CITY OF WICHITA

SEDGWICK COUNTY, KANSAS

WOODMAN BRIDGE

PROJECT NO. DAKB 576042

INDEX OF SHEETS

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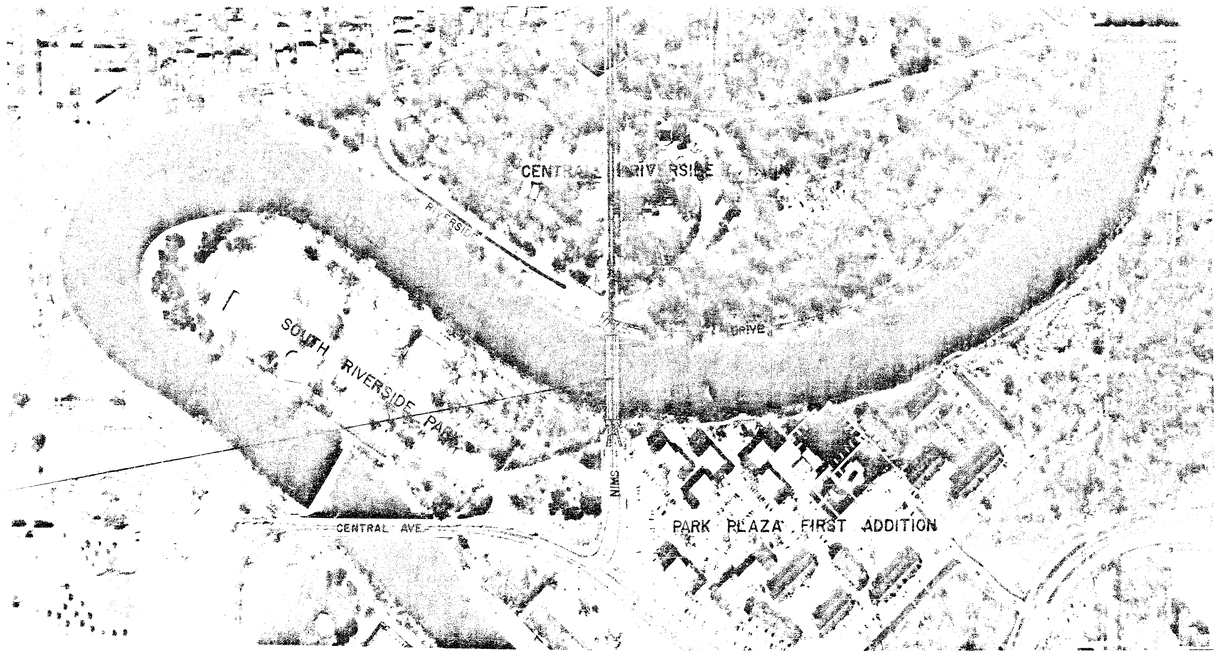
14	LIGHTING DETAILS
15	STANDARD PILE DETAILS
16	BRIDGE EXCAVATION
17	SUPPORTS AND SPACERS FOR REINFORCING STEEL

STA 11+75
46-3 AT 52'-45' CONT R.C.
SLAB SPANS 28'-0"
ROADWAY AND TWO 8'-0"
SIDEWALKS

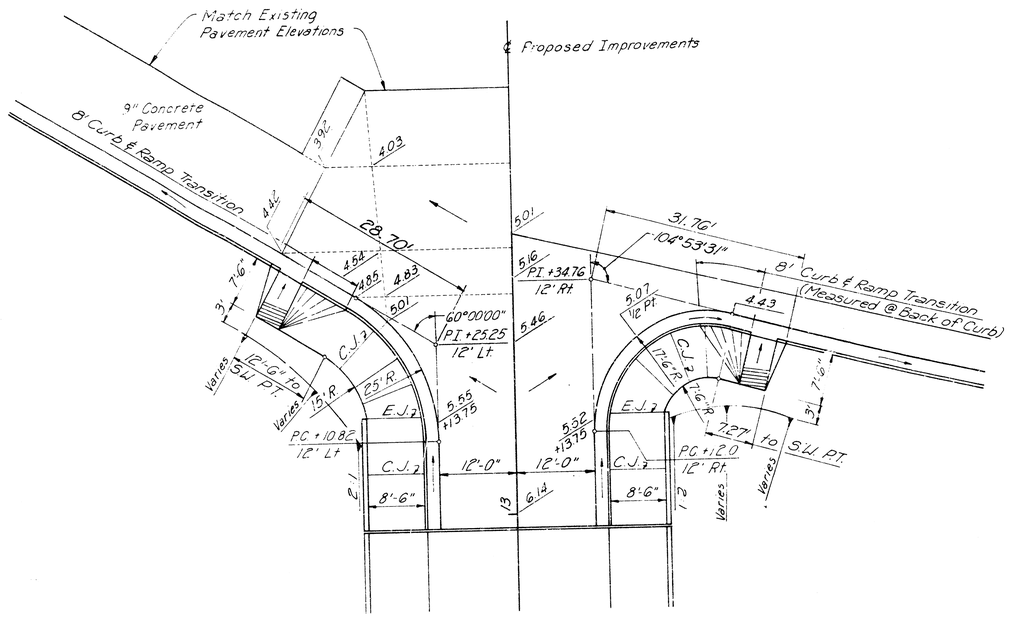


SCALE 1" = 200'

LITTLE ARKANSAS RIVER CROSSING

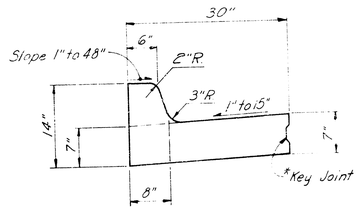
1977

PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DAKB 576042	1977	3	17



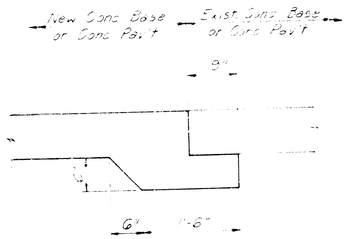
NORTH BRIDGE APPROACH

PAVING & SIDEWALK DETAILS

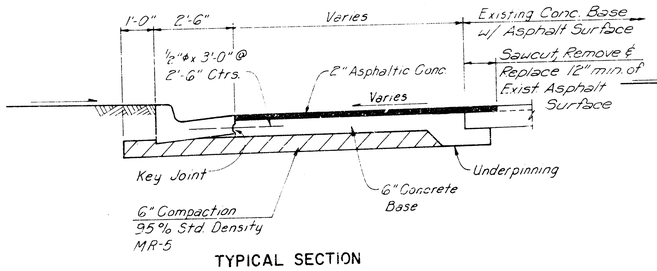


COMBINED CURB & GUTTER

* Omit where Curb & Gutter abuts full depth Asphalt Pavement.



UNDERPINNING DETAIL

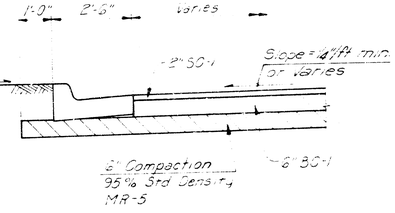


TYPICAL SECTION

CONCRETE BASE WIDENING

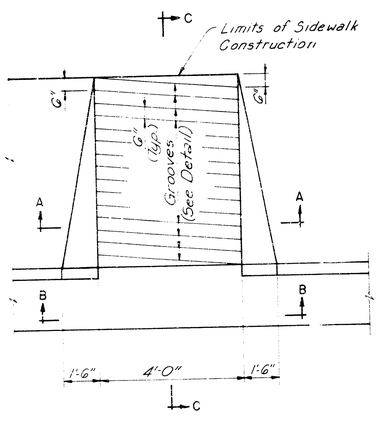
AT

SOUTH BRIDGE APPROACH

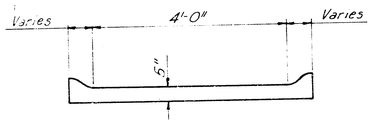


TYPICAL HALF SECTION

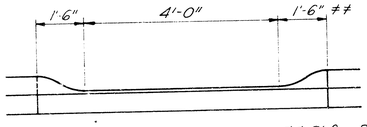
FULL DEPTH ASPHALT



SIDEWALK RAMP DETAILS

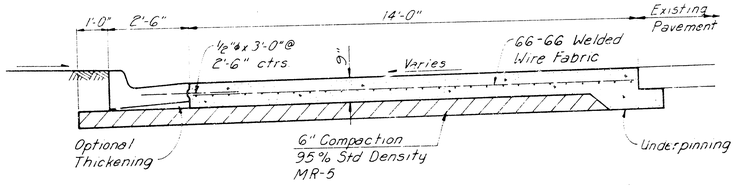


SECTION A-A



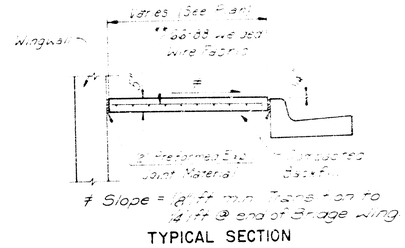
SECTION B-B

** 8' for Ramps @ N. Abut. See detail this sheet



TYPICAL SECTION

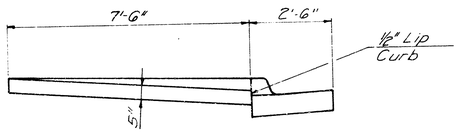
CONCRETE PAVEMENT



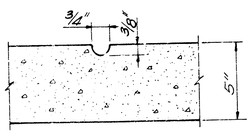
TYPICAL SECTION

5" SIDEWALK

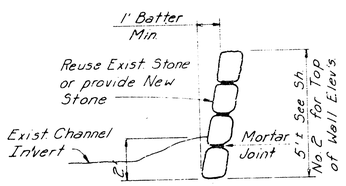
** May be omitted in sidewalk outside the Bridge Wings at South Abutment. Extend mesh through Contraction Joints.



SECTION C-C



GROOVE DETAIL



STONE MASONRY

WALL DETAIL

Note: New stone shall be comparable in size and shape to the existing stone and shall be as approved by the Engineer.

CITY OF WICHITA KANSAS

R.W. LINN, P.E. CITY ENGINEER

SURFACING DETAILS

WOODMAN BRIDGE

OVER THE LITTLE ARKANSAS RIVER

CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

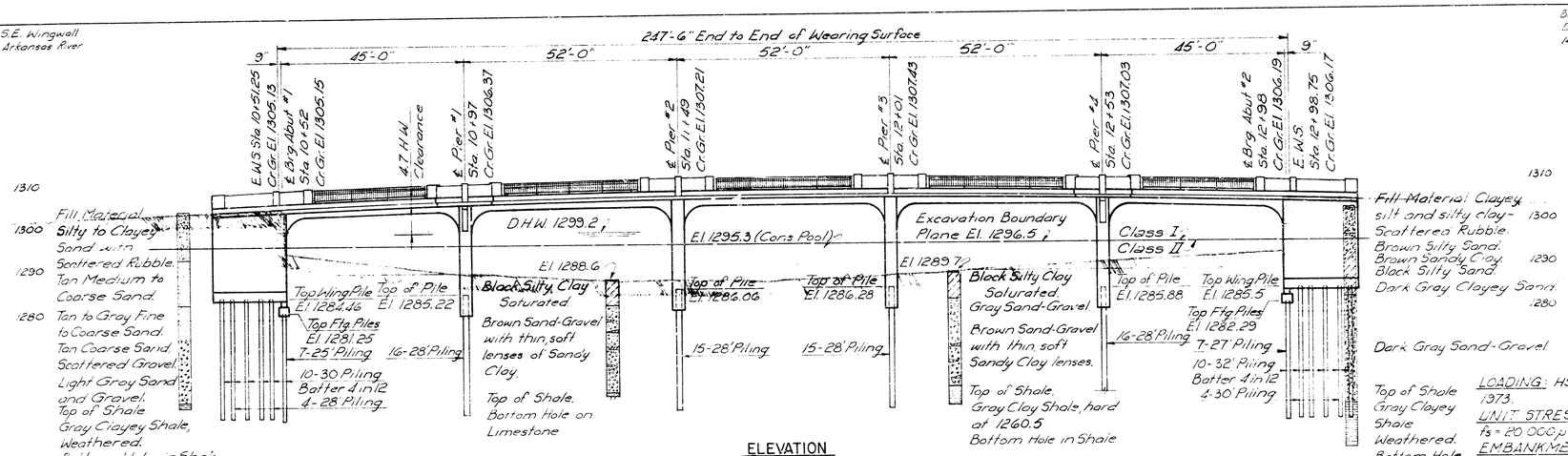
WICHITA, KANSAS

Designed by	Checked by	
Drawn by	Date	Scale

BM #1 Cut 5 @ S.E. End S.E. Wingwall
Nims St. Bridge @ Little Arkansas River
El. 1305.646

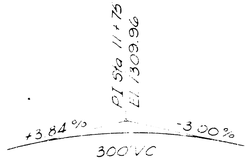
BM #2 RR Spike in E Side of N Pole of
Dbl. Transformer & Power Pole Sta
14+42' Rt. (Ground Level) El. 1306.025

Project No. DAKB 576042



ELEVATION

45'-3" @ 52'-45' Cont.; RC Slab spans
U-Type Abutments, Pile Bent Type Piers
28'-0" Roadway and two 8'-0" Sidewalks



VERTICAL CURVE DATA

GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications Edition of 1973.

UNIT STRESSES: f'c = 4,000 psi (fc = 1,600 psi), fs = 20,000 psi.

