STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-E1	24

Installation sequence of erosion control BMPs

1. Non-structural BMPs for grading operations:
   * Delay clearing until ready to commence bulk grading - grading of cut and fill slopes.
   * Diligently pursue grading from initial clearing through rough grading, topsoil/select soil placement and fertilizing, seeding and mulching. The SWPPP has additional timing requirements with respect to the length of time allowable between completion of grading and placement of fertilizer, seed and mulch.
   * Do not let a delay in one portion of the work delay the implementation of BMPs in other areas of the work; install appropriate control as each section of the work comes to the appropriate milestone.
   * During the first seeding season following the completion of bulk grading place permanent fertilizer, seed and mulch on cut and fill slopes and ditches.

2. Controls, as shown on the plans, to be installed prior to clearing and bulk grading:
   * Markings at preserved buffers.
   * Slope barrier offset from the toe of embankment where there is no proposed ditch - the existing ground slopes away from the embankment.

3. Controls, as shown on the plans, to be installed immediately upon the completion of bulk grading and topsoil/select soil placement:
   * Temporary fertilizer, seed and mulch.
   * Permanent fertilizer, seed and mulch (if completion occurs within the allowable dates for permanent seeding).

4. The type of inlet protection at an individual inlet may vary from drop inlet to curb inlet during the course of the work. Adjust protection according to the type of inlet present at each stage of construction.

5. Remove slope barrier and inlet protection upon germination and establishment of permanent cover over 70% of the exposed area. If temporary seed establishes to the extent that it covers 70% of the exposed area, all controls associated with the slopes so covered are to be removed. Where such removal exposes bare ground hand broadcast fertilizer, seed and mulch on newly exposed area.

6. Stationing and other notes indicating location of BMPs are approximate, adjust to field condition and to avoid disruption of BMP by other construction activity.

Temporary Seed Mix
(Conformed Contract Part 3 - Table IIC - 2)

lbs/acre	Item
150	Fertilizer (15-30-15)
20	Temporary Seed (Canada Wildrye Grass Seed)
45	Temporary Seed (Grain Oats)
45	Temporary Seed (Sterile Wheatgrass)
900	Mulch Tacking Slurry
2 tons	Mulching (Temporary)

SCALE
PLAN: Lat. & Long. 50' 0 50' 100'

PIN: S27

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE
16486	[signature]	2015.01.20 16:05:38 -06'00'

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

STRUCTURE 27
BMPs FOR PERIMETER CONTROL

DATE	BY	REFERENCES NOTED	REFERENCES CHECKED

untitled
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Plotted : 1/20/2015

KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-MI	24

GENERAL NOTES

1. Reference corridor-wide standard drawings for additional information.
2. Signing, traffic signals, safety barrier, channelizers, pavement markings, and other items necessary for the upcoming traffic shift shall be in place at the completion of the present stage and prior to commencing the next stage.
3. Temporary Concrete Safety Barrier and Inertial Barrier Systems shall be placed as required to limit the length of exposure to dropoffs and other obstructions.
4. Existing signs shall be maintained during construction, except as shown in the traffic control plans. Existing signs which are in conflict with the traffic control phases shall be covered.
5. Permanent signs shall be installed as early as possible. Any permanent signs which are in conflict with subsequent traffic control phases shall be covered.
6. Construction signing that is not in use shall be completely covered or removed from the traveled way.
7. Traffic signal heads and traffic signal phasing in conflict with the traffic control configuration shall be covered or adjusted.
8. Temporary Concrete Safety Barrier offsets are measured to the traffic face of the barrier, unless otherwise stated.
9. Type F Temporary Concrete Safety Barrier may be substituted for Type F3 Concrete Safety Barrier.
10. Store all equipment and materials outside clear zone as defined in the AASHTO - Roadside Design Guide, 4th Edition with February 2012 Errata. Provide positive protection for all existing and/or proposed structures that fall within the clear zone. Secure Lids, etc. on structures exposed to traffic.
11. Attach warning lights and flags on all "Construction Action Warning Signs" per Corridor-Wide Standard TE710.
12. Work zone ingress and egress locations shall be designed to accommodate appropriate acceleration lengths, deceleration lengths, sight distance, and advanced notification so that construction vehicles can safely enter and exit the traffic stream.
13. Install KI-104a and KI-105a signs per Standard Drawing TE714, unless otherwise installed in previous segments.
14. ABSORB 350 Impact Attenuator per Standard Drawing RD 627B can be used as the temporary inertial barrier system.
15. When edge of pavement drop is greater than 2 inch. within the clear zone, shoulder the edge with stable material at 35 degree slope or flatter when construction operations are not ongoing.
16. Adjust temporary sign locations to avoid underground utility and drainage conflicts. Maintain minimum sign spacing.

Posted Speeds -
K-10E Preconstruction Posted Speed - 65 mph
K-10E Temporary Construction Posted Speed - 55 mph

Temporary Design Speed -
K-10E - 65 mph

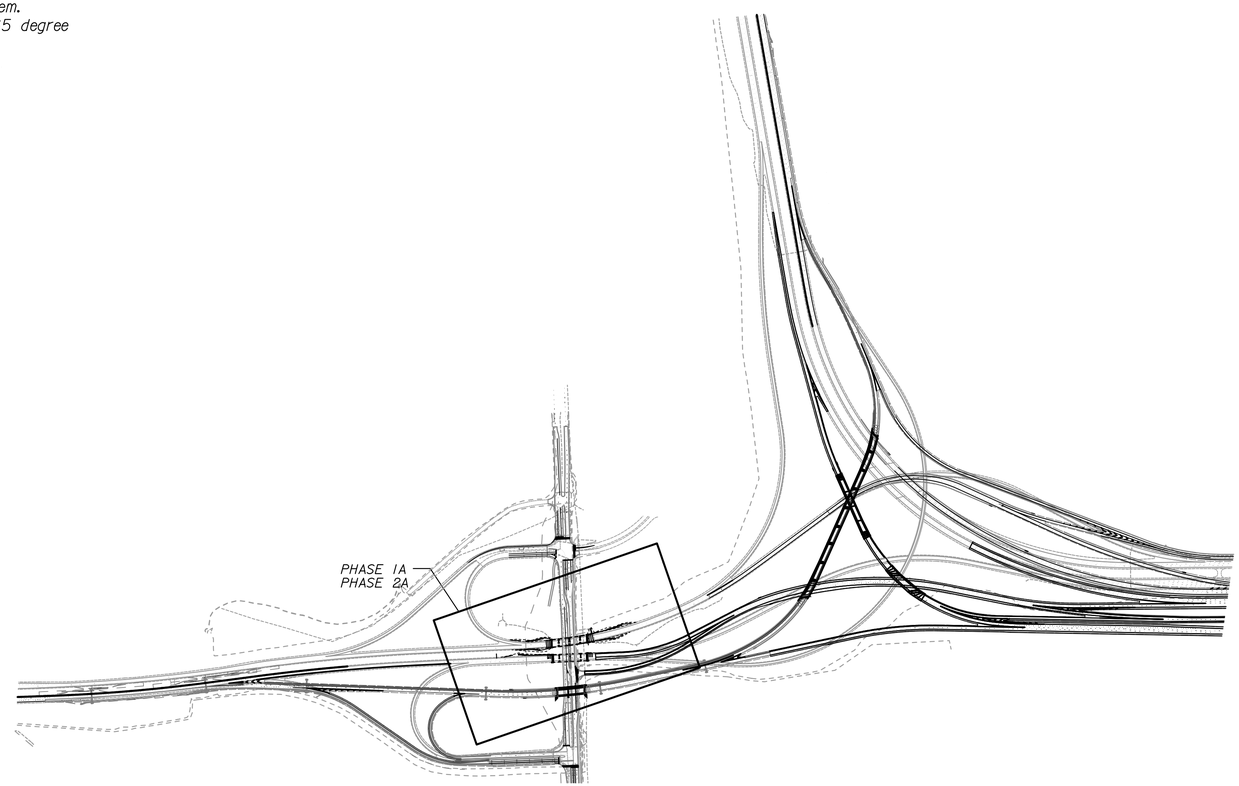
PHASING

Install Advanced Warning Signs. VMS signs not required.

Traffic shifts, temporary concrete safety barrier installation and work performed adjacent to live traffic within the shoulders will be completed during off-peak hours utililizing temporary shoulder and/or lane closures as permitted by Contract (typical for all phases of construction).

Phase 1A -
Shift traffic onto southern half of Bridge RE-10 and perform work on 27' portion of bridge.

Phase 2A -
Shift traffic onto northern half of Bridge RE-10 and perform work on 27' portion of bridge. Upon completion of Bridge RE-10, return striping along K-10E to the proposed striping configuration as part of Segment 5B.



KEY MAP

BY	DATE
REFERENCES NOTED	
REFERENCES CHECKED	

untitled
Plotted : 1/19/2015
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GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE
24037	Heather M. Carroll	2015.01.20 10:37:55 -06'00'

NO.	DATE	REVISIONS	BY	APP'D

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION
S27 BRIDGE RE-10 REHAB
KIOEB OVER RENNER BLVD.
GENERAL NOTES

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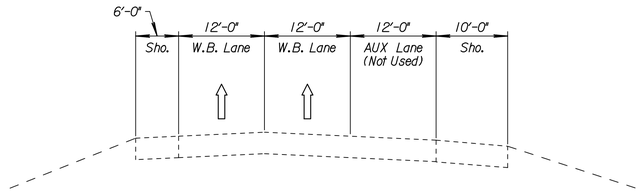
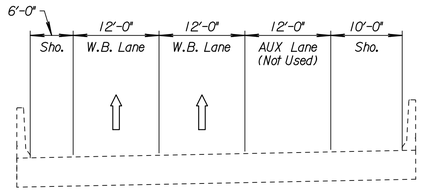
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-M2	24



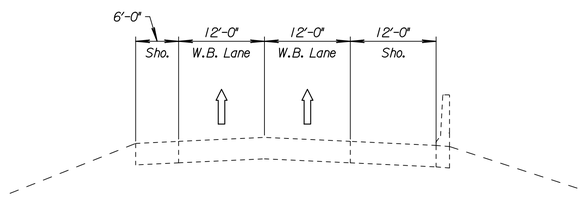
Existing K-10E

Sta. 926+85 to Sta. 934+11
(Looking East)



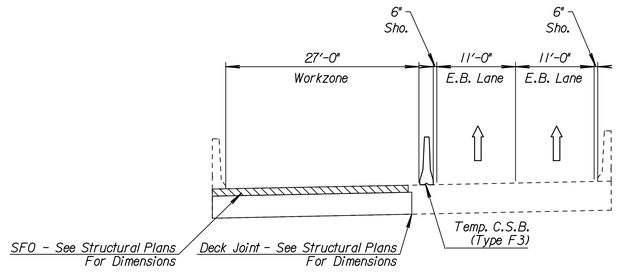
Existing Bridge RE-10
K-10E Over Renner Blvd.

Sta. 934+11 to Sta. 936+56
(Looking East)



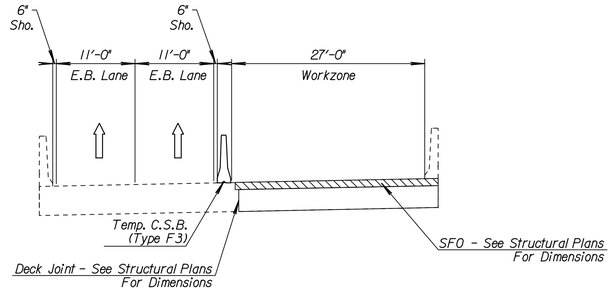
Existing K-10E

Sta. 936+56 to Sta. 943+90
(Looking East)



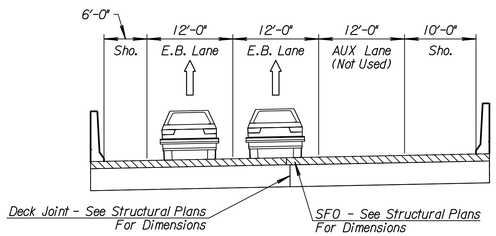
Bridge RE-10 - Phase 1A
K-10E Over Renner Blvd.

Sta. 934+11 to Sta. 936+56
(Looking East)



Bridge RE-10 - Phase 2A
K-10E Over Renner Blvd.

Sta. 934+11 to Sta. 936+56
(Looking East)



Bridge RE-10 - Final Condition
K-10E Over Renner Blvd.

Sta. 934+11 to Sta. 936+56
(Looking East)

DATE	BY	REFERENCES NOTED	REFERENCES CHECKED

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Plotted : 1/12/2015
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GATEWAY INTERCHANGE CONSTRUCTORS

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Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE
24037	Heather M. Carroll	2015.01.19 16:59:20 -06'00'

NO.	DATE	REVISIONS	BY	APP'D

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION

S27 BRIDGE RE-10 REHAB
KIOEB OVER RENNER BLVD.
TYPICAL SECTIONS
PHASE IA & 2A

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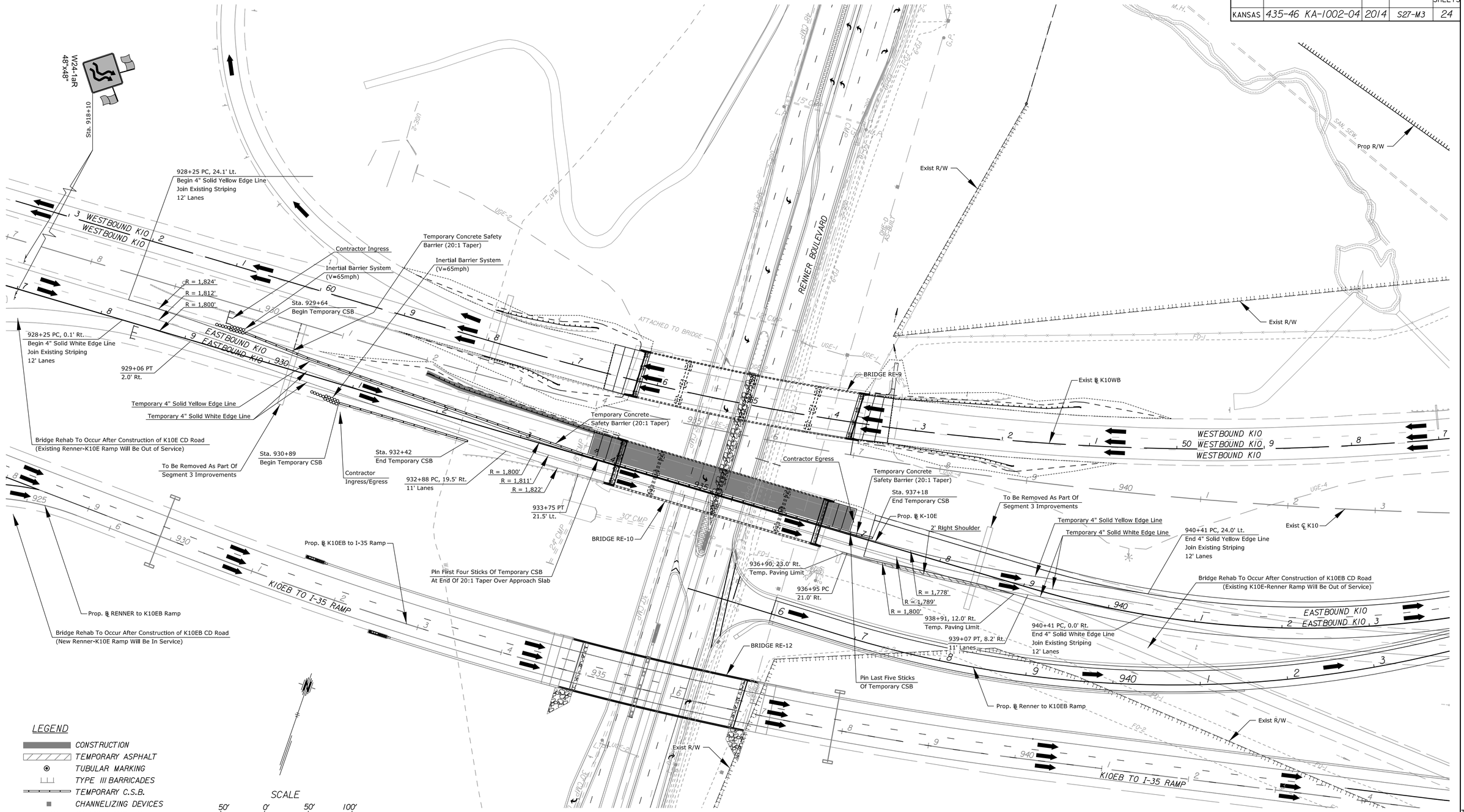
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-M3	24

DATE	BY	REFERENCES NOTED	REFERENCES CHECKED



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GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

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NO.	DATE	REVISIONS	BY	APP'D

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION
S27 BRIDGE RE-10 REHAB
KIOEB OVER RENNER BLVD.
PLAN, PHASE IA
STA. 926+85 TO STA. 943+90

