REINFORCED CONCRETE BOX CULVERT
ON
ROCK ROAD
PROJECT NO.
472-76-248-80001-000-000-025

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, CITY ENGINEER
JANUARY, 1986

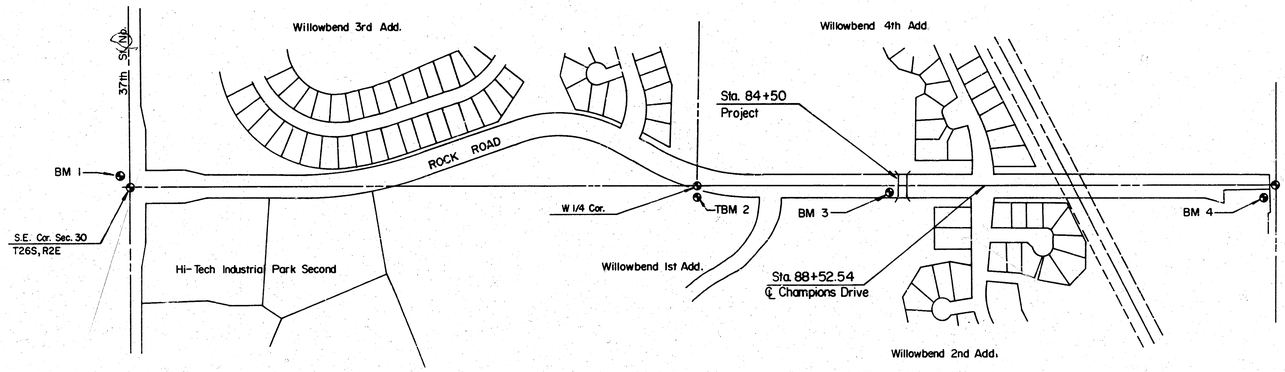
BENCH MARKS

B.M. #1 CITY STANDARD 44' S & 48' W OF CENTERLINE OF 37TH & ROCK ROAD.
ELEV. = 204.11

B.M. #2 TBM RR - SPK IN S FACE OF CORNER FENCE POST + 50' E OF W QUARTER CORNER SECTION 29 -26-2E.
ELEV. = 169.79

B.M. #3 " □ " CUT ON NE CORNER OF RCB + 900' N OF W QUARTER CORNER SECTION 29-26-2E.
ELEV. = 185.36

B.M. #4 RR SPK IN W FACE POWER POLE SE CORNER 45TH ST. NORTH & ROCK ROAD.
ELEV. = 197.93



INDEX TO DRAWINGS

Sheet No.	Description
1	Title Sheet
2	Soil Saver
3	Std. Multiple Concrete Box
4	Bridge Railing

By CITY ENGINEER OF WICHITA

Sanitary Sewers _____

Storm Sewers _____

Driveway Approaches _____

Water Mains _____

Paving * RCBC CCO 2-2-87

* Handrail Design to be provided at a later date.

PAUL J. SVATY LICENSED 7164 KANSAS PROFESSIONAL ENGINEER

	ROCK ROAD RCBC
Design: KJS	
Drawn by:	
Checked by: DSS	
Date: Jan. 1987	
Job no.	

MID-KANSAS ENGINEERING CONSULTANTS PA
3500 NORTH ROCK ROAD
BUILDING #800
WICHITA, KANSAS 67226 682-6561

Sheet 1 1/4 of 4

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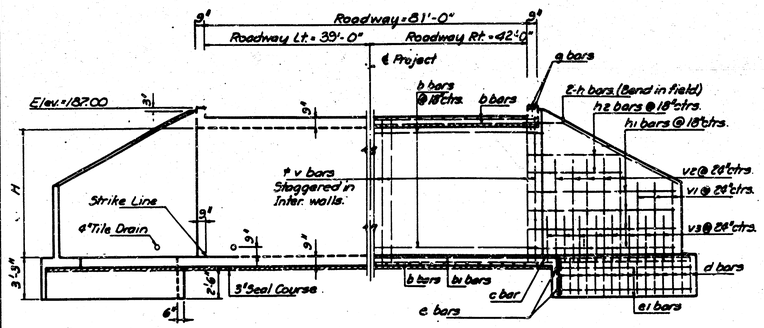
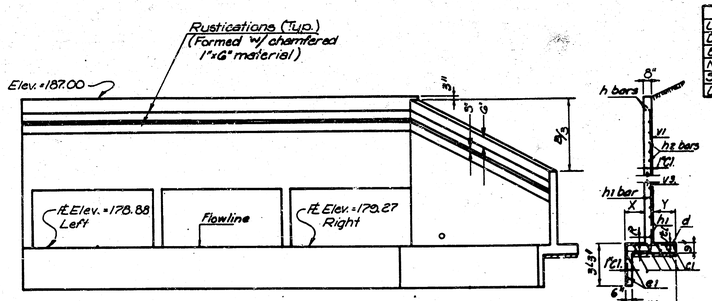
FHWA REGION NO.	STATE	PROJECT NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
7	KANSAS				



ELEVATION AND SECTION

* See Bar List for size & spacing.



