

B.M. 129.10 City Standard
S.E. 28th & Arkansas

B.M. 128.10 Step bench E.S. Power
Rte. N.W. 28th & Fairview

CITY OF WICHITA KANSAS

BRIDGE ON 29TH ST. NORTH ACROSS CHISHOLM CREEK

PROJECT NO. C16-12

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2. Substructure Details
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4. Auxiliary Details

29TH ST
WEST DRAIN AT 29TH STREET NORTH
SHEETS

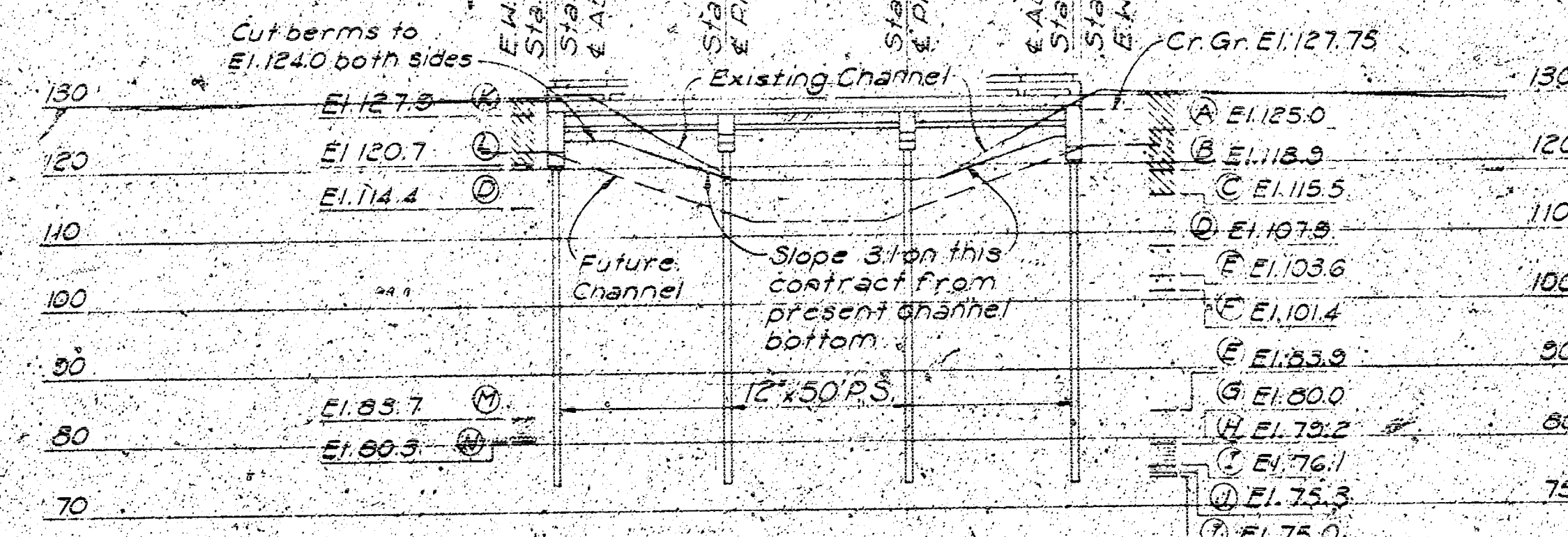
Remove 24" x 56" Erosion Pipe at 124.0'

Sta. 53+20 Install 24" x 56" C.M.P. (C.R.P.) E.L. to meet exist. ditches & drain. At the Contractor's option, relay pipe from exist. Erosion Pipes.

Install 24" x 56" C.M.P. Erosion Pipe, Outlet E.L. 120.0'

KEY TO SOUNDING DATA

- 1 Brown & Black Silty Clay
- 2 Brown Silty Sand
- 3 Gray Silty Clay
- 4 Fine Sand
- 5 Fine & Coarse Sand
- 6 Coarse Sand & Gravel
- 7 Gray Green Weathered Shale
- 8 Hard Shale with Gypsum
- 9 Gray Shale
- 10 Hard Gray Shale
- 11 Brown Clayey Silt
- 12 Brown Sandy Silt
- 13 Fine & Coarse Sand & Gravel
- 14 Gray Silty Shale



GENERAL NOTES

CHANNEL EXCAVATION AND DRAINAGE: The Contractor shall slope banks back at 3:1 from existing channel bottom, and cut berms at elevation 124.00 to 4' north and south of centerline; steep to existing channel at 60% from centerline.

