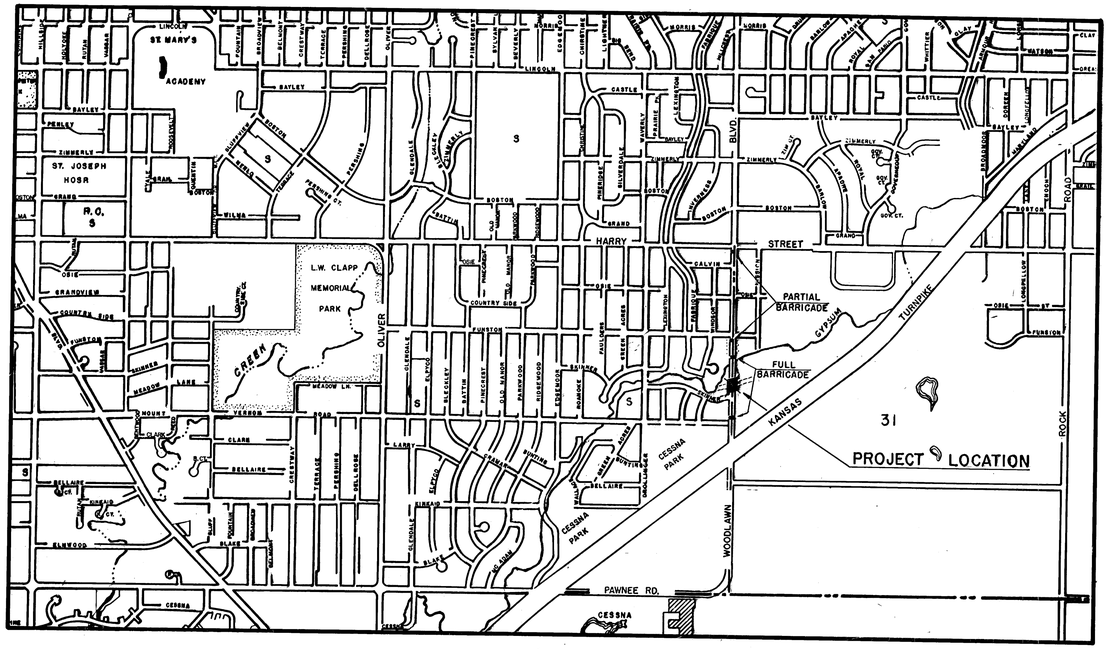
WOODLAWN BRIDGE

OVER

GYPSUM CREEK



CITY OF WICHITA

DEPARTMENT OF PUBLIC WORKS

R. W. BRUGGEMAN, P.E. DIRECTOR OF PUBLIC WORKS
R. W. LINN, P.E. CITY ENGINEER

R. S. DELAMATER & ASSOCIATES, WICHITA, CONSULTING ENGINEERS

PROJECT DAKB 571018

SEPTEMBER, 1971

INDEX OF SHEETS

Sheet No.
1. Title Sheet
2. Contour Map
3. Construction Layout
4. Abutment Details
5. Pier Details
6. Prestressed Beam Details
7. Superstructure Layout
8. Superstructure Details
9. Auxiliary Details
10. Standard Pile Details
11. Approach Slab Details
12. Bar Supports, Bridge Excavation, Handrail Details, and Summary of Quantities

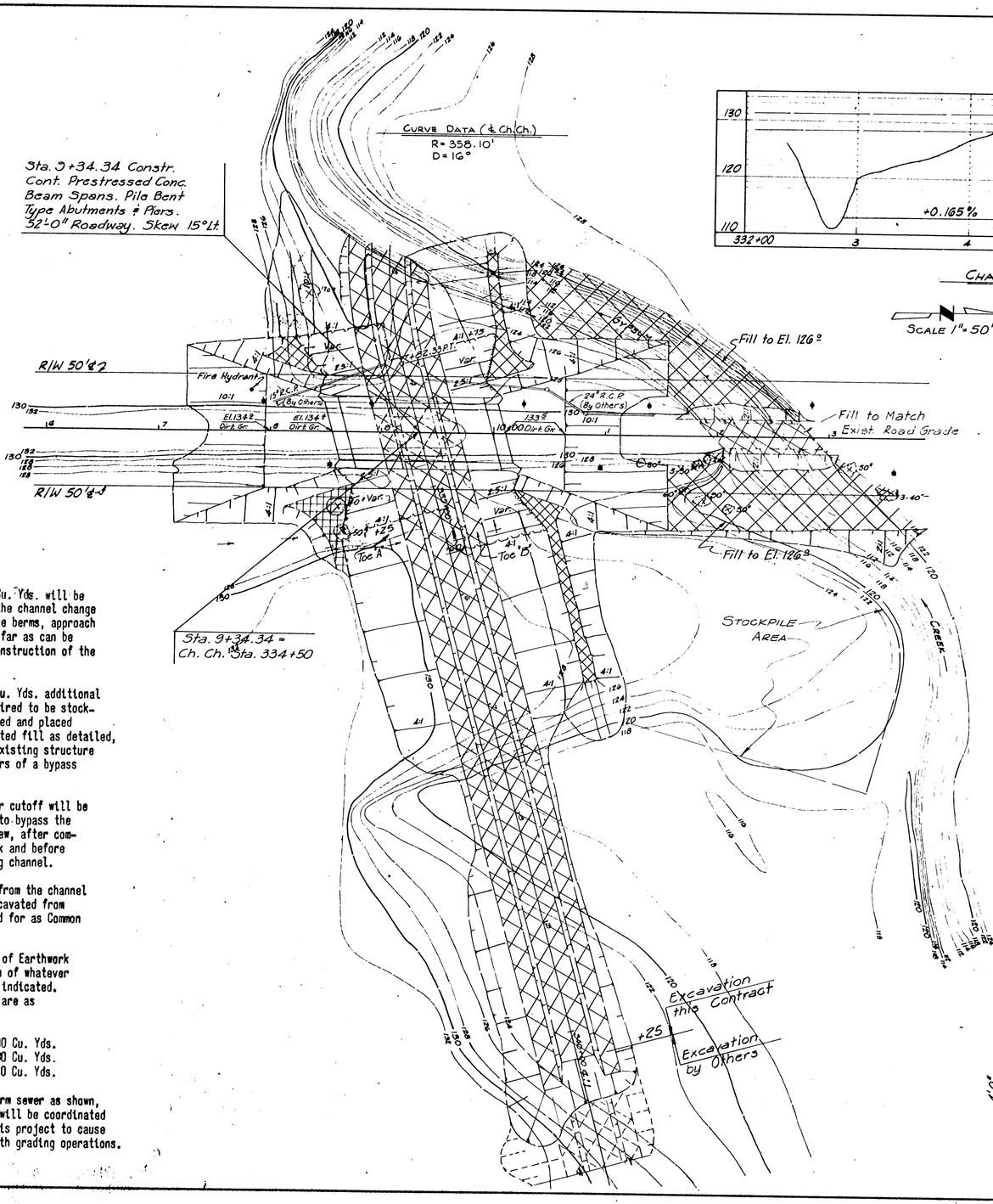
CLARENCE P. SCHMAR LICENSED 1536 KANSAS PROFESSIONAL ENGINEER

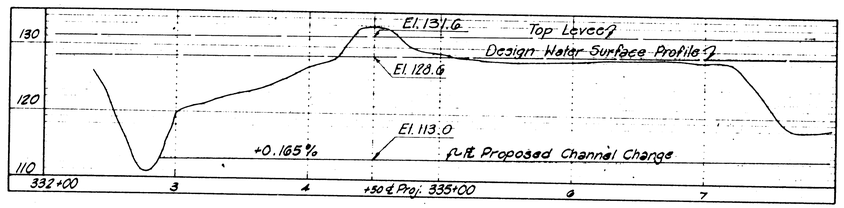
KRISHNA A. GURAM LICENSED 5458 KANSAS PROFESSIONAL ENGINEER

WILMER FREUND LICENSED 4529 KANSAS PROFESSIONAL ENGINEER

R. S. DELAMATER LICENSED 513 KANSAS PROFESSIONAL ENGINEER

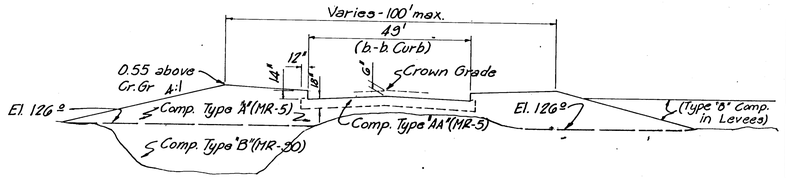
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		19 71	2	12



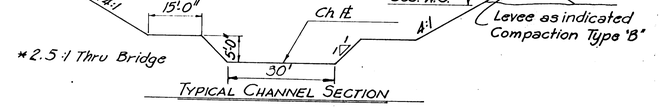


CHANNEL CHANGE PROFILE

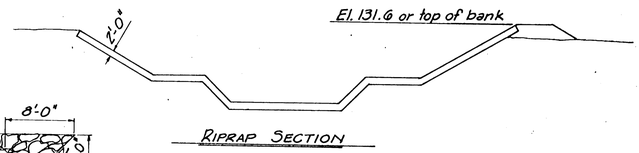
SCALE 1" = 50'



TYPICAL EMBANKMENT SECTION ON BRIDGE APPROACHS

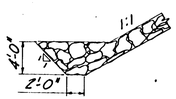


TYPICAL CHANNEL SECTION



RIPRAP SECTION

TOE "A"



TOE "B"

NOTES:

Approximately 10,080 Cu. Yds. will be hauled directly from the channel change and placed to complete berms, approach grades and levees, as far as can be constructed, before construction of the bridge.

Approximately 11,650 Cu. Yds. additional is expected to be required to be stockpiled, to be reexcavated and placed to complete the compacted fill as detailed, after removal of the existing structure and completion by others of a bypass channel.

A connecting channel or cutoff will be constructed by others to bypass the old channel into the new, after completion of the new work and before filling of the existing channel.

Dirt either excavated from the channel or required to be reexcavated from stock pile will be paid for as Common Excavation.

The item of Compaction of Earthwork includes all compaction of whatever type within the limits indicated. Approximate quantities are as follows:

Type AA	400 Cu. Yds.
Type A	5,630 Cu. Yds.
Type B	12,910 Cu. Yds.

Construction of the storm sewer as shown, to be built by others, will be coordinated with construction of this project to cause minimum interference with grading operations.

