

Base Bid

Item No.	Description	Estimated Quantity	Unit
1	Contractor Construction Staking	1	Lump Sum
2	Mobilization	1	Lump Sum
3	Removal of Existing Bridge	1	Lump Sum
4	Clearing and Grubbing	1	Lump Sum
5	Earthwork	1	Lump Sum
6	Precast Concrete Beam Bridge	1	Lump Sum
7	Steel Sheet Piles (7 Ga.) (Galvanized)	2,450	Sq. Ft.
8	Steel Piles (HP 12x53)	1,150	Lin. Ft.
9	Cast Steel Pile Points	10	Each
10	Guardrail Steel Plate	137.5	Lin. Ft.
11	Signing Object Marker (Type 3)	4	Each
12	Contractor Furnished PDA	1	Each
13	Permanent Seeding	1	Lump Sum
14	Traffic Control	1	Lump Sum

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees Work will begin no earlier than **after the contracts have been signed (early start date)** and no later than **January 15, 2025**. Bidder hereby agrees to commence Work under this contract on or about 19 AUGUST 2024. Bidder agrees that the Work will be substantially complete within **60 Calendar Days** after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within **60 Calendar Days** after the date when the Contract Times commence to run.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

BARBER CO. KANSAS

KLBIP Bridge OS 34 Replacement

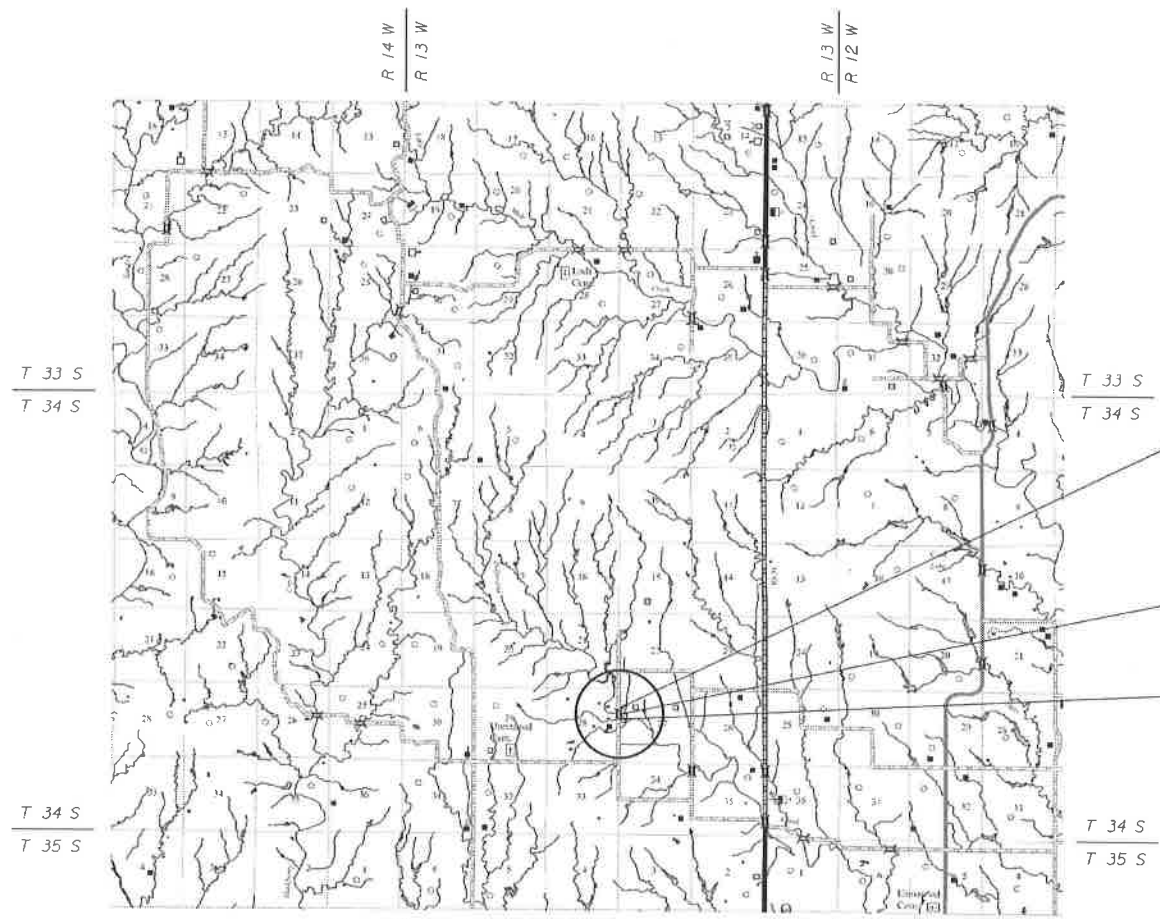
KM Project No. 2212895

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	OS 34 Replacement	2024	1	14



INDEX OF SHEETS

1. TITLE SHEET
2. TYPICAL SECTION SHEET
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5. CONSTRUCTION LAYOUT
6. BRIDGE DETAILS
7. GUARDRAIL LAYOUT
8. MISCELLANEOUS GUARDRAIL DETAILS
9. STANDARD PILE DETAILS
10. TRAFFIC CONTROL
- 11-14. CROSS SECTIONS



● This Project Meets the Requirements for the VLVR Design Guidelines

● DESIGN DESIGNATION

AADT (2018)	20
T	5%
V	45 mph
Clear Zone	6 Ft.

SUMMARY OF BID QUANTITIES		
ITEMS	QUANTITY	UNIT
Contractor Construction Staking	Lump Sum	L.S.
Mobilization	Lump Sum	L.S.
Removal of Existing Structures	Lump Sum	L.S.
Clearing and Grubbing	Lump Sum	L.S.
Earthwork	Lump Sum	L.S.
Precast Concrete Beam Bridge	Lump Sum	L.S.
Steel Sheet Pile (7 Ga.) (Galvanized)	2450	Sq. Ft.
Steel Piles (HP12x53)	1150	Lin. Ft.
Cast Steel Pile Points	10	Each
Guardrail Steel Plate	137.5	Lin. Ft.
Signing Object Marker (Type 3)	4	Each
Contractor Furnished PDA	Lump Sum	L.S.
Permanent Seeding	Lump Sum	L.S.
Traffic Control	Lump Sum	L.S.

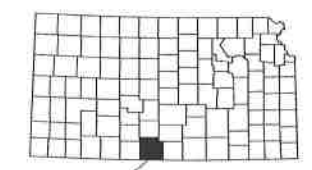
CONVENTIONAL SIGNS


COUNTY LINE	-----	CENTER LINE OF PROJECT	-----
CITY LIMITS	-----	TERRACE	-----
STATE OR NATIONAL LINE	-----	CULVERTS	-----
TOWNSHIP, SECTION or GRANT LINE	-----	DROP INLET & STORM SEWER	-----
PROPERTY LINE	-----	ACCESS CONTROL	-----
HIGHWAY FENCE	-----	POWER POLE	-----
EXISTING FENCE	-----	TELEPHONE POLE	-----
GUARDRAIL	-----	MARSH	-----
CONSTRUCTION LIMITS	-----	HEDGE	-----
RIGHT OF WAY LINE	-----	TREES	-----
TRAVELED WAY	-----	PROFILE ELEVATION	-----
RAILROADS	-----	STREAM or CREEK	-----



KIRKHAM MICHAEL

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RECOM. FOR APPROVAL-DATE

 LOCAL PUBLIC OFFICIAL

UTILITIES		
Gas	Superior Pipeline	620-886-0455
Water	Barber Co. RWD #2	620-886-1185
Power	Alfa Electric Coop	580-596-3333

CP #1	CP #2	CP #3
Sta. 39+74.84, 19.38' Lt. N = 112,451.81 E = 16,447,243.51	Sta. 45+41.17, 31.80' Rt. N = 113,018.34 E = 16,447,292.04	Sta. 49+64.39, 20.42' Lt. N = 113,441.31 E = 16,447,237.83
1. Set 1/2" Rebar Flush 2. E. Face of Cor. Fc. Post 2.0' W 3. App. C of N-S Rd. 22.2' E 3. Top Center W. End CMP 30.5' E	1. Set 1/2" Rebar Flush 2. App. C of N-S Rd. 30.5' W 3. E. Face of PP 54.9' WSW 4. N. Face of Cor. Fc. Post 36.3' SE	1. Set 1/2" Rebar Flush 2. App. C of N-S Rd. 20.4' E 3. N. Face of Cor. Fc. Post 4.7' WNW 4. S. Face of Cor. Fc. Post 59.4' NNW

NW Cor. Sec. 21, T34S, R13W N = 114,741.26 E = 16,447,250.19	
1. Fd. Bar/Cap	2.2' W
2. App. C of N-S Rd.	23.8' WNW
3. "X" Nails in E. Face PP	28.6' NE
4. Nail in Top of Fc. Post	28.6' SE
5. Nail in Top of Fc. Post	40.8' SSE
6. Spk./Wshr. in top of Fc. Post	

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Horizontal Project Datum: KRCS Zone 16 Pratt for project coordinates.

