

IOWA  
DEPARTMENT OF TRANSPORTATION

Highway Division

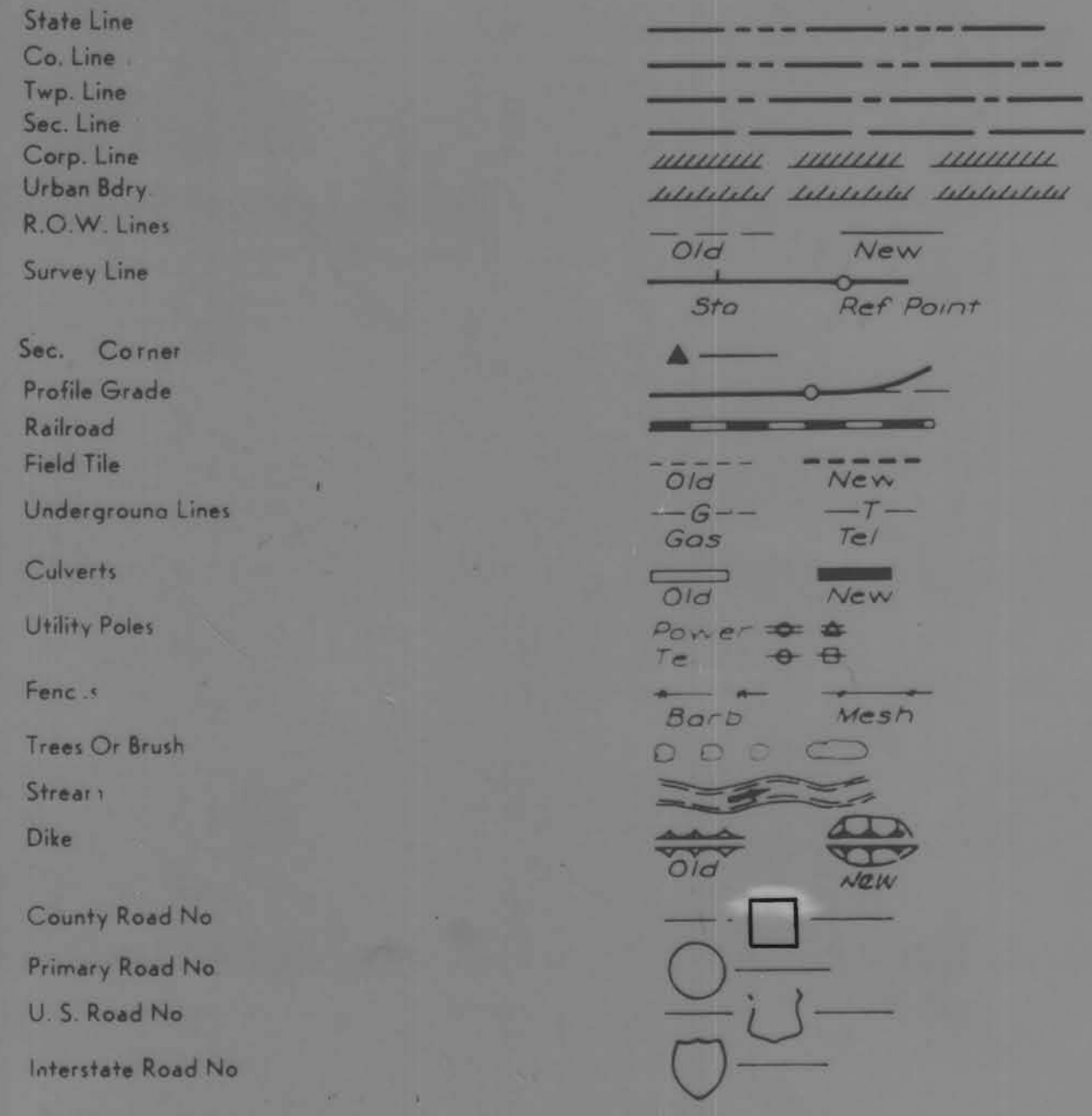
PLANS OF PROPOSED IMPROVEMENT ON THE  
SECONDARY ROAD SYSTEM

CRAWFORD COUNTY

PROJECT NO. L79-7 (83)

126'-6" X 24'-0" I-BEAM BRIDGE

CONVENTIONAL SIGNS



SCALES: AS NOTED

THE STANDARD SPECIFICATIONS, SERIES OF 1977,  
OF THE IOWA DEPARTMENT OF TRANSPORTATION,  
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

PLUS CURRENT SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE PAGE, INCLUDING ESTIMATE OF QUANTITIES, LOCATION MAP, CONVENTIONAL SIGNS,
2	PLAN AND PROFILE
3	DESIGN SHEET
4	DESIGN SHEET

