FEDERAL ROAD REGION NO	DIVISION	PROJECT NO	SHEET NO
VIII	COLORADO	IXFU 470-1(55)	1

PE, ROW AND UTILITIES UNDER IXFU 470-1(53) AND IXFU 470-1(2)

AS CONSTRUCTED		
NO REVISIONS	REVISED 7-15-94	VOID

REVISIONS		

STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS — STATE OF COLORADO

PLAN AND PROFILE OF ~~PROPOSED~~ AS CONSTRUCTED
COMBINED FEDERAL AID PROJECT NOS. IXFU 470-1(55) & DE 0200(801)

COMBINED WITH FEDERAL AID PROJECT NO. IXFU 470-1(45) & DE 0200(802) FOR CONSTRUCTION

STATE HIGHWAY NO. 470
JEFFERSON COUNTY

SCALES OF ORIGINAL DRAWINGS
AS SHOWN ON PLAN AND PROFILE

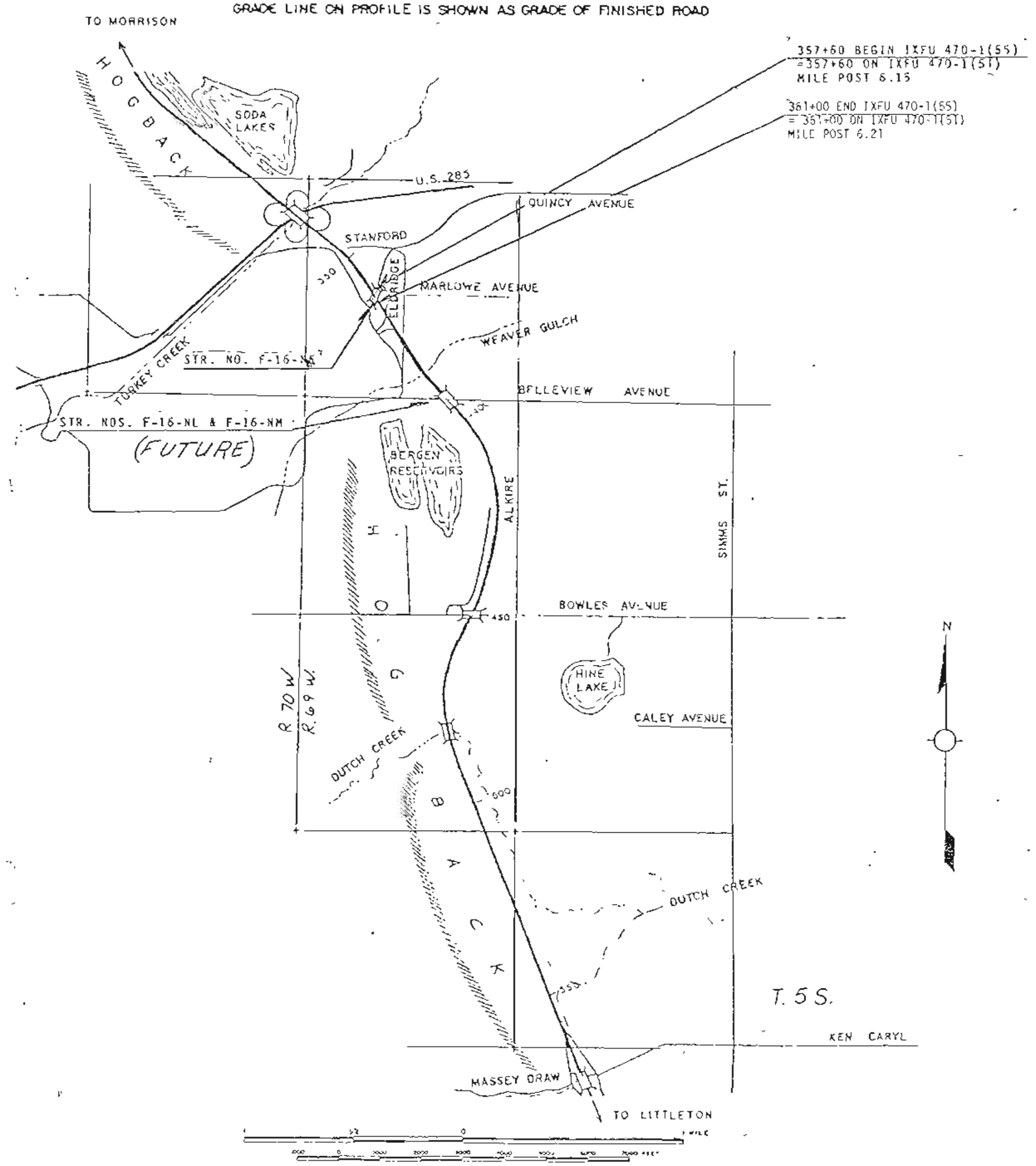
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD

TABULATION OF LENGTH AND DESIGN DATA

STATION TO STATION S.H. 470	LINEAR FEET ROADWAY	LINEAR FEET MAJOR STRUCTURE
357+60 BEGIN IXFU 470-1(55) =357+60 ON IXFU 470-1(51) MILE POST 6.15	340.0	
361+00 END IXFU 470-1(55) = 361+00 ON IXFU 470-1(51) MILE POST 6.21		
SUBTOTAL S.H. 470	340.00	
QUINCY		
111+00 BEGIN QUINCY CONSTRUCTION	284.60	
113+84.50 BEGIN STR. NO. F-16-NE		294.64
116+79.24 END STR. NO. F-16-NE		
118+00 END QUINCY CONSTRUCTION	120.76	
SUBTOTAL QUINCY	405.36	294.64
PROJECT NET LENGTH	745.36	294.64

SUMMARY S.H. 470	LIN. FT.	MILES
ROADWAY IXFU 470-1(55) (NET LENGTH)	745.36	0.141
MAJOR STRUCTURES IXFU 470-1(55)	294.64	0.056
PROJECT GROSS LENGTH	1040.00	0.197

DESIGN DATA		SH-470	QUINCY
MAXIMUM DEGREE OF CURVE		0 30'	16°22'13"
MAXIMUM GRADE		-0.50%	+3.82%
MINIMUM SSD HORIZONTAL		600'	450'
MINIMUM SSD VERTICAL		910'	440'
MAXIMUM DESIGN SPEED		70 MPH	30 MPH
EIS DESIGN TRAFFIC VOLUME (YEAR 2,000)	ADT =	52,800	28.640
	DHV =	5,280	3,150



INDEX OF SHEETS

NEW AND REVISED STANDARDS

FIELD LABORATORY CLASS 2-M-520-2-MAY 25, 1988

DIVISION OF HIGHWAYS

APPROVED: [illegible signature] 5-13-98
ASST. CHIEF ENGINEER — DATE

AS CONSTRUCTED INFORMATION

CONTRACTOR [illegible]

[illegible] ENGINEER [illegible]
(Project or Resident)

PROJECT STARTED [illegible]

PROJECT COMPLETED 7-15-[illegible]

[illegible signature]

[illegible] — TITLE; [illegible] — DATE

DIST 6 IX / G.L.M.

AS CONSTRUCTED			
NO. REVISIONS 7-15-81	REVISED	VOID	

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	IXFU 470-1(55)	2	49

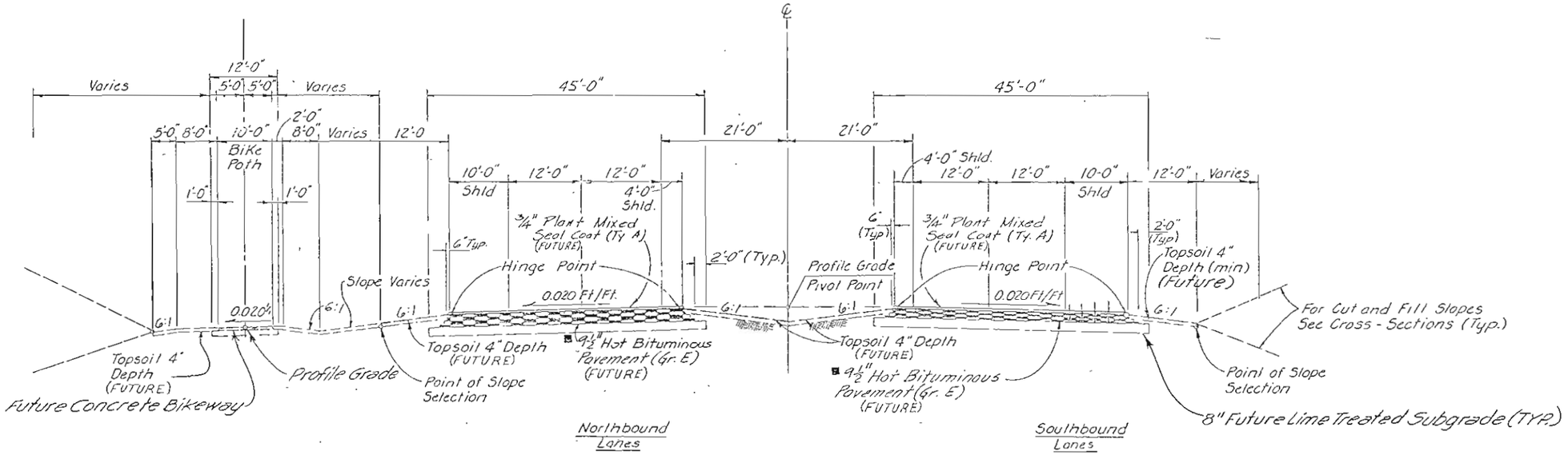
THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

STANDARD PLANS LIST

M & S STANDARDS – JANUARY, 1982

AS CONSTRUCTED	FED.ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS 7-15-87 REVISED ☐ VOID ☐	VIII	COLO.	IXFU 470-1(55)	3	49



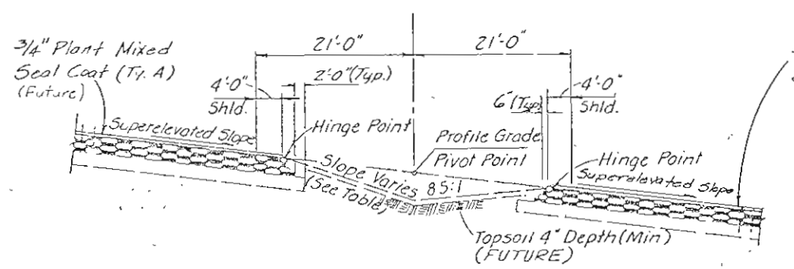
TYPICAL SECTION - S.H. 470

MEDIAN SLOPE		
Baseline	Superelev.	Slope
0°30'00"	.020%	4.84:1
1°30'00"	.053%	4.47:1

Typical Section Notes:

1. Break points on slopes and in bottoms of ditches shall be rounded on construction for a pleasing appearance. See standards.

2. The depth & width of the side ditch shall be varied where necessary in order to provide proper drainage.



*Approximate Thickness

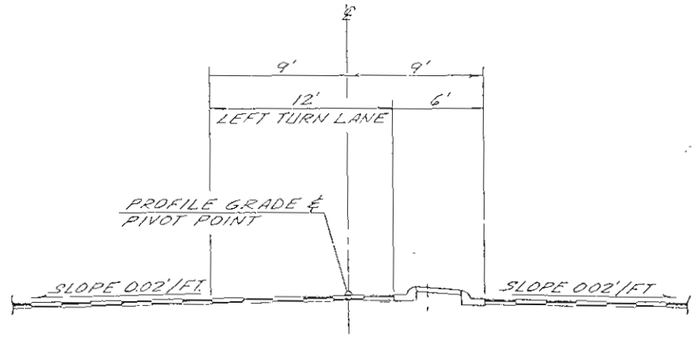
TYPICAL SECTION - S.H. 470 (SUPERELEVATED)

TYPICAL SECTIONS

AS CONSTRUCTED			
NO REVISIONS 7-15-99	REVISED	VOID	-

FEDERAL ROAD REGION NO	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
8	COLORADO	IXFU 470-1(55)	4	49

REVISIONS		



LEFT TURN LANE

FILL SLOPE	
HF	SLOPE
10' OR LESS	6:1
10' TO 25'	4:1
OVER 25'	3:1

IN SPECIAL CASES THE SLOPE MAY BE STEEPENED

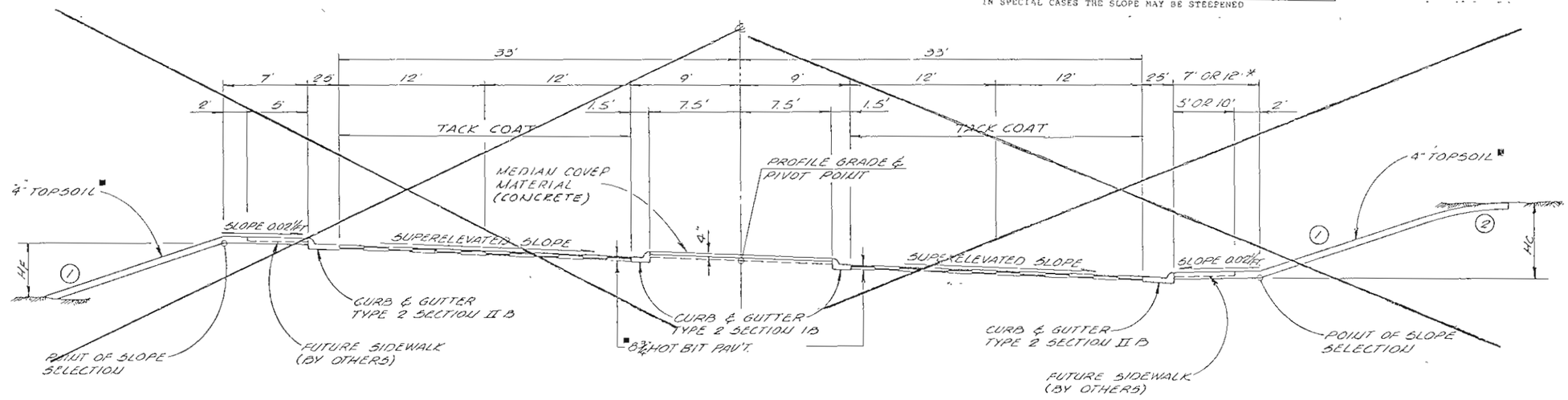
CUT SLOPE	
HC	SLOPE
10' OR LESS	6:1
10' TO 15'	4:1
OVER 15'	3:1

NOTES:
1 FOR CUT AND FILL SLOPES SEE TABLES THIS SHEET

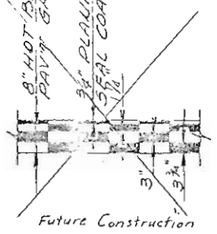
2 SEE STANDARD M-203-1 FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING

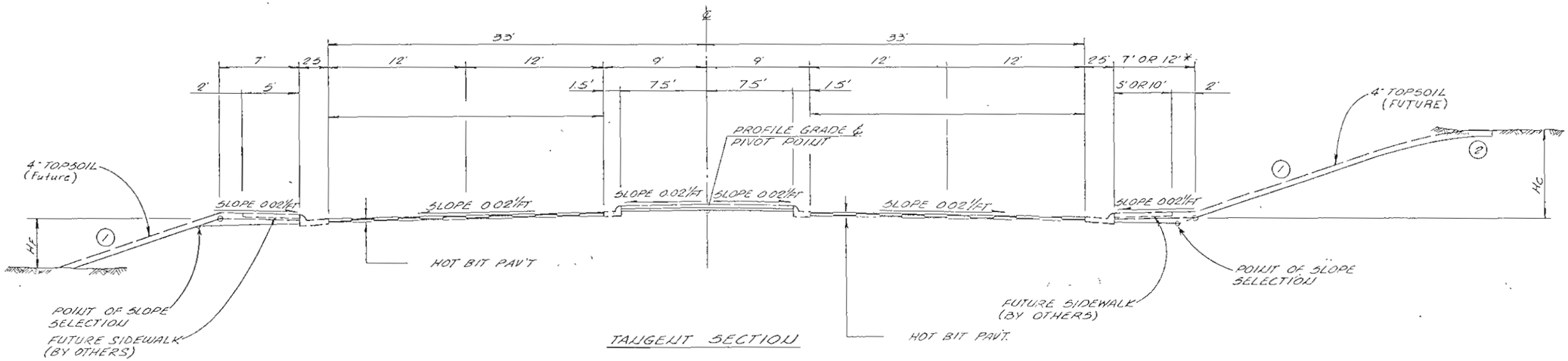
THE DEPTH AND WIDTH OF THE SIDE SLOPE SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE

BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED IN CONSTRUCTION FOR A PLEASING APPEARANCE



SUPERELEVATED SECTION





TANGENT SECTION

QUINCY AVENUE

STATE OF COLORADO
STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
C. D. H. FORM NO. 1[illegible]
REV. FEB. 1984

AS CONSTRUCTED			FED ROAD REGION	DIVISION	PROJ NO	SHEET NO.	SHEET TOTALS
NO REVISIONS 7-15-87	REVISED	VOID	VIII	COLO.	IXFU 470-1(55)	5	49

GENERAL NOTES

WATER SHALL BE USED AS A DUST PALLIATIVE WHERE RSQUIRED. LOCATIONS SHALL BE AS ORDERED. IT IS ESTIMATED THAT 100 M GAL. WILL BE REQUIRED FOR THIS PROJECT AND WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR EMBANKMENT MATERIAL (C.I.P.).

DEPTH OF MOISTURE DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
FULL DEPTH OF ALL EMBANKMENTS
BASES OF CUT AND FILLS 0.50 FOOT

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

TYPE OF COMPACTION FOR THIS PROJECT WILL BE AASHTO T-99. SUBEXCAVATION MATERIAL SHALL BE PLACED IN 8-INCH LIFTS AND COMPACTED TO NO LESS THAN 92% STANDARD DENSITY (AASHTO T-99) AND NO LESS THAN OPTIMUM MOISTURE.

6.0 FEET OF SUBEXCAVATION BELOW SUBGRADE WILL BE REQUIRED IN AREAS AS SHOWN IN THE CROSS SECTIONS. SUBEXCAVATION SHALL BE PAID FOR AS EMBANKMENT MATERIAL COMPLETE-IN-PLACE.

IN SOME AREAS, BLASTING AND/OR HEAVY EXCAVATION MAY BE REQUIRED. SEE DRAWING EH-1 , LOGS OF EXPLORATORY HOLES, FOR SOILS TYPES. THE COST FOR BLASTING AND/OR HEAVY EXCAVATION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE EARTHWORK OPERATION.

CONCRETE PIPE JOINT FASTENERS AS SHOWN ON M STANDARD ARE REQUIRED ON ALL CONCRETE CULVERT INSTALLATION, EXCLUDING SIDE DRAINS.

THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPE AS SHOWN ON THE PLANS AND CROSS-SECTIONS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT HIS OWN EXPENSE. CONSTRUCTION ACTIVITIES, IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES, SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS.

FOR PRELIMINARY QUANTITIES OF PAVEMENT MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

1. HOT BITUMINOUS PAVEMENT (GRADING E) AT 110 LBS PER SQ. YD./INCH
2. DILUTED EMULSIFIED ASPHALT (SLOW-SETTING) FOR TACK COAT AT 0.10 GAL. PER SQ. YD. CONSISTING OF ONE PART EMULSIFIED ASPHALT AND ONE PART WATER.
3. RATES OF APPLICATION SHALL BE DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

WHEN ORDERED BY THE ENGINEER, A TACK COAT OF EMULSIFIED ASPHALT (SLOW-SETTING) IS TO BE APPLIED BETWEEN PAVEMENT COURSES TO IMPROVE THE BOND. TACK COAT, IF REQUIRED, IS TO BE PAID FOR AS EMULSIFIED ASPHALT (SLOW-SETTING).

THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:

1. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.
2. MIN. OF 1500 FEET OF CONTROL LINE AND STAKES.
3. NEXT TO FINAL LIFT SHALL BE WIRE CONTROLLED ON BELLEVIEW. ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR RESETTING ALL LAND MONUMENTS DISTURBED BY CONSTRUCTION ACTIVITY. THE WORK SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A REGISTERED LAND SURVEYOR. THE CONTRACTOR SHALL FILE MONUMENT RECORDS WITH THE BOARD OF REGISTRATION OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS FOR ALL MONUMENTS RESTORED OF RESET. THIS WORK SHALL BE INCLUDED IN THE COST OF CONSTRUCTION SURVEYING.

FENCE ALONG THE RIGHT-OF-WAY, AS SHOWN ON THE PLANS SHALL BE CONSTRUCTED PRIOR TO START OF ANY CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE SURE THAT LIVESTOCK ARE PROTECTED AND KEPT OUT OF THE RIGHT-OF-WAY PRIOR TO CONSTRUCTION.

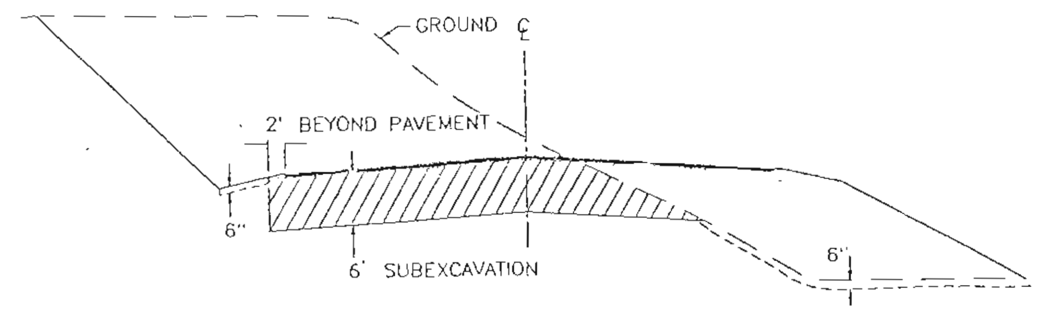
UTILITY LINES, AS SHOWN ON THS PLAN AND PROFILE SHEETS, ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR'S ATTENTION IS DIRECTED TO PARAGRAPH 107.18 OF THE STANDARD SPECIFICATIONS CONCERNING UTILITIES. THE CONTRACTOR WILL CALL 534-6700 FOR UTILITY LOCATIONS 48 HOURS PRIOR TO DIGGING.

THE CONTRACTOR SHALL INITIATE A REQUEST TO PUBLIC SERVICE CAMPANY FOR ANY CONSTRUCTION-RELATED TEMPORARY ELECTRICAL POWER SOURCES AS SOON AS POSSIBLE. IN SOME INSTANCES, UP TO 30 DAYS MAY BE REQUIRED TO PROVIDE THE SOURCES. THE REQUEST IS TO BE PROCESSED THROUGH PUBLIC SERVICE COMPANY OF COLORADO--LIGHTING UTILIZATION AT (303) 571-7537.

THE CONTRACTOR MUST MAINTAIN PRESENT ACCESS TO PROPERTY OWNERS AT ALL TIMES DURING CONSTRUCTION.

ALL EXPOSED CONCRETE SURFACES EXCEPT CURB AND GUTTER PLACED ON THIS PROJECT WILL REQUIRE A COLORED CONCRETE COATING OF EITHER (FEDERAL STANDARD 595 A)FEDERAL COLOR NO. 30219 OR 31667 AS DESIGNATED BY THE ENGINEER. THIS WORK WILL BE SUBSIDIARY TO THE CONCRETE PLACEMENT.

SUBEXCAVATION FOR CROWNED SECTIONS



SUBEXCAVATION NOTES: DEPTH OF SUBEXCAVATION MAY BE CHANGED AS DETERMINED BY THE ENGINEER

LEGEND

SUBEXCAVATION ▨

COMPACTION FOR BASE OF CUTS AND FILLS - - - -

LIMITS OF SUBEXCAVATION		
BASELINE	BEGIN STATION	ENDING STATION
QUINCY AVENUE	117+18 ±	118+00 ±

~~IT IS ESTIMATED THAT 2 DELINEATORS (TYPE 1) CRYSTAL AND 15 DELINEATORS (TYPE II) 2 CRYSTAL WILL BE REQUIRED FOR BELLEVIEW AVE ON THIS PROJECT.~~

~~IT IS ESTIMATED THAT 20 EROSION BALES FOR TEMPORARY DRAINAGE WILL BE REQUIRED ON THIS PROJECT.~~

~~IT IS ESTIMATED THAT 400 LIN. FT. OF DIRECT-BURIAL CABLE WILL BE REQUIRED FOR ELECTRICAL SERVICE CONNECTION ON THIS PROJECT.~~

~~IT IS ESTIMATED THAT 300 LIN. FT. OF PAVEMENT MARKING TAPE WILL BE REQUIRED FOR THIS PROJECT.~~

~~THE 4" GAS LINE AT STA. 12+70 WILL BE RELOCATED BY PUBLIC SERVICE FORCES, AT NO COST TO THE PROJECT.~~

THE ENTIRE EMBANKMENT FOR THE BIKEPATH NEAR ELDRIDGE WILL BE CONSTRUCTED TO SUBGRADE AS SOON AS PARCEL NO. 321 IS AVAILABLE.

EARTHWORK ON WEST TURKEY CREEK FRONTAGE ROAD AND QUINCY AVE. (INCLUDING THE AREAS NEAR THE STRUCTURE) MUST BE BUILT TO WITHIN 6" OF SUBGRADE AND MADE AVAILABLE FOR UTILITY RELOCATION WHICH IS EXPECTED TO TAKE 35 WORKING DAYS.

AFTER QUINCY STRUCTURE BOTTOM DECK IS IN PLACE AND HAS ACHIEVED ENOUGH STRENGTH TO SUPPORT THE UTILITY TREES, 4 DAYS OF UTILITY CONDUIT PLACEMENT WILL TAKE PLACE AND MUST BE PROTECTED FROM DAMAGE DUE TO CONSTRUCTION.

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR **534-6700** IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

STATE OF COLORADO
STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
C.D.H. FORM NO. 113
REV. NOV. 1969

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

AS CONSTRUCTED			
NO REVISIONS		REVISED 7-15-53	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
VIII	COLO.	IXFU 470-1(55)	6

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY PLAN	ROADWAY AS CONST.	STR. NO. F-16-NE PLAN	STR. NO. F-16-NE AS CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.	DIFF. +/-	% PLAN.
3	1		201	CLEARING AND GRUBBING	L S	0.5	0.5			0.5	0.5	—	100
3	2		202	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L S	0.5	0.5			0.5	0.5	—	100
3	3		202	REMOVAL OF FENCE	LIN FT	715	687			715	687	-28	96
3	4		203	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CU YD	38215	38215			38215	38215	—	100
3	5		206	STRUCTURE EXCAVATION	CU YD			1271	1275	1271	1275	+4	100.3
3	6		206	STRUCTURE BACKFILL (CLASS 1) DELETED BY CDOH FORM 105	CU YD	114	0	203	0	317	0	-317	0
3	7		206	STRUCTURE BACKFILL (CLASS 2)	CU YD			330	647	330	647	+317	196
3	8		206	FILTER MATERIAL (CLASS B)	CU YD	1037	1037			1037	1037	—	100
3	9		502	DRILLING HOLE TO FACILITATE PILE DRIVING CMO #2	LIN FT			480	0	480	0	-480	0
3	39		502	FACILITATE PILE DRIVING CMO #2	LS			0	1.0	0	1.0	+1.0	—
3	10		502	STEEL PILING (HP 12X74)	LIN FT			1085	1,079	1085	1,079	-6	100
3	11		506	IMPERVIOUS PLASTIC LINING	SQ YD	446	513			446	513	+67	115
3	12		507	CONCRETE SLOPE AND DITCH PAVING (REINFORCED)	CU YD			148	152.36	148	152.36	+4.36	103
3	13		515	WATERPROOFING (MEMBRANE)	SQ YD			582	581	582	581	-1	99.8
3	14		518	BRIDGE COMPRESSION JOINT SEALER	LIN FT			72	66	72	66	-6	92
3	15		518	WATERSTOP (6 INCH)	LIN FT			34	34	34	34	—	100
3	16		601	CONCRETE CLASS A (BRIDGE)	CU YD			487	519.78	487	519.78	+32.78	107
3	17		601	CONCRETE CLASS A (WALL)	CU YD			161	161.00	161	161.00	—	100
3	18		601	CONCRETE CLASS S (BRIDGE)	CU YD			2304	2304.88	2304	2304.88	+0.88	100.03
3	19		602	REINFORCING STEEL	LB			10834	10,834	10834	10,834	—	100
3	20		602	REINFORCING STEEL (EPOXY COATED)	LB			460568	480,073	460568	480,073	+19,505	104
3	21		605	6 INCH NON-PERFORATED PIPE UNDERDRAIN	LIN FT	20	78			20	78	+58	390
3	22		605	6 INCH PERFORATED PIPE UNDERDRAIN	LIN FT	180	180			180	180	—	100
3	23		607	END POST DELETED BY CDOH FORM #105	EACH	6	0			6	0	-6	0
3	24		607	CORNER AND LINE BRACE POST	EACH	3	1			3	1	-2	33
3	25		607	FENCE BARBED WIRE WITH METAL POSTS DELETED BY CDOH FORM 105	LIN FT	360	0			360	0	-360	0
3	26		607	FENCE COMBINATION WIRE WITH TREATED WOODEN POSTS	LIN FT	1005	805			1005	805	-200	80
3	27		607	FENCE CHAIN LINK SPECIAL	LIN FT			761	774	761	774	+13	102
3	28		613	1-1/2 INCH ELECTRICAL CONDUIT	LIN FT			66	74	66	74	+8	112
3	29		613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LIN FT			378	408	378	408	+30	108
3	30		613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LIN FT			378	411	378	411	+33	109
			~~613~~	~~DIRECT BURIAL CABLE~~	~~LIN FT~~	~~100~~				~~100~~			
3	31		613	WIRING	L S	1	1			1	1	—	100
3	32		613	LUMINAIRE HIGH PRESSURE SODIUM (WALL TYPE) (16,000 LUMEN)	EACH			2	2	2	2	—	100

1-JUL-1988 USER$DISK:[DRAW.PJ.87035.RDWY.H103.TAB]V113FA

STATE OF COLORADO
STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
D.O.H. FORM NO. 113
REV. NOV. 1980

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

AS CONSTRUCTED
NO REVISIONS ☐ REVISED 7-15-87 VOID ☐

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO
VIII	COLO.	IXFU 470-1(55)	7

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY PLAN	ROADWAY AS CONST.	STR. NO F-16-NE PLAN	STR. NO F-16-NE AS CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.	DIFF. +/-	% PLAN
3	33		613	LIGHTING SYSTEM	EACH			20	20	20	20	—	100
3	43		613	INTERIOR LIGHTING MCR 1-5	LS			0	1.0	0	1.0	+1.0	—
3	34		618	PRESTRESSING STEEL WIRE OR STRAND	M KFT			7621	7621	7621	7621	—	100
3	35		620	FIELD OFFICE (CLASS 2) DELETED BY CMO #3	EACH	0.5	0			0.5	0	-0.5	0
3	40		620	SECURITY SYSTEM CMO #3	L.S.	0	0.5			0	0.5	+0.5	—
3	36		620	FIELD LABORATORY (CLASS 2)	EACH	0.5	0.5			0.5	0.5	—	100
3	41		620	UNDERGROUND UTILITIES CMO #3	L.S	0	0.5			0	0.5	+0.5	—
3	37		620	SANITARY FACILITY	EACH	1	1			1	1	—	100
3	42		620	COMPUTER SYSTEM CMO #3	L S	0	0.5			0	0.5	+0.5	—
3	38		625	CONSTRUCTION SURVEYING	L S	0.5	0.5			0.5	0.5	—	100
			626	MOBILIZATION	L S	0 2	0.2	0.3	0.3	0.5	0 5	—	100
				FORCE ACCOUNT									
			F/A01	MINOR CONTRACT REVISIONS	F.A.	0.2	0.2($4598.35)	0.3	0.3($6898.42)	0.5	0.5($11497)		
			F/A02	ON-THE-JOB TRAINEE	EACH	1.2	0			1.2	0		
			F/A03	TEMPORARY EROSION CONTROL	F.A.	0.5	0			0.5	0		
3	44		F/A04	DBE INCENTIVE PAYMENT	F.A.	0.5	0.5($5816.92)			0.5	0.5($5816.92)		

1-JUL-1986 USER$DISK:[DRAW.PJ.87035.RDWY.H103.TAB]V113FB

TE OF COLORADO
ATE DEPARTMENT OF HIGHWAYS
VISION OF HIGHWAYS
O. H. FORM NO. 12..
V. NOV. 1983

STRUCTURE QUANTITIES

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS ☐	REVISED 7-15-87	VOID ☐	VIII	COLO.	IXFU 470-1(55)	8	49

INDEX BOOK	INDEX PAGE	INDEX SHEET	LOCATION	UNCLASSIFIED EXCAVATION CUBIC YARD EXCAV	UNCLASSIFIED EXCAVATION CUBIC YARD DITCH	UNCLASSIFIED EXCAVATION CUBIC YARD EMB	STRUCTURE EXCAVATION CUBIC YARD	STRUCTURE BACKFILL CUBIC YARD CL 1	STRUCTURE BACKFILL CUBIC YARD CL 2	INLET TYPE 13 L10 INLET EACH H(PAY)	INLET TYPE 13 L10 INLET EACH 5' W	AGGREGATE BASE COURSE (CLASS 6) (STAND HAUL) TON	INLET TYPE C (5 FOOT) EACH	FILTER MATERIAL CLASS B CU. YD	IMPERVIOUS PLASTIC LINING SQ YD	6 INCH NON-PERFORATED PIPE UNDERDRAIN LIN. FT.	6 INCH PERFORATED PIPE UNDERDRAIN LIN. FT.	REINFORCED CONCRETE PIPE LINEAR FEET 18"	REINFORCED CONCRETE PIPE LINEAR FEET 24"	LINE ELEVATION FROM LOWER	LINE ELEVATION TO UPPER	"H" OVER CULV. FT.	"H" MEASURE @ INLET FT	PCP END SECTION EACH 18"	PCP END SECTION EACH 24"	MISCELLANEOUS
			SH 470																							
			STR. NO. F-16-NE					•~~114~~ 0	114					•1,037	•~~446~~ 513	• 20 ~~78~~	• 180									
			TOTAL					~~114~~ 0	114					1,037	~~446~~ 513	~~20~~ 78	180									

•FROM BRIDGE ABUTMENT DETAIL

AS CONSTRUCTED				FED ROAD REGION	DIVISION	PROJ NO	SHEET NO.	SHEET TOTALS
NO REVISIONS	REVISED 7-15-89	VOID		VIII	COLO.	IXFU 470-1(55)	9	49

STATION TO STATION	SOURCE	PLANT MIX SEAL COAT (TYPE B) (HAUL AND ASPHALT) 3/4"		HOT BITUMINOUS PAVEMENT (GR. E) (HAUL AND ASPHALT) BOTTOM LAYER 3"		2ND LAYER 2"		TOP LAYER 2"	
		TONS	FINAL	TONS	FINAL	TONS	FINAL	TONS	FINAL
BELLEVIEW AVE. (MAINLINE)	CONTRACTORS SOURCE								
6+00 TO 8+00		39		44		27		27	
8+00 TO 8+75		20		84		55		55	
8+75 TO 12+50		107		426		284		284	
12+50 TO 15+00		49		202		131		131	
15+00 TO 16+00		15							
BELLEVIEW DETOUR				128		86		86	
IRREGULARITIES 10%				89					
SUBTOTALS		230		973		583		583	
TOTALS		230		2139					

IT IS ESTIMATED THAT 708 GALLONS OF EMULSIFIED ASPHALT (SLOW-SETTING) FOR TACK COAT WILL BE REQUIRED.

IT IS ESTIMATED THAT 100 TONS OF HOT BITUMINOUS PAVEMENT (PATCHING) WILL BE REQUIRED.

STABILIZATION BASED ON: (BELLEVIEW)

20 YEAR DESIGN - 18^k ESAL 226,000
"R" VALUE 7
SERVICIBILITY INDEX 2.5
REGIONAL FACTOR 1.75
STRENGTH COEFFICIENT (H.B.P. GR.EX) 0.44
(P.M.S.C.) 0.25
S.N. 3.30

TABULATION OF REMOVALS

STATION TO STATION	SIDE	REMOVAL OF PIPE	REMOVAL OF GUARD POST	REMOVAL OF ASPHALT MAT	REMOVAL OF FENCE		● REMOVAL OF GATE	REMOVAL OF STRUCTURES AND OBSTRUCTIONS		REMARKS
		LIN. FT.	EACH	SQ. YD.	LIN. FT.	FINAL	EACH	LUMP SUM †	FINAL	
QUINCY AVE.										
112+10 TO 115+00	LT./RT.				525	587				
112+42 TO 112+95	RT.				190	100				
112+70	RT.							1	1	BARN
TOTALS					715	687		1	2.5	

● [illegible] OF FENCE

† THIS ITEM WILL INCLUDE ALL OTHER VISIBLE OBSTRUCTIONS NOT SPECIFICALLY LISTED IN THIS TABULATION.

TABULATION OF RESET ITEMS

STATION TO STATION	SIDE	○ RESET IMPACT ATTENUATOR	RESET WATER SERVICE		ADJUST VALVE BOX
		EACH	EACH		EACH
BELLEVIEW AVE					
8+	RT.		1		1
9+15	MED.	1			
10+85	MED.	1			
TOTALS		2	1		1

○ [illegible] ATTENUATOR [illegible] DEPARTMENT OF HIGHWAYS MAINTENANCE YARD AT [illegible] (SEE DETAILS)

TABULAION OF FENCING

STATION	SIDE	END POST		▼ FENCE COMBINATION WIRE W/TREATED WOODEN POSTS		FENCE BARBED WIRE WITH METAL POSTS		▼ FENCE COMBINATION WIRE WITH METAL POSTS		CORNER AND LINE BRACE POSTS		16 FOOT GATE		20 FOOT GATE	
		EACH	FINAL	LIN. FT.	FINAL	LIN. FT.	FINAL	LIN. FT.	FINAL	EACH	FINAL	EACH	FINAL	EACH	FINAL
[illegible]															
[illegible]															
[illegible]															
QUINCY															
109+05	LT/RT					260	0			2	0				
109+05 TO 113+00	RT.	1	0	395 ○	395										
109+05 TO 112+05	LT.	1	0	410 ○	410					1	1				
113+00 TO 115+00	LT.	2	0	200 ○	0										
117+10 TO 117+60	RT.	2	0			100	0								
BELLEVIEW															
6+00 TO 8+30															
12+00 TO 13+15															
13+35 TO 15+00															
13+25 TO 15+00															
TOTALS		6	0	1005	805	360	0			3	1				

○ CONNECT TO EXISTING FENCE

⊟ [illegible]

NOTE: COST OF CONNECTING NEW FENCE TO EXISTING FENCE OR STRUCTURE IS TO BE INCLUDED IN THE WORK

▼ SEE M-607-1 "SPECIAL FOR THIS PROJECT" 39 INCH MESH REQUIRED FOR THIS PROJECT

ATE OF COLORADO
ATE DEPARTMENT OF HIGHWAYS
ISION OF HIGHWAYS
D-14, FORM NO. 12
7, FEB. 1934

SUMMARY OF EARTHWORK

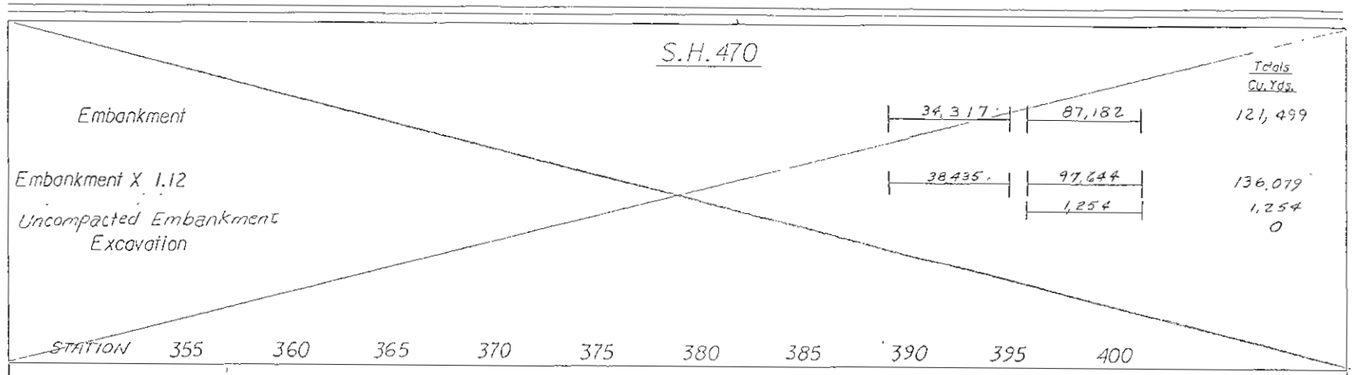
AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS ☐	REVISED (7-15-21)	VOID ☐	VIII	COLO.	IXFU470-K(55)	10	49

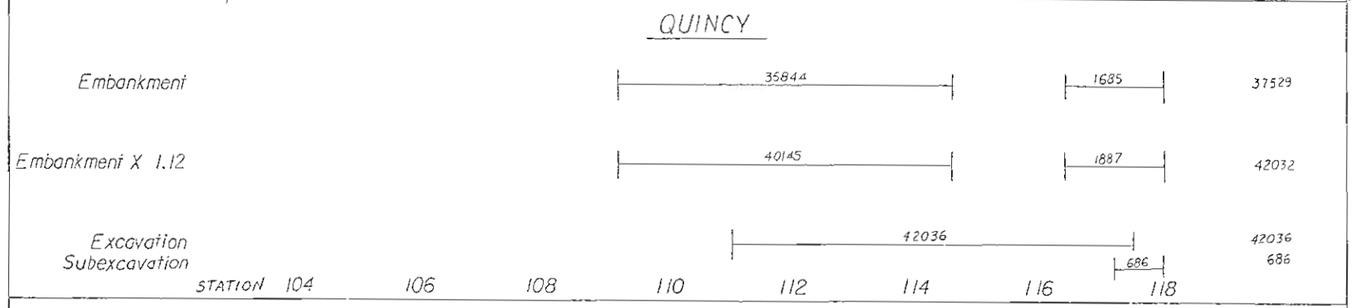
INDEX BOOK	INDEX PAGE	INDEX SHEET	ITEM	PROJECT TOTALS ROADWAY CU. YD.	PROJECT TOTALS ROADWAY FINAL
			Embankment Material (C.I.P.)		
			~~S. H. 470 (From Computer Cross Sections)~~	~~122,753~~	
			~~Belleview & Detour (From Cross Sections)~~	~~4,372~~	
			QUINCY (From Cross Sections)	37,529	37,529
			QUINCY (TO REPLACE SUBEXCAVATION)	686	686
			~~From Structure Quantities as Embankment~~	~~270~~	
			Total For Pay Quantities	38,215	38,215
			(For Information Only)		
			Roadways Quantities Balance		
			Embankment Material (From Cross Sections) X Factor		
			38,215 X 1.12	42,801	42,801
			EXCESS EXCAVATION	1821*	821
			Total For Balance	43,622	43,622
			(For Information Only)		
			Unclassified Excavation		
			S. H. 470 (From Computer Cross Sections)	0	0
			Estimated For Cut Slope Treatment	900	900
			~~Belleview & Detour (From Cross Sections)~~	~~1,917~~	
			QUINCY (FROM CROSS SECTIONS)	42,036	42,036
			QUINCY (SUB-EXCAVATION)	686	686
			~~From Structure Quantities~~	~~1,230~~	
			†~~SW Ramp~~	~~137,266~~	
			~~- (Minimum Soil Support R-Value shall be 7)~~		
			Total For Balance	43,622	43,622

MOISTURE DENSITY CONTROL
(For Information Only)