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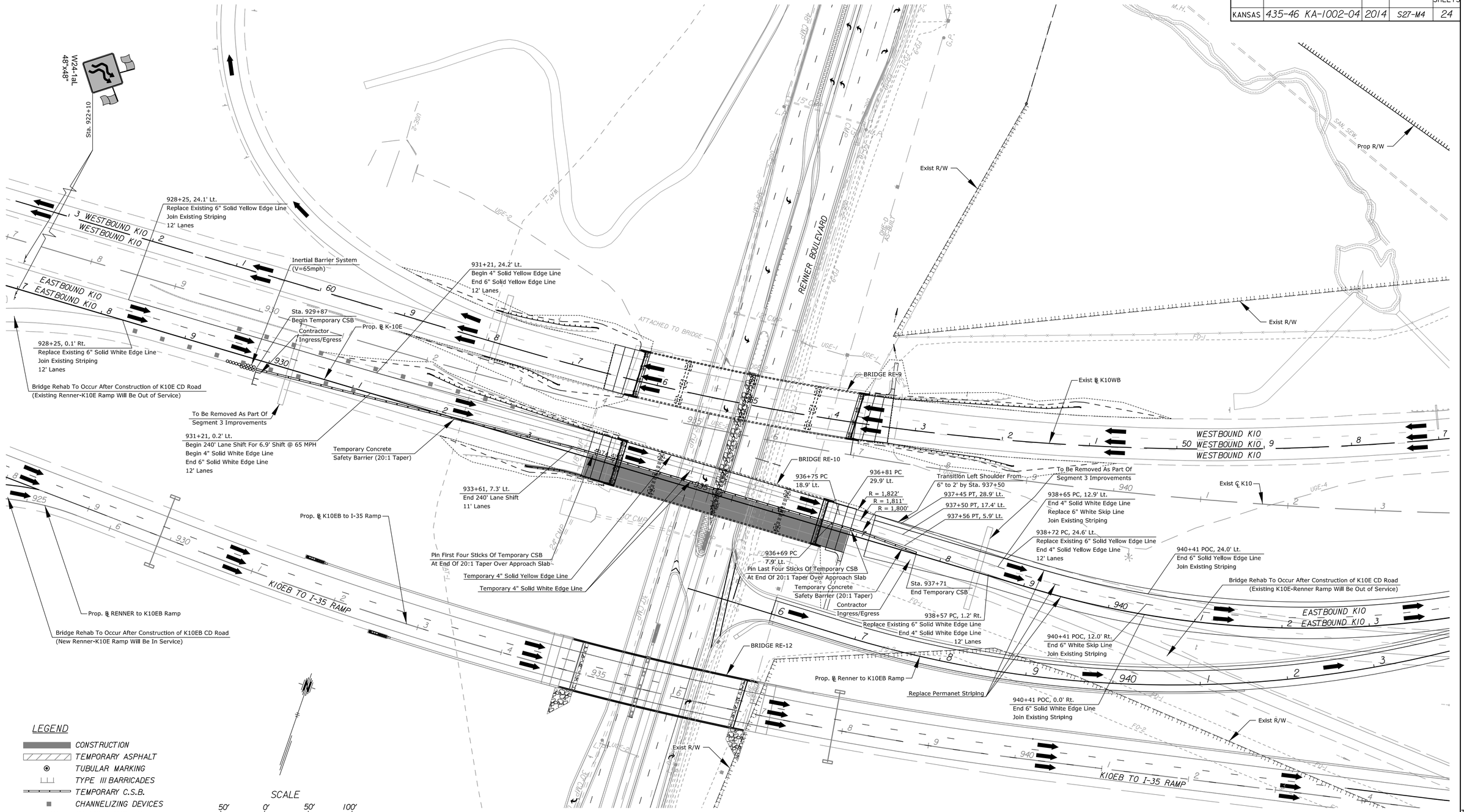
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-M4	24



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		REFERENCES CHECKED

Plotted : 1/12/2015
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GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
24037	Heather M. Carroll	2015.01.19 17:01:46 -06'00'					

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION
S27 BRIDGE RE-10 REHAB
KIOEB OVER RENNER BLVD.
PLAN, PHASE 2A
STA. 926+85 TO STA. 943+90

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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-RI	24

FIBER OPTIC LINE NOTES

1. *FO-2 - AT&T to be lowered in place during Construction*
2. *FO-1 - Line to be relocated, see ITS plans for details*
3. *FO-9 - TW telecom line to be lowered in place during Construction*
4. *FO-10 - City of Lenexa line to be relocated, See ITS plans for details*
5. *FO-16 - KDOT fiber optic line to be relocated, See ITS plans for details*

Survey ℄ K-10
ASPHALT
W. Bd. K-10
PC +25.64
E. Bd. K-10
℄ K-10 EB
Sta. 930+00 Remove Exist. Guardrail, Rt.
Sta. 932+97 Remove Exist. Guardrail, Rt.
Constr. Limits
Sta. 933+66 Remove Exist. Guardrail, Rt.
See Guardrail Details
Constr. Limits
ATTACHED TO BRIDGE
PC +42.72
PT +59.42
Sta. 935+82.94, ℄ Ramp K10 - 35N =
Sta. 52+90.00, ℄ Renner Blvd.
RENNER BLVD.
PI +44.01
Section Line
PC +09.14
PI +43.34
R/W & AC
Sta. 937+02 Const. Flume Inlet and Slope Drain (Conc.) Remove Exist. Flume Inlet, Lt. See Sh. S27-R5
PC +83.29
PT +17.75
AT&T to be lowered in place during Construction
15" CMP
18" CMP
24" CMP
30" CMP
36" CMP
CONCRETE
ASPHALT
WAT-1
UGE-1
UGE-2
FO-1
FO-2
FO-10
FO-16
930
935
940
925

SCALE
PLAN: Lat. & Long. 50' 0 50' 100'

REFERENCES NOTED
REFERENCES CHECKED
BY
DATE

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Plotted : 1/12/2015
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GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

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NO.	DATE	REVISIONS	BY	APP'D

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION
ROADWAY PLAN
K-10
STA. 927+76.38 TO STA. 944+52.92

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Sh. No. S27-RI

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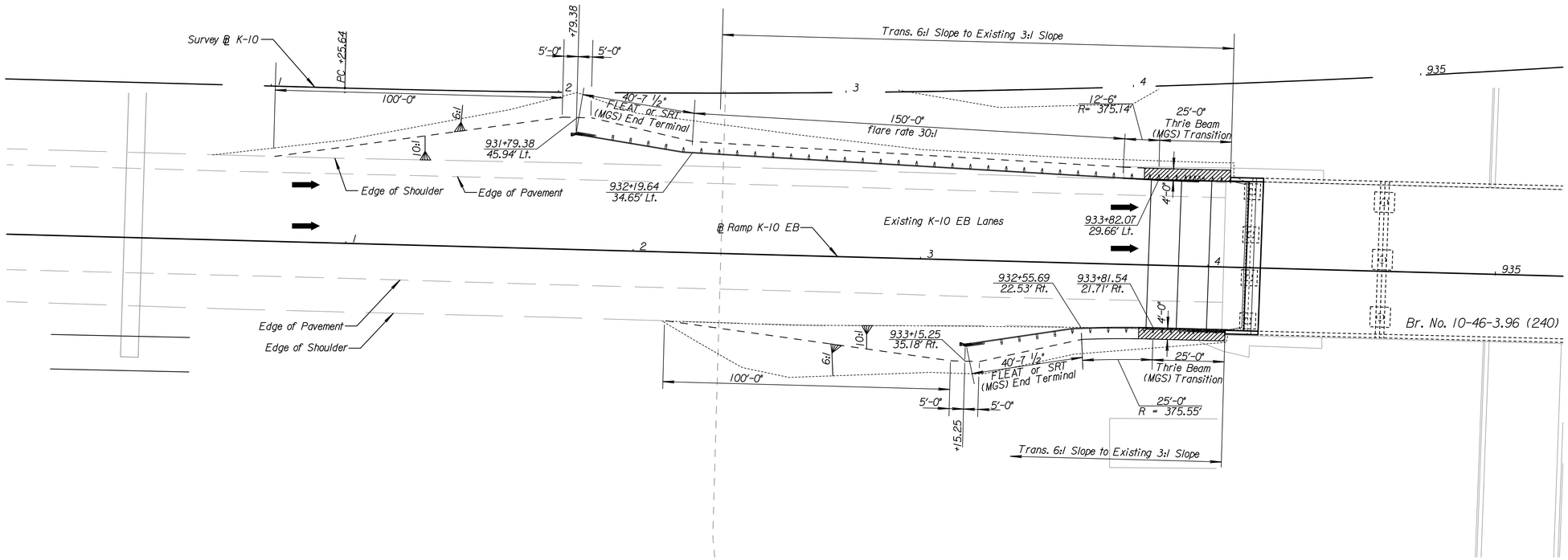
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-R2	24



LEGEND

4" Asphalt Widening

Direction of Travel

Note: All Stations and offsets are to the face of guardrail
See RD612C for Guardrail Layout Details

SCALE
PLAN: Lat. & Long. 20' 0 20' 40'

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION

GUARDRAIL DETAILS

KIOE

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

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NO.	DATE	REVISIONS	BY	APP'D

KDOT Graphics Certified 12-08-2014 Sh. No. S27-R2

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DATE | BY | REFERENCES NOTED | REFERENCES CHECKED

Plotted : 1/19/2015
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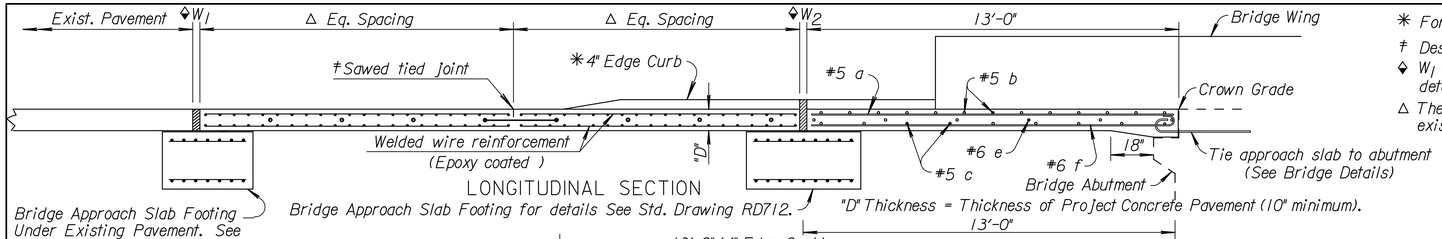
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-R3	24

✳ For details of 4" Edge Curb, See Std. Drawing RD711.

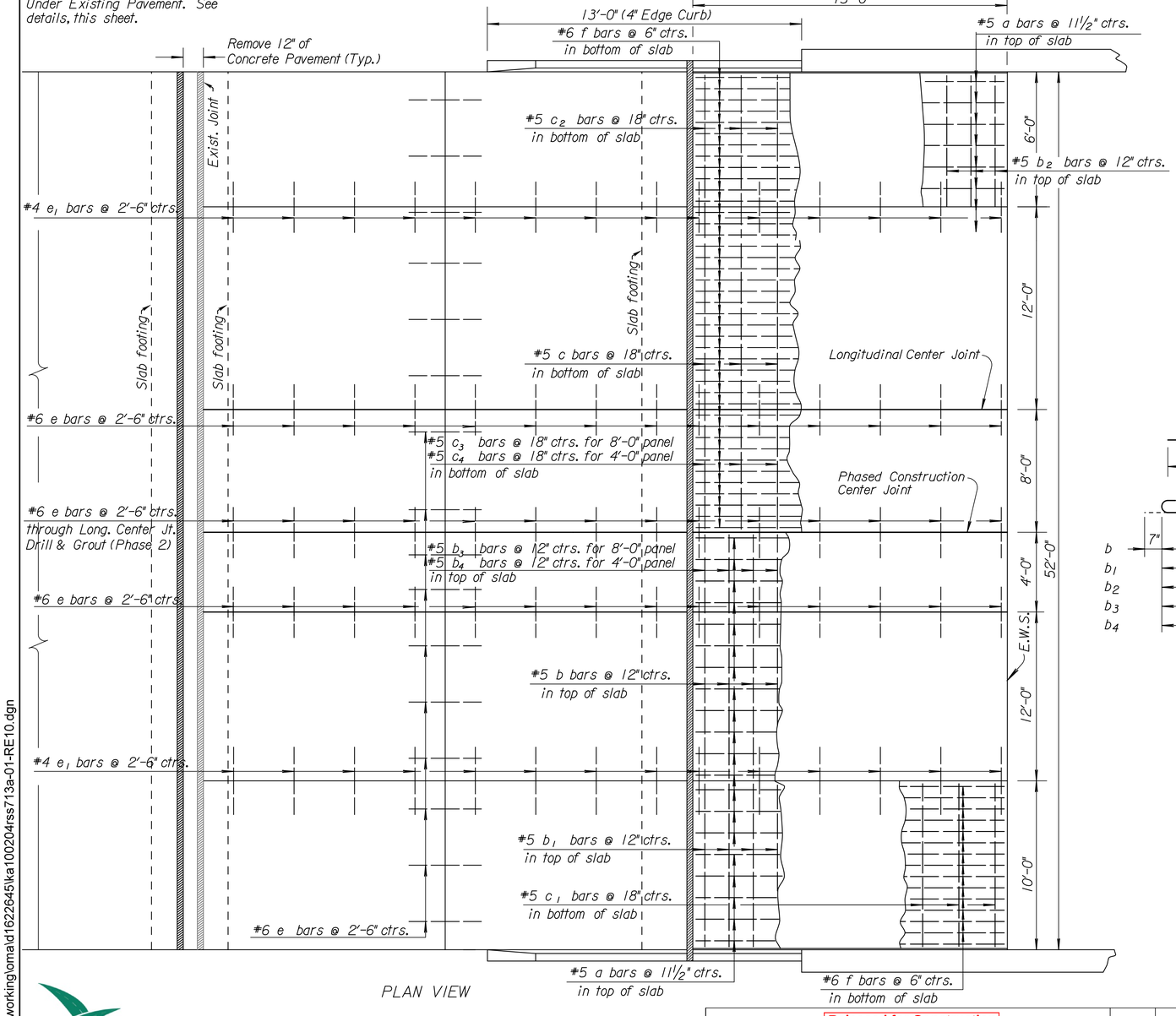
† Design-Builder has the option of substituting a Tied Keyed Construction Joint.

◆ W_1 and W_2 for Expansion/Pressure Relief Joint width and details See Standard Drawing RD712.

△ The dimension is dependent on the location of the new expansion joint which is located 12" beyond the existing expansion joint of the existing concrete bridge approach pavement.



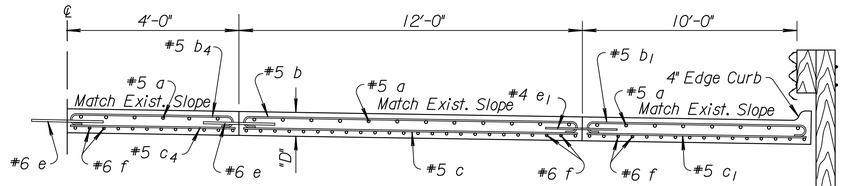
LONGITUDINAL SECTION

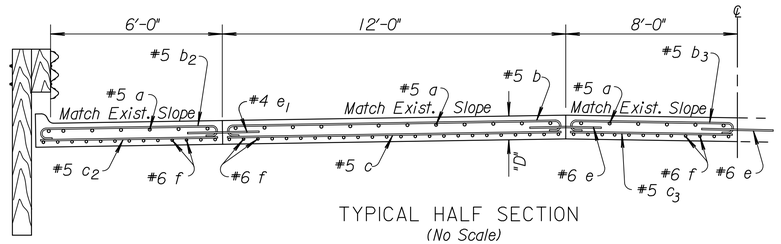


PLAN VIEW

GENERAL NOTE

At the Design-Builder'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, welded wire reinforcement, 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.
The pressure relief joint shall be omitted when the concrete bridge approach pavement abuts asphalt pavement.





TYPICAL HALF SECTION
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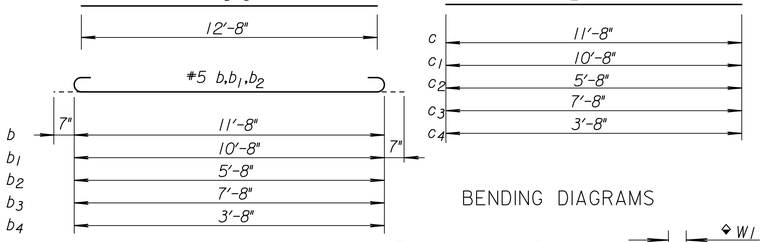
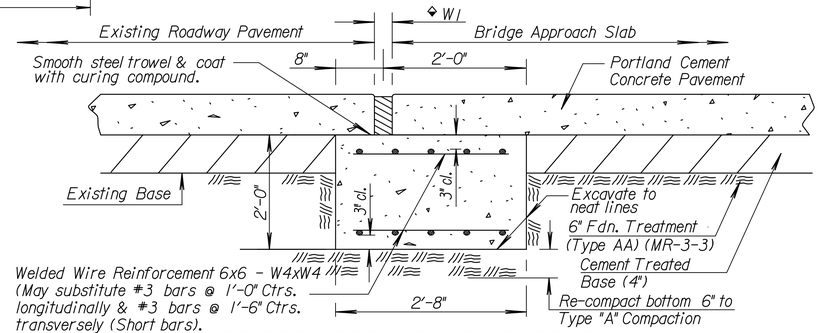


Note: All dimensions are out to out on bars. unless noted otherwise.

BENDING DIAGRAMS



BRIDGE APPROACH SLAB FOOTING
UNDER EXISTING PAVEMENT

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE
17030		2015.01.20 11:53:50 -06'00'

NO.	DATE	REVISIONS	BY	APP'D

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION

CONCRETE BRIDGE APPROACH PAVEMENT
NORMAL APPROACH (U-TYPE ABUTMENT)
ABUTMENT NO. 1
EX. KIOE OVER RENNER

~~RD713A~~

FHWA APPROVAL		APP'D.	
DESIGNED	DETAILED	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK.