EMBANKMENT: The Contractor shall complete the embankment after the abutments have been constructed.

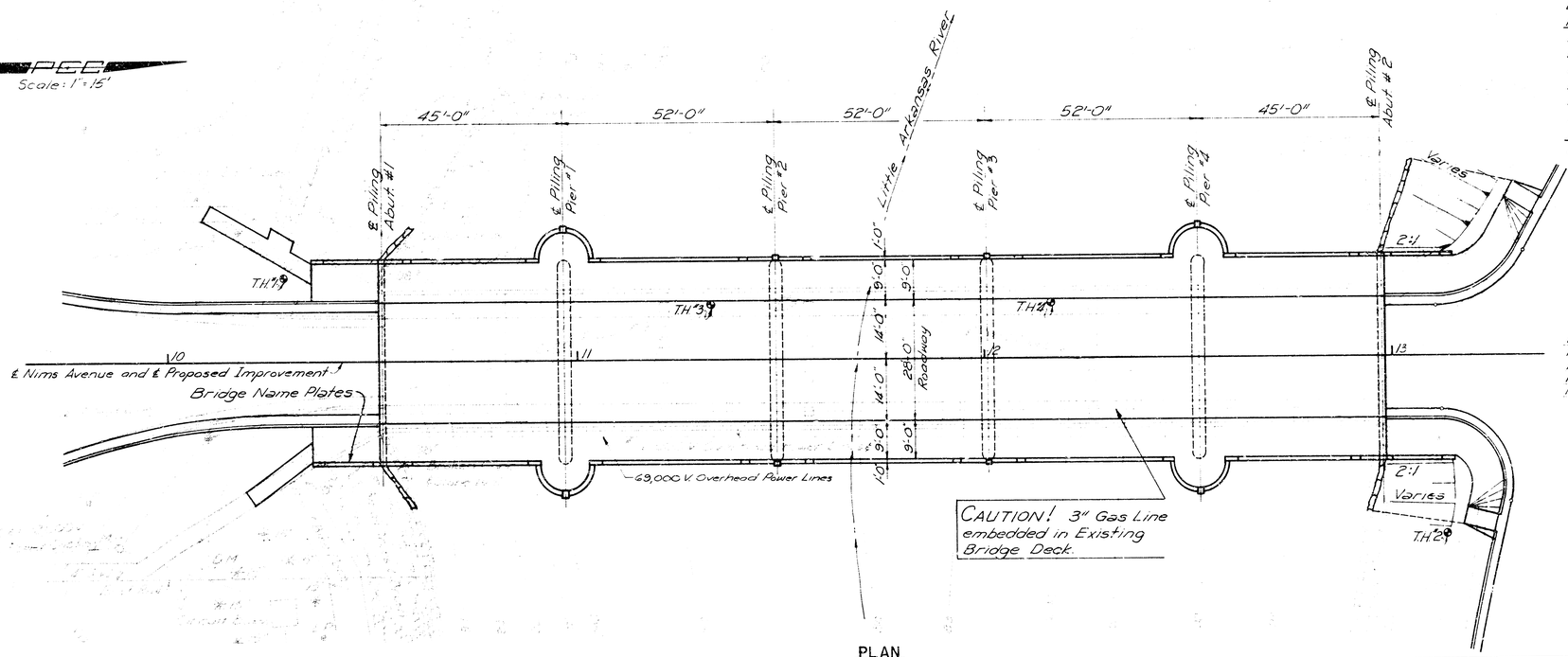
BRIDGE EXCAVATION: Elevation 1296.5 shall designate the Excavation Boundary Plane of Class I and II Excavation. Class I above the Plane, Class II below. See Bridge Excavation sheet for limits of pay excavation.

SOUNDINGS: The soundings shown on these plans are taken from notes obtained in the field and represent the best information to the City of Wichita Kansas. The logs of these soundings are available for review by prospective bidders at the office of the City Engineer; at the Consulting Engineer's Office, 1440 E. English or at Allied Laboratories, 203 South Ellis.

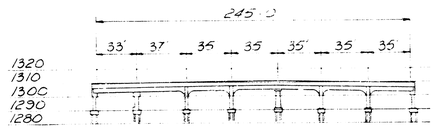
PILES: All piles shall be driven to a penetration into shale unless in the opinion of the Engineer such penetration cannot be obtained without injury to the pile. All piles shall be driven to a minimum computed bearing value as follows: Abutment Wing Footings 39 Tons/Pile; Abutment Frontwall 48 Tons/Pile; Piers 51 Tons/Pile.

REMOVAL OF EXISTING STRUCTURE: The Contractor shall remove the existing structure (T @ 35' ± Concrete T-beam spans, concrete abutments and piers) prior to construction of the new bridge. Existing piles shall be removed to a minimum elevation of 1285.00.

Scale: 1" = 15'



PLAN



EXISTING BRIDGE

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

CONSTRUCTION LAYOUT

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Checked by	
Drawn by	Date	Job No.

DAKB 576042 77 5 17

REINFORCING STEEL

STRAIGHT BARS

Mark	No	Size	Length
A1	88	#8	14'-11"
A2	88	#6	14'-11"
A3	44	#4	43'-8"
AC1	176	#8	3'-0"
AF1	10	#6	44'-8"
AF2	60	#4	2'-2"
C2	8	#6	39'-3"
C3	16	#6	36'-8"
C6	8	#5	16'-1"
OP1	56	#5	*
OP2	20	#7	8'-3"
OP3	8	#5	13'-5"
OP4	4	#5	13'-0"
OP5	4	#5	12'-5"
OP6	4	#5	11'-7"
OP7	4	#5	10'-6"
OP8	4	#5	9'-1"
OP9	4	#5	7'-2"
OP10	4	#4	8'-10"
OP11	4	#4	11'-4"
OP12	4	#4	12'-9"
OP13	4	#4	13'-3"
OP14	32	#4	*
OP16	8	#4	1'-9"
OP17	8	#4	2'-4"
OP18	8	#4	4'-0"
OP20	24	#4	*
PB2	48	#9	25'-3"
PB3	104	#5	44'-0"
PB5	24	#9	24'-0"

STRAIGHT BARS

Mark	No	Size	Length
PR1	24	#4	16'-1"
PR2	584	#4	4'-0"
PR3	48	#4	7'-11"
PR4	24	#4	7'-8"
PR5	48	#4	2'-8"
PR7	48	#6	4'-0"
S1	52	#4	25'-6"
S2	28	#5	30'-3"
S3	32	#10	49'-0"
S4	28	#10	35'-6"
S5	28	#10	28'-0"
S6	32	#10	22'-0"
S7	28	#5	17'-6"
S8	32	#10	48'-6"
S9	28	#10	35'-0"
S10	28	#9	28'-0"
S11	32	#9	23'-6"
S12	14	#5	20'-6"
S13	26	#4	7'-0"
S14	20	#4	30'-0"
S15	20	#9	49'-0"
S16	20	#8	35'-6"
S17	20	#8	28'-0"
S18	20	#8	22'-0"
S19	20	#4	17'-0"
S20	20	#8	48'-6"
S21	20	#8	35'-0"
S22	20	#7	28'-0"
S23	20	#7	23'-6"
S24	10	#4	20'-0"
S25	32	#10	46'-0"
S26	12	#8	46'-0"
S27	28	#10	29'-6"
S28	16	#8	29'-6"
S29	28	#10	35'-0"
S30	16	#8	35'-0"
S31	32	#9	22'-6"
S32	12	#8	22'-6"
S33	44	#4	23'-6"
S34	32	#8	53'-0"

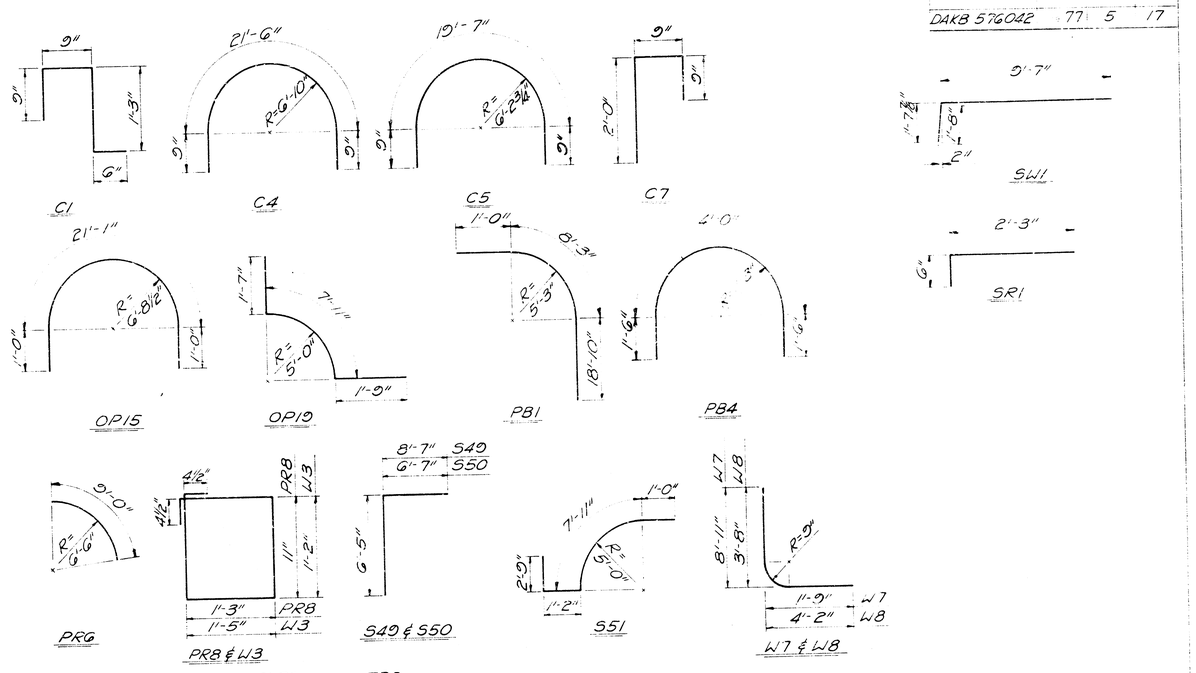
STRAIGHT BARS

Mark	No	Size	Length
S35	12	#6	53'-0"
S36	28	#8	31'-0"
S37	16	#7	31'-0"
S38	42	#8	27'-0"
S39	16	#6	27'-0"
S40	48	#8	21'-0"
S41	12	#6	21'-0"
S42	44	#4	22'-0"
S43	16	#9	53'-0"
S44	6	#7	53'-0"
S45	14	#9	32'-0"
S46	8	#7	32'-0"
S47	8	#7	27'-0"
S48	6	#7	21'-0"
SR2	2	#4	29'-8"
T1	114	#4	30'-0"
T2	228	#5	43'-8"
TR1	176	#7	9'-4"
TR2	368	#7	2'-9"
TR3	88	#7	*
TR4	16	#7	16'-7"
W1	12	#7	20'-3"
W2	4	#7	19'-0"
W4	68	#9	17'-9"
W5	44	#4	17'-9"
W6	104	#4	17'-8"
WF1	44	#4	7'-0"
WF2	132	#6	10'-2"
WF3	48	#7	16'-1"
WF4	12	#4	16'-1"

BENT BARS

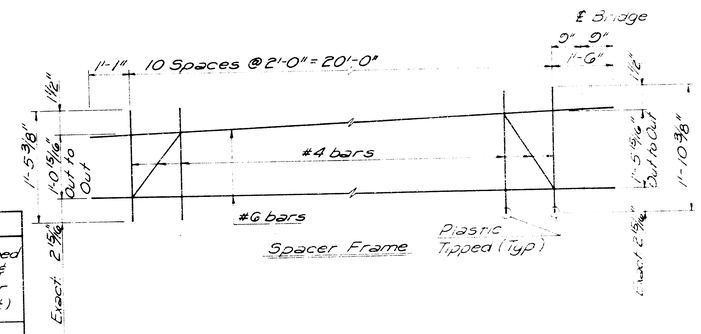
Mark	No	Size	Length
C1	528	#4	3'-3"
C4	8	#6	23'-0"
C5	4	#6	21'-1"
C7	68	#5	3'-6"
F1	102	*	*
OP15	4	#4	23'-1"
OP19	8	#4	11'-3"
PB1	696	#9	28'-1"
PB4	136	#5	7'-0"
PR6	48	#4	9'-0"
PR8	24	#4	5'-1"
S49	44	#6	15'-0"
S50	44	#6	13'-0"
S51	84	#5	12'-10"
SR1	60	#4	2'-9"
SW1	496	#4	11'-3"
W3	56	#4	5'-11"
W7	64	#9	10'-5"
W8	68	#9	7'-7"

* See Bending Diagrams



Increase from 1'-9" to 2'-7" by 1" Increments (8 Each Length)	TR3
Increase from 1'-6" to 4'-0" by 1'-3" Increments (8 Each Length)	OP20
Increase from 5'-9" to 7'-9" by 8" Increments (8 Each Length)	OP14
Increase from 5'-0" to 8'-9" by 7½" Increments (8 Each Length)	OP1

TR3, OP20, OP14 & OP1



BENDING DIAGRAMS
(All dimensions are out to out of bars)

SUMMARY OF QUANTITIES

Item / Location	Excavation (Cu. Yds.) Class I	Excavation (Cu. Yds.) Class II	Class I Concrete (Cu. Yds)	1½" Latex Surface Course (Sq. Yds.)	Reinforcing Steel (Lbs.)	Concrete Piles (Lin. Ft)	Metal Handrail (Lin. Ft)	Linseed Oil Surface Treatment (Sq. Yds.)	Electric Lighting System (Lump Sum)	Removal of Existing Structure (Lump Sum)	Removal of Approach Pavement (Sq. Yds.)	Roadway Pavement (Sq. Yds.)	Concrete Sidewalk (Sq. Ft.)	Combined Curb & Gutter (Lin. Ft.)
Abutment #1	150	421.2	111.8		12,315	587								
Pier #1		215.3	97.9		19,575	448								
Pier #2		204.2	97.9		19,575	420								
Pier #3		201.2	97.9		19,575	420								
Pier #4		206.5	97.9		19,575	448								
Abutment #2	125	389.3	111.9		12,315	629								
Substructure Total	275	1637.7	615.3		102,930	2952								
Superstruct Total			1191.8	770	137,310		310.6	561			712	540	1430	411
Approach														
Total	275	1637.7	1807.1	770	240,240	* 2952	310.6	561	Lump Sum	Lump Sum	712	540	1430	411

NOTE: Only one of the following types of Piles shall be used on this structure: Pipe 12¾" or Prestressed 14".