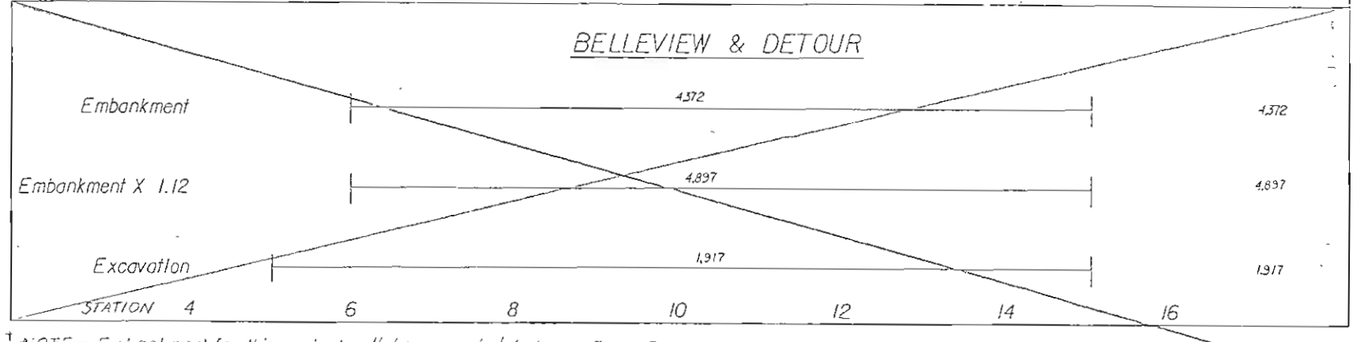
ITEM		
COMPACTION (AASHTO T-99)	CU.YD.	
- EMBANKMENT MATERIAL	38,215	38,215
- BASES OF CUT & FILLS	1,662	1662
TOTAL	39,877	39877
WETTING	M.GAL.	
- ROADWAY (39,877 X 0.04)	1,595	1595
- DUST PALLIATIVE	50	50
TOTAL	1,645	1645

SOURCE OF ROADWAY QUANTITIES





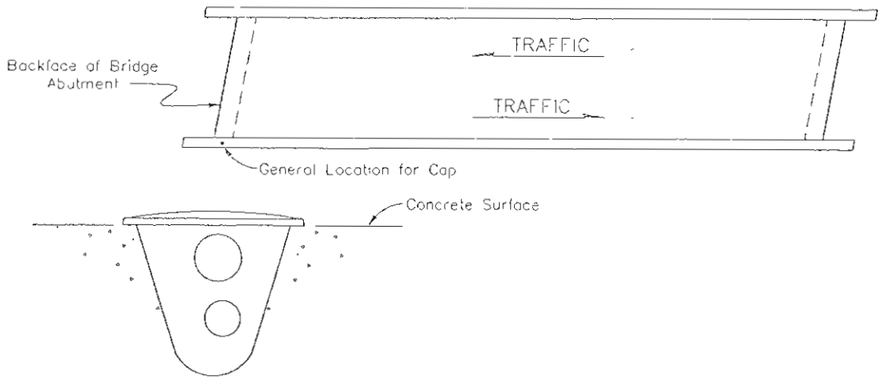
* UNCOMPACKED; to be used to steepen ML. fill slopes Sta. 389+52 to 392+70 or as directed by the Engineer



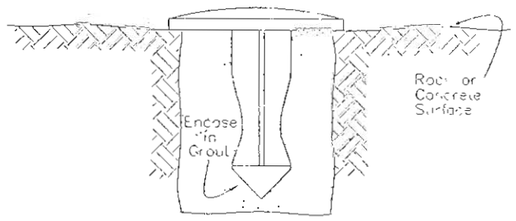
† ~~NOTE Embankment for this project will be generated between Future Ramp Stations 1120+00 to 1135+00 for Summary of Earthwork Quantity purposes. The contractor may elect to obtain material from elsewhere on these projects with the engineer's approval.~~

STATE OF COLORADO
STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
B. O. H. FORM NO. 1251
REV. FEB. 1964

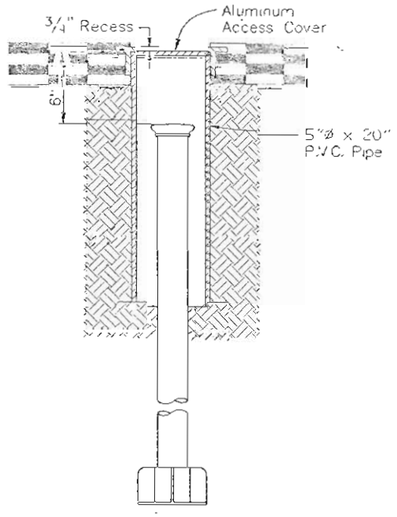
AS CONSTRUCTED	FED ROAD REGION	DIVISION	PROJ NO	SHEET NO
NO REVISIONS 7-1-91 REVISED ☐ VOID ☐	VIII	COLO.	ZSFU 470-1(35)	11



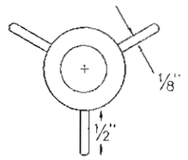
TYPE 4 MONUMENT



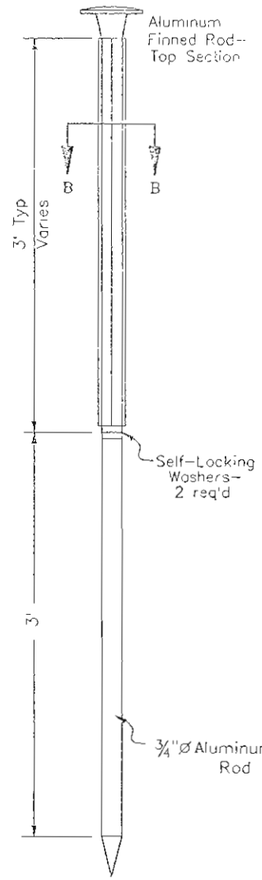
TYPE 5 MONUMENT

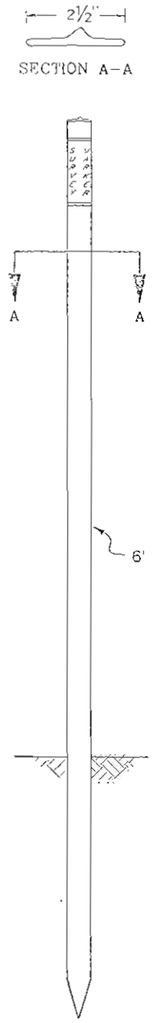


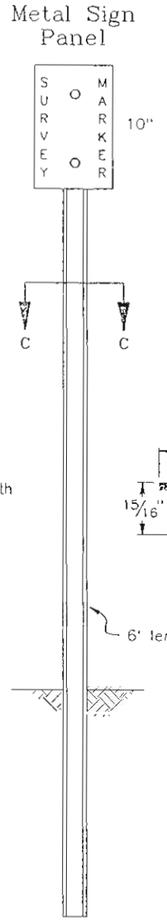
TYPE 3A MONUMENT,
Roadway Installation

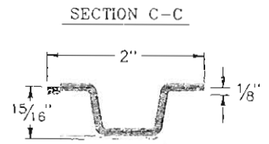


SECTION B-B

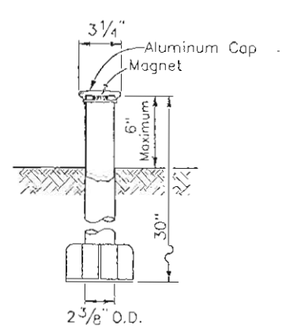




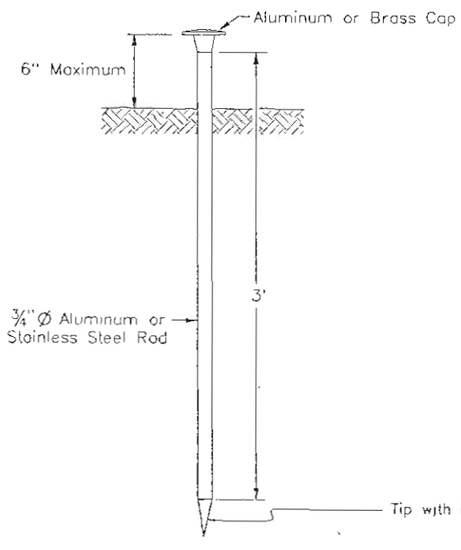


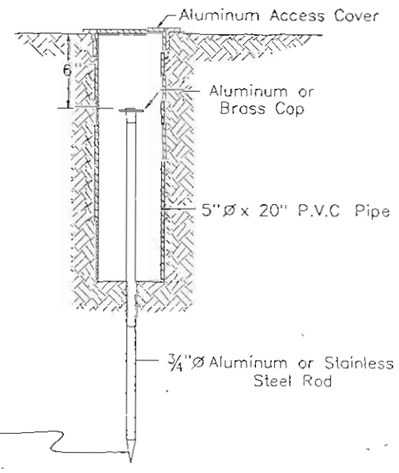


Delineator Post



TYPE 3 MONUMENT





TYPE 1 MONUMENT TYPE 1A MONUMENT & TYPE 2A MONUMENT
Includes Monument Box

TYPE 2 MONUMENT

WITNESS POSTS

SURVEY MONUMENTS

AS CONSTRUCTED	FED ROAD REGION	DIVISION	PROJ NO	SHEET NO
NO REVISIONS [illegible] REVISED [ ] VOID [ ]	STATE	COLO.	DPU 470-1(55)	12

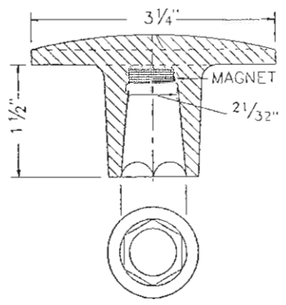
REFERENCE MONUMENT CAP

ROW MONUMENT CAP

CONTROL MONUMENT CAP

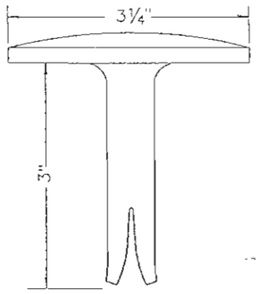
ALIQUOT CORNER CAP

NOTE: (A BLANK CAP MAY BE SUBSTITUTED IF ANY ABOVE CAPS ARE NOT AVAILABLE)



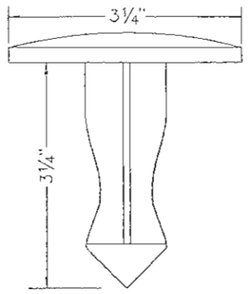
BRASS AND ALUMINUM CAPS

BRASS CAP USED WITH STAINLESS STEEL ROD ALUMINUM CAP USED WITH ALUMINUM ROD (Threaded Cap is also available)



BRASS CAP

FOR PLACING IN EXISTING CONCRETE OR ROCK

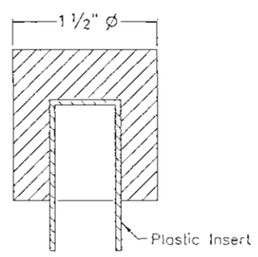


BRASS CAP

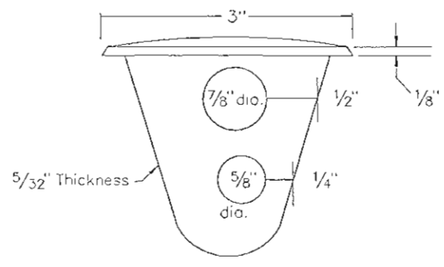
FOR PLACING IN EXISTING CONCRETE OR ROCK

MONUMENT APPLICATION

CAP TYPE	MONUMENT TYPE							
	1	1A	2	2A	3	3A	4	5
REFERENCE	X						X	
ROW	X							X
CONTROL		X	X	X			X	
ALIQUOT CORNER					X	X		
WITNESS POST (WHEN REQUIRED)	X	X	X	X	X			X



TEMPORARY ALUMINUM CAP



BRASS CAP

INSTALL DURING PLACEMENT OF CONCRETE. PLACE A REINFORCING BAR THRU ONE HOLE.

TYPE 1 AND TYPE 1A ALUMINUM AND STAINLESS STEEL DRIVEN MONUMENTS

Monuments are assembled by attaching the proper size tip to one end of a section of rod and the 3" long x 3/4" dia stainless steel driver to the other end A steel driver is then placed over the stainless steel driver for the hammer to contact When additional sections of rod are needed, they are to be attached using a set of self-locking washers Rods are stocked in two foot and three foot sections One foot sections may be obtained by cutting a two foot section in half. The rod section is driven by using the proper hammer with a soft face A power adapter is available for use with a gasoline powered driver.

Type 1 monuments typically use a three foot section of rod When subsurface rock or concrete is encountered less than 3 feet below the ground surface, the rod shall be embedded in the rock or concrete at least 6" with a grout material The rod may be shortened to accommodate the conditions

Type 1A monuments may be driven to refusal by threading additional sections onto the first section. Added sections require a set of lock washers. Refusal is defined as one inch of movement with four blows of a 12 lb. hammer. A driven cap is necessary (vs. a threaded cap) when a cut rod is used. The soft faced hammer is also required to seat the driven caps onto the rod.

TYPE 2 AND TYPE 2A ALUMINUM FINNED ROD MONUMENTS

A Type 2 monument is used for horizontal control monuments where loose material is encountered. The larger size tip is to be used on one end of the three foot rod and the fins on the opposite end of the three foot rod are to be bent over to accomodate the cap. If more vertical stability is required for use as a vetical control manument, the added sections which are not finned, should be driven first The number of sections to be added will vary with needs and type of soil.

Type 1A monument note above also applies to Type 2A monument.

TYPE 3 AND TYPE 3A ALUMINUM PIPE MONUMENTS

This monument is used to monument an aliquot corner. The installation of this monument and record filing shall be done in accordance with the Colorado Revised Statutes, Title 38, Articles 50 and 51. Also refer to the CDOH Survey Manual. The Land Surveyor's license number and the year shall be stamped on the cap.

TYPE 4 BRASS CAP MONUMENT

This monument is placed in concrete, such as bridge super structure concrete. It is placed above a footing support over the abutment or over a pier. An alternate placement is vertically in the abutment wall or pier if only an elevation reference is desired and it is possible to leave access for an elevation rod.

TYPE 5 BRASS CAP MONUMENT

This monument is placed in locations where a Type 1 or Type 1A monument cannot be placed A common application is in a large boulder where a property corner has been placed. This monument could also be placed in a sidewalk.

WITNESS POSTS

The witness post, when required, will be supplied by the Division and installation shall be included in the work. It shall be driven within 10 feet of the monument, when possible. A delineator post with a 6" x 10" metal sign panel may be used in lieu of the plastic post This post is to conform to Standard S-612-1.

SELF-LOCKING WASHERS

A set of two washers shall be used at rod joints and threaded cap joints, but not at tip joints

TEMPORARY MONUMENTS

This cap is used on a #5 rebar.

SURVEY MONUMENTS

AS CONSTRUCTED			
NO REVISIONS	7-15-89	REVISED	VOID

STANDARD M-607-1

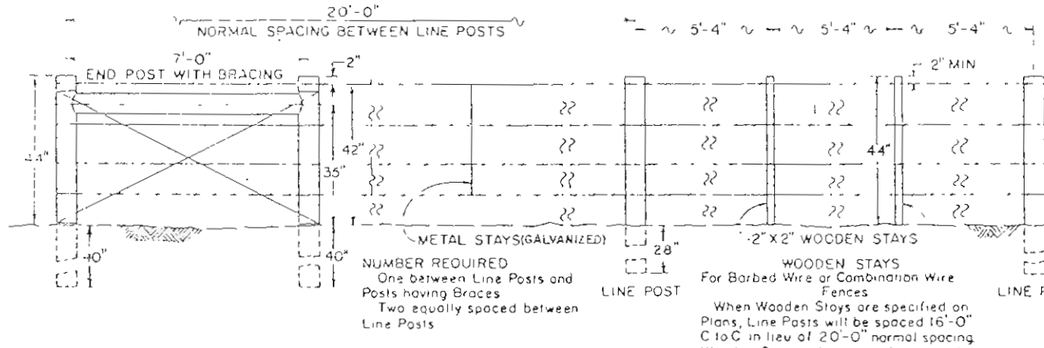
(SHEET 1 OF 2 SHEETS)
(JANUARY, 1981)
(SPECIAL FOR THIS PROJECT)

FED. ROAD REG. NO.	DIVISION	PROJECT NO	SHEET NO.
VIII	COLORADO	IXFU 470-1(55)	13

REVISIONS		

BARBED WIRE FENCE WITH WOODEN POSTS

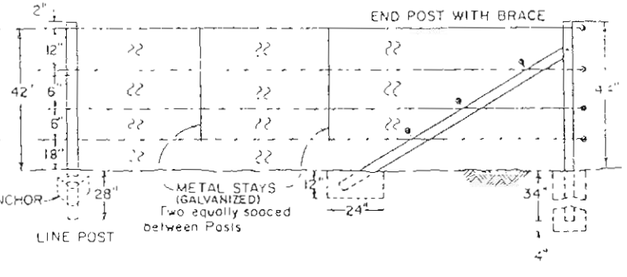
STANDARD INSTALLATION — ALTERNATE (For blow-sand and tumbleweed areas, if desired by landowner.)



NUMBER REQUIRED
One between Line Posts and Posts having Braces
Two equally spaced between Line Posts

WOODEN STAYS
For Barbed Wire or Combination Wire Fences
When Wooden Stays are specified on Plans, Line Posts will be spaced 16'-0" C to C in lieu of 20'-0" normal spacing. Wooden Stays will rest on the natural ground and will be stapled as indicated for Line Posts

BARBED WIRE FENCE WITH METAL POSTS

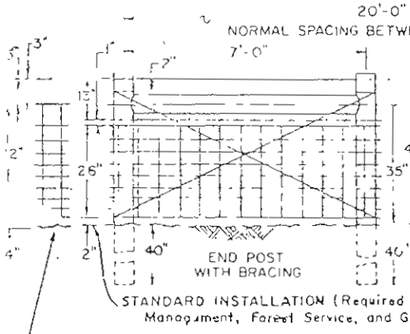


CROSS BRACE DOWELING DETAIL

Bore a 3/8" X 2" Hole in each Post and Brace to receive the Pins. Wrap the ends of the Braces tightly with several turns of 12 1/2 ga. smooth Galv. Wire to prevent splitting or Notch Post and Nail with 40 d Common Nails

NOTE:
See Sheet 2 for General Notes.

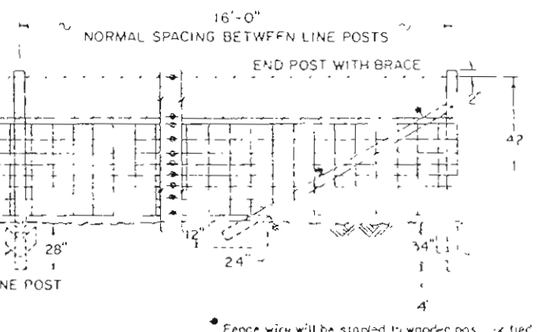
COMBINATION WIRE FENCE WITH WOODEN POSTS



STANDARD INSTALLATION (Required along Bureau of Land Management, Forest Service, and Game, Fish and Parks lands)

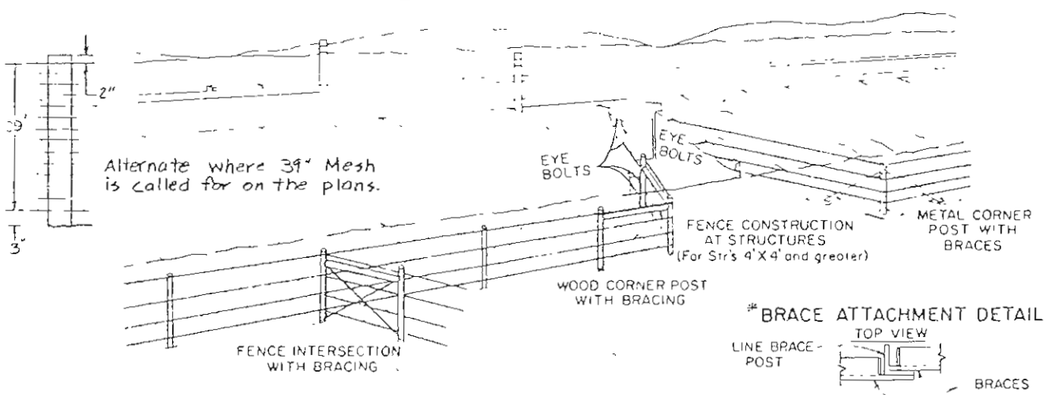
ALTERNATE (Where 26" mesh is not acceptable to landowner)

COMBINATION WIRE FENCE WITH METAL POSTS



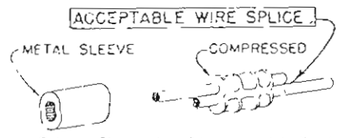
* Fence wire will be stapled to wooden posts or tied to metal posts as shown marked * on barbed wire or combination wire fence details.

ILLUSTRATIVE SKETCH SHOWING TYPICAL EXAMPLES FOR CONSTRUCTING FENCES



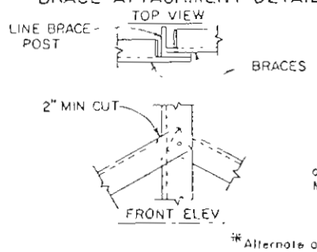
NOTE
At all structures of 4'x4' and over, the fence shall be ended at eye-bolts in the wings of the structure. Where the type of structure prohibits the use of eye-bolts, an end post with brace shall be used.
Eye-bolts shall be made of 1/2" round bars with a minimum of six (6) inches of body length embedded in the concrete (hooked or bent) and a minimum of 1" inside eye diameter.
Eye-bolts shall be furnished and installed by the Contractor. Cost of eye bolts will be included in the contract price for fencing.

ACCEPTABLE WIRE SPLICE

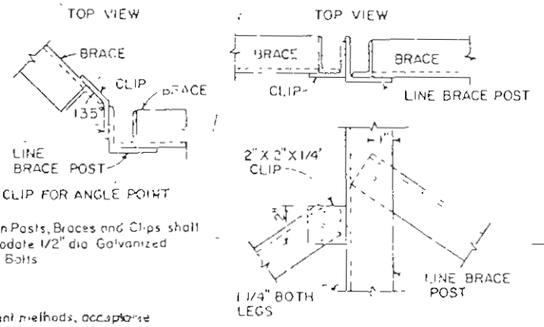


Splicing Sleeve shall be approved by the Engineer

*BRACE ATTACHMENT DETAIL



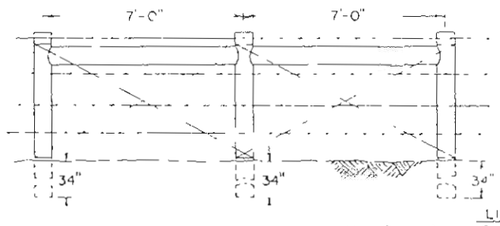
*ALTERNATE BRACE ATTACHMENT DETAIL



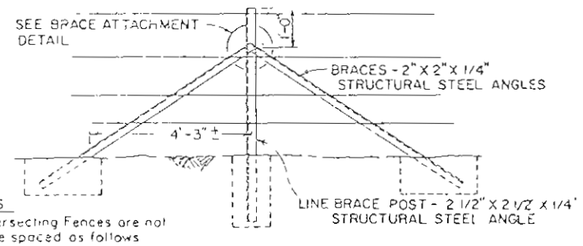
Holes in Posts, Braces and Clips shall accommodate 1/2" dia. Galvanized Machine Bolts

*Alternate attachment methods, acceptable to the Engineer, may be used

LINE BRACES

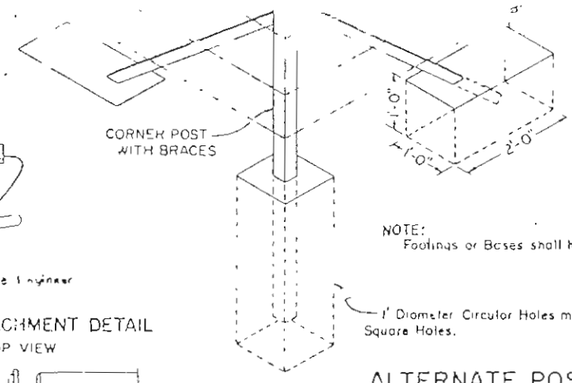


LINE BRACES
When Gates, Angles, Corners or Intersecting Fences are not specified therein, Line Braces shall be spaced as follows:
Metal Posts - 800' Interval
Wooden Posts - [illegible]



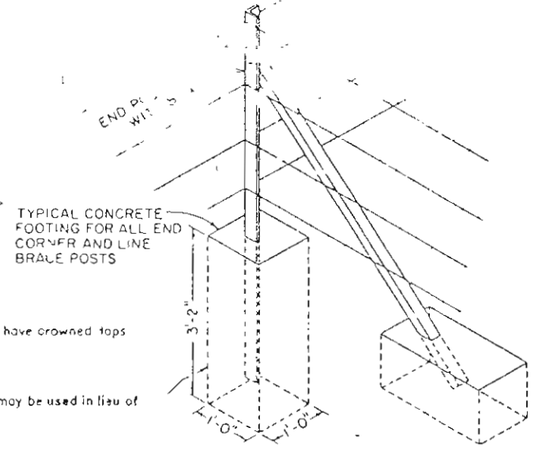
TYPICAL INSTALLATION AT FENCE INTERSECTIONS

TYPICAL CORNER POST INSTALLATION

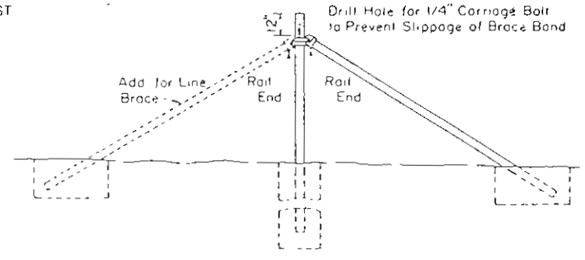


NOTE:
Footings or Bases shall have crowned tops

1' Diameter Circular Holes may be used in lieu of Square Holes.



ALTERNATE POST
(FOR END, CORNER OR LINE BRACE POSTS)



DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

WIRE FENCES AND GATES

Designed by	L E O	Approved by	[illegible]
Made by	T E F	Staff Bur. Engr.	
Checked by	E E O	Date:	July 1, 1965

M-607-1

AS CONSTRUCTED		
NO REVISIONS 7-15-89	REVISED	VOID

~~STANDARD M-607-1~~

(SHEET 2)

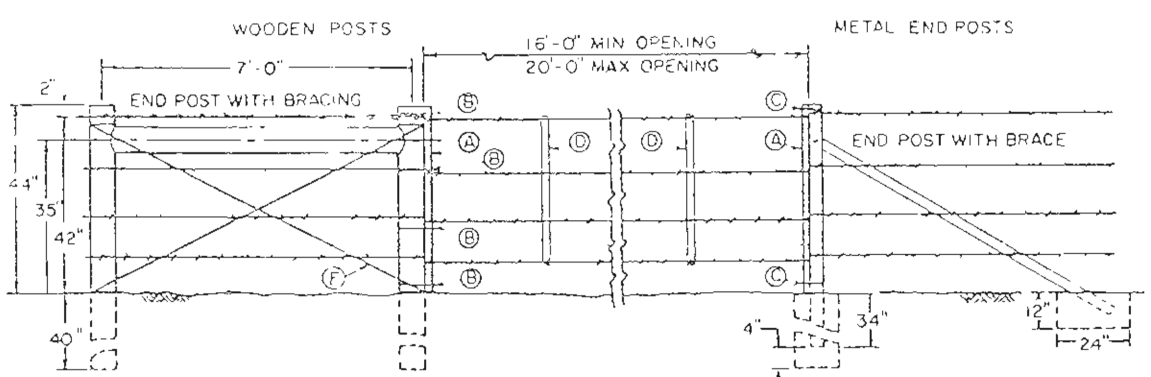
(JANUARY, 1982)

(SPECIAL FOR THIS PROJECT)

REG NO	DIVISION	PROJECT NO	SHEET NO
VIII	COLO	IXFU 470-(55)	19

REVISIONS

*BARBED WIRE GATE



*For Combination Wire Gate use 34" Mesh and 1 strand of Barbed Wire. Extend Wooden Stays to Ground

(A) 2"X4"X4' Wooden Stays

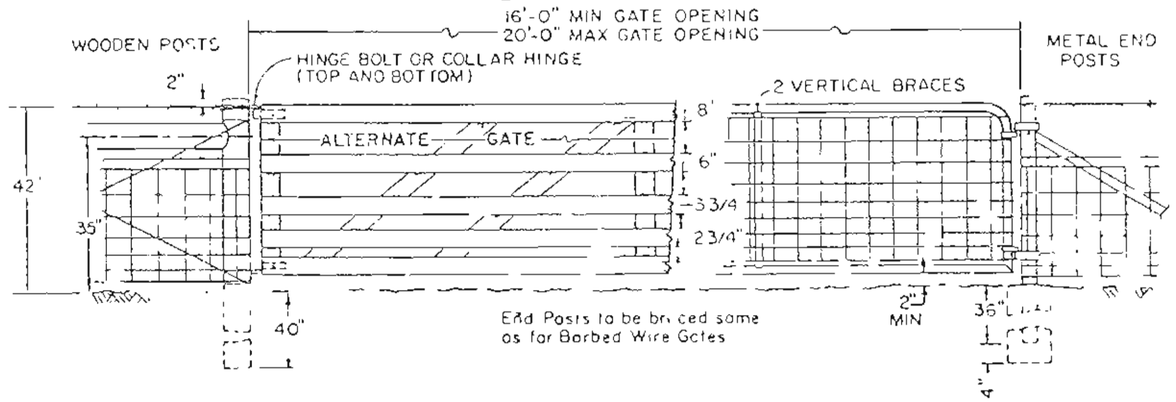
(B) 4 - No 12 1/2 Ga Wire Loops to act as Hinges

(C) No 12 1/2 Ga Wire Loops

(D) 2 - 2"X2" Wooden Stays equally spaced

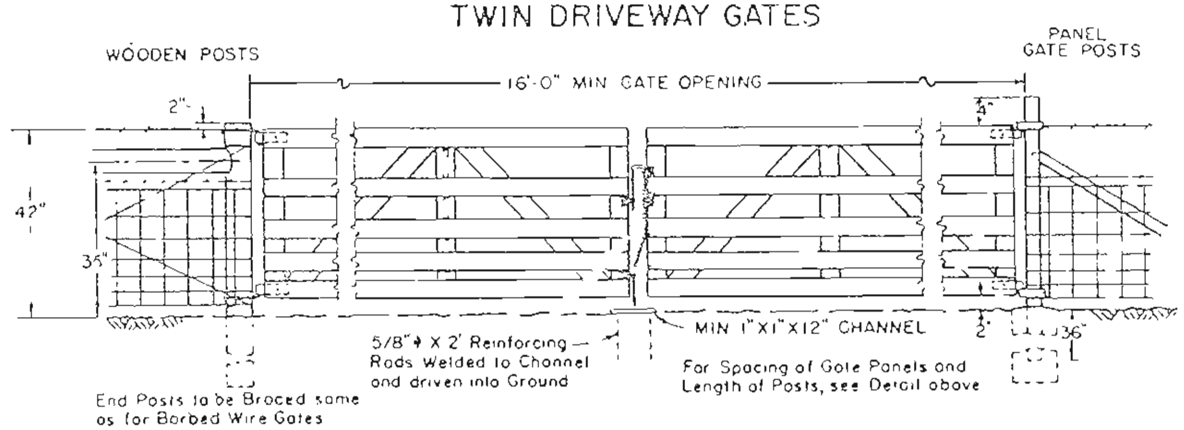
(F) No 12 1/2 Ga Brace Wire, Double Strand.

DRIVEWAY GATES



End Posts to be braced same as for Barbed Wire Gates

TWIN DRIVEWAY GATES

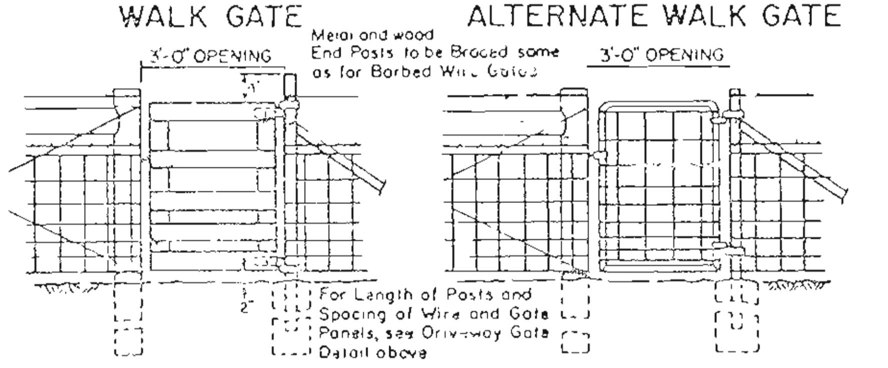


End Posts to be Braced same as for Barbed Wire Gates

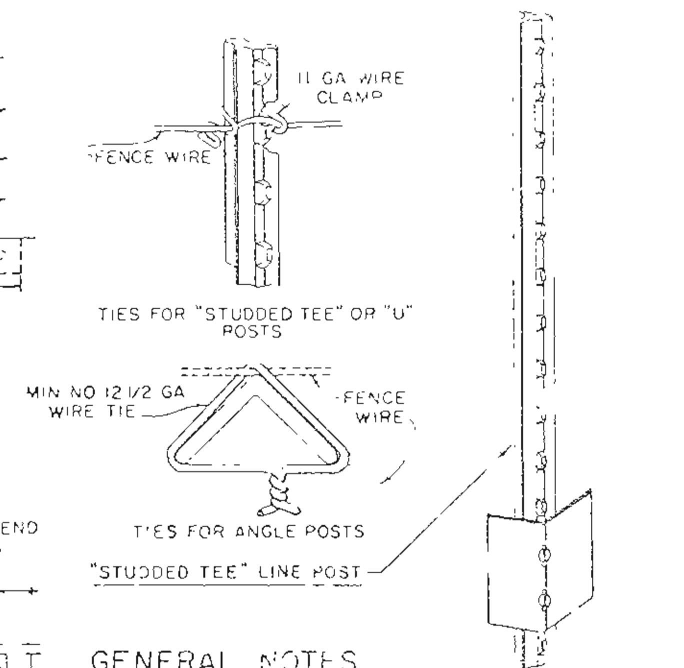
For Spacing of Gate Panels and Length of Posts, see Detail above

WALK GATE

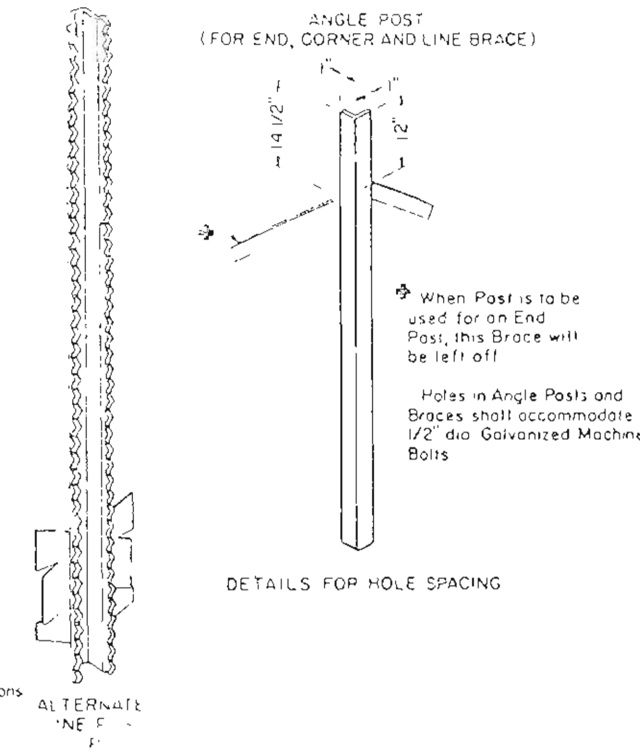
ALTERNATE WALK GATE



FENCE WIRE TIES



TYPICAL METAL POSTS



Where field conditions permit, Wooden Posts may be pointed and driven in lieu of setting and tamping, at the option of the Contractor.
Pointing shall be in conformity with details shown at left.
Driving methods shall not damage Post.

POST POINTING

GENERAL NOTES

All w rk shall be d ne in a co lance wi Standard Specifications app ble to the Proje A ma ensions d sig n th standar are in mino unles ficati

/ es or ere u 3 ating or sec ndar ine c sse Loc r ce the shall furnish and ins onforming to Section 5, Rule 93 of the Nationa fety Code

Dimensions shown for "Standard" and "Alternat apply for both wooden and metal post fen

Fence wire shall be braced, double wrapped and tied off at end posts, angle posts or line brace posts. Fence to be continued shall then be restarted in like manner

Fence wire to be placed on either road or field side of posts depending on local conditions, i e on curves the wire should be placed on the side of the post which would prevent tension on fence ties. This will also apply where wind drift, tumble weeds or other conditions would exert unusual pressure against the wire

WOOD POSTS

All line posts shall have a min dia of four (4) inches & be 6'-0" long Min

All end, corner, intersection and brace posts shall have a minimum diameter of five (5") inches and be 7'-0" long

Fence wire will be stapled to wooden posts or tied to metal posts as shown marked on barbed wire or c mbinat on wire fence details. Staples shall be o 9 wire an at least 1 1/2 inches long

METAL POSTS

All posts and braces shall be of the types and weights shown or acceptable equivalents

Holes to be provided in end, corner and gate posts as detailed

CORNER AND LINE BRACE POSTS
- Type - 2 1/2" X 2 1/2" X 1/4 Structural Steel Angles
- Weight - 3.81 lbs /lin ft
- Length - 6'-6" Min
- No of Braces - 2

LINE POSTS
- Type - "Studded Tee" or "U"
- Weight - 1.28 lbs /lin ft (without Anchor)
- Length - 6'-0" Min
- Anchor - Securely fastened, with bearing surface sufficient to resist movement of post. Weight - 0.57 lb Min

METAL END POSTS AND GATE POSTS
- Type - 2 1/2" X 2 1/2" X 1/4" Structural Steel Angles
- Weight - 3.81 lbs /lin ft
- Length - End, 6'-6" Min.; Panel Gate, 7'-0" Min
- No of Braces - 1

BRACES (For Corner, End or Line Brace Posts)
- Type - 2" X 2" X 1/4" Structural Steel Angles
- Weight - 3.0? lbs /lin. ft
- Length - Same as corner and end posts used

Posts shall - e hot-rolled steel or re rolled rail steel.

FOOTINGS OR BASES

Concrete shall be Class A 8 e weight aggregates conforming ASTM

ALTERNATE END, CORNER AND LINE POSTS (Option)

	TYPE	I.D.	O.D.	LB/FT.	WALL THK.
1.	Std Galv. Pipe	2 1/2	2.875"	5.79±5%	0.203"
2.	H. S. Cold Rolled Pipe	2 1/2"	2.875"±.01%	4.64±5%	0.160"±5%

Lengths shall be 6'-6" Min.

BRACES
- Type - 1 3/8" O.D. Tubular Steel with 2 1/2" Brace Band, Hinge Bolt and 1 3/8" I.D. Rail End; all Galvanized
- Weight - 1.6 lbs/lin ft ± 5%
- Length - 6'-6" Min

BARBED WIRE

Steel barbed wire shall conform to ASTM Designation A 121, 12 1/2 Gauge with Class 1 coating, 13 1/2 Gauge with Class 2 Coating or 15 1/2 Gauge with Class 3 Coating.

Aluminum barbed wire shall conform to ASTM Designation B 211, with alloy 5052-O for the line wire and alloy 5052-H38 for the barbs

WIRE MESH:

Wire mesh used in combination wire fence shall be galvanized and conform to the following:

STANDARD Woven Wire Field Fence Style or Design No	ALTERNATE 4"x4" Wire "V" Mesh
832-6-11 (32" width) .55 lbs/lin ft	34" width — .75 lbs/lin ft.
726-6-11 (26" width) .55 lbs/lin ft	26" width — .54 lbs/lin ft.
939-6-11 (39" width) .82 lbs/lin ft	Cross wires - 1 strand - 14 1/2 gage min.
	Horizontal - 2 strand - 12 1/2 gage

GATES

DRIVEWAY GATES: (PANEL) (ALTERNATE)
- Height - approximately 42" (5 panels) --- Width of gate opening - 16'-0" Min.
- Weight - Galvanized Steel, 75 lbs

(1) Gates to be of Riveted construction as follows. Min 4 No 10 rivets at each right angle connection and where diagonal braces connect to horizontal panels. Min 3 No 10 rivets where diagonal braces connect to top and bottom panels

DRIVEWAY GATES:
- Height - 42"
- Weight - Not less than 90 lbs complete with latch and hinges
- Width of gate opening - 16'-0"
- Gate Frame - 1" I.D. Standard Galvanized Pipe or acceptable equivalent and shall be of all welded construction
- Mesh shall enclose the gate frame as shown and shall be the same mesh design as the fence, or as approved by the Engineer.

(1) WALK GATES
- Height - approx 42" (5 panels)
- Weight - {Galvanized Steel, 15 lbs / Tempered Aluminum, 10 lbs}
- Width of gate opening - 3'-0"

app cas al anized coat with ASTM Designation [illegible]

ALTERNATE WALK GATES
- Height - 42"
- Weight - Not less than 18 lbs complete with latch and hinges.
- Width of gate opening - 3'-0"
- Gate Frame - 3/4" I.D. Standard Galvanized Pipe or acceptable equivalent and shall be of all welded construction
- Mesh shall be of the same construction designated for Driveway Gate.

Alternate equivalent standard metal gates other than shown will be acceptable subject to the Engineer's approval

In lieu of galvanized finish on gate frames, Cadmium Plated pipe or Aluminum painting will be considered to be equivalent.

LATCHES AND HINGES

Galvanized steel or Aluminum of standard make

Hinges shall be placed as shown, to prevent theft

In lieu of standard make latches it will be permissible to use an electro-galvanized chain, eyebolt and snaphook type latch. Eyebolt, chain and snaphook assembly to be secured to latch side of gate. Gate closure effected by wrapping chain around end post and snapping hook into chain.

WOODEN STAYS

Wooden stays shall be untreated native timber. Stay dimensions, including length, shall have a tolerance of ± 1/4".