KDOT Graphics Certified 12-09-2014 Sh. No. S27-R3

KDOT Graphics Certified

Plotted : 1/12/2015
Drawn By : user
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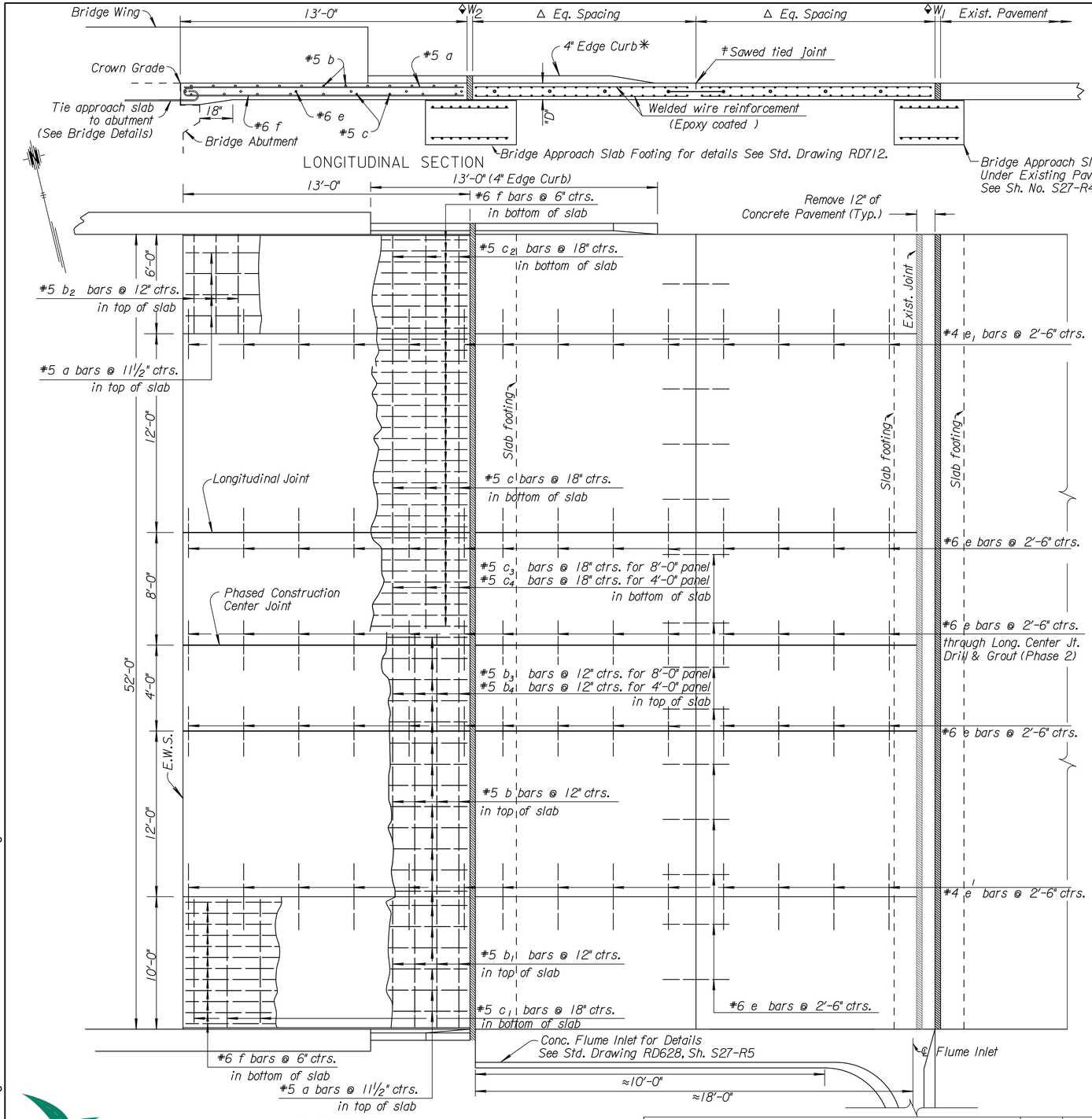
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-R4	24



✳ For details of 4" Edge Curb, See Std. Drawing RD711.

‡ Design-Builder has the option of substituting a Tied Keyed Construction Joint.

♦ W_1 and W_2 for Expansion/Pressure Relief Joint width and details See Standard Drawing RD712.

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

△ The dimension is dependent on the location of the new expansion joint which is located 12" beyond the existing expansion joint of the existing concrete bridge approach pavement.

GENERAL NOTE

At the Design-Builder's option #4x3'-0" tie bars @ 15" centers may be substituted for the #6 e bars at 2'-6" centers.

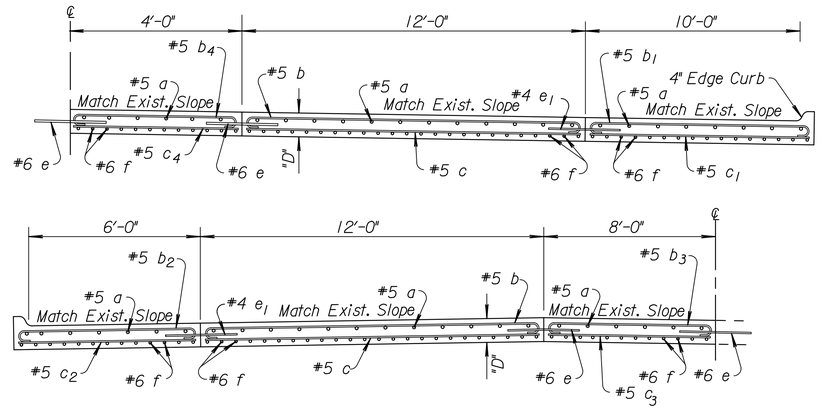
All reinforcing steel shall be epoxy coated.

See Standard Drawing RD711 for details of joints, welded wire reinforcement, 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.

The pressure relief joint shall be omitted when the concrete bridge approach pavement abuts asphalt pavement.



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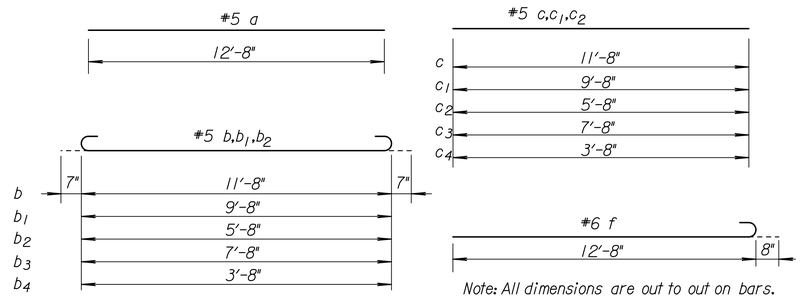
(No Scale)



Note: All dimensions are out to out on bars. unless noted otherwise.

BENDING DIAGRAMS

Plotted : 1/12/2015
Drawn By : user
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GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
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Date: 01/28/2015
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RFC'd by: Document Control
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LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
17030	[signature]	2015.01.20 11:53:52 -06'00'					

PIN: S27

KANSAS DEPARTMENT OF TRANSPORTATION

CONCRETE BRIDGE APPROACH PAVEMENT
NORMAL APPROACH (U-TYPE ABUTMENT)
ABUTMENT NO. 2
EX. KIOE OVER RENNER

~~RD713A~~

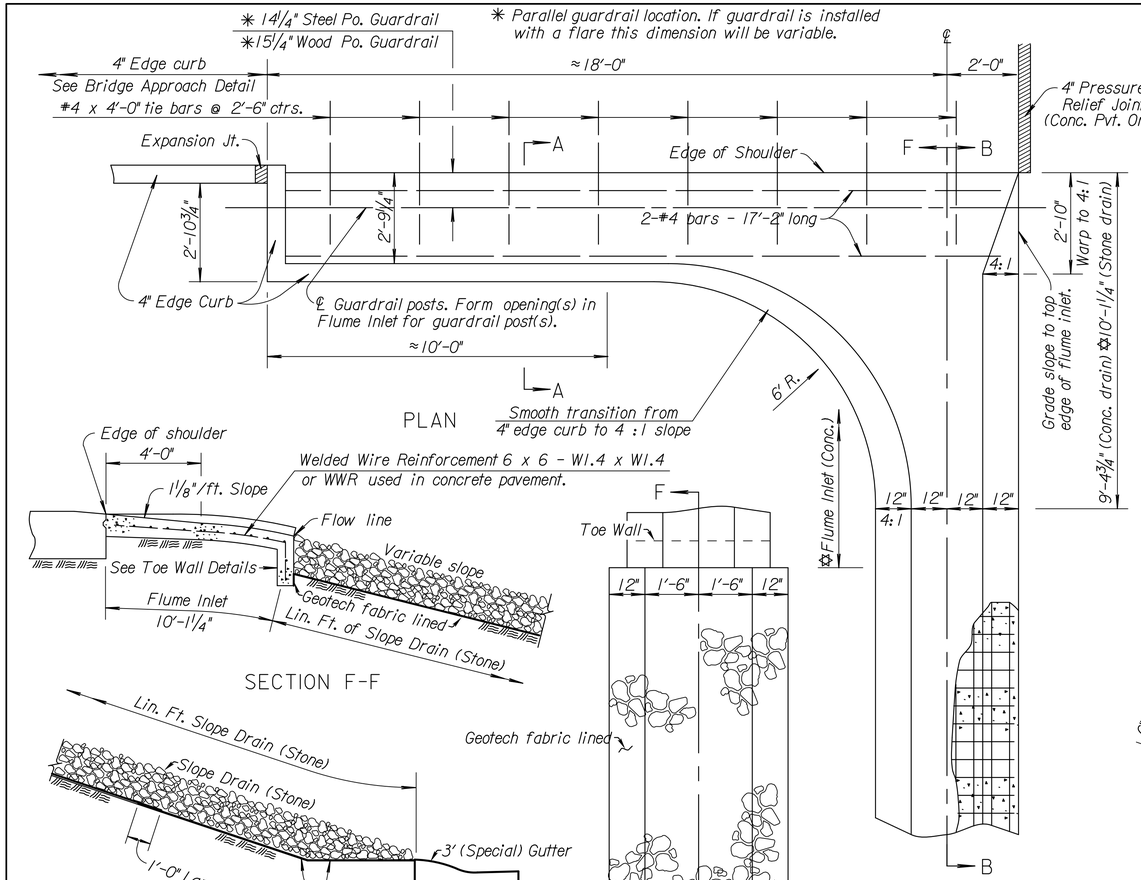
FHWA APPROVAL		APP'D.	
DESIGNED	DETAILED	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK.

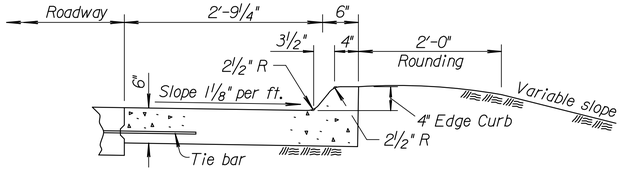
KDOT Graphics Certified 12-09-2014

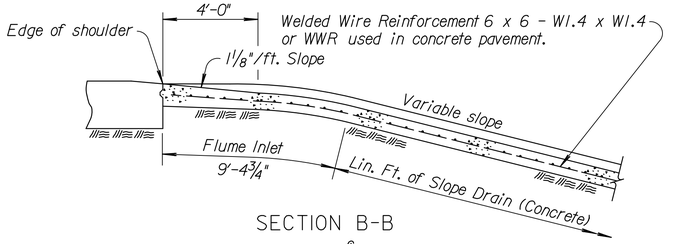
Sh. No. S27-R4

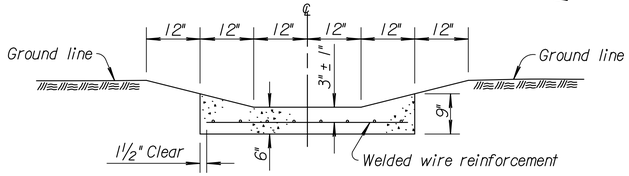
KDOT Graphics Certified

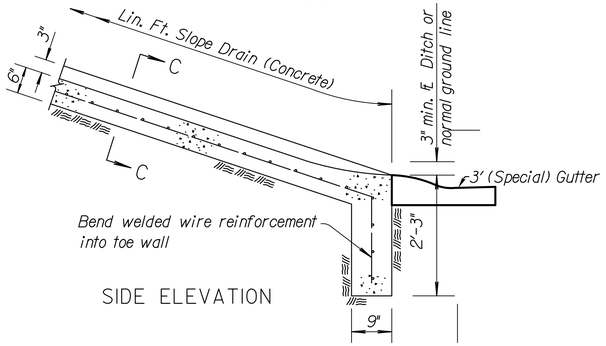
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-R5	24

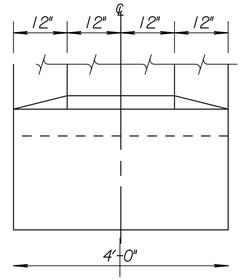




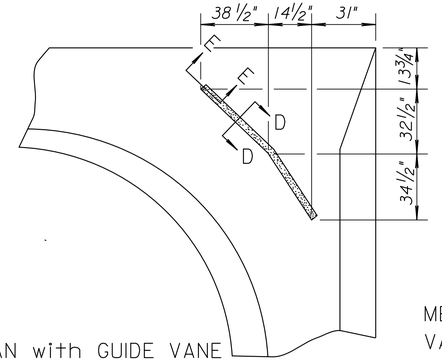


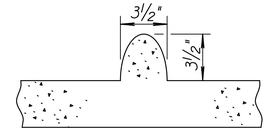


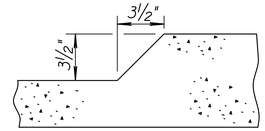


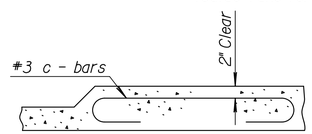


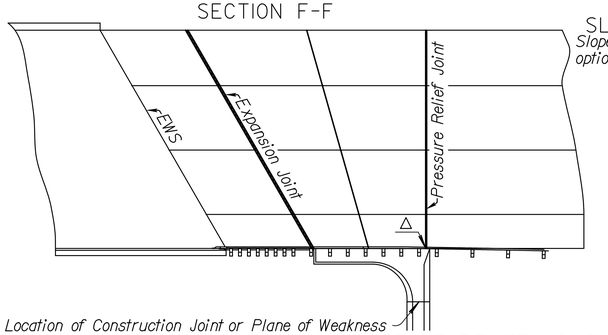
SLOPE DRAIN & TOE WALL DETAILS





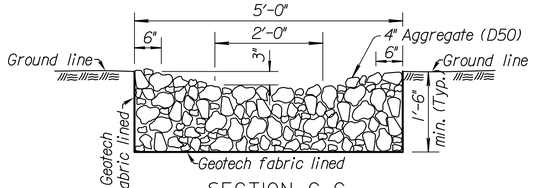


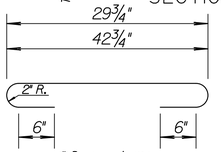




△ On projects with concrete paved shoulders where, due to skew of the bridge, the flume inlet extends beyond the 4" pressure relief joint of the special concrete bridge approach, the portion of inlet or gutter extending beyond the pressure relief joint shall not be tied to the concrete shoulder with tie bars.

Slope Drain is shown with (STONE) or (CONCRETE) option, type to be determined by the Designer.





GENERAL NOTE

Flume Inlets will be constructed without Guide Vanes except at locations noted in plans or as directed by the Engineer.

The entire area of the Flume Inlet & Slope Drain shall be placed monolithic and struck off with a uniform thickness of 6 inches.

Guide Vanes may be formed monolithic with the Flume Inlet or tied to the Flume Inlet in the manner shown if constructed separately. Alternate methods of constructing Guide Vanes may be used with approval of the Engineer.

Concrete Grade 3.0 (AE) shall be used in Flume Inlet and Slope Drain. On concrete pavement projects, the Design-Builder may substitute the mix used in concrete pavement.

Transverse expansion and contraction joints of same type in pavement are to extend through the flume inlet and 4" edge curb, omitting load transfer devices. The edge curb section will be made continuous through any expansion joint by using a filler material approved by the Engineer to fill the void to the full height of the curb. Joints will not extend into the Slope Drain.

All exposed edges shall be finished with an edging tool.

For details of 4" edge curb see Standard Drawing RD711.

No adjustment of guardrail post spacing will be permitted.

Flume inlet shall only be constructed adjacent to concrete pavement. Flume inlet shall be tied to the pavement with #4 x 4'-0" tie bars at 2'-6" centers.

Shape of guide vane shown is approximate and may be altered slightly to simplify construction. Height and width dimension shall be as shown regardless of shape.

Aggregate for the Slope Drain (STONE) shall meet the reqirements of stone for Aggregate Ditch Lining and have a D50 of 4" unless otherwise noted on the plans. The Design-Builder shall place stone from bottom to the top of slope to produce a well graded mass without segregation of material sizes. Placement, measurement, and payment shall conform to KDOT Standard Specifications.

Slope Drain (STONE) shall be underlain with geotextile fabric that meets the KDOT Standard Specification.

NO.	DATE	REVISIONS	BY	APP'D
	9-12-07	Reorg. sheet, add. slope drain stone	S.W.K.	J.O.B.
	1-28-05	Chg. Class to Grade conc., reinf.	S.W.K.	J.O.B.
3	7-26-04	Revised guard fence to guardrail	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

FLUME INLET and SLOPE DRAIN (CONCRETE/STONE)

~~RD628~~

FHWA APPROVAL		APP'D.	
DESIGNED	DETAILED	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK.