* Includes 7 @ 25', 7 @ 27', 66 @ 28', 14 @ 30' and 10 @ 32'

CITY OF WICHITA, KANSAS
R.W. LINN, PE CITY ENGINEER

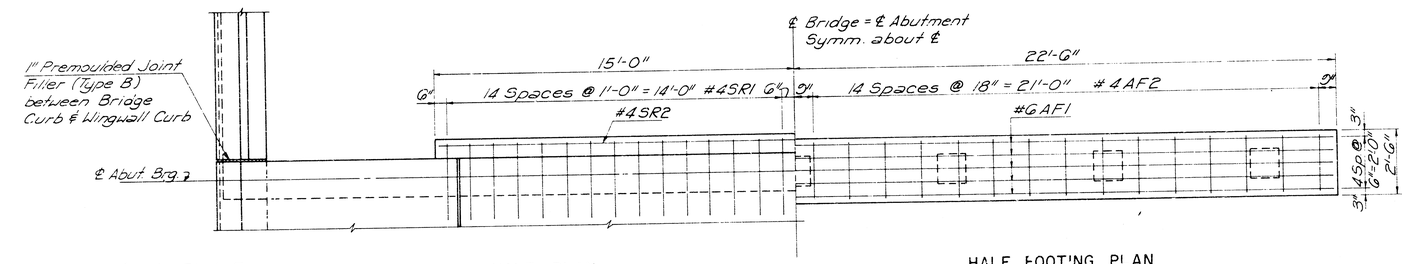
SUMMARY OF QUANTITIES

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by | Checked by
Drawn by | Date

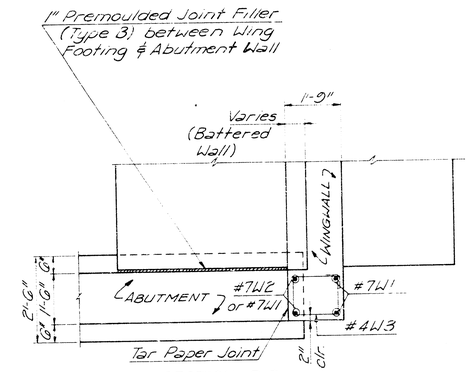
PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DAKB 576042	19 77	6	17



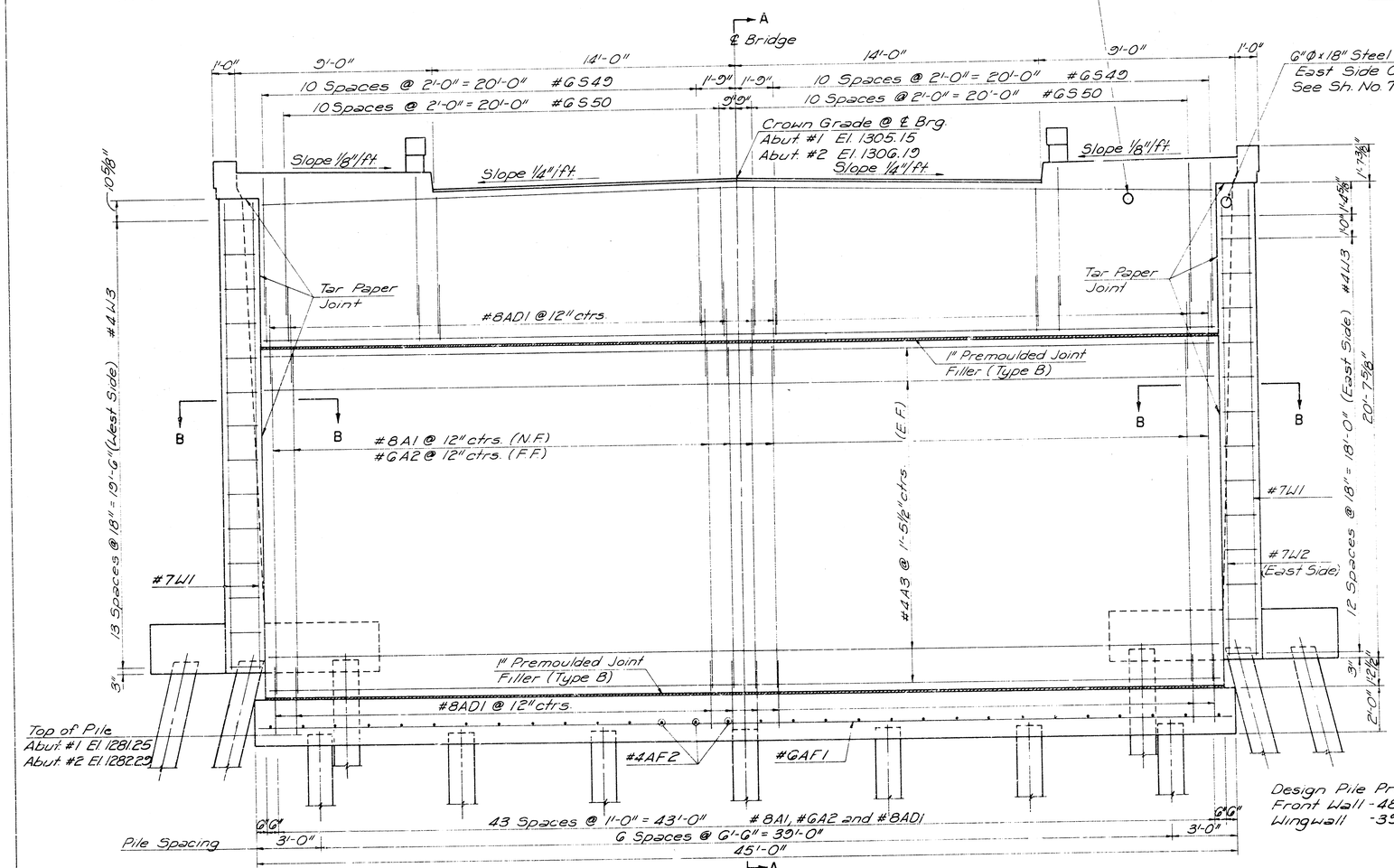
HALF PLAN

HALF FOOTING PLAN

NOTE: (E.F) = Each Face
(F.F) = Far Face
(N.F) = Near Face

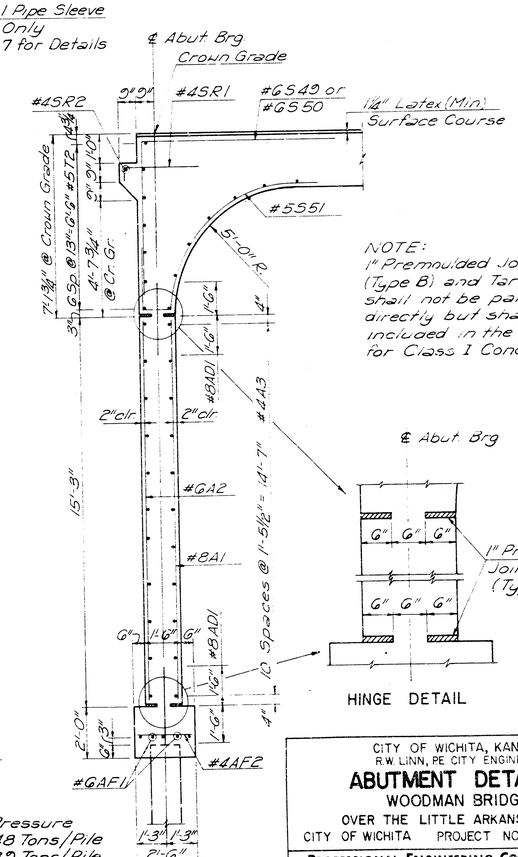


SECTION B-B



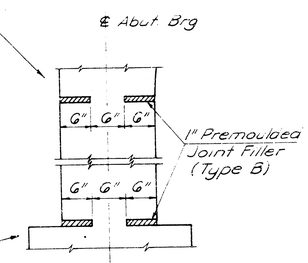
ELEVATION

Design Pile Pressure
Front Wall - 48 Tons/Pile
Wingwall - 39 Tons/Pile



SECTION A-A

NOTE:
1" Premoulded Joint Filler (Type B) and Tar Paper shall not be paid for directly but shall be included in the price bid for Class I Concrete.



HINGE DETAIL

CITY OF WICHITA, KANSAS
R.W. LINN, PE CITY ENGINEER

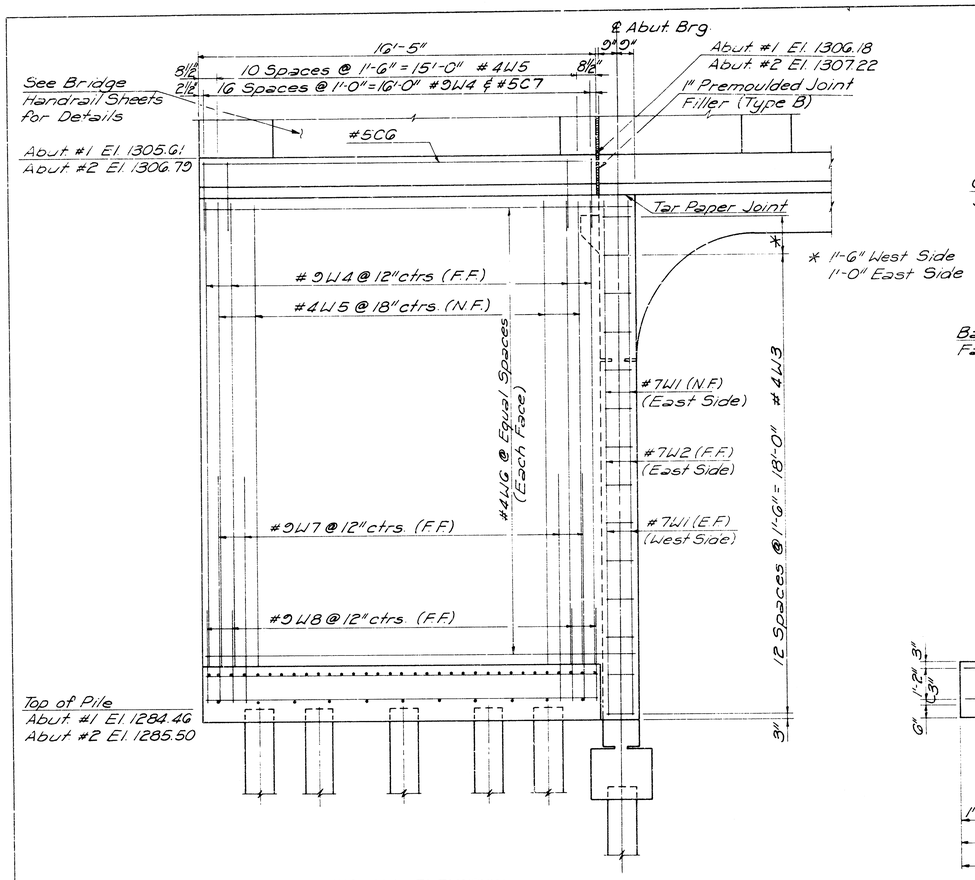
ABUTMENT DETAILS

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

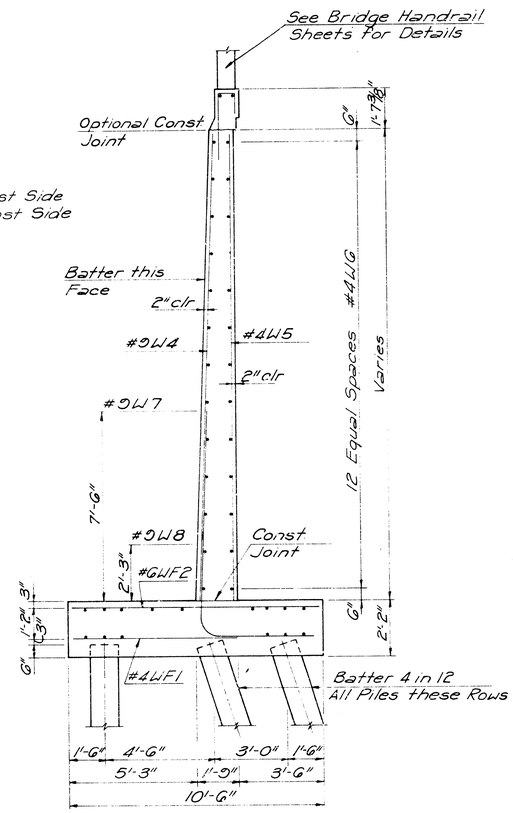
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by | Checked by
Drawn by | Date | Job No.

