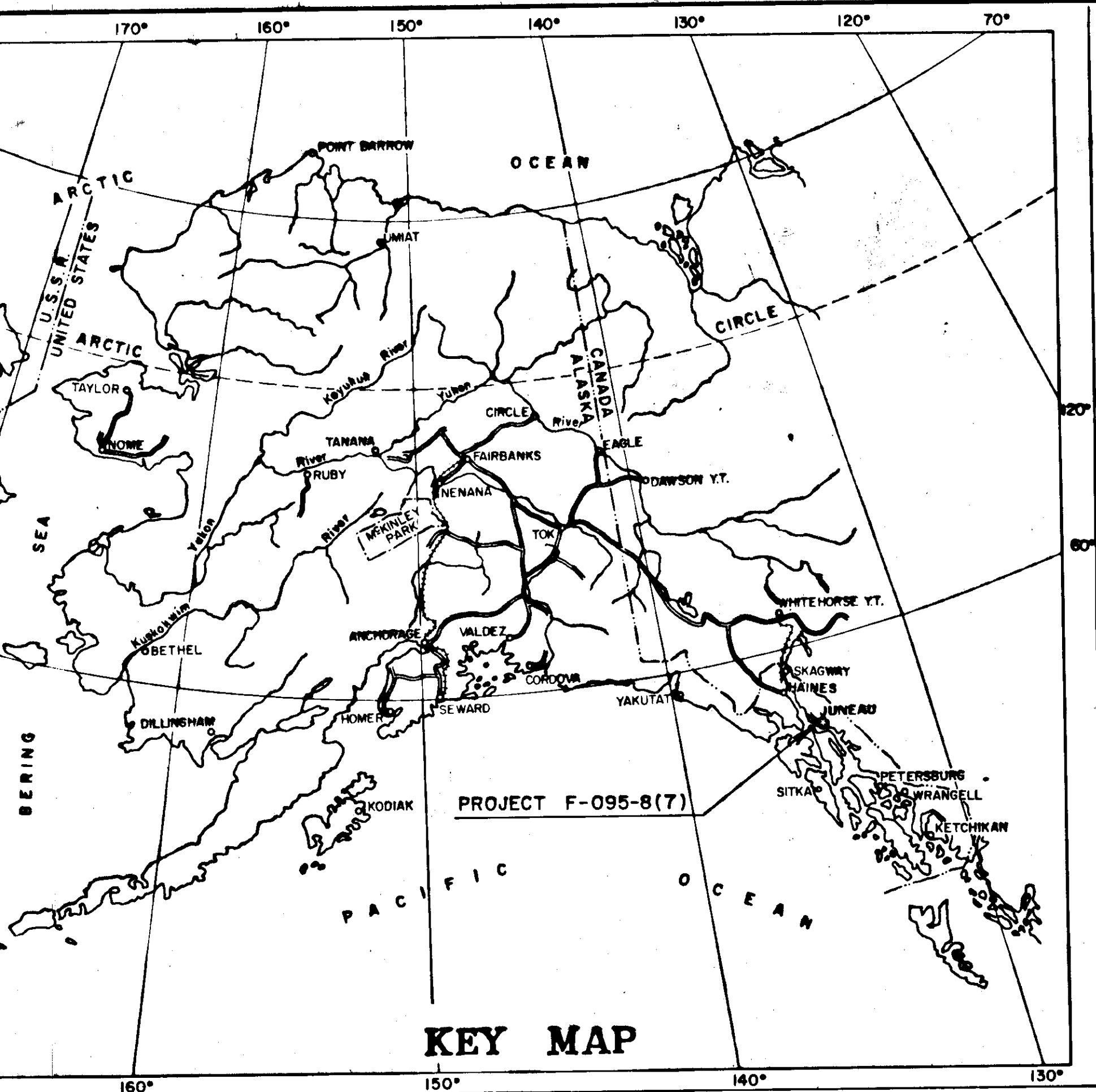


STATE	ROUTE DESIGNATION	YEAR	SHEET NO.	TOT SHEETS
ALASKA	F-095-8(7)	1970	1	28



STATE OF ALASKA DEPARTMENT OF HIGHWAYS

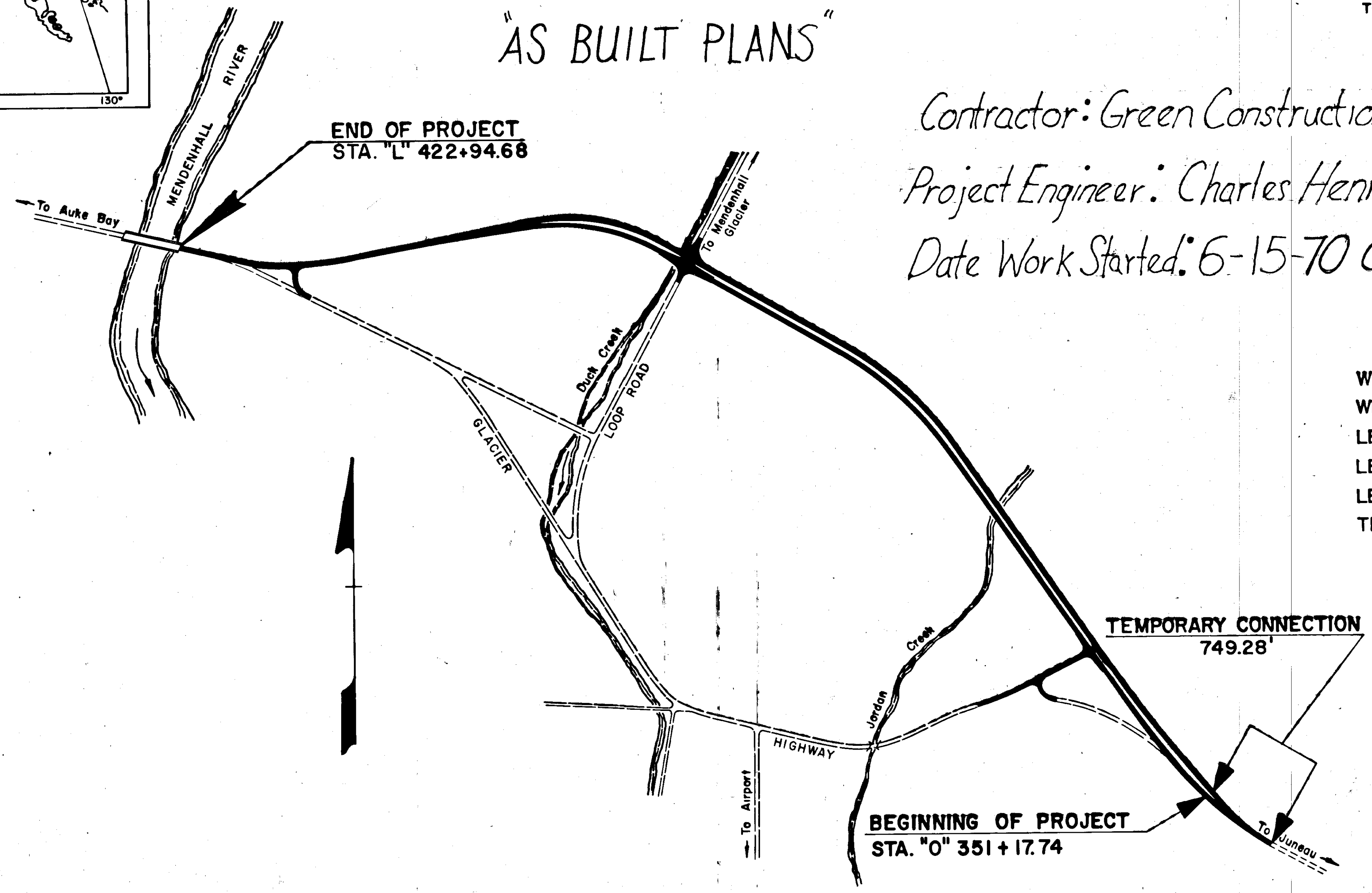
PLAN AND PROFILE PROPOSED HIGHWAY PROJECT

F-095 - 8 (7)
GLACIER HIGHWAY
7.1 TO 8.3 MILES
GRADING, DRAINAGE & PAVEMENT
"AS BUILT PLANS"

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTIONS
3	ESTIMATE OF QUANTITIES
4-6	TABLES & DETAILS
7-13	PLAN AND PROFILE
14-16	INTERSECTION DETAILS
17-18	TRANSITION DETAILS
19-24	LIGHTING & SIGNING
25-28	LIGHTING & SIGNING DETAILS

The following Standard Drawings apply to this project:
A-1, D-1a, D-1b, D-2, D-6, M-1, M-2, R-1, R-4, R-6, T-1, T-2, T-4, T-6, T-7, T-9, T-15, T-16 (Shts. 1 & 2), T-17, T-18, T-19, T-20, T-31, T-52.



Contractor: Green Construction Co.
Project Engineer: Charles Henry
Date Work Started: 6-15-70 Completed: July 23-1971

DESIGN	DESIGNATION
ADT (1970)	= 4120
ADT (1990)	= 14420
DHV (12%)	= 1730
D	= 45-55
T	= 5%
V	= 60-70 MPH

Checked by Bill Morris
7/31/72

PROJECT SUMMARY

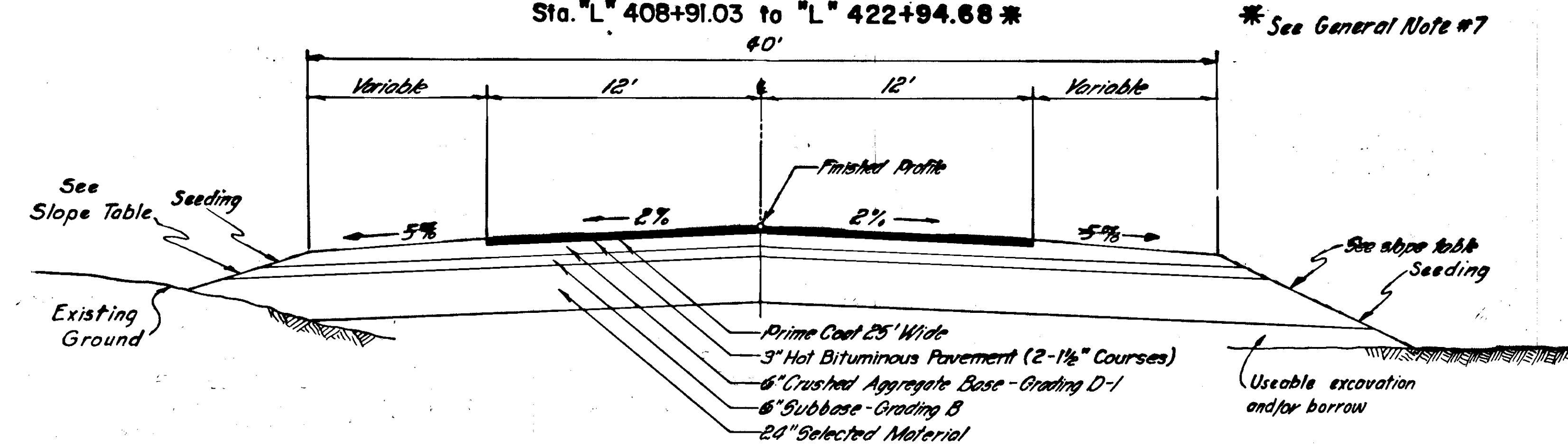
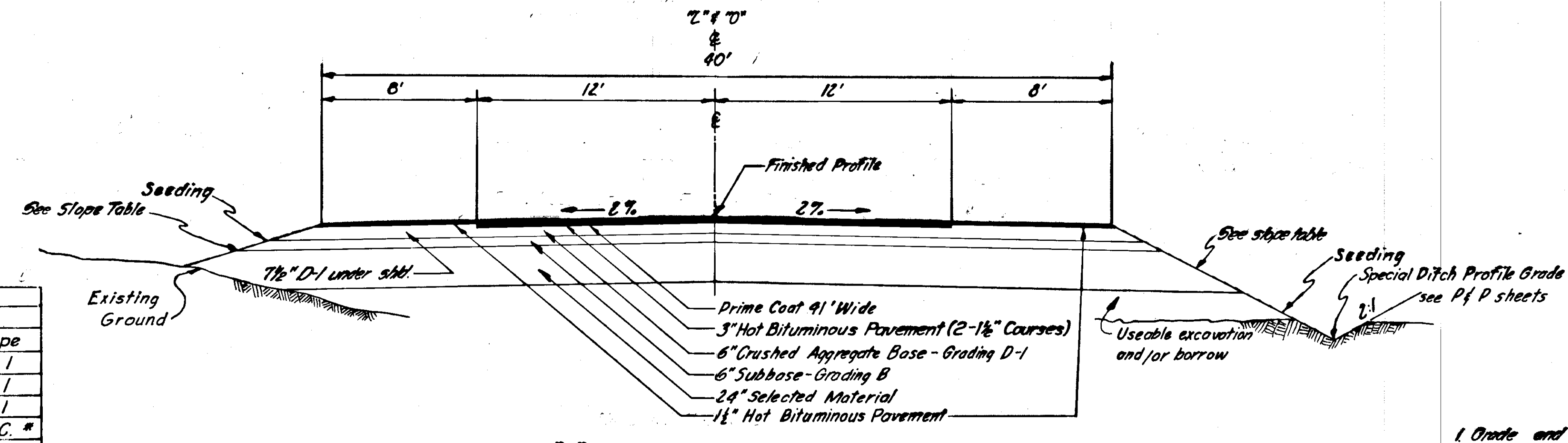
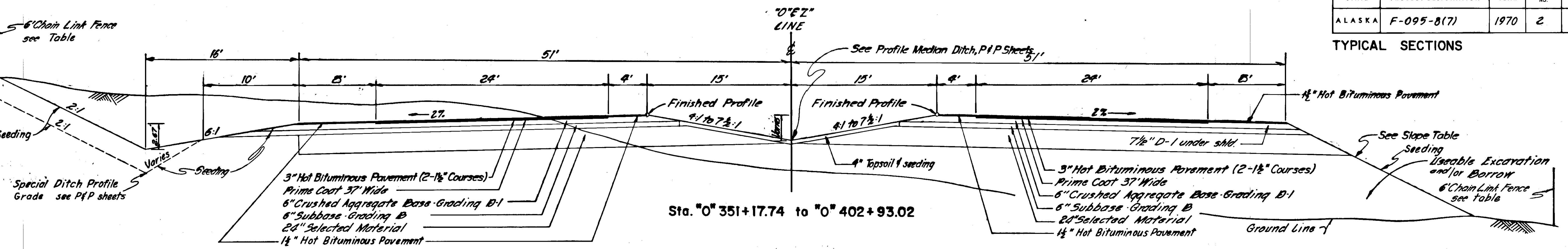
WIDTH of SUBGRADE	=	44'-110'
WIDTH of PAVEMENT	=	24'-48'
LENGTH of GRADING	=	7,906.03' = 1.497 MI.
LENGTH of PAVING	=	7,906.03' = 1.497 MI.
LENGTH of PROJECT	=	7,156.75' = 1.355 MI.
TEMPORARY CONNECTION	=	749.28' = 0.142 MI.

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS

APPROVED:
Warren E. Wild PE DATE 3/9/70
SOUTHEASTERN DISTRICT ENGINEER

R. H. Landis DATE 5/17/70
COMMISSIONER OF HIGHWAYS

TYPICAL SECTIONS



Approach Roads*

"B" Line—see sheet # 13 & 16

"C" Line—see sheet # 13

"D" Line—see sheet # 11 & 16

TABLE OF FILL SLOPES					
Left			Right		
Sta to	Sta	Slope	Sta to	Sta	Slope
344+00	353+10	4:1	344+00	348+00	4:1
353+60	353+68	3:1	349+00	356+00	3:1
354+06	359+22	S.D.C.*	356+49	368+00	4:1
359+98	367+00	3:1	368+50	371+70	S.D.C.*
367+29	371+70	4:1	371+90	390+00	4:1
371+90	384+00	S.D.C.*	391+00	392+32	6:1
384+63	385+00	4:1	392+47	394+11	4:1
386+00	392+32	S.D.C.*	394+20	394+50	3:1
392+47	393+27	3:1	394+61	396+00	6:1
393+27	394+11	4:1	396+50	398+00	4:1
394+20	394+50	3:1	398+50	404+00	3:1
394+61	404+00	S.D.C.*	405+00	414+36	4:1
405+00	413+00	4:1	414+54	415+19	3:1
414+00	420+00	3:1	415+34	415+50	4:1
420+50	422+95	2:1	416+00	418+50	3:1
			418+91	422+95	2:1
* Special Ditch Controls					
"C" Line					
0+65	4+37	3:1	0+65	4+37	3:1
4+50	8+00	4:1	4+50	8+00	4:1
9+00	9+74	6:1	9+00	9+74	6:1
"D" Line					
8+00	8+81	4:1	8+00	8+93	4:1
8+91	10+00	3:1	9+11	10+00	3:1

GENERAL NOTES

- Grade and alignment shown on these plans are subject to minor revisions.
- Culvert lengths and locations are approximate only and subject to minor revisions.
- Where pipe conduits are to be installed in embankment sections, the excavation shall be made after the embankment has been completed to the top of the conduit. This applies to 18" and 24" conduits.
- Special works of Brotherhood Bridge will be paid for under pay item 601(1).
- Clearing Limits: Fenced section will be cleared 5' beyond fence or to R/W whichever is smaller. Unfenced section will be cleared 15' beyond slope limits or to R/W whichever is smaller.
- Roadway obliteration will not be done until traffic is accommodated on new roadway, or as directed by the Engineer.
- In areas of construction over existing embankment, excavate to top of selected material grade or as directed by the engineer.

TABLES

SUPERELEVATION TABLE

Station	Lt. Lane	Rt. Lane
"0" 351+17.74	-2%	-2%
"0" 359+10	-2%	
"0" 359+50		-2%
"0" 361+60		-4%
"0" 361+80	+4%	
"0" 364+20	+4%	
"0" 364+40		-4%
"L" 366+50		-2%
"L" 366+90	-2%	
"L" 374+20		-2%
"L" 374+60	-2%	
"L" 376+70	-6%	
"L" 376+90		+6%
"L" 383+70		+6%
"L" 383+90	-6%	
"L" 386+00	-2%	
"L" 386+40		-2%
"0" 394+30	-2%	-2%
"0" 394+70	-2%	
"0" 396+80	-6%	
"0" 397+00		+6%
"0" 402+90	-6%	+6%
"0" 404+25	-2%	
"L" 405+78.38		-2%
"L" 412+60	-2%	
"L" 413+95		-2%
"0" 415+30	+6%	-6%
"0" 418+60	+6%	-6%
"L" 419+96.81		-2%
"L" 421+31.81	-2%	-2%

Note: All superelevations about finished profile points (see typical sections). Cross slopes transition lineally between successive stations.

CULVERT SUMMARY

Station	Pipe Conduit	Length	Remarks
"E" 345+00	1-24" Dia.	58'	Remove & Drop. Exst.
"E" 346+00	1-24" Dia.	76'	
"0" 353+68.00	See Median Summary		
"L" 371+90.00	2-8'-2" x 5'-9" SPRRA.	308'	
"0" 394+63.00	2-48" Dia.	268'	W/end sections
"L" 420+27.00	1-48" Dia.	70'	Approach road Rt
"L" 422+95.00	1-48" Dia.	30'	Outfall
"L" 409+30	1-18" Dia.	52'	APPROACH RT. 0%
"D" 10+50	1-48" Dia.	66'	APPROACH RT. EWO#8
"M" 491+85	1-24" Dia.	84'	LOOP RD. CO#3
"M" 494+25	1-24" Dia.	70'	LOOP RD. CO#3

MEDIAN DRAINAGE SUMMARY

Station	Cover of Drop Inlet	Drop Inlet Invert	Culvert Inlet Invert	Culvert Size	Culvert Length
"0" 353+68	27.25	23.50	21.525	24"	152'*
"0" 359+19	27.25	25.25	23.25	18"	72'
"L" 368+50	27.25	25.25	24.26	18"	76' 1/2
"L" 375+00	27.68	25.68	25.024	18"	68' 1/2
"L" 384+00	26.86	24.86	24.5	18"	68' 1/2
"L" 389+00	25.89	23.89	23.2	18"	66' 1/2
"0" 397+50	27.00	25.00	24.0	18"	66' 1/2
"0" 402+50	27.96	25.96	24.8	18"	70' 1/2

*Special Case - drop inlet directly into culvert.

SURVEY MONUMENTS

STATION	LOCATION	POINT	MON CASES
"0" 351+17.74	☑	B.O.P.	1
"0" 360+89.86	☑	P.C.	1
"0" 365+10.90	☑	P.T. BK.	1
"L" 365+10.90	☑	P.O.T. AHD.	1
"L" 375+98.40	☑	P.C.	1
"L" 384+62.84	☑	P.T.	1
"L" 393+81.12	☑	P.O.T.	1
"M" 492+85.06	☑	P.O.T.	1
"0" 405+18.02	☑	S.T. BK.	1
"L" 405+36.40	☑	P.O.T. Ahd.	1
"L" 414+38.07	☑	P.O.T. BK.	1
"0" 414+38.07	☑	P.C. AHD.	1
"0" 419+55.15	☑	P.T. BK.	1
"L" 419+56.98	☑	P.O.T. AHD.	1

GUARDRAIL SUMMARY

Station to	Station	Length	
		Lt.	Rt.
"GH" 410+66	to "GH" 413+91		325'
"D" 8+00	to "D" 9+23	137.5'	
"L" 422+44	to "L" 422+94	50'	
"L" 422+19	to "L" 422+94		75'
"AsB" 5+98.61	to "AsB" 6+73.61	75'	
"AsB" 5+98.61	to "AsB" 6+11.61		25'

Total length = 687.5'

