 37 mounted on existing traffic signal posts - See Std. Dwg. 7202, Sht 12 for details of Flared Leg Sign Supports.
The cost of furnishing and installing the flared leg supports shall be included in the price bid for SHR2 and SHR3 Signs as included in this Contract.
14'-6" x 10'-0"
1
Antioch Rd.
EXIT 1/2 MILE
Exist 18'-6" x 2'-0" Sign
N KANSAS CITY
Ramp G
Ramp H
Ramp J
Ramp D
Ramp S
Chouteau Twy
ANTIOCH RD (RTE 1 TR)
On Signal Post 30'±
On Signal Post 30'±
On Signal Post 30'±
On Signal Post 30'±
4'x1.5
4'x1.5
4'x1.5

STATE	FEDERAL PROJECT No.	SEC.	SHEET No.
MO.	I-29-1 (122)		32
COUNTY		ROUTE	NO.
CLAY		I-29	

FINAL PLANS



SPACING FOR DOUBLE AMBER DELINEATORS

LOCATION	1st Delineator Station	Consecutive Spacing after 1st Delineator (Spacing is in direction of Station ing and ahead of 1st)	TOTAL
Ramp G	328+00	100-100-100-100-100-100-100	8
North Ramp	3+43	100-100-100-100-100-94-G3-G3-G3-G3-(G3)-G3-G3-G3-G3-G3-G3-G3-G3-G3-G3-G3-G3-G3-G3-G3-G3-	27
North Ramp	24+71	G3-G3-G3-100-100	6
N.B.L. I-29	84+20	100-100-100-100-100	6
South Ramp	79+96	100-100-100-100-100-100-75-75-99-99-99-(99)-99-90-90-90-90-90-90-90	22
South Ramp	101+71	100-100-100-100-100-100-94-52-52-52-52-52-52-52	14
South Ramp	120+78	52-52-52-52-52-52-52-52-(G3)-GO-GO-(G)-GO-GO-GO-GO-GO-90-90-90-90	24
Ramp H	325+07	GG-GG-GG-GG-GG-GG-100-100-100-100	11
Ramp U	0+77	100-100-100-100-100-100-GO-GO-GO-GO-GO-100-100-100-74-74-74-74-74-74	21

○ - Indicates a offset to the right or left of ℄. Use two double amber delineators (right and left) of ℄ at this "circled" space.

●● - Double Amber Delineator

○ - Single White Delineator

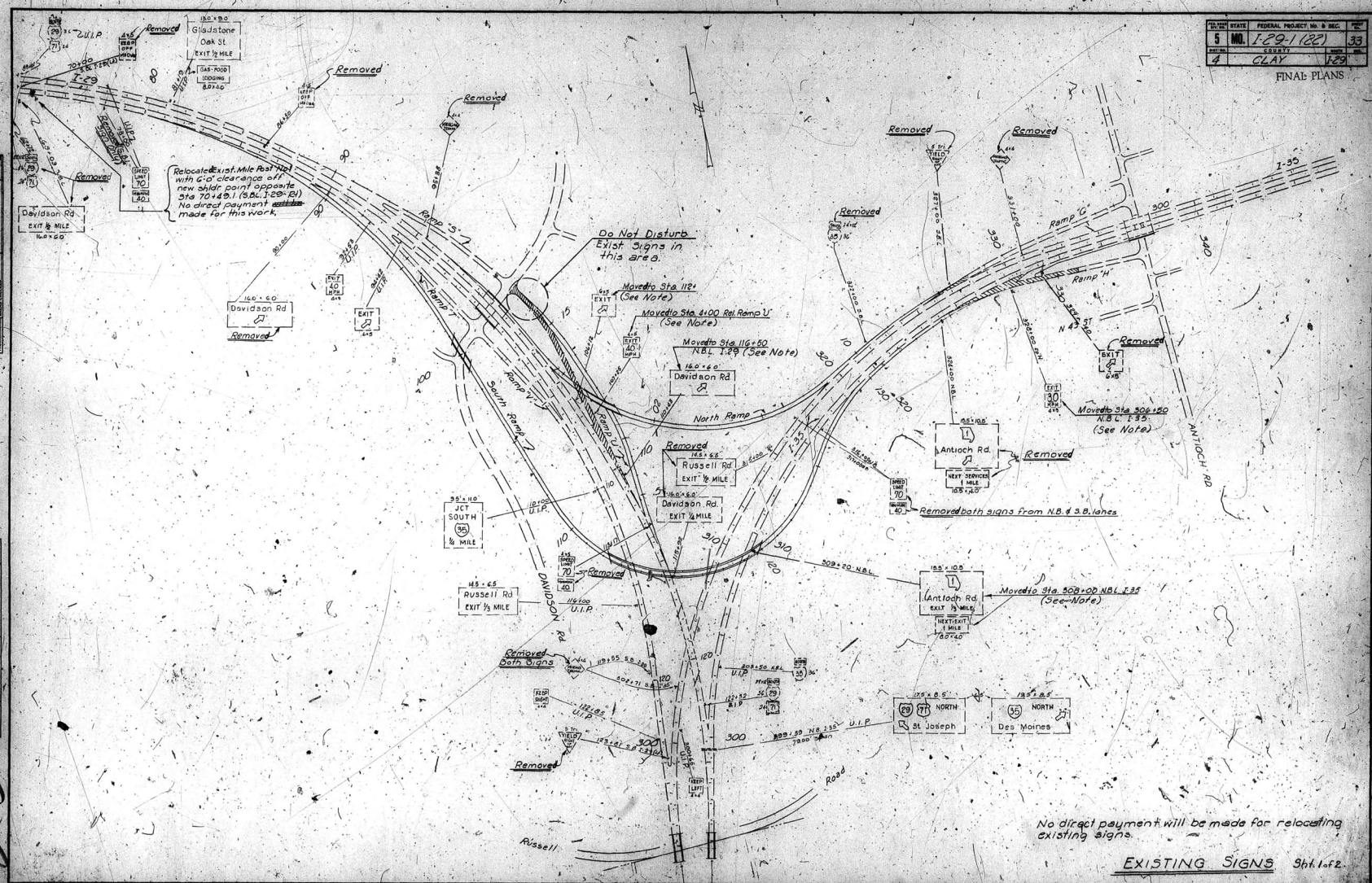
POWER SUPPLY FOR SIGN TRUSS @ 64+00 S.B.L. I-29

APPROX. ½ MILE EAST OF OAK ST. TFWY. & I-29 INTERCHG.