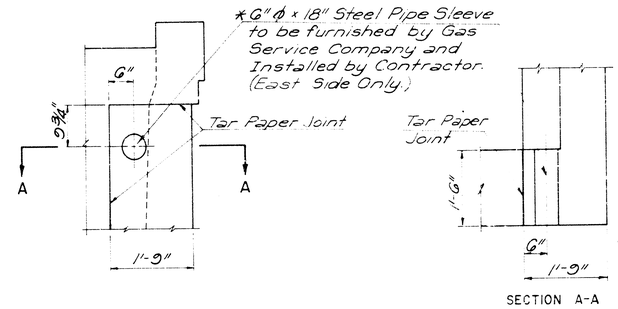
PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DAKB 57G042	77	7	17



WINGWALL ELEVATION



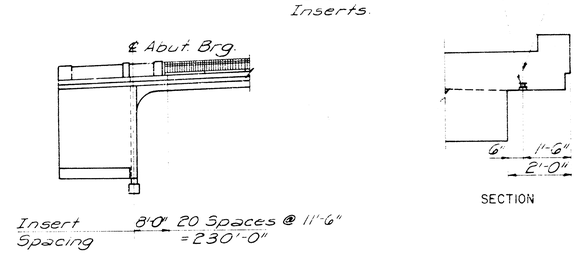
SECTION THRU WINGWALL



SECTION A-A

NOTE: Contractor to contact Gas Service Company before backfilling Wingwalls and construction of Sidewalk.

SLEEVE LOCATION DETAILS



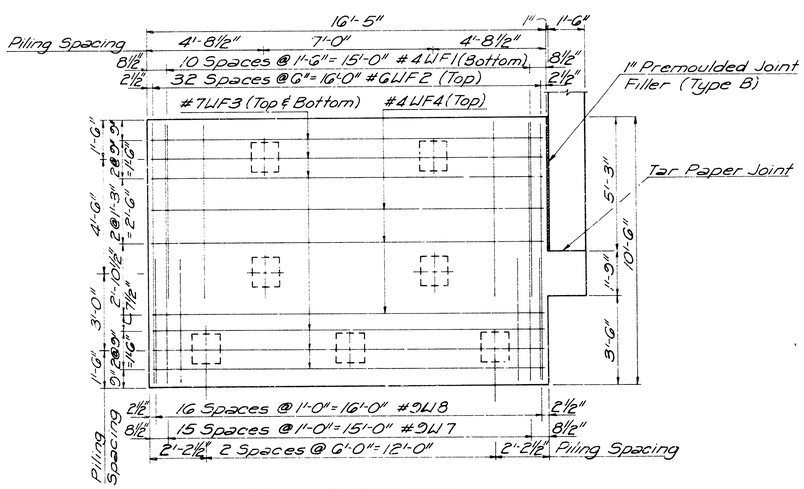
SECTION

PART ELEVATION

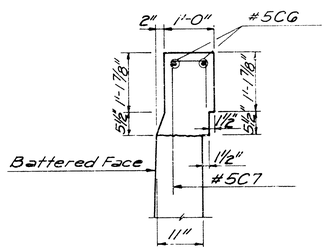
INSERT LOCATION DETAILS

* To be furnished by Gas Service Company and Installed by the Contractor. Cost of installation shall be included in the Price bid for Class I Concrete.

GAS LINE DETAILS
(EAST SIDE)



WINGWALL FOOTING PLAN



WINGWALL CURB DETAIL

CITY OF WICHITA, KANSAS
R.W. LINN, PE CITY ENGINEER

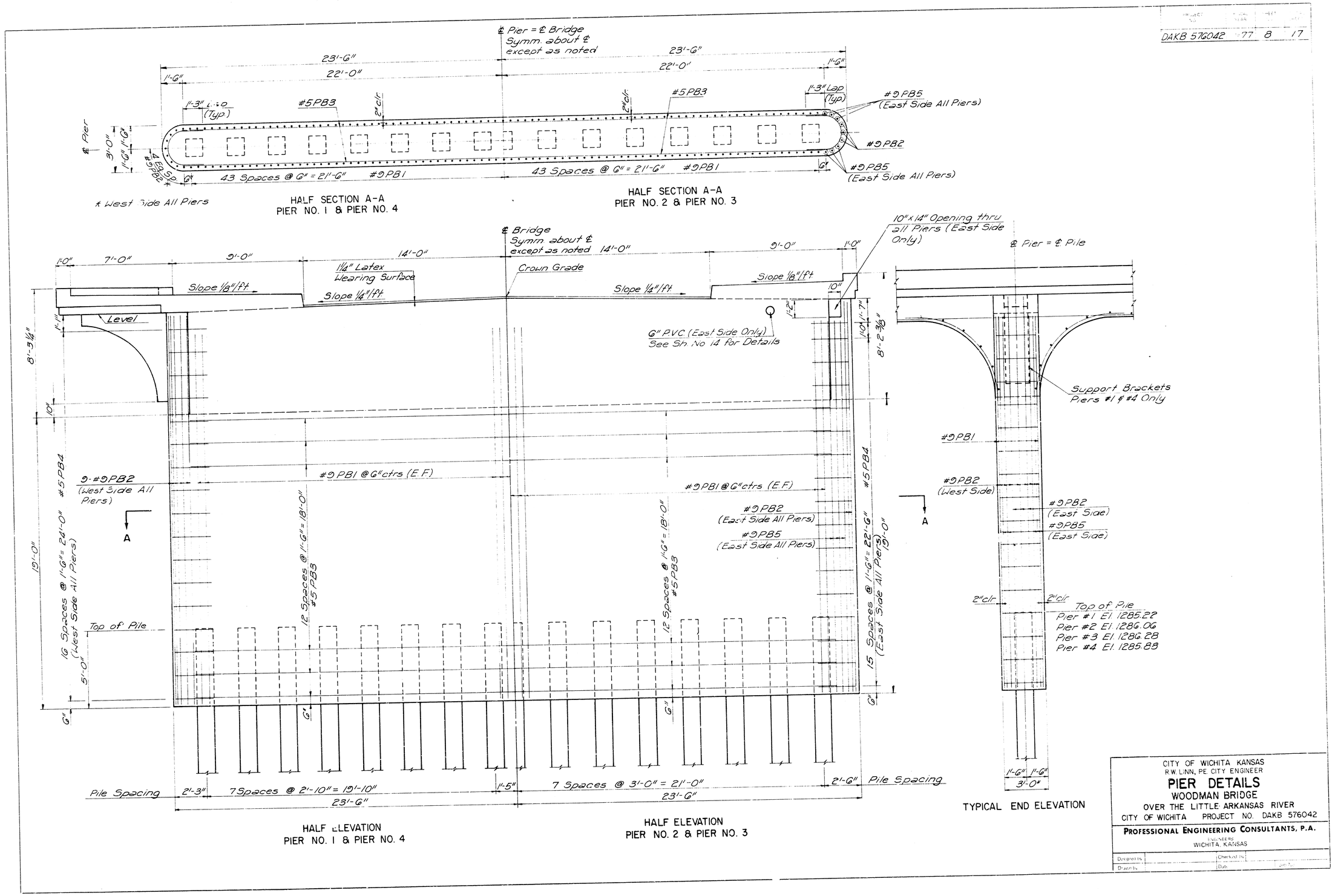
ABUTMENT DETAILS

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Checked by	
Drawn by	Date	

PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DAKB 576042	77	8	17



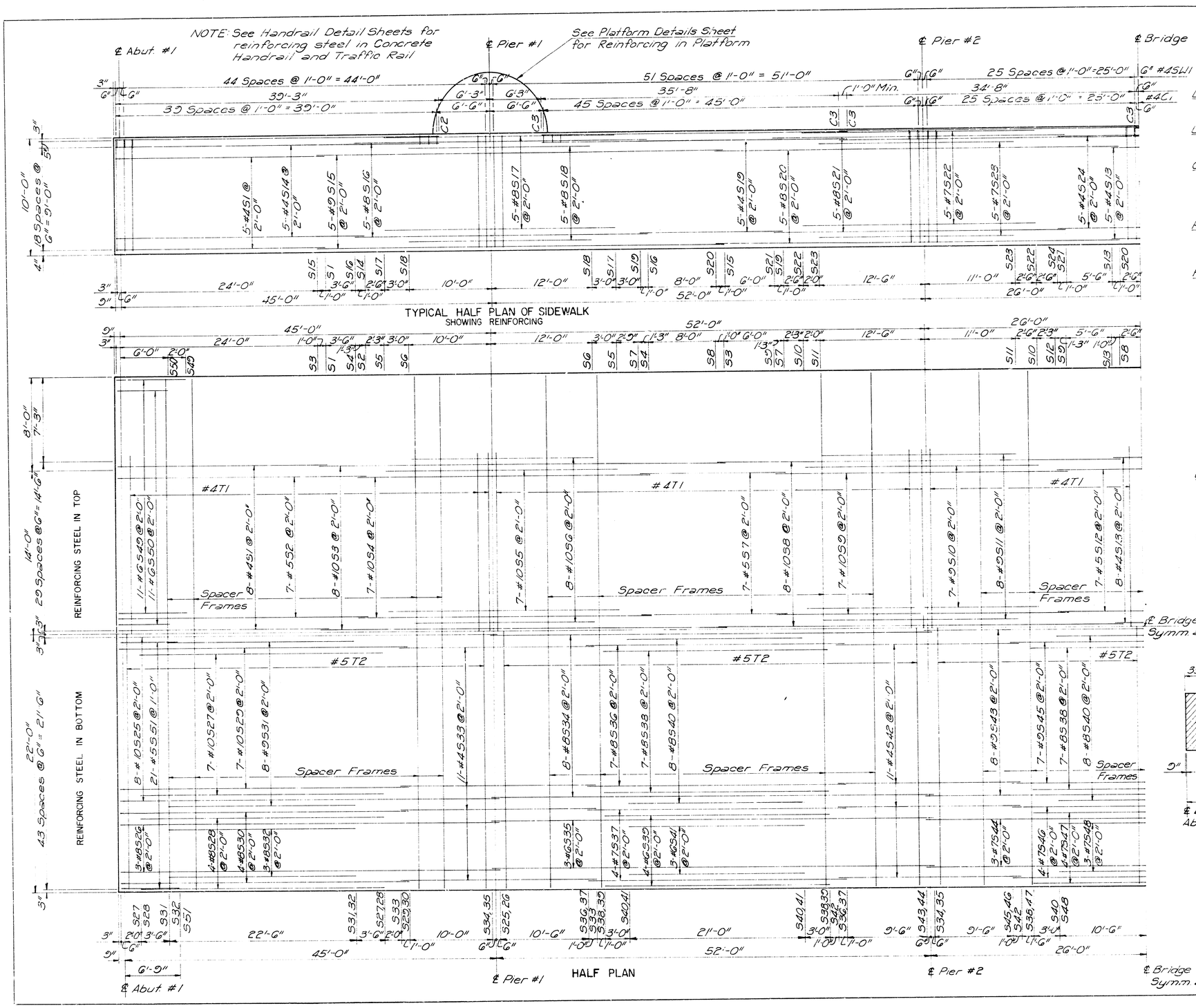
CITY OF WICHITA KANSAS
R.W. LINN, PE. CITY ENGINEER

PIER DETAILS

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed By	Checked By	
Drawn By	Date	Job No.



DAKB 576042 77 9 17

GENERAL NOTES

LOADING: HS 20-44 AASHTO Specifications, Edition of 1973

UNIT STRESSES: f'c = 4,000 psi; fc = 1,600 psi; fs = 20,000 psi

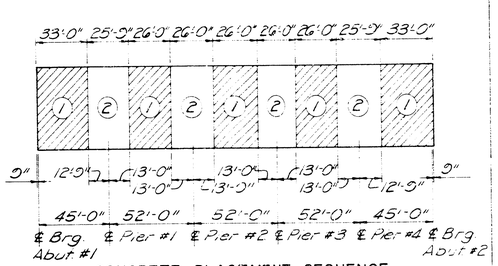
CONCRETE: Class 1 Concrete using Warmtone cement shall be used throughout. Bevel all exposed edges with a 3/4" triangular molding unless otherwise noted

REINFORCING: All dimensions relative to reinforcing steel are to centerline of bar unless otherwise noted

FALSEWORK: Falsework shall be left in place in any span until the concrete in that span and the next adjacent span constructed latest shall have attained its design strength. Construction joints shown are optional with the Contractor but if used shall be made only at the locations shown or as approved by the Engineer. If steel beams are used for falsework the pouring sequence as shown shall be followed. Sidewalks shall be placed in the same sequence as the floor with the falsework remaining in place. Concrete handrails may be built after removal of falsework. Metal handrails shall be installed after removal of falsework

CAMBER: Camber shall be provided as shown on the camber diagram. Additional camber may be required if steel beams are used for falsework

COVER OVER TOP SLAB BARS: After the reinforcing steel is placed and the finishing machine is set and adjusted, the cover over the top bars shall be checked using 2" blocking under the screed and passing it over the reinforcing mat.