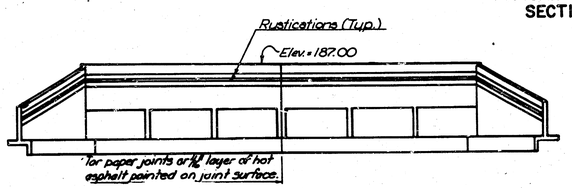
HALF END ELEVATION

TYPICAL WING SECTION

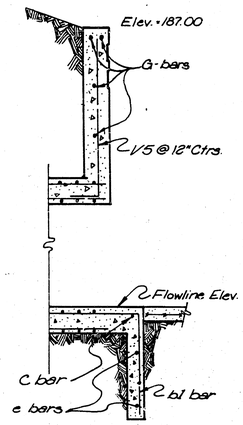
LIST OF BARS AND DIMENSIONS

G-10'x 3'x 81'-0"

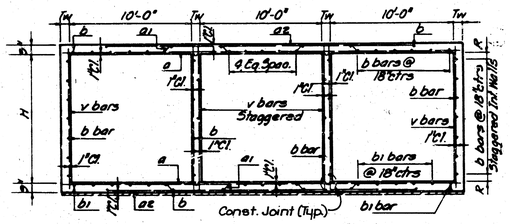
Letter	A	B	C	H		R	Tw	W	X	Y			Bar	a	a1	v			
Dimension	46'-1⅛"	12'-0"	30'-7⅛"	3'-0"		8"	2'-0"	1'-0"	2'-9"				Space	12"	12"	1½"			
Bar	a	a1	ae	b	b1	c	c1	d	e	e1	g	h	h1	he		v	v1	ve	v3	v5
Number	164	162	164	168	68	4	20	68	4	8	16	8	12	8		340	16	16	32	128
Size	#3	#3	#3	#8	#8	#6	#8	#8	#6	#8	#5	#5	#8	#8		#6	#8	#6	#8	#6
Length	31'-9"	32'-3"	22'-0"	41'-0"	45'-8"	32'-0"	19'-0"	6'-9"	31'-7"	16'-6"	31'-6"	18'-0"	16'-0"	9'-0"		4'-3"	6'-0"	8'-3"	3'-9"	6'-0"



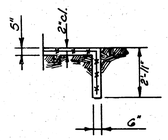
END ELEVATION



TYPICAL HEADWALL SECTION

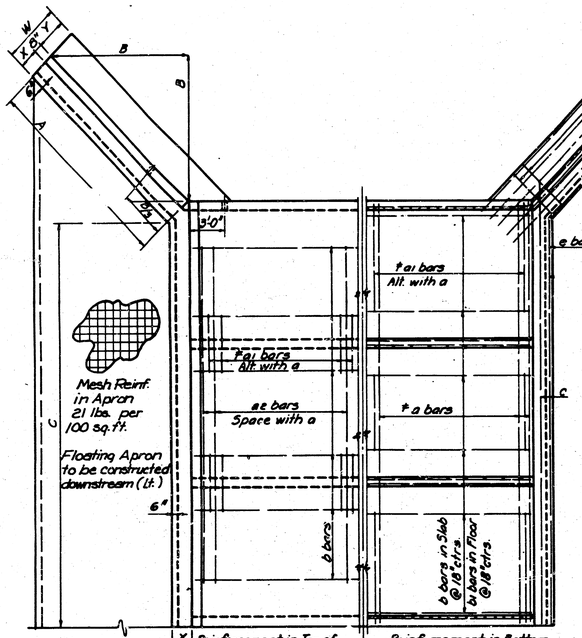


HALF BARREL SECTION

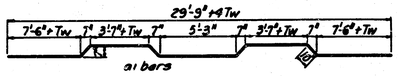


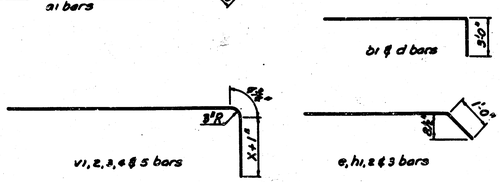
SECTION THROUGH APRON

Construct Soil Saver Upstream (See Soil Saver Sheet)



HALF PLAN AND SECTION





BENDING DIAGRAMS
All dimensions are out to out of bars.