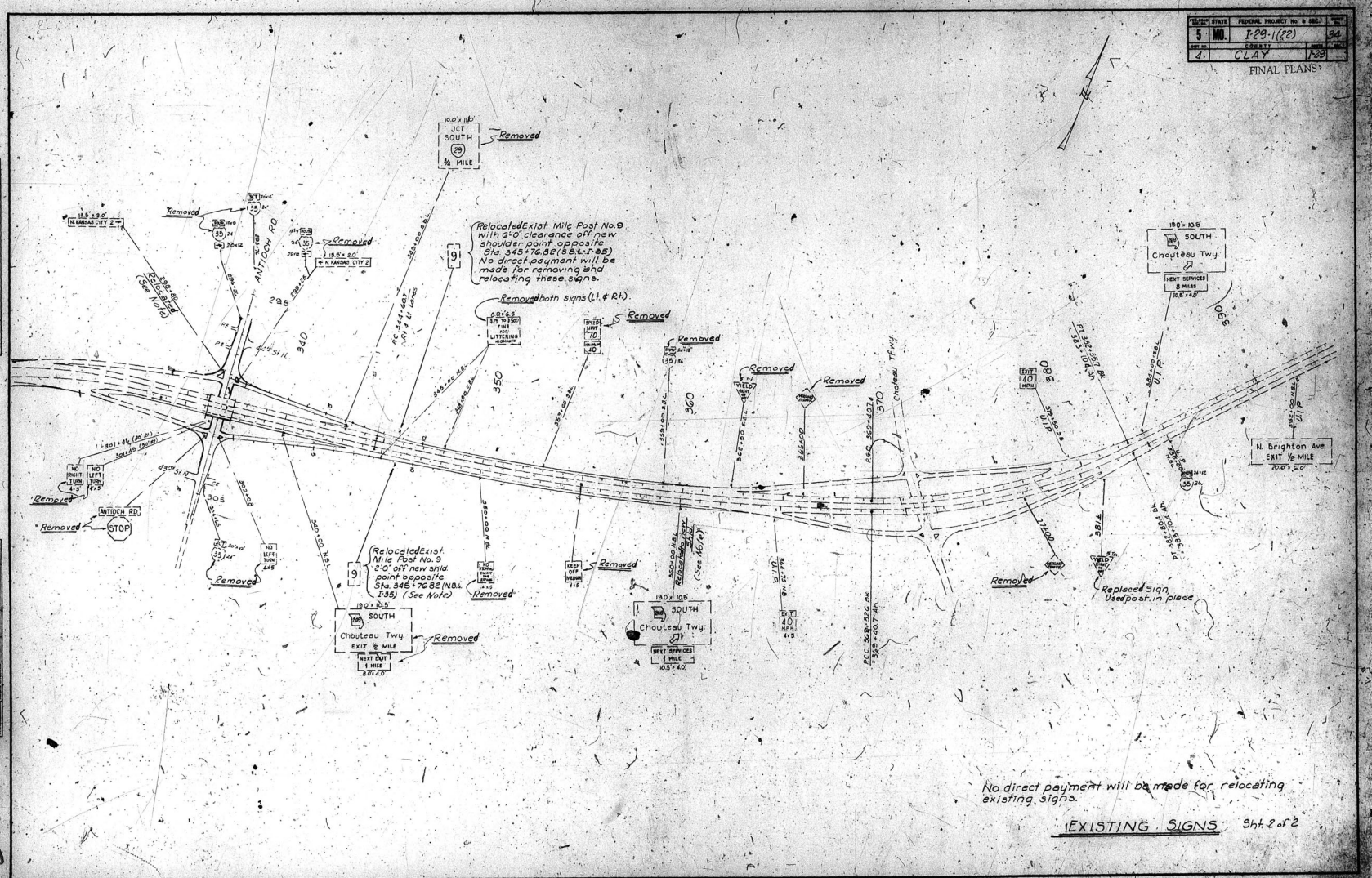
DELINEATORS AND POWER SUPPLY FOR SIGN TRUSS NO. 1

204

370

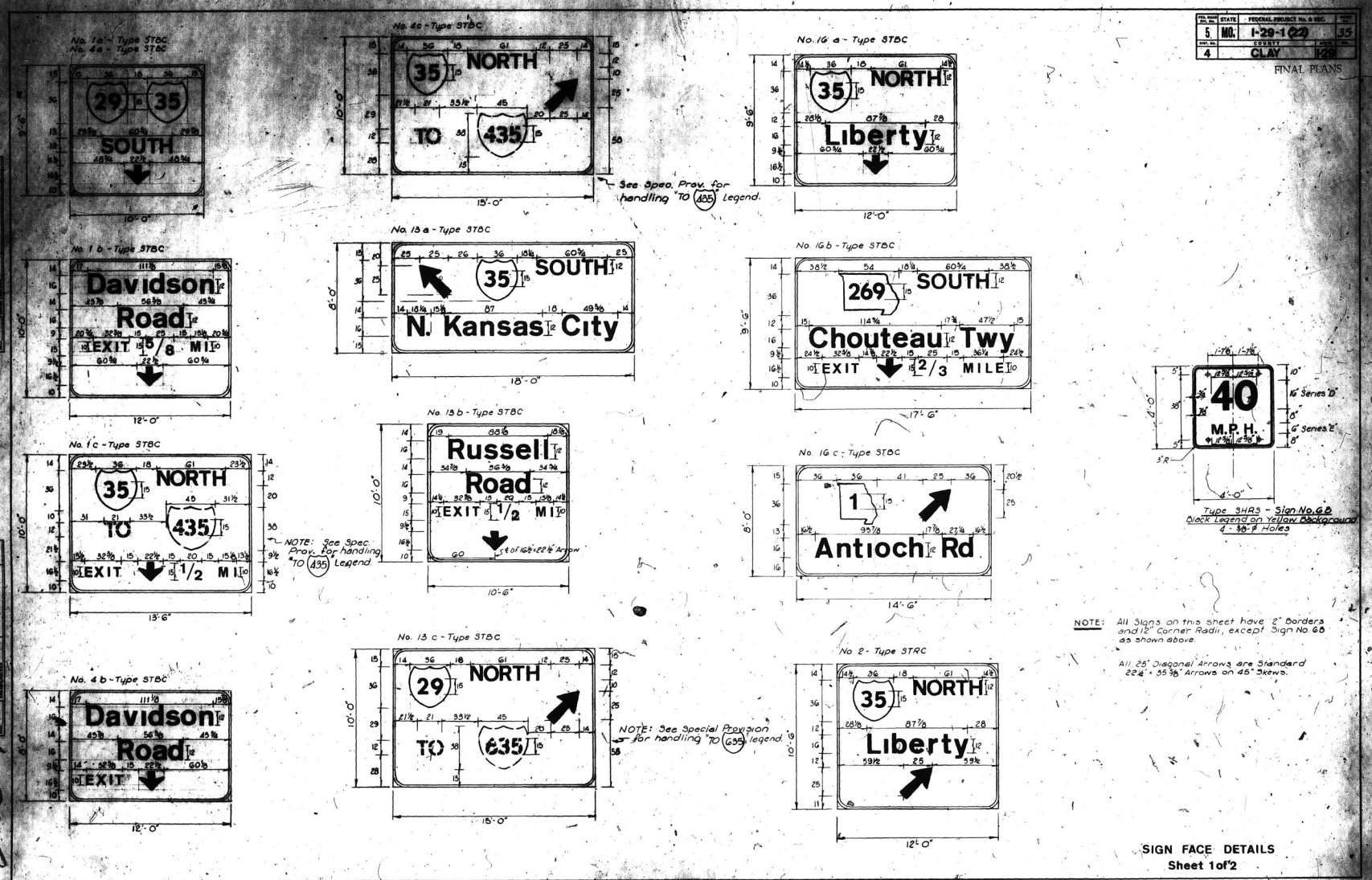


FEDERAL PROJECT No. & SEC.
5 MO. I-29-1 (22) 33
4 CLAY I-29
FINAL PLANS
Gladstone Oak St. EXIT ½ MILE
GAS-FOOD LODGING
Removed
Relocated Exist. Mile Post No. 1 with 6'-0" clearance off new shldr. point opposite Sta 70+49.1 (S.B.L. I-29-121) No direct payment made for this work.
Davidson Rd. EXIT ½ MILE
Do Not Disturb Exist. Signs in this area.
Movedto Sta. 112+ (See Note)
Movedto Sta. 4+00 Rel. Ramp "U" (See Note)
Movedto Sta. 116+50 N.B.L. I-29 (See Note)
Davidson Rd.
North Ramp
South Ramp
Ramp "S"
Ramp "G"
Ramp "H"
Ramp "V"
Ramp "U"
Russell Rd. EXIT ½ MILE
Davidson Rd. EXIT ¼ MILE
JCT SOUTH ¼ MILE
Russell Rd. EXIT ⅓ MILE
Antioch Rd.
NEXT SERVICES 1 MILE
Removed both signs from N.B. & S.B. lanes
Movedto Sta. 306+50 N.B.L. I-35 (See Note)
Movedto Sta. 308+00 N.B.L. I-35 (See Note)
ANTIOCH RD.
DAVIDSON Rd.
Removed Both Signs
St. Joseph
Des Moines
Russell Road
No direct payment will be made for relocating existing signs.
EXISTING SIGNS Sht. 1 of 2



FEDERAL PROJECT No. & SEC.
5 MO. I-29-1(22) 34
CLAY I-29
FINAL PLANS
JCT SOUTH 29 3/4 MILE
Removed
Relocated Exist. Mile Post No. 9 with 6'-0" clearance off new shoulder point opposite Sta. 345+76.82 (S.B.L. I-35) No direct payment will be made for removing and relocating these signs.
Removed both signs (Lt. & Rt.)
Relocated Exist. Mile Post No. 9 2'-0" off new shld. point opposite Sta. 345+76.82 (N.B.L. I-35) (See Note)
SOUTH Chouteau Twy. EXIT 1/2 MILE
NEXT EXIT 1 MILE
SOUTH Chouteau Twy.
NEXT SERVICES 1 MILE
SOUTH Chouteau Twy.
NEXT SERVICES 3 MILES
N. Brighton Ave. EXIT 1/2 MILE
Replaced Sign, Used post in place
ANTIOCH RD.
STOP
Chouteau Twy.
No direct payment will be made for relocating existing signs.
EXISTING SIGNS Sht. 2 of 2

206



FEDERAL PROJECT No. & SEC.
5 MO. I-29-1(22) 35
4 CLAY I-29
FINAL PLANS
No. 1a - Type STBC
No. 4a - Type STBC
29 35
SOUTH
No. 4c - Type STBC
35 NORTH
TO 435
See Spec. Prov. for handling "TO 435" Legend.
No. 16 a - Type STBC
35 NORTH
Liberty
No. 1 b - Type STBC
Davidson Road
EXIT 5/8 MI
No. 13 a - Type STBC
35 SOUTH
N. Kansas City
No. 16 b - Type STBC
269 SOUTH
Chouteau Twy
EXIT 2/3 MILE
No. 1 c - Type STBC
35 NORTH
TO 435
EXIT 1/2 MI
NOTE: See Spec. Prov. for handling "TO 435" Legend.
No. 13 b - Type STBC
Russell Road
EXIT 1/2 MI
No. 16 c - Type STBC
1
Antioch Rd
40
M.P.H.
16" Series "D"
6" Series "E"
Type SHRS - Sign No. 6B
Black Legend on Yellow Background
4 - 3/8-ϕ Holes
No. 4 b - Type STBC
Davidson Road
EXIT
No. 13 c - Type STBC
29 NORTH
TO 635
NOTE: See Special Provision for handling "TO 635" legend.
No. 2 - Type STRC
35 NORTH
Liberty
NOTE: All Signs on this sheet have 2" Borders and 12" Corner Radii, except Sign No. 6B as shown above.
All 25" Diagonal Arrows are Standard 22¼" × 35⅝" Arrows on 45° Skews.
SIGN FACE DETAILS
Sheet 1 of 2