PIN: S27

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S01	24

STATE OF KANSAS

DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED

STATE HIGHWAY

FEDERAL AID PROJECT

JOHNSON COUNTY

I–435 – I–35 – K–10

FEDERAL AID PROJECT NO. NHPP–4353(364)
KDOT PROJECT NO. 435–46 KA–1002–04

INDEX OF SHEETS

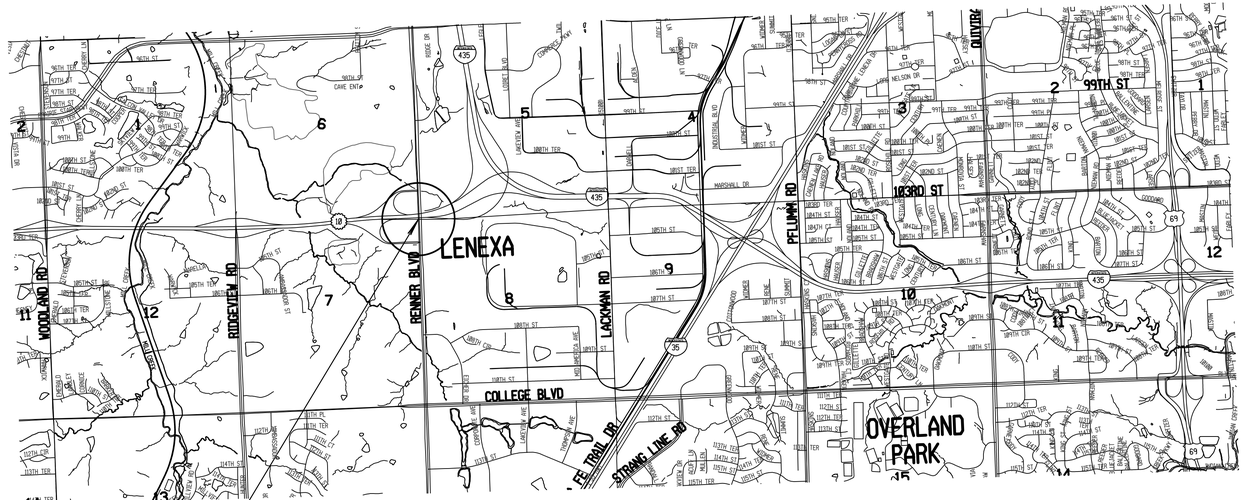
MS00 SHEETS TO BE REFERENCED

CWS04	Bridge Berm and Slope Protection U-Type Abutment
CWS05	Bridge Excavation (LRFD)
CWS07	Abutment Aggregate Drain-U-Type Abutment
CWS13	Supports and Spacers for Reinforcing Stee
CWS29.003	End of Wing and Bridge Barrier Details

ROADWAY STANDARDS

RD620	Inertial Barrier (TL2 or TL3)
RD622	Temporary Concrete Safety Barrier Type F3
RD622B	Temporary Concrete Safety Barrier Type F3 Anchorage
RD622C	Temporary Concrete Safety Barrier Type F3 Anchorage at Expansion Jt.
RD622D	Temporary Concrete Safety Barrier Type F3 Transition layouts
RD599	Placing Select Soil
RD599A	Salvaged Topsoil
RD606E	Guardrail End Terminal (MGS-FLEAT) Flared
RD610	Marker Details for Guardrail and Bridge Rails
RD611A	Guardrail Post (MGS) Details
RD612C	Guardrail (MGS) Typ. Alignments Thrie Beam (Flared)
RD613A	Guardrail, Transition Details of Thrie Beam (MGS)
RD614A	Guardrail, at Roadside Obstacle (MGS) (Flared)
RD711	Pavement, Concrete, Misc. Details for Bridge Appr.
RD712	Pvmt. Expansion Jt. Det. (Br. Appr. Slabs)
RD735	Expansion Joint & Contraction Dowel Assemblies
TE700	General Traffic Control
TE702	Channelizing Devices
TE704	Typical Traffic Control, Road Closures
TE710	Traffic Control Signs
TE712	Approved Temporary Post Setup
TE714	Ground Mounted Details for KI-104a and KI-105a Signs
TE720	Typical Traffic Control Work on or Near Shoulder Undivided Highway (2 or 4 Lane)
TE722	Typical Traffic Control, Shoulder Work, Divided Highway
TE740	Typical Traffic Control, 4-Ln Divided Roadway One Roadway Closed Crossover From Left Lane
TE742	Typical Traffic Control, 4-Ln Divided Roadway One Roadway Closed Crossover From Right Lane
TE744	Typical Traffic Control, 4-Ln Roadway, One Lane Closed
SD01	Temporary Concrete Traffic Barrier Type F
SD02	Temporary Concrete Traffic Barrier Type F
DS03	Temporary Concrete Traffic Barrier Type F
DS04	Temporary Concrete Traffic Barrier Type F
	Temporary Erosion and Pollution Control
LA852A	Curb Inlet Protection Drop Inlet Protection
LA852C	Silt Fence Slope Barriers Biodegradable Log Slope Barriers
LA852D	Ditch Checks
LA852E	Rock Ditch Checks Biodegradable Log Ditch Checks
LA825G	

SCALE
2000′ 0 2000′ 4000′
PLAN: Lat. & Long.



Proj. No. 435-46 KA-1002-04
Br. No. 10-46-15.75(240)
East Bd. K-10 over Renner Blvd.

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

PIN: S27 — IFC SUBMITTAL

DATE	BY

SURVEY	
CADD TECHNICIAN	
DESIGNERS	
SQUAD	

Drawn By : Design
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Plotted : 1/13/2015

KDOT Graphics Certified 12-12-2014 Sh. No. S01

KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S02	24

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Plot Date: 1/13/2015
Plot Location:

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97
SIGNATURE SEAL SHEET
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)
PIN: S27 Johnson Co.

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

KDOT Graphics Certified 24 Nov 14
Sheet No. S02
KDOT Graphics Certified

GENERAL NOTES

BRIDGE BACKWALL PROTECTION SYSTEM: See the General Notes on the "Abutment Aggregate Drain" sheet.

BACKFILL COMPACTION: Compact backfill at the abutments and wingwalls.

CONCRETE: Superstructure concrete is Concrete (Grade 4.0)(AE) (SA). Substructure concrete is Concrete (Grade 4.0)(AE). Bevel all exposed edges of all concrete with a ¾ inch triangular molding, 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 shall conform to the requirements of ASTM A615, Grade 60. Where noncoated bars come in contact with epoxy coated bars, they need not be coated. All reinforcing steel in the abutment, wingwalls, slab and barrier shall be epoxy coated.

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

EXISTING DIMENSION VERIFICATION: Dimensions of the existing structure are based on old plans. Verify, by field measurement, the as-built dimensions of the existing structure and submit such verification in writing to the Engineer. The verification will include sketches, drawings, photographs and descriptions as needed to clearly define the as-built dimensions that will be incorporated in the new construction.

REINFORCING STEEL SPLICERS: All reinforcing steel splicers and their adjoining bars shall be epoxy coated. The splicer threads shall be protected at all times. The splicers shall be approved screw type mechanical coupler and can be Dayton/Richmond DB-SEA Splicers or approved equals.

TEMPORARY SHORING: Maintain the temporary shoring until the Engineer authorizes its removal. The temporary shoring plans are to be designed and sealed by a registered Professional Engineer. Submit design calculations and shoring plans to the Field Engineer for review 6 weeks before work is scheduled to begin. Work shall not begin until the Engineer grants approval.

MACHINE PREPARATION: See the General Notes on the "Bridge Deck Patching and Overlay Details" sheet.

PORTLAND CEMENT CONCRETE OVERLAY: Place 2.25 inch Silica Fume Overlay over the entire deck surface as shown on the plans.

AREA PREPARED FOR PATCHING: See the General Notes on the "Bridge Deck Patching and Overlay Details" sheet.

FULL DEPTH PATCHING: See the General Notes on the "Bridge Deck Patching and Overlay Details" sheet.

EPOXY BONDING AGENT: Coat vertical concrete surfaces in full depth patches and other noted locations with an approved epoxy bonding agent in accordance with the manufacturer's recommendations.

BROKEN CONCRETE: Waste the broken concrete from the existing bridge on sites provided by the Contractor and approved by the Engineer.

DRILLING AND GROUTING: This item shall consist of grouting reinforcing steel, anchor bolts, tie bars, or dowel bars into the existing concrete, where required by the Engineer, with an epoxy grout. Follow KDOT Specifications 842 and any associated Special Provisions. Follow the manufacturer's directions for mixing, application and curing. Locate existing reinforcing steel with a pachometer prior to drilling.

REMOVAL OF EXISTING STRUCTURE: Clearly mark the location of the existing girder top flanges on top of the existing deck concrete within the removal limits before sawing or removing any concrete. Concrete sawing shall be limited to a maximum depth of 3 inches directly above any girder and within 3 inches of either edge of girder top flange. Do not use drop-type pavement breakers. Do not use a hoe ram directly above any girder or within 1'-0" of either edge of a girder top flange. Use a jackhammer no heavier than 15 lb. to remove concrete above and within 1'-0" of either side of a girder top flange.

Damage to the existing structural steel caused by procedures not conforming to the above recommendations shall be repaired as directed by the Engineer at the Contractor's expense (no cost to the State). Any costs incurred for testing or Engineering evaluations will be included in the Contractor's expense for repair.

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

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

UTILITIES: Existing plans show phone conduits attached to the bridge. Field verify locations of all utilities attached to the bridge prior to the start of construction. Care shall be taken to avoid damage to existing utilities or their conduit encasements. Damage to existing utilities shall be repaired at the Contractor's expense.

TEMPORARY CONSTRUCTION LOADS: The Contractor will not stock pile construction materials, debris/rubble or place equipment weighing more than 20 tons or greater than bridge posted load limits on the bridge without prior written approval by the Engineer. For bridges with highway traffic on or under the bridge the Contractor will provide plans showing the location, quantity and weight of the proposed materials, debris or equipment weighing more than 20 tons or greater than bridge posted load limit. These plans will bear the Seal of the Contractor's Engineer before approval is granted. The Contractor's Engineer will use AASHTO Specifications for limitations on structural capacities, as the structure is found in the field.

BRIDGE DECK TINING: Transversely tine the deck in accordance with Contract Specifications. For phased construction tine each completed phase before opening for traffic. Align the tines from each adjacent phase across the bridge deck without jogs or discontinuities. For skewed bridges all tining shall be perpendicular to the centerline of the bridge.

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

BRIDGE DRAINS: All bridge drains shall be cleaned and free of debris or obstructions.

BRIDGE PAINTING: Paint structural steel to the limits shown on the plans of the existing structure in conformance with the KDOT Specifications.

The structural steel has a paint history of:

1) Original paint system: Inorganic Zinc Vinyl (Date: 1981)
2) Repaint system: N/A
3) TCLP value is: N/A (No Lead Paint)
4) The mass of existing bridge steel is 157.4 Tons

PAINTING: The field coats applied to Structural Steel shall conform to an organic zinc primer with a waterborne acrylic finish coat. The finish coat will be Kansas (Green), this color will match Federal Standard #34102.

Blast clean all sufaces of existing steel to be painted to SSPC-SP6 and apply a 3 mil prime coat of an approved organic zinc primer. Apply the finish coat to all steel surfaces to be painted except the top of the top flanges.

SLOPE PROTECTION (Aggregate): Remove the existing reinforced concrete rip-rap slope protection and place Slope Protection (Aggregate) to the limits and thicknesses shown on the plans or as directed by the Engineer. Areas that have eroded or settled shall be backfilled with soil and brought back to grade before placing Slope Protection(Aggregate).

DESIGN DATA

DESIGN SPECIFICATIONS:
AASHTO Specifications, 2002 Edition and latest Interim Specifications. Load Factor Design.

UNIT STRESSES:

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

BRIDGE SHEETS	
Sheet No.	Drawing
S03	General Notes
S04	Construction Layout
S05	Removal Details
S06	Abutment Details
S07	Bridge Deck Details
S08	Barrier Details
S09	Auxiliary Barrier Details
S10	Deck Patching and Overlay Details
S11	Miscellaneous Repair Details
S12	Bill of Reinforcing Steel & Bending Diagrams

MS00 SHEETS TO BE REFERENCED	
Sheet No.	Drawing
CWS04	Bridge Berm and Slope Protection U-Type Abutment
CWS05	Bridge Excavation (LRFD)
CWS07	Abutment Aggregate Drain-U-Type Abutment
CWS13	Supports and Spacers for Reinforcing Steel
CWS29.003	End of Wing and Bridge Barrier Details

Plotted By: Design
File: c:\pwworking\amd\d1413701\ka1002041bbrre-10-03.dgn
Plot Location:
Plot Date: 1/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
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KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97
GENERAL NOTES
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)
PIN: S27 Johnson Co.

SHEET NO.	OF	SCALE		APP'D	
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	CADD
DESIGN CK.	MJT	DETAIL CK.	MJT	QUAN. CK.	CADD CK.

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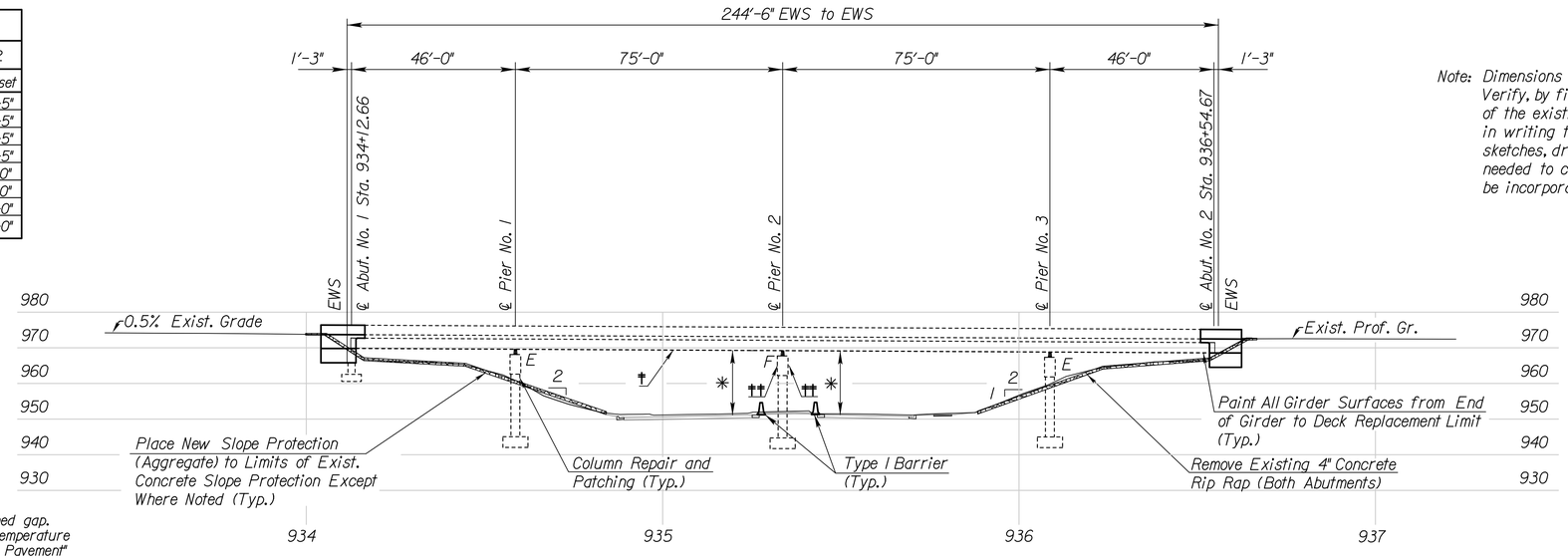
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S04	24

SLOPE PROTECTION LIMITS				
	Abutment No. 1		Abutment No. 2	
Location	Sta.	Offset	Sta.	Offset
1	933+99.69	35'-5"	936+66.30	35'-5"
2	934+83.33	35'-5"	935+87.27	35'-5"
3	934+13.30	25'-1"	936+52.73	25'-5"
4	934+38.46	25'-1"	936+27.47	25'-5"
5	934+13.30	19'-1"	936+52.73	19'-0"
6	934+38.46	19'-1"	936+27.47	19'-0"
7	933+99.69	29'-4"	936+66.30	29'-0"
8	934+83.33	29'-4"	935+87.27	29'-0"



ELEVATION

Note: Dimensions of the existing structure are based on old plans. Verify, by field measurement, the as-built dimensions of the existing structure and submit each verification in writing to the Engineer. The verification will include sketches, drawings, photographs and descriptions as needed to clearly define the as-built dimensions that will be incorporated in the new construction.

* VERTICAL CLEARANCE		
Location	Existing Clrearance	Proposed Clrearance
South Bound Renner Blvd.	16'-5"	16'-4 3/8"
North Bound Renner Blvd.	16'-4"	16'-1 3/8"

† Paint Exterior Girders (Exterior of web and flanges and bottom of bottom flange)

†† Replace existing bridge mounted lights. See Segment 08 Roadway Plans.

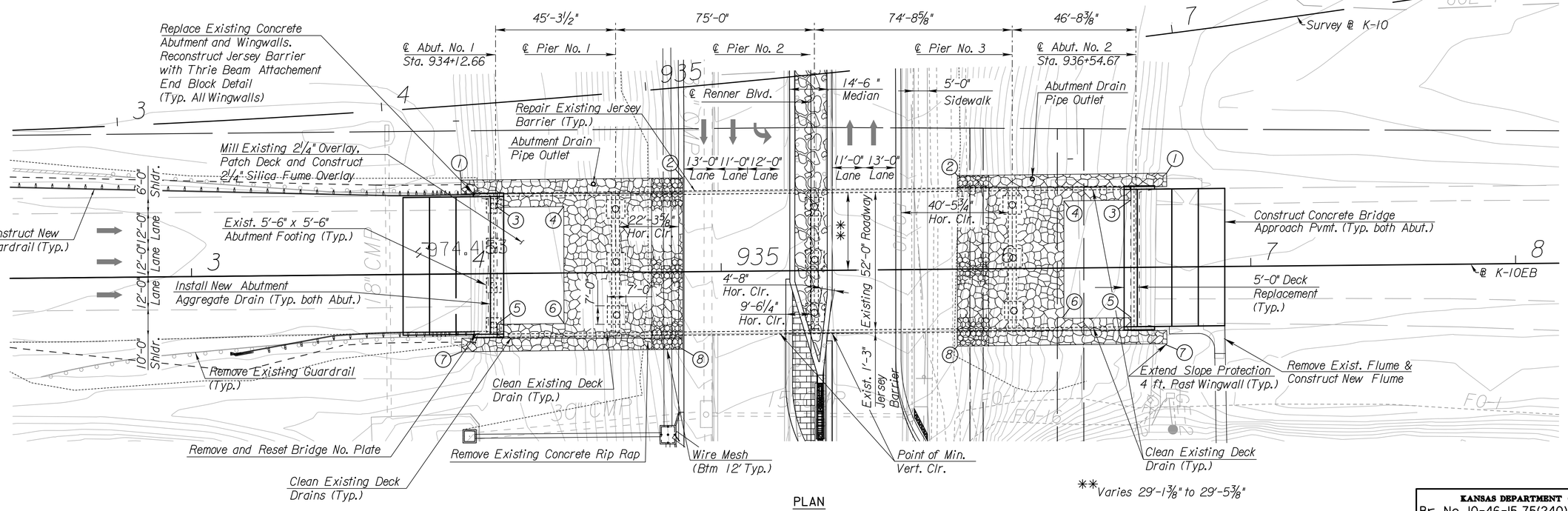
APPROACH SLAB THERMAL MOVEMENT:
Type W2 Expansion Joint Only:
(See "Expansion Joint Details", Std. No. RD712).
See table below for adjusted "W" values. "W" is the formed gap. The temperatures in the table are the average ambient temperature over the last 24 hours. (See "Concrete Bridge Approach Pavement" included in Corridor Wide Standard Roadway Drawings.)

EXPANSION JOINT WIDTH DETAILS							
Temp., (°F)	30°	40°	50°	60°	70°	80°	90°
"W2", (in.) Δ	2 5/8"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"	1 7/8"

B.M. #141 Cut square NW corner concrete sign base in K-10 median (East I-435/K-10 North I-435)
0.79' Lt. Survey @ K-10 Sta. 930+48.58 Elev. = 973.66 ft.
Sea Level Datum of NAVD 1988

46' - 2 @ 75' - 46' Steel Welded Plate Girder Continuous (SWGC) Spread Footing Abutments & Column Bent Piers
52'-0" Roadway

B.M. #406 Johnson County vertical control network standard 2" dome top aluminum disk in top of headwall at northwest corner of Renner road at West Bound Ramp K-10.
753.65' Lt. Survey @ K-10 Sta. 935+39.87 Elev. = 933.96 ft.