REV	BY	DATE	DESCRIPTION
2	K.H.	11-72	Revised As Built
1		8-30-71	

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

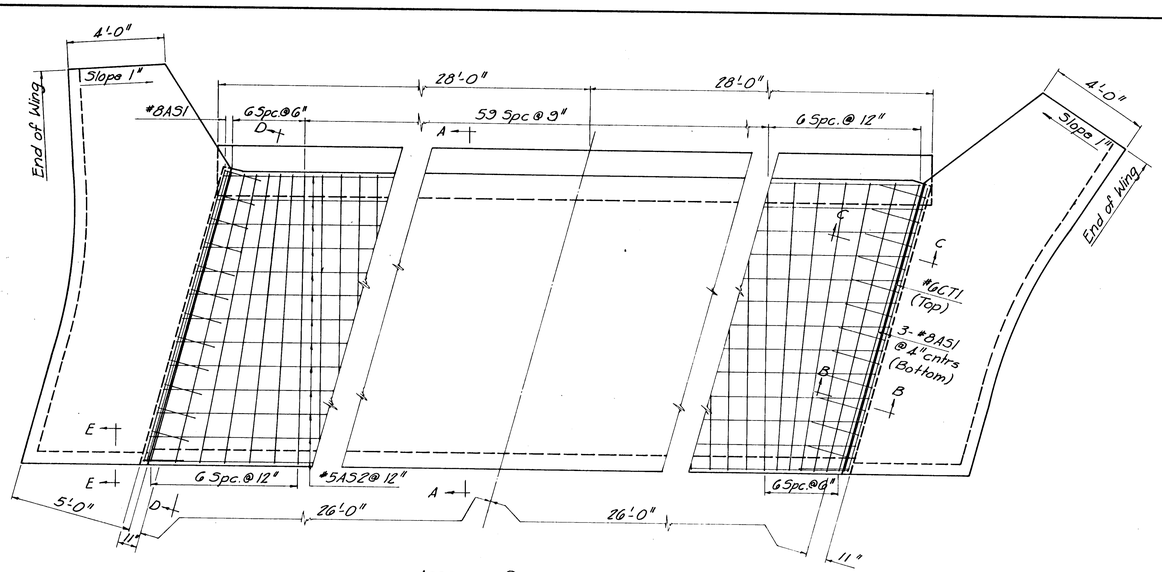
CONTOUR MAP

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

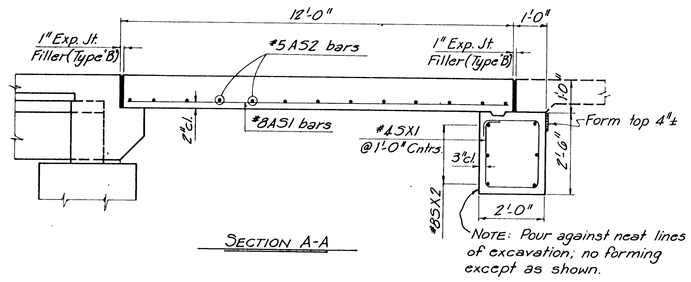
DATE SEPTEMBER 1971
SCALE
DWG. NO. 79-P-2

Rev 8-30-71 P.M.

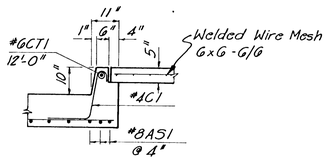
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		1971	11	12



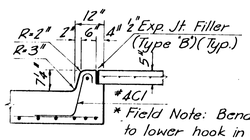
APPROACH SLAB
PLAN SHOWING REINFORCEMENT



SECTION A-A

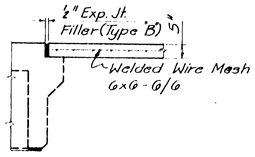


SECTION B-B

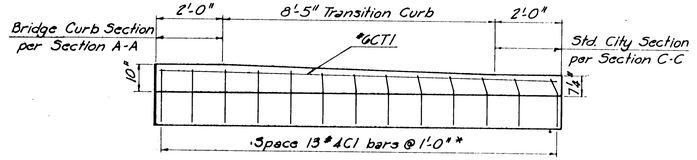


* Field Note: Bend over as required to lower hook in order to clear 1" below top of curb.

SECTION C-C



SECTION E-E



SECTION D-D

NOTES:
The item "Approach Slab" includes fine grading, and furnishing, forming, placing and finishing all concrete and reinforcing steel required for one approach slab at each end of the bridge, as detailed on this sheet.

Cure the concrete as provided for bridge deck.

Use Class AAA(AE) Concrete in approach slabs, including sidewalks.

See Sheet 9 for General Notes.

See Sheet 9 for Bar List and Bending Diagrams, (for information only).

Approximate Quantities, Each Slab (Two thus)
Concrete, Class AAA(AE) 38.5 Cu. Yds.
Reinforcing Steel 4,580 Lbs.*
*Includes 80 Lbs. wire mesh

REV.	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

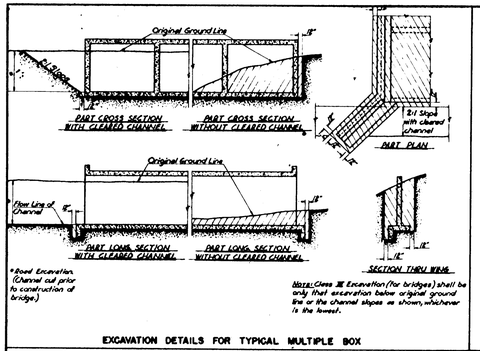
APPROACH SLAB DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE SEPTEMBER 1971
SCALE ——
DWG. NO. 79-P-11

APP. | CKD. | TR. | DR. J.G. | DES. C.E.S. | PLOT | SERV.

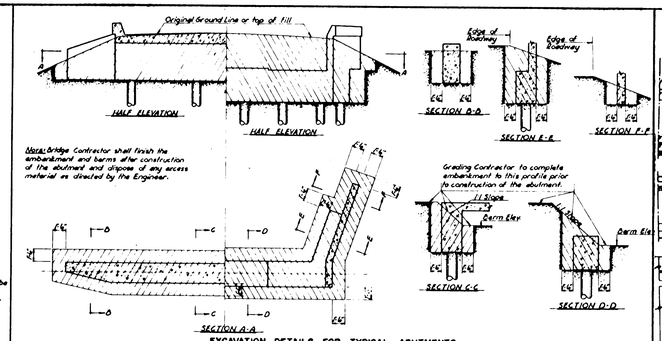
PUB ROAD DIV NO	STATE	PROJECT NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
	5 KANSAS		19 71	12	12



*Road Excavation. (Channel cut prior to construction of bridge.)

Note: Class III Excavation (for bridges) shall be only that excavation below original ground line or the channel slopes as shown, whichever is the lowest.

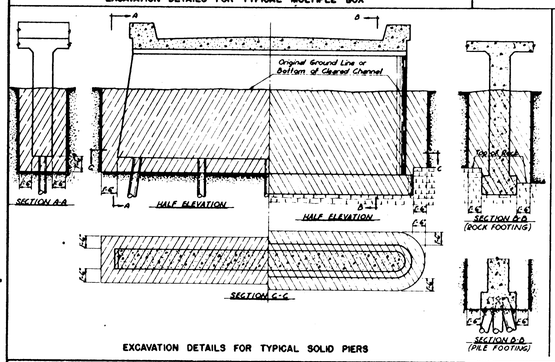
EXCAVATION DETAILS FOR TYPICAL MULTIPLE BOX



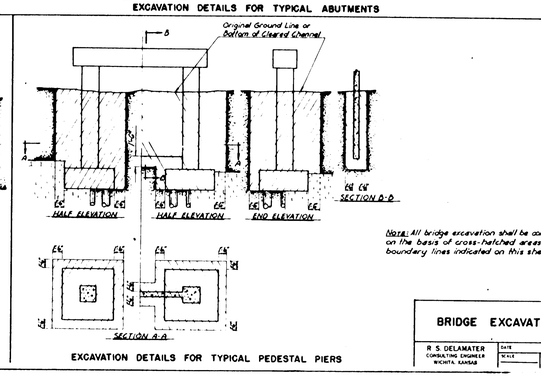
Note: Bridge Contractor shall finish the embankment and berms after construction of the abutment and dispose of any excess material as directed by the Engineer.

Grading Contractor to complete embankment to this profile prior to construction of the abutment.

EXCAVATION DETAILS FOR TYPICAL ABUTMENTS



EXCAVATION DETAILS FOR TYPICAL SOLID PIERS



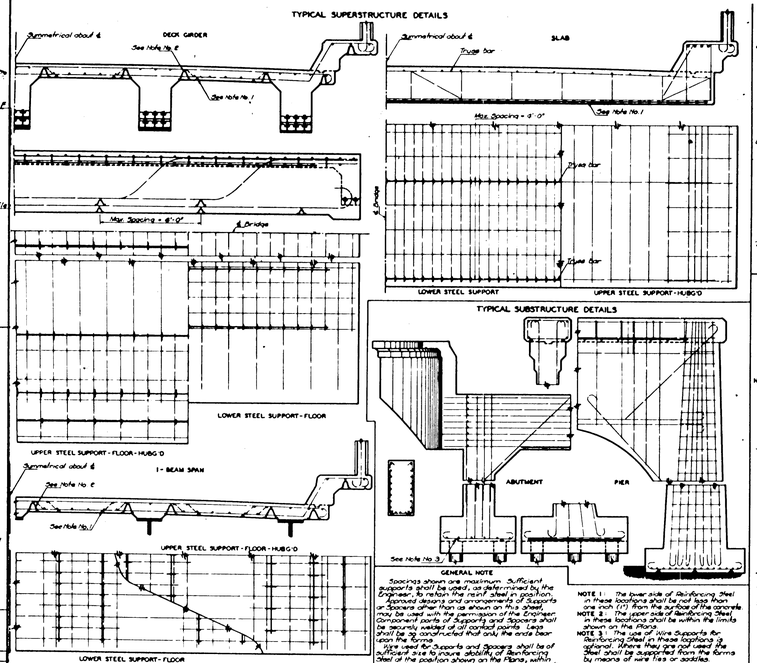
Note: All bridge excavation shall be computed on the basis of cross-hatched areas and boundary lines indicated on this sheet.

EXCAVATION DETAILS FOR TYPICAL PEDESTAL PIERS

BRIDGE EXCAVATION

R. S. DELAMATER, CONSULTING ENGINEER, WICHITA, KANSAS — DATE — SCALE — DWG. NO.

TYPICAL SUPERSTRUCTURE DETAILS



TYPICAL SUBSTRUCTURE DETAILS

GENERAL NOTE

Spacers shown are maximum. Sufficient Supports shall be used, as determined by the Engineer, to limit the movement of Reinforcing Steel and Wire Supports. Supports or Spacers other than as shown on this sheet may be used with the permission of the Engineer. Component parts of Supports and Spacers shall be securely welded at all contact points. Legs shall be so constructed that only the ends bear on the forms.