Vertical Datum: North American Vertical Datum NAVD 88 (Geoid 18)

DATUM BENCHMARK NAVD 88

BASE 1 is the datum benchmark. An OPUS Solution was obtained for BASE 1. BASE 1 is a 1/2" rebar located 0.40 miles south of the intersection of Kingfisher Rd. and Driftwood Rd. in Barber Co., KS, 25 feet east of the centerline of Kingfisher Rd., and 35 feet north of the centerline of a private entrance. BASE 1 Elev. = 1592.636 ft.

BASE 1 WGS 84 Coords:
Lat: 37°02'40.04761" N
Long: 98°43'49.77790" W
Ellips. Height: 1499.918 ft.

All trees, hedge rows, shelterbelts, and woody shrubs not shown to be removed and located between the construction limits and the right of way line or easement lines shall be spared unless directed by the Engineer to be removed.

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.

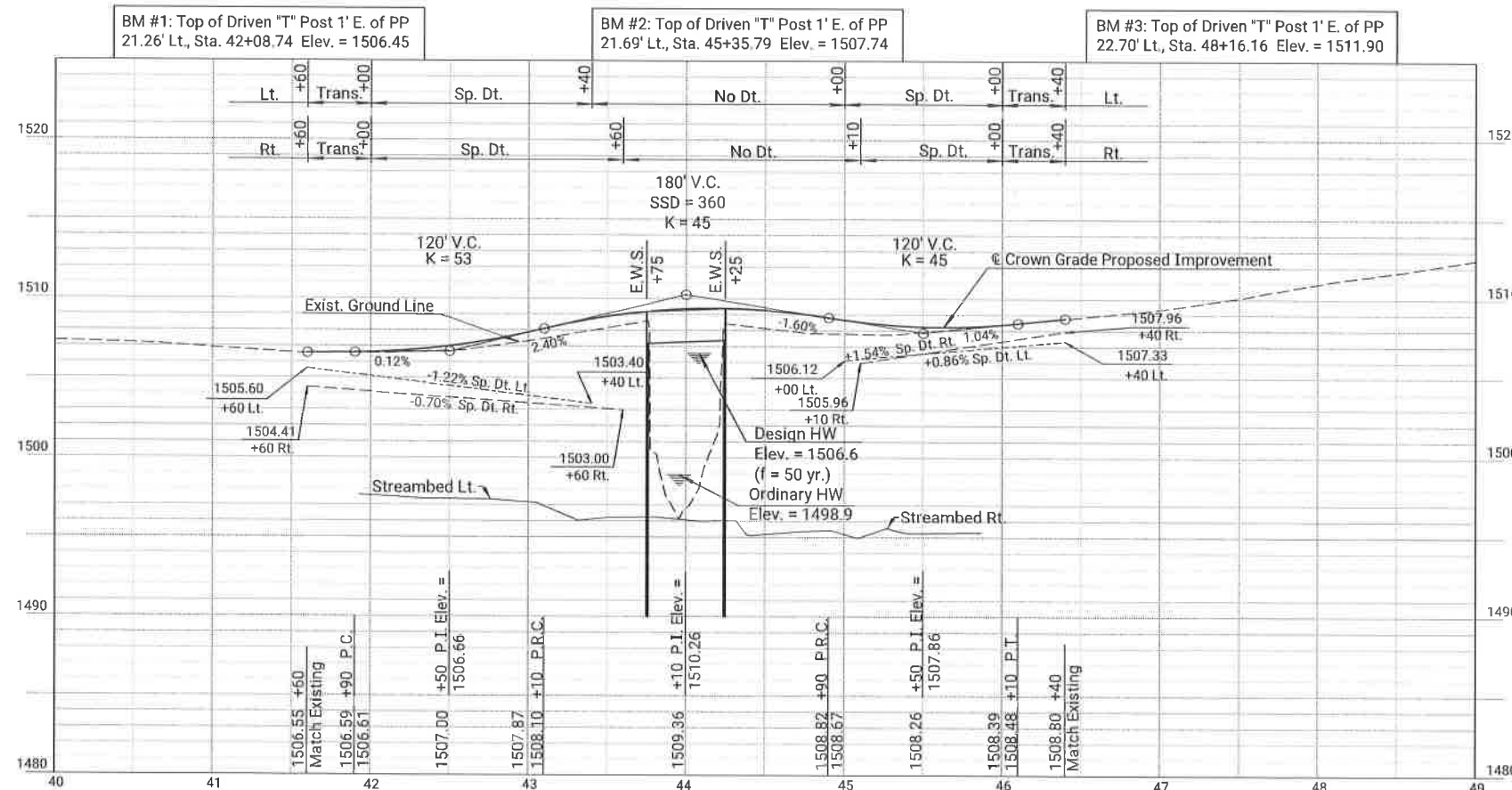
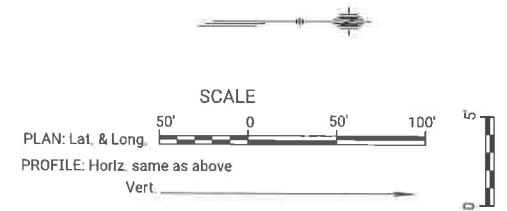
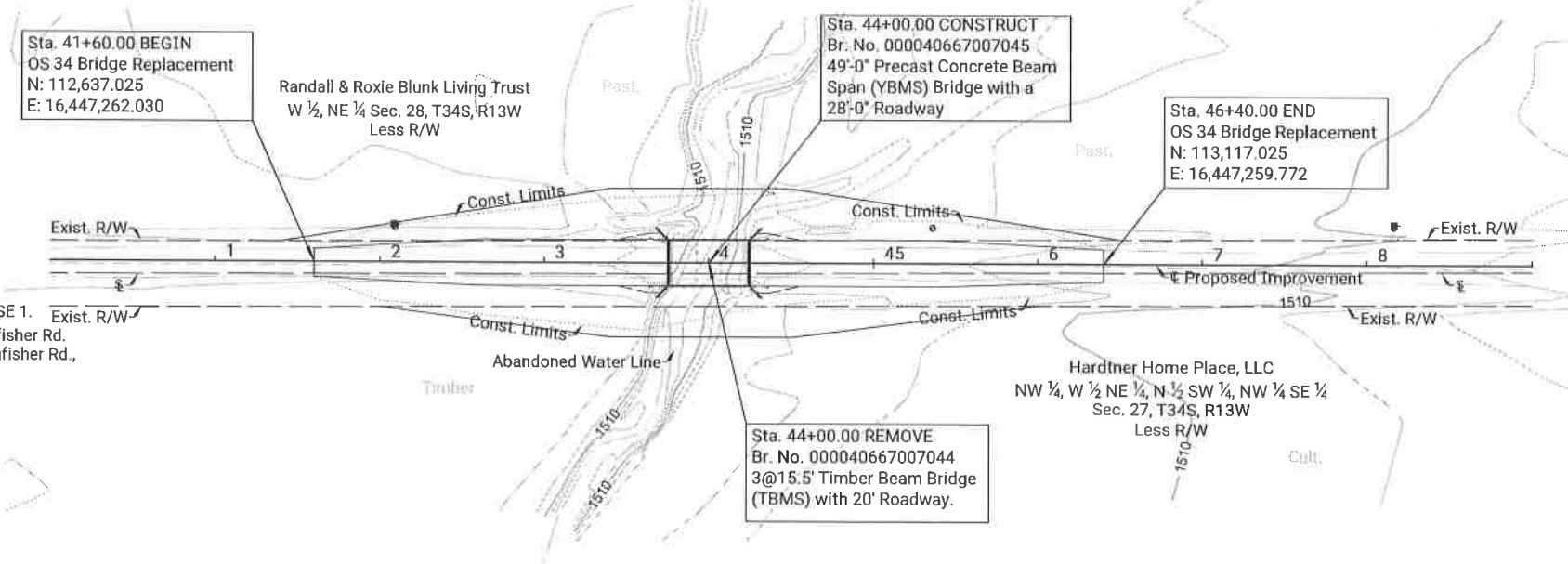
All disposal sites must be approved by the Kansas Dept. of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Dept. of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps of Engineers permitting regulations.