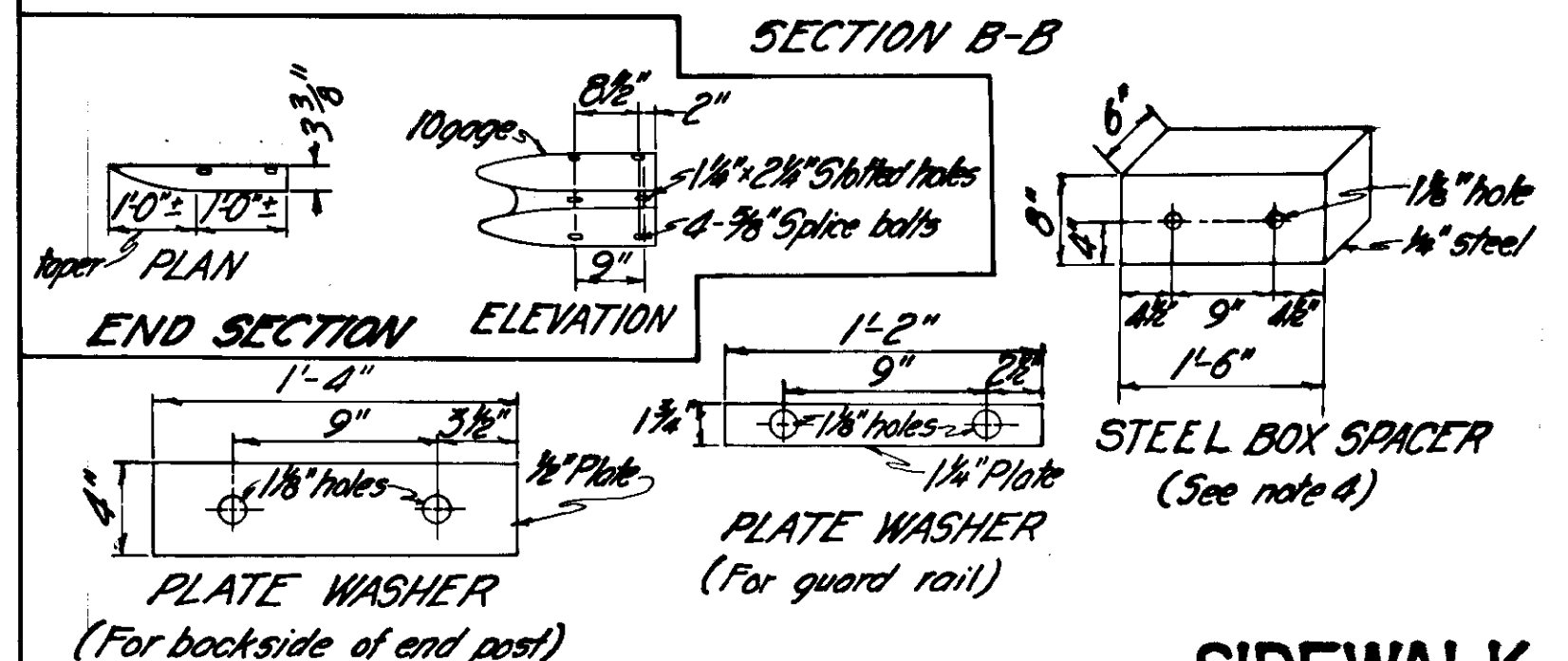
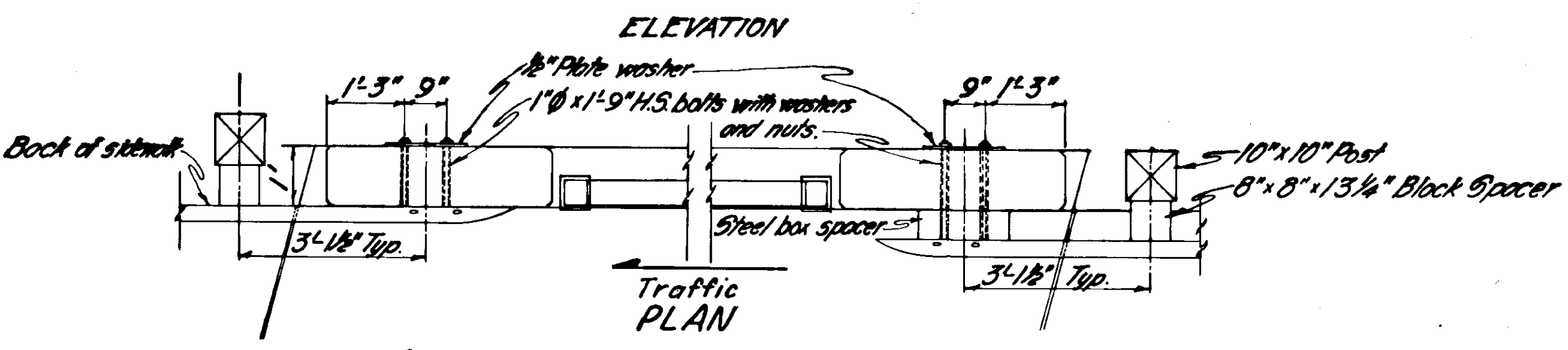
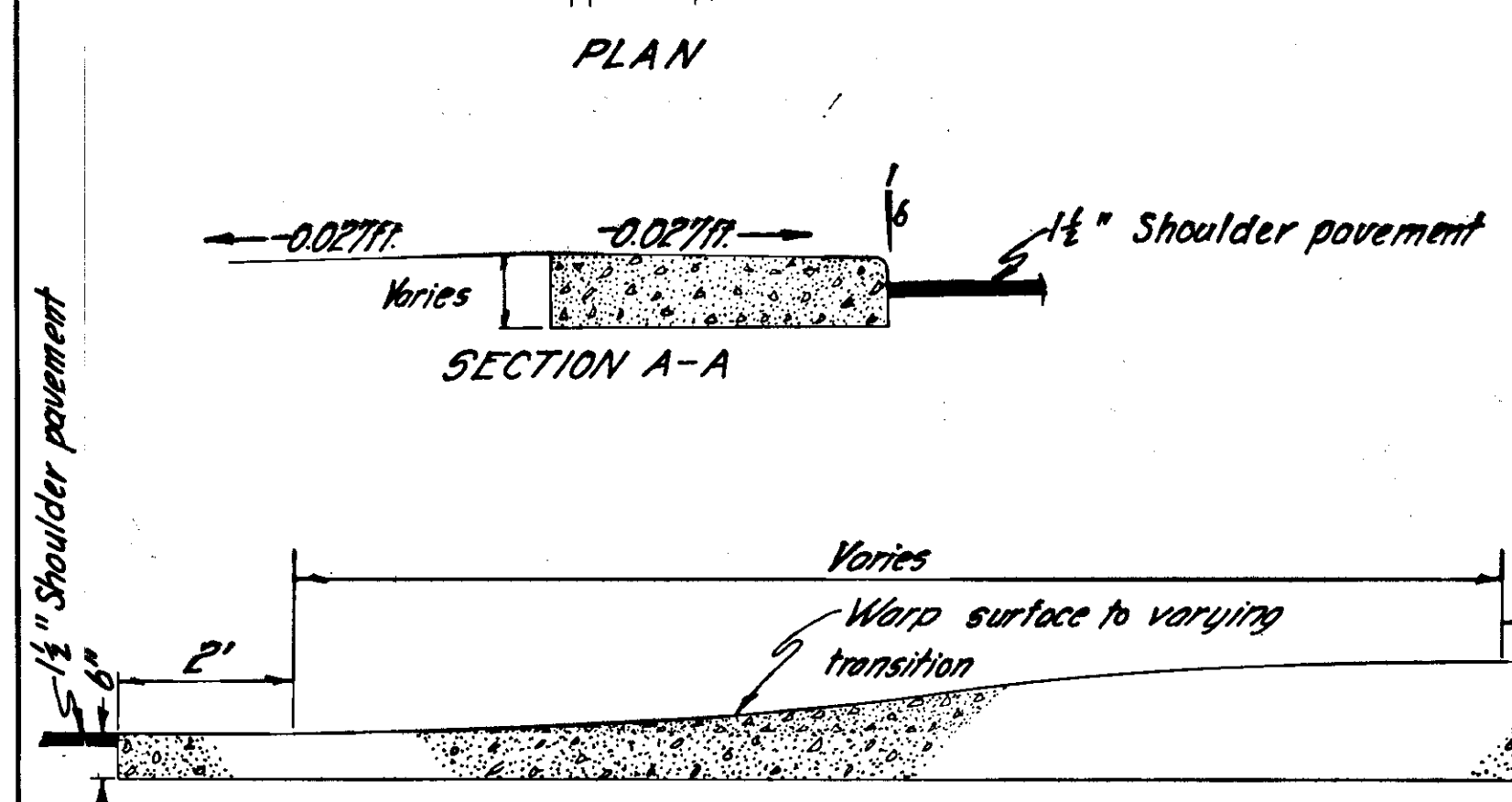
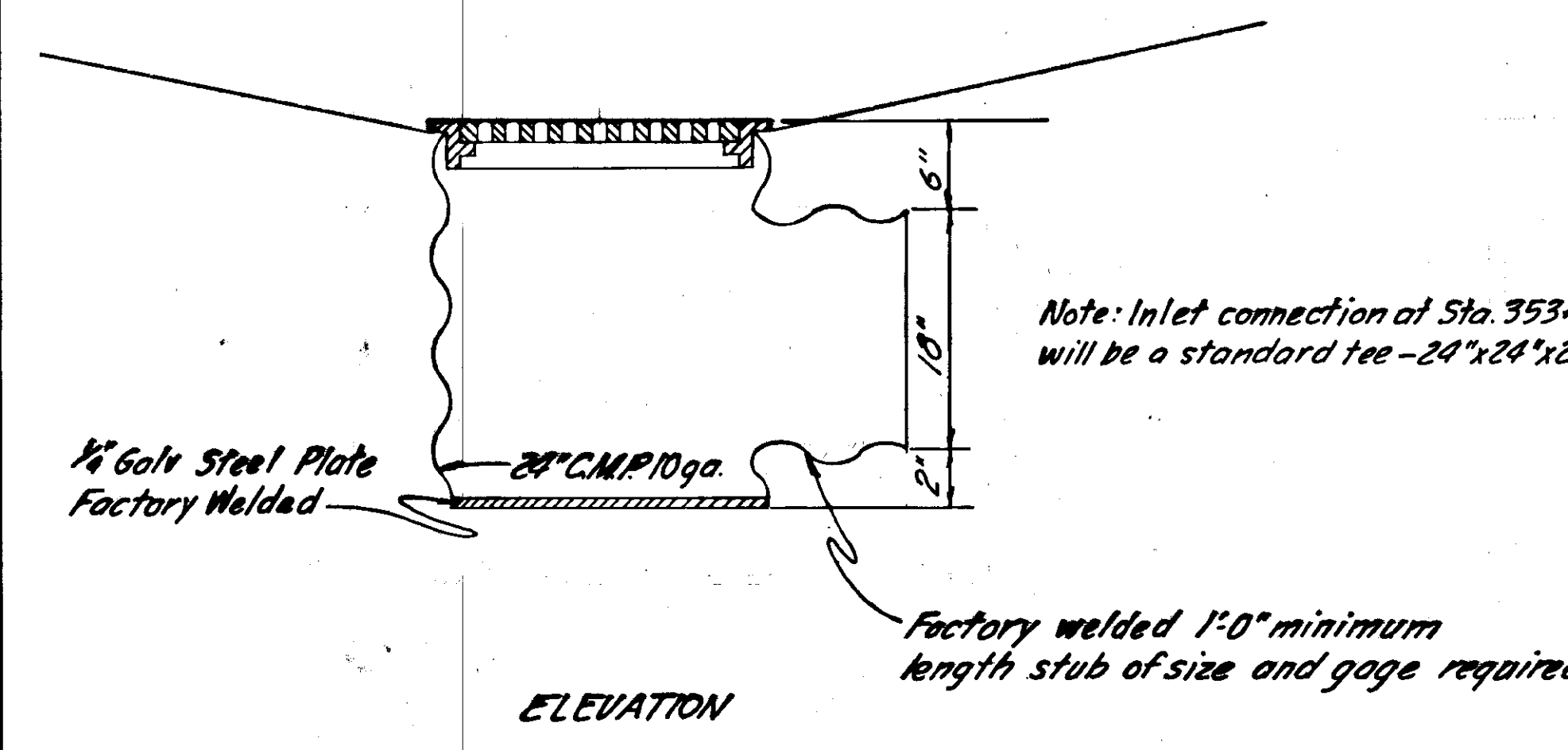
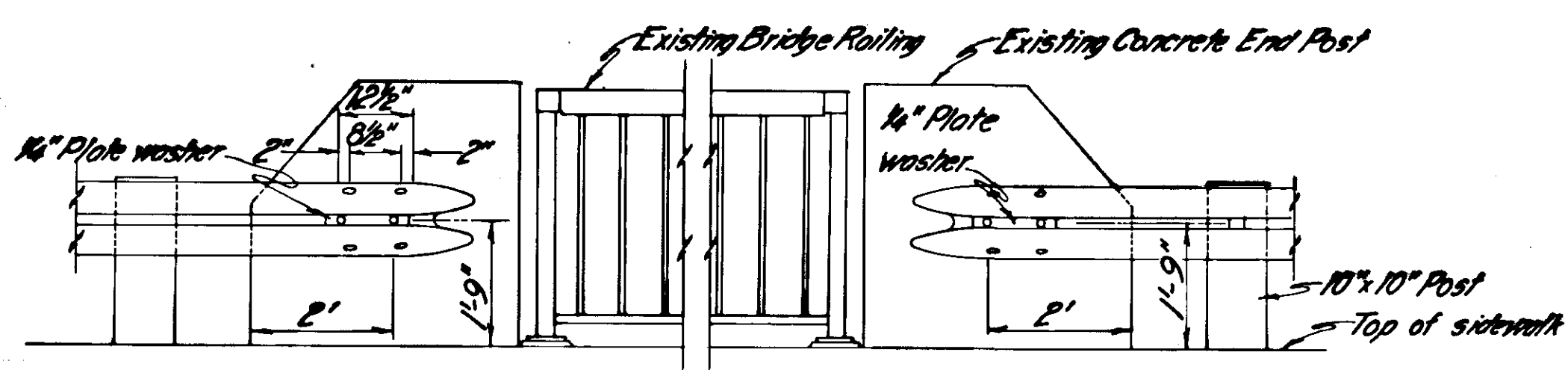
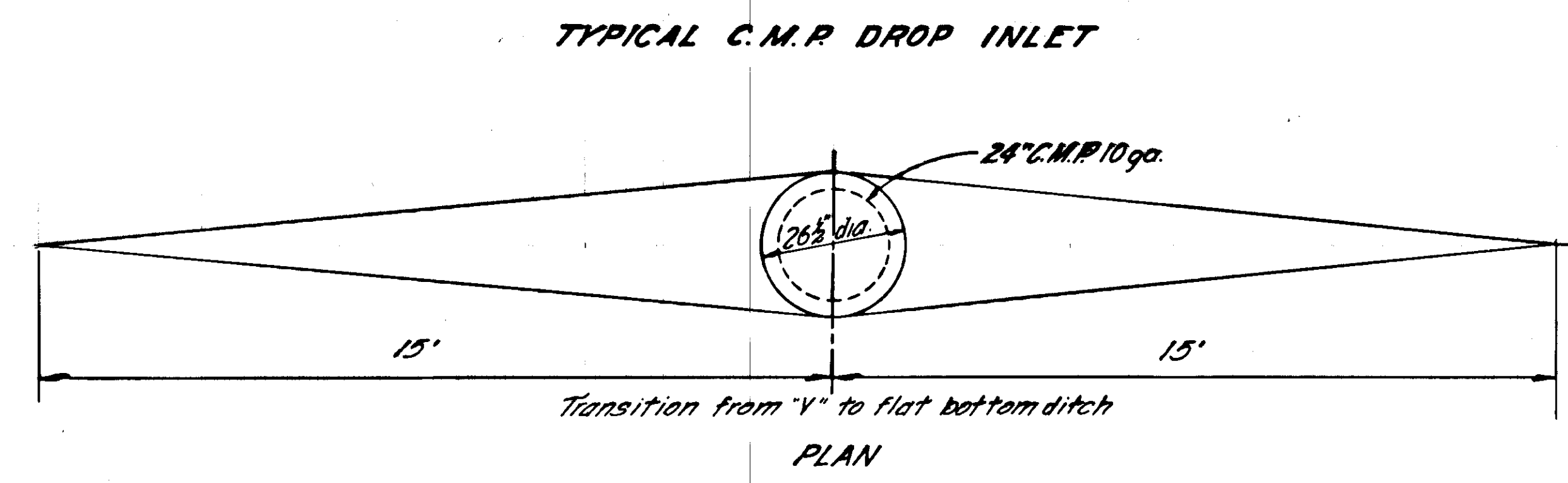
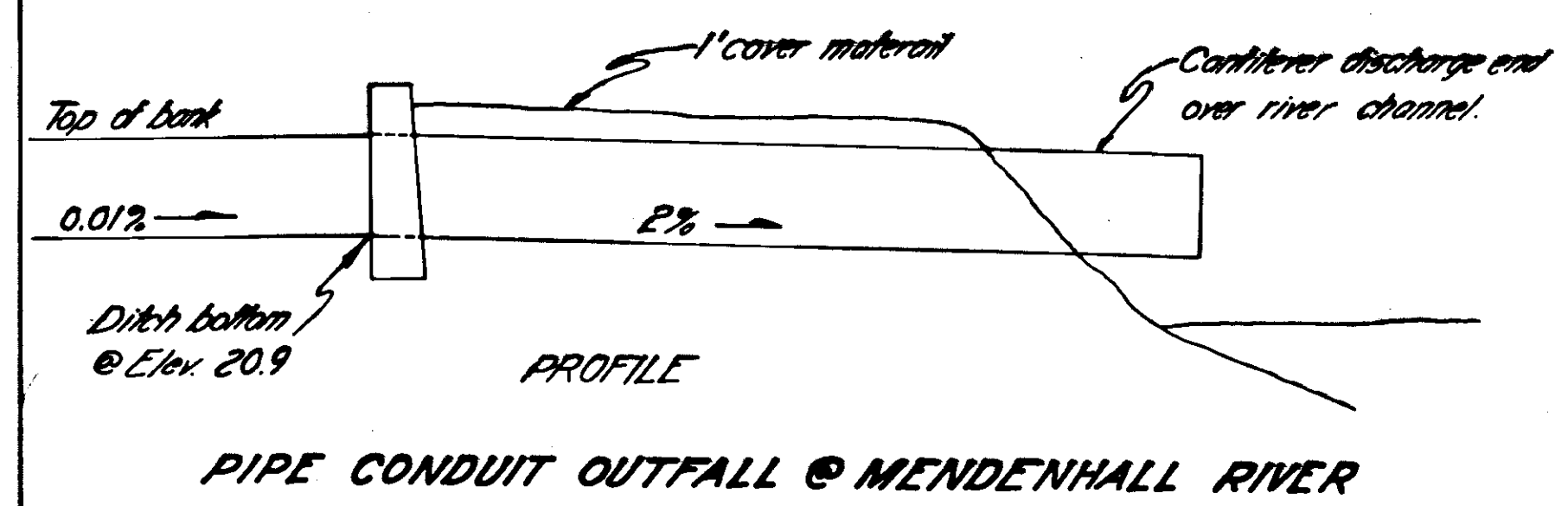
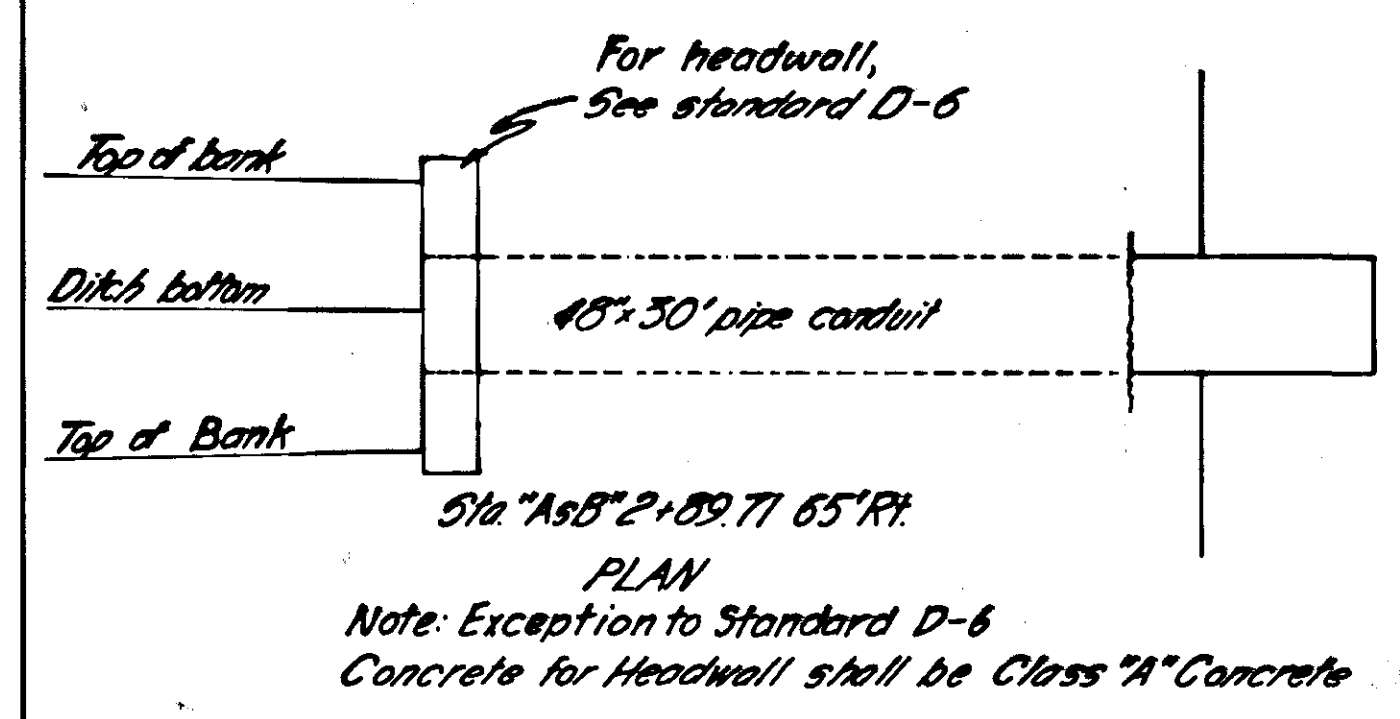
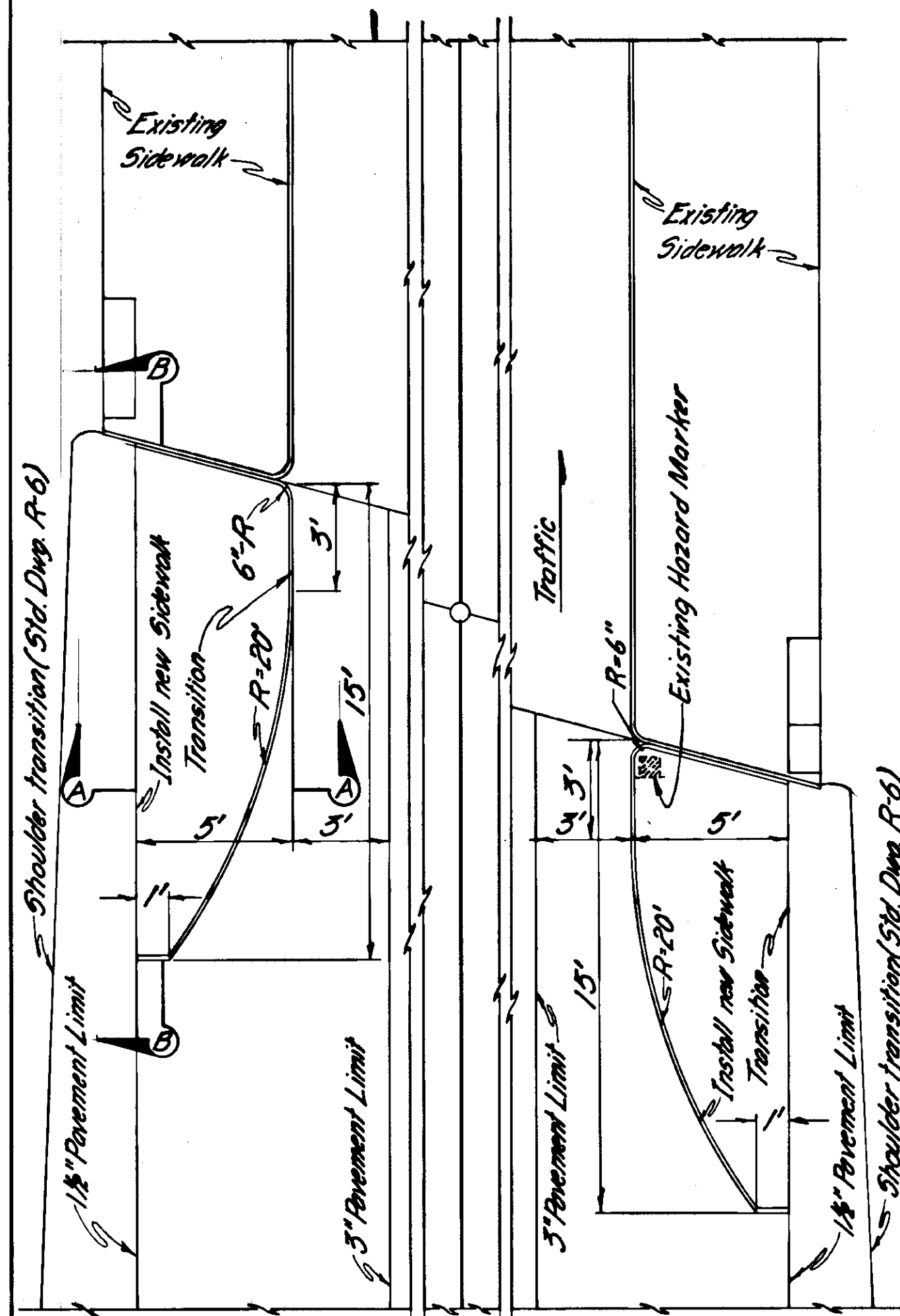
CHAIN LINK FENCE SUMMARY

LEFT			RIGHT		
STATION	DIST. FROM ☑	REMARKS	STATION	DIST. FROM ☑	REMARKS
"0" 356+52.74	99'	Begin Fence	"E" 346+54.76	99'	Begin Fence
"0" 362+56.00	99'	End Fence	"L" 372+30.00	99'	End Fence
"0" 363+55.50	99'	Begin Fence	"L" 372+65.00	99'	Begin Fence
"L" 371+15.00	99'	End Fence	"L" 381+81.00	99'	
"L" 371+57.00	99'	Begin Fence	"L" 382+31.00	79'	
"L" 380+42.00	99'		"L" 386+63.41	79'	
"L" 380+92.00	79'		"L" 387+13.41	99'	
"L" 387+50.00	79'		"L" 393+19.42	99'	End Fence
"L" 388+00.00	83'		"0" 394+65.00		Inside RW Begin Fence
"L" 390+00.00	83'		"0" 398+00.00		Inside RW End Fence
"L" 390+50.00	89'				
"L" 393+20.20	89'	End Fence			
"0" 394+65.00		Inside RW Begin Fence			
"0" 398+00.00		Inside RW End Fence			

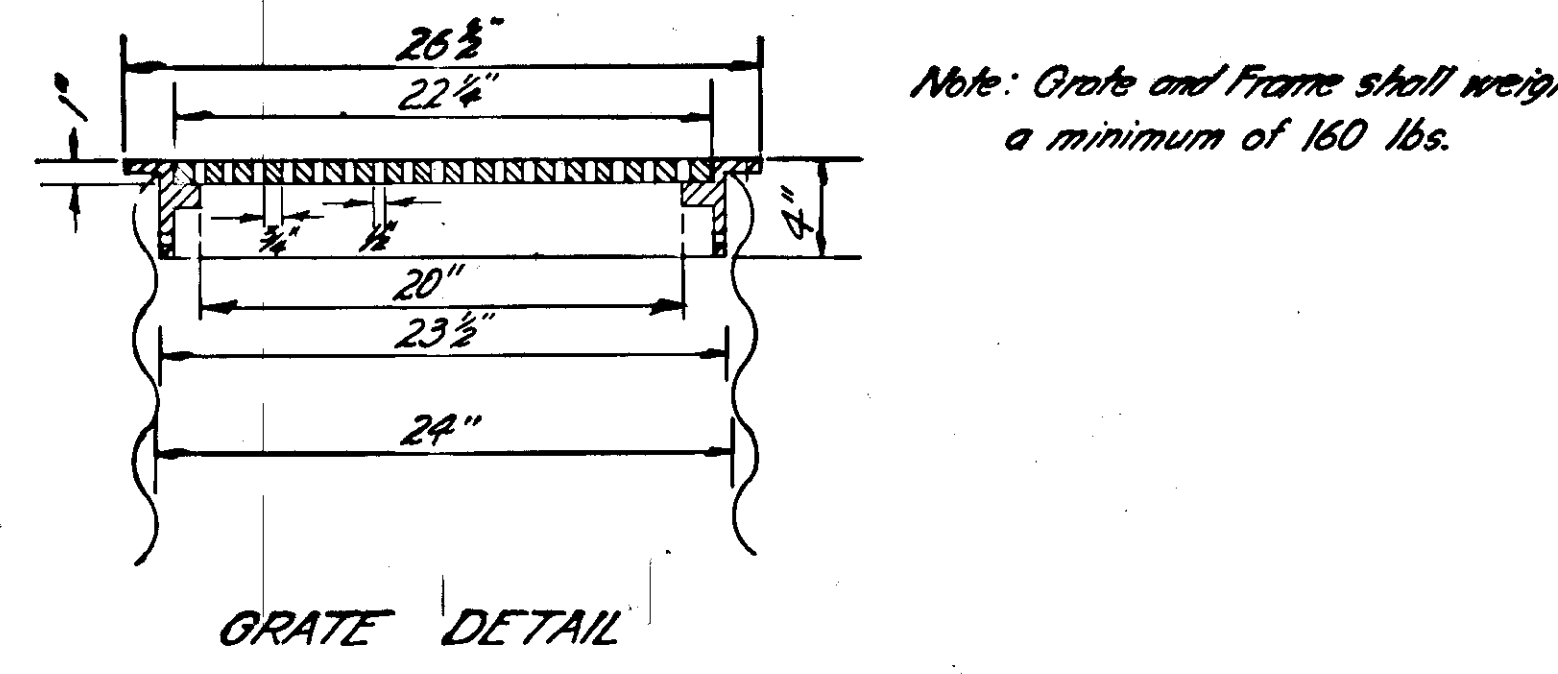
TOTAL LENGTH OF CHAIN LINK FENCE = 8,827 ft. 0.018 ft.