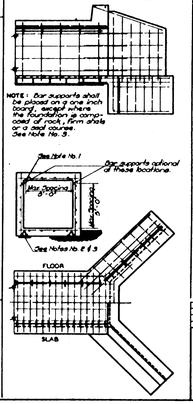
Wire used for Supports and Spacers shall be of sufficient size to insure stability of Reinforcing Steel at the position shown on the Plans, within the limits indicated by Notes 1 & 2. Wire Supports shall be supplemented with form ties or other approved devices where necessary.

NOTE 1: The lower side of Reinforcing Steel in these locations shall be not less than one inch (1") from the surface of the concrete.

NOTE 2: The upper side of Reinforcing Steel in these locations shall be within the limits shown on the Plans.

NOTE 3: The use of Wire Supports for Reinforcing Steel in these locations is optional. Where they are not used the Steel shall be supported from the forms by means of wire ties or saddles.

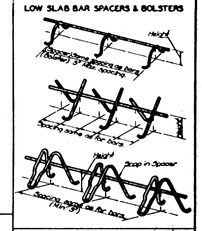
TYPICAL CULVERT DETAILS



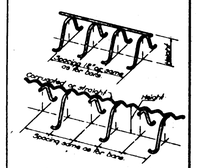
NOTE 1: Bar supports shall be placed on a one inch board, except where the foundation is composed of rock, form shots or a seal course. See Note No. 3.

Bar supports optional at these locations.

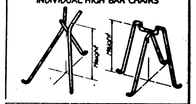
LOW SLAB BAR SPACERS & BOLSTERS



HIGH SLAB BAR SPACERS & BOLSTERS



INDIVIDUAL HIGH BAR CHAIRS



No.	Date	By	Description
1	5-68		No change for Add'l Spans
2	10-71	KH	Revised Bar Supports

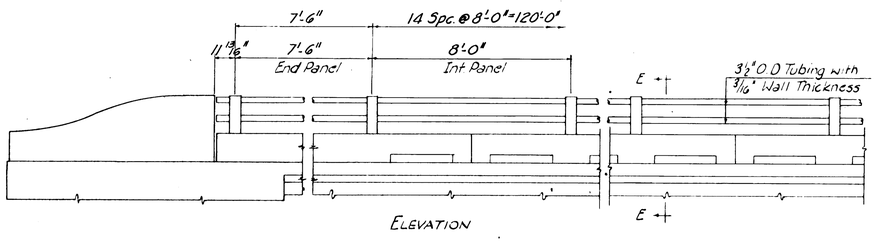
STATE HIGHWAY COMMISSION OF KANSAS

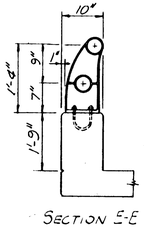
SUPPORTS AND SPACERS FOR REINFORCING STEEL

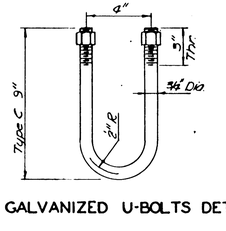
STD. NO. 610 SCALE — No Scale

REVISED BY E.E. DATE 7-52 APPROVED BY H.A. PASSED BY H.A.S.

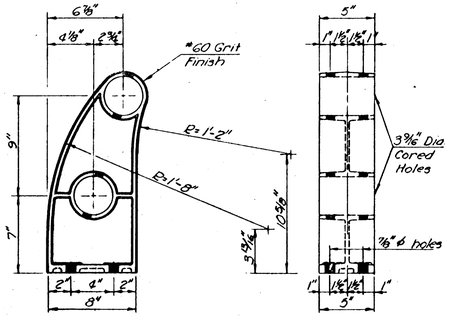
CHECKED BY C.T. APPROVED BY C.O. Chamberlain Chief Engr.



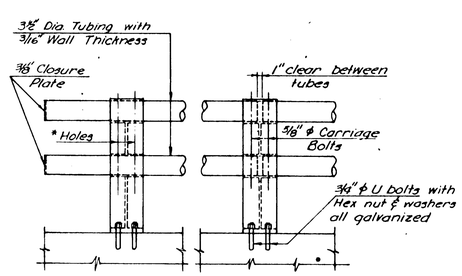




GALVANIZED U-BOLTS DETAILS



POST FOR TYPE C RAIL



*Holes: 1⅛" Square holes in post under head and 1⅛" round holes under nuts for ⅝" ϕ x 5½" carriage bolts with hex nuts.

ALUMINUM HANDRAIL DETAILS TYPE C

Notes: (Aluminum Handrail)

Handrail Tubing shall be fabricated in lengths to include two or three spaces.

Bolt holes in tubing of intermediate posts to be 1⅛" diameter. At other posts 1⅛" slotted holes centered on bolts @ 60°F.

All rail post flanges and webs shall have a minimum thickness of ⅝" with 3° draft. Nominal thickness of base shall be ¾" with minimum of ⅜".

Aluminum shims between concrete and post base may be used. The space below post shall be thoroughly caulked with Alumilastic compound or other approved material.

HANDRAIL DETAILS

SUMMARY OF BRIDGE QUANTITIES

Item	Abut. #1	Pier #1	Pier #2	Abut. #2	Superst.	Total	Unit
Excavation, Class III	100	—	—	100	—	200	Cu. Yds.
Class AAA(AE) Conc.	—	—	—	—	209.4	* 209.4	Cu. Yds.
Class A(AE) Conc.	74.7	23.0	23.0	74.7	—	195.4	Cu. Yds.
Reinforcing Steel	6,680	3,350	3,350	6,680	71,900	91,960	Lbs.
Prestr'sd. Conc. Beams	—	—	—	—	36	36	Each
Aluminum Handrail	—	—	—	—	254	254	Lin. Ft.
Steel Piles (10")	330	—	—	495	—	825	Lin. Ft.
Prestr'sd. Conc. Piles(16")	—	360	405	—	—	765	Lin. Ft.
Approach Slabs	—	—	—	—	—	2	Each

*NOTE: Superstructure concrete quantity includes allowance for concrete required to level up prestressed beam camber.

SUMMARY OF GRADING QUANTITIES

Item	Quan.	Unit
Large Trees	10	Each
Common Excavation	34,380	Cu. Yds.
Compaction of Earthwork	18,940	Cu. Yds.
Removal of Exist. Structure	L. S.	L. S.
Dumped Rock Rip Rap	2,150	Cu. Yds.

REV.	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

BAR SUPPORTS, BR. EXC., HANDRAIL SUMMARY OF QUANTITIES

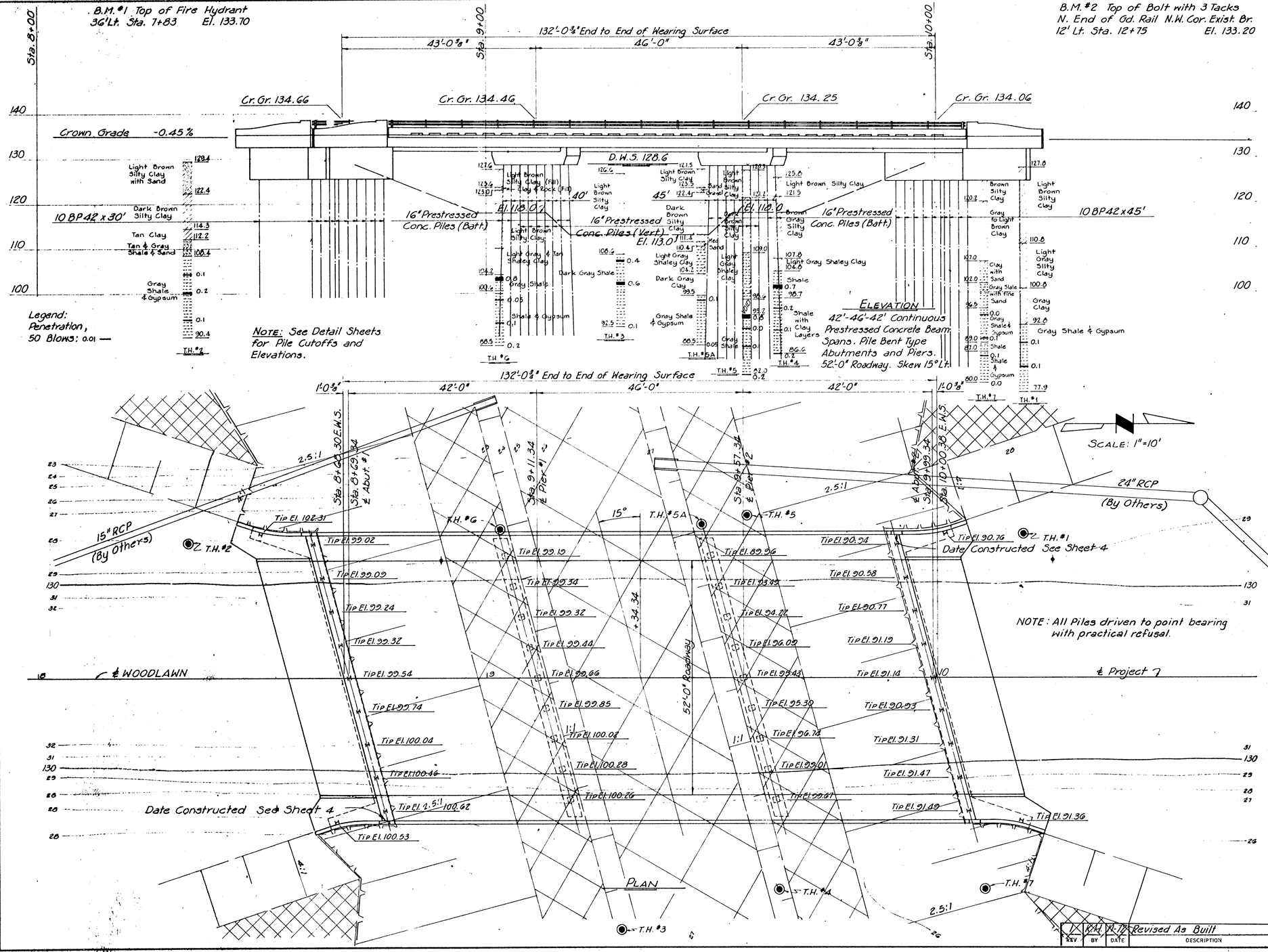
R. S. DELAMATER, CONSULTING ENGINEER, WICHITA, KANSAS — DATE SEPTEMBER 1971 — SCALE — DWG. NO. 79-P-12

1 14 S 2

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		19 71	3	12

B.M. #1 Top of Fire Hydrant
36' Lt. Sta. 7+83 El. 133.70

B.M. #2 Top of Bolt with 3 Tacks
N. End of Gd. Rail N.W. Cor. Exist. Br.
12' Lt. Sta. 12+75 El. 133.20



NOTE:

See Sheet 9 for General Notes for bridge construction.

Construction of the storm sewers as shown, to be built by others, will be coordinated with construction of this project to cause minimum interference with grading operations.