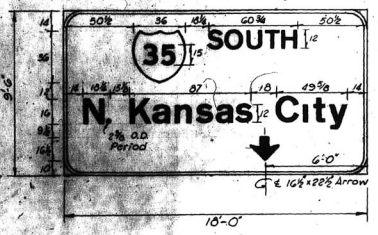
207

596

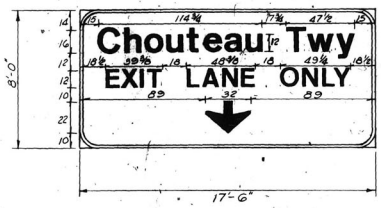
SHT. NO.	STATE	FEDERAL PROJECT NO. & SEC.	SHT. NO.
5	MO.	I-29-1(22)	36
DIST. NO.	COUNTY	ROUTE NO.	
4	CLAY	I-29	

FINAL PLANS

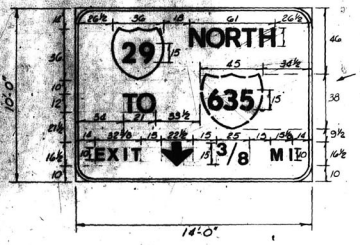
No. 38 a - Type STBC



No. 40 - Type STBC

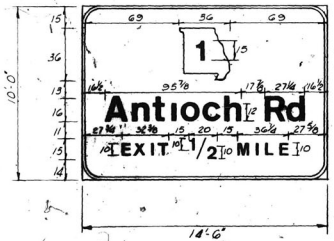


No. 38 b - Type STBC

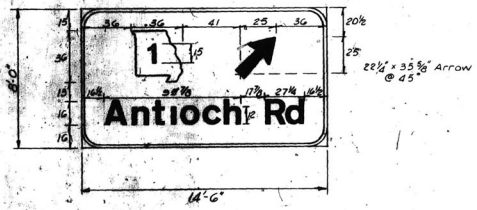


NOTE: See Special Provision for handling "TO (635) Legend.

No. 42 - Type STRC



No. 38 c - Type STBC



NOTE: All signs on this sheet have 2" Borders and 12" Corner Radii.

SIGN FACE DETAILS
Sheet 2 of 2

SP-29 REVISED (1-67)

SIGN POSTS

STATE	FEDERAL PROJECT No. & SEC.	SHEET
MO.	I-29-1(22)	37
COUNTY		
CLAY	I-29	

FINAL PLANS

SIGN NO.	STATION	SIGN DETAIL SHEET NO.	LOCATION	SIGN SIZE	6"x4" WF POSTS @ 8.5# PER FT. CUTOFF EA. POST 3 - LBS. EA.	LIN. FT.	POUNDS	STD. 72.03 STRUCTURAL STEEL POSTS WF POSTS POST DESIGN.	POST 1 LIN. FT.	POST 2 LIN. FT.	POST 3 LIN. FT.	TOTAL LIN. FT.	LBS. PER FT.	CUTOFF LBS.	TOTAL LBS.	COVER PLATES TOTAL LIN. FT.	COVER PLATES LBS. PER FT.	COVER PLATES TOTAL LBS.	3' ZEE ASSEMBLY NO. POST EA. SPACE	3' ZEE ASSEMBLY TOTAL LBS.	BASE PLATE LBS.	ASSEMBLY CROSS-BARS 2"x7#' BARS @ 2.55# PER ' LIN. FT. NO.	LENGTH EA. INCHES	TOTAL LIN. FT.	TOTAL LBS.	BRK. AWAY POST ASSEMBLY EACH	TOTAL STRUCT. STEEL POST. POUNDS	CLASS B CONC. FOOTNS EMBED. CU. YD.	CLASS B CONC. FOOTNS BOLT DOWN CU. YD.	HORZ CLEAR IF NOT STD.
1	Overhead Truss																													
2	279+00		S.B.L. I-29 - Rt.	10'-0"x10'-6"				G	21'-9"	20'-3"	—	42.0'	21	-18	864#											2"	864#	2.85	—	4.0
3	288+10	Std.	South Rp. - Rt.	4'x5'				J01ST.	15'-9"	15'-8"	—	31.5'	8.5	-4	264#												264#	0.33	—	
4	Overhead Truss																													
5	298+00	Std.	South Rp. - Rt.	Assembly				J01ST.	18'-9"	—	—	18.8'	8.5	-2	158#											1"	158#	0.14	—	
6	306+00	±"	South Rp. - Rt.	Std. Overhd.				J01STS.	16'-9"	17'-6"	—	34.3'	8.5	-4	288#											2"	288#	0.28	—	
7	318+50	Exist.	N.B.L. I-29 - Lt.	Exist. 4x6 Sign Panel on 8 5"x8.5" WF Posts		4	14'-4"	16'-6"	19'-2"	50.0'	17	-18	832#							-147						979#	—	2.37	—
8	308+00	Exist.	N.B.L. I-35 - Rt.	Exist. 8'-0"x8'-0" Sign Panel on 8 5"x8.5" WF Posts		7	23'-3"	24'-4"	25'-8"	73.3'	25	-33	1800#				USE EXIST. ZEE ASSEMBLY									3"	1,800	4.29	—	4.0
9	3+80	Std.	Ramp 'U' - Rt.	Exist. 4'x5'				J01STS.	13'-10"	14'-4"	—	28.2'	8.5	-4	236#											2"	236#	0.28	—	
10	4+60±	Std.	Ramp 'U' - Lt.	Exist. G-5				J01STS.	14'-0"	14'-0"	—	28.0'	8.5	-4	234#											2"	234#	0.28	—	
11	315+00	Std.	S.B.L. I-35 - Lt.	Exist. 8'-0"x8'-0" Sign Panel on 8 5"x8.5" WF Posts				J01ST.	13'-4"	—	—	13.3'	8.5	-2	111#											1"	111#	0.14	—	
12	15+00	Std.	North Ramp Rt.	Exist. Sheet G				J01ST.	15'-5"	—	—	15.4'	8.5	-2	129#											1"	129#	0.14	—	
13	Overhead Truss																													
14	10+50	Std.	North Rp. - Rt.	4'x5'				J01STS.	15'-9"	15'-9"	—	31.5'	8.5	-4	264#												264#	0.33	—	
15	326+50	Std.	N.B.L. I-35 - Rt.	Exist. 4'x5'				J01STS.	16'-3"	16'-3"	—	32.5'	8.5	-4	272#												272#	0.35	—	
16	Overhead Truss																													
17	290+50	Std.	Antioch Rd-Rt.	Assem.				J01ST.	9'-3"	—	—	9.3'	8.5	-2	77#											1"	77#	0.15	—	
18	293+50	Std.	" " - Rt.	"				J01ST.	10'-0"	—	—	10.0'	8.5	-2	83#								3'-45°	55"	21.7	1"	138#	0.15	—	0.50
19	296+50	Std.	" " - Lt.	"				J01ST.	11'-1"	—	—	11.1'	8.5	-2	92#								1'-45°	55"	21.7	1"	92#	0.15	—	
20	297+18	Std.	" " - Rt.	"				J01ST.	10'-3"	—	—	10.3'	8.5	-2	86#								3'-45°	55"	21.7	1"	141#	0.14	—	
21	298+60	Std.	" " - Rt.	13'-6"x2'-0" Sign		1	12'-5"	9'-3"	—	21.7	18	-4	278											2"	278	0.76	—	
22	299+10	Std.	" " - Lt.	4'x1.5'				Mount Back to Back with Sign #23 on exist. Signal Post 29 Lt. Sta. 299+10																							
23	299+10	Std.	" " - Lt.	4'x1.5'				See Sign #22, above																							
24	299+24	Std.	" " - Rt.	Assem.				Mount on exist. signal post 30' Rt. Sta. 299+24																							
25	19+76	Std.	Ramp 3-Tel. Rt.	Assem.				J01ST.	10'-9"	—	—	10.8'	8.5	-2	90#											1"	90#	0.14	—	
26	299+75	Std.	Antioch Rd-Lt.	Assem.				J01ST.	11'-8"	—	—	11.7'	8.5	-2	97#											1"	97#	0.14	—	
27	19+00	Std.	Ramp 3 - Lt.	4'x4'4"x2.5"				J01STS.	15'-10"	16'-4"	—	32.2'	8.5	-4	270#											2"	270#	0.28	—	
28	332+70	Std.	Ramp H - Lt.	4'x4'4"x2.5"				J01STS.	15'-10"	16'-4"	—	32.2'	8.5	-4	270#											2"	270#	0.28	—	
29	301+40	Std.	Antioch Rd-Rt.	Assem.				J01ST.	11'-8"	—	—	11.7'	8.5	-2	97#											1"	97#	0.14	—	
30	333+49	Std.	Ramp H-Tel Rt.	"				J01ST.	10'-9"	—	—	10.8'	8.5	-2	90#											1"	90#	0.14	—	
31	305+00	Std.	Antioch Rd. - Rt.	"				J01ST.	11'-8"	—	—	11.7'	8.5	-2	97#											1"	97#	0.14	—	
32	307+50±	Std.	" " - Lt.	"				J01ST.	13'-1"	—	—	13.1'	8.5	-2	109#											1"	109#	0.15	—	
33	305+80	Std.	" " - Lt.	"				J01ST.	13'-4"	—	—	13.3'	8.5	-2	111#								5'-45°	35"	21.7	1"	166#	0.14	—	
34	302+07±	Std.	" " - Lt.	"				J01ST.	11'-5"	—	—	11.4'	8.5	-2	95#								5'-45°	35"	21.7	1"	150#	0.14	—	
35	302+21	Std.	" " - Rt.	4'x1.5'				Mount Back to Back with Sign #36 on exist. Signal Post 29 Rt. Sta. 302+21																							
36	302+21	Std.	" " - Lt.	4'x1.5'				See Sign #35, above																							
37	302+05	Std.	" " - Lt.	Assem.				Mount on exist. signal post 30 Lt. Sta. 302+05																							
38	Overhead Truss																													
39	18+50	Std.	Ramp 3 - Rt.	4'x5'				J01STS.	17'-0"	17'-0"	—	34.0'	8.5	-4	285#												285#	0.36	—	
40	Overhead Cantilever																													
41	362+00	2-30ft. Signs	N.B.L. I-35 - Rt.	8'-0"x10'-6" & 8'-0"x4'-0"		8	22'-11"	24'-5"	26'-1"	73.4'	29	-36	2093#				USE EXIST. ASSEM.									3"	2093	4.62	—	4.0
42	370+00	±0.	S.B.L. I-35 - Lt.	14'6"x10'0"		8	18'-6"	23'-0"	—	41.5'	29	-24	1,180#				+184										1364	—	3.28	
43	Use Exist. Post in Place																													
44	89+50	Std.	Sa. Rp. Gore-Lt.	6'x5'				J01STS.	13'-6"	13'-6"	—	27.0'	8.5	-4	226#											2"	226	0.28		
45	12+00	Std.	Na. Rp. Gore-Lt.	6'x5'				J01STS.	13'-6"	13'-6"	—	27.0'	8.5	-4	226#											2"	226	0.28		
46	328+90	Std.	Ramp H Gore-Lt.	6'x5'				J01STS.	14'-0"	13'-6"	—	27.5'	8.5	-4	230#											2"	230	0.28		
47	14+10	Std.	Ramp 3 Gore-Lt.	6'x5'				J01STS.	13'-6"	13'-6"	—	27.0'	8.5	-4	226#											2"	226	0.28		

