

Std. Base File : /usr2/stand/br30100.dgn
Server File : \\errick\\K507701a.dgn
Base Std. 301
View= PL071
Plotted By : Jruby
Plot File : K507701a.dgn
Plot Date : 14-JAN-2013 10:51

SUMMARY OF QUANTITIES														
Item Location	Excavation		Concrete		Reinforcing Steel		Prestressed	HPI0x42	HPI2x53	Abutment	Bridge	Slope		
	Class I	Class II	Class AAA	Class	Epoxy Coated	Grade	Concrete Beams	Steel	Steel	Strip	Backwall	Protection		
	Cu. Yds.	Cu. Yds.	(AE)(SW)	AAA-(AE)	(Grade 60)	60	(K3)	Pile	Pile	Drain	Prot. System	(Shot Rock)		
			Cu. Yds.	Cu. Yds.	Lbs.	Lbs.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Yds.	Sq. Yds.	Cu. Yds.		
Abutment No. 1	135	-	-	22.3	**	2,095	-	-	392.0	46.5	50	290		
Pier No. 1	-	200	-	72.0	420	12,260	-	464.0	-	-	-	-		
Pier No. 2	10	200	-	69.1	420	12,260	-	464.0	-	-	-	-		
Abutment No. 2	135	-	-	22.3	**	2,095	-	-	294.0	46.5	50	90		
								928						
Substr. Total	280	400	-	185.7	840	28,710	-		686	93	100	380		
Superstr. Total	-	-	290.2	-	73,590	-	900	-	-	-	-	-		
Total	280	400	290.2	185.7	74,430	28,710	900	† 928	† 686	93	100	380		

GENERAL NOTES

REINFORCING STEEL: All reinforcing steel dimensions are to the centerline of bars unless otherwise noted. All reinforcing steel, except the spiral bars, shall conform to the requirements of ASTM A615, Grade 60. Spiral bars may meet the requirements of either ASTM A615 (Gr. 40 or 60) or A82, and are included in the weight of Grade 60 reinforcing steel.

EMBANKMENT: The Grading Contractor shall complete the embankment at the abutments as shown on the Bridge Excavation sheet prior to driving abutment piling.

BRIDGE EXCAVATION: Elevation 1209.5 shall designate the Excavation Boundary Plane of Class I and Class II Excavation; Class I above the plane, Class II below the plane. See Bridge Excavation sheet for limits of pay excavation.

BACKFILL COMPACTION: Backfill compaction shall be required at abutments.

PILING : All piling shall be driven to penetrate or bear upon the Wellington formation. Driving shall stop when in the opinion of the Engineer additional driving may damage the piling. All piling shall be driven to the minimum computed bearing value equal to the Allowable Pile Driving Load:

Abutment No. 1	65.0	Tons
Pier No. 1	55.0	Tons
Pier No. 2	55.0	Tons
Abutment No. 2	65.0	Tons

When using the pile driving formula in the KDOT Specifications, the Contractor shall drive the pile to the Allowable Load and penetration, but in no case shall the pile be driven to MORE THAN 97 TONS at the ABUTMENTS and 82 TONS at the PIERS. At any location where problems are experienced, pile damage is suspected, or apparent refusal occurs significantly above the design pile tip elevation, the Engineer may request that the Pile Driving Analyzer (PDA) equipment be used.

BRIDGE SEATS: Bridge seats under the bearing pads shall be finished smooth. The remaining area shall be rough finished.

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

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

EXCAVATION BRACING: Embankment bracing will be required to maintain existing roadway during Phase I Construction. Method of bracing to be approved by the Engineer. Bracing shall be Subsidiary to Class II Excavation.

ABUTMENT STRIP DRAIN: See the General Notes on the "Abutment Strip Drain" sheet.

CAMBER: The finished deck shall be constructed to plan grade by providing a depth of the fillet over the beam and panels to allow for prestress camber, concrete dead load deflection and vertical curvature if necessary. After the prestressed beams are erected and the falsework removed, the camber shall be measured in the field by a profile of each beam. Any variation in the actual camber and concrete dead load deflection shown shall be corrected by varying the depth of the concrete fillets so that the finished floor will be constructed to theoretical grade. The minimum depth of the slab over the beam shall be 8".

The theoretical amount of concrete required for the fillets is 8 Cu. Yds. This amount of concrete is included in the Summary of Quantities. Any additional concrete required to construct the fillets will be subsidiary to the bid item "Class AAA Concrete (AE)(SW)". See "Superstructure Details" Sheet No. 35 for additional information.

CONCRETE: Superstructure concrete shall be bid as Class AAA (AE)(SW). Substructure concrete shall be bid as Class AAA (AE). If desired, the Contractor may use Class AAA Concrete in the footings and in the abutment below the construction joint. Bevel all exposed edges of all concrete with a 3/4" triangular molding except as otherwise noted on the plans. Construction joints are optional with the Contractor, but if used, shall be made only at locations shown, or at locations approved by the Engineer.

PRESTRESSED BEAM CONCRETE: Prestressed beam concrete shall be Class AAA (AE)(PB) concrete with release strength and 28 day strength requirements as noted on the plans. Transportation of the prestressed beam shall not occur until the compressive strength of the concrete reaches 4,500 psi.

BROKEN CONCRETE: The broken concrete from the existing bridge shall be wasted on sites provided by the Contractor and approved by the Engineer. If the broken concrete is used in the protection of the embankment, berms, and/or creek bank, all asphalt overlays and patches shall be removed from the structure prior to concrete removal. The asphalt shall be wasted on sites provided by the Contractor and approved by the Engineer. Protruding reinforcing in the broken concrete shall be cut off and removed. This work shall not be paid for directly but shall be included in the bid item "Removal of Existing Structures".

† Summary of Piling	HPI0x42	HPI2x53
Abutment No. 1		7 - @ 56'
Pier No. 1	16 - @ 29'	
Pier No. 2	16 - @ 29'	
Abutment No. 2		7 - @ 42'

NOTE: Only steel pile HPI0x42 @ Piers and HPI2x53 @ Abutments shall be used.

CONCRETE PLACING SEQUENCE: The sequence of placing concrete in the slab and curbs shall be as shown, or the Contractor shall submit an alternate placing sequence for review. The alternate placing sequence shall be given to the Engineer at the Preconstruction Conference. The alternate placing sequence shall include the proposed rate of concrete placement in cubic yards per hour, the plant capacity, a description of the equipment used in placing the concrete, proposed admixtures, and the quantity of concrete in each placing segment. Any additional cost for the Contractor's alternate plan of placing concrete, including admixtures, shall be at the Contractor's expense and shall be considered subsidiary to the bid item, "Class AAA Concrete (AE)(SW)". Approval of the Contractor's alternate sequence is required prior to placement of concrete in the deck.

SLAB CURING PERIOD: See Special Provisions for curing requirements for the 8" minimum bridge deck. No traffic shall be permitted on the curing membrane of the deck, sub-deck, or wearing surface until the seven day curing period is complete. Operations necessary to complete placement of the deck, subdeck, or wearing surface may be permitted for a minimum practical time as noted in the Standard Specifications. No work to place reinforcing steel or forms for the bridge rail or barrier will be allowed during this curing period.

SLOPE PROTECTION (Shot Rock): Place Slope Protection (Shot Rock) to the limits and thicknesses shown on the plans or as directed by the Engineer.

Place a 10'-0" wide mat of geotextile under the rock/ rubble embankment on the berm and berm slopes and centered on the drip lines of the slab.

The amount of suitable concrete rubble available is approximate and is furnished as an aid to the Contractor only.

Concrete Rubble = 100 Cu. Yds

STEEL PLATES: Furnish 4 - 6'x12'x1" steel plates for covering areas of existing deck deterioration during Phase I Construction. The Plates shall be placed at the direction of the Engineer and are Subsidiary to the bid item "Removal of Existing Structure".

REMOVAL OF EXISTING STRUCTURE: Removal of existing structure is included in the bid item, "Removal of Existing Structure", Lump Sum. All materials removed from the existing structure shall become the property of the Contractor and shall be removed from the site.

PHASE CONSTRUCTION: Sheet Piling or other Excavation Bracing will be required along limits of phased construction at the abutments and approaches to the bridge. Limits of Bracing will be determined in the field at the direction of the Engineer. Excavation Bracing will be Subsidiary to Class I Excavation.

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	16	65

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40	Standard Pile Details

DESIGN DATA

DESIGN SPECIFICATIONS:

AASHTO Specifications, 1992 Edition and latest Interim Specifications. Load Factor Design

DESIGN LOADING: HS20-44
Design Dead Load includes an allowance for 25 psf for a future wearing surface.

UNIT STRESSES:	
Class AAA Concrete	f'c = 4,000 psi, fc = 1,600 psi
Class AAA Concrete (AE)	f'c = 4,000 psi, fc = 1,600 psi
Class AAA Concrete (AE)(SW)	f'c = 4,000 psi, fc = 1,600 psi
Prestressed Beam Concrete	f'c = 5,000 psi, fci = 4,000 psi
Reinforcing Steel (Grade 60)	fy = 60,000 psi, fs = 24,000 psi
Prestressed Strands	1/2"Ø Grade 270 uncoated 7-wire stress- relieved, low-relaxation strand

DESIGN PILE LOAD:	Loading	Design Load (Tons per Pile)	Allowable Load (Tons per Pile)
Piers #1 & #2	Group I (100%) -	39.0	55.0
Abut #1 & #2	Group I (100%) -	65.0	65.0
Phase I	Group I (100%) -	65.0	65.0
Phase II	Group I (100%) -	60.0	65.0

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

Note: The Contractor shall submit a copy of Bearing Seat Elevations to the Engineer before Prestressed Beams are erected.

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2
2-20-97
NO. DATE

Revised Quantities
REVISIONS

SMS
BY

KFH
APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

Br. No. 15-14-19.35(032)Sta. 90+44.75

GENERAL NOTES
AND
QUANTITIES

Proj. No. 15-14 K-5077-01Clay Co.