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

CONSTRUCTION LAYOUT

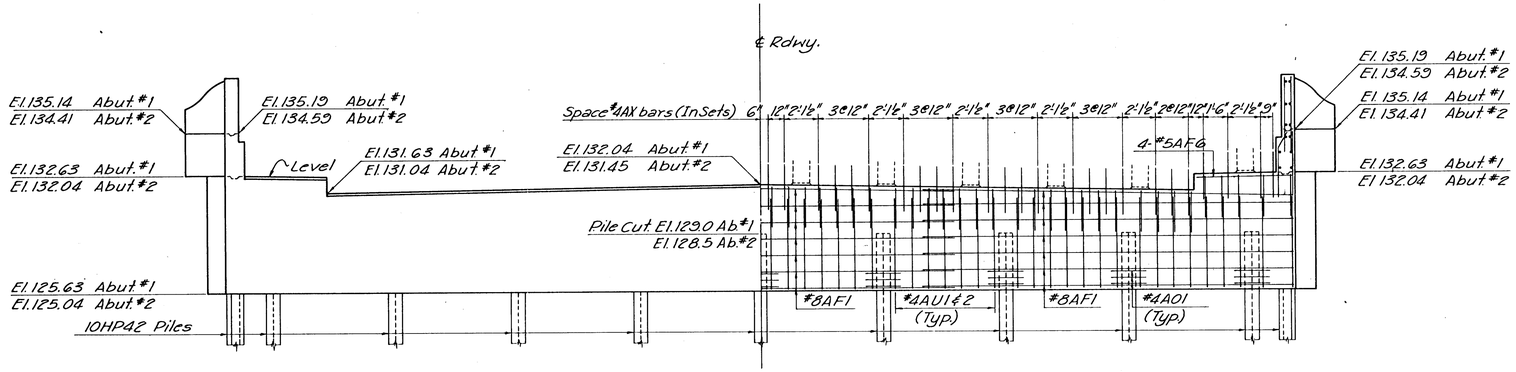
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE SEPTEMBER 1971
SCALE 1"=10'
DWG. NO. 79-P-3

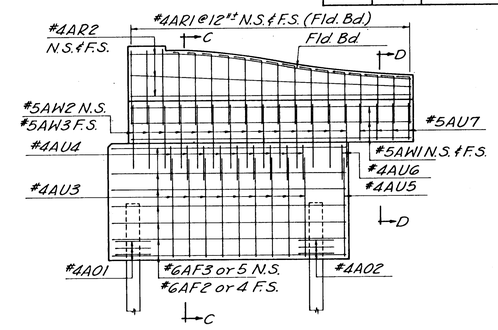
REV	BY	DATE	DESCRIPTION
1	KM	11-72	Revised As Built

SURV. | PLOT | DES. | TR. | T.P.

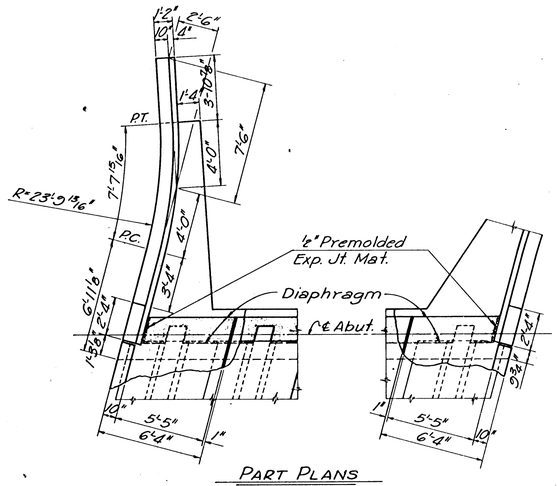
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	KANSAS		19 71	4	12



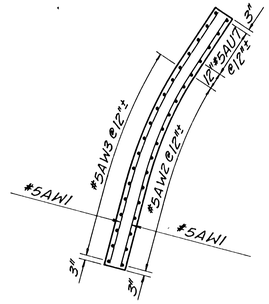
ELEVATION A-A



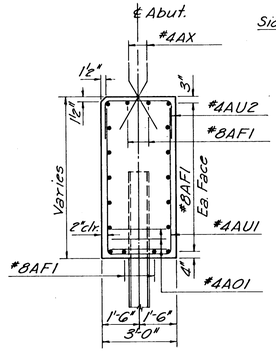
DEVELOPED VIEW OF WING



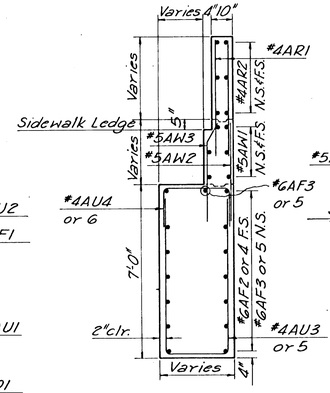
PART PLANS



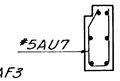
SECTION THRU WING



SECTION B-B



SECTION C-C



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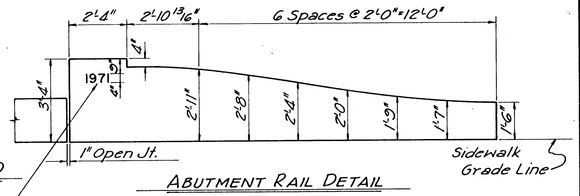
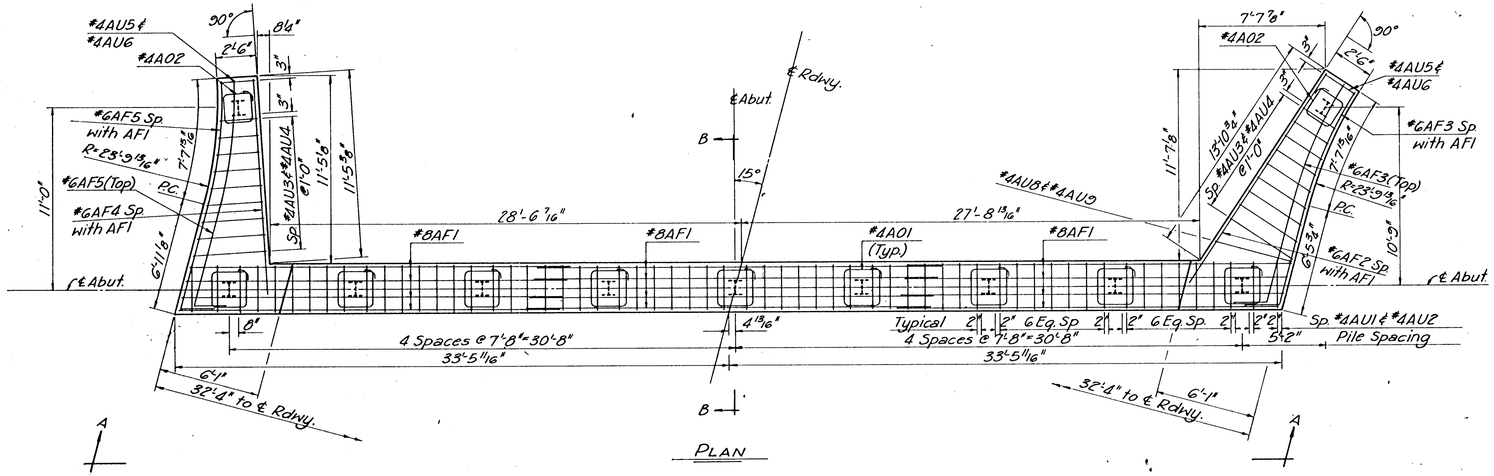


ABUTMENT RAIL DETAIL

Date Constructed, cast in rail as indicated on Sheet 3 ; numerals with stems about 8" wide and 6" deep.



PLAN

NOTES:

All concrete shall be Class A(AE). Bevel all exposed edges with a 3/4" triangular molding unless otherwise indicated.

All dimensions relative to placement of reinforceing are to centerline of bars unless otherwise noted.

Abutment piles shall be 10 BP 42 Steel Piles as indicated on Sheet 3 and detailed on Sheet 10.

See Sheet 9 for Bar List and Bending Diagrams.

DESIGN LOADING: HS20-44 A.A.S.H.O. Spec. (1969 Edition)

UNIT STRESSES:
fc - 1,200 p.s.i. Class A(AE)
f'c - 3,000 p.s.i. Class A(AE)
fs - 20,000 p.s.i. (Reinf.)

DESIGN PILE LOADING: 45 Tons per Pile - Abuts.

REV	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

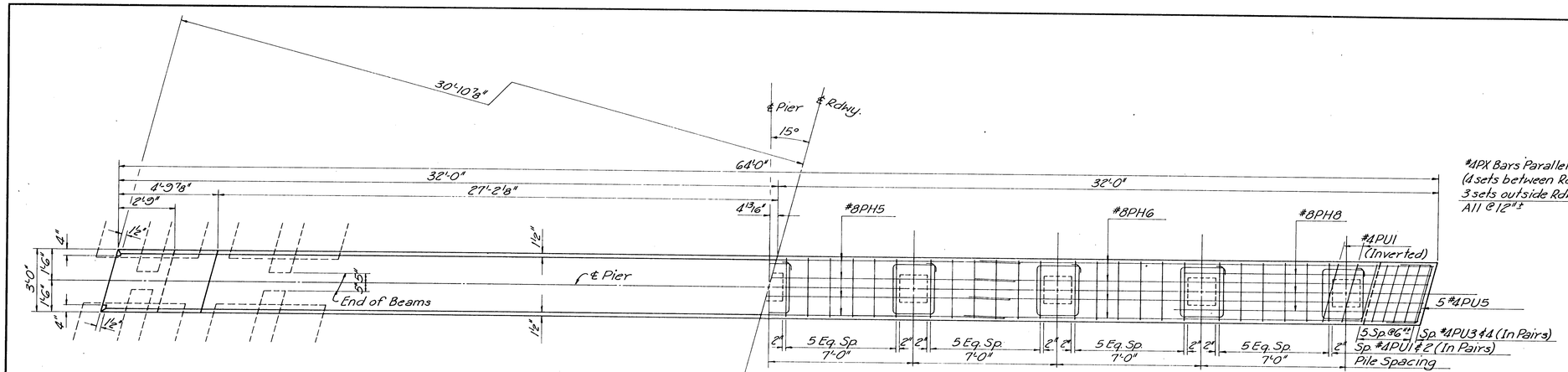
ABUTMENT DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE SEPTEMBER 1971
SCALE
DWG. NO. 79-P-4

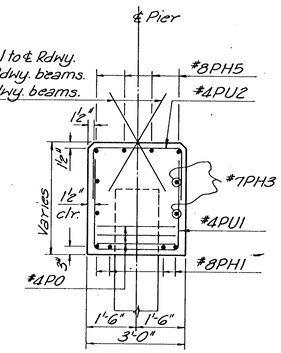
APP. | DES. | DR. EC 67 | TR. | QUAN. | CK. | PLOT | SURV.