BASIS OF ESTIMATE

ITEM	ESTIMATING FACTOR
203(5)	1.87 Tons per cubic yard
304(1)	1.87 Tons per cubic yard
307(1)	1.87 Tons per cubic yard
403(1)	112 # /sq. yd. in.
408(2)	256 gal. per ton 60°F
408(2)	0.25 gal. per sq. yd.

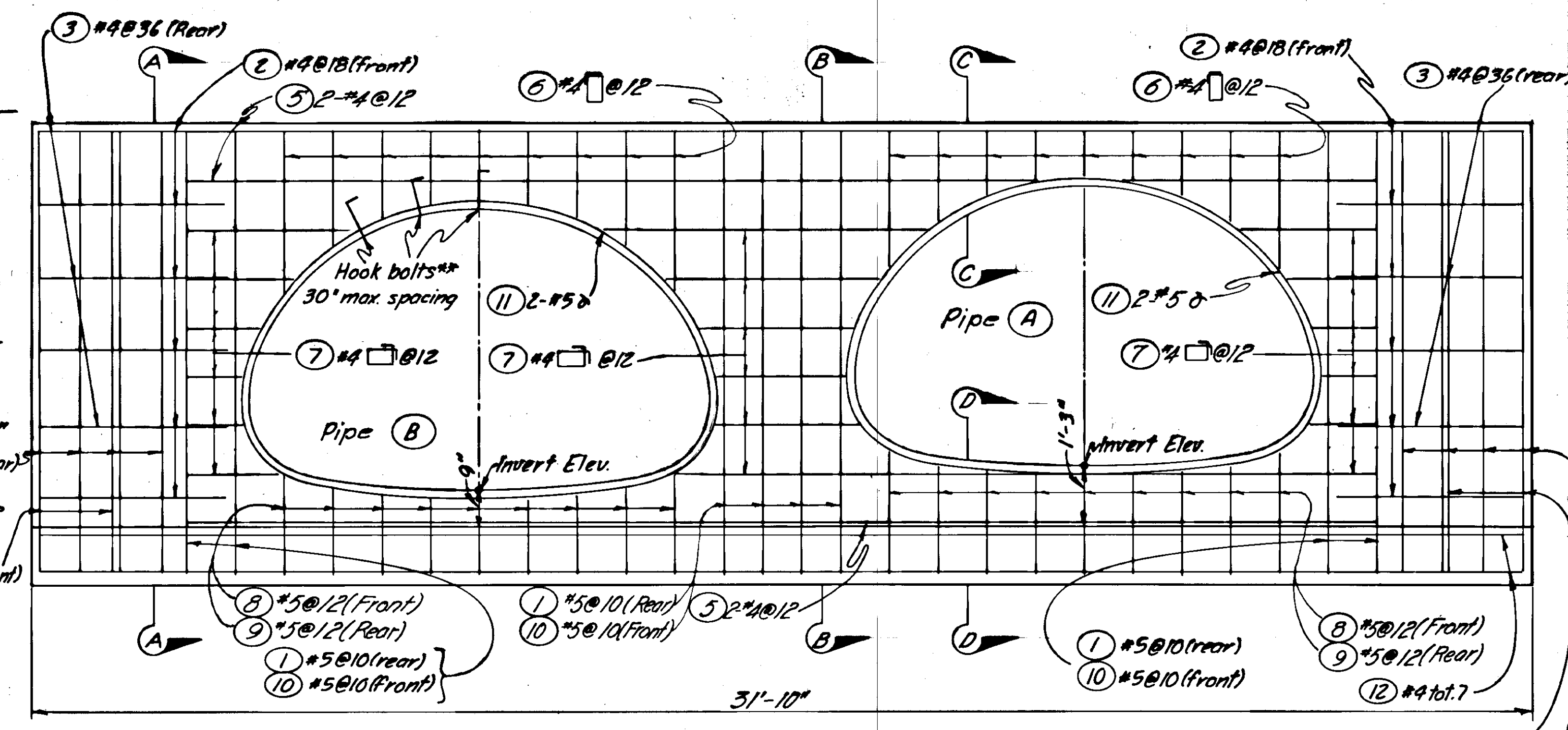
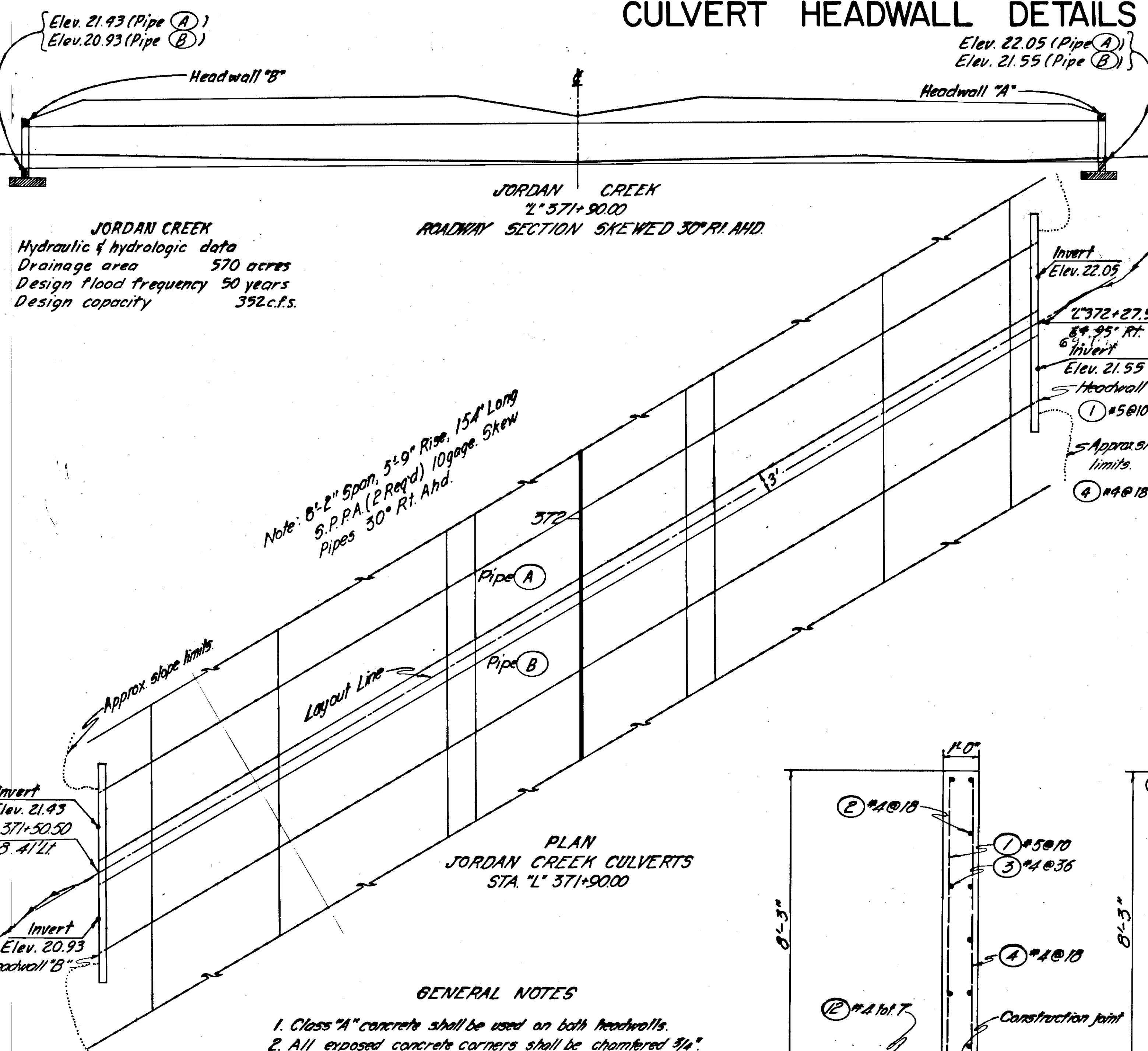


- GENERAL NOTES**
1. Connection of guardrail end sections to bridge end posts shall be made as shown on this sheet.
 2. Mounting height of guardrail in sidewalk transition as shown on details.
 3. Remove existing guardrail section and mounting posts 21' Rt. Sta. 'AsB' 5+98.0 to 'AsB' 6+11.0. Reset this section 20' Rt. of 6, and splice to terminal section on bridge end post with an additional length of guard rail, as needed. Mounting posts and spacing shall conform to Std. Dwg. P-5. Discard existing terminal section opposite Sta. 'AsB' 5+98.00.
 4. All Metal shall be shop galvanized.
 5. When steel box spacer is installed, place a 1 1/2" x 5.8" pipe spacer on each 1" ball passing through interior of box.
 6. Remove and dispose of existing timber hazard posts at end of bridge sidewalks (2 total).



SIDEWALK & GUARDRAIL DETAILS

CULVERT HEADWALL DETAILS



** Note: Hook bolts shall be placed around the entire periphery of each pipe, spacing not to exceed 30". Each structural plate shall be fastened to the headwall by at least one hook bolt.

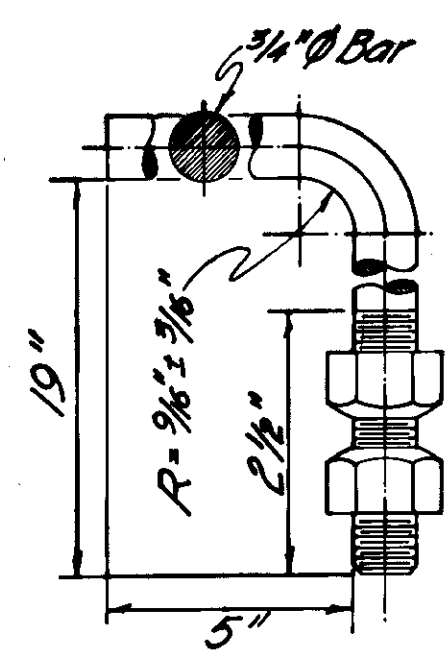
ELEVATION

*Note: Headwall "B" is identical to Headwall "A", except that the positions of the pipe openings are reversed.

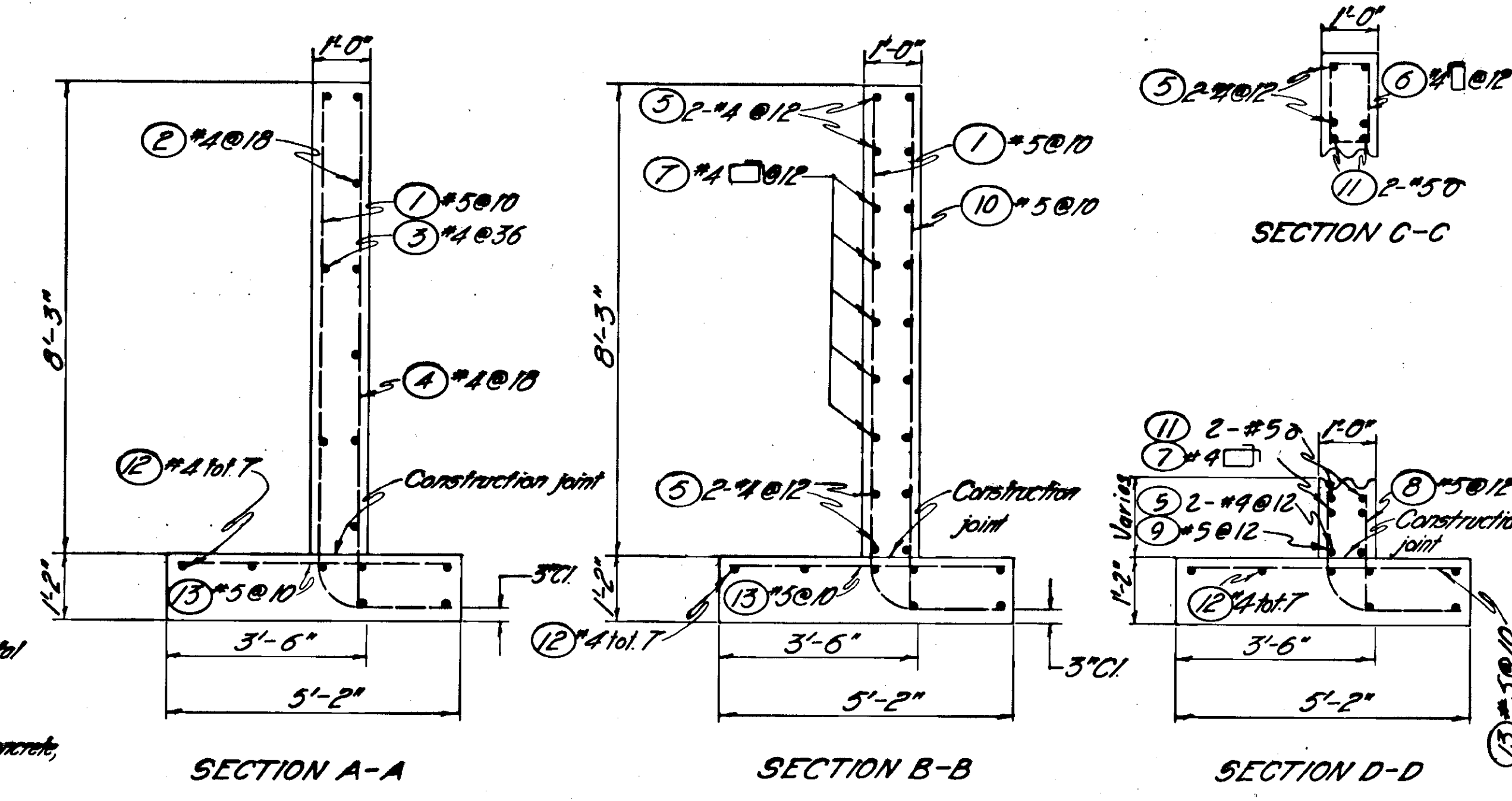
GENERAL NOTES

1. Class "A" concrete shall be used on both headwalls.
2. All exposed concrete corners shall be chamfered 3/4".
3. If unsuitable foundation material is encountered, it shall be removed and backfilled with suitable material, as directed by the Engineer.
4. Furnishing and installation of hook bolts shall be incidental to class "A" concrete.
5. Hook bolts and nuts shall be galvanized.
6. Reinforcement shall be placed 2" clear from surface of concrete, unless otherwise noted.
7. Reinforcing steel shall be of intermediate grade.
8. All bar splices shall be lapped 20 bar diameters.

Hook bolts and nuts for imbedment in headwalls.



HOOK BOLT DETAIL

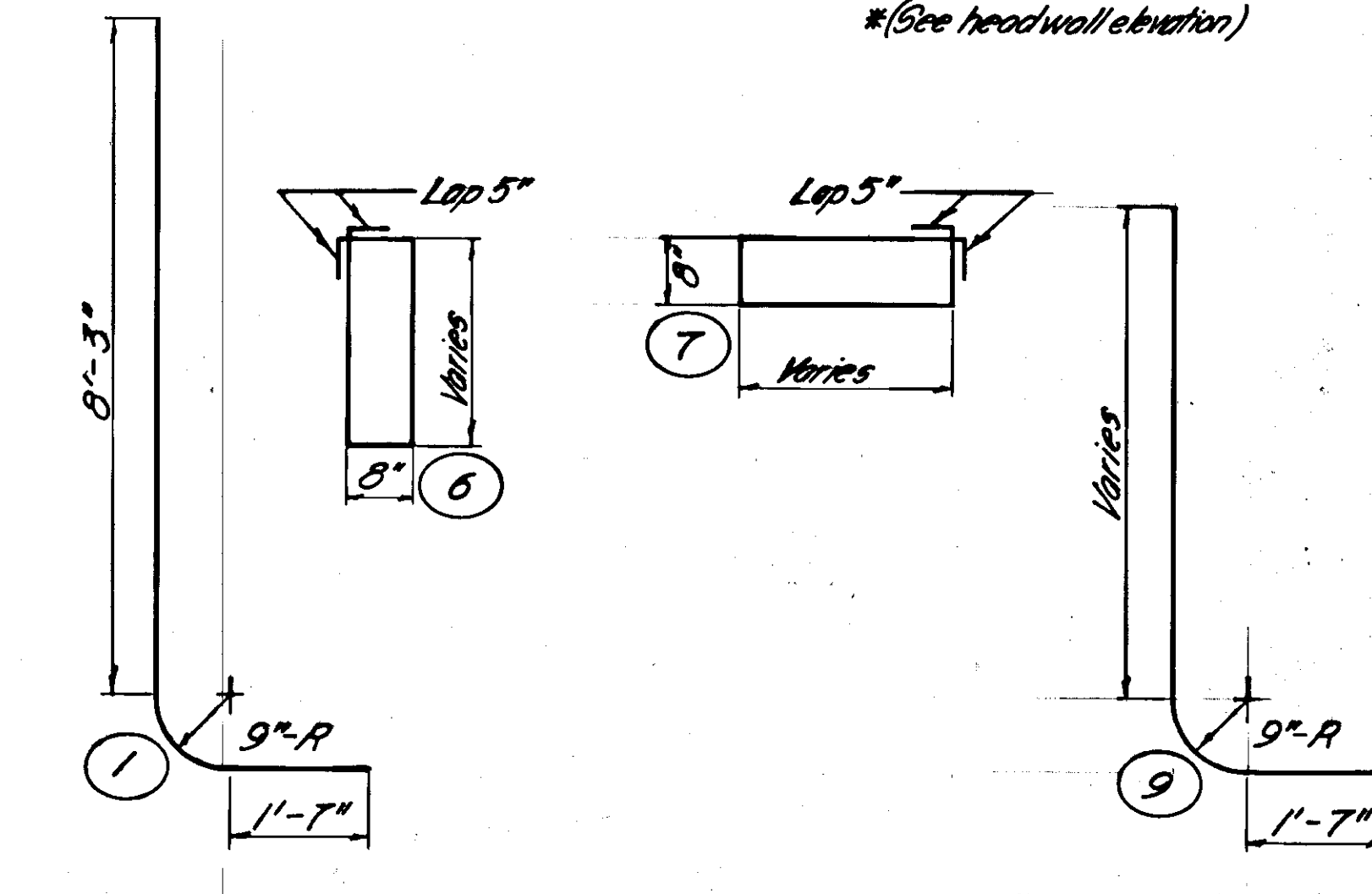


Item	Wall "A"	Wall "B"
Reinforcing Steel	1149 lb	1149 lb
Class "A" Concrete	13.61 cu.yd.	13.61 cu.yd.

BAR LIST & BENDING DIAGRAM

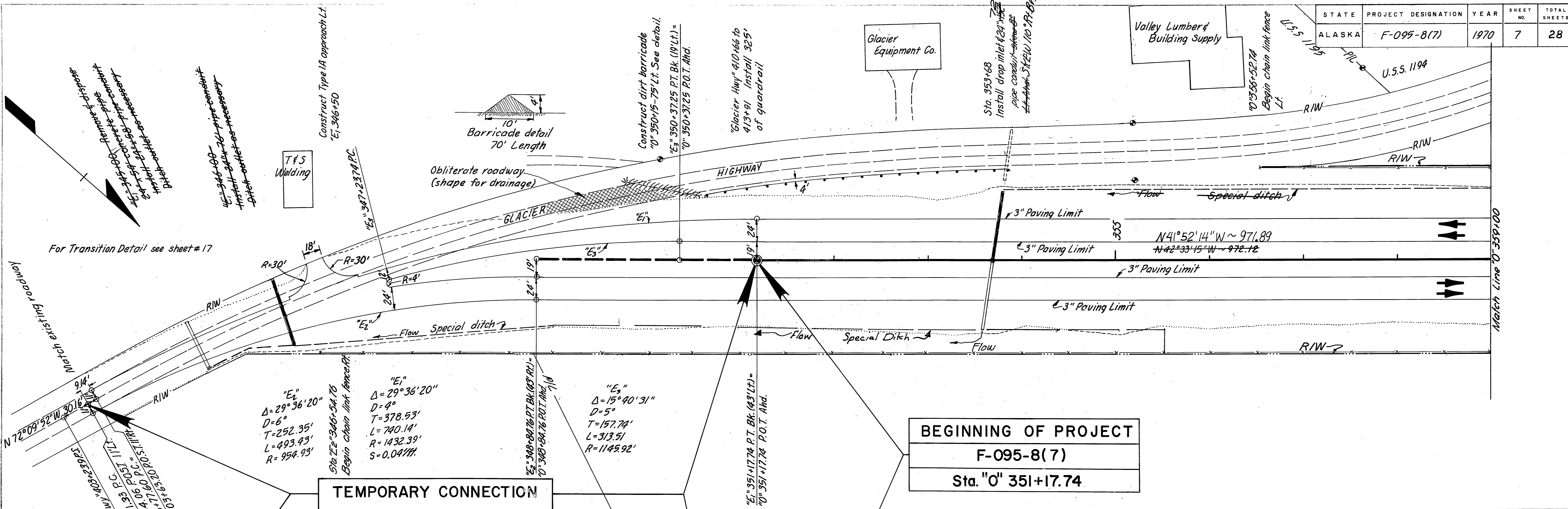
MARK	LOCATION	SIZE	LENGTH FT.-IN.	NO. REQ'D	REMARKS
1.	Headwall-Vertical-Rear	5	11-1	32	
2.	Headwall-Horizontal-Front	4	4-0	24	Str.
3.	Headwall-Horizontal-Rear	4	4-0	12	Str.
4.	Headwall-Vertical-Front	4	9-0	8	Str.
5.	Headwall-Horizontal-Front & Rear	4	24-5	12	Str.
6.	Headwall-Vertical-over top of pipes	4	Varies	36	
7.	Headwall-Horiz.-@Side of/between pipes	4	Varies	36	
8.	Headwall-Vertical-below pipes (Front)	5	Varies	36	Str.
9.	Headwall-Vertical-below pipes (Rear)	5	Varies	36	
10.	Headwall-Vertical-Front	5	9-0	16	Str.
11.	Headwall-Loop Around pipes	5	26-0	8	*
12.	Footing-Longitudinal	4	31-4	14	Str.
13.	Footing-Transverse-Top	5	4-8	78	Str.

Note: Quantities are for both headwalls



PLAN
 SURVEYED BY: _____
 PLOTTED BY: _____
 CHECKED BY: _____
 DATE: _____

PROFILE
 SURVEYED BY: _____
 PLOTTED BY: _____
 CHECKED BY: _____
 DATE: _____



TEMPORARY CONNECTION

**BEGINNING OF PROJECT
 F-095-8(7)
 Sta. "0" 351+17.74**

Vertical Control: N.E. Cor. Brotherhood Bridge top of wingwall; adjusted Elevation is 37.80

Horizontal Control: Based on bearing of $N 31^{\circ} 33' 33.9'' W$ and distance of 16.12 between B & R monuments at $12+70.45$ P.I. and $16+12.5$ P.T. Bk. = $45.78'$ BING AND KEET "ESTABLISHED ON STATE PLANE COORDINATE TRIANGULATION NET 1966."