GENERAL NOTE

LOADING H20-44 AASHO Specifications 1984 Edition.
UNIT STRESSES: f'c=4,000 psi; fc=1,200 psi; fs=24,000 psi.
Class A Concrete shall be used throughout. Bevel all exposed edges with a ¾" triangular molding unless otherwise noted.
~~All concrete shall be placed in billet steel reinforcing grade.~~ All dimensions relative to reinforcing steel are to centerline of bar unless otherwise noted.
A Seal Course consisting of 3" of Class A Concrete, shall be constructed. ~~unless otherwise specified on the plans or by the Engineer.~~ No reinforcing shall be placed until the Seal Course has gained sufficient strength to permit working upon it without injury.
~~Payment for additional quantities resulting from including Seal Course as a change in the original plans, shall be made at the Unit Price bid for the various items involved.~~
Coarse aggregate shall be deposited behind each weephole to occupy a space extending 15" in all directions above weephole flowline. This work shall not be paid for directly, but shall be considered part of the excavation work.
~~Metal guard rail and headwall is not a part of the bridge contract.~~

1 3-93 Corrected Length a bar Sec'l. 10x9 C.L.M. R.L.A.
NO DATE REVISIONS BY APP'D

KANSAS DEPARTMENT OF TRANSPORTATION
BRIDGE NO. STA
STD. MULTIPLE 10' SPAN CONCRETE BOX
STA. 84+50
2/4
~~STD. NO. 172.18~~
SHEET NO OF SCALE APP'D F.S. ELCOCK
DESIGNED J.H.B DETAILED C.E.C. QUANTITIES TRACED P.E.L.
DESIGN CK E.E.W. DETAIL CK C.A.L. QUAN CK TRACE CK A.G.L. 2/4

Rec'd

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FHWA REGION NO	STATE	PROJECT NO	YEAR	SHEET NO	TOTAL SHEETS
7	KANSAS		19		

	STATION 84+50 Rt. (Cast-in-Place)				B_1 ——		Skew ——		Z = 1'-10 1/4"	
Cast-in-Place	Letter	M	N	P	Q_L	Q_S	K_1	K_S	L_L	L_S
	Dimension	5'-0"	3'-5 3/4"	85°-15/8"	11'-0"	11'-0"	0'-6"	0'-6"	1'-5"	1'-5"

	STATION 84+50 Rt. (Precast)				B_1 —		Skew —		Z = 2'-10 1/4"	
Precast	Letter	M	N	P	Q_L	Q_S	K_1	K_S	L_L	L_S
	Dimension	5'-0"	5'-0"	85°-5 3/4"	11'-0"	11'-0"	0'-6"	0'-6"	1'-5"	1'-5"

STATION					B_1		Skew		Z =	
Letter	M	N	P		Q_L	Q_S	K_1	K_S	L_L	L_S
Dimension										
Bar	m	n*	p	p_1	q	Sq. ft. mesh				
Number						Cl. A Conc.				C.Y.
Length						Reinf. Steel				lbs.

STATION					B_1		Skew		Z =	
Letter	M	N	P		Q_L	Q_S	K_1	K_S	L_L	L_S
Dimension										
Bar	m	n*	p	p_1	q	Sq. ft. mesh				
Number						Cl. A Conc.				C.Y.
Length						Reinf. Steel				lbs.

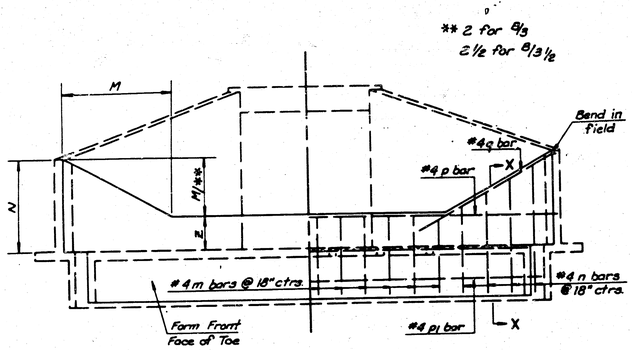
STATION					B_1		Skew		Z =	
Letter	M	N	P		Q_L	Q_S	K_1	K_S	L_L	L_S
Dimension										
Bar	m	n*	p	p_1	q	Sq. ft. mesh				
Number						Cl. A Conc.				C.Y.
Length						Reinf. Steel				lbs.