It is the responsibility of the Contractor to contact Kansas One Call and field verify the locations of any utilities.

Contractor shall install and maintain traffic control to close the road.

Earthwork Balance has been calculated for information purposes. Earthwork will be paid as lump sum.

Seeding of areas disturbed by construction will be performed by the contractor.



EARTHWORK BALANCE (FOR INFORMATION ONLY)
 150 Cu. Yds. Common Excavation (VMF = 0.75)
 26 Cu. Yds. Common Excavation (Contractor Furnished)
 173 Cu. Yds. Embankment

KANSAS DEPARTMENT OF TRANSPORTATION
 PLAN AND PROFILE
 STA. 40+00.00 TO STA. 49+00.00

Plotted by: cbutler 27-MAR-2024 14:58
 File: 2212895_Plan & Profile.dgn

SUMMARY OF QUANTITIES (For Information Only)

Location	Precast Reinforced Concrete Bridge Slabs Sq. Ft.	Walers C8x11.5 (Typ.) Lin. Ft.	Pile Caps (Steel) (HP 12x53) Lin. Ft.	Piles (Steel) (HP 12x53) Lin. Ft.	Cast Steel Pile Points Each	Steel Sheet Piles (7 ga.) (Galvanized) Sq. Ft.	Wingwall Top Cap C5x6.7 Lin. Ft.	1/2" Stiffeners (HP 12x53 Cap) Each	3/8" Gusset Plates Each	Contractor Furnished PDA Each
Abutment No. 1		98	29	580	5	1225	20	15	14	1
Abutment No. 2		98	29	570	5	1225	20	15	14	
Total	1417	196	58	1150	10	2450	40	30	28	1

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
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NOTE: Bridge items not paid for directly, but required to construct the bridge shall be considered Subsidiary to the bid item "Precast Concrete Beam Bridge" bid as Lump Sum.

● Precast reinforced concrete bridge slabs quantity calculated based on 28'-4" bridge out-to-out width.

† Summary of Piling
Abutment No. 1: 4 @ 90 and 1 @ 100 for use with the PDA; Wingwalls 4 @ 30
Abutment No. 2: 5 @ 90 ;Wingwalls 4 @ 30

†† Sheet Piling Quantity is Based on a Total Height of 25 feet.

NOTE: Pile Lengths may need to be adjusted depending on thickness of the precast reinforced concrete bridge slabs. Pile lengths calculated assuming bridge slab depth of 2'-0".

General Notes

CONSTRUCTION SPECIFICATIONS:
2015 Standard Specifications for State Road and Bridge Construction
As published by the Kansas Department of Transportation.

DESIGN SPECIFICATIONS:

AASHTO Specifications, 2017 Edition and latest interim Specifications, Load and Resistance Factor Design.

DESIGN LOADING: HL-93

UNIT STRESSES:

Steel Piles	fy = 50 ksi
Structural Steel ASTM A709 (Gr. 50)	fy = 50 ksi
Structural Steel ASTM (Gr. 36)	fy = 36 ksi

PILING:

Abutment piling shall be HP12x53 steel pile and driven to a minimum of 66 tons per pile. As a minimum drive each pile to load and penetration, but in no case shall the pile be driven to more than 110% of the Pile Driving Formula load. Install cast steel pile points on the abutment piling only. Piling lengths were estimated based off a geological investigation. Pile splices and cut-off shall be subsidiary to "Steel Piles (HP 12x53)".

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

SPLICES:

Splices for steel piles shall be in accordance with the Standard Specifications.

DRIVING FORMULA:

The driving formula shall conform to the Standard Specifications.

Wingwalls and backwalls shall be interlocking, galvanized, 7 ga steel sheet piling driven not less than ten feet of penetration below the streambed or refusal, whichever is less. The abutment backwall shall be driven tight against cap and beams with two waler supports spaced equally between natural ground and the top of the stringer. The sheet piling shall be welded to the walers, end plates and wing caps.

Each wingwall shall be constructed with 2 - HP12x53 steel piles (@ 30' each pile). The top of each Wingwall shall be capped with C5x6.7 channel iron.

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.

PRECAST REINFORCED CONCRETE BRIDGE SLABS:

The Contractor shall provide shop drawings stamped by a Registered Professional Engineer licensed in the State of Kansas for the precast reinforced concrete bridge slabs and bridge slab installation details for approval by the Engineer. The bridge slabs shall be anchored to the abutment and pier pile caps. The Contractor shall provide shop drawings detailing the connection of the bridge slabs to the pile cap for approval by the Engineer. The bridge slabs shall be connected to transfer loads between adjacent bridge slabs such that the individual slabs act as one unit. The Contractor shall provide shop drawings detailing the connection between bridge slabs. The bridge slabs shall be designed for LRFD HL-93 loading and a load rating stamped by a Registered Professional Engineer licensed in the State of Kansas shall be provided. The LRFR inventory rating factor for HL-93 loading shall be a minimum of 1.0 and the rating factor for T3, T3S2, T3-3, SU4, SU5, SU6, SU7, NRL, EV2 and EV3 shall be a minimum of 1.0. All exposed edges of the bridge slabs shall have a minimum 3/4" chamfer. The top surface of the bridge slabs shall be broom finished transverse to the bridge slab centerline. All labor, concrete, reinforcing steel, guardrail post plates, elastomeric bearing pads, joint sealant, backer rods and incidentals necessary to fabricate and install the precast reinforced concrete bridge slabs shall be subsidiary to the bid item "Precast Concrete Beam Bridge".

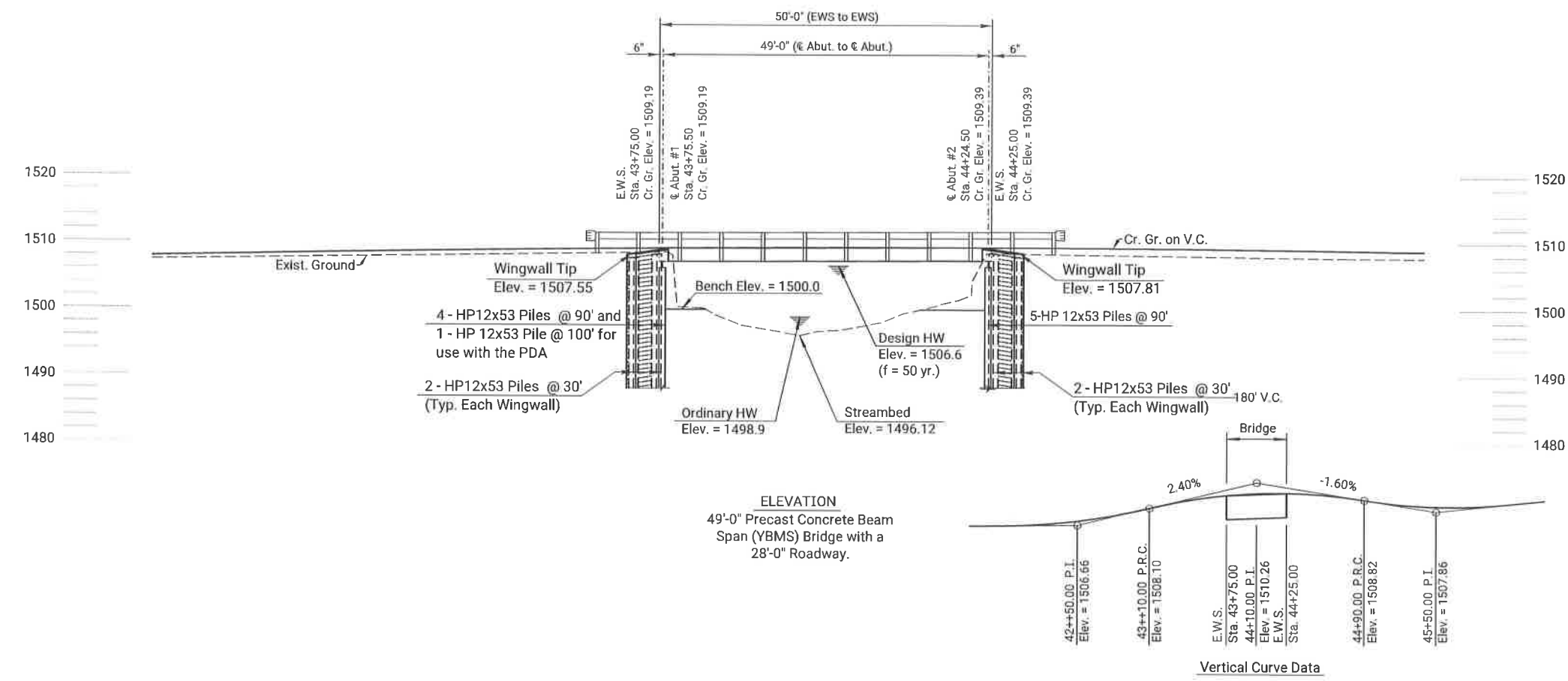
CONTRACTOR FURNISHED PDA:

Use the Pile Driving Analyzer equipment at the location shown on the Construction Layout Sheet. Use Pile Driving Analyzer equipment and methods compliant with KDOT Special Provisions. The piling shall remain in place as permanent piling. Drive the piling to the resistance value of 102 tons (Strength I divided by Phi). At any locations where problems are experienced, pile damage is suspected, or the Piling Driving Formula Load occurs significantly above design pile tip elevation, the Owners designated Engineer may request that the Pile Driving Analyzer (PDA) equipment be used.