SP-30 REVISED

STANDARD SIGN ASSEMBLIES

SIGN NO.	STATION	LOCATION	TYPE: SHR	SHOP	SHES	SHR	SHER		SHR	SHES	SHR	SHR	SHR	SHES	SHR	SHES	SHR	SHR	SHR	SHR	SHES
			SIGN DESCRIPTIONS, SIZES & NUMBER OF EACH: 48"x48" Stop Ahead	36"x36" Shield	36"x36" Shield 24"x24" Rte. 11	NORTH 30"x18"	SOUTH 30"x18"		2" Square 30"x30"	HEXAGONAL 30"x30"	JCT 21"x15"	NORTH 21"x9"	SOUTH 21"x9"	NORTH 21"x9"	SOUTH 21"x9"	Lt 24"x15"	24"x15"	24"x15"	24"x15"	24"x15"
5	88+00	South Rp - Rt		1		1															
11	315+00	Sta. 1-35 - Lt		1			1														
12	18+00	North Rp - Rt	1		1	1															
9	290+50	Antioch Rd - Rt							1		1							1	1		
10	285+50	" " " - Rt							2		1	1						1	1		
13	286+50	" " " - Lt								1				1							
20	287+18	" " " - Rt							2		1	1						1	1		
24	295+24	" " " - Rt							1		1			1							
28	19+76	Ramp B - 1-35 Rt																		1	
26	299+75	Antioch Rd - Lt				1			1			1				1					
29	301+40	" " " - Rt									1										
30	335+48	Ramp A - Lt Rt								1											
31	305+00	Antioch Rd - Rt							1				1								
32	308+00	" " " - Lt							1		1										
33	306+50	" " " - Lt							2			1	1					1	1		
34	302+07	" " " - Lt							2			1	1					1	1		
37	302+05	" " " - Lt							1			1				1					
		TOTALS	1	2	1	2	1		14	1	2	6	6	1	1	4	2	4	2	1	2

SIGN SUMMARY

STATE	FED. PROJ. NO. & SEC.	SHEET NO.
MO.	I-29-1(22)	38
COUNTY	ROUTE	SEC.
CLAY	I-29	

FINAL PLANS

STANDARD SIGN OR SPECIAL SIGN NO.	SIGN DETAIL SHEET NO.	NO. EACH	SIZE	TYPE & SQ. FT. STBC	STRC	STRS	SHRR	SHRS	36" STOP EACH
2		1	18'0" x 10'6"		126.0				
12a, 42		2	10'0" x 9'6"	190.0					
12b		1	12'0" x 10'0"	120.0					
12c		1	13'6" x 10'0"	135.0					
12d		1	18'0" x 8'0"	96.0					
14a		1	15'0" x 10'0"	150.0					
14b		1	15'0" x 8'0"	120.0					
15a		1	10'6" x 10'0"	105.0					
15b		1	15'0" x 10'0"	150.0					
16a		1	12'0" x 9'6"	114.0					
16b		1	17'6" x 9'6"	166.3					
16c		1	14'6" x 8'0"	116.0					
38a		1	18'0" x 9'6"	171.0					
38b		1	14'0" x 10'0"	140.0					
38c		1	14'6" x 8'0"	116.0					
40		1	17'6" x 8'0"	140.0					
42		1	14'6" x 10'0"		145.0				
EXIT 40 M.P.H. "39	Std.	1	4' x 5'					20.0	
RAMP 40 M.P.H. "3, "14, "	Std.	2	4' x 5'					40.0	
DO NOT ENTER "276 "286	Std.	2	4' x 4'					32.0	
"6A (Supplemental Guide)		1	4' x 4'					16.0	
YIELD "43	Std.	1	5' Tri.					10.8	
WRONG WAY "27, "28	Std.	2	4' x 2'8"				20.0		
"6D		1	4' x 4'					16.0	
ONE WAY "22 "33	Std.	2	4' x 1'5"					12.0	
ONE WAY "23 "34	Std.	2	4' x 1'5"					12.0	
I-29 Shield	Std.	1	36" x 36"				9.0"		
I-35 Shield	Std.	2	36" x 36"				18.0		
Rte. 71 Shield	Std.	1	24" x 24"					4.0	
Cardinal Directions	Std.	3	30" x 15"				9.3"		
I-35 Shield	Std.	14	24" x 24"				56.0		
Mo. Rte. 1 Shield	Std.	4	24" x 24"					16.0	
JCT	Std.	2	21" x 15"				4.4"		
Cardinal Directions	Std.	12	21" x 9"				15.6"		
Cardinal Directions	Std.	2	21" x 9"					3.6	
Directional Arrows	Std.	12	21" x 15"				26.4"		
Directional Arrows	Std.	2	21" x 15"					4.4	
EXIT "44 "45 "46 "47	Std.	4	16' x 5'		320.0				
Relocate/Exist. Signs-No. 7, 31 & 35, 9, 10, 15, 21 & 41.									
TOTALS				2,053.3	391.0	~	138.7	185.8	~

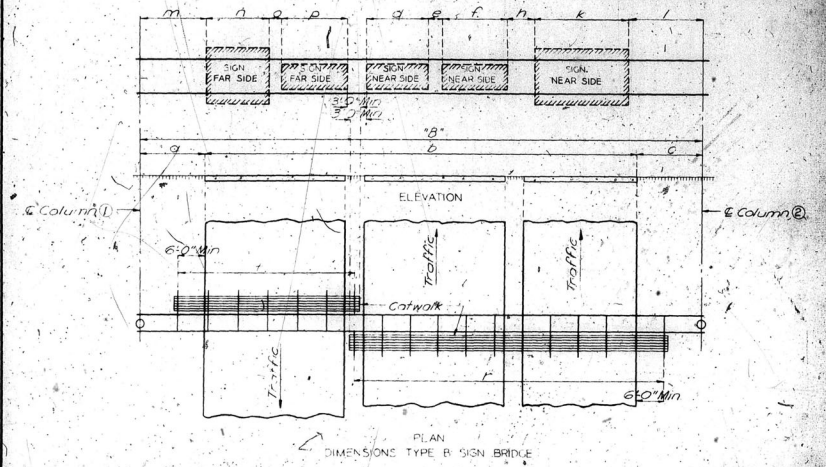
210.