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		1971	5	12

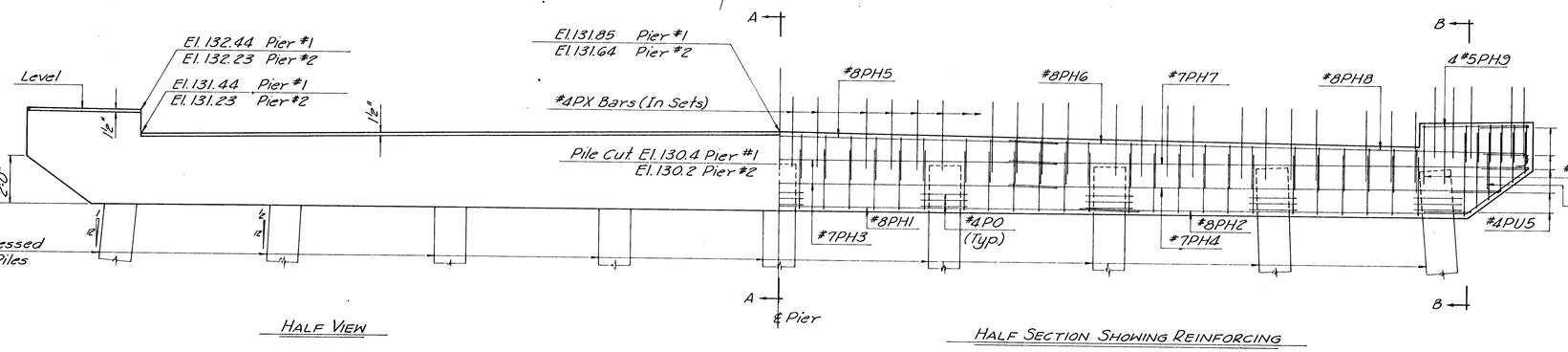


HALF PLAN

HALF PLAN SHOWING REINFORCING

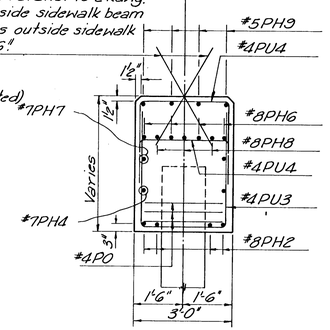


SECTION A-A



HALF VIEW

HALF SECTION SHOWING REINFORCING



SECTION B-B

NOTES:
All concrete shall be Class A(AE). Bevel all exposed edges with a 3/4" triangular molding unless otherwise indicated.

All dimensions relative to placement of reinforcing are to centerline of bars unless otherwise noted.

Pier piles shall be 16" prestressed concrete piles as indicated on Sheet 3 and detailed on Sheet 10.

See Sheet 9 for Bar List and Bending Diagrams.

DESIGN LOADING: HS20-44 A.A.S.H.O. Spec. (1969 Edition)

UNIT STRESSES: fc - 1,200 p.s.i. Class A(AE)
f'c - 3,000 p.s.i. Class A(AE)
fs - 20,000 p.s.i. (Reinf.)

DESIGN PILE LOADING: 55 Tons per Pile

REV.	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

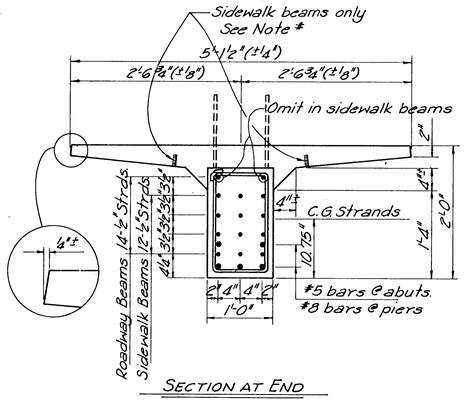
PIER DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

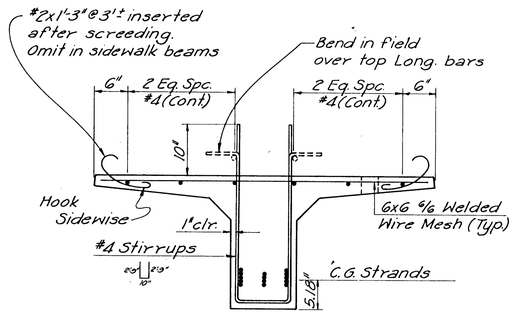
DATE SEPTEMBER 1971
SCALE
DWG. NO. 79-P-5

APP. CKD. TR. DR. E.C.S. DES. PLOT SURV.

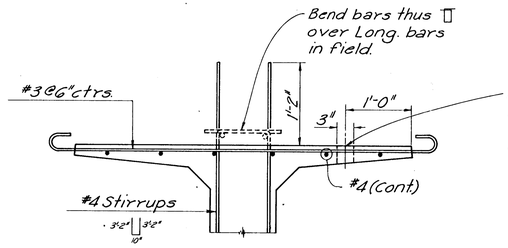
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		1971	6	12



SECTION AT END



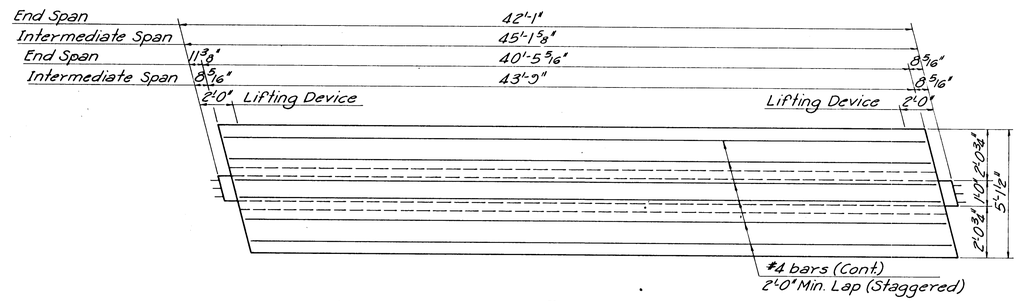
SECTION AT MID-SPAN



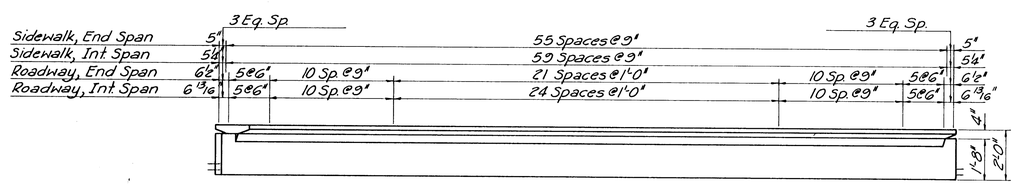
Provide 2"x3" blockout for utility hangers in west lines of sidewalk and roadway beams. See Sheet 7 for location and spacing.

PART SECTION
(Sidewalk Beam Only)

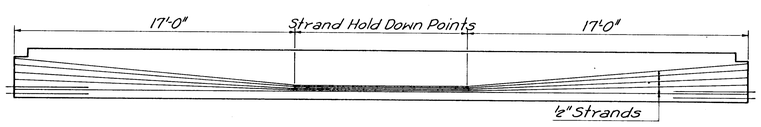
* NOTE: At Contractors option, threaded inserts or drilled holes for forms, where needed.



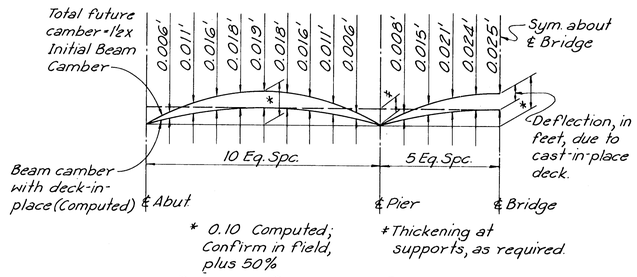
PLAN



ELEVATION



LONGITUDINAL SECTION THRU BEAM

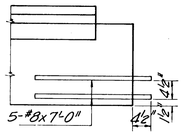


* 0.10 Computed; Confirm in field, plus 50%

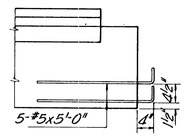
* Thickening at supports, as required.

DEADLOAD DEFLECTION DIAGRAM

NOTE: Set final crown grade at minimum thickness over high point of beams, and adjust back to supports as required.



END DETAIL AT PIERS



END DETAIL AT ABUTS.

DESIGN:
LOADING: HS20-44 A.A.S.H.O. Spec. (1969 Edition)

CONCRETE: f'c - 6,000 p.s.i. at 28 days
f'ci - 4,800 p.s.i. (Minimum Release Strength)

PRESTRESSING STEEL:
½" nominal diameter 7-wire high tensile type, uncoated, stress relieved strands having the following properties:
Minimum Ultimate Strength - 268,000 p.s.i.
Initial Stress - 70% Ult. - 187,600 p.s.i.
Initial Tension per strand - 28,910 lbs.

STEEL PLACEMENT: All dimensions shown relative to placement of reinforcing steel are to centerline of bars or strands unless otherwise noted.

HANDLING: Precast beams shall at all times be handled and transported in an upright position and points of support shall be approximately the same during transportation and storage as when the beam is in its final position.

See Sheet 7 for Beam Erection Notes.

REV.	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

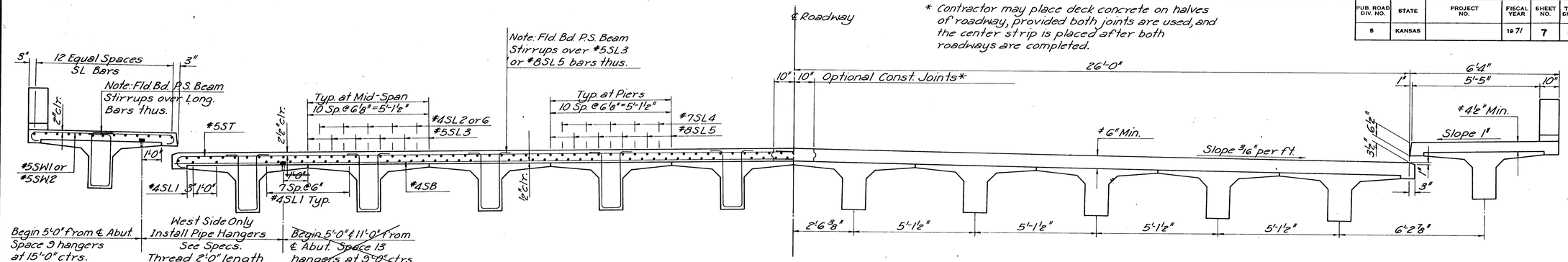
PRESTRESSED BEAM DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE SEPTEMBER 1971
SCALE ———
DWG. NO. 79-P-6

APP. | CKD. | TR. | DR. E.C.ET | DES. K.A.G. | PLOT | SURV.

