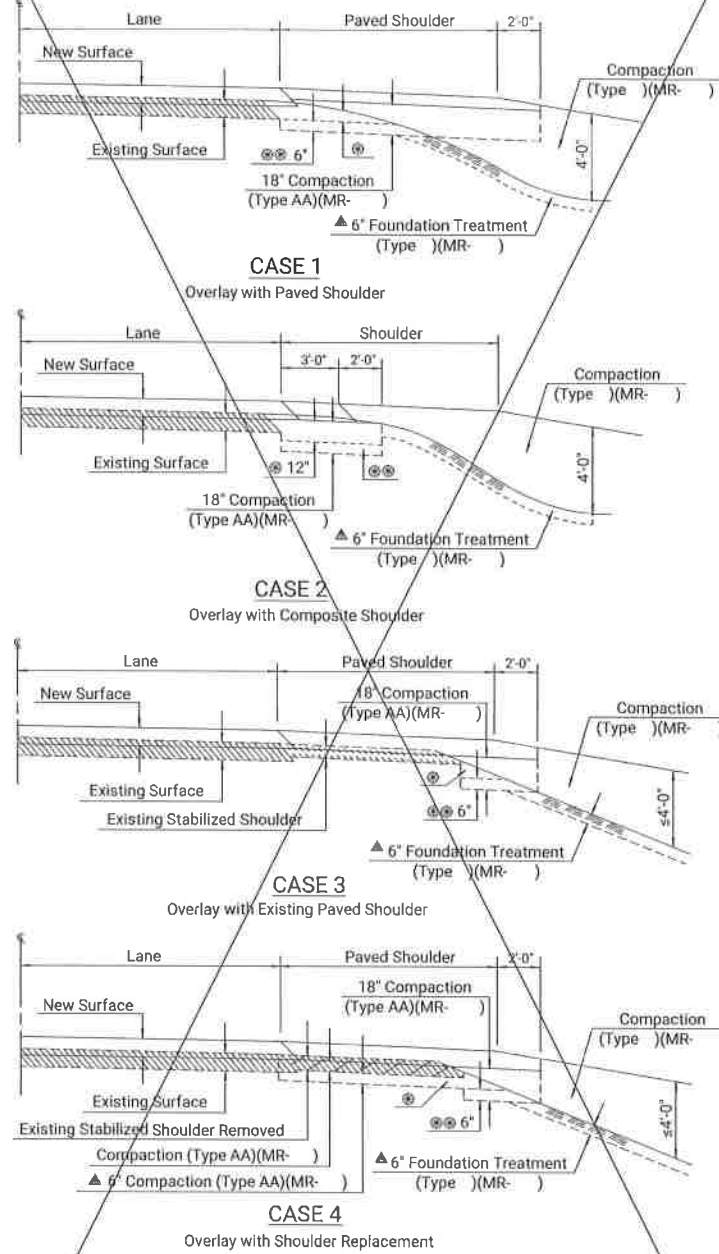






STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR N0-1000-60	2025	3	52

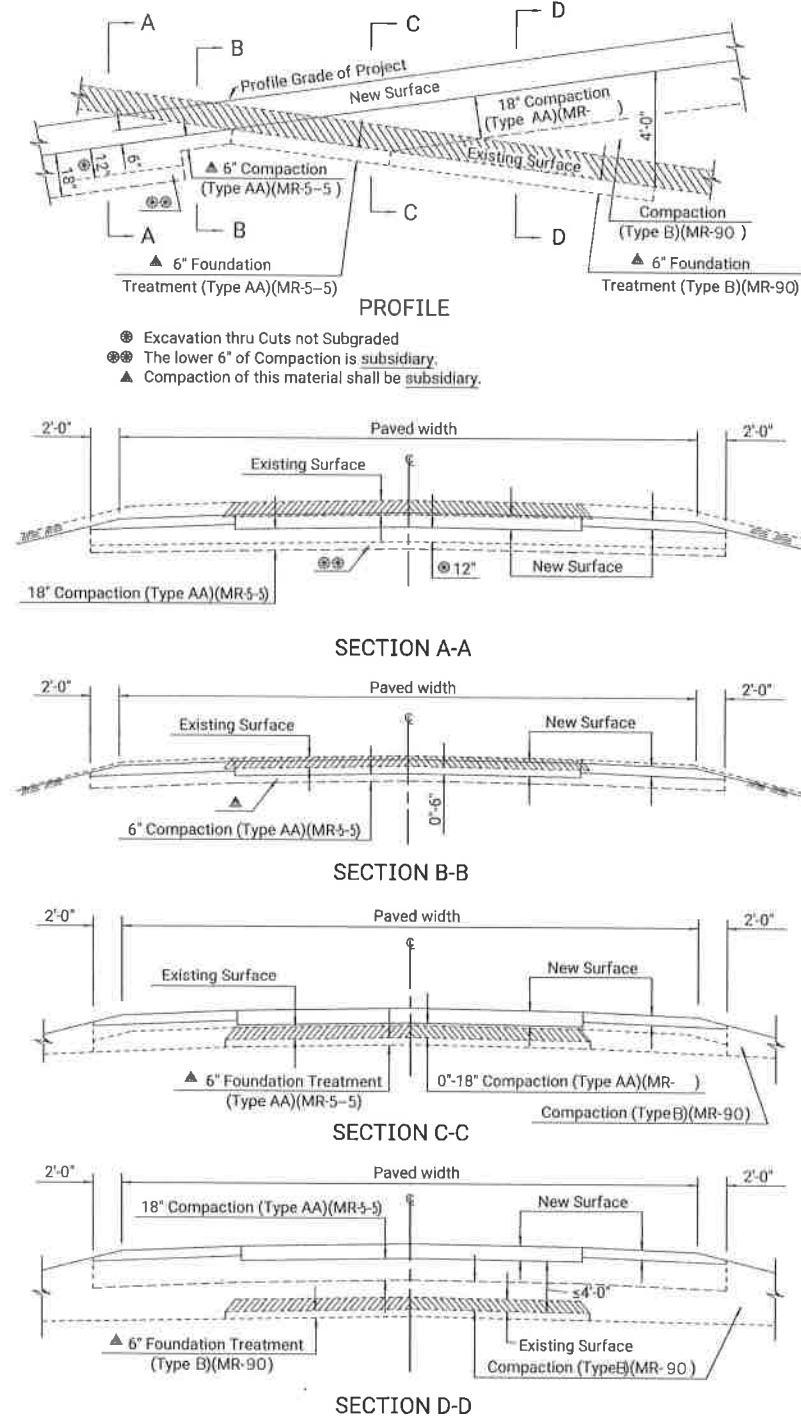
### REHABILITATION



- ⊙ Excavation thru Cuts not Subgraded
- ⊙⊙ The lower 6" of Compaction is subsidiary.
- ▲ Compaction of this material shall be subsidiary.

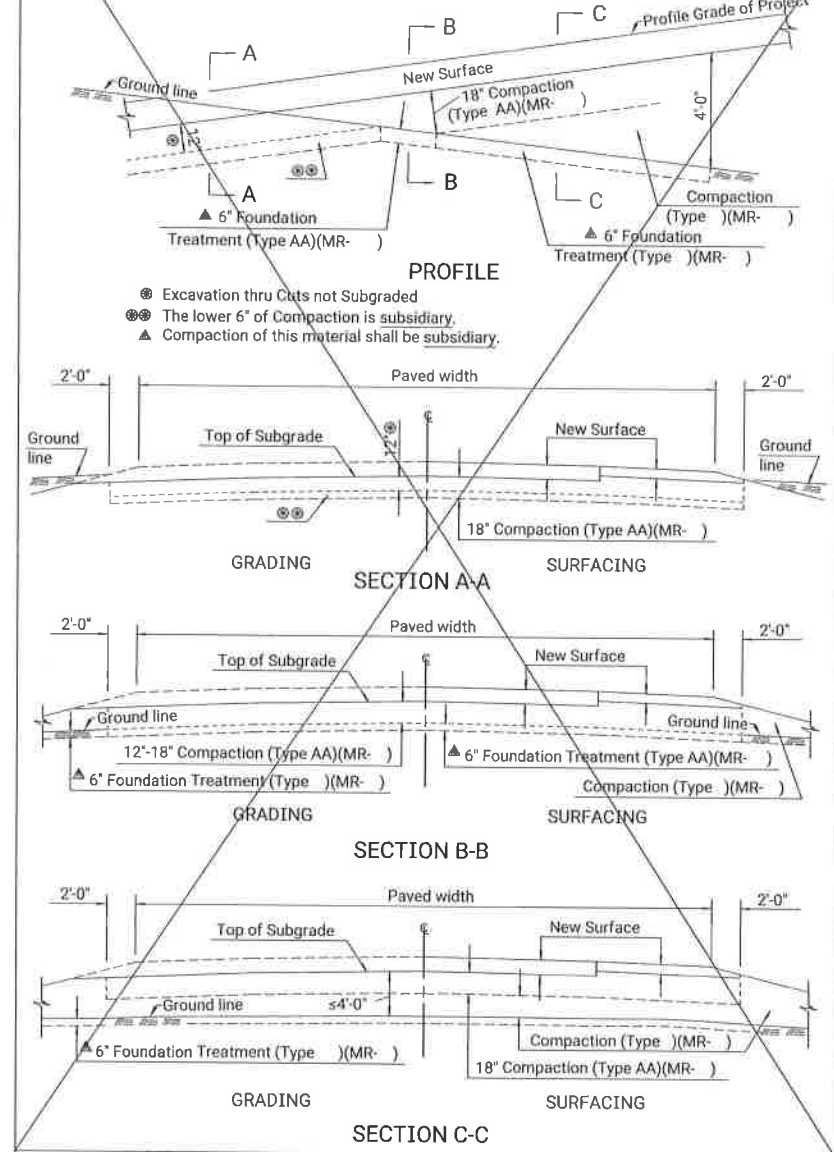
Note: These are 4 general cases. Specific compaction requirements are determined on a project-by-project basis.

### RECONSTRUCTION



- ⊙ Excavation thru Cuts not Subgraded
- ⊙⊙ The lower 6" of Compaction is subsidiary.
- ▲ Compaction of this material shall be subsidiary.

### NEW CONSTRUCTION



- ⊙ Excavation thru Cuts not Subgraded
- ⊙⊙ The lower 6" of Compaction is subsidiary.
- ▲ Compaction of this material shall be subsidiary.

**General Note**  
For materials designated to be subgraded, compaction of soils, including shales, designated for backfill refer to Standard Drawing RD605A for details.  
Unless otherwise noted on the Plans, compact all embankment, including side roads and entrances.

NO.	DATE	REVISIONS	BY	APP'D
05	10-17-11	Revised General Note	S.W.K.	J.O.R.
04	01-05-10	Added additional subsidiary comp.	S.W.K.	J.O.R.
03	03-16-05	Revised Rev. Rev. Sec. C.C.S.D.O.	S.W.K.	J.O.R.

KANSAS DEPARTMENT OF TRANSPORTATION

**FOUNDATION TREATMENT & COMPACTION OF EARTHWORK**

RD605

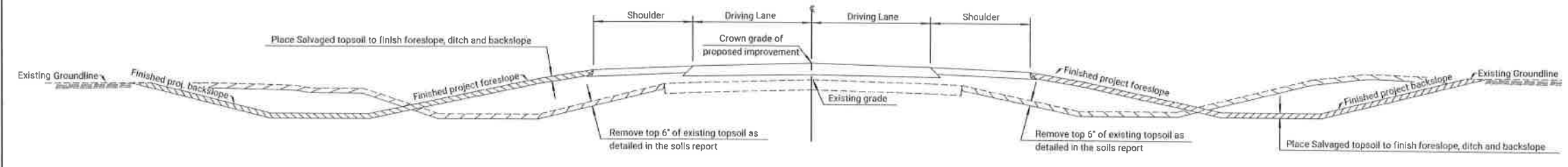
DESIGNED	DRAWN	CHECKED	QUANTITIES	TRACED
12/05/11	12/05/11	12/05/11	12/05/11	12/05/11
DETAILS	DETAILS	DETAILS	DETAILS	DETAILS

KDOT Graphics Certified 04-25-2022

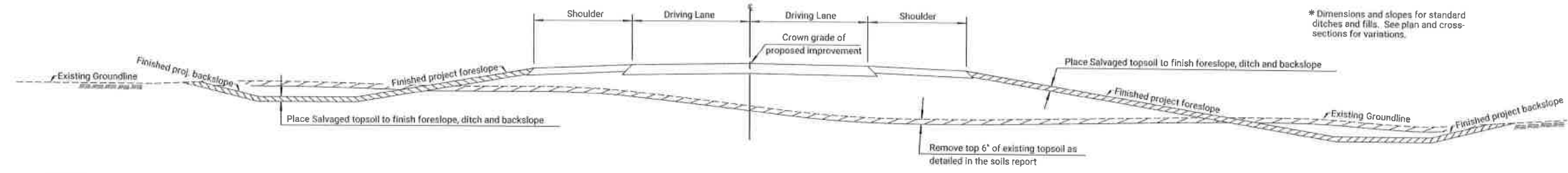
Plotted by: KDOT#CADD\_Support\_ks.gov 11-JUN-2022 00:37  
File: rd605.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	4	52

**GENERAL NOTE**  
 Adjust the cut and fill sections to accommodate the placement of the salvaged topsoil such that after placement the cross section will be at the final grade as shown on the plans.  
 Salvaging, Stockpiling and Placing Topsoil bid as "Salvaged Topsoil" in Square Yards. See KDOT Standard Specifications for details.  
 Soften and round the intersection of all slope lines for pleasing appearance.

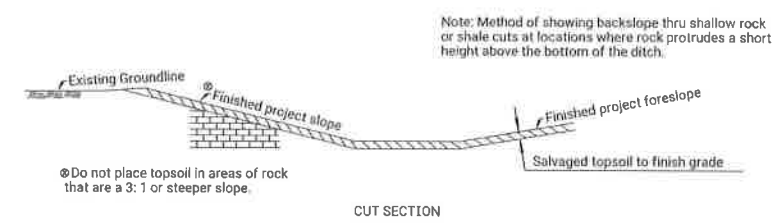


**RECONSTRUCTION/REHABILITATION OF EXISTING ROADWAY  
 (Removal and Placement of Salvaged Topsoil)**



**NEW ROADWAY ALIGNMENT  
 (Removal and Placement of Salvaged Topsoil)**

**LEGEND**  
 Topsoil to be Salvaged  
 Placement of Salvaged Topsoil



CUT SECTION

\* Dimensions and slopes for standard ditches and fills. See plan and cross-sections for variations.

NO.	DATE	REVISIONS	BY	APPD
01	12-16-09	Initial Release	S.W.K.	J.D.B.

KANSAS DEPARTMENT OF TRANSPORTATION

**SALVAGED TOPSOIL**

RD599A

DESIGNED	DETAILS	QUANTITIES	TRACED	BY	APPD
DESIGN CK	DETAIL CK	QUANT CK	TRACER	S.W.K.	J.D.B.

KDOT Graphics Certified 05-10-2022

Note to Designer: Acceptable Topsoil locations on a project will be detailed in the Soils Report. The locations will be used in conjunction with the plans to measure a horizontal area in Sq. Yds of "Salvaged Topsoil" within the R/W limits.  
 Plotted by: KDOT\CADD\Support\_Lks.gov 11-JUN-2022 00:24  
 File: rd599a.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	5	52

Point #	Raw Description	Elevation	Northing	Easting
1545	sec cor	1904215.8073	1528854.3887	
539	bm	1464.891	1904149.4973	1530258.9684
155	bm	1464.757	1904149.5253	1530258.9014
474	bm	1464.907	1904149.5043	1530258.8354
602	sec cor	1482.360	1904218.1250	152805.0590
804	mag cp	1471.571	1904207.3010	1530749.1620
442	rim marker ck	1464.235	1904136.3086	1530510.1350

**GENERAL NOTES**

THE GEOLOGICAL INFORMATION SHOWN ON THESE PLANS IS FROM STUDIES MADE IN THE FIELD AND REPRESENTS THE BEST INFORMATION AVAILABLE TO THE KANSAS DEPARTMENT OF TRANSPORTATION.

**SOIL FOR EMBANKMENT:** ALL SOIL USED IN THE TOP 18 INCHES OF THE EMBANKMENT SHOULD CONFORM TO THE FOLLOWING REQUIREMENTS:  
 $8 < PI < 25$  AND  $15 < LL < 35$ . SOILS WHICH CONTAIN SUBSTANTIAL ORGANIC MATTER, SUCH AS THOSE CLASSIFIED AS OL OR OH ACCORDING TO THE UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487) SHOULD NOT BE USED TO CONSTRUCT THE EMBANKMENT OR SUBGRADE. THE ORGANIC MATERIAL MAY BE USED AS SELECT SOIL TO CAP THE SIDESLOPES OF THE EMBANKMENT. A GROSS WMF OF 1.00 WAS USED TO COMPUTE EARTHWORK QUANTITIES FOR THIS PROJECT.

EMBANKMENT QUANTITIES FOR INITIAL CONSOLIDATION AND SETTLEMENT SHOWN IN THE EARTHWORK QUANTITIES ARE SUBSIDIARY TO OTHER EARTHWORK ITEMS. MATERIAL FOR THE EMBANKMENT IS INCLUDED IN THE EXCAVATION QUANTITIES.

ALL BORROW AREA LOCATIONS ADJACENT TO THE RIGHT-OF-WAY, UTILITY POLES MAY BE SET AT THE PERMANENT LOCATIONS PRIOR TO CONSTRUCTION AS APPROVED BY THE ENGINEER PROVIDED A MINIMUM VERTICAL CLEARANCE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL SAFETY CODE, IS OBTAINED. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND THESE POLES TO COMPLETE THE WORK.

ALL BORROW TO BE OBTAINED FROM AREAS PROVIDED BY THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEER, BOTH AS TO SUITABILITY OF MATERIAL AND SITE LOCATION. LOCATIONS WHICH, IN THE OPINION OF THE ENGINEER, CONTAIN UNSUITABLE MATERIAL OR WILL LEAVE AN UNSIGHTLY APPEARANCE ON THE PROJECT WILL NOT BE APPROVED.

ALL BORROW/WASTE LOCATIONS SHALL BE SUBMITTED FOR CLEARANCE FROM THE KANSAS HISTORICAL SOCIETY AND THE KANSAS DEPARTMENT OF WILDLIFE AND PARKS PRIOR TO ANY EXCAVATION OR WASTING OF MATERIAL. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS AND OTHER CLEARANCES THAT ARE REQUIRED.

EXCAVATION REQUIRED FOR PLACING SELECT SOIL IS INCLUDED IN THE COMMON EXCAVATION QUANTITIES.

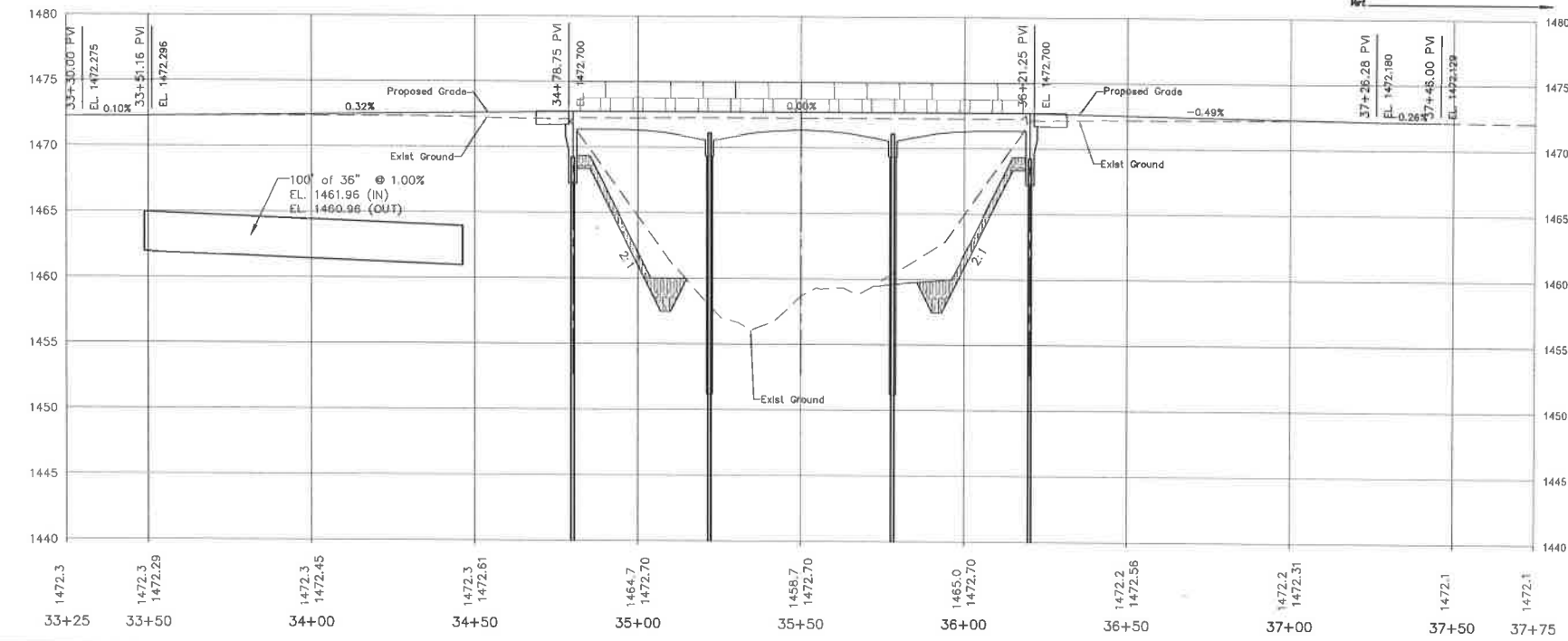
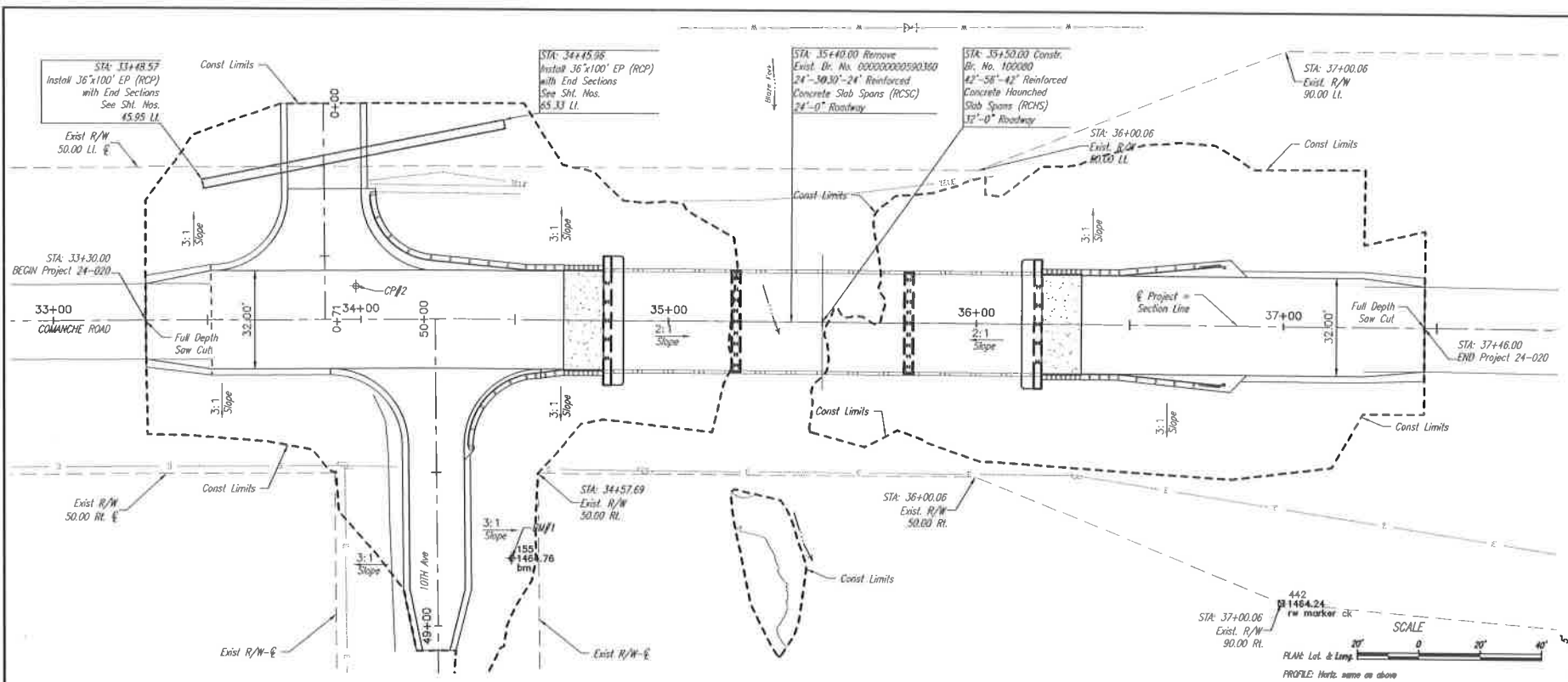
EXCAVATION SHOWN TO BE WASTED SHALL BE WASTED ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED.

CHANNELS SHALL BE CUT AT BOX CULVERTS (UNLESS OTHERWISE NOTED) TO FLOW LINE ELEVATIONS AND TO A WIDTH OF ONE FOOT OUTSIDE OF EACH OUTSIDE WALL AND WITH SLOPES 2 TO 1 PRIOR TO CONSTRUCTION OF THE CULVERT.

WHERE EASEMENTS ARE SHOWN ON RAILROAD RIGHT OF WAY, THE CONTRACTOR SHALL BE REQUIRED TO WORK AROUND AND NOT DISTURB THE RAILROAD COMMUNICATION OR SIGNAL POLES OR LINES.

ALL TREES, HEDGE ROWS, SHELTER BELTS, AND WOODY SHRUBS NOT SHOWN TO BE REMOVED AND LOCATED BETWEEN THE CONSTRUCTION LIMITS AND THE RIGHT-OF-WAY LINE OR EASEMENT LINE SHALL BE SPARED UNLESS DIRECTED BY THE ENGINEER TO BE REMOVED. ALL TREES WITHIN THE APPROPRIATE CLEAR ZONE SHALL BE REMOVED.

INFORMATION SHOWN IN THE PLANS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGES THERETO. ALL ROOT OWNED UTILITIES ARE TO BE LOCATED BY THE CONTRACTOR.



NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

**COMANCHE ROAD PLAN AND PROFILE**

DESIGNED	DETAILED	QUANTITIES	TRACED
DESIGN CH.	DETAL. CK.	QUAN. CK.	TRACE CK.

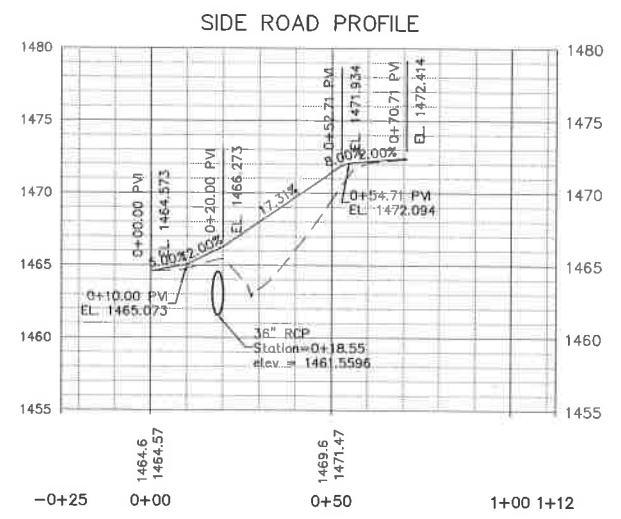
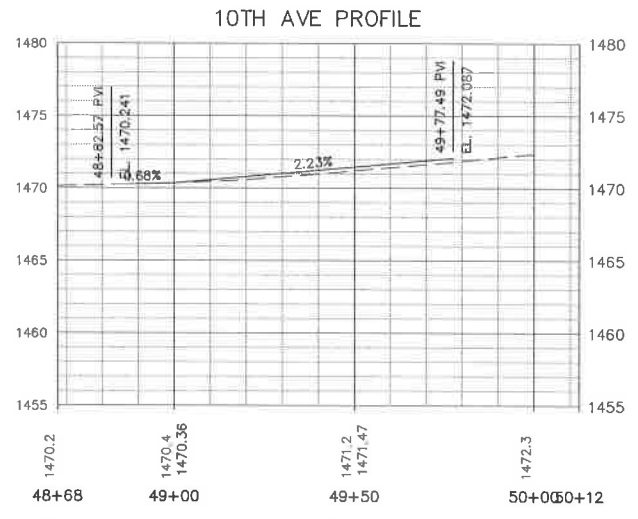
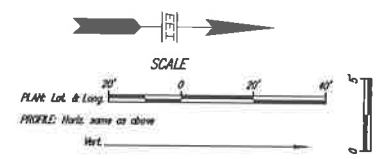
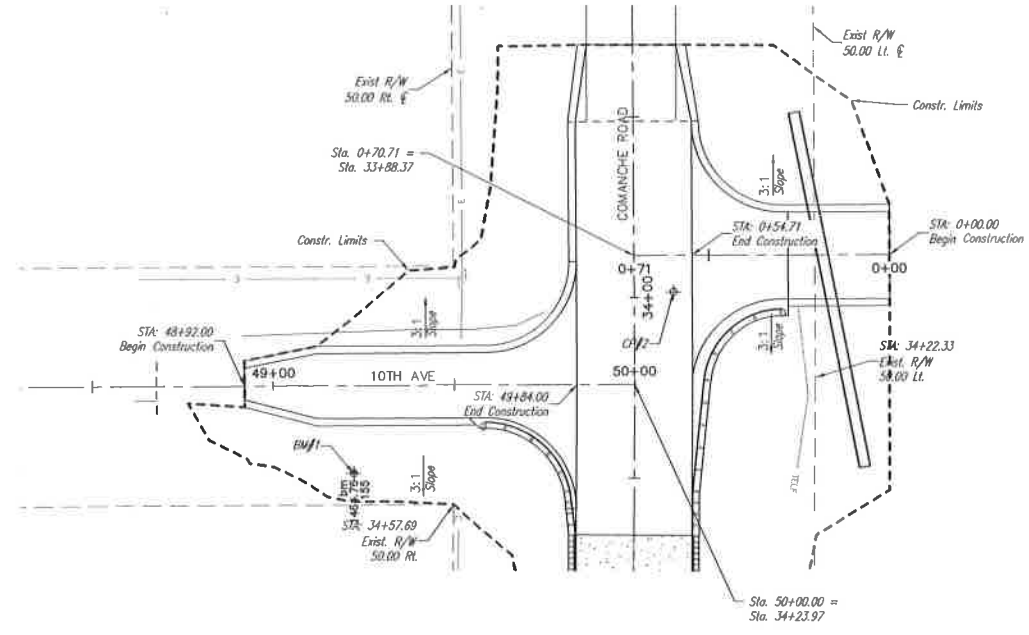
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 Plotted 9/2/2025 9:38 AM

Filename: 10 CROSS SECTIONS.DWG  
 File Location: F:\2024\24-020-Comanche Road Bridge-Mohrman County\Civil\Drawings\Plan Set

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	6	52

BM #1  
1/2" Bar  
N: 1904150.04  
E: 1530258.84  
ELEV. = 1464.76

CP #2  
Mag Nail  
N: 1904237.99  
E: 1530208.47  
ELEV. = 1472.26



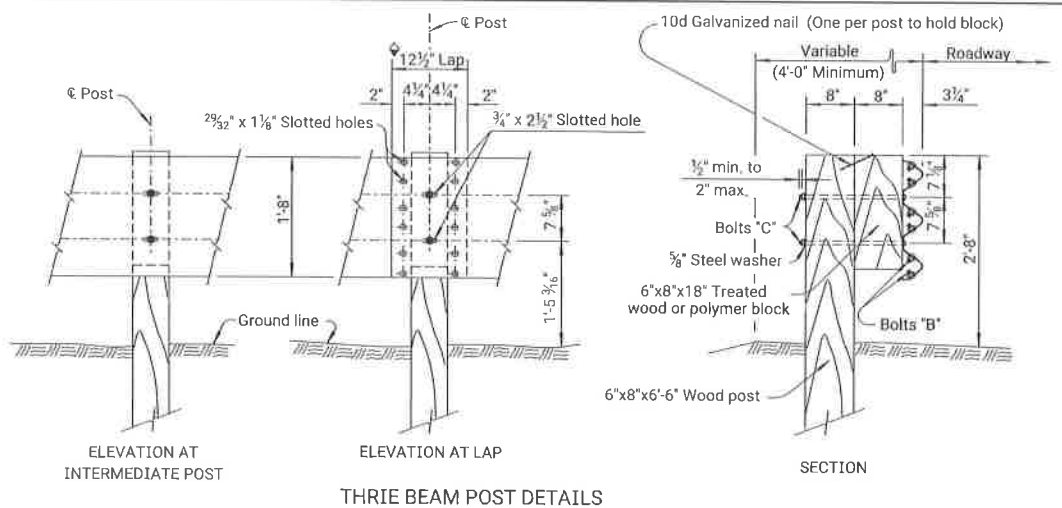
2				
1				
NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
<b>10TH AVE PLAN AND PROFILE</b>				
FHWA APPROVAL		APP'D		
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CK	DETAIL CK	QUAN. CK	TRACE CK	

Revised By: JDOOLAN  
Plotted 8/21/2025 9:39 AM

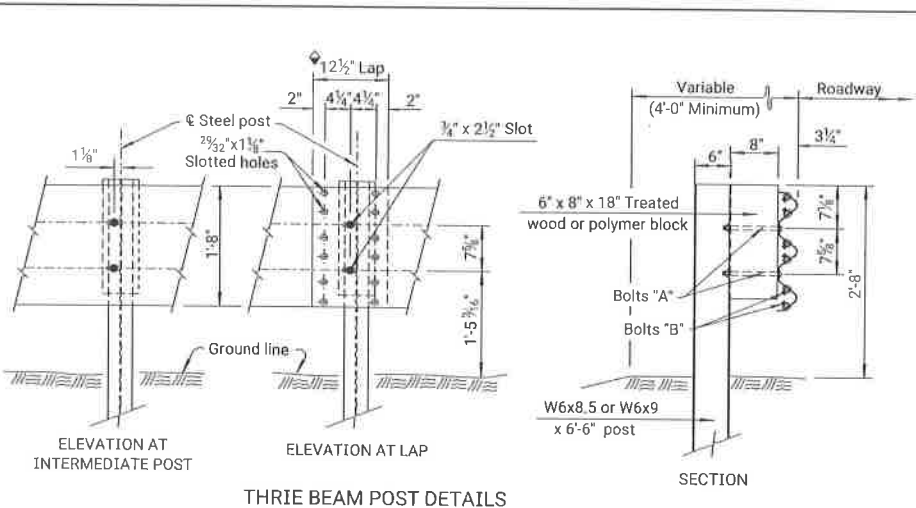
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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	8	52

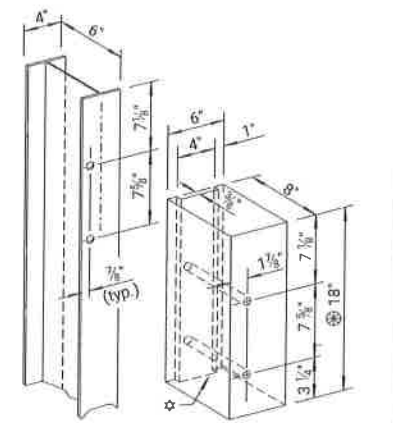


THRIE BEAM POST DETAILS

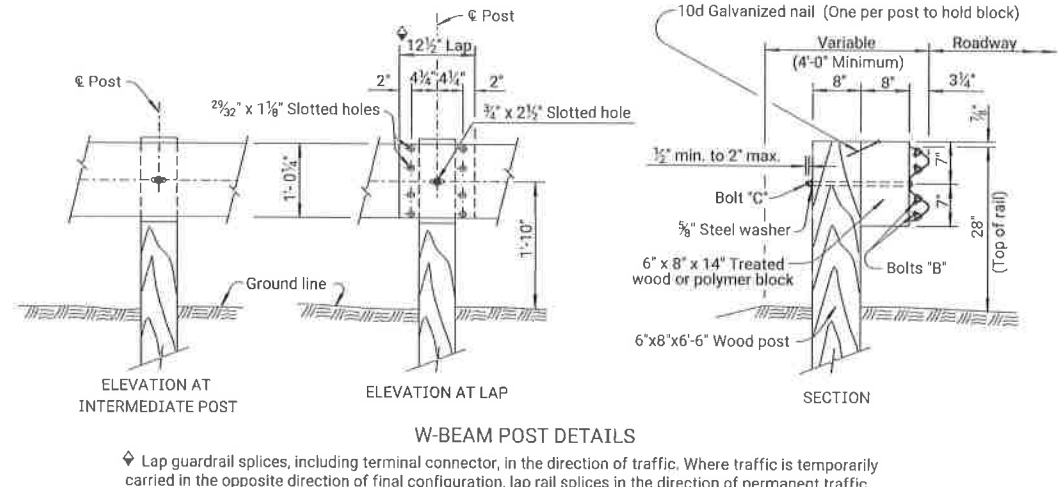


THRIE BEAM POST DETAILS

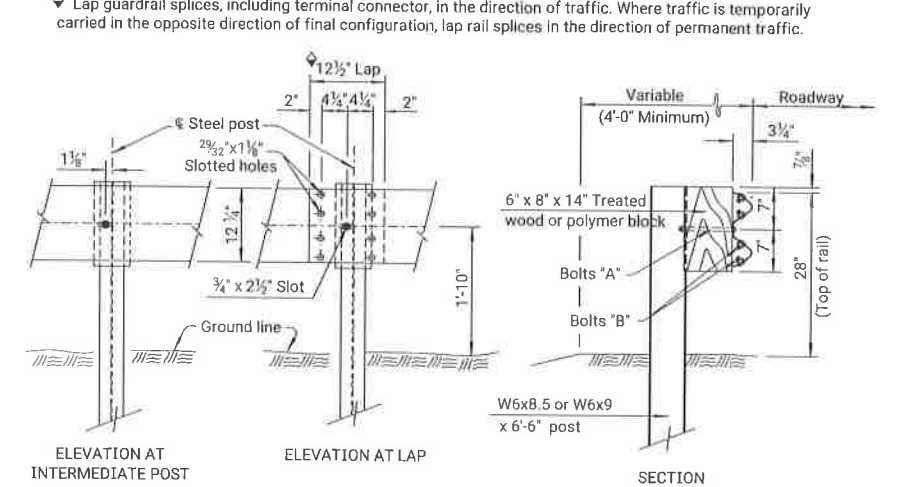
See Standard Drawing RD613 for Thrie-Beam Transition Section Details.



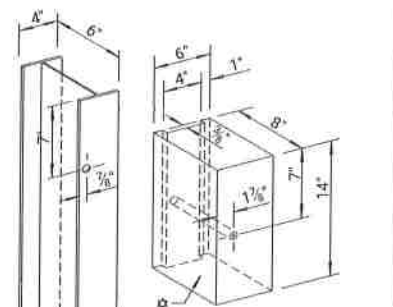
Note: All holes 1 3/16 inch dia.  
THRIE BEAM HOLE PUNCHING DETAILS



W-BEAM POST DETAILS



W-BEAM POST DETAILS



Note: All holes 1 3/16 inch dia.  
W-BEAM HOLE PUNCHING DETAILS

Lap guardrail splices, including terminal connector, in the direction of traffic. Where traffic is temporarily carried in the opposite direction of final configuration, lap rail splices in the direction of permanent traffic.

Lap guardrail splices, including terminal connector, in the direction of traffic. Where traffic is temporarily carried in the opposite direction of final configuration, lap rail splices in the direction of permanent traffic.

WOOD POSTS

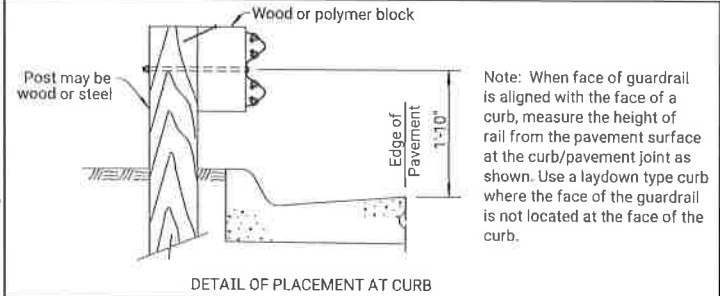
GENERAL NOTES (Wood Posts)

Give all wood posts and wood blocks a preservative treatment, see standard specifications. Thoroughly saturate all cuts, injuries and bolt holes on wood posts and blocks with preservative. Use only one type of preservative treatment on a project. Use S4S rectangular posts and wood blocks, see standard specifications. Use only one post/blockout type within guardrail run, this excludes the the guardrail end terminals. Set guardrail posts by digging or by driving. Use post caps to protect the post from crushing during driving operations. Contractor must notify Engineer at the earliest time when a non-removable manmade object (footing, pipe, etc.) is encountered and prevents installation of a full length post. Contractor must obtain Engineer approval prior to cutting post shorter than 6'-6". Approved polymer blockouts may be substituted for wood blockouts. Only one type of blockout is permitted on each guardrail installation. This excludes the guardrail end terminals unless certified by the manufacturer. All dimensions are nominal and are subject to manufacturing tolerances. Excavation including rock, shale, and other materials for erection of Guardrail is subsidiary to various bid items for which payment is made. Where guardrail posts are installed in pavement, form openings in the pavement for the guardrail posts.