596

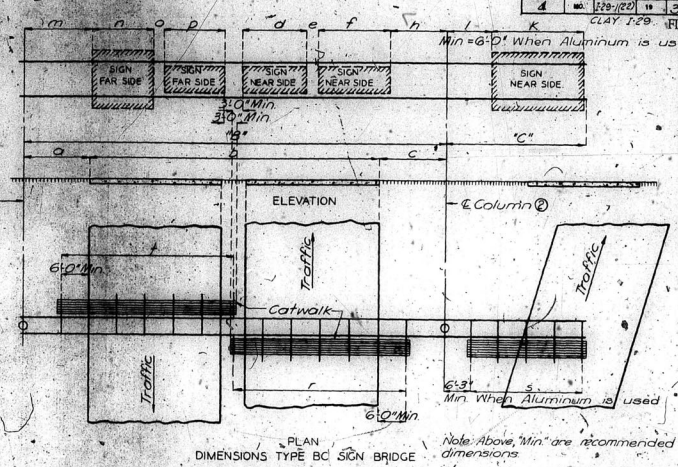
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MO.	328-1(22)	19	39	

CLAY 1-29 FINAL PLANS



PLAN
DIMENSIONS TYPE B SIGN BRIDGE



PLAN
DIMENSIONS TYPE BC SIGN BRIDGE

Min = 6'-0" When Aluminum is used

Note: Above "Min." are recommended dimensions

SIGN BRIDGE DIMENSIONS

Sign No	Station No	Truss Description: Type	"B"	"C"	Chord: Alum	Chord: Steel	Roadway Description: a	b	c	Sign Spacing: Near Side: d	ht	e	f	ht	h	k	ht	j	Sign Spacing: Far Side: m	n	ht	o	p	ht	Catwalk: Near Side r*	s*	t*	Col. 1: H	Type	Col. 2: H	Type	Ftg. & Pad C.Y.C.I.B	Lighting Data: Power to Col. No.	Photo Elec. Switch	Luminaire Lamp	Luminaire Qty.	Transformer KVA	Sign No.
1	64+00.0	B	65.00	—	4½"x½"	4"x4"x⅜"	16.0	36.0	11.0	10'-0"	9'-6"	1'-0"	12'-0"	40'-0"	0'-6"	13'-6"	10'-0"	10'-0"							53'-_"	—	—	19'-1"	III	19'-1"	III	31.44	2	Y	—	6	1.0	1
4	88+20.0	B	74.00	—	4½"x½"	4"x4"x⅜"	16.40	47'	10.60'	10'-0"	9'-6"	1'-0"	18'-0"	8'-0"	0'-6"	15'-0"	10'-0"	10'-10"							64'-_"	—	—	18'-7"	III	19'-1"	III	29.52	2	—	—	6	1.0	4
13	10+50.0 No. Rp	B	70.00	—	4½"x½"	4"x4"x⅜"	20.3'	38.2'	10.3	18'-0"	8'-0"	0'-6"	10'-6"	10'-0"	0'-6"	15'-0"	10'-0"	9'-6"							58'-5"	—	—	19'-6"	III	18'-0"	III	30.96	2	—	—	7	1.5	13
16	327+00.0	B	77.00	—	4½"x½"	4"x4"x⅜"	20.0'	46'	11.0'	12'-0"	9'-6"	6'-0"	17'-6"	9'-6"	0'-6"	14'-6"	8'-0"	6'-6"							68'-_"	—	—	17'-7"	III	19'-1"	IV	33.89	2	—	—	7	1.5	16
38	544+00.0	B	74.00	—	4½"x½"	4"x4"x⅜"	15.0	38.71	10.29	18'-0"	9'-6"	0'-6"	14'-0"	10'-0"	0'-6"	14'-6"	8'-0"	17'-6"							68.3'	—	—	18'-5"	IV	18'-11"	IV	36.77	2	—	—	7	1.5	38

162.5 B C.Y. Cl. B Conc.

GENERAL NOTES

Design Specifications: Joint AASHO-ARBA Special Subcommittee Specifications for the Design and Construction of Structural Supports for Highway Signs, of November 1960.
Basic Assumptions: Wind Velocity 85 mi./hr. Wind Pressure on Sign Area: 40#/s'. Ice Load 3#/s'.
Structural Aluminum Stress: 10,000#/s'.
Structural Steel Stress: 20,000#/s' (ASTM A36.)
Reinforcing Steel Stress: 20,000#/s'.
Concrete Class "B" Stress: 1200#/s'.
Footing Soil Pressure: 2,750#/s'.
Allowable unit stresses due to wind load or wind load in combination with other forces are increased 33⅓%.
Minimum Clearance: Vertical roadway clearance 17'-0".
Reinforcement: Embedment is to ℄ of bar and is 2½" to main reinforcement, except as noted.

Truss shall be all-welded construction. All welding to be continuous unless otherwise shown.
Qualification of welding operators will be required.
Structural steel welding and welder qualification shall be performed in accordance with A.W.S. Specifications for Bridges. Aluminum welding and welder qualification shall be performed in accordance with Sec. 9, A.S.M.E.
All Aluminum fillet welds shall be ¼" unless otherwise shown.
Paint: All structural steel, except as noted, Steps, one coat of red lead; field contact surfaces of bolted field connections one coat of red lead and surfaces inaccessible after erection two coats of red lead. All other exposed surfaces, second coat brown and third coat aluminum. Payment for cleaning and painting such surfaces will be included in price bid for items painted. As an alternate the above surfaces may be galvanized according to 55.2.8 of the Standard Specifications.
Permits must be obtained for all truck loads over legal length.
Electrical: See fluorescent sign lighting equipment sheet.

* Catwalk lengths given are the minimum lengths necessary to reach 3'-0" past all signs and 6'-0" past roadway slab. Actually lengths may need to be increased because end catwalk supports must be placed at a truss vertical or at a column.

OVERHEAD SIGN TRUSSES
STRUCTURAL STEEL
OR
ALUMINUM

DATA SHEET (SEE STANDARD 72.10 OR 72.60)

July 31, 1964 Rev Oct 1964

211

ASSEMBLED 19 BY
CHECKED 19 BY

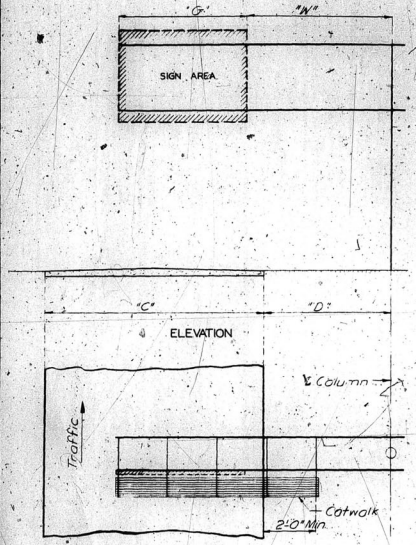
Note: This drawing is not to scale. Follow dimensions.

MISSOURI STATE HIGHWAY DEPARTMENT

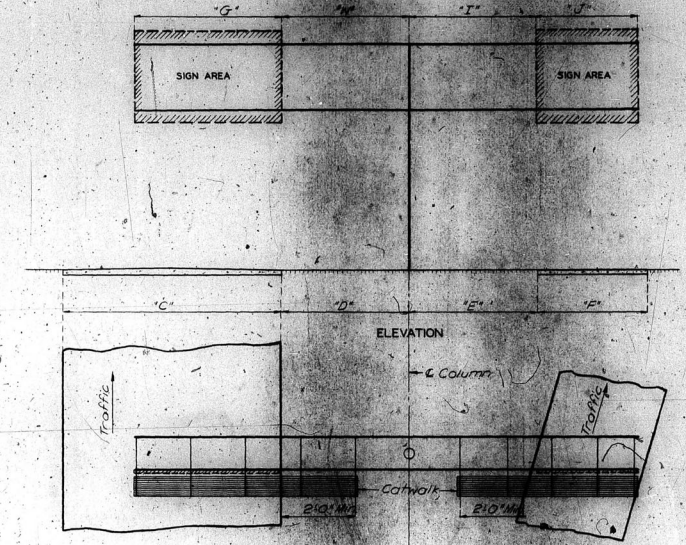
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MO.	169-1(62)	19	40	

CLAY I 29

FINAL PLANS



PLAN
CANTILEVER OVERHEAD SIGN TRUSS



PLAN
BUTTERFLY OVERHEAD SIGN TRUSS

GENERAL NOTES:

Design Specifications Joint A.A.S.H.O. - A.R.B.A. Special Subcommittee Specifications for the Design and Construction of Structural Supports for Highway Signs, of November 1960.

Basic Assumptions Wind Velocity 85 mi/hr Wind Pressure on Sign Area = 40 #/s' Ice Load 3 #/s'

Structural Steel Stress 20,000 #/in² A.S.T.M.-A36

Reinforcing Steel Stress 20,000 #/in²

Concrete Class "B" Stress 1,200 #/in²

Footing Soil Pressure 2750 #/s'

Allowable unit stresses due to wind load or wind load in combination with other forces are increased 45%.

Minimum Clearance: Vertical roadway clearance 17'-0".