** Varies 29'-1 3/8" to 29'-5 3/8"

PLAN

Scale: 1"=20'

Plotted By: Design | Plot Location:
File: c:\pwworking\oma\d1413701\ka1002204brre-10-04.dgn
Plot Date: 1/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE
13938	Amy Reed	2015.01.20 16:46:56 -06'00'

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. I0-46-15.75(240) Sta. 935+32.97
CONSTRUCTION LAYOUT
EASTBOUND K-10 OVER RENNER BLVD. (RE-10)
PIN: S27 Johnson Co.

SHEET NO. 1 OF 3	SCALE		APP'D	
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	CADD
DESIGN CK.	MJT	DETAIL CK.	MJT	QUAN. CK.	CADD CK.

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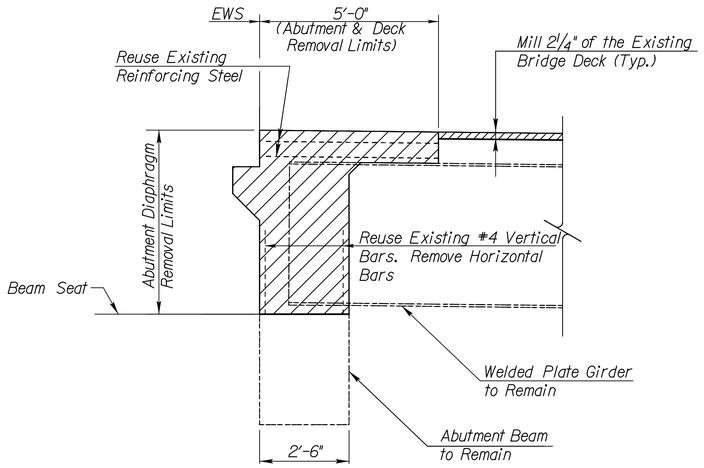
Sheet No. S04

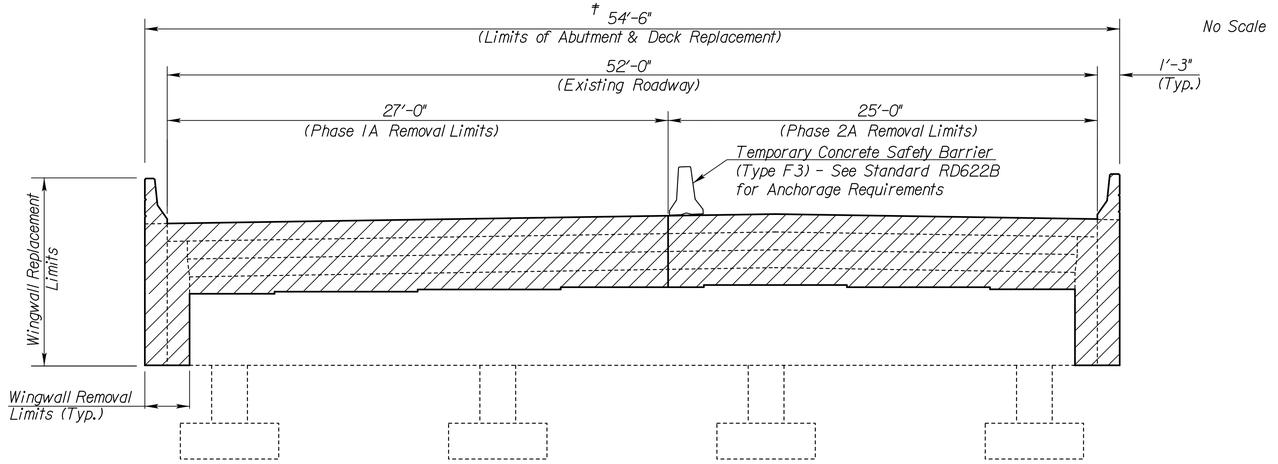
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S05	24



ABUTMENT SECTION

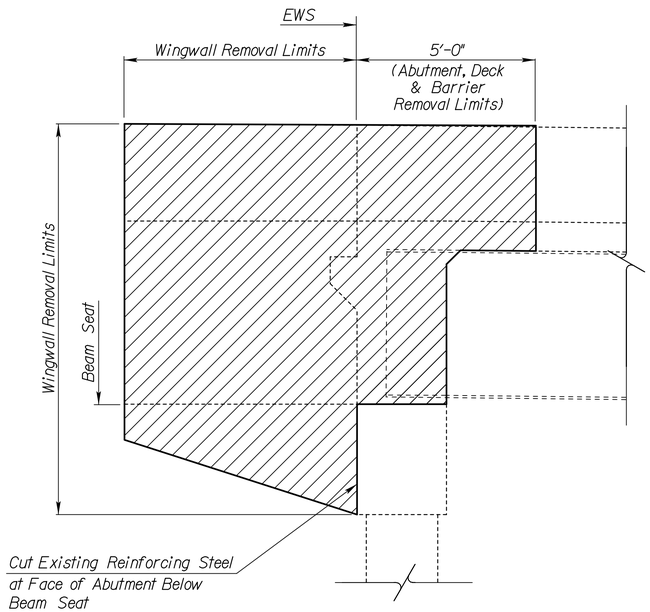
(Abutment No. 1 Shown, Abutment No. 2 Similar)



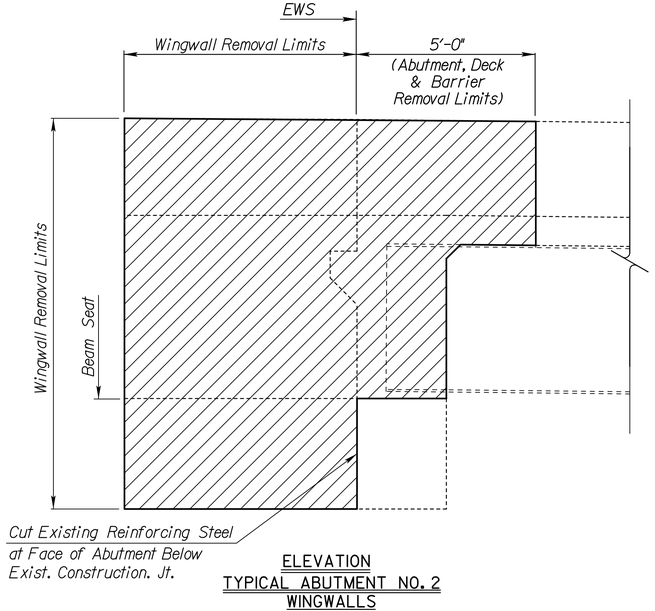
ELEVATION
ABUTMENT NO. 1

(Looking East)
(Girders not shown for clarity)
(Abutment No. 1 Shown, Abutment No. 2 Similar)

† Measured along ℄ Abutment



ELEVATION
TYPICAL ABUTMENT NO. 1
WINGWALLS



ELEVATION
TYPICAL ABUTMENT NO. 2
WINGWALLS

Plotted By: Design
Plot Location:
File: c:\pwworking\oma\d1413701\kal002204bbrre-10-05.dgn
Plot Date: 1/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
13938	Larry Reed	2015.01.20 16:55:48 -06'00'					

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97

REMOVAL DETAILS
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)
PIN: S27 Johnson Co.

SHEET NO. 20F 3	SCALE		APP'D	
DESIGNED TAH	DETAILED TAH	QUANTITIES		CADD
DESIGN CK. MJT	DETAIL CK. MJT	QUAN. CK.		CADD CK.

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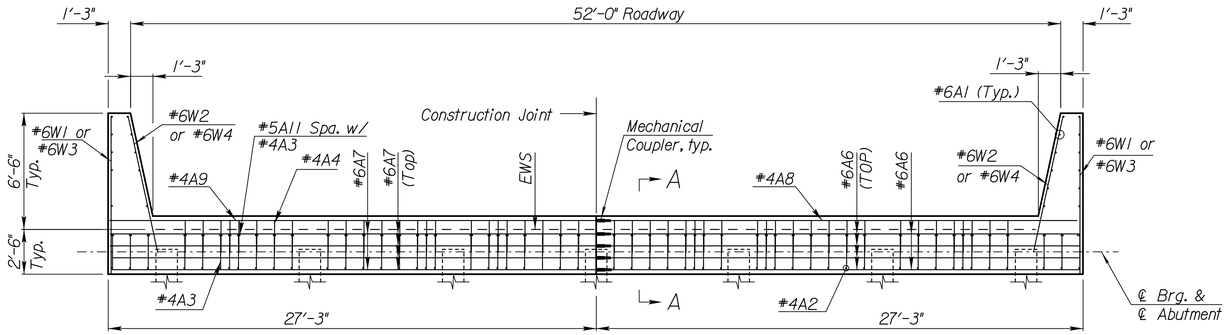
Sheet No. S05

KDOT Graphics Certified

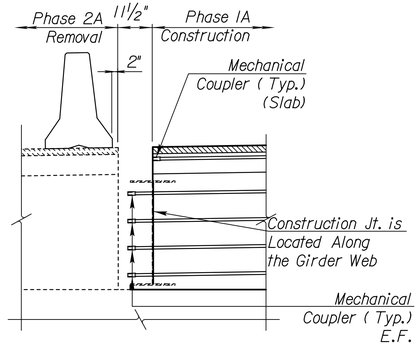
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S06	24

No Scale



ABUTMENT PLAN

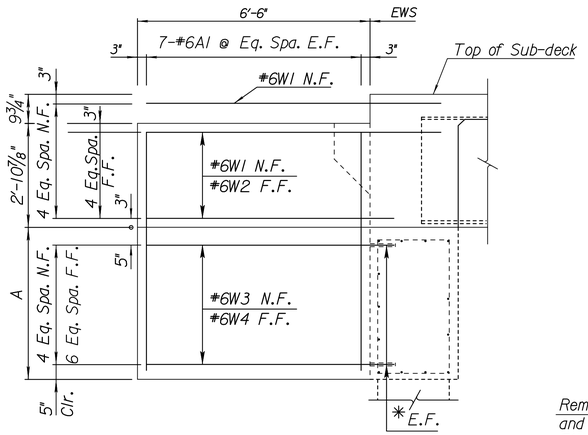
(Abutment No. 1 Shown, Abutment No. 2 Similiar)



PARTIAL ELEVATION

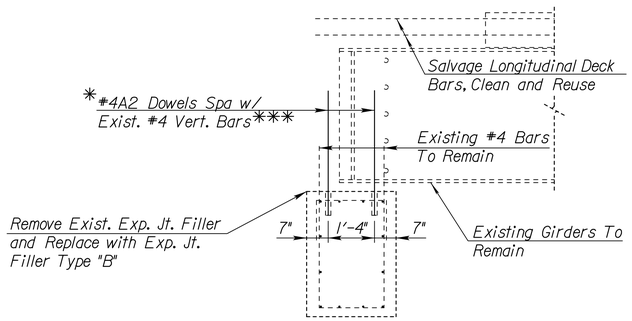
TYPICAL PHASED CONSTRUCTION JOINT

(Looking West, Phase 1A Shown)
(Vertical Reinf. Not Shown for Clarity)

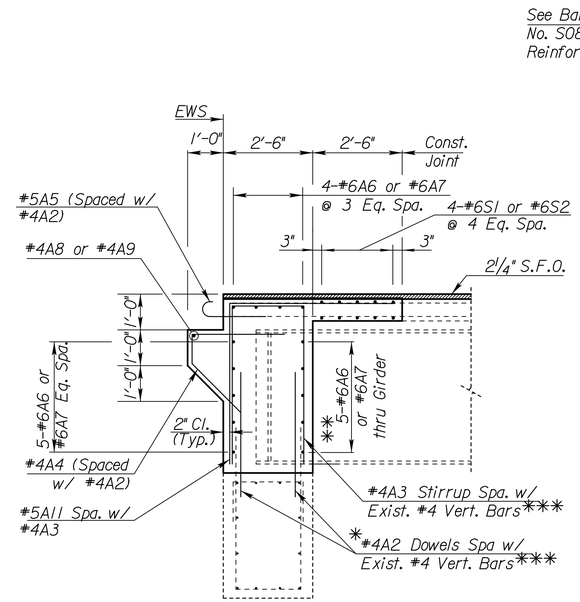


WINGWALL ELEVATION

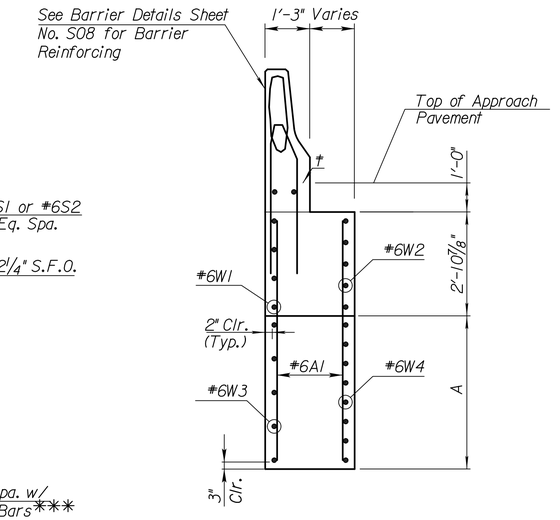
DIMENSION TABLE	
LOCATION	A
Abut. 1 North Wing	4'-3"
Abut. 1 South Wing	4'-0"
Abut. 2 North Wing	4'-3⅜"
Abut. 2 South Wing	4'-0⅜"



ABUTMENT MODIFICATIONS



SECTION A-A



WINGWALL SECTION

* Drill & Epoxy Grout; Embed 8" min. Epoxy grout shall develop the full capacity of reinforcement.

Locate existing abutment reinforcement with a pachometer. Adjust Drill & Grout locations to clear existing reinforcement.

† Roughened Construction Joint.

** Place bars through girders.

*** Adjust bar spacing as necesary to leave 2" min. clear at construction joints.

See Corridor Wide Standard Drawing CWS29.003 for end of wingwall details.

LEGEND:

N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE

Plotted By: Design
Plot Location:
File: c:\pwworking\omdot41370\kdl002204bbrre-10-06.dgn
Plot Date: 1/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
13938	Larry Reed	2015.01.20 17:05:39 -06'00'					

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97

ABUTMENT DETAILS
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)

PIN: S27 Johnson Co.

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

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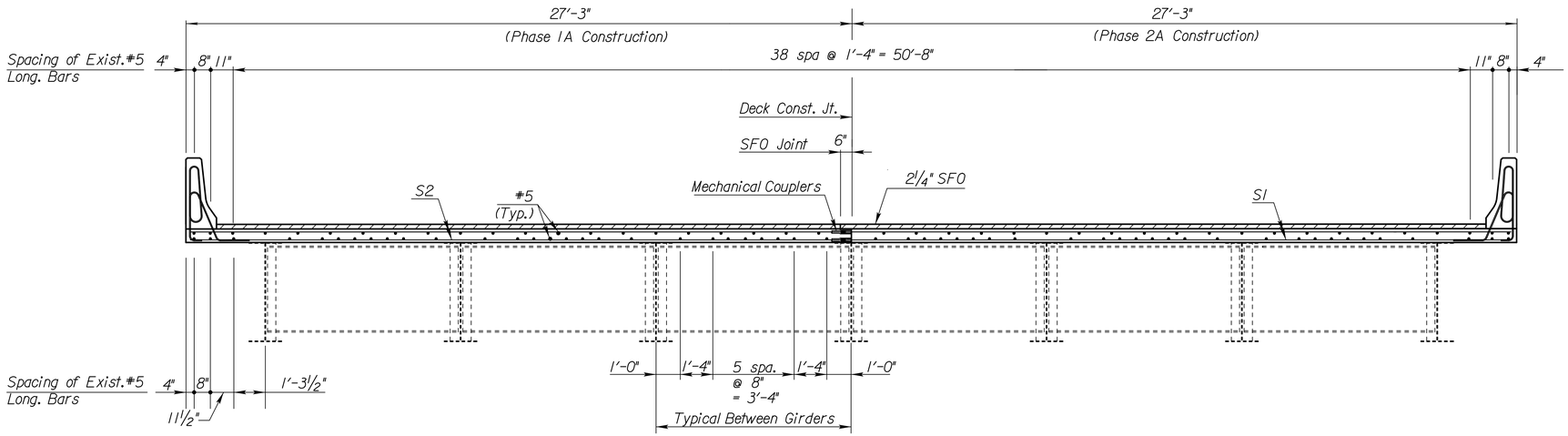
Sheet No. S06

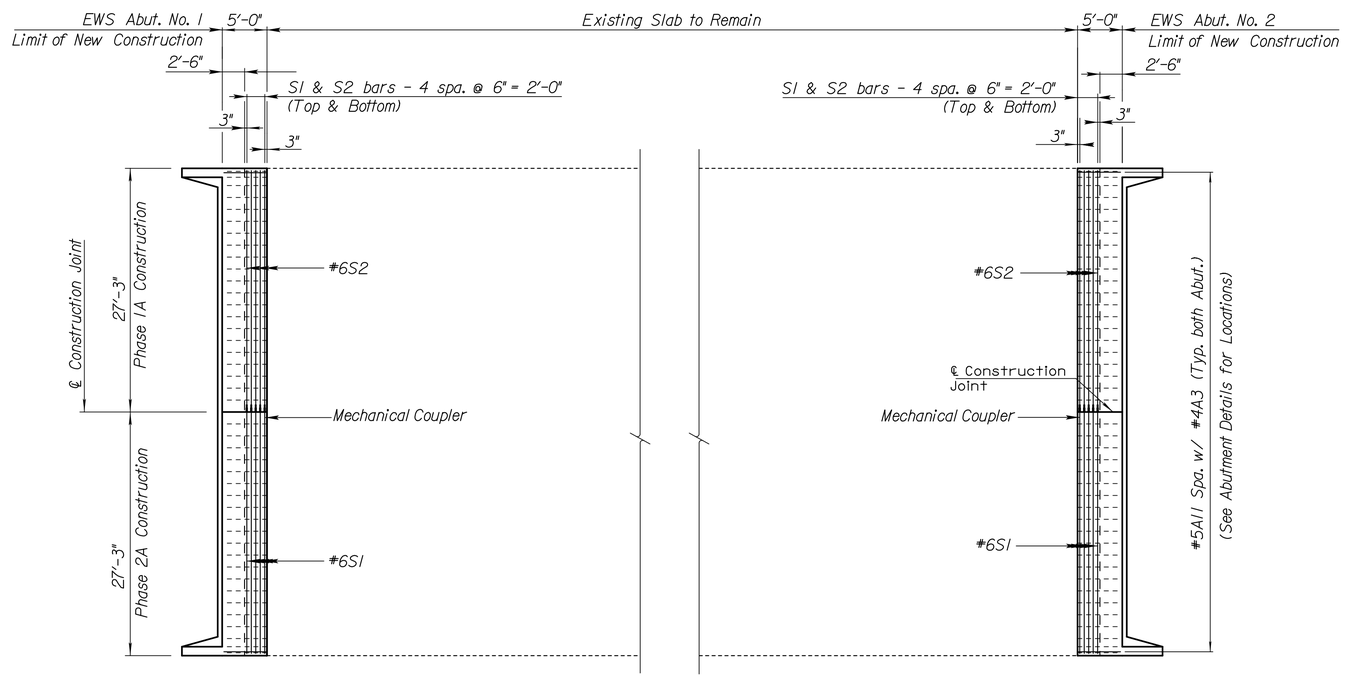
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S07	24



ELEVATION

(Looking East)



PLAN

(Top Long. Bars Shown, Bottom Long. Bar Not Shown for Clarity)
(Clean & Reuse Exist. Longitudinal Bars)

Notes:

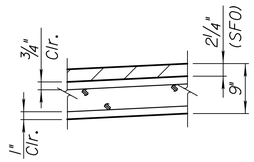
Bridge Curvature not shown.