CONCRETE PLACEMENT SEQUENCE

CITY OF WICHITA KANSAS
R.W. LINN, PE CITY ENGINEER

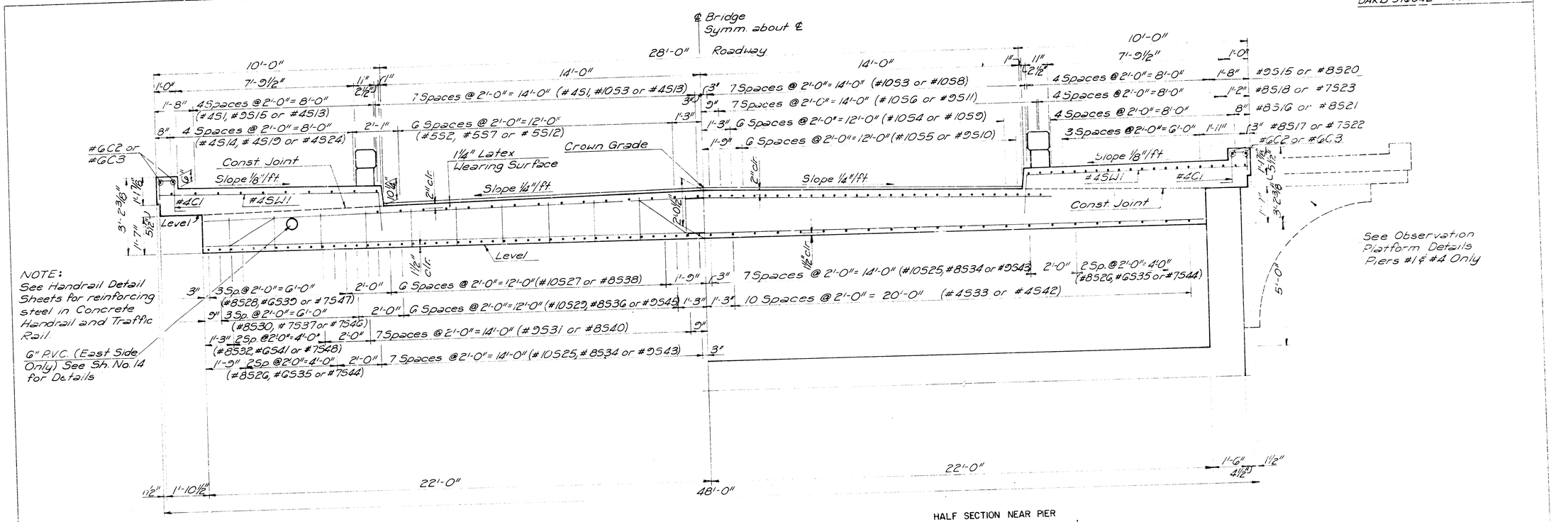
SUPERSTRUCTURE LAYOUT

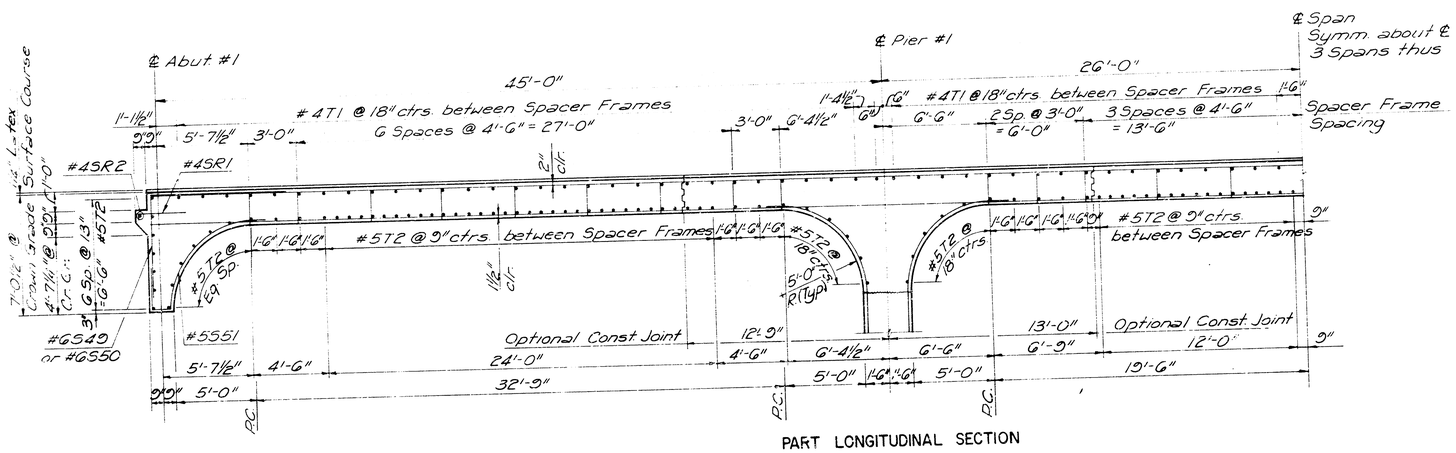
WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO DAKB 576042

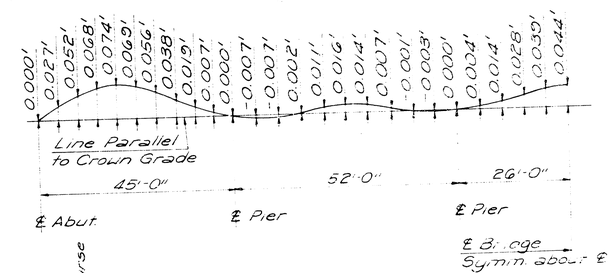
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by | Checked by
Drawn by | Date

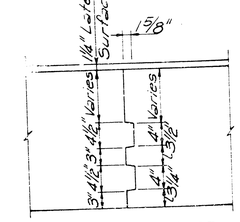
PROJECT NO.	YEAR	SHEET	TOTAL SHEETS
DAKB 576042	77	10	17







DEAD LOAD CAMBER AT TENTH POINTS



TRANSVERSE SLAB
CONSTRUCTION JOINT

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

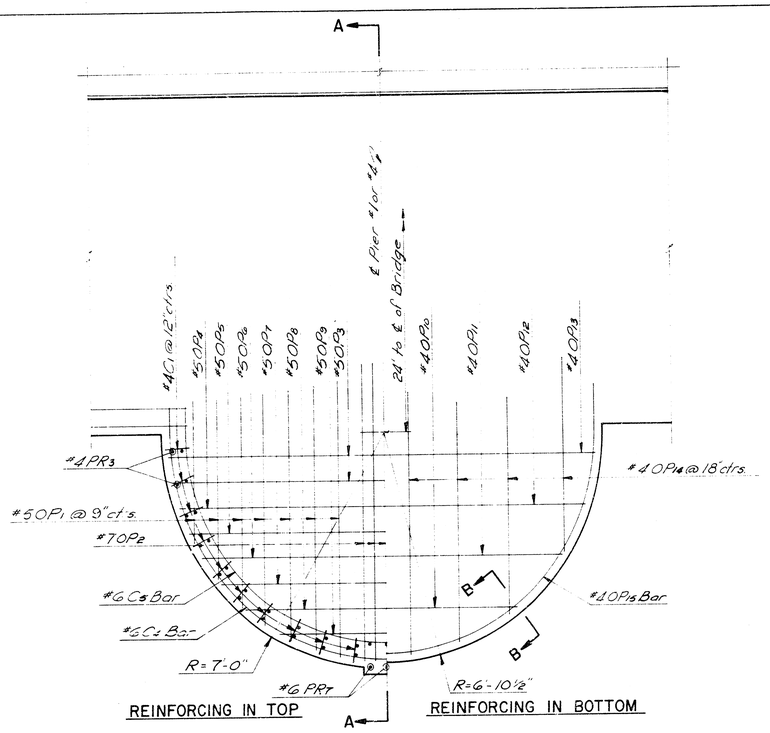
SUPERSTRUCTURE DETAILS

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

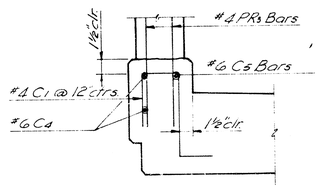
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by | Checked by
Drawn by | Date

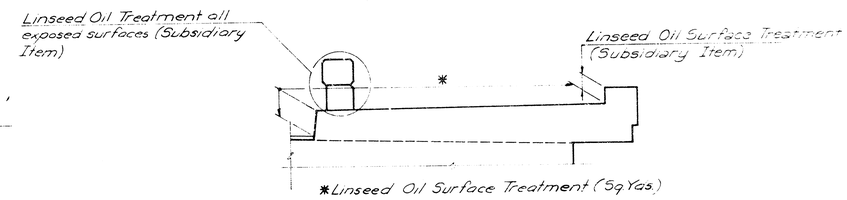
PROJECT NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
DAKB 576042	77	11	17



PLAN

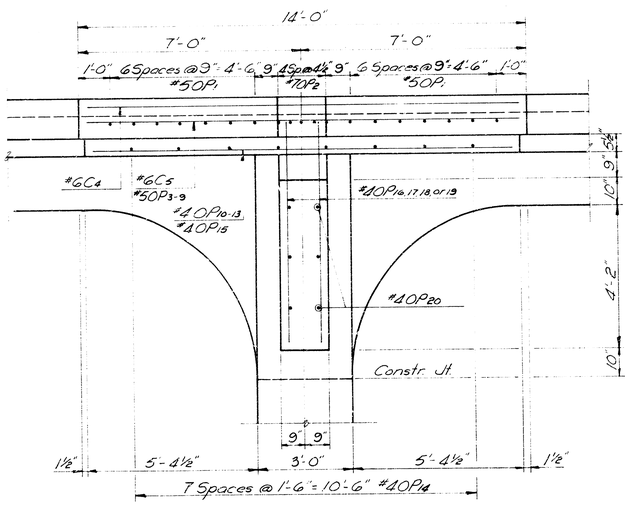


SECTION B-B

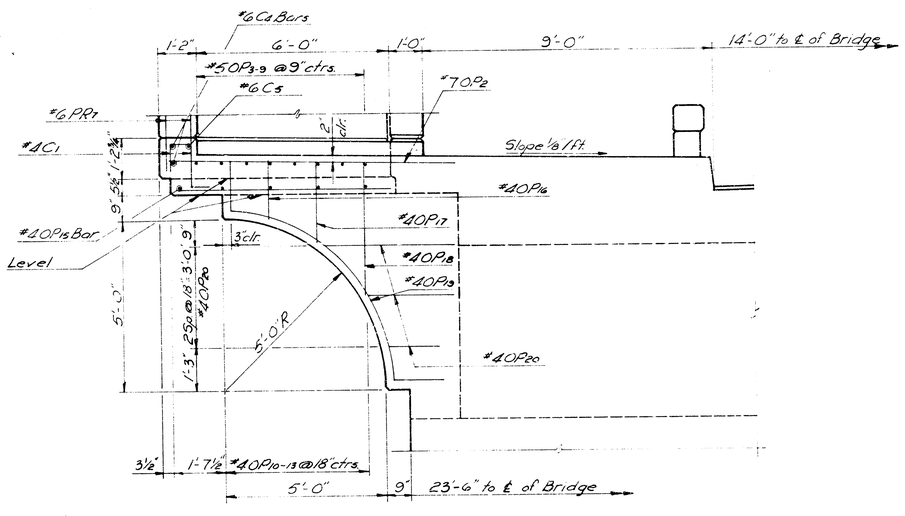


LINSEED OIL SURFACE TREATMENT

Note: Linseed Oil Treatment to include Observation Platforms.



ELEVATION



SECTION A-A

CITY OF WICHITA KANSAS
R.W. LINN, PE CITY ENGINEER

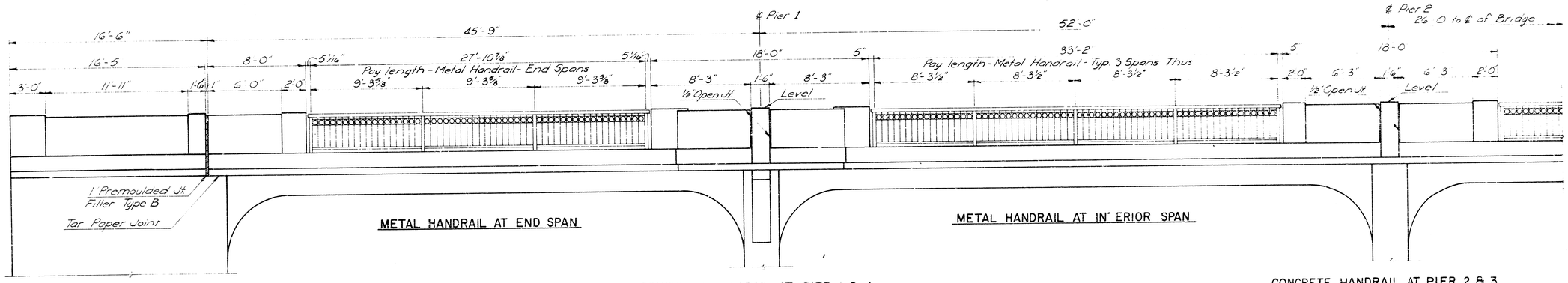
PLATFORM DETAILS

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Checked by	
Drawn by	Date	Job No.