Remove existing pipes and install pipes as shown and noted, shaping ditches to drain.

Grading and shaping of road and road ditches by others after completion of this contract.

EXISTING BRIDGE: The Contractor shall remove the existing structure. Cut off existing piles one foot below channel grade; stockpile stringers, caps and piles near the site for salvage by City. All other material to become the property of the Contractor, to be removed from the site.

EXCAVATION: All bridge excavation is Class III Excavation, backfill to elevation of top of deck.

PILING: All piles to be 12" Prestressed Concrete Piles. Drive to penetration in shale and to minimum computed bearing of forty (40) tons per pile.

CONCRETE: Class A concrete shall be used in the abutments and piers and Class AAA (AR) concrete shall be used in the substructure, (except prestressed units).

DESIGN

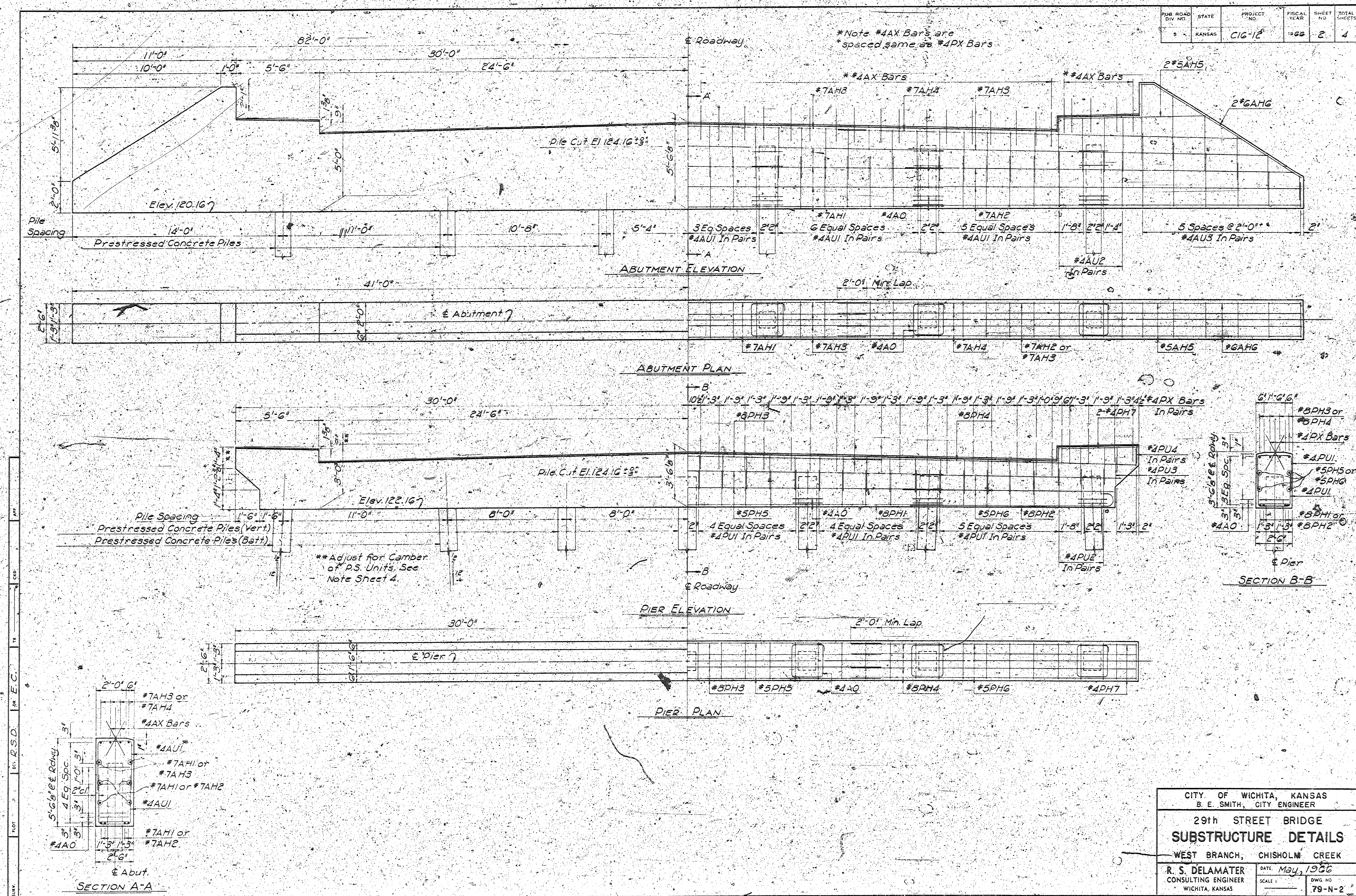
Design Loading: H20-S16-44
AASHTO Specifications, 1961 Ed.
Unit Stresses: $f_c = 20,000$ psi (Reinforcing)
 $f_c = 3,000$ psi (Class A)
 $f_c = 1,200$ psi (Class A)
 $f_c = 4,000$ psi (Class AAA) (AR)
 $f_c = 1,800$ psi (Class AAA) (AR)
Design File Pressure: 40 Tons (minimum) per pile, Abutments and Piers