All transverse bars shall be placed parallel to abutments.

All longitudinal slab bars shall extend into abutment.

Existing longitudinal slab bars to remain. Any damaged or unsalvageable bars shall be replaced. Any new longitudinal bars shall be placed to match existing bars with adjustments as necessary to accommodate transverse mechanical couplers.

Existing bridge deck to be removed and replaced only in the region shown. For repair of other parts of deck, see "Misc. Repair Details" sheet.



TYPICAL DECK SECTION

No Scale

Plotted By: Design | Plot Location:
File: c:\pwworking\omd\d1413701\kal100204bbrre-10-07.dgn
Plot Date: 1/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
13938	Terry Reed	2015.01.20 17:09:01 -06'00'					

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97

BRIDGE DECK DETAILS
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)

PIN: S27 Johnson Co.

SHEET NO.	OF	SCALE		APP'D	
DESIGNED	MJT	DETAILED	TAH	QUANTITIES	CADD
DESIGN CK.	TAH	DETAIL CK.	MJT	QUAN. CK.	CADD CK.

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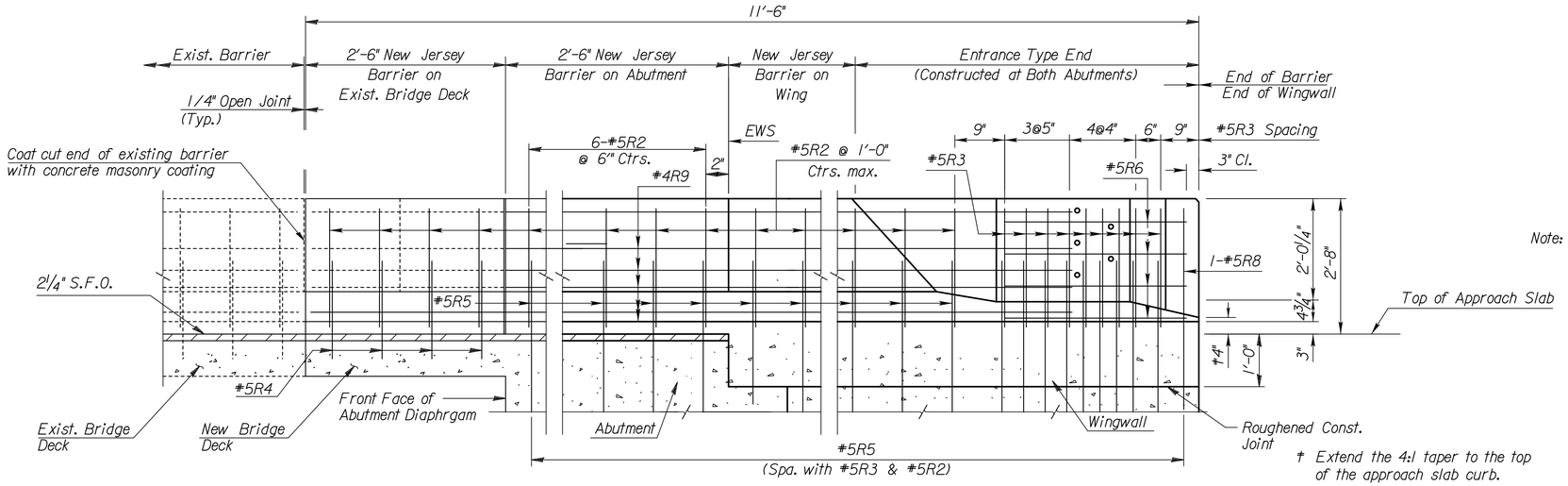
Sheet No. S07

KDOT Graphics Certified

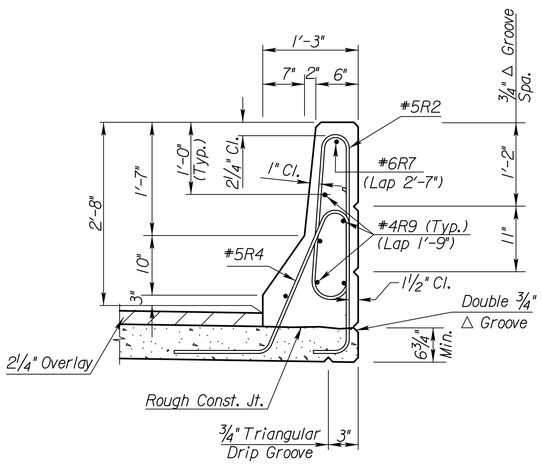
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S08	24



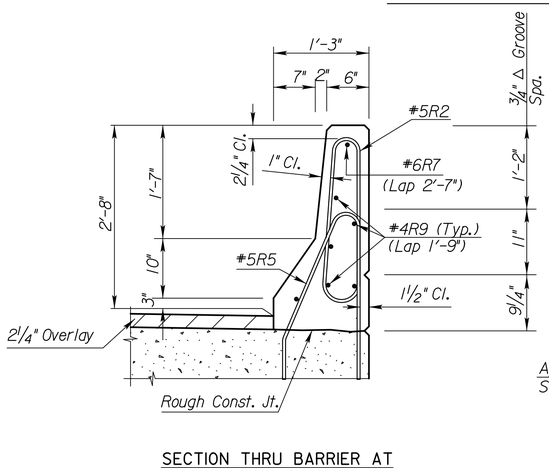
Note: Entrance type ends shall be constructed at both abutments for both barriers.

† Extend the 4:1 taper to the top of the approach slab curb.

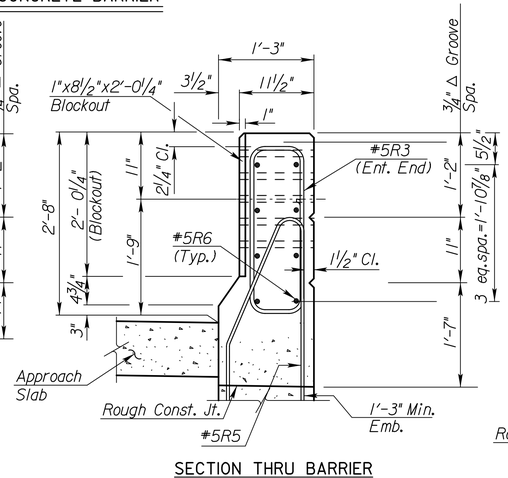
ELEVATION OF CONCRETE BARRIER



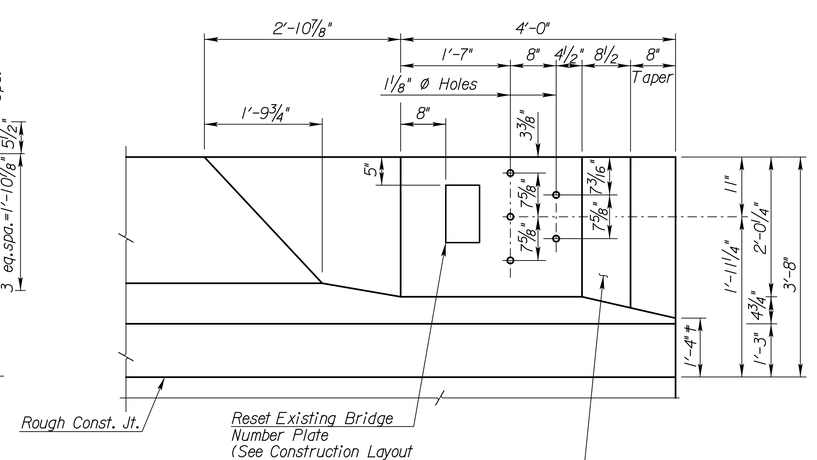
SECTION THRU BARRIER ON DECK



SECTION THRU BARRIER AT ABUTMENT DIAPHRAGM

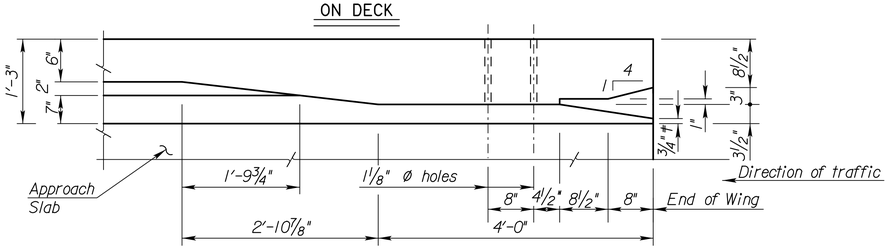


SECTION THRU BARRIER TYPICAL END

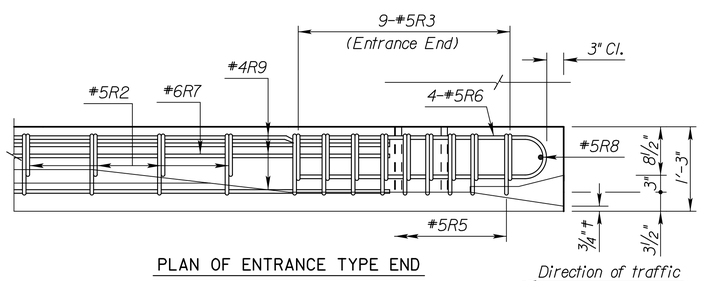


ELEVATION OF BARRIER END

(Approach Slab Not Shown)



PLAN OF ENTRANCE TYPE END



PLAN OF ENTRANCE TYPE END

** Eliminate the 3/4" Triangular Groove where it conflicts with the 1 1/8" Ø hole

Plotted By: Design
Plot Location:
File: c:\pwworking\omd\d1413701\kdl002204bbrre-10-08.dgn
Plot Date: 1/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
13938	Amy Rood	2015.01.20 17:46:50 -06'00'					

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97

BARRIER DETAILS
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)
PIN: S27 Johnson Co.

SHEET NO.	OF	SCALE		APP'D	
DESIGNED	MJT	DETAILED	TAH	QUANTITIES	CADD
DESIGN CK.	TAH	DETAIL CK.	MJT	QUAN. CK.	CADD CK.

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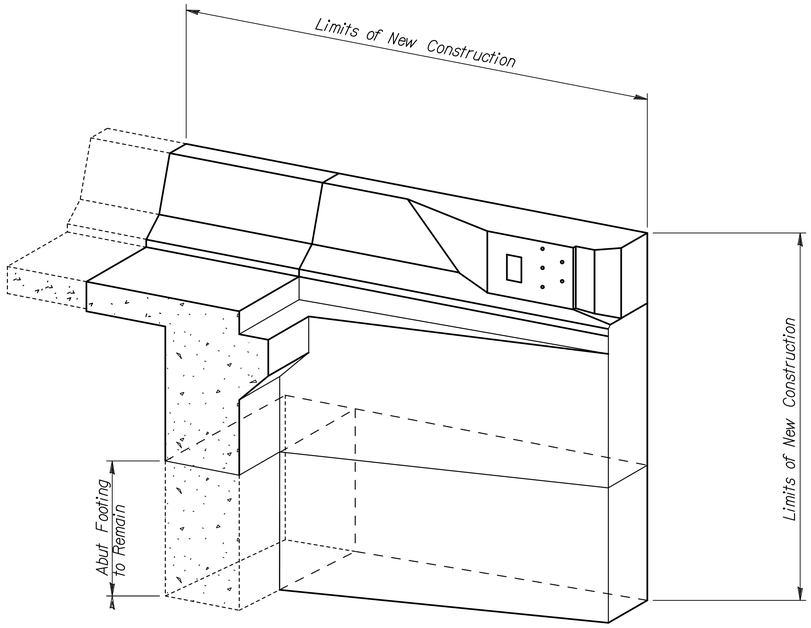
Sheet No. S08

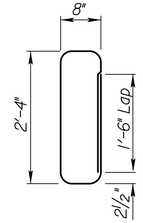
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S09	24

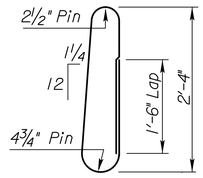


NEW CONCRETE BARRIER & WINGWALL

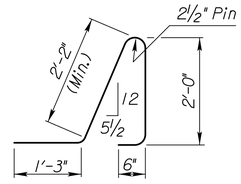
(TYPICAL WINGWALL)



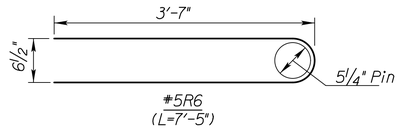
#5R3
(Ent. End)
(L=7'-6")



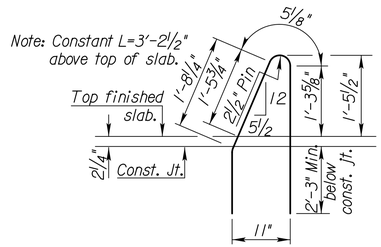
#5R2
(L=6'-6")



#5R4
(L=6'-3" Min.)



#5R6
(L=7'-5")



#5R5
(L=7'-11¾" Min.)

BENDING DIAGRAMS

Plotted By: Design
File: c:\pwworking\omad1413701\kdl002204bbrre-10-09.dgn
Plot Date: 1/13/2015
Plot Location:

GATEWAY INTERCHANGE CONSTRUCTORS

Released for Construction
Not to Scale
Date: 01/28/2015
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package S27-Seg 8

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
13938		2015.01.20 17:49:47 -06'00'					

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97

AUXILIARY BARRIER DETAILS
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)

PIN: S27 Johnson Co.

SHEET NO.	OF	SCALE		APP'D	
DESIGNED	MJT	DETAILED	TAH	QUANTITIES	CADD
DESIGN CK.	TAH	DETAIL CK.	MJT	QUAN. CK.	CADD CK.

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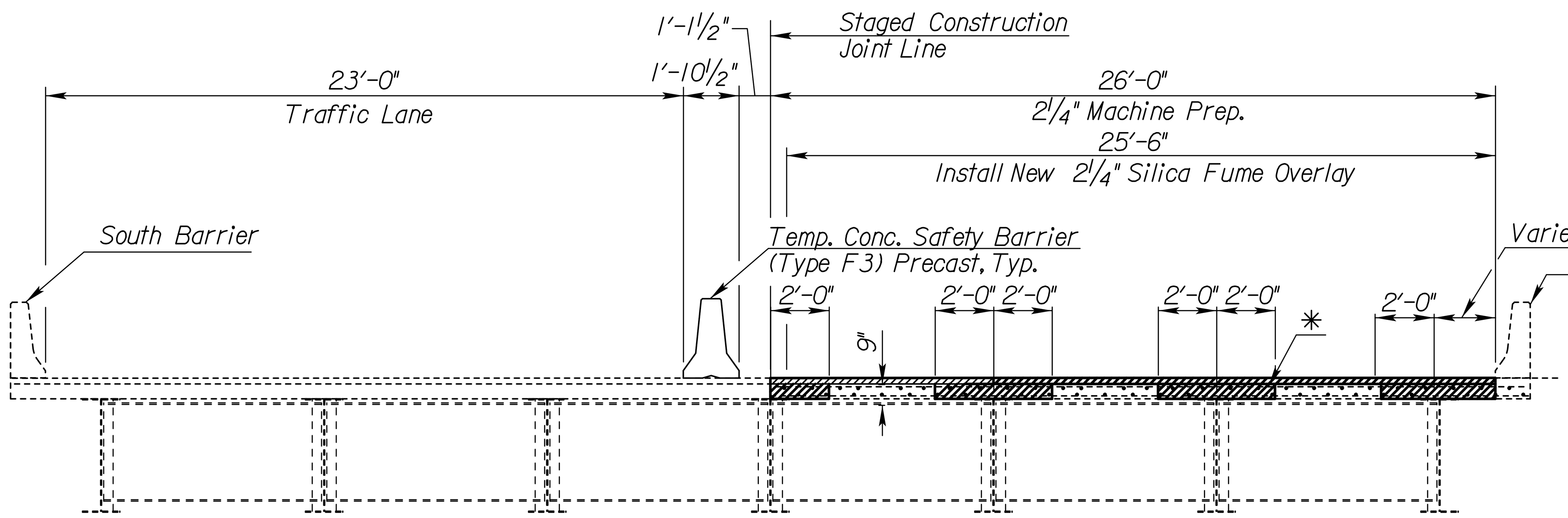
Sheet No. S09