SHEET NO. 1 OF 22SCALEAPP'D

DESIGNEDTAH
DESIGN CK. JSR

DETAILEDTAH
DETAIL CK. JSR

QUANTITIES
QUAN. CK. JSR

CADD
CADD CK. JSR

SSH
TAH

Plotted By : Jruby
Plot File : k50701a.dgn
Plot Date : 14-JAN-2013 10:51
Std. Base File :
Server File : i:\nerrick\k50701a.dgn
Server : witch
View= PLOT2

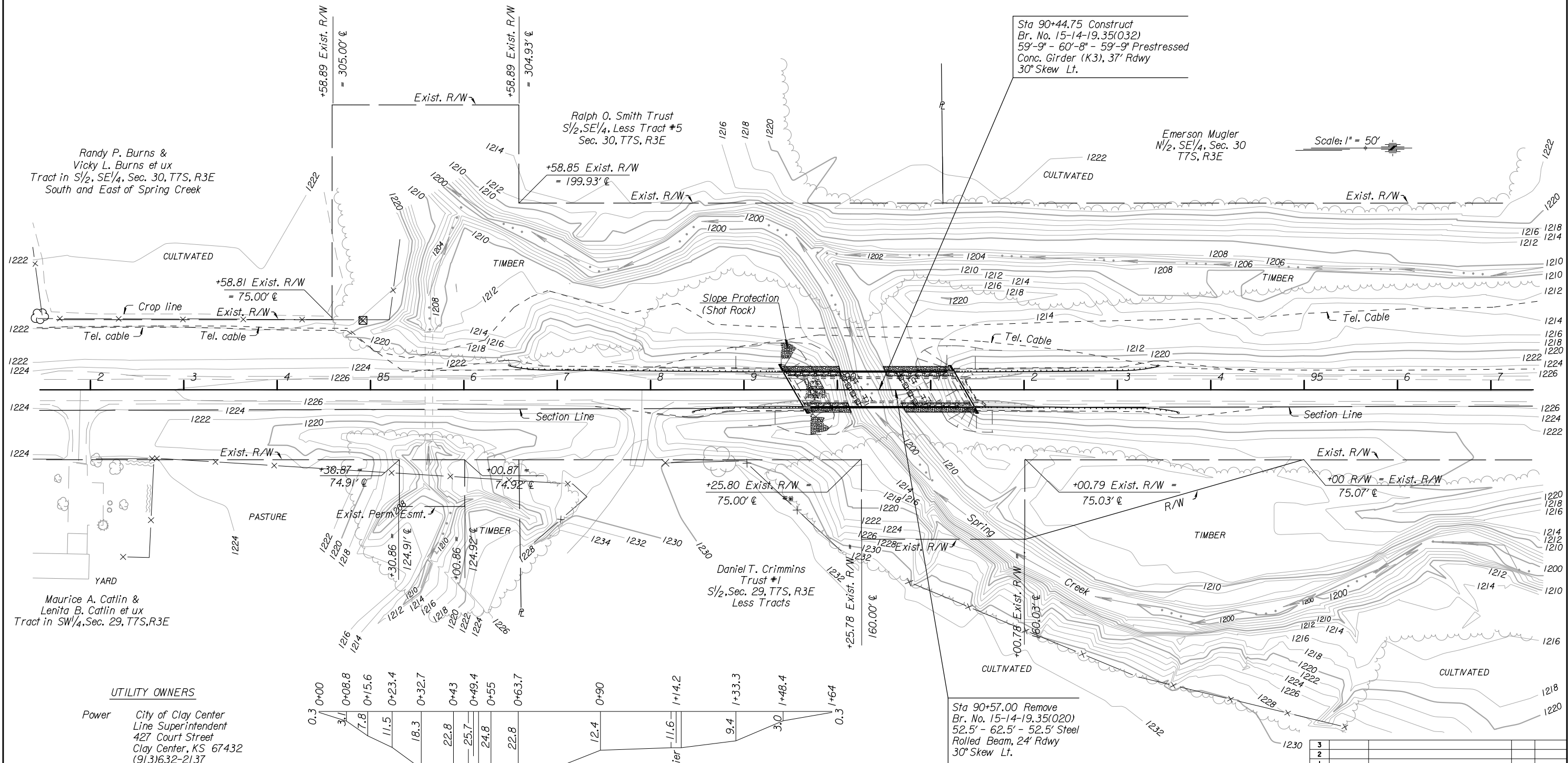
POT Sta. 77+95 = S.R. Sta. 50+00
SW ¼ = 89°29'04"
1. Set 1/2" Rebar 2" Deep
2. Spk. & Wshr in P.P. 79.91' SE
3. 'x' Cut N. end 18" RCP 38.60' NE
4. 'x' Cut SE Cor. Conc. Pad T.Ped. 80.43' NW

POT Sta. 89+71.32 S. EWS
1. Set 1/2" Rebar 2" Deep
2. Spk. & Wshr in top Guard Po. 26.84' SE
3. Spk. & Wshr in top Guard Po. 13.69' ESE
4. Spk. & Wshr in top Guard Po. 22.88' SW

POT Sta. 91+42.67 N. EWS
1. Set 1/2" Rebar 2" Deep
2. Spk. & Wshr in top Guard Po. 22.45' NE
3. Spk. & Wshr in top Guard Po. 14.40' WNW
4. Spk. & Wshr in top Guard Po. 32.82' NNW

POT Sta. 98+46.17
1. Set 1/2" Rebar 2" Deep
2. Spk. & Wshr in Dbl. 40" Walnut 90.47' ENE
3. Spk. & Wshr in 40" Hackberry 98.49' ESE
4. Spk. & Wshr in 60" Pecan 114.98' NW

FIWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	17	65



UTILITY OWNERS
Power City of Clay Center
Line Superintendent
427 Court Street
Clay Center, KS 67432
(913)632-2137
Telephone Southwestern Bell
1-800-344-7233
2 cables: Toll & Distribution

Waterway Opening Existing Structure
Total Waterway Opening = 1942.5 Sq. Ft.
(Area perpendicular to stream = 1,680 ft²)

Sta 90+57.00 Remove
Br. No. 15-14-19.35(020)
52.5' - 62.5' - 52.5' Steel
Rolled Beam, 24' Rdwy
30° Skew Lt.

Sta 90+44.75 Construct
Br. No. 15-14-19.35(032)
59'-9" - 60'-8" - 59'-9" Prestressed
Conc. Girder (K3), 37' Rdwy
30° Skew Lt.

NO.	DATE	REVISIONS	BY	APP'D
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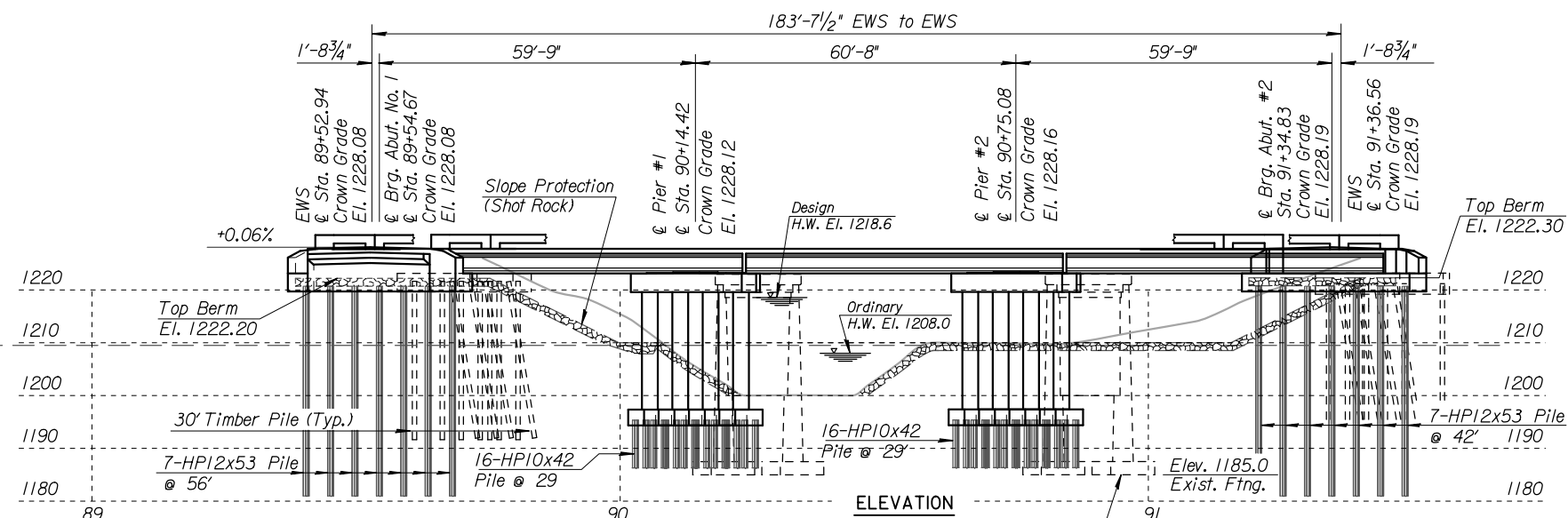
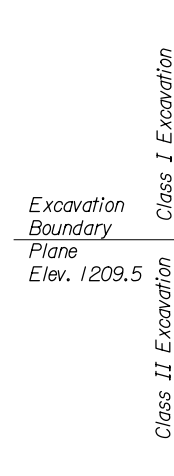
KANSAS DEPARTMENT OF TRANSPORTATION
Br. No. 15-14-19.35(032) Sta. 90+44.75
CONTOUR MAP
(K-15 over Spring Creek)

Proj. No. 15-14 K-5077-01 Clay Co.

SHEET NO. 2 OF 22	SCALE	APP'D
DESIGNED	TAH	TAH
DESIGN CK.	JSR	JSR
QUANTITIES	TAH	TAH
CADD	JSR	JSR
CADD CK.	TAH	TAH

DRAINAGE DATA

Historic Highwater Elevation-----	1220.2 Ft.
Ordinary Highwater Elevation-----	1208.0 Ft.
Total Waterway Provided-----	1,750 Sq. Ft.
Design Waterway Provided-----	1,140 Sq. Ft.