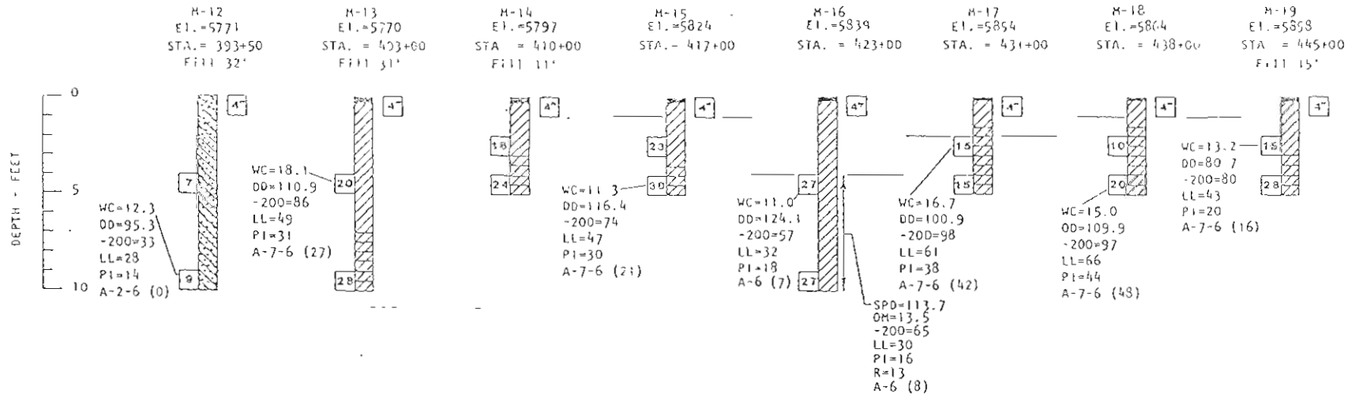
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

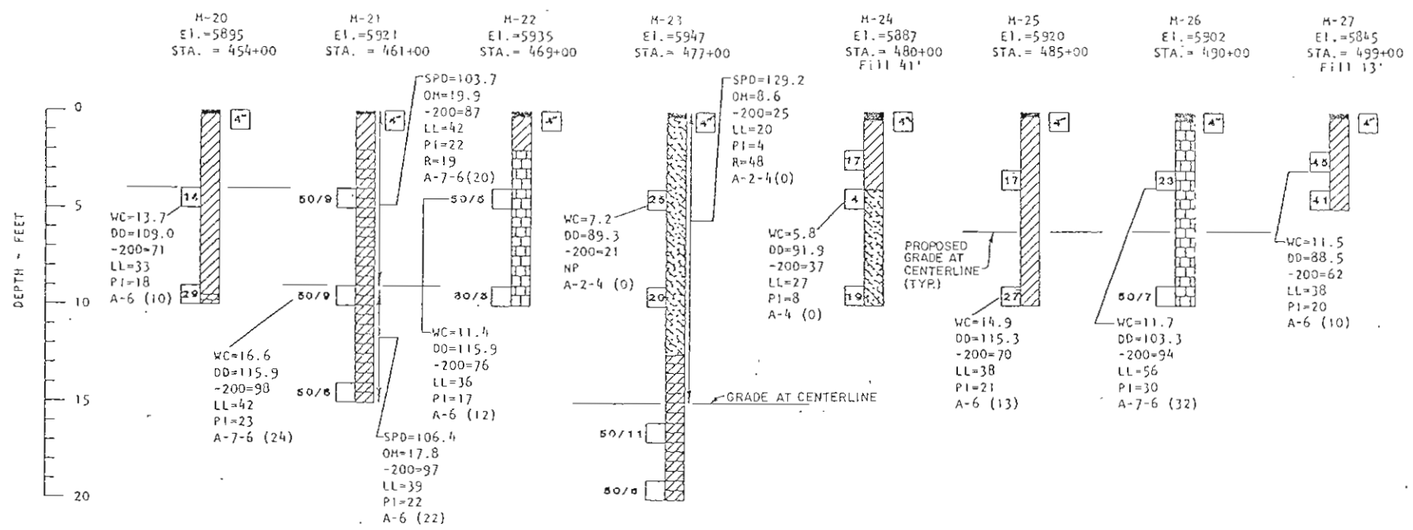
WIRE FENCES AND GATES

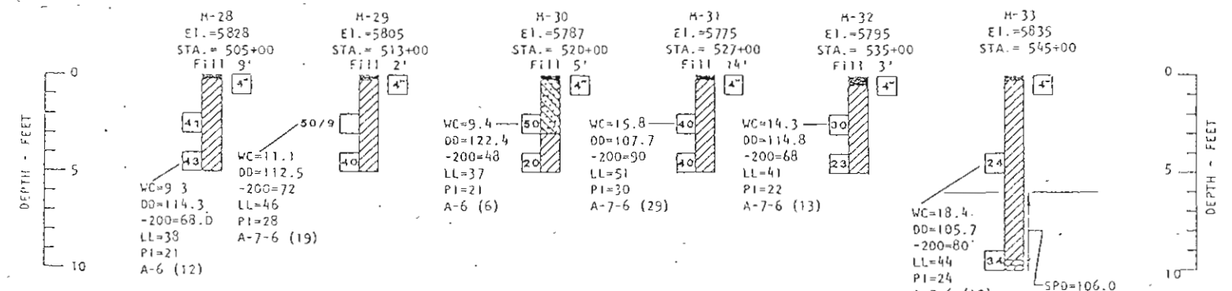
LOGS OF EXPLORATORY HOLES

AS CONSTRUCTED							
NO REVISIONS [X]	REVISED [ ]	VOID [ ]					

FED ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IFU 470-1(05)	15	49





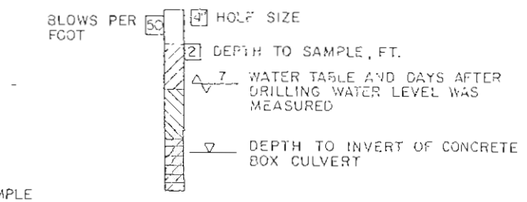


Note: Blasting may be required during excavation operations and will not be paid for separately, but shall be included in the work.

LEGEND

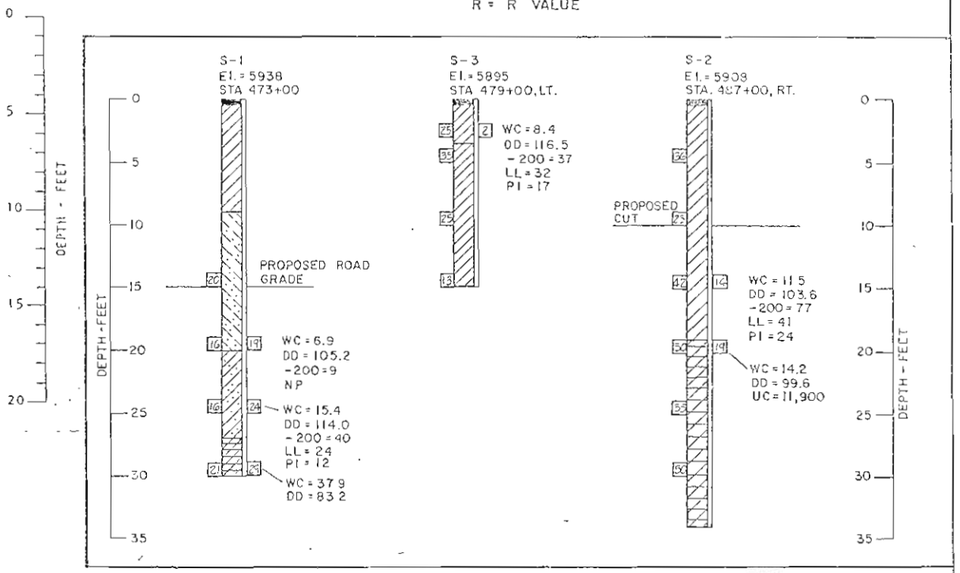
- TOPSOIL
- BASE COURSE
- FILL
- WATER
- SAND
- CLAY
- CLAYSTONE
- SANDSTONE
- LIMESTONE
- SILTY
- CLAYEY
- AA — ASPHALT
- 1 3/8 INCH I.D SPLIT SPOON SAMPLE
- 2 INCH I.D. CALIFORNIA LINER SAMPLE
- SHELBY TUBE SAMPLE

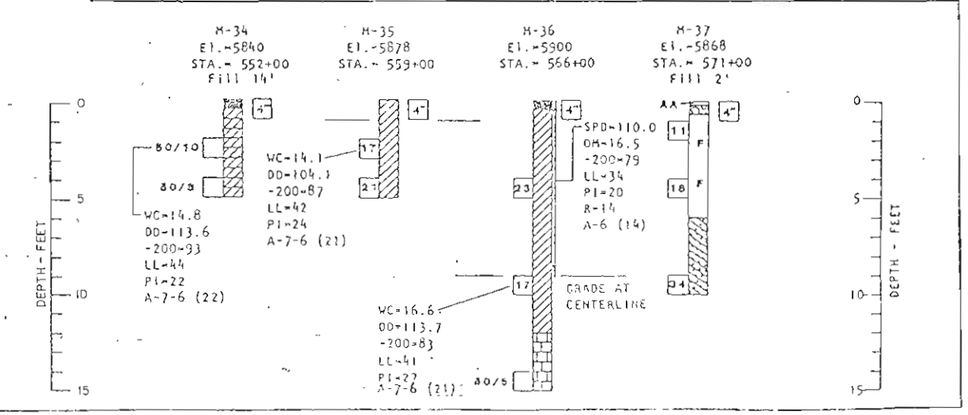
TEST BORING:



LABORATORY TEST RESULTS:

WC = WATER CONTENT (%)
DD = DRY DENSITY (pcf)
+4 = PERCENTAGE RETAINED ON # 4 SIEVE
-200 = PERCENTAGE PASSING NO 200 SIEVE
LL = LIQUID LIMIT (%)
PI = PLASTICITY INDEX (%)
NP = NON-PLASTIC
UC = UNCONFINED COMPRESSIVE STRENGTH (psf)
SPD = STANDARD PROCTOR DENSITY (pcf)
OM = OPTIMUM MOISTURE CONTENT (%)
R = R VALUE



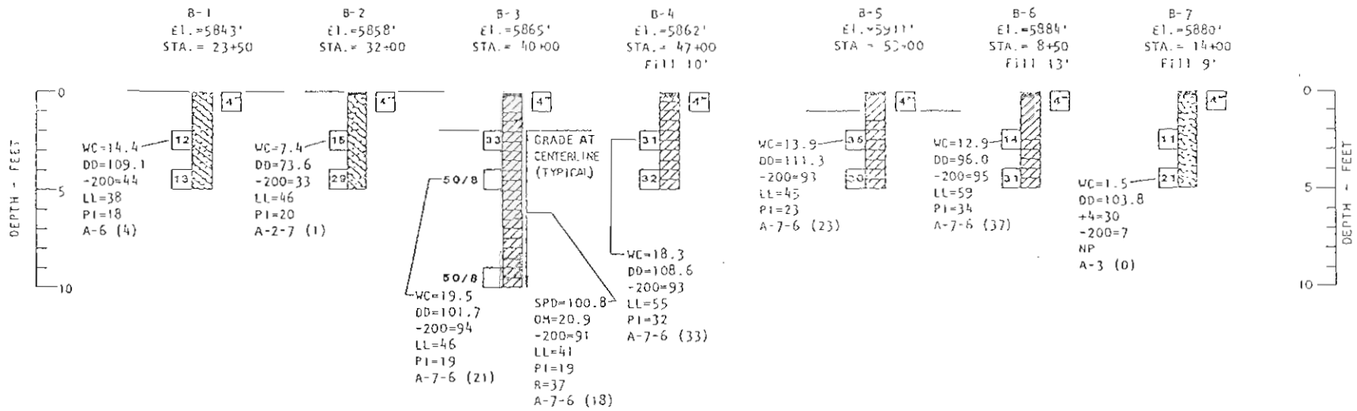


STATE OF COLORADO
DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
STANDARD FORM NO. 1
FEB. 1965

AS CONSTRUCTED					
NO REVISIONS	REVISED	VOID	FED ROAD REGION	DIVISION	PROJ NO
			VIII	COLO.	IXFU 470-1(55)

SHEET NO.	SHEETS TOTAL
16	47

LOGS OF EXPLORATORY HOLES



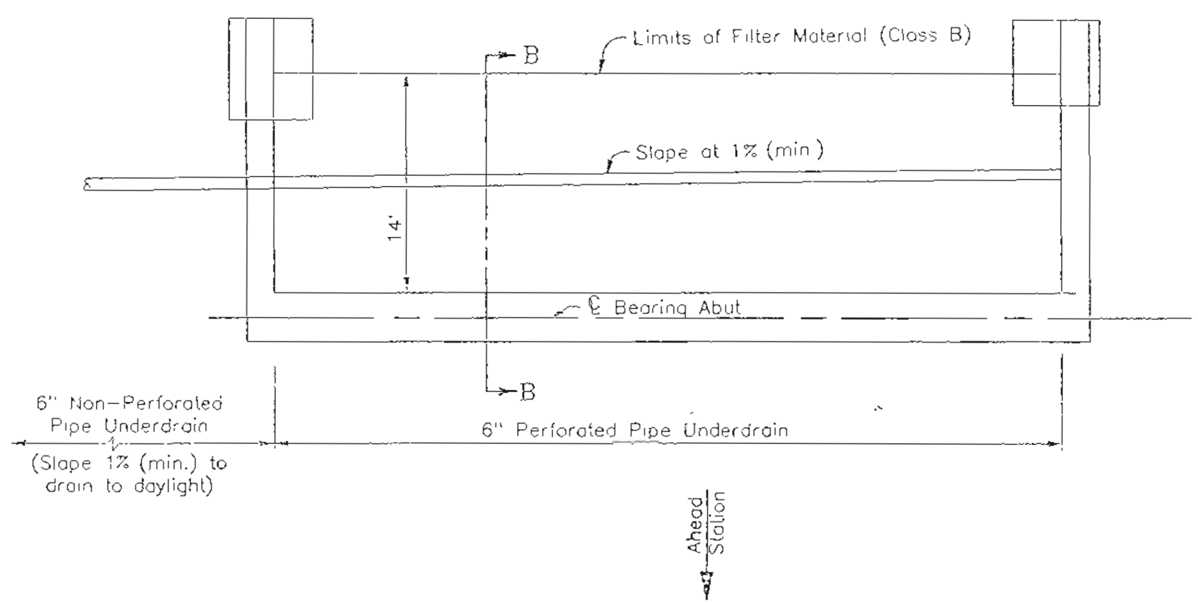
DETAILS OF BACKFILL AT BRIDGE ABUTMENTS FOR STRUCTURES NO. F-16-NE,

AS CONSTRUCTED	FED. RD. REGION	[illegible]	[illegible]	SHEET
NO REVISIONS ☐ REVISED 7-[illegible] VOID ☐	XIII	OLD.	IXFU 47[illegible]	77

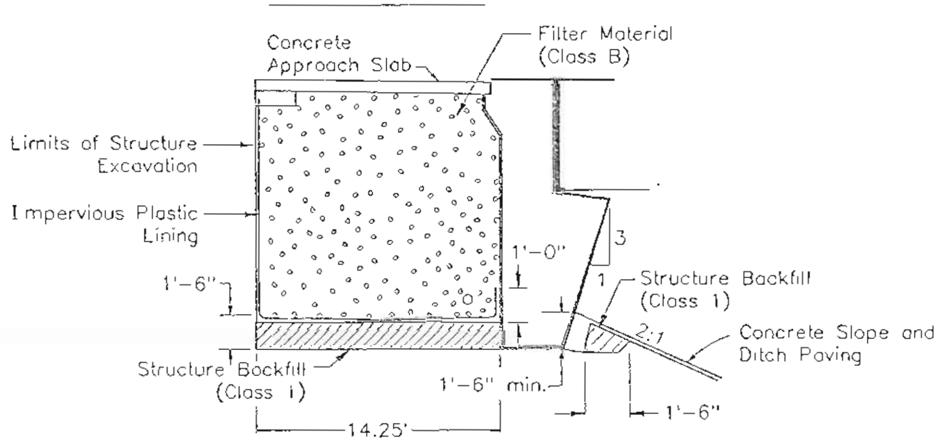
NOT TO SCALE

ABUTMENT

PLAN



SECTION B-B



NOTE: Structure Excavation, Structure Backfill and Filter Material (Class B) behind Abutments shall be as indicated in this detail. All other Structure Excavation and Backfill for Retaining Walls, Front of Abutments and Slope and Ditch Paving shall be as shown in Standards M-206-1 and M-206-2.

GENERAL NOTES

For additional Abutment and Wingwall Details, refer to the Bridge Plans.

For Structure Backfill requirements not shown, refer to Standards M-206-1 and M-206-2.

Impervious Plastic Lining shall have a thickness of 30 mils.

Quantities for Structure Excavation are included in the Bridge Summary of Quantities.

ø Tabulation of Items to be placed behind Abutments for Structures listed below:

PAY ITEM		STR. F-16-NE	~~STR. F-16-N[illegible]~~	~~STR. F-16-NM~~	TOTAL
206	Structure Backfill (Cl. 1)	~~114~~ 2 cu. yd.			~~114~~ 2 cu. yd.
206	Structure Backfill (Cl. 2)	114 cu. yd.			114 cu. yd.
206	Filter Material (Cl. B)	1037 cu. yd.			1037 cu. yd.
506	Impervious Plastic Lining	~~445~~ 573 sq. yd.			~~446~~ 573 sq. yd.
605	6 inch non-perforated pipe underdrain	~~20~~ 73 lin. ft.			~~2[illegible]~~ 73 lin. ft.
605	6 inch perforated pipe underdrain	180 lin. ft.			180 lin. ft.

ø Quantities carried to Structure Quantities sheet.

11/18/87 10:04:36 NSP1:::[SMD/85187/DETAIL] BRAB_470NJ 85187 H103

AS CONSTRUCTED			
NO REVISIONS	REVISED 7-13-07	VOID	

FED ROAD REGION	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLO	IXEU 470-1(55)	18	49

REVISIONS		

GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS OF THE DIVISION OF HIGHWAYS, STATE OF COLORADO.

SEE STANDARD M-208-1 AND M-208-2 FOR STRUCTURE EXCAVATION AND BACKFILL DETAILS NOT SHOWN IN THE ROADWAY PLANS

ROADWAY EMBANKMENT SHALL BE PLACED CONCURRENTLY WITH STRUCTURE BACKFILL (CLASS 1) AND FILTER MATERIAL (CLASS B)

SEE STANDARD M-614-12 FOR STRUCTURE NUMBER INSTALLATION DETAILS.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213. PAYMENT FOR EXPANSION JOINT MATERIAL SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CLASSES OF CONCRETE.

(1) THE COMPRESSION JOINT SEALER SHALL BE CLOSED CELL, FOAMED, CROSS-LINKED ETHYLENE VINYL ACETATE/LOW DENSITY POLYETHYLENE COPOLYMER WITH UNCOMPRESSED DIMENSIONS AS SHOWN ON THE PLANS. BRIDGE COMPRESSION JOINT SEALER SHALL BE INSTALLED WITH AN EPOXY BONDING AGENT AS PER THE MANUFACTURER'S INSTRUCTIONS AND SHALL BE ONE CONTINUOUS PIECE AT EACH JOINT WHEN POSSIBLE.

ALL EXPOSED CONCRETE SURFACES EXCLUDING SIDEWALKS AND MEDIAN DOWN TO 1'-0" BELOW FINISHED GRADE SHALL BE FINISHED WITH A CLASS 1 FINISH FOLLOWED BY A CLASS 5 COLORED COATING MEETING THE REQUIREMENTS OF THE REVISION TO SECTION 601, STRUCTRUAL CONCRETE (COATING). IN THE SPECIAL PROVISIONS, THE COLOR OF THE CLASS 5 COATING SHALL BE IN THE FED SERIES NO. 31667 (TAN) OR NO. 30219 OF FEDERAL STANDARD NO 595a AS ILLUSTRATED ON DWG B2 HEREIN.

THE LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.

THE FOLLOWING TABLE GIVES THE MINIMUM CLASS B LAP SPLICE LENGTH FOR CONTINUOUS REINFORCING BARS UNLESS OTHERWISE SHOWN.

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS A CONCRETE	1'-10"	2'-4"	3'-0"	4'-0"	5'-4"	6'-8"	8'-6"	10'-5"
SPLICE LENGTH FOR CLASS S CONC.	1'-10"	2'-4"	2'-9"	3'-3"	3'-11"	4'-11"	6'-3"	7'-8"

STAGGER ALL SPLICES ONE SPLICE LENGTH WHERE POSSIBLE

APPLIED WIND AND EARTHQUAKE LOADS WERE NOT CONSIDERED IN ANALYZING THE STRUCTURE FOR STABILTY DURING THE CONSTRUCTION STAGES.

EXISTING UTILITIES AS SHOWN ON THE PLANS WERE PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR'S ATTENTION IS DIRECTED TO PARAGRAPH 107.18 OF THE STANDARD SPECIFICATIONS CONCERNING UTILITIES. THE CONTRACTOR SHALL CALL FOR UTILITY LOCATIONS PRIOR TO MAKING EXCAVATIONS.

ABBREVIATIONS

E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
℄ = BASE LINE

DESIGN DATA

CURRENT AASHTO DESIGN SPECIFICATIONS.

COLUMNS WERE DESIGNED WITH USD PRINCIPALS AND THE ULTIMATE STRENGTH OF THE SUPERSTRUCTURE WAS CHECKED. ALL OTHER DESIGN ELEMENTS INCLUDING THE SUPERSTRUCTURE WERE SIZED WITH WSD PRINCIPALS.

LIVE LOAD: AASHTO HS-20-44 AND INTERSTATE ALTERNATE
DEAD LOAD: ASSUMES 50 LBS. PER SQ. FT. FOR BITUMINOUS PAVEMENT AND 8 LBS. PER SQ. FT. FOR FORM WORK.

CLASS A CONCRETE:

F'c = 3000psi , Fc = 1200psi , N = 9

CLASS S CONCRETE:

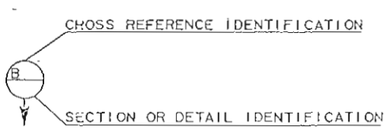
SEE CAST-IN-PLACE POSTTENSIONED BOX GIRDER DETAILS

REINFORCING STEEL:

GRADE 60, Fy = 60,000psi , Fs = 24,000psi
ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL (INCLUDING PILING):

AASHTO M-183 (ASTM A-36), Fs = 20,000psi



SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	APPROACH SLABS	SUPER-STRUCTURE	RET WALL ABUT 1	ABUT. 1	PIER 2	ABUT 3	RET. WALL ABUT. 3	TOTALS
(1) 206	STRUCTURE EXCAVATION	CU.YD.			154	62	488	~~417~~ 413	154	~~1271~~ 1275
206	STRUCTURE BACKFILL (CLASS 1) DELETED BY DOH FORM 105	CU.YD.			~~121~~ 0				~~82~~ 0	~~203~~ 0
206	STRUCTURE BACKFILL (CLASS 2)	CU.YD.			121		330		82	~~533~~ 533 ~~330~~
502	DRILLING HOLE TO FACILITATE PILE DRIVING	LIN.FT.	DELETED ON CMO # 2			~~240~~ 0		~~240~~ 0		~~480~~ 0
502	FACILITATE PILE DRIVING CMO # 2	L.S.				0.5		0.5		1.0
502	STEEL PILING (HP 12X74)	LIN.FT.			~~220~~ 220 ~~217~~	~~146~~ 146 ~~324~~		~~325~~ 325 ~~328~~	131 ~~213~~	1,072 ~~1085~~
507	CONCRETE SLOPE AND DITCH PAVING					10.2		91.96		152.36
	(REINFORCED)	CU.YD.				~~62.0~~		~~86.0~~		~~148.0~~
(4) 515	WATERPROOFING (MEMBRANE)	SQ.YD.		581 ~~582~~						581 ~~582~~
518	BRIDGE COMPRESSION JOINT SEALER	LIN.FT.				3 ~~38~~		33 ~~38~~		66 ~~76~~
518	WATERSTOP (6 INCH)	LIN.FT.				17		17		34
601	CONCRETE CLASS A (BRIDGE)	CU.YD.				107.3	340.28 ~~307.3~~	72.4		519.78 ~~487.0~~
601	CONCRETE CLASS A (WALL)	CU.YD.			79.6				81.4	161.0
(2) 601	CONCRETE CLASS S (BRIDGE)	CU.YD.	167.2	1987.22 ~~1987.1~~		76.4		73.3		2304.28 ~~2304~~
602	REINFORCING STEEL	LB.			1672		7490		1672	10,834
(3) 602	REINFORCING STEEL (EPOXY COATED)	LB.	14,838	361,039 ~~321,534~~	4176	15,124	77,323	13,258	4315	480,073 ~~460,568~~
607	FENCE CHAIN LINK SPECIAL	LIN.FT.		774 ~~781~~						774 ~~781~~
613	1-1/2" ELECTRICAL CONDUIT	LIN.FT.					74 ~~66~~			74 ~~66~~
613	2" ELECTRICAL CONDUIT (PLASTIC)	LIN.FT.		408 ~~378~~						408 ~~378~~
613	3" ELECTRICAL CONDUIT (PLASTIC)	LIN.FT.		411 ~~378~~						411 ~~378~~
613	LUMINAIRE HIGH PRESSURE SODIUM (WALL TYPE) (16,000 LUMEN)	EACH					2			2
613	LIGHTING SYSTEM	EA.		20						20
618	PRESTRESSING STEEL WIRE OR STRAND	M KFT		7621						7621

(1) INCLUDES 62 CU.YD. AT ABUTMENT 1 AND 86 CU.YD. AT ABUTMENT 3 FOR CONCRETE SLOPE AND DITCH PAVING EXCAVATIONS.

(2) APPROACH SLAB QUANTITY INCLUDES 82.6 CU. YD. AT ABUTMENT 1 AND 84.6 CU.YD. AT ABUTMENT 3 . SUPERSTRUCTURE QUANTITY INCLUDES 106.5 CU.YD. OF BARRIER CONCRETE.

(3) INCLUDES 7419 LBS. AT EACH ABUTMENT FOR APPROACH SLABS.

(4) THIS CONTRACT CALLS FOR 582 SQ.YD. OF WATERPROOFING MEMBRANE IN THE MEDIAN FROM STATION 113+56.49 TO STATION 117+07.35. FUTURE CONSTRUCTION WILL REQUIRE 2105 SQ.YD. OF WATERPROOFING MEMBRANE IN THE ROADWAY FROM STATION 113+56.49 TO STATION 117+07.35.

INDEX OF DRAWINGS

BRIDGE DESCRIPTION

2 SPANS (151'-0", 141'-0") CONTINUOUS POST-TENSIONED CONCRETE BOX GIRDER BRIDGE.

QUINCY AVENUE OVER S.H. 470, 89'-2" OVERALL, 27'-0" CURB TO CURB EACH DIRECTION SEPARATED BY 16'-0" RAISED MEDIAN, 1'-7" RAIL WITH 5'-6" WALK LEFT SIDE, 1'-7" RAIL WITH 10'-6" WALK RIGHT SIDE, FENCE CHAIN LINK SPECIAL EACH SIDE, 70°-54'-48.4" SKEW ANGLE EACH BENT.

REVIEWED
BRIDGE ENGINEER DATE 11/20/07

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

QUINCY AVENUE OVER S.H. 470

GENERAL INFORMATION
SUMMARY OF QUANTITIES

STA. 113+84.60 TO STA. 116+79.24

NEAR MORRISION SEC. 7 T.5S. R.69.W

DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		

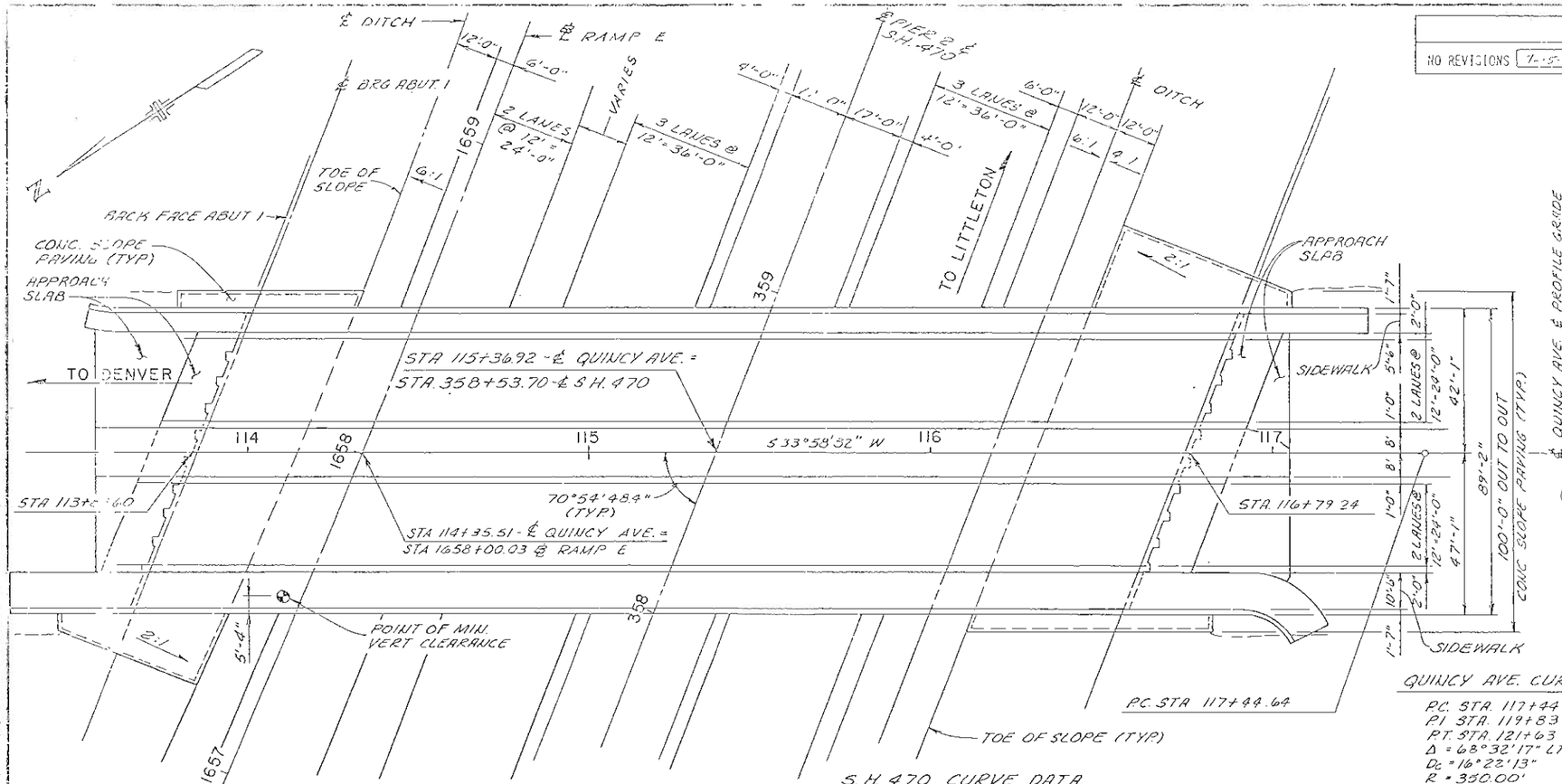
DRAWING NUMBER B 1 OF 21 DRAWINGS

REVISION DATES (PRELIMINARY STAGE ONLY)

AS CONSTRUCTED			
NO REVISIONS	7-15-39	REVISED	VOID

FEDERAL ROAD REGION NO	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	IXFU 470-1(55)	19	49

REVISIONS		



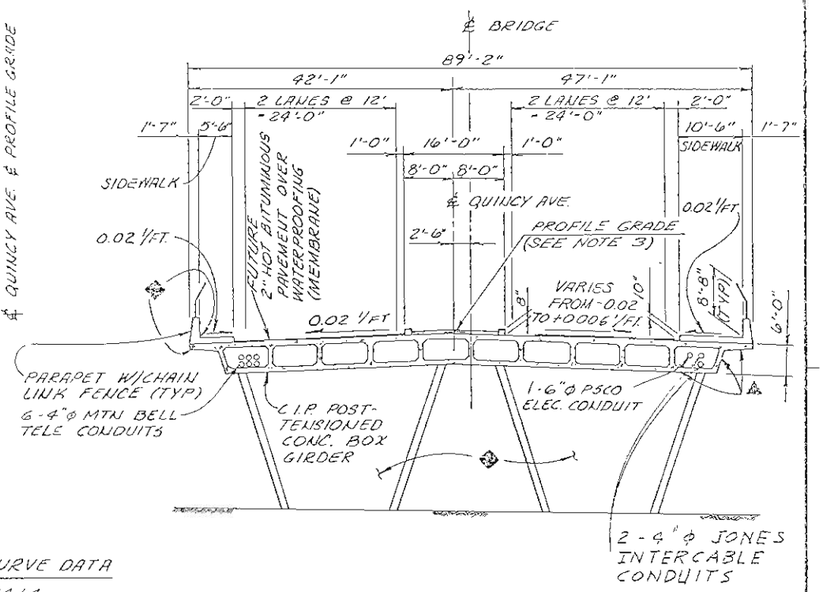
PLAN

S.H. 470 CURVE DATA

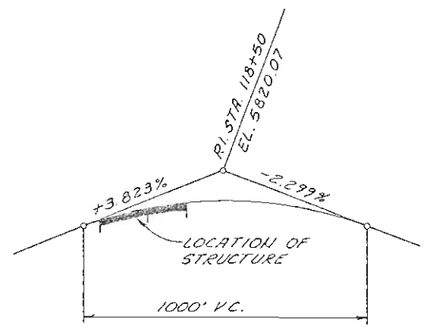
P.C. STA. 328+18.68
P.I. STA. 345+86.29
P.T. STA. 363+26.25
Δ = 17°32'16" RT.
Dc = 30.0'
R = 11459.16'
T = 1767.61'
L = 3507.57'
e = .02 V/FT.

QUINCY AVE. CURVE DATA

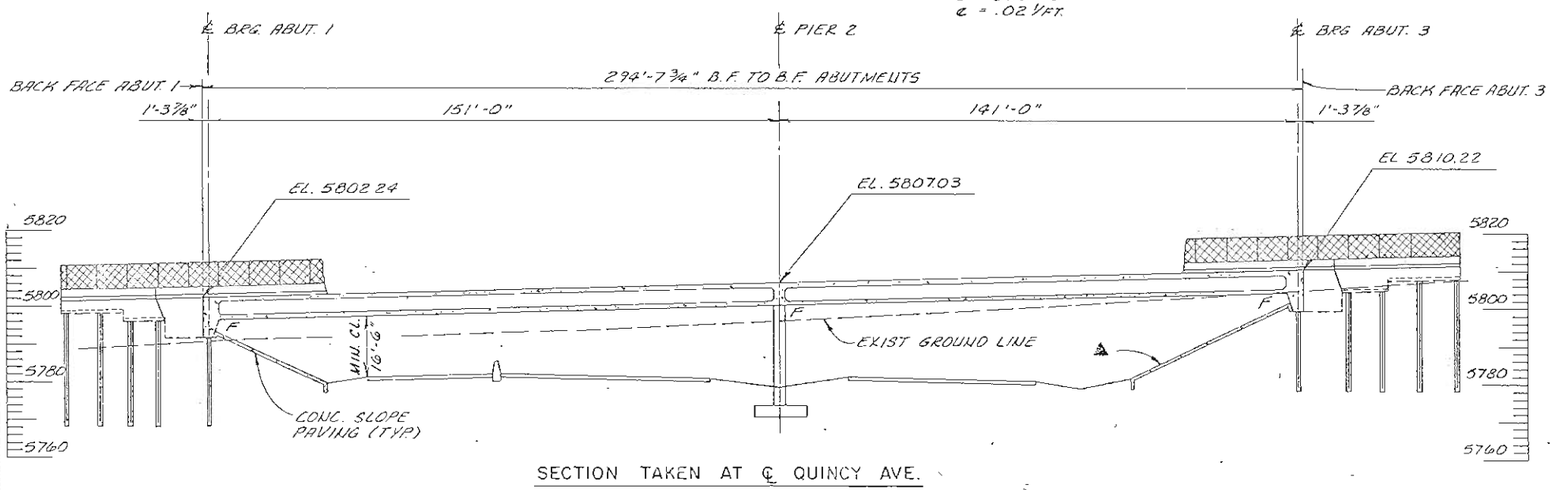
P.C. STA. 117+44.64
P.I. STA. 119+83.12
P.T. STA. 121+63.32
Δ = 68°32'17" LT.
Dc = 16°22'13"
R = 350.00'
T = 238.48'
L = 418.68'
e = .037 V/FT.



TYPICAL SECTION



PROFILE GRADE



SECTION TAKEN AT ℄ QUINCY AVE.

NOTES:
1. LIVE LOADING HS-20-44 & INTERSTATE ALTERNATE.
2. FINISHED ROADWAY ELEVATIONS ARE AT PROFILE GRADE LINE (℄ QUINCY AVE)
3. THE PROFILE GRADE LINE IS 0.1667' ABOVE THE TOP OF THE CONCRETE DECK.

LEGEND:

◈ = SURFACE TO RECEIVE COLORED COATING FINISH NO. 31667

▲ = SURFACE TO RECEIVE COLORED COATING FINISH NO. 30219

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

QUINCY AVE. BRIDGE
OVER
S.H. 470

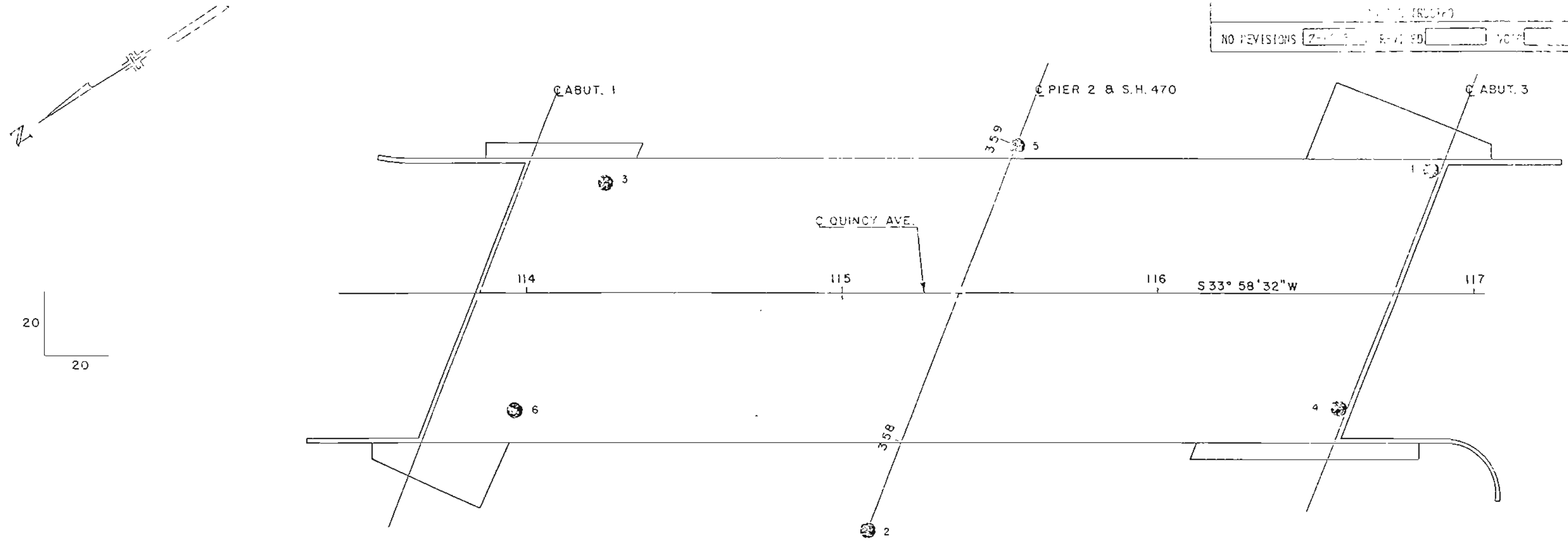
GENERAL LAYOUT

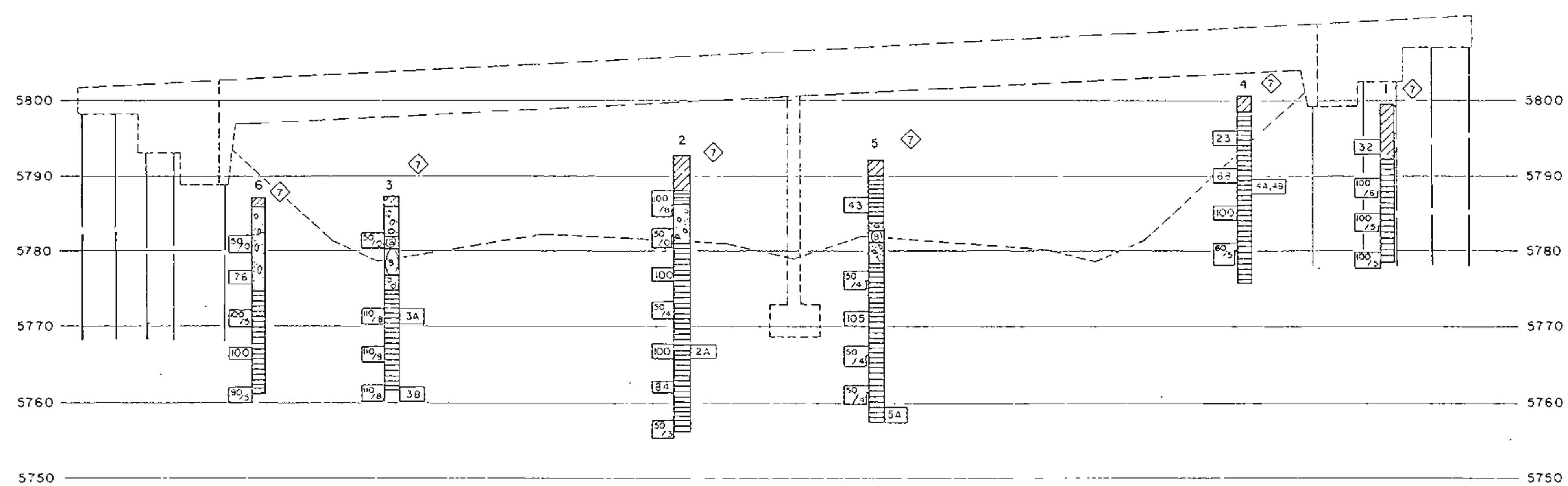
Designer D. OSMUN		Structure Numbers	F-16-NE
Detailer L. PACHECO			
Drawing Number B2	of 21	Drawings	

Revision Dates (Preliminary Stage Only)

Federal Region	State	Project No.	Sheet No.	Total Sheets
VIII	COLORADO	IXFU 470-1(55)	20	49

NO REVISIONS 2-[illegible] REVISED VOID





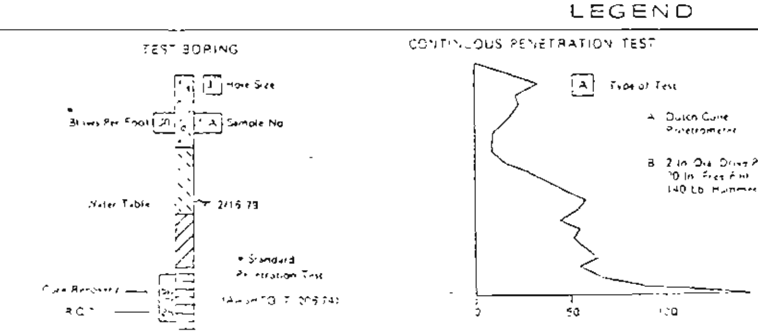
SUMMARY OF TEST RESULTS

Sample No.	Depth	Classification: Unified Soil Class	Classification: AASHTO	Grading Analysis Percent: Gravel	Coarse Sand	Fine Sand	Silt Clay	Atterberg Limits: Liquid Limit	Plastic Limit	Plastic Index	Water Content %	Dry Density P.C.F.	Unconfined Strength Q_u T.S.F.	SWELL PRESSURE T.S.F.	Depth of Sample
2A	25.5-2[illegible]	CLAYSTONE	A-6(10)	1	2	14	83	34	21	13	20.2				
3A	15.5-16	CLAYSTONE	A-6(14)	0	1	5	94	38	25	13	20.9				
3B	25.5-25	CLAYSTONE		0	0	2	98	39	25	14	21.7				
4A	22.5-25.0										18.29	120.5		2.0	
4B	22.5-25.0										15.74	130.3		1.2	
5A	32.5-3[illegible]	CLAYSTONE	A-6(8)									147.3	5.85		2.720

TYPE OF MATERIAL

- CLAY
- SANDY GRAVEL
- BOULDER
- CLAYSTONE

LEGEND



- Location of Test Boring
- Location of Continuous Penetration Test
- Rotary Boring
- Auger Boring

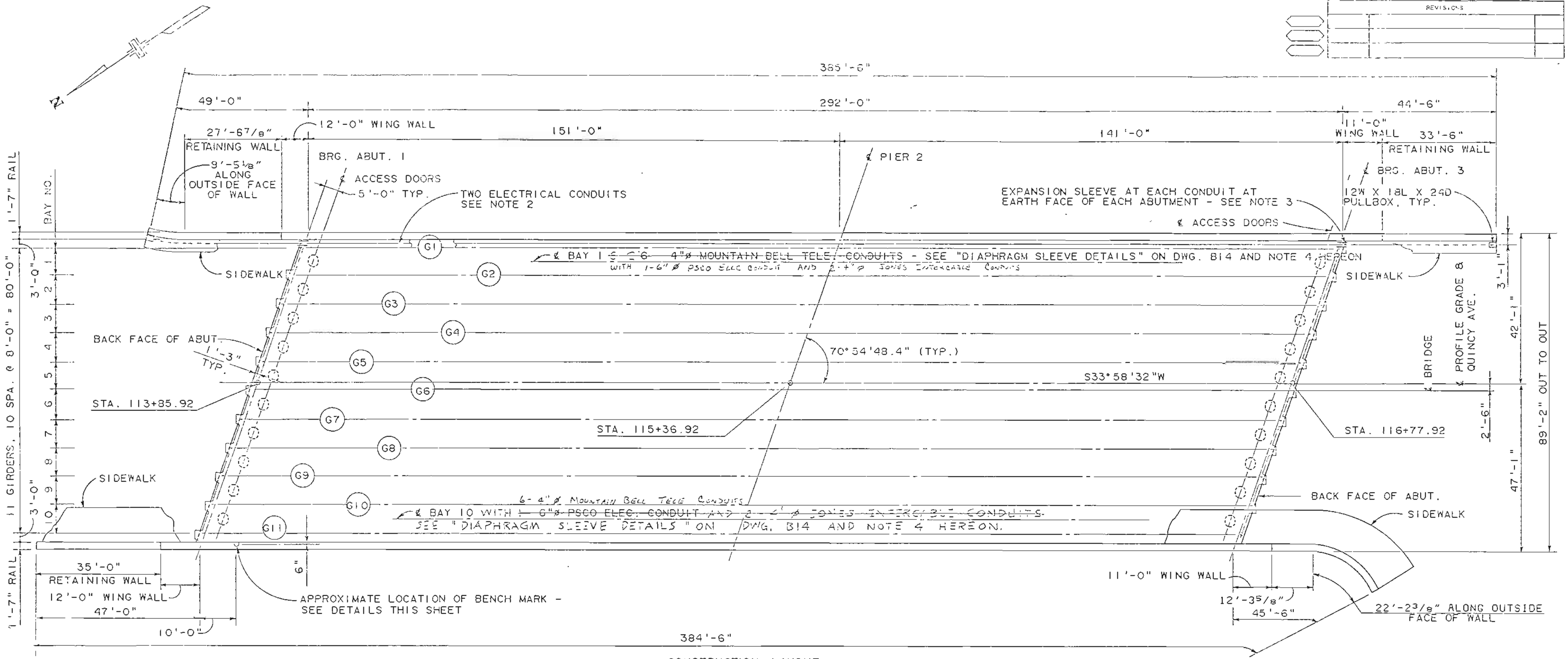
STRUCTURE NO. E-16-NE
[illegible] NO. 3 — OF 21

DIVISION OF HIGHWAYS

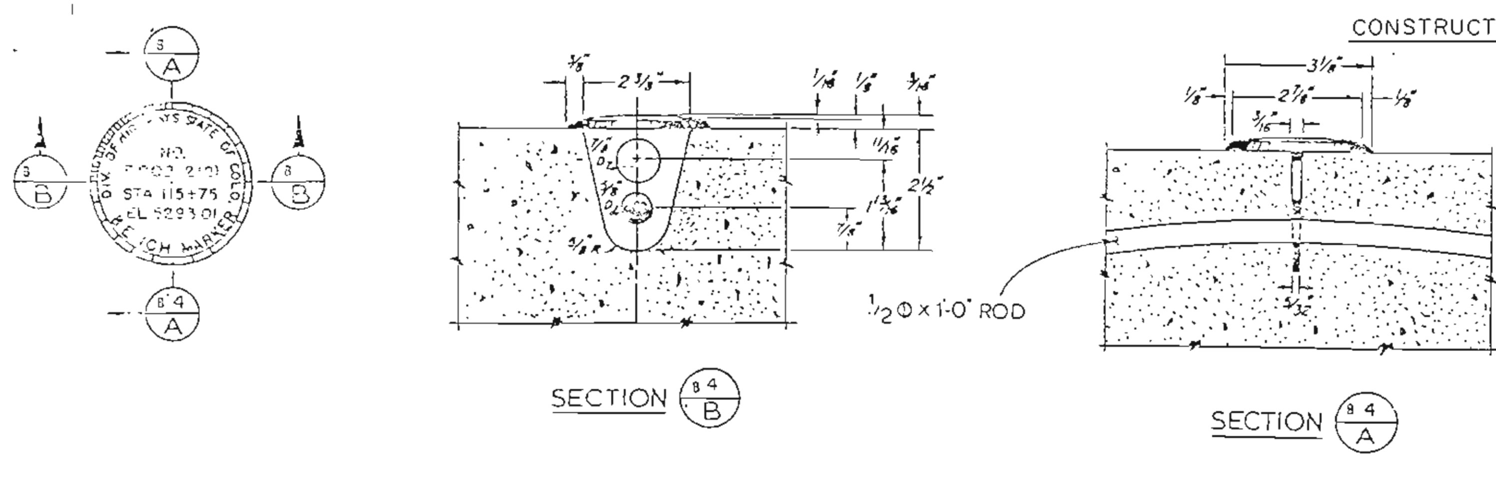
ENGINEERING GEOLOGY

AT C-470

Geologist RF
Drawn by AMP
Checked by RF
Date 11/7/84



CONSTRUCTION LAYOUT



BENCH MARK DETAILS
(SEE NOTE 1)

NOTES:

1. ALL EXPOSED SURFACES OF THE BRONZE TABLET ARE TO BE GROUND TO A SMOOTH SURFACE. ALL LETTERS ARE TO BE DEPRESSED A MINIMUM OF 1/16". INFORMATION ON THE BRONZE TABLET INDICATED BY PIN LINES IS TO BE STAMPED IN THE FIELD BY THE ENGINEERING PARTY AFTER THE MARKER HAS BEEN PLACED. 3/16" LETTERS AND FIGURES SHALL BE USED.