LRFD DESIGN PILE LOAD:

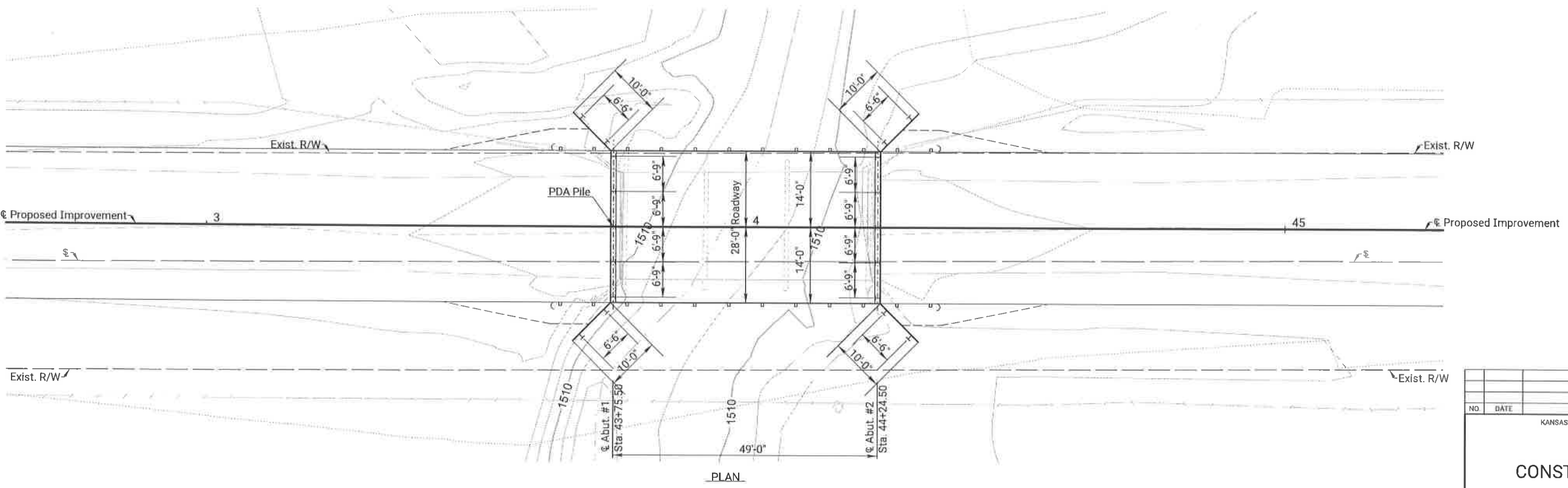
Design Loading (TONS/PILE)	<u>Strength I</u>	<u>Service I</u>	<u>Phi</u>
Abutments 1&2	66	44	0.65

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
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DRAINAGE DATA:

Drainage Area	9.0	Sq. Mi.
Design Frequency	50	Yr.
Design Discharge @ (Q50)	3060	cfs
Design Velocity @ (Q50)	8.0	fps
Design High Water Elevation	1506.6	Ft.
Overtopping Elevation (Sta. 41+60)	1506.5	Ft.
Overtopping Discharge	3060	cfs
Overtopping Frequency	50	Yr.
Discharge @ (Q100)	3850	cfs
Backwater @ (Q100)	-1.7	Ft.
Backwater Elevation @ (Q100)	1507.2	Ft.
Ordinary Highwater Elevation	1498.9	Ft.
Total Waterway Provided	413	Sq. Ft.
Design Waterway Provided	383	Sq. Ft.
Estimated Ordinary Highwater Discharge	30	cfs



1" = 10'
Contour Interval = 2'

BM #1: Top of Driven "T" Post 1' E. of PP
Elev. = 1506.45

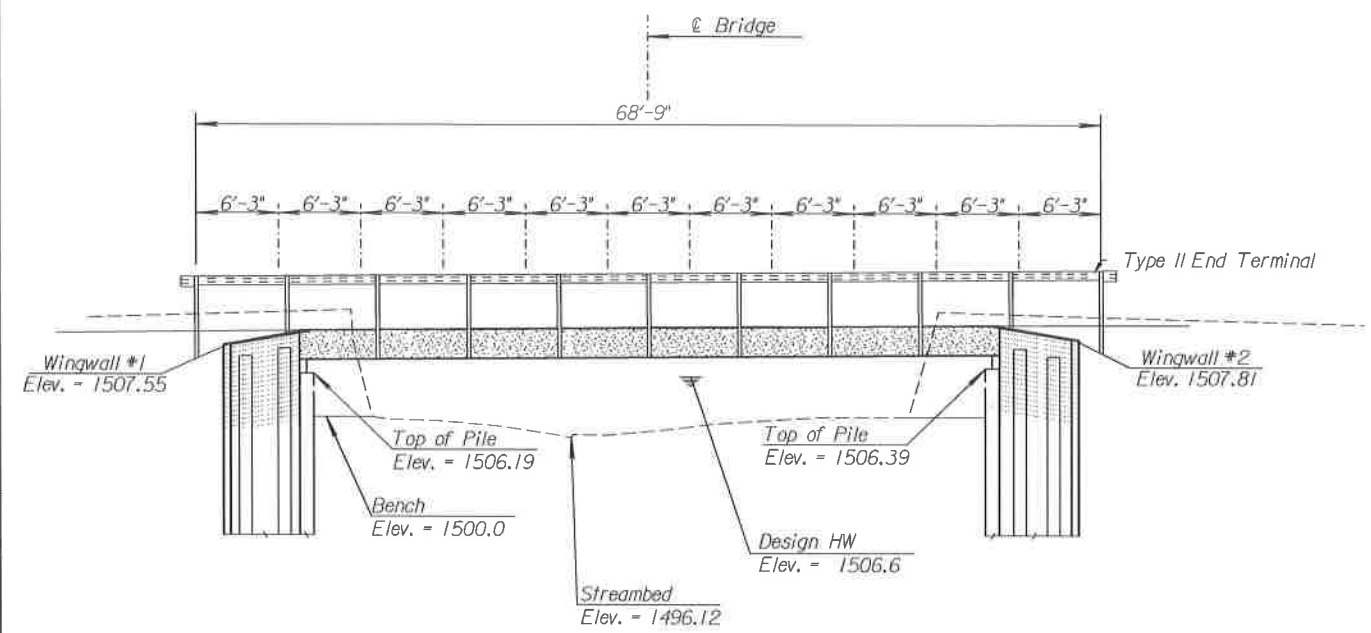
BM #2: Top of Driven "T" Post 1' E. of PP
Elev. = 1507.74

BM #3: Top of Driven "T" Post 1' E. of PP
Elev. = 1511.90

NO.	DATE	REVISIONS	BY	APPD.
KANSAS DEPARTMENT OF TRANSPORTATION				
CONSTRUCTION LAYOUT				
DESIGNED	DETAILED	QUANTITIES	CADD	
DESIGN CK.	DETAIL CK.	QUAN. CK.	CADD CK.	