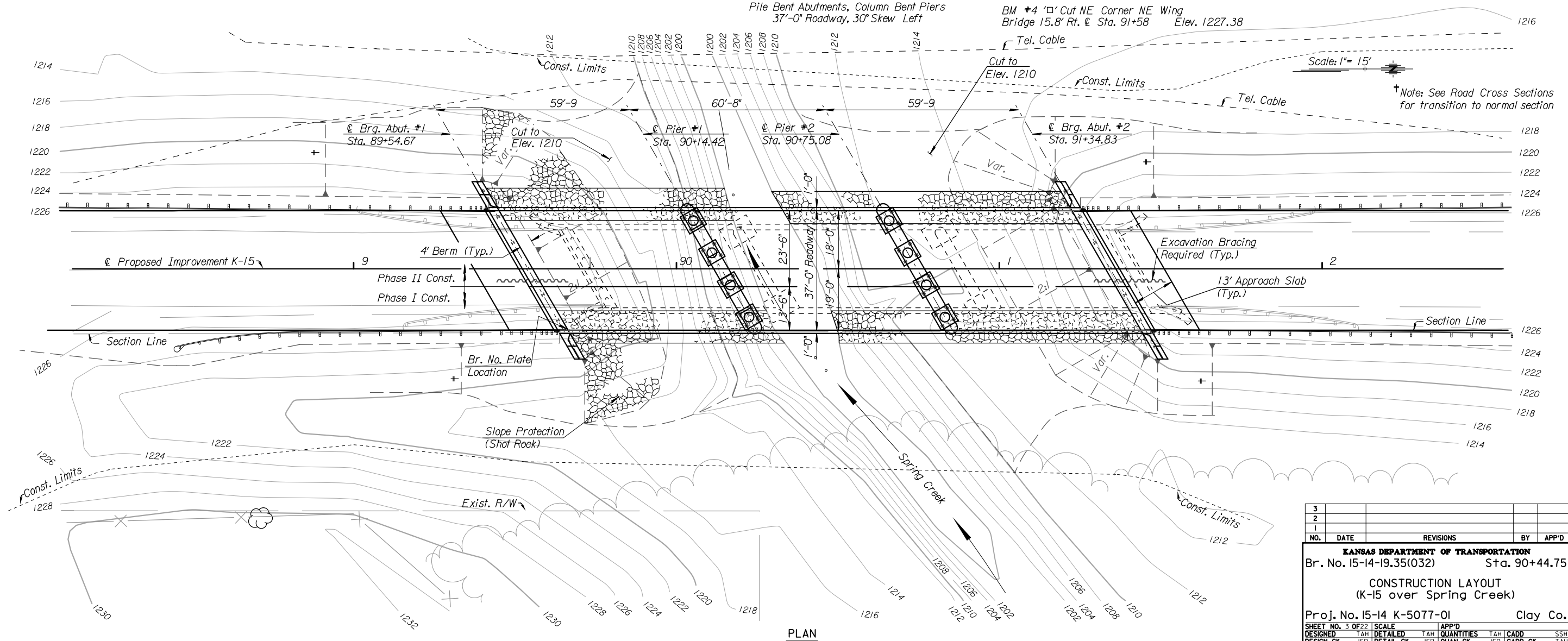


BM #3 '□' Cut SE Corner E. Hbgd.
RCB 54.5' Rt. @ Sta. 85+58 Elev. 1214.36

59'-9" - 60'-8" - 59'-9" Spans
Type K3 Precast Prestressed Concrete
Continuous Beams (P BMC)
Pile Bent Abutments, Column Bent Piers
37'-0" Roadway, 30° Skew Left

Remove Exist. Piers to
1' below ground line (Typ.)

BM #4 '□' Cut NE Corner NE Wing
Bridge 15.8' Rf. @ Sta. 91+58 Elev. 1227.38

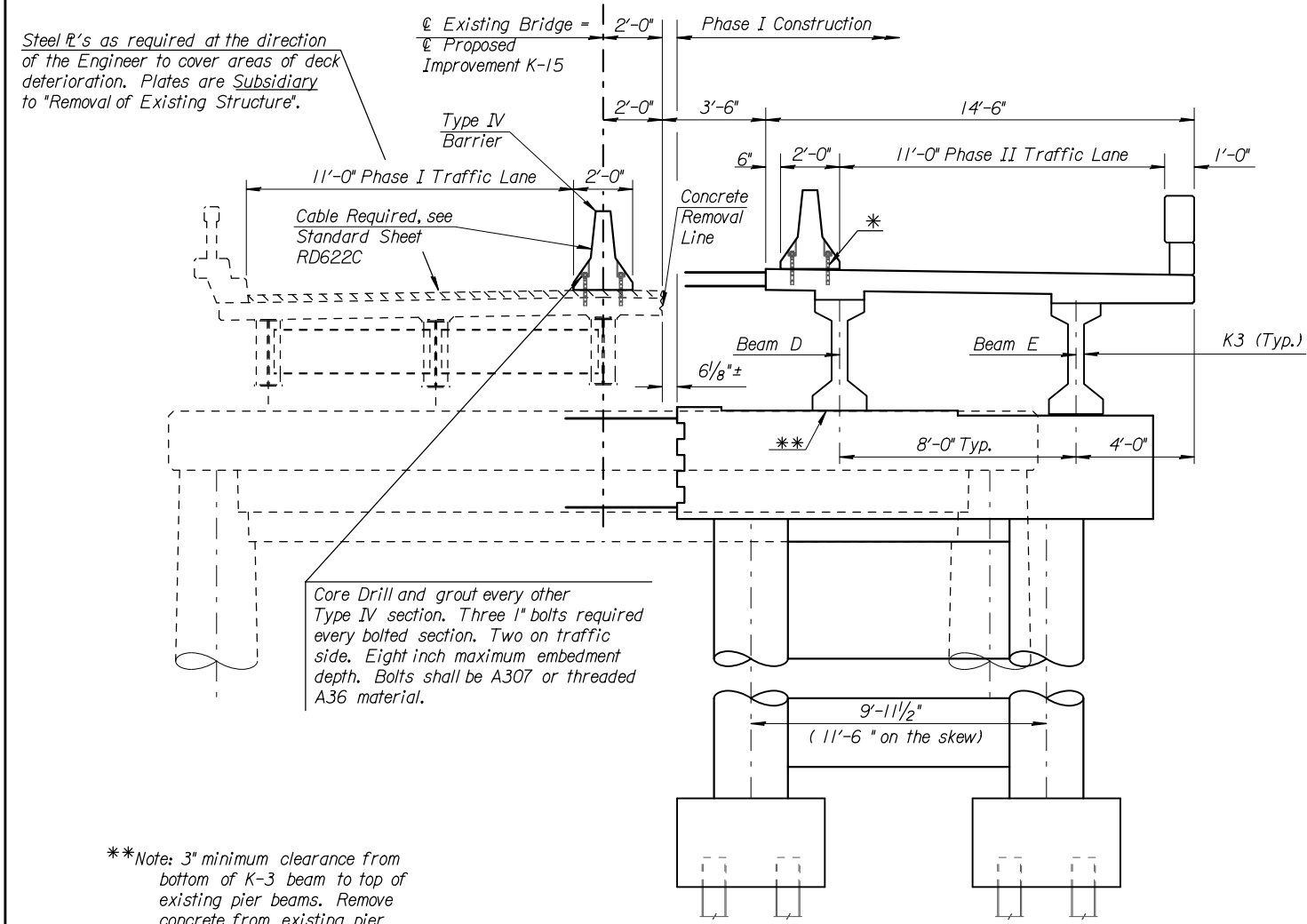


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<p align="center">KANSAS DEPARTMENT OF TRANSPORTATION</p> <p align="center">Br. No. 15-14-19.35(032) S+a. 90+44.75</p> <p align="center">CONSTRUCTION LAYOUT</p> <p align="center">(K-15 over Spring Creek)</p> <p align="center">Proj. No. 15-14 K-5077-01 Clay Co.</p>							
SHEET NO. 3 OF 22		SCALE		APP'D			
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH	CADD	SSH
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	JSR	CADD CK.	TAH

Sh. No. 18

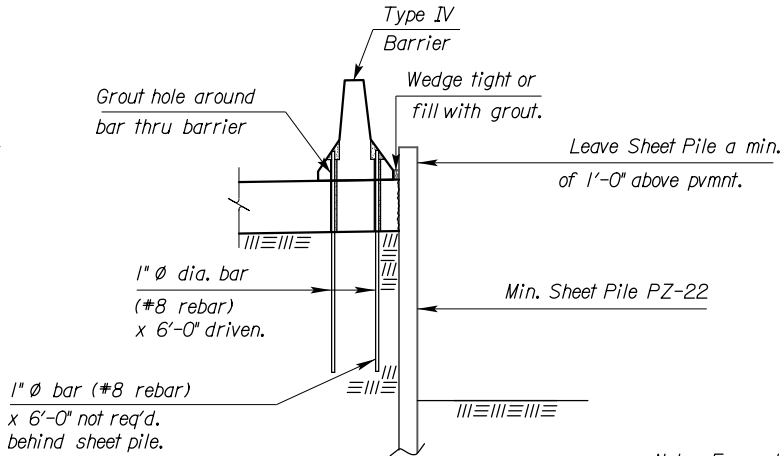
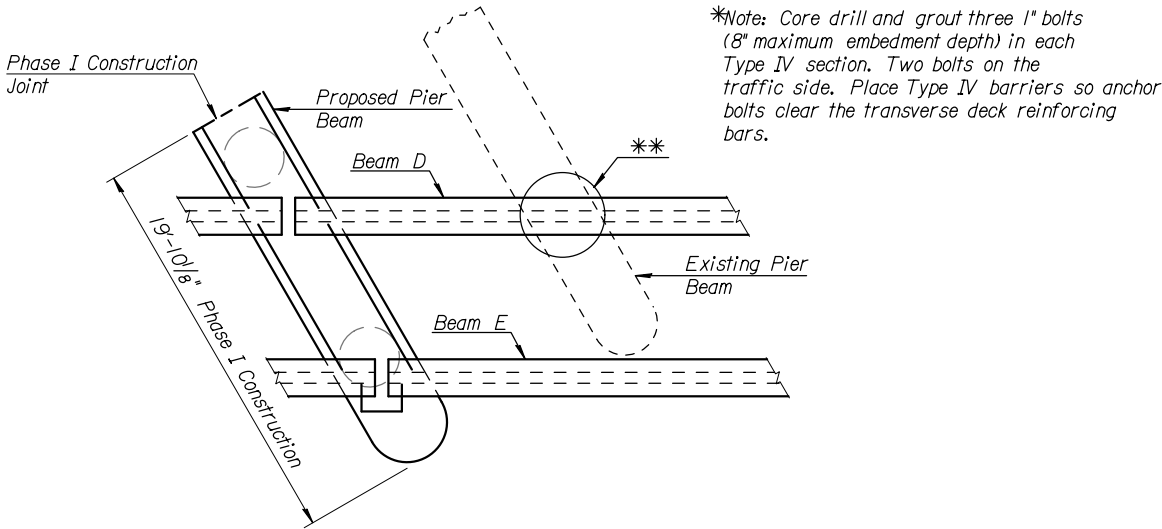
Plotted By : <i>Jruby</i>	
Plot File : <i>k507701a.dgn</i>	Std. Base File :
Plot Date : <i>14-JAN-2013 10:51</i>	Server File : <i>i:\herrick\K507701a.dgn</i>
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View = <i>PLOT3</i>	