MILEAGE SUMMARY			
DIV.	LOCATION	LIN. FT.	MILES
	129'-0"	129.0	0.024

PROJECT NO. L79-7(83)		STA. 17+99.0				
SEC. 22-27		PARADISE TOWNSHIP				
126'-6" X 24'-0" I-BEAM BRIDGE						
ESTIMATE OF QUANTITIES						
ITEM NO.	ITEM	UNIT	ABUTMENTS	PIERS	SUPERSTRUCTURE	TOTALS
1	CONCRETE, STRUCTURAL (CLASS "C")	CU.YDS.	19.0	13.2		32.2
2	STEEL, REINFORCING	LBS.	2,487	1,394		3,881
3	PILING CREOSOTED (DRIVE ONLY)	EACH	12 @ 40'			480 L.F.
4	PILING STEEL H 10 BP 42 (DRIVE ONLY)	EACH		12 @ 60'		720 L.F.
5	PILING CREOSOTED WING (DRIVE ONLY)	EACH		WING PILING - 8 @ 20'		160 L.F.
6	EXCAV. CLASS 10 CHANNEL	CU.YDS.				100
7	EXCAV. CLASS 20	CU.YDS.				25
8	STEEL STRUCTURAL (PLACE ONLY)	LBS.			82,717	82,717
9	CLASS D RIP RAP (FURNISH AND PLACE)	TONS				540
10	REMOVALS					LUMP SUM

STANDARD PLANS					
The following Standard Plans shall be considered applicable to construction work on this project.					
IDENT	DATE	IDENT	DATE	IDENT	DATE
RD-26	6-6-73				

- NOTE: CRAWFORD COUNTY SHALL FURNISH ALL MATERIALS TO SITE, INCLUDING HARDWARE, EXCEPT STRUCTURAL CONCRETE, REINFORCING STEEL, AND CLASS "D" RIP RAP.
- NOTE: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL WHICH IS NOT DESIRABLE TO BE INCORPORATED IN THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. USABLE MATERIAL SHALL BECOME THE PROPERTY OF CRAWFORD COUNTY.
- NOTE: CONTRACTOR MAY PLACE UP TO 200 CUBIC YARDS OF FILL MATERIAL BELOW ELEVATION 1149.0 IN ORDER TO CONSTRUCT A TEMPORARY STREAM CROSSING AND/OR ACCOMPLISH OTHER WORK NECESSARY TO COMPLETE CONSTRUCTION. ADDITIONAL FILL MATERIAL MAY BE PLACED ABOVE ELEVATION 1149.0 AS NECESSARY TO COMPLETE THE WORK.
- NOTE: CLEARING AND GRUBBING (\$20.00) SHALL BE CONSIDERED INCIDENTAL TO CLASS 10 CHANNEL EXCAVATION.
- NOTE: ALL ADVANCED WARNING SIGNS AND BARRICADES SHALL BE PLACED, MAINTAINED AND REMOVED BY CRAWFORD COUNTY.

APPROVED

*John K. Weiss*

*LeRoy A. Hansohn*

*Walter Spiegel*

*Digby E. Anderson*

*Ron H. Jensen*  
BOARD OF SUPERVISORS

IOWA DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION  
AUTHORIZED FOR LETTING