STEEL POSTS

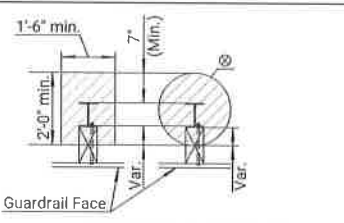
GENERAL NOTES (Steel Posts)

Use grade of steel for steel posts that meets the requirements of the standard specifications. Hot dip galvanize the posts after fabrication, see standard specifications. Use only one post/blockout type within guardrail run, this excludes the guardrail end terminals. For wood/polymer blockout requirements see standard specifications. Approved polymer blockouts may be substituted for wood blockouts. Only one type of blockout is permitted on each guardrail installation. This excludes the guardrail end terminals. Set guardrail posts by digging or by driving. Use post caps to protect the post from crushing during driving operations. Contractor must notify Engineer at the earliest time when a non-removable manmade object (footing, pipe, etc.) is encountered and prevents installation of a full length post. Contractor must obtain Engineer approval prior to cutting post shorter than 6'-6" except as allowed on Standard Drawing RD617. All dimensions are nominal and are subject to manufacturing tolerances. Excavation including rock, shale, and other materials for erection of Guardrail is subsidiary to various bid items for which payment is made. Where guardrail posts are installed in pavement, form openings in the pavement for the guardrail posts.



DETAIL OF PLACEMENT AT CURB

Note: When face of guardrail is aligned with the face of a curb, measure the height of rail from the pavement surface at the curb/pavement joint as shown. Use a laydown type curb where the face of the guardrail is not located at the face of the curb.

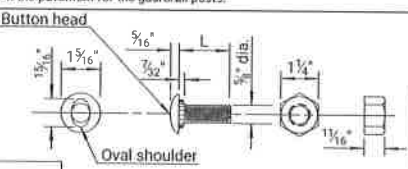


POSTS IN PAVEMENT PLAN (ALTERNATE GEOMETRIES) Applies to All Wood and All Steel Posts (Steel Posts Shown)

- Slurry Grout (Low Strength). See KDOT's Standard Specifications
- Diameter may vary from 1'-6" (min.) to 2'-0".

Note: Low Strength Grout must have a 28-day compressive strength of 120 psi or less. All work and materials related to posts in pavement are subsidiary to other guardrail bid items. Rectangular geometry shown in Posts in Pavement detail. Circular geometry, as shown on this sheet, may be used at the Contractor's option.

BOLT SIZE SCHEDULE	
Bolt	L
A	8 1/2"
B	1 1/4"
C	18"



BOLT & NUT DETAILS

Galvanize all bolts, nuts, and washers in accordance with the KDOT's Standard Specifications.

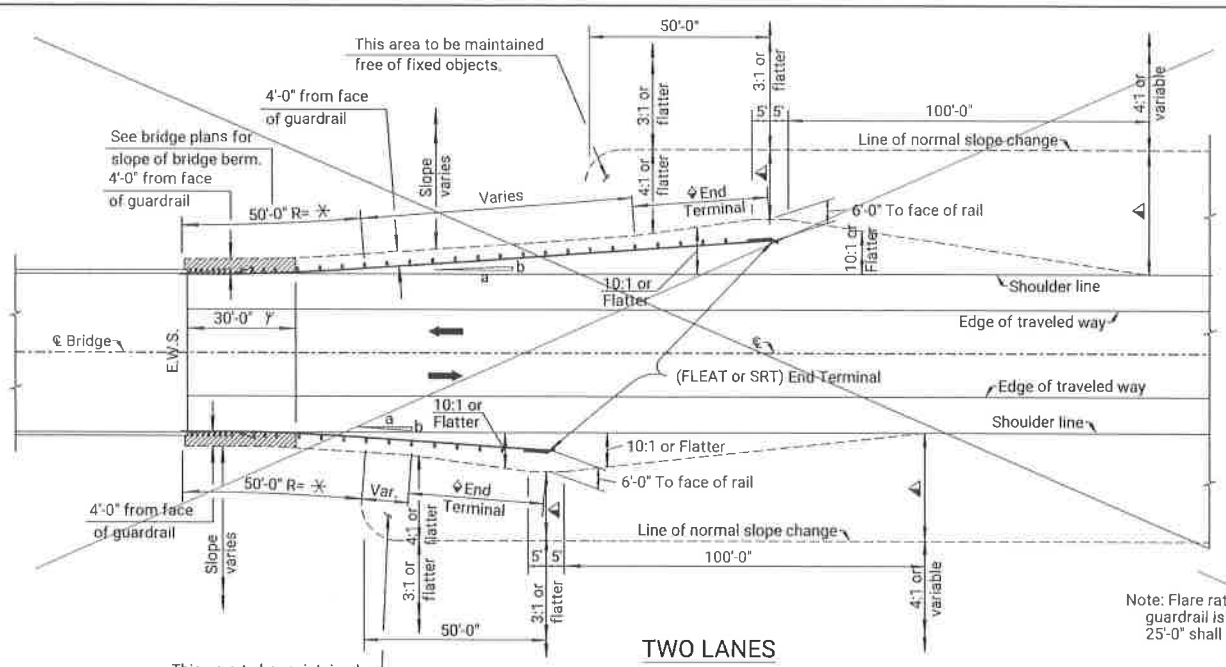
13	09-05-18	Added Sec. Post In Pavement	ALB	J.T.R.
12	12-14-10	Revised notes, 28' w-be	SWK	J.D.B.
11	06-30-04	Remove steel blockout and notes	SWK	J.C.B.
REVISIONS				
NO.	DATE	DESCRIPTION	BY	APPD.
KANSAS DEPARTMENT OF TRANSPORTATION				
RD611				
THWA APPROVAL	08-25-18	APPD	Scott W. King	
DESIGNED	DETAILER	QUANTITIES	TRACEO	
DRAWN	CHECK	ISSUED	TRACEO	
KDOT Graphics Certified 08-01-2022				

Plotted by: Kylee.Sims@ks.gov 2-AUG-2022 15:32  
 File: rd611.dgn  
 Plotted by: JOCMAN  
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 Plot Date: 8/1/2025 5:28 PM

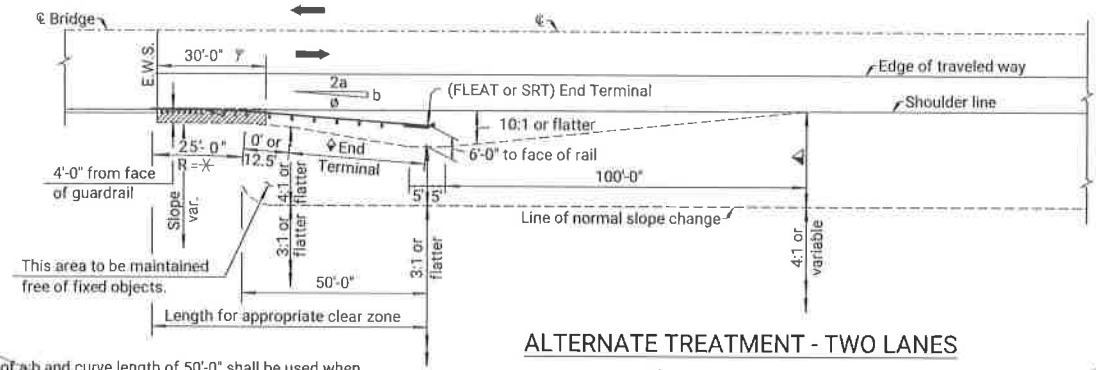
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	9	52

DESIGN PARAMETERS				
Design Speed (mph)	Flare Rate (a:b)	Radius (R)	Flare Rate (2a:b)	Radius (R)
70	15:1	375.55'	30:1	375.14'
60	14:1	350.59'	26:1	325.16'
55	12:1	300.69'	24:1	300.17'
50	11:1	275.76'	21:1	262.70'
45	10:1	250.83'	18:1	225.23'
40	8:1	201.04'	16:1	200.26'

**GENERAL NOTE**  
 For guardrail and rubrail sections, details, and general notes see KDOT's 'W-Beam with Rubrail Bridge Approach Transition Details' Standard Drawings. For post details see KDOT's 'Guardrail Post Details' Standard Drawings.  
 The ratio of a:b may be specified as zero for long runs of guardrail in high fill areas.  
 Widening, slopes & transition for Four Lane will be similar to that shown on two lane detail.

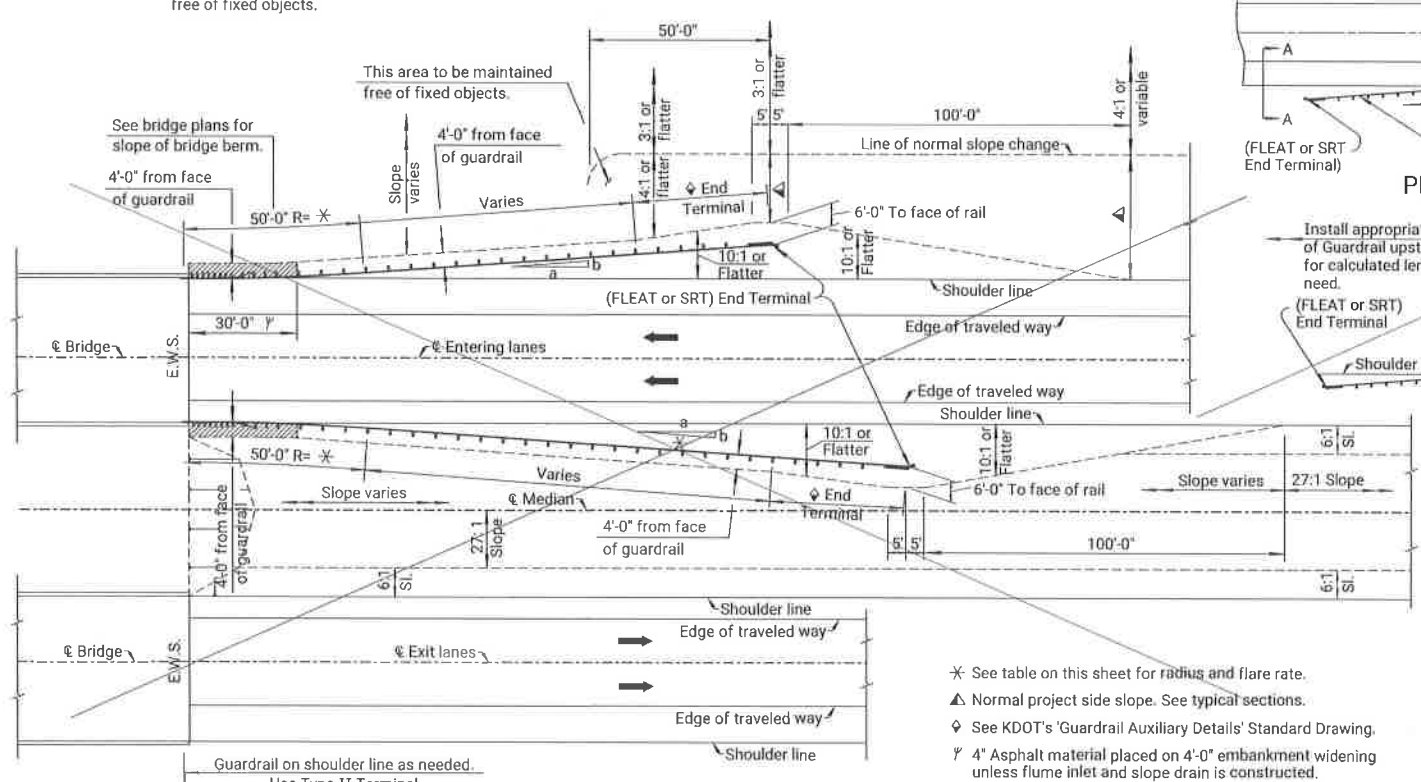


**TWO LANES**

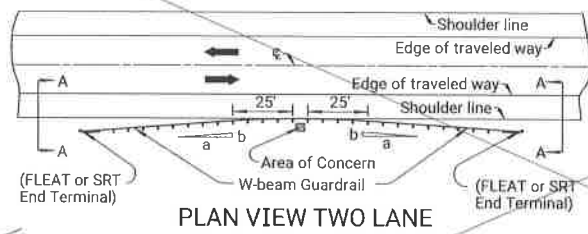


**ALTERNATE TREATMENT - TWO LANES**

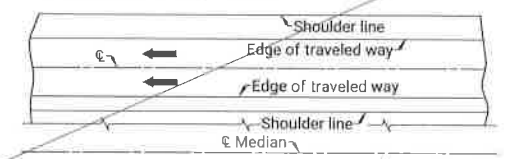
Flare Rate = 2a:b  
 (GUARDRAIL LENGTHS OF 62.5' AND 75')



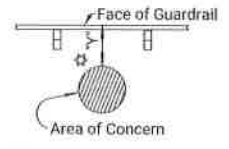
**FOUR LANES - DIVIDED**



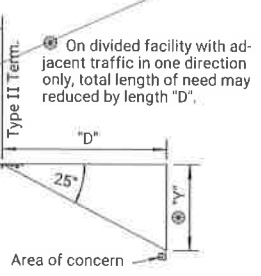
**PLAN VIEW TWO LANE**



**PLAN VIEW FOUR LANE**



**ENLARGEMENT - AREA OF CONCERN**



**DETAILS OF GUARDRAIL PROTECTION AT ROADSIDE OBSTACLE**

- \* See table on this sheet for radius and flare rate.
- ▲ Normal project side slope. See typical sections.
- ◇ See KDOT's 'Guardrail Auxiliary Details' Standard Drawing.
- ∇ 4" Asphalt material placed on 4'-0" embankment widening unless flume inlet and slope drain is constructed.

NO.	DATE	REVISIONS	BY	APPROV.
08	06-05-18	Removed Flare beyond the Flare	A.L.B.	T.T.R.
07	05-15-17	Removed X LITE	A.L.R.	S.W.K.
06	07-02-09	Added roadside obstacle details	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

**W-BEAM WITH RUBRAIL  
 BRIDGE APPROACH TRANSITION  
 TYPICAL ALIGNMENTS (FLARED)**

RD615A

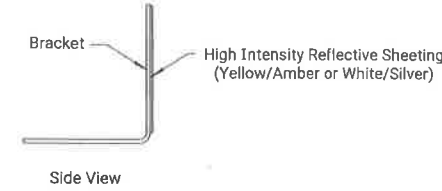
DESIGNED	08-14-18	APP'D	Scott W. King
DRAWN	08-14-18	QUANTITIES	TRACED
SECTION CH.	1 DETAIL CH.	QUANT. CH.	TRACE CH.

KDOT Graphics Certified 05-16-2022

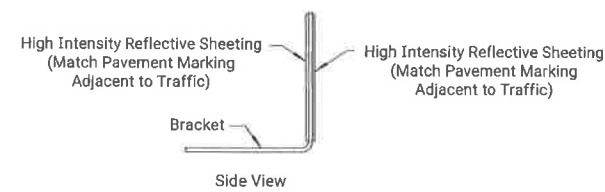
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 File: rd615a.dgn  
 Plotted by: JACMAN  
 Plotter: PLOT2025 2:28 PM



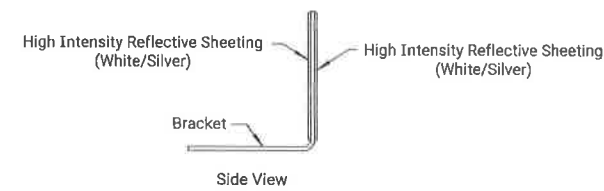
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	11	52



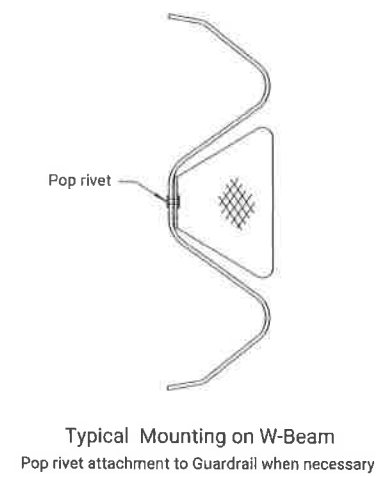
Side View  
Flexible Marker  
One-Way Traffic



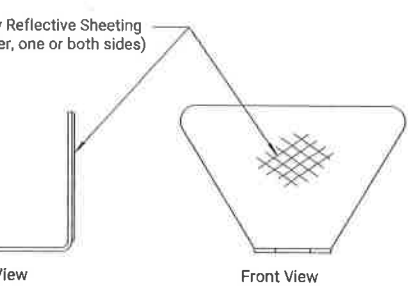
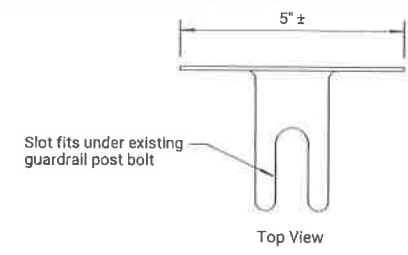
Side View  
Flexible Marker  
Median Locations



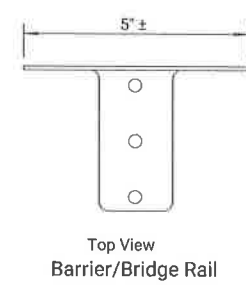
Side View  
Flexible Marker  
Two-Way Traffic



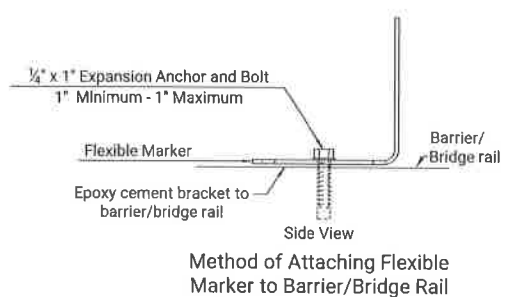
Typical Mounting on W-Beam  
Pop rivet attachment to Guardrail when necessary.



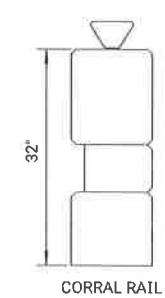
Side View  
Front View  
Flexible Guardrail Marker  
(High Impact Polycarbonate approx. .085" thick, 5 1/4" x 3")



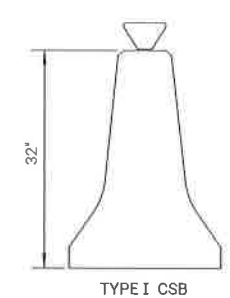
Top View  
Barrier/Bridge Rail



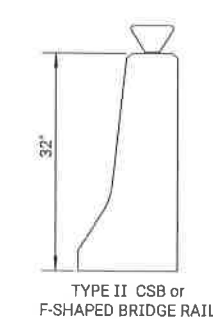
Side View  
Method of Attaching Flexible Marker to Barrier/Bridge Rail



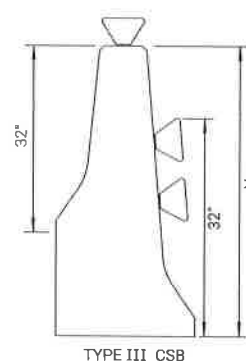
CORRAL RAIL



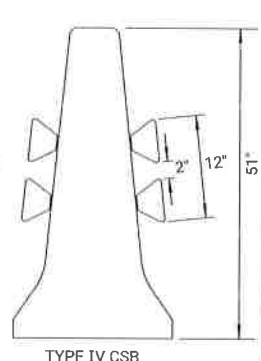
TYPE I CSB



TYPE II CSB or  
F-SHAPED BRIDGE RAIL



TYPE III CSB

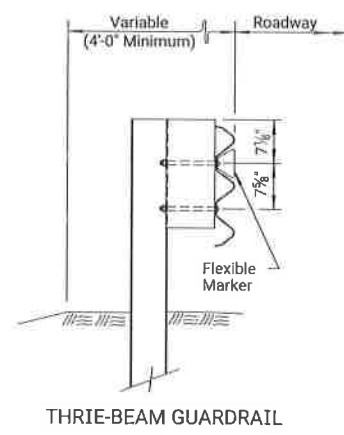


TYPE IV CSB

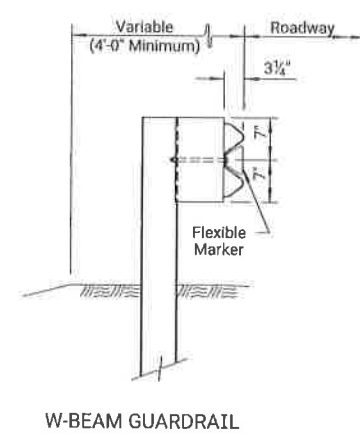
TYPICAL BARRIER/BRIDGE RAIL MOUNTING DETAILS

GENERAL NOTES

Install flexible markers on a post behind the guardrail bolt head on the traffic side of guardrail installations at a spacing not to exceed 25'. No marker is installed between the head and post #5 when the guardrail is terminated with a crashworthy end terminal.  
 Install flexible markers on the top of bridge rails at a spacing not to exceed 50', except for long bridges (greater than 200' long), where spacing may be increased to 100'.  
 Install flexible markers on the top of concrete safety barrier at a spacing not to exceed 100', except for barrier along a horizontal curve or along ramps and ramp tapers, where spacing is not to exceed 50'.  
 Where the height of the bridge rail or concrete barrier is greater than 32', mount the flexible markers on the side of the barrier at a height of 32' as shown on this sheet.  
 For guardrail, bridge rail, or concrete safety barrier located on two-way roadways, use flexible markers with white/silver high intensity reflective sheeting on both sides.  
 For guardrail located on one-way or divided roadways, use flexible markers with reflective sheeting installed on the approach traffic side of the bracket only. For bridge rail or concrete safety barrier located on the outside edge of one-way or divided roadways, use flexible markers with reflective sheeting installed on the approach traffic side of the bracket only. For bridge rail or concrete safety barrier located in the median, use flexible markers with reflective sheeting installed on both sides of the bracket. Match the color of the marker (yellow/amber or white/silver) to the color of the pavement marking adjacent to the traffic lane.  
 Use High Impact Polycarbonate Flexible Guardrail Marker with High Intensity Reflective Sheetling or an approved equivalent, see Standard Specifications.  
 Use zinc or cadmium plated fasteners that comply with Standard Specifications.  
 Work and materials required for installation of markers on guardrail, bridge rail, or concrete safety barrier are subsidiary to other bid items in the contract.  
 Install flexible markers for the final (permanent) traffic configuration.



THREE-BEAM GUARDRAIL



W-BEAM GUARDRAIL

NO.	DATE	REVISIONS	BY	APP'D
09	09-11-17	Rev. Det. Markers, Rev. Cons. Note	ALR	SWK
08	11-15-10	Revised notes	SWK	J.O.B.
07	12-21-08	AKT marker or approved equal	SWK	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

**MARKER DETAILS FOR GUARDRAIL, BARRIER, AND BRIDGE RAILS**

RD610

DESIGNED	03-15-18	APP'D	Scott W. King
DRAWN		CHECKED	
DESIGN		QUANTITIES	
DETAIL		TRACKS	

KDOT Graphics Certified 05-11-2022

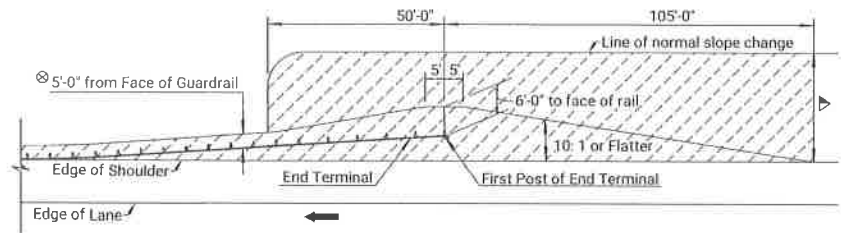
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 File: rd610.dgn  
 Revised By: BRST  
 Plotted: 9/1/2025 1:59 PM

KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	12	52

**GUARDRAIL CLEAR AREA**

Applies to all guardrail installations unless otherwise shown in the plans.



- Keep Area Free of Stockpiled Material, Equipment, or Other Obstacles, Such as Temporary Signs, Regardless of Crash Worthiness. This Clear Area Extends 105 Feet in Advance of and 50 Feet behind the First Post of the Guardrail End Terminal and Then, in Order to Maintain Full Post Spacing, Continues 5 Feet behind the Face of the Installation as Shown in the 'Guardrail Clear Area' Detail on this Sheet.
- Normal Project Side Slope.
- Deflection Distance for Normal Post Spacing

**GENERAL NOTES**

Install the guardrail end terminals according to the Manufacturer's Installation Manual. The Contractor will furnish a copy of the Manufacturer's Installation Manual to the Engineer prior to the start of the installation.

Use approved steel (preferred) or wood posts provided by the Manufacturer. The guardrail end terminal post type may be independent of the post type used in the remainder of the installation. However, no mixing of post types is permitted in the remaining w-beam and thrie-beam installation.

Use approved polymer (preferred) or wood blockouts provided by the Manufacturer. The guardrail end terminal blockout size and type may be independent of the blockout size and type used in the remainder of the installation. For blockout size and types for the remaining w-beam and thrie-beam portion of the installation see the details shown on KDOT's 'Guardrail Post Details' and 'Guardrail Thrie-Beam Transition Details' Standard Drawings.

Apply retroreflective sheeting to the end terminal impact head before installation. Tighten all cable anchor assemblies as per the Manufacturer's Installation Manual.

Lap w-beam and thrie-beam guardrail splices, in the direction of permanent traffic, even where temporary traffic may be carried in the opposite direction of the final traffic configuration. Lap end terminal splices per the Manufacturer's Installation Manual in the direction of permanent traffic, even where temporary traffic may be carried in the opposite direction of the final configuration.

The minimum length of w-beam guardrail required between the thrie-beam transition and the guardrail end terminal is 12'-6" for all installations; unless otherwise stated in the Manufacturer's Installation Manual.

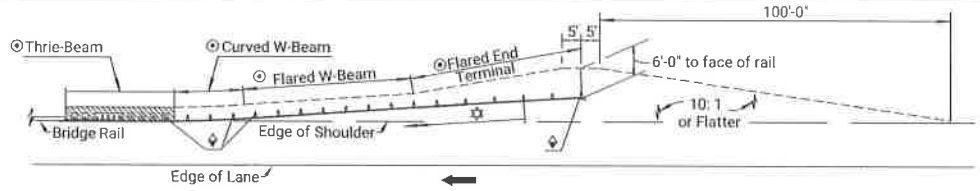
Where pavement with a thickness less than or equal to 8" is encountered during installation, use the details shown on KDOT's 'Guardrail Post Details' Standard Drawings to provide openings in the pavement for the guardrail posts. Where pavement with a thickness greater than 8" or geologic rock is encountered during installation, follow the Manufacturer's Installation Manual for guidance. Where the Manufacturer's Installation Manual does not address pavement with a thickness greater than 8" or geologic rock, contact the manufacturer for instructions or install the guardrail posts as directed by the Engineer.

All work and materials required for w-beam and thrie-beam guardrail installations are paid for under the appropriate bid items for either CGS or MGS guardrail depending on the type of installation.

All work and materials required for guardrail end terminal installations are paid for under the bid item for the selected guardrail end terminal. See the table on this sheet for the appropriate end terminal bid item information.

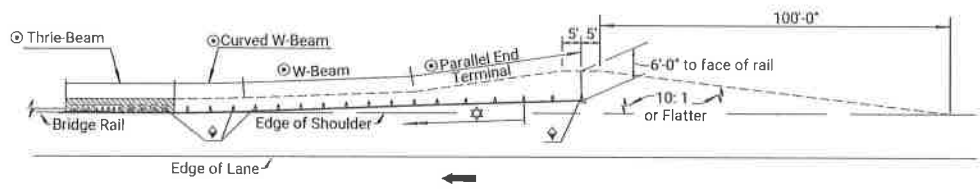
**FLARED GUARDRAIL DETAIL**

Applies to CGS AND MGS (MGS Shown)

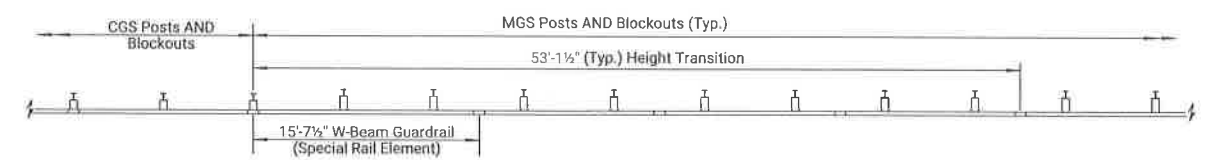


**PARALLEL GUARDRAIL DETAIL**

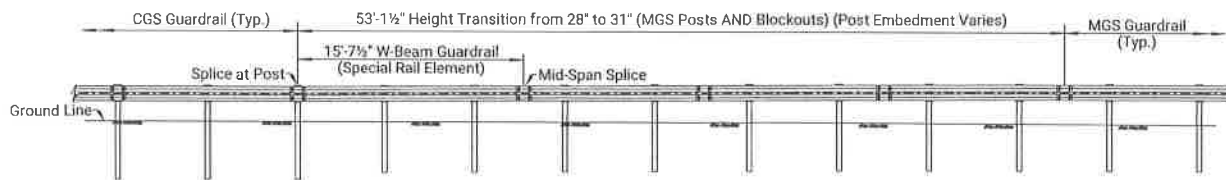
Applies to CGS AND MGS (MGS Shown)



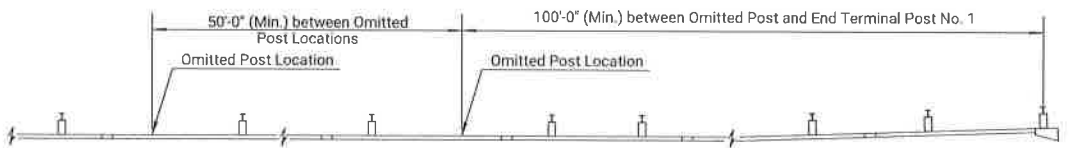
- See Guardrail Layout Sheets for Details
- On Guardrail Layout Sheets, Show Station AND Offset from the Roadway Alignment to the Face of Post at these Locations.
- Length of Need (Begins at Post 3)



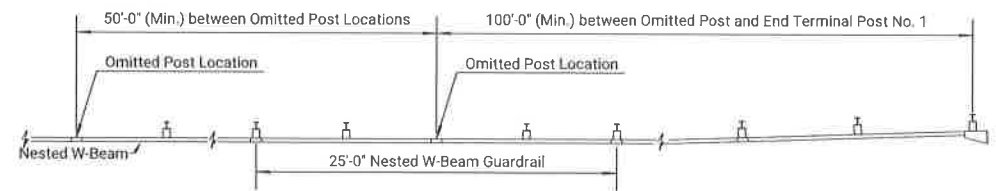
CGS TO MGS TRANSITION DETAILS (PLAN)



CGS TO MGS TRANSITION DETAILS (ELEVATION)



MGS OMITTED POST DETAIL



CGS OMITTED POST DETAIL

**MIDWEST GUARDRAIL SYSTEM (MGS) END TERMINALS**

END TERMINAL BID ITEM	FLARED OR PARALLEL	MOUNTING HEIGHT	CRASH TESTING CRITERIA	STEEL POST DESIGN AVAILABLE	WOOD POST DESIGN AVAILABLE	ENERGY ABSORBING	MANUFACTURER	DESIGN LENGTH	MANUFACTURER SYSTEM LENGTH
Guardrail End Terminal (MGS-FLEAT)	Flared	31"	NCHRP 350	Yes	Yes	Yes	Road Systems	40'-7 1/2"	37'-6"
Guardrail End Terminal (MGS-SRT)	Flared	31"	NCHRP 350	Yes	Yes	No	Trinity Industries	40'-7 1/2"	37'-6"
Guardrail End Terminal (MGS-MSKT)	Parallel	31"	MASH	Yes	No	Yes	Road Systems	46'-10 1/2"	46'-10 1/2"
Guardrail End Terminal (MGS-SOFTSTOP)	Parallel	31"	MASH	Yes	No	Yes	Trinity Industries	46'-10 1/2"	50'-9 1/2"

**CONVENTIONAL GUARDRAIL SYSTEM (CGS) END TERMINALS**

END TERMINAL BID ITEM	FLARED OR PARALLEL	MOUNTING HEIGHT	CRASH TESTING CRITERIA	STEEL POST DESIGN AVAILABLE	WOOD POST DESIGN AVAILABLE	ENERGY ABSORBING	MANUFACTURER	DESIGN LENGTH	MANUFACTURER SYSTEM LENGTH
Guardrail End Terminal (FLEAT)	Flared	28"	NCHRP 350	Yes	Yes	Yes	Road Systems	37'-6"	37'-6"
Guardrail End Terminal (SRT)	Flared	28"	NCHRP 350	Yes	Yes	No	Trinity Industries	37'-6"	37'-6"
Guardrail End Terminal (SKT)	Parallel	28"	NCHRP 350	Yes	Yes	Yes	Road Systems	50'-0"	50'-0"

02	05-05-18	ADD OMITTED POST AND TRANS DETAILS	ALR	T.T.R.
01	05-05-18	INITIAL RELEASE	ALR	T.T.R.
NO	DATE	REVISIONS	BY	APPROV

KANSAS DEPARTMENT OF TRANSPORTATION

**GUARDRAIL AUXILIARY DETAILS**

RD606

05-25-18 APPD Scott W. King

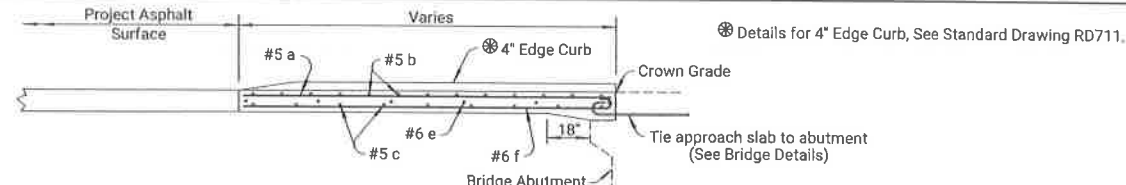
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DESIGNED BY: [ ] CHECKED BY: [ ] QUANTITIES BY: [ ] TRACKED BY: [ ]

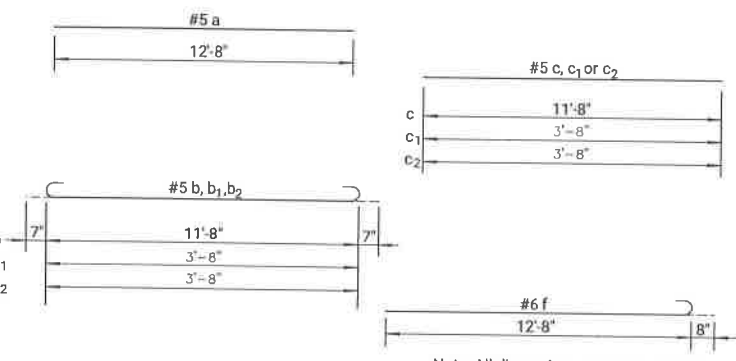
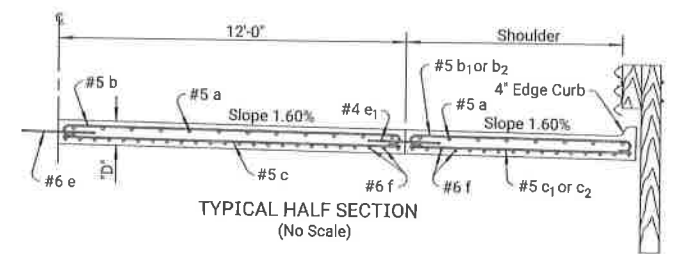
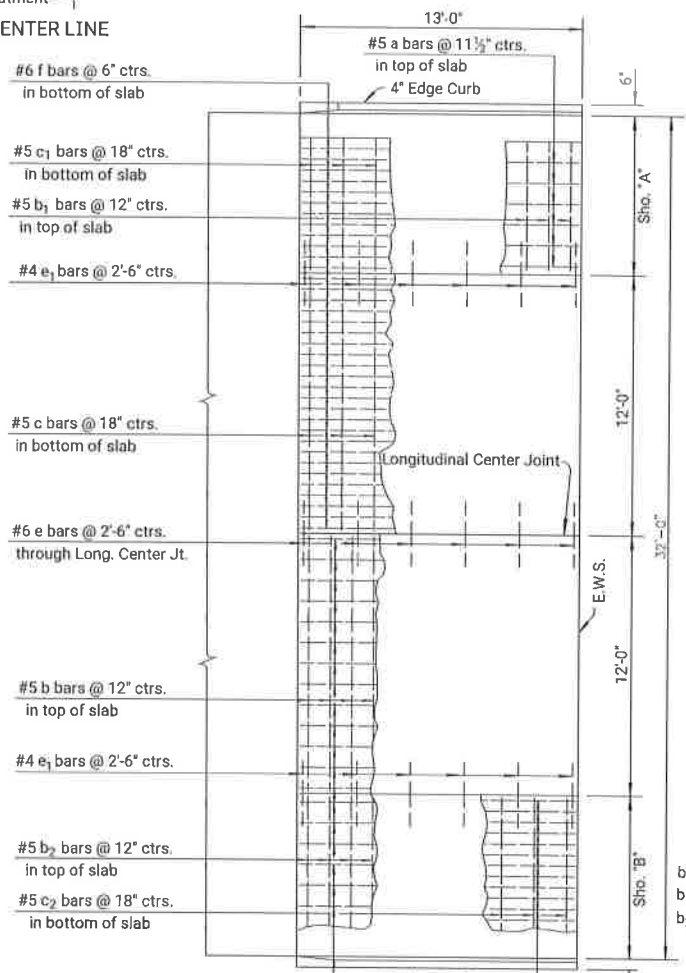
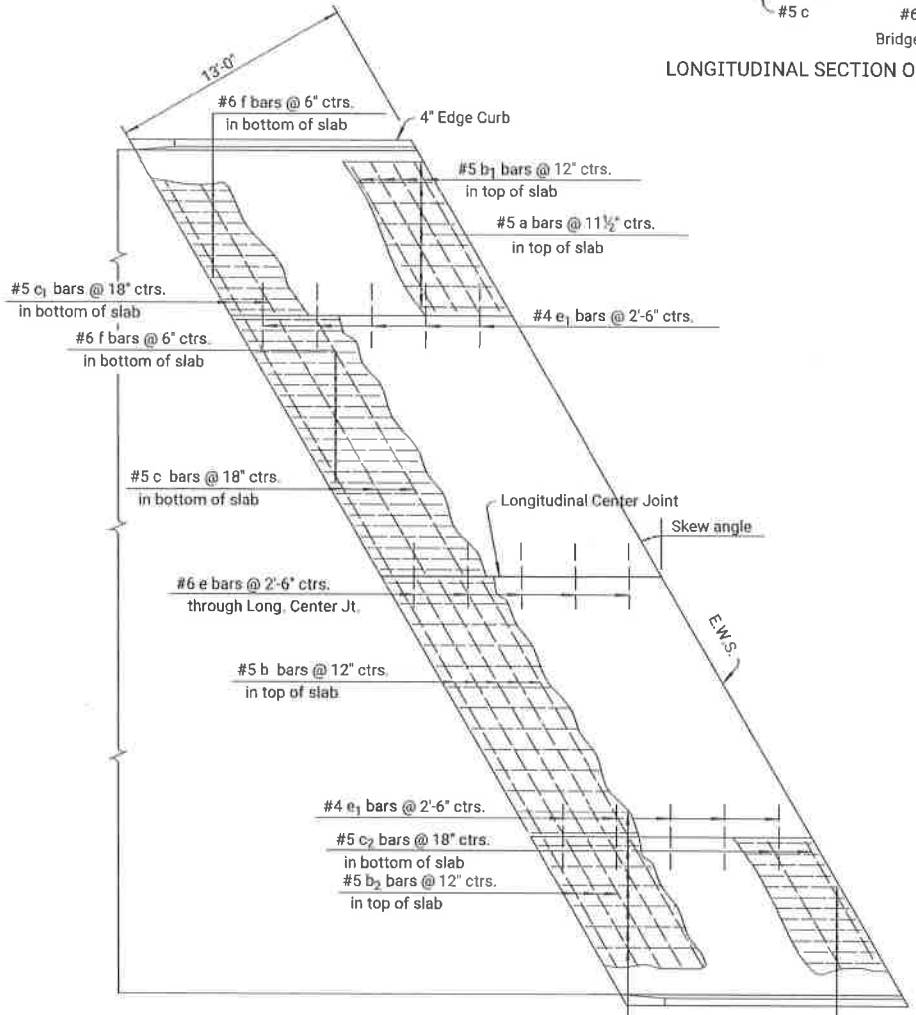
KDOT Graphics Certified 04-25-2022

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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	13	52



**GENERAL NOTE**  
 Special Concrete Bridge Approach shall be paid for as Sq. Yds. of Concrete Pavement (10" Unif.)(AE)(Br. App.) and includes all work and materials required to construct the approach slab as shown on this sheet.  
 All work and materials required for installation of joint material shall be subsidiary to this bid item.  
 At the Contractor's option #4x3'-0" tie bars @ 15' centers may be substituted for the #6 e bars at 2'-6" centers.  
 All reinforcing steel shall be epoxy coated.  
 See Standard Drawing RD711 for details of joints and edge curb.  
 Clearance from the face of concrete for all reinforcing steel shall be 2 inches.  
 Standard reinforcing bar hooks in accordance with the latest ACI specifications shall be used throughout.