STATION					B_1		Skew		Z =	
Letter	M	N	P		Q_L	Q_S	K_1	K_S	L_L	L_S
Dimension										
Bar	m	n*	p	p_1	q	Sq. ft. mesh				
Number						Cl. A Conc.				C.Y.
Length						Reinf. Steel				lbs.

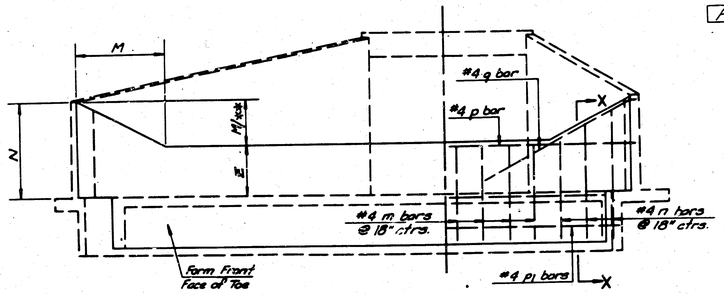
STATION					B_1		Skew		Z =	
Letter	M	N	P		Q_L	Q_S	K_1	K_S	L_L	L_S
Dimension										
Bar	m	n*	p	p_1	q	Sq. ft. mesh				
Number						Cl. A Conc.				C.Y.
Length						Reinf. Steel				lbs.

Quantities include apron and soil saver quantities.

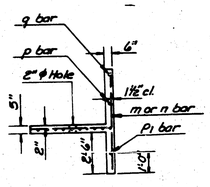
* n bars are variable, increase by increments of 7" for $B_{/3.5}$ and 9" for $B_{/3}$. Cut 2 each length.



ELEVATION AND SECTION



ELEVATION AND SECTION



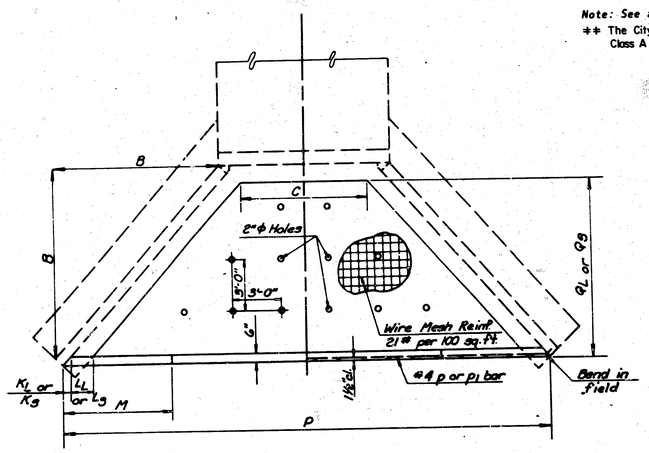
SECTION X-X

GENERAL NOTES

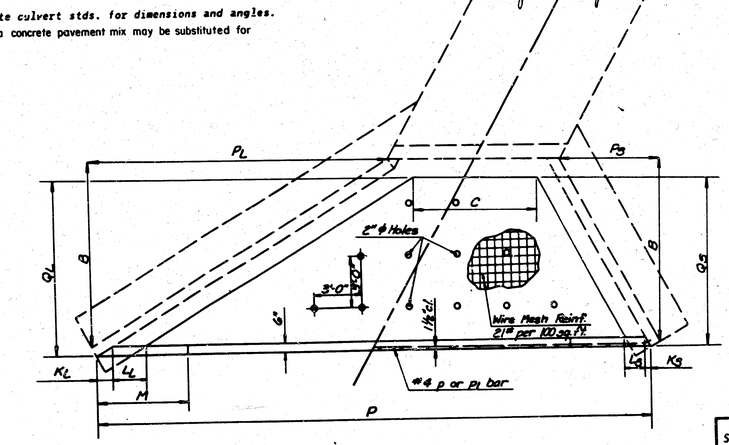
CONCRETE: Class A Concrete shall be used throughout. **
All exposed edges shall be finished with an edging tool.
REINFORCING: All dimensions are to ℄ of bar. Wire reinforcing mesh shall be electrically welded and shall be composed of No. W 1.4 wire at 6" centers each way. Weight of reinforcing mesh shall be classified as pounds of reinforcing steel.

When holes in the apron are warranted by drainage conditions, they shall be constructed as directed by the Engineer.