*Sam A. Olson* 1-10-83  
DISTRICT LOCAL SYSTEMS DATE  
ENGINEER

DEPARTMENT OF TRANSPORTATION  
IOWA  
Highway Division

AUTHORIZED FOR LETTING

DEPUTY CHIEF ENGINEER DATE

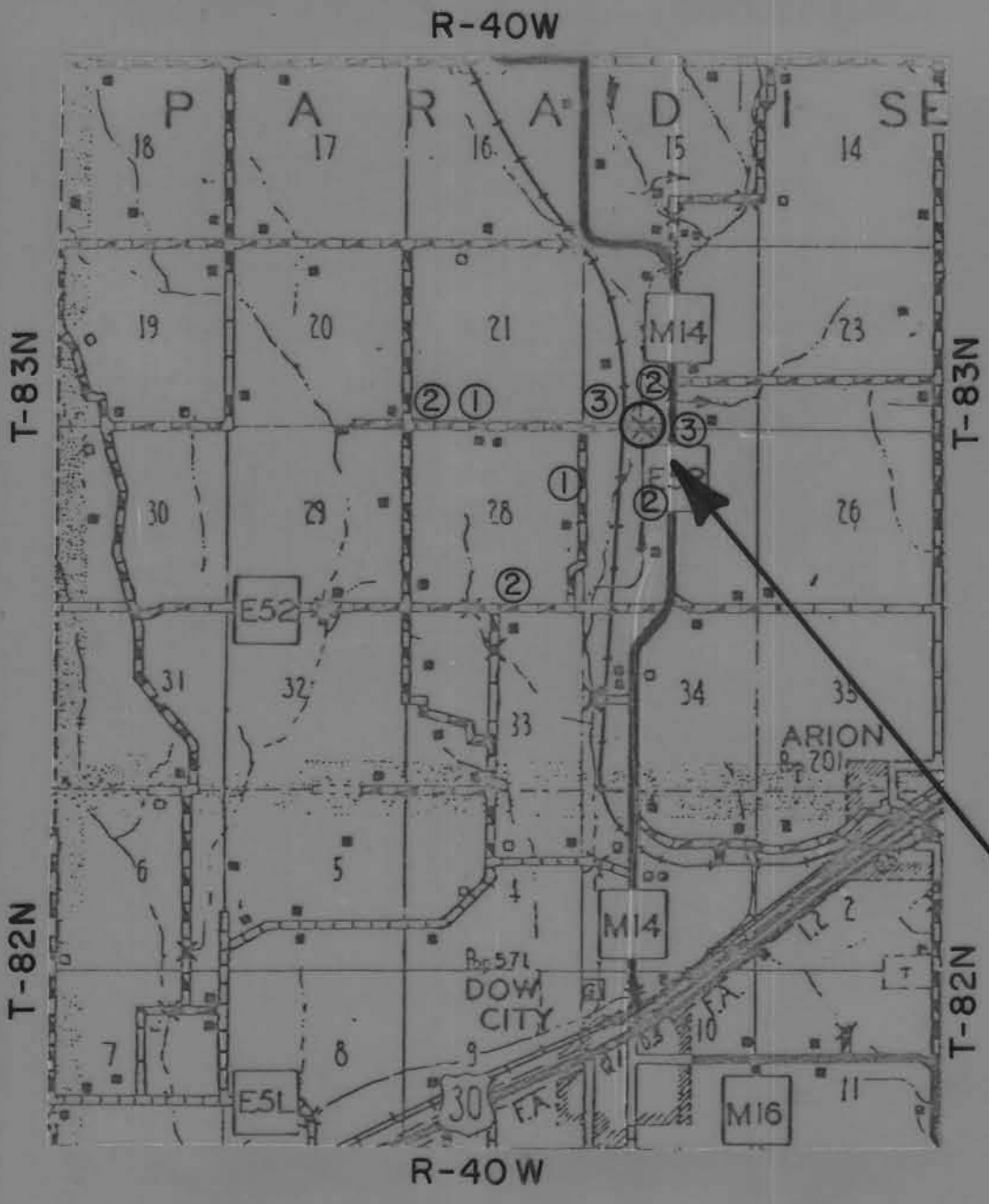
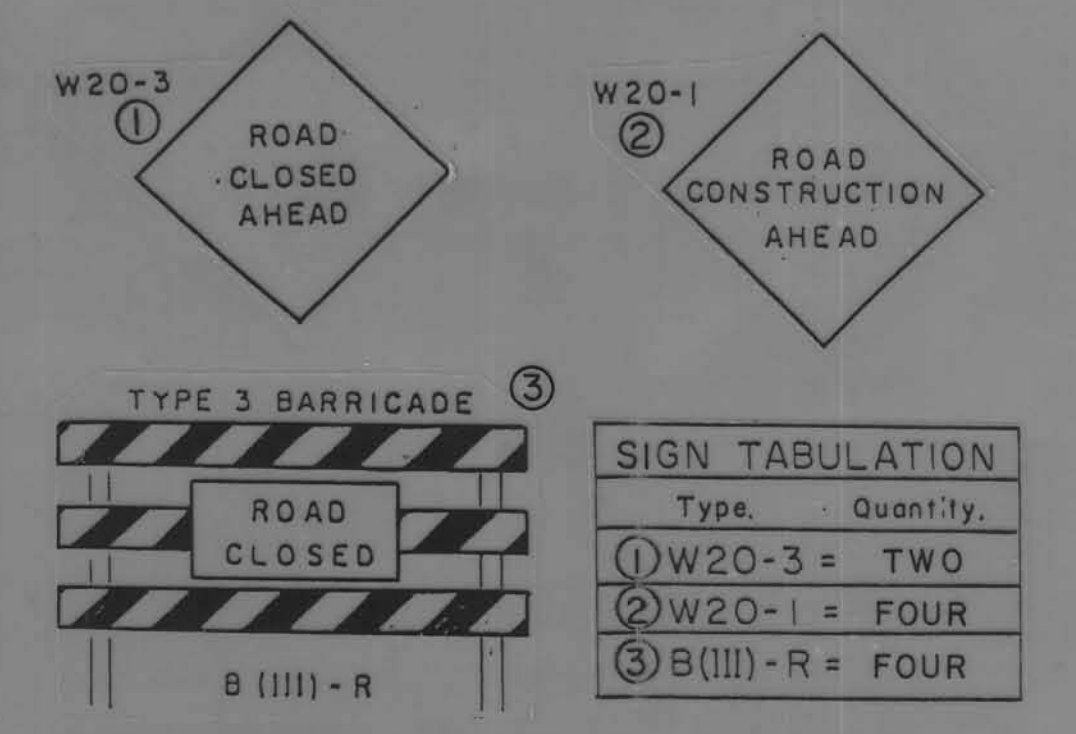
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY SUPERVISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE DESIGN WERE MADE BY ME OR BY OTHER DULY REGISTERED PROFESSIONAL ENGINEERS UNDER THE LAWS OF THE STATE OF IOWA.

*H. Dale Wright* Jan 7, 1983  
IOWA REGISTRATION NUMBER 5798 DATE

U.S. DEPT. TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ENGINEER DATE



1980 I.D.O.T. TRAFFIC COUNT = 11 V.P.D.

STA. 17+99.0 @ 126'-6" X 24'-0" I-BEAM BRIDGE

PROJECT NO. L79-7 (83)