   BRONZE BENCH MARK TABLETS WILL BE FURNISHED BY THE DIVISION AT NO EXPENSE TO THE CONTRACTOR.

   INSTALLATION OF THE BRONZE BENCH MARK TABLET WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE INCLUDED IN THE PRICE BID FOR CONCRETE CLASS S (BRIDGE).

   THE STATION SHOWN ON THE MARKER SHALL BE THE CENTERLINE STATIONING DIRECTLY OPPOSITE THE MARKER.

2. PLACE ONE 3" ELECTRICAL CONDUIT FOR FUTURE TRAFFIC SIGNALS AND ONE 2" ELECTRICAL CONDUIT FOR FUTURE LIGHTING IN SIDEWALK AS SHOWN ON THE TYPICAL SECTION THRU DECK ON DWG. B11.

3. THE COST OF EXPANSION SLEEVES SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 613, 2" (3") ELECTRICAL CONDUIT.

4. ALL CONDUITS AND MOUNTING HARDWARE WILL BE FURNISHED BY THE INDICATED UTILITIES. THE COST FOR SLEEVES AT ABUTMENT AND PIER DIAPHRAGMS SHALL BE INCLUDED IN THE COST FOR ITEM 601, CONCRETE CLASS S (BRIDGE). CONDUITS SHALL EXTEND FROM STATION 113+53.49 TO STATION 117+10.35 AND SHALL BE CAPPED AT EACH END.

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

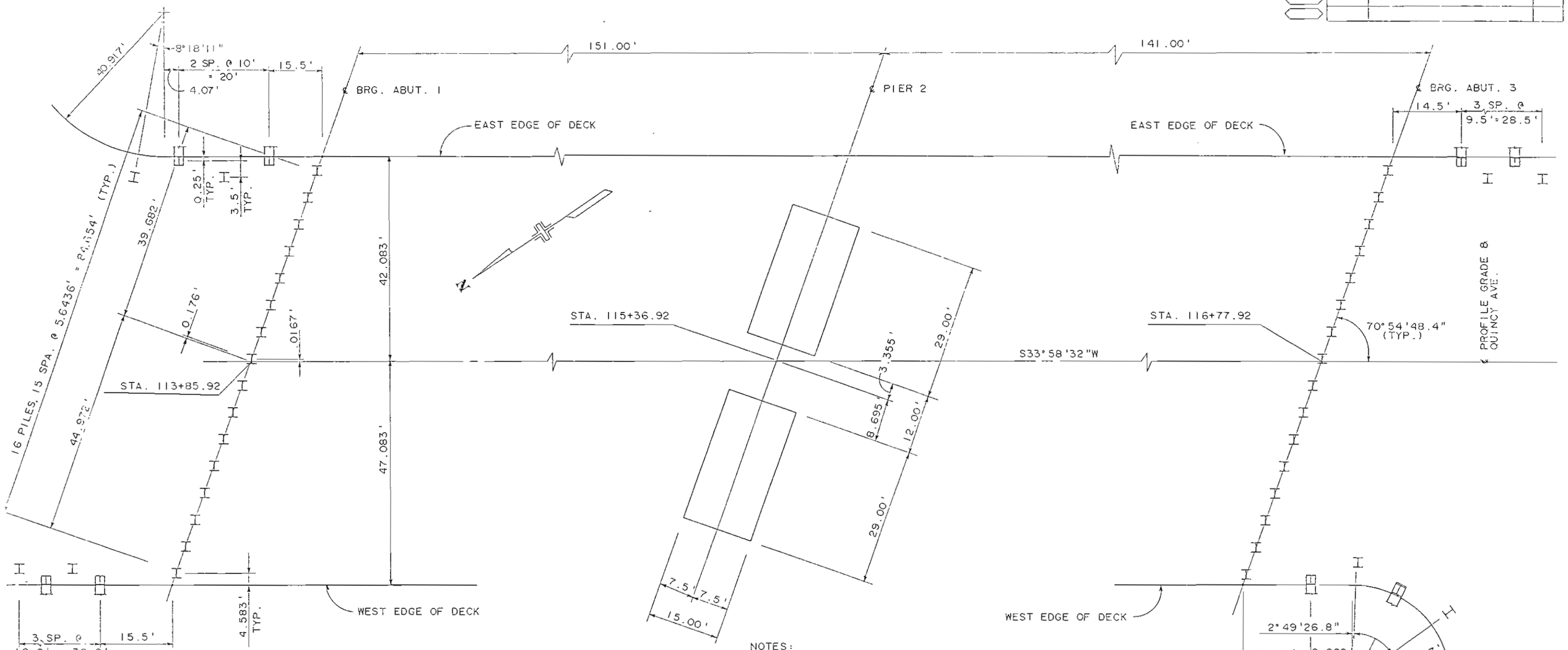
CONSTRUCTION LAYOUT

DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		

DRAWING NUMBER B 4 OF 21 DRAWINGS

AS CONSTRUCTED				FED. ROAD REGION	STATE	PROJ. NO	SHEET NO	TOTAL SHEETS
NO REVISIONS	REVISED 7-15-87	VOID		VIII	COLO	FU 470-1(55)	22	41

REVISIONS		



NOTES:

1. ALL PILES ARE END BEARING.
2. ALL PILES ARE HP 12 X 74.
3. MAXIMUM PILE LOAD FOR ABUT. 1 AND ABUT. 3 = 96.8 TONS. FOR GROUP I LOADING.
4. ~~ESTIMATED~~ PILE TIP ELEVATION IS ~~5768.0~~ 5765.1 AT ABUT. 1 AND ~~5778.0~~ AVERAGE 5773.8 AT ABUT. 3.
5. ABUTMENT PILING SHALL BE PLACED IN 18" DIAMETER DRILLED HOLES. HOLES SHALL BE DRILLED TO A DEPTH OF 15' BELOW THE BOTTOM OF THE PILE CAPS AND SHALL BE BACKFILLED WITH A BENTONITE SLURRY BEFORE PILING IS DRIVEN. THE COST OF BENTONITE SLURRY AND THE LABOR TO PLACE IT SHALL BE INCLUDED IN THE WORK.
6. ⊟ INDICATES 3:12 BATTERED PILES.
7. MAXIMUM FOUNDATION PPESSURE FOR PIER 2 = 11.7 KIPS/S.F. FOR GROUP I LOADING.
8. MAXIMUM PILE LOAD FOR WINGWALL PILES = 32.1 TONS FOR GROUP I LOADING.

CENTENNIAL ENGINEERING, INC ARVADA, COLORADO

DIVISION OF HIGHWAYS

FOUNDATION PLAN

DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		
DRAWING NUMBER B 5 OF 21 DRAWINGS		

REVISED DATES (PRELIMINARY 7-15-87)

AS CONSTRUCTED			
NO REVISIONS 7-1-69	REVISED	VOID	

REG. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XXX	026	IXFU 470-1(55)	53	74

REVISIONS		

NOTE.
1. APPROACH SLAB NOT SHOWN FOR CLARITY.
2. SEE THE CONSTRUCTION LAYOUT ON DNG 64 FOR UTILITY LOCATIONS.

94'-4 1/4" OUT TO OUT

43'-9 7/8" ABUT. 1, 44'-6 3/8" ABUT. 3 | 44'-6 3/8" ABUT. 1, 49'-9 7/8" ABUT. 3

4'-10 1/4" | 11 GIRDERS, 10 SPACES @ 8'-5 5/8" = 84'-7 3/4" | 4'-10 1/4"

RETAINING WALL

WING WALL LENGTHS:
12'-0" ABUT. 1
11'-0" ABUTMENT 3

BEARING & PILES

10'-6" SIDEWALK

STATION AHEAD ABUTMENT 3

STATION AHEAD ABUTMENT 1

PROFILE GRADE & QUINCY AVENUE

8'-0" TYP.

2'-6"

BRIDGE

STA. 113+85.92 ABUT. 1
STA. 116+77.92 ABUT. 3

70° -54'-48.4"

5'-6" SIDEWALK

RETAINING WALL

WING WALL LENGTHS:
12'-0" ABUT. 1
11'-0" ABUT. 3

1'-3"
2'-6"
1'-3"

2'-7" 2'-0" 2'-9"

G11 G1 G10 G2 G7 G5 G6 G6 G5 G7 G2 G10 ABUTMENT 1 / ABUTMENT 3 G1 G11

2'-0" 2'-7" 2'-9"

PLAN

G11 G1 ABUTMENT 1 / ABUTMENT 3

EL. 5794.74 ABUT. 1
EL. 5803.51 ABUT. 3

PROFILE GRADE & QUINCY AVENUE

EL. 5796.12 ABUT. 1
EL. 5804.03 ABUT. 3

G1 G11

EL. 5795.83 ABUT. 1
EL. 5803.85 ABUT. 3

EL. 5787.75 ABUT. 1
EL. 5798.00 ABUT. 3

ELEVATION

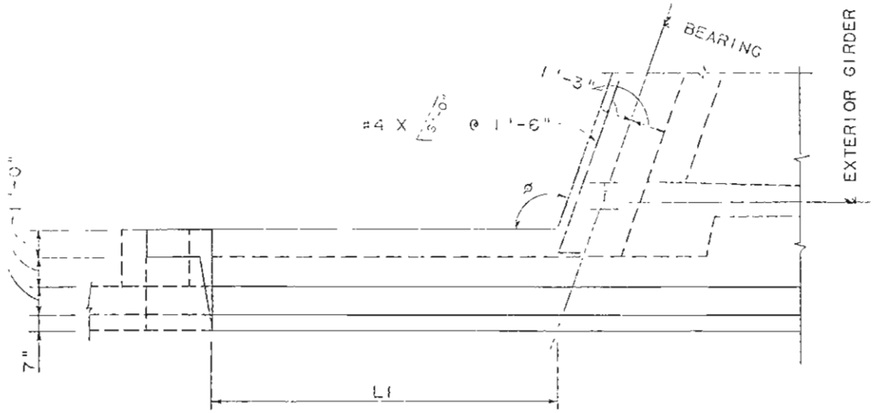
CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

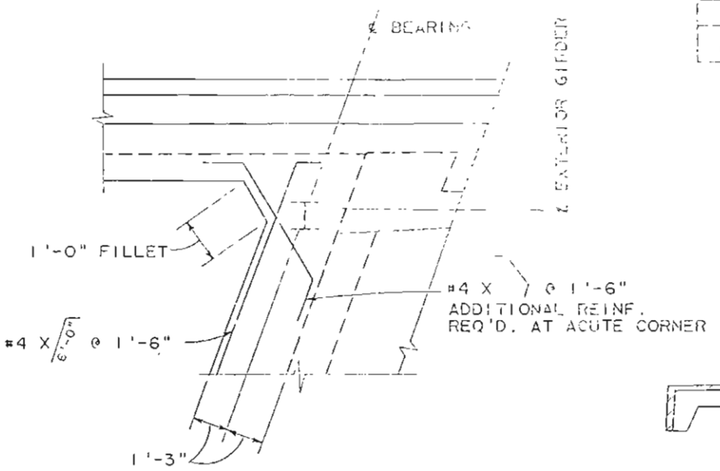
ABUTMENT 1 & 3

DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		
DRAWING NUMBER B.6 OF 21 DRAWINGS		

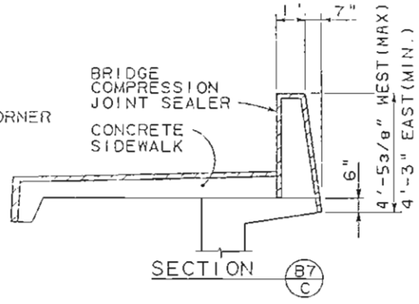
REVISED DATE — PRELIMINARY STAGE ONLY

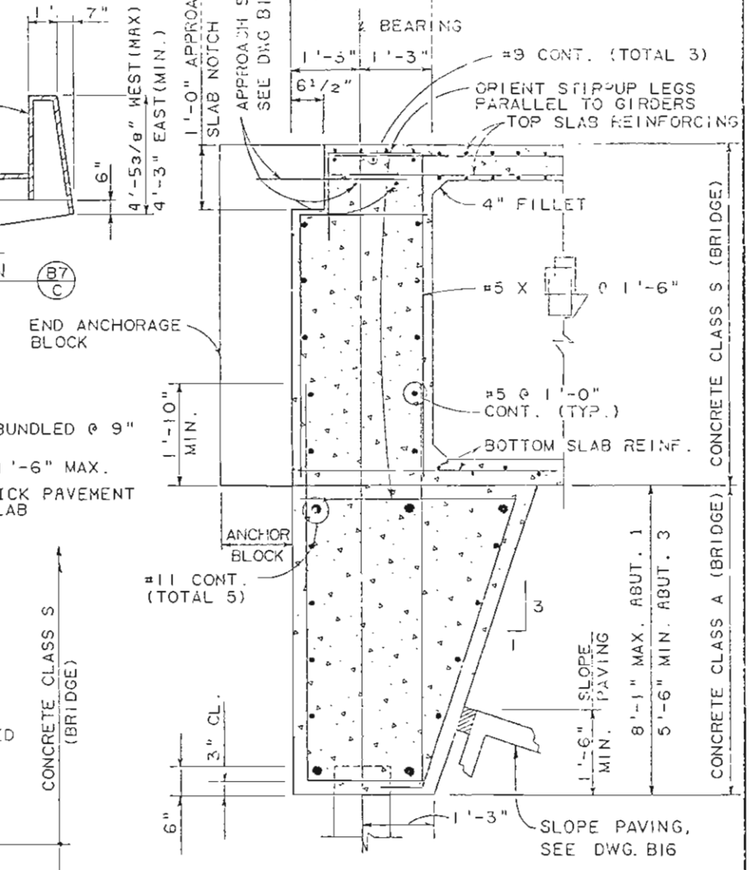


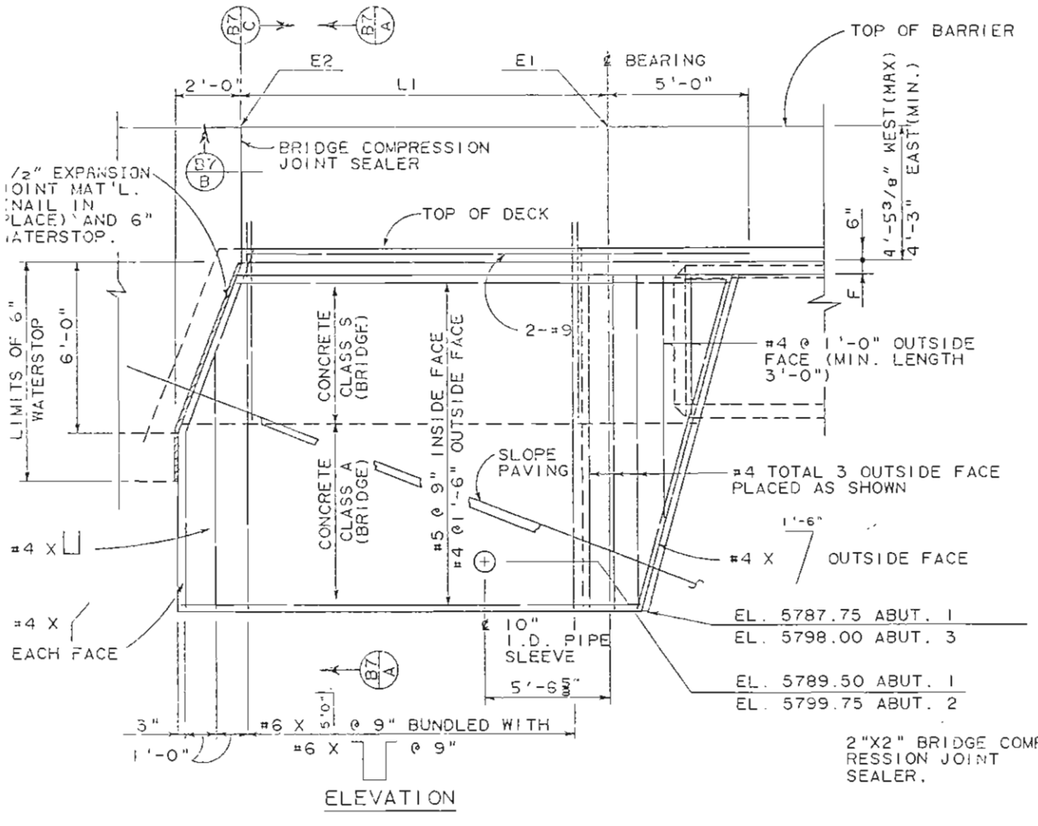
PLAN



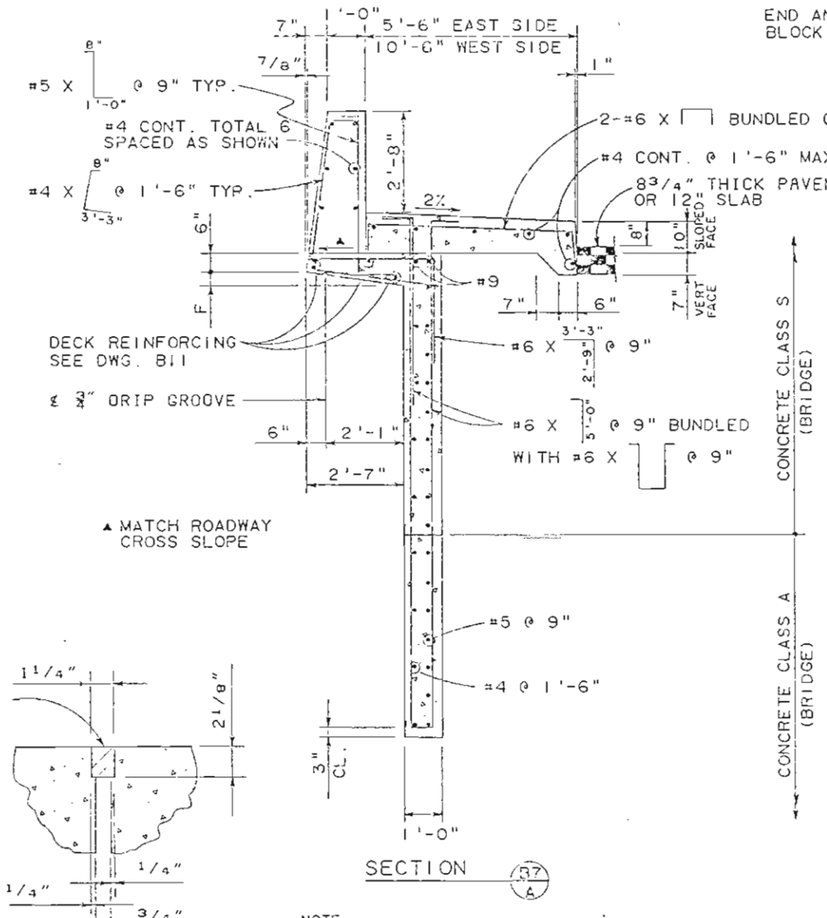
ACUTE CORNER DETAIL







ELEVATION



SECTION B7 A

2"X2" BRIDGE COMPRESSION JOINT SEALER.

SECTION B7 B

TABLE OF DIMENSIONS AND ELEVATIONS				
DIMEN. OR ELEV.	ABUTMENT 1		ABUTMENT 3	
	E. WING	W. WING	E. WING	W. WING
L1	12'-0"	12'-0"	11'-0"	11'-0"
F	4 3/8"	4 3/8"	4 3/8"	5 5/8"
ø	70°54'48.4"	109°5'11.6"	109°5'11.6"	70°54'48.4"
E1	5805.55	5804.54	5813.20	5813.50
E2	5805.12	5804.09	5813.39	5813.79

SEE DWG. B8 FOR RETAINING WALL DIMENSIONS AND ELEVATIONS.

NOTE:
1. USE 2" COVER FOR PRIMARY REINFORCEMENT AND 1 1/2" COVER FOR TIES UNLESS OTHERWISE NOTED.

♣ DELETE ALL TRANSVERSE DECK REINFORCING IN BOTTOM SLAB & BOTTOM TRANSVERSE DECK REINFORCING IN TOP SLAB AT ABUTMENT

TYPICAL ABUTMENT SECTION

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

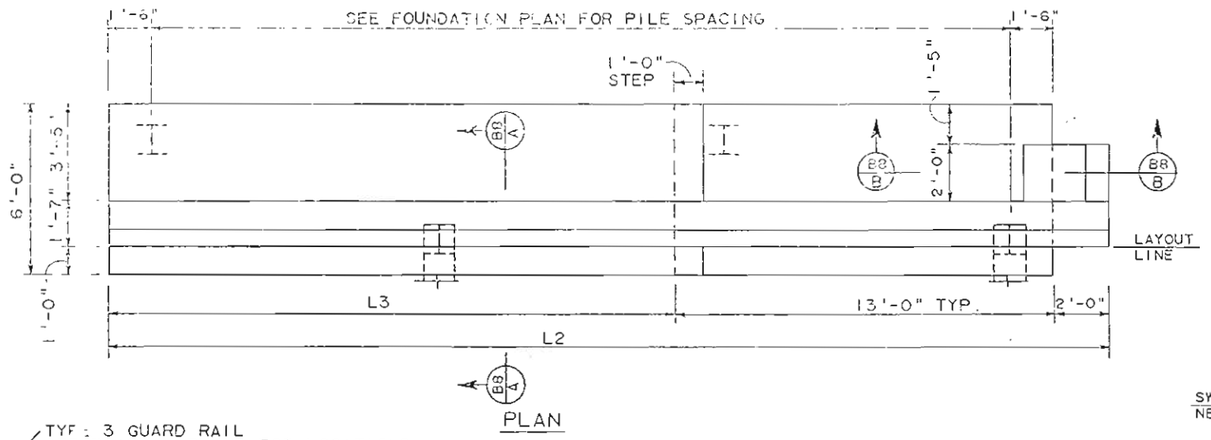
DIVISION OF HIGHWAYS

WINGWALL AND ABUTMENT DETAILS

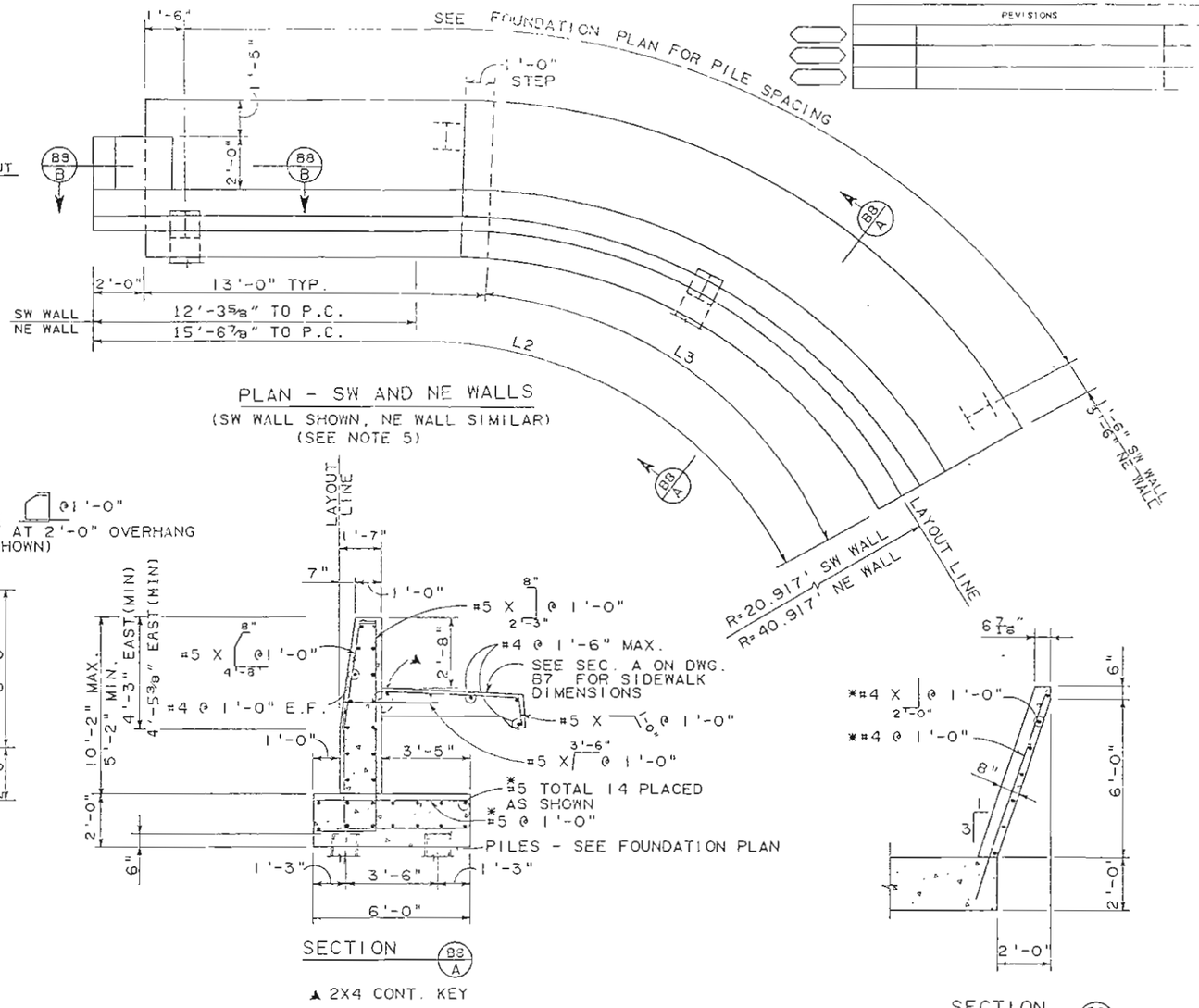
DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		
DRAWING NUMBER B 5 7	OF 2[illegible]	DRAWINGS

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLO.	IXFU 470-1(55)	83	91

REVISIONS

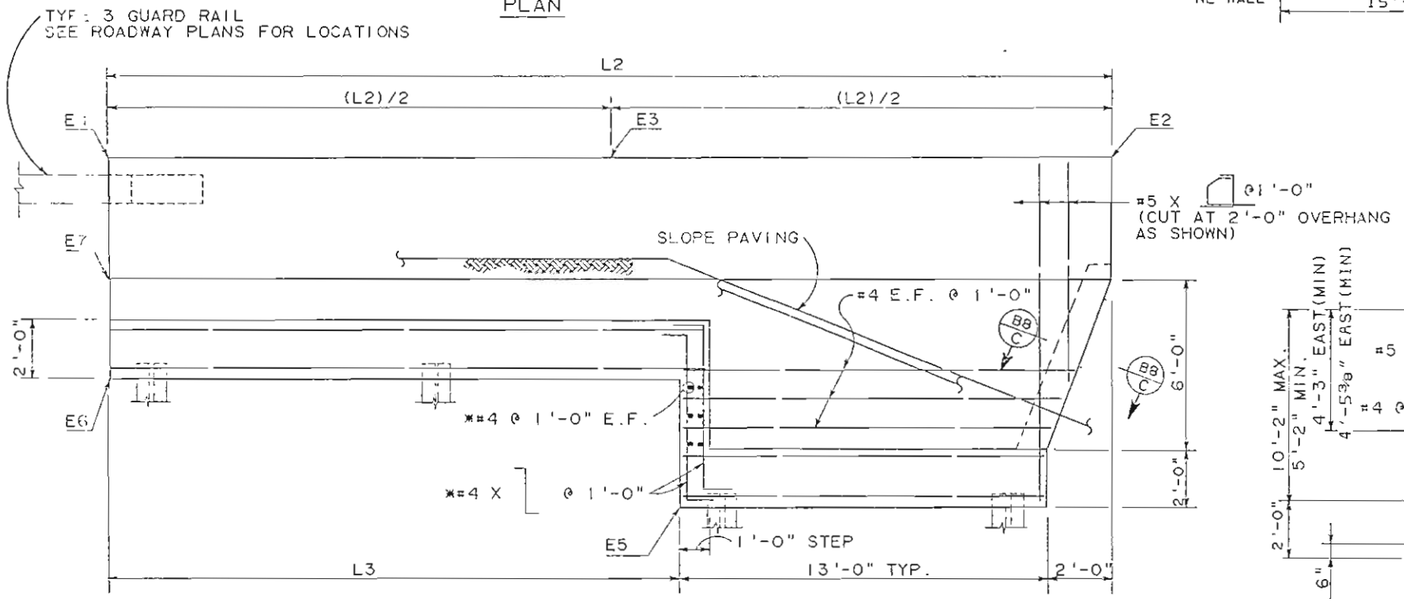


PLAN



PLAN - SW AND NE WALLS

(SW WALL SHOWN, NE WALL SIMILAR)
(SEE NOTE 5)



ELEVATION

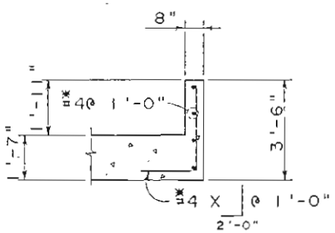
SECTION B8 A

▲ 2X4 CONT. KEY

SECTION B8 B

TABLE OF DIMENSIONS AND ELEVATIONS				
DIMEN. OR ELEV.	ABUTMENT 1		ABUTMENT 3	
	E. WALL	W. WALL	E. WALL	W. WALL
L2	37'-0"	35'-0"	33'-6"	34'-6"
L3	22'-0"	20'-0"	18'-6"	19'-6"
E2	5805.12	5804.09	5813.39	5813.79
E3	5804.45	5803.42	5813.66	5814.33
E4	5803.75	5802.74	5813.91	5814.95
E5	5792.80	5791.56	5801.17	5801.62
E6	5796.88	5795.57	5806.25	5806.91
E7	5799.43	5798.21	5809.69	5810.78

SEE DWG. B7 FOR WINGWALL DIMENSIONS AND ELEVATIONS.



SECTION B8 C

NOTES:

1. USE 2" COVER FOR PRIMARY REINFORCEMENT AND 1½" COVER FOR TIES UNLESS OTHERWISE NOTED.
2. RETAINING WALLS SHALL BE BUILT AFTER THE BRIDGE HAS BEEN STRESSED.
3. ALL CONCRETE ON THIS SHEET SHALL BE CONCRETE CLASS A (WALL).
4. AN * DENOTES UNCOATED REINFORCING STEEL. ALL OTHER REINFORCING STEEL SHOWN ON THIS SHEET SHALL BE EPOXY COATED.
5. ALL CURVED DIMENSIONS ARE MEASURED ON THE LAYOUT LINE.

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

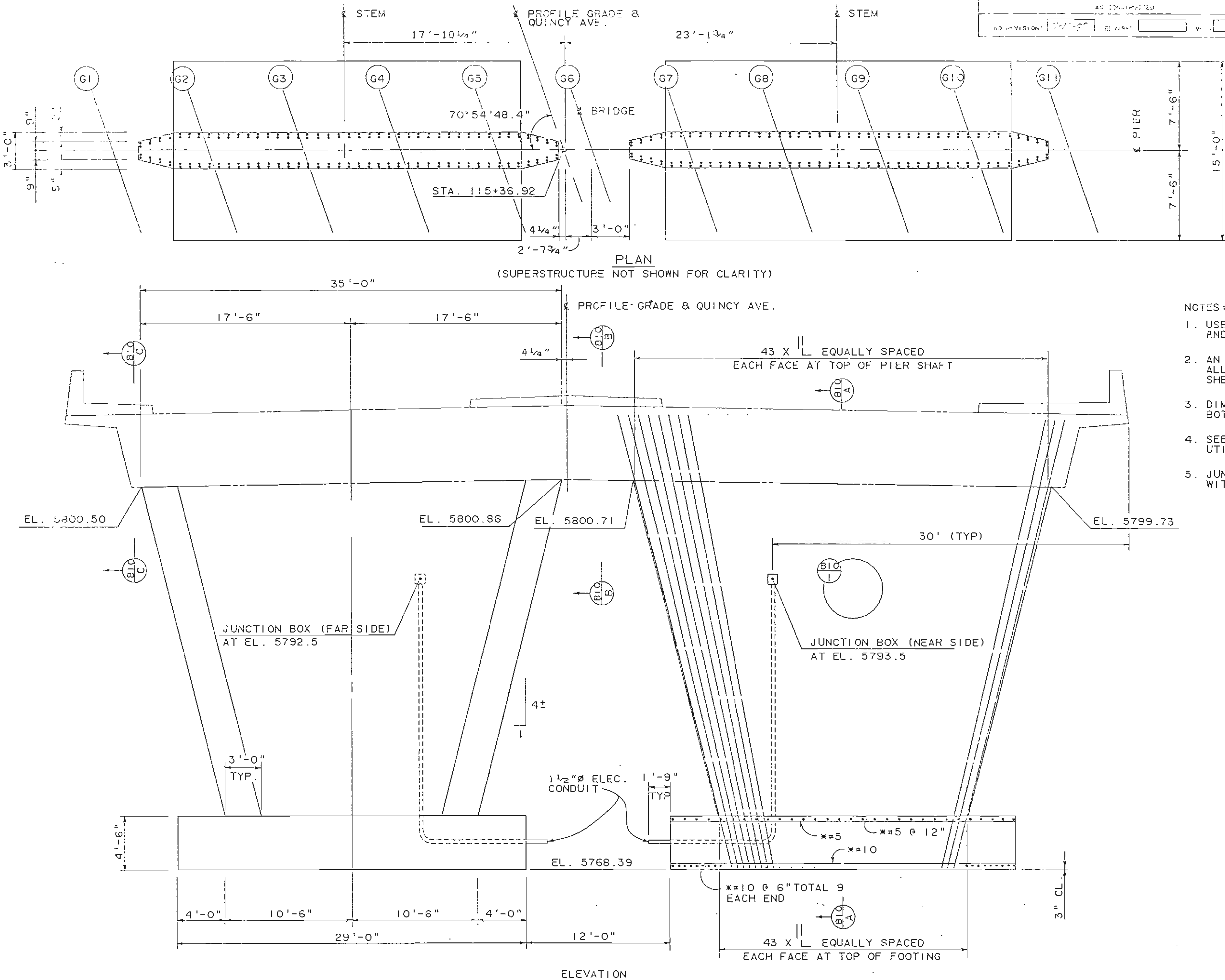
RETAINING WALL DETAILS

DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		
DRAWING NUMBER B 8	OF 21	DRAWINGS

REVISION DATES (PRELIMINARY STAGE ONLY)

FED. ROAD REGION	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
VIII	COLO	IXFU 470-1(55)	26	47

REVISIONS



NOTES:

1. USE 2" COVER FOR PRIMARY REINFORCEMENT AND 1½" COVER FOR TIES UNLESS OTHERWISE NOTED.
2. AN * DENOTES UNCOATED REINFORCING STEEL. ALL OTHER REINFORCING STEEL SHOWN ON THIS SHEET SHALL BE EPOXY COATED.
3. DIMENSIONS AND REBAR CALLOUTS ARE TYPICAL FOR BOTH COLUMNS.
4. SEE THE CONSTRUCTION LAYOUT ON DWG. B4 FOR UTILITY LOCATIONS.
5. JUNCTION BOXES SHALL BE FLUSH MOUNTED BOXES WITH WALL MOUNTED LIGHTING FIXTURES.