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	19	65



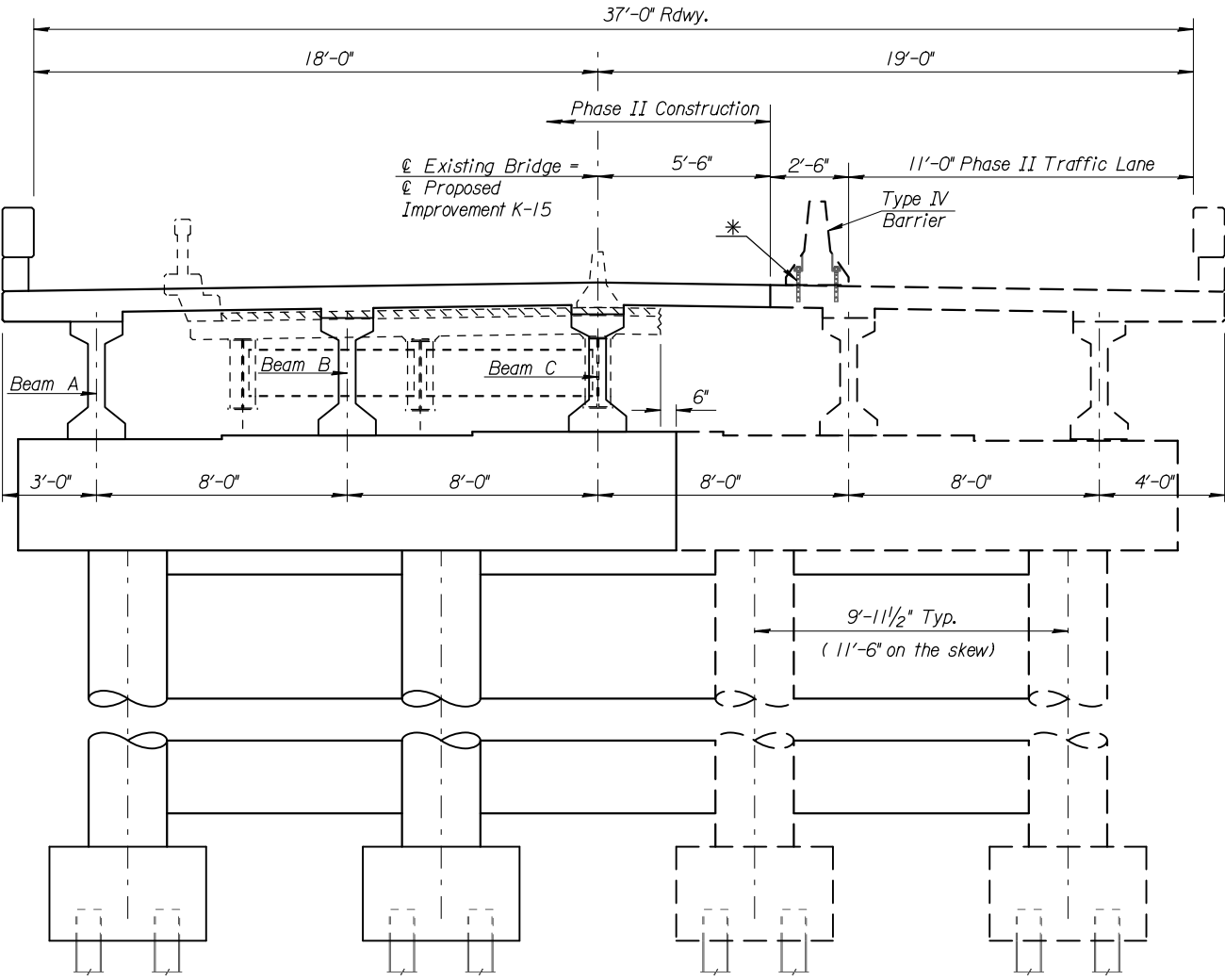
**Note: 3" minimum clearance from bottom of K-3 beam to top of existing pier beams. Remove concrete from existing pier beams as required on the approval of the Engineer. (Maximum removal 4")

PHASE I CONSTRUCTION



Barrier Anchor at Approach

Note: Excavation Bracing will be Subsidiary to Class I Excavation.



PHASE II CONSTRUCTION

GENERAL NOTES

HOLES FOR TEMPORARY SAFETY BARRIER: Holes will be subsidiary to Concrete Class AAA (AE) (SW). Anchor Bolt system for barriers may be removable Keilbond Anchors (by Keiken-Gold Inc.) or conventional anchor bolts with Carter Waters Type I or II epoxy grout. Drilling for anchor bolt holes shall be accomplished by core drilling. Rotary impact drill is not permitted.

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NO.	DATE	REVISIONS				BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION							
Br. No. 15-14-19.35(032)				Sta. 90+44.75			
PHASED CONSTRUCTION (K-15 over Spring Creek)							
Proj. No. 15-14 K-5077-01				Clay Co.			
SHEET NO. 4 OF 22		SCALE		APP'D			
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH	CADD	SSH
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	JSR	CADD CK.	TAH

DATE	DATE	DATE	DATE	DATE	DATE
DESIGN	DETAIL	QUANTITIES	REVISIONS		
PROJ.	DESIGN	DETAIL	QUANTITIES	REVISIONS	
CO.	CHECK				

Plotted By : Truby	Std. Base File : PJ Crow mrc 291-3861	View= PLOT16
Plot File : k50701.bgn	Server File : i:\herrick\k50701.bgn	
Plot Date : 14-JAN-2013 10:52	Server : witch	

Note: If sufficient bearing and penetration into the WELLINGTON FORMATION is achieved before the design pile tip elevation is reached, driving shall cease to avoid damage to the pile.

Proposed Improvement K-15

CD#2 Sta. 89+79 49' Rt. ℓ
AH#4 Sta. 89+82 48' Rt. ℓ

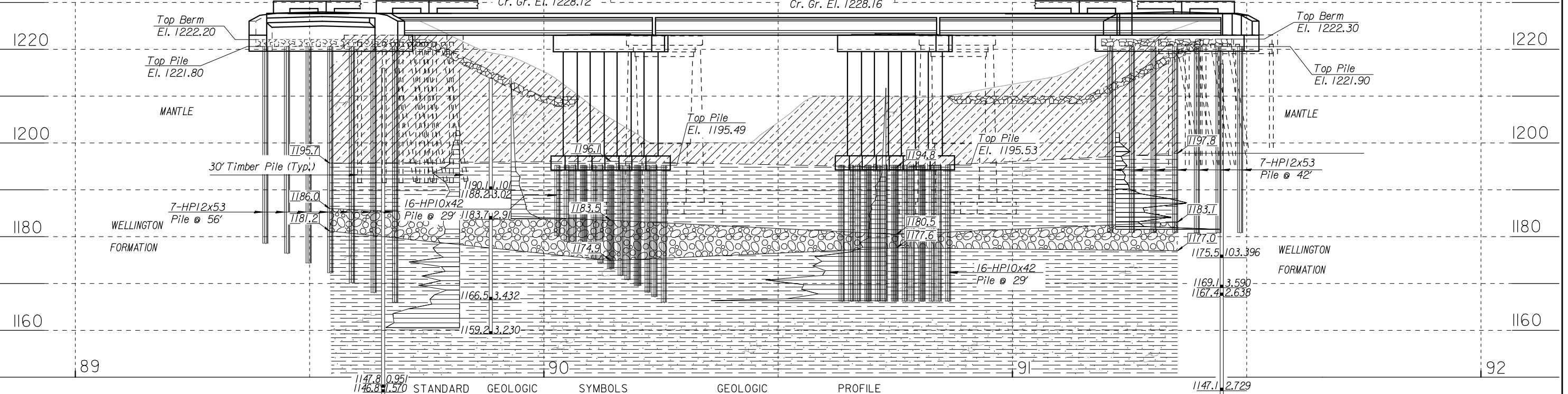
NOTE: Expect variable pile tip elevations @ Abutment No. 1 and Pier No. 1.
See Geology Report.

Brg. Abut. No. 1
Cr. Gr. El. 1228.08

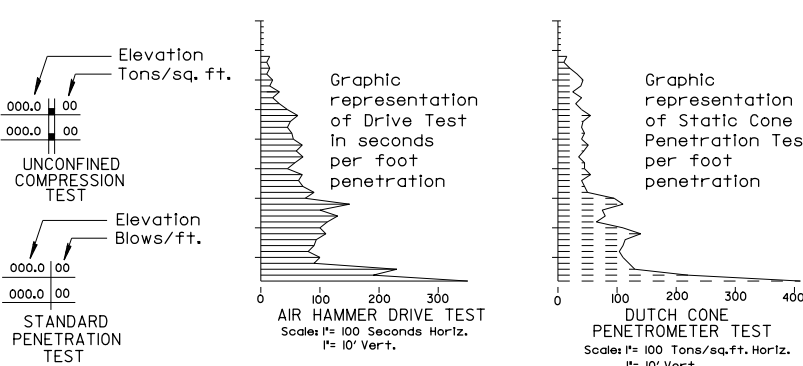
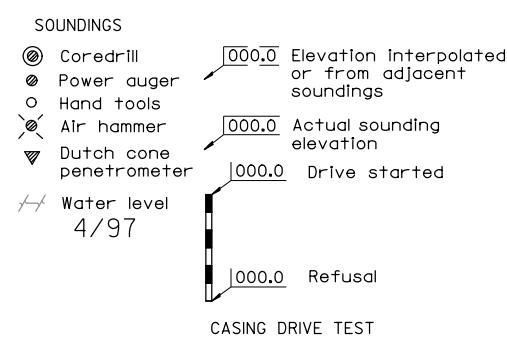
Pier #1
Cr. Gr. El. 1228.12