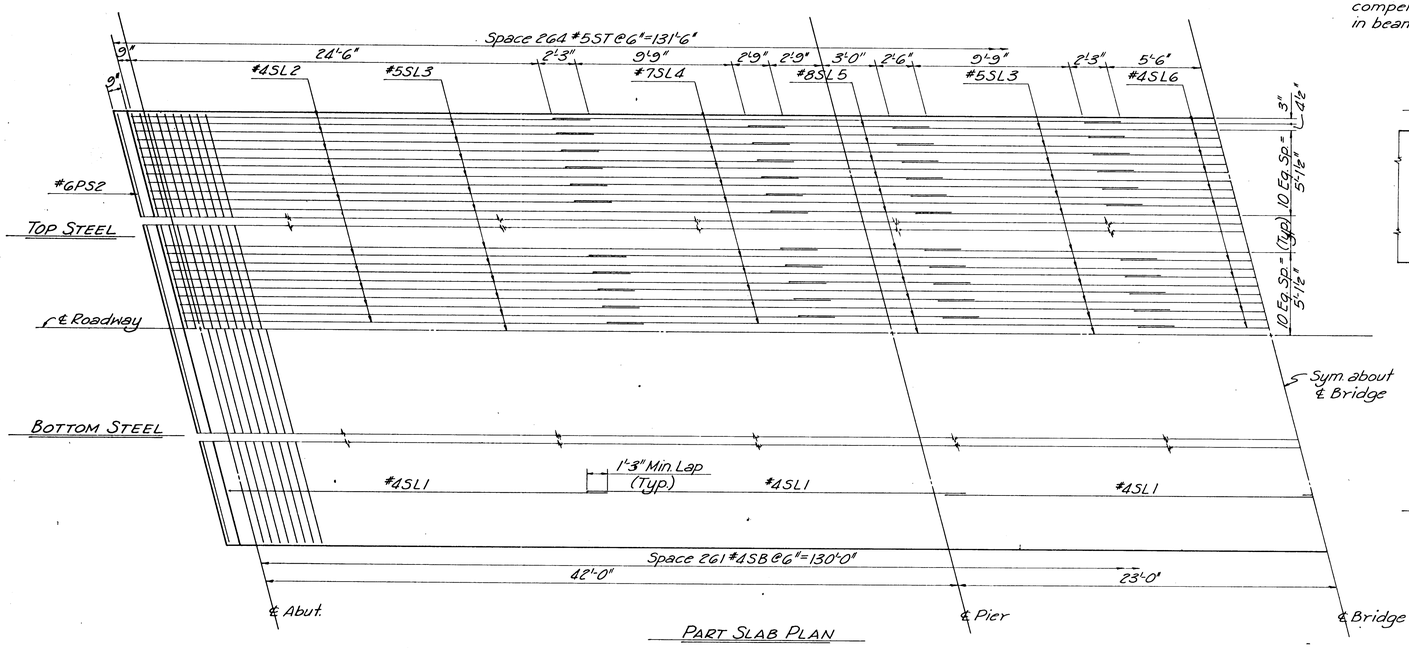
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		19 71	7	12



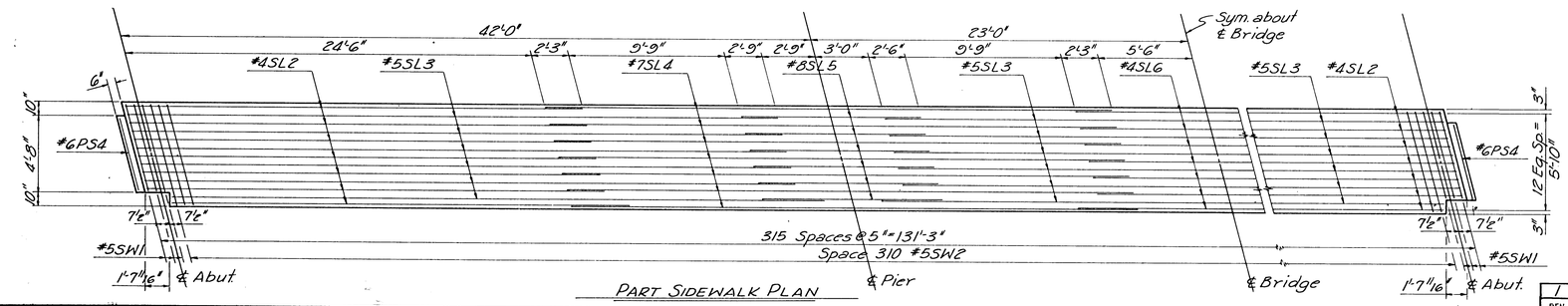
TYPICAL ROADWAY SECTION

* Contractor may place deck concrete on halves of roadway, provided both joints are used, and the center strip is placed after both roadways are completed.

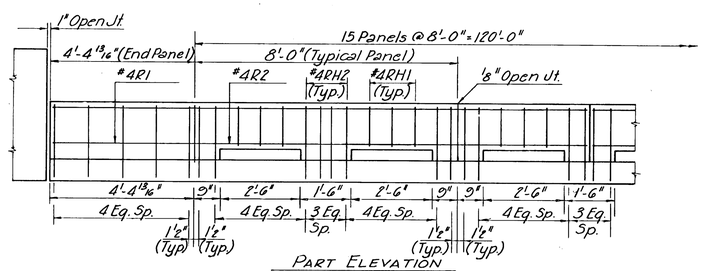
* Minimum thickness, adjust final crown grade as required to compensate for actual camber in beams.



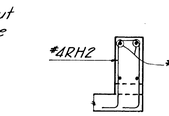
PART SLAB PLAN



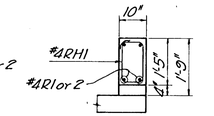
PART SIDEWALK PLAN



PART ELEVATION



SECTION THRU POST



SECTION THRU DRAIN

BEAM ERECTION NOTES:

Beams may be placed on the bridge at any time after the end of the curing period. Beams shall be placed and set as shown, with the tops conforming to the crown of the deck surface. Beams shall be set at the spacing indicated, and with each line of beams carefully aligned across the piers. In case of variation in length, eqalize the variation between the two ends of the beam.

Set each beam on a full bed of stiff grout, as noted; to insure proper posittioning, set each beam in position, without grout; lift one end at a time just sufficiently to place a grout bed, and set down on the grout.

Beam ends shall have full bearing on grout, only; they shall not be set on metal bars or rods. Temporary wood or metal wedges may be used to maintain grout thickness and prevent tipping, but if used shall be removed before diaphragm concrete is placed. Temporary short shores under the flanges to the top of the pier may be helpful in maintaining beam position until diaphragm concrete is placed and set up.

REV	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

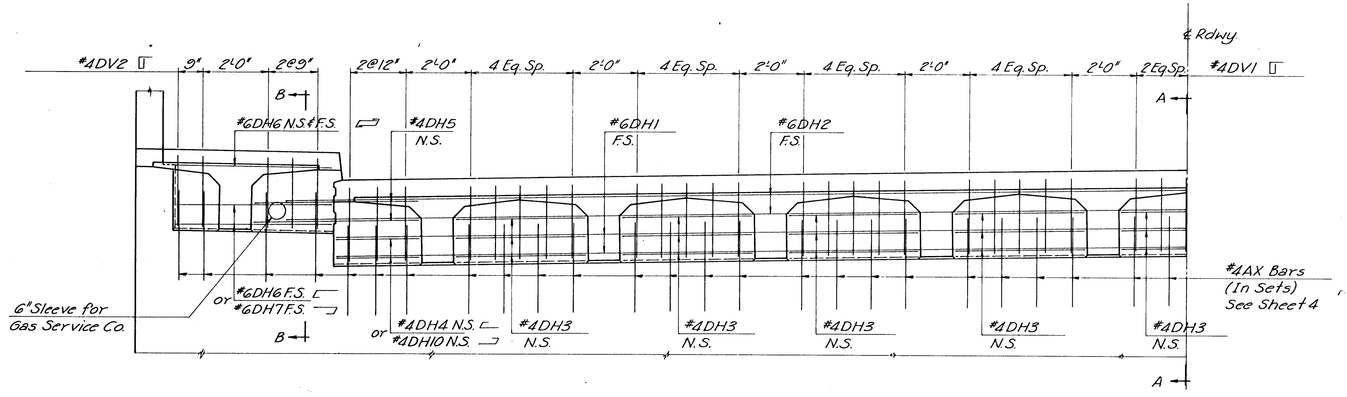
SUPERSTRUCTURE LAYOUT

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

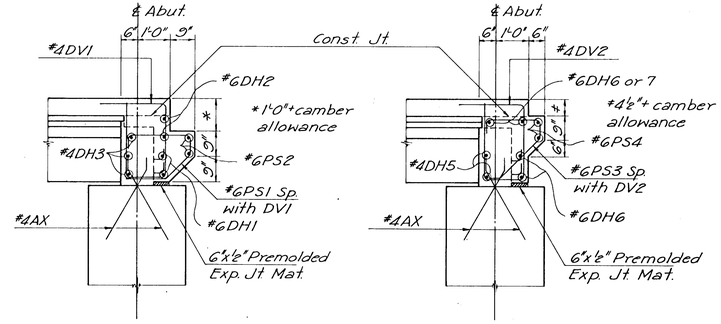
DATE SEPTEMBER 1971
SCALE —
DWG. NO. 79-P-7

APP. CHD. DR. E.C.B. TR. DES. PLOT. CHK.