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

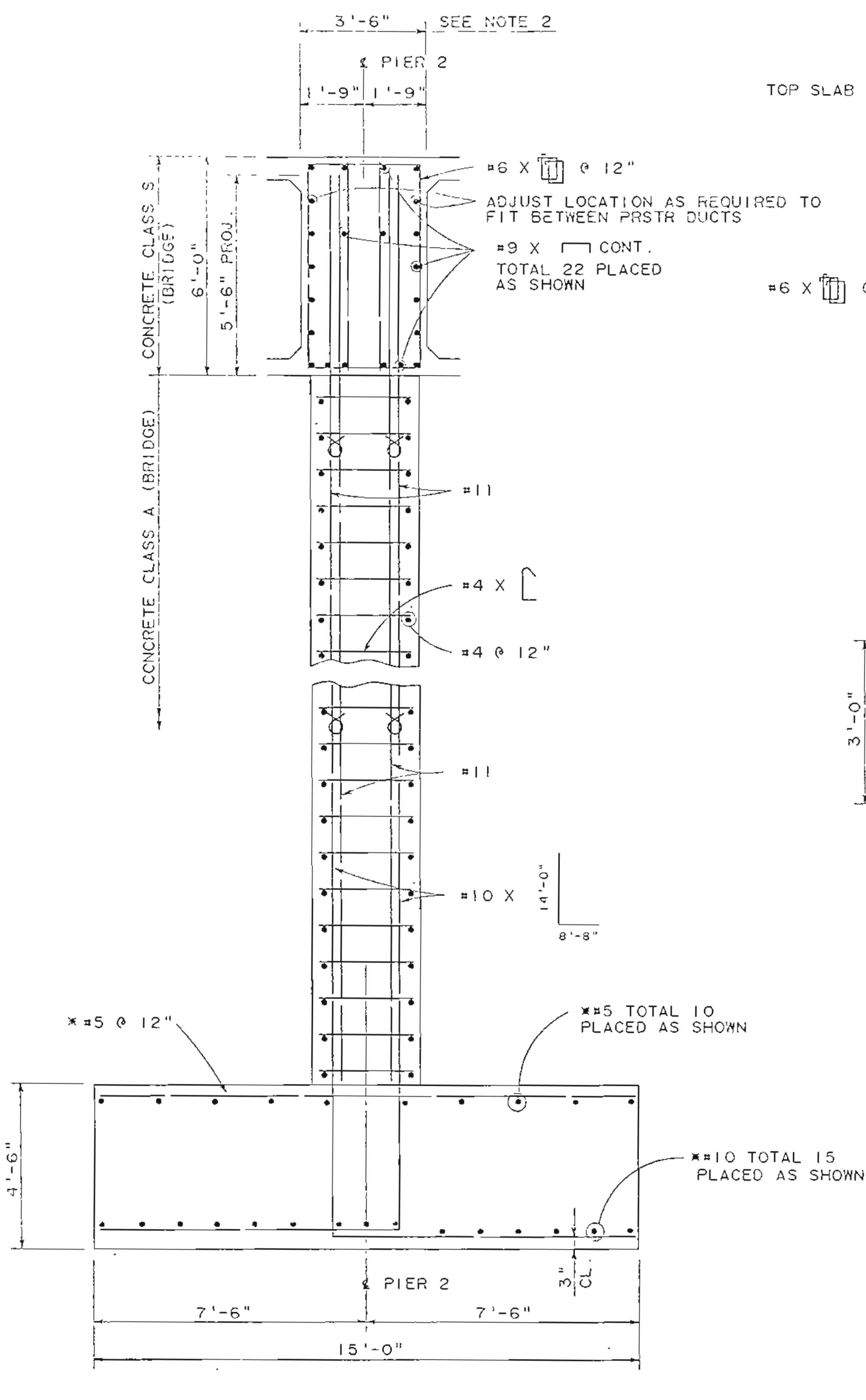
DIVISION OF HIGHWAYS

PIER 2

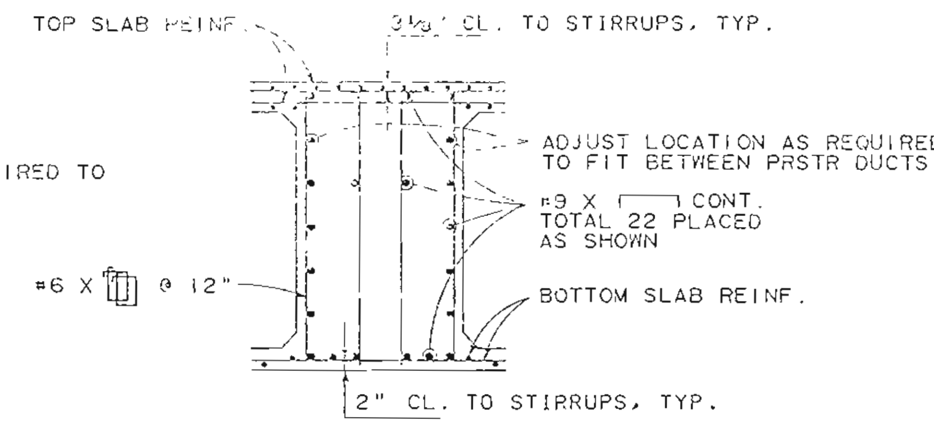
DESIGNER R. OSMUN		STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO			
DRAWING NUMBER B9		OF 21	DRAWINGS

AS CONSTRUCTED · NO REVISIONS · REVISED · REVISIONS DATED (PRELIMINARY STAGE ONLY)

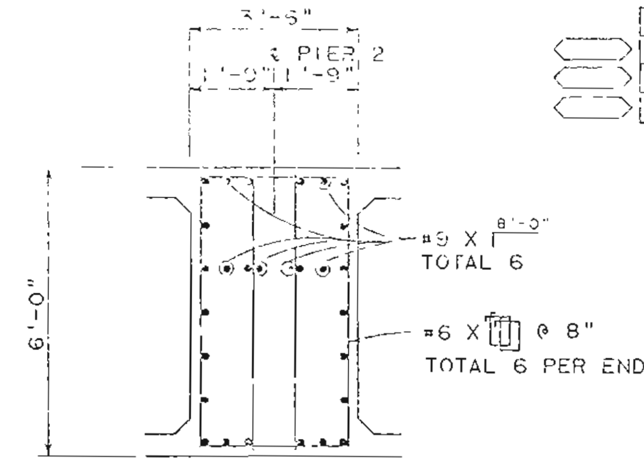
STATE	COLO	IXFU 470-1(35)	27	41



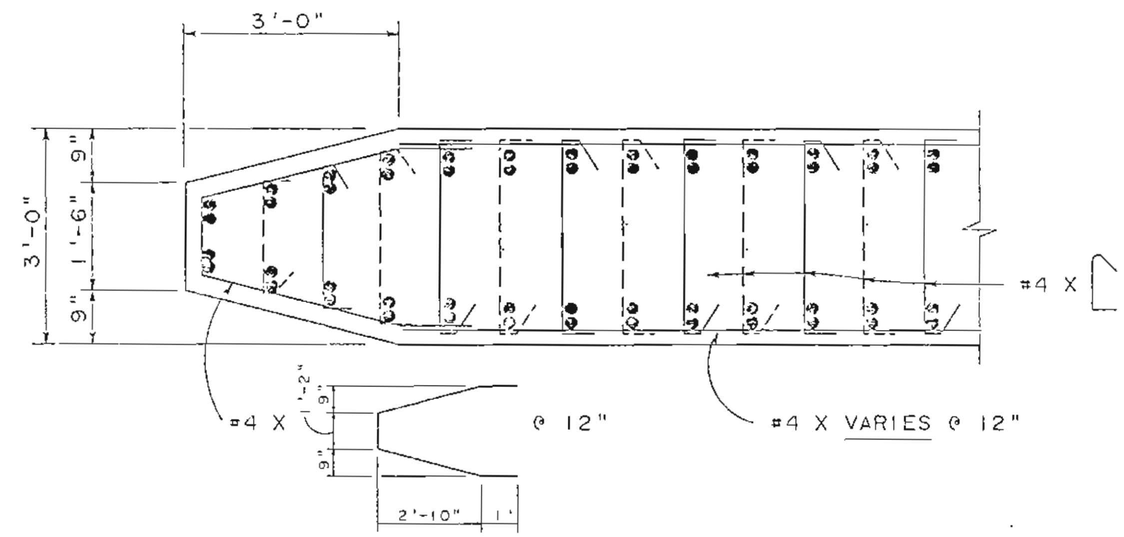
SECTION B9/A



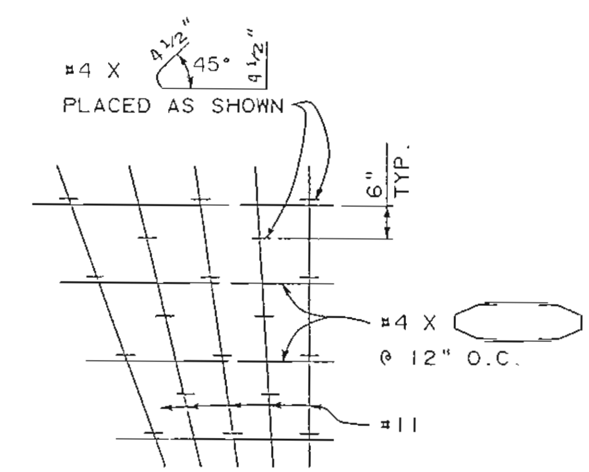
SECTION B9/B



SECTION B9/C



PLAN



DETAIL B9/1

NOTES:

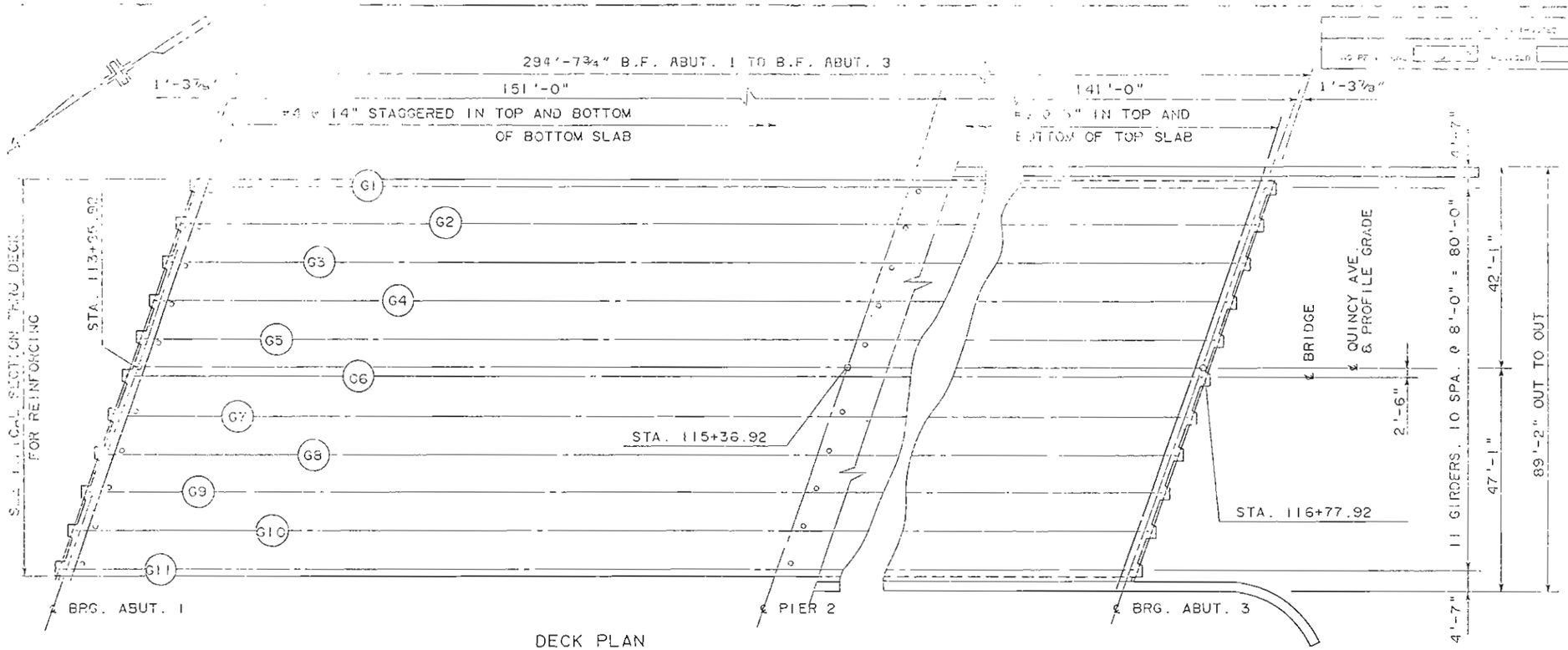
1. THE CONTRACTOR'S BAR LIST SHALL INCLUDE A DESCRIPTION OF HIS METHODS FOR PLACING AND VIBRATING CONCRETE IN PIER SHAFTS. THE USE OF THE "TIE-AS-YOU-GO" TECHNIQUE, BAFFLES, TREMIES, SHOOTS, PUMPS, ETC. TO PREVENT SEGREGATION OF THE CONCRETE AGGREGATES AND TO ATTAIN THOROUGH VIBRATION IN DIFFICULT PLACES WITHOUT ENTANGLING MECHANICAL VIBRATORS IN THE REINFORCING STEEL SHALL BE ADDRESSED TO THE SATISFACTION OF THE ENGINEER.
2. DELETE ALL TRANSVERSE DECK REINFORCING IN BOTTOM SLAB AND BOTTOM TRANSVERSE DECK REINFORCING IN TOP SLAB AT PIER CAP.
3. USE 2" COVER FOR PRIMARY REINFORCEMENT AND 1½" COVER FOR TIES UNLESS OTHERWISE NOTED.
4. AN * DENOTES UNCOATED REINFORCING STEEL. ALL OTHER REINFORCING STEEL SHOWN ON THIS SHEET SHALL BE EPOXY COATED.

CENTENNIAL ENGINEERING, INC ARVADA, COLORADO

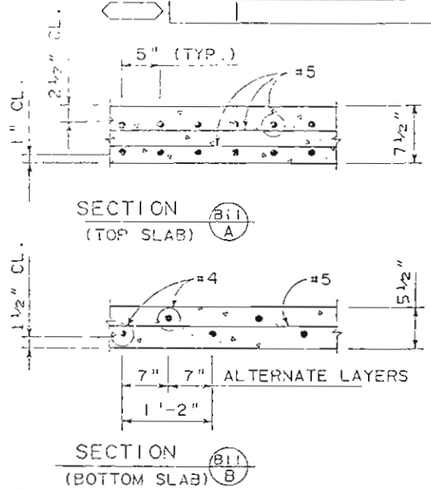
DIVISION OF HIGHWAYS

PIER SECTIONS

DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		
DRAWING NUMBER B 10 OF 21 DRAWINGS		



DECK PLAN
(SEE NOTE 4)

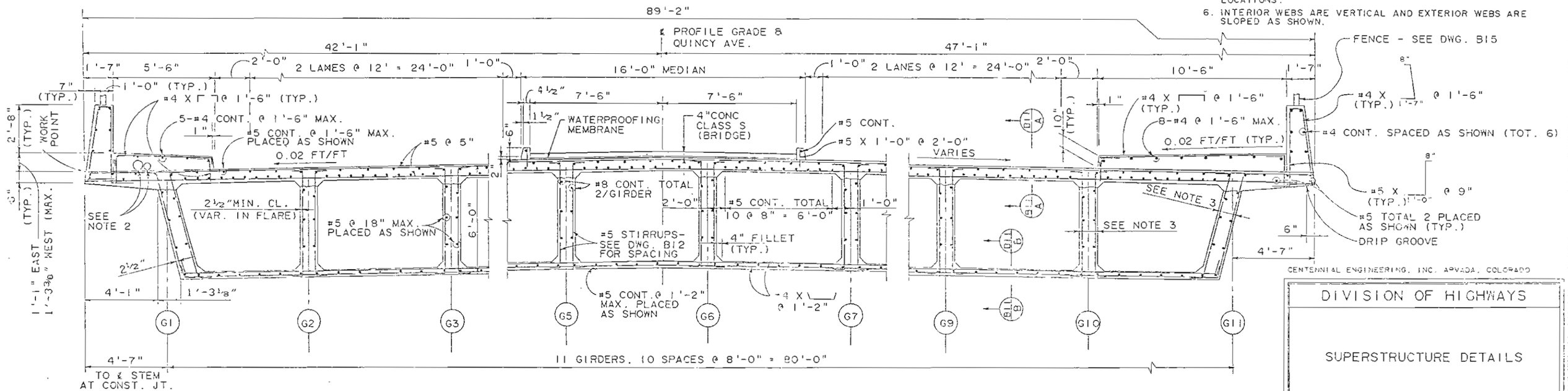


LEGEND

○ BOTTOM SLAB DRAIN - SEE DWG. B13

NOTES.

1. USE 2" COVER FOR PRIMARY REINFORCEMENT AND 1½" COVER FOR TIES UNLESS OTHERWISE NOTED.
2. ELECTRICAL CONDUITS. SEE THE CONSTRUCTION LAYOUT ON DWG. B4 FOR SIZE, LOCATION & PURPOSE.
3. SEE TYPICAL FLARE AT ABUTMENTS AND PIERS ON DWG. B14 FOR DIMENSIONS.
4. APPROACH SLABS AND ACCESS DOORS NOT SHOWN FOR CLARITY
5. SEE THE CONSTRUCTION LAYOUT ON DWG. B4 FOR UTILITY LOCATIONS.
6. INTERIOR WEBS ARE VERTICAL AND EXTERIOR WEBS ARE SLOPED AS SHOWN.



TYPICAL SECTION THRU DECK

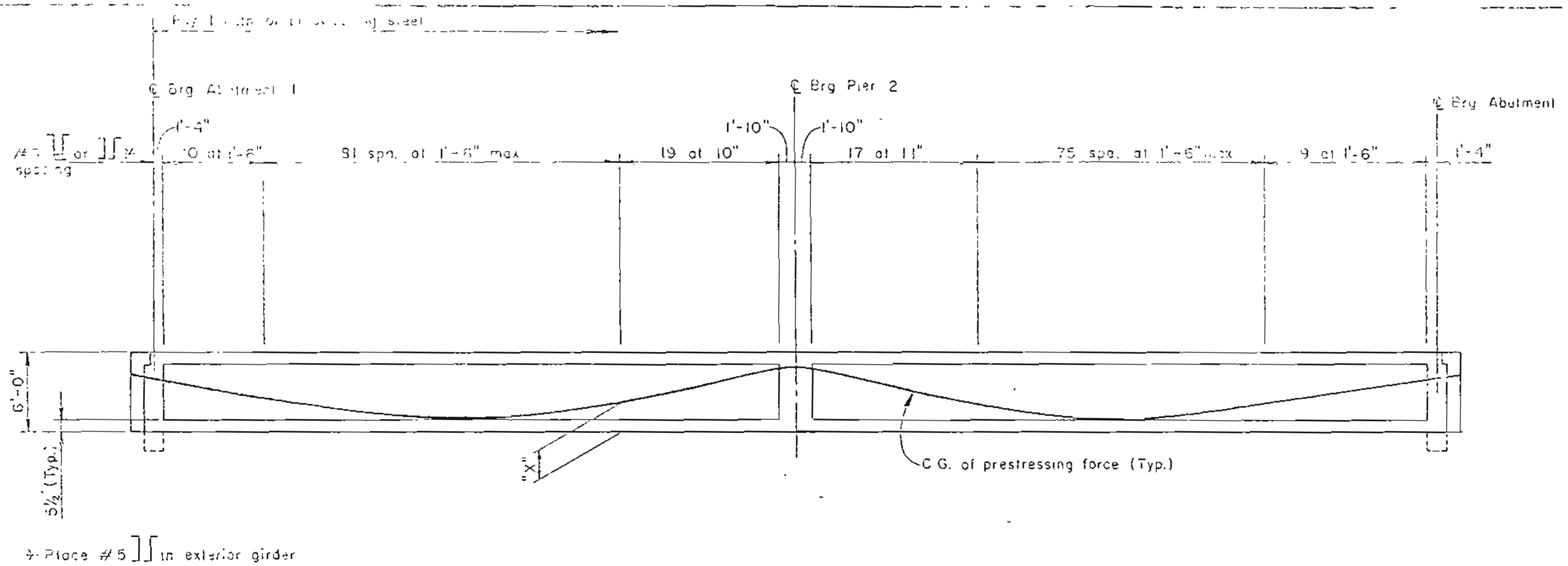
CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

SUPERSTRUCTURE DETAILS

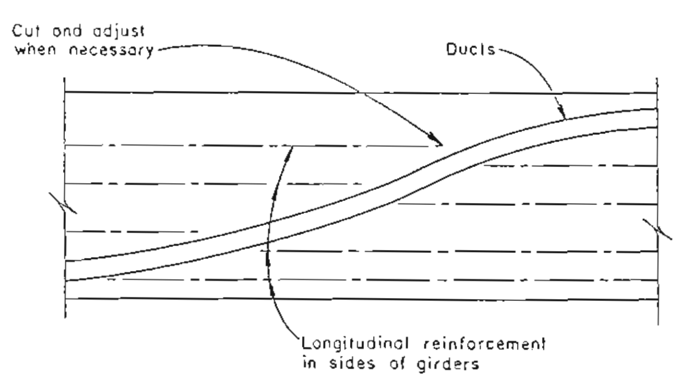
DESIGNER R. OSMUN	STRUCTURE NUMBER	F-16-NE
DETAILER L. PACHECO		
DRAWING NUMBER B 11	OF 21	DRAWINGS

AS CONSTRUCTED							
NO REVISIONS 7-17-81	REVISED	VOID			IXFU 470 (55)	29	47



Point	1.00	1.10	1.20	1.30	1.40 ⊕	1.50	1.60	1.70	1.80	1.90 ⊕	2.00 ⊕	2.10 ⊕	2.20	2.30	2.40	2.50	2.60 ⊕	2.70	2.80	2.90	3.00
"X"	3'-3 1/8"	2'-3 5/8"	1'-7 3/8"	1'-2 1/2"	1'-0 7/8"	1'-2 3/8"	1'-6 3/4"	2'-2 1/4"	3'-0 3/4"	4'-2 1/8"	4'-9 3/8"	4'-3 3/8"	3'-4 1/4"	2'-7 1/2"	2'-1 3/8"	1'-9 5/8"	1'-8 ?"	1'-9 5/8"	2'-1 1/8"	2'-6 7/8"	3'-3 1/2"
Deflection	0.00'	0.057'	0.111'	0.141'	0.156'	0.153'	0.132'	0.093'	0.054'	0.018'	0.00'	0.015'	0.048'	0.087'	0.125'	0.144'	0.150'	0.135'	0.102'	0.057'	0.00'

WEB ELEVATION



ADJUSTED GIRDER REINFORCING ELEVATION

	CRITICAL POINT	KL + μα	INITIAL STRESS RATIO = $e^{-(KL+\mu\alpha)}$
	1.0	0.0000	1.0000
	1.4	0.0302	0.9703
	1.9	0.0659	0.9362
⊕ △	1.9677	0.0819	0.9214
	2.0	0.0756	0.9244
	2.1	0.0575	0.9441
	2.6	0.0251	0.9752
	3.0	0.0000	1.0000

△ Point of no movement

NOTES

REINFORCING THAT INTERFERES WITH THE PRESTRESSING TENDON ALIGNMENT SHALL BE ADJUSTED AS APPROVED BY THE ENGINEER.

WHERE DEAD END ANCHORAGE AND TENDONS ARE ACCESSIBLE, THE ANCHORAGE SYSTEM AND LENGTH OF PROJECTING PRESTRESSING STEEL SHALL PERMIT JACKING WITH THE SAME JACKING EQUIPMENT THAT WAS USED ON THE LIVE END.

DEVIATIONS FROM THE DUCT PATTERN, DUCT SIZE, AND STRAND SIZE ASSUMED IN THE DESIGN MUST BE APPROVED BY THE ENGINEER. DUCT PATTERNS 1 AND 2 ARE THE ONLY ACCEPTABLE PATTERNS

THE DEFLECTION SHOWN IS POSITIVE DOWNWARD. IT INCLUDES THE INSTANTANEOUS EFFECTS OF DEAD LOAD AND PRESTRESSING, AND A FACTOR OF THREE (3) MULTIPLIER TO ACCOUNT FOR LONG TERM CREEP. FORMED WEB ELEVATIONS MUST BE ADJUSTED UPWARD FOR AN INDICATED POSITIVE DEFLECTION.

THE DESIGN IS BASED UPON THE USE OF LOW-RELAXATION STRANDS MEETING THE REQUIREMENTS OF ASTM A416 GRADE 270 STRAND. THE CONTRACTOR MAY USE STRESS RELIEVED STRAND MEETING THE REQUIREMENTS OF ASTM A416 GRADE 270 STRAND IF HE ACCOUNTS FOR THE INCREASED STRESS LOSSES RESULTING FROM THE USE OF STRESS RELIEVED STRAND.

STRESSING SEQUENCE:

THE DESIGN IS BASED UPON JACKING FROM BOTH ENDS, EITHER SIMULTANEOUSLY OR SEQUENTIALLY. AS AN ALTERNATE, HALF OF THE TENDONS MAY BE JACKED FROM EACH END. IF HALF OF THE TENDONS ARE JACKED FROM EACH END, THE JACKING FORCE SHALL BE INCREASED 390 KIPS. PRESTRESSING QUANTITIES WILL NOT BE ADJUSTED FOR THIS REQUIRED INCREASE IN THE JACKING FORCE.

NO MORE THAN ONE-HALF (1/2) OF THE PRESTRESSING FORCE IN ANY WEB MAY BE APPLIED BEFORE AN EQUAL FORCE IS APPLIED IN THE ADJACENT WEBS. AT NO TIME DURING THE STRESSING OPERATIONS SHALL MORE THAN ONE-SIXTH (1/6) OF THE TOTAL PRESTRESSING FORCE BE APPLIED ECCENTRICALLY ABOUT THE CENTERLINE OF THE STRUCTURE.

AT THE CONTRACTOR'S OPTION, THE PRESTRESSING FORCE MAY VARY ± 5% FROM THE THEORETICAL FORCE PER WEB PROVIDED THE TOTAL P(JACK) FORCE IS OBTAINED AND IS DISTRIBUTED SYMMETRICALLY ABOUT THE CENTERLINE OF THE TYPICAL SECTION. P(JACK) IS THE SUM OF THE PEAK FORCES REACHED DURING JACKING IN EACH TENDON.

DESIGN:

THE DESIGN IS BASED UPON THE USE OF LOW-RELAXATION STRAND, A JACKING STRESS OF 0.75 f'_s, a 5/8" ANCHOR SET, K=0.0002 AND μ= 0.25. P(JACK) SPECIFIED AT THE JACKING ENDS INCLUDES FRICTION LOSSES AND PROVIDES FOR AN ADDITIONAL LOSS OF 33 KSI DUE TO ELASTIC SHORTENING AND LONG TERM CREEP AND SHRINKAGE.

DUCT PATTERN 1, ON DWG. B13, WITH 0.6 INCH DIAMETER STRESS RELIEVED STRANDS IN 4 31" O.D. DUCTS WAS ASSUMED IN THE DESIGN

P(JACK)	= 26,100 KIPS TOTAL AT JACKING ENDS
A_s^* MINIMUM	= 128.9 SQ IN.
f_s	= 270 KSI
f'_c	= 5600 PSI AT 28 DAYS FIELD COMPRESSIVE STRENGTH
f'_{ci}	= 4300 PSI AT STRESSING

⊕ DESIGNATES CRITICAL POINTS FOR P(JACK). THE CONTRACTOR SHALL SUBMIT ELONGATION AND JACKING CALCULATIONS BASED ON KL + μα (INCLUDING ANCHOR SET IF ANY) AND INITIAL STRESS (INITIAL STRESS RATIO TIMES JACKING STRESS BEFORE LONG TERM LOSSES) AT THE POINTS LABELED ⊕ IN THE TABLES HEREON.

CENTENNIAL ENGINEERING, INC ARVADA, COLORADO

DIVISION OF HIGHWAYS

CAST-IN-PLACE POSTTENSIONED BOX GIRDER DETAILS

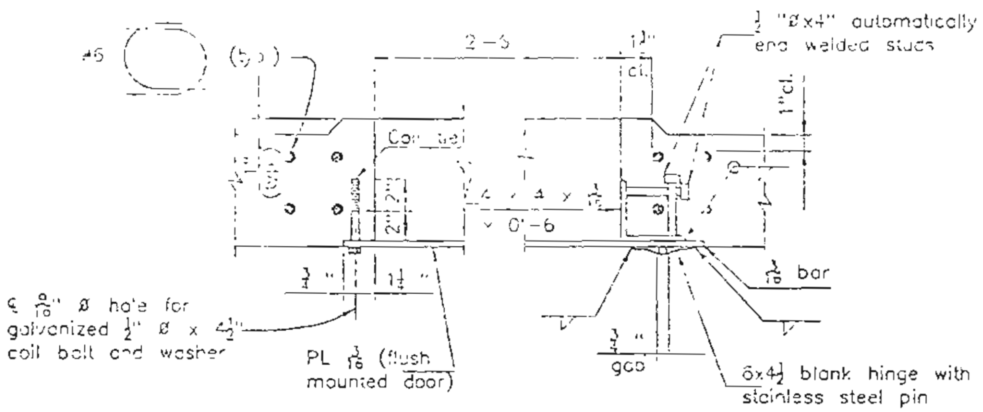
Designer R. OSMUN	Structure Numbers F-16-NE
Detailer E. HAYASHIDA	
Drawing Number B12	of 21 Drawings

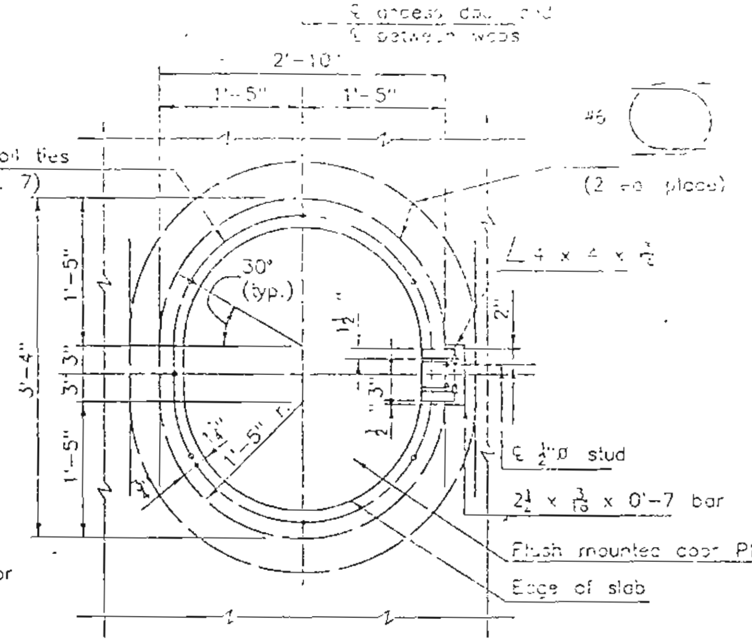
B-618-2
(use with B-618-1 and B-618-3)

NOTES:

Maintain 1½" minimum cover over the ducts and a 1" minimum cover over the stirrups.

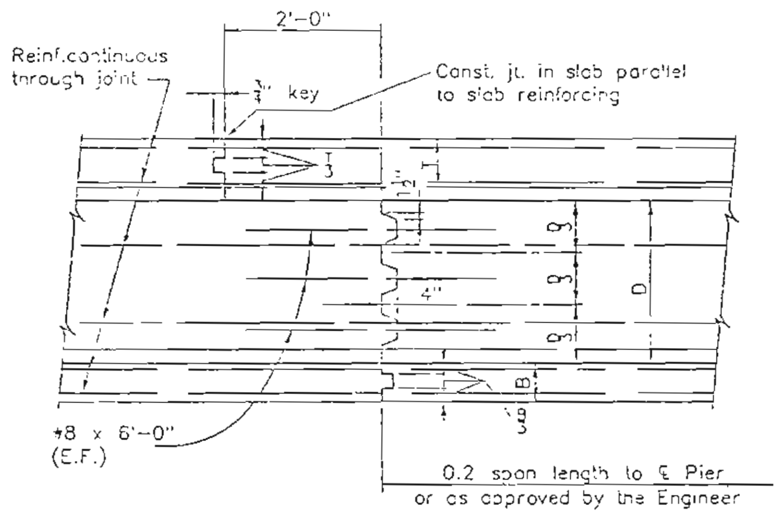
See abutment and superstructure details for dimensions and reinforcing not shown.





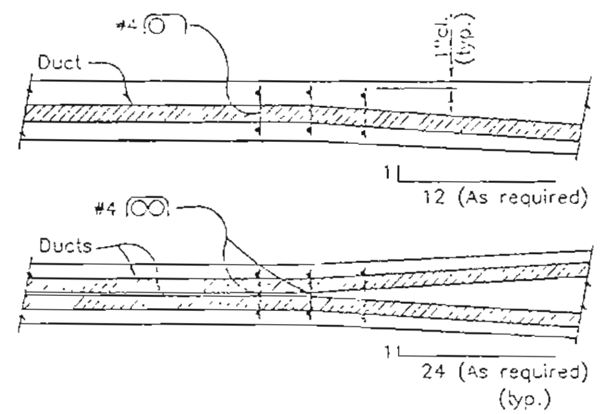
ACCESS DOOR DETAILS

Door, frame, and hardware to be paid for in Item No. 601 – Concrete Class S. (Galvanize after fabrication)



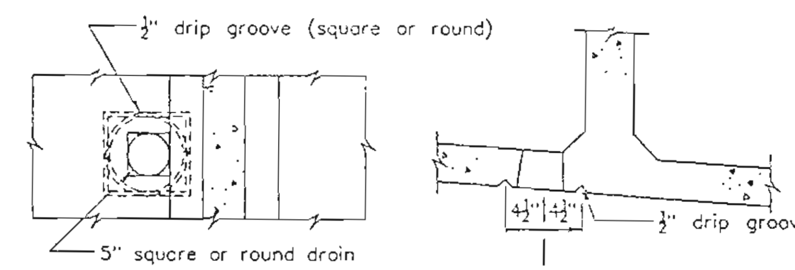
TRANSVERSE WEB CONSTRUCTION JOINT

T = Top slab thickness
B = Bottom slab thickness
D = Top of bottom slab to bottom of fillet



Provide #4 ties for each pair of ducts, or single duct. Tie to three stirrups at beginning of flare, and at 1'-6" in all curved portions of webs.

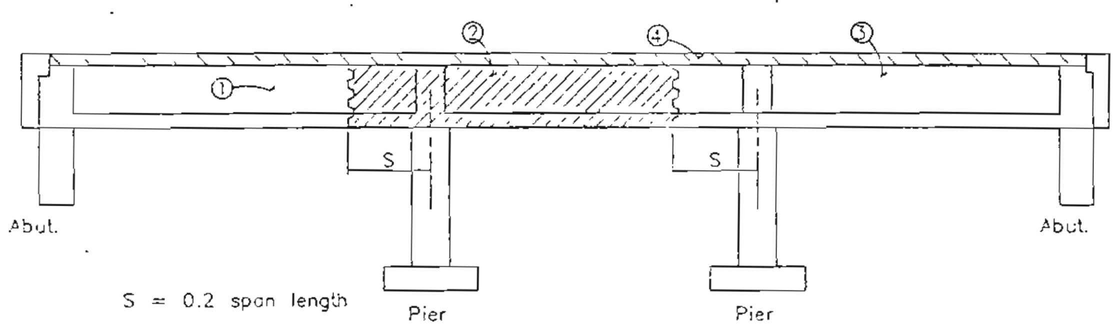
PLAN VIEW OF DUCTS



PLAN ELEVATION

BOTTOM SLAB DRAIN DETAIL

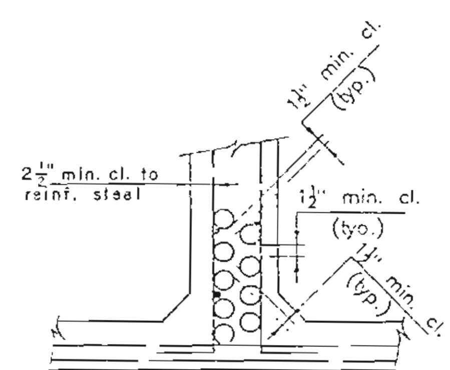
Locate at low point of each cell.



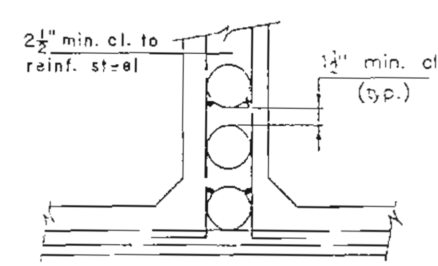
S = 0.2 span length

SUPERSTRUCTURE PLACING SCHEDULE

Note: Numbers ①, ② and ③ indicate sequence of placing bottom slab and web concrete when each section constitutes a separate pour. ④ may be placed continuously or in parts, as indicated above and as approved by the Engineer. Contractor may submit an alternate placing schedule to the Engineer for approval.



PATTERN 1



PATTERN 2

CLEARANCE REQUIREMENTS FOR DUCTS

REVISED THIS PROJECT

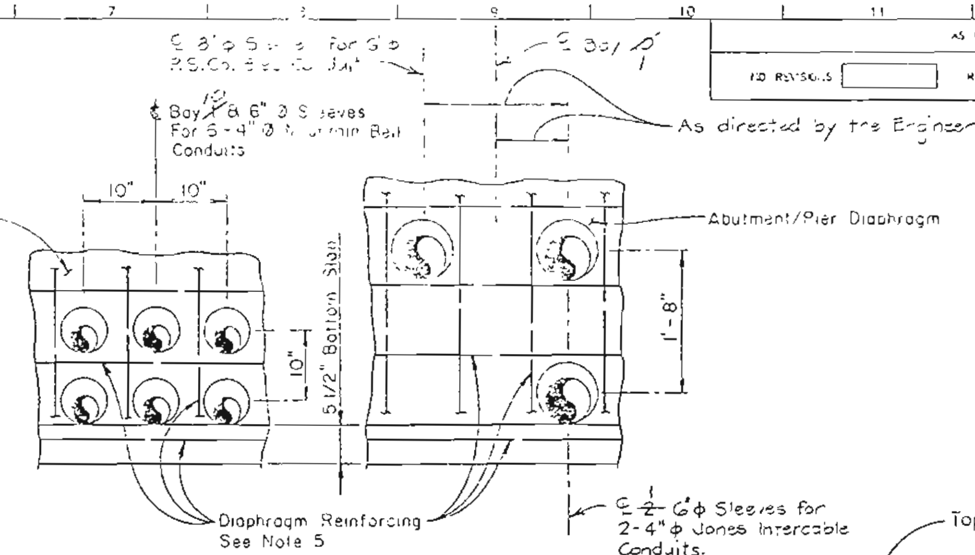
DIVISION OF HIGHWAYS

CAST-IN-PLACE POSTTENSIONED BOX GIRDER DETAILS

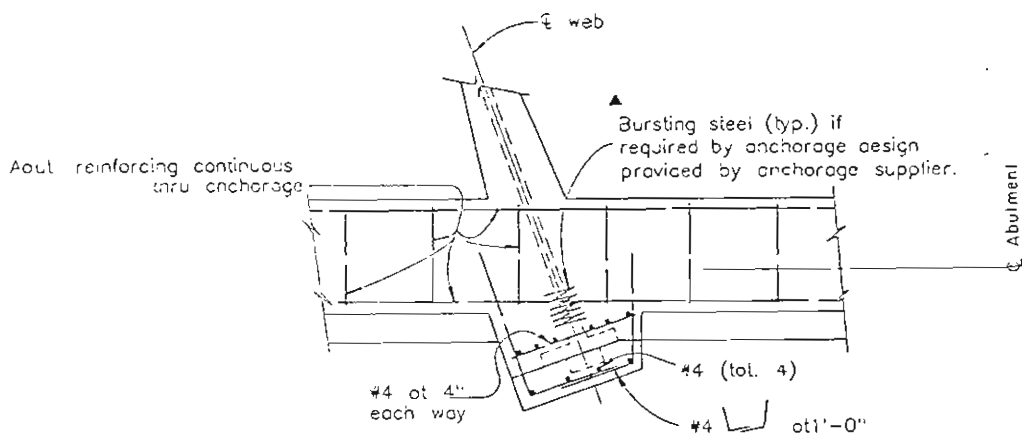
Designer R. OSMUN		Structure Numbers	F-16-NE
Detailer C. HOWELL			
Drawing Number B13	of 21	Drawings	

Designed By	Initial	Date
	RLO	10/86
	RLO	2/87
	DLH	2/87

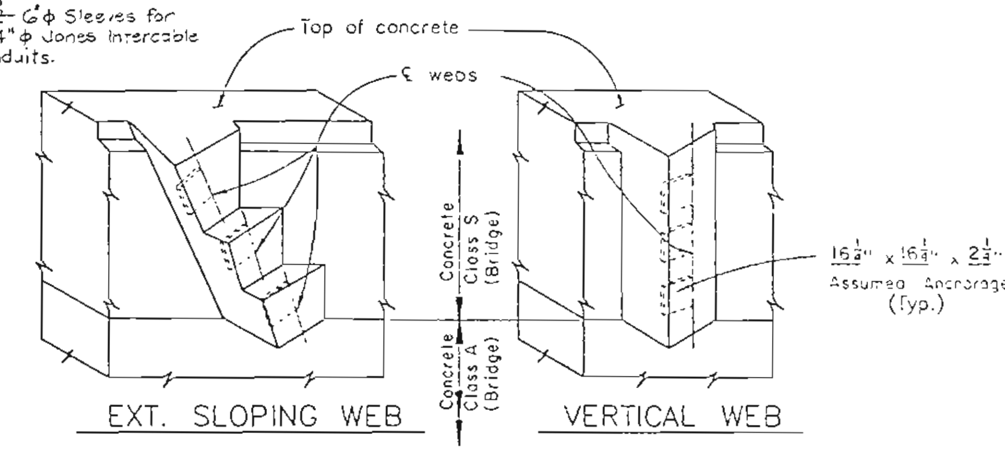
01/08/87 DUBO.(KHEATER PROJ)B_618_2



DIAPHRAGM SLEEVE DETAILS

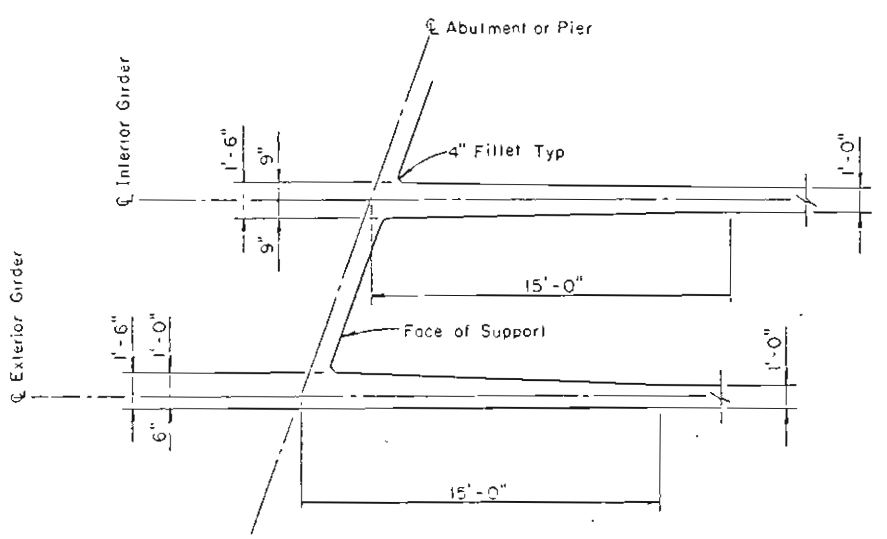


TYPICAL PRESTRESSED ANCHORAGE



TYPICAL ANCHORAGE ILLUSTRATIONS

Details may be modified to specific anchorage.



TYPICAL GIRDER FLARE AT ABUTMENTS & PIER

NOTES

1. THE ANCHORAGE SHALL BE COVERED WITH CONCRETE TO PROVIDE A MINIMUM OF 4" OF COVER.
2. THE DISTANCE BETWEEN THE EDGE OF A BEARING PLATE AND THE EDGE OR CORNER OF THE CONCRETE SHALL BE 5" MINIMUM.
3. THE COST FOR ALL REINFORCING DESIGNATED ▲, AND THE COST FOR CONCRETE IN FLARES NOT INCLUDED IN EXPLICIT DETAILS, SHALL NOT BE INCLUDED IN THE BID PRICE FOR CONCRETE AND REINFORCING, BUT SHALL BE INCLUDED IN THE BID PRICE FOR THE PRESTRESSING STEEL.
4. SEE ABUTMENT DETAILS AND SUPERSTRUCTURE DETAILS FOR DIMENSIONS AND REINFORCING NOT SHOWN.
5. MINOR ADJUSTMENTS TO LOCATION OF REINFORCING STEEL AND/OR SLEEVES MAY BE MADE TO AVOID INTERFERENCES BETWEEN SAID REINFORCING STEEL AND SLEEVES.

DIVISION OF HIGHWAYS

CAST-IN-PLACE POSTTENSIONED BOX GIRDER DETAILS

Designer R. OSHUU	Structure	F-16-NE	
Detailer E. HAYASHIDA	Numbers		
Drawing Number B14	of	21	Drawings

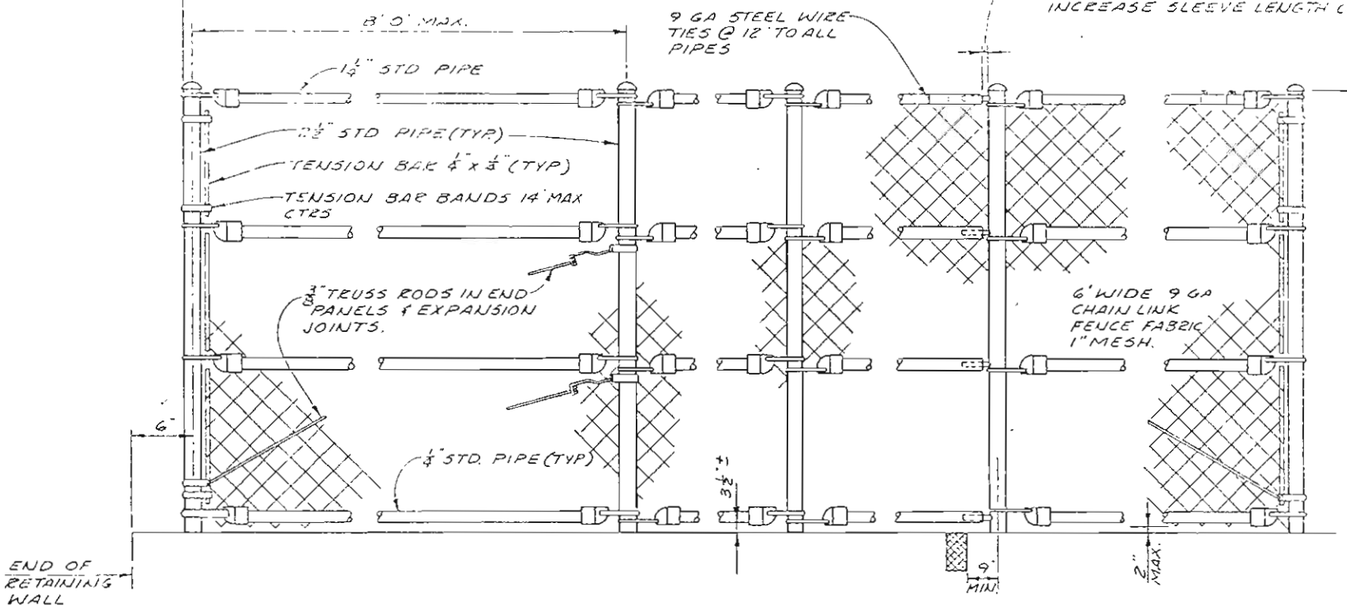
Revision Dates (Preliminary Stage Only)

AS CONSTRUCTED					
NO REVISIONS 7-15-81	REVISED		VOID		

REGION NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	IXEU 470-1(55)	32	49

REVISIONS		

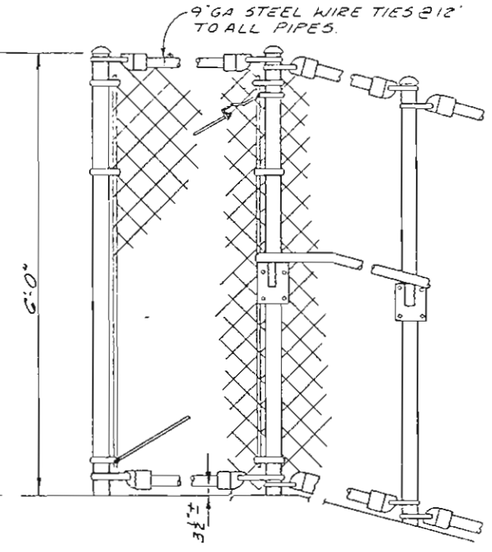
LENGTH FOR PAYMENT OF ITEM NO 607 FENCE CHAIN LINK SPECIAL



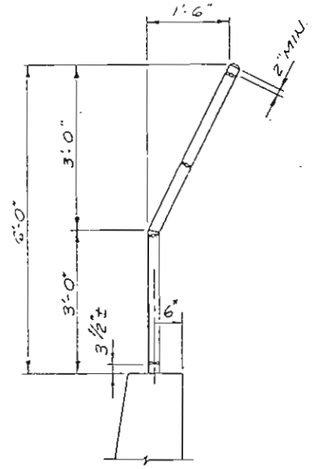
END POST

INTERMEDIATE POSTS

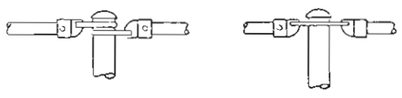
AT DECK EXPANSION JOINT



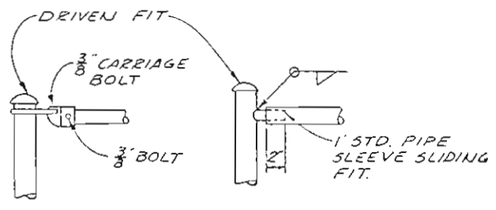
ON SLOPES



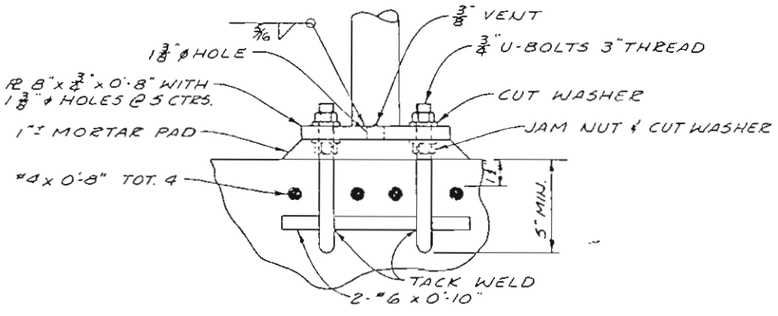
TYPICAL SECTION



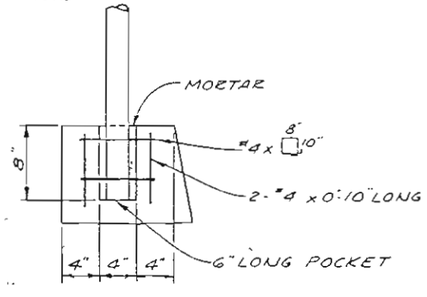
ALTERNATIVE DETAILS



TYPICAL CONNECTION DETAILS



ANCHORAGE DETAIL
(ELEVATION)



ALTERNATIVE ANCHORAGE DETAIL
(SECTION)

NOTES:

1. RAILING ASSEMBLY EXCEPT CHAIN LINK FABRIC WHICH IS VINYL COATED SHALL BE GALVANIZED AFTER FABRICATION.
2. PEEN ALL ⅜" BOLTS.
3. RAILING SHALL CONFORM TO HORIZONTAL AND VERTICAL ALIGNMENT. POSTS SHALL BE VERTICAL. TOP AND BOTTOM PIPES SHALL BE BENT IF RADIUS IS 100' OR LESS & MAY BE ON 8' CHORDS IF RADIUS IS GREATER THAN 100'.
4. ALTERNATIVE DETAILS MAY BE SUBMITTED BY CONTRACTOR FOR ENGINEER'S APPROVAL.