CRAWFORD COUNTY

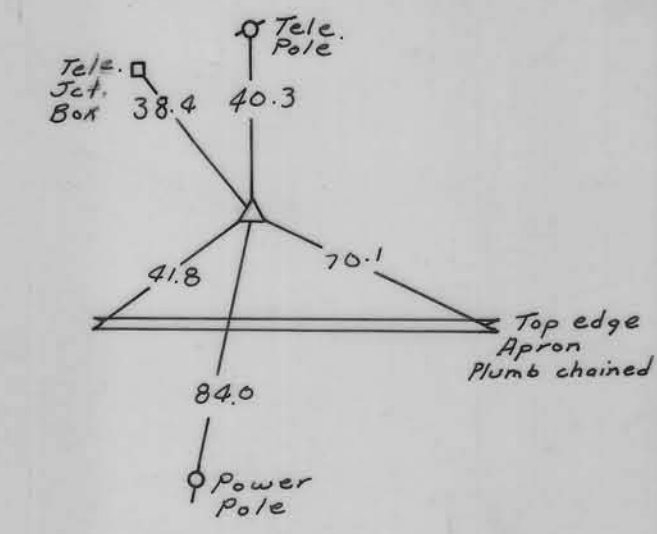
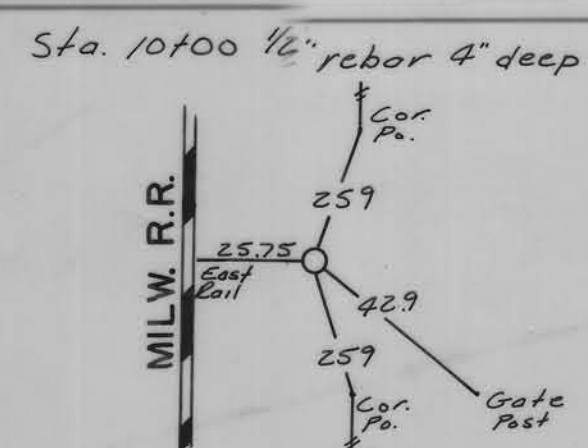
LETTING DATE MARCH 28, 1983

LETTING DATE



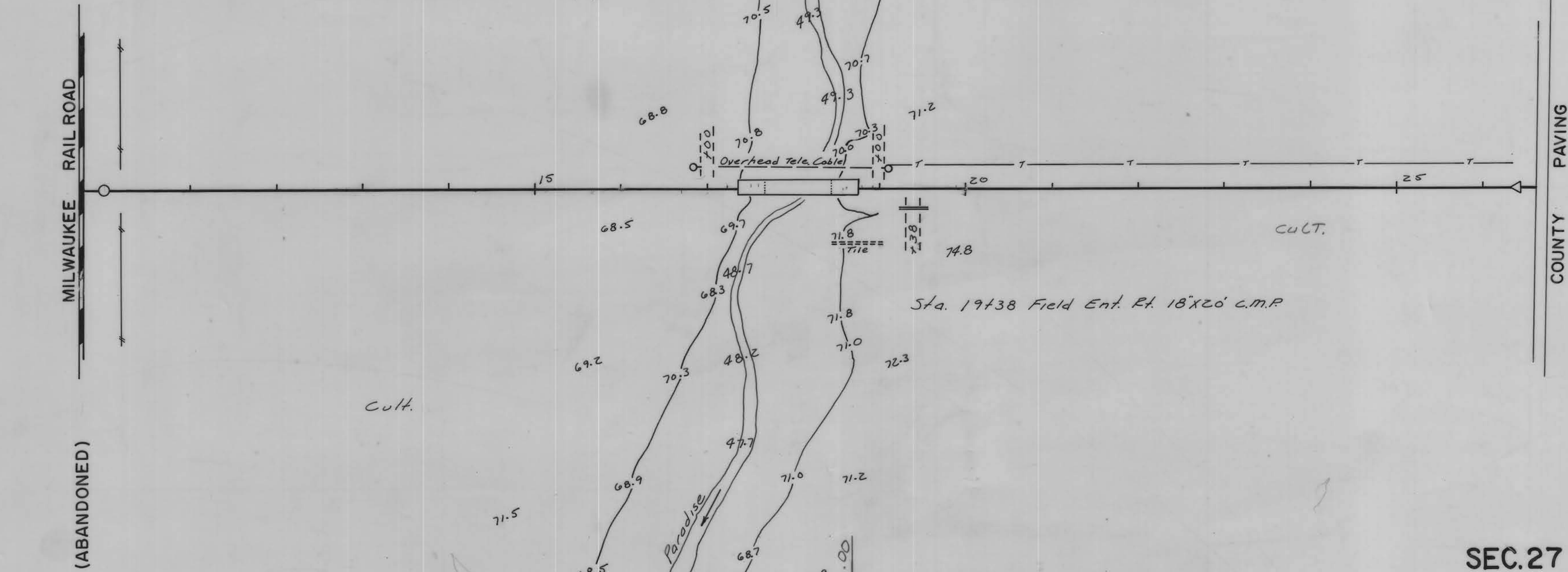
PLAN  
 SURVEYED BY: \_\_\_\_\_  
 PLOTTED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 DATE \_\_\_\_\_

PROFILE  
 SURVEYED BY: \_\_\_\_\_  
 PLOTTED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 DATE \_\_\_\_\_