Note: Spacing of longitudinal reinforcing bars is normal to center line.  
 Spacing of transverse reinforcing bars is parallel to center line.

PLAN FOR SKEWED APPROACH (SKEW ≥ 5°)  
(No Scale)

\*"D" Thickness = Thickness of Project Concrete Pavement (10" minimum).

PLAN FOR NORMAL APPROACH  
(No Scale)

BENDING DIAGRAMS

BILL OF MATERIALS																																		
BAR SCHEDULE																																		
NORMAL APPROACH						° SKEW						° SKEW																						
Bar No.	a	b	b <sub>1</sub>	b <sub>2</sub>	c	c <sub>1</sub>	c <sub>2</sub>	e	e <sub>1</sub>	f	a	b	b <sub>1</sub>	b <sub>2</sub>	c	c <sub>1</sub>	c <sub>2</sub>	e	e <sub>1</sub>	f	a	b	b <sub>1</sub>	b <sub>2</sub>	c	c <sub>1</sub>	c <sub>2</sub>	e	e <sub>1</sub>	f				
32	26	13	13	18	9	9	6	12	62		#5	#5	#5	#5	#5	#5	#5	#6	#4	#6		#5	#5	#5	#5	#5	#5	#5	#6	#4	#6			
Size	#5	#5	#5	#5	#5	#5	#5	#6	#4	#6	#5	#5	#5	#5	#5	#5	#5	#6	#4	#6		#5	#5	#5	#5	#5	#5	#6	#4	#6				
Length	12'-8"	12'-10"	4'-10"	4'-10"	11'-8"	4'-10"	4'-10"	3'-0"	3'-0"	13'-4"								3'-0"	3'-0"															
Reinforcing Steel (Grade 60) (Epoxy Coated)	1,872 lbs.										Reinforcing Steel (Grade 60) (Epoxy Coated)						Reinforcing Steel (Grade 60) (Epoxy Coated)						lbs.											
Concrete Pavement (10" Unif.)(AE)	47.7 Sq. Yds.										Concrete Pavement (10" Unif.)(AE)						Sq. Yds.						Concrete Pavement (10" Unif.)(AE)						Sq. Yds.					

Note: Quantities listed for one approach slab only. Two required per bridge. Reinforcing steel and joint lengths shown for information only.

NO.	DATE	REVISIONS	BY	APP'D
09	09-09-09	Revised Reinforcing Steel Sizing	SWK	J.O.B.
06	05-14-09	Revised General Note	SWK	J.O.B.
07	10-20-09	Added guardrail post detail at curb	SWK	J.O.B.

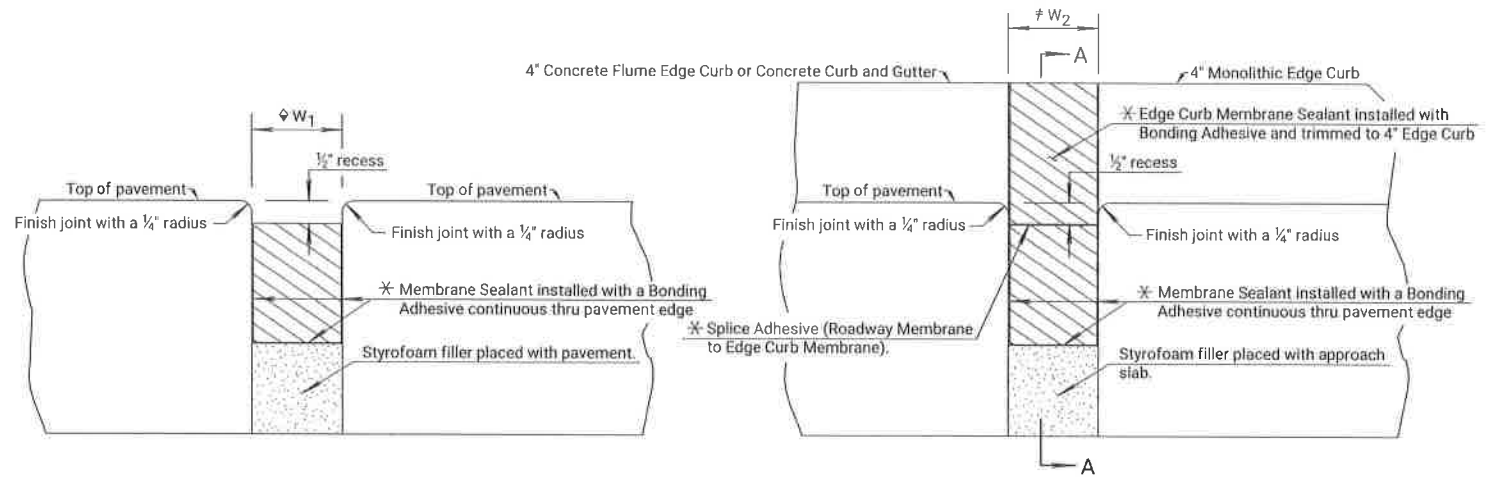
KANSAS DEPARTMENT OF TRANSPORTATION  
**CONCRETE BRIDGE APPROACH PAVEMENT ADJACENT TO ASPHALT SURFACE**  
 RD715  
 FROM APPROVAL: 05-29-09 APP'D: James O. Brewer  
 DESIGNED: DETAILER: QUANTITIES: TRACKER:  
 DESIGN CK: DETAIL CK: QUANT CK: TRACK CK:  
 KDOT Graphics Certified 05-03-2022

Plotted by: KDOT\CADD\Support\_Lks.gov 25-JUN-2022 00:41  
 File: rd715.dgn  
 File Name: 17\_APPROACH PAVEMENT RD715.DWG  
 File Location: F:\3024\3024-026\_Concrete Road Bridge-Mpherson County\CAD\Drawings\Plan Set

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	14	52

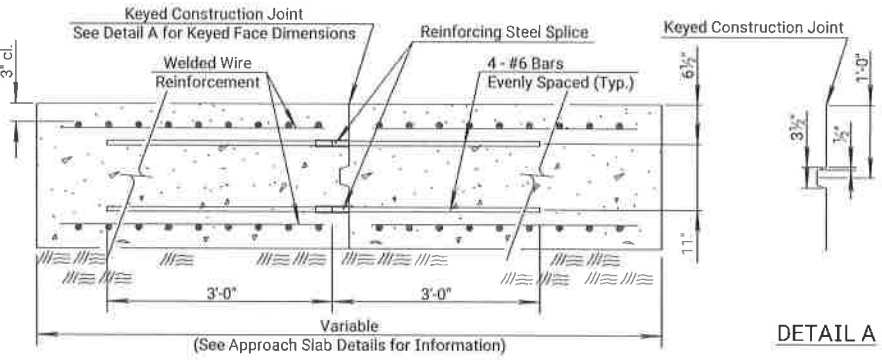
GENERAL NOTES

**EXPANSION/PRESSURE RELIEF JOINTS**  
 See Concrete Bridge Approach Pavement standard drawings for location of expansion and pressure relief joints.  
 Form the joint opening prior to placement of the pavement approach. Remove the material used to form the joint after the pavement approach has been in place for a minimum of 6 days.  
 Clean and construct the joint only after the concrete in the approach slab has cured for a minimum of 7 days.  
 Thoroughly clean the joint by sandblasting and by high pressure air blast to remove all laitance and contaminants from the joint. When any joint is shaped by saw cutting in lieu of forming, blast the joint with water prior to sandblasting and air cleaning.  
 Accomplish sandblasting in two passes to clean each face of the joint (one pass for each face). Hold the nozzle 1 to 2 inches from the joint face at an angle to the joint face.  
 Remove any contaminants such as oil, curing compound, etc. by sandblasting to the satisfaction of the Engineer. Solvents, wire brushing, or grinding are not permitted.  
 Air blast the joint just prior to installing the Membrane Sealant. Equip the air compressor used to clean the joint with trap devices capable of providing moisture-free and oil-free air at a recommended pressure of 90 psi. Spot check the joint to verify any residual dust or dirt has been removed. The Engineer is required to inspect the joint immediately prior to installing the joint material.  
 \* See KDOT Standard Specifications for Membrane Sealant, Bonding Adhesive and Splice Adhesive. The width of the membrane sealant is 4 inches (nominal).  
 Do not allow traffic on the joint for a minimum of 3 hours unless otherwise directed by the Engineer.  
 Use splice materials and methods recommended by the Manufacturer.  
 All work and materials for the preparation, construction, and installation of the joint will be subsidiary to the concrete approach pavement.  
**BRIDGE APPROACH SLAB FOOTING**  
 Pay for the Bridge Approach Slab Footing at the unit price bid per cubic yard for "Bridge Approach Slab Footing". This price will be full compensation for furnishing all materials and labor including Concrete Grade 4.0 (AE) Pavement, Reinforcing Steel (Gr. 60) (Epoxy Coated), excavation, Type "A" Compaction and materials used to prevent bonding of concrete. The Contractor may use Concrete Grade 4.0 (AE) or the mix used in the concrete pavement for the slab footing.

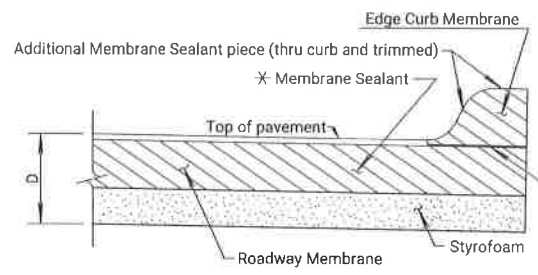


ELEVATION PRESSURE RELIEF JT.

ELEVATION EXPANSION JT.



DETAIL A



SECTION A-A

(See Std. Drawing RD711 for details of 4" Edge Curb.)

♦ PRESSURE RELIEF JOINT WIDTH DETAILS (W<sub>1</sub>)

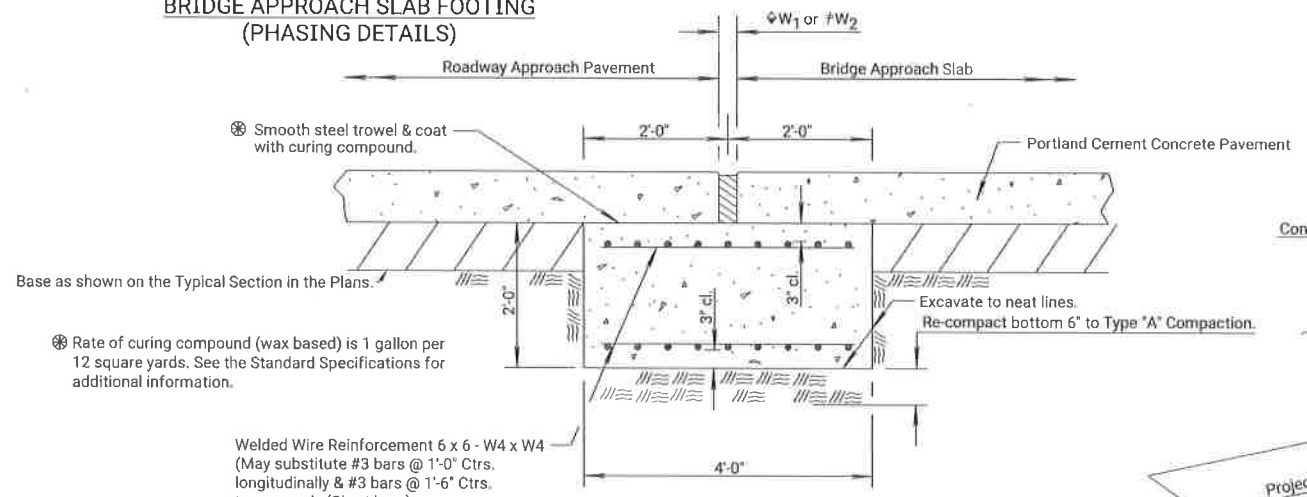
Temperature (F°)	40°	50°	60°	70°	80°	90°	100°
Formed Concrete Opening Size	4.0"	3 3/4"	3 1/2"	3 1/4"	3.0"	2 3/4"	2 1/2"

† Average Ambient Temperature over previous 24 hours.

‡ EXPANSION JOINT WIDTH DETAILS (W<sub>2</sub>)

See bridge construction layout sheet for details.

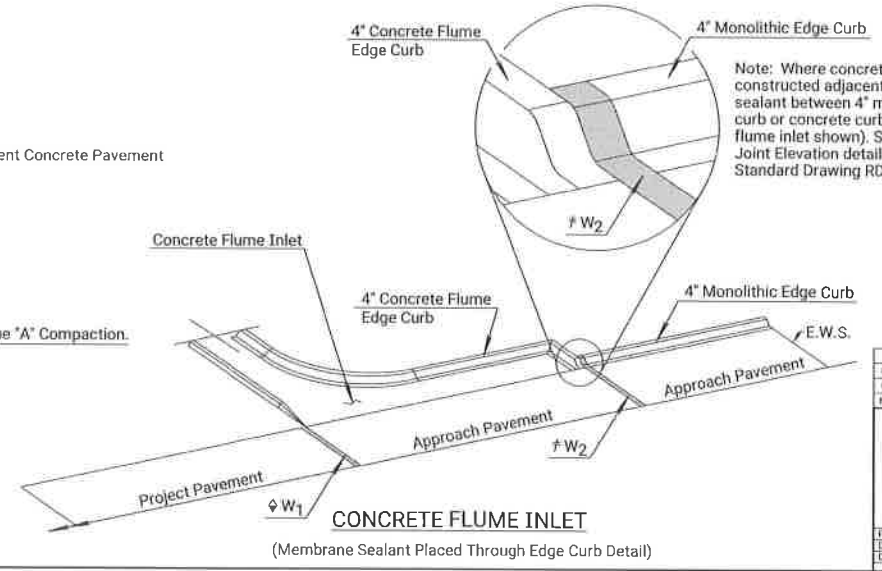
BRIDGE APPROACH SLAB FOOTING (PHASING DETAILS)



BRIDGE APPROACH SLAB FOOTING

⊗ Rate of curing compound (wax based) is 1 gallon per 12 square yards. See the Standard Specifications for additional information.

Welded Wire Reinforcement 6 x 6 - W4 x W4 (May substitute #3 bars @ 1'-0" Ctrs. longitudinally & #3 bars @ 1'-6" Ctrs. transversely (Short bars).



CONCRETE FLUME INLET

(Membrane Sealant Placed Through Edge Curb Detail)

Note: Where concrete flume inlets or concrete curb and gutter are constructed adjacent to bridge approach slab pavement place membrane sealant between 4" monolithic edge curb and 4" concrete flume inlet edge curb or concrete curb and gutter as shown on this sheet (concrete flume inlet shown). See approach slab Standard Drawings, Expansion Joint Elevation detail this sheet, Standard Drawing RD628, and Standard Drawing RD635 for additional details.

LEGEND

■ Membrane Sealant

NO.	DATE	REVISIONS	BY	APP'D
10	01-22-16	ADD Det. Keyed Joint & Flume Inlet	E.T.R.	S.W.K.
09	10-16-13	Revised General Note	S.W.K.	J.O.B.
08	04-04-13	Rev. Joint Width Det. Table	S.W.K.	J.O.B.
KANSAS DEPARTMENT OF TRANSPORTATION				
BRIDGE APPROACH SLAB DETAILS EXPANSION/PRESSURE RELIEF JOINT/ BRIDGE APPROACH SLAB FOOTING				
RD712				
DESIGNED	Detailed	QUANTITIES	TRACED	
DRAWN	DETAIL	QUAN	TRACE	
KDOT Graphics Certified 07-18-2022				

Note to Designer: For Membrane Sealant Expansion Joint on Non-skewed Bridges the maximum length of expansion is: 380' for Steel Bridges, 410' for Concrete Bridges.  
 Plotted by: Kylee.Sims@ks.gov 22-JUL-2022 14:48  
 File: rd712.dgn  
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 File Date: 07/18/2022 14:48:00

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR N0-1000-80	2025	15	52

ITEM/LOCATION	EXCAVATION		CONCRETE		REINFORCING STEEL		* PILES	* TEST PILE	Bridge Backwall	Abutment Strip	Slope Protection	Bridge Deck
	CLASS I CU. YDS.	CLASS II CU. YDS.	(GRADE 4.0) (AE)(SW) CU. YDS.	(GRADE 4.0) (AE) CU. YDS.	(GRADE 60) EPOXY COATED LBS.	(GRADE 60) LBS.	(STEEL HP 12x53) LIN. FT.	(STEEL HP 12x53) LIN. FT.	Prot. System Sq. Yds.	Drain Sq. Yds.	(Rip Rap Stone) Cu. Yds.	Grooving Sq. Yds.
ABUTMENT NO. 1	93		**		**		300		22	18	180	
PIER NO. 1		74		32.1		2918.5	560	80				
PIER NO. 2		115		32.1		2918.5	630					
ABUTMENT NO. 2	173		**		**		240	70	22	18	100	
SUBSTR. TOTAL				64.2		5837			44	36	200	
SUPERSTR. TOTAL			351.1			112080						506
TOTAL	266	189	351.1	64.2		5837	1730	150	44	36	200	506

\*\*Quantities are included in the Superstr. Total Quantity.

+Summary of Piling

Abutment No. 1 5 @ 60'  
Pier No. 1 8 @ 70' & 1 Test Pile @ 80'  
Pier No. 2 9 @ 70'  
Abutment No. 2 4 @ 60' & 1 Test Pile @ 70'

\*Note: Only steel pile 12X53 shall be used on this project

INDEX TO BRIDGE DRAWINGS	
SHEET NO.	DRAWING
15	GENERAL NOTES AND QUANTITIES
16	CONTOUR MAP
17	CONSTRUCTION LAYOUT
18	ENGINEERING GEOLOGY
19	ABUTMENT DETAILS
20	ABUTMENT AGGREGATE DRAIN
21	PIER DETAILS
22-23	SUPERSTRUCTURE DETAILS
24	SLAB ELEVATIONS
25-26	CORRAL RAIL DETAILS
27	BILL OF REINFORCING STEEL AND BENDING DIAGRAMS
	STANDARDS
28	BRIDGE EXCAVATION
29	STANDARD PILE DETAILS
30	SUPPORTS AND SPACERS FOR REINFORCING STEEL

DESIGN DATA

DESIGN SPECIFICATIONS: AASHTO Specifications, 2007 Edition and latest Interim Specifications. Load and Resistance Factor Design.

DESIGN LOADING: HL-93

Design Dead Load includes an allowance of 25 psf for a future wearing surface.

UNIT STRESSES:

Concrete (Grade 4.0) f'c = 4 ksi  
Concrete (Grade 4.0)(AE) f'c = 4 ksi  
Concrete (Grade 4.0)(AE)(SW) f'c = 4 ksi  
Reinforcing Steel (Grade 60) fy = 60 ksi

LRFD DESIGN PILE LOAD:

Design Loading	(Tons/Pile)	Strength	Service	Phi
Abutments		100	65	0.65
Piers		100	65	0.65

LFD & LRFR RATING FACTORS			
Truck - Rating Level	Inventory	Operating	
H5-20 - (36T)	1.803	3.011	
Type HET - (110T)		1.221	
2002 LFD Rating - 17th Edition AASHTO			
HL-93 Loading	1.375	1.783	
2018 Manual for Bridge Evaluation			

EXISTING STRUCTURE: Plans of the existing structure are on file and available for inspection by qualified bidders at the State Bridge Office, KDOT, Eisenhower State Office Building, 700 SW Harrison, Topeka, KS.

EMBANKMENT: Complete the embankment at the abutments as shown on the Bridge Excavation sheet prior to driving the abutment piling or commencing with the abutment footing excavation.

BRIDGE EXCAVATION: Elevation 1460.62 shall designate the Excavation Boundary Plane of Class I and Class II Excavation; Class I above the plane, Class II below the plane. See the Bridge Excavation sheet for the limits of pay excavation.

BACKFILL COMPACTION: Compact backfill at the abutments.

PILING: Drive all piling to a minimum elevation of 1402.00. Driving shall stop when in the opinion of the Engineer additional driving may damage the piling. Drive all piling to the Pile Driving Formula Load of:

Abutment No. 1	100 Tons
Pier No. 1	100 Tons
Pier No. 2	100 Tons
Abutment No. 2	100 Tons

As a minimum drive each pile to the load and penetration, but in no case shall the pile be driven to more than 110% of Pile Driving Formula Driving Load. At any location where problems are experienced, pile damage is suspected, or the Pile Driving Formula Load occurs significantly above the design pile tip elevation, the Engineer may request that the Pile Driving Analyzer (PDA) equipment be used.

CORRAL RAIL: Build the corral rail after the falsework is struck.

REMOVAL OF EXISTING STRUCTURE: The Contractor shall remove any remaining remnants of the existing bridge. All removal items shall become property of the Contractor and be removed from the site unless County deems otherwise. See "SLOPE PROTECTION".

SLOPE PROTECTION

The Lump sum item "SLOPE RETENTION" shall consist of relocating existing rip rap stone and rubble concrete on site, constructing the structure and fill, then replacing the existing stone and concrete rubble. Existing demolition material may be used to supplement this slope protection at the County's direction.

CONCRETE: Superstructure concrete is bid as Concrete (Grade 4.0)(AE)(SW). Substructure concrete is bid as Concrete (Grade 4.0)(AE). The Contractor may use Concrete (Grade 4.0) in the footings. Bevel all exposed edges of all concrete with a 3/4" triangular mounding, except as otherwise noted on the plans. Construction joints are optional with the Contractor, but if used, place only at locations shown, or at locations approved by the Engineer.

REINFORCING STEEL: All reinforcing steel dimensions are to the centerline of bars unless otherwise noted. All reinforcing steel, except the spiral bars, shall conform to the requirements of ASTM A615, Grade 60. Spiral bars may meet the requirements of either ASTM A615 (Gr. 40 or 60) or AASHTO M32, and are included in the bid item "Reinforcing Steel (Gr. 60)".

CAMBER: Provide camber as shown on the Camber Diagram unless the Contractor uses either long span steel beam falsework (concrete dead load deflection greater than 1/4") or timber falsework with greater than 12'-0" clear span. If either case exists, submit falsework plans which show the additional required camber.

FALSEWORK PLANS: A licensed Professional Engineer shall design the falsework details. Details shall bear the seal of a licensed Professional Engineer. Submit electronic plans conforming to Section 105 of the Standard Specification with details in compliance with KDOT Specifications to the Field Engineer for review.

FALSEWORK INSPECTION: This project has falsework plan requirements which are considered "Category 2" by KDOT specifications. If falsework deficiencies or variations from the approved and sealed plans are found, the falsework design Engineer of Record will provide written approval of the changes. If for the convenience of the Contractor the falsework becomes "Category 1" by the use of non-typical supports; then the inspection and review requirement of "Category 1" will be fully enforced, but at no cost to the State. "Category 2" falsework inspection is not paid for directly, but is subsidiary to other bid items.

DEMOLITION PLANS: This is a Category A Demolition. Submit detailed Demolition Plans to the Field Engineer per KDOT specifications. No Demolition work will begin without approved Demolition Plans. A Licensed Professional Engineer is not required.

FALSEWORK: Leave the falsework in place for the entire unit until 15 days after the last concrete pour for the unit or longer as directed by the Engineer.

CONTRACTOR CONSTRUCTION STAKING: Contractor Construction Staking for clear span bridges requires two independent surveys. See KDOT Specifications.

CONCRETE PLACING SEQUENCE: The sequence of placing concrete in the slab and curbs shall be as shown, or the Contractor may submit an alternate placing sequence for span. Submit the alternate placing sequence to the Engineer at the Preconstruction Conference. Include the proposed rate of concrete placement in C.Y./h, the plant capacity, placement direction, construction joint location, a description of the equipment used in placing the concrete, proposed admixtures, and the quantity of concrete in each placing segment. Any additional cost for the Contractor's alternate plan of placing concrete, including admixtures, shall be at the Contractor's expense and shall be considered subsidiary to the bid item, "Concrete (Grade 4.0)(AE)(SW)". Approval of the Contractor's alternate sequence is required prior to placement of concrete in the deck.

CONSTRUCTION LOADS: Limited traffic is permitted on the new sub-deck, one-course deck or any concrete overlay during the curing period, keep any exposed deck wet during the curing period. See KDOT Specifications Section 710 Tables 710-1 & 710-2 for additional information.

SLAB ELEVATIONS: The Contractor shall record elevation readings on the "Slab Elevations" sheet in the table at locations designated by a "(2)" and submit the sheet to the Engineer.

TEMPERATURE: The design temperature for all dimensions is 60° F.

QUANTITIES: Items not listed separately in the Summary of Quantities are subsidiary to other items in the proposal.

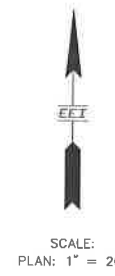
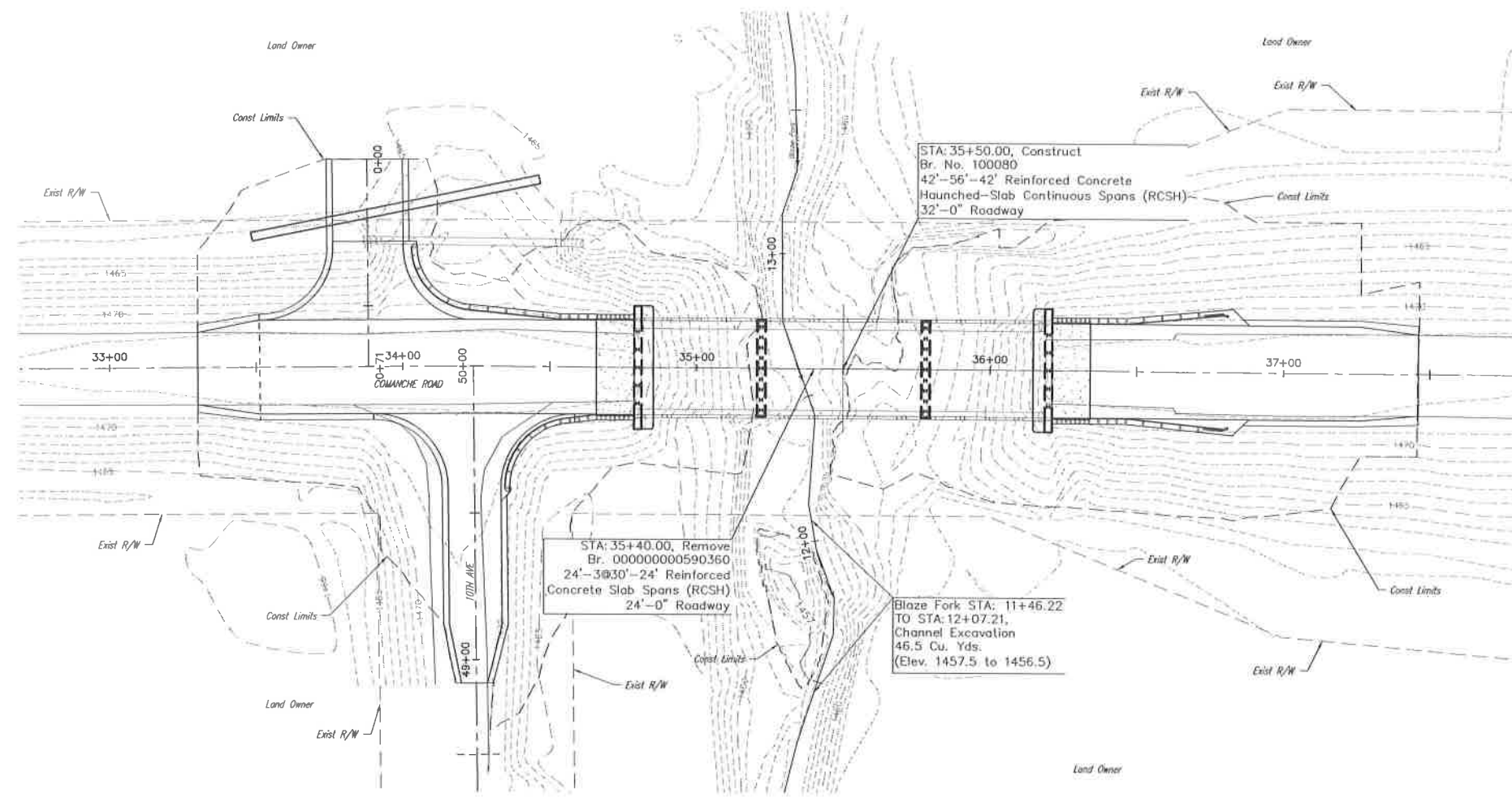
DIMENSIONS: All dimensions shown on the design plans are horizontal dimensions unless otherwise noted. Make necessary allowances for roadway grade and cross slope.

CONSTRUCTION JOINTS: The construction joints shown are optional with the Contractor. If used, place the construction joints only at locations shown or at locations approved by the Engineer.

BRIDGE DECK GROOVING: After the bridge deck has cured, transversely groove the deck in accordance with KDOT Specifications. For phased construction groove each completed phase before opening to traffic. Align the grooves from each adjacent phase across the bridge deck without jogs or discontinuities. For skewed bridges all grooving will be perpendicular to the centerline of the bridge.

1					
2					
3					
NO.	DATE	REVISIONS	BY	APP'D	
KANSAS DEPARTMENT OF TRANSPORTATION					
<b>BRIDGE 100080</b>					
<b>GENERAL NOTES &amp; QUANTITIES</b>					
FHWA APPROVAL			APP'D		
DESIGNED	DETAILED	QUANTITIES	TRACED		
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.		

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	16	52



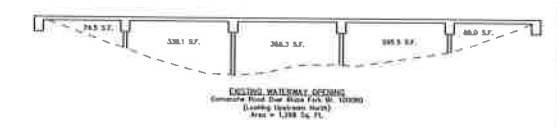
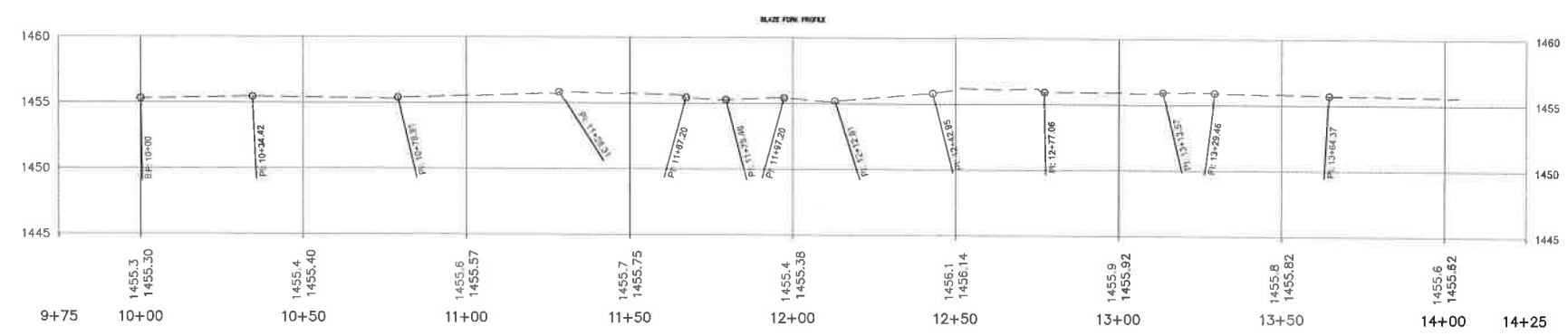
**EXISTING STRUCTURE**

The Contractor shall remove the existing structure.

All items of the existing structure shall become the property of the Contractor and shall be removed from the site.

The clean concrete rubble from the existing structure may be used for slope protection.

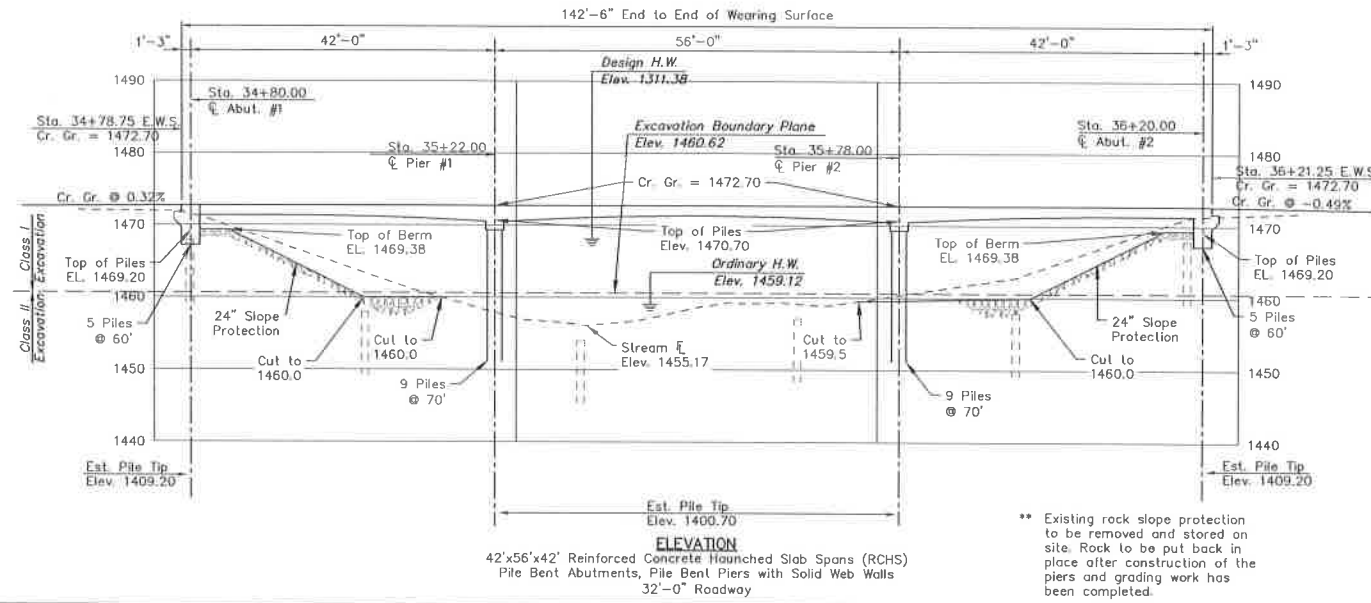
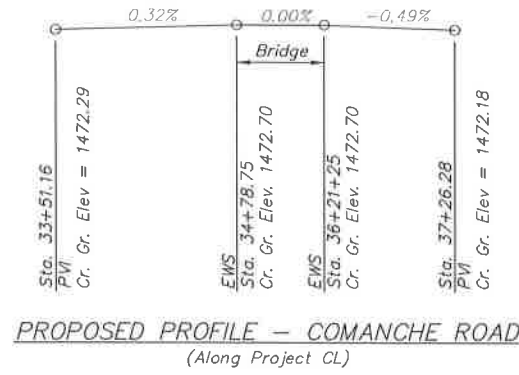
The Contractor shall complete the embankment as shown on the Bridge Excavation Sheet prior to construction of the bridge.



KANSAS DEPARTMENT OF TRANSPORTATION				
<b>BRIDGE 100080 CONTOUR MAP</b>				
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.	

File Name: 19 CONTOUR MAP.DWG  
 File Location: F:\2025\14-00-Comanche Road Bridge-McPherson County\Civil\Drawings\Plan Set  
 Revised By: MDCMAN  
 Printed: 9/7/2025 10:20 PM

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	17	52

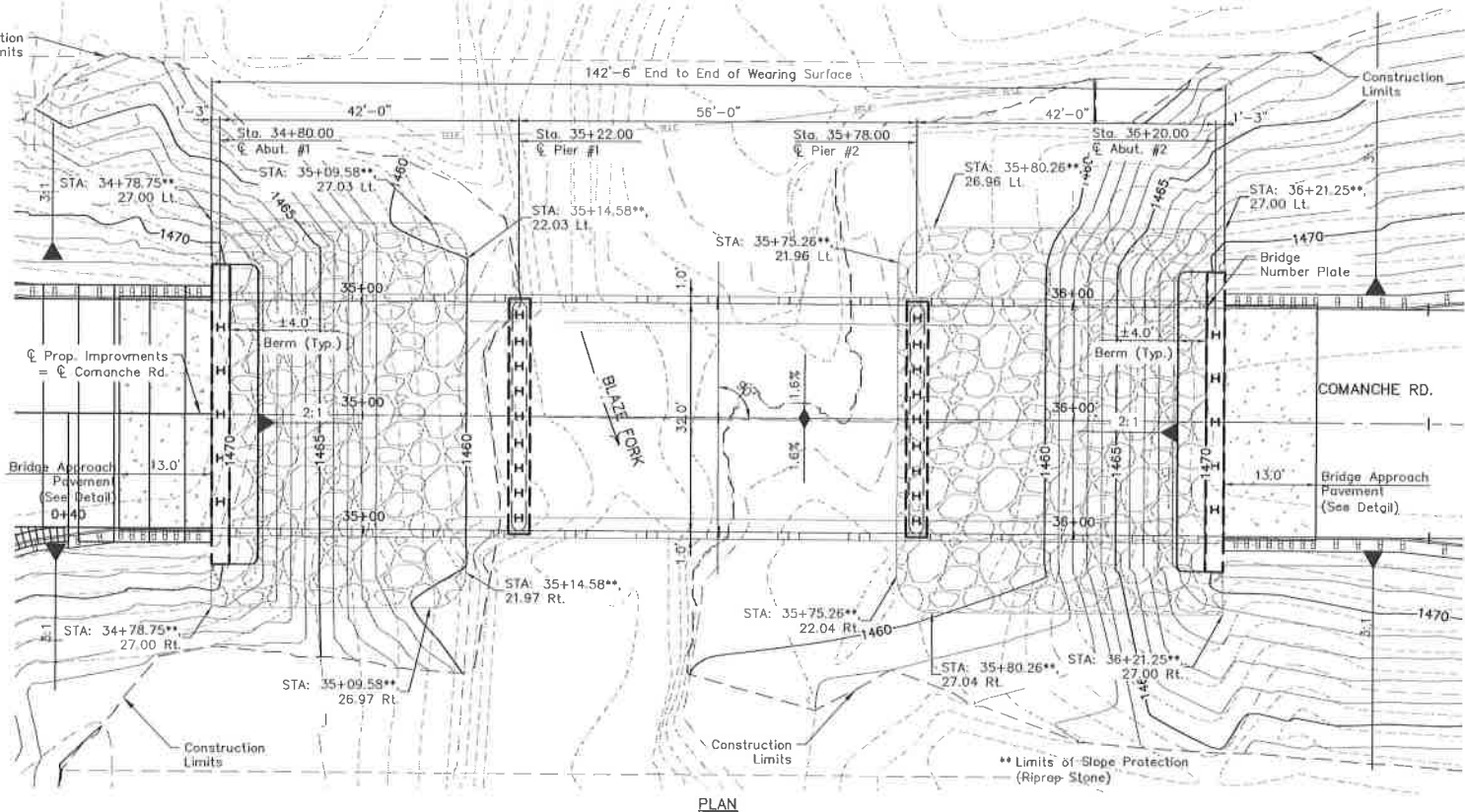
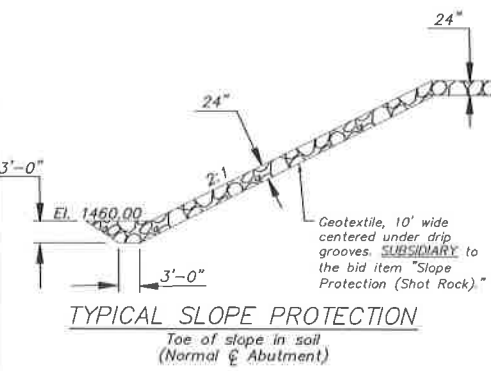
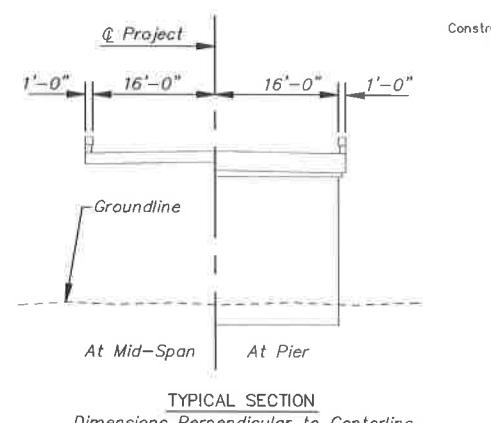
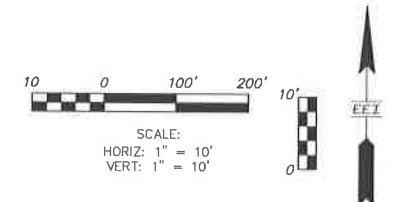


Drainage Area 65.05 Sq. Mi.  
 Design Frequency 25 Yr.  
 Design Discharge (Q25) 8,040 cfs  
 Design Highwater Elevation 1468.15 Ft.  
 Change in Design Backwater -1.15 Ft.  
 Design Backwater Elevation 1468.24 Ft.