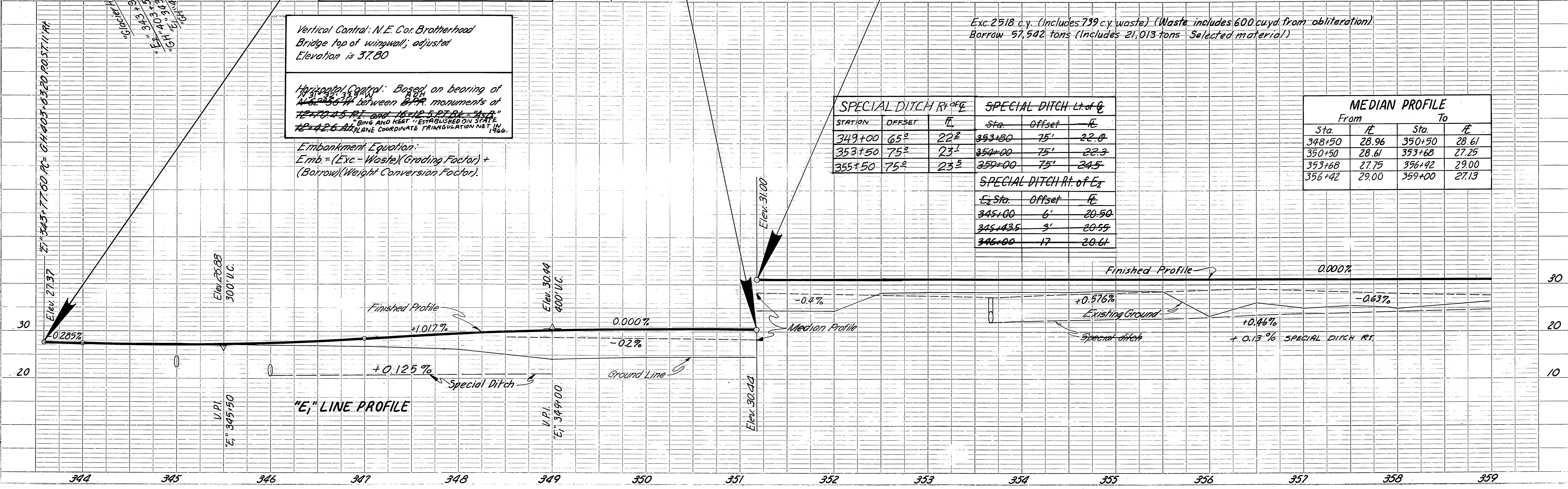
Embankment Equation:
 $E_{mb} = (Exc. - Waste)(Grading Factor) + (Borrow)(Weight Conversion Factor)$

Exc. 2518 c.y. (Includes 739 c.y. waste) (Waste includes 600 cuyd. from obliteration)
 Borrow 57,542 tons (Includes 21,013 tons Selected material)

SPECIAL DITCH Rt. of E1			SPECIAL DITCH Lt. of E2		
STATION	OFFSET	EL.	Sta.	Offset	EL.
349+00	65'	22.2	353+80	75'	22.0
353+50	75'	23.1	354+00	75'	22.3
355+50	75'	23.3	359+00	75'	24.5

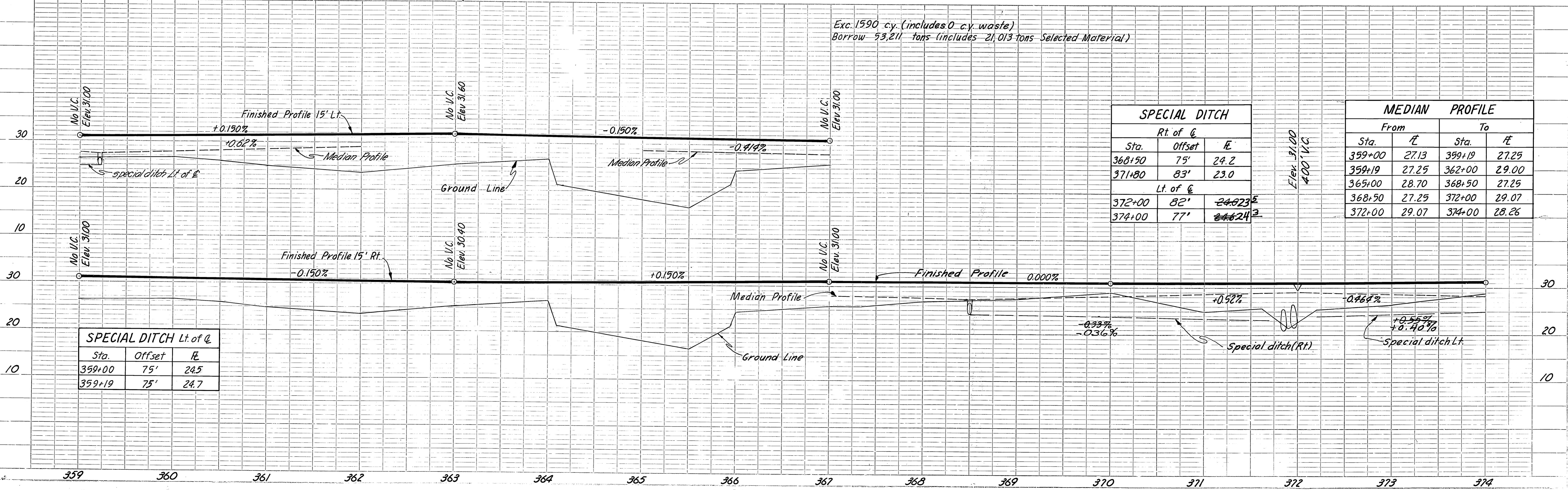
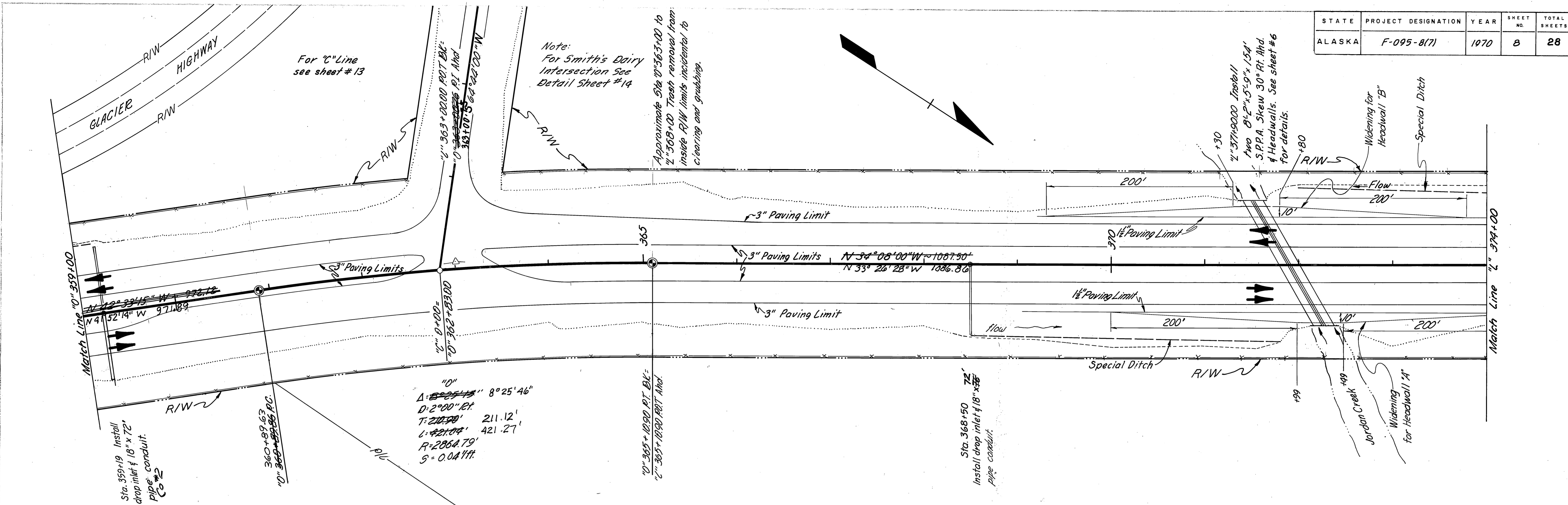
MEDIAN PROFILE			
From		To	
Sta.	EL.	Sta.	EL.
348+50	28.96	350+50	28.61
350+50	28.61	353+68	27.25
353+68	27.75	356+42	29.00
356+42	29.00	359+00	27.13

SPECIAL DITCH Rt. of E2		
E2 Sta.	Offset	EL.
345+00	6'	20.50
345+35	3'	20.55
346+00	17'	20.61



PLAN SURVEYED, PLOTTED, CHECKED, NO. BY DATE

PROFILE SURVEYED, PLOTTED, CHECKED, NO. BY DATE



Exc. 1590 c.y. (includes 0 c.y. waste)
Borrow 53,211 tons (includes 21,013 tons Selected Material)

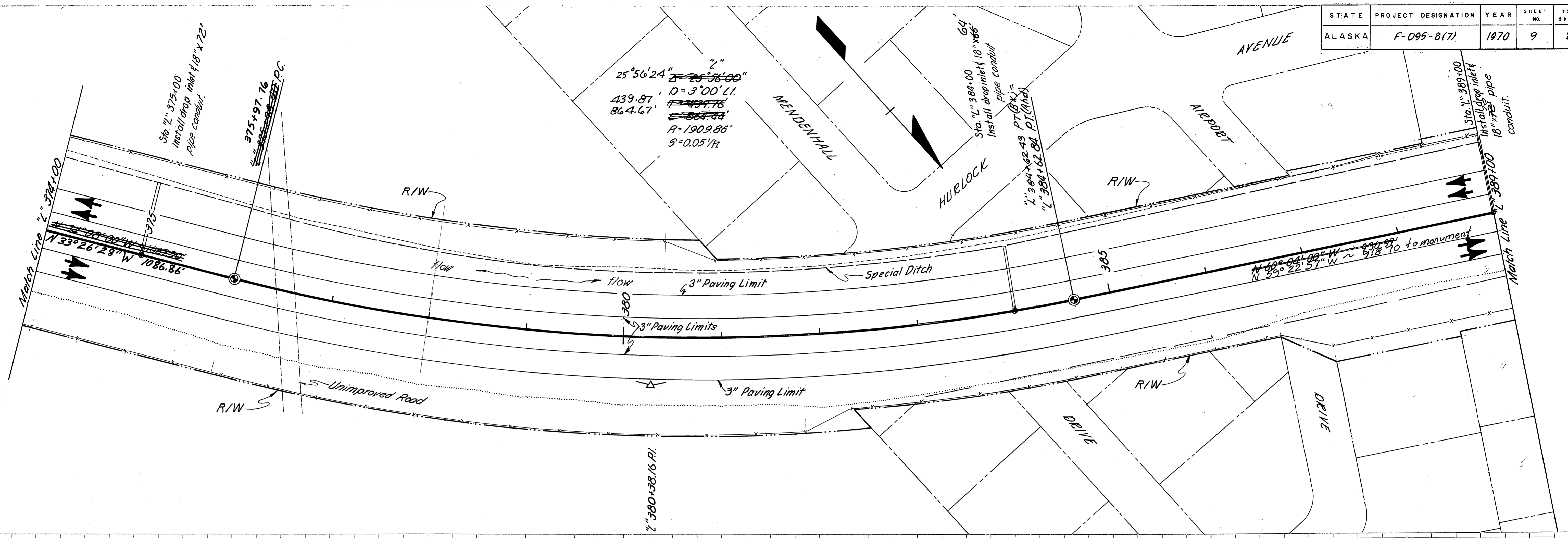
SPECIAL DITCH		
Rt. of C		
Sta.	Offset	E
368+50	75'	24.2
371+80	83'	23.0
Lt. of C		
372+00	82'	24.0235
374+00	77'	24.6242

MEDIAN PROFILE			
From		To	
Sta.	E	Sta.	E
359+00	27.13	359+19	27.25
359+19	27.25	362+00	29.00
365+00	28.70	368+50	27.25
368+50	27.25	372+00	29.07
372+00	29.07	374+00	28.26

SPECIAL DITCH Lt. of C		
Sta.	Offset	E
359+00	75'	24.5
359+19	75'	24.7

"0"
 $\Delta = 8^{\circ}25'46"$
 $D = 2^{\circ}00" RT$
 $T = 211.12'$
 $L = 421.04'$
 $R = 2864.79'$
 $S = 0.0411\%$

PLAN SURVEYED BY DATE
 PLOTTED BY DATE
 NOTE BOOK NO. ALIGNMENT CHECKED BY DATE
 NO. OF ANY CHECKS



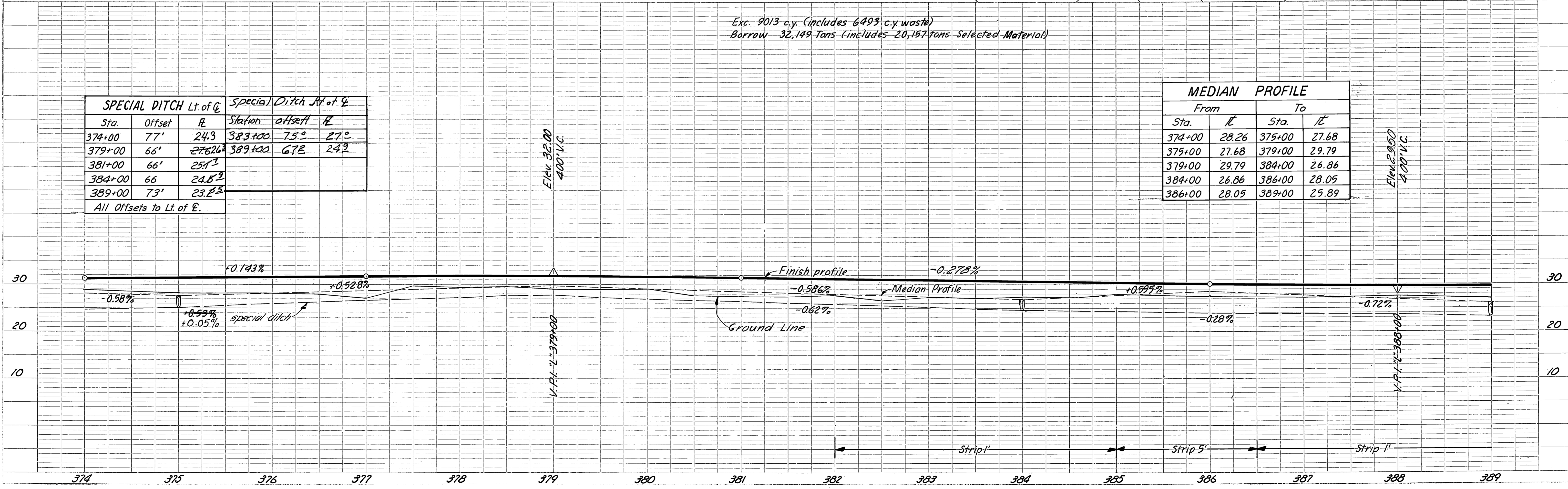
PROFILE SURVEYED BY DATE
 PLOTTED BY DATE
 NOTE BOOK NO. STRUCTURE LOCATIONS CHECKED BY DATE

Exc. 9013 c.y. (includes 6493 c.y. waste)
 Borrow 32,149 tons (includes 20,157 tons Selected Material)

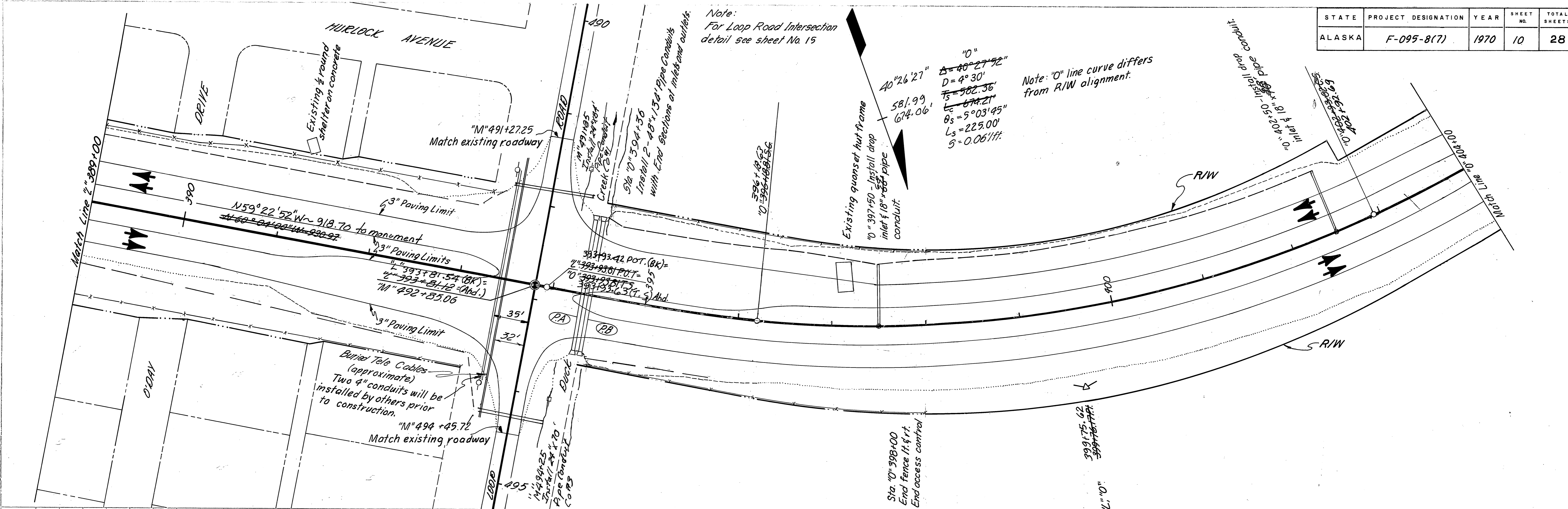
SPECIAL DITCH Lt. of C.			Special Ditch Rt. of C.		
Sta.	Offset	E.	Station	offset	E.
374+00	77'	24.3	383+00	75'	27.2
379+00	66'	27.626	389+00	67E	24.2
381+00	66'	25.1			
384+00	66'	24.8			
389+00	73'	23.8			

All Offsets to Lt. of E.

MEDIAN PROFILE			
From		To	
Sta.	E.	Sta.	E.
374+00	28.26	375+00	27.68
379+00	27.68	379+00	29.79
379+00	29.79	384+00	26.86
384+00	26.86	386+00	28.05
386+00	28.05	389+00	25.89



PLAN
 SURVEYED BY: _____ DATE: _____
 PLOTTED BY: _____
 CHECKED BY: _____
 NOTE BOOK NO. _____
 NO. OF DAYS CHECKED _____

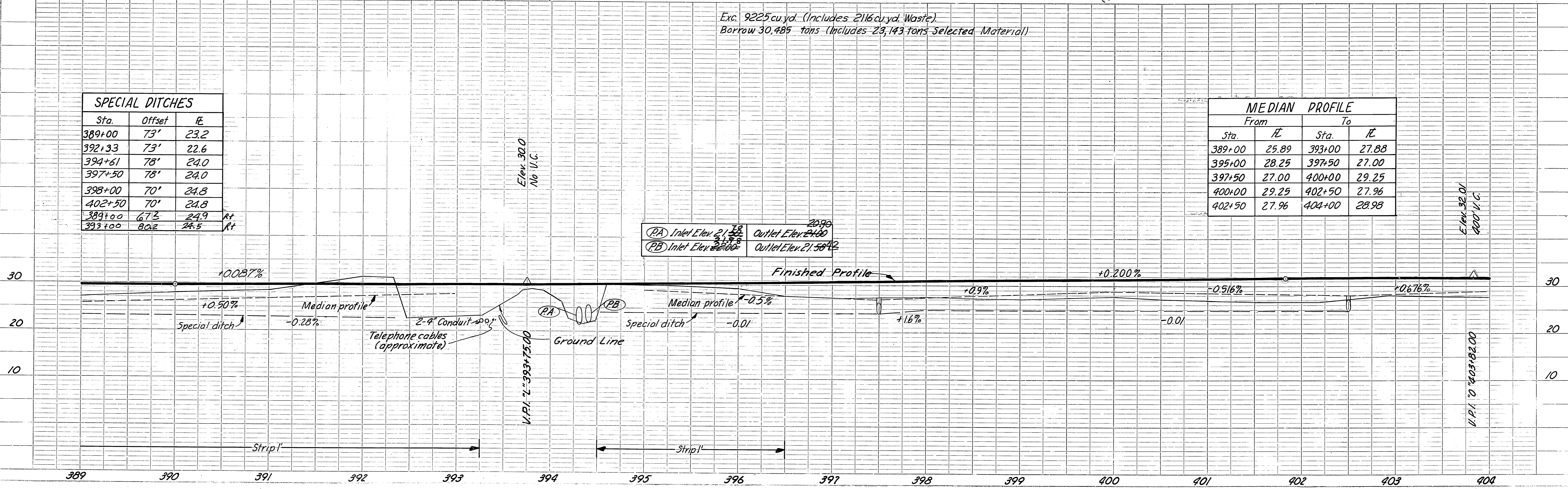


PROFILE
 SURVEYED BY: _____ DATE: _____
 PLOTTED BY: _____
 CHECKED BY: _____
 NOTE BOOK NO. _____
 NO. OF DAYS CHECKED _____

Exc. 9225 cu. yd. (Includes 2116 cu. yd. Waste).
 Borrow 30,485 tons (Includes 23,143 tons Selected Material)

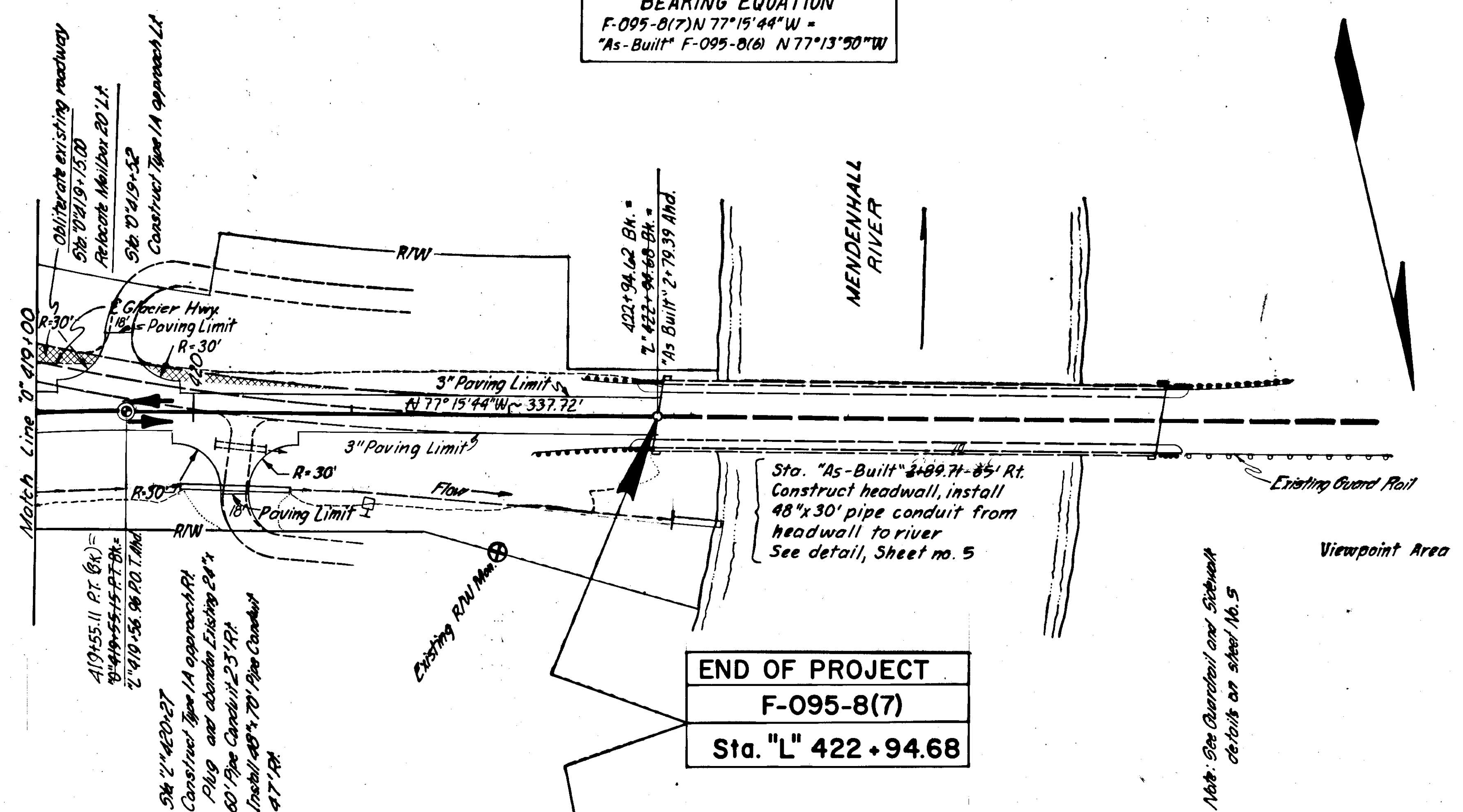
Sta.	Offset	E.
389+00	73'	23.2
392+33	73'	22.6
394+61	78'	24.0
397+50	78'	24.0
398+00	70'	24.8
402+50	70'	24.8
399+00	67.5	24.9
393+00	80.2	24.5

From		To	
Sta.	E.	Sta.	E.
389+00	25.89	393+00	27.88
395+00	28.25	397+50	27.00
397+50	27.00	400+00	29.25
400+00	29.25	402+50	27.96
402+50	27.96	404+00	28.98



(PA) Inlet Elev. 21.52	Outlet Elev. 20.90
(PB) Inlet Elev. 21.58	Outlet Elev. 21.58