CENTENNIAL ENGINEERING, INC ARVADA, COLORADO

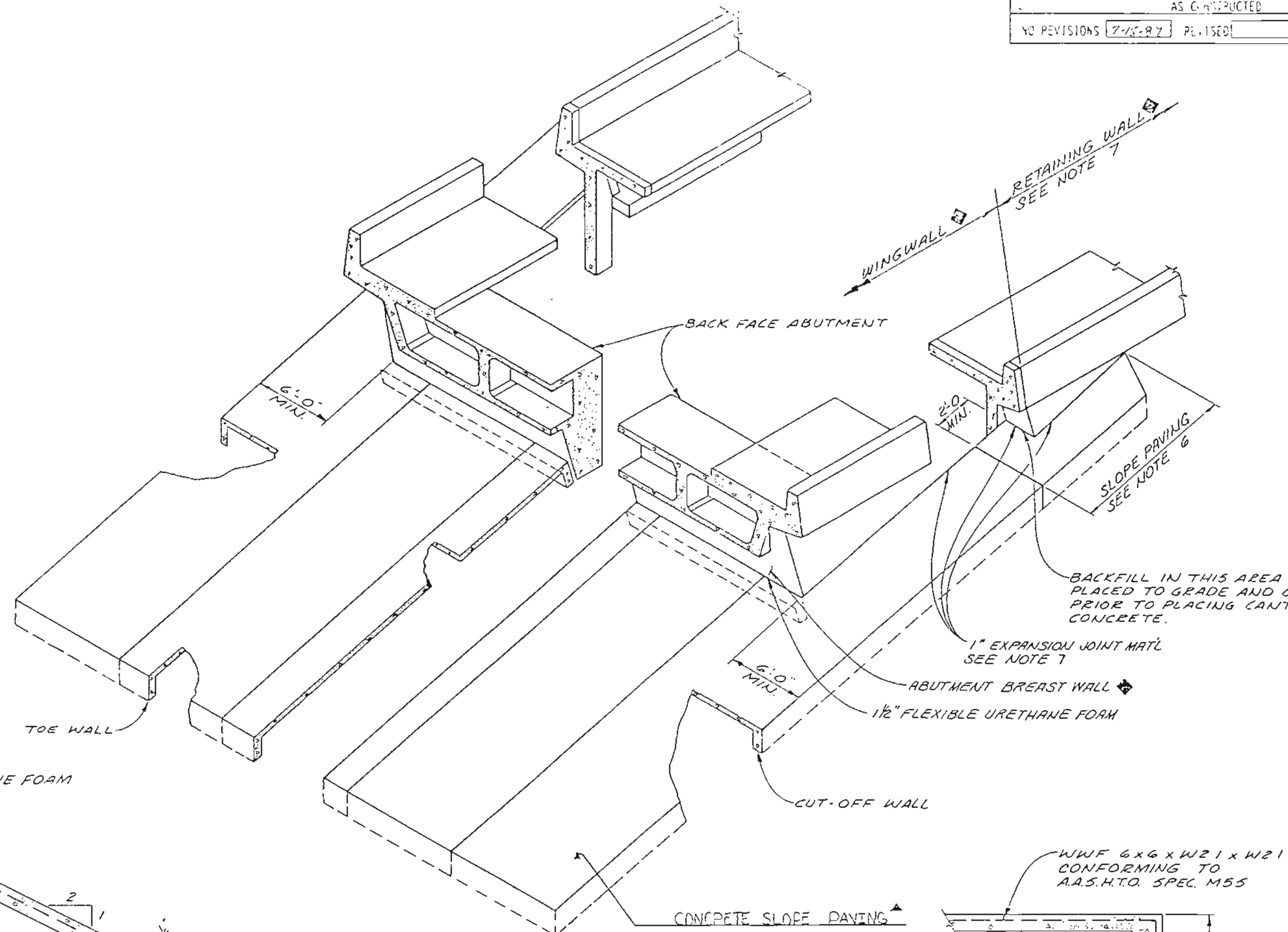
DIVISION OF HIGHWAYS

FENCE CHAIN LINK SPECIAL

Designer R OSMUN	Structure Numbers	F-16-NE
Detailer G HIRSCH		
Drawing Number 8.15	of 21	Drawings

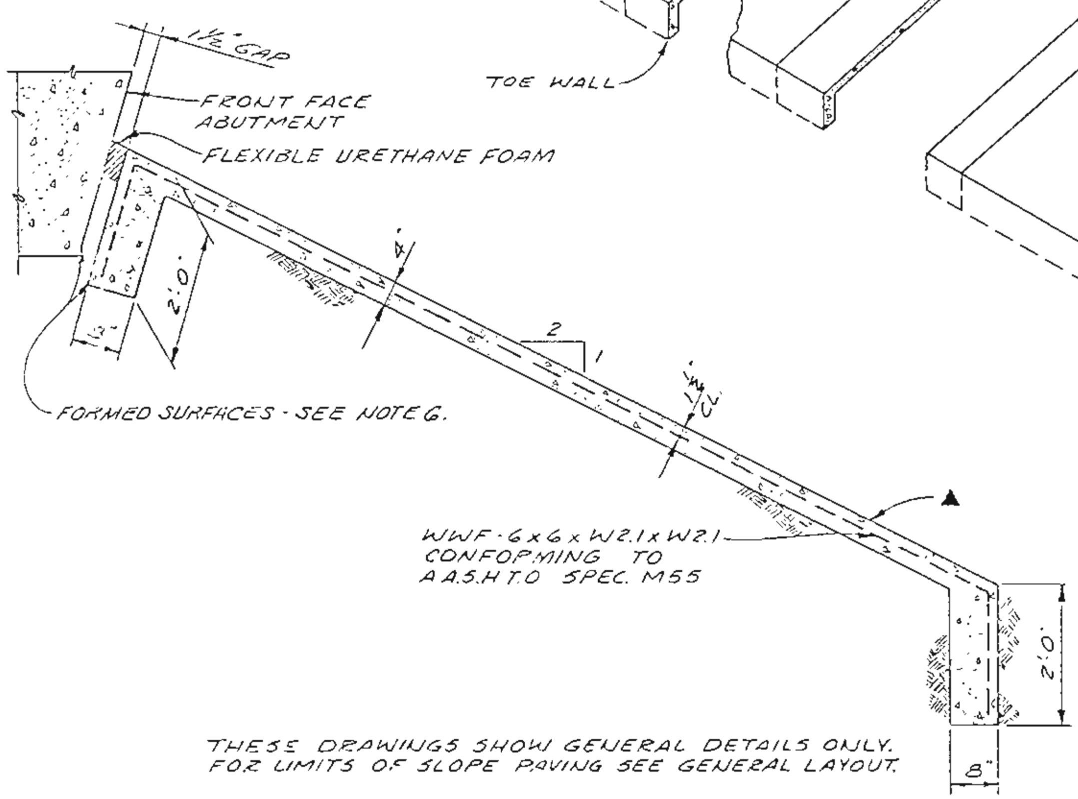
AS CONSTRUCTED									
NO REVISIONS	7-15-87	REVISED		VOID		STO	COLORADO	470-1155	33	49

REVISIONS



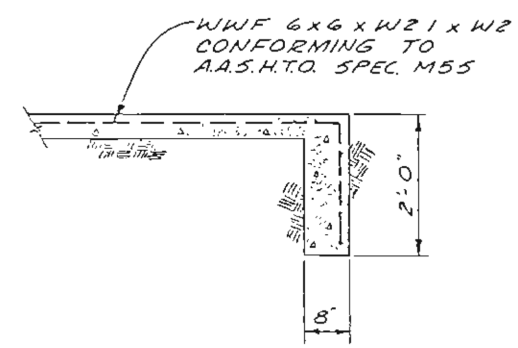
NOTES

1. SLOPE PAVING SHALL BE POURED IN 10-FT TRANSVERSE SECTIONS WITH A TOOLED CONSTRUCTION JOINT AT EACH SECTION.
2. WIRE FABRIC SHALL BE 2" FROM THE END OF THE JOINT AND SHALL LAP 8" AT SPLICES.
3. FLEXIBLE URETHANE FOAM, EXPANSION JOINT MATERIAL, AND WELDED WIRE FABRIC WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 507.
4.
5. STRUCTURE EXCAVATION FOR SLOPE AND DITCH PAVING IS LIMITED TO THE ACTUAL VOLUME OCCUPIED BY THE SLOPE PAVING CONCRETE.
6. CONCRETE SLOPE PAVING SHALL NOT BE PLACED UNTIL THE BRIDGE HAS SAT FOR A PERIOD OF AT LEAST 30 DAYS AFTER THE COMPLETION OF THE STRESSING OPERATIONS.
7. RETAINING WALLS SHALL BE BUILT AFTER THE BRIDGE HAS BEEN STRESSED. RETAINING WALLS AND WING WALLS SHALL BE SEPARATED FROM ADJACENT SLOPE PAVING WITH 1" EXPANSION JOINT MATERIAL.
8. THE SURFACES OF ITEMS MARKED WITH A ◆ SHALL RECEIVE A COLORED COATING FINISH NO. 31667.
9. THE SURFACE OF ITEMS MARKED WITH A ▲ SHALL RECEIVE A COLORED COATING FINISH NO. 30219



THESE DRAWINGS SHOW GENERAL DETAILS ONLY.
FOR LIMITS OF SLOPE PAVING SEE GENERAL LAYOUT.

TYPICAL SECTION THRU SLOPE PAVING



SECTION THRU CUT-OFF WALL

CENTENNIAL ENGINEERING, INC ARVADA, COLORADO

DIVISION OF HIGHWAYS

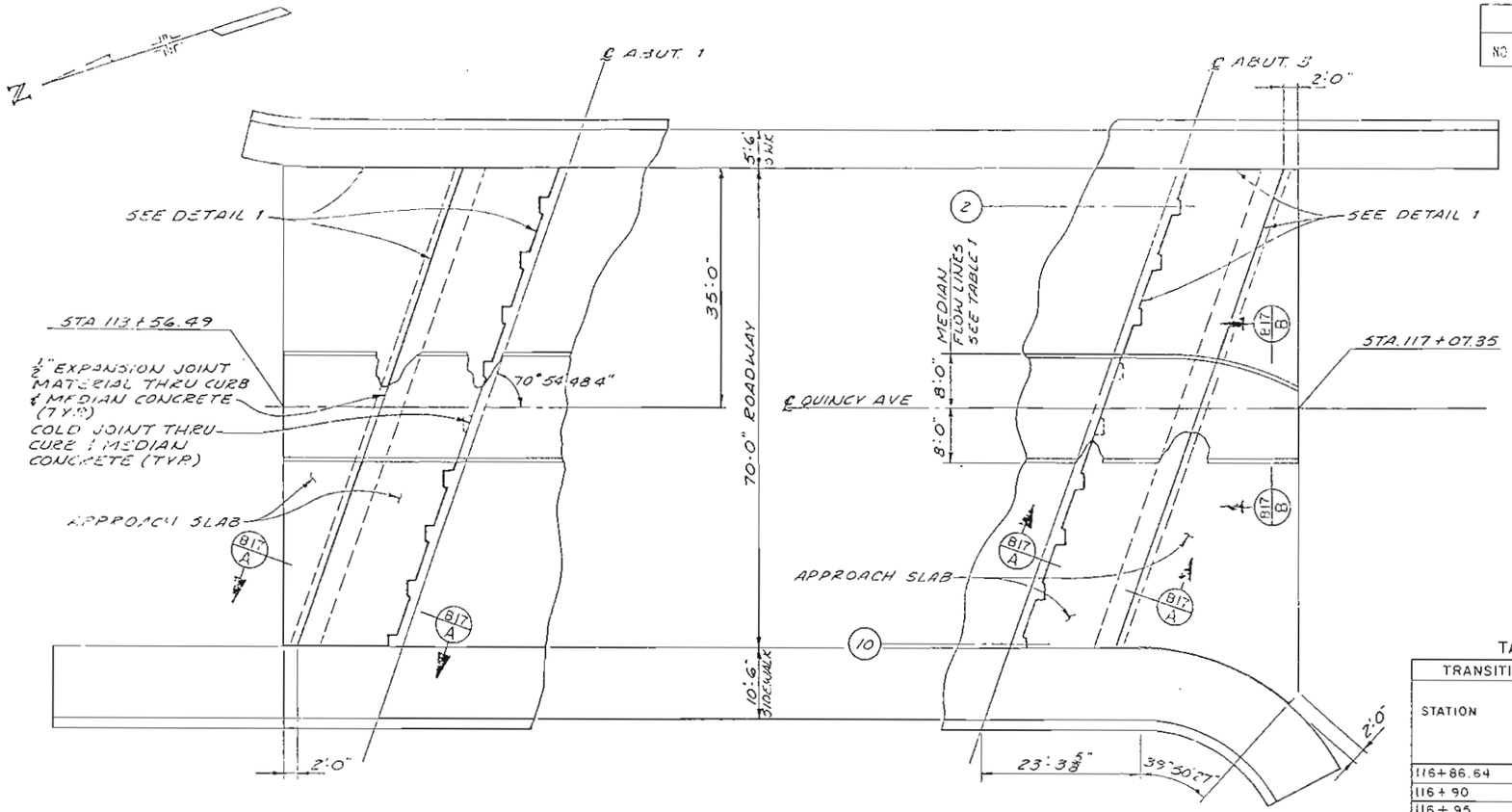
SLOPE PAVING DETAILS

Designer	R. OSTN	Structure Numbers	F-16--
Detailer	S. Brodie		
Drawing Number B16		of 21	Drawings

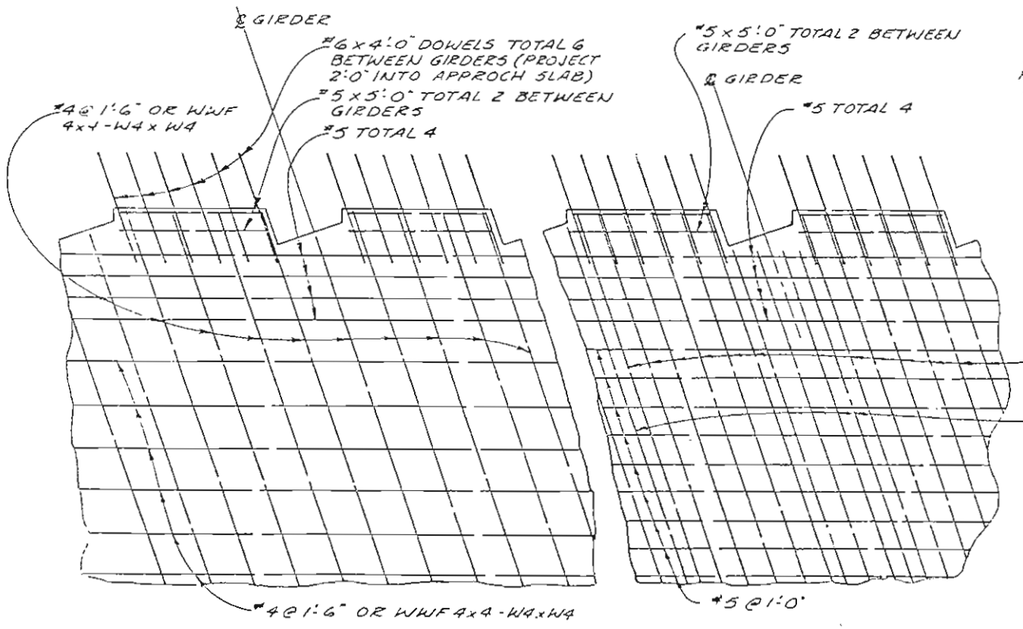
AS CONSTRUCTED					
NO REVISIONS 7-15-81	REVISED	VOID			

FEDERAL ROAD REGION NO	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	IXFU 470-1(55)	3-1	49

REVISIONS			

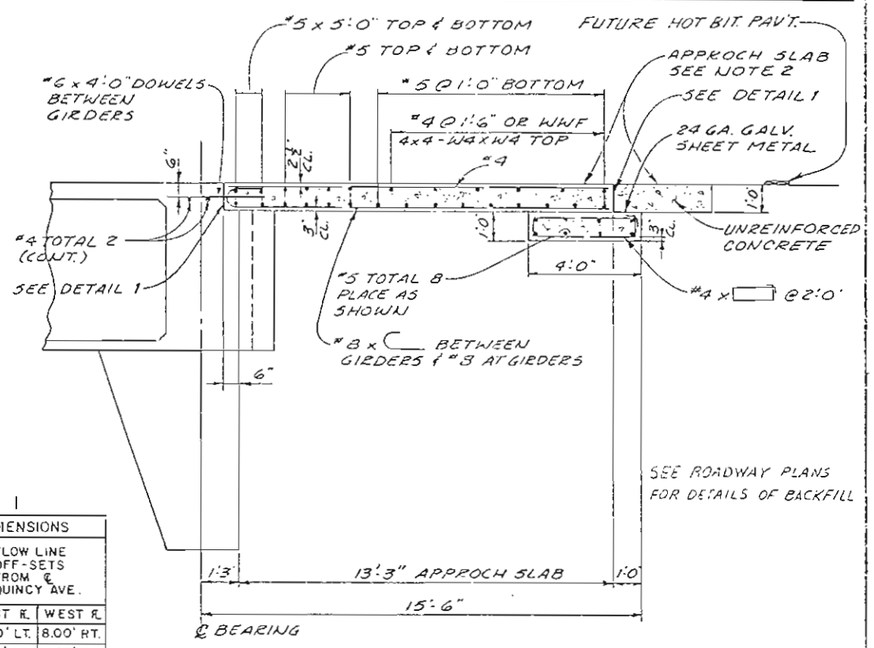


PLAN



PLAN OF TOP REINFORCING

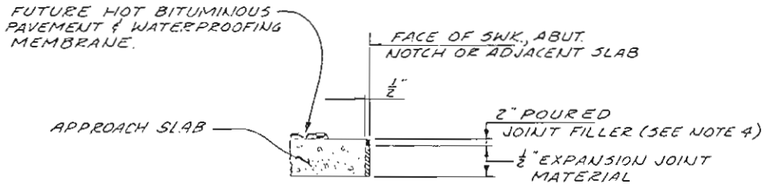
PLAN OF BOTTOM REINFORCING



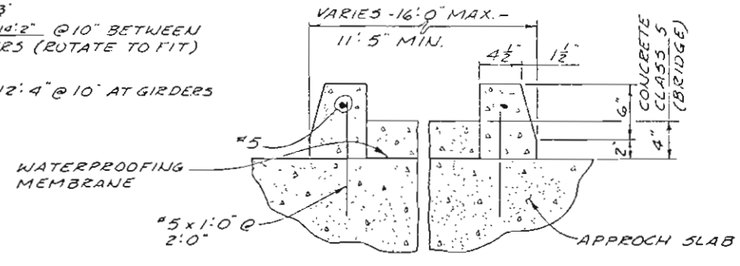
SECTION (B17 A)

TABLE 1

TRANSITION DIMENSIONS		
STATION	FLOW LINE OFF-SETS FROM ℄ QUINCY AVE.	
	EAST R.	WEST R.
116+86.64	8.00' LT.	8.00' RT.
116+90	7.88' LT.	8.00' RT.
116+95	7.28' LT.	8.00' RT.
117+00	6.14' LT.	8.00' RT.
117+05	4.43' LT.	8.00' RT.
117+07.35	3.41' LT.	8.00' RT.



DETAIL 1



SECTION (B17 B)

NOTES:
1. USE 2" COVER FOR PRIMARY REINFORCEMENT AND 1½" COVER FOR TIES UNLESS OTHERWISE NOTED.
2. CONCRETE FOR APPROACH SLABS (INCLUDING REINFORCED & UNREINFORCED CONCRETE) SHALL BE CONCRETE CL.S (BRIDGE).
3. ALL REINFORCING SHOWN ON THIS SHEET SHALL BE EPOXY COATED.
4. THE COST FOR 2" DEEP POURED JOINT FILLER SHALL BE INCL. IN THE COST FOR CONCRETE CLASS S (BRIDGE).
5. LONGITUDINAL MEDIAN CURB REINFOREMENT SHALL NOT PASS THRU COLD AND EXPANSION JOINTS.

CENTENNIAL ENGINEERING, INC ARVADA, COLORADO

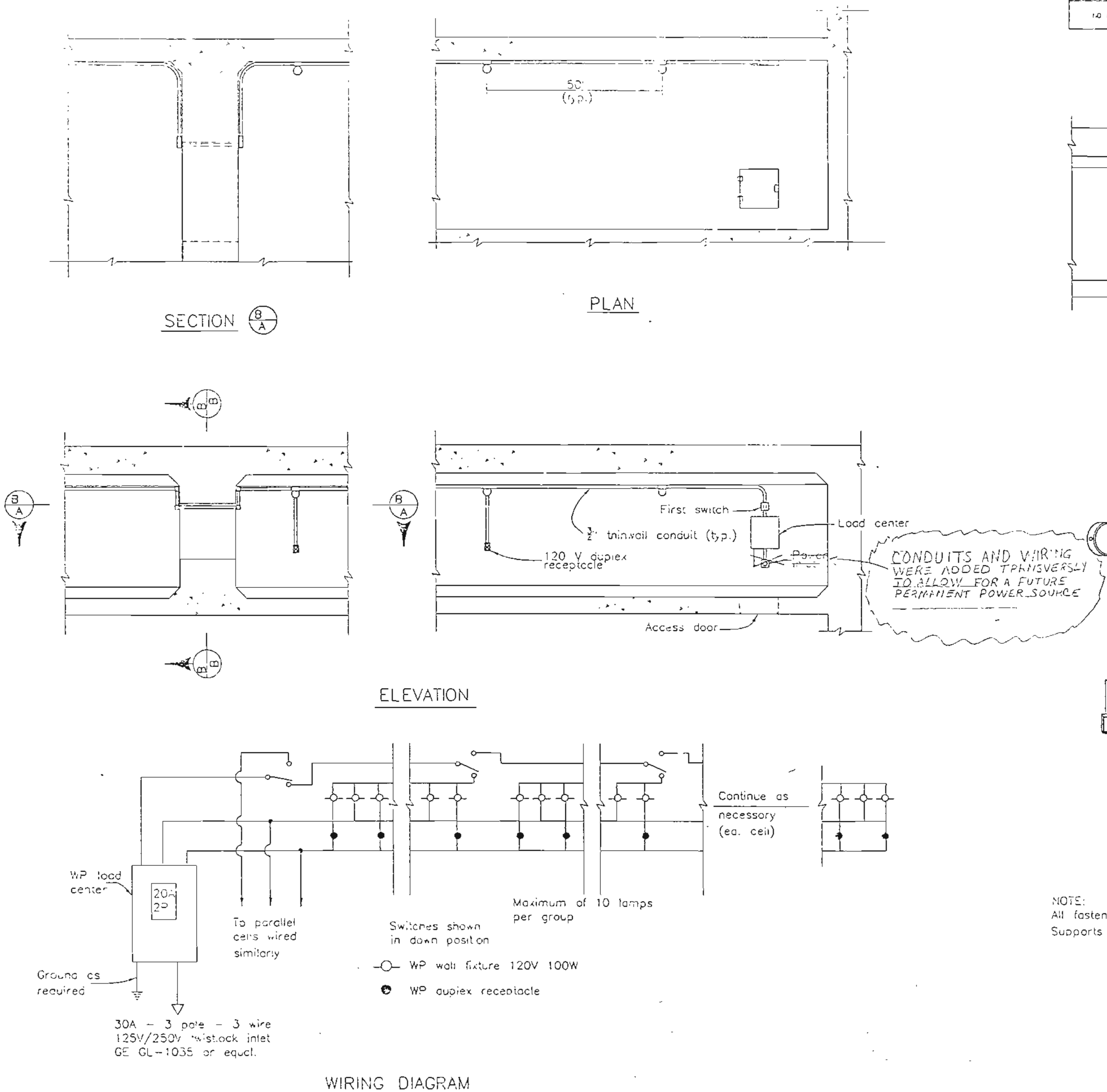
DIVISION OF HIGHWAYS

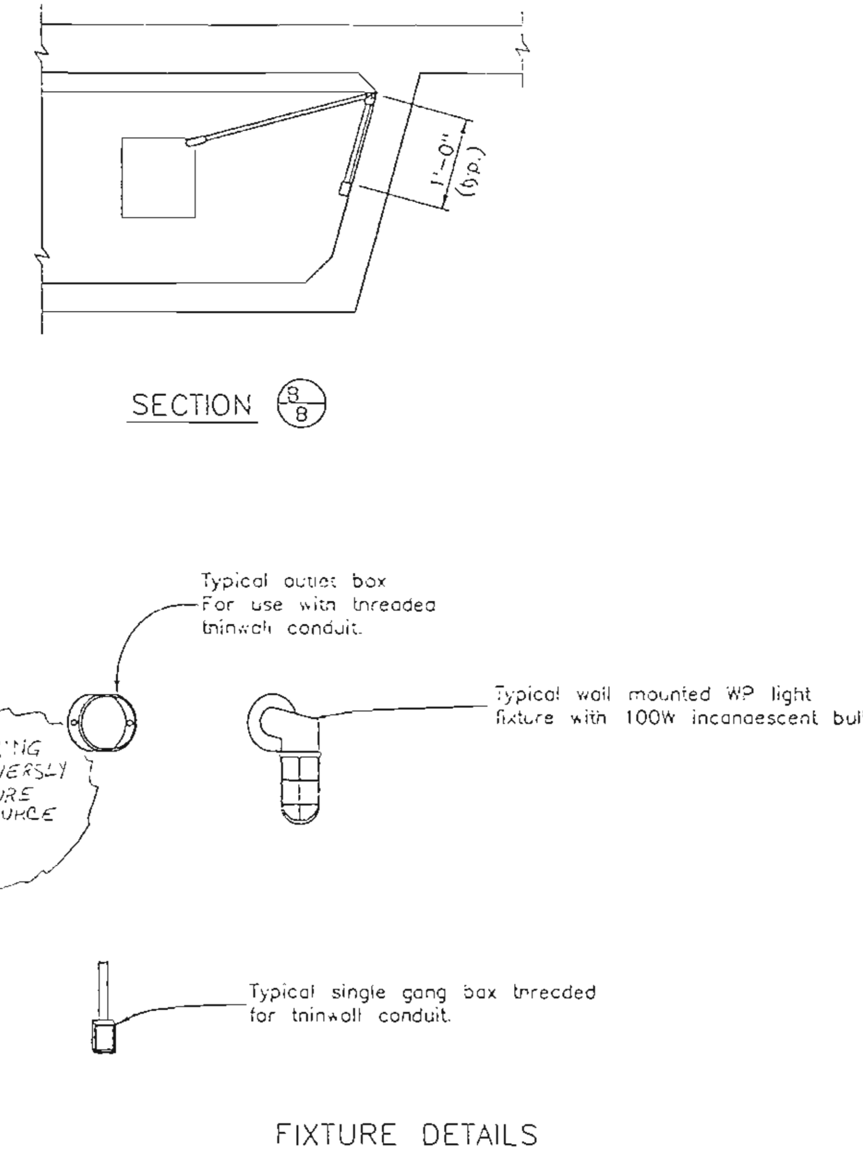
APPROACH SLAB DETAILS

Designer R. OSMUN	Structure Numbers	F-16-NE
Detaner G. Hirsch		
Drawing Number B 17	of 21	Drawings

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
NO REVISION	REVISED 7-15-87	VOID	II	COLORADO	IXFU 470-1(55)	35

REVISIONS





NOTE:
All fasteners shall be ¼".
Supports for conduit shall be at 10' spacing (max.).

DIVISION OF HIGHWAYS

INTERIOR LIGHTING
(CONCRETE BOX GIRDER)

Designer R OSMUN	Structure Numbers	F-16-NE
Detailer C. NECESSARY		
Drawing Number E 18	of 21	Drawings

Revision Dates (Preliminary Stage Only)

11/18/86 DUDO (HEATER PROJ)elecon

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
[illegible] EAST EDGE [illegible]			
[illegible]	113+95.[illegible]	-42.0830	[illegible]
[illegible]	114+0[illegible]	-42.0830	[illegible]
F-1	[illegible]	-42.0830	[illegible]
[illegible]	114+15.[illegible]	-42.0830	[illegible]
[illegible]	114+23.[illegible]	-42.0830	[illegible]
F-4	114+30.[illegible]	-42.0830	5802.83[illegible]
F-5	114+38.[illegible]	-42.0830	5803.0815
F-6	114+45.[illegible]	-42.0830	5803.3275
F-7	114+53.[illegible]	-42.0830	5803.57[illegible]
F-8	114+60.1815	-42.0830	5803.8[illegible]
F-9	114+68.4315	-42.0830	5804.0450
F-10	114+75.9615	-42.0830	5804.2771
F-11	114+83.5315	-42.0830	5804.5058
F-12	114+91.0815	-42.0830	5804.7310
F-13	114+98.6315	-42.0830	5804.9536
F-14	115+06.1815	-42.0830	5805.1708
F-15	115+13.7315	-42.0830	5805.3855
F-16	115+21.2815	-42.0830	5805.5967
F-17	115+28.8315	-42.0830	5805.8043
F-18	115+36.3815	-42.0830	5806.0067
F-19	115+43.9315	-42.0830	5806.2054
CL PIER 2	115+51.4815	-42.0830	5806.4067
F-1	115+58.5315	-42.0830	5806.5677
F-2	115+65.5815	-42.0830	5806.7657
F-3	115+72.6315	-42.0830	5806.9407
F-4	115+79.6815	-42.0830	5807.1126
F-5	115+86.7315	-42.0830	5807.2815
F-6	115+93.7815	-42.0830	5807.4473
F-7	116+00.8315	-42.0830	5807.6101
F-8	116+07.8815	-42.0830	5807.7698
F-9	116+14.9315	-42.0830	5807.9265
F-10	116+21.9815	-42.0830	5808.0802
F-11	116+29.0315	-42.0830	5808.2308
F-12	116+36.0815	-42.0830	5808.3784
F-13	116+43.1315	-42.0830	5808.5229
F-14	116+50.1815	-42.0830	5808.6644
F-15	116+57.2315	-42.0830	5808.8028
F-16	116+64.2815	-42.0830	5808.9382
F-17	116+71.3315	-42.0830	5809.0706
F-18	116+78.3815	-42.0830	5809.1999
F-19	116+85.4315	-42.0830	5809.3262
CL ABUT 3	116+92.4615	-42.0830	5809.4494
BF ABUT 3	116+93.6042	-42.0830	5809.4722

LONGITUDINAL LINE: CL GIRDER 1			
BF ABUT 1	113+97.5730	-37.5000	5801.7878
CL ABUT 1	113+98.8957	-37.5000	5801.8344
F-1	114+06.4457	-37.5000	5802.0987
F-2	114+13.9957	-37.5000	5802.3595
F-3	114+21.5457	-37.5000	5802.6168
F-4	114+29.0957	-37.5000	5802.8707
F-5	114+36.6457	-37.5000	5803.1210
F-6	114+44.1957	-37.5000	5803.3678
F-7	114+51.7457	-37.5000	5803.6112
F-8	114+59.2957	-37.5000	5803.8511
F-9	114+66.8457	-37.5000	5804.0874
F-10	114+74.3957	-37.5000	5804.3203
F-11	114+81.9457	-37.5000	5804.5497
F-12	114+89.4957	-37.5000	5804.7756
F-13	114+97.0457	-37.5000	5804.9980
F-14	115+04.5957	-37.5000	5805.2170
F-15	115+12.1457	-37.5000	5805.4324
F-16	115+19.6957	-37.5000	5805.6443
F-17	115+27.2457	-37.5000	5805.85[illegible]
F-18	115+34.7957	-37.5000	5806.0573
F-19	115+42.3457	-37.5000	5806.2592
CL PIER 2	115+49.8957	-37.5000	5806.4572
F-1	115+56.9457	-37.5000	5806.6393
F-2	115+63.9957	-37.5000	5806.8176
F-3	115+71.0457	-37.5000	5806.9933
F-4	115+78.0957	-37.5000	5807.1659
F-5	115+85.1457	-37.5000	5807.3354
F-6	115+92.1957	-37.5000	5807.5019
F-7	115+99.2457	-37.5000	5807.6654
F-8	116+06.2957	-37.5000	5807.8258
F-9	116+13.3457	-37.5000	5807.9832
F-10	116+20.3957	-37.5000	5808.1375
F-11	116+27.4457	-37.5000	5808.2888
F-12	116+34.4957	-37.5000	5808.4371
F-13	116+41.5457	-37.5000	5808.5823
F-14	116+48.5957	-37.5000	5808.7245
F-15	116+55.6457	-37.5000	5808.8636
F-16	116+62.6957	-37.5000	5808.[illegible]
F-17	116+69.7457	-37.5000	5809.1327
F-18	116+76.7957	-37.5000	5809.2627
F-19	116+83.8457	-37.5000	5809.3897
CL ABUT 3	116+90.8957	-37.5000	5809.5136
BF ABUT 3	116+92.2144	-37.5000	5809.5363

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
LONGITUDINAL LINE: EAST [illegible] LINE			
BF ABUT 1	113+9[illegible]	-35.00	5801.[illegible]
CL ABUT 1	113+98.[illegible]	-35.0000	5801.55[illegible]
F-1	114+05.[illegible]	-35.0[illegible]	5802.[illegible]
F-2	114+13.[illegible]	-35.0000	5802.[illegible]
F-3	114+20.6806	-35.0000	5802.6075
F-4	114+28.[illegible]	-35.0000	5802.8[illegible]
F-5	114+35.7806	-35.0000	5803.1125
F-6	114+43.3306	-35.0000	5803.3457
F-7	114+50.8806	-35.0000	5803.5295
F-8	114+58.4306	-35.0000	5803.8737
F-9	114+65.9806	-35.0000	5804.1105
F-10	114+73.5306	-35.0000	5804.3438
F-11	114+81.0806	-35.0000	5804.5736
F-12	114+88.6306	-35.0000	5804.7999
F-13	114+96.1806	-35.0000	5805.0227
F-14	115+03.7306	-35.0000	5805.2420
F-15	115+11.2806	-35.0000	5805.4573
F-16	115+18.8306	-35.0000	5805.6702
F-17	115+26.3806	-35.0000	5805.8791
F-18	115+33.9306	-35.0000	5806.0845
F-19	115+41.4806	-35.0000	5806.2863
CL PIER 2	115+49.0306	-35.0000	5806.48[illegible]7
F-1	115+56.0806	-35.0000	5806.6666
F-2	115+63.1306	-35.0000	5806.8459
F-3	115+70.1806	-35.0000	5807.0219
F-4	115+77.2306	-35.0000	5807.1949
F-5	115+84.2806	-35.0000	5807.3648
F-6	115+91.3306	-35.0000	5807.5317
F-7	115+98.3806	-35.0000	5807.6955
F-8	116+05.4306	-35.0000	5807.8563
F-9	116+12.4806	-35.0000	5808.0141
F-10	116+19.5306	-35.0000	5808.1686
F-11	116+26.5806	-35.0000	5808.3204
F-12	116+33.6306	-35.0000	5808.4691
F-13	116+40.6806	-35.0000	5808.6147
F-14	116+47.7306	-35.0000	5808.7572
F-15	116+54.7806	-35.0000	5808.8967
F-16	116+61.8306	-35.0000	5809.0332
F-17	116+68.8806	-35.0000	5809.1666
F-18	116+75.9306	-35.0000	5809.2969
F-19	116+82.9806	-35.0000	5809.4243
CL ABUT 3	116+90.0306	-35.0000	5809.5486
BF ABUT 3	116+91.3534	-35.0000	5809.5715

LONGITUDINAL LINE: CL GIRDER 2			
BF ABUT 1	113+94.8043	-29.5000	5801.8498
CL ABUT 1	113+96.1275	-29.5000	5801.8957
F-1	114+03.6775	-29.5000	5802.1622
F-2	114+11.2275	-29.5000	5802.4243
F-3	114+18.7775	-29.5000	5802.6829
F-4	114+26.3275	-29.5000	5802.9380
F-5	114+33.8775	-29.5000	5803.1896
F-6	114+41.4275	-29.5000	5803.4377
F-7	114+48.9775	-29.5000	5803.6824
F-8	114+56.5275	-29.5000	5803.9235
F-9	114+64.0775	-29.5000	5804.1612
F-10	114+71.6275	-29.5000	5804.3953
F-11	114+79.1775	-29.5000	5804.6260
F-12	114+86.7275	-29.5000	5804.8532
F-13	114+94.2775	-29.5000	5805.0769
F-14	115+01.8275	-29.5000	5805.2971
F-15	115+09.3775	-29.5000	5805.5138
F-16	115+16.9275	-29.5000	5805.7270
F-17	115+24.4775	-29.5000	5805.9368
F-18	115+32.0275	-29.5000	5806.1430
F-19	115+39.5775	-29.5000	5806.3458
CL PIER 2	115+47.1275	-29.5000	5806.5450
F-1	115+54.1775	-29.5000	5806.7280
F-2	115+61.2275	-29.5000	5806.9078
F-3	115+68.2775	-29.5000	5807.0847
F-4	115+75.3275	-29.5000	5807.2585
F-5	115+82.3775	-29.5000	5807.4292
F-6	115+89.4275	-29.5000	5807.5969
F-7	115+96.4775	-29.5000	5807.7616
F-8	116+03.5275	-29.5000	5807.9232
F-9	116+10.5775	-29.5000	5808.0818
F-10	116+17.6275	-29.5000	5808.2373
F-11	116+24.6775	-29.5000	5808.3898
F-12	116+31.7275	-29.5000	5808.5392
F-13	116+38.7775	-29.5000	5808.6857
F-14	116+45.8275	-29.5000	5808.8290
F-15	116+52.8775	-29.5000	5808.9693
F-16	116+59.9275	-29.5000	5809.1066
F-17	116+66.9775	-29.5000	5809.2409
F-18	116+74.0275	-29.5000	5809.3720
F-19	116+81.0775	-29.5000	5809.5002
CL ABUT 3	116+88.1275	-29.5000	5809.6253
BF ABUT 3	116+89.4503	-29.5000	5809.6484

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
LONGITUDINAL LINE: CL GIRDER 3			
BF ABUT 1	113+[illegible]	-21.5[illegible]	5801.91[illegible]
CL ABUT 1	113+[illegible]	-21.50	[illegible]
F-1	114+[illegible]	-21.5000	[illegible]
F-2	114+[illegible]	-21.5000	[illegible]
F-3	114+[illegible]	-21.5000	[illegible]
F-4	114+21.55[illegible]	-21.5000	580[illegible]
F-5	114+31.[illegible]	-21.5000	5803.2578
F-6	114+38.6[illegible]	-21.5000	5803.5072
F-7	114+46.[illegible]	-21.5000	5803.75[illegible]
F-8	114+53.7594	-21.5000	5803.9953
F-9	114+61.3094	-21.5000	5804.2344
F-10	114+68.8594	-21.5000	5804.4699
F-11	114+76.4094	-21.5000	5804.7019
F-12	114+83.9594	-21.5000	5804.9303
F-13	114+91.5094	-21.5000	5805.1553
F-14	114+99.0594	-21.5000	5805.3768
F-15	115+06.6094	-21.5000	5805.5948
F-16	115+14.1594	-21.5000	5805.8093
F-17	115+21.7094	-21.5000	5806.0202
F-18	115+29.2594	-21.5000	5806.2278
F-19	115+36.8094	-21.5000	5806.4318
CL PIER 2	115+44.3594	-21.5000	5806.6324
F-1	115+51.4094	-21.5000	5806.8165
F-2	115+58.4594	-21.5000	5806.9976
F-3	115+65.5094	-21.5000	5807.1756
F-4	115+72.5594	-21.5000	5807.3506
F-5	115+79.6094	-21.5000	5807.5225
F-6	115+86.6594	-21.5000	5807.6914
F-7	115+93.7094	-21.5000	5807.8573
F-8	116+00.7594	-21.5000	5808.020[illegible]
F-9	116+07.8094	-21.5000	5808.1799
F-10	116+14.8594	-21.5000	5808.3366
F-11	116+21.9094	-21.5000	5808.4903
F-12	116+28.9594	-21.5000	5808.6409
F-13	116+36.0094	-21.5000	5808.7885
F-14	116+43.0594	-21.5000	5808.9331
F-15	116+50.1094	-21.5000	5809.0746
F-16	116+57.1594	-21.5000	5809.2131
F-17	116+64.2094	-21.5000	5809.3485
F-18	116+71.2594	-21.5000	5809.4809
F-19	116+78.3094	-21.5000	5809.6102
CL ABUT 3	116+85.3594	-21.5000	5809.7365
BF ABUT 3	116+86.6821	-21.5000	5809.7593