Overtopping Elev. (Sta. 21+24) 1467.55 Ft.  
 Overtopping Discharge >12,900 cfs  
 Overtopping Frequency >100 Yr.

Discharge at Q100 12,900 cfs  
 Change in Backwater at Q100 -2.70 Ft.  
 Backwater Elevation at Q100 1469.77 Ft.

Ordinary Highwater Elevation 1459.12 Ft.  
 Total Waterway Provided 1,344 Sq. Ft.  
 Design Waterway Provided 1,344 Sq. Ft.



- GENERAL NOTES**
1. Refer to "Plan & Profile" sheet for profile grade.
  2. Refer to "GENERAL NOTES & QUANTITIES" for design data and piling information.
  3. The existing bridge is a 140' (5 Span) reinforced concrete flat slab with 24' roadway on concrete piers and abutments. See McPherson County for SIA data and photographs.
  4. Remove existing structure and any elements which may interfere with new construction.

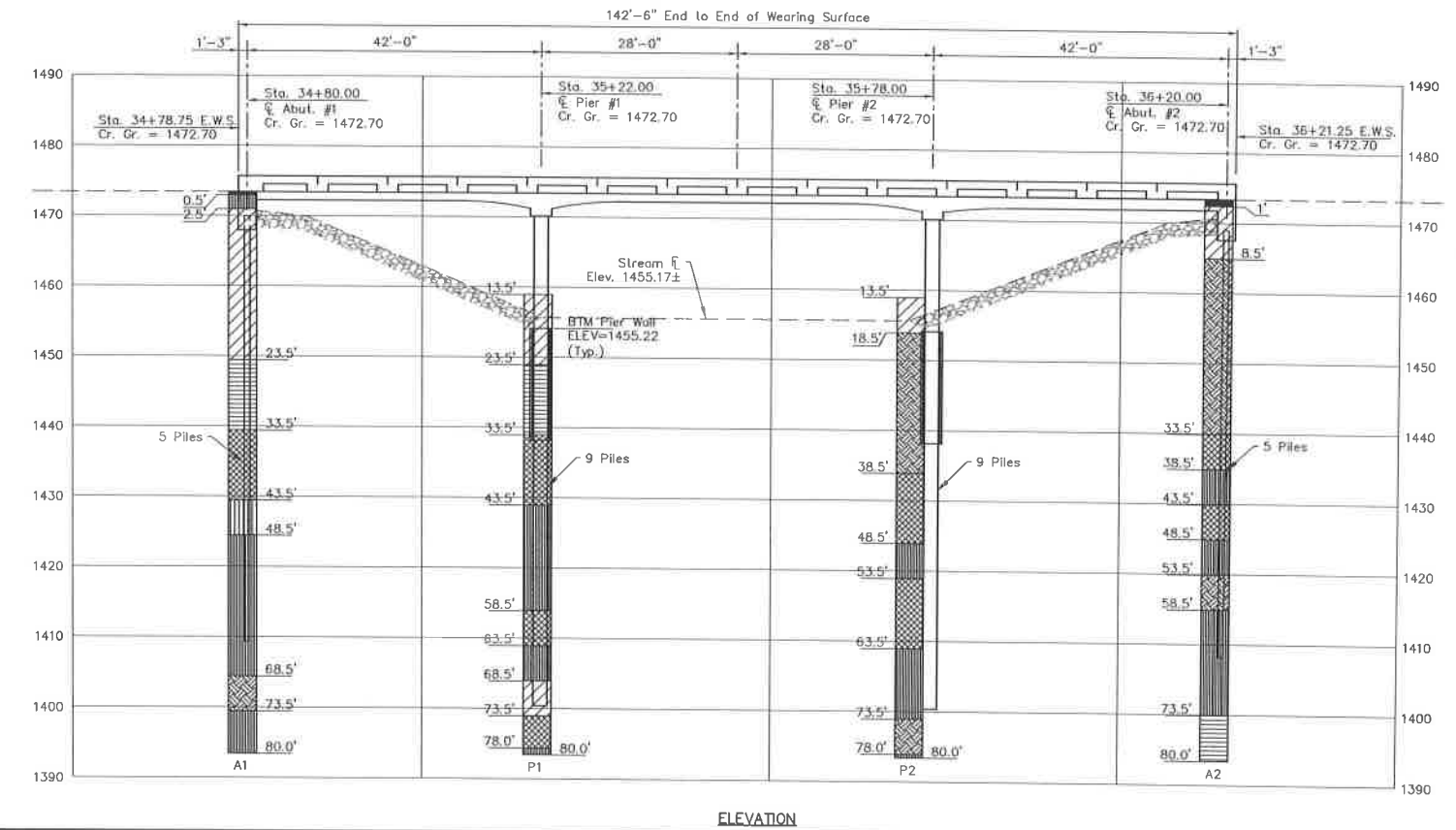
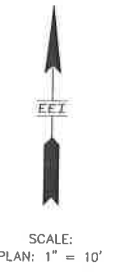
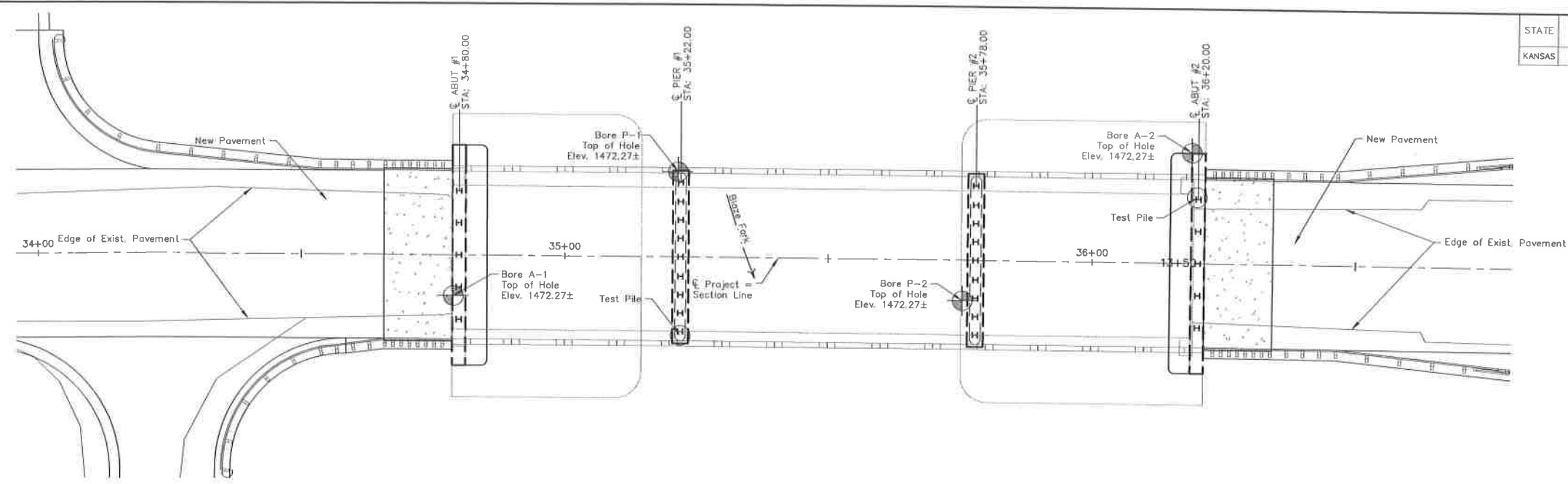
NO.	DATE	REVISIONS	BY	APP'D
1				

**KANSAS DEPARTMENT OF TRANSPORTATION**  
**CONSTRUCTION LAYOUT**  
**BRIDGE 100080**  
**over BLAZE FORK**

DESIGNED	DETAILS	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.

File Name: 20 CONST LAYOUT.DWG  
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 Revisd By: JIDIMAN  
 Plotted: 8/27/2025 9:48 AM

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR N0-1000-80	2025	18	52



SCALE:  
HORIZ: 1" = 10'  
VERT: 1" = 10'

**GENERAL NOTES**

- Follow recommendations of the Geotechnical Exploration Report by UES Engineering dated October 14, 2024, UES Proj. No. A24125.00598.000.
- Dimensions on boring logs are from the top of the bore hole as noted in the report and shown on the plan.

**LEGEND**

- Asphalt
- Poorly Graded Sand
- Lean Clay with Sand
- Sandy Lean Clay
- Clayey Sand
- Fat Clay

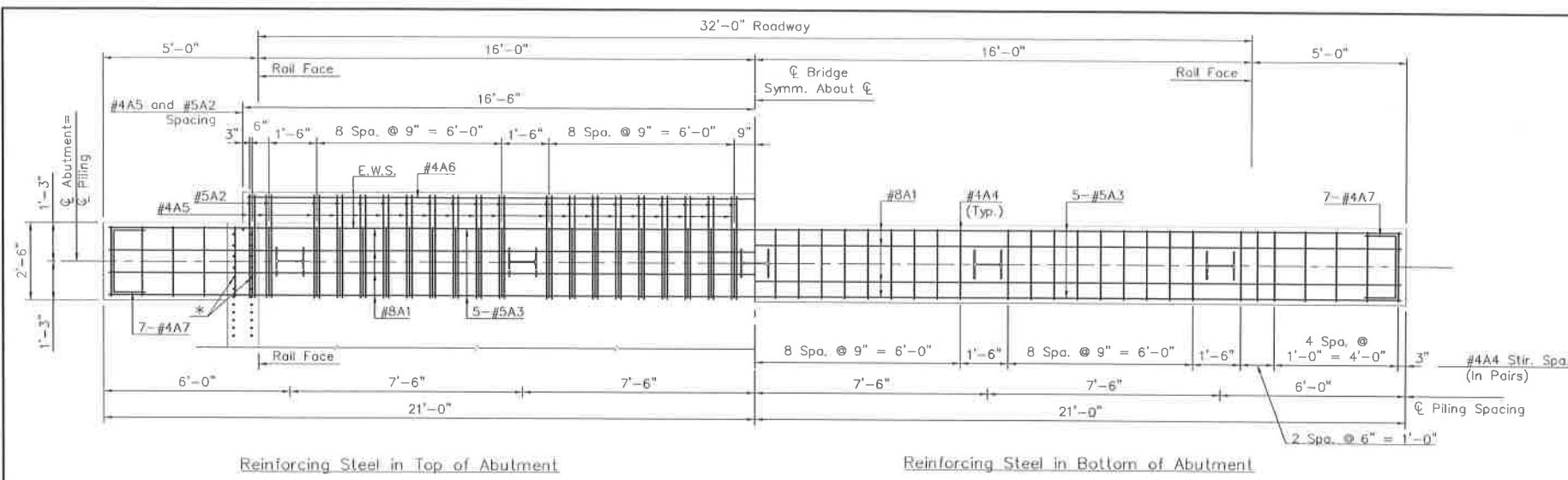
KANSAS DEPARTMENT OF TRANSPORTATION				
<b>BRIDGE 10080</b>				
DESIGNED		QUANTITIES		TRACE
DETAIL CK.		QUAN. CK.		TRACE CK.

Revised By: JDC/DUAN  
 Plotted 8/7/2025 8:46 AM

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ELEVATION

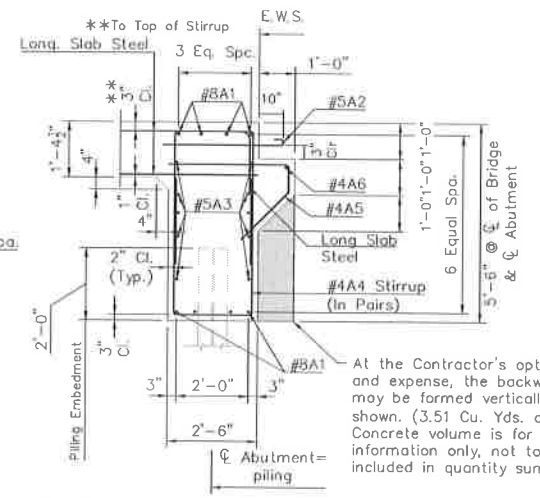
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	19	52



Reinforcing Steel in Top of Abutment

Reinforcing Steel in Bottom of Abutment

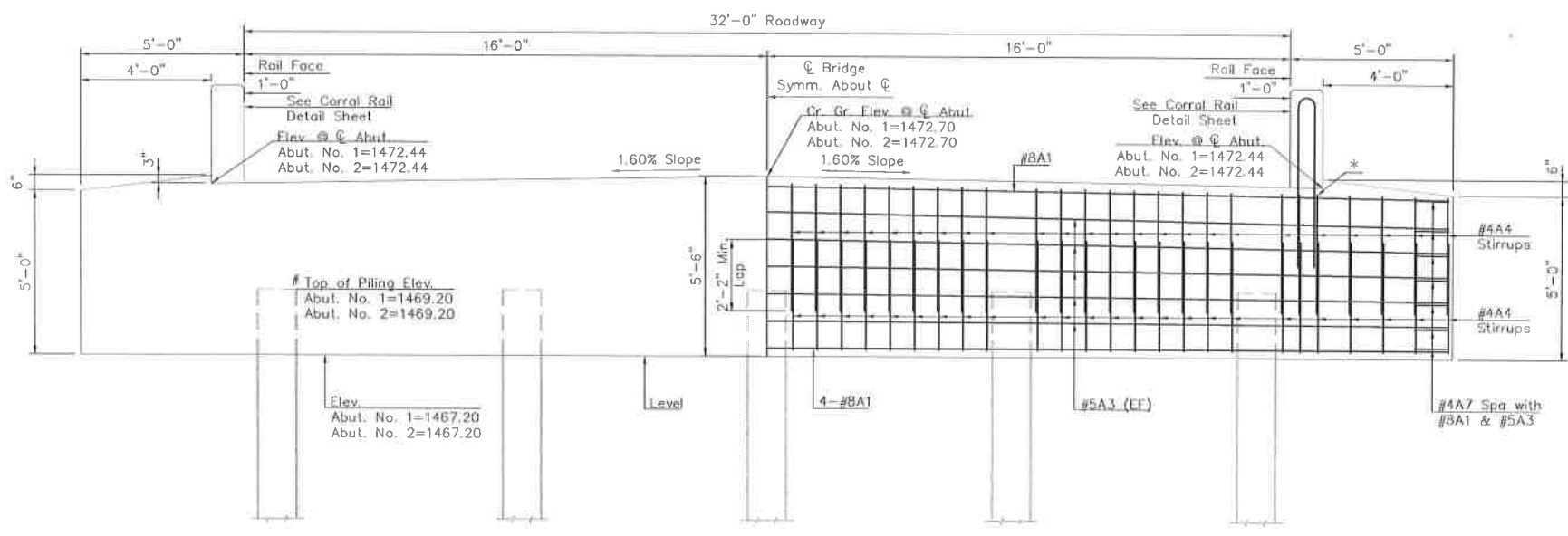
PLAN



TYPICAL SECTION

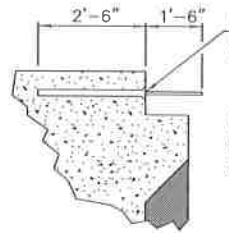
\* Adjust stirrup to avoid conflict with rail bars.

At the Contractor's option and expense, the backwall may be formed vertically as shown. (3.51 Cu. Yds. concrete) Concrete volume is for information only, not to be included in quantity summary.



ELEVATION  
(Along  $\bar{C}$  Abutment)

Note:  
# Top of piling elevations are based on 2'-0" maximum embedment.



Reinforcing Steel Mechanical Splice. See KDOT Specifications.

APPROACH SLAB TIE BAR OPTION

The Contractor has the option (at no additional cost to the State) of substituting a mechanically spliced reinforcing bar of the same size for any or all of the cast-in-place approach slab tie bars.

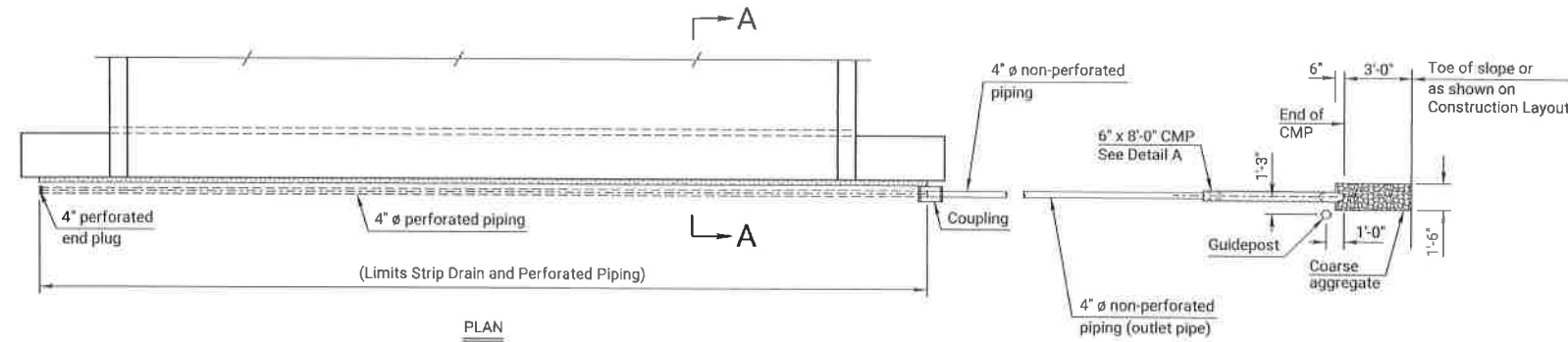
Legend  
EF = Each Face

KANSAS DEPARTMENT OF TRANSPORTATION				
<b>BRIDGE 100080</b>				
<b>ABUTMENT DETAILS</b>				
DESIGNED	DETAILS	QUANTITIES	TRACED	
DESIGN CK	DETAIL CK	QUAN. CK	TRACE CK	

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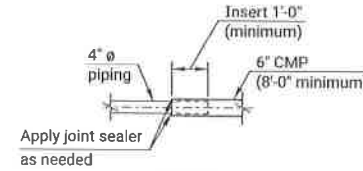
GENERAL NOTES

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	20	52

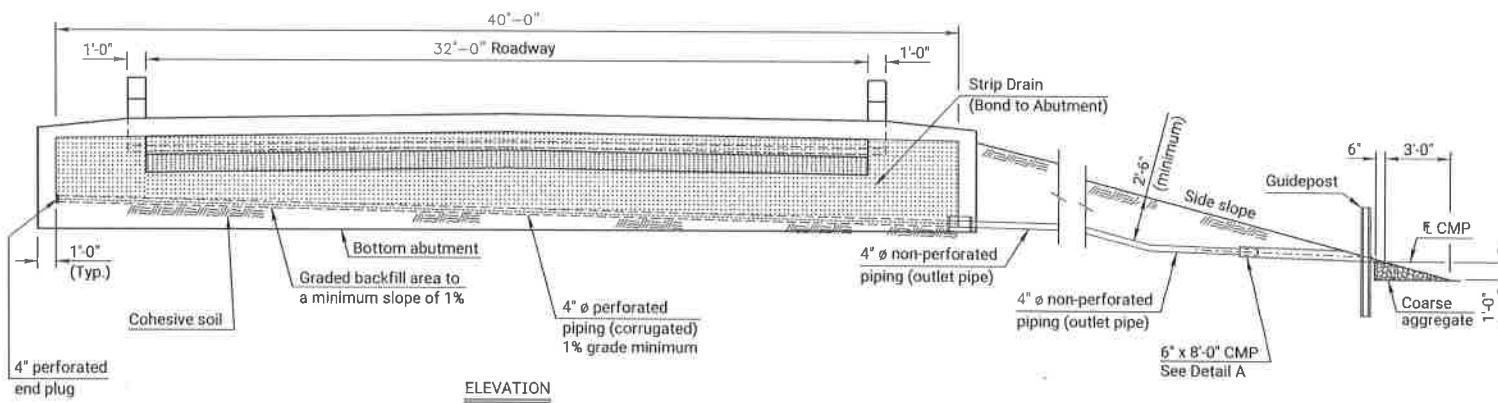


PLAN

Note: The 1'-0" lap and joint sealer may be replaced by a reducing coupler at the junction of the CMP and the 4" round tubing.

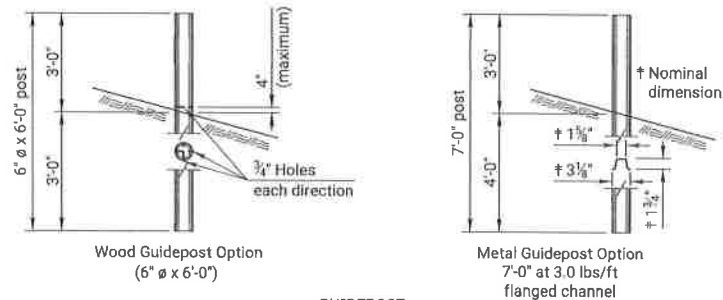


DETAIL A



ELEVATION

Note: Place the CMP flowline 1'-0" above ditch flowline, toe of sideslope, or as shown on the "Construction Layout" sheet.



GUIDEPOST

Notes:  
 Wood Guideposts: Apply a preservative treatment conforming to the KDOT Specifications to the posts. Use only one type of preservative treatment on a project. Apply two coats of aluminum paint to the top 18" of the posts. Apply one coat of International Orange paint to the top 12" of the posts. State forces will apply reflectorized material.

Metal Guideposts: Posts shall conform to the KDOT Specifications. Posts shall have a galvanized or baked enamel coating. Apply one coat of International Orange paint to the top 12" of the posts.

**ABUTMENT STRIP DRAIN:** The Bridge Contractor shall excavate to the limits shown on the Bridge Excavation sheet, grade the bottom of the backfill area, place the strip drain, and place the perforated pipe, the outlet pipe, the CMP, and the backfill. Guidepost and coarse aggregate are subsidiary to this bid item. Guidepost and coarse aggregate are not required if the CMP empties onto riprap.

**BRIDGE BACKWALL PROTECTION SYSTEM:** Apply a Bridge Backwall Protection System to the approach side of the abutments and the wings in accordance with KDOT Specifications and the manufacturer's recommendations. Cover the abutments and wings to the limits shown on the details. Prior to backfilling, repair any damage done to the system at no charge to the state.

Place perforated pipe next to the strip drain. Use non-perforated pipe outside the limits of the strip drain. Enclose the perforated pipe with the extension of the filter fabric.

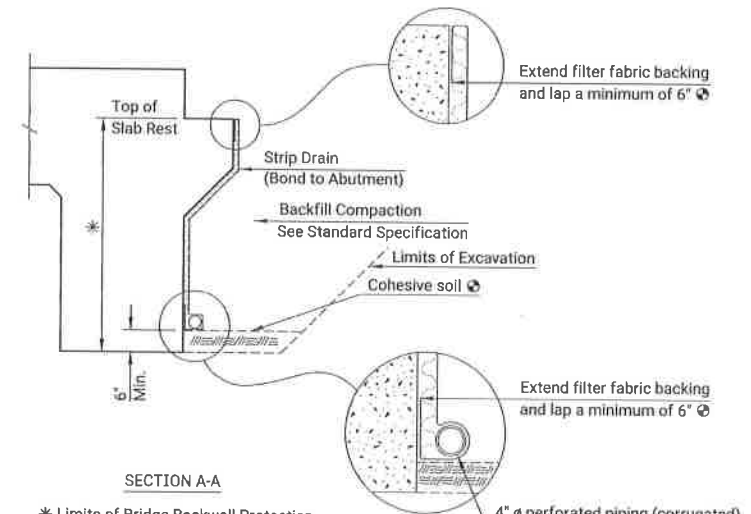
Compact the abutment backfill. See the KDOT Specifications.

Perforated pipe and non-perforated outlet pipe shall be corrugated polyethylene tubing conforming to the KDOT Specifications.

Fit the CMP end section with a 1/2" galvanized mesh screen to prevent the entrance of rodents. Seal the joint between the outlet pipe and the end section with a joint sealer. Place coarse aggregate at the outlet end as shown.

Place the outlet pipe on the downstream side of structures over streams and as shown or noted on other crossings (See the "Construction Layout" sheet).

**COHESIVE SOILS:** Grade the bottom surface of the excavated area to drain as shown. Backfill this area with a cohesive type of soil. The soil will have a Unified Soil Classification of CL, CH, ML or MH according to ASTM D2487 Classification System with a minimum plasticity index of 13. Compact the material to Type A, MR-90 specifications. If the plasticity index cannot be met, add and mix Bentonite to the soil prior to placement and compaction so that the PI ≥ 13.



SECTION A-A

\* Limits of Bridge Backwall Protection System (by Bridge Contractor)

⊗ Subsidiary to the Abutment Strip Drain

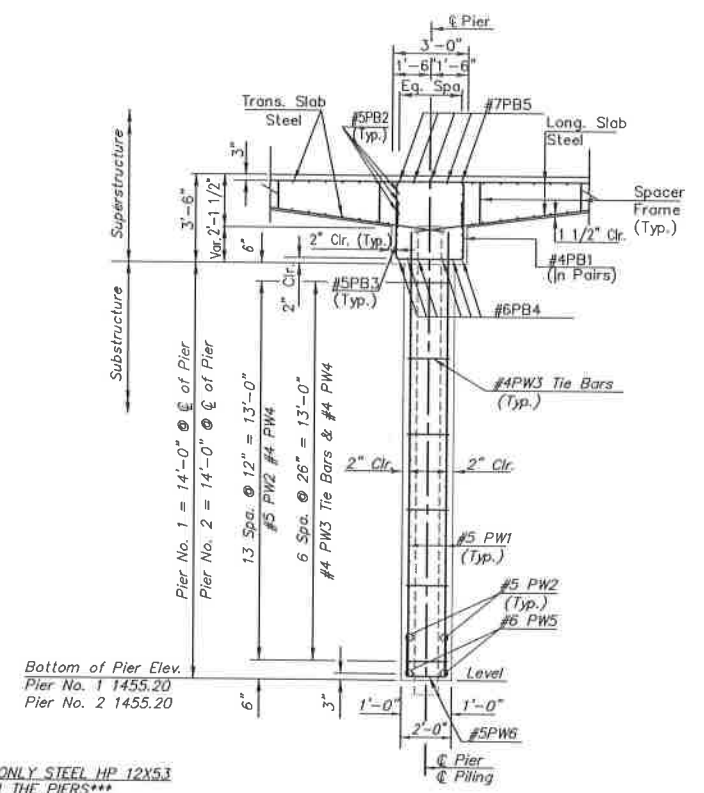
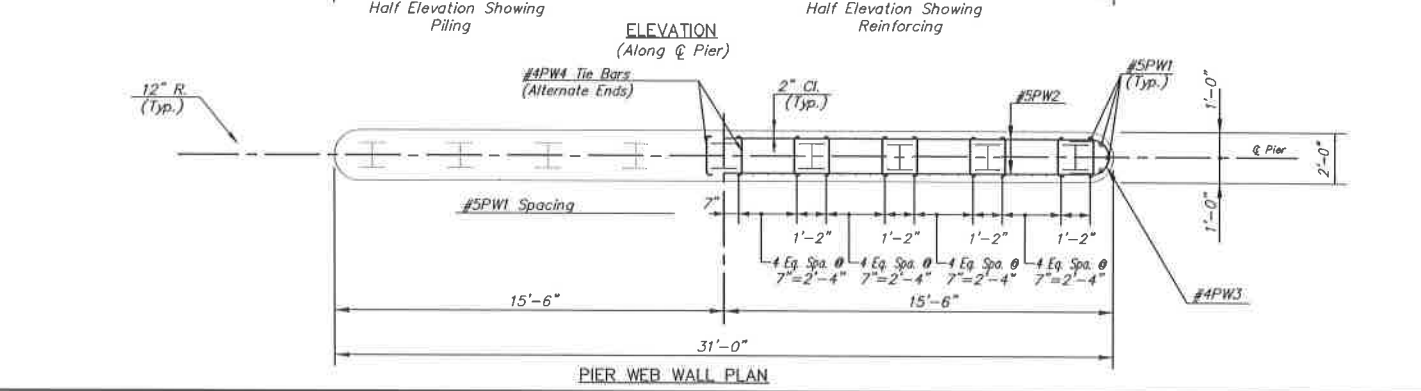
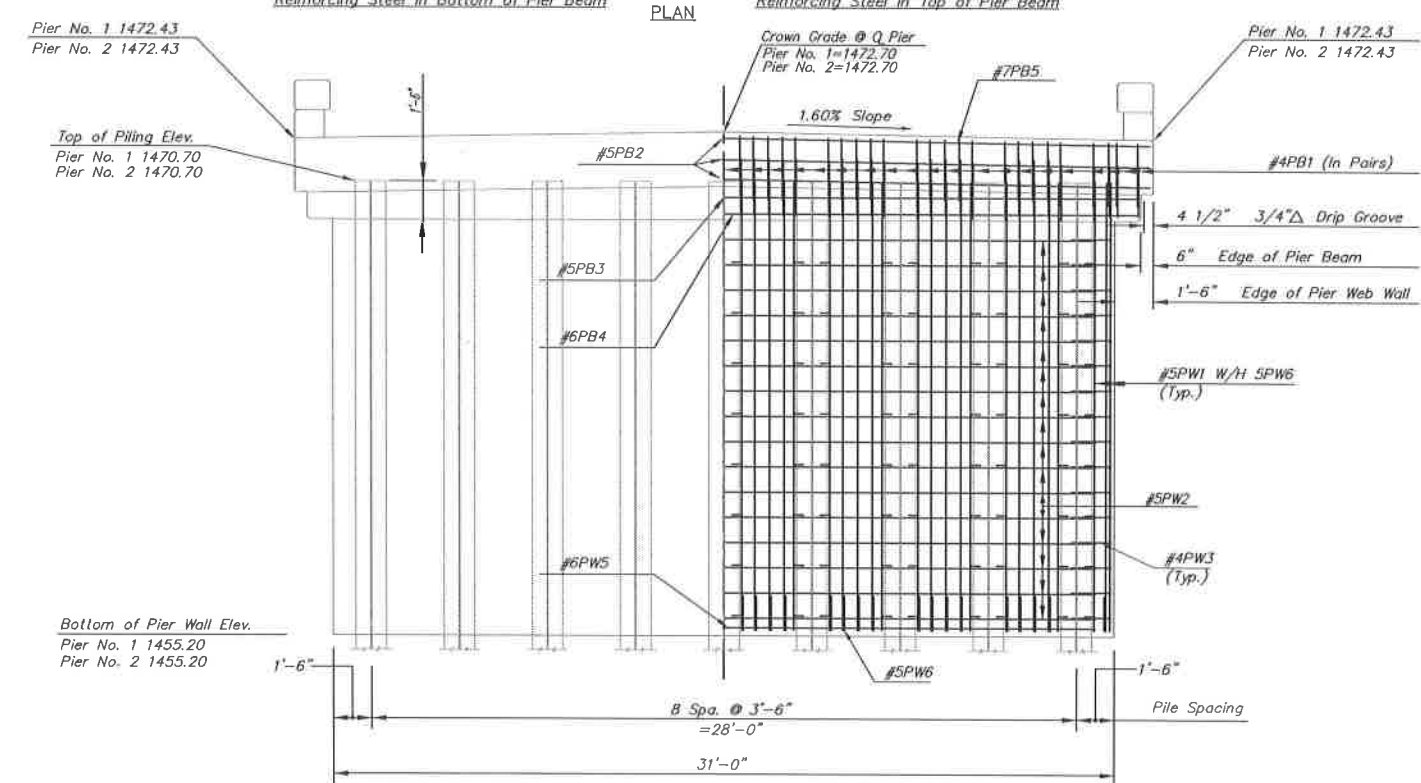
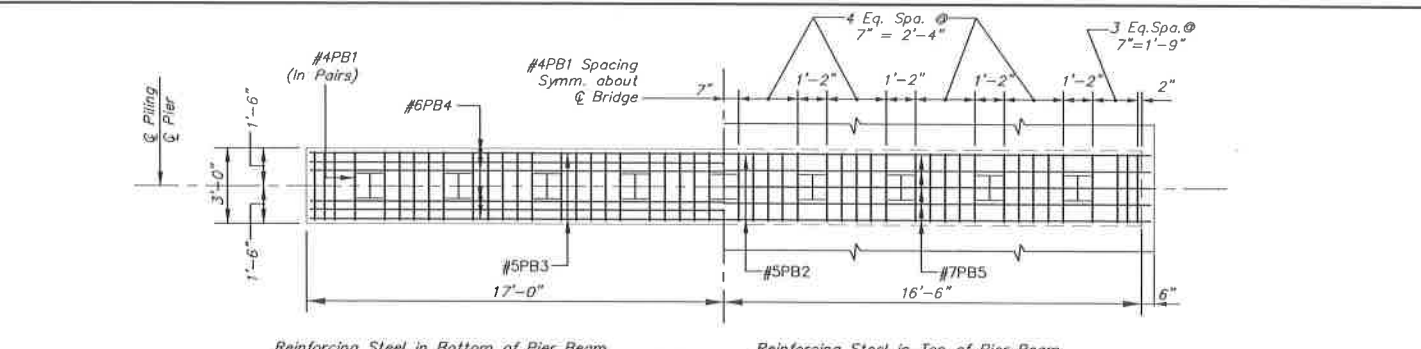
SUMMARY OF QUANTITIES	
Abutment Strip Drain	36 Sq. Yds.
Bridge Backwall Protection System	44 Sq. Yds.
Items subsidiary to Strip Drain	
4" Perforated Pipe	80 Lin. Ft.
4" Outlet Pipe	20 Lin. Ft.
6" CMP	16 Lin. Ft.
Guidepost	

NO.	DATE	REVISIONS	BY	APPD.
05	09-01-22	Added Cohesive Soils note	M.L.L.	M.A.H.
04	02-18-19	Corrected section arrows	M.L.L.	J.P.J.
03	04-07-14	Current Release	J.P.J.	C.E.R.

KANSAS DEPARTMENT OF TRANSPORTATION			
BRIDGE 100080			
ABUTMENT STRIP DRAIN			
DETAILS			
DESIGNED	CHECKED	QUANTITIES	CADD
REVISION	DETAIL	QUANT	CADD

KDOT Graphics Certified 09-01-2022

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	21	52



\*\*\*USE ONLY STEEL HP 12X53 PILES IN THE PIERS\*\*\*

TYPICAL SECTION THRU PIER

LRFD PIER PILE DESIGN LOAD

Design Loading	Strength 1 (Tons/pile)	Service 1 (Tons/pile)	Phi (Stat)
Piers	100	65	0.65

2					
1					
NO.	DATE	REVISIONS	BY	APP'D	
KANSAS DEPARTMENT OF TRANSPORTATION					
<b>BRIDGE 100080</b>					
<b>PIER DETAILS</b>					
FWHA APPROVAL		APP'D			
DESIGNED		DETAILED		QUANTITIES	TRACED
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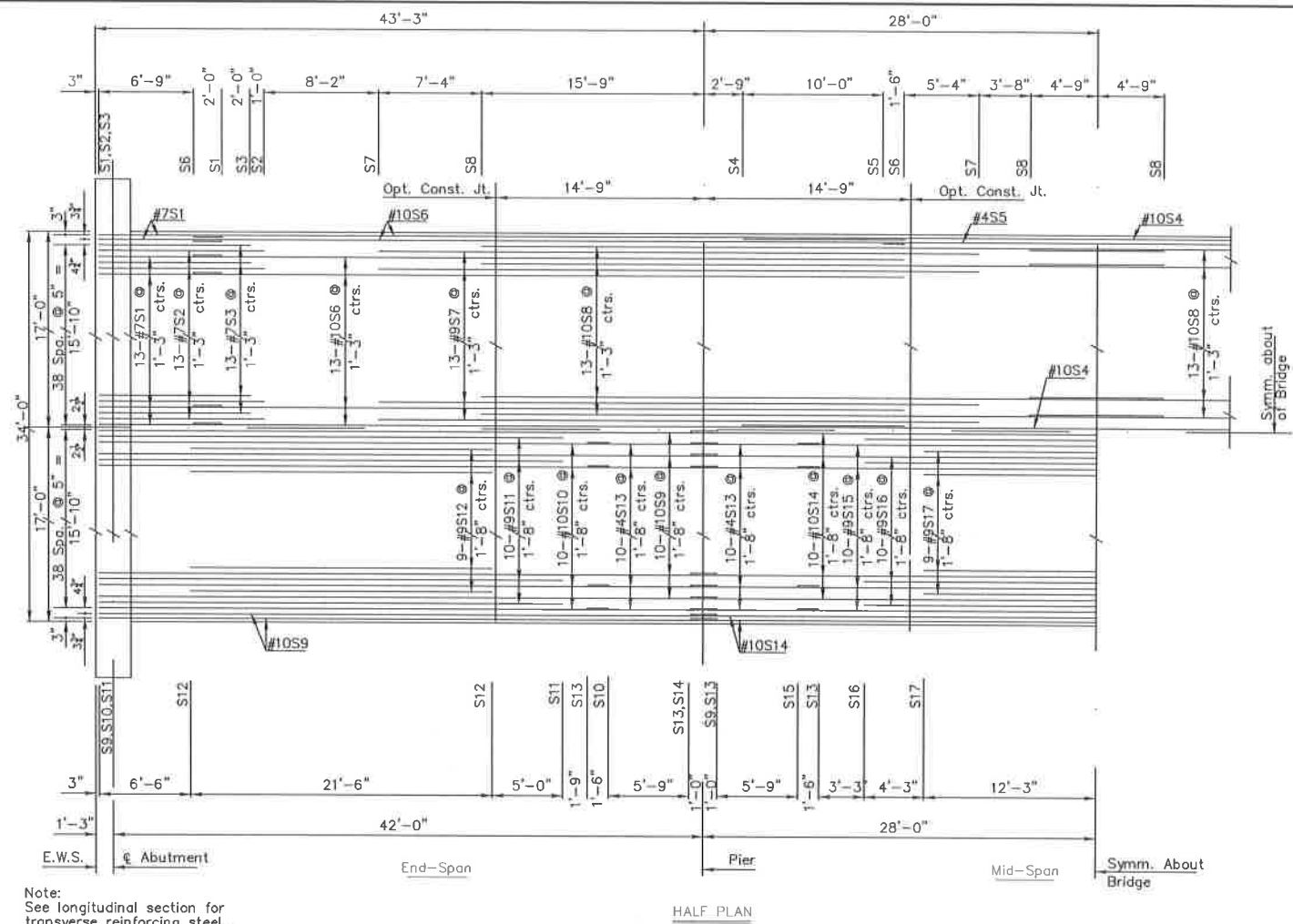
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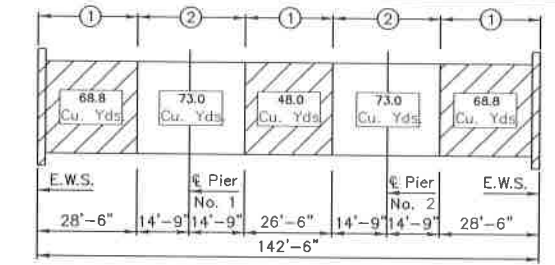
Profile	37	Longest Span Length	56'
Barry	37	Barry No. at Span	3
Side and Fraction	0	Barry No. at Span	3
Loading	HL-93	Barry No. at Span	3
		Barry No. at Span	3

Dist.	3'	Dist.	3'
1st	1.5	2nd	2.69
3rd	1.5	4th	1.51
5th	1.5	6th	1.45
7th	1.3	8th	1.35
9th	1.3	10th	1.35
11th	1.3	12th	1.35
13th	1.3	14th	1.35
15th	1.3	16th	1.35
17th	1.3	18th	1.35

Note to designer: Do not remove this information



Note: See longitudinal section for transverse reinforcing steel.