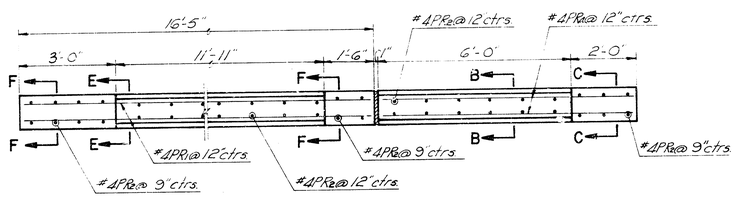
PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DAKB 576042	77	12	17



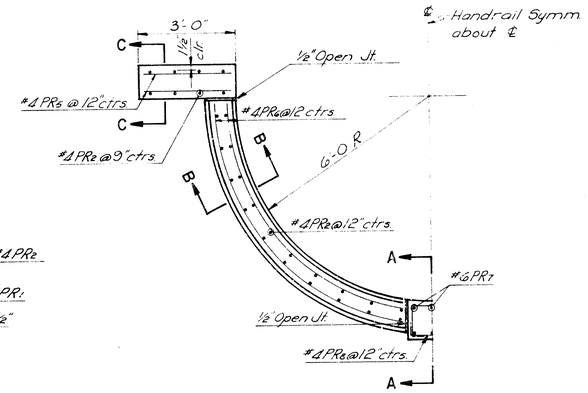
CONCRETE HANDRAIL AT ABUTMENT & WINGWALL

CONCRETE HANDRAIL AT PIER 1 & 4
ELEVATION

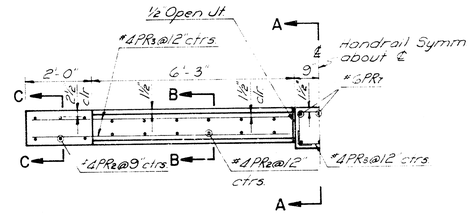
CONCRETE HANDRAIL AT PIER 2 & 3



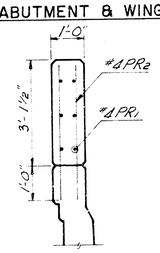
CONCRETE HANDRAIL AT ABUTMENT & WINGWALL



CONCRETE HANDRAIL AT PLATFORM



CONCRETE HANDRAIL OVER PIER



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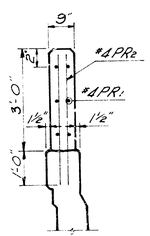

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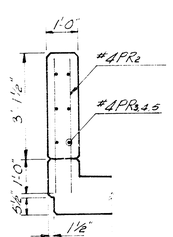
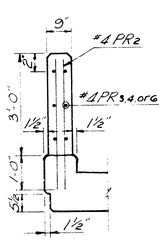
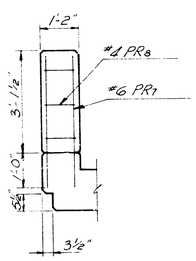


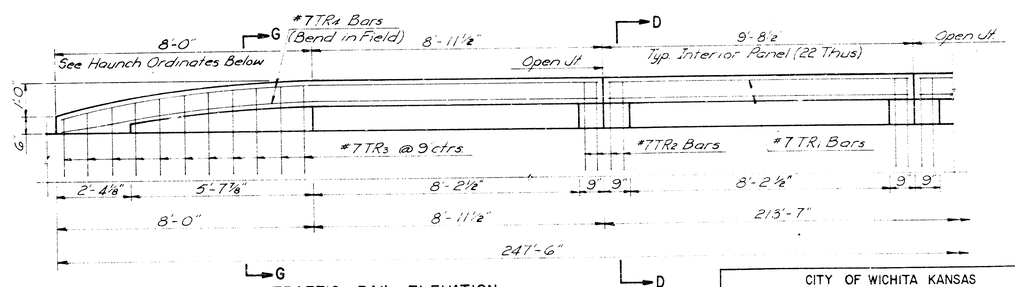
SECTION C-C



SECTION B-B

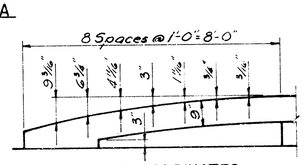


SECTION A-A



TRAFFIC RAIL ELEVATION

All handrail joints shall be 1/2" open joints except those within 10'-0" of the piers and those shall be 1/4" open joints.



HAUNCH ORDINATES

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

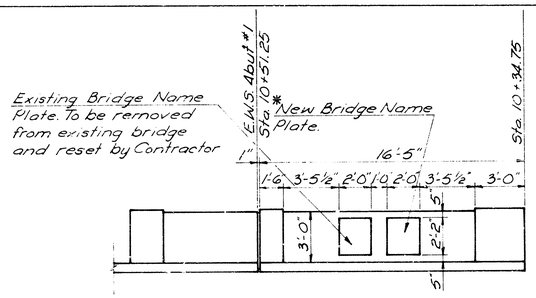
HANDRAIL DETAILS

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Checked by	
Drawn by	Date	Job No.

PROJECT NO.	FEDERAL NO.	SHEET NO.	TOTAL SHEETS
DAKB 576042	77	13	17



BRIDGE NAME PLATE
(Abutment #1 - East Side Only)

*New Bridge Name Plate shall be 5/16"x24"x26" bronze with concealed mountings. It shall have a 1" wide border and ribbon style letters. It shall contain the following information:

WOODMAN BRIDGE
1976
CITY OF WICHITA
JAMES M. DONNELL – MAYOR
GLENN J. SHANAHAN VICE MAYOR
A. F. (TONY) CASADO
ROBERT I. CORY
CONNIE A. PETERS
COMMISSIONERS
E. H. DENTON
CITY MANAGER
DESIGN LOADING HS20-44

Contractor shall furnish rubbings to Engineer for approval prior to casting name plate. Cost of furnishing and installing the new name plate and the cost of removing and resetting the existing name plate shall be included in the price bid for Class I Concrete.

GENERAL NOTES

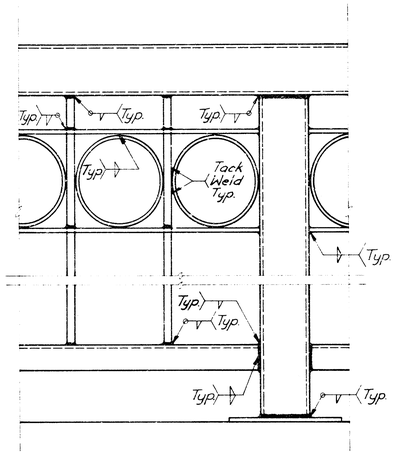
The top horizontal member of the rail and the posts shall be steel hollow structural tubing. Other shapes and plates shall conform to ASTM designation A36. All Steel pipe shall conform to ASTM designation A53.

Rail shall be fabricated full length for each section, and shall be fabricated to match vertical curvature of the structure. Rail posts shall be perpendicular to top of parapet. Shims may be used between concrete and base plate of posts.

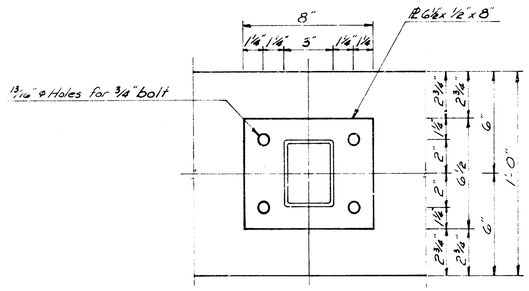
Anchors shall be ¾" standard snap-off Phillips Red Head or approved equal. Washers shall conform to article 1006.14(e) of the standard specifications for State Road and Bridge Construction 1973 Edition Kansas Department of Transportation.

Exposed portion of bolt and washer shall receive two coats of black paint.

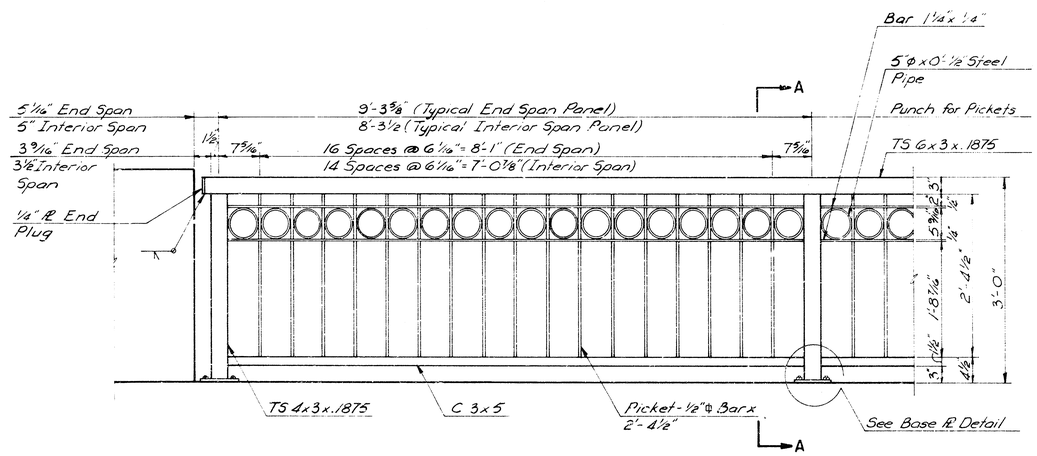
All parts of handrail shall be given one coat of red lead paint, one coat of black paint in the shop and one coat of black paint in the field.



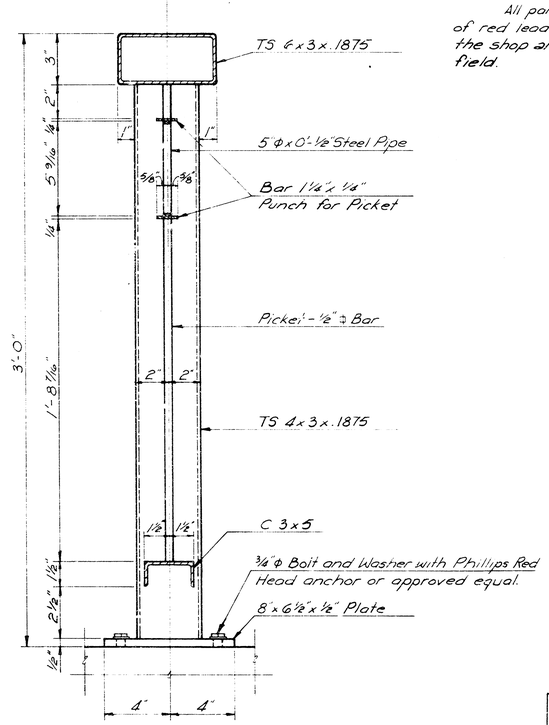
WELD DETAIL
All welds shall be 3/16" unless otherwise noted.



BASE PLATE DETAIL



METAL HANDRAIL ELEVATION



SECTION A-A

CITY OF WICHITA KANSAS
R.W. LINN, PE CITY ENGINEER

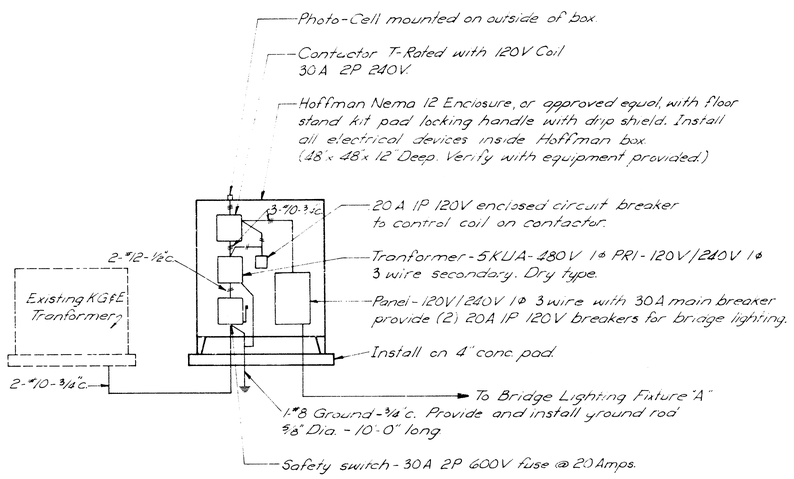
HANDRAIL DETAILS

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

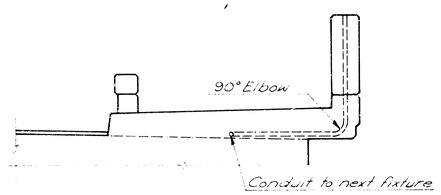
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Checked by	
Drawn by	Date	Job No.

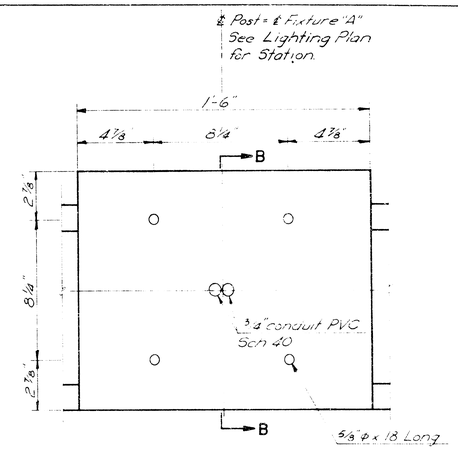
PROJECT	FEDERAL AID NO.	SHEET NO.	TOTAL SHEETS
DAKB 576042	77	14	17



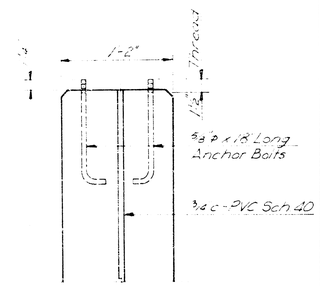
LIGHTING CONTROL PANEL DIAGRAM



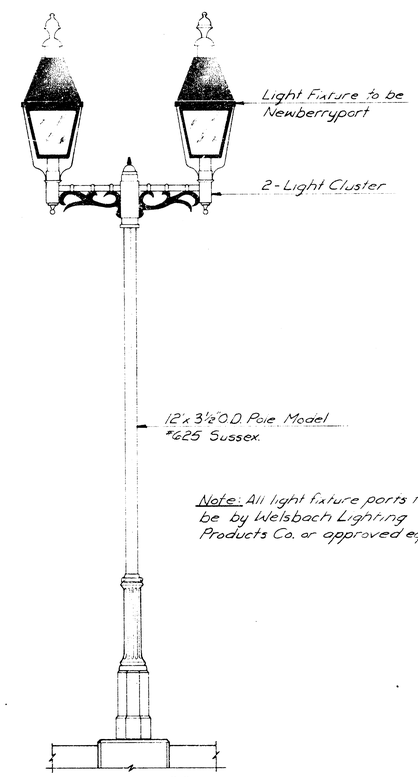
SECTION A-A



LIGHT-ANCHOR BOLT-PLAN

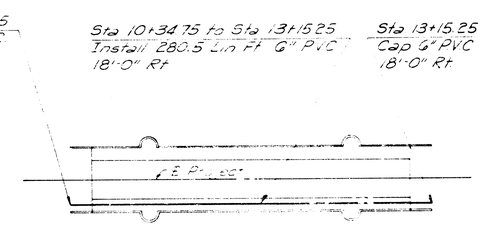


SECTION B-B

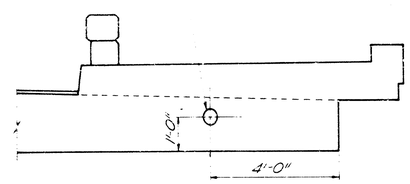


FIXTURE "A"

Note: All light fixture ports to be by Welsbach Lighting Products Co. or approved equal.