LONGITUDINAL LINE: CL GIRDER 4			
BF ABUT 1	113+89.2685	-13.5000	5801.9724
CL ABUT 1	113+90.5912	-13.5000	5802.0147
F-1	113+98.1412	-13.5000	5802.2576
F-2	114+05.6912	-13.5000	5802.5515
F-3	114+13.2412	-13.5000	5802.8155
F-4	114+20.7912	-13.5000	5803.0713
F-5	114+28.3412	-13.5000	5803.3235
F-6	114+35.8912	-13.5000	5803.5761
F-7	114+43.4412	-13.5000	5803.8233
F-8	114+50.9912	-13.5000	5804.0670
F-9	114+58.5412	-13.5000	5804.3072
F-10	114+66.0912	-13.5000	5804.544[illegible]
F-11	114+73.6412	-13.5000	5804.7772
F-12	114+81.1912	-13.5000	5805.0069
F-13	114+88.7412	-13.5000	5805.2332
F-14	114+96.2912	-13.5000	5805.4560
F-15	115+03.8412	-13.5000	5805.6752
F-16	115+11.3912	-13.5000	5805.8910
F-17	115+18.9412	-13.5000	5806.1033
F-18	115+26.4912	-13.5000	5806.3121
F-19	115+34.0412	-13.5000	5806.5174
CL PIER 2	115+41.5912	-13.5000	5806.7193
F-1	115+48.6412	-13.5000	5806.9046
F-2	115+55.6912	-13.5000	5807.0868
F-3	115+62.7412	-13.5000	5807.2661
F-4	115+69.7912	-13.5000	5807.4422
F-5	115+76.8412	-13.5000	5807.6154
F-6	115+83.8912	-13.5000	5807.7855
F-7	115+90.9412	-13.5000	5807.9525
F-8	115+97.9912	-13.5000	5808.1165
F-9	116+05.0412	-13.5000	5808.2775
F-10	116+12.0912	-13.5000	5808.4354
F-11	116+19.1412	-13.5000	5808.5903
F-12	116+26.1912	-13.5000	5808.7421
F-13	116+33.2412	-13.5000	5808.8909
F-14	116+40.2912	-13.5000	5809.0367
F-15	116+47.3412	-13.5000	5809.1794
F-16	116+54.3912	-13.5000	5809.3191
F-17	116+61.4412	-13.5000	5809.4557
F-18	116+68.4912	-13.5000	5809.5893
F-19	116+75.5412	-13.5000	5809.71[illegible]
CL ABUT 3	116+82.5912	-13.5000	5809.8473
BF ABUT 3	116+83.9140	-13.5000	5809.8709

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
[illegible] CL GIRDER 5			
BF ABUT 1	113+8[illegible]	-5.5[illegible]	5802.1[illegible]
CL ABUT 1	11[illegible]	[illegible]	5802.06[illegible]
F-1	11[illegible]	-5.5[illegible]	5802.[illegible]
F-2	114+02.[illegible]	-5.5[illegible]	5802.51[illegible]
F-3	114+10.[illegible]	-5.5[illegible]	5802.8[illegible]
F-4	114+18.0231	-5.5[illegible]	5803.1372
F-5	114+25.5731	-5.5000	5803.3427
F-6	114+33.1231	-5.5[illegible]	5803.6446
F-7	114+40.6731	-5.5000	5803.893[illegible]
F-8	114+48.2231	-5.5000	5804.1361
F-9	114+55.7731	-5.5000	5804.3796
F-10	114+63.3231	-5.5000	5804.6176
F-11	114+70.8731	-5.5000	5804.8521
F-12	114+78.4231	-5.5000	5805.0831
F-13	114+85.9731	-5.5000	5805.3106
F-14	114+93.5231	-5.5000	5805.5347
F-15	115+01.0731	-5.5000	5805.7552
F-16	115+08.6231	-5.5000	5805.9723
F-17	115+16.1731	-5.5000	5806.1859
F-18	115+23.7231	-5.5000	5806.3960
F-19	115+31.2731	-5.5000	5806.6026
CL PIER 2	115+38.8231	-5.5000	5806.8057
F-1	115+45.8731	-5.5000	5806.9922
F-2	115+52.9231	-5.5000	5807.1756
F-3	115+59.9731	-5.5000	5807.3560
F-4	115+67.0231	-5.5000	5807.5334
F-5	115+74.0731	-5.5000	5807.7078
F-6	115+81.1231	-5.5000	5807.8790
F-7	115+88.1731	-5.5000	5808.0473
F-8	115+95.2231	-5.5000	5808.2125
F-9	116+02.2731	-5.5000	5808.2747
F-10	116+09.3231	-5.5000	5808.5338
F-11	116+16.3731	-5.5000	5808.6899
F-12	116+23.4231	-5.5000	5808.8429
F-13	116+30.4731	-5.5000	5808.9929
F-14	116+37.5231	-5.5000	5809.1398
F-15	116+44.5731	-5.5000	5809.2837
F-16	116+51.6231	-5.5000	5809.4245
F-17	116+58.6731	-5.5000	5809.5624
F-18	116+65.7231	-5.5000	5809.6972
F-19	116+72.7731	-5.5000	5809.8289
CL ABUT 3	116+79.8231	-5.5000	5809.9576
BF ABUT 3	116+81.1458	-5.5000	5809.9814

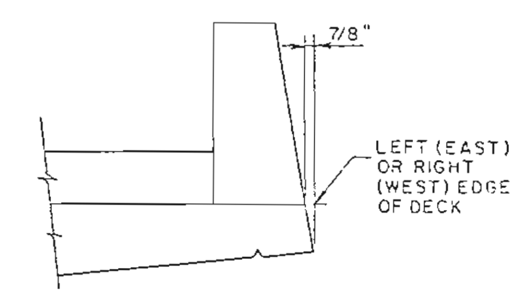
LONGITUDINAL LINE: CL QUINCY & PROF GR			
BF ABUT 1	113+84.5973	0.0000	5802.0743
CL ABUT 1	113+85.9200	0.0000	5802.1221
F-1	113+93.4700	0.0000	5802.3923
F-2	114+01.0200	0.0000	5802.6591
F-3	114+08.5700	0.0000	5802.9225
F-4	114+16.1200	0.0000	5803.1823
F-5	114+23.6700	0.0000	5803.4386
F-6	114+31.2200	0.0000	5803.6914
F-7	114+38.7700	0.0000	5803.9408
F-8	114+46.3200	0.0000	5804.1867
F-9	114+53.8700	0.0000	5804.4290
F-10	114+61.4200	0.0000	5804.6679
F-11	114+68.9700	0.0000	5804.9033
F-12	114+76.5200	0.0000	5805.1352
F-13	114+84.0700	0.0000	5805.3636
F-14	114+91.6200	0.0000	5805.5885
F-15	114+99.1700	0.0000	5805.8100
F-16	115+06.7200	0.0000	5806.0279
F-17	115+14.2700	0.0000	5806.2424
F-18	115+21.8200	0.0000	5806.4533
F-19	115+29.3700	0.0000	5806.6608
CL PIER 2	115+36.9200	0.0000	5806.8648
F-1	115+43.9700	0.0000	5807.0521
F-2	115+51.0200	0.0000	5807.2364
F-3	115+58.0700	0.0000	5807.4176
F-4	115+65.1200	0.0000	5807.5958
F-5	115+72.1700	0.0000	5807.7710
F-6	115+79.2200	0.0000	5807.9431
F-7	115+86.2700	0.0000	5808.1122
F-8	115+93.3200	0.0000	5808.2782
F-9	116+00.3700	0.0000	5808.4412
F-10	116+07.4200	0.0000	5808.6011
F-11	116+14.4700	0.0000	5808.7580
F-12	116+21.5200	0.0000	5808.9119
F-13	116+28.5700	0.0000	5809.0627
F-14	116+35.6200	0.0000	5809.2105
F-15	116+42.6700	0.0000	5809.3552
F-16	116+49.7200	0.0000	5809.4969
F-17	116+56.7700	0.0000	5809.6355
F-18	116+63.8200	0.0000	5809.7711
F-19	116+70.8700	0.0000	5809.9037
CL ABUT 3	116+77.9200	0.0000	5810.0332
BF ABUT 3	116+79.2427	0.0000	5810.0571

FEDERAL ROAD REGION NO	DIVISION	PROJECT NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	IXFU 470-1(55)	36	41

REVISIONS

AS CONSTRUCTED

NO REVISIONS 7-15-67 REVISED VOID



FINISHED ELEVATIONS ARE AT TOP OF CONCRETE DECK 0.1667 FEET BELOW FINISHED GRADE.

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

BRIDGE DECK ELEVATIONS

Designer	R. OSMUN	Structure Numbers	F-16-NE
Detailer	C. NECESSARY		
Drawing Number B 19		of 21	Drawings

LONGITUDINAL LINE: CL GIRDER 6 & BRIDGE [illegible]

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
F-4	[illegible]	2.5000	[illegible]
F-5	[illegible]	2.5000	[illegible]
F-6	114+2?.3550	2.5000	5803.6127
F-7	[illegible]	2.5000	[illegible]
F-8	[illegible]	2.5000	[illegible]
F-9	114+53.0050	2.5000	5804.2514
F-10	114+60.5550	2.5000	5804.5307
F-11	[illegible]	2.5000	5804.8265
F-12	114+75.6550	2.5000	5805.0538
F-13	114+83.2050	2.5000	5805.2676
F-14	114+90.7550	2.5000	5805.5130
F-15	114+98.3050	2.5000	5805.7348
F-16	115+05.8550	2.5000	5805.9531
F-17	115+13.4050	2.5000	5806.1680
F-18	115+20.9550	2.5000	5806.3793
F-19	115+28.5050	2.5000	5806.5872
CL PIER 2	115+36.0530	2.5000	[illegible]
F-1	115+43.1030	2.5000	5806.9?92
F-2	115+50.1550	2.5000	5807.1610
F-3	115+57.2050	2.5000	5807.3460
F-4	115+64.2550	2.5000	5807.5257
F-5	115+71.3050	2.5000	5807.7025
F-6	115+78.3550	2.5000	5807.8776
F-7	115+85.4050	2.5000	5808.0500
F-8	115+92.4550	2.5000	5808.2193
F-9	115+99.5050	2.5000	5808.3873
F-10	116+06.5550	2.5000	5808.5520
F-11	116+13.6050	2.5000	5808.7126
F-12	116+20.6550	2.5000	5808.8722
F-13	116+27.7050	2.5000	5809.0277
F-14	116+34.7550	2.5000	5809.1802
F-15	116+41.8050	2.5000	5809.3297
F-16	116+48.8550	2.5000	5809.4761
F-17	116+55.9050	2.5000	5809.6194
F-18	116+62.9550	2.5000	5809.7598
F-19	116+70.0050	2.5000	5809.8970
CL ABUT 3	116+77.0550	2.5000	5810.0313
BF ABUT 3	116+78.3777	2.5000	5810.0561

LONGITUDINAL LINE: CL GIRDER 7

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
BF ABUT 1	113+80.9641	10.5000	5801.7327
CL ABUT 1	113+82.2868	10.5000	5801.7807
F-1	113+89.8368	10.5000	5802.0527
F-2	113+97.3868	10.5000	5802.3212
F-3	114+04.9368	10.5000	5802.5862
F-4	114+12.4868	10.5000	5802.8477
F-5	114+20.0368	10.5000	5803.1057
F-6	114+27.5868	10.5000	5803.3602
F-7	114+35.1368	10.5000	5803.6112
F-8	114+42.6868	10.5000	5803.8568
F-9	114+50.2368	10.5000	5804.1028
F-10	114+57.7868	10.5000	5804.3434
F-11	114+65.3368	10.5000	5804.5805
F-12	114+72.8868	10.5000	5804.8140
F-13	114+80.4368	10.5000	5805.0441
F-14	114+87.9868	10.5000	5805.2707
F-15	114+95.5368	10.5000	5805.4939
F-16	115+03.0868	10.5000	5805.7135
F-17	115+10.6368	10.5000	5805.9296
F-18	115+18.1868	10.5000	5806.1423
F-19	115+25.7368	10.5000	5806.3514
CL PIER 2	115+33.2868	10.5000	5806.5571
F-1	115+40.3368	10.5000	5806.7460
F-2	115+47.3868	10.5000	5806.9318
F-3	115+54.4368	10.5000	5807.1155
F-4	115+61.4868	10.5000	5807.2987
F-5	115+68.5368	10.5000	5807.4814
F-6	115+75.5868	10.5000	5807.6637
F-7	115+82.6368	10.5000	5807.8455
F-8	115+89.6868	10.5000	5808.0268
F-9	115+96.7368	10.5000	5808.2077
F-10	116+03.7868	10.5000	5808.3874
F-11	116+10.8368	10.5000	5808.5641
F-12	116+17.8868	10.5000	5808.7378
F-13	116+24.9368	10.5000	5808.9044
F-14	116+31.9868	10.5000	5809.0760
F-15	116+39.0368	10.5000	5809.2406
F-16	116+46.0868	10.5000	5809.4021
F-17	116+53.1368	10.5000	5809.5605
F-18	116+60.1868	10.5000	5809.7160
F-19	116+67.2368	10.5000	5809.8683
CL ABUT 3	116+74.2868	10.5000	5810.0177
BF ABUT 3	116+75.6095	10.5000	5810.0454

LONGITUDINAL LINE: CL GIRDER 8

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
BF ABUT 1	113+78.1959	18.5000	5801.4719
CL ABUT 1	113+79.5187	18.5000	5801.5202
F-1	113+87.0687	18.5000	5801.7964
F-2	113+94.6187	18.5000	5802.0?12
F-3	114+02.1687	18.5000	5802.3?74
F-4	114+09.7187	18.5000	[illegible]
F-5	114+17.2687	18.5000	5802.9?2?
F-6	114+24.8187	18.5000	5803.1?7?
F-7	114+32.3687	18.5000	5803.?375
F-8	114+39.9187	18.5000	5803.6064
F-9	114+47.4687	18.5000	5803.8538
F-10	114+55.0187	18.5000	5804.0956
F-11	114+62.5687	18.5000	5804.3340
F-12	114+70.1187	18.5000	5804.5688
F-13	114+77.6687	18.5000	5804.8002
F-14	114+85.2187	18.5000	5805.0281
F-15	114+92.7687	18.5000	5805.2525
F-16	115+00.3187	18.5000	5805.4734
F-17	115+07.8687	18.5000	5805.6909
F-18	115+15.4187	18.5000	5805.9047
F-19	115+22.9687	18.5000	5806.1151
CL PIER 2	115+30.5187	18.5000	5806.3221
F-1	115+37.5687	18.5000	5806.5122
F-2	115+44.6187	18.5000	5806.6992
F-3	115+51.6687	18.5000	5806.8837
F-4	115+58.7187	18.5000	5807.0669
F-5	115+65.7687	18.5000	5807.2556
F-6	115+72.8187	18.5000	5807.4438
F-7	115+79.8687	18.5000	5807.6395
F-8	115+86.9187	18.5000	5807.8217
F-9	115+93.9687	18.5000	5808.0174
F-10	116+01.0187	18.5000	5808.2113
F-11	116+08.0687	18.5000	5808.4032
F-12	116+15.1187	18.5000	5808.5913
F-13	116+22.1687	18.5000	5808.7777
F-14	116+29.2187	18.5000	5808.9604
F-15	116+36.2687	18.5000	5809.1400
F-16	116+43.3187	18.5000	5809.3167
F-17	116+50.3687	18.5000	5809.4902
F-18	116+57.4187	18.5000	5809.6608
F-19	116+64.4687	18.5000	5809.8283
CL ABUT 3	116+71.5187	18.5000	5809.9927
BF ABUT 3	116+72.8414	18.5000	5810.0222

LONGITUDINAL LINE: CL GIRDER 9

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
BF ABUT 1	113+75.4278	26.5000	5801.2106
CL ABUT 1	113+76.7505	26.5000	5801.2591
F-1	113+84.3005	26.5000	5801.5335
F-2	113+91.8505	26.5000	5801.8047
F-3	113+99.4005	26.5000	5802.0722
F-4	114+06.9505	26.5000	5802.3363
F-5	114+14.5005	26.5000	5802.5968
F-6	114+22.0505	26.5000	5802.8539
F-7	114+29.6005	26.5000	5803.1075
F-8	114+37.1505	26.5000	5803.3576
F-9	114+44.7005	26.5000	5803.6042
F-10	114+52.2505	26.5000	5803.8473
F-11	114+59.8005	26.5000	5804.0870
F-12	114+67.3505	26.5000	5804.3231
F-13	114+74.9005	26.5000	5804.5558
F-14	114+82.4505	26.5000	5804.7849
F-15	114+90.0005	26.5000	5805.0106
F-16	114+97.5505	26.5000	5805.2328
F-17	115+05.1005	26.5000	5805.4515
F-18	115+12.6505	26.5000	5805.6667
F-19	115+20.2005	26.5000	5805.8784
CL PIER 2	115+27.7505	26.5000	5806.0866
F-1	115+34.8005	26.5000	5806.2779
F-2	115+41.8505	26.5000	5806.4661
F-3	115+48.9005	26.5000	5806.6513
F-4	115+55.9505	26.5000	5806.8370
F-5	115+63.0005	26.5000	5807.0262
F-6	115+70.0505	26.5000	5807.2188
F-7	115+77.1005	26.5000	5807.4149
F-8	115+84.1505	26.5000	5807.6145
F-9	115+91.2005	26.5000	5807.8174
F-10	115+98.2505	26.5000	5808.0239
F-11	116+05.3005	26.5000	5808.2308
F-12	116+12.3505	26.5000	5808.4347
F-13	116+19.4005	26.5000	5808.6355
F-14	116+26.4505	26.5000	5808.8334
F-15	116+33.5005	26.5000	5809.0281
F-16	116+40.5505	26.5000	5809.2193
F-17	116+47.6005	26.5000	5809.4036
F-18	116+54.6505	26.5000	5809.5942
F-19	116+61.7005	26.5000	5809.7768
CL ABUT 3	116+68.7505	26.5000	5809.9563
BF ABUT 3	116+70.0732	26.5000	5809.9697

LONGITUDINAL LINE: CL GIRDER 10

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
BF ABUT 1	[illegible]	34.5000	5800.9484
CL ABUT 1	[illegible]	34.5000	5800.9976
F-1	113+81.5324	34.5000	5801.2734
F-2	[illegible]	34.5000	5801.5457
F-3	[illegible]	34.5000	5801.8145
F-4	114+04.1?24	34.5000	5802.0793
F-5	114+11.7324	34.5000	5802.3417
F-6	114+19.2824	34.5000	5802.6001
F-7	114+26.8324	34.5000	5802.8549
F-8	114+34.3824	34.5000	5803.1063
F-9	114+41.9324	34.5000	5803.3542
F-10	114+49.4824	34.5000	5803.5986
F-11	114+57.0324	34.5000	5803.8395
F-12	114+64.5824	34.5000	5804.0759
F-13	114+72.1324	34.5000	5804.3109
F-14	114+79.6824	34.5000	5804.5413
F-15	114+87.2324	34.5000	5804.7683
F-16	114+94.7824	34.5000	5804.9917
F-17	115+02.3324	34.5000	5805.2117
F-18	115+09.8824	34.5000	5805.4282
F-19	115+17.4324	34.5000	5805.6412
CL PIER 2	115+24.9824	34.5000	5805.8507
F-1	115+32.0324	34.5000	5806.0431
F-2	115+39.0324	34.5000	5806.2325
F-3	115+46.1324	34.5000	5806.4190
F-4	115+53.1824	34.5000	5806.6041
F-5	115+60.2324	34.5000	5806.7942
F-6	115+67.2824	34.5000	5806.9897
F-7	115+74.3324	34.5000	5807.1906
F-8	115+81.3824	34.5000	5807.3970
F-9	115+88.4324	34.5000	5807.6087
F-10	115+95.4824	34.5000	5807.8259
F-11	116+02.5324	34.5000	5808.0471
F-12	116+09.5824	34.5000	5808.2561
F-13	116+16.6324	34.5000	5808.4821
F-14	116+23.6824	34.5000	5808.6950
F-15	116+30.7324	34.5000	5808.9048
F-16	116+37.7824	34.5000	5809.1117
F-17	116+44.8324	34.5000	5809.3155
F-18	116+51.8824	34.5000	5809.5162
F-19	116+58.9324	34.5000	5809.7139
CL ABUT 3	116+65.9824	34.5000	5809.9086
BF ABUT 3	116+67.3051	34.5000	5809.9448

LONGITUDINAL LINE: WEST FLOW LINE

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
BF ABUT 1	113+72.4866	35.0000	5800.9325
CL ABUT 1	113+73.8094	35.0000	5800.9812
F-1	113+81.3594	35.0000	5801.2571
F-2	113+88.9094	35.0000	5801.5295
F-3	113+96.4594	35.0000	5801.7984
F-4	114+04.0094	35.0000	5802.0638
F-5	114+11.5594	35.0000	5802.3257
F-6	114+19.1094	35.0000	5802.5842
F-7	114+26.6594	35.0000	5802.8391
F-8	114+34.2094	35.0000	5803.0906
F-9	114+41.7594	35.0000	5803.3386
F-10	114+49.3094	35.0000	5803.5830
F-11	114+56.8594	35.0000	5803.8240
F-12	114+64.4094	35.0000	5804.0615
F-13	114+71.9594	35.0000	5804.2955
F-14	114+79.5094	35.0000	5804.5261
F-15	114+87.0594	35.0000	5804.7531
F-16	114+94.6094	35.0000	5804.9766
F-17	115+02.1594	35.0000	5805.1967
F-18	115+09.7094	35.0000	5805.4133
F-19	115+17.2594	35.0000	5805.6263
CL PIER 2	115+24.8094	35.0000	5805.8359
F-1	115+31.8594	35.0000	5806.0285
F-2	115+38.9094	35.0000	5806.2160
F-3	115+45.9594	35.0000	5806.4044
F-4	115+53.0094	35.0000	5806.5896
F-5	115+60.0594	35.0000	5806.7795
F-6	115+67.1094	35.0000	5806.9753
F-7	115+74.1594	35.0000	5807.1764
F-8	115+81.2094	35.0000	5807.3831
F-9	115+88.2594	35.0000	5807.5954
F-10	115+95.3094	35.0000	5807.8132
F-11	116+02.3594	35.0000	5808.0352
F-12	116+09.4094	35.0000	5808.2552
F-13	116+16.4594	35.0000	5808.4721
F-14	116+23.5094	35.0000	5808.6859
F-15	116+30.5594	35.0000	5808.8968
F-16	116+37.6094	35.0000	5809.1045
F-17	116+44.6594	35.0000	5809.3093
F-18	116+51.7094	35.0000	5809.5110
F-19	116+58.7594	35.0000	5809.7096
CL ABUT 3	116+65.8094	35.0000	5809.9052
BF ABUT 3	116+67.1322	35.0000	5809.9416

LONGITUDINAL LINE: CL GIRDER 11

DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
BF ABUT 1	113+69.8915	42.5000	5800.6857
CL ABUT 1	113+71.2142	42.5000	5800.7??
F-1	113+78.7642	42.5000	5801.0??
F-2	113+86.3142	42.5000	5801.28??
F-3	113+93.8642	42.5000	5801.5??
F-4	114+01.4142	42.5000	5801.8??
F-5	114+08.9642	42.5000	5802.0??
F-6	114+16.5142	42.5000	5802.345?
F-7	114+24.0642	42.5000	5802.60??
F-8	114+31.6142	42.5000	5802.85??
F-9	114+39.1642	42.5000	5803.1077
F-10	114+46.7142	42.5000	5803.3434
F-11	114+54.2642	42.5000	5803.5916
F-12	114+61.8142	42.5000	5803.8303
F-13	114+69.3642	42.5000	5804.0655
F-14	114+76.9142	42.5000	5804.2972
F-15	114+84.4642	42.5000	5804.5255
F-16	114+92.0142	42.5000	5804.7502
F-17	114+99.5642	42.5000	5804.9714
F-18	115+07.1142	42.5000	5805.1892
F-19	115+14.6642	42.5000	5805.4035
CL PIER 2	115+22.2142	42.5000	5805.6143
F-1	115+29.2642	42.5000	5805.8075
F-2	115+36.3142	42.5000	5805.9955
F-3	115+43.3642	42.5000	5806.1821
F-4	115+50.4142	42.5000	5806.371?
F-5	115+57.4642	42.5000	5806.5602
F-6	115+64.5142	42.5000	5806.7573
F-7	115+71.5642	42.5000	5806.9515
F-8	115+78.6142	42.5000	5807.1721
F-9	115+85.6642	42.5000	5807.3921
F-10	115+92.7142	42.5000	5807.6154
F-11	115+99.7642	42.5000	5807.8310
F-12	116+06.8142	42.5000	5808.0841
F-13	116+13.8642	42.5000	5808.3172
F-14	116+20.9142	42.5000	5808.5452
F-15	116+27.9642	42.5000	5808.7702
F-16	116+35.0142	42.5000	5808.9921
F-17	116+42.0642	42.5000	5809.2110
F-18	116+49.1142	42.5000	5809.4268
F-19	116+56.1642	42.5000	5809.6397
CL ABUT 3	116+63.2142	42.5000	5809.8494
BF ABUT 3	116+64.5369	42.5000	5809.8884

LONGITUDINAL LINE: WEST EDGE OF DECK

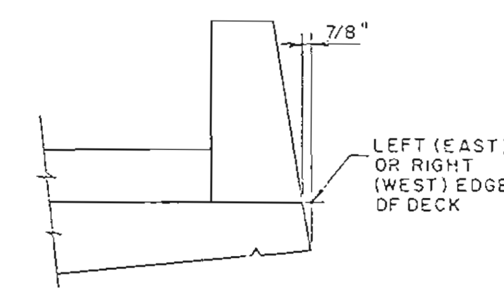
DESCRIPTION OF FRACTIONAL POINT DESIGNATION	STATION	OFFSET	FINISHED ELEVATION
BF ABUT 1	113+68.3057	47.0830	5800.5362
CL ABUT 1	113+69.6284	47.0830	5800.5853
F-1	113+77.1784	47.0830	5800.8631
F-2	113+84.7284	47.0830	5801.1374
F-3	113+92.2784	47.0830	5801.4083
F-4	113+99.8284	47.0830	5801.6756
F-5	114+07.3784	47.0830	5801.9395
F-6	114+14.9284	47.0830	5802.1999
F-7	114+22.4784	47.0830	5802.4567
F-8	114+30.0284	47.0830	5802.7101
F-9	114+37.5784	47.0830	5802.9600
F-10	114+45.1284	47.0830	5803.2064
F-11	114+52.6784	47.0830	5803.4494
F-12	114+60.2284	47.0830	5803.6888
F-13	114+67.7784	47.0830	5803.9247
F-14	114+75.3284	47.0830	5804.1572
F-15	114+82.8784	47.0830	5804.3861
F-16	114+90.4284	47.0830	5804.6116
F-17	114+97.9784	47.0830	5804.8336
F-18	115+05.5284	47.0830	5805.0521
F-19	115+13.0784	47.0830	5805.2671
CL PIER 2	115+20.6284	47.0830	5805.4786
F-1	115+27.6784	47.0830	5805.6730
F-2	115+34.7284	47.0830	5805.8643
F-3	115+41.7784	47.0830	5806.0526
F-4	115+48.8284	47.0830	5806.2379
F-5	115+55.8784	47.0830	5806.4262
F-6	115+62.9284	47.0830	5806.6231
F-7	115+69.9784	47.0830	5806.8255
F-8	115+77.0284	47.0830	5807.0424
F-9	115+84.0784	47.0830	5807.2648
F-10	115+91.1284	47.0830	5807.4937
F-11	115+98.1784	47.0830	5807.7351
F-12	116+05.2284	47.0830	5807.9773
F-13	116+12.2784	47.0830	5808.2175
F-14	116+19.3284	47.0830	5808.4542
F-15	116+26.3784	47.0830	5808.6879
F-16	116+33.4284	47.0830	5808.9185
F-17	116+40.4784	47.0830	5809.1460
F-18	116+47.5284	47.0830	5809.3705
F-19	116+54.5784	47.0830	5809.5920
CL ABUT 3	116+61.6284	47.0830	5809.8104
BF ABUT 3	116+62.9511	47.0830	5809.8510

REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	IXFU 470-1(55)	37	41

REVISIONS

AS CONSTRUCTED

NO REVISIONS [illegible] REVISED VOID



FINISHED ELEVATIONS ARE AT TOP OF CONCRETE DECK 0.1667 FEET BELOW FINISHED GRADE.

CENTENNIAL ENGINEERING, INC. ARVADA, COLORADO

DIVISION OF HIGHWAYS

BRIDGE DECK ELEVATIONS

Designer	R. OSMUN	Structure Numbers	F-16-NE
Detailer	C. NECESSARY		

Drawing Number B 20 of 21 Drawings

VIII	IXFU 470-1(45)	SF 3	21	

ROADWAY APPROACHES

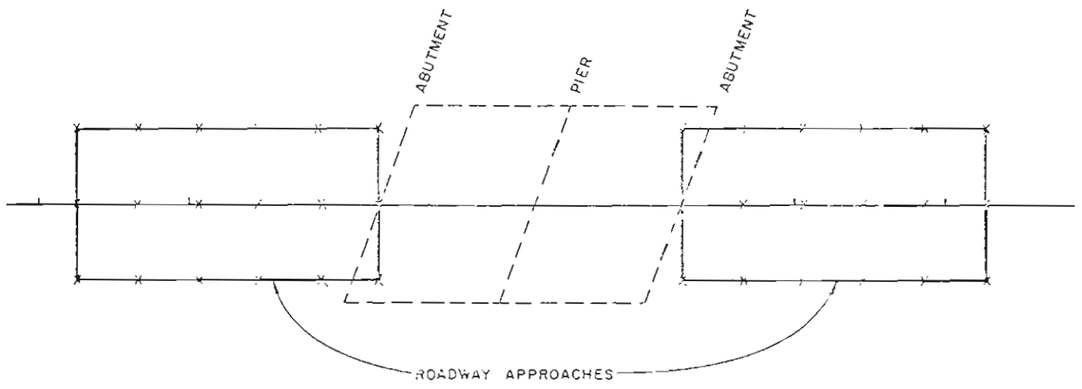
ELEVATIONS ARE AT FINISHED GRADE

ELEVATION ON ROADWAY APPROACHES
(AT FINISHED GRADE)

STATION:	OFFSETS: -33.0000	-9.0000	0.0000	9.0000	33.0000
112+50	5796.4720	5796.9520	5797.1320	5796.9520	5796.4720
112+60	5796.8543	5797.3343	5797.5143	5797.3343	5796.8543
112+70	5797.2366	5797.7166	5797.8966	5797.7166	5797.2366
112+80	5797.6189	5798.0989	5798.2789	5798.0989	5797.6189
112+90	5798.0012	5798.4812	5798.6612	5798.4812	5798.0012
113+00	5798.3835	5798.8635	5799.0435	5798.8635	5798.3835
113+10	5798.7658	5799.2458	5799.4258	5799.2458	5798.7658
113+20	5799.1481	5799.6281	5799.8081	5799.6281	5799.1481
113+30	5799.5304	5800.0104	5800.1904	5800.0104	5799.5304
113+40	5799.9127	5800.3927	5800.5727	5800.3927	5799.9127
113+50	5800.2950	5800.7750	5800.9550	5800.7750	5800.2950
113+60	5800.6742	5801.1542	5801.3342	5801.1542	5800.6742
113+70	5801.0474	5801.5274	5801.7074	5801.5274	5801.0474
113+80	5801.4144	5801.8944	5802.0744	5801.8944	5801.4144
113+90	5801.7752	5802.2552	5802.4352	5802.2552	5801.7752
114+00	5802.1300	5802.6100	5802.7900	5802.6100	5802.1300

ELEVATION ON ROADWAY APPROACHES
(AT FINISHED GRADE)

STATION:	OFFSETS: -33.0000	-9.0000	0.0000	9.0000	33.0000
116+70	5809.3941	5809.8741	5810.0541	5810.0882	5810.1791
116+80	5809.5775	5810.0575	5810.2375	5810.2934	5810.4439
116+90	5809.7547	5810.2347	5810.4147	5810.4932	5810.7025
117+00	5809.9258	5810.4058	5810.5858	5810.6865	5810.9550
117+10	5810.0907	5810.5707	5810.7507	5810.8736	5811.2013
117+20	5810.2426	5810.7277	5810.9096	5811.0547	5811.4416
117+30	5810.3721	5810.8741	5811.0623	5811.2296	5811.6757
117+40	5810.4792	5811.0099	5811.2089	5811.3944	5811.9037
117+50	5810.5628	5811.1252	5811.2494	5811.5611	5812.1256
117+60	5810.6251	5811.2439	5811.4838	5811.7176	5812.3414
117+70	5810.6730	5811.3559	5811.6120	5811.8681	5812.5510
117+80	5810.7137	5811.4558	5811.7341	5812.0124	5812.7545
117+90	5810.7570	5811.5520	5811.8501	5812.1482	5812.9432
118+00	5810.8105	5811.6455	5811.9600	5812.2735	5813.1094
118+10	5810.8741	5811.7393	5812.0637	5812.3882	5813.2533
118+20	5810.9479	5811.8304	5812.1614	5812.4923	5813.3748



THIS DRAWING IS SCHEMATIC ONLY AND DOES NOT NECESSARILY REFLECT THE ACTUAL BRIDGE LAYOUT.

CENTENNIAL ENGINEERING, INC ARVADA, COLORADO

DIVISION OF HIGHWAYS

ROADWAY APPROACHES

Designed	R. OSMUN	Structure Number	F-16-NE
Detailed	C. NECESSARY		
Drawing Number	21	of 21	Drawings

QUINCY INTERCHANGE DETAILS

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLO	IXFU 470-1(55)	39	49

REVISIONS

AS CONSTRUCTED
NO REVISIONS ☐ REVISED 7-15-85 VOID ☐

ORIGINAL SCALE 1"=100'

ALIGNMENT REVISED SEE PAGES 46 AND 49 OF IXFU 470-1(45)

℄ RAMP NE (FUTURE)
℄ RAMP NW (FUTURE)
℄ S.H. 470 (FUTURE)
P.C. STA. 328+18.64
MATCH EXISTING
℄ TEMPORARY CONNECTION
P.O.C. 46+00.00 ℄ TURKEY CREEK FR. RD. =
P.O.T. 0+00.00 ℄ ENTRANCE
TRANS. 4' TO 6' SHLDR.
℄ WEST TURKEY CREEK FRONTAGE ROAD
+62.03 END PAV'T. TAPER
80°00'01"
P.C. 117+44.64 ℄ QUINCY AVE. =
P.O.T. 59+17.64 ℄ TURKEY CREEK FRONTAGE ROAD
P.O.T. 50+00.00 ℄ TURKEY CR. FR. RD. =
P.O.T. 10+00.00 ℄ TEMPORARY CONNECTION
MATCH EXISTING
P.O.T. 112+40.67 ℄ QUINCY AVE. =
P.O.T. 1556+05.48 BEGIN RAMP D
+00 BEGIN CONSTRUCTION
℄ RAMP D
℄ RAMP C
P.O.T. 112+87.38 ℄ QUINCY AVE. =
P.O.T 1488+83.73 END RAMP C
STA. 1060+56.52 E.O. RAMP MP
STA. 360+56.52 ℄ S.H. 470 57' LT.
℄ RAMP E
STR. NO. F-16-NE
STORAGE 132'
STORAGE 525'
TAPER 90'
MATCH EXISTING
EL DORADO STREET
℄ BIKE PATH
105
P.O.C. 103-70.00 ℄ QUINCY AVE. =
P.O.T. 0+00.00 ℄ ENTRANCE
℄ QUINCY AVENUE
TAPER 90'
STORAGE 375'
110

AS CONSTRUCTED		
NO REVISIONS 7-15-[illegible]	REVISED	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLO	IXFU 470-1(55)	40	49

REVISIONS	

PROJECT CONTROL

PNT NO.	POINT DESCRIP.	BASELINE			CURVE DATA Δ	D	T	L	R	S.E.	D.S.
1	[illegible] 328+[illegible] 64	S.H. 470									
2	P.I. 345+46.27	S.H. 470			17°32'17" RT.	0°30'	1,767.63'	3,507.61'	11,459.16'	0.02	70 M.P.H.
3	[illegible] 363+25.25	S.H. 470									
4	P.C. 101+18.01	QUINCY AVENUE									
5	P.I. 103+41.46	QUINCY AVENUE			54°55'05" LT.	13°19'29"	223.45'	412.15'	430.00'	0.035	30 M.P.H.
6	P.T. 105+30.15	QUINCY AVENUE									
7	[illegible] 117+44.64	QUINCY AVENUE									
7	[illegible] 59+17.64	TURKEY CRK. FRT. RD.									
8	P.I. 119+63.12	QUINCY AVENUE			68°32'17" LT.	16°22'13"	238.43'	418.68'	350.00'	0.037	30 M.P.H.
9	[illegible] 121+63.32	QUINCY AVENUE									
10	[illegible] 138+00.54	QUINCY AVENUE									
11	[illegible] 140+58.40	QUINCY AVENUE			44°06'00"	9°	257.96'	490.00'	636.62'	0.04	40 M.P.H.
12	P.T. 142+30.54	QUINCY AVENUE									
13	[illegible] 41+28.35	TURKEY CRK. FRT. RD.									
14	[illegible] 45+14.4[illegible]	TURKEY CRK. FRT. RD.			44°01'31" RT.	6°	386.06'	733.75'	954.93'	0.077	50 M.P.H.
15	[illegible] 48+62.10	TURKEY CRK. FRT. RD.									
16	[illegible] 55+[illegible].18	TURKEY CRK. FRT. RD.									
17	P.I. 56+35.17	TURKEY CRK. FRT. RD.			7°15'00" LT.	3°	120.99'	241.57'	1,909.86'	R.C.	30 M.P.H.
18	[illegible] 5[illegible]+55.35	TURKEY CRK. FRT. RD.									
19	[illegible] 1265+50.00	RAMP A									
20	P.C. 1272+39.38	RAMP A									
21	P.I. 1274+55.98	RAMP A			86°33'47" RT.	24°54'40"	216.60'	347.49'	230.00'	0.04	25 M.P.H.
22	P.T. 1275+86.8[illegible]	RAMP A									
23	[illegible] 1276+83.95	RAMP A									
23	[illegible] 133+62.10	QUINCY AVENUE									
24	[illegible] 134+[illegible]7.10	QUINCY AVENUE									
2[illegible]	P.C. 1372+73.82	RAMP B									
25	[illegible] 373+69.38	RAMP B									
26	P.I. 1374+83.75	RAMP B			55°15'07" RT.	24°54'40"	120.37'	221.80'	230.00'	0.04	26 M.P.H.
27	P.C.C. 375+91.17	RAMP B									
28	P.I. 1377+37.60	RAMP B			34°44'54" RT.	12°14'34"	146.43'	283.33'	468.00'	0.08	40 M.P.H.
29	P.T. 1378+75.00	RAMP B									
30	P.C. 1463+88.92	RAMP C			191°27'45" LT.	27°56'57"		685.04'	205.00'	0.08	27 M.P.H.
31	P.T. 1476+73.95	RAMP C									
32	[illegible] 1488+33.73	RAMP C									
32	[illegible] 112+87.38	QUINCY AVENUE									
33	[illegible] 112+40.67	QUINCY AVENUE									
33	[illegible] 556+05.48	RAMP D									
34	P.C. [illegible]68+07.37	RAMP D									
35	[illegible]	RAMP D			56°13'33" RT.	16°16'35"	188.05'	345.43'	352.00'	.08	35 M.P.H.
36	P.T. 1571+66.9[illegible]	RAMP D									
37	P.C. [illegible]	RAMP D									
38	P.I. [illegible]	RAMP D			34°35'47" LT.	16°16'38"	1[illegible]0.19'	213.57'	352.00'	.08	35 M.P.H.
39	[illegible]	RAMP D									
40	[illegible]	RAMP D									
[illegible]	[illegible]	RAMP E									
41	P.C. [illegible]	RAMP E									
42	[illegible]	RAMP E			5°30'00" LT.	1°00'00"	275.21'	550.00'	5729.58'	.021	50 M.P.H.
43	[illegible]	RAMP E									
44	[illegible] 1622+07.[illegible]8	RAMP E			7°52'15" LT.	2°00'00"	197.08'	393.54'	2864.79'	.038	50 M.P.H.
45	[illegible]	RAMP E									
46	[illegible]	RAMP E									
47	P.I. 1667+34.57	RAMP E			16°16'38" RT.	5°00'00"	163.88'	325.54'	1145.92	.071	50 M.P.H.
48	[illegible]	RAMP E									
49	[illegible] 1688+[illegible]	RAMP E									
50	[illegible] 100+00.0[illegible]	BIKE PATH									
51	[illegible]	BIKE PATH			64°32'21" LT.	229°10'59"	15.79'	28.16'	25.00'		
52	[illegible] 100+28.[illegible]	BIKE PATH									
53	[illegible] 113-73.52	BIKE PATH									
54	[illegible]	BIKE PATH			46°22'07" LT.	28°38'52"	85.66'	161.96'	200.00'		
55	[illegible] 115+35.38	BIKE PATH									
56	[illegible]	BIKE PATH									
57	[illegible]	BIKE PATH			56°13'33" RT.	14°19'26"	213.70'	392.53'	400.00		
58	[illegible] 120+52.[illegible]	BIKE PATH									
59	P.C. [illegible]	BIKE PATH									
60	[illegible]	BIKE PATH			29°14'26" LT.	14°19'26"	10[illegible].34'	204.14'	400.00		
61	[illegible] 123+68.35	BIKE PATH									
62	[illegible]	BIKE PATH									
63	[illegible]	BIKE PATH			16°26'48" LT.	6°21'58"	130.07'	258.34'	900.00'		
64	[illegible]	BIKE PATH									
65	[illegible]	BIKE PATH									
66	[illegible]	BIKE PATH			3°07'36" RT.	9°32'58"	16.38	32.74'	600.00'		
67	[illegible]	BIKE PATH									
68	[illegible]	BIKE PATH									
69	[illegible]	BIKE PATH			6°46'36" LT.	9°32'58"	35.52'	70.96	600.00'		
70	[illegible]	BIKE PATH									
71	[illegible]	BIKE PATH									
72	[illegible]	BIKE PATH			32°[illegible]'34" RT.	229°10'59"	8.88'	17.07	25.00		
73	[illegible]	BIKE PATH									
74	[illegible]	ENTRANCE									
75	[illegible]	ENTRANCE			[illegible]	57°17'45"	31.22'	60.52	100.00		
76	[illegible]	ENTRANCE									

PNT NO.	POINT DESCRIP.	BASELINE			CURVE DATA Δ	D	T	L	R	S.E.	D.S.
91	P.O.C. 103+70.00	QUINCY AVE									
91	P.O.T. 0+00.00	ENTRANCE									
92	P.C. 0+54.92	ENTRANCE									
93	P.I. 0+86.14	ENTRANCE			34°40'25" RT.	57°17'45"	31.22'	60.52'	100.00'		
94	P.T. 1+15.44	ENTRANCE									
76	P.O.C. 46+00.00	TURKEY CRK. FRT. ROAD									
76	P.O.T. 0+00.00	[illegible]NTRANCE									
77	P.C. 0+41.37	[illegible]RANCE									
78	P.I. 0+88.71	[illegible]RANCE			86°52'02" RT.	114°35'30"	47.34'	75.80'	50.00'	0.04	
79	P.R.C. 1+17.17	[illegible]RANCE									
80	P.I. 2+13.60	[illegible]ANCE			12°43'23" LT.	6°37'28"	96.43'	192.07'	864.93'	0.02	20 M.P.H.
81	P.C.C. 3+09.24	[illegible]NCE									
82	P.I. 5+01.34	[illegible]CE			125°00'01" LT.	57°17'45"	192.10'	218.17'	100.00'	0.08	15 M.P.H.
83	P.T. 5+27.41	[illegible]CE									
84	P.O.T. 0+00.00	[illegible]									
85	P.C. 1+14.99	[illegible]									
86	P.I. 4+84.07	[illegible]			11°02'17" RT.	1°30'	369.08'	735.87'	3,819.72'	0.02	30 M.P.H.
87	P.T. 8+50.86	[illegible]N.									
88	P.O.T. 10+00.00	[illegible]									
88	P.O.T. 50+00.00	[illegible] FRT. ROAD									
89	P.O.[illegible] 358+53.70	[illegible]470									
89	P.O.T. 115+38.92	[illegible]AVENUE									
90	P.O.C. 1472+33.90	[illegible]MP C									
90	P.O.T. 1671+73.42	[illegible]MP E									

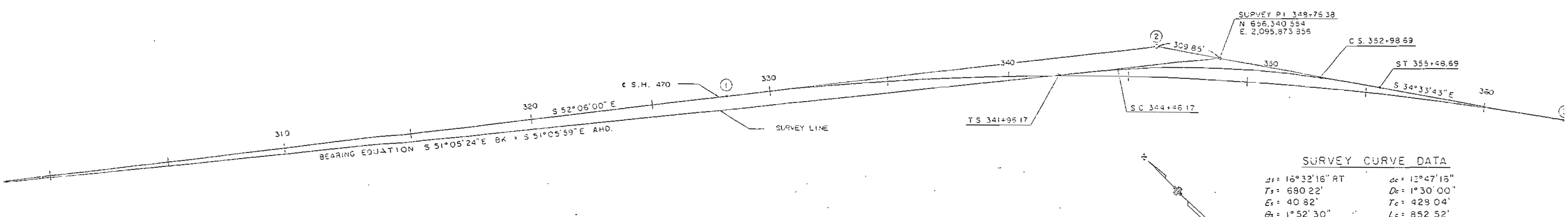
AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS [illegible]	REVISED	VOID	VIII	COLO	IXFU 470-1(55)	41	4[illegible]

REVISIONS

PROJECT CONTROL

PNT NO.	POINT DESCRIP.	BASELINE	NORTH	EAST	CURVE DATA Δ	D	T	L	R	S.E.	D.S.
74	P.O.C. 305+95.50	US 285									
74	P.O.T. 138+33.22	RAMP SE									
75	P.O.C. 334+24.43	SH 470									
75	P.O.C. 600+55.61	US 285									
76	P.O.C. 596+08.83	US 285									
76	P.O.C. 1030+85.93	RAMP NW									
77	P.O.C. 342+55.00	SH 470									
77	P.O.T. 1041+54.62	RAMP NW									
78	P.O.T. 6 6+35.29	US 285									
78	P.O.T. 10+83.30	PALLACRO ROAD									
78	P.O.C. 358+53.70	SH 470									
79	P.O.T. 115+36.92	QUINCY AVENUE									
80	P.O.C. 323+65.45	SH 470									
80	P.O.T. 129+43.07	RAMP SE									

PNT NO.	POINT DESCRIP.	BASELINE	NORTH	EAST	CURVE DATA Δ	D	T	L	R	S.E.	D.S.