PARADISE TOWNSHIP  
 T-83N SEC.22  
 R-40W

Sta. 26+40 Ref. to Govt. Sec. Cor. 1" iron pin 10" deep

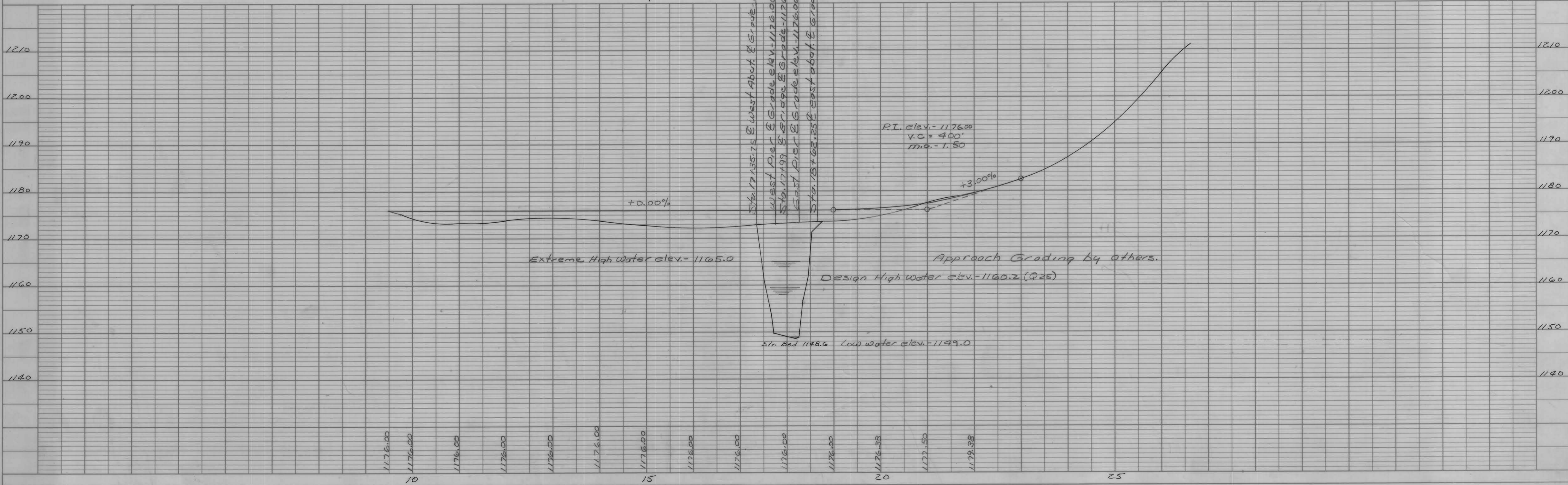


Sta. 18+05 @ 77'x18' Rainbow Truss Bridge, with 1-30'x18' I-Beam Approach and 2-16'x18' I-Beam Approaches. Wood piling, Backwalls & Floor. Contractor to remove. All salvageable material to remain Property of Crawford County, as determined by the County Engineer.

SEC.27

Marion E. Jacobson

BM #13 SPIKE IN TOP WOOD POST (SN-91) 175' LT. STA. 181+60 ELEV. = 1196.39



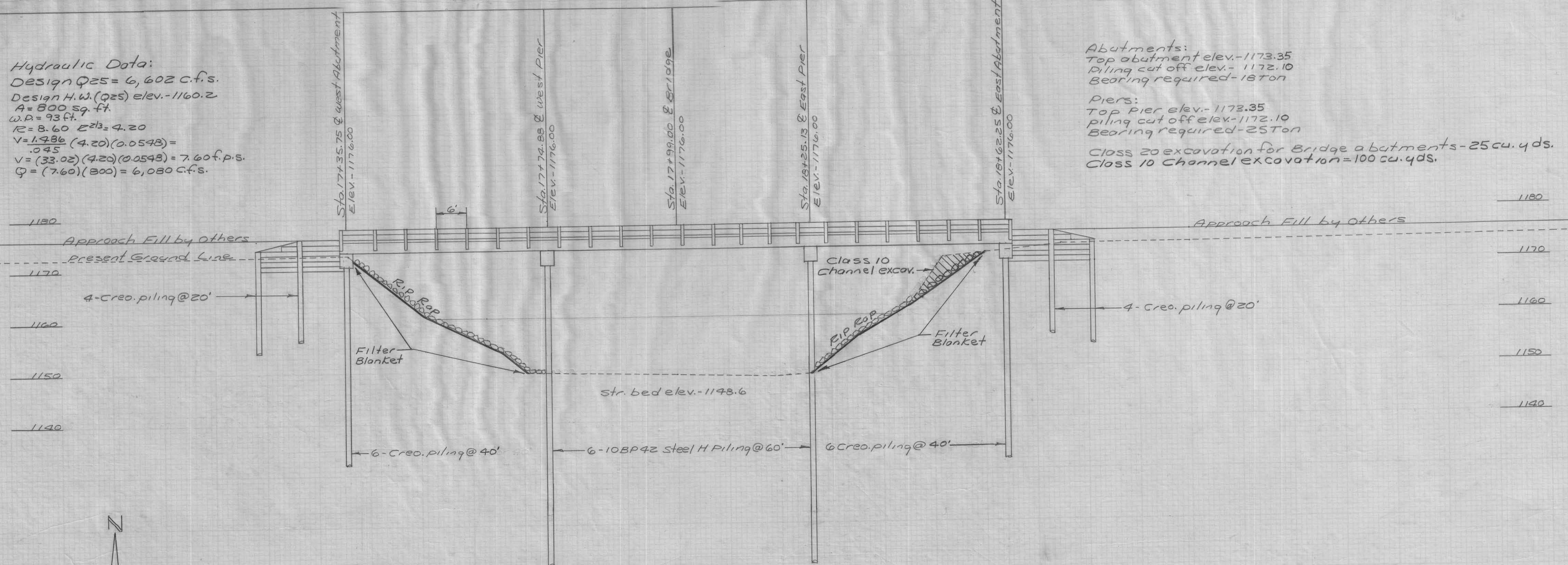


Hydraulic Data:  
 Design  $Q_{25} = 6,602$  c.f.s.  
 Design H.W. ( $Q_{25}$ ) elev. - 1160.2  
 $A = 800$  sq. ft.  
 $\omega.P. = 93$  ft.  
 $R = 8.60$   $E_{25} = 4.20$   
 $V = \frac{1.486}{0.45} (4.20)(0.0548) = 7.60$  f.p.s.  
 $V = (33.02)(4.20)(0.0548) = 7.60$  f.p.s.  
 $Q = (7.60)(800) = 6,080$  c.f.s.