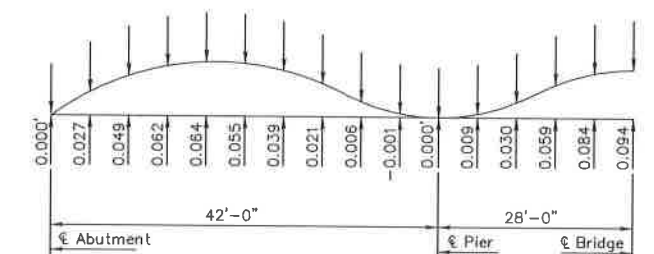
CONCRETE PLACING SEQUENCE DIAGRAM

CONCRETE PLACING SEQUENCE

When long span steel beams having a concrete dead load deflection greater than  $\frac{1}{16}$ " are used or when timber falsework with greater than 12'-0" clear span is used, follow the placing sequence shown. Segmental, combined or continuous pours are allowed, but stop a discontinued pour at a construction joint short of a pier.

When timber falsework with 12'-0" or less clear span is used, the Contractor, subject to the approval of the Engineer, may use a continuous pour or may discontinue the pour at any construction joint shown.

The Contractor may place the corral rail continuously from one end of the bridge to the other.



DEAD LOAD CAMBER DIAGRAM AT TENTH POINTS  
 Long Term Deflections = Initial Deflections x 3.5  
 (Initial Deflections Based on  $E_c = 3,644 \times 10^6$  p.s.i.)  
 (camber values in feet)

Note: 1.0 & 4.0 pts. are taken at  $\epsilon$  of abutments  
 2.0 & 3.0 pts. are taken at  $\epsilon$  of piers

Top of Form Elevation at 10th Points, (ft.)															
1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5
N/A	1471.37	1471.39	1471.41	1471.40	1471.35	1471.25	1471.11	1470.94	1470.74	N/A	1470.82	1471.08	1471.27	1471.40	1471.44
2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	
1471.40	1471.27	1471.08	1470.82	N/A	1470.74	1470.94	1471.11	1471.25	1471.35	1471.40	1471.41	1471.39	1471.37	N/A	

Note: Elevations are taken at Crown Grade. Note: The change in elevation from Crown Grade to the Edge of Slab is -0.272"

2				
1				
NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
<b>BRIDGE 100080</b>				
<b>SUPERSTRUCTURE DETAILS</b>				
FHWA APPROVAL		APP'D		
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CH.	DETAIL CH.	QUAN. CH.	TRACE CH.	



STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	24	52

1 Survey	2 Station (1)(16)	3 Location (13)	4 Transverse Location (13)	5 Estimated Falsework Crush (ft) (1)(4)	6 Target Elevation TOF (1)(6)	7 Actual Elevation TOF (2)	8 TOF Variance (QA/QC) (2)(5)	9 Target Screed El = TOC (1)(6)	10 Actual Bottom of Screed El. Prior to Pour (2)	11 Screed Variance (QA/QC) (2)(7)	12 Plan Deck Thickness (ft) (1)	13 Measured Deck Thickness (2)(8)	14 Deck Thickness Variance (QA/QC) (2)(9)	15 Plan TOC El (1)	16 Actual TOC El. Optional Survey (3)
A	34+80.00	Cl Brg. Abut 1	Left Fascia					1472.43						1472.43	
			Cr Gr Cl					1472.70						1472.70	
			Right Fascia					1472.43						1472.43	
B	34+81.25	Int. Face Abut 1	Left Fascia		1471.05						1.38			1472.43	
			Cr Gr Cl		1471.33					1.38			1472.70		
			Right Fascia		1471.05					1.38			1472.43		
C	34+96.80	4 pt from Abut 1	Left Fascia	0.02083	1471.13			1472.51			1.38			1472.43	
			Cr Gr Cl	0.02083	1471.40			1472.78		1.38		1472.70			
			Right Fascia	0.02083	1471.13			1472.51		1.38		1472.43			
D	35+20.75	Span 1 Face of Pier Beam	Left Fascia	0.02083	1470.33						2.12			1472.43	
			Cr Gr Cl	0.02083	1470.60					2.12		1472.70			
			Right Fascia	0.02083	1470.33					2.12		1472.43			
E	35+22.00	Cl Brg. Pier 1	Left Fascia					1472.43						1472.43	
			Cr Gr Cl					1472.70					1472.70		
			Right Fascia					1472.43				1472.43			
F	35+23.25	Span 2 Face of Pier Beam	Left Fascia	0.02083	1470.33						2.12			1472.43	
			Cr Gr Cl	0.02083	1470.60					2.12		1472.70			
			Right Fascia	0.02083	1470.33					2.12		1472.43			
G	35+50.00	Midpoint of Span 2	Left Fascia	0.02083	1471.17			1472.54			1.38			1472.43	
			Cr Gr Cl	0.02083	1471.44			1472.81		1.38		1472.70			
			Right Fascia	0.02083	1471.17			1472.54		1.38		1472.43			
H	35+76.75	Span 2 Face of Pier Beam	Left Fascia	0.02083	1470.33						2.12			1472.43	
			Cr Gr Cl	0.02083	1470.60					2.12		1472.70			
			Right Fascia	0.02083	1470.33					2.12		1472.43			
I	35+78.00	Cl Bearing Pier 2	Left Fascia					1472.43						1472.43	
			Cr Gr Cl					1472.70					1472.70		
			Right Fascia					1472.43				1472.43			
J	35+79.25	Span 3 Face of Pier Beam	Left Fascia	0.02083	1470.33						2.12			1472.43	
			Cr Gr Cl	0.02083	1470.60					2.12		1472.70			
			Right Fascia	0.02083	1470.33					2.12		1472.43			
K	36+03.20	4 pt from Abut 2	Left Fascia	0.02083	1471.13			1472.51			1.38			1472.43	
			Cr Gr Cl	0.02083	1471.40			1472.78		1.38		1472.70			
			Right Fascia	0.02083	1471.13			1472.51		1.38		1472.43			
L	36+18.75	Int. Face Abut 2	Left Fascia		1471.05						1.38			1472.43	
			Cr Gr Cl		1471.33					1.38		1472.70			
			Right Fascia		1471.05					1.38		1472.43			
M	36+20.00	Cl Bearing Abut 2	Left Fascia					1472.43						1472.43	
			Cr Gr Cl					1472.70					1472.70		
			Right Fascia					1472.43				1472.43			

Pour Dates (2)	
Deck	
Left Rail (13)	
Right Rail (13)	

Survey Data (1)(11)	
Bench Mark No	Elevation
#1	1464.76

Crown Grade Profile (1)(12)	
VP1 Station	
VP1 Elevation	
G1 %	
G2 %	
L in Stations	

Slab Thickness (1)		Span Data (1)	
16.5 Uniform Depth (inch)	HL-93	Design Loading	
8.94 Haunch Depth @ Face of PB (inch)	42	Span #1 (ft)	
0.10 Haunch Depth @ 0.4 Point (inch)	56	Span #2 (ft)	
	3	Clear Cover (inch)	

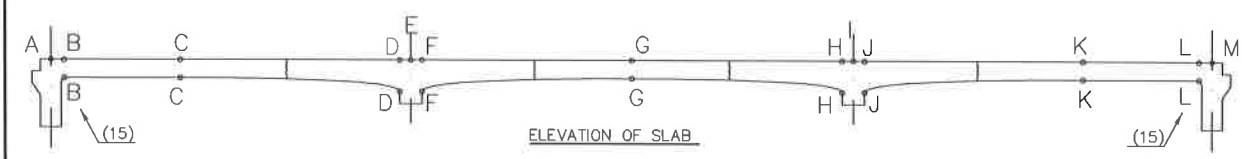
Roadway Data (1)(10)(13)	
34'	Deck Width (ft) (14)
1.60	% Slope Left ±
1.60	% Slope Right ±
0	Skew (dd:mm:ss)

Camber (1)(17)	
0.064	Span #1 0.4 Point (ft)
0.094	Span #2 Midspan (ft)

- (1) By the Design Engineer
- (2) By the Contractor
- (3) By Request
- \* (4) Estimated crush for typical falsework. Re-estimate if/when more accurate information becomes available.
- (5) (col 7 - col 6)x12
- (6) Crush (Take Up) and camber must be included
- (7) (col 10 - col 9)x12
- (8) (col 10 - col 7)x12
- (9) (col 13 - col 12)
- (10) If transition falls on the bridge, then enter "Varies" for the % Slope.
- (11) From "Construction Layout" sheet
- (12) If bridge is not on the vertical curve, enter Abutment #1 @ bearing elevation from the "Construction Layout" sheet. Represent a change in grade with G1 only.
- (13) Looking Up-Station
- (14) Out-to-Out
- (15) Ignore Fillet
- (16) Non-skewed bridges only require @ stations.
- (17) Ignore theoretical camber at face of pier beams.

NOTE: The Contractor will submit a completed copy of this table to the Field Engineer to be inserted into the As-Built plan set.

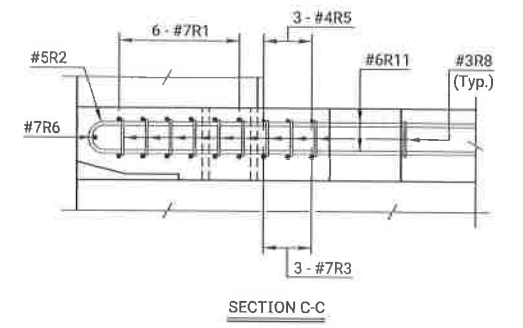
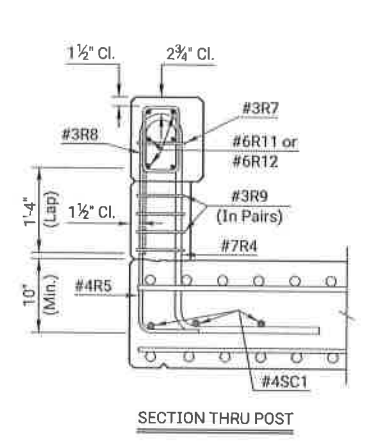
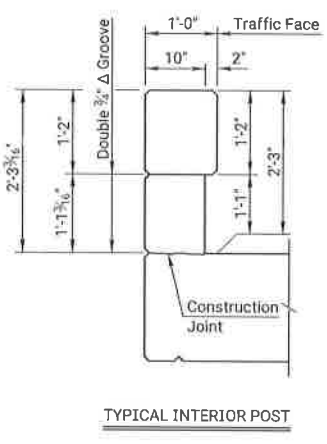
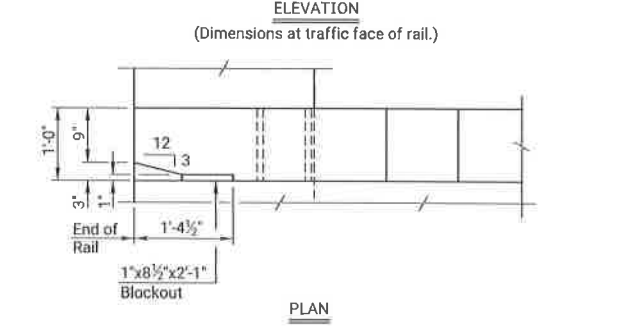
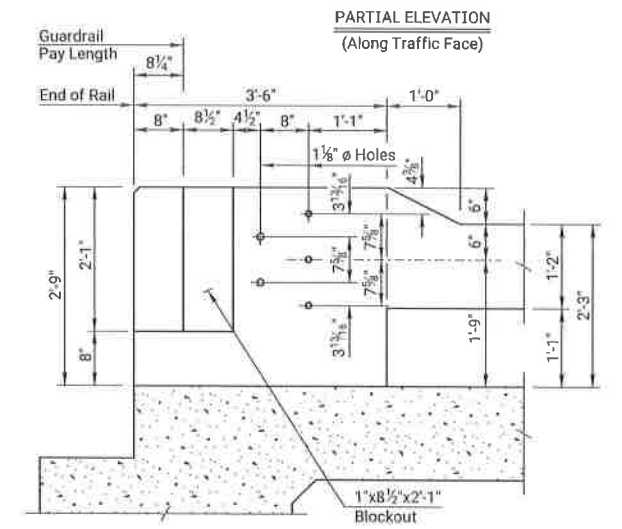
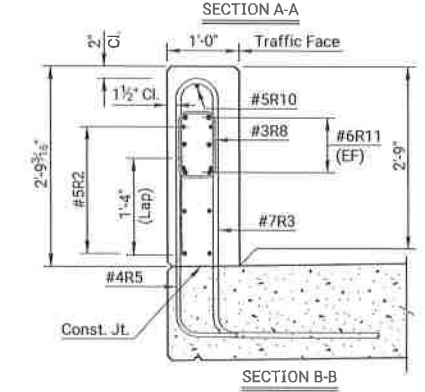
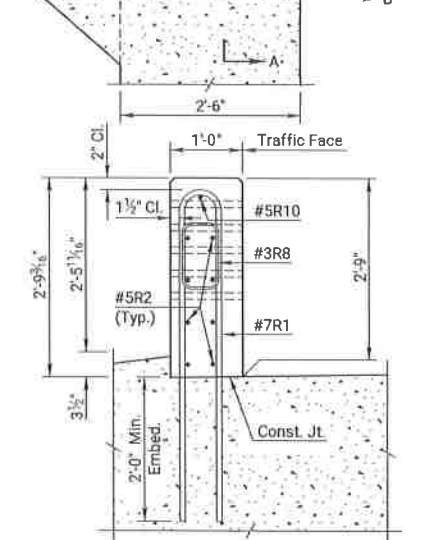
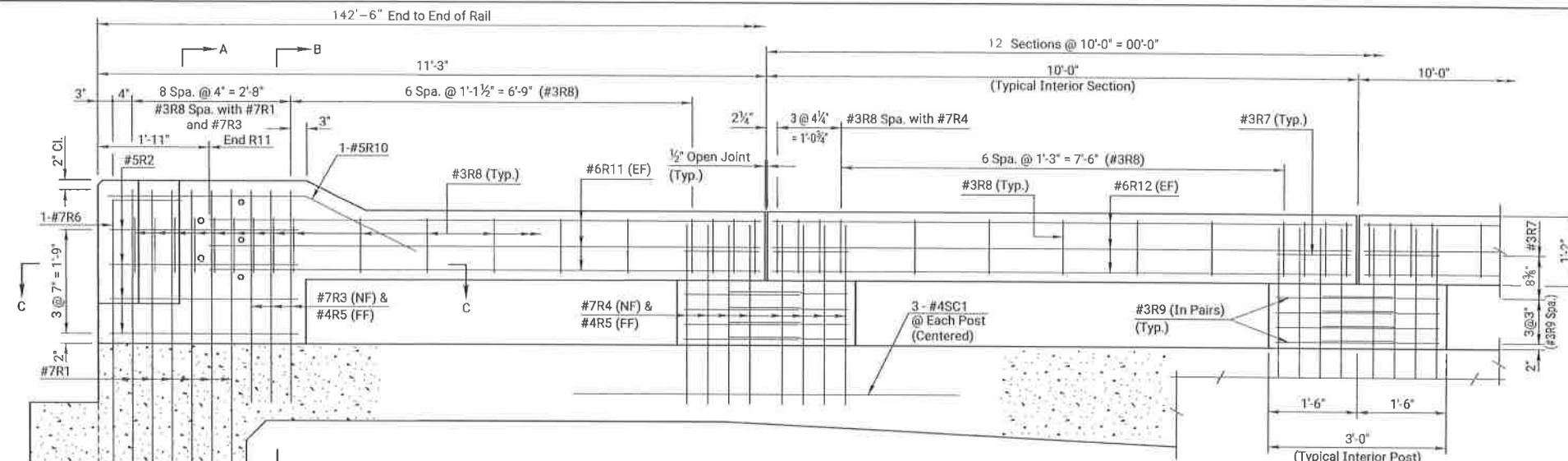
2				
1				
NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
<b>BRIDGE 100080</b>				
<b>SLAB ELEVATIONS</b>				
DESIGNED	APPROVAL	QUANTITIES	APP'D	
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACED	TRACE CK.



† Stationing shown increasing  
 \* It is assumed that piling have been driven to design bearing and checked by ENR formula (QA/QC).  
 No allowance for pile settlement is included in crush.

Legend  
 TOF = Top of Formwork  
 TOC = Top of Concrete  
 QA = Quality Assurance  
 QC = Quality Control

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	25	52



NO.	DATE	REVISIONS	BY	APP'D
01	12-03-23	Changed Bridge Number Plate detail	M.L.L.	M.A.H.
02	02-14-05	Current Release		

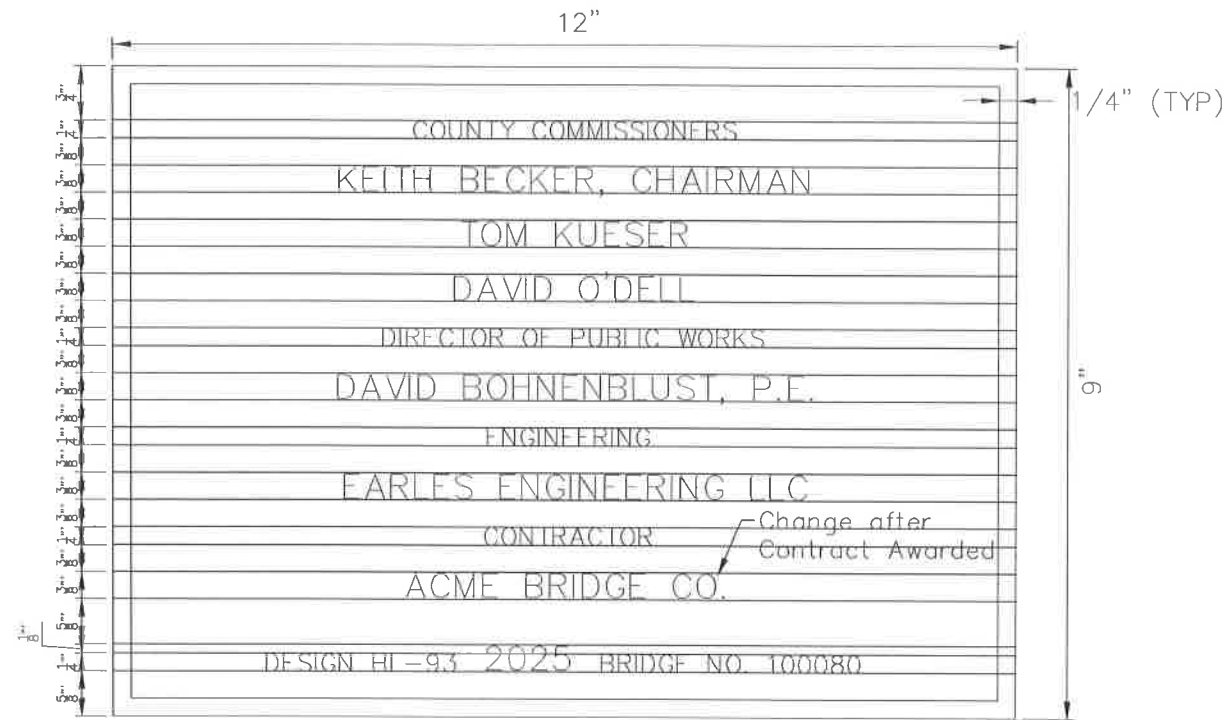
KANSAS DEPARTMENT OF TRANSPORTATION  
**BRIDGE 100080**  
**27" KANSAS CORRAL RAIL**  
**R.C. HAUNCHED SLAB (Without Curb)**

DESIGNED	DRAWN	QUANTITIES	CHECK
DESIGN OK	DETAIL OK	QUANT OK	CHECK OK

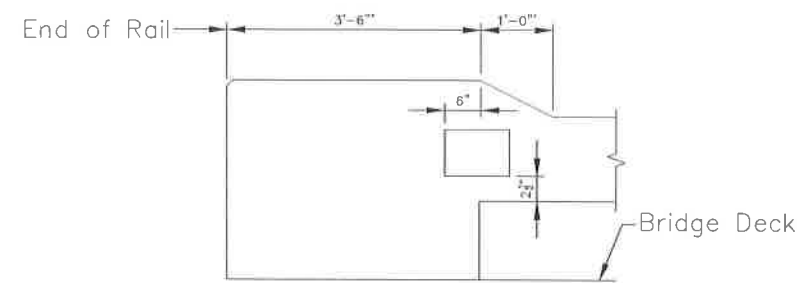
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 File: 101181.dgn  
 Reviewed by: BOCKMAN  
 Printed: 8/17/2023 8:15 PM  
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 File Location: F:\302A\34-000\_Corral\_Rail\Bridges\Bridges\Drawings\Plan Set

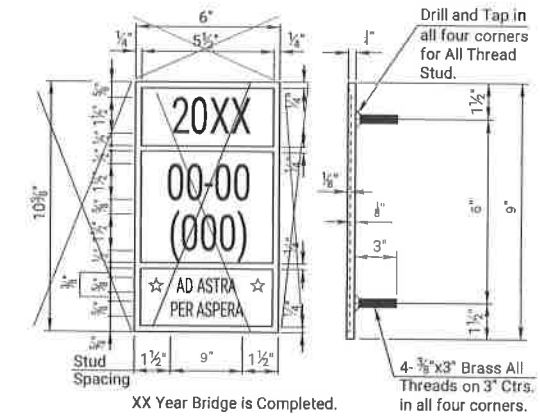
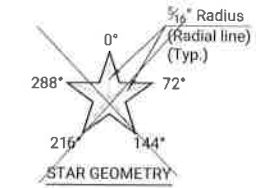
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	26	52



**TYPICAL PLAQUE**  
One Required Per Bridge

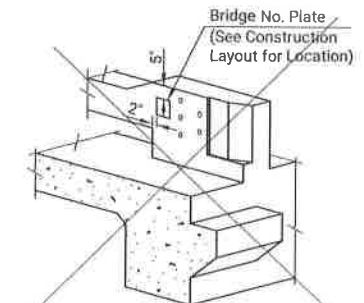


**BRIDGE NUMBER PLATE  
PLACEMENT DETAIL**  
(Dimensions at traffic face of rail)



XX Year Bridge is Completed.  
4-3/8"x3" Brass All Threads on 3" Ctrs. in all four corners.

**BRIDGE NUMBER PLATE**  
(1 Required)  
(See Construction Layout for Location)



**BRIDGE NUMBER PLATE PLACEMENT DETAIL**

NO.	DATE	REVISIONS	BY
03			
02	12-09-21	Changed Bridge Number Plate detail	M.L.L. M.A.H.
01	02-14-05	Current Release	

KANSAS DEPARTMENT OF TRANSPORTATION

**BRIDGE 100080**  
**BRIDGE PLAQUE DETAILS**

DESIGNED	DETAILED	QUANTITIES	CADD
DESIGNER	DETAILER	QUANT	CADD

Revised By: JDDGMAN  
Plotted: 9/17/2025, 8:10 PM

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Plotted by: KDOT\CADD\Support\_Lks.gov 8-NOV-2022 01:01  
File: br181a.dgn

KDOT Graphics Certified 10-11-2022

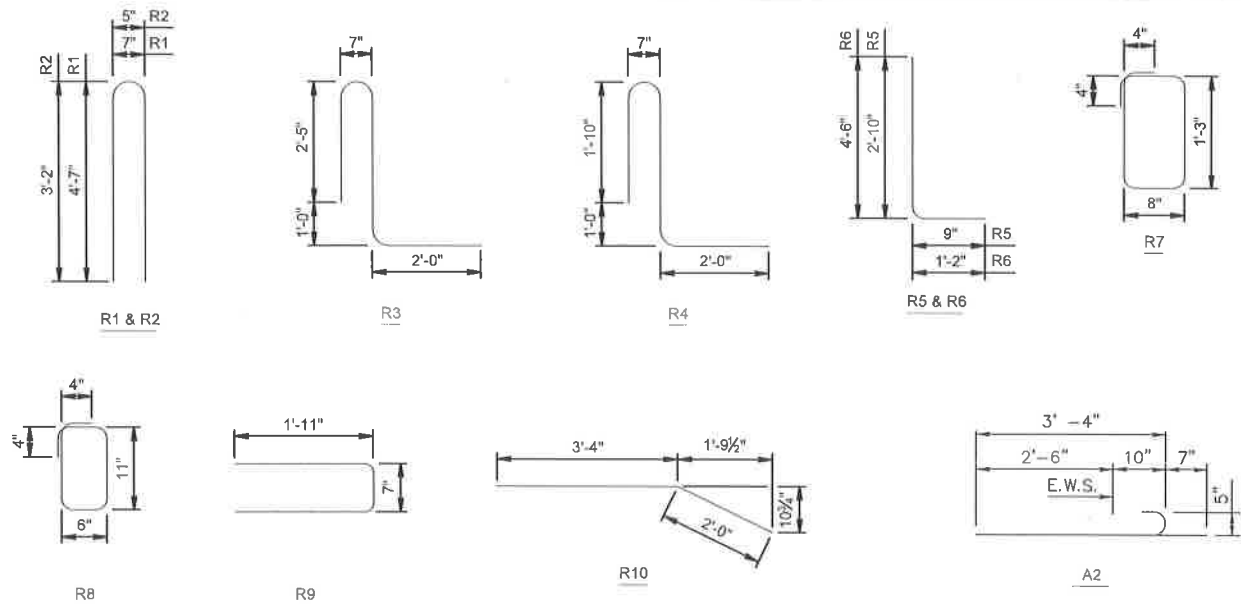
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	27	52

1716\_V=522.dgn  
 Plot Date = 9/1/2025 8:12 PM  
 Plot Size = 36" x 48"  
 Plot Scale = 1/8" = 1'-0"  
 Plot Orientation = Vertical  
 Plot Units = Feet  
 Plot Color = Black  
 Plot Lineweight = 0.5  
 Plot Linetype = Solid  
 Plot Font = Arial  
 Plot Font Size = 12

Reviewed By: JCD/AMM  
 Printed 9/1/2025 8:12 PM

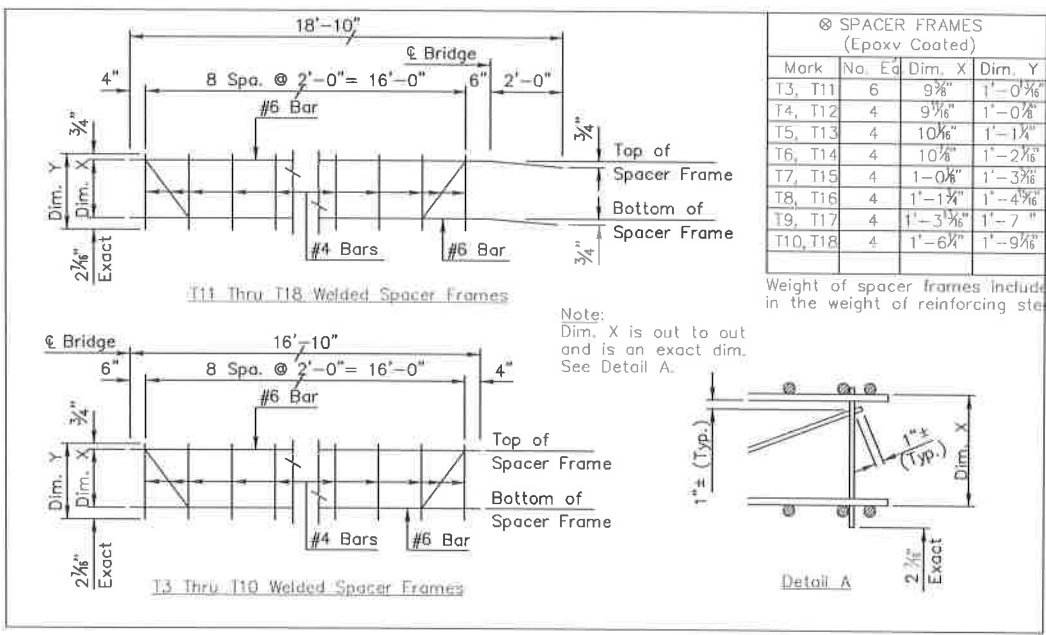
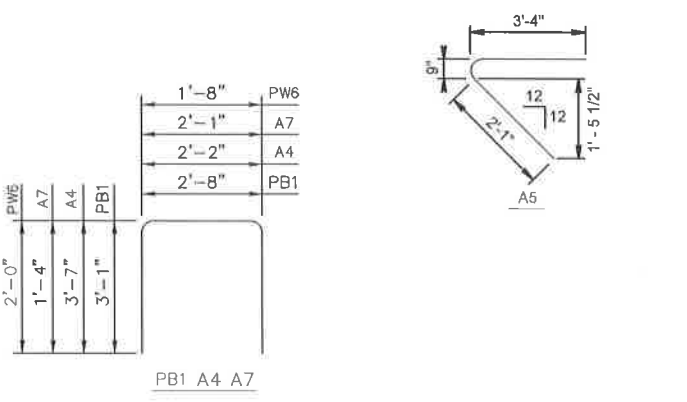
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 Plotted By: JCD/AMM  
 Plot Location: F:\JCD\1000-80\1000-80-27\30 BILL OF REINFORCING STEEL AND BENDING DIAGRAMS.DWG  
 Plot Date: 9/1/2025 8:12 PM



BILL OF REINFORCING STEEL Non-Epoxy Coated - Grade 60							
Straight Bars				Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length
PW1	#5	180	15'-3"	PW3	#4	28	8'-2"
PW2	#5	56	29'-0"	PW4	#4	252	2'-6"
PW5	#6	4	29'-0"	PW6	#5	90	5'-8"

BILL OF REINFORCING STEEL Epoxy Coated - Grade 60							
Straight Bars				Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length
S4	#10	4	50'-6"	R1	#7	24	9'-9"
S6	#10	60	50'-6"	R2	#5	16	6'-9"
S8	#10	52	48'-6"	R3	#7	12	8'-5"
S9	#10	48	44'-0"	S1	#7	60	11'-3"
S10	#10	40	36'-3"	S2	#7	52	14'-3"
S14	#10	48	58'-0"	S3	#7	52	13'-3"
S7	#9	52	42'-8"	A2	#5	80	3'-11"
S11	#9	40	33'-0"	R5	#4	22	3'-7"
S12	#9	36	21'-6"	R6	#7	4	5'-8"
S15	#9	40	42'-6"				
S16	#9	40	33'-0"	A4	#4	200	9'-4"
S17	#9	36	24'-6"	A5	#4	80	6'-2"
A1	#8	16	41'-8"	A7	#4	28	4'-9"
R11	#6	24	9'-2"	R4	#7	208	7'-3"
R12	#6	144	9'-8"	R7	#3	52	4'-6"
T1	#6	132	33'-8"	R8	#3	388	3'-6"
A3	#5	20	41'-8"	R9	#3	208	4'-5"
A6	#4	2	32'-8"	R10	#5	4	5'-4"
S5	#4	2	30'-6"				
S13	#4	80	9'-3"				
T2	#4	120	33'-8"				
SC1	#4	78	6'-6"				
PB5	#7	10	33'-8"	PB1	#4	192	8'-10"
PB4	#6	12	32'-8"				
PB2	#5	12	33'-8"				
PB3	#5	4	32'-8"				

See Bending Diagram



SPACER FRAMES (Epoxy Coated)				
Mark	No.	Eq.	Dim. X	Dim. Y
T3, T11	6	9 3/8"	1'-0 3/8"	
T4, T12	4	9 1/8"	1'-0 1/8"	
T5, T13	4	10 1/8"	1'-1 1/8"	
T6, T14	4	10 3/8"	1'-2 3/8"	
T7, T15	4	1-0 1/4"	1'-3 1/4"	
T8, T16	4	1'-1 1/4"	1'-4 1/4"	
T9, T17	4	1'-3 1/4"	1'-7"	
T10, T18	4	1'-6 1/4"	1'-9 1/4"	

Weight of spacer frames included in the weight of reinforcing steel.

Note: Dim. X is out to out and is an exact dim. See Detail A.

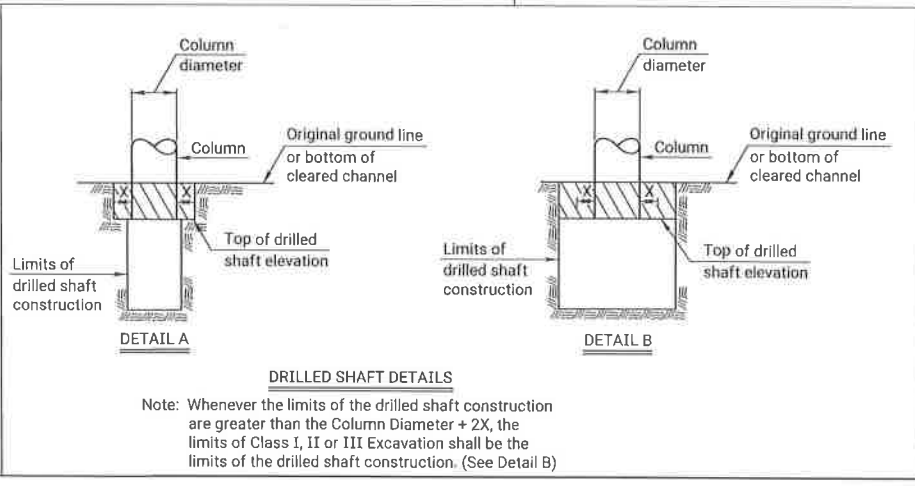
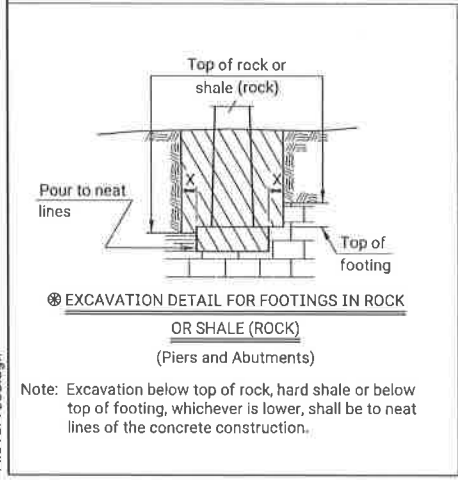
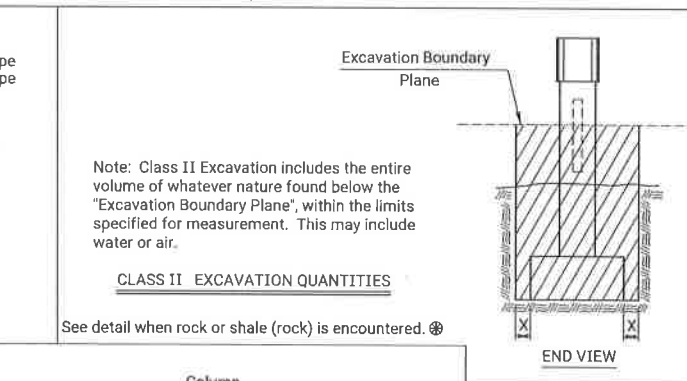
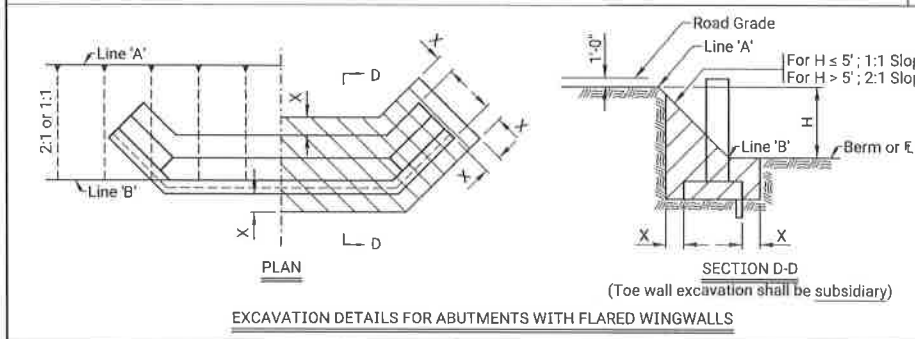
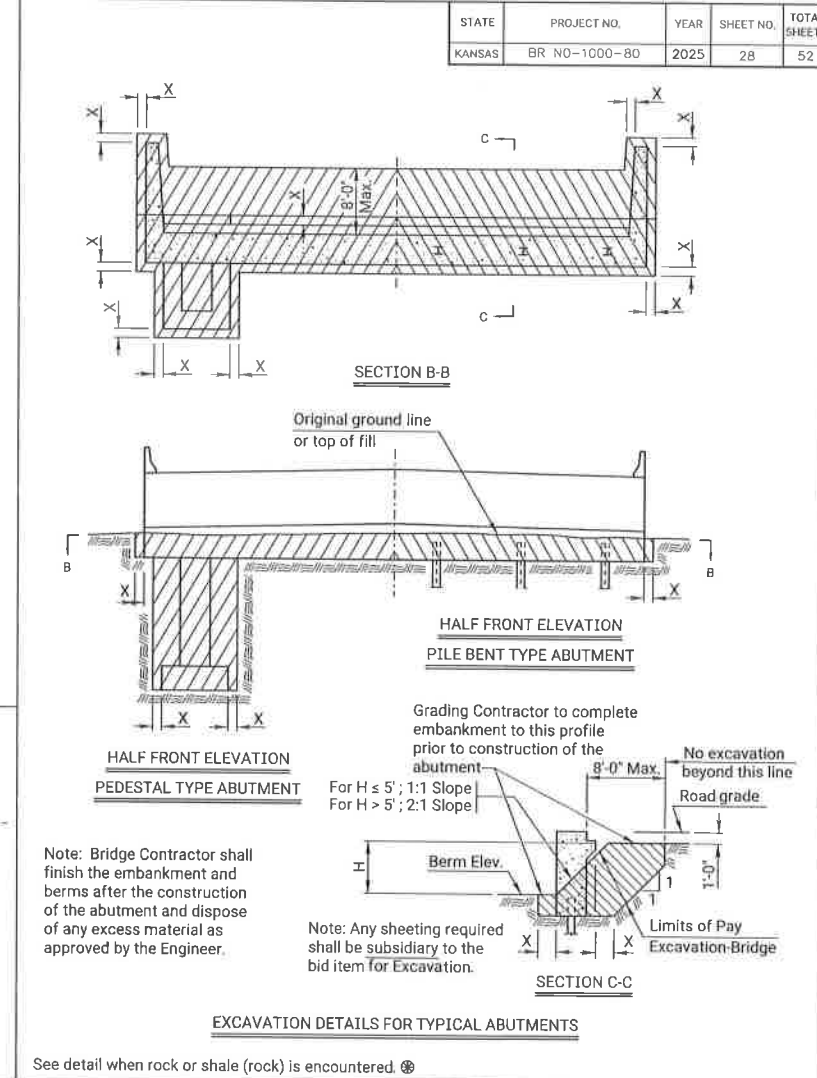
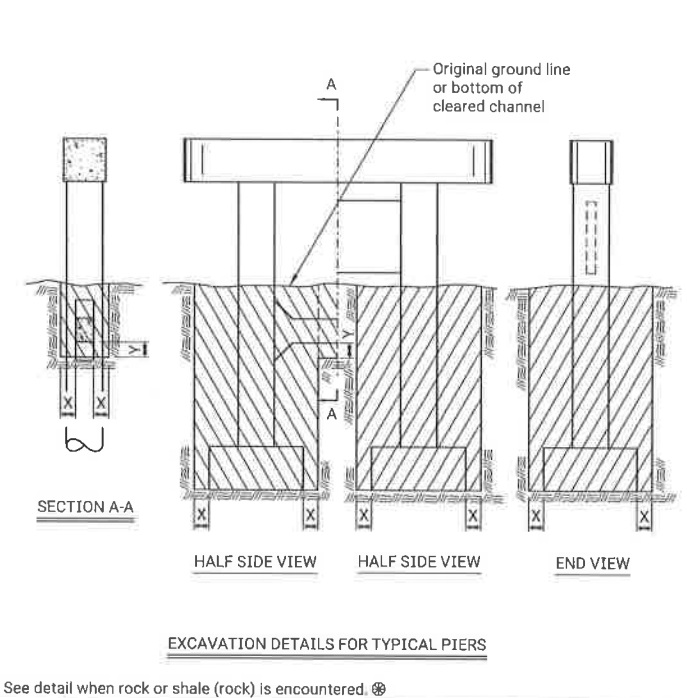
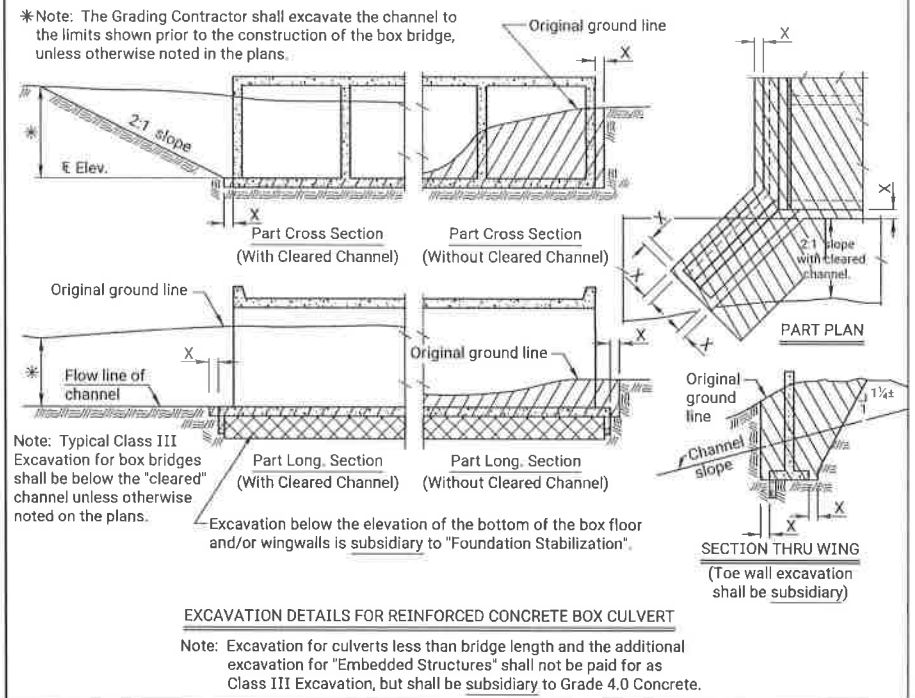
BENDING DIAGRAMS  
 (All dimensions are out to out of bars.)