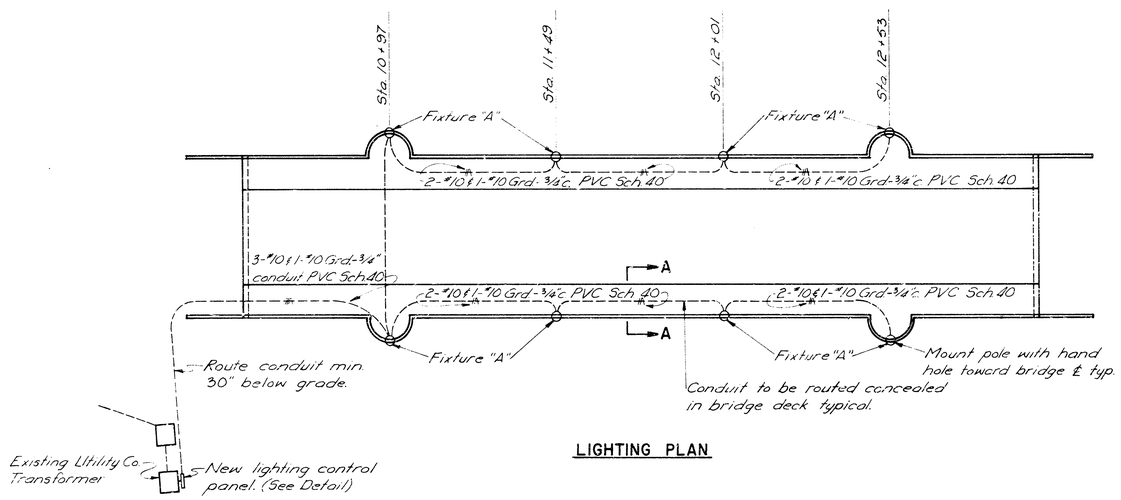
PLAN



SECTION

NOTE: 6" P.V.C. to be furnished by K.G.&E and Installed by the Contractor. Cost of installation shall be included in the Price bid for Class I Concrete.

6" P.V.C. ELECTRIC CONDUIT DETAILS



LIGHTING PLAN

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

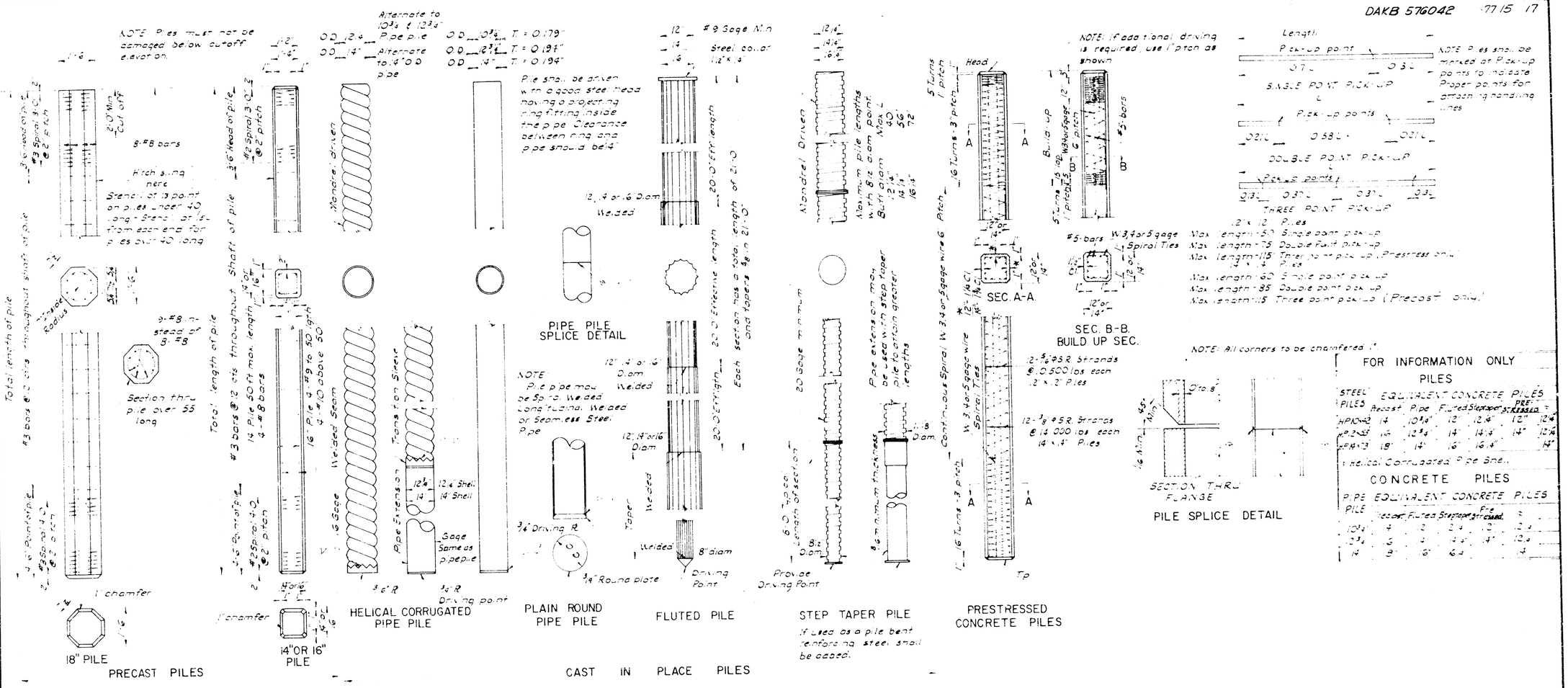
LIGHTING PLAN

WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

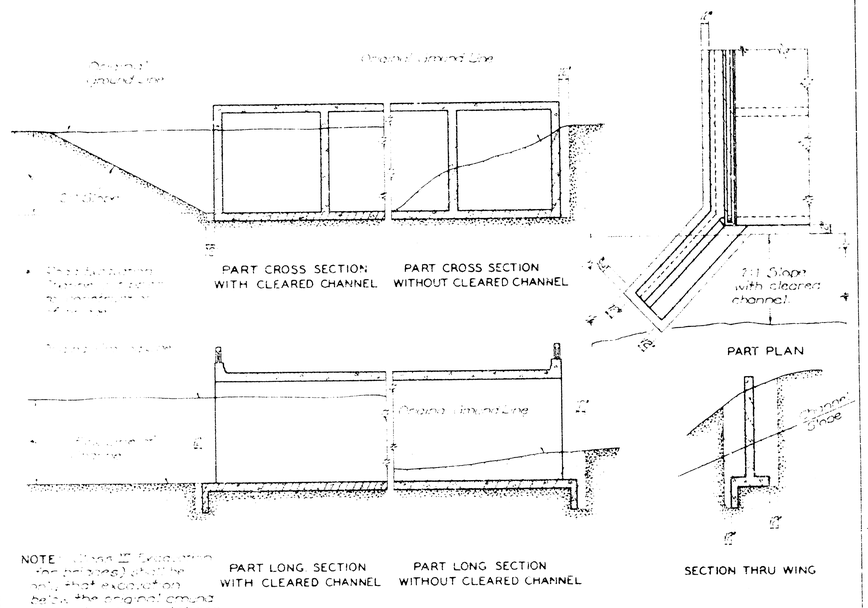
Designed by	Checked by	
Drawn by	Date	Scale

DAKB 576042 77 15 17

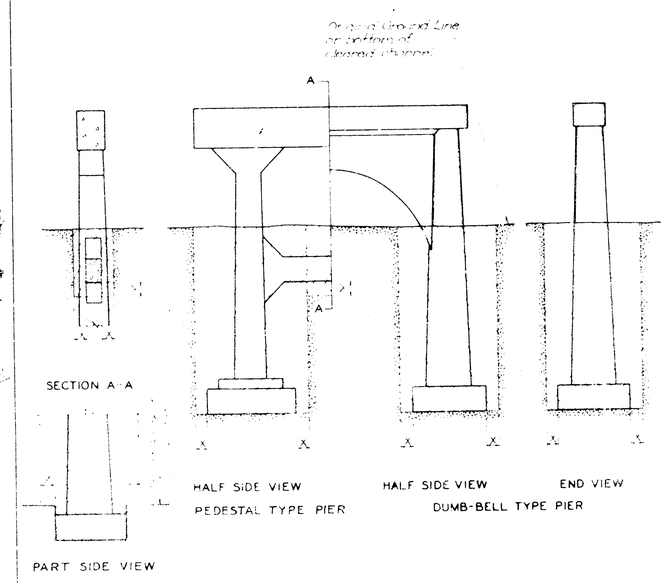

NOTE: Piles must not be damaged below cutoff elevation.
Total length of pile
Shaft of pile
Mandrel Driven
Welded Seam
Transition Sleeve
Pipe Extension
Alternate to 10¾" & 12¾" Pipe pile
Alternate to 14" O.D. pipe
O.D. 12¾ T = 0.179"
O.D. 14" T = 0.194"
Pile shall be driven with a good steel head having a projecting ring fitting inside the pipe. Clearance between ring and pipe should be 1/4"
#9 Gage Min. Steel collar 12" x 1/4"
12, 14 or 16" Diam. Welded
20'-0" Effective length
Each section has a total length of 21'-0" and tapers 1/8" in 21'-0"
PIPE PILE SPLICE DETAIL
NOTE: Pile pipe may be Spiral Welded Longitudinal Welded or Seamless Steel Pipe
12", 14" or 16" Diam. Welded
3/4" Round plate
Driving Point
Taper
Welded
8" Diam.
20 Gage minimum
Pipe extension may be used with step taper pile to obtain greater lengths
Max. Size Diam.
6'-0" Typical length of section
Max. Size Diam.
Provide Driving Point
Max. Size Diam.
Max. Size Diam.
Max. Size Diam.