Abutments:  
 Top abutment elev. - 1173.35  
 Piling cut off elev. - 1172.10  
 Bearing required - 18 ton

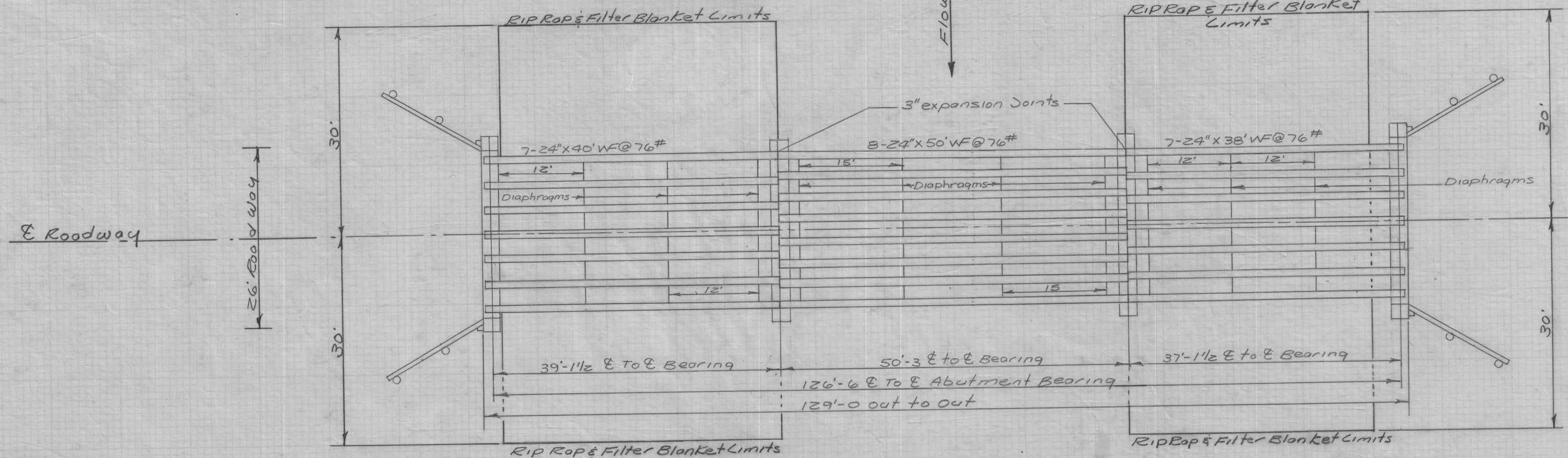
Piers:  
 Top Pier elev. - 1173.35  
 Piling cut off elev. - 1172.10  
 Bearing required - 25 Ton

Class 20 excavation for Bridge abutments - 25 cu. yds.  
 Class 10 Channel excavation = 100 cu. yds.



I-Beams & Diaphragms to be erected by contractor  
 Contractor to drill 444 holes in 7 1/2" I-Beam webs to erect diaphragms.  
 Holes shall accept 3/4" bolts. Drilling of holes shall be considered incidental to the erection of structural steel.  
 Bearing Plates to be placed by contractor.

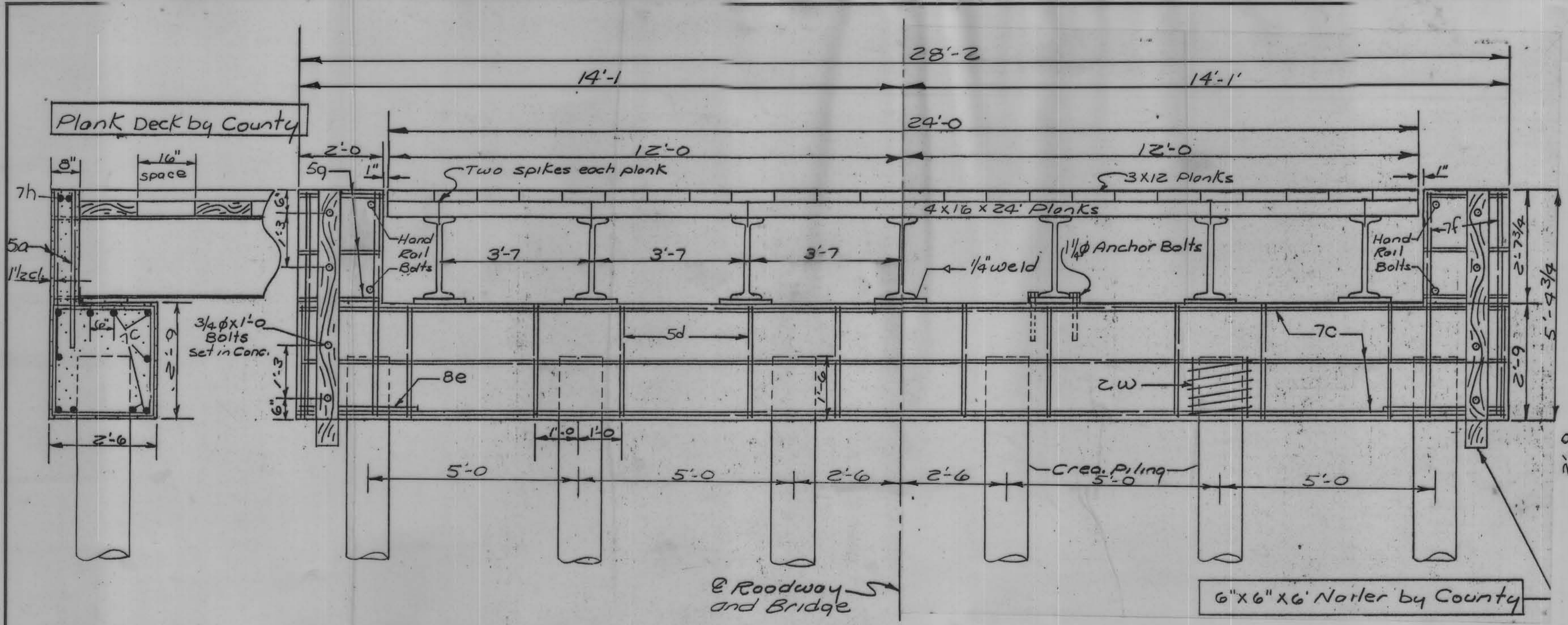
Contractor to furnish & Place 540 Ton  
 Class "D" Rip Rap. County to furnish  
 Filter Blanket. Placing of Filter  
 Blanket by contractor, shall be considered  
 incidental to furnishing & placing Rip Rap.