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	KANSAS		19 71	8	12

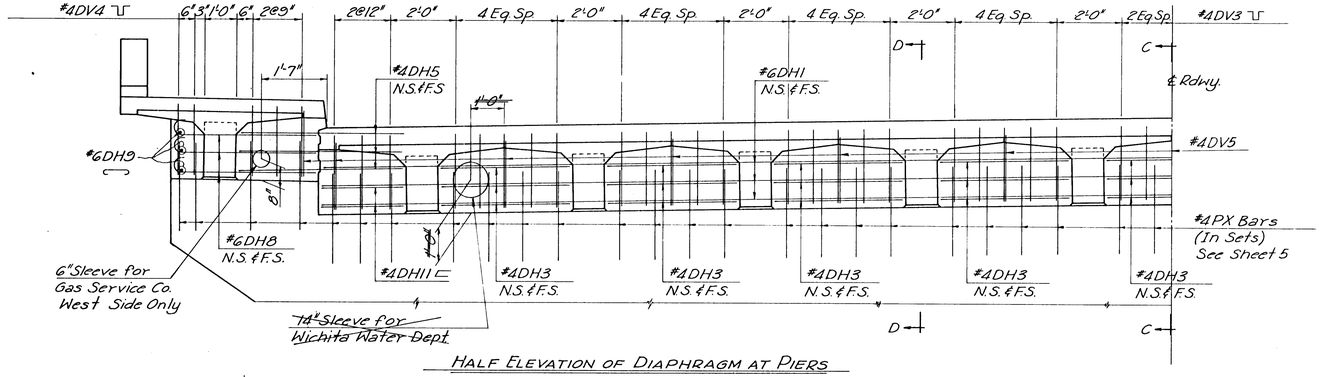


HALF ELEVATION OF CURTAIN WALL AT ABUTMENTS

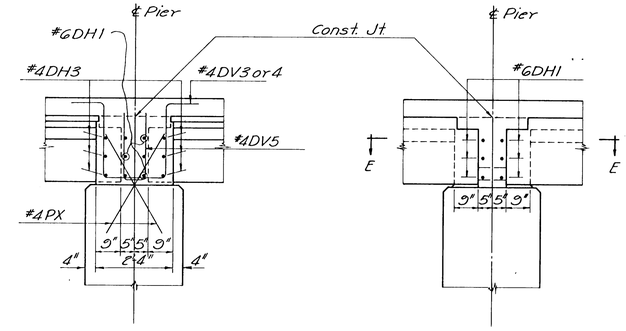


SECTION A-A

SECTION B-B

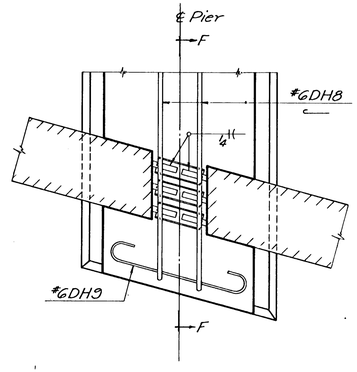


HALF ELEVATION OF DIAPHRAGM AT PIERS

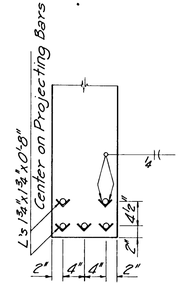


SECTION C-C

SECTION D-D



SECTION E-E



SECTION F-F

NOTE: Angles may be rotated for welding. Angles shall be subsidiary to bid item of Prestressed Concrete Beams.

NOTES:
Class AAA(AE) Concrete shall be used in the Superstructure, including Curbs and Diaphragms, except for Prestressed Beams. Bevel all exposed edges with a 3/4" triangular molding unless otherwise noted.

All dimensions relative to placement of reinforcing steel are to centerline of bars unless otherwise noted. See Sheet 9 for Bar List and Bending Diagrams.

See Sheet 7 for Beam Erection Notes.

Diaphragms shall not be placed until all beams have cured a minimum of 28 days. Topping shall be placed a minimum of three days after pier and abutment diaphragms are placed and shall preferably be placed continuously the full length of the bridge; if a joint is used it shall be at the quarter point short of the pier.

See Sheet 12 for Handrail Details

UNIT STRESSES: fc - 1,600 p.s.i. Class AAA(AE)
f'c - 4,000 p.s.i. Class AAA(AE)
fs - 20,000 p.s.i. (Reinf.)

REV	BY	DATE	DESCRIPTION
1	K.H.	11-12	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER
GYPSUM CREEK

SUPERSTRUCTURE DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE SEPTEMBER 1971
SCALE ———
DWG. NO. 79-P-8

APP. JGL
CKD.
DR. E.C.G.
DES.
PLOT
SURV.

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		19	9	12

BAR LIST

ONE ABUTMENT

STRAIGHT BARS				BENT BARS			
Mark	No. Req.	Size	Length	Mark	No. Req.	Size	Length
AF1	54	8	24'-6"	AF3	8	6	16'-0"
AF2	7	6	15'-6"	AF5	8	6	16'-6"
AF4	7	6	13'-0"				
AF6	8	5	6'-0"	A01	27	4	11'-0"
				A02	6	4	9'-0"
				AU1	60	4	13'-8"
				AU2	60	4	7'-4"
				AU3	18	4	*
AR1	72	4	4'-0"	AU4	18	4	*
AR2	12	4	17'-0"	AU5	2	4	13'-2"
				AU6	2	4	4'-10"
				AU7	8	5	5'-4"
				AU8	1	4	17'-8"
				AU9	1	4	10'-0"
AW2	28	5	4'-0"				
				AW1	12	5	16'-11"
				AW3	28	5	4'-0"
				AX	100	4	5'-0"
				*See Bending Diagrams			

ONE PIER

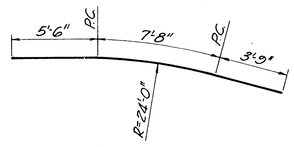
				PH2	8	8	19'-6"
PH1	4	8	30'-0"				
PH3	4	7	24'-0"				
PH4	4	7	21'-0"	PH6	8	8	22'-10"
PH5	4	8	24'-0"				
PH7	4	7	22'-0"	PH8	6	8	12'-10"
PH9	8	5	4'-6"				
				PO	27	4	11'-4"
PX	104	4	3'-6"	PU1	52	4	7'-9"
				PU2	48	4	6'-3"
				PU3	12	4	*
				PU4	14	4	5'-3"
				PU5	10	4	6'-9"
				*See Bending Diagrams			

SUPERSTRUCTURE

				DV1	102	4	7'-9"
SL1	456	4	23'-0"	DV2	20	4	7'-5"
SL2	132	4	27'-6"	DV3	102	4	8'-7"
SL3	213	5	40'-0"	DV4	20	4	8'-3"
SL4	152	7	35'-0"	DV5	26	4	4'-3"
SL5	142	8	11'-0"				
SL6	66	4	15'-6"	ST	528	5	28'-4"
SB	522	4	27'-9"	SW1	12	5	6'-0"
				SW2	620	5	7'-5"
DH1	48	6	19'-6"				
DH2	12	6	21'-0"	DH4	4	4	4'-6"
DH3	162	4	3'-9"	DH6	12	6	7'-5"
DH5	32	4	5'-0"	DH7	4	6	7'-5"
				DH8	24	6	5'-2"
				DH9	12	6	3'-4"
R1	16	4	4'-2"	DH10	4	4	4'-6"
R2	120	4	7'-9"	DH11	8	4	7'-0"
				RH1	180	4	4'-2"
PS2	12	6	19'-6"	RH2	260	4	5'-7"
PS4	8	6	4'-6"	PS1	102	6	5'-4"
				PS3	20	6	5'-1"

ONE APPROACH SLAB

CT1	2	6	12'-0"	C1	26	4	3'-6"
AS1	76	8	11'-8"				
AS2	26	5	29'-0"				
				SX1	57	4	7'-8"
SX2	12	8	30'-0"				



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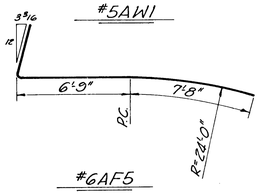

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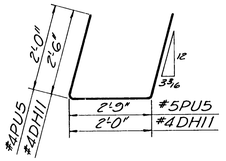

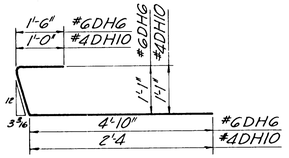

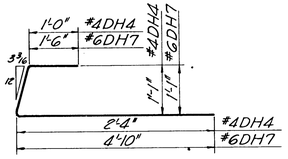

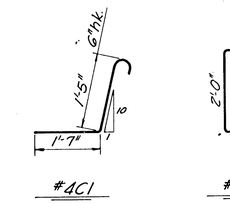

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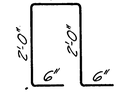

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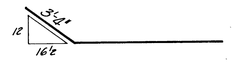

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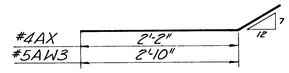

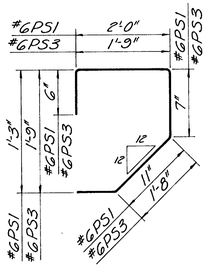

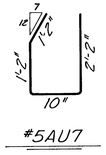

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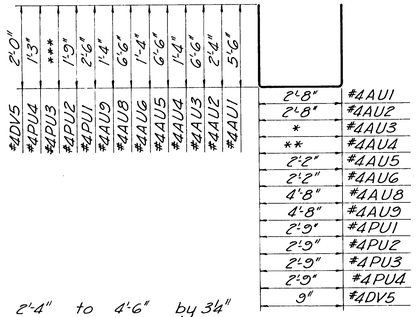
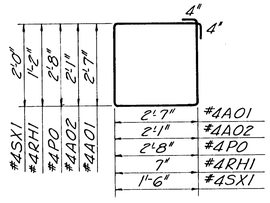
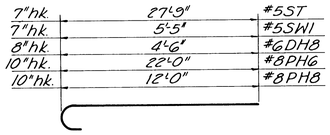
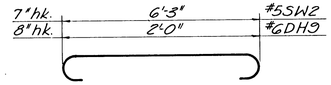
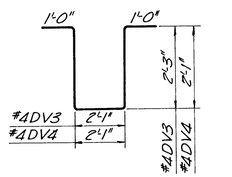


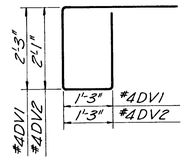
* Incr. from 2'-4" to 4'-6" by 3¼"
Cut 4 Ea. Lgth.
** Incr. from 2'-4" to 4'-6" by 3¼"
Cut 4 Ea. Lgth.
*** Incr. from 1'-7½" to 3'-6" by 4½"
Cut 4 Ea. Lgth.











NOTES:
All dimensions shown in the bending diagrams are out to out of bars unless otherwise noted.

Note that the bar list for Approach Slab is furnished for information only; bar quantities are not included in Reinforcing Steel pay item.

GENERAL NOTES:

EXISTING STRUCTURE: The Contractor shall remove the existing structure, consisting of 100', three span steel beam bridge, on wood pile piers and abutments, with laminated timber deck; salvage to become the property of the Contractor, to be removed from the job.

COMPACTED EMBANKMENTS: The Contractor shall construct the embankments and the berms at the abutments as shown on Sheet No. 3 and on the Contour Map prior to construction of the bridge.

BRIDGE EXCAVATION: All bridge excavation shall be Class III. See Sheet 12 for limits of pay excavation.

SOUNDINGS: Sounding information shown on Sheet 3 is as obtained from borings made in the field, by Engineering Testing Company, and represents the best information available to the City of Wichita.

PILES: Piles shall be 16" prestressed concrete in piers and 10" steel piles in abutments, as described and detailed on Sheet 10. Piles shall be driven to the penetration shown unless in the opinion of the Engineer such penetration cannot be secured without injury to the pile. All piles shall be driven to a minimum computed bearing value of 45 tons per pile in abutments, 55 tons per pile in piers.

PILE DRIVING: All piles shall be driven with a steam or diesel hammer; if a diesel hammer is used, sufficient hammer data shall be provided to permit rating by the Engineer before driving starts.