Year	Sheet No	Total Sheets
1977	16	17

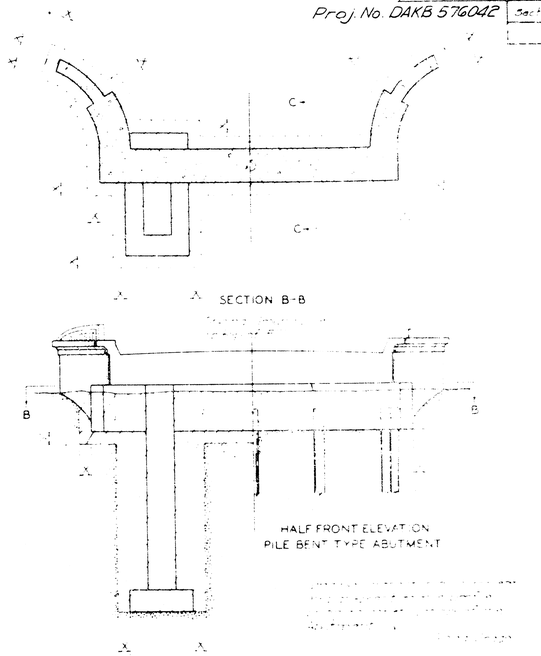
Proj. No. DAKB 576042



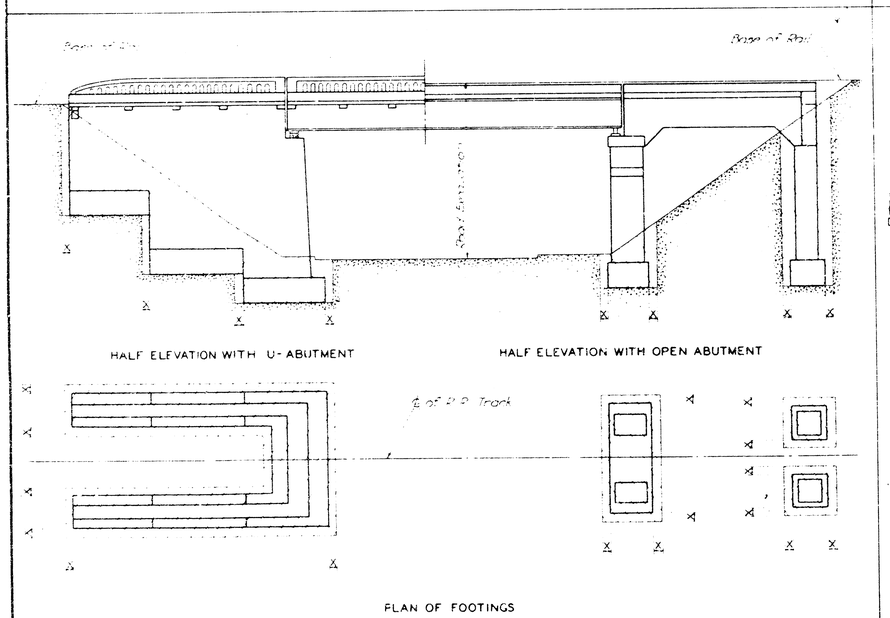
EXCAVATION DETAILS FOR TYPICAL MULTIPLE BOX



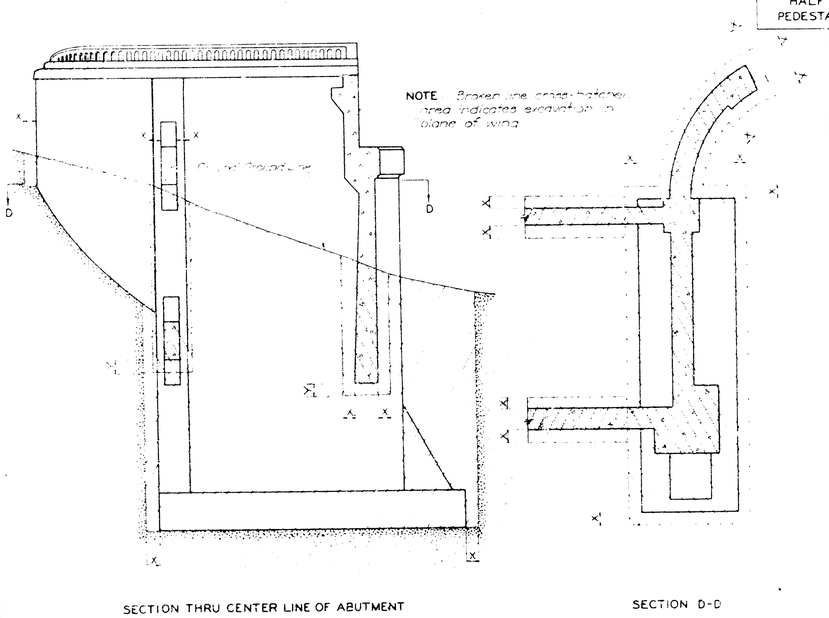
EXCAVATION DETAILS FOR TYPICAL PIERS



EXCAVATION DETAILS FOR TYPICAL ABUTMENTS



EXCAVATION DETAILS FOR TYPICAL SUBWAYS



EXCAVATION DETAILS FOR TYPICAL U-ABUTMENTS

CITY OF WICHITA PROJECT NO. DAKB 576042

NO.	DATE	REVISIONS	BY	APP'D

STATE HIGHWAY COMMISSION OF KANSAS

BRIDGE EXCAVATION

STD NO. 100 SCALE

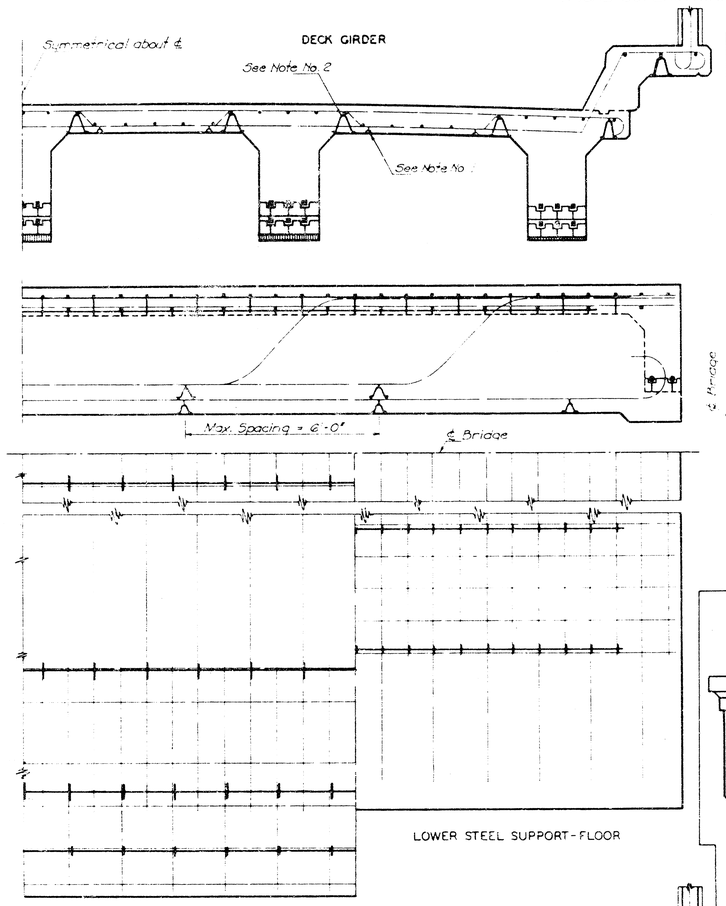
DESIGNED BY DATE DETAILED BY TRACED BY

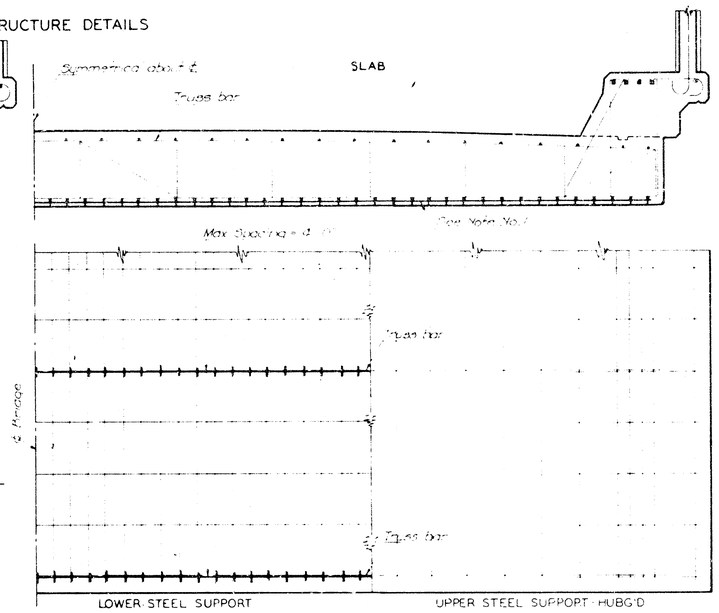
CHECKED BY APPROVED BY DATE

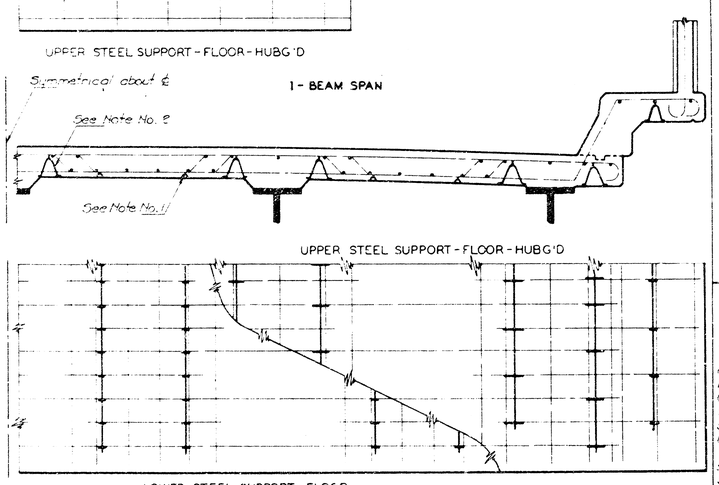
Proj. No	Fiscal Year	Sheet No	Total Sheets
	1977	17	17

Proj. No DAKB 576042 | Section

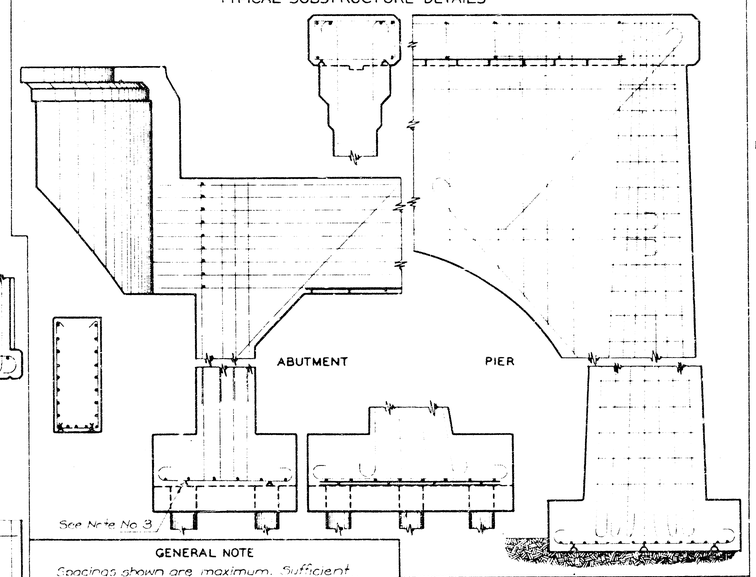
TYPICAL SUPERSTRUCTURE DETAILS







TYPICAL SUBSTRUCTURE DETAILS



GENERAL NOTE

Spacings shown are maximum. Sufficient supports shall be used, as determined by the Engineer, to retain the reinf steel in position.

Approved designs and arrangements of 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 upon 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.

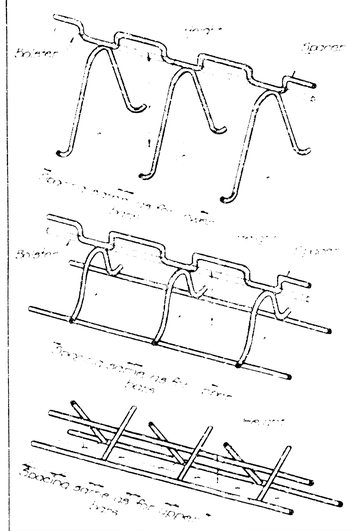
NOTE 1: *The lower side of Reinforcing Steel in these locations shall be not less than one and one half inch (1½") from the surface of the concrete*

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

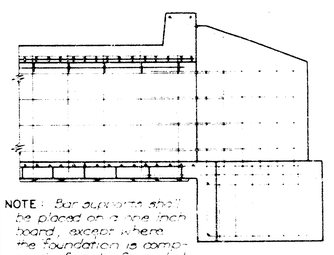
NOTE 3: The use of Wire Supports for Reinforcing Steel in these locations is optional. Where they are not used the Steel shall be supported from the forms by means of wire ties or saddles.

NOTE 4: *All bar supports or spacers in contact with forms shall be plastic tipped.*

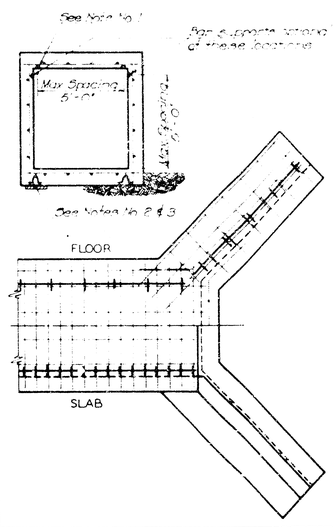
BEAM BAR SPACERS & BOLSTERS



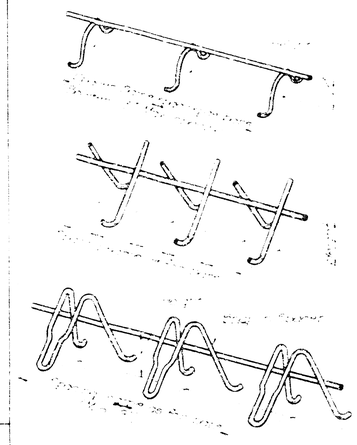
TYPICAL CULVERT DETAILS



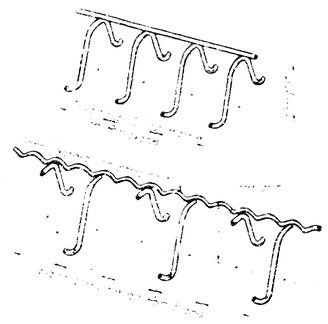
NOTE: Bar supports shall be placed on a one inch board, except where the foundation is composed of rock, firm shale or a seal course. See Note No. 3



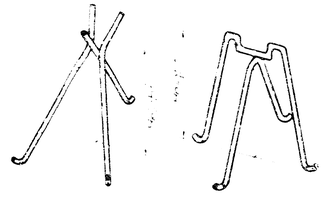
LOW SLAB BAR SPACERS & BOLSTERS



HIGH SLAB BAR SPACERS & BOLSTERS



INDIVIDUAL HIGH BAR CHAIRS



CITY OF WICHITA PROJECT NO. DAKB 576042

NO	DATE	REVISIONS	BY	APP'D
6				

STATE HIGHWAY COMMISSION OF KANSAS

SUPPORTS AND SPACERS FOR REINFORCING STEEL

STD NO 610 SCALE

DESIGNED BY DATE DETAILED BY TRACED BY

CHECKED BY APPROVED BY DATE