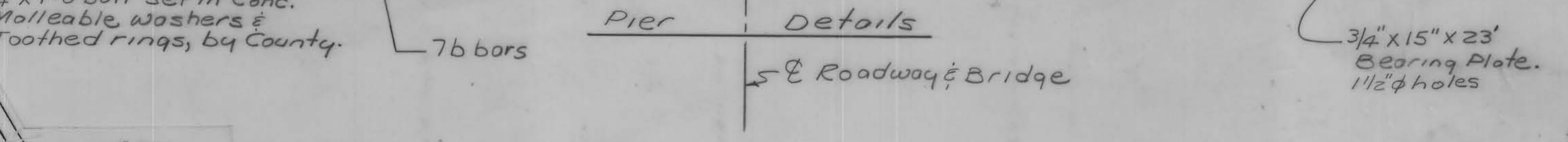
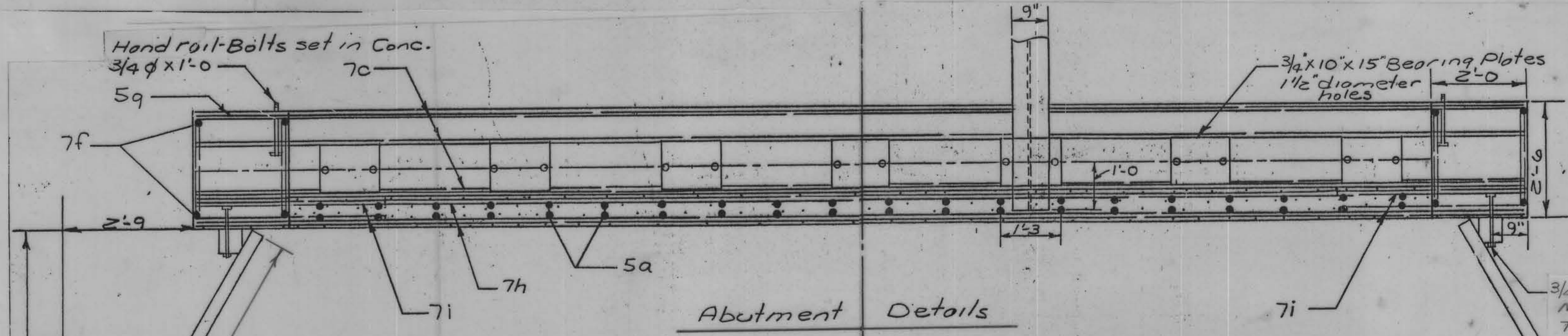
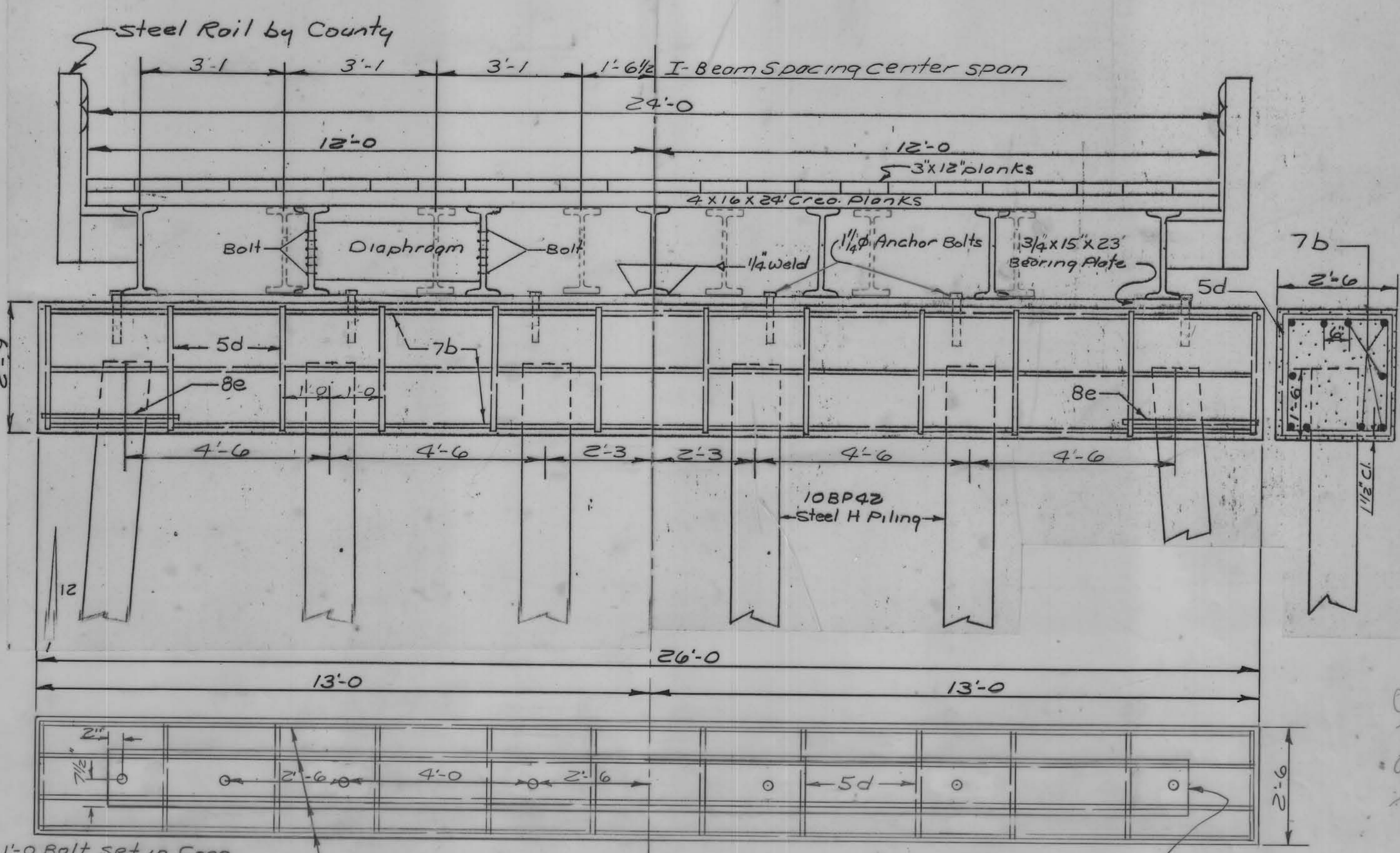
DESIGN FOR  
 126'-6" X 24'-0" I-BEAM BRIDGE STUB ABUTMENTS  
 AND STEEL H-PILING BENTS, STEEL HANDRAILS.  
 STA. 17+99.0 PROJECT NO. L79-7(83)