Pier #2
Cr. Gr. El. 1228.16

Brg. Abut. #2
Cr. Gr. El. 1228.19



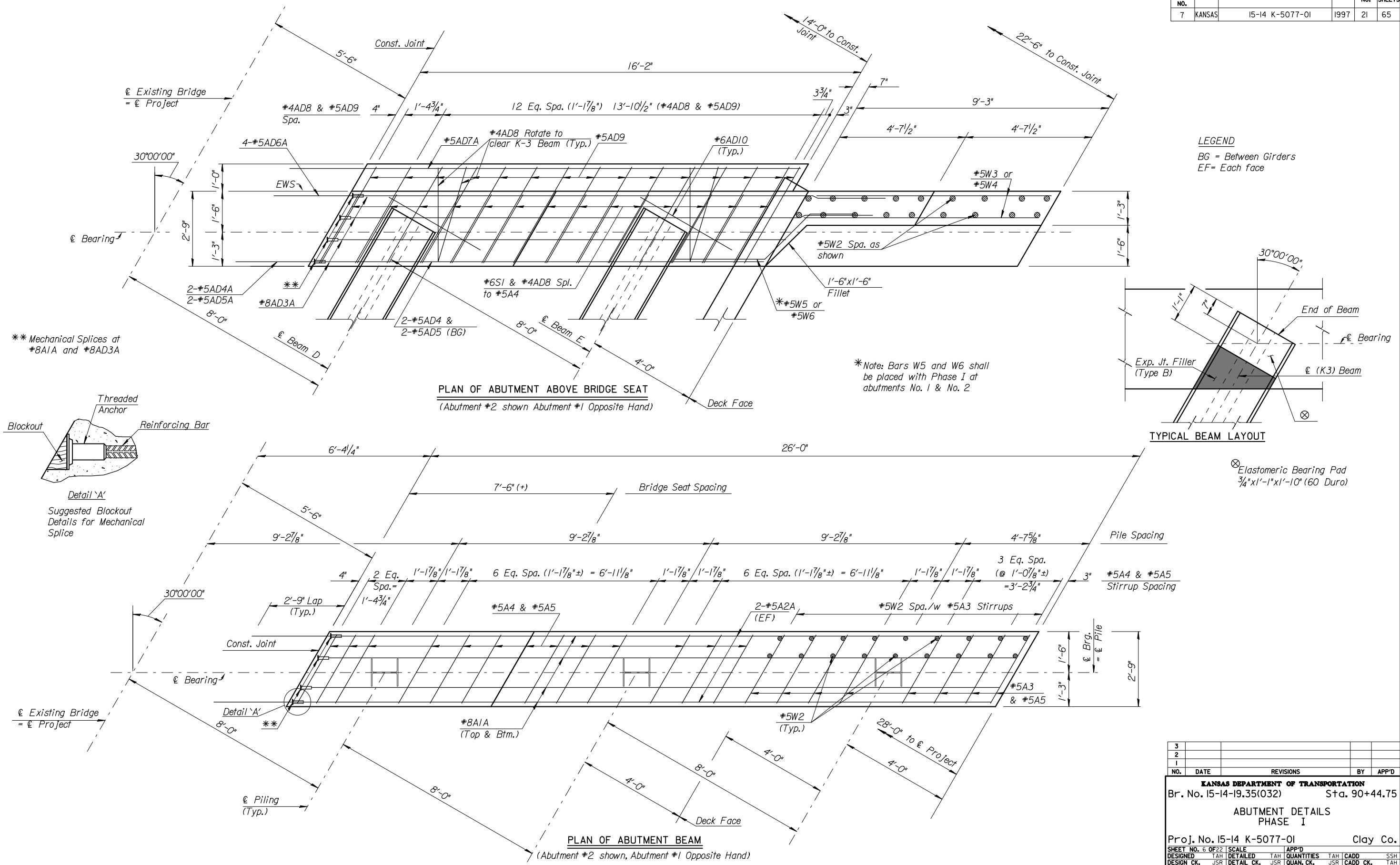
Clay	Caliche	Weathered Shale	Limestone
Silty Clay	Silty Clayey Shale	Sandstone	Cherty Limestone
Silt	Limy Shale	Shaly Sandstone	Shaly Limestone
Sand	Black or Fissile Shale	Siltstone	Sandy Limestone
Gravel	Sandy Shale	Gypsum	Weathered or Broken Limestone
Boulders	Gypsiferous Shale	Coal	Limestone Conglomerate



NOTE: Soundings shown on these plans are taken from notes obtained in the field and represent the best information available. Logs of these soundings are in the files of the Kansas Department of Transportation and are available at their offices at Topeka, Kansas for inspection by interested and qualified bidders. SCALE: 1"= 10' Horiz. 1"= 10' Vert.

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NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
Br. No. 15-14-19.35(032)		Sta. 90+44.75		
ENGINEERING GEOLOGY				
K-15 over Spring Creek				
Proj. No. 15-14 K-5077-01			Clay Co.	
SHEET NO. 5 OF 22 SCALE		APP'D		
DESIGNED	TAH DETAILED	TAH QUANTITIES	TAH TRACED	SSH
DESIGN CK.	JSR DETAIL CK.	JSR QUAN. CK.	JSR TRACE CK.	TAH

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1								
NO.	DATE		REVISIONS		BY	APP'D		
<p align="center">KANSAS DEPARTMENT OF TRANSPORTATION</p> <p align="center">Br. No. 15-14-19.35(032) Sta. 90+44.75</p> <p align="center">ABUTMENT DETAILS</p> <p align="center">PHASE I</p> <p align="center">Proj. No. 15-14 K-5077-01 Clay Co.</p>								
SHEET NO. 6 OF 22	SCALE		APP'D					
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH	CADD	SSH	
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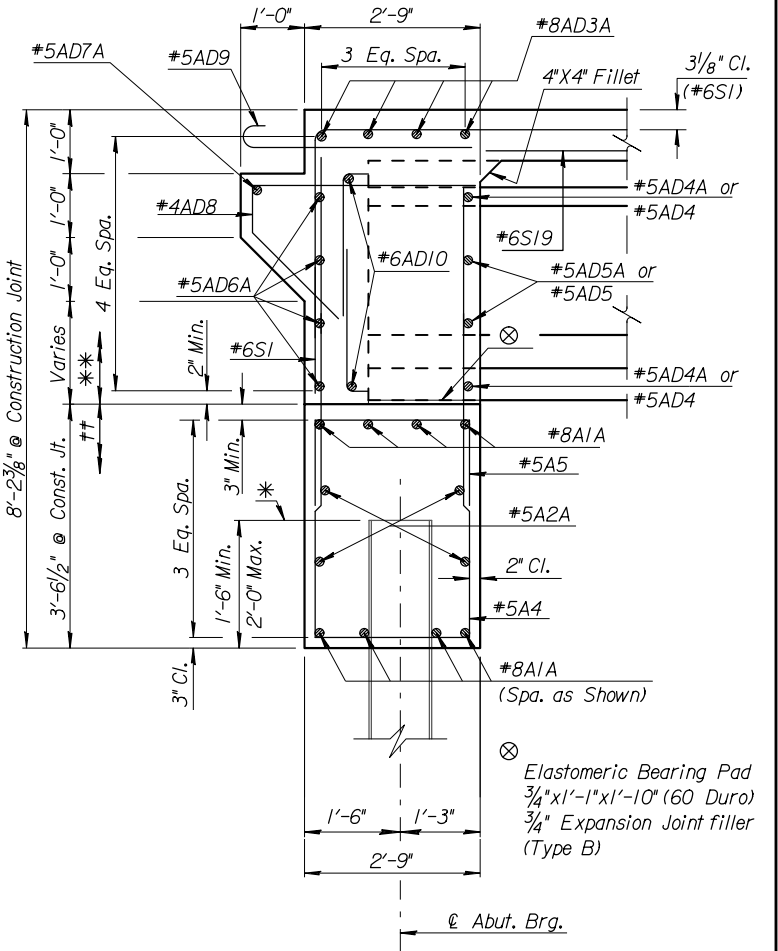
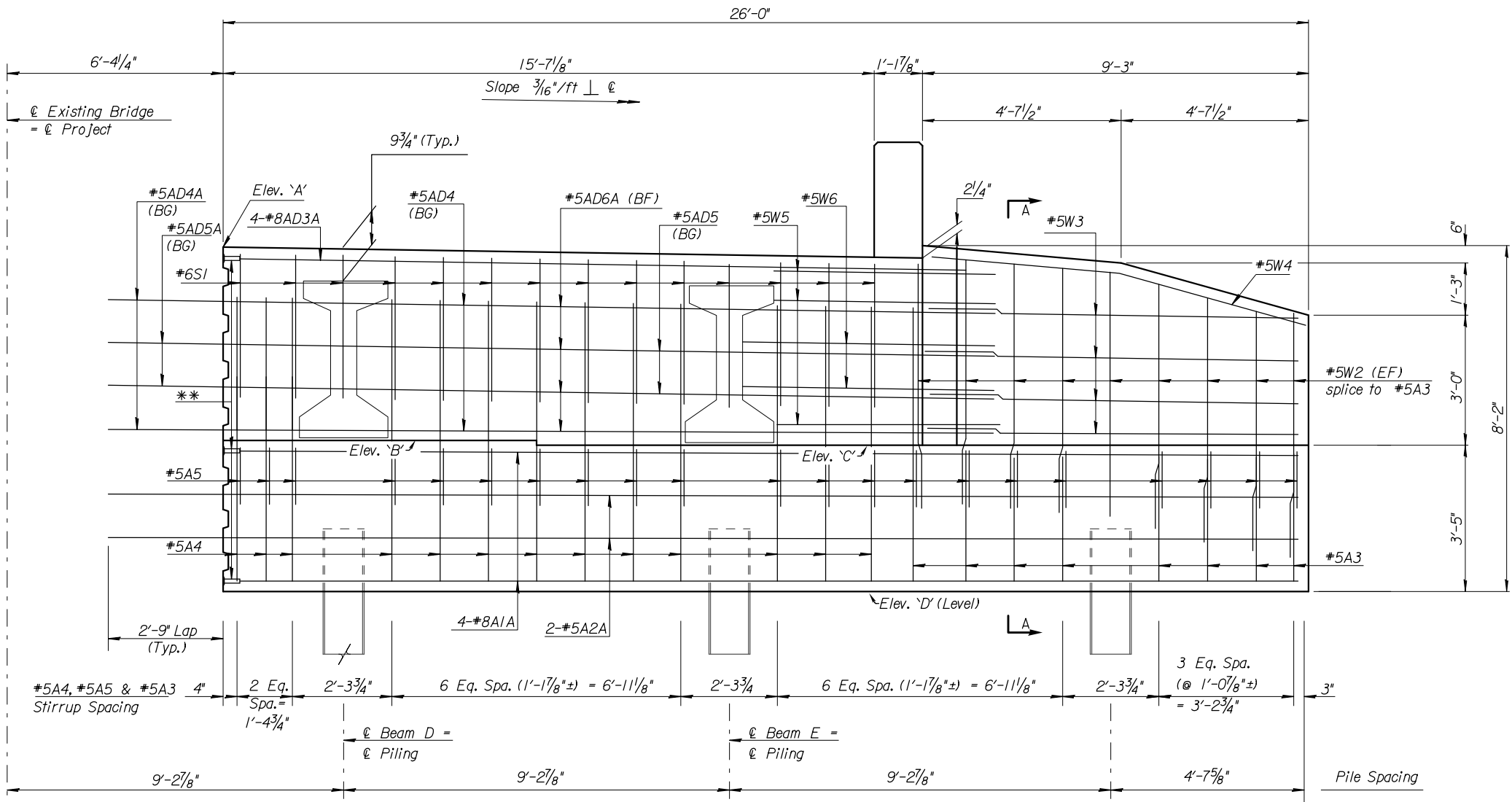