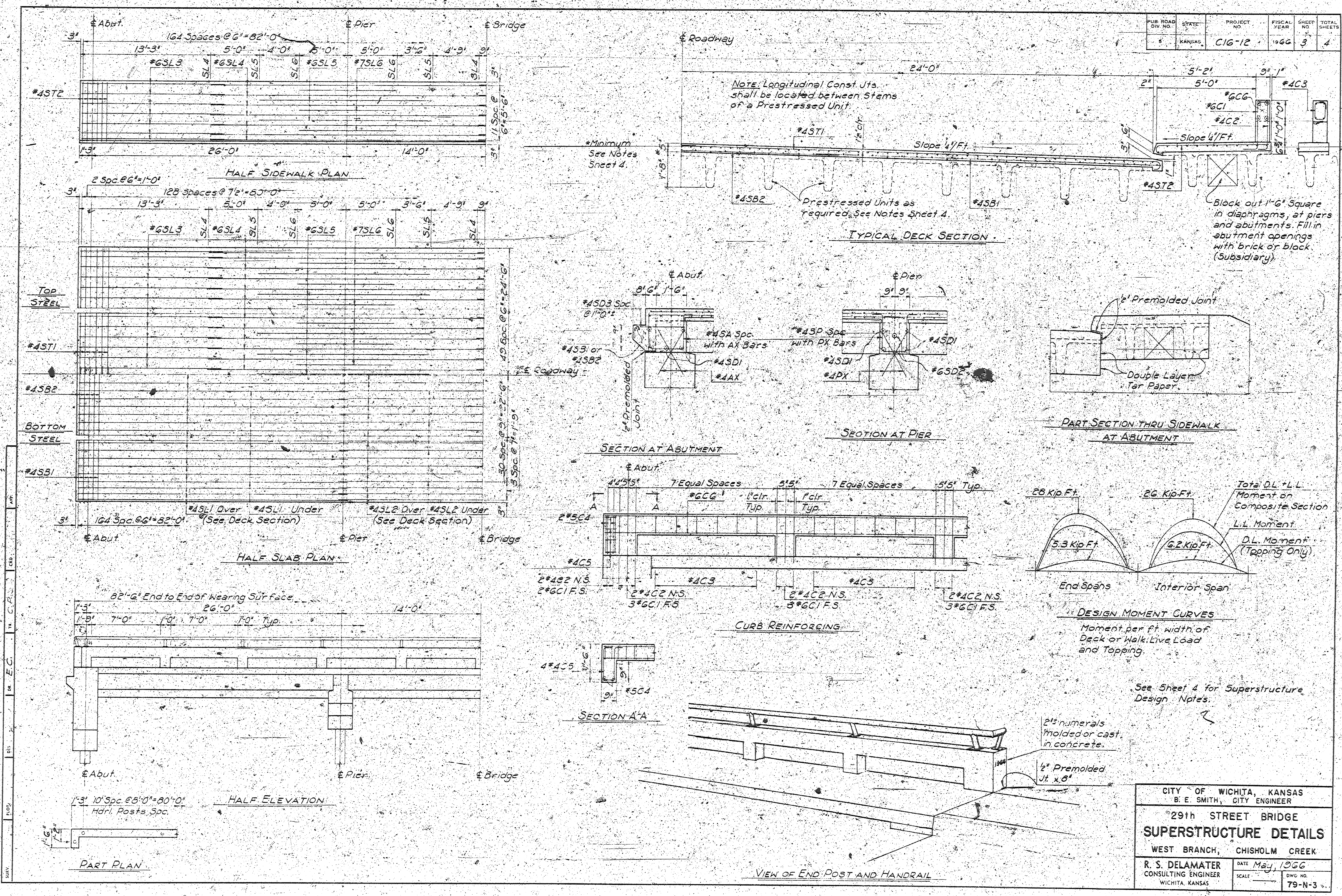
SPECIFICATIONS: Bridge to be constructed in accordance with the standard Specifications of the Kansas State Highway Commission Edition 1960, except as modified or amended by notes on these plans or in the contract documents.