3	8/22/23	C2 bar length correction	MLL	MJM
2	1/15/23	corrected spacer base mark	DRT	KFH
1	7/30/19	corrected Qty. on note to Designer	DRT	KFH
NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION  
**BRIDGE 10080**  
 BILL OF REINFORCING STEEL  
 AND  
 BENDING DIAGRAMS

SHEET NO.	OF	SCALE	APP'D
DESIGNED	DRT	CHECKED	MLL
DRAWN	MLL	QUANTITIES	MLL
DESIGN	MLL	DETAILS	MLL
		LOADS	MLL
		REVISIONS	MLL

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	28	52



Note: All bridge excavation shall be computed on the basis of the cross-hatch areas and boundary lines indicated on this sheet and the Excavation Boundary Plane on the Construction Layout.

Sides of trenches in hard or compacted soil including embankments shall be shored, sheeted, braced or otherwise supported when the trench is more than 5 feet in depth and 8 feet or more in length. In lieu of the shoring, the sides of the trench above the 5 foot level may be sloped to preclude collapse. The slope for average soils shall be 1:1. If the angle of repose of the soil is less, flatter slopes shall be required.

Dimension "X" shall be 2'-0" unless indicated otherwise on the general plans.  
Dimension "Y" shall be 1'-6" unless indicated otherwise on the general plans.

NO.	DATE	REVISIONS	BY	APP'D
06	06-15-12	Embankment Excavation Subsidiary	J.P.J.	T.L.F.
05	05-15-12	Revised Wing Excavation	J.P.J.	T.L.F.
04	03-03-10	Revised Wing Excavation	J.P.J.	T.L.F.

KANSAS DEPARTMENT OF TRANSPORTATION

**BRIDGE EXCAVATION (LRF)**

BR100B

DESIGNED	DRAWN	CHECKED	QUANTITIES	TRACED
DESIGNED	DRAWN	CHECKED	QUANTITIES	TRACED

BR100B  
04-12-10  
APP'D  
Terry L. Fleck

KDOT Graphics Certified 06-20-2022

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 File: L:\001\01\F\1024\24-020-Connors Road Bridge-McPherson County\Civil\Drawings\Plan Set  
 Review By: JDOOMAN  
 Printed: 9/1/2025 8:13 PM

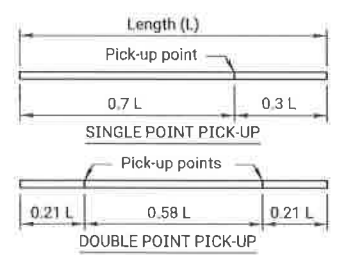
OD	10 3/4"	T. = #
OD	12 3/4"	T. = #
OD	14"	T. = #

†† See the Geology Report or "Summary of Quantities" for Pipe Pile wall thickness

Note: Pile shall be driven with a steel head having a projecting ring fitting inside the pipe. Clearance between ring and pipe should be 1/4".

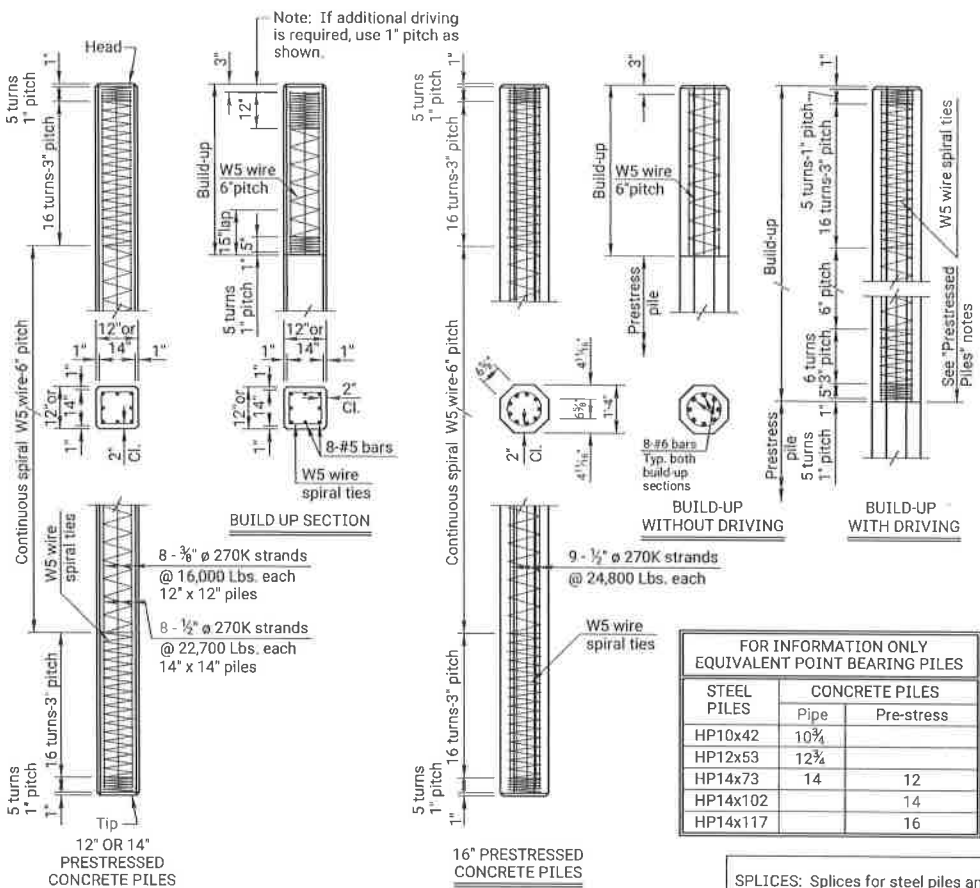
Note: Pile pipe may be spiral welded, longitudinal welded, or seamless steel pipe.

**PLAIN ROUND CAST-IN-PLACE CONCRETE PILES**



**PICK-UP POINTS FOR PRESTRESSED PILING**

Max. length - 55' single point pick-up  
Max. length - 80' double point pick-up  
Note: Piles shall be marked at Pick-up points to indicate proper points for attaching handling lines.



**Weld Symbology Definition**

- Use grinder to bevel edges of splice as shown in weld symbology and drawing. In addition to bevels, produce clean, bare, and shiny surfaces at and around the splice welding location.
- Lay full penetration root weld from beveled side of splice.
- Back gouge root weld from side opposite of root welding application making sure to remove all foreign materials, porous steel, and inclusions from root weld. Finish welding the non beveled side of the splice.
- Finish welding beveled side of the splice while removing slag, foreign materials, porous steel, and inclusions in between welding passes, use of a grinder may be needed.
- Verify that enough filler metal has been correctly placed in all weld locations to obtain a flush or convex surface with no concavity produced upon completion of the final welds.

**CAST STEEL PILE POINT**

The pile point shall be a one-piece unit of cast steel. Weld pile points in accordance with manufacturer's recommendations to each steel pile before driving.

FOR INFORMATION ONLY EQUIVALENT POINT BEARING PILES		
STEEL PILES	CONCRETE PILES	
	Pipe	Pre-stress
HP10x42	10 3/4"	
HP12x53	12 3/4"	
HP14x73	14	12
HP14x102		14
HP14x117		16

**SPLICES:** Splices for steel piles and shell piling shall be in accordance with details shown on this sheet and the Standard Specifications.

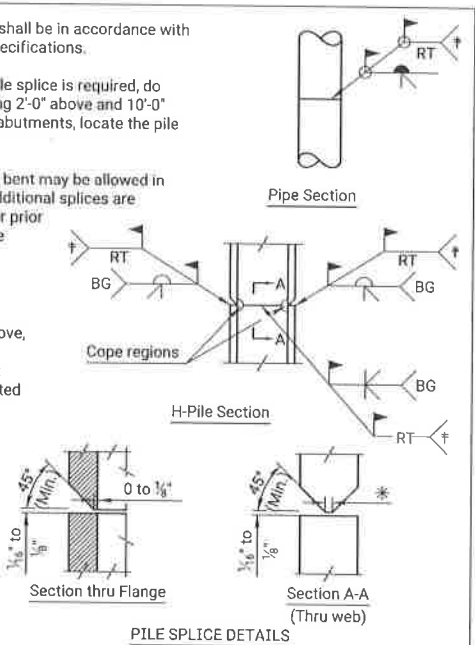
For integral pile bent abutments and piers, if a pile splice is required, do not locate the pile splice within a region extending 2'-0" above and 10'-0" below the bottom of the concrete web wall. For abutments, locate the pile splice at least 10'-0" below top of fill.

With the approval of the Engineer, one splice per bent may be allowed in the region described above without testing. If additional splices are anticipated, based on the geology, the Contractor prior to driving, will locate the splice so that the splice will not fall within the regions described above.

† For integral pile bent abutments and piers, if a splice is located within the regions described above, then the Contractor will test the welds by Radiograph (RT) test methods. Repair and retest any welds not passing the test(s). Each weld tested will have written confirmation of results. Report these results to the Engineer. This work is not paid for directly, but is subsidiary to "Piles".

\* Minimum as required by welding process.

BG = Backgouge



**GENERAL NOTES**

**PRESTRESSED PILES:** Fabricate prestressed concrete pile splices in accordance with the Manufacturer's recommendations subject to the approval of the Engineer.

Method of attachment of pile to build-up may be by any of the methods given in the notes on "Alternate Methods." If mild reinforcing steel is used for attachment, the area shall be no less than that used in the build-up.

**ALTERNATE METHODS:** Method of attachment of a pile to build-up may be by any of the following methods:

1. Cut off at least 2'-0" of pile and expose a minimum of 2'-0" of strands.
2. Cast 8-#6, or 8-#5 bars (equally spaced) into pile head. All bars shall extend into pile head and project from pile head a minimum of 2'-0".
3. Drill 8 holes in pile head (equally spaced) for installation of 8 grouted dowel bars of same size and length as in 2.
4. Provide cored holes for bars as in 3.

No bars or strands are to extend from head of pile or build-up into footing or pile cap unless approved by the Engineer.

**TEST PILES:** Drive test piles where called for on the bridge plans. The test piles located within the limits of the substructure will become a part of the bridge pile system.

**DRIVING FORMULA:** Driving formula shall conform to the Standard Specifications.

**MEASUREMENT AND PAYMENT:** Measurement and payment for all piles shall comply with the Standard Specifications.

**REINFORCEMENT:** Use reinforcing steel conforming to ASTM A615, Grade 60. Hoops and spirals may be either plain or deformed bars.

**PRESTRESSING STEEL:** Use uncoated seven-wire low relaxation prestressing strand conforming to ASTM A416, Gr. 270.

**STEEL PILE:** Steel pile shall conform to the requirements of the Standard Specifications.

**PILE POINTS:** Pile points shall conform to the dimensions shown and to requirements of the Standard Specifications.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	29	52

**SPECIFICATIONS:** Standard Specifications for State Road and Bridge Construction as currently used by the Kansas Department of Transportation.

**CONCRETE:** Concrete for cast-in-place shall be f'c = 3,500 PSI. Concrete for prestressed shall be f'c = 5,000 PSI.

**WELDING:** All field welding shall meet the requirements of the Standard Specifications.

Use only Shielded Metal Arch Welding SMAW (stick welding) for pile splices.

Use only low hydrogen E7018, 7016, or 7015 series welding rod (electrode) for all welding applications during pile splicing.

New electrodes are to be purchased for each KDOT project. The electrodes shall arrive on the project in factory hermetically sealed containers, opened and labeled with indelible ink in front of the engineer. The label shall include the current date and the project number. If the container seal is questionable or shows signs of damage the electrode is to be dried in an oven at least one hour at a temperature of 700°F to 800°F.

Upon removal from intact hermetically sealed factory packaging or the drying oven the electrode is to be placed in a storage oven with a minimum temperature of 250°F.

When electrodes are removed from the hermetically sealed container or storage oven and exposed to the atmosphere for less than 4 hours place into the storage oven for at least 4 hours before removing for use.

If electrode is exposed to the atmosphere for 4 hours or more (or 9 hours for moisture resistant electrodes designated with an R in their labeling) then electrode can be dried in a drying oven at a temperature of 450°F to 550°F.

If the electrode is exposed to the atmosphere for 4 hours or more a second time or the rod becomes wet discard rod.

**CAST-IN-PLACE SHELLS:** Steel shells for cast-in-place concrete piles shall conform to the requirements of the Standard Specifications.

All piles driven without a mandrel shall be of the minimum thicknesses shown. Piles driven with a 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.

Remove, replace or correct to the satisfaction of the Engineer improperly driven, broken or otherwise defective pipe piles. Otherwise drive an additional pile at no extra cost.

The Contractor shall maintain a light suitable for visual inspection of the pile on the job at all times prior to and during the filling of the pipe.

**PAINT:** All paint shall comply with the Standard Specifications, or as specified on the plans.

**MILL TEST REPORTS:** Steel piles test reports and steel shell test reports shall comply with the Standard Specifications.

REV.	DATE	REVISIONS	BY	APP'D
01	05-16-10	Add splice web section, clarify note	M.L.L.	J.P.J.
02	09-15-19	Clarify Notes	J.P.J.	C.E.R.
03	06-18-12	Clarify FC, rod type, size and weld	J.P.J.	T.L.F.

KANSAS DEPARTMENT OF TRANSPORTATION

**STANDARD PILE DETAILS**

BR110

DESIGNED BY	J.P.J.	DATE	10-04-13	APP'D	Terry A. Pank
CHECKED BY	J.P.J.	DATE	06-20-2022	TRACK CK	R.A.A.

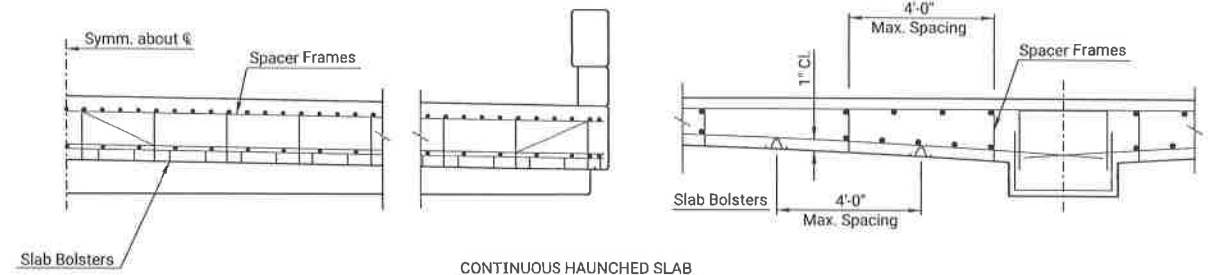
KDOT Graphics Certified 06-20-2022

Reviewed By: JDCAMAN  
Plotted 9/1/2025 8:18 PM

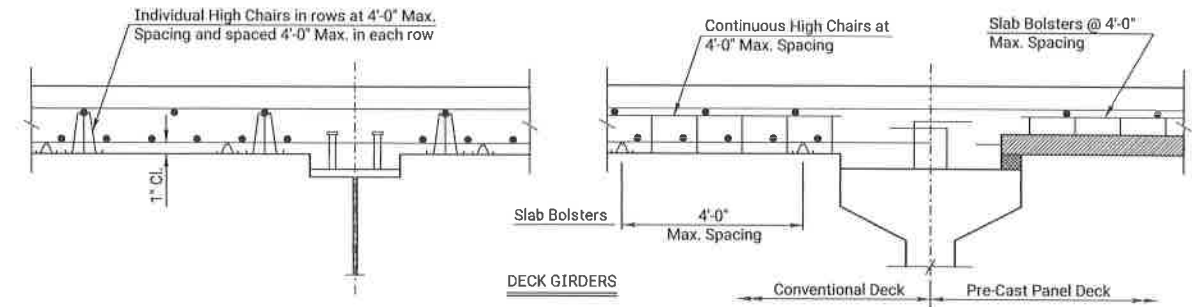
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File: br110.dgn

File: br110.dgn

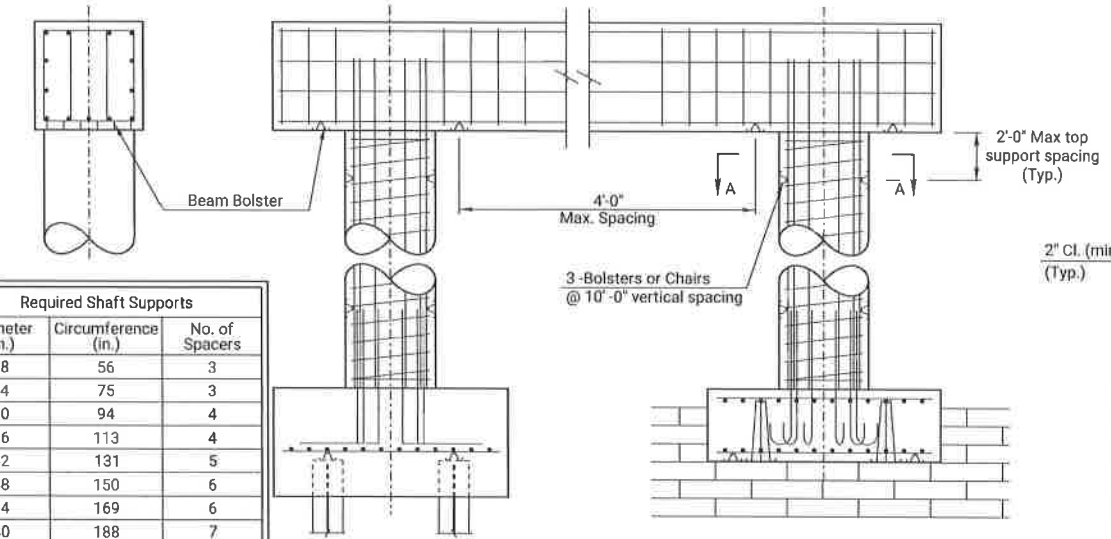
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	30	52



CONTINUOUS HAUNCHED SLAB

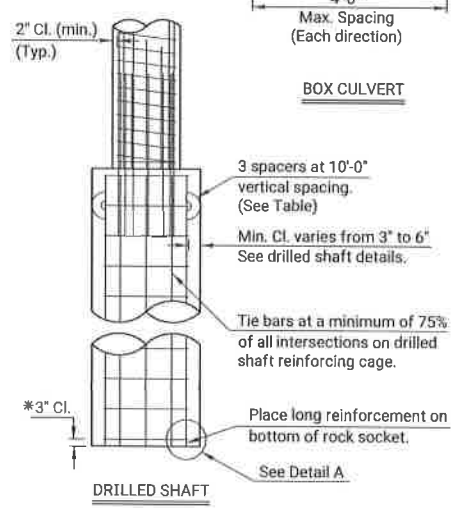


DECK GIRDERS

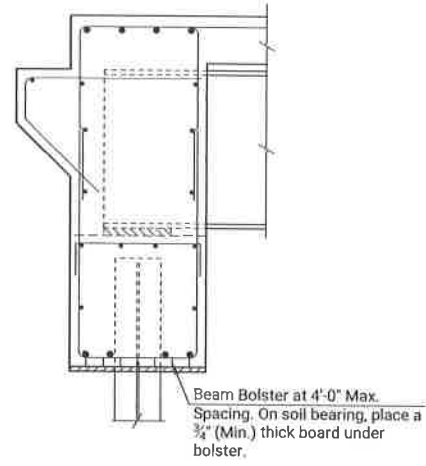


PIER

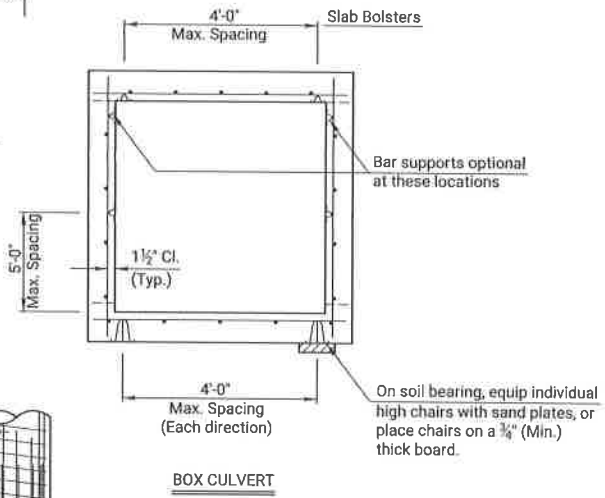
Required Shaft Supports		
Diameter (in.)	Circumference (in.)	No. of Spacers
18	56	3
24	75	3
30	94	4
36	113	4
42	131	5
48	150	6
54	169	6
60	188	7
66	207	7
72	226	8
78	244	9
84	263	9
90	282	10
96	301	11
102	320	11
108	339	12



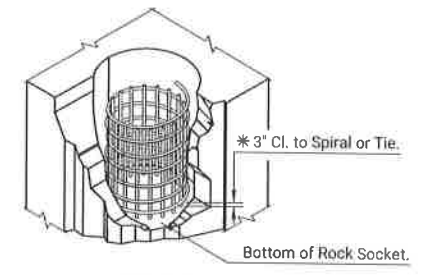
DRILLED SHAFT



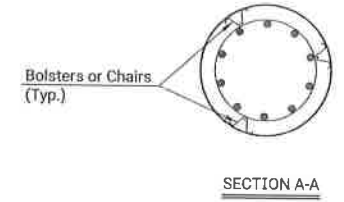
ABUTMENT



BOX CULVERT



DETAIL A



SECTION A-A

KANSAS DEPARTMENT OF TRANSPORTATION				
SUPPORTS AND SPACERS FOR REINFORCING STEEL				
BR120				
DESIGNER	DATE	BY	APP'D	TRACED
RAM	11-10-10	J.P.J.	T.L.F.	
RAM	12-01-05	J.P.J.	K.F.H.	
RAM	08-21-09	RAM	R.A.M.	
REVISIONS				
NO.	DATE	BY	APP'D	
05	11-10-10	J.P.J.	T.L.F.	
04	12-01-05	J.P.J.	K.F.H.	
03	08-21-09	RAM	R.A.M.	
KDOT Graphics Certified 06-20-2022				

**GENERAL NOTES**

Reference is made to the latest edition of the CRSI "Manual of Standard Practice" for recommended industry practices concerning reinforcing steel.

- Use only the following types of bar supports:
- Wire Bar Supports:
    - Epoxy coated reinforcing: Class 1 Protection
    - Non-epoxy coated reinforcing: Class 1, 2, or 3 Protection
  - Plastic Bar Supports
  - Supplementary bars

When securing epoxy coated reinforcement, use tie wires or metal clips that are epoxy or plastic coated.

Do not weld reinforcing steel to bar supports or to other reinforcing steel. Shop weld spacer frames for haunched slabs.

Tie bars at all intersections around the perimeter of each mat and at not less than 2'-0" centers or at every intersection, whichever is greater.

Where more than one length of bar support is required, lap the end legs so they are locked or tied together.

Use proper height supports to maintain the distance between the reinforcing and the formed surface or the top surface of deck slabs within 1/4" of that indicated on the plans.

Spacings shown are maximums. Use sufficient supports, as determined by the Engineer, to retain the reinforcing steel in position.

Construct any platforms, required for the support of workers and/or equipment during concrete placement, directly on the forms and not on the reinforcing steel.

Designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer.

\* Note: Longitudinal reinforcing steel is placed on the bottom of the rock socket. Maintain 3" clearance from the bottom of rock socket to the first spiral or tie bar.

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 File Name: 33 SUPPORTS AND SPACERS FOR REINFORCING STEEL.DWG  
 File Location: F:\2024\34-000\_Gommande Road Bridge-46\Theater County\4\Drawings\Wor\_Set

BRIDGE APPROACH SLAB FOOTING			
STATION TO STATION	SIDE	CU YD	REMARKS
34+13.75 to 34+67.75	WEST	9.5	
36+32.25 to 36+36.25	EAST	9.5	

REMOVAL OF EXISTING STRUCTURES (FOR INFORMATION ONLY)						
LOCATION	DESCRIPTION	LANE	SIDE	OFFSET	EXIST STR	REMARKS
(STATION TO STATION)						
35+50		CL			1	BRIDGE, ABUTMENTS, PILING
				TOTALS	0.0	1

GUARDRAIL, STEEL PLATE (MGS)					
STATION TO STATION	SIDE	FLARE RATE	GUARDRAIL, STEEL PLATE (MGS) (FT)	GUARDRAIL END TERMINAL (MGS-SRT) (EA)	REMARKS
		24:1	125	1	NW CORNER OF BRIDGE
		24:1	100	1	SW CORNER OF BRIDGE
		24:1	25	1	NE CORNER OF BRIDGE
		24:1	25	1	SE CORNER OF BRIDGE
TOTALS:			275	4	

RECAPITULATION OF QUANTITIES		
ITEM	QUANTITY	UNIT
CONTRACTOR CONSTRUCTION STAKING	1	LS
FIELD OFFICE	1	LS
FOUNDATION STABILIZATION (SET PRICE)	1	LS
MOBILIZATION	1	LS
MAINTENANCE & RESTORATION OF HAUL ROADS (SET PRICE)	1	LS
REMOVAL OF EXISTING STRUCTURES	1	LS
CONCRETE FOR SEAL COURSE (SET PRICE)	1	CU YD
CLEARING AND GUBBING	1	LS
COMMON EXCAVATION	69	CU YD
COMMON EXCAVATION (CONTRACTOR FURNISHED BORROW)	936	CU YD
ROCK EXCAVATION (EXISTING ROAD REMOVAL)	161	CU YD
COMPACTION OF EARTHWORK (TYPE B)(MR-90)	691	CU YD
COMPACTION OF EARTHWORK (TYPE AA)(MR-5-5)	242	CU YD
SALVAGE TOP SOIL	2,707	SQ YD
WATER (GRADING)(SET PRICE)	1	M GAL
CONCRETE PAVEMENT (10" UNIFORM)(AE)(BR APPR)	96	SQ YD
BRIDGE APPROACH SLAB FOOTING	19	CU YD
AGGREGATE BASE (AB-3)(6")	182	SQ YD
WATER (AGGREGATE BASE)(SET PRICE)	1	M GAL
ENTRANCE PIPE (36")(RCP)	100	LIN FT
END SECTION (36")(RC)	2	EACH
GUARD RAIL STEEL PLATE	275	LIN FT
GUARD RAIL END TERMINAL (SRT)	4	EACH
SIGNING (OBJECT MARKER)(TYPE 3)	4	EACH
FOR SUMMARY OF GUARD RAIL QUANTITIES SEE SHEET 7		
FOR SUMMARY OF BRIDGE QUANTITIES SEE SHEET 15		
FOR SUMMARY OF SURFACING QUANTITIES SEE SHEET 32		
FOR TEMPORARY EROSION & POLLUTION CONTROL QUANTITIES SEE SHEET 34		
FOR SEEDING QUANTITIES SEE SHEET 42		
FOR TRAFFIC CONTROL QUANTITIES SEE SHEET 48		

EARTHWORK							
STATION TO STATION	EXCAVATION			COMPACTION		*EMBANKMENT	
	COMMON			TYPE AA (MR-5-5)	TYPE B (MR-90)	INITIAL CONSOLIDATION	SETTLEMENT
	CU YD	CONTRACTOR FINISHED					
	CU YD	CU YD	VMF	CU YD	CU YD	CU YD	CU YD
BALANCE: 1							
33+30.00 to 35+46.00	69	936	0.75	242	691		
TOTALS	69	936		242	691		

\* SUBSIDIARY

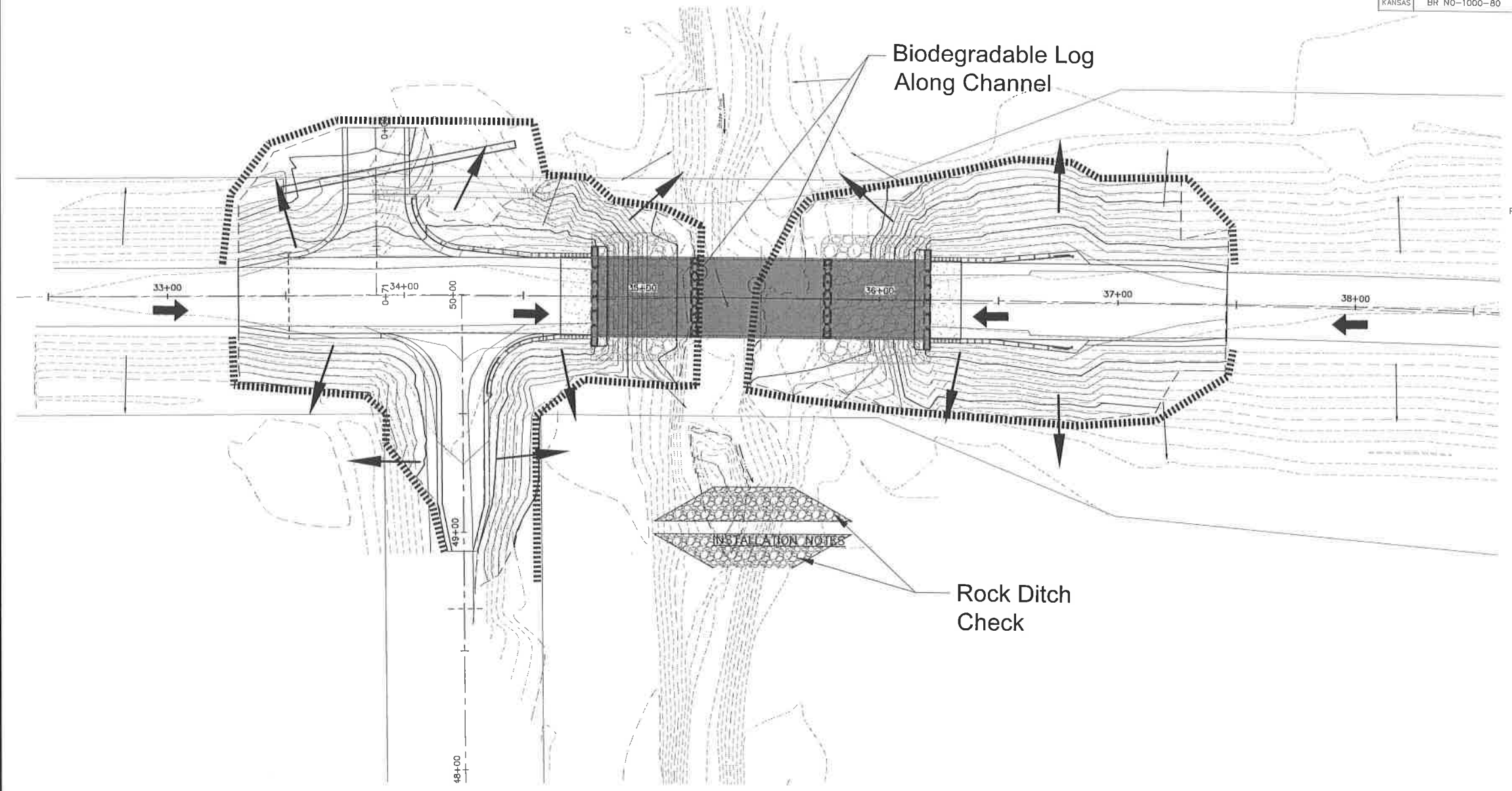
DRAINAGE STRUCTURES										
STATION	SIDE	SIZE	TYPE	CROSSROAD PIPE				ENTRANCE PIPE		COMMENTS
								3'-6" CMP		
33+45 TO 34+46	RT	36"	CMP					100		
				0	0	0	0	100	0	0

KANSAS DEPARTMENT OF TRANSPORTATION				
SUMMARY OF QUANTITIES				
DESIGNED	DETAILED	APPROVED	QUANTITIES	TRACED
DESIGN CK	DETAIL CK	QUAN CK	TRACE CK	

Revised By: ARIDMAN  
 Plotted 9/2/2025 3:08 PM  
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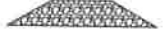


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	33	52



  
 SCALE:  
 PLAN: 1" = 20'

INSTALLATION NOTES

**LEGEND**

Biodegradable Log or Silt Fence	
Rock Ditch Check	
Existing Drainage	
Final Drainage	

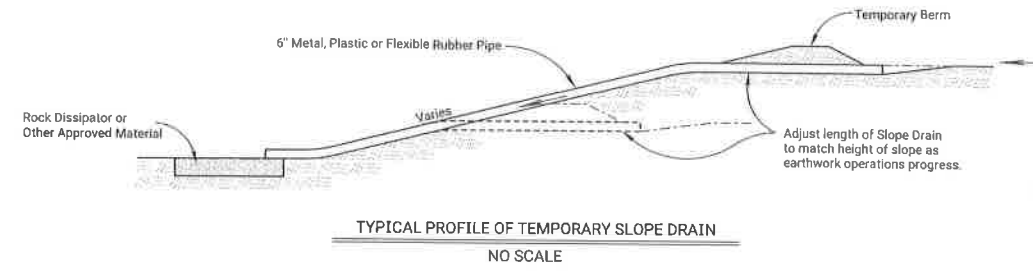
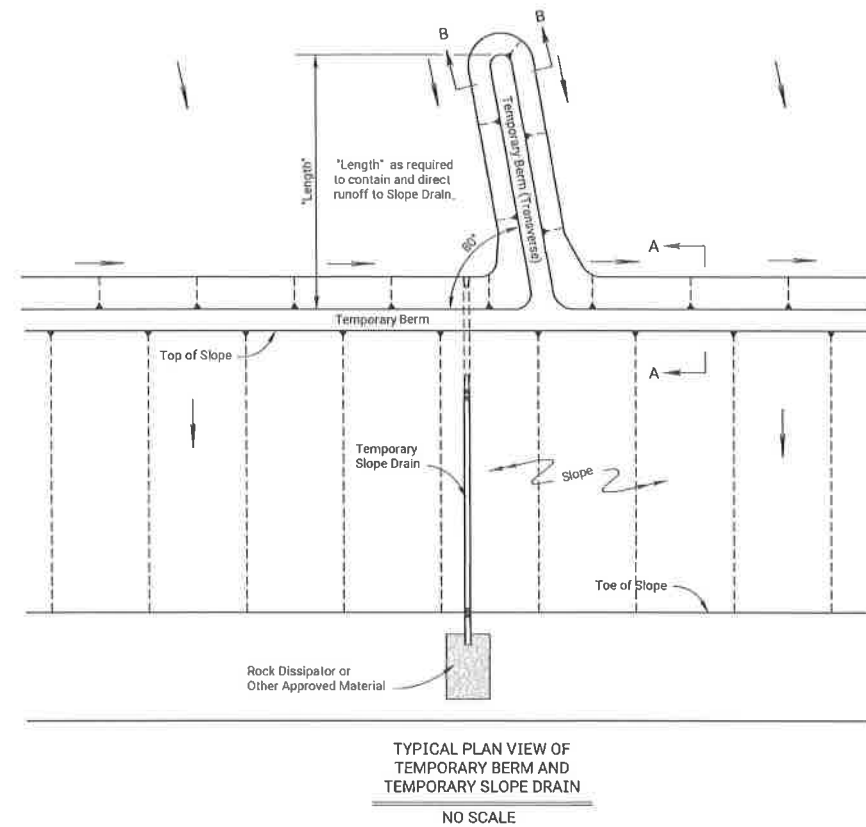
2					
1					
NO.	DATE	REVISIONS	BY	APP'D	
KANSAS DEPARTMENT OF TRANSPORTATION					
<b>EROSION CONTROL PLAN</b>					
FHWA APPROVAL			APP'D		
DESIGNED	DETAILED	QUANTITIES	TRACED		
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.		

Revised By: JODIMAN  
 Plotted: 9/2/2025 9:50 AM

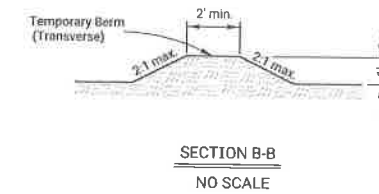
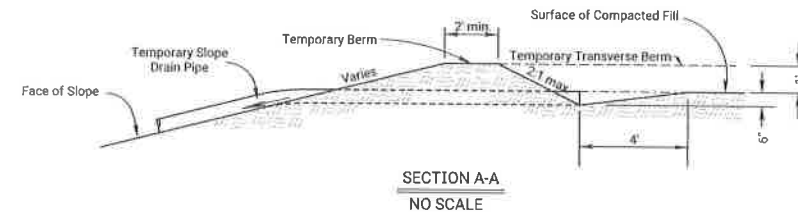
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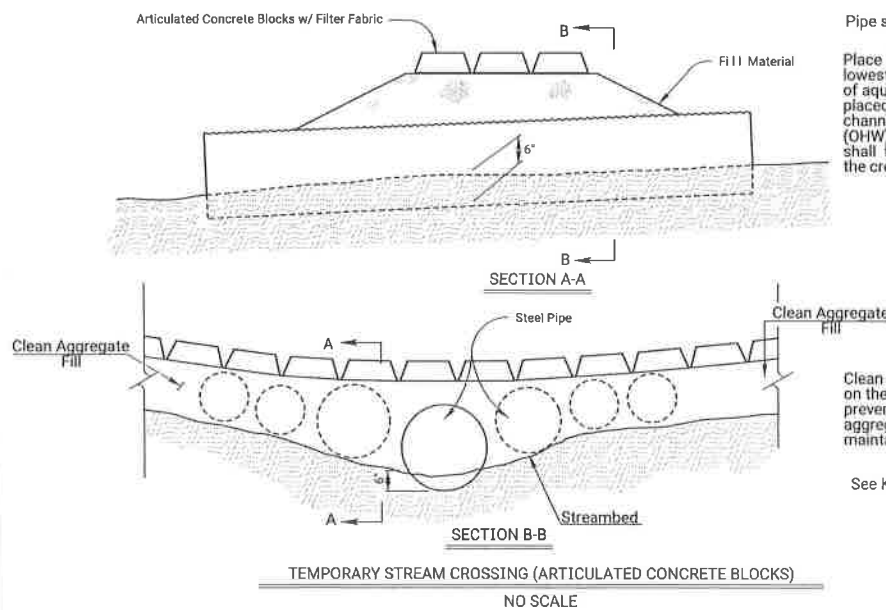
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	35	52



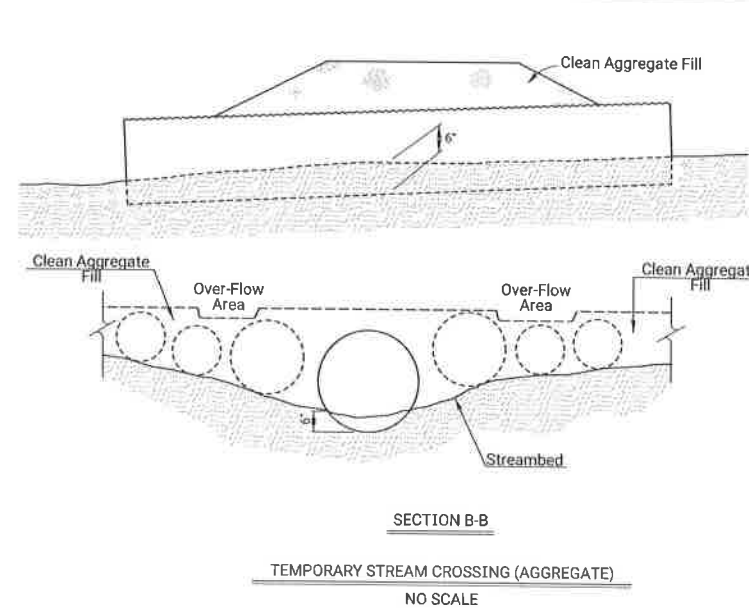
- NOTES:
- 1) Temporary Slope Drain and Temporary Berm may be used on either project foreslopes or project backslopes.
  - 2) Discharge of Slope Drains shall be into stabilized ditch or area, or into Sediment Basin.
  - 3) Pipe shall be secured in place as approved by Engineer.
  - 4) Temporary Berms under 2,000 feet shall be bid by Set Price.