BEARING EQUATION
 F-095-8(7) N 77°15'44"W =
 "As-Built" F-095-8(6) N 77°13'50"W

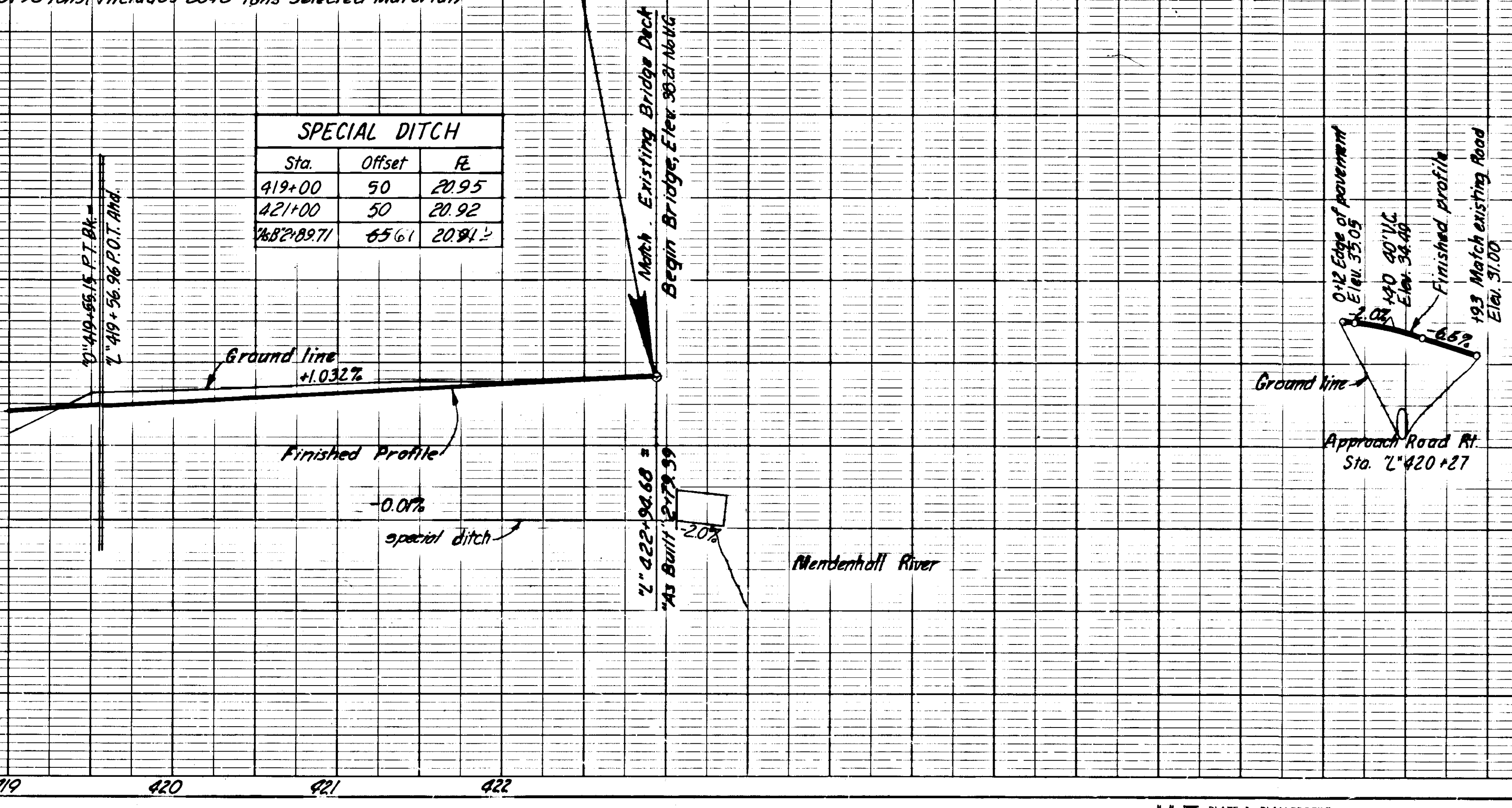


END OF PROJECT
 F-095-8(7)
 Sta. "L" 422 + 94.68

Note: See Guardrail and Sidelwalk details on sheet No. 5

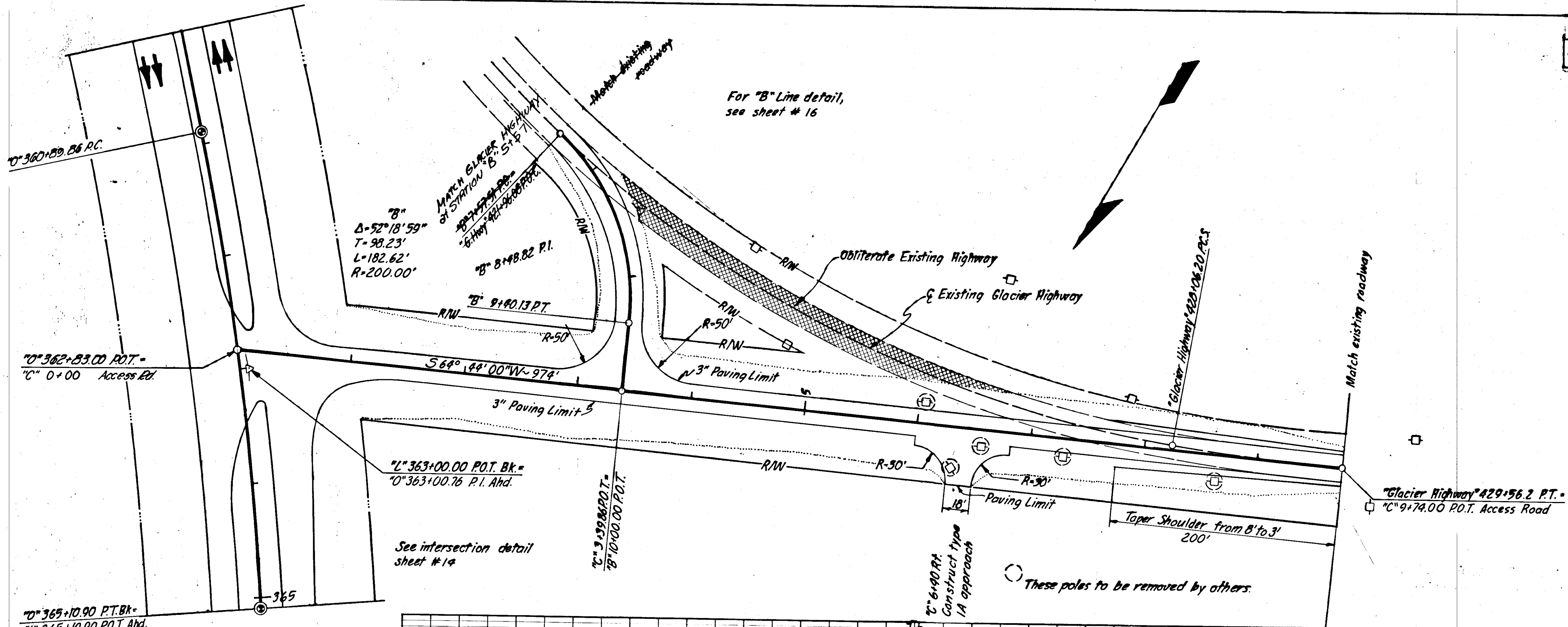
Exc. 899 cu yd (includes 605 cu yd waste from obliteration)
 Borrow 3198 Tons (includes 2648 tons Selected Material)

SPECIAL DITCH		
Sta.	Offset	E
419+00	50	20.95
421+00	50	20.92
422+94.68	65.61	20.91

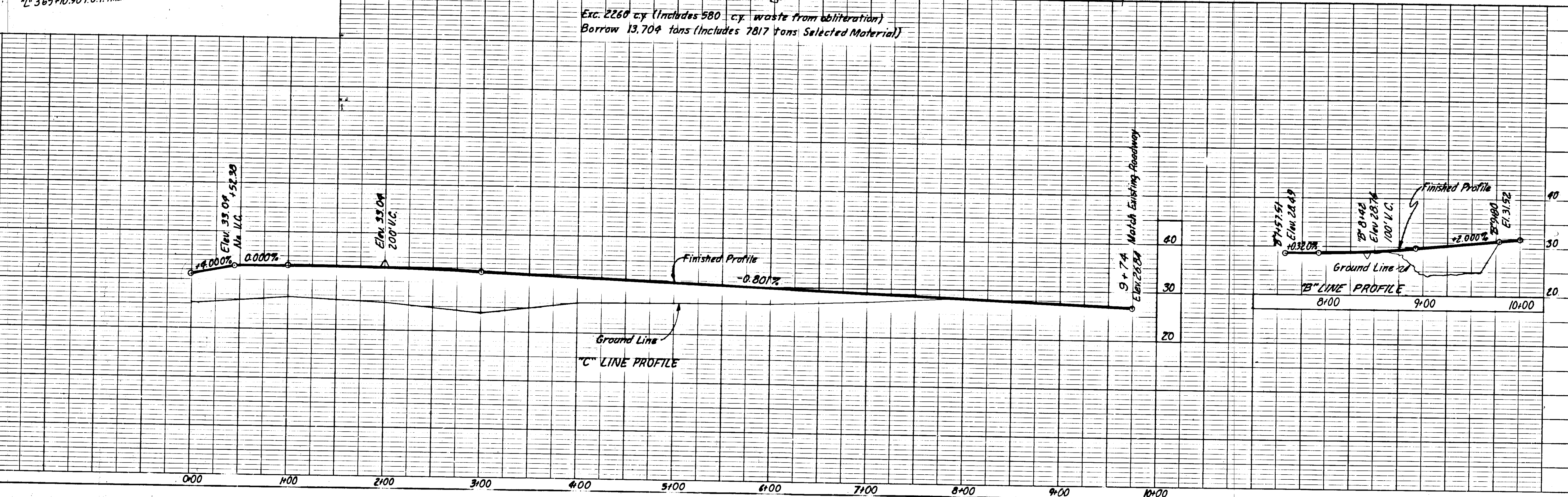


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-095-8(7)	1970	13	28

C LINE

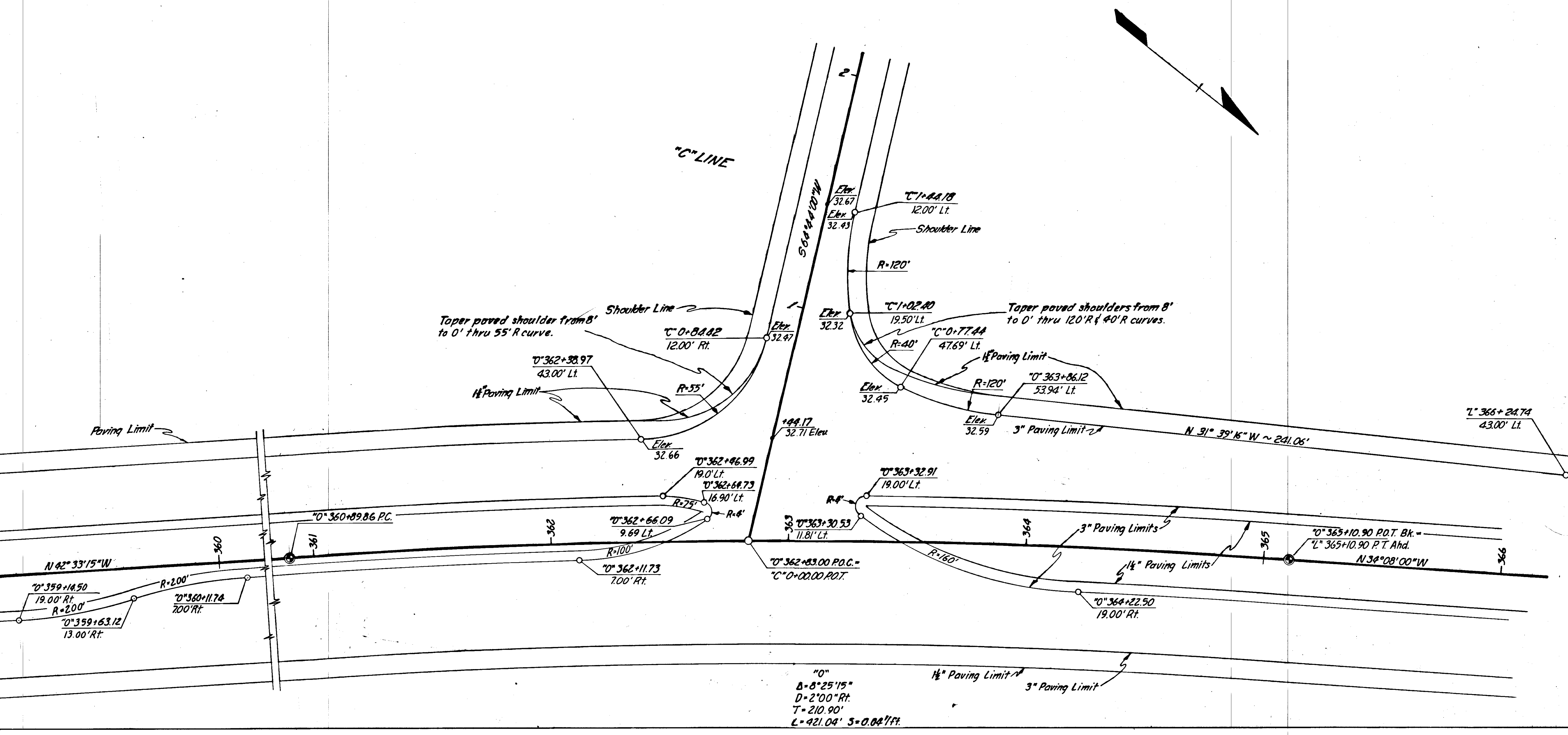


Exc. 2260 c.y. (Includes 580 c.y. waste from obliteration)
 Borrow 13,704 tons (Includes 7817 tons Selected Material)



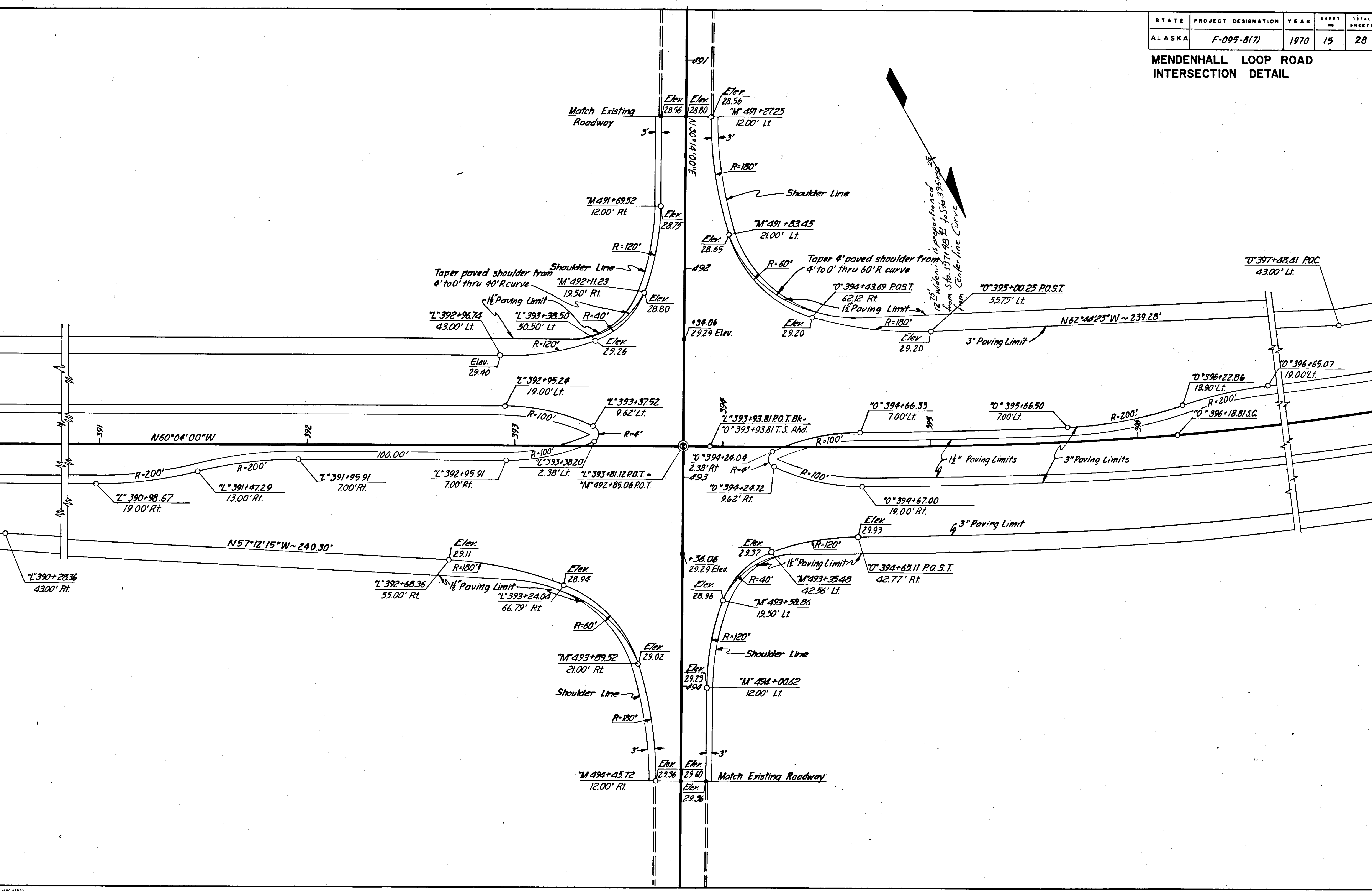
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-095-8(7)	1970	14	28

SMITH'S DAIRY INTERSECTION



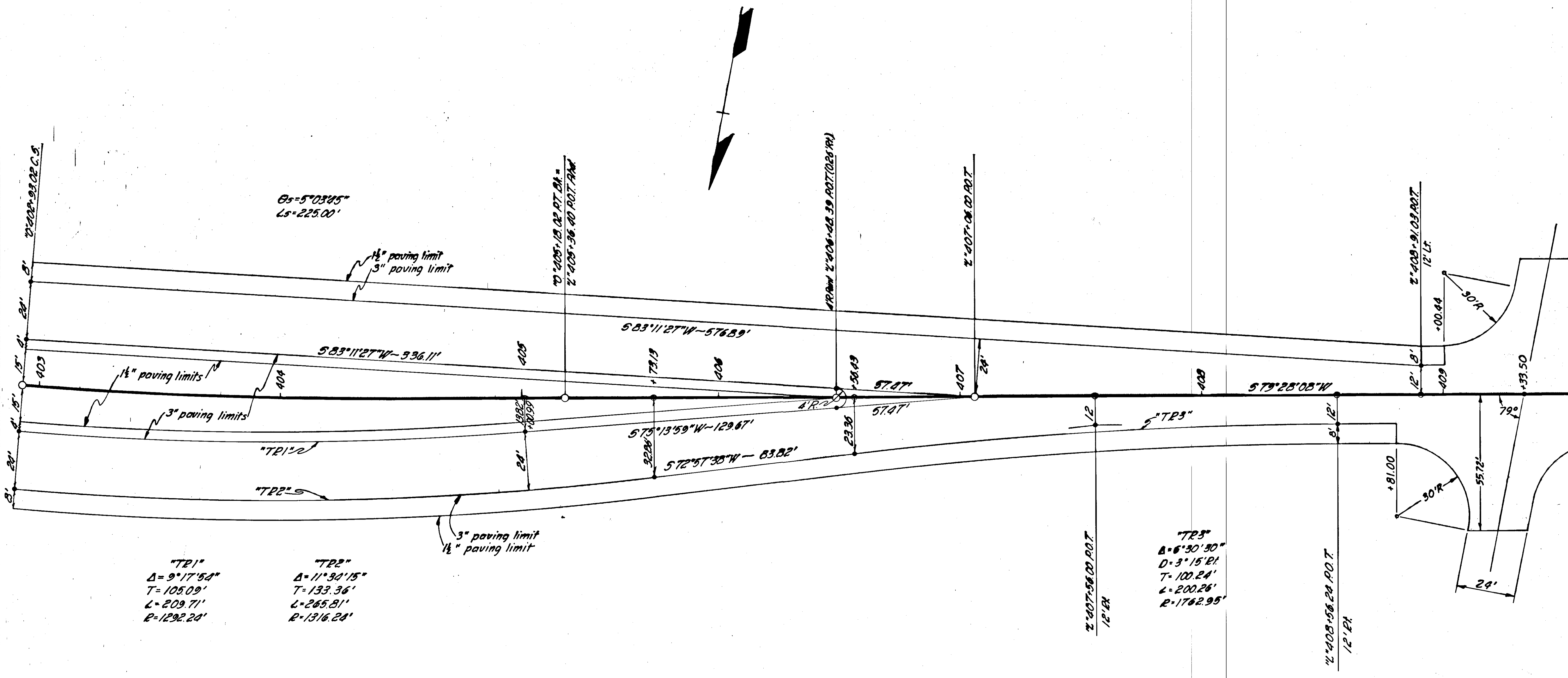
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-095-8(7)	1970	15	28

**MENDENHALL LOOP ROAD
INTERSECTION DETAIL**



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-095-8(7)	1970	18	28

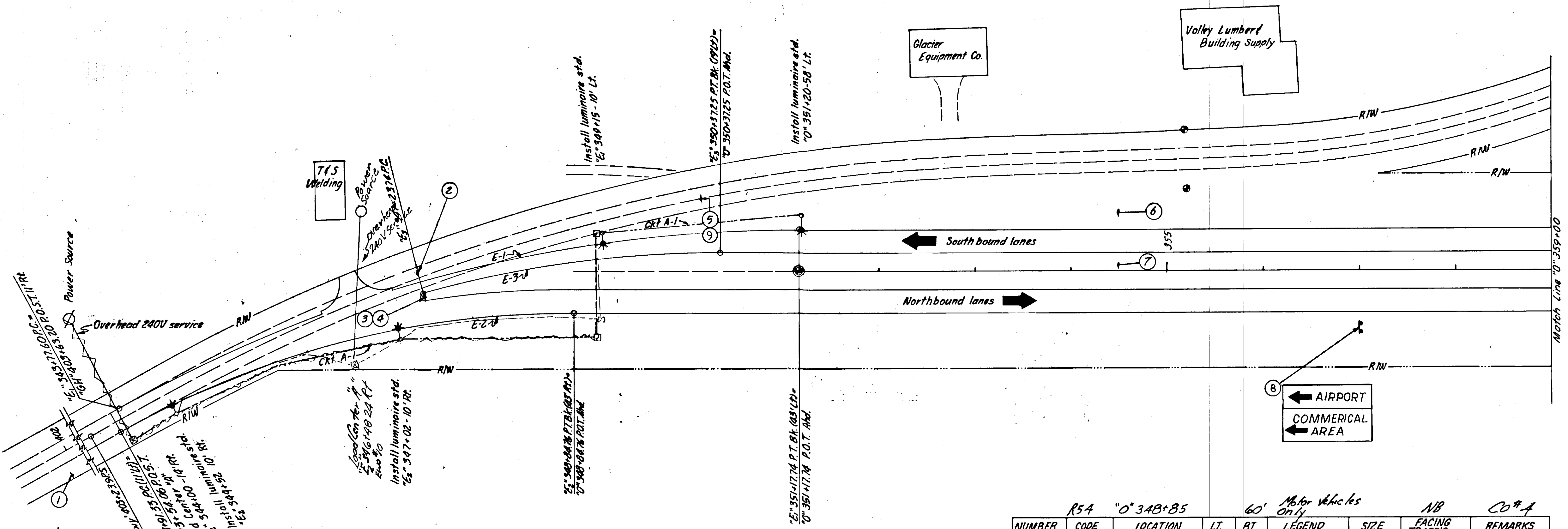
TRANSITION DETAILS



"TP1"
 $\Delta = 9^{\circ}17'52''$
 $T = 105.09'$
 $L = 209.71'$
 $R = 1292.24'$

"TP2"
 $\Delta = 11^{\circ}30'15''$
 $T = 133.36'$
 $L = 265.81'$
 $R = 1316.24'$

"TP3"
 $\Delta = 6^{\circ}30'30''$
 $D = 3^{\circ}15'21''$
 $T = 100.24'$
 $L = 200.26'$
 $R = 1762.95'$

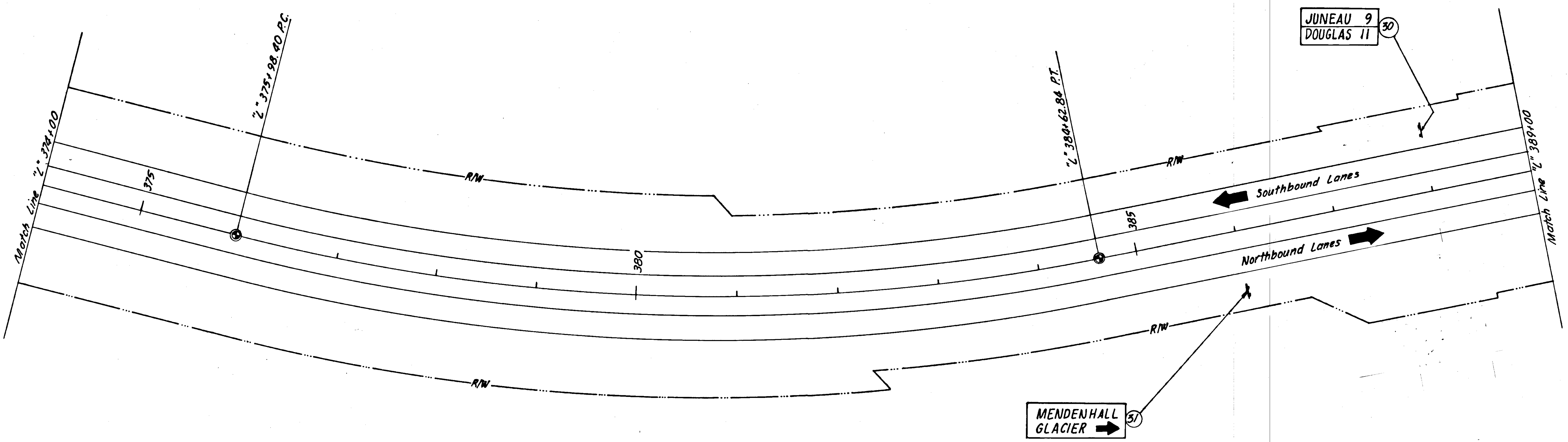


- GENERAL ILLUMINATION NOTES**
- Locations given are approximate only and are subject to minor field adjustment by the Engineer.
 - "Std." is an abbreviation for "standard".
 - Foundations for luminaire stds. shall be cast in place against undisturbed soil.
 - All luminaires shall be mounted 40 feet above roadway by assembling components to obtain mounting height.
 - All mast arms shall be 15 feet long unless otherwise noted.
 - There shall be rigid metal conduit under roadway.
 - All conduit shall be 2 inch.
 - Lighting contactors in all load centers shall be rated 50 amps.