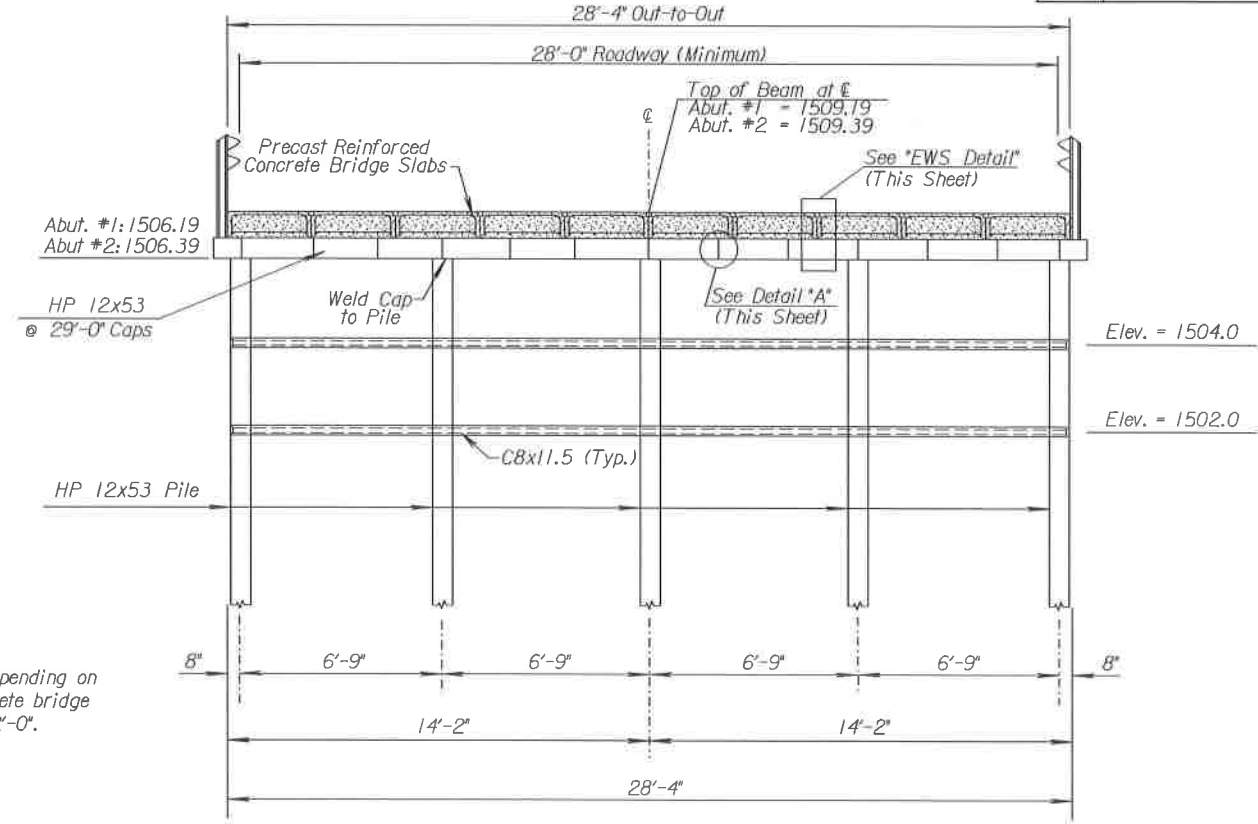
Plotted by: cbutler 27-MAR-2024 14:58
File: 2212895_Construction Layout.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	OS 34 Replacement	2024	6	14

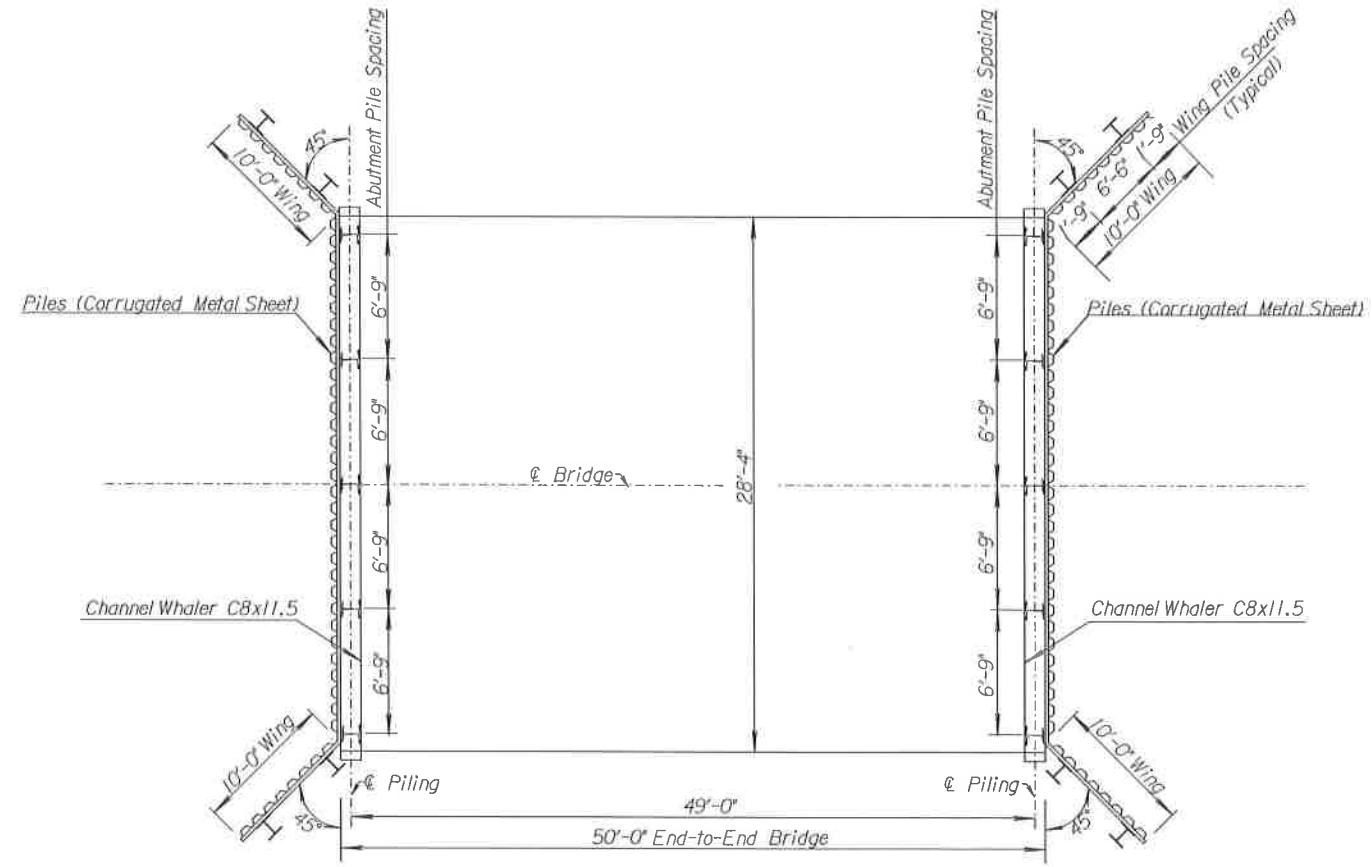


ELEVATION
(No Scale)

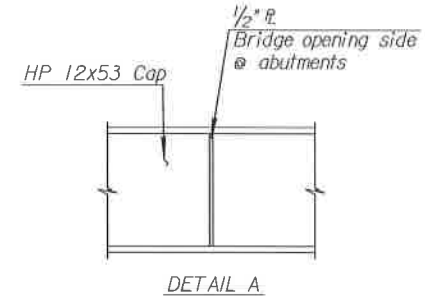
Note: Pile elevations may need adjusted depending on thickness of precast reinforced concrete bridge slabs. Plans assume a thickness of 2'-0".



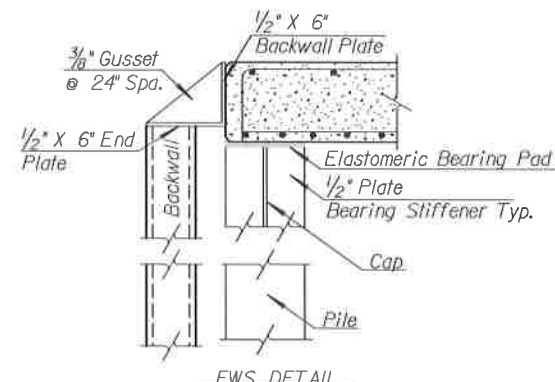
TYPICAL SECTION
(No Scale)



PLAN
(No Scale)

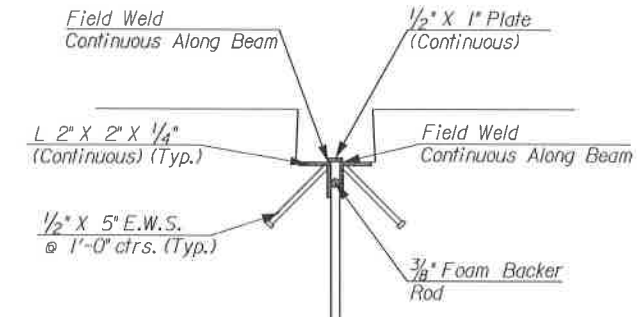


DETAIL A



EWS DETAIL

Note: Beam shall be anchored at abutments. The Contractor shall anchor the beams to the abutments as shown on shop drawings provided by the manufacturer.