Plotted By : <i>Jruby</i>	Std. Base File :
Plot File : <i>k507701a.dgn</i>	Server File : <i>\\herrick\k507701a.dgn</i>
Plot Date : <i>14-JAN-2013 10:52</i>	Server : <i>witch</i>
	View= <i>PL076</i>

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	22	65

LEGEND
BG = Between girders
BF= Back face
EF= Each face

*Top of Pile Elevation Table	
Abutment #1	Elev. 1221.80
Abutment #2	Elev. 1221.90



TYPICAL SECTION THRU ABUTMENT

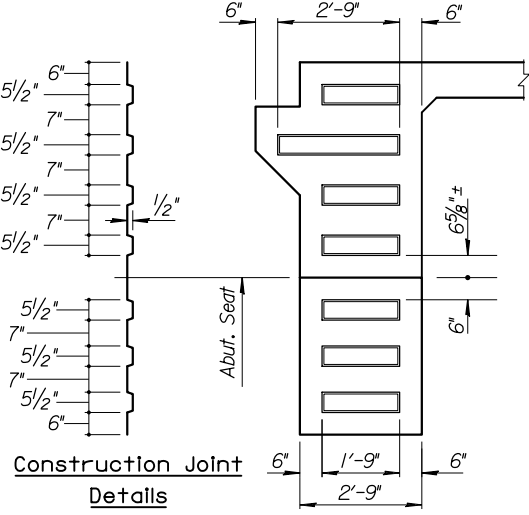
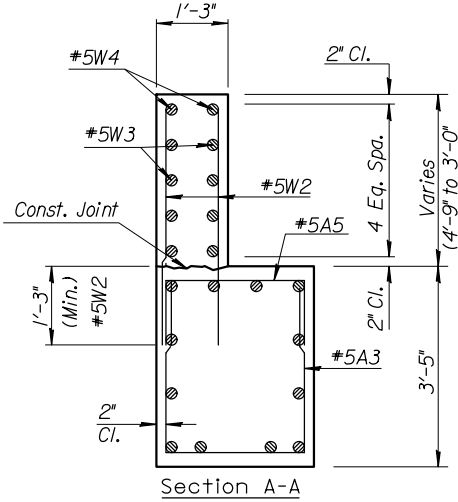
** Superstructure Quantities
Class AAA (AE)(SW) Concrete
++ Substructure Quantities
Class AAA (AE) Concrete

ABUTMENT ELEVATION

(Abutment #2 shown Abutment #1 Opposite Hand)

ELEVATION TABLE				
	Elev. 'A'	Elev. 'B'	Elev. 'C'	Elev. 'D'
Abutment #1	1228.00	1223.34	1223.21	1219.80
Abutment #2	1228.11	1223.44	1223.32	1219.90

** Mechanical Splices at
#8AD3A and #8A1A

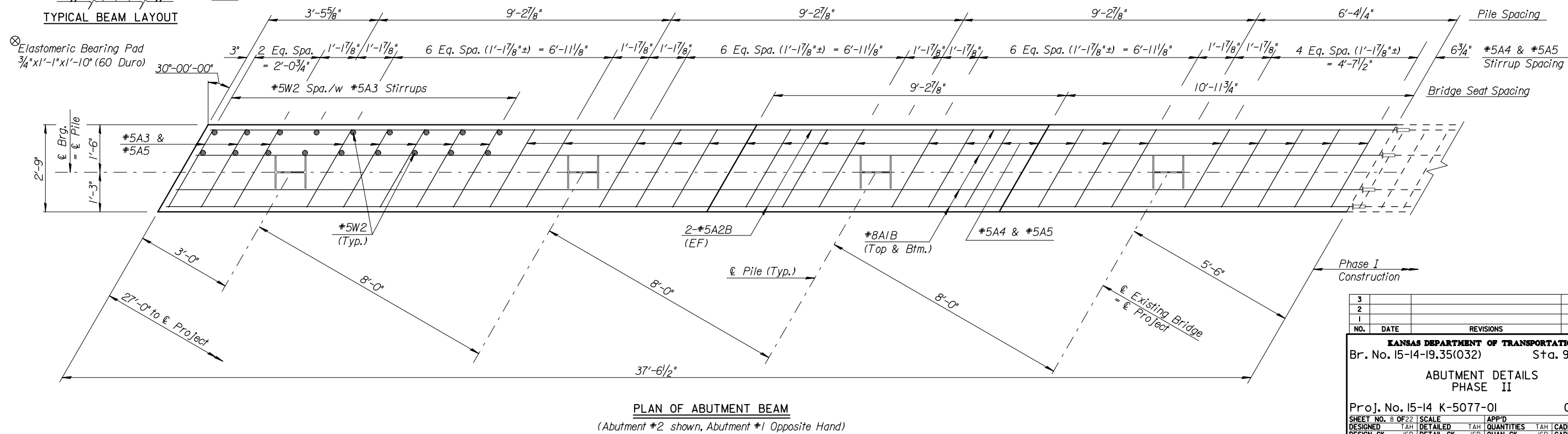
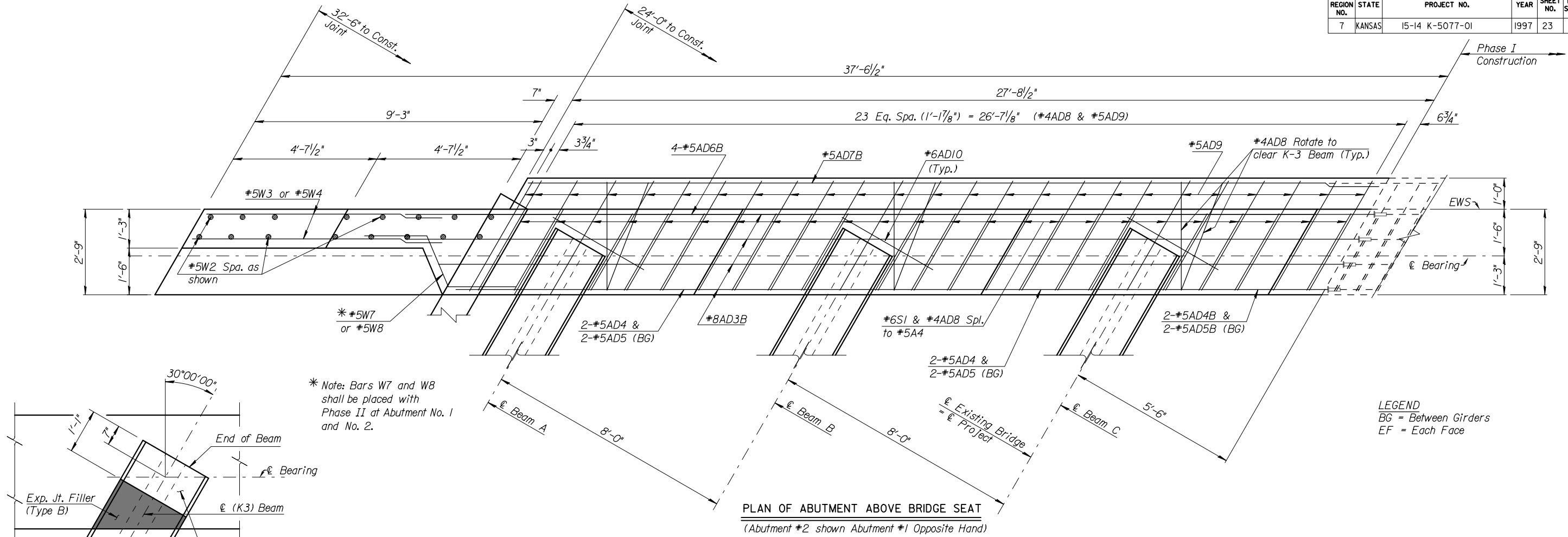


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2					
1					
NO.	DATE	REVISIONS		BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION					
Br. No. 15-14-19.35(032)			Sta. 90+44.75		
ABUTMENT DETAILS					
PHASE I					
Proj. No. 15-14 K-5077-01				Clay Co.	
SHEET NO. 7 OF 22		SCALE		APP'D	
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	CADD CK.
					SSH
					TAH

Plotted By : Jruby
Plot File : k507701a.dgn
Plot Date : 14-JAN-2013 10:52
Std. Base File :
Server File : i:\nerrick\k507701a.dgn
Server : witch
View= PLOT7

Plotted By : Jruby
Plot File : k50701b.dgn
Plot Date : 14-JAN-2013 10:52
Std. Base File :
Server File : i:\nerrick\k50701b.dgn
Server : wltch
View= PLOT21