- NOTES**
- Luminaires "E₂" 347+02, "E₂" 347+02, "E₁" 349+15, & "E₁" 350+20 shall be mercury high pressure vapor, 700-watt, H35, 37,000 initial vertical lumens, medium semi cutoff, USASI Type III.
 - Main breaker load center "A" rated 55 amps. Circuit A-1 breaker rated 20 amps.
 - Wire size for circuit A-1 shall be no. 6 AWG.
 - Luminaires "E₂" 344+52, "E₂" 347+02, & "E₁" 349+15 shall have 10' long mast arms.

NUMBER	CODE	LOCATION	LT.	RT.	LEGEND	SIZE	FACING TRAFFIC	REMARKS
1	W6-1	"GH" 401+92		26'	DIVIDED HWY	36"x36"	NB	
2	W6-3	"E ₁ " 347+18	9'		TWO WAY TRAFFIC	36"x36"	SB	
3	R4-7	"E ₂ " 347+24	4'		KEEP → RIGHT	28"x30"	NB	
4	W14-6	"E ₂ " 347+24	4'		9 Button reflector	18"x18"	NB	Under R4-7
5	W14-6	"0" 350+15	75'		9 Button reflector	18"x18"	SB	Under W14-3
6	W4-2-21R	"0" 354+50	60'		lh	36"x36"	SB	
7	W4-2-21R	"0" 354+50	6'		lh	36"x36"	SB	
8	D1-3	"0" 357+100		60'	See plan	72"x42"	NB	
9	W14-3	"0" 350+15	75'		END	30"x30"	SB	

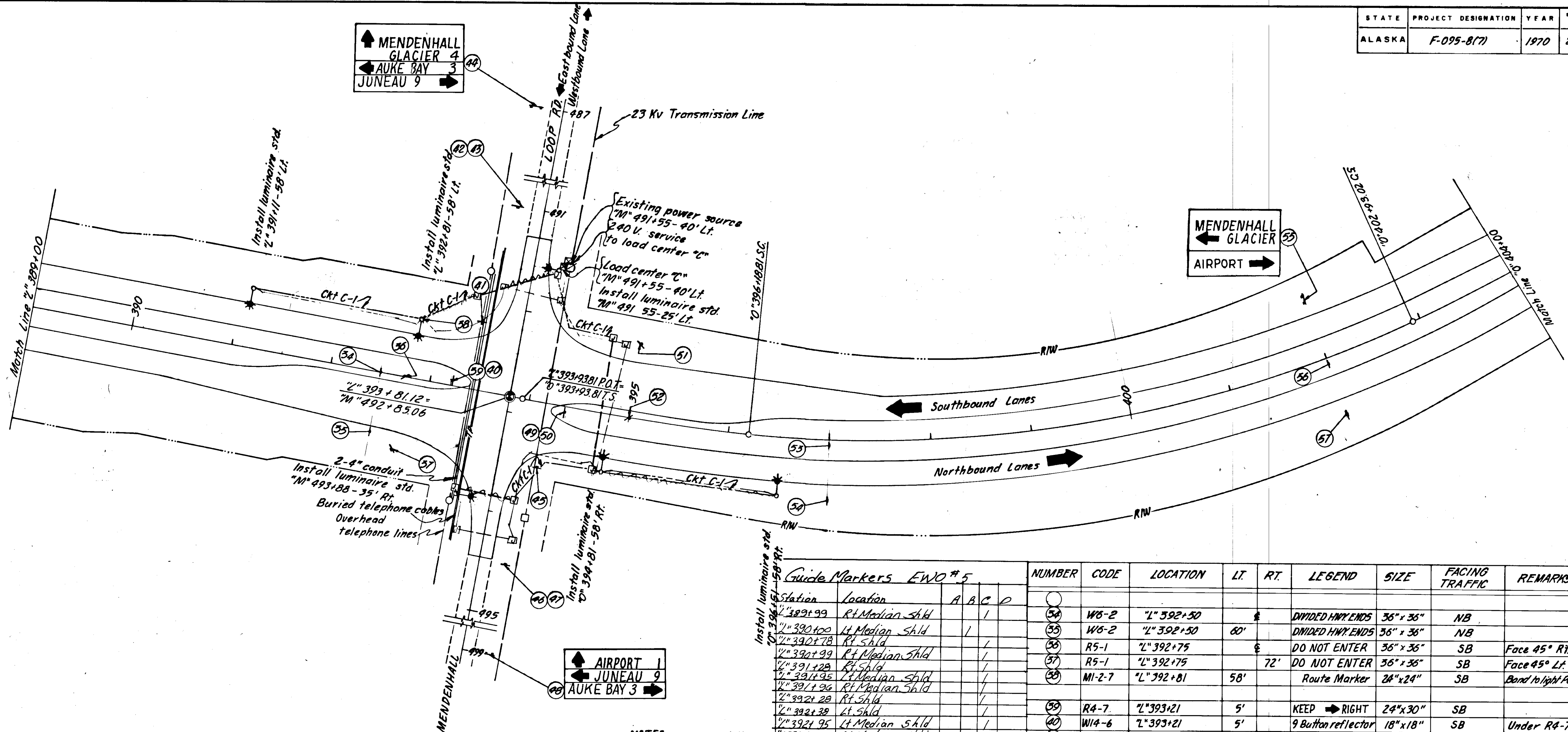
Guide Markers E1W045					Guide Markers E2W045					
Station	Location	A	B	C	Station	Location	A	B	C	D
GH 396+00	Lt Shld	1			E 348+85	Rt Median Shld		1		
GH 396+00	Rt Shld	1			E 348+85	Rt Shld		1		
GH 399+00	Lt Shld	1			E 349+00	Lt Shld		1		
GH 399+00	Rt Shld	1			E 350+00	Lt Shld		1		
GH 402+00	Lt Shld	1			E 350+00	Rt Median Shld		1		
GH 402+00	Rt Shld	1			E 351+00	Lt Shld		1		
GH 403+84	Rt Shld	1			E 352+00	Lt Shld		1		
GH 403+63	Lt Shld	1			E 352+14	Rt Median Shld		1		
E 344+89	Rt Shld		1		E 353+00	Lt Shld		1		
E 344+89	Lt Shld		1		E 354+00	Lt Shld		1		
E 345+88	Rt Shld		1		E 354+00	Rt Shld		1		
E 346+00	Lt Shld		1		E 355+00	Lt Shld		1		
E 346+87	Rt Shld		1		E 355+14	Rt Median Shld		1		
E 347+00	Lt Shld		1		E 356+00	Lt Shld		1		
E 347+86	Shld		1		E 358+14	Rt Median Shld		1		
E 347+86	Rt Shld		1							
E 348+00	Lt Shld		1							



Guide Markers EWO#5

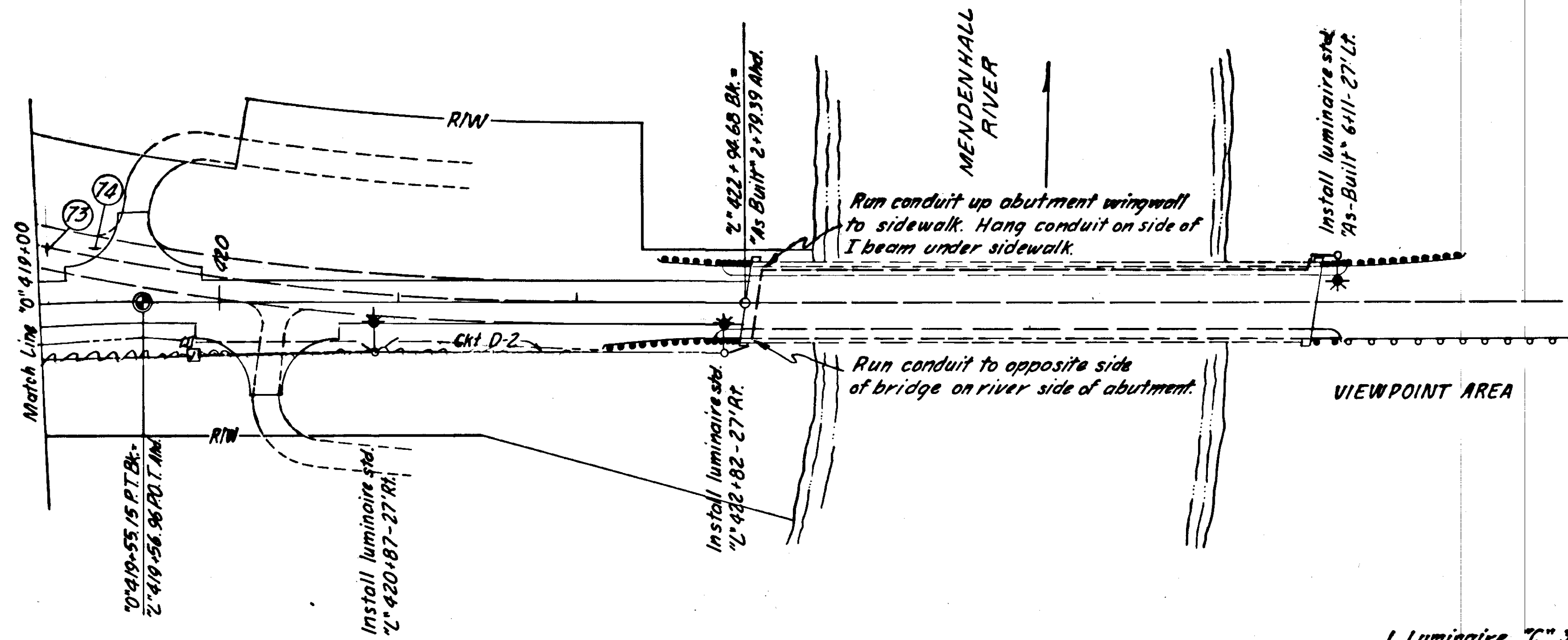
Station	Location	A	B	C	D
"L" 375+98	Right Shld		/		
"L" 375+98	Lt Median Shld		/		
"L" 377+21	Rt Shld		/		
"L" 377+21	Lt Median Shld		/		
"L" 378+44	Rt Shld		/		
"L" 378+44	Lt Median Shld		/		
"L" 379+00	Lt Shld		/		
"L" 379+68	Rt Shld		/		
"L" 379+68	Lt Median Shld		/		
"L" 380+92	Rt Shld		/		
"L" 380+92	Lt Median Shld		/		
"L" 382+16	Rt Shld		/		
"L" 382+16	Lt Median Shld		/		
"L" 383+40	Rt Shld		/		
"L" 383+40	Lt Median Shld		/		
"L" 384+00	Lt Shld		/		
"L" 384+63	Rt Shld		/		
"L" 384+63	Lt Median Shld		/		
"L" 387+00	Rt Shld		/		
"L" 387+00	Lt Median Shld		/		
"L" 389+00	Lt Shld		/		

NUMBER	CODE	LOCATION	LT.	RT.	LEGEND	SIZE	FACING TRAFFIC	REMARKS
(30)	D1-12	"L" 388+00	60'		See plan	66"x30"	SB	
(31)	D1-1	"L" 386+00		60'	See plan	78"x30"	NB	

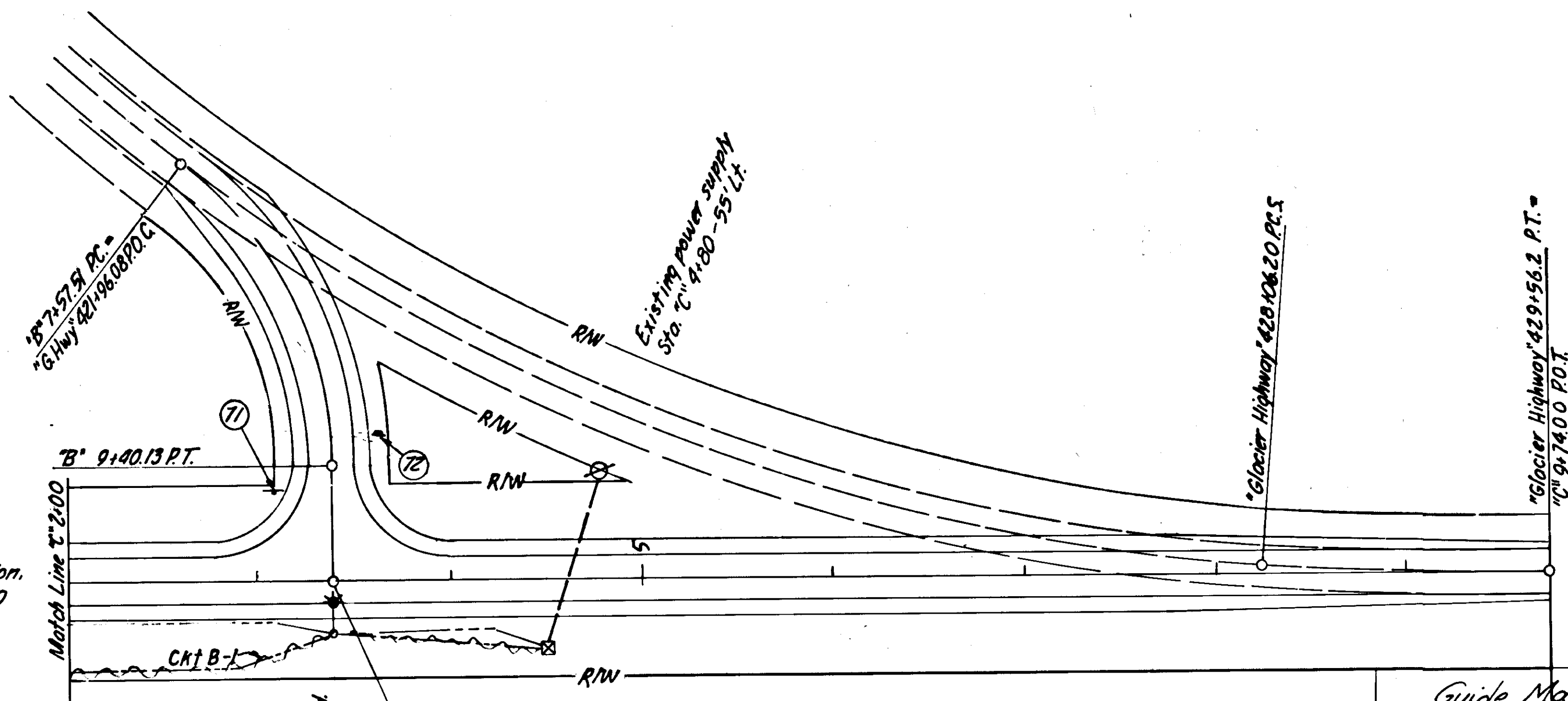


- NOTES**
- Luminaires "L" 392+81 & "O" 394+81 shall be mercury vapor, 1000 watts, H36, 58,000 initial vertical lumens, USASI Type III, medium semi cutoff.
 - Luminaires "L" 391+11, "M" 491+55, "M" 493+88 & "O" 396+91 shall be mercury vapor, 700 watts, H35, 37,000 initial vertical lumens, USASI Type III, medium semi cutoff.
 - Main circuit breaker load center "C" rated at 35 amps. Circuit C-1 breaker rated 25 amps.
 - Wire size circuit C-1 shall be no. 8 AWG.
 - Luminaire "M" 491+55 shall have 10' long mast arm.

Guide Markers EWO # 5				NUMBER	CODE	LOCATION	LT.	RT.	LEGEND	SIZE	FACING TRAFFIC	REMARKS		
Station	Location	A	B	C	D									
"L" 392+99	Rt Median Shld		1			34	W6-2	"L" 392+50			DIVIDED HWY ENDS	36" x 36"	NB	
"L" 390+00	Lt Median Shld	1				35	W6-2	"L" 392+50	60'		DIVIDED HWY ENDS	36" x 36"	NB	
"L" 392+78	Rt Shld		1			36	R5-1	"L" 392+75			DO NOT ENTER	36" x 36"	SB	Face 45° Rt.
"L" 392+99	Rt Median Shld		1			37	R5-1	"L" 392+75	72'		DO NOT ENTER	36" x 36"	SB	Face 45° Lt.
"L" 391+28	Rt Shld		1			38	M1-2-7	"L" 392+81	58'		Route Marker	28" x 24"	SB	Band to light Pole
"L" 391+95	Lt Median Shld	1				39	R4-7	"L" 393+21	5'		KEEP → RIGHT	24" x 30"	SB	
"L" 391+96	Rt Median Shld	1				40	W14-6	"L" 393+21	5'		9 Button reflector	18" x 18"	SB	Under R4-7
"L" 392+28	Rt Shld		1			41	R1-1	"M" 492+20	38'		STOP	30" x 30"	EB	
"L" 392+38	Lt Shld		1			42	M1-2-7	"M" 491+00	26'		Route Marker	24" x 24"	EB	
"L" 392+95	Lt Median Shld	1				43	M4-4	"M" 491+00	26'		←→	21" x 15"	EB	Under M1-2-7
"L" 392+78	Rt Shld		1			44	DI-13	"M" 487+00	26'		See Plan	84" x 48"	EB	
"L" 392+28	Rt Shld		1			45	R1-1	"M" 493+50	38'		STOP	30" x 30"	WB	
"L" 392+38	Lt Shld		1			46	M1-2-7	"M" 494+50	26'		Route Marker	24" x 24"	WB	
"L" 392+96	Rt Median Shld	1				47	M4-4	"M" 494+50	26'		←→	21" x 15"	WB	Under M1-2-7
"L" 393+28	Lt Shld		1			48	DI-13	"M" 499+00	26'		See Plan	84" x 36"	WB	
"L" 392+28	Rt Shld		1			49	R4-7	"O" 394+37	6'		KEEP → RIGHT	24" x 30"	NB	
"L" 392+38	Lt Shld		1			50	W14-6	"O" 394+37	6'		9 Button Reflector	18" x 18"	NB	Under R4-7
"L" 392+95	Lt Median Shld	1				51	R5-1	"O" 393+00	72'		DO NOT ENTER	36" x 36"	NB	Face 45° Rt.
"L" 392+78	Rt Shld		1			52	R5-1	"O" 395+00			DO NOT ENTER	36" x 36"	NB	Face 45° Lt.
"L" 391+28	Rt Shld		1			53	W8-9R	"O" 397+00	6'		RIGHTLANE ENDS	36" x 36"	NB	
"L" 391+95	Lt Median Shld	1				54	W8-9R	"O" 397+00	60'		RIGHTLANE ENDS	36" x 36"	NB	
"L" 391+96	Rt Median Shld	1				55	DI-3	"O" 402+00	60'		See Plan	72" x 42"	SB	
"L" 392+28	Rt Shld		1			56	W4-2-21R	"O" 402+00	6'			36" x 36"	NB	
"L" 392+38	Lt Shld		1			57	W4-2-21R	"O" 402+00	60'			36" x 36"	NB	
"L" 392+95	Lt Median Shld	1					R5-4	392+50	60'		Pedestrians Prohibited		SB	Change Order #2
"L" 392+78	Rt Shld		1				25-3	392+01	58'		Motor Vehicles Only		SB	Change Order #5
"L" 391+28	Rt Shld		1				R5-3	395+20	53'		Motor Vehicles Only		NB	Change Order #5
"L" 391+95	Lt Median Shld	1					R3-4	392+40	60'		Pedestrians Prohibited		NB	Change Order #2



- NOTES** High Pressure Sodium
- Luminaire "C" 3+40 shall be mercury vapor, 400 watt, H33, 20,500 initial vertical lumens, medium semi cut off, USASI Type II 3-way.
 - Luminaires "L" 420+87, "L" 422+82, "As-Built" 6+11 shall be mercury vapor, 400 watt, H33, 20,500 initial vertical lumens, medium semi cut off, USASI Type II.
 - Main circuit breaker load center "B" rated 30 amps. Circuit B-1 breaker rated 20 amps.
 - Wire size circuit B-1 shall be no. 8 AWG.
 - There shall be rigid metal conduit between the 2 luminaires on each side of the bridge.



Guide Markers EWO #5		NUMBER	CODE	LOCATION	LT.	RT.	LEGEND	SIZE	FACING TRAFFIC	REMARKS			
Station	Location	A	B	C	D	(7)	R1-1	"B" 9+50	25'	STOP	30"x30"	NB	
0+419+75	Rt shld				1	(7)	W8-10	"B" 9+25	25'	ROAD ENDS 1200 FT	36"x36"	SB	
0+420+00	Lt shld				1	(7)	W2-2R	0+419+05	30'		30"x30"	SB	
0+420+75	Rt shld				1	(7)	R1-1	0+419+32	30'	STOP	30"x30"	EB	Side Road
0+421+90	Lt shld				1								

Emp #5 also added 11 guard rail reflector assemblies at the Brotherhood Bridge

for continuation, see sheet no. 20

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	A	B	C	D	E	F	G	H	I	J	a	b	c	d	e	f	g	h	i	j	
Letter Width	9.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	9.00	9.00	2.13	3.07	3.07	3.07	1.88	1.75	2.44	1.00	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	
Cumulative	9.00	18.00	24.00	26.13	27.33	30.40	33.34	35.22	39.03	40.78	44.71	47.15	50.09	51.09	54.12						

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	A	B	C	D	E	F	G	H	I	J	a	b	c	d	e	f	g	h	i	j	
Letter Width	9.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	9.00	9.00	2.13	3.07	3.07	3.07	1.88	1.75	2.44	1.00	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	
Cumulative	9.00	15.00	21.00	23.13	26.97	30.04	33.82	35.57	39.41	45.41	50.19	52.44	56.31	58.56	63.42						

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	J	K	L	M	N	O	P	Q	R	S	a	b	c	d	e	f	g	h	i	j	
Letter Width	4.50	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	9.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	2.88	3.07	3.07	2.44	2.44	1.88	1.88	3.07	6.00	9.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
Cumulative	4.50	7.38	11.22	14.29	18.13	20.57	24.41	26.29	30.16	33.23	37.07	43.07	52.07								

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	J	K	L	M	N	O	P	Q	R	S	a	b	c	d	e	f	g	h	i	j	
Letter Width	4.50	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	9.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	2.88	3.07	3.07	2.44	2.44	1.88	1.88	3.07	6.00	9.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
Cumulative	4.50	7.38	11.22	14.29	18.13	20.57	24.41	26.29	30.16	33.23	37.07	50.07	58.85								

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	D	E	F	G	H	I	J	K	L	M	a	b	c	d	e	f	g	h	i	j	
Letter Width	4.78	3.93	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	2.07	2.44	2.44	2.44	3.07	2.44	2.44	2.25	2.25	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
Cumulative	4.78	6.85	10.78	13.22	17.06	19.50	23.34	26.41	27.01	30.05	33.92	36.17	39.92	43.92	50.85						

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	M	N	O	P	Q	R	S	T	U	V	a	b	c	d	e	f	g	h	i	j	
Letter Width	6.00	5.53	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	6.00	2.13	2.50	2.44	2.44	2.44	2.44	2.50	3.07	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	
Cumulative	6.00	12.00	17.53	20.28	24.12	26.62	30.46	32.90	36.71	39.15	42.99	45.49	49.33	52.40	56.21	58.65	62.52	65.59	66.79	69.86	71.06

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	O	P	Q	R	S	T	U	V	W	X	a	b	c	d	e	f	g	h	i	j	
Letter Width	4.78	1.20	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	2.63	2.44	2.44	2.44	2.44	2.50	2.44	2.44	2.50	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
Cumulative	4.78	7.41	8.61	11.05	14.92	17.36	21.17	23.67	24.87	27.31	31.15	33.65	36.59	42.59	48.12						