PAY QUANTITIES: Final pay quantities will be plan quantities except for the items of 12" Prestressed Concrete Piles, 24" Crossroad Pipe, and 24" C.M.P. Erosion Pipe, which items will be paid for on a unit price basis for the quantities actually used in accordance with the terms of the Standard Specifications.

EXISTING UTILITIES: Check the exact location of existing pipes where clearance is critical before driving piles.

PLANS PREPARED BY
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS
MAY, 1966





PUR. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS	C16-12	1966	3	4

CITY OF WICHITA, KANSAS	
B. E. SMITH, CITY ENGINEER	
29th STREET BRIDGE	
SUPERSTRUCTURE DETAILS	
WEST BRANCH, CHISHOLM CREEK	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE May, 1966 SCALE DWG. NO. 79-N-3

PUB ROAD DIV NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
6	KANSAS	C16-12	1966	4	4

*4A01	3°-2°		
*4A02	3°-5°		
*4A05	**		
*4P01	2°-2°		
*4P02	2°-4°		
*4P03	1°-8°		
*4P04	1°-1°		

2°-2°	*4A01, *4A02
	*4A03
2°-3°	*4A01, *4P02
	*4P03, *4P04

** Increase from 1'-5" to 4'-4" by 7"

6" hk.	25'-0"	#4ST1
6" hk.	5'-9"	#4ST2
1'-1" hk.	13'-6"	#8PH2

#4503	2'-6"
#402	2'-3"
#65L3	14'-6"

BILL OF MATERIAL							
ONE ANCHURMENT							
STRAIGHT BARS				BENT BARS			
Mark	No. Req.	Size	Length	Mark	No. Req.	Size	Length
AH1	10	7	34'-0"	AO	30	4	9'-0"
AH2	16	7	29'-0"				
AH3	8	7	24'-0"	AUL	52	4	8'-0"
AH4	8	7	27'-0"	AUZ	16	4	9'-0"
AH5	4	5	9'-3"	AH3	24	4	8'-0"
AX	88	4	3'-0"	AMB	4	8	12'-3"
				* See Bending Diagram			
Class III Excavation				32 Cu. Yds.			
Class A Concrete				40.3 Cu. Yds.			
Reinforcing Steel				3430 Lbs.			
12" Prestressed Concrete Piles				300 Lin. Ft.			

ONE PILE									
P11	4	8	34'-0"	P25	8	8	14'-7"		
P12	4	8	26'-0"						
P13	8	8	19'-0"	P11	60	4	8'-7"		
P25	4	5	34'-0"	P22	12	6	6'-11"		
P26	8	5	14'-0"	P23	4	4	5'-1"		
P17	4	4	5'-3"	P24	4	4	4'-5"		
		4							
P2	58	4	3'-0"	A0	14	4	5'-0"		
Class A Concrete							1811	Co. 14.	
Reinforcing Steel							2240	Lbs.	
12" Prestressed Concrete Piles							350	Lin. Ft.	

SUPERSTRUCTURE									
S21	345	4	17'-0"	C1	74	8	4'-0"		
S82	171	4	16'-0"	C2	53	4	3'-0"		
				C3	120	4	3'-0"		
C4	8	5	1'-0"	C5	16	4	4'-15"		
D6	32	6	21'-0"						
				S4	44	4	5'-0"		
S21	210	4	2'-0"	S7	64	4	6'-0"		
S22	12	6	17'-3"	S23	98	4	3'-0"		
				S21	266	4	25'-0"		
S11	134	4	27'-0"	S22	330	4	6'-3"		
S2	67	4	29'-0"						
S16	128	6	28'-0"	S13	120	6	16'-3"		
S15	54	6	17'-0"						
S16	60	7	10'-0"						