CONCRETE: Class A(AE) concrete shall be used in abutments and piers, except for prestressed piles. Class AAA(AE) concrete shall be used in the superstructure, including curbs and diaphragms, except for prestressed beams. Bevel all exposed edges with a 3/4" triangular molding unless otherwise noted.

REINFORCING STEEL: All dimensions relative to reinforcing steel placement are to centerline of bars unless otherwise noted. All dimensions shown in bending diagrams are out to out of bars.

UTILITY HANGERS: Concrete inserts for pipe hangers for gas and water lines are to be furnished by the Contractor and installed as shown and detailed.

DESIGN:
Design Loading: HS20-44 A.A.S.H.O. Spec. (1969 Edition)
Unit Stress: fc - 1,600 psi Class AAA(AE)
fc - 1,200 psi Class A(AE)
fs - 20,000 psi (Rein.)
f'c - 4,000 psi Class AAA(AE)
f'c - 3,000 psi Class A(AE)
Pile Loading: 55 tons per pile in piers
45 tons per pile in abutments

QUANTITIES: All quantities shown on these plans shall be used as final pay quantities except that measurement and payment for piling, common excavation and compaction of earthwork shall be in accordance with the specifications.

GENERAL REQUIREMENTS: It is the intention of these plans and specifications that construction of the bridge shall be in accordance with applicable standard specifications and requirements of the Kansas State Highway Commission and that materials shall conform to these specifications unless otherwise noted.

REV	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

CITY OF WICHITA, KANSAS
R. W. LINN, P.E., CITY ENGINEER

WOODLAWN BRIDGE OVER GYPSUM CREEK

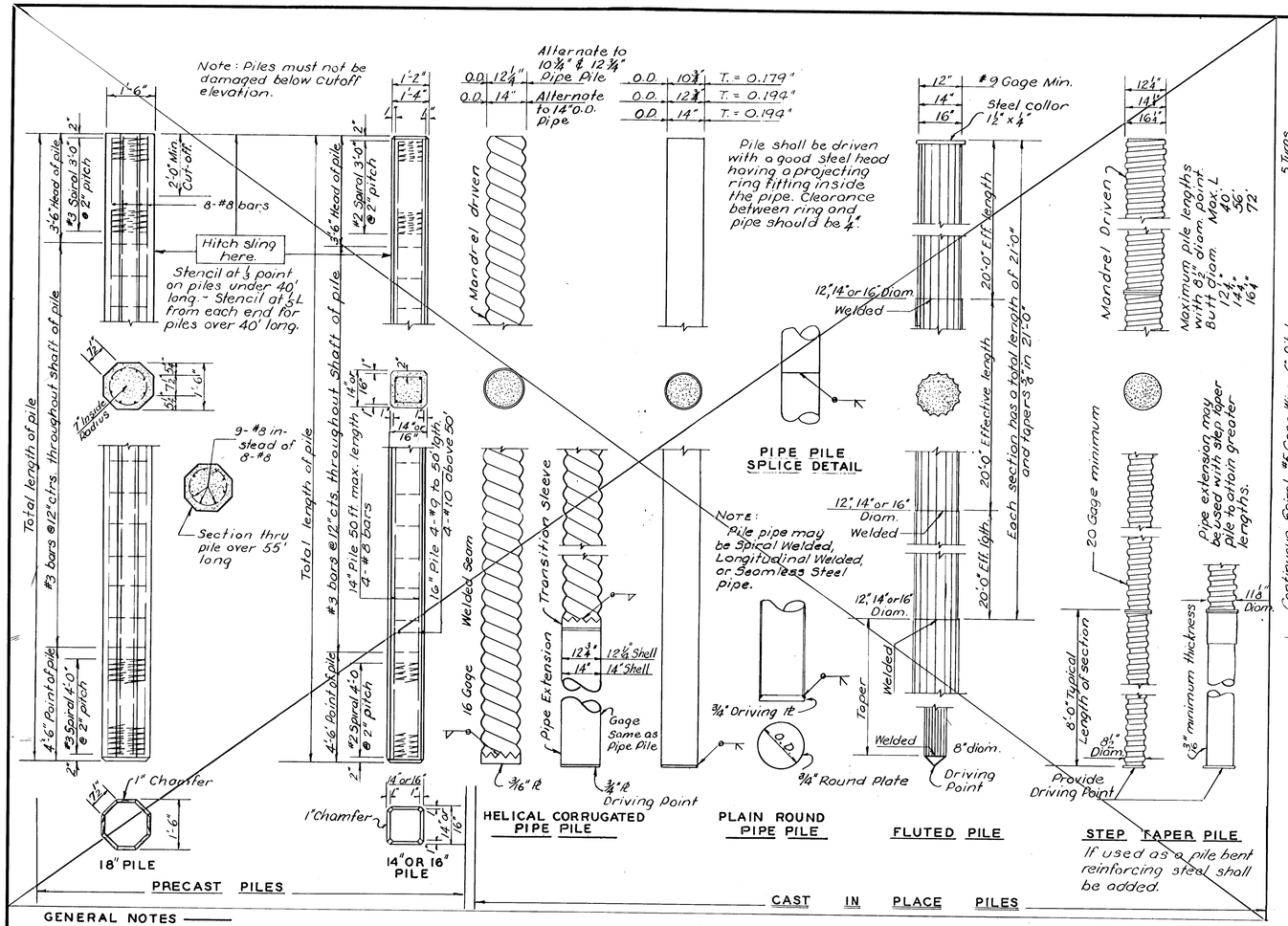
AUXILIARY DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE SEPTEMBER 1971
SCALE —
DWG. NO. 79-P-9

APP. NW
CHD.
PE
DR. E.C.E.T.
DES.
CHKD.
PLOT
SURV.

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		1971	10	12



PILES

STEEL PILES	EQUIVALENT CONCRETE PILES					
	PRECAST	PIPE	FLUTED	STEPTAPER	PRE-STRESSED	*
10BP42	14"	10¾"	12"	12¼"	12"	12¼
12BP53	16"	12¾"	14"	14¼"	14"	12¼
14BP73	18"	14"	16"	16¼"		14"

* Helical Corrugated Pipe Shell.

CONCRETE PILES

PIPE PILE	EQUIVALENT CONCRETE PILES					
	PRECAST	FLUTED	STEPTAPER	PRE-STRESSED	*	
10¾"	14"	12"	12¼"	12"	12¼"	
12¾"	16"	14"	14¼"	14"	12¼	
14"	18"	16"	16¼"		14"	

GENERAL NOTES

1. Specifications.
Standard Specifications for State Road and Bridge Construction as currently used by the State Highway Commission of Kansas. (Ed. 1966).

2. Choice of Piles.
Where Piles are specified, the Contractor may elect to use either the Steel Pile specified on the plans or the equivalent precast concrete, cast-in-place concrete or prestressed concrete pile shown on the construction layout sheet.
Where Concrete Piles are specified the Contractor may elect to use either the size and type concrete pile specified on the plans or the equivalent precast concrete, cast-in-place concrete or prestressed concrete pile shown on the construction layout sheet.
Other types of concrete piles not shown here are subject to the approval of the Engineer. Prestressed Concrete piles, Helical Corrugated Pipe shell or Step Taper piles shall not be used for abutments without expansion joints on bridges more than 150 ft. long.

3. Concrete.
All concrete for Precast and Cast-in-place shall be Class A Concrete. fc' = 3,000 p.s.i.. See Article G1-7(a) Standard Spec's.
Concrete for Prestressed Concrete piles shall be Class AAA Concrete. fc' = 4,000 p.s.i., See Article G1-7(b) Standard Spec's.

4. Reinforcement
Reinforcing bars shall be new billet steel of intermediate grade without exception. Hoops and spirals may be either plain or deformed bars.

5. Precast Piles
Precast piles shall conform to the requirements of Article G1-7(a). Standard Specifications.

6. Cast-in-Place Shells.
Steel Shells for Cast-in-place Concrete Piles shall conform to the requirements of Section U-7. Standard Specifications.
All piles driven without mandrel use gages or thicknesses shown above, except fluted pile use No. 9 gage minimum. Piles driven with mandrel shall be of sufficient strength and thickness to withstand driving without injury and to resist harmful distortion and/or buckling due to soil pressure after the mandrel is removed.
Improperly driven, broken or otherwise defective shells shall be removed and replaced or otherwise corrected to the satisfaction of the Engineer by removal and replacement, or the driving of an additional pile at no extra cost.
The Contractor shall maintain on the job at all times prior to and during the filling of the shells, a light suitable for visual inspection of the pile.

7. Steel Pile
Steel Pile shall conform to requirements of Subsection U5-8 Standard Specifications.

8. Pile Points
Pile points shall conform to the dimensions shown and requirements of Article U7-2(c) Standard Specifications. Pile points shall be mill welded to pile.

9. Welding
All field welding shall meet the requirements of Subsection G1-6 Standard Specifications.

10. Paint
All paint shall comply with Subsection Q3-8 Standard Specifications. Or as specified on the plans.

11. Test Piles.
Test Piles shall be driven where called for on the Bridge plans. All test piles shall be located so that they will become part of the Bridge Pile system.

12. Splices.
Splices for Steel Piles and Shell Piling shall be in accordance with details shown on this Sheet and shall comply with Subsection G1-6 Std. Spec's.
Precast Concrete Pile splices shall comply with Subarticle G1-7(d)(1). Std. Specifications.
Prestressed Concrete Pile splices shall be made in accordance with the manufacturers recommendations, subject to the approval of the Engineer.

13. Driving Formula.
Driving Formula shall conform to Subarticle G1-4(d)(3).

14. Mill Test Reports
Steel Piles test reports shall comply with Art. U5-8(c) Standard Specifications.
Steel Shells test reports for cast-in-place piles shall comply with Subsection U7-4 Std. Spec's.

15. Payment
Payment for all piles shall comply with Subsec. G1-9. Std. Specifications.

NO.	DATE	REVISIONS	BY	APP'D
5	8-26-66	Revise Entire Gen. Note	J.C.L	E.E.W.
4	4-8-66	Add Longitudinal Welded Pipe pile	J.C.L	T.W.O.
3	12-4-61	Revise Choice of Pile note, 3rd ¶.	J.C.L	T.W.O.
2	3-27-61	Revise Pipe Pile General Note	J.C.L	T.W.O.
1	1-24-61	Remove hole in Prestressed Conc. Pile	J.C.L	T.W.O.

REV	BY	DATE	DESCRIPTION
1	K.H.	11-72	Revised As Built

STATE HIGHWAY COMMISSION OF KANSAS

STANDARD PILE DETAILS

STD. NO. 102

SHEET NO.	OF	SCALE	APP'D	
DESIGNED		DETAILED	QUANTITIES	TRACED
DESIGN CK		DETAIL CK	QUAN. CK	TRACE CK