FWHA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	23	65

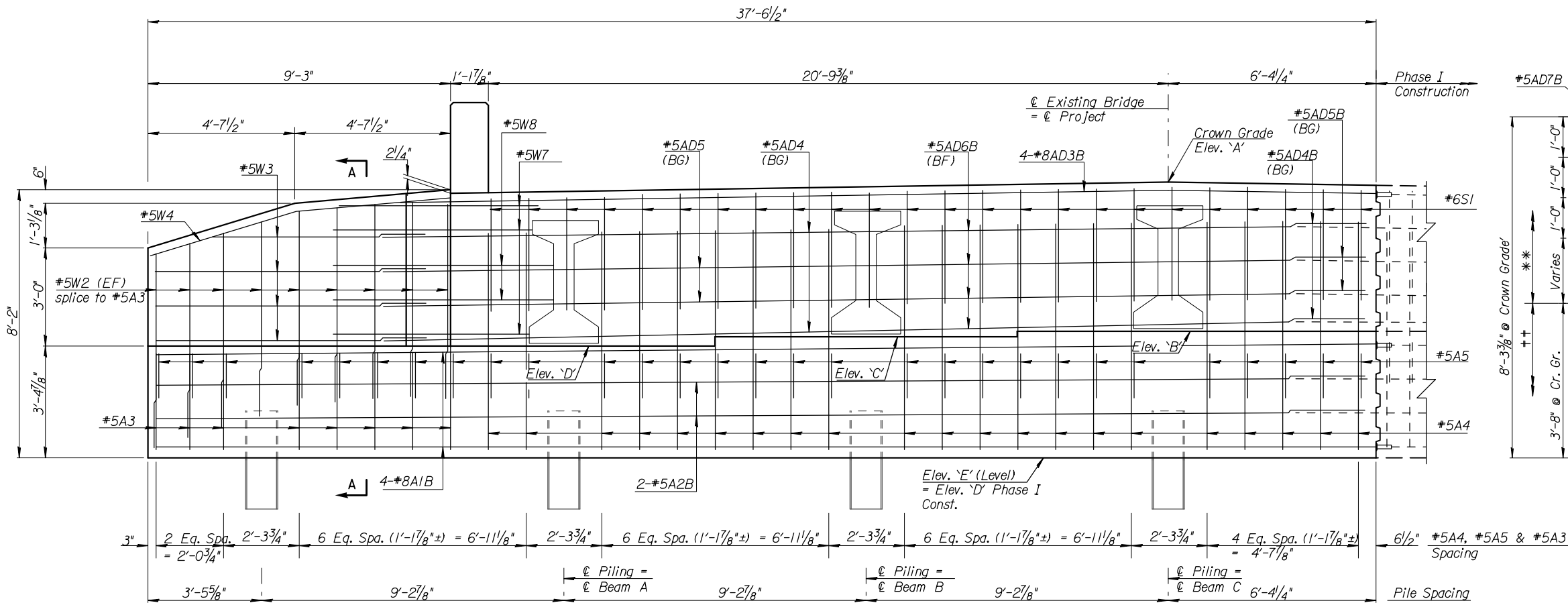


3					
2					
1					
NO.	DATE	REVISIONS		BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION					
Br. No. 15-14-19.35(032)			Sta. 90+44.75		
ABUTMENT DETAILS					
PHASE II					
Proj. No. 15-14 K-5077-01			Clay Co.		
SHEET NO. 8 OF 22		SCALE		APP'D	
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	CADD CK.
					SSH
					TAH

Plotted By : Jruby
Plot File : k507701b.dgn
Plot Date : 14-JAN-2013 10:52

Std. Base File :
Server File : i:\nerrick\k507701b.dgn
Server : witch

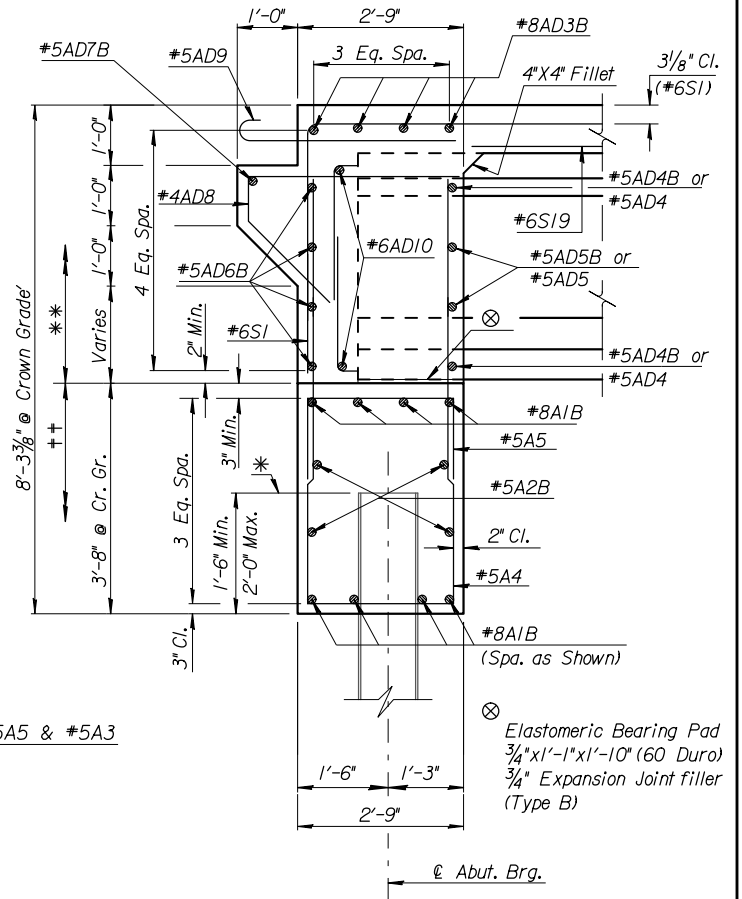
View= PLOT22



ABUTMENT ELEVATION
(Abutment #2 shown Abutment #1 Opposite Hand)

*Top of Pile Elevation Table	
Abutment #1	Elev. 1221.82
Abutment #2	Elev. 1221.93

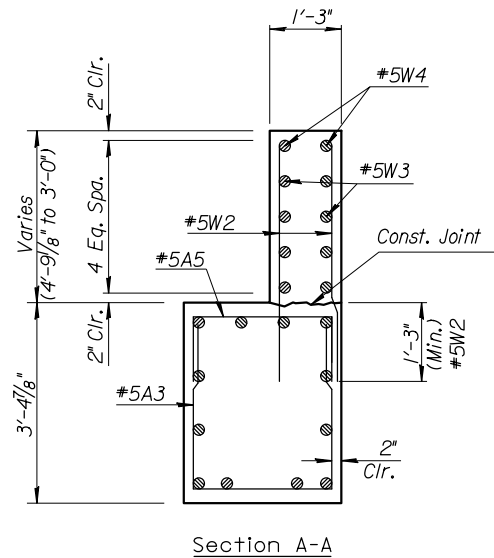
ELEVATION TABLE					
	Elev. 'A'	Elev. 'B'	Elev. 'C'	Elev. 'D'	Elev. 'E'
Abutment #1	1228.08	1223.46	1223.33	1223.20	1219.80
Abutment #2	1228.19	1223.57	1223.44	1223.31	1219.90



TYPICAL SECTION THRU ABUTMENT

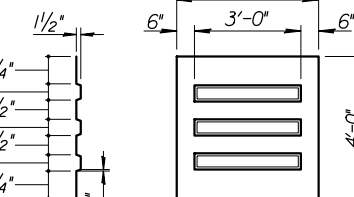
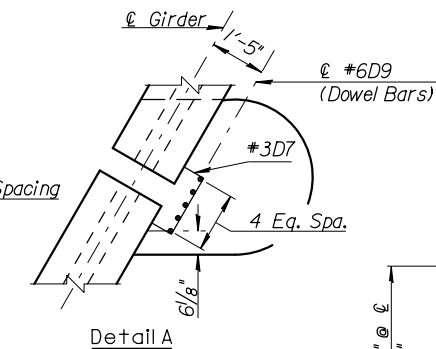
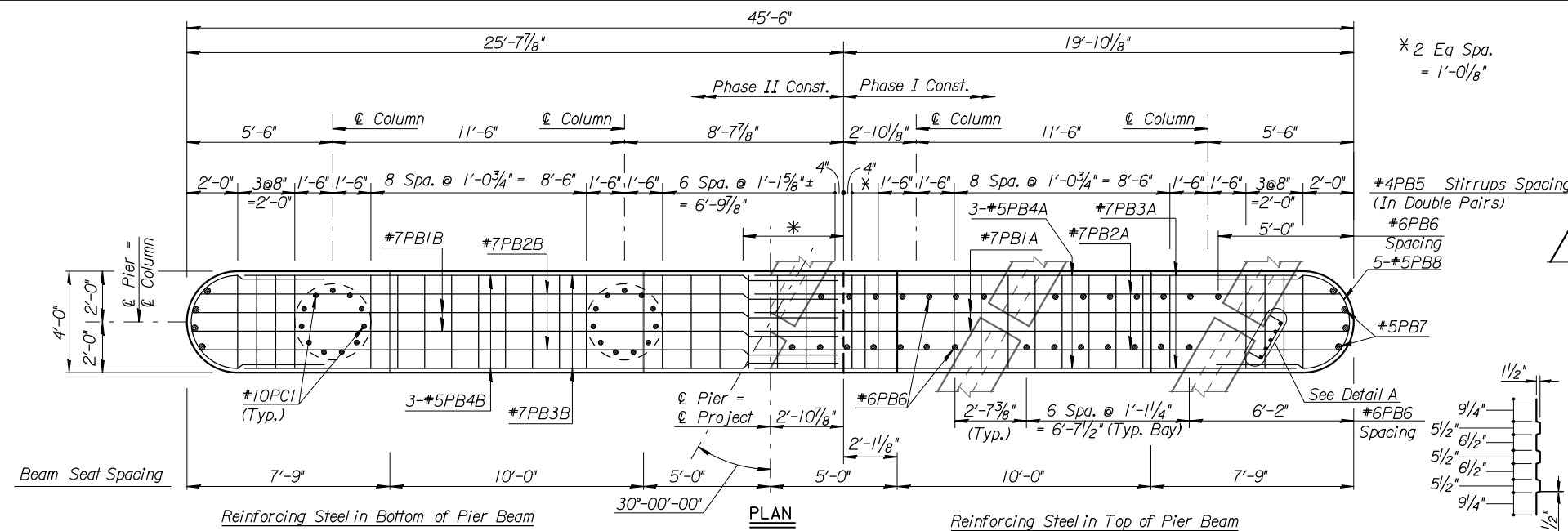
** Superstructure Quantities
Class AAA (AE)(SW) Concrete
++ Substructure Quantities
Class AAA (AE) Concrete