SHEAR ANGLE DETAIL

Note: Plates will be welded along the full length of the beam. Complete 1'-0" of weld on both sides of plate before moving along to the rest of the beam.

Notes:

The Contractor shall install concrete beams as shown on shop drawings provided by precast beam supplier. All labor, material, and incidentals necessary to install the beams shall be Subsidiary to the bid item "Precast Concrete Beam Bridge".

KANSAS DEPARTMENT OF TRANSPORTATION

BRIDGE DETAILS

DATE	BY

REFERENCES NOTED	REFERENCES CHECKED

Plotted by : cbutler 27-MAR-2024 14:58
File : 2212895 Bridge Details.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	OS 34 Replacement	2024	7	14

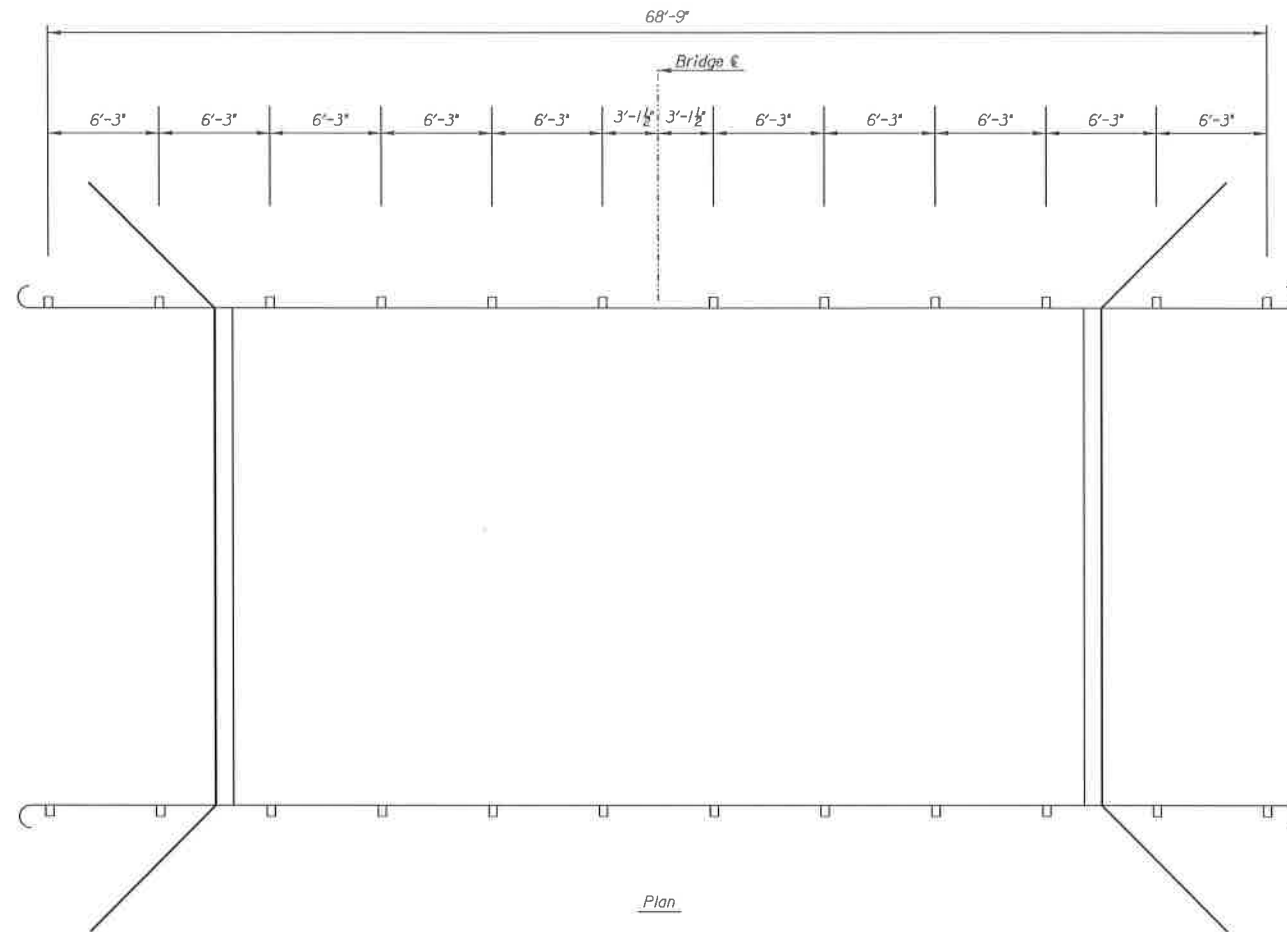
NOTE: Layouts 1, 2, 3, and 4 will be symmetric for any quadrant unless otherwise shown in the plans.

When using Rubrail, attach Std. Drawings No. RD611, RD616 and RD615 (parallel) or RD615A (flared).

When using Thrie beam, attach Std. Drawings no. RD611 and RD608 or RD613.

Attach Std. Drawing No. RD617 (parallel) or RD 617A (flared) for post over box less than full depth.

□ Radius = 625.08'



ALLOWABLE END TERMINALS							Required Standard Drawing
TYPE	Layout						
	1	2	3	4	5	6	
SRT	X		X		X		RD606
FLEAT	X		X		X		RD606
SKT		X		X		X	RD606

SUMMARY OF STEEL PLATE GUARDRAIL										
Location	Side	Layout No.	Layout Ln. Ft.*	Additional Standard Sections Ln. Ft.	Total Pay Length Ln. Ft.	Layout 1 or 3		Layout 2, 4, or 6	Layout 5	
						Gd. Rail End Term. (SRT) Alt. #1 Each	Gd. Rail End Term. (FLEAT) Alt. #2 Each	Gd. Rail End Term. (SKT) Each	Gd. Rail End Term. (SRT) Alt. #1 Each	Gd. Rail End Term. (FLEAT) Alt. #2 Each
Bridge	Rt.				68.75'					
Bridge	Lt.				68.75'					
TOTAL LENGTH					137.5'					

*See Guardrail Auxiliary Details (RD606) for Measurement Details. Does Not Include End Terminal.

NO.	DATE	REVISIONS	BY	APP'D
12	02-21-19	Updated per Flood Memo 18-02	WFL	MJS
11	10-30-17	Removed X-111a	WFL	MJS
10	01-06-15	Added X-111a, Removed ET-PLUS	TLS	RJS
9	11-9-05	Added length for Thrie beam transition	REA	RJS

KANSAS DEPARTMENT OF TRANSPORTATION

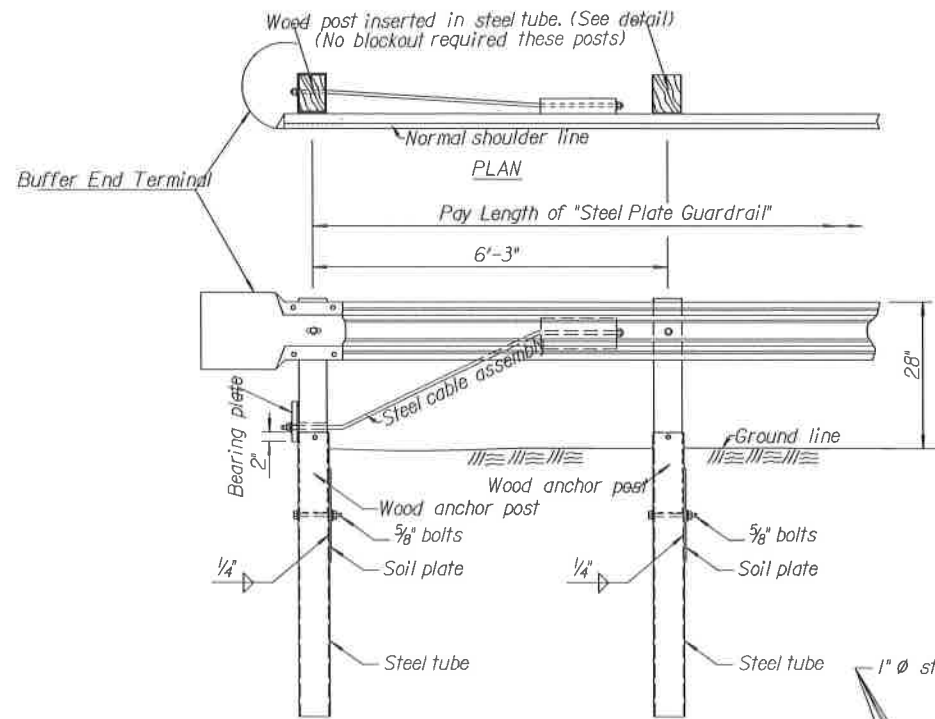
GUARDRAIL LAYOUT

LP620

FHWA APPROVAL	DESIGNED	DETAILED	TLS	QUANTITIES	APP'D.	MJS
DESIGN CK.	DETAIL CK.	RJS	QUAN. CK.	TRACE CK.		