Class AAA (AR) Concrete

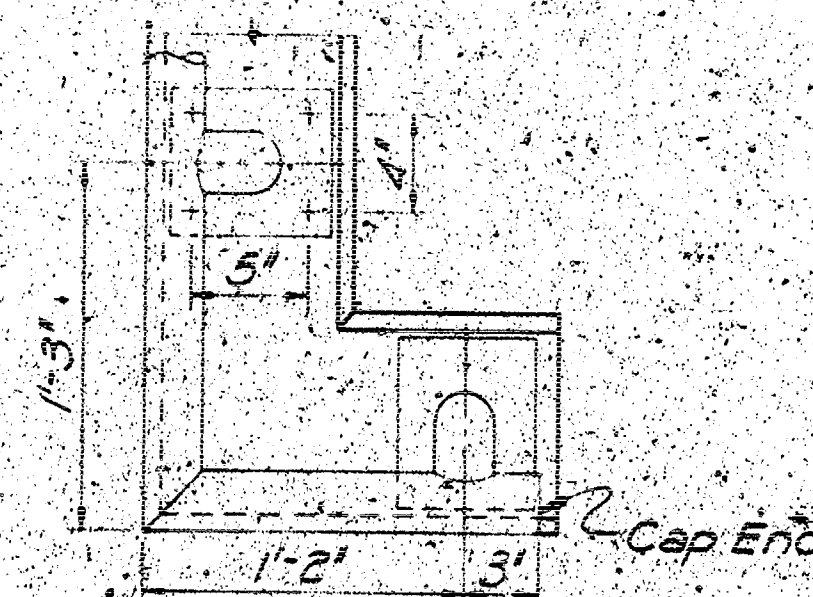
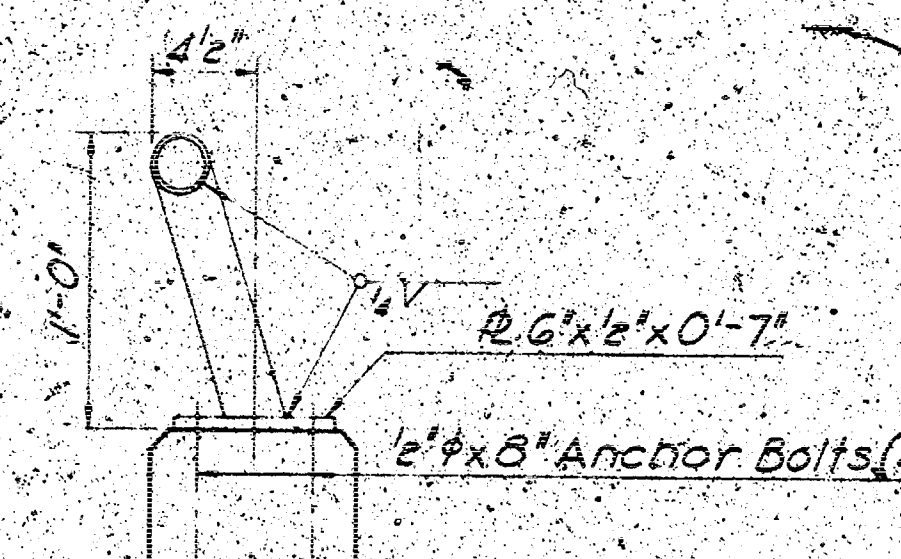
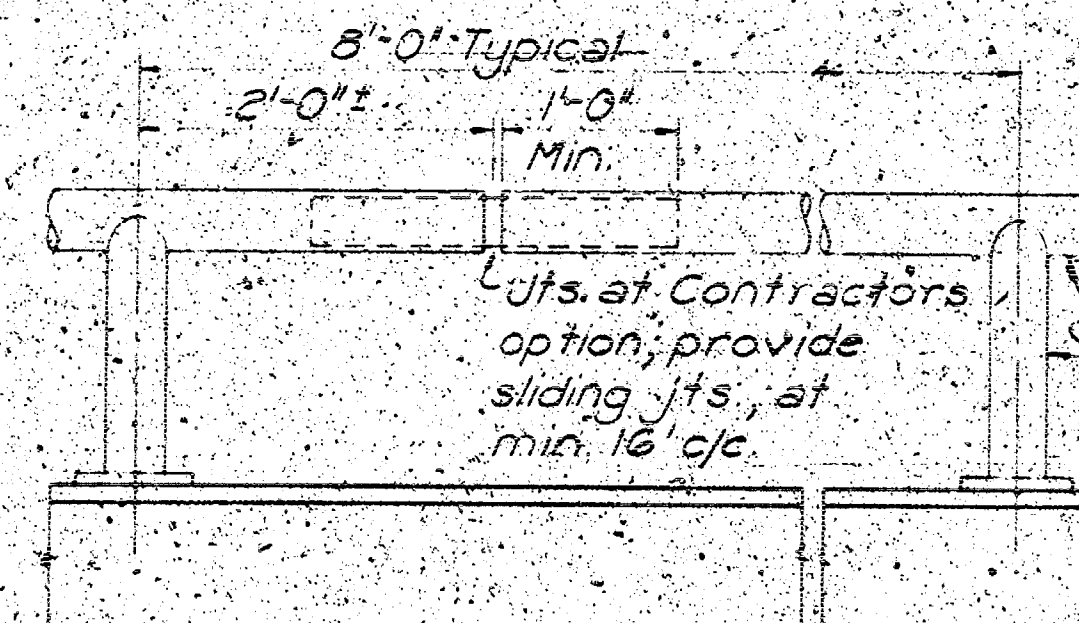
114.8