Reinforcement Embedment is to ℄ of bar and is 2½" to main reinforcement, except as noted.

Truss shall be all-welded construction. All welding to be continuous unless otherwise shown.

Qualification of welding operators will be required.

Structural Steel welding and welder qualification shall be performed in accordance with A.W.S. Specifications for Bridges.

Paint: All structural steel, except as noted, Shop, one coat of red lead; Field, contact surfaces of bolted field connections one coat of red lead and surfaces inaccessible after erection two coats of red lead. All other exposed surfaces, second coat brown and third coat aluminum. Payment for cleaning and painting such surfaces will be included in price bid for items painted. As an alternate the above surfaces may be galvanized according to 55.2.8 of the Standard Specifications.

Permits must be obtained for all truck loads over legal length.

Electrical: See fluorescent sign lighting equipment sheet.

Aluminum welding and welder qualification shall be performed in accordance with Section 9, A.S.M.E.

Do not paint contact surfaces of H.S. bolted field connections.

OVERHEAD SIGN DIMENSIONS

Sign No.	Station No	Type Sign Cant	Type Sign Butterfly	Col. H	Col. Type	Roadway Description "C"	"D"	"E"	"F"	Sign Spacing "G"	Ht	"N"	"I"	"J"	Ht	Footings Pedestal (1) Ct. B	Lighting Data Photo Elec. Switch	Luminaires Lamp Watts	Transformer KVA	Sign No.
40	353+000 NB	25.00	—	18'-0"	IV	36.0'	10.0'	—	—	17'-6"	8'-0"	7'-3"	—	—	—	16.89	—	—	2	0.75	40
																16.89 C.Y. Cl. B Conc.				

CANTILEVER OVERHEAD SIGN TRUSSES
STRUCTURAL STEEL

ASSEMBLED 19 BY
Checked 19 - by

Note: This drawing is not to scale. Follow dimensions.

DATA SHEET (SEE STANDARD 72.12)

Revised:

212

590

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	41
DIST. NO.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS

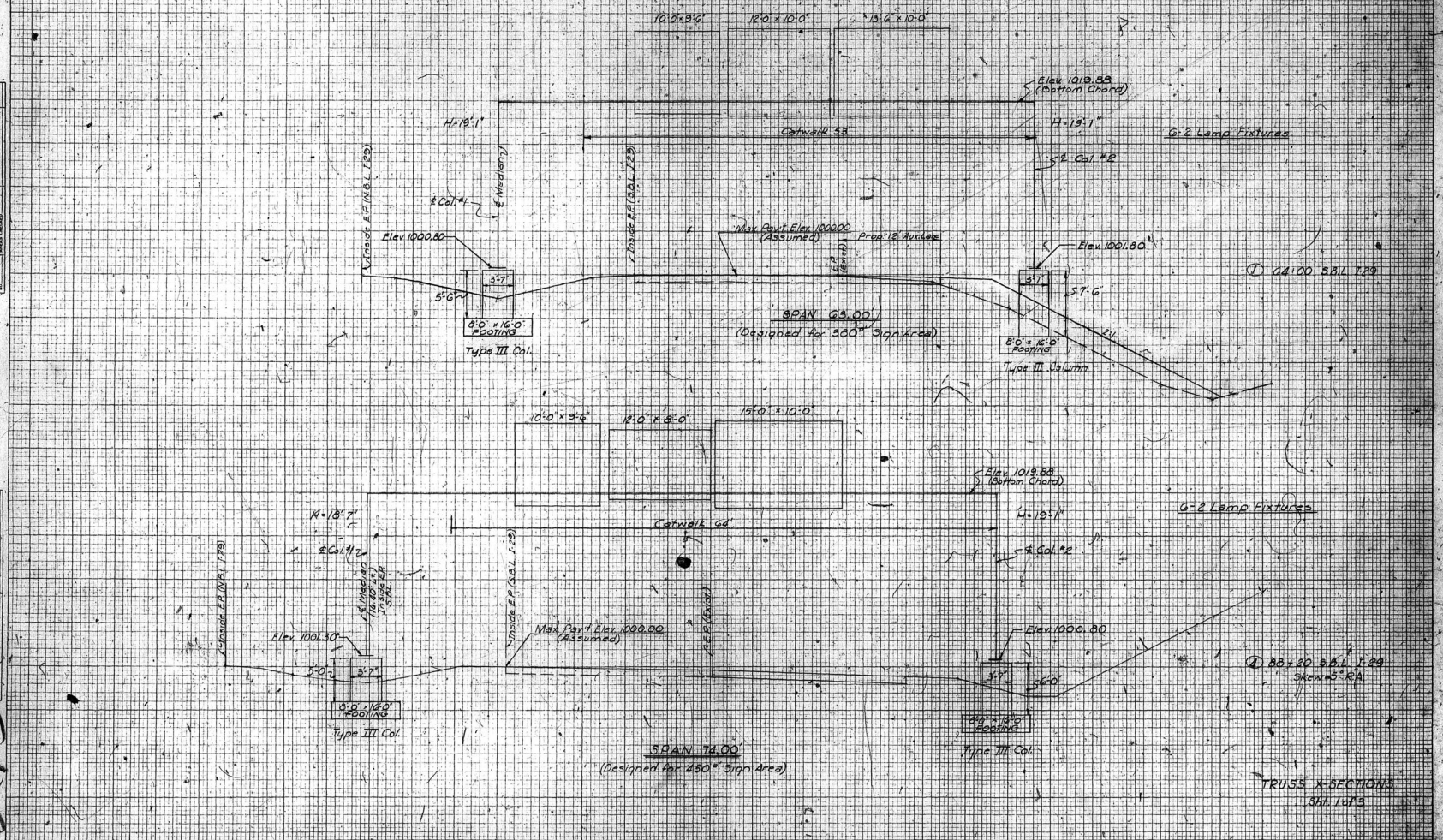
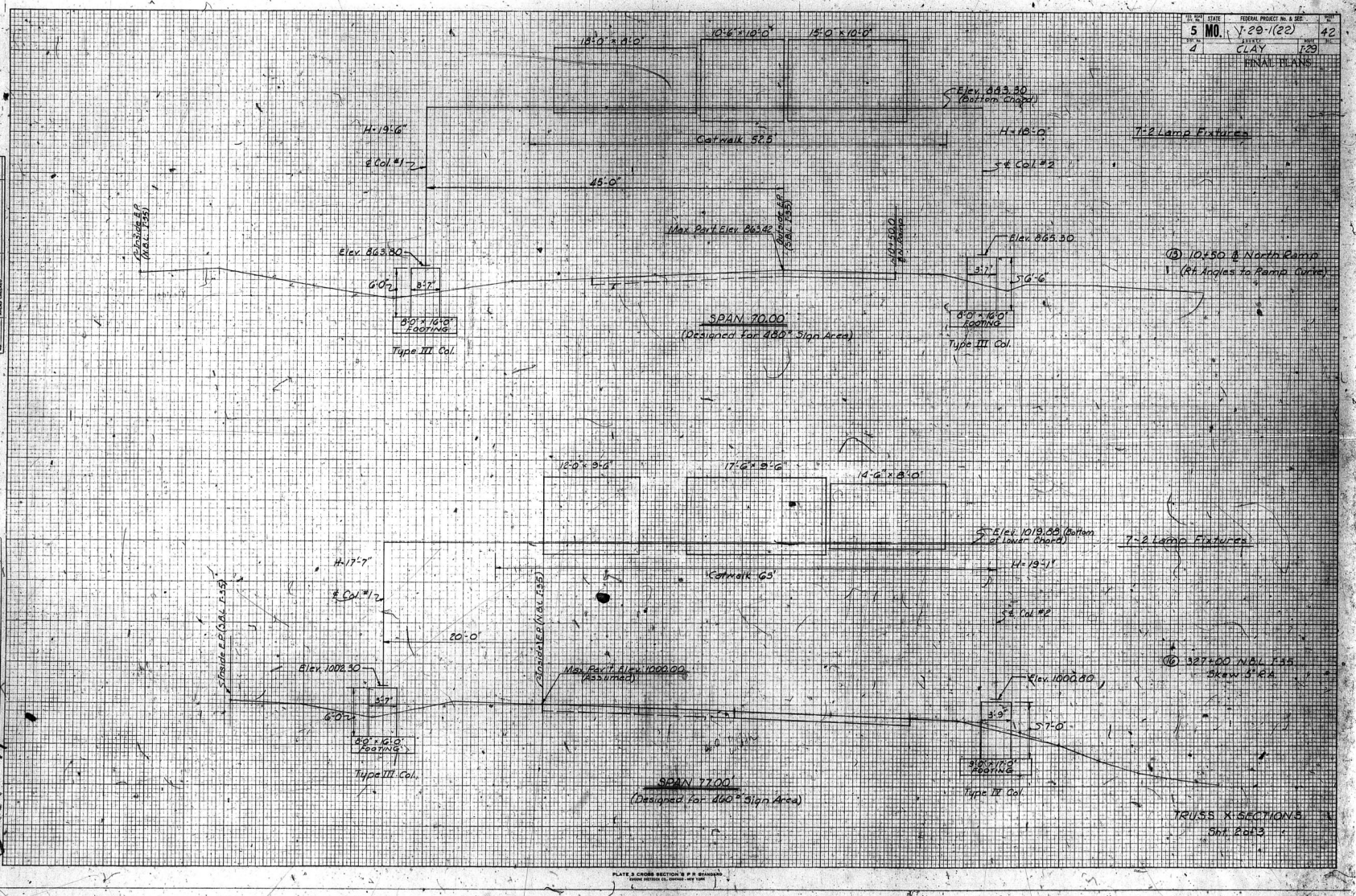


PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO NEW YORK

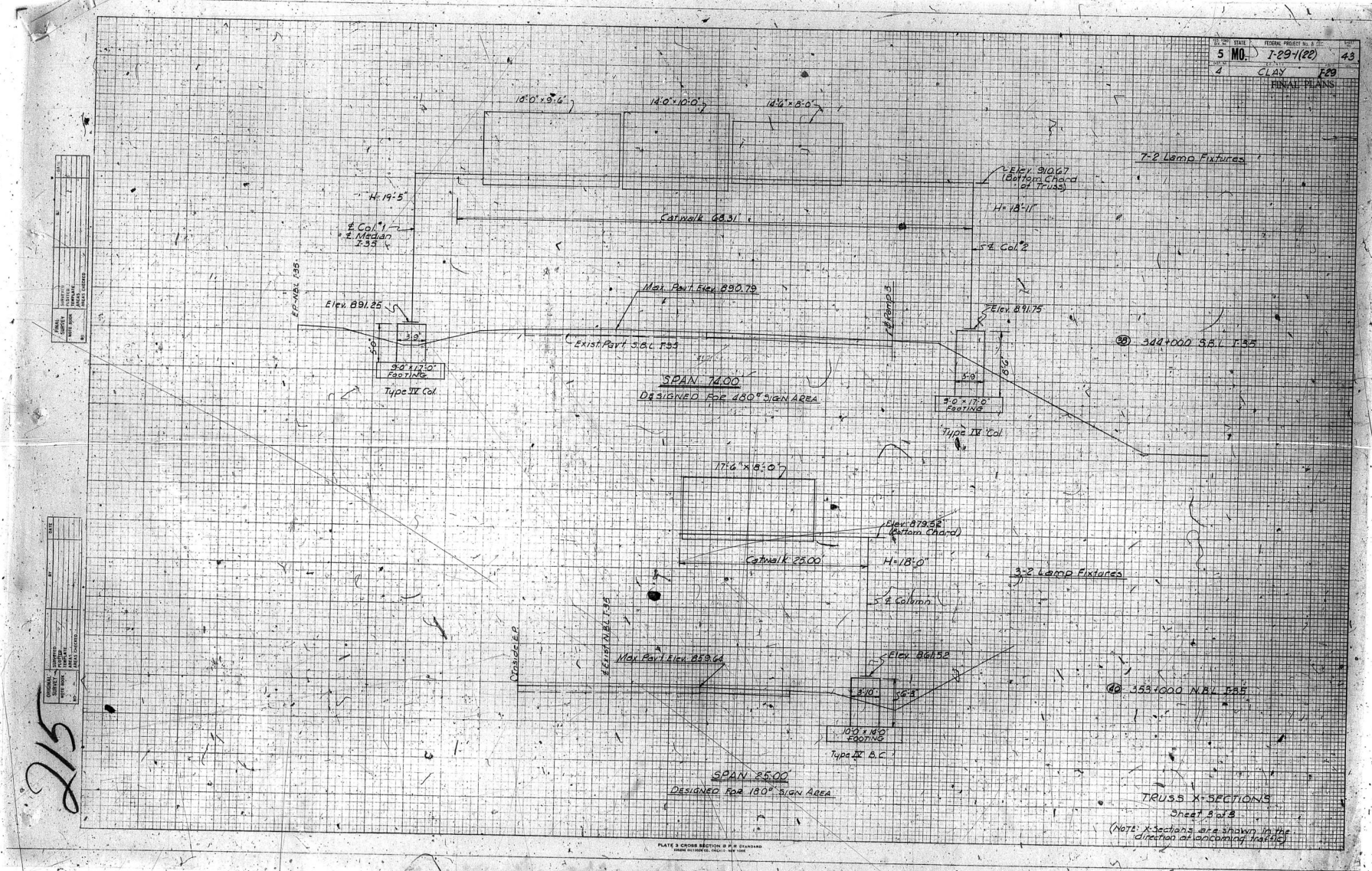
213

590



FED. ROAD DIV. NO. 5
STATE MO.
FEDERAL PROJECT No. & SEC. I-29-1(22)
SHEET NO. 42
DIST. NO. 4
COUNTY CLAY
ROUTE I-29
FINAL PLANS
18'-0" x 8'-0"
10'-6" x 10'-0"
15'-0" x 10'-0"
Elev. 883.30 (Bottom Chord)
H=19'-6"
Catwalk 52.5'
H=18'-0"
7-2 Lamp Fixtures
℄ Col. #1
℄ Col. #2
45'-0"
Max. Pav't Elev. 863.42
Elev. 863.80
Elev. 865.30
(13) 10+50 ℄ North Ramp (Rt. Angles to Ramp Curve)
6'-0"
3'-7"
6'-6"
8'-0" x 16'-0" FOOTING
Type III Col.
SPAN 70.00'
(Designed for 480# Sign Area)
12'-0" x 9'-6"
17'-6" x 9'-6"
14'-6" x 8'-0"
Elev. 1019.88 (Bottom of Lower Chord)
7-2 Lamp Fixtures
H=17'-7"
H=19'-1"
Catwalk 65'
℄ Col. #1
℄ Col. #2
20'-0"
Inside E.P. (S.B.L. I-35)
Inside E.P. (N.B.L. I-35)
Max. Pav't Elev. 1000.00 (Assumed)
Elev. 1002.30
Elev. 1000.80
(16) 327+00 N.B.L. I-35 Skew 5° R.A.
3'-9"
7'-0"
8'-0" x 16'-0" FOOTING
Type III Col.
9'-0" x 17'-0" FOOTING
Type IV Col.
SPAN 77.00'
(Designed for 460# Sign Area)
TRUSS X SECTIONS
Sht. 2 of 3
PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