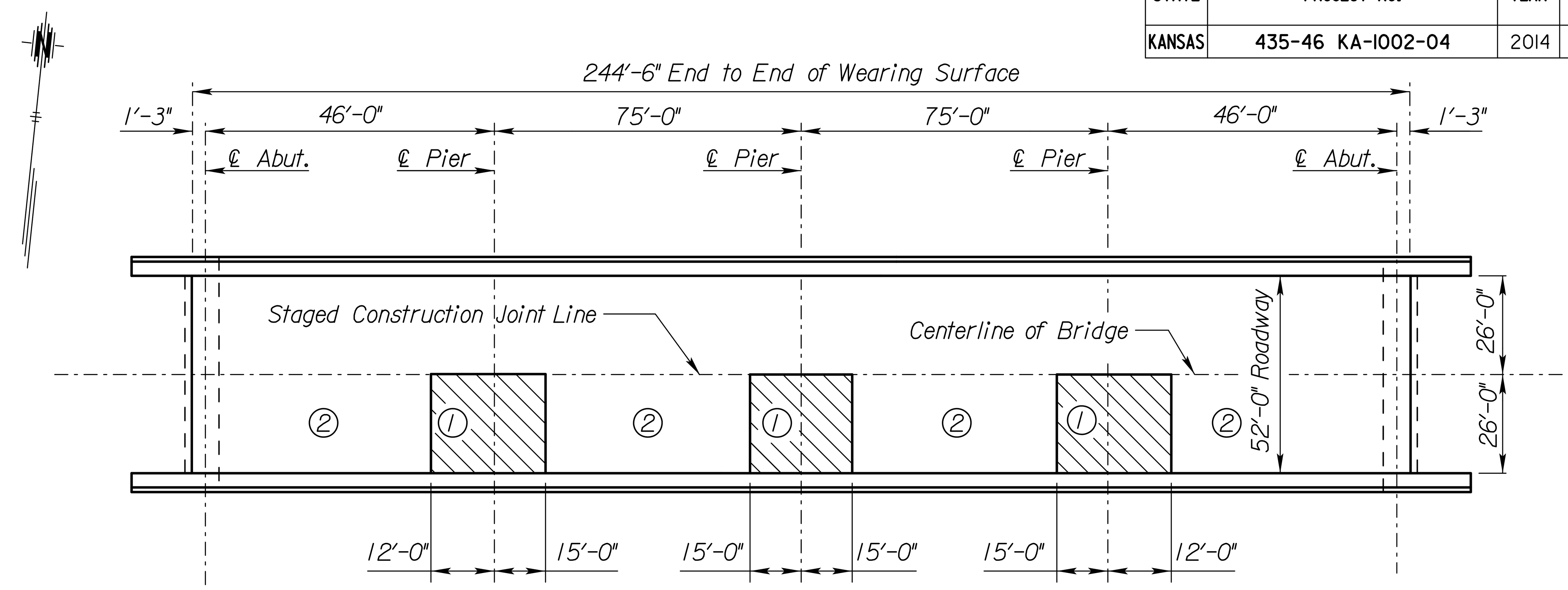
KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S10	24



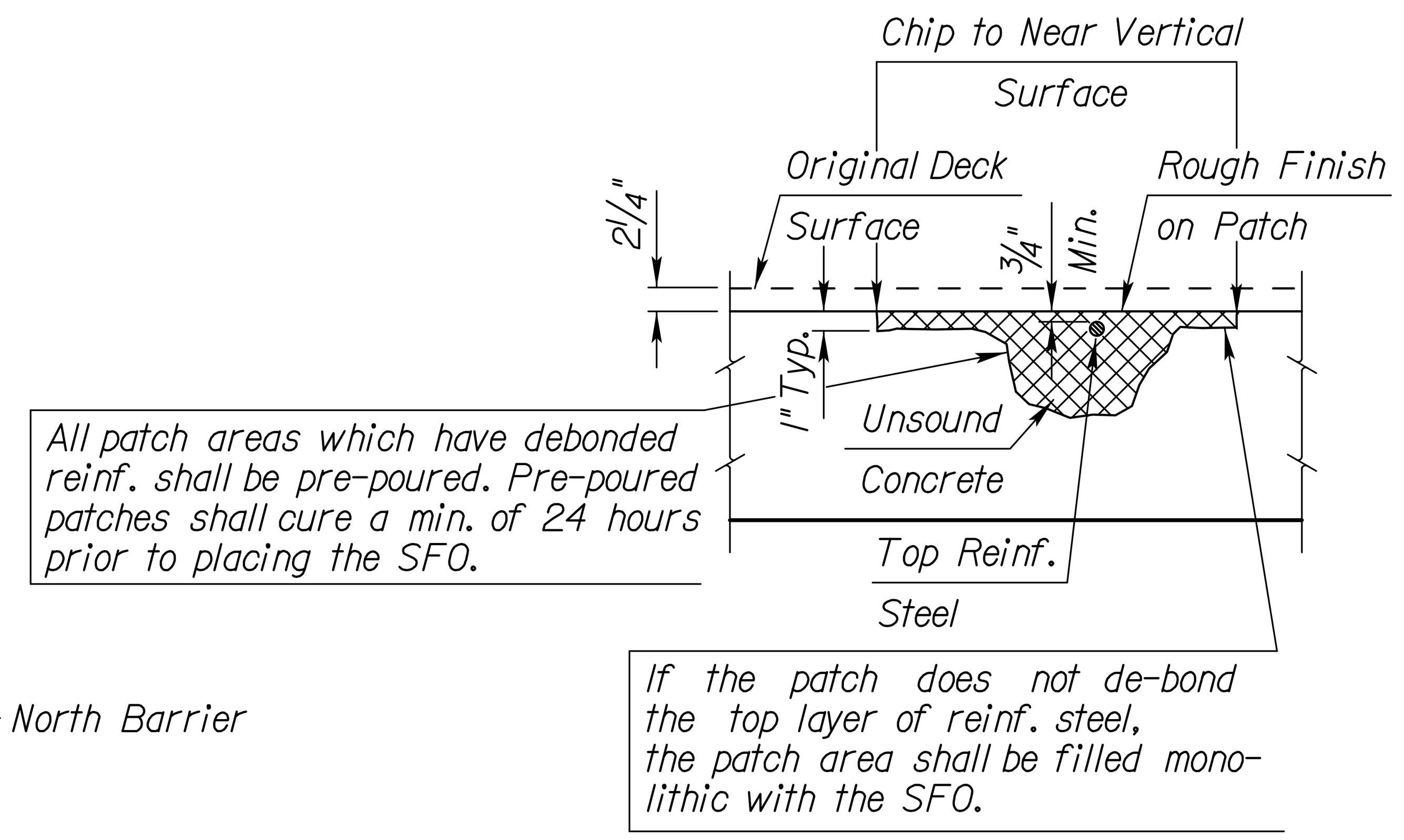
TYPICAL SECTION - PHASE 1A

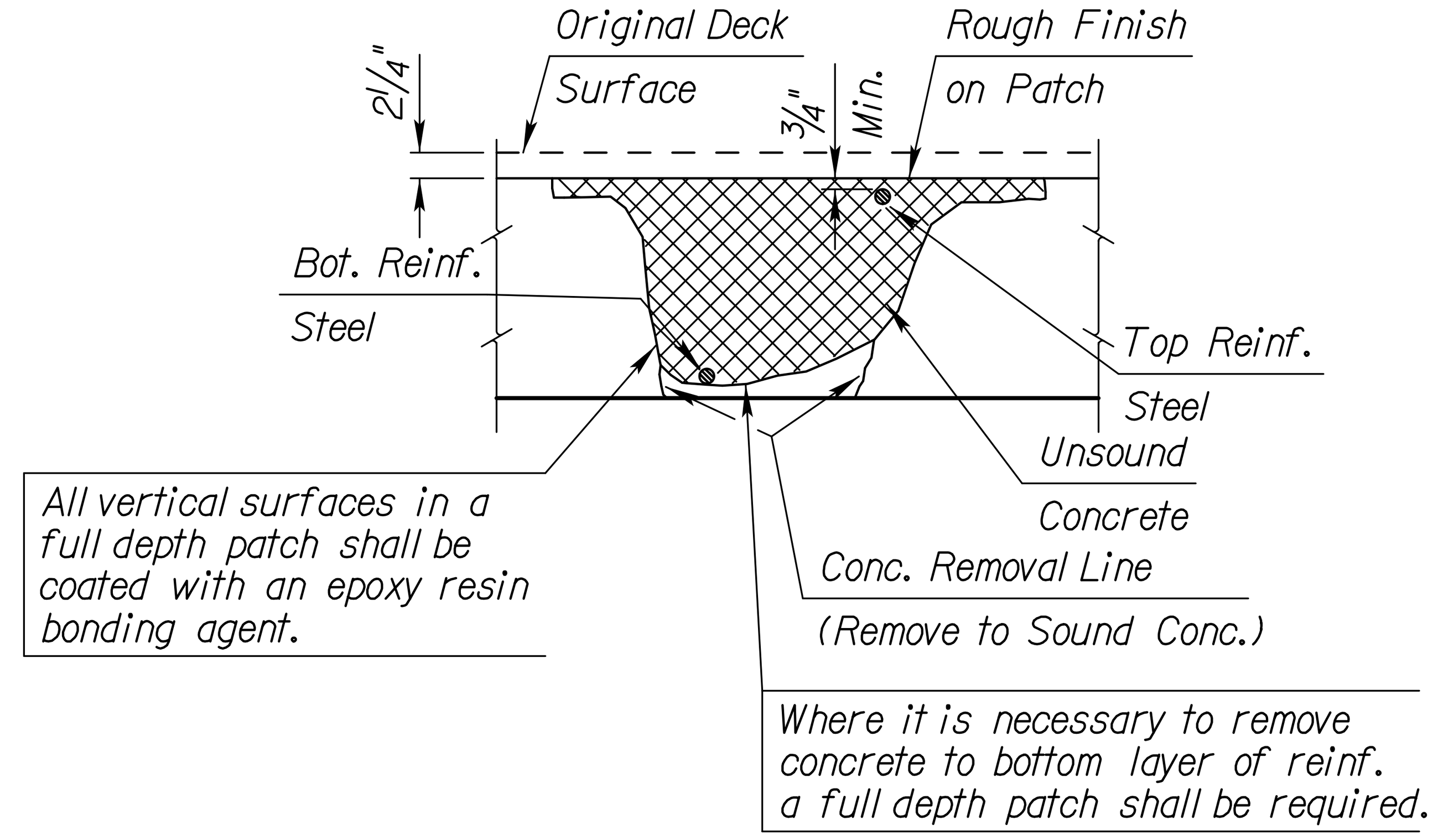
Note: Section is schematic. Reference Existing Bridge Plans for actual cross-slope, barrier type, number of girders and girder spacing. (Looking West)



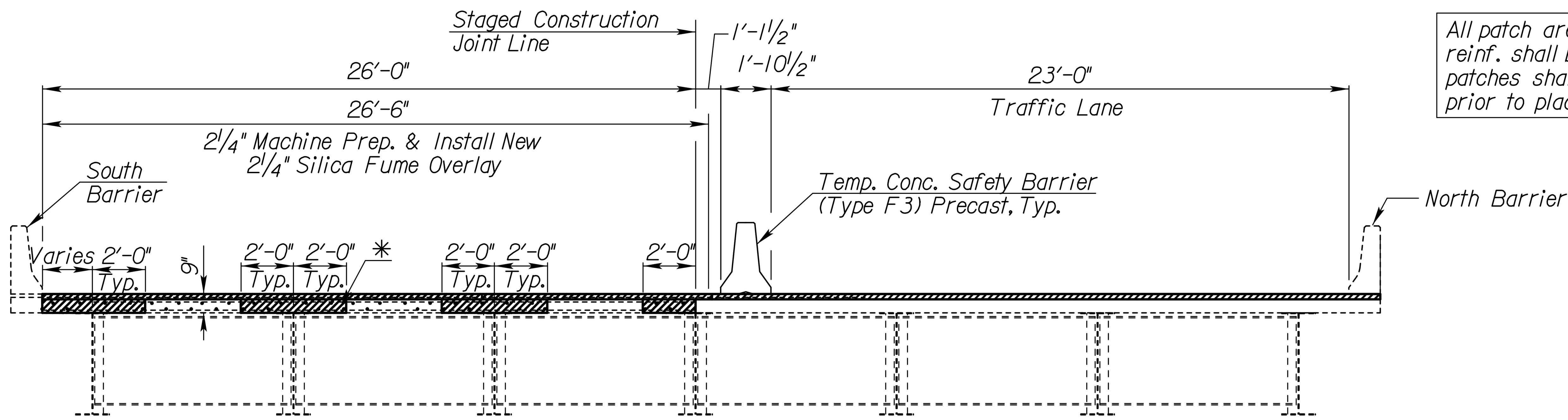
BRIDGE DECK PATCHING SEQUENCE

(Showing sequence for Phase 1A only - Phase 2A similar)





DECK PATCHING DETAILS



TYPICAL SECTION - PHASE 2A

Note: Section is schematic. Reference Existing Bridge Plans for actual cross-slope, barrier type, number of girders and girder spacing. (Looking West)

GENERAL NOTES

MACHINE PREPARATION (2.25"): This item shall consist of preparing the deck for a SFO by removing concrete from the roadway surface of the bridge deck to a depth of 2.25". See the Contract Specifications.

AREA PREPARED FOR PATCHING: This item shall consist of removing unsound concrete and bituminous patches from the bridge deck, cleaning reinforcing bars, filling the removed patched areas with concrete, and preparing the entire area of deck for a SFO. The exact areas shall be determined by tapping, before, during and after chipping operation to ensure that all unsound concrete has been removed. See the Contract Specifications.

FULL DEPTH PATCHING: Forms shall be provided to enable placement of concrete in areas of full depth removal of bridge slab. The forms may be suspended from existing reinforcing bars by wire ties or a method approved by the Engineer may be used.

REINFORCING IN BRIDGE DECK: Care should be exercised to prevent cutting, stretching or damaging exposed reinforcing steel. Extreme care should be exercised to avoid breaking the bond between the reinforcing steel and concrete where bars are partially exposed yet remain anchored in sound concrete. Reinforcing steel damaged, cut or deteriorated shall be replaced as directed by the Engineer. See table on this sheet for minimum splice length required.

SILICA FUME OVERLAY SFO CONSTRUCTION JOINTS: All vertical construction joints in the overlay and the vertical joint between the overlay and the curbs shall be sealed by sandblasting and then painting the joints with an approved Concrete Masonry Coating 72 hours after placement of the SFO.

*PATCHING SEQUENCE: When large areas of full depth patches are needed in this area, they shall be patched in segments. The segments of full depth patch shall be a maximum of 8'-0" in length parallel to the centerline of bridge with a minimum of 8'-0" between segments. After the patches in the initial segments have cured, the areas between the segments shall be patched.

The segmental patching will not be required if adequate shoring is provided to support the deck and curbs.

The numbers (1) and (2) designate the order in which full depth patching will be performed in the areas so labeled.

MINIMUM REBAR SPLICE LENGTHS†		
Bar Size	Gr. 40	Gr. 60
#4	12"	16"
#5	13"	20"
#6	16"	24"
#7	20"	30"

Note: If splicing epoxy coated reinforcing steel, increase the above splice lengths by 20%.

† Lap lengths are based on a Class B Splice. Use the min. splice length corresponding to the grade of existing reinforcing in the deck.

Plotted By: Design
File: c:\pwworking\amd\d141370\ka100204bbrre-10-10.dgn
Plot Location:
Plot Date: 1/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

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LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D
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KANSAS DEPARTMENT OF TRANSPORTATION

Br. No. 10-46-15.75(240) Sta. 935+32.97

DECK PATCHING AND OVERLAY DETAILS
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)

PIN: S27 Johnson Co.

SHEET NO.	OF	SCALE		APP'D	
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	CADD
DESIGN CK.	MJT	DETAIL CK.	MJT	QUAN. CK.	CADD CK.

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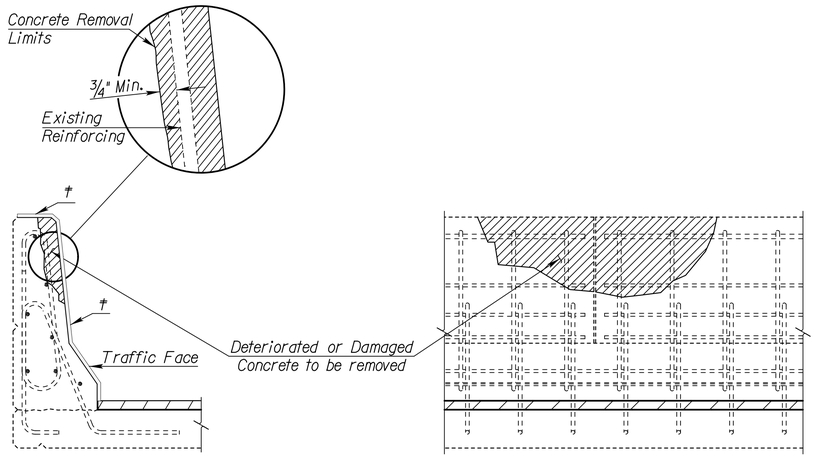
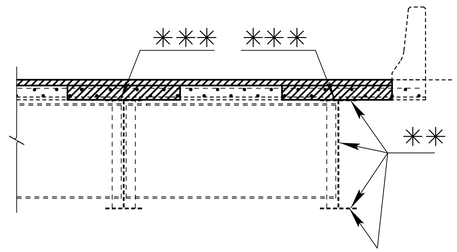
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S11	24



SECTION ELEVATION

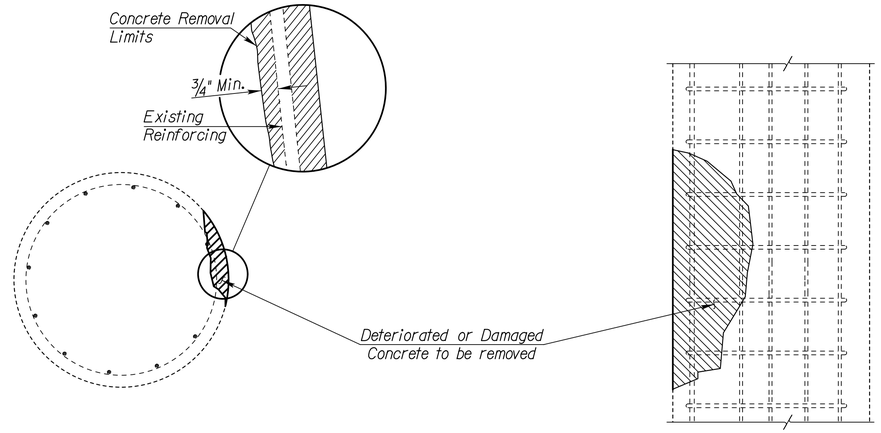
EXISTING BARRIER RAIL DETAILS

† *These areas are to be sandblasted to remove disintegrated concrete, dirt, and any foreign material along the entire length of the barrier rail. Apply an approved Concrete Masonry Coating to the top and to the traffic face of the barrier rail along the entire length of the bridge. This work shall conform to the project specifications.*



EXISTING GIRDER DETAILS

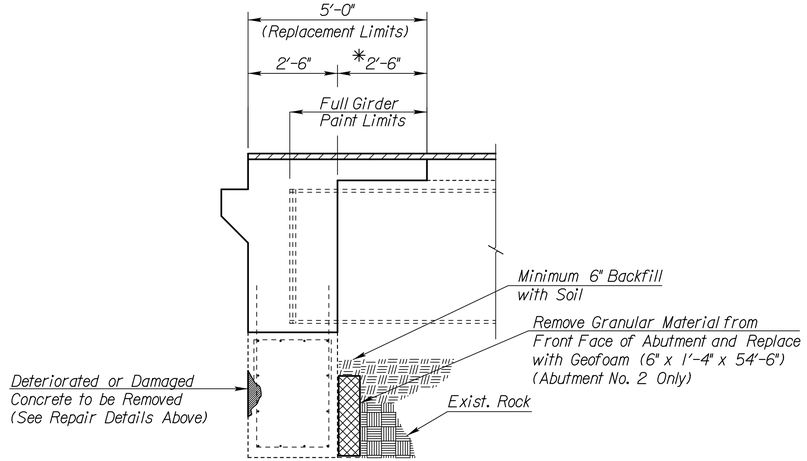
* *Paint all exposed surfaces of girders within 2'-6" from face of abutments.*
** *Paint exterior of web and flanges and the bottom suface of bottom flange for the full length of exterior girders.*
*** *Paint the top surface of top flanges of girders where exposed by deck removal.*



SECTION ELEVATION

EXISTING PIER DETAILS

CONCRETE REPAIR (Barrier Rails, Columns and Abutment Beams): The Contractor shall remove all deteriorated or damaged concrete delineated by the Engineer. Additional concrete shall be removed to create a minimum thickness of new concrete of 1 inch. Do not feather edges. At repair locations, the concrete shall be removed from 3/4" around the reinforcing steel near the surface of the concrete to allow a positive bond of new concrete to the existing structure. Concrete (Grade 4.0) (AE) or an approved Shotcrete shall be used. Prior to its placement, an epoxy resin for bonding new concrete to existing concrete shall be used.