Cu. Yds.

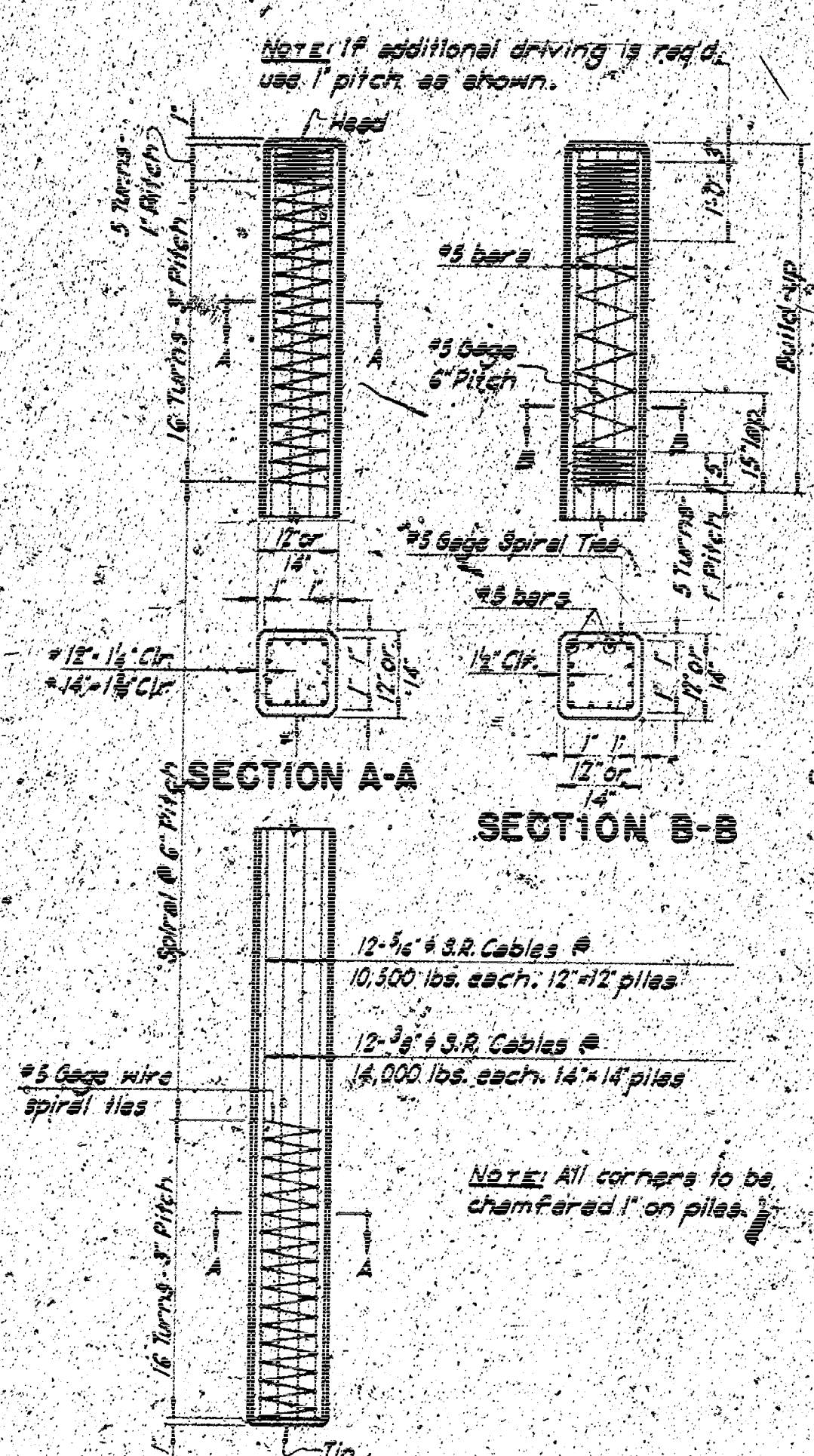
Reinforcing Steel

29,880

Lbs.



PIPE HANDRAIL DETAILS
Sections to be galvanized
after fabrication.



NOTE: Piles shall be marked at Pick-up Points to indicate proper points for attaching handling lines.

DOUBLE POINT PICK-UP

Length
Pick-up Point
0.76 0.36

SINGLE POINT PICK-UP

NOTES:
All concrete in Prestressed Piles shall be Class A/A. Splice details for Prestressed Piles shall be made in accordance with manufacturer's recommendations, subject to approval of the Engineer.
Price bid per foot for piles shall be the total cost per foot of pile in place, including driving, concrete and reinforcing steel.

SUPERSTRUCTURE NOTES.

Furnish and install prestressed units of the double-tee or channel type in number and design adequate to provide for, and carry the total resisting moments per foot width

Install at least two No. 5 bars with either standard hooks or 90° bends, and with four feet embedment in concrete, at each end of each leg of prestressed concrete units, for anchorage into diaphragms at piers and abutments.

Prestressed Units to be fabricated in accordance with the conditions and requirements of the Manual for Quality Control (tentative) for plants and production of precast prestressed concrete products of the Prestressed Concrete Institute, 1966.

Furnish two complete sets of design computations for the prestressed units and for the composite section for approval by the Engineer.

Place the deck topping to the minimum thickness shown, furnishing any additional thickness of concrete required to allow for camber in the prestressed units. (Class AAA(AB) Concrete quantities have been computed to allow for 1" camber.)