SURVEY CURVE DATA

Δs = 16°32'16" RT	Δc = 12°47'15"
Ts = 680.22'	Dc = 1°30'00"
Es = 40.82'	Tc = 429.04'
θs = 1°52'30"	Lc = 852.52'
Ls = 250.00'	Rc = 3819.72'
LT = 166.68'	
ST = 83.34'	

AS CONSTRUCTED		
NO REVISIONS 4/15-91	REVISED	VOID

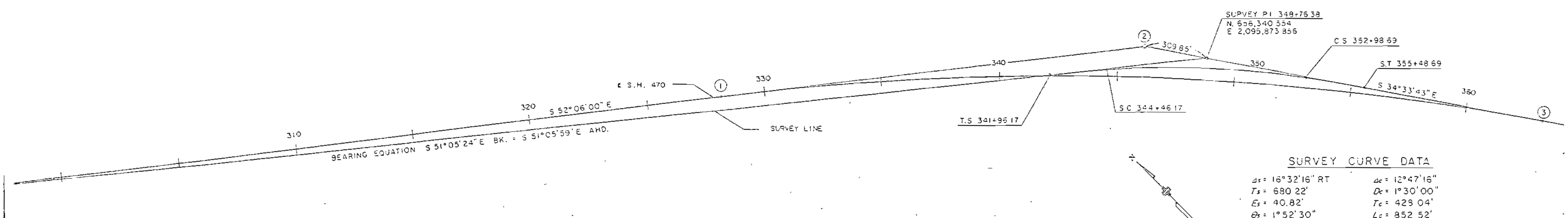
FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLO	IXFU 470-1(55)	41.cc	49

REVISIONS		

PROJECT CONTROL

PNT NO.	POINT DESCRIP.	BASELINE	NORTH	EAST	CURVE DATA Δ	D	T	L	R	S.E.	D.S.
74	P.O.C. 808+95.50	US 285									
74	P.O.T. 138+95.22	RAMP SE									
75	P.O.C. 334+24.43	SH 470									
75	P.O.C. 800+55.51	US 285									
76	P.O.C. 596+08.83	US 285									
76	P.O.C. 1030+86.93	RAMP NW									
77	P.O.C. 342+55.00	SH 470									
77	P.O.T. 1041+54.62	RAMP NW									
78	P.O.T. 6 6+35.29	US 285									
78	P.O.T. 10+83.30	PALLACRO ROAD									
79	P.O.C. 358+53.70	SH 470									
79	P.O.T. 115+36.92	QUINCY AVENUE									
80	P.O.C. 323+85.45	SH 470									
80	P.O.T. 129+43.07	RAMP SE									

PNT NO.	POINT DESCRIP.	BASELINE	NORTH	EAST	CURVE DATA Δ	D	T	L	R	S.E.	D.S.



SURVEY CURVE DATA

Δ_s = 16°32'16" RT
T_s = 680.22'
E_s = 40.82'
θ_s = 1°52'30"
L_s = 250.00'
L.T. = 166.68'
S.T. = 83.34'

Δ_c = 12°47'16"
D_c = 1°30'00"
T_c = 428.04'
L_c = 852.52'
R_c = 3819.72'

STATE OF COLORADO
DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
C. H. FORM NO. 1208
REV. FEB. 1964

AS CONSTRUCTED					
NO REVISIONS 7-15-69	REVISED	VOID	FED.ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
			VIII	COLO.	IXFU470-1(55)	42	49

C-470 Control Survey: US 285 to Ken Caryl Road

Sta. 284+ to Sta. 569+

GRID

Original Scale: 1" = 1000'
Datum Elevation: 5850'

CARBON AZ MK
CARBON
MARSTON
B.R.B.
E. 1/4 COR. SEC. 1
CENTER SEC. 1
SE COR. SEC. 1
S 1/4 COR. SEC. 1
P.O.B.
P.I. 348+76.56
S 1/4 COR. SEC. 6
P.O.Q.
CENTER SEC. 7
E 1/4 COR. SEC. 7
E 1/4 COR. SEC. 12
URS #4
NW COR. SEC. 17
S 1/4 COR. SEC. 7
P.I. 419+43.46
W 1/4 COR. SEC. 17
S 1/4 COR. SEC. 18
S W COR. SEC. 17
N 1/4 COR. SEC. 19
P.I. 473+51.21
W 1/4 COR. SEC. 20
S 1/4 COR. SEC. 20
P.I. 523+47.46
S W COR. SEC. 20
85 JCMD
E 1/4 COR SEC. 30
S 1/4 COR. SEC. 29.
STA. 569+94.54
NE COR. SEC. 30
P.I. 284+06.45

+2,105,000
+2,100,000
+2,095,000
+2,090,000

660,000 + 655,000 + 650,000 + 645,000 + 640,000 + 635,000

NOTE: THE ALIGNMENT FOR THIS PROJECT WILL BE SURVEYED IN BETWEEN THE MONUMENTED P.I.'S SHOWN ON THIS SHEET. MISSING OR LOST POINTS MAY BE RE-ESTABLISHED WITH DATA FROM THE "ADJUSTED NETWORK SUMMARY TABLE (GRID)". THE CONTRACTOR WILL OBTAIN FROM THE ENGINEER SURVEY AND COORDINATE DATA FOR THE REMAINING CONTROL POINTS. ANY DISCREPANCIES WILL BE RECONCILED BY THE ENGINEER.

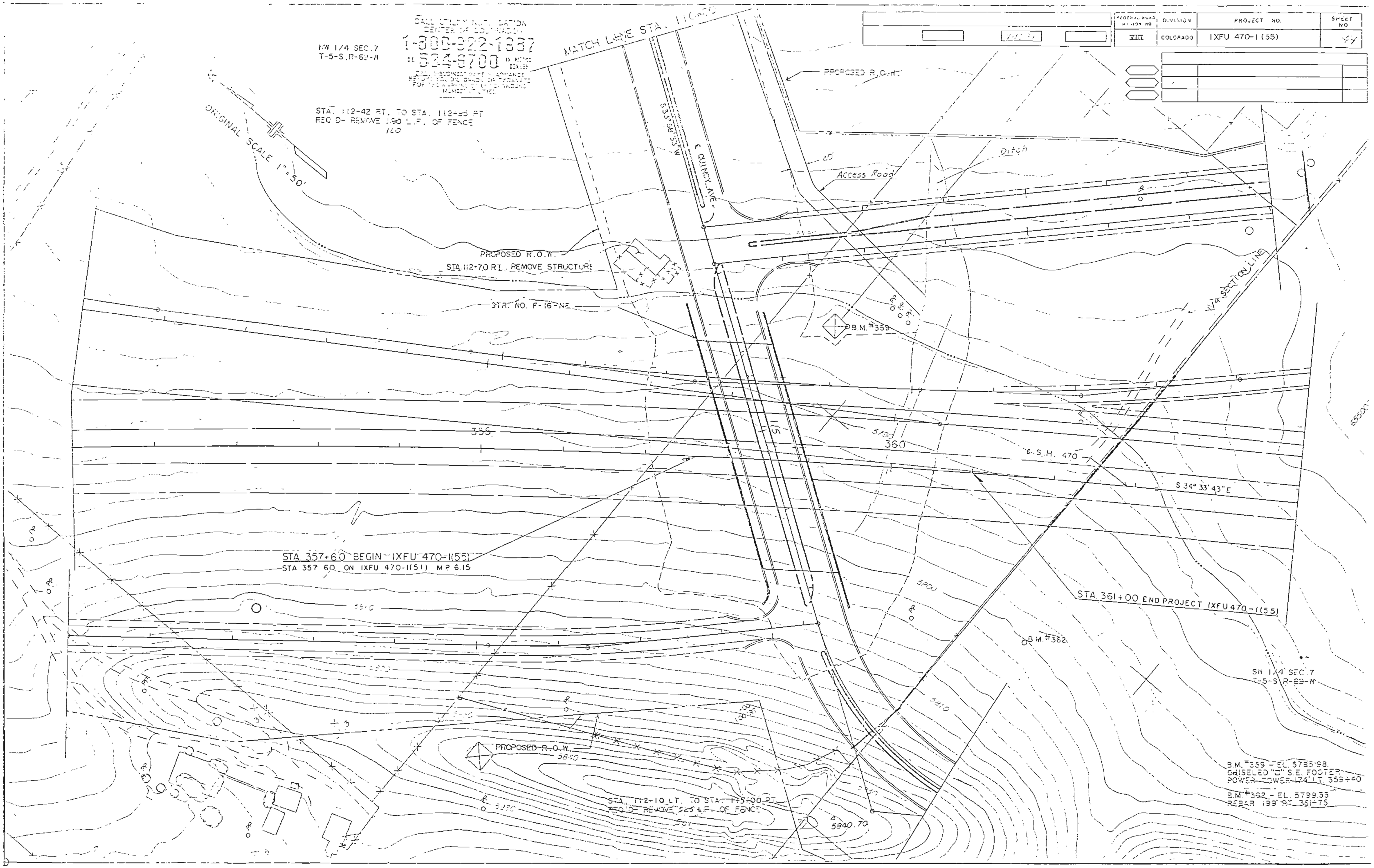
Note: The basis of bearings for this project are the grid bearings between NGS stations 85 JCMD and MARSTON and NGS stations CARBON and CARBON AZ MK.

AS CONSTRUCTED
NO REVISIONS 7-15-87 REVISED
FED. ROAD REGION | DIV. OF | PROJ. NO. IXFU 470-1(55) | SHEET NO. 43

C-470 CONTROL SURVEY: US 285 TO KEN CARYL ROAD
ADJUSTED NETWORK SUMMARY TABLE (GRID)

OCCUPIED POINT	AHEAD POINT	DISTANCE	BEARING
85 JCMD	N 1/4 COR 19-5S-69W	6,861.317	N 3 15 34.9 W
N 1/4 COR 19-5S-69W	SW COR 17-5S-69W	2,590.117	N 89 43 21.0 E
SW COR 17-5S-69W	NW COR 17-5S-69W	5,286.553	N 0 20 47.8 W
NW COR 17-5S-69W	S 1/4 COR 7-5S-69W	2,607.860	S 89 39 43.5 W
S 1/4 COR 7-5S-69W	P.O.O.	4,304.042	N 6 9 33.2 W
P.O.O.	CARBON	7,241.761	N 52 45 17.3 E
N 1/4 COR 19-5S-69W	W 1/4 COR 17-5S-69W	3,700.599	N 44 12 39.1 E
W 1/4 COR 17-5S-69W	NW COR 17-5S-69W	2,642.852	N 0 29 1.1 W
N 1/4 COR 19-5S-69W	NW COR 17-5S-69W	5,880.804	N 25 47 6.0 E
CARBON	P.O.L.	212.210	N 76 3 7.3 W
CARBON	B.R.B.	8,625.540	N 76 3 6.8 W
B.R.B.	PI 284+06.45 C470	4,620.770	S 51 59 41.7 W
B.R.B.	CENTER 1-5S-70W	3,554.883	S 35 50 31.1 W
B.R.B.	E 1/4 COR 1-5S-70W	2,911.328	S 11 14 17.1 E
B.R.B.	S 1/4 COR 6-5S-69W	6,243.210	S 29 3 33.8 E
B.R.B.	P.O.B.T.	6,710.504	S 8 53 45.3 E
B.R.B.	SE COR 1-5S-70W	5,528.669	S 5 51 28.0 E
B.R.B.	S 1/4 COR 1-5S-70W	5,856.882	S 20 50 53.2 W
PI 284+06.45 C470	P.O.B.T.	6,024.341	S 51 5 53.2 E
S 1/4 COR 6-5S-69W	S 1/4 COR 1-5S-70W	5,116.905	S 89 43 6.4 W
SE COR 1-5S-70W	E 1/4 COR 12-5S-70W	2,628.200	S 0 0 3.7 W
SE COR 1-5S-70W	S 1/4 COR 6-5S-69W	2,468.539	N 89 0 46.5 E
P.O.O.	PI 345+86.29 C470	1,230.586	S 64 39 24.4 W
S 1/4 COR 1-5S-70W	CENTER 1-5S-70W	2,591.797	N 0 3 49.5 E
S 1/4 COR 1-5S-70W	P.O.B.T.	3,337.960	S 69 45 37.9 E
P.O.O.	URS #4	5,208.737	S 35 35 5.0 E
P.O.O.	B.R.B.	6,967.869	N 21 57 58.0 W
P.O.O.	S 1/4 COR 7-5S-69W	4,304.042	S 6 9 33.2 E
P.O.O.	NW COR 17-5S-69W	5,253.815	S 35 45 3.0 E
P.O.O.	E 1/4 COR 12-5S-70W	2,635.524	S 50 47 34.5 W
P.O.B.T.	P.O.O.	1,567.817	N 83 54 50.7 E
P.O.B.T.	E 1/4 COR 12-5S-70W	1,575.673	S 17 51 29.0 W
P.O.B.T.	CENTER 1-5S-70W	4,881.299	N 39 52 2.5 W
85 JCMD	PI 473+51.68 C470	4,683.459	N 1 4 58.7 E
85 JCMD	PI 503+47.71 C470	2,432.529	N 40 10 0.9 E
85 JCMD	W 1/4 COR 20-5S-69W	4,740.362	N 27 12 58.5 E
85 JCMD	SW COR 20-5S-69W	2,694.232	N 54 13 19.7 E
85 JCMD	S 1/4 COR 20-5S-69W	5,096.074	N 71 42 43.4 E
85 JCMD	E 1/4 COR 30-5S-69W	2,421.208	S 65 16 31.5 E
85 JCMD	S 1/4 COR 29-5S-69W	6,082.120	S 53 10 55.7 E
85 JCMD	STA 569+94.92 C470	5,823.903	S 40 57 32.2 E
PI 473+51.68 C470	PI 419+43.77 C470	5,703.312	N 19 34 37.9 E
URS #4	E 1/4 COR 7-5S-69W	2,607.280	N 0 39 37.7 E
PI 345+86.29 C470	P.O.B.T.	574.133	N 51 6 6.5 W
PI 345+86.29 C470	CENTER 7-5S-69W	1,917.742	S 54 14 1.0 E
PI 345+86.29 C470	URS #4	5,560.987	S 48 9 44.8 E
PI 345+86.29 C470	NW COR 17-5S-69W	5,608.283	S 48 12 50.5 E
PI 345+86.29 C470	E 1/4 COR 12-5S-70W	1,470.551	S 39 13 35.8 W
PI 345+86.29 C470	S 1/4 COR 1-5S-70W	3,886.260	N 67 3 5.2 W
E 1/4 COR 7-5S-69W	CENTER 7-5S-69W	2,617.215	S 89 34 39.3 W
CENTER 7-5S-69W	E 1/4 COR 12-5S-70W	2,486.151	S 89 34 37.1 W
STA 569+94.92 C470	NE COR 31-5S-69W	1,722.263	N 64 8 55.3 W
S 1/4 COR 29-5S-69W	NE COR 31-5S-69W	2,601.250	S 89 57 0.0 W
E 1/4 COR 30-5S-69W	NE COR 31-5S-69W	2,635.325	S 1 29 22.5 E
E 1/4 COR 30-5S-69W	PI 503+47.71 C470	2,939.996	N 12 22 43.3 W
S 1/4 COR 20-5S-69W	S 1/4 COR 29-5S-69W	5,244.050	S 0 13 52.9 E
S 1/4 COR 20-5S-69W	NE COR 31-5S-69W	5,942.310	S 26 6 25.9 W
SW COR 20-5S-69W	S 1/4 COR 29-5S-69W	5,869.258	S 27 12 15.0 E
SW COR 20-5S-69W	NE COR 31-5S-69W	5,222.931	S 0 53 56.7 E
PI 503+47.71 C470	STA 569+94.92 C470	6,548.753	S 19 46 3.5 E
PI 503+47.71 C470	S 1/4 COR 29-5S-69W	6,417.226	S 30 56 47.7 E
PI 503+47.71 C470	P.O.L.N.	1,364.161	N 27 40 5.1 W

OCCUPIED POINT	AHEAD POINT	DISTANCE	BEARING
W 1/4 COR 20-5S-69W	S 1/4 COR 29-5S-69W	8,311.509	S 19 57 49.8 E
W 1/4 COR 20-5S-69W	NE COR 31-5S-69W	7,863.235	S 9 43 36.7 E
PI 473+51.68 C470	P.O.L.S.	573.407	S 27 40 5.4 E
PI 473+51.68 C470	W 1/4 COR 20-5S-69W	2,131.238	S 77 20 25.4 E
SW COR 17-5S-69W	PI 473+51.68 C470	3,032.256	S 44 7 56.7 W
STA 569+94.92 C470	POL 561+95.92 C470	799.158	N 19 46 3.4 W
POL 561+95.92 C470	NE COR 31-5S-69W	1,279.634	S 59 57 3.6 W
P.O.L.N.	P.O.L.S.	1,250.772	N 27 40 5.2 W
PI 419+43.77 C470	URS #4	2,121.009	N 3 30 31.4 E
PI 419+43.77 C470	NW COR 17-5S-69W	2,036.023	N 4 36 30.3 E
PI 419+43.77 C470	W 1/4 COR 17-5S-69W	585.443	S 19 0 44.5 E
PI 419+43.77 C470	N 1/4 COR 19-5S-69W	3,998.656	S 36 42 0.8 W
URS #4	NW COR 17-5S-69W	47.562	S 54 15 40.1 E
NW COR 17-5S-69W	S 1/4 COR 7-5S-69W	2,607.860	S 89 39 43.5 W
PI 419+43.77 C470	POL 362+36.36 C470	5,706.544	N 34 33 36.8 W
POL 362+36.36 C470	E 1/4 COR 7-5S-69W	3,397.126	N 89 34 29.2 E
NW COR 17-5S-69W	STA 394+18.46 C470	1,601.099	S 89 39 43.8 W
S 1/4 COR 7-5S-69W	BL BELLEVIEW (C470)	11.413	N 0 5 28.8 W
NW COR 17-5S-69W	STA 394+08.95 C470	1,605.863	S 89 54 46.3 W
N 1/4 COR 19-5S-69W	STA 450+46.44 C470	1,251.053	N 89 49 21.2 E
STA 450+46.44 C470	STA 455+55.68 C470	509.099	S 19 34 36.3 W
STA 455+55.68 C470	STA 437+25.48 C470	1,830.109	N 19 34 36.4 E
STA 437+25.48 C470	STA 450+20.70 C470	1,295.105	S 19 34 36.4 W
STA 450+20.70 C470	BL BOWLES (C470)	1,999.921	N 89 42 36.4 E

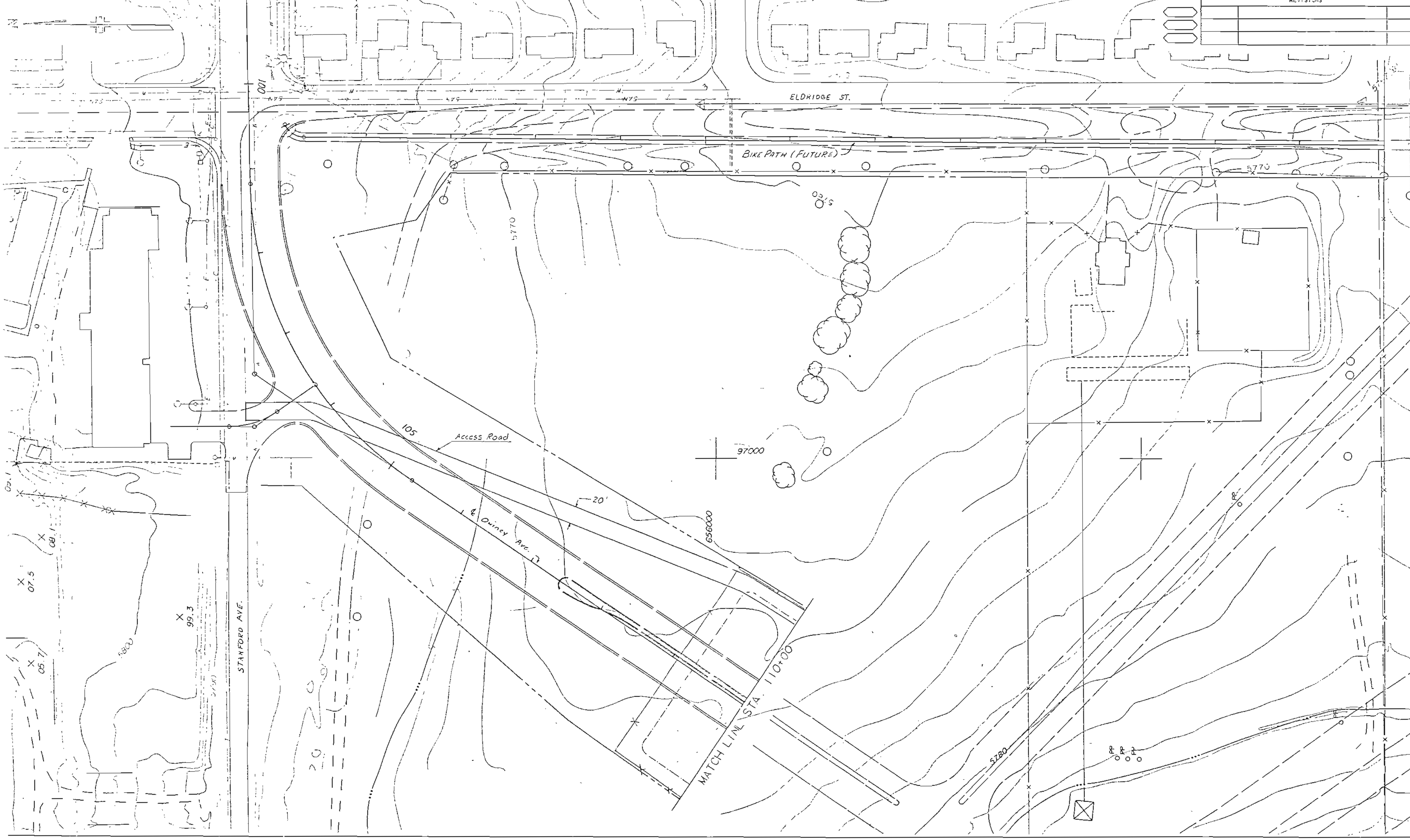


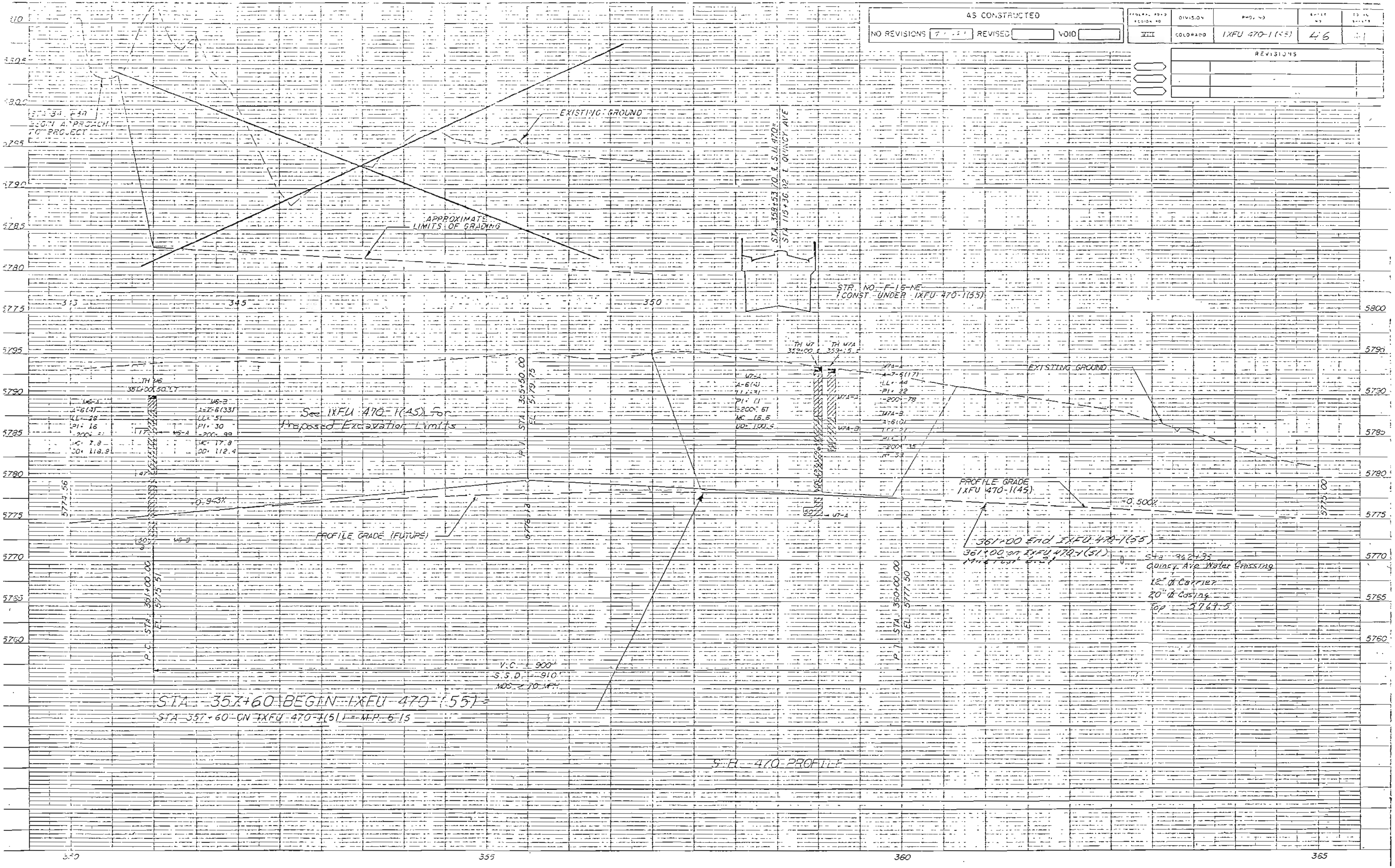
FEDERAL ROAD REGION NO.
DIVISION
PROJECT NO.
SHEET NO.
VIII
COLORADO
IXFU 470-1(55)
44
NW 1/4 SEC.7
T-5-S, R-69-W
1-800-922-1987
OR 534-6700 IN METRO DENVER
STA. 112-42 RT. TO STA. 112+95 RT
REQ'D- REMOVE 190 L.F. OF FENCE
160
ORIGINAL SCALE 1"=50'
MATCH LINE STA. 116+00
PROPOSED R.O.W.
E. QUINCY AVE.
20'
Access Road
Ditch
PROPOSED R.O.W.
STA. 112+70 RT. REMOVE STRUCTURE
STR. NO. F-16-NE
B.M. #359
1/4 SECTION LINE
355
360
115
5790
S.H. 470
S 34° 33' 43" E
STA. 357+60 BEGIN IXFU 470-1(55)
STA 357 60 ON IXFU 470-1(51) M.P. 6.15
5810
5800
STA. 361+00 END PROJECT IXFU 470-1(55)
B.M. #362
SW 1/4 SEC.7
T-5-S R-69-W
PROPOSED R.O.W.
5840
5830
STA. 112-10 LT. TO STA. 115+00 RT.
REQ'D- REMOVE 525 L.F. OF FENCE
5840.70
B.M. #359 - EL. 5785.98
CHISELED "O" S.E. FOOTER
POWER TOWER 174' LT. 359+40
B.M. #362 - EL. 5799.33
REBAR 199' RT. 361+75

AS CONSTRUCTED		
NO REVISIONS 7-15-?	REVISED	VOID

FED. ROAD REGION	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
VIII	COLO	IXFU 470-1(55)	45	49

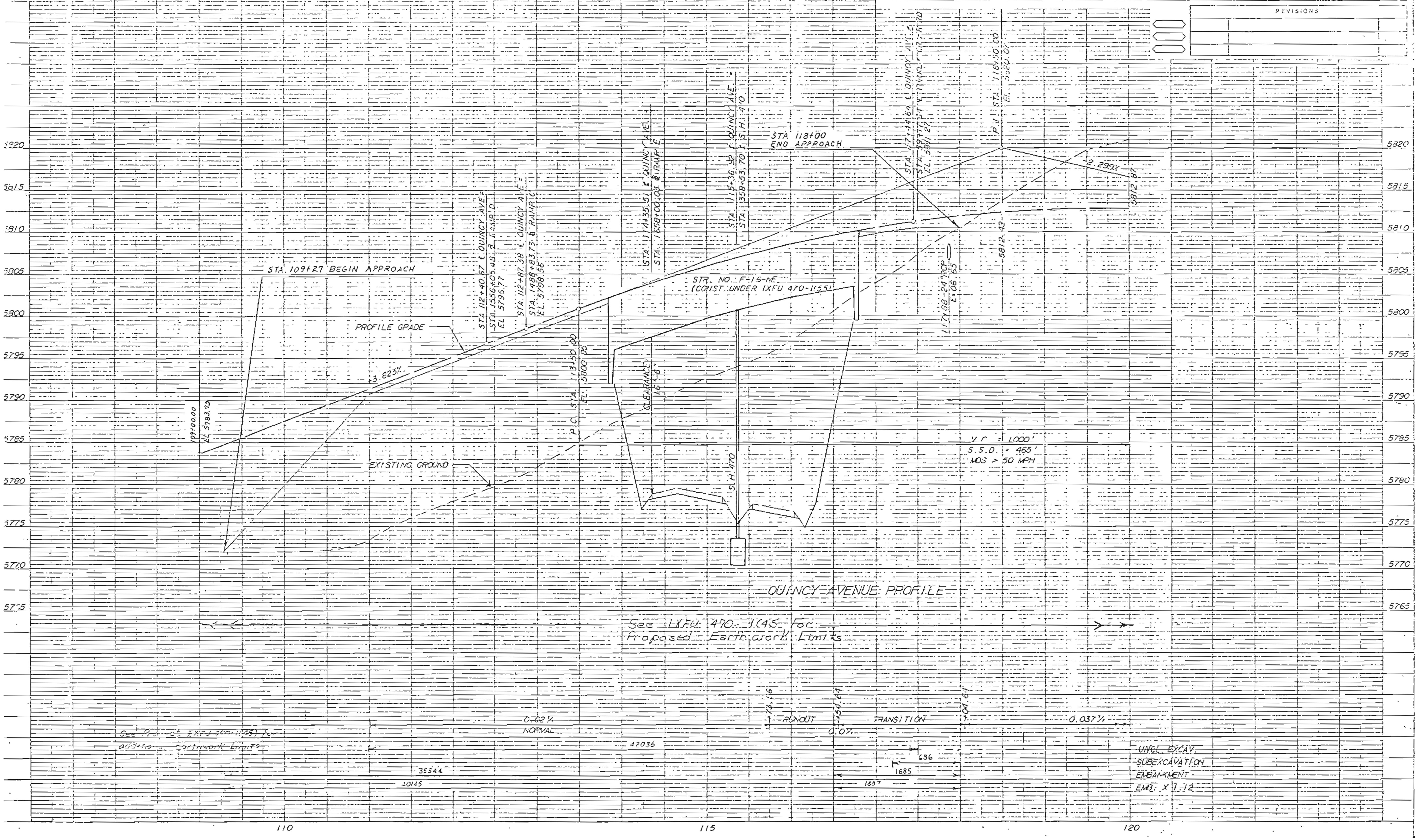
REVISIONS




AS CONSTRUCTED
NO REVISIONS
REVISED
VOID
VIII
COLORADO
IXFU 470-1(55)
46
REVISIONS
EXISTING GROUND
APPROXIMATE LIMITS OF GRADING
STA. 359+53 10 & S.H. 470 = STA. 115+36.02 & QUINCY AVE.
STR. NO. F-16-NE CONST. UNDER IXFU 470-1(55)
345
350
TH M7
TH M7A
See IXFU 470-1(45) for Proposed Excavation Limits
STA. 358+50.00
EL. 5779.75
-0.943%
PROFILE GRADE (FUTURE)
PROFILE GRADE IXFU 470-1(45)
-0.500%
361+00 End IXFU 470-1(55) =
361+00 on IXFU 470-1(51)
Sta. 362+35
Quincy Ave Water Crossing
12" Ø Carrier
20" Ø Casing
Top 5769.5
P.C. STA. 357+00.00
EL. 5775.51
P.T. STA. 360+00.00
EL. 5777.50
V.C. = 900'
S.S.D. = 910'
MDS = 70 MPH
STA. 357+60 BEGIN IXFU 470-1(55) =
STA. 357+60 ON IXFU 470-1(51) = M.P. 6.15
S.H. 470 PROFILE
355
360
365

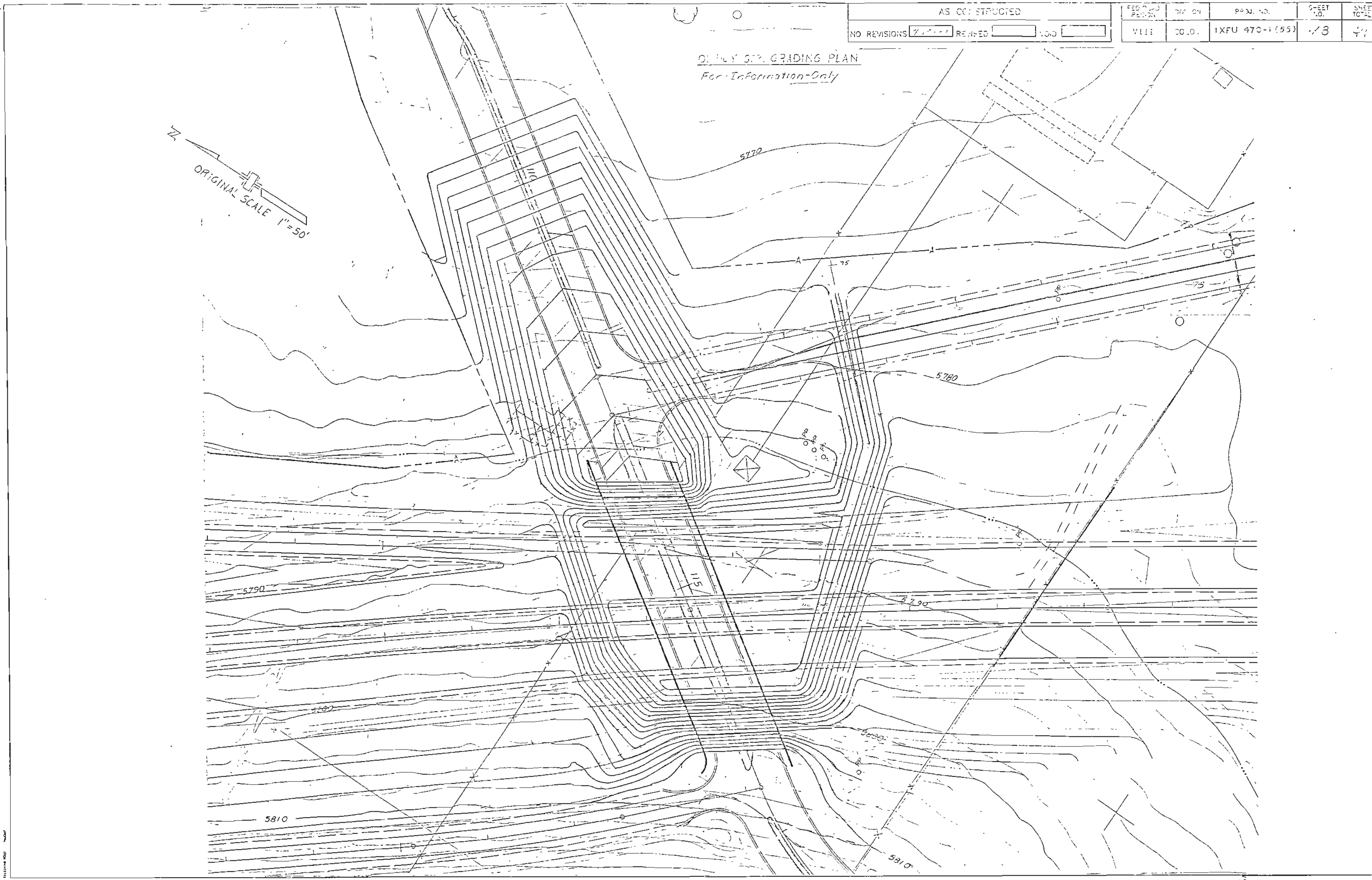
AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VOID	VIII	COLORADO	IXFU 470-1(55)	47	

REVISIONS

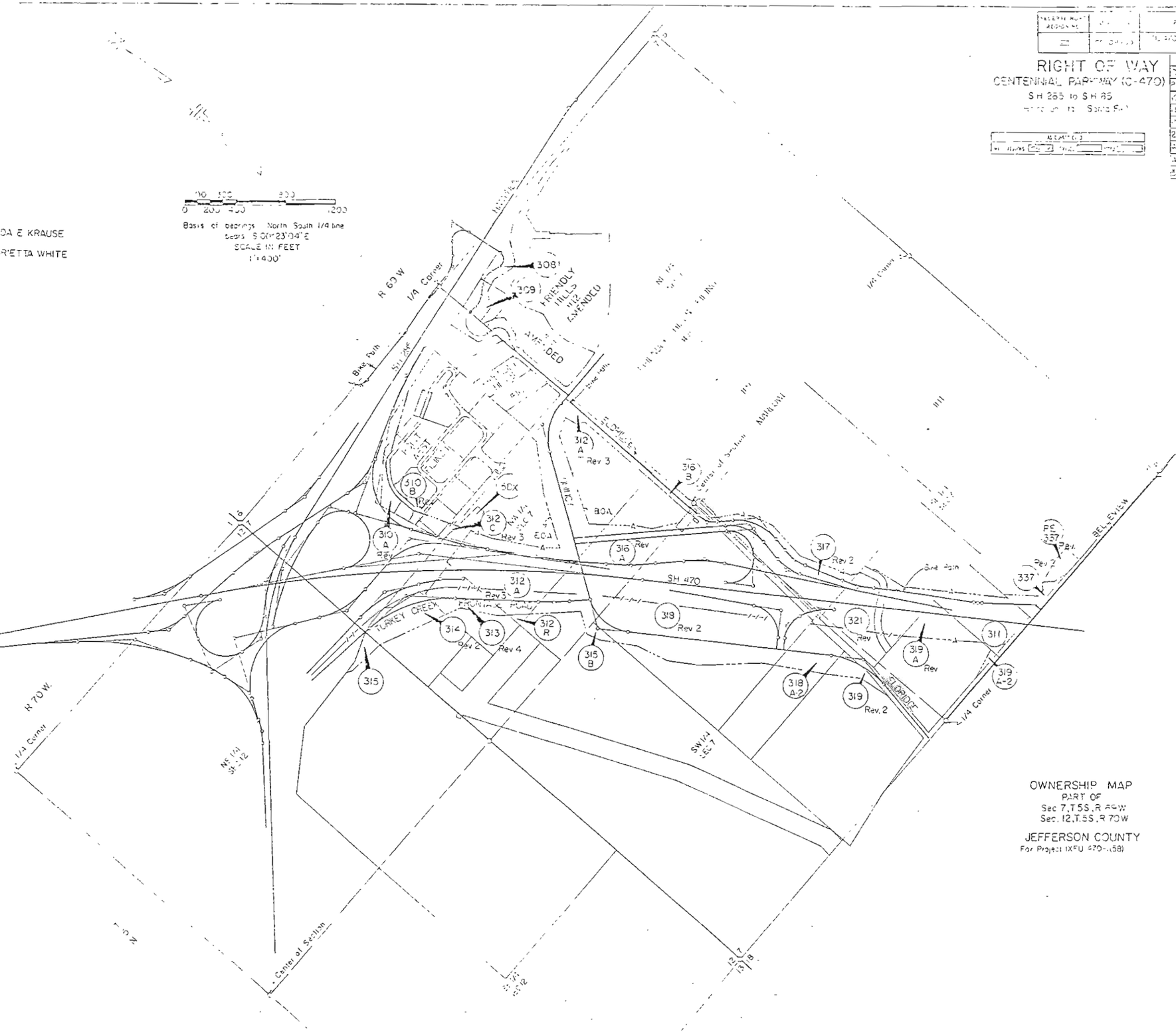


FEB. 1984

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	REVISED	VOID	VIII	COLO.	IXFU 470-1(55)	48	41



Parcel No.	Name
311	[illegible]
312 Rev 3, 312 C Rev 3, 312 B	C-470 VENTURE, a Colorado Partnership
313 Rev 4	FIRST INTERSTATE BANK
314 Rev 2	L ELAINE KRAUSE, a/k/a LUCINDA E KRAUSE (85% Interest) HENRIETTA K WHITE, a/k/a HENRIETTA WHITE (15% Interest)
315, 315 B	HILLTOP INVESTMENTS, a Colorado general partnership
315 A Rev, 315 B Rev	PUBLIC SERVICE COMPANY of COLORADO.
317 Rev 2	PARKWAY BAPTIST CHURCH
318 Rev 2	IXFU 470, HOLMQUIST OGDEN COMPANY
318 A-2	IXFU II
318 Rev 2, 319 A Rev, 319 A-2	J PRESS MAXWELL and HODIE MAXWELL
321	JEFFERSON COUNTY
337 Rev 2, PE 337 Rev	D.P. RICHARDSON
50X	[illegible]
308	OLON CORPORATION, a Delaware Corporation
309	WINFIELD HOMES NO. IV, INC., a Colorado Corporation
310 A Rev, 310 B Rev	GIBRALTAR DEVELOPMENT CORPORATION, a Colorado Corporation



PROJ NO	SHEET NO	TOTAL SHEETS
IXFU-470-(58)	40	41

REVISIONS

3/10/87	Index Sheet	DG
2/25/87	Shts 50-B to 50X	LS
10/15-87	Shts Sheet No. 25 to 25	DR
4/09/87	Add PE 337	DS
7/24/87	Add 308, 309, 310A PE 3.0	DG
12/28-88	Add 310B	DS
4-6/88	Rev 310A	DS
4/25/88	Rev 308	DS
5/10/88	Rev PE-337	DG

RIGHT OF WAY
CENTENNIAL PARKWAY (C-470)
SH 285 to SH 85

OWNERSHIP MAP
PART OF
Sec 7, T 5S, R 69W
Sec. 12, T 5S, R 70W

JEFFERSON COUNTY
For Project IXFU 470-(58)