LOCATION  
 CRAWFORD COUNTY, BETWEEN SEC. 22-27  
 T-83N, R-40W, PARADISE TOWNSHIP  
 OVER PARADISE CREEK.





Note: The handrail and Posts shall be designed, furnished and installed by the County.



Hand rail-Bolts set in Conc.  
3/4" x 1'-0"

1- 3x12x8 Creos. plank  
1- 3x12x12 Creos. plank  
4- 3x12x16 Creos. planks (wing wall)

Plank Backwall & Wings by County  
Piling to be driven by Contractor.

Class "C" Structural Concrete  
Two Abutments  
19.0 cu. yds.

Structural Steel		
Item	No.	Weight (Lbs.)
24"x50' WF @ 76#	8	30,400
24"x40' WF @ 76#	7	21,280
24"x38' WF @ 76#	7	20,216
Steel Diaphragms @ 40#	64	8,613
Bearing Plates 3/4"x10"x15"	14	447
Bearing Plates 3/4"x15"x23"	2	1,761
<b>Total Weight (Lbs.)</b>		<b>82,717</b>

Reinforcing Steel - Two Piers				
Bar Size	Length	No.	Weight	
b	7	25-9	20	1053
d	5	10'-4 1/2	24	260
e	8	7'-7	4	81
<b>Total weight (Lbs)</b>				<b>1,394</b>

Class "C" Structural Concrete  
Two Piers  
13.2 cu. yds.

H-15 Two Cone Loading  
Analyzed by H. Gene McKeown & Associates  
January 5, 1982

DESIGN FOR  
126'-6"x24'-0" I-BEAM BRIDGE STUB ABUTMENTS AND  
STEEL H-PILING BENTS, STEEL HANDRAILS.  
STA. 17+99.0 PROJECT NO. L79-7(83)

LOCATION  
CRAWFORD COUNTY, BETWEEN SEC. 22-27  
T-83N, R-40W, PARADISE TOWNSHIP  
OVER PARADISE CREEK.

Reinforcing Steel - Two Abutments				
bar	size	Length	No.	weight
a	5	3'-9	80	313
c	7	27'-11"	20	1141
d	5	10'-4 1/2	24	260
e	8	7'-7	4	81
f	7	5'-0	16	164
g	5	4'-0	24	100
h	7	23'-11"	4	196
i	7	4'-0	8	65
2w.	2	38'-6	12	77
spacers	7/8	1'-10	24	90
<b>Total Weight (Lbs)</b>				<b>2,487</b>