Plotted by : cbutler 27-MAR-2024 14:58
File : 2212895_Guardrail Layout.dgn

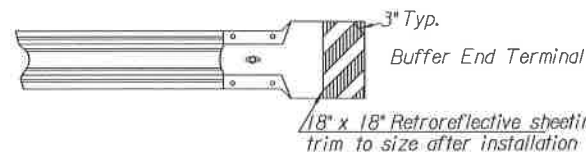
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
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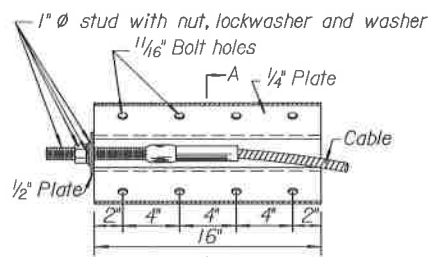
DETAIL OF ANCHOR ASSEMBLY

GENERAL NOTE

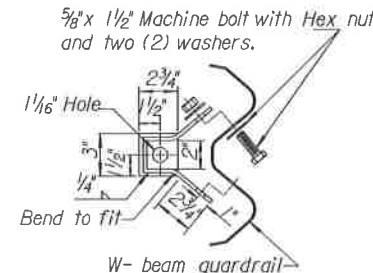
Terminal end posts consist of a wood post inserted into a steel tube see details on this sheet.
 The steel soil tubes may be driven with an approved driving head. Set steel tube and soil plate before installing wood anchor post assembly. Do not drive steel soil tubes with wood post in the tube. Backfill and satisfactorily compact around steel soil tubes placed in drilled holes to prevent tube settlement.
 Galvanize all steel parts after fabrication.
 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 the permanent traffic.
 All work and materials required for the installation of Barrier Terminal Type II are considered subsidiary to the bid item "Steel Plate Guardrail".
 Include Type II end terminal in pay length of "Steel Plate Guardrail".



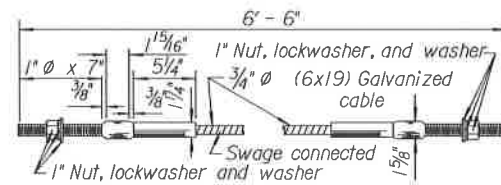
Note: Apply retroreflective sheeting to the buffer end of the terminal after installation. Thoroughly clean and dry steel prior to installation. Locate sheeting to provide maximum visibility to approaching traffic.



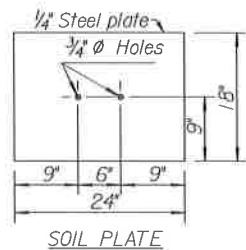
ANCHOR PLATE



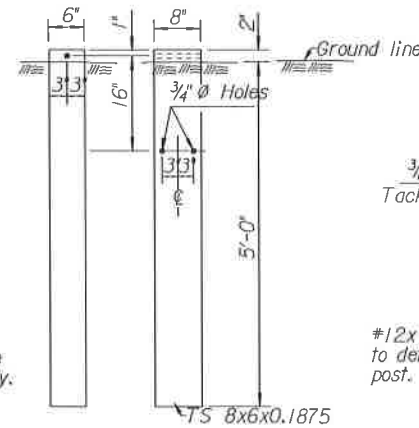
MODIFIED SECTION A-A



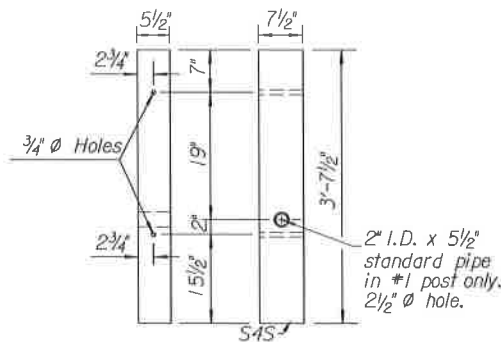
CABLE ASSEMBLY (1 each)
 (40,000 lbs. min. breaking strength)
 Tighten cable to taut tension.



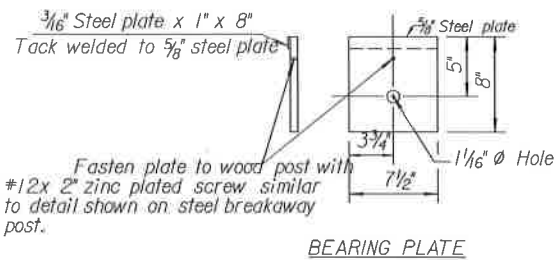
SOIL PLATE



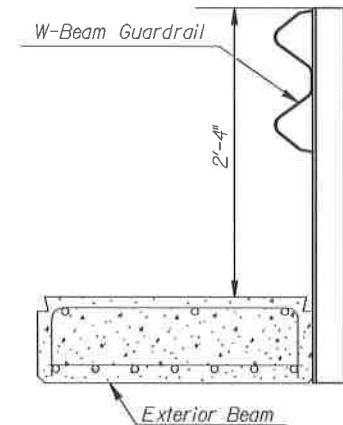
STEEL TUBE



BCT WOOD POST



BEARING PLATE



BRIDGERAIL LINE POST SECTION

Note: The Contractor shall provide shop drawings to install W-beam guardrail on the outside bridge slabs. Guardrail posts shall be steel and shall be bolted to the outside bridge slabs. Blocks will not be required between the steel posts and the W-beam guardrail across the bridge. All labor, materials, and incidentals necessary to install the guardrail shall be subsidiary to the bid item "Guardrail, Steel Plate".

Note: All guardrail posts are to be galvanized.

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 VOICE (785) 472-3163 FAX (785) 472-3817

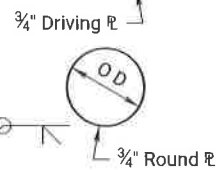
MISCELLANEOUS GUARDRAIL
 DETAILS & BARRIER
 TERMINAL TYPE II

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".

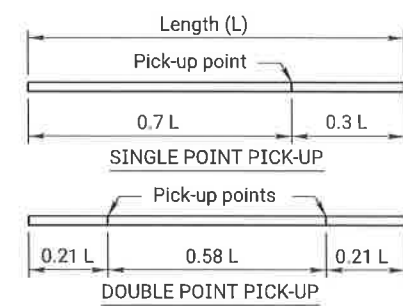
Note: Pile pipe may be spiral welded, longitudinal welded, or seamless steel pipe.



PLAIN ROUND CAST-IN-PLACE CONCRETE PILES

12" OR 14" PRESTRESSED CONCRETE PILES

16" PRESTRESSED 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.



Outside Flange



Inside Flange

SHELL PILE POINT



H-Pile Point

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.

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.

PILE SPLICES

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

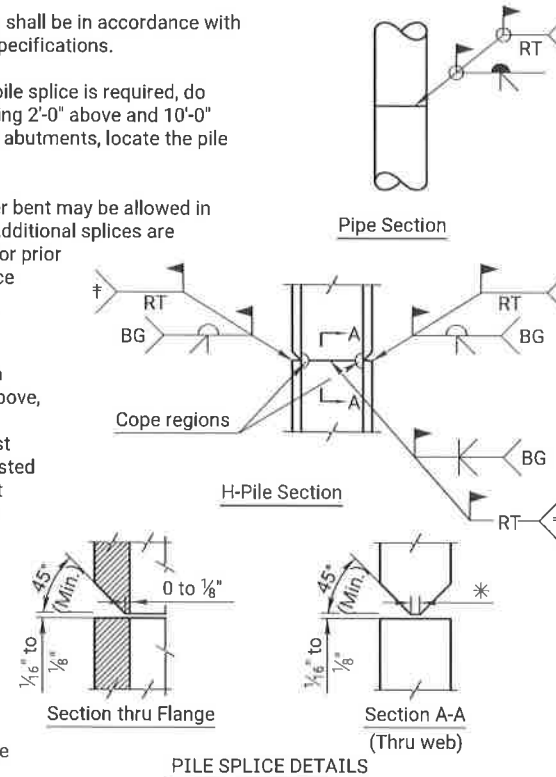
For integral pile bent abutments and piers, if a pile splice is required, do not locate the pile splice within a region extending 2'-0" above and 10'-0" below the bottom of the concrete web wall. For abutments, locate the pile splice at least 10'-0" below top of fill.