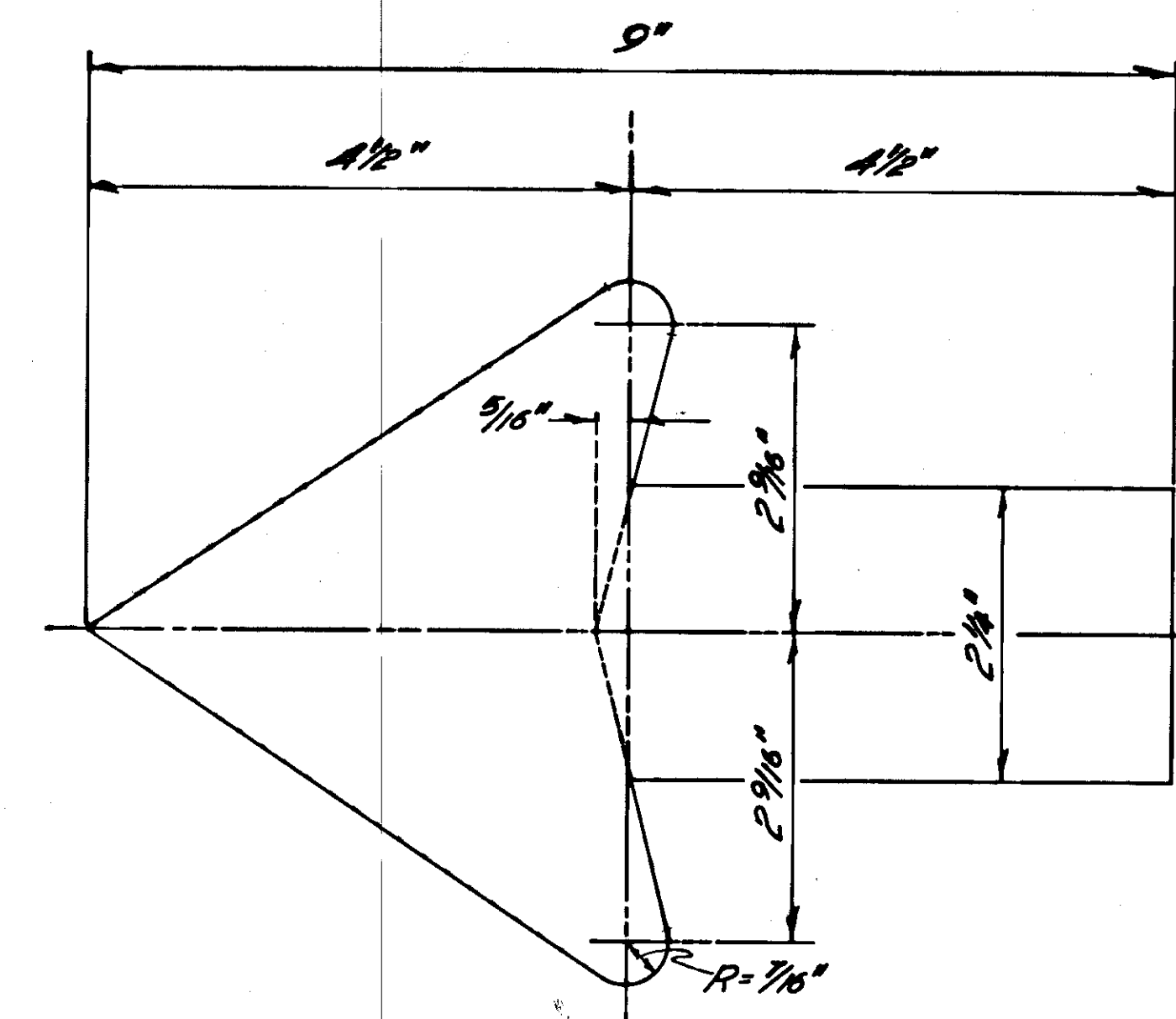
6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	A	B	C	D	E	F	G	H	I	J	a	b	c	d	e	f	g	h	i	j	
Letter Width	9.00	6.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	9.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	6.00	2.13	3.07	3.07	1.75	6.00	2.25	2.25	6.00	9.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
Cumulative	9.00	15.00	21.00	23.13	26.97	30.04	33.82	35.57	39.41	45.41	50.19	52.44	56.31	58.56	63.42	69.42	74.20				

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	J	K	L	M	N	O	P	Q	R	S	a	b	c	d	e	f	g	h	i	j	
Letter Width	4.50	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	9.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	2.88	3.07	3.07	2.44	2.44	1.88	1.88	3.07	6.00	9.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
Cumulative	4.50	7.38	11.22	14.29	18.13	20.57	24.41	26.29	30.16	33.23	37.07	43.07	47.85	53.85	62.85						

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	M	N	O	P	Q	R	S	T	U	V	a	b	c	d	e	f	g	h	i	j	
Letter Width	5.53	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	2.75	2.50	2.44	2.44	2.44	2.44	2.50	3.07	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	
Cumulative	5.53	8.28	12.12	14.62	18.46	20.90	24.71	27.15	30.99	33.49	37.33	40.40	44.21	46.65	50.52	53.59	54.79	57.86	59.06		

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	G	H	I	J	K	L	M	N	O	P	a	b	c	d	e	f	g	h	i	j	
Letter Width	4.78	1.20	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	2.63	2.44	2.44	2.44	2.44	2.50	2.44	2.44	2.50	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
Cumulative	4.78	7.41	8.61	11.05	14.92	17.36	21.17	23.67	24.87	27.31	31.15	33.65	36.59	42.59	51.59						

6" Series "E" Upper Case											4 1/2" Series "E" Lower Case										
Letter	A	B	C	D	E	F	G	H	I	J	a	b	c	d	e	f	g	h	i	j	
Letter Width	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	
Space Width	6.00	2.13	3.07	3.07	1.88	1.75	2.44	2.44	1.00	24.30	1.78										
Cumulative	6.00	12.00	18.00	20.13	21.33	24.40	27.34	29.22	33.03	34.78	38.71	41.15	44.09	45.09	48.12	72.42	74.20				



DETAIL OF TYPE "C" ARROW

6" Series "E" Upper Case										4 1/2" Series "E" Lower Case									
Letter	A	J	U	n	e	o	u	g		a	r	e	o	u	g				
Letter Width	9.00	4.50	3.84	3.84	3.84	3.87	3.84	4.78		3.84	3.87	3.84	3.87	4.86	4.78				
Space Width	6.00	2.88	3.07	2.44	1.88	3.07	17.35												
Cumulative	9.00	13.00	19.50	22.38	26.22	29.29	33.13	35.57	39.41	41.29	45.16	49.23	52.07	59.92	64.20				

6" Series "E" Upper Case						4 1/2" Series "E" Lower Case					
Letter	A	r	e	o	u		a	r	e	o	u
Letter Width	6.00	2.94	3.84	3.87	4.78	9.00	3.84	3.87	3.84	3.87	4.86
Space Width	2.13	1.19	1.88	6.00							
Cumulative	6.00	8.13	11.07	12.26	16.10	17.98	21.85	27.85	36.85		

6" Series "E" Upper Case										4 1/2" Series "E" Lower Case									
Letter	A	u	k	e	B	o	u	3		a	r	e	o	u	g				
Letter Width	6.00	3.84	3.78	3.84	4.78	3.87	4.86	4.78	9.00	3.84	3.87	3.84	3.87	4.86	4.78				
Space Width	6.00	2.13	3.07	1.75	6.00	2.25	2.25	6.00	6.00										
Cumulative	6.00	8.13	11.97	15.04	18.82	20.57	22.41	30.41	35.19	37.44	41.31	43.36	48.42	54.02	59.20	65.20	74.20		

5" Series "C" Upper Case						
Letter	R	I	G	H	T	
Letter Width	2.73	0.70	2.73	2.73	2.50	
Space Width	1.05	1.05	1.05	0.84		
Cumulative	2.73	3.78	4.48	5.53	8.26	9.31

6" Series "E" Upper Case										4 1/2" Series "E" Lower Case									
Letter	M	e	n	d	e	n	h	a	l	a	r	e	o	u	g				
Letter Width	5.53	3.84	3.84	3.81	3.84	3.84	3.81	1.20	1.20	3.84	3.87	3.84	3.87	4.86	4.78				
Space Width	2.75	2.50	2.44	2.44	2.50	3.07	2.44	3.07	3.07										
Cumulative	5.53	8.28	12.12	14.62	18.46	20.90	24.71	27.15	30.99	33.99	37.33	40.40	44.21	46.65	50.52	53.59	54.79	57.86	

5" Series "C" Upper Case									
Letter	L	A	N	E	N	D	S		
Letter Width	2.50	3.12	2.73	2.50	2.50	2.73	2.73		
Space Width	0.28	0.84	1.05	0.84	1.05	0.84	1.05	0.84	
Cumulative	2.50	2.78	5.90	6.74	9.47	10.52	13.02	20.52	23.02

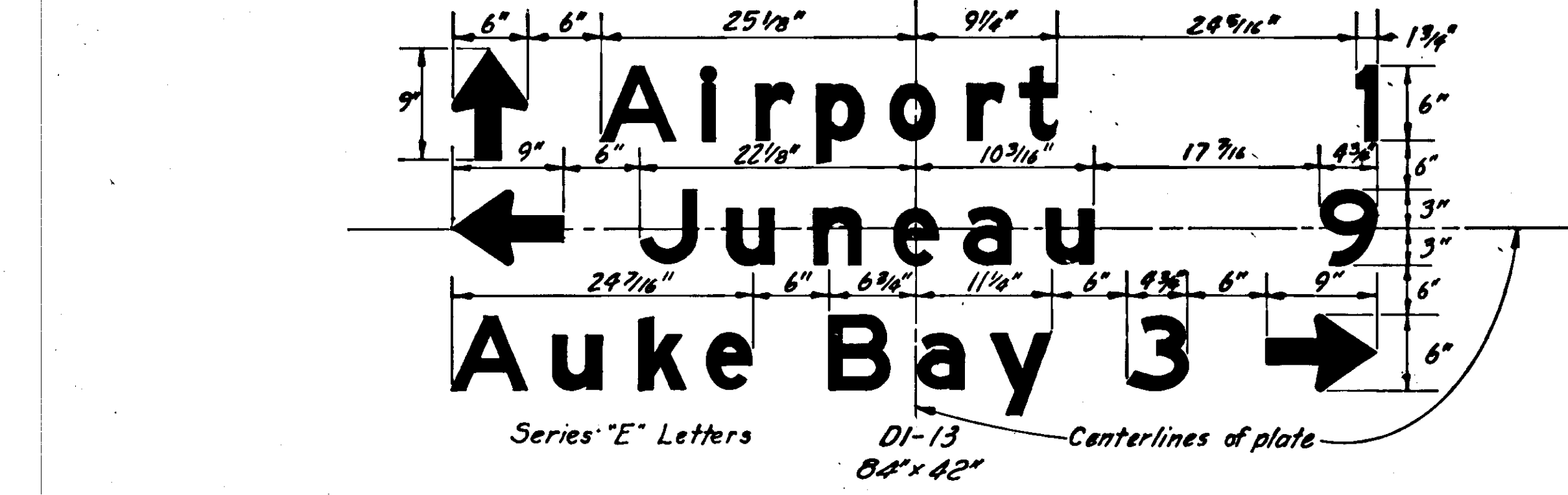
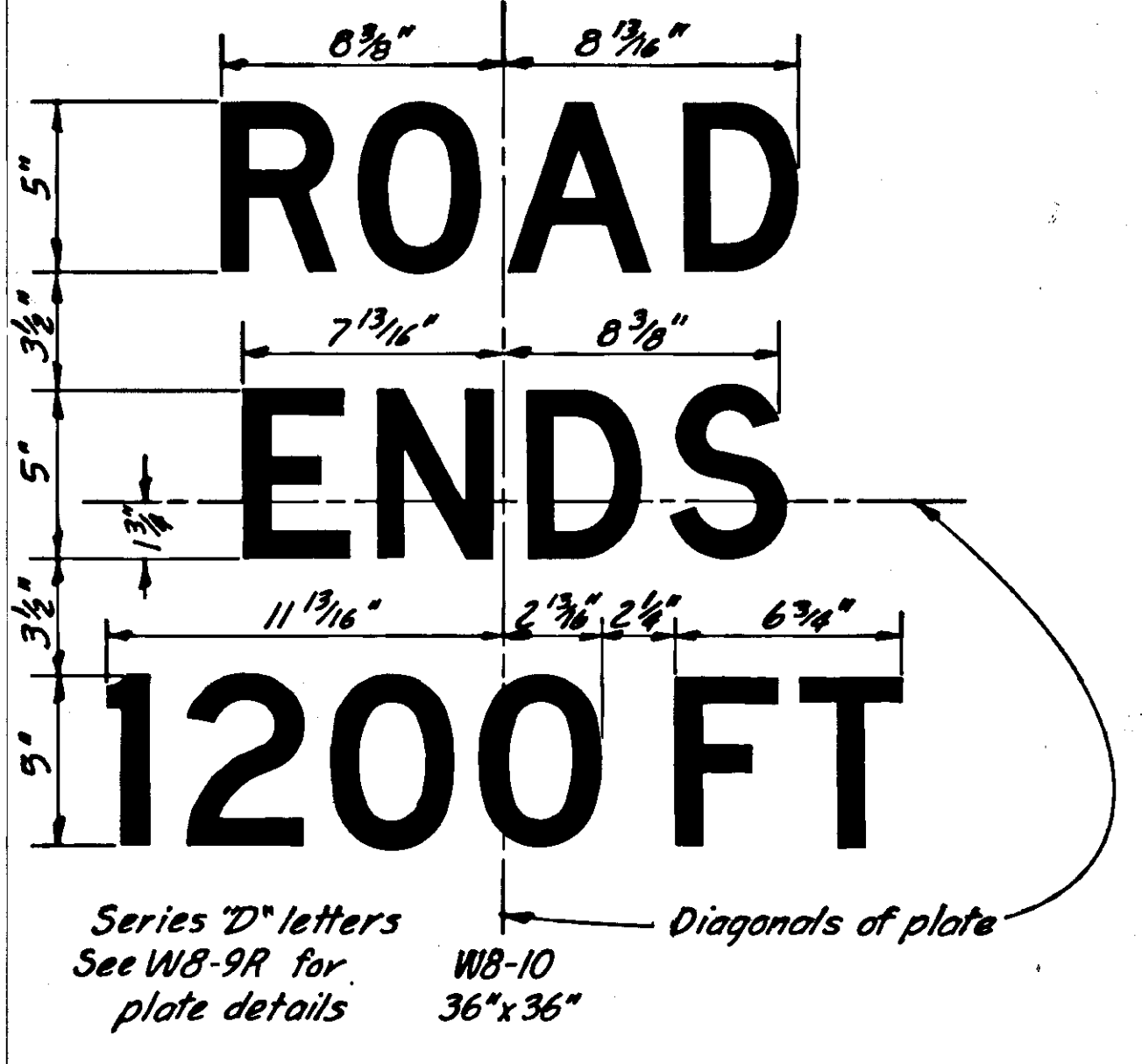
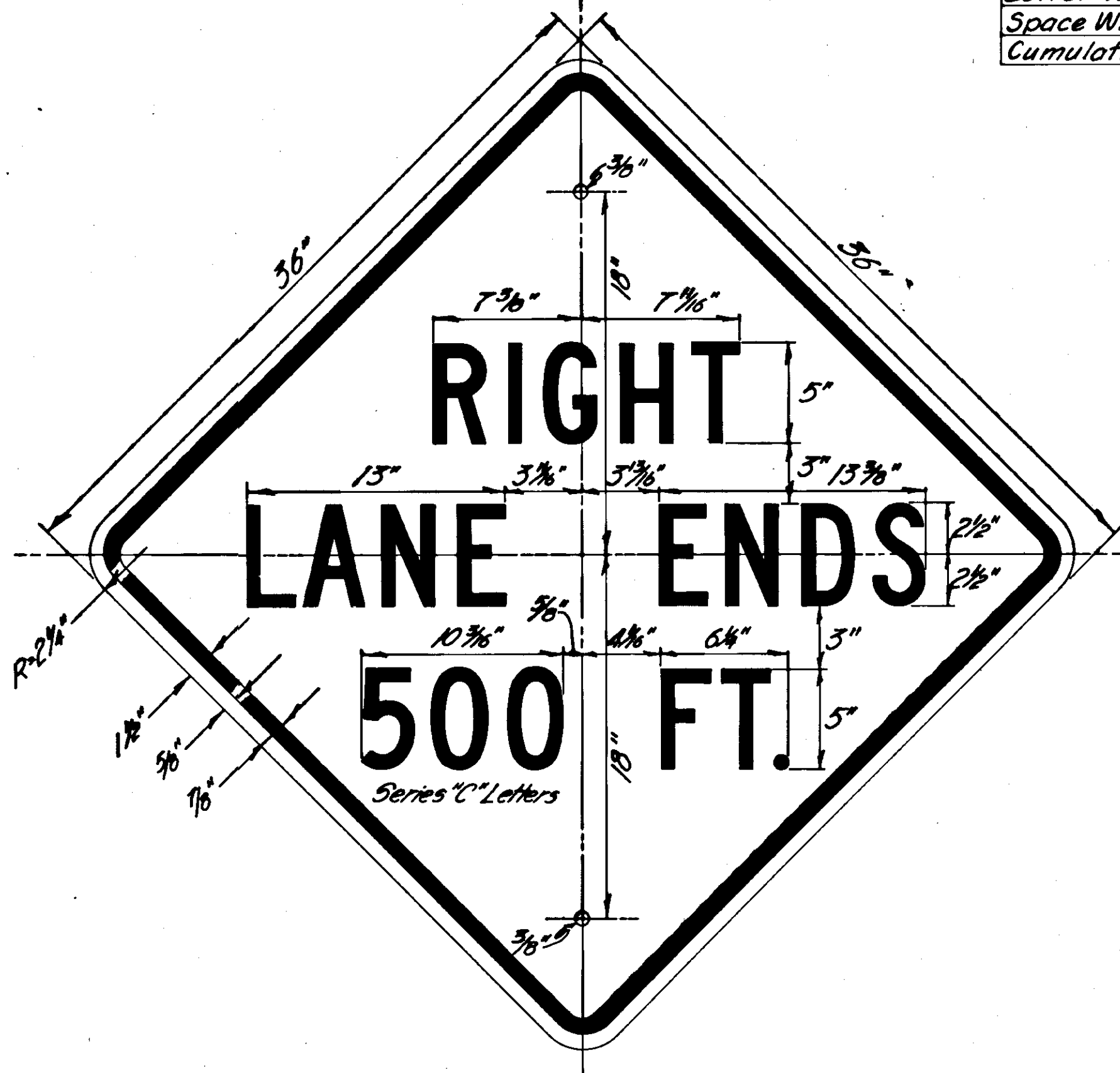
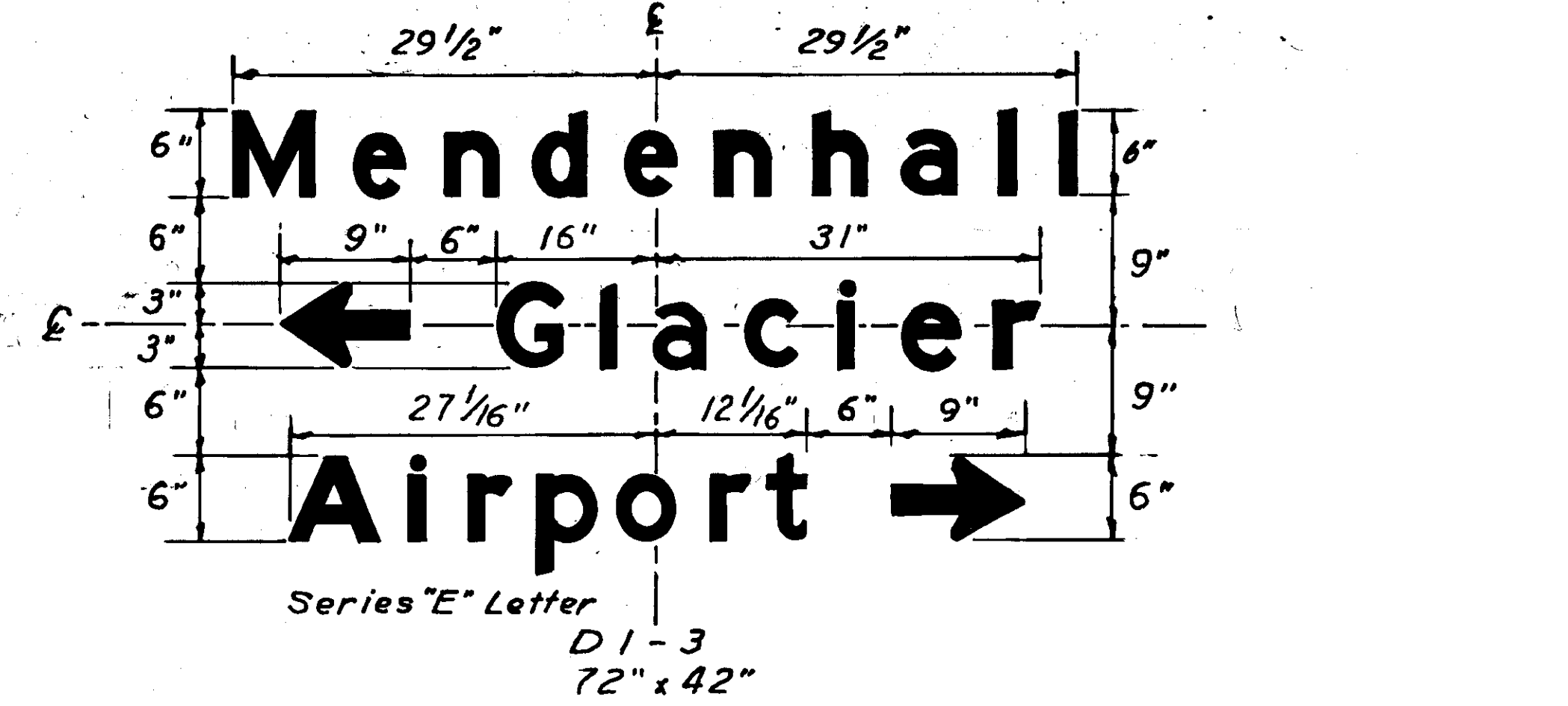
6" Series "E" Upper Case										4 1/2" Series "E" Lower Case									
Letter	G	l	a	c	i	e	r			a	r	e	o	u	g				
Letter Width	9.00	4.78	1.20	3.87	3.81	1.20	3.84	2.94		3.84	3.87	3.84	3.87	4.86	4.78				
Space Width	6.00	2.63	2.44	2.44	2.50	2.44	2.50	2.94											
Cumulative	9.00	15.00	19.78	22.41	23.61	26.05	29.52	32.36	36.17	38.67	39.87	42.31	46.15	48.65	51.59				

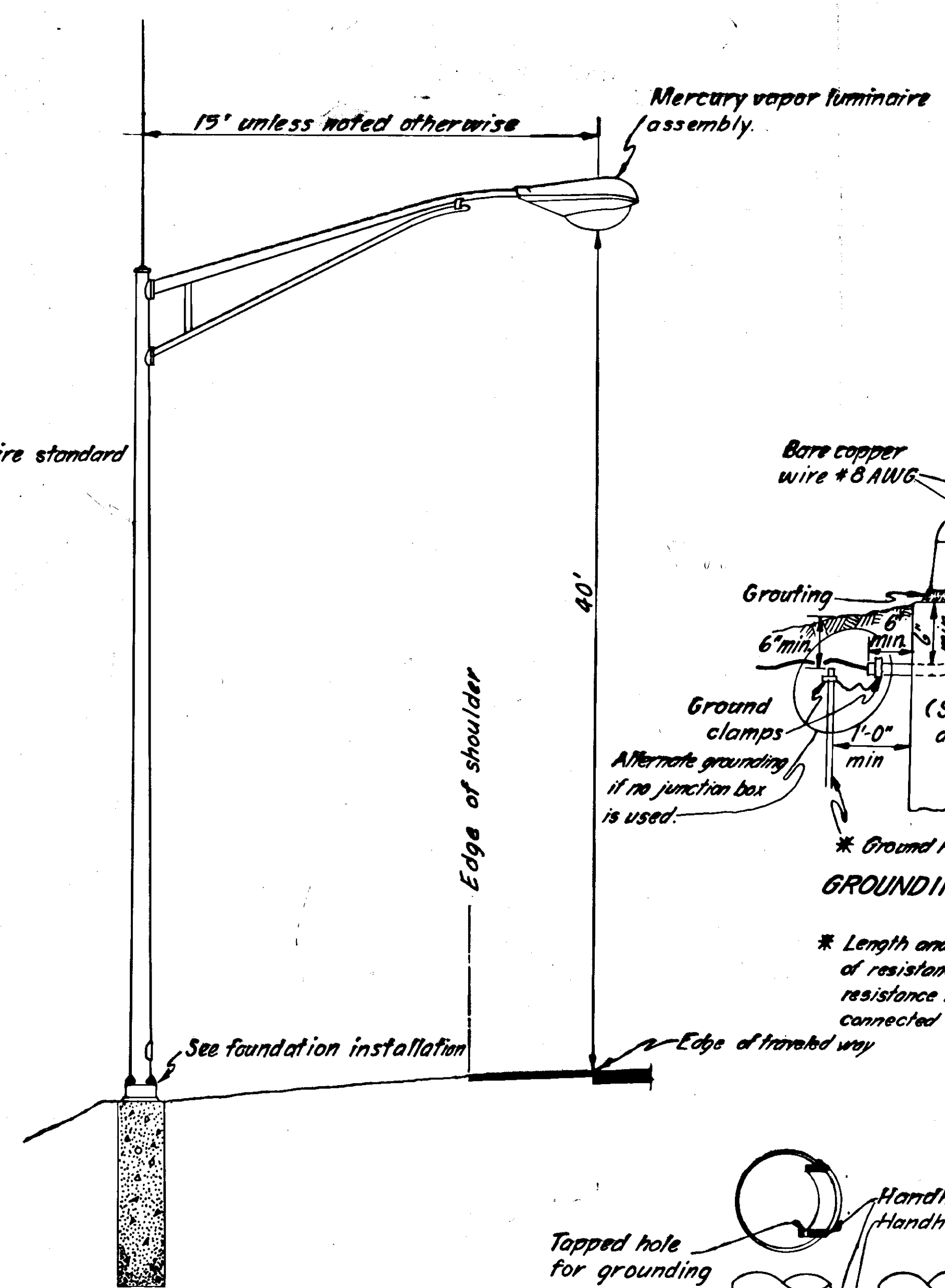
5" Series "C" Upper Case						
Letter	S	O	O	F	T	.
Letter Width	2.73	2.89	2.89	2.50	2.50	0.70
Space Width	0.84	0.84	4.84	0.56	0.00	
Cumulative	2.73	3.57	6.46	7.30	10.19	15.03