TYPICAL PROFILE OF TEMPORARY BERM  
NO SCALE



Pipe size may vary.  
Place 1 pipe buried 6" into stream bottom, in the lowest point of the channel to allow the passage of aquatic organisms, with additional pipes placed along the remainder of the stream channel bottom such that ordinary high water (OHW) flows designated in the Contract Documents shall flow through the pipes without overtopping the crossing.  
Clean aggregate fill will extend a minimum of 50' on the entrance and exit side of the crossing to prevent tracking. The aggregate shall be clean aggregate and a minimum of 6" thick and will be maintained through the use of the crossing.  
See KDOT Specifications for more information.



Pipe size may vary.  
Place 1 pipe buried 6" into stream bottom, in the lowest point of the channel to allow the passage of aquatic organisms, with additional pipes placed along the remainder of the stream channel bottom such that ordinary high water (OHW) flows designated in the Contract Documents shall flow through the pipes without overtopping the crossing.  
Clean aggregate fill will extend a minimum of 50' on the entrance and exit side of the crossing to prevent tracking. The aggregate shall be clean aggregate and a minimum of 6" thick and will be maintained through the use of the crossing.  
See KDOT Specifications for more information.

NO.	DATE	REVISIONS	BY	APP'D
03	01-21-22	Temp Stream Crossing - Clean Aggregate Fill Note Added	M.R.D.	M.L.
02	08-24-21	Temp Stream Crossing - Clean Aggregate Fill Note Added	M.R.D.	M.L.
01	05-11-13	Revised Standard	M.R.M.	S.H.S.

KANSAS DEPARTMENT OF TRANSPORTATION			
TEMPORARY EROSION AND POLLUTION CONTROL			
TEMPORARY SLOPE DRAIN, TEMPORARY STREAM CROSSING (AGGREGATE)			
LA852B			
DESIGNED	CHECKED	DATE	BY
DESIGN CK	DETAIL CK	06-21-22	JAPPD
			Moran Latta
			TRACD
			TRACD

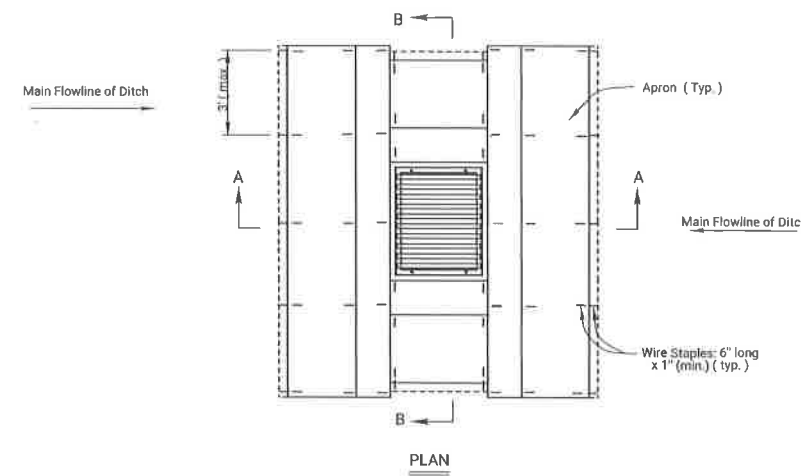
KDOT Graphics Certified 06-17-2022

Revised By: JCDOMAN  
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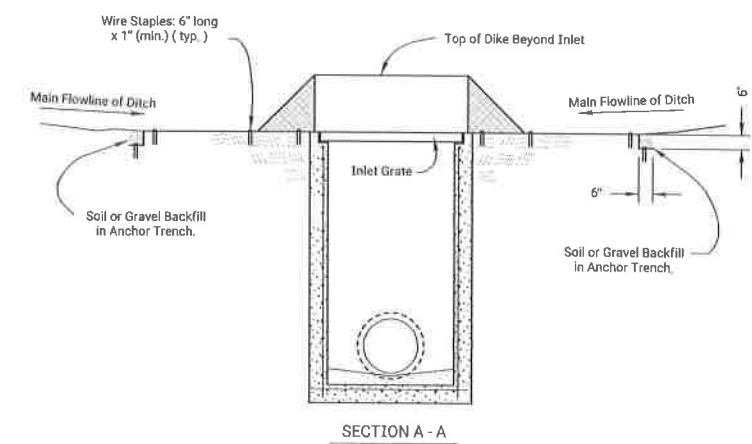
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File Location: F:\2024\14-002\_Corridor Road Bridge-Mecherian County\Civil\Drawings\Plan\_Sat

Plotted By: KDOT\CADD\_Support\_Ks.gov 1-JUL-2022 00:09  
File: lab52b.dgn

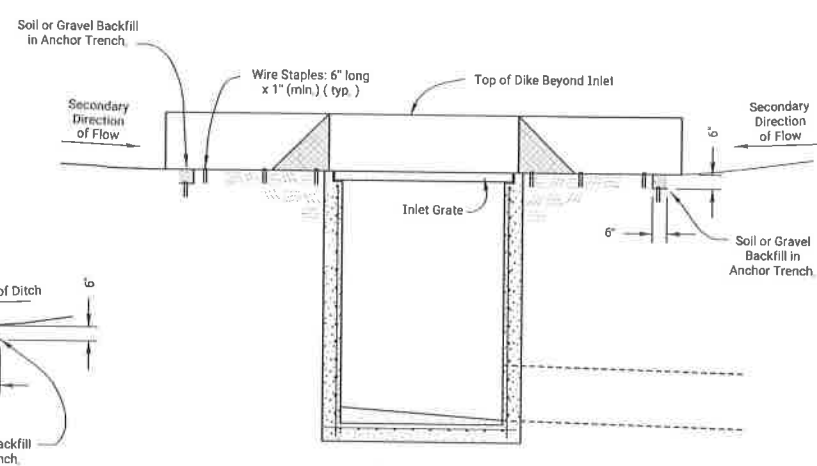
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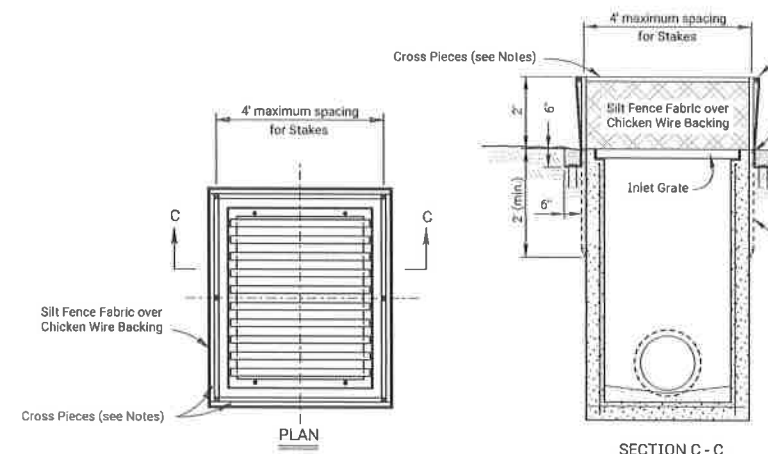
TEMPORARY INLET SEDIMENT BARRIER  
(TRIANGULAR SILT DIKE METHOD)  
NO SCALE



SECTION A - A



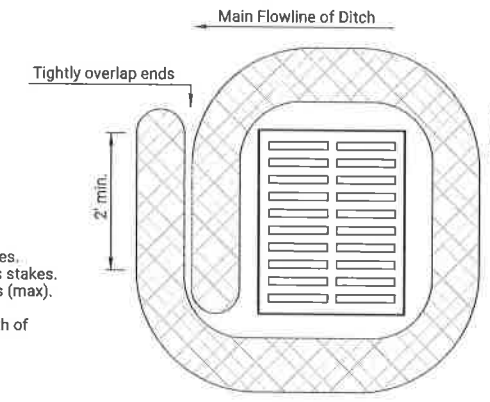
SECTION B - B



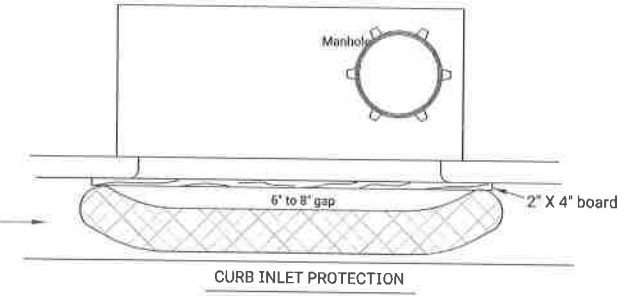
TEMPORARY INLET SEDIMENT BARRIER  
(SILT FENCE METHOD)  
NO SCALE

- SILT FENCE:**
1. Stakes shall be 4" (min.) long and of one of the following materials:
    - a. Hardwood - 1 3/4" x 1 3/4"
    - b. Southern Pine (No. 2) - 2 3/8" x 2 3/8"
    - c. Steel U, T, L, or C Section - .95 lbs. per 1'-0", or
    - d. Synthetic - same strength as wood stakes.
  2. Cross pieces shall be of same material as stakes.
  3. Attach fence fabric securely on 6" centers (max).
  4. Use of high flow material is acceptable.
  5. Refer to plan sheets to estimate the length of silt fence required.

Bags = synthetic net (3mm mesh) or burlap bags  
Rock = approximately 1" to 2" diameter



Drop inlet use  
1'-6" TO 1'-8" diameter log  
BIODEGRADABLE LOG/FILTER SOCK  
DROP INLET PROTECTION



CURB INLET PROTECTION

1. If multiple gravel bags are required, place them in such a way that no gaps are evident.
2. Height of bags (8" minimum diameter) must not be above top of curb.
3. Alternative products may be used other than gravel bags such as the "Gutter Buddy". Products must be approved by the Engineer.
4. Curb inlet protection will be measured and paid for as Filter Sock.

Note: 25% of log shall be keyed into ground during installation.  
Stake every 4'

Material Requirements	
Use 100% shredded mulch or other non-compost biodegradable material as fill for logs.	
No compost or fines.	
No hay or straw.	
Do not use material which prohibits water infiltration.	
Log Mesh:	
Use mesh with 1/4" openings or larger. Mesh must allow water infiltration but also hold fill material in place.	

NO.	DATE	REVISIONS	BY	APPD
03	09-26-19	Changed Direction of Main Flowline of Ditch Arrow	M.R.B.	S.H.S.
02	03-10-15	Revised Standard	M.A.	S.H.S.
01	06-01-13	Revised Standard	M.R.M.	S.H.S.

KANSAS DEPARTMENT OF TRANSPORTATION  
TEMPORARY EROSION AND POLLUTION CONTROL, TEMPORARY INLET SEDIMENT BARRIER (SILT FENCE)  
TEMP. INLET SEDIMENT BARRIER (T.S.D.)  
LAB52C

DESIGNED	W.A.   DETAILER	W.A.   QUANTITIES	W.A.   TRACES
DESIGNED	S.H.S.   DETAILER	S.H.S.   QUANTITIES	S.H.S.   TRACES

KDOT Graphics Certified 06-18-2022

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KDOT Graphics Certified

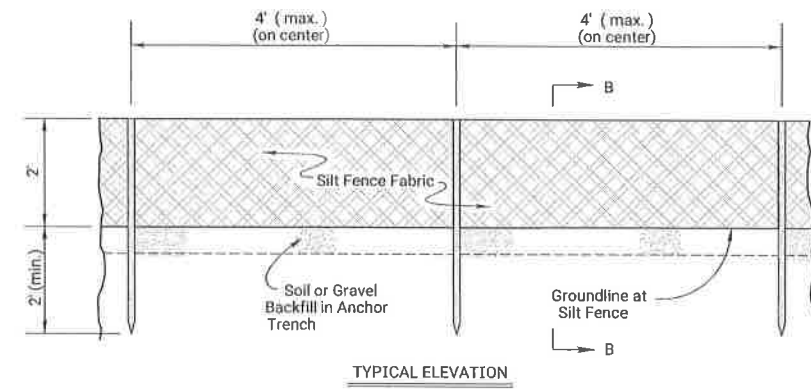
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	37	52

**INSTALLATION NOTES**

- SILT FENCE:**
- Stakes shall be 4' (min.) long and of one of the following materials:
    - Hardwood - 1 3/16" x 1 3/16";
    - Southern Pine (No. 2) - 2 5/8" x 2 5/8";
    - Steel U, T, L, or C Section - .95 lbs. per 1'-0"; or
    - Synthetic - same strength as wood stakes.
  - Attach fence fabric with 3 zip ties within the top 8" of the fence. Alternate attachment methods may be approved by the Engineer on a performance basis.
  - Use of high flow material is acceptable.
  - Refer to plan sheets to estimate the length of silt fence required.

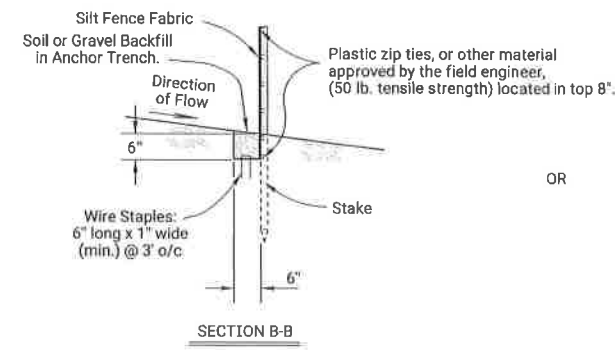
**BIODEGRADABLE LOG OR FILTER SOCK**

- Place biodegradable logs or filter sock tightly together minimum overlap of 18".
- Wood stakes shall be 2" x 2" (nom.).
- Refer to plan sheets to estimate length of biodegradable log and filter sock required.
- Each log or sock (except compost filter socks) should be keyed into the ground at a minimum of 25% of its height. Compost filter socks should be placed on smooth prepared ground with no gaps between the sock and soil.
- Length of stakes should be 2 times the height of the log at a minimum with minimum ground embedment equal to the height of the log / sock.

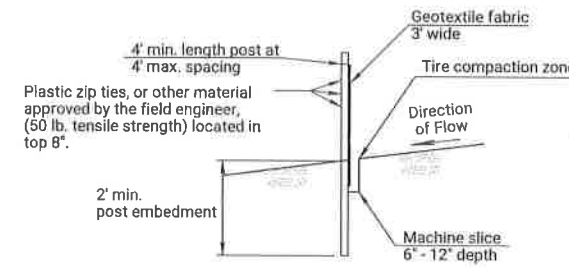


TYPICAL ELEVATION

SILT FENCE BARRIER  
NO SCALE



SECTION B-B

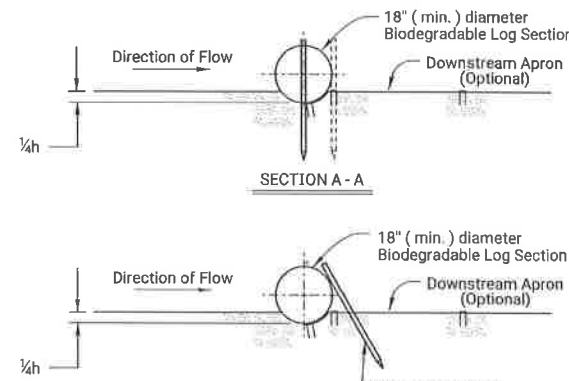


SECTION B-B

**Biodegradable Log or Filter Sock Slope Interruptions**

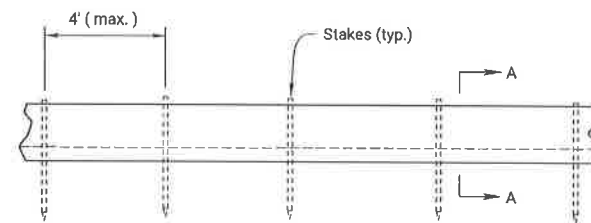
Slope Gradient	PRODUCT			BIODEGRADABLE LOG MATERIAL		
	9" Sediment Log or 8" Filter Sock (ft)	12" Sediment Log or 12" Filter Sock (ft)	20" Sediment Log or 18" Filter Sock (ft)	LOW FLOW		HIGH FLOW
				9"	12"	18"-20"
≤4H:1V	40	60	80	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber	Excelsior / Wood Chips / Coconut Fiber
3H:1V	30	45	60	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber	Excelsior / Wood Chips / Coconut Fiber

Deviations should be approved by the Field Engineer.



SECTION A - A

ALT. DETAIL  
OPTIONAL



TYPICAL ELEVATION

BIODEGRADABLE LOG SLOPE INTERRUPTIONS  
OR Filter Sock

**GENERAL NOTES**

- Slope interruptions shall be placed along contour lines, with a short section turned upgrade at each end of the barrier.
- The maximum length of the slope interruptions shall not exceed 250 feet, and the barrier ends need to be staggered.
- Interruptions damaged by Contractor's negligence, including improper maintenance or lack of maintenance, shall be repaired immediately by Contractor at no additional cost to KDOT.
- Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.

NO.	DATE	REVISIONS	BY	APPR.
03	09-28-16	Revised Standard	R.A.	S.H.S.
02	03-01-15	Revised Standard	R.A.	S.H.S.
01	05-01-13	Revised Standard	M.R.M.	S.H.S.

KANSAS DEPARTMENT OF TRANSPORTATION  
**TEMPORARY EROSION AND POLLUTION CONTROL**  
**SLOPE INTERRUPTIONS**  
**BIODEGRADABLE LOG / SILT FENCE**  
 LA852D

DESIGNED BY	SKB	DATE	09-14-16	APPROVED BY	Scott H. Shields
CHECKED BY	SKB	DATE		QUANTITIES	
DESIGNED BY	SKB	DATE		TRACK	

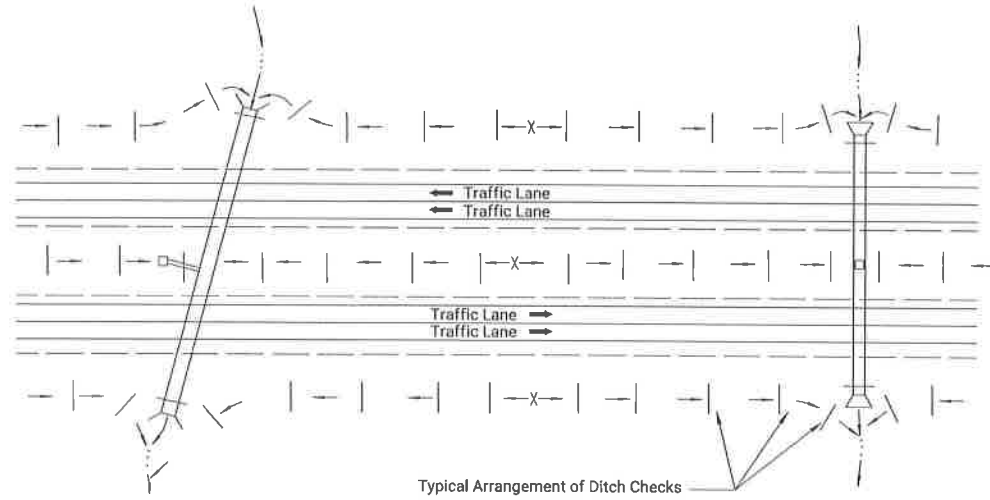
KDOT Graphics Certified 06-18-2022

Revised By: JDC/DMM  
 Plotted: 9/7/2025 8:38 PM

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 Plotted by: KDOT\CADD\_Support\_Ks.gov 1-JUL-2022 00:12  
 File: la852d.dgn

KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR N0-1000-80	2025	38	52



TYPICAL DITCH CHECK LAYOUT PLAN  
NO SCALE

20" BIOLOG CHECK SPACING	
DITCH & SLOPE (%)	SPACING INTERVAL (FEET)
1.0	125
2.0	60
3.0	40
4.0	30
5.0	25

NOTE: Use this spacing for all except Rock Ditch Checks.

18" FILTER SOCK CHECK SPACING	
DITCH & SLOPE (%)	SPACING INTERVAL (FEET)
1.0	110
2.0	55
3.0	35
4.0	25
5.0	20

NOTE: Use this spacing for all except Rock Ditch Checks.

GENERAL NOTES

- 1) The choice of ditch check methods is at the option of the Contractor.
- 2) Use only rock checks in situations where the ditch slope is 6 percent or greater.
- 2) Ditch checks damaged by Contractor's negligence, including improper maintenance or lack of maintenance, shall be repaired by Contractor at no extra cost to KDOT.

Revised By: JIDODMAN  
Plotted: 9/1/2025 8:38 PM

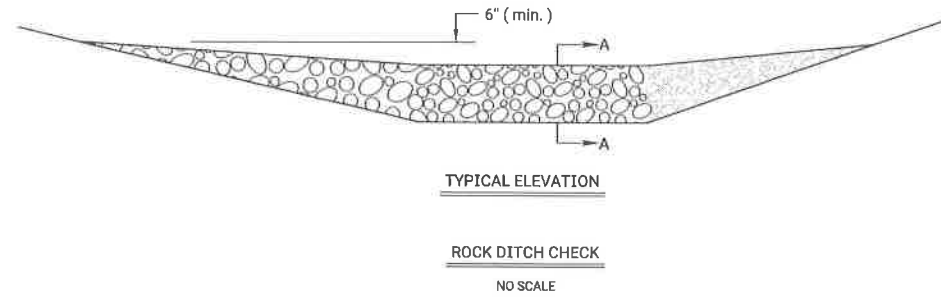
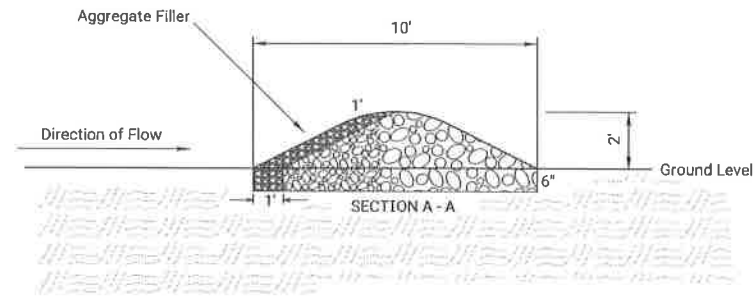
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File Location: F:\2024\24-022\_Comanche Road Bridge-Union County\Drawings\Plan Set  
Plotted by: KDOT\CADD\Support\_Ljs.gov 1-JUL-2022 00:14  
File: la852e.dgn

NO.	DATE	REVISIONS	BY	APP'D
01	08-10-16	Revised Standard	R.A.A.	S.H.S.
02	06-28-16	Revised Standard	R.A.A.	S.H.S.
01	06-03-13	Revised Standard	M.B.M.	S.H.S.

KANSAS DEPARTMENT OF TRANSPORTATION  
TEMPORARY EROSION AND POLLUTION CONTROL  
DITCH CHECKS  
LA852E

DESIGNED	S.H.S.	DETAILS	R.A.A.	QUANTITIES	TRACED	R.A.A.
DESIGNER	S.H.S.	DETAILS	S.H.S.	QUANT.	TRACER	S.H.S.

KDOT Graphics Certified 06-18-2022



DITCH & SLOPE (%)	SPACING INTERVAL (FEET)
5.0	60
6.0	50
7.0	43
8.0	36
9.0	33
10.0	29

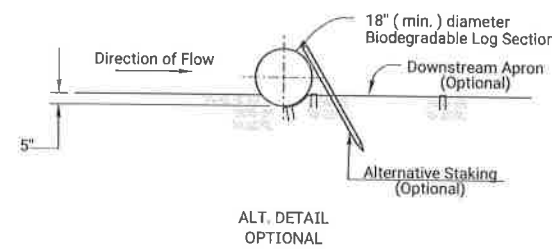
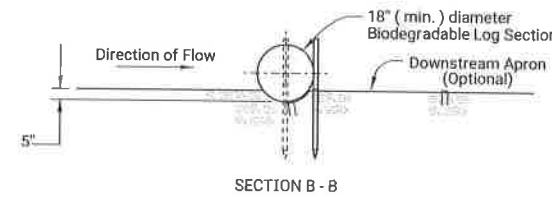
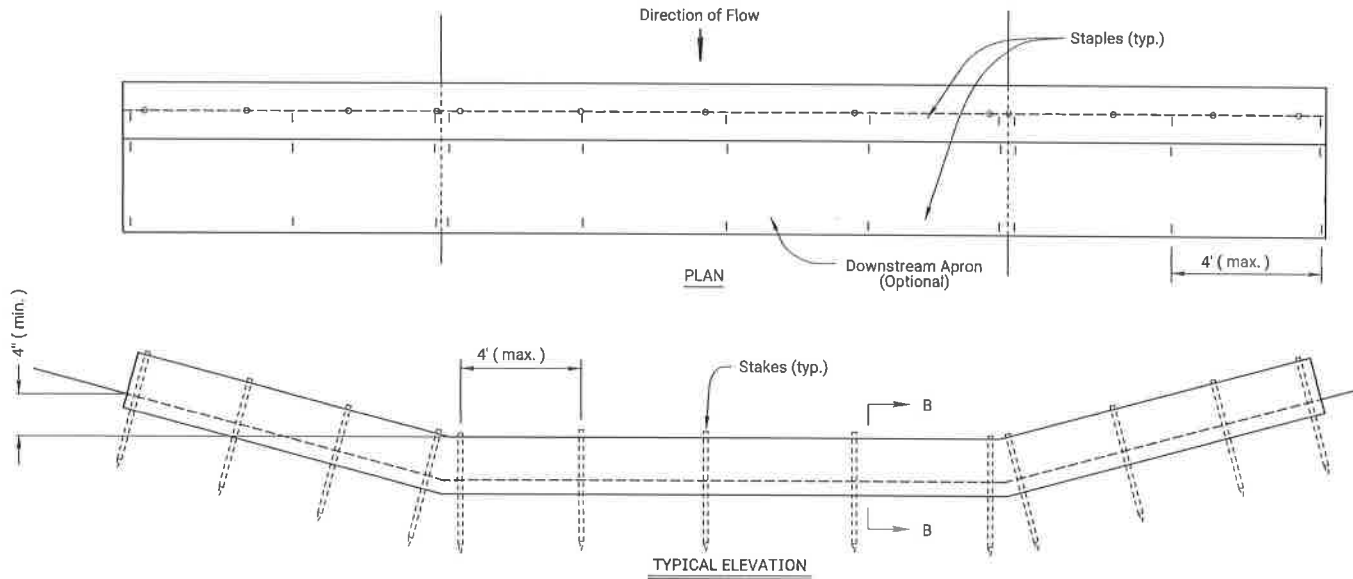
NOTE: Use this spacing for Rock Ditch Checks only.

**ROCK DITCH CHECK NOTES**

1. Rock shall be clean aggregate, D50-6" and aggregate filler.
2. Place rock in such manner that water will flow over, not around ditch check.
3. Do not use rock ditch checks in clear zone.
4. Excavation: The ditch area shall be reshaped to fill any eroded areas. Prior to placement of the rock, the ditch shall be excavated to the dimensions of the Rock Ditch Check and to a minimum depth of 6" (150mm). After placement of the rock, backfill and compact any over-excavated soil to ditch grade. This work shall be subsidiary to the bid item Temporary Ditch Check (Rock).
5. Aggregate excavated on site may be used as an alternate to the 6" rock, if approved by the Engineer.
6. The Engineer may approve the use of larger aggregates for the downstream portion of the check when conditions warrant their use.
7. When the use of larger rock is approved, D50-6" rock will be placed between the larger aggregate and the aggregate filler.
8. Aggregate filler will be placed on the upstream face of the ditch check. Aggregate filler will comply with Filter Course Type I, Division 1114.

Revised By: JCDIGMAN  
 Plotted: 9/7/2023 8:39 PM

Filename: 42 TEMPORARY EROSION AND POLLUTION CONTROL.DWG  
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 Plotted by: KDOT#CADD.Support\_Lks.gov 1-JUL-2022 00:16  
 File: la852g.dgn



**BIODEGRADABLE LOG DITCH CHECK NOTES**

1. Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
2. Overlap sections a minimum of 18".
3. Stakes shall be wood or steel according to Section 2114 of the Standard Specifications. Length of stakes shall be a minimum of 2 x the diameter of the log.
4. Use Erosion Control (Class 1) (Type C) as the downstream apron when required.
5. A downstream apron is required when directed by the Engineer. Apron material will be paid at the contract unit price.
6. Each log or sock (except compost filter socks) should be keyed into the ground at a minimum of 25% of its height. Compost filter socks should be placed on smooth prepared ground with no gaps between the sock and soil.

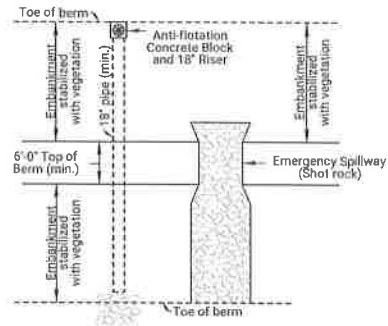
NO.	DATE	REVISIONS	BY	APP'D
03	11-19-20	Revised Standard	M.R.D.	M.L.
02	08-10-16	Revised Standard	R.A.A.	S.H.S.
01	10-21-15	Revised Standard	R.A.A.	S.H.S.

KANSAS DEPARTMENT OF TRANSPORTATION  
 TEMPORARY EROSION AND POLLUTION CONTROL  
 ROCK DITCH CHECKS  
 BIODEGRADABLE LOG DITCH CHECKS  
 LA852G

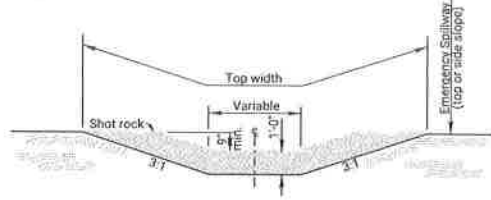
DESIGNED	M.L.	DATE	11-19-20	APP'D	Mervis Liss
DRAWN	M.L.	DATE	11-19-20	TRACED	R.A.A.
CHECKED	M.L.	DATE	11-19-20	TRACED	R.A.A.

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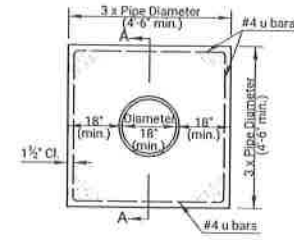
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	40	52



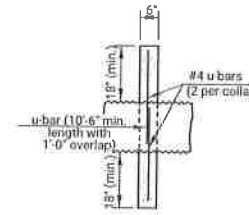
SEDIMENT STORAGE BASIN (PLAN)



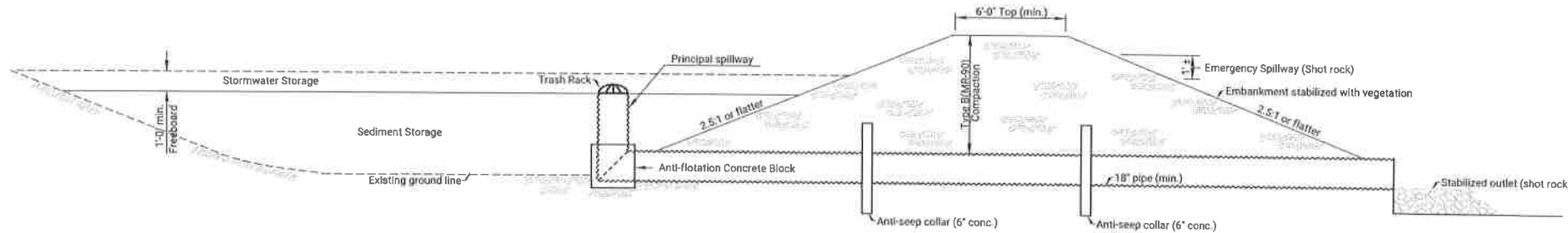
CROSS SECTION (EMERGENCY SPILLWAY)



CONCRETE ANTI-SEEP COLLAR



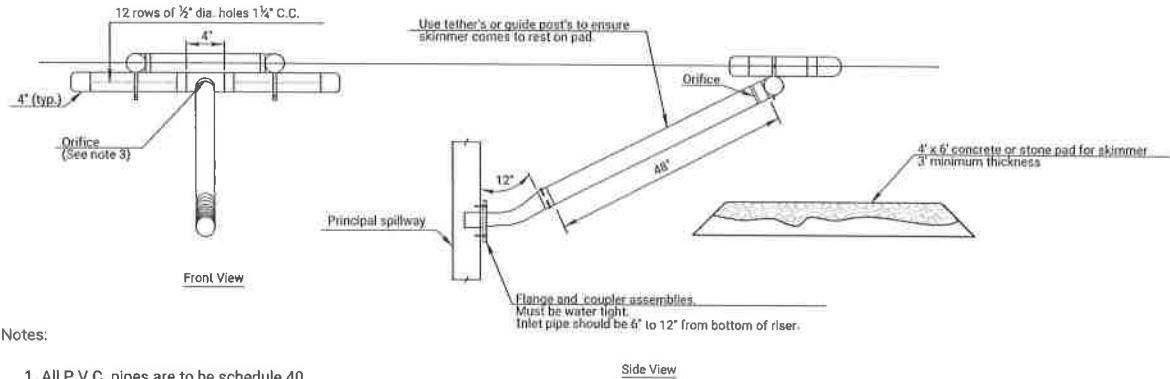
SECTION A-A



SEDIMENT STORAGE BASIN (ELEVATION)

NOTES:

- 1) Temporary Sediment Basins shall be constructed at locations as directed by the Engineer or as approved in the SWPPP Schedule. All work and materials necessary, including but not limited to, the fill material, compaction, drainage pipes, aggregates and all other incidentals necessary to construct the basin, shall be paid as "Temporary Sediment Basin".
- 2) Lengths and top dimensions shall be determined in the field by the Engineer.
- 3) Skimmer dewatering device required and must be used regardless the size of the drainage area.



SKIMMER DEWATERING DEVICE

Notes:

1. All P.V.C. pipes are to be schedule 40.
2. HDPE flexible drain pipes is to be attached to the pond outlet structure with water-tight connections.
3. The orifice shall be sized of to provide drawdown time to 2 to 5 days and approved by the engineer.
4. Other skimmer designs maybe used that dewateres from the surface at a controlled rate. The design must be approved by the engineer.

SEDIMENT STORAGE BASIN LOCATIONS		
STATION TO STATION	SIDE	REQUIRED STORAGE CAPACITY

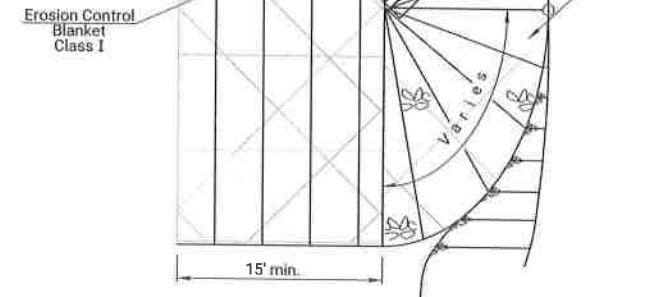
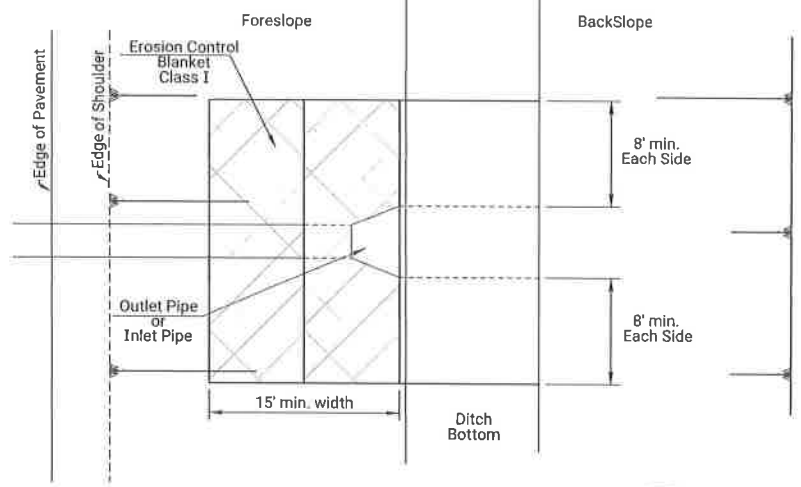
NO.	DATE	REVISIONS	BY	APPROV.
02	09-03-13	Added Skimmer Dewatering Device	M.R.M.	S.H.C.
01	07-17-13	Revised Standard	M.R.M.	S.H.C.

KANSAS DEPARTMENT OF TRANSPORTATION  
**TEMPORARY EROSION AND POLLUTION CONTROL  
 SEDIMENT STORAGE BASIN**  
 LA852H

DESIGNER	BR	DETAILED	BR	QUANTITIES	TRACED	BR
DESIGN CK	SHS	DETAL CK	SHS	QUAN CK	TRACER CK	SHS

KDOT Graphics Certified 06-20-2022

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	41	52

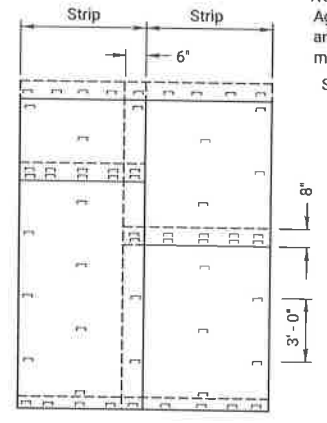
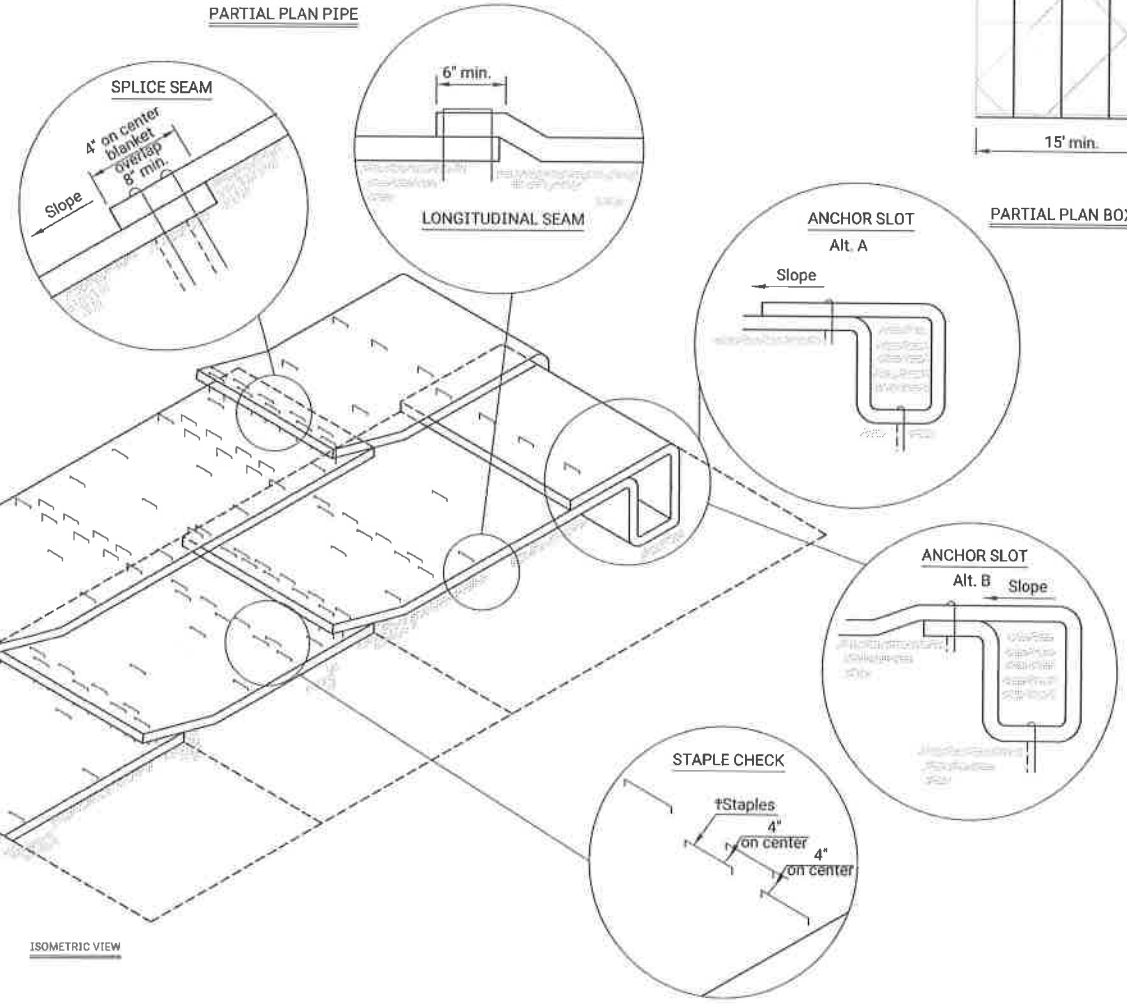


**INSTALLATION DETAILS FOR EROSION CONTROL CLASS 1**

Erosion Control Blankets shall be laid loosely in the direction of the slope, beginning at the bottom of the slope. In order for blanket to be in contact with the soil, lay blanket loosely, avoiding stretching.