Note: See appropriate culvert stds. for dimensions and angles.
** The City of Wichita concrete pavement mix may be substituted for Class A Concrete.



PLAN



PLAN — SKEW

NOTE: ALL REINFORCING BARS ARE NO. 4 BARS

LIST OF SOIL SAVERS

Station	Culvert Size	Side	Z	Skew
Cast-in-Place 84+50	6-10'x3'	Rt.	1'-10 1/4"	——
Precast 84+50	6-10'x4'	Rt.	2'-10 1/4"	——

NO	DATE	REVISIONS	BY	APP'D
3				
2				
1				

DEPARTMENT OF TRANSPORTATION — KANSAS

SOIL SAVER FOR R.C. CULVERTS

STD. NO. 520.1

12/6/76

SHEET NO	OF	SCALE	APP'D
DESIGNED Bourton	DETAILED Bowser	QUANTITIES	TRACED Bowser
DESIGN CK Wilkerson	DETAIL CK Hecht	QUAN CK	TRACE CK Hecht

3/4

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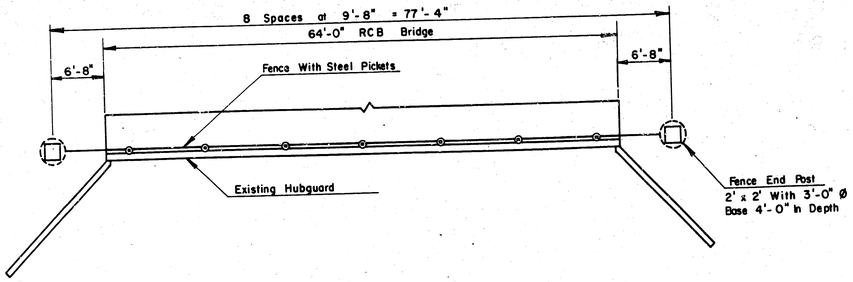
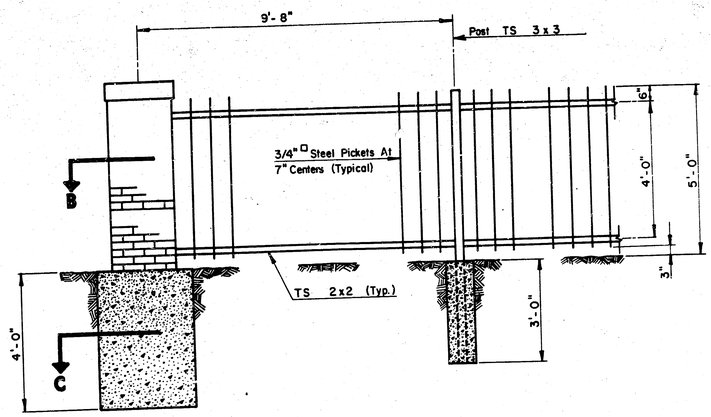
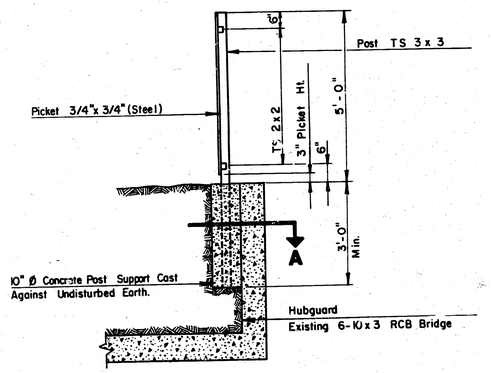


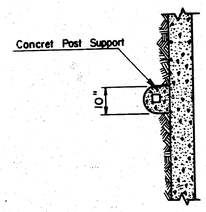
TYPICAL FENCE LAYOUT AT BRIDGE HUBGUARD



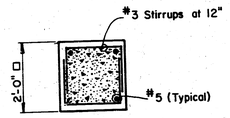
TYPICAL RAILING ELEVATION



TYPICAL SECTION AT R.C.B. BRIDGE HUBGUARD



SECTION A



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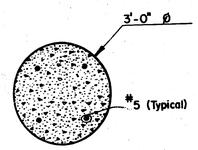

SECTION C

BRIDGE RAILING
4-10X3 R.C.B. BRIDGE
NORTH ROCK ROAD
WILLOWBEND

Design
Drawn by
Checked by
Date
Job no.

Sheet 4
of 4

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3500 NORTH ROCK ROAD
BUILDING #800
WICHITA, KANSAS 67226
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