EXISTING GIRDER PAINTING LIMITS

TYPICAL SECTION

(Girder Paint Limits & Abutment No. 2 Special Backfill)

Plotted By: Design Plot Location:
Files: c:\pwworking\oma\d1413701\Val00204tbrre-10-11.dgn
Plot Date: 11/13/2015

GATEWAY INTERCHANGE CONSTRUCTORS

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KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97

MISC. REPAIR DETAILS
EASTBOUND K-10 OVER RENNER BLVD.
(RE-10)
PIN: S27 Johnson Co.

SHEET NO.	OF	SCALE		APP'D	
DESIGNED	MJT	DETAILED	MJT	QUANTITIES	CADD
DESIGN CK.	TAH	DETAIL CK.	TAH	QUAN. CK.	CADD CK.

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Sheet No. S11

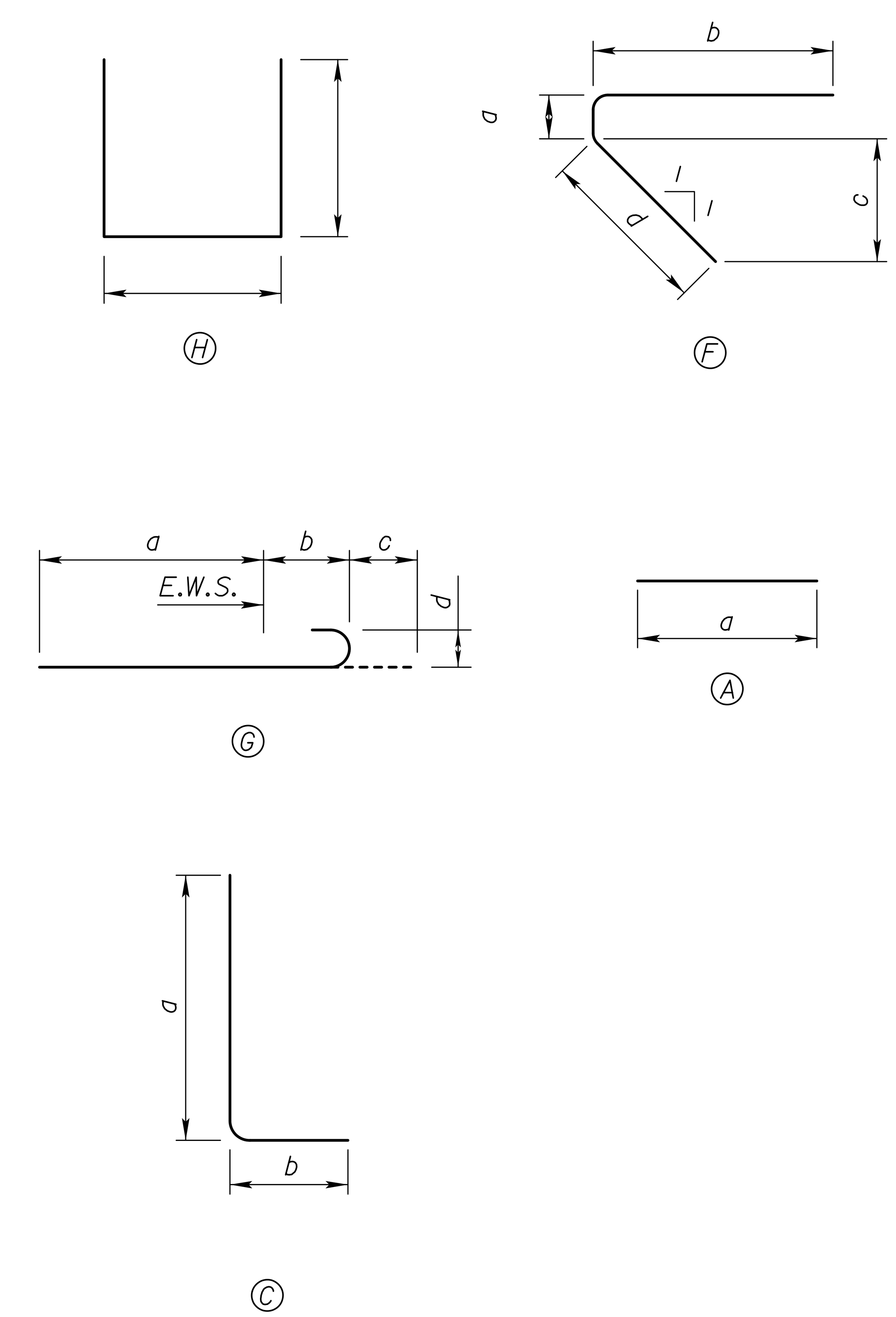
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S12	24

REINFORCING STEEL SCHEDULE
(Grade 60)

LOCATION	EPOXY	BAR LABEL	NO. REQUIRED	SHAPE	SIZE	TOTAL LENGTH	DIMENSIONS a	b	c	d	e	f	g
ABUTMENT NO. 1	†	A1		A	#6								
	†	A2		A	#4								
	†	A3		H	#4								
	†	A4		F	#4								
	†	A5		G	#5								
	†	A6		A	#6								
	†	A7		A	#6								
	†	A8		A	#4								
	†	A9		A	#4								
	†	A10		A	#6								
	†	A11		C	#5								
	†	W1		A	#6								
	†	W2		A	#6								
	†	W3		A	#6								
	†	W4		A	#6								
	†	R2		✳	#5								
	†	R3		✳	#5								
	†	R4		✳	#5								
	†	R5		✳	#5								
	†	R6		✳	#5								
	†	R7		A	#6								
	†	R8		A	#5								
	†	R9		A	#4								
	†	S1		A	#6								
	†	S2		A	#6								

REINFORCING STEEL SCHEDULE
(Grade 60)

LOCATION	EPOXY	BAR LABEL	NO. REQUIRED	SHAPE	SIZE	TOTAL LENGTH	DIMENSIONS a	b	c	d	e	f	g
ABUTMENT NO. 2	†	A1		A	#6								
	†	A2		A	#4								
	†	A3		H	#4								
	†	A4		F	#4								
	†	A5		G	#5								
	†	A6		A	#6								
	†	A7		A	#6								
	†	A8		A	#4								
	†	A9		A	#4								
	†	A10		A	#6								
	†	A11		C	#5								
	†	W1		A	#6								
	†	W2		A	#6								
	†	W3		A	#6								
	†	W4		A	#6								
	†	R2		✳	#5								
	†	R3		✳	#5								
	†	R4		✳	#5								
	†	R5		✳	#5								
	†	R6		✳	#5								
	†	R7		A	#6								
	†	R8		A	#5								
	†	R9		A	#4								
	†	S1		A	#6								
	†	S2		A	#6								



BENDING DIAGRAMS

Ⓐ Denotes bending diagram mark.

✳ See "Auxiliary Barrier Details" Sheet for bending diagrams of R (barrier curb) bars.

† = Epoxy Coated.

Notes:

1. All dimensions shown are out to out of bar, unless shown otherwise.
2. No allowance for bend curvature is to be made except for standard hooks and larger bends where shown.

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GATEWAY INTERCHANGE CONSTRUCTORS

KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 10-46-15.75(240) Sta. 935+32.97
BILL OF REINFORCING STEEL & BENDING DIAGRAMS
EASTBOUND K-10 OVER RENNER BLVD. (RE-10)
PIN: S27 Johnson Co.

SHEET NO. OF	SCALE	APP'D	
DESIGNED TAH	DETAILED TAH	QUANTITIES	CADD
DESIGN CK. MJT	DETAIL CK. MJT	QUAN. CK.	CADD CK.

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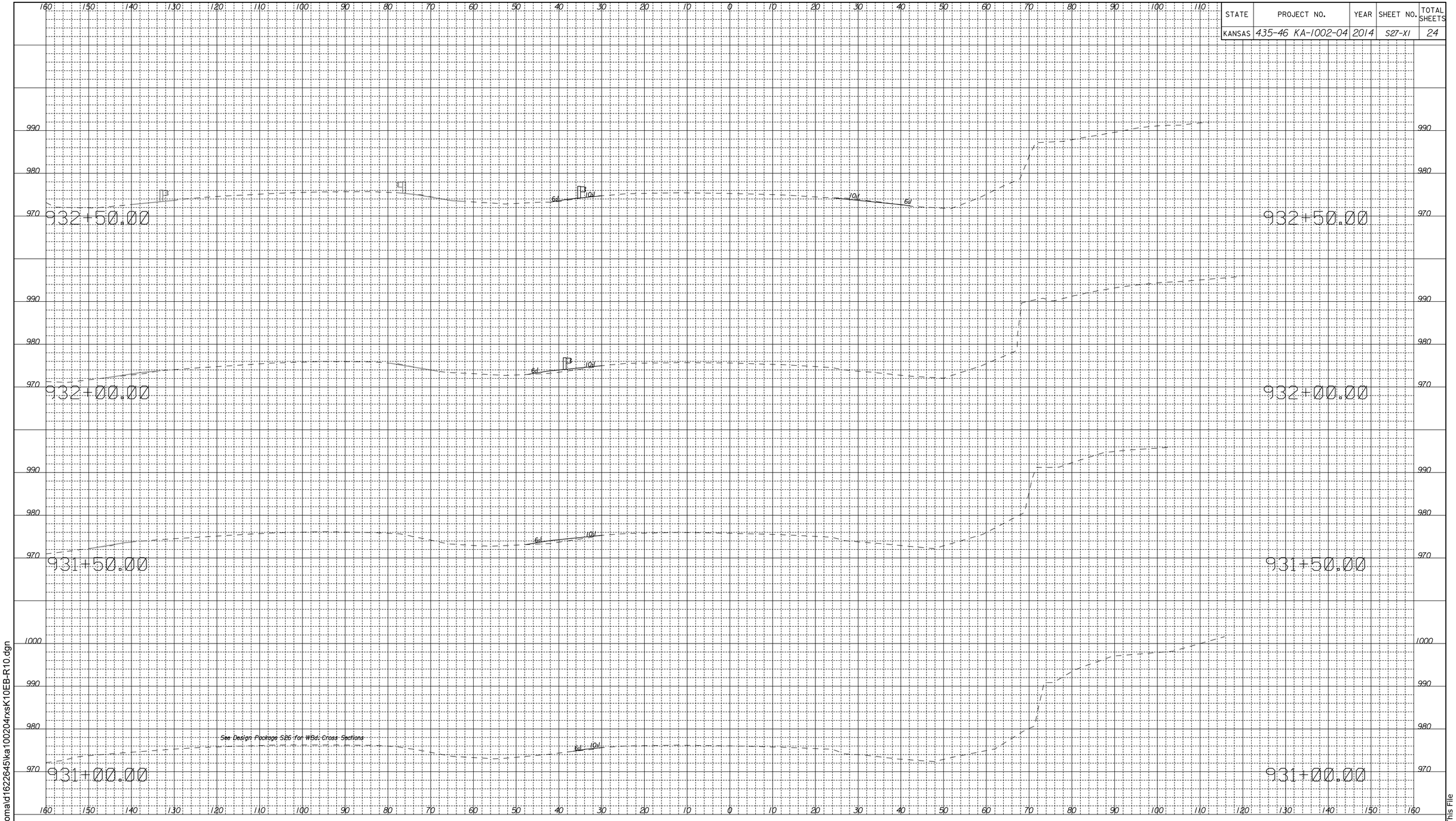
Plot Location:
File: c:\pwworking\amd\d14137011\ka100204bbrre-10-12.dgn
Plot Date: 1/13/2015

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-X1	24



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GATEWAY INTERCHANGE CONSTRUCTORS

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Date: 01/28/2015
GIC Version 0.0
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PIN: S27

K–10 EASTBOUND
STA. 931 + 00.00
TO STA. 932 + 50.00

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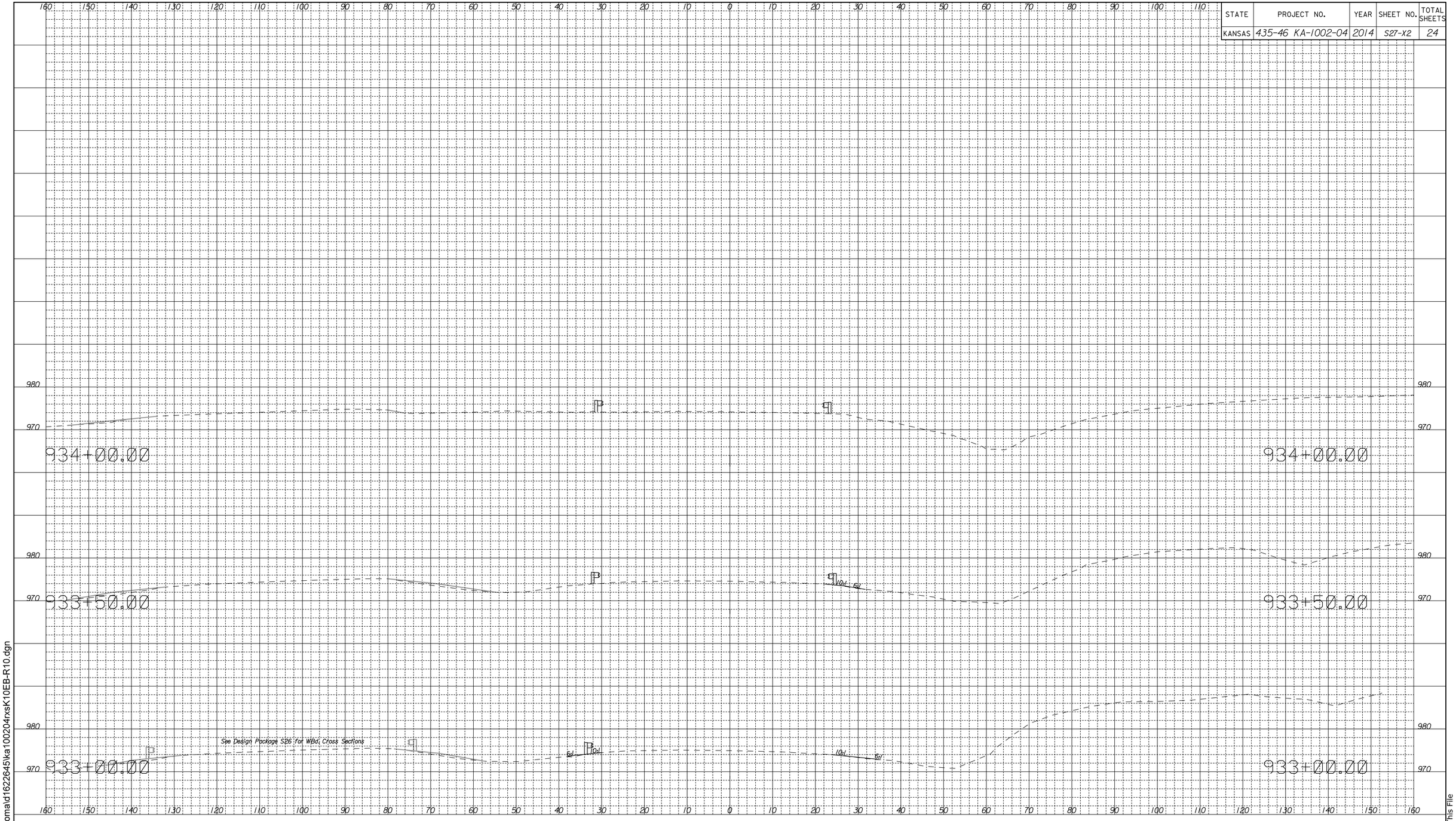
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	S27-X2	24



Plotted : 1/12/2015
user
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GATEWAY INTERCHANGE CONSTRUCTORS

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LIC. NO.	NAME	DATE
17030		2015.01.20 11:53:58 -06'00'

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PIN: S27

K10 EASTBOUND
STA. 933+00.00
TO STA. 934+00.00

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