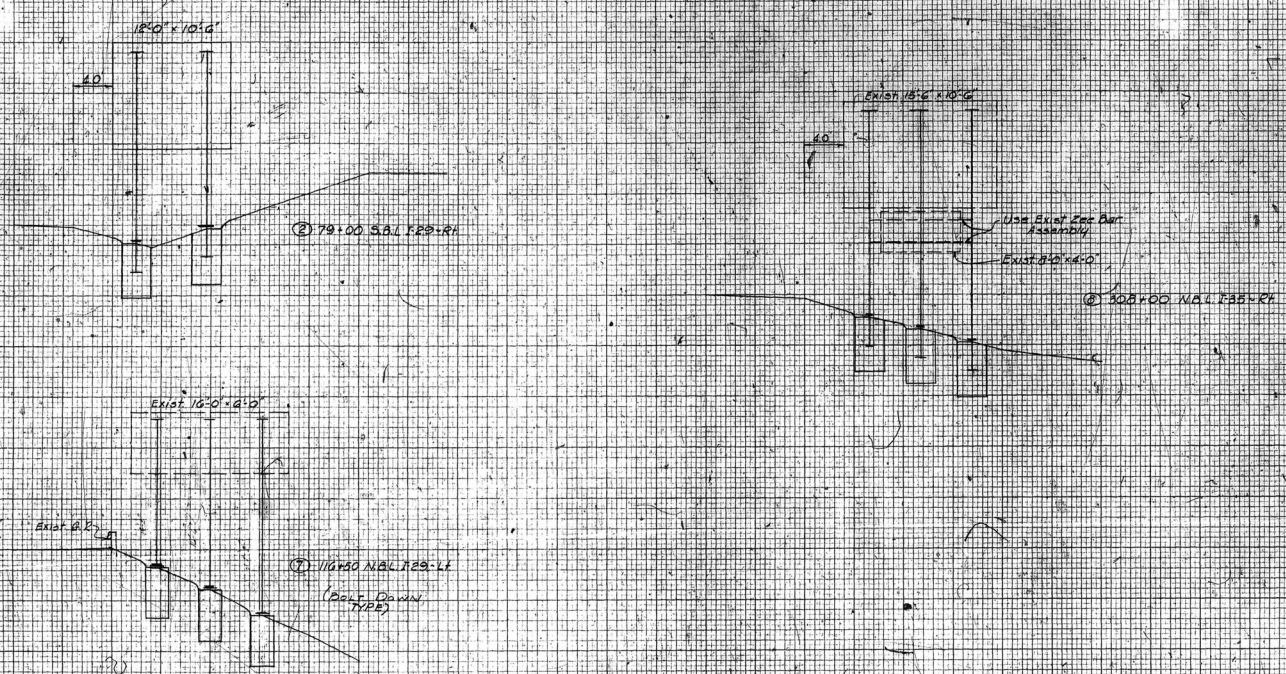
214



5 MO. I-29-1(22) 43
4 CLAY I-29
FINAL PLANS
10'-0" x 9'-6"
14'-0" x 10'-0"
14'-6" x 8'-0"
7-2 Lamp Fixtures
Elev. 910.67 (Bottom Chord of Truss)
H=19'-5"
H=18'-11"
Catwalk 68.31'
℄ Col. #1
℄ Median I-35
℄ Col. #2
EP-NBL I-35
Max. Pav't Elev. 890.79
Elev. 891.25
Elev. 891.75
℄ Ramp 3
Exist. Pav't S.B.L. I-35
9'-0" x 17'-0" Footing
Type IV Col.
SPAN 74.00'
DESIGNED FOR 480# SIGN AREA
(38) 344+000 S.B.L. I-35
17'-6" x 8'-0"
Elev. 879.52 (Bottom Chord)
Catwalk 25.00'
H=18'-0"
3-2 Lamp Fixtures
℄ Column
Inside E.P.
℄ Exist. N.B.L. I-35
Max. Pav't Elev. 859.64
Elev. 861.52
(40) 353+000 N.B.L. I-35
10'-0" x 14'-0" Footing
Type IV B.C.
SPAN 25.00'
DESIGNED FOR 180# SIGN AREA
TRUSS X-SECTIONS
Sheet 3 of 3
(NOTE: X-Sections are shown in the direction of oncoming traffic)
PLATE 3 CROSS SECTION B.P.R. STANDARD
215

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	44
SHEET NO.	COUNTY	ROUTE	SEC.
4	CLAY	I-29	

FINAL PLANS



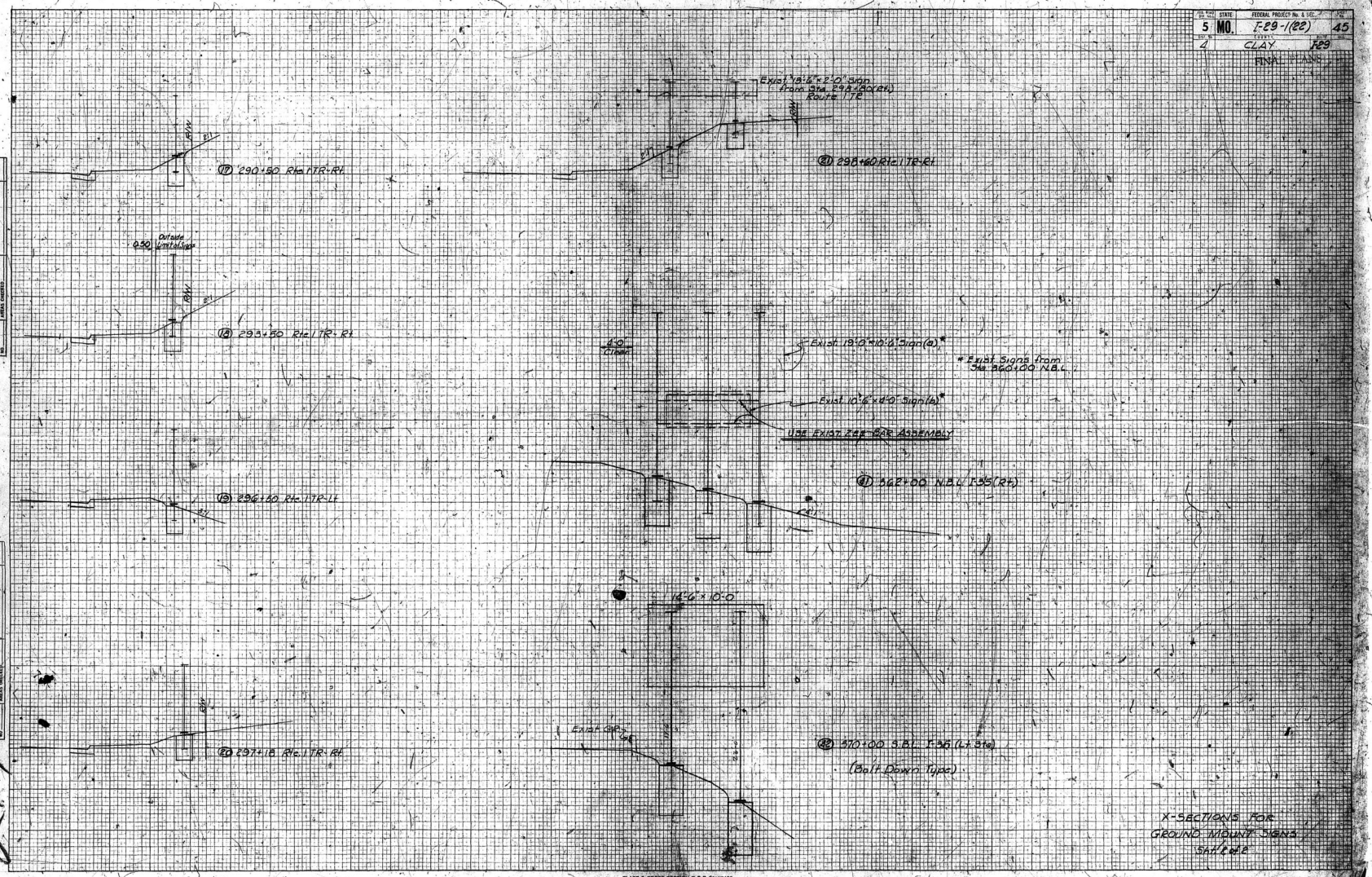
GROUND MOUNT X-SECTIONS
Sheet 1 of 2

PLATE 3 CROSS SECTION D P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

216

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	SHEET NO.
5	MO.	I-29-1(22)	45
SHT. NO.		COUNTY	
4		CLAY	I-29

FINAL PLANS



X-SECTIONS FOR GROUND MOUNT SIGNS
Sht. 2 of 2

FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

217

PLATE 3 CROSS SECTION B P R STANDARD
CHARLES BRUNING CO., ENGLAND - NEW YORK

570

LIST OF STANDARD PLANS

1 of 2

PROJ.	SHEET
I-29-1(22) UA	46
CO. CLAY	RTE. I-29

21.40		9-64	72.02	2 of 12	3-1-66	72.12	4 of 7	6-25-65
21.52		6-1-61	72.02	3 of 12	9-1-62	72.12	5 of 7	6-25-65
21.60		12-7-67	72.02	4 of 12	5-1-66	72.12	6 of 7	
48.10		3-1-67	72.02	5 of 12	5-1-67	72.12	7 of 7	5-64
48.12		2-1-63	72.02	6 of 12	9-1-64	72.12	7 of 7	9-66
48.30		3-1-67	72.02	7 of 12	3-1-66	72.60	1 of 7	6-25-65
53.30		10-6-61	72.02	8 of 12	1-1-63	72.60	2 of 7	
53.35			72.02	9 of 12	3-1-66	72.60	3 of 7	8-20-64
53.40		1-1-67	72.02	10 of 12	3-1-66	72.60	4 of 7	6-25-65
53.41		1-1-67	72.02	12 of 12	6-1-67	72.60	5 of 7	6-25-65
54.00		12-1-67	72.03	1 of 6	9-1-67	72.60	6 of 7	
61.00		6-1-64	72.03	2 of 6	5-1-67	72.60	7 of 7	9-66
70.00		1-1-67	72.03	3 of 6	1-1-67	80.40		9-10-61
70.01		7-66	72.03	4 of 6	1-1-67	80.43		1-1-61
70.18		4-1-67	72.03	5 of 6	1-1-67	80.44		10-20-61
70.23		New 12-65	72.03	6 of 6	1-1-67	80.46		1-1-61
72.00	1 of 5	6-19-61	72.10	1 of 8	6-25-65	80.50		3-1-62
72.00	2 of 5	6-19-61	72.10	2 of 8		82.00		1-1-64
72.00	3 of 5	6-19-61	72.10	3 of 8	8-19-64	84.01		11-1-63
72.00	4 of 5	6-19-61	72.10	4 of 8	8-17-64	84.03		6-1-61
72.00	5 of 5	6-19-61	72.10	5 of 8	1-5-66	86.00	1 of 5	12-67
72.01	1 of 5	3-1-66	72.10	6 of 8	9-66	86.00	2 of 5	12-67
72.01	2 of 5	3-1-66	72.10	7 of 8		86.00	3 of 5	12-67
72.01	3 of 5	8-15-62	72.10	8 of 8	9-66	86.00	4 of 5	12-67
72.01	4 of 5	8-15-62	72.12	1 of 7	6-25-65	86.00	5 of 5	New 12-2-67
72.01	5 of 5	8-15-62	72.12	2 of 7		86.10		2-15-61
72.02	1 of 12	1-1-63	72.12	3 of 7	8-18-64	87.00		6-64

LIST OF STANDARD PLANS

2 of 2

PROJ.	SHEET
I-29-1(22) UA	47
CO. CLAY	RTE. I-29

87.10	1-1-65		
87.20	11-1-67		
89.00	8-67		
90.50	New 7-1-63		

219