Make such minor adjustments as are necessary in the bridge seat elevations of the sidewalk units and depth of diaphragms, as required by the actual camber, to set the finish curb height and width of curb slot shown on the plans.

Keep the top surface of prestressed units soaked down and moist for at least 24 hours before placing topping material and spray ahead of topping if necessary to keep the surface damp.

Place topping concrete at not over 2" slump and as nearly uniform as possible, taking particular care to vibrate thoroughly into the diaphragms and particularly between the ends of prestressed units.

Finish sides, bulk and deck surfaces with a broom finish.

in lieu of other curing procedures spray the top surfaces of roadways and decks and the vertical surfaces of curbs with Linseed Oil Emulsion conforming to USDA, Oilseed Crops Laboratory, Formulation 6325-39 as available from Spur-Jex Products, of Wichita, Kansas

SUMMARY OF PROJECT QUANTITIES		
ITEM	QUANTITY	UNIT
REMOVAL OF EXISTING BRIDGE AND PILES	1.00P	SUN
CHANNEL EXCAVATION	1.00P	SUN
24" CROSS ROAD PIPE	52	LIN. FT.
24" EROSION PIPE (C.M.P.)	56	LIN. FT.
CLASS III EXCAVATION	186	CU. YDS.
17' PRESTRESSED CONCRETE PILES	1,300	LIN. FT.
CLASS A CONCRETE	116.8	CU. YDS.
CLASS AAA CONCRETE (AS)	116.8	CU. YDS.
PRESTRESSED DECK UNITS	1.00P	SUN
REINFORCING STEEL	41,320	LBS.
GALVANIZED PIPE HANDRAIL	171	LIN. FT.

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

29th STREET BRIDGE
AUXILIARY DETAILS

WEST BRANCH, CHISHOLM CREEK

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE <i>May, 1966</i>		DWG NO
SCALE		79-N-4

PRESTRESSED CONCRETE PILES