LEGEND
BG = Between Girders
BF = Back Face
EF = Each Face

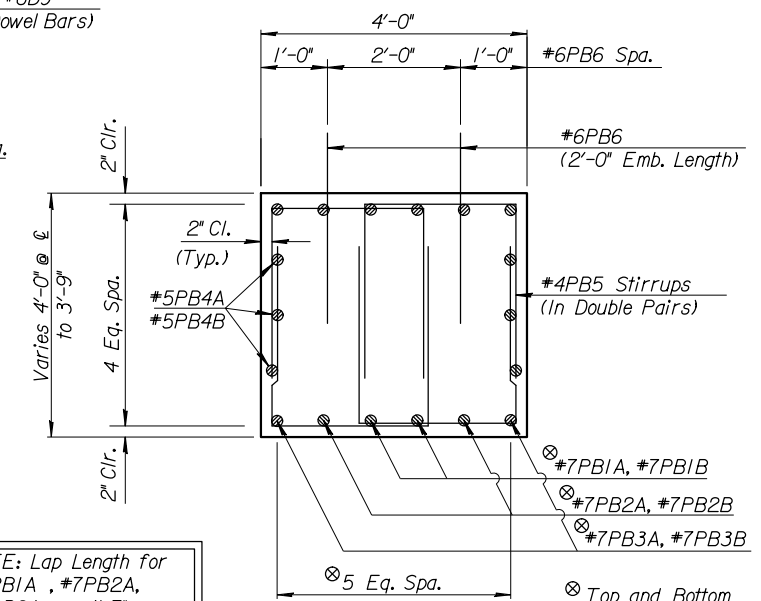


3					
2					
1					
NO.	DATE	REVISIONS		BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION					
Br. No. 15-14-19.35(032)				Sta. 90+44.75	
ABUTMENT DETAILS PHASE II					
Proj. No. 15-14 K-5077-01				Clay Co.	
SHEET NO. 9 OF 22		SCALE		APP'D	
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	TAH
				CADD	SSH
				CADD CK.	TAH

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	26	65



Construction Joint Details

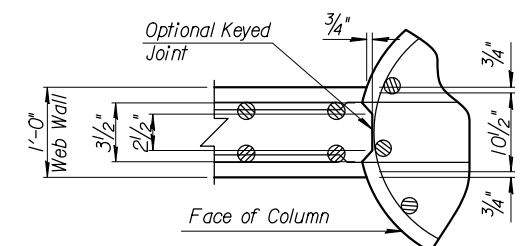


*NOTE: Lap Length for
#7PB1A , #7PB2A,
#7PB3A = 4'-7"
Lap Length for
#5PB4A = 3'-0"

TYPICAL SECTION THRU PIER BEAM

ELEVATION TABLE									
	<i>Elev. 'A'</i>	<i>Elev. 'B'</i>	<i>Elev. 'C'</i>	<i>Elev. 'D'</i>	<i>Elev. 'E'</i>	<i>Elev. 'F'</i>	<i>Elev. 'G'</i>	<i>Elev. 'H'</i>	<i>Elev. 'I'</i>
<i>Pier #1</i>	1223.24	1223.37	1223.49	1223.37	1223.25	1219.49	1206.99	1197.24	1194.49
<i>Pier #2</i>	1223.27	1223.40	1223.53	1223.41	1223.29	1219.53	1210.03	1197.28	1194.53

Note: Phase I requires a construction joint at the web wall from Phase I to Phase II construction. However the Contractor has the option of either casting the columns and pier web monolithically or casting the columns separately using a keyed joint as shown in construction joint detail. If the columns are cast separately, the Contractor may use threaded deformed bars in lieu of the dowel bars. Bar diameter and embedment length into the web wall shall be as designated. The inserts shall develop the full yield strength of the bars. No change in compensation shall be allowed with the use of inserts. Coil inserts will not be allowed.



Construction Joint Detail

3				
2				
1				
NO.	DATE	REVISION	BY	APP'D

KANFAS DEPARTMENT OF TRANSPORTATION
Br. No. 15-14-19.35(032) Sta. 90+44.75
PIER DETAILS

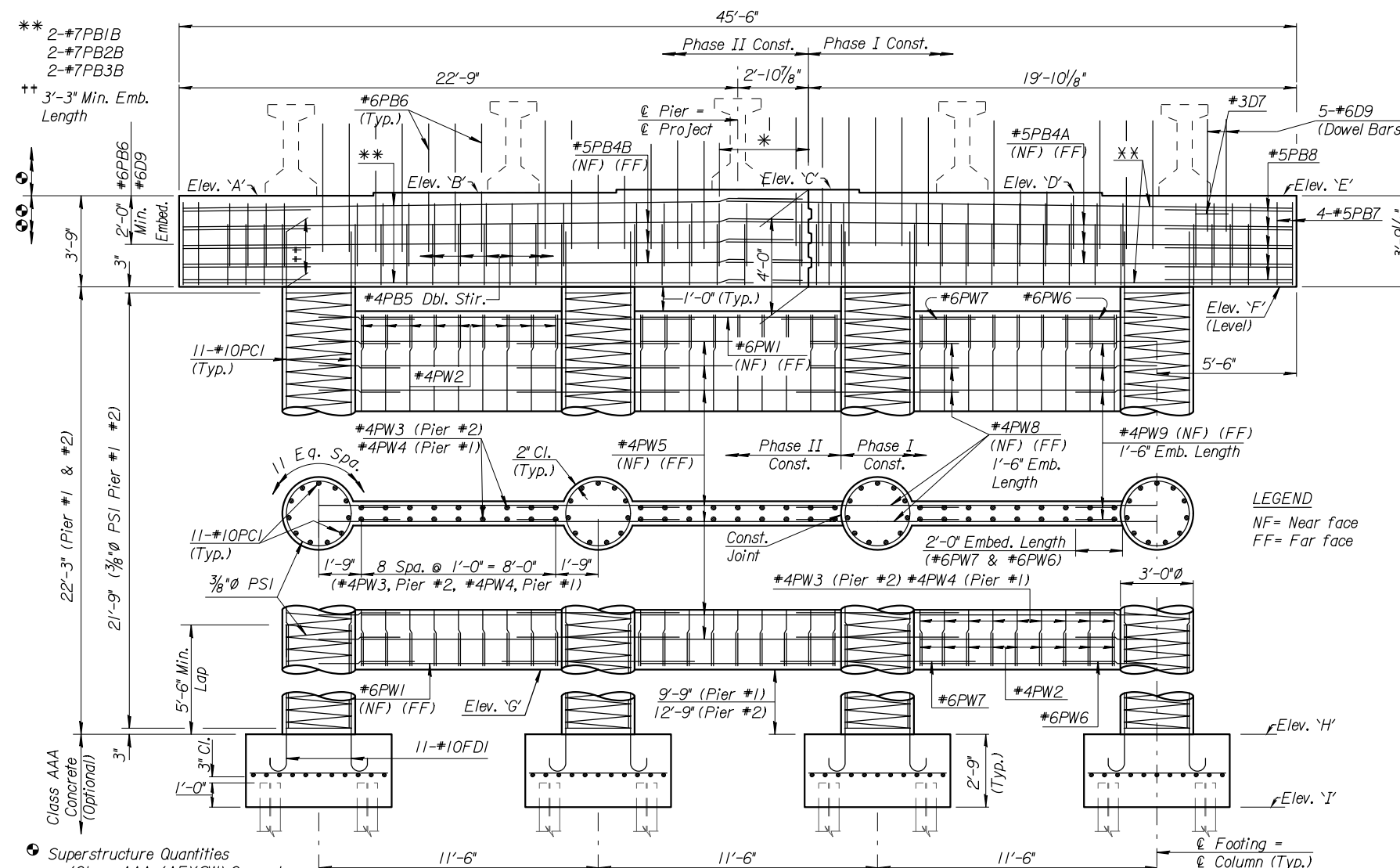
Proj. No. 15-14 K-5077-01	Clay Co.
---------------------------	----------

SHEET NO. 11 OF 22		SCALE		APP'D			
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH	CADD	SSH
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	JSR	CADD CK.	TAH

Sh. No. 26

Plotted By : <i>Jruby</i>	Std. Base File :
Plot File : <i>k50701b.dgn</i>	Server File : <i>i:\herrick\K50701b.dgn</i>
Plot Date : <i>14-JAN-2013 10:52</i>	Server : <i>witch</i>
View = <i>PLOT13</i>	

** 2-#7PB1B
 2-#7PB2B
 2-#7PB3B
 †† 3'-3" Min. Emb.
 Length



** 2-#7PB1A
 2-#7PB2A
 2-#7PB3A

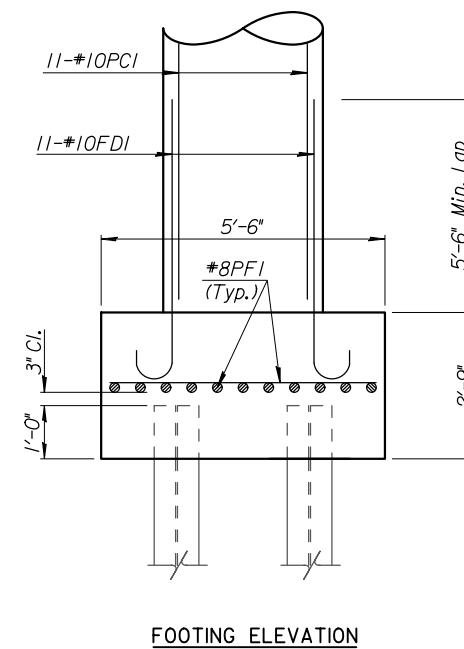
LEGEND
NF= Near face
FF= Far face

NOTE: Adjust spacing or location
of rebar to clear construction joint.
Provide minimum of 1" clearance