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



STEEL PILES	CONCRETE PILES	
	Pipe	Pre-stress
HP10x42	10 3/4"	
HP12x53	12 3/4"	
HP14x73	14	12
HP14x102		14
HP14x117		16

FOR INFORMATION ONLY EQUIVALENT POINT BEARING PILES

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.

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.

NO.	DATE	REVISIONS	BY	APP'D
04	08-16-18	Add splice web section, clarify note	M.L.L.	J.P.J.
03	09-15-15	Clarify Notes	J.P.J.	C.E.R.
02	06-18-12	Clarify f'c, rod type, use and weld	J.P.J.	T.L.F.

KANSAS DEPARTMENT OF TRANSPORTATION

STANDARD PILE DETAILS

BR110	10-04-12	APP'D	Terry L. Fleck
DESIGNED	J.P.J.	DETAIL ED	QUANTITIES
DESIGN CK	DETAIL CK	QUAN. CK	TRACE CK

Sh. No.

SUMMARY OF TRAFFIC CONTROL DEVICES (FOR INFORMATION ONLY)

All traffic control devices shall be placed in accordance with the applicable KDOT Traffic Control Standards. The Contractor shall provide all signs and other traffic control devices for proper traffic control of all construction activities. Quantities listed are estimates only. Contractor operations may require additional signs and traffic control devices, this will be subsidiary to the bid item "Traffic Control".

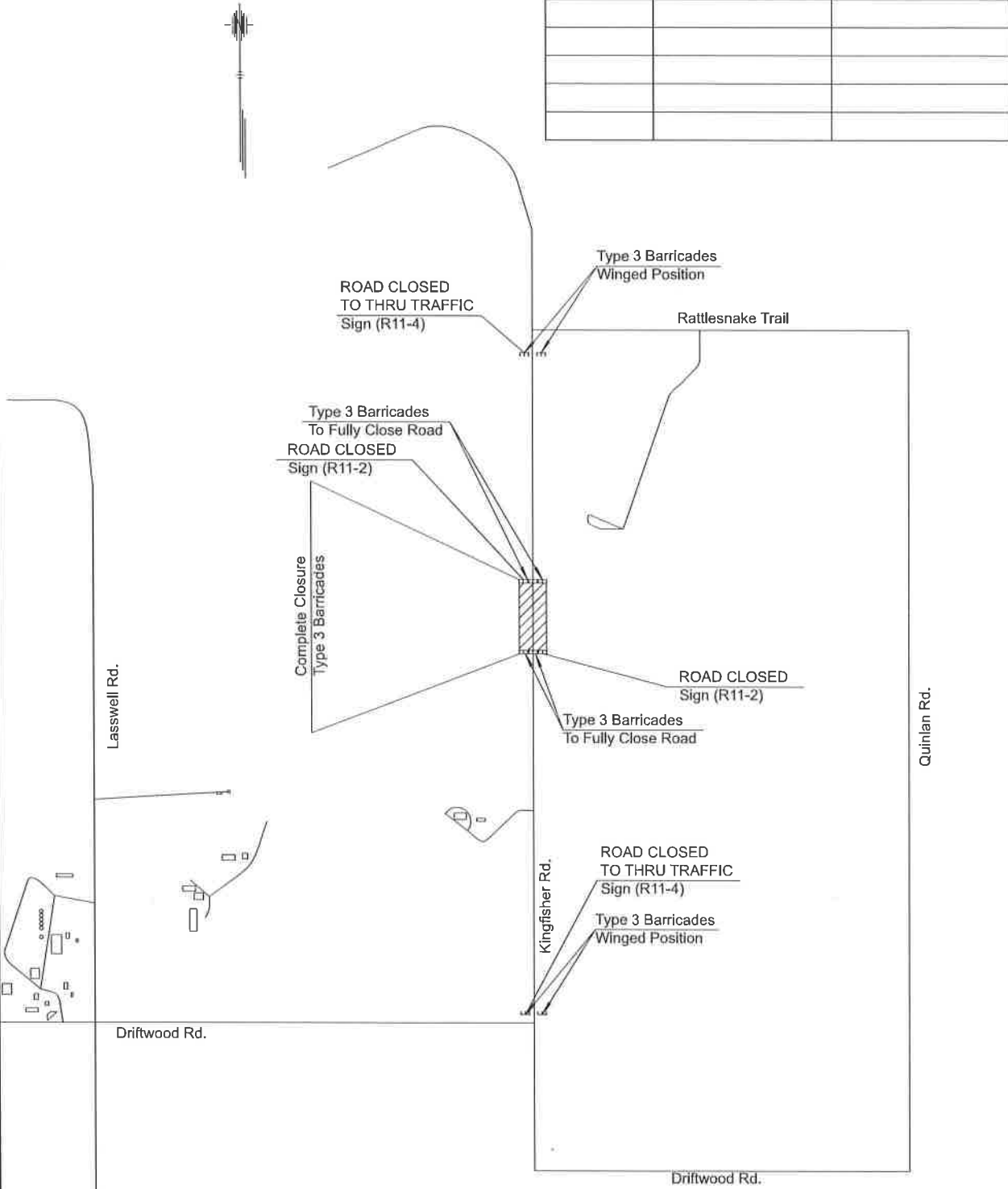
SUMMARY OF TRAFFIC CONTROL DEVICES (EACH)

Work Zone Sign (Special)		
Sign No.	16.25 Sq.Ft. & Less	16.26 Sq.Ft. & Over

SUMMARY OF TRAFFIC CONTROL DEVICES (EACH PER DAY)

* Quantity most used on the project at any one time

Sign No.	Work Zone Signs *		
	Size - Sq.Ft.		
	0-9.25	9.26-16.25	16.26 & Over
R11-2		2	
R11-4		2	
W20-7		2	
W20-3		3	



Recapitulation of Quantities		
Item	Quantity	Unit
Work Zone Signs (0 to 9.25 Sq.Ft.)		Each Per Day
Work Zone Signs (9.26 to 16.25 Sq.Ft.)		Each Per Day
Work Zone Signs (16.26 Sq.Ft. & Over)		Each Per Day
Work Zone Barricades (Type 3 - 4' to 12')		Each Per Day
Work Zone Barricades (Pedestrian)		Each Per Day
Channelizer (Fixed)		Each Per Day
Channelizer (Portable)		Each Per Day
Channelizer (Pedestrian)		Each Per Day
Work Zone Warning Light (Type "A" Low Intensity)		Each Per Day
Work Zone Warning Light (Red Type "B" High Intensity)		Each Per Day
Arrow Display		Each Per Day
Portable Changeable Message Sign		Each Per Day
Pavement Marking (Temporary)		
4" Solid (Type I)		Sta./Line
4" Solid (Type II)		Sta./Line
4" Broken (8.0') (Type I)		Sta./Line
4" Broken (8.0') (Type II)		Sta./Line
4" Broken (3.0') (Type I)		Sta./Line
4" Broken (3.0') (Type II)		Sta./Line
4" Dotted Extension (Type I)		Sta./Line
4" Dotted Extension (Type II)		Sta./Line
Solid (Line Masking Tape)		Sta./Line
Broken (Line Masking Tape)		Sta./Line
Symbol (Type I)		Each
Symbol (Type II)		Each
Flexible Raised Pavement Marker (4" Broken (8.0'))		Sta./Line
Flexible Raised Pavement Marker (4" Broken (3.0'))		Sta./Line
Pavement Marking Removal		Lin. Ft.
Work Zone Sign (Special) (16.25 Sq. Ft. & Less)		Each
Work Zone Sign (Special) (16.26 Sq. Ft. & More)		Each
Rigid Raised Pavement Marker (Type I)		Each
Rigid Raised Pavement Marker (Type II)		Each
Traffic Signal Installation (Temporary)		Lump Sum
Traffic Control (Initial Set Up)		Lump Sum
Traffic Control	Lump Sum	Lump Sum
Flagger (Set Price)		Hour

Barricades *		Channelizing Devices *		
Type 3 (4' to 12')	Pedestrian	Fixed	Portable	Pedestrian
10				

Lighted Devices *	
Work Zone Warning Light (Type "A" Low Intensity)	8
Work Zone Warning Light (Red Type "B" High Intensity)	
Arrow Display	
Portable Changeable Message Sign	

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NO.	DATE	REVISIONS	BY	APPD.

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SUMMARY OF DEVICES RECAPITULATION OF QUANTITIES

TE795

DESIGNED	RAJH	06-01-15	APPD.	Kristina Erickson
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.	