6" Series "E" Upper Case										4 1/2" Series "E" Lower Case									
Letter	C	o	m	e	r	c	i	q	l	a	r	e	o	u	g				
Letter Width	4.78	3.93	6.36	6.36	3.84	2.94	3.81	1.20	3.87	1.20	3.84	3.87	3.84	3.87	4.86	4.78			
Space Width	2.13	2.44	3.07	2.44	2.50	1.19	2.50	2.44	3.07										
Cumulative	4.78	6.91	10.84	13.28	19.64	22.71	29.07	31.51	35.35	37.85	40.79	41.98	45.79	48.29	49.49	51.93	55.80	58.87	

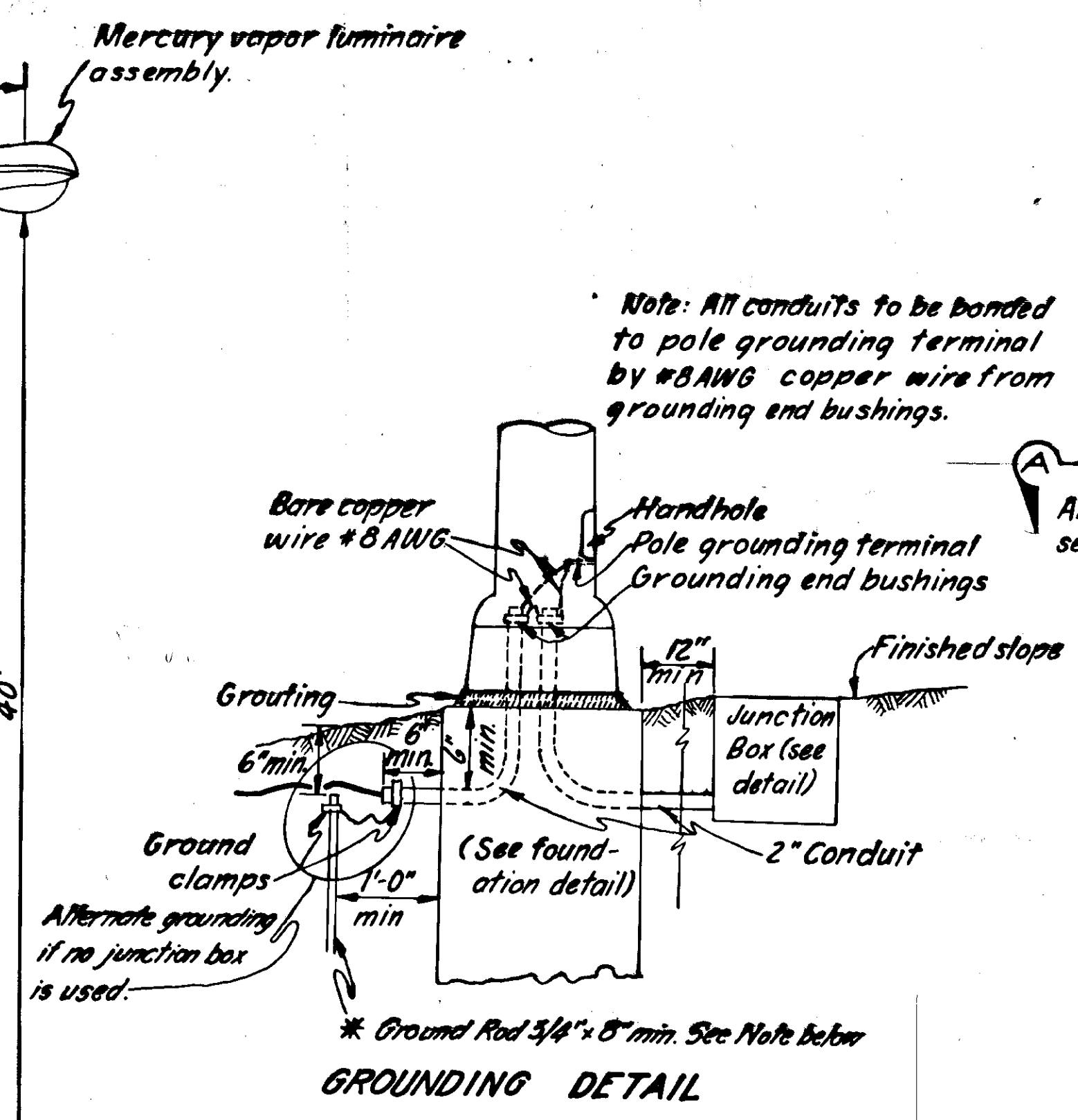
5" Series "D" Upper Case									
Letter	R	O	A	D	E	N	D	S	
Letter Width	3.36	3.50	4.19	3.36	3.05	3.36	3.36	3.36	
Space Width	.94	.94	.94	.94	.94	1.17	.94	.94	
Cumulative	3.36	4.30	7.80	8.74	12.93	13.87	17.23	3.05	3.99

5" Series "D" Upper Case						
Letter	I	Z	O	O	F	T
Letter Width	1.20	3.36	3.50	3.50	3.05	3.05
Space Width	1.17	.94	.94	2.25	.62	
Cumulative	1.20	2.37	5.73	6.67	10.17	11.11



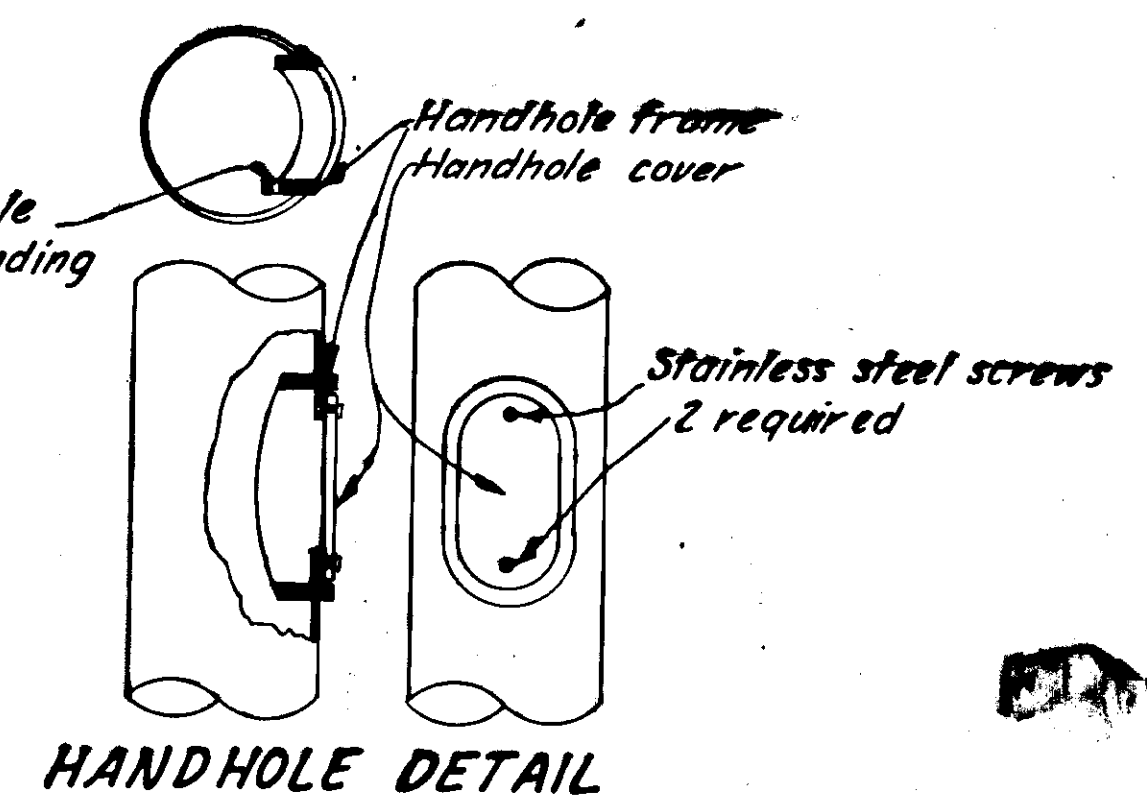


LUMINAIRE STANDARD INSTALLATION

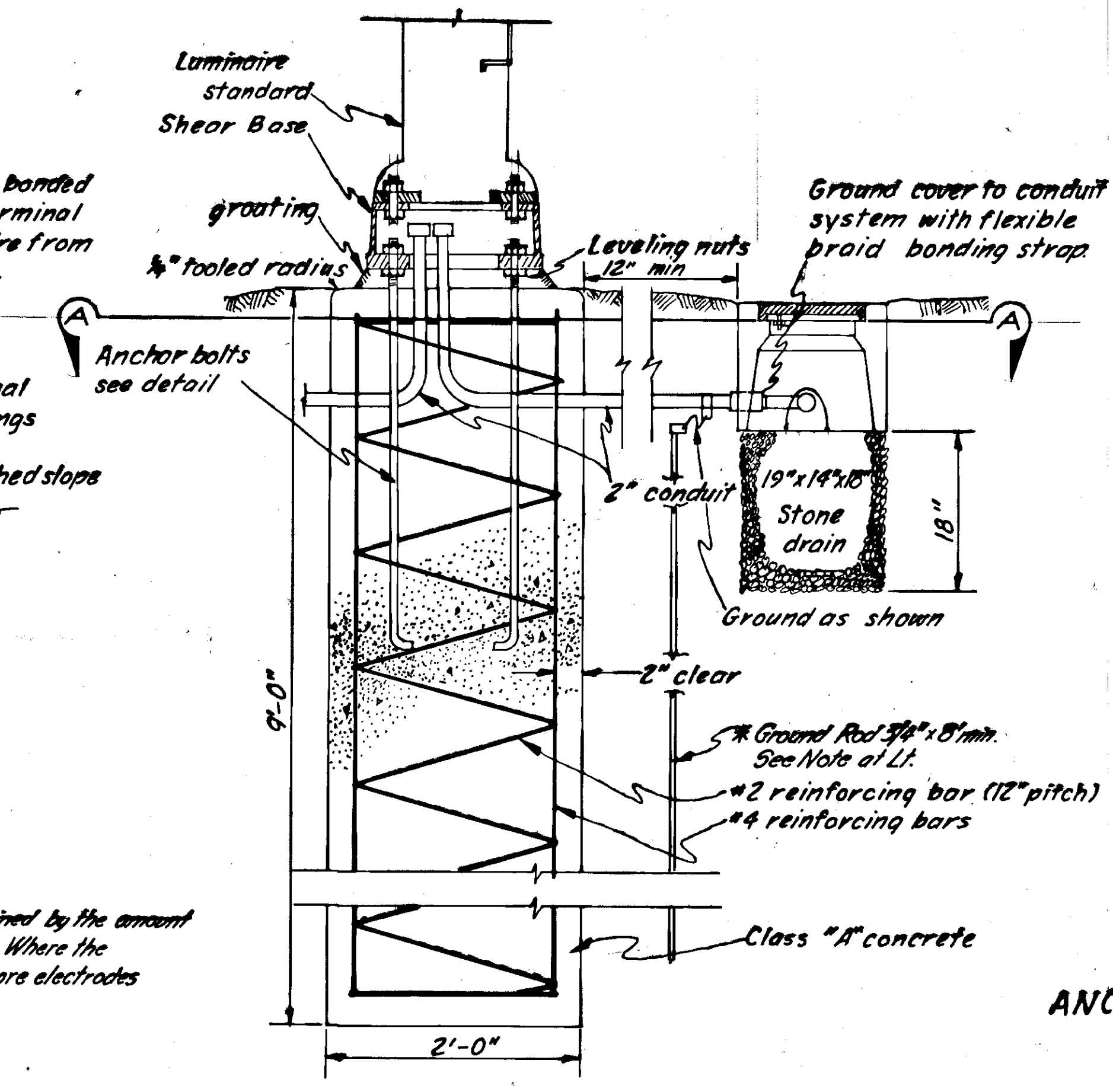


GROUNDING DETAIL

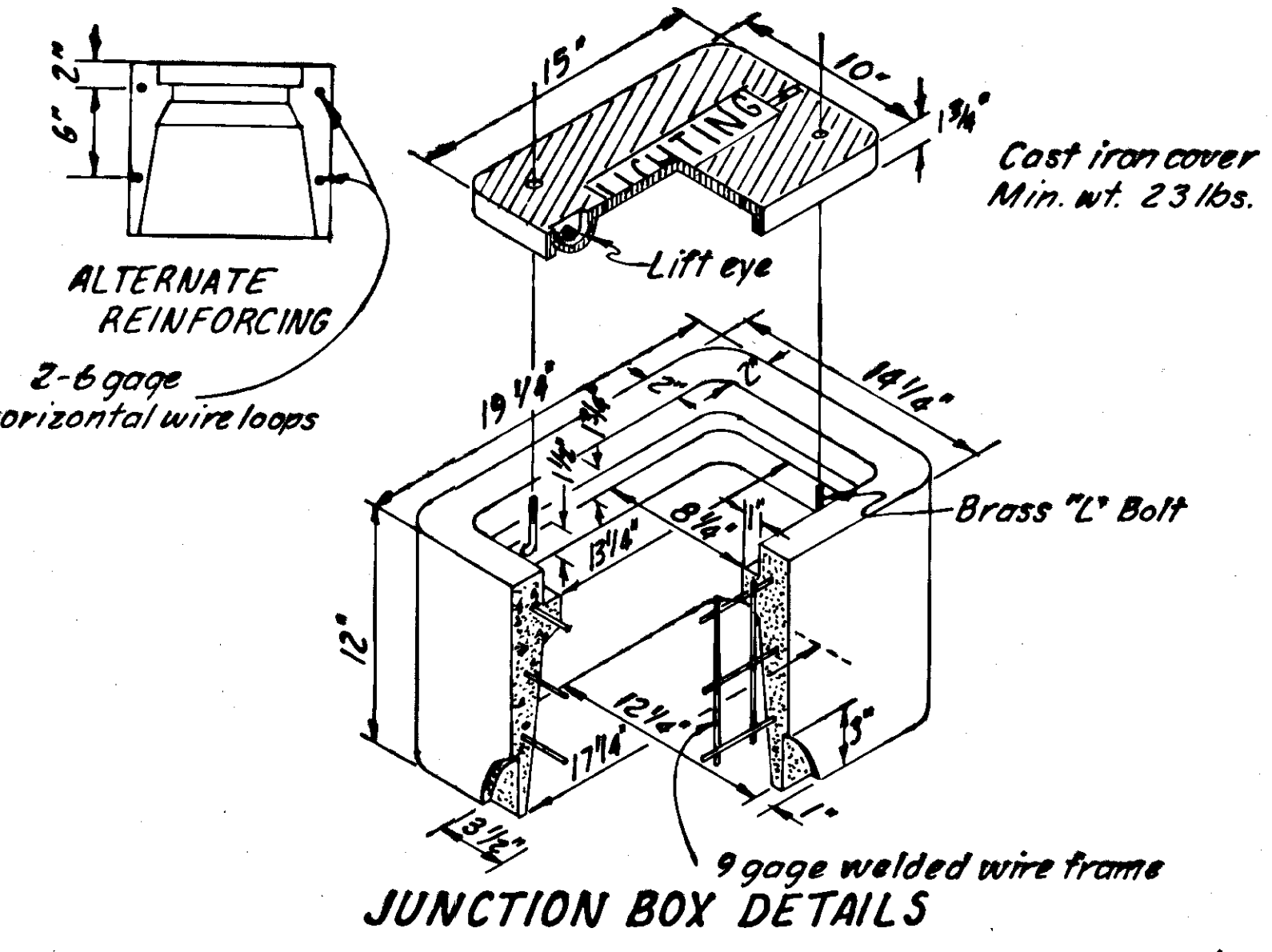
* Ground Rod 3/4" x 8' min. See Note below
 * Length and or number of rods will be determined by the amount of resistance to ground not exceeding 25 ohms. Where the resistance is not as low as 25 ohms, two or more electrodes connected in parallel shall be used.



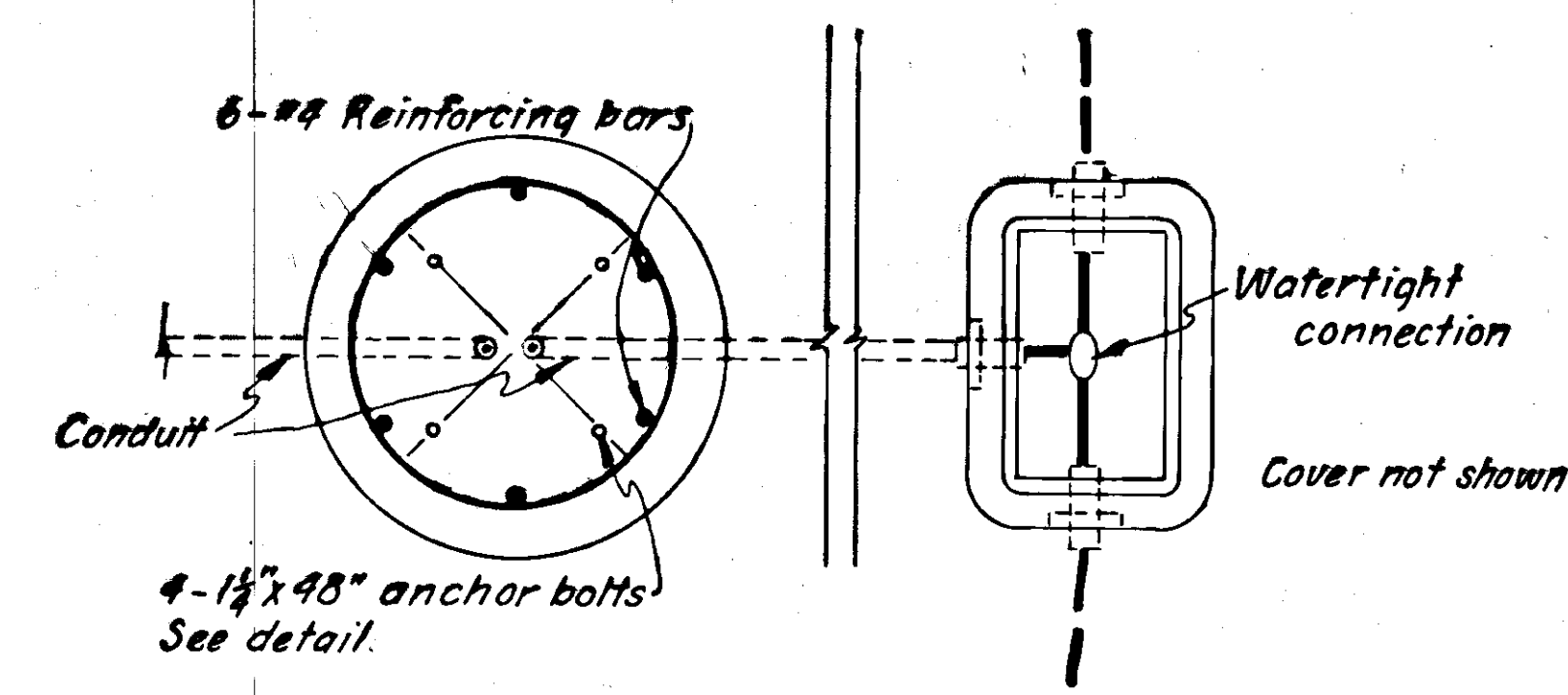
HANDHOLE DETAIL



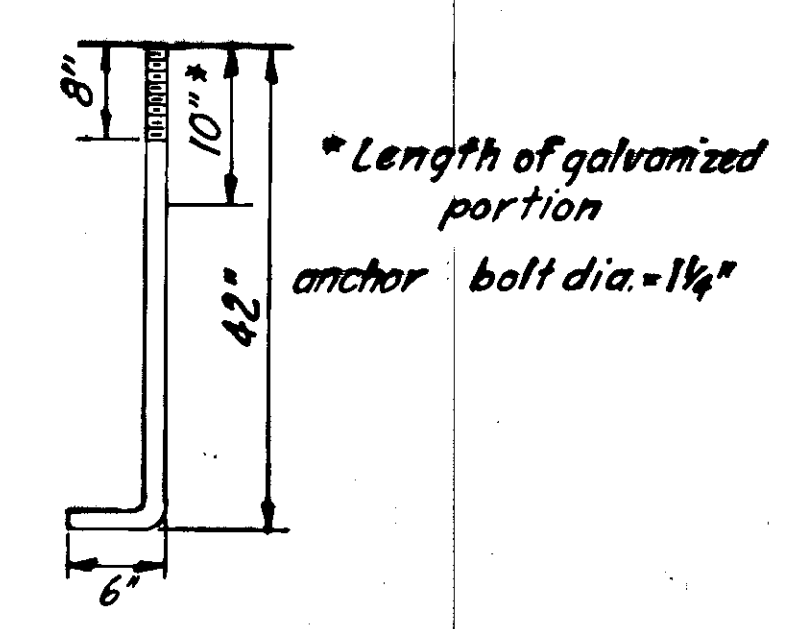
FOUNDATION & JUNCTION BOX INSTALLATION



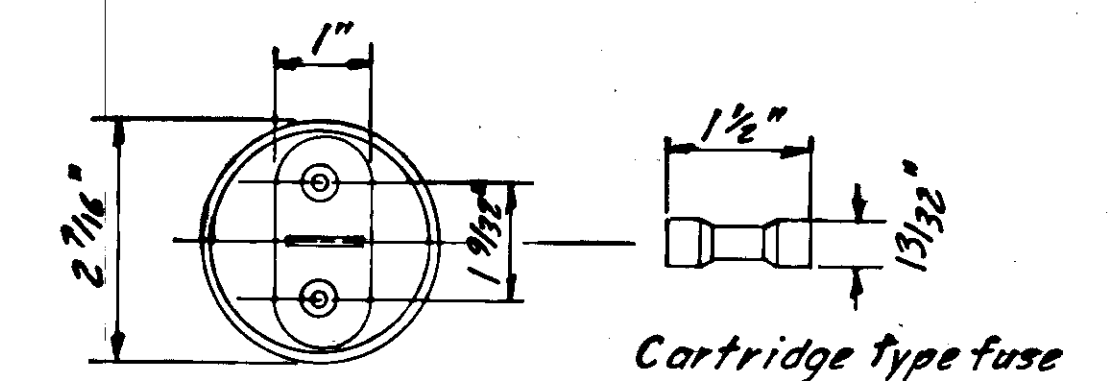
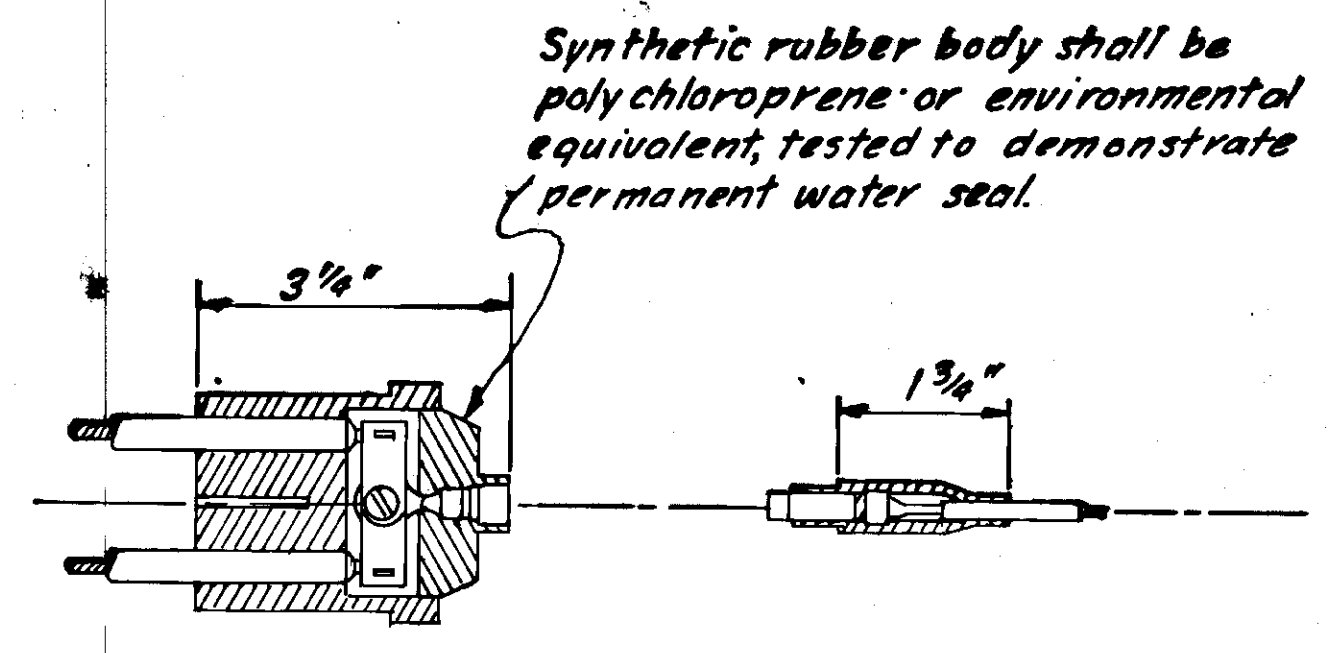
JUNCTION BOX DETAILS



SECTION A-A



ANCHOR BOLT DETAIL



FUSE CONNECTOR ASSEMBLY