- ANCHOR SLOTS:** The top of the blanket should be "slotted in" at the top of the slope and anchored in place with anchors 6 inches apart. The slots should be 6 inches wide x 6 inches deep with the blanket anchored in the bottom of the slot, then backfilled, tamped and seeded.
- LONGITUDINAL SEAMS:** The edges of the blanket should overlap each other a minimum of 6 inches, with anchors catching the edges of both blankets.
- SPLICE SEAM:** When splices are necessary, overlap end a minimum of 8 inches in direction of water flow. Stagger splice seams.
- TERMINAL FOLD:** The bottom edge of the blanket shall be turned under a minimum of 4 inches, then anchored in place with anchors 9 inches apart.
- TYPICAL ANCHORS:** Anchor design shall be as recommended by the manufacturer.
- STAPLE CHECK:** Establish Staples in 2 rows 4" on center apart. Staple Checks - shall be 30' apart.

Erosion Control Class 1 may be omitted if the area is immediately covered by permanent slope protection (where directed by the plans).



**NOTE:** Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards. Single post ring and shank staple is acceptable.

NO.	DATE	REVISIONS	BY	APP'D
04	03-01-15	Revised Standard	RAA	S.H.S.
03	02-23-15	Revised Standard	RAA	S.H.S.
02	09-15-14	Revised Standard	M.R.M.	S.H.S.

KANSAS DEPARTMENT OF TRANSPORTATION

**INSTALLATION DETAIL  
EROSION CONTROL CLASS 1  
SLOPE PROTECTION**

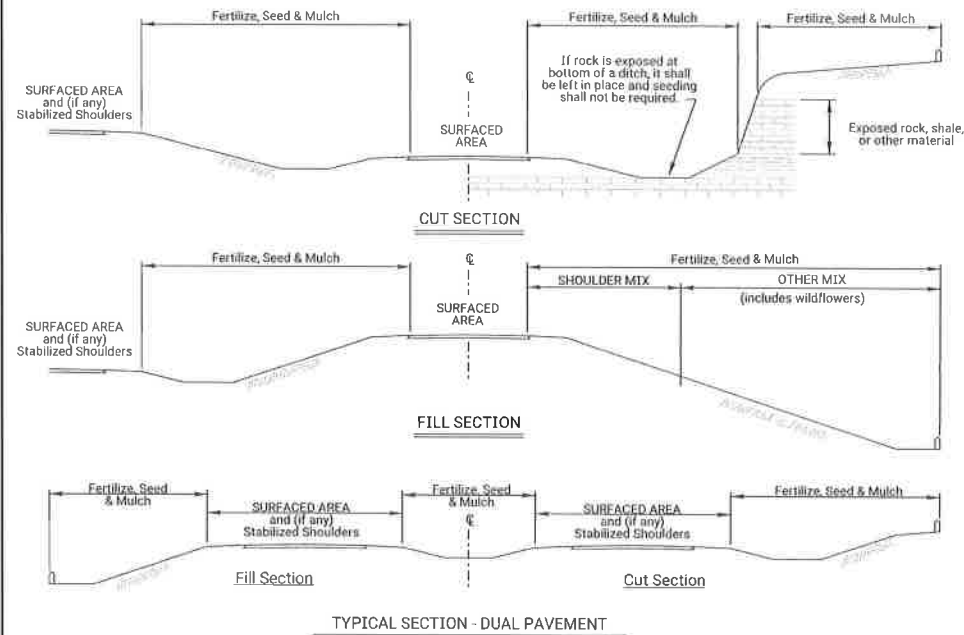
LA855

DESIGNED	RAA	DETAILED	RAA	QUANTITIES	TRACED	RAA
DESIGN CK		DRAWING CK	LOAN	CK	TRACED CK	RAA

KDOT Graphics Certified 06-29-2022

Revised By: JOCUMAN  
Plotted: 9/7/2023 8:38 PM

File Name: 44 - TEMPORARY EROSION AND POLLUTION CONTROL.DWG  
File Location: F:\2024\3-02\Comanche Road Bridge-McPherson County\Drawings\Plan Set  
Plotted by: KDOT#CADD Support\_Lks.gov 1-JUL-2022 00:21  
File: la855.dgn



### GRASS & WILDFLOWER SEEDING SEASONS

COOL SEASON GRASSES	WARM SEASON GRASSES & WILDFLOWERS
February 15 thru April 20 August 15 thru September 30	November 15 thru June 1
SPECIES	SPECIES
Bluegrasses	Bermuda Grass
Brome Grasses	Big Bluestem
Canada Wildrye	Blue Grama
Fescues	Buffalo Grass
Prairie Junegrass	Indiangrass
Ryegrasses	Little Bluestem
Sterile Wheatgrass	Sand Bluestem
Tall Dropseed	Sand Dropseed
Western Wheatgrass	Sand Lovegrass
	Side Oats Grama
	Switchgrass
	Wildflower Mixes

When the area to be seeded is 1 acre or more, if Cool Season grasses are mixed with Warm Season grasses, seed the area during the Warm Season.

When the area to be seeded is less than 1 acre, seed the area any time of the year.

### SODDING SEASONS

COOL SEASON GRASSES	WARM SEASON GRASSES
March 1 thru April 15 September 1 thru November 15	May 15 thru September 1
SPECIES	SPECIES
Bluegrass Sod	Buffalo Grass Sod
Fescue Sod	

If the soil is workable, the Engineer may allow placement of sod between November 15 and March 1. If sod is placed during this time, maintain the sod until 20 days after the beginning of the spring sodding season.

#### GENERAL NOTES

The entire disturbed area, excepting the paved or surfaced areas, steep rocky slopes and areas of undisturbed native sod or other desirable vegetation shall be fertilized (limed when required), seeded and mulched. Soil preparation shall conform to the Standard Specifications except as noted below.

All borrow areas shown on the plans are to be fertilized, seeded, and mulched. However, operation in borrow areas where crops are growing may be omitted when requested by the owner.

If temporary cover has provided stable slopes with no erosion, seed the permanent grasses into the existing cover. If there has been erosion that requires repair prior to seeding, then it may be necessary to regrade the area, resulting in bare ground.

**FERTILIZER:** A ratio and application rate that equals or exceeds the required minimum rate per acre of N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O listed in Summary of Seeding Quantities will be acceptable.

**MULCHING:** Mulch shall be spread uniformly over all disturbed areas and punched in the soil, unless otherwise noted on the plans. The rate of application per acre, thickness in place, for the mulching material is generally as follows:

1 1/2 - 2 1/4 Tons per Acre = 1 1/2" loose depth spread uniformly over acre.

Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.

Other vegetative mulches are acceptable only with the Engineer's concurrence.

The above rate is a guide. It will be at the discretion of the Engineer to determine what rate is sufficient for adequate protection of newly seeded areas.

### SUMMARY OF SEEDING QUANTITIES

PLS RATE/ACRE		ACRES		BID ITEM	QUANTITY	UNIT
SHLDR	OTHER	SHLDR	OTHER			
200		1.5		Fertilizer (13-13-13)	300	LBS
0.5		1.5		Seed (Blue Gramma Grass Seed) (Livington)	0.8	LBS
4.5		1.5		Seed (Buffalograss) (Treated)	6.8	LBS
4.5		1.5		Seed (Ryegrass) (Perennial)	67.5	LBS
2.6		1.5		Seed (Prairie June Grass)	3.9	LBS
6.3		1.5		Seed (Side Oats Gramma) (El Reno)	9.5	LBS
4.5		1.5		Seed (Fescue) (Tall) (Endophyte-Free)	67.5	LBS
6		1.5		Seed (Western Wheatgrass) (Barton)	9.0	LBS
				Mulching *		

#### NATIVE WILDFLOWER MIX 1

PLS RATE	NAME	QTY (lb)
0.3	Butterfly Milkweed	
0.3	Common Milkweed	
0.3	Black Eyed Susan	
0.5	Blanket Flower	
0.5	False Sunflower	
0.5	Lance-Leaf Coreopsis	
0.2	Maximilian Sunflower	
0.1	New England Aster	
0.2	Pinnate Prairie Coneflower	
0.2	Plains Coreopsis	
0.3	Purple Coneflower	
0.3	Upright Prairie Coneflower	
0.3	Dames Rocket	
0.3	Lemon Mint	
0.2	Pitcher Sage	
0.2	Wild Bergamot	
1.0	Illinois Bundleflower	
0.2	Common Evening Primrose	
0.1	Hoary Verbena	
0.8	Purple Prairie Clover	
0.3	Roundhead Lespedeza	
3.0	Showy Partridge Pea	
0.2	White Prairie Clover	
10.3	Total (lb)	

#### NATIVE WILDFLOWER MIX 2

PLS RATE	NAME	QTY (lb)
0.3	Butterfly Milkweed	
0.3	Black Eyed Susan	
0.5	Black Sampson Coneflower	
1.0	Blanket Flower	
0.2	Maximilian Sunflower	
0.2	Plains Coreopsis	
0.2	Upright Prairie Coneflower	
0.2	Western Yarrow	
0.3	Lemon Mint	
0.4	Pitcher Sage	
1.5	Illinois Bundleflower	
0.2	Common Evening Primrose	
1.0	Blue Wild Indigo	
0.4	Leadplant	
0.4	Purple Prairie Clover	
0.3	White Prairie Clover	
7.4	Total (lb)	

Package and deliver the wildflower seed separately from the grass seed mix. Package and deliver the Tall Drop Seed separately from the grass seed and the wildflower mix. Place the grass seed (except Tall Drop Seed) in the large seed box and drill (cover) seed 1/8" - 1/4". Place the wildflower seed in a separate seed box and drill (cover) seed 1/8" maximum. Place the Tall Drop Seed in a separate (third) seed box and place the seed (using the seed drill) on the soil surface.

OPTION: Broadcast Tall Drop Seed on the soil surface.

SHLDR = Seeded with the Shoulder Mix. Typically 15 feet for 2-lane roads and 30 feet for 4-lane roads. Includes outside roadsides, turfed portions of shoulders, and turfed portion of the median.

OTHER = Seeded with the "Other" Mix. Designated as all other turf areas, except the Shoulder. Usually includes a Native Wildflower Mix.

NOTE: Projects less than 1 acre shall be bid as "Seeding" by the lump sum. All disturbed areas shall be seeded, fertilized and mulched at the listed rate per acre. The acres are estimated.

Refer to the Standard Specifications, Division 900, Section 904 'Seeding', and Section 907 'Sodding', for the seeding and sodding seasons.

\* See LAB52A for mulching quantity. The quantity of mulch is estimated (Acres of Seeding X 1.5 X 2 Tons/Acre). The total mulch required shall be determined in the field. The bid item for mulching shall be paid for according to the Standard Specifications.

REV	11-25-20	Updated Seeding / Sodding Periods Charts	M.R.D.	M.L.
01	08-03-20	Revised Standard	M.R.D.	S.H.S.
NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

### PERMANENT SEEDING SUMMARY OF SEEDING QUANTITIES

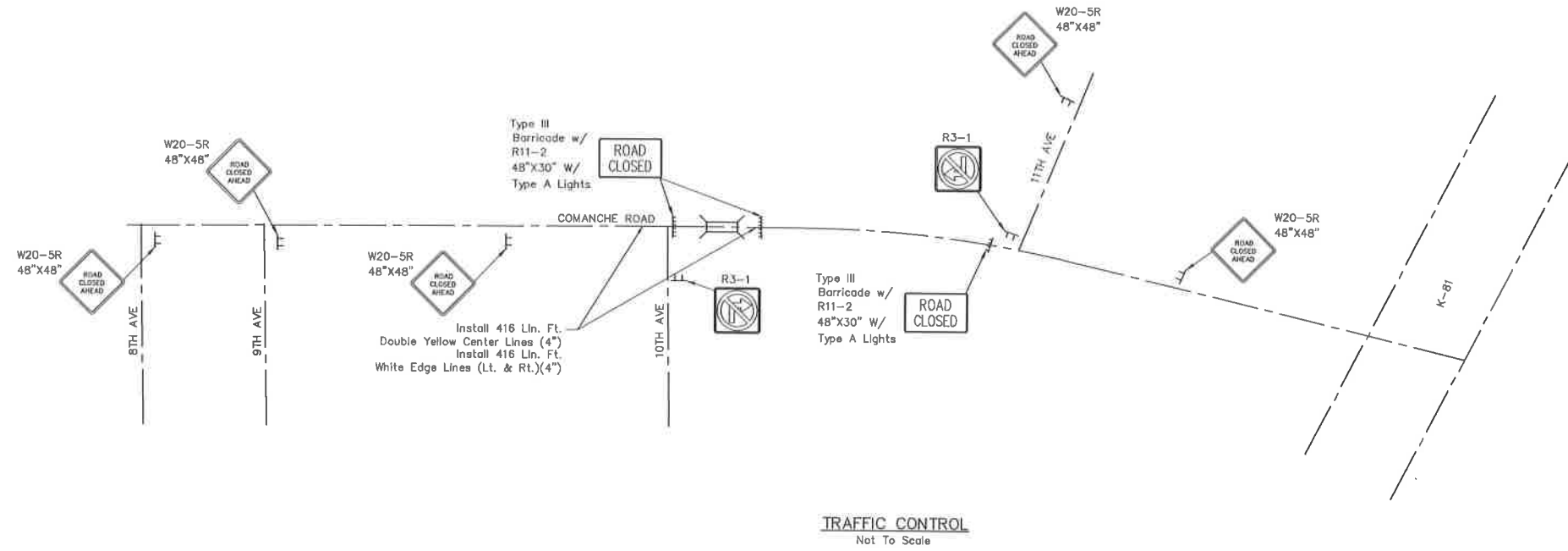
LAB50

DESIGNED	BY	DATE	APPROVED	DATE
DESIGN CK	DETAIL CK	QUANTITIES	TRACE CK	TRACE CK

KDOT Graphics Certified 06-17-2022

Revised By: JODDAN  
 Printed: 8/7/2025 8:39 AM  
 File Name: 45 PERMANENT SEEDING SUMMARY OF SEEDING QUANTITIES.DWG  
 File Location: F:\2024\24-030\_Cornette Road Bridge-McPherson County\Drawings\Plan Set  
 Plotted by: KDOT\CADD\Support\_Lks.gov 1-JUL-2022 00:02  
 File: lab50.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	43	52



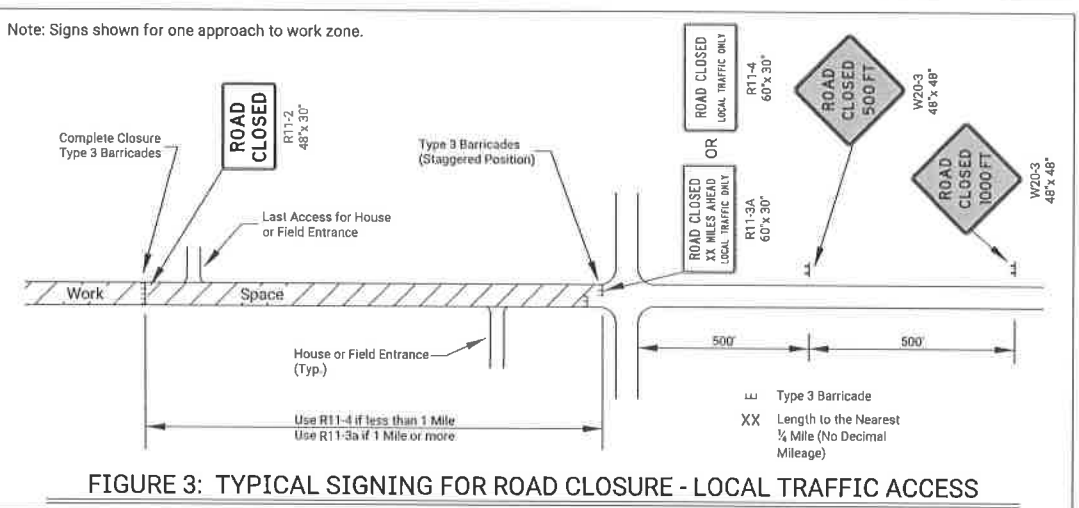
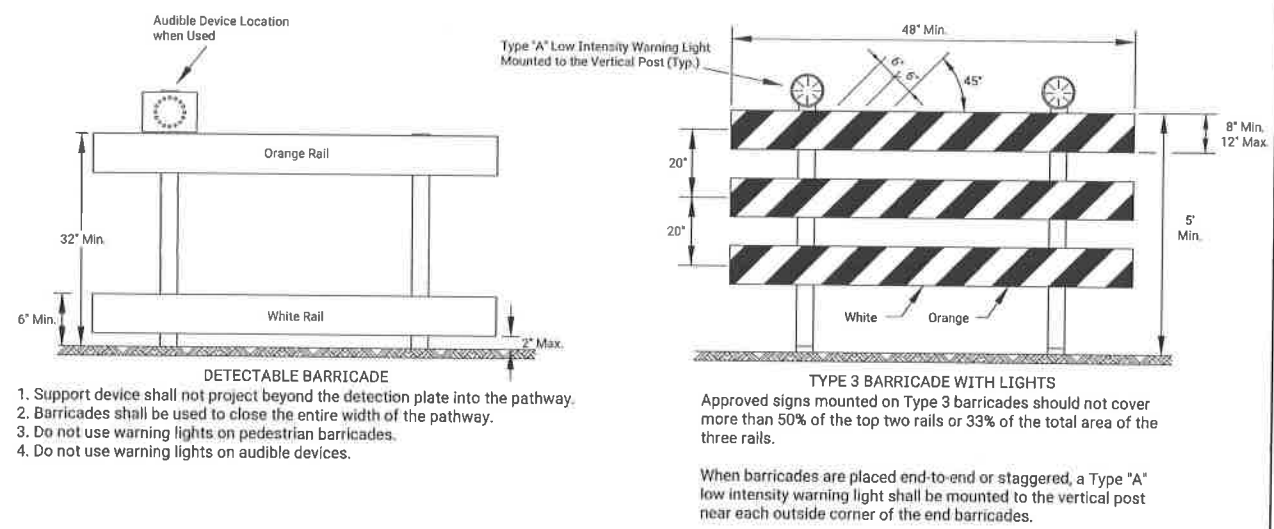
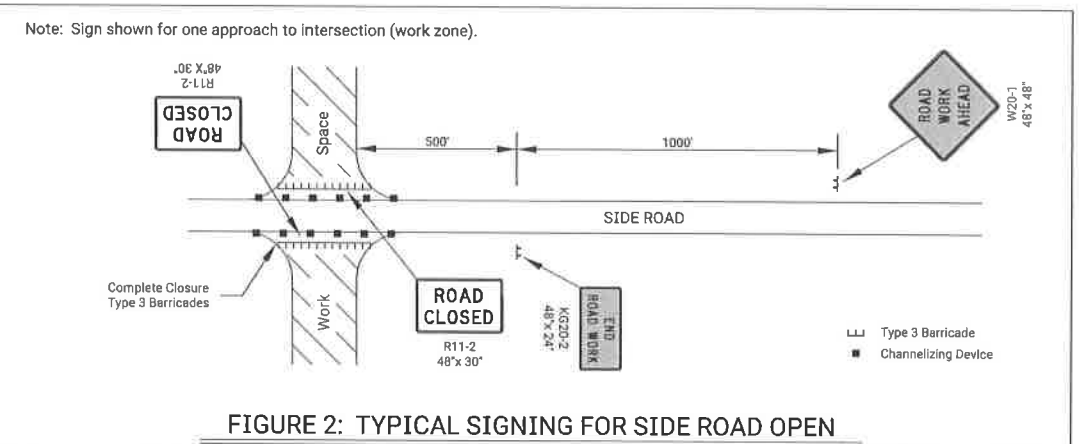
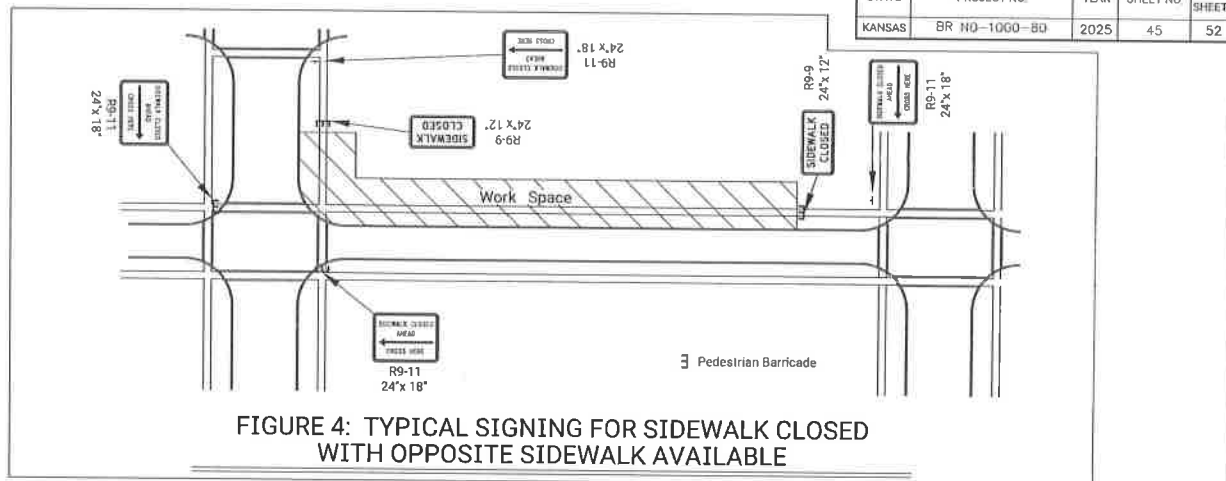
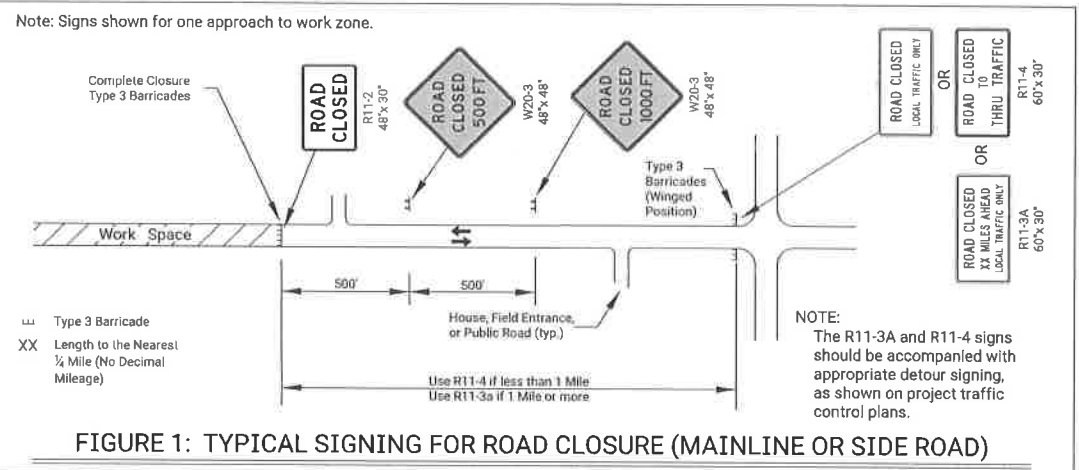
**TRAFFIC CONTROL**  
Not To Scale

Revised By: JDOUMAN  
Plotted: 8/7/2025 8:56 PM

Filename: 46 TYPICAL SECTION AND DETAILS.DWG  
File Location: P:\2024\14-030\_Comanche Road Bridge-McPherson County\Civil\Drawings\Plan Set

2				
1				
NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
<b>PAVEMENT MARKING &amp; TRAFFIC CONTROL</b>				
FHWA APPROVAL		APP'D		
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.	





**ROAD CLOSED GENERAL NOTES**

As shown in Figure 1, at the point where thru traffic must detour and local traffic can proceed to the location where the roadway is completely closed, the R11-3a (ROAD CLOSED # MILES AHEAD LOCAL TRAFFIC ONLY) or R11-4 (ROAD CLOSED LOCAL TRAFFIC ONLY or ROAD CLOSED TO THRU TRAFFIC) sign shall be used with Type 3 barricades (winged position), placed on the shoulders of roadway.

As shown in Figure 3, when local traffic must be allowed access into the work zone, Type 3 barricades shall be longitudinally staggered to maintain the appearance of a closed roadway. A second line of end-to-end Type 3 barricades shall be placed just beyond the last access point in the work zone, to completely close the roadway.

The R11-4 (ROAD CLOSED TO THRU TRAFFIC or ROAD CLOSED LOCAL TRAFFIC ONLY) sign shall be used when the distance to the point of complete closure of the roadway is less than 1 mile.

The R11-3a (ROAD CLOSED # MILES AHEAD LOCAL TRAFFIC ONLY) sign shall be used when the distance to the point of complete closure of the roadway is 1 mile or greater.

The words "BRIDGE OUT" (or BRIDGE CLOSED) may be substituted for the words "ROAD CLOSED" on the R11-3a or R11-4 sign where applicable.

KANSAS DEPARTMENT OF TRANSPORTATION				
NO.	DATE	REVISIONS	BY	APP'D
TRAFFIC CONTROL CLOSURES				
TE704				
DESIGNED	BY	DATE	QUANTITIES	TRACED
DRAWN	BY	DATE	QUANT. CK	TRACED
KDOT Graphics Certified 05-24-2022				












Revised By: JACOMAN  
Printed: 7/7/2025 9:04 PM

File Name: 48 TRAFFIC CONTROL CLOSURES.DWG  
File Location: F:\302\34-000\_Corona Road Bridge - W-Header - County\City\Graphics\W-Header Set  
Plotted by: pwmushock  
6-JUN-2022 21:54  
File: te704.dgn

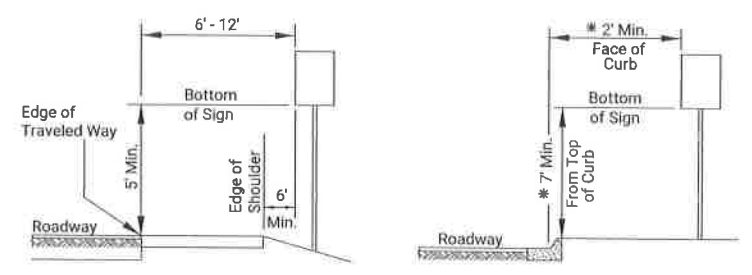
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	BR NO-1000-80	2025	46	52

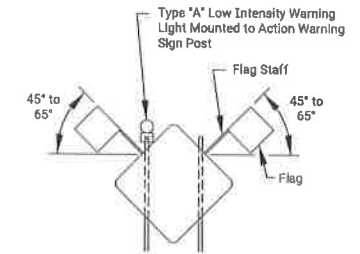
### SIGN LAYOUT INFORMATION

 KG20-2	Std. Size Expwy/Freeway 6" C 48"x 24"	 W8-15	Std. Size Expwy/Freeway 8" D 48"x 48"
 KG20-5	Std. Size Expwy/Freeway 6" C 48"x 24"	 W8-7	Std. Size Expwy/Freeway 8" D 48"x 48"
 KM4-20	Std. Size Expwy/Freeway 3" C 24"x 6"	 W8-15p	Std. Size Expwy/Freeway 30"x 24"
 W7-3a	Mileage to be Determined by the Engineer.	 W8-11	Std. Size Expwy/Freeway 8" D 48"x 48"
 W8-17P (Optional)	Std. Size Expwy/Freeway 30"x 24"		
 SP-01 (Special Sign)	Std. Size Expwy/Freeway 6" C 10" D		
 SP-02 (Special Sign)	Std. Size Expwy/Freeway Uppercase: 6" C Lowercase: 4.5" C Uppercase: 10" D Lowercase: 8" D		

All city names and street names on special signs and destination signs must have upper and lower case letters.

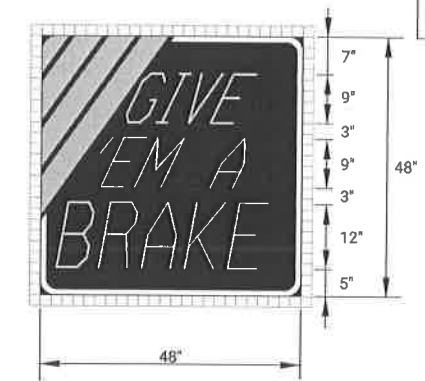


- RURAL**
- Ground-mounted signs shall be mounted at a minimum height of 5' measured from the bottom of sign to the near edge of the pavement.
  - Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.
  - The height of the secondary sign mounted below another sign may be 4' measured from the bottom of the sign to the near edge of the pavement. Signs shall not overlap each other.
- URBAN**
- Signs shall be mounted at a minimum height of 7' measured from the bottom of sign to the near edge of the pavement.
  - Neither portable nor permanent sign supports should be located on sidewalks or areas designated for pedestrian or bicycle traffic.
  - Signs mounted lower than 7' should not project more than 4" into pedestrian facilities.
  - The height from of the secondary sign mounted below another sign may be 6' measured from the bottom of sign to the near edge of the pavement. Signs shall not overlap each other.
  - Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.
  - \* Pedestrian detour signing shall be a minimum of 2' measured from the top of the pedestrian pathway to the bottom of the sign and shall not protrude into the walkway nor shall it project beyond the back of curb.



When the sign width is equal to or greater than 9', three or more wood posts may be used with a minimum of 4' between the centerline of each post. All signs less than 9' in width shall use a maximum of two wood posts.

- In the case of hitting rock when driving posts
- Shift the sign location. Do not violate minimum sign spacing.
  - With the engineer's approval, use acceptable alternative sign stands.



KI-104a



KI-105a

Sign Number	GIVE EM A BRAKE
Width x Height	4'-0" x 4'-0"
Border Width	1.0"
Corner Radius	4.0"
Stripe Width	3.0"
Mounting	Ground
Background	Type: Non-Reflective Color: Black
Legend/Border	Type: Reflective Color: White
Legend Font	Dutch #01 Roman SWC 25 Degree Slant
Stripes	Type: Reflective Color: Orange

Sign Number	FINES DOUBLE
Width x Height	4'-0" x 3'-0"
Border Width	0.9"
Corner Radius	3.0"
Mounting	Ground
Background	Type: Reflective Color: White
Legend/Border	Type: Non-Reflective Color: Black

Dimensions in inches      Spacings are to start of next letter

Y FONT	LETTER SPACINGS												HT LEN			
23.0	F	I	N	E	S									8.0		
D	9.7	6.4	3.2	7.3	6.4	5.4	9.7							28.6		
11.0	D	O	U	B	L	E								8.0		
D	3.9	6.9	7.5	7.3	7.3	6.4	4.9	3.9						40.3		
4.0	I	N	W	O	R	K	Z	O	N	E	S			4.0		
D	3.1	1.6	2.7	3.2	4.3	3.8	3.6	2.8	3.2	3.4	3.8	3.6	3.2	2.7	3.1	41.8

Notes:

Typically, there are two sets of informational signs installed per project: one for each direction of traffic.

Install signs a minimum of 500' in advance of the road work ahead sign. The engineer may designate a more appropriate location if conditions dictate.

The informational signs are not to interfere with the traffic control signs for the project.

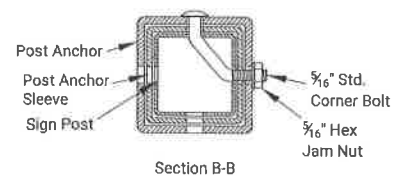
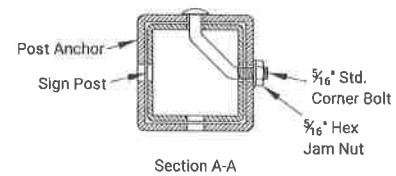
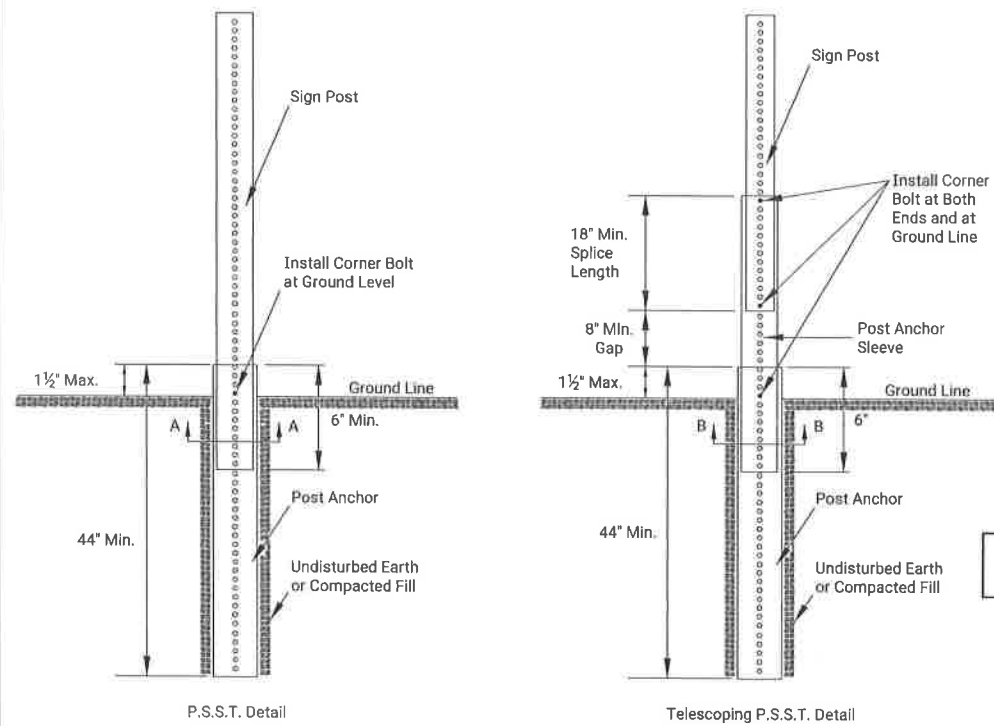
NO.	DATE	REVISIONS	BY	APPR.
KANSAS DEPARTMENT OF TRANSPORTATION				
<b>TRAFFIC CONTROL SIGN INFORMATION</b>				
TE710				
DESIGNED	H.W.B.	DRAWN	H.W.B.	QUANTITIES
CHECKED	H.W.B.	DETAILS	H.W.B.	TRACE
KDOT Graphics Certified      05-24-2022				

Revised By: JDC/MAM  
Plotted 9/7/2025 9:04 PM

Plotted by: pwmushock  
File: te710.dgn

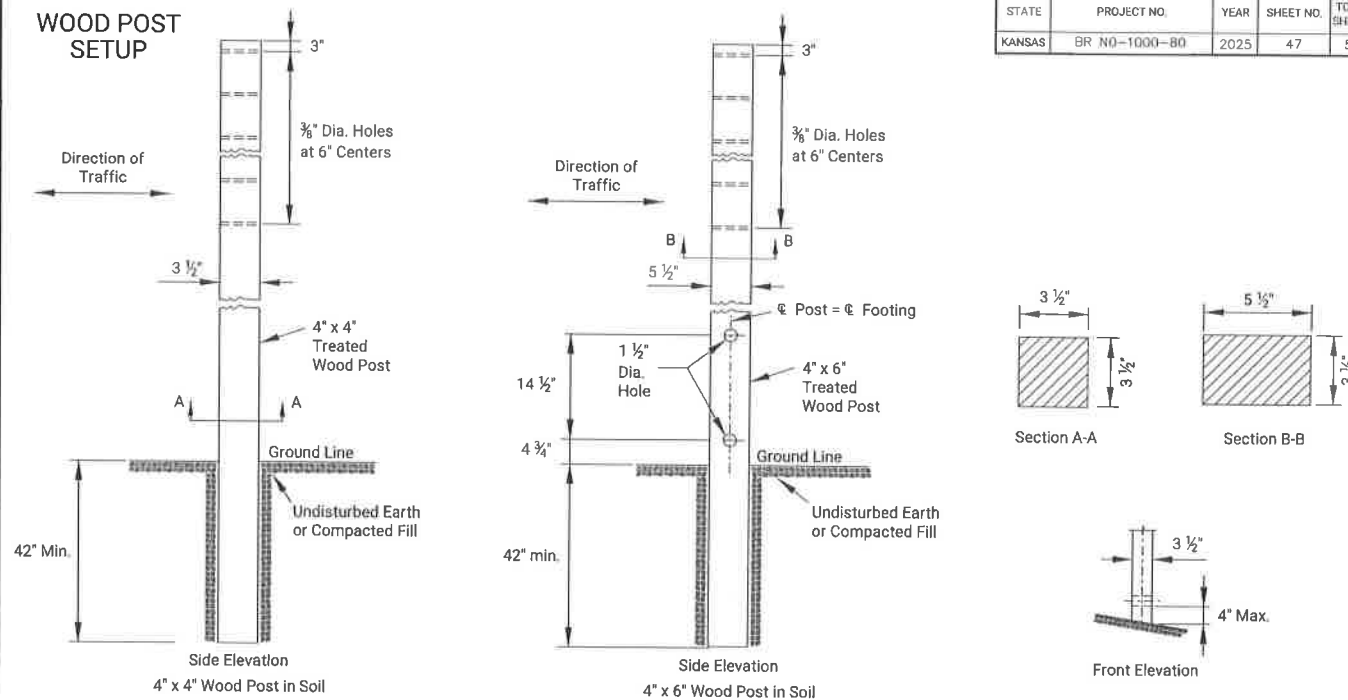
KDOT Graphics Certified

PERFORATED SQUARE STEEL TUBE (P.S.S.T.) POST SETUP



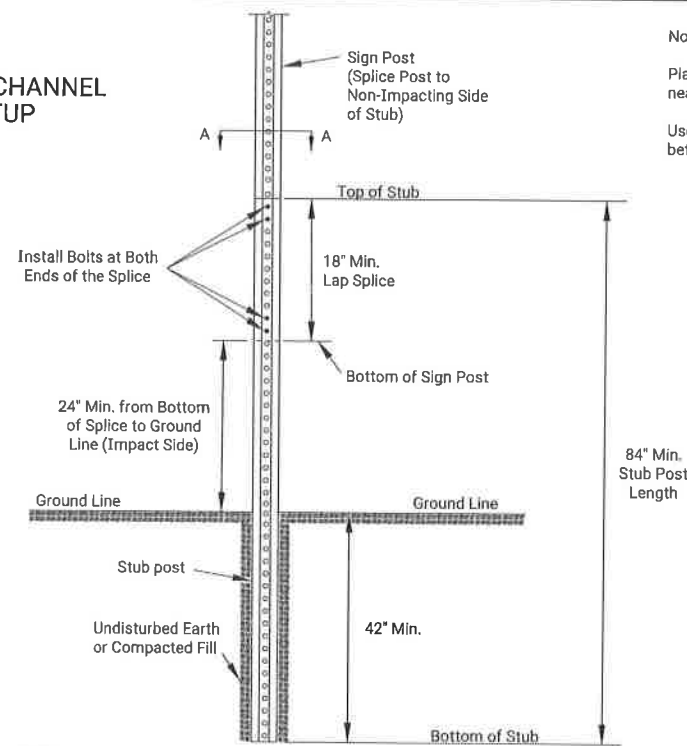
Details for 2", 2 1/4", or 2 1/2" sign posts  
Place bolts in the same corner along each sign post.

WOOD POST SETUP

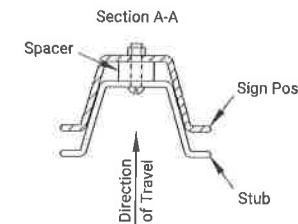


See TE710 for Additional Details and Requirements

3 LB/F U-CHANNEL SETUP



Notes:  
Place two bolts at both ends of the splice through the holes nearest the ends of the splice.  
Use manufacturer recommended spacers over the bolts between the spliced pieces of U-Channel.



NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
<b>TRAFFIC CONTROL SIGN POSTS</b>				
TE712				
DESIGNED	DATE	APP'D	BY	APP'D
DRAWN	DATE	APP'D	BY	APP'D
CHECKED	DATE	APP'D	BY	APP'D
QUANTITIES	DATE	APP'D	BY	APP'D
TRACED	DATE	APP'D	BY	APP'D
TRACED	DATE	APP'D	BY	APP'D

KDOT Graphics Certified 05-24-2022

Revised By: JIDIMAN  
Plotted: 9/7/2023 8:05 PM

File Name: 30 TRAFFIC CONTROL SIGN POSTS.DWG  
File Location: P:\302\314-000\Comments Road Bridge-McPherson County\Civil\Drawings\Plan Set  
Plotted by: pwmushock 6-JUN-2022 21:55  
File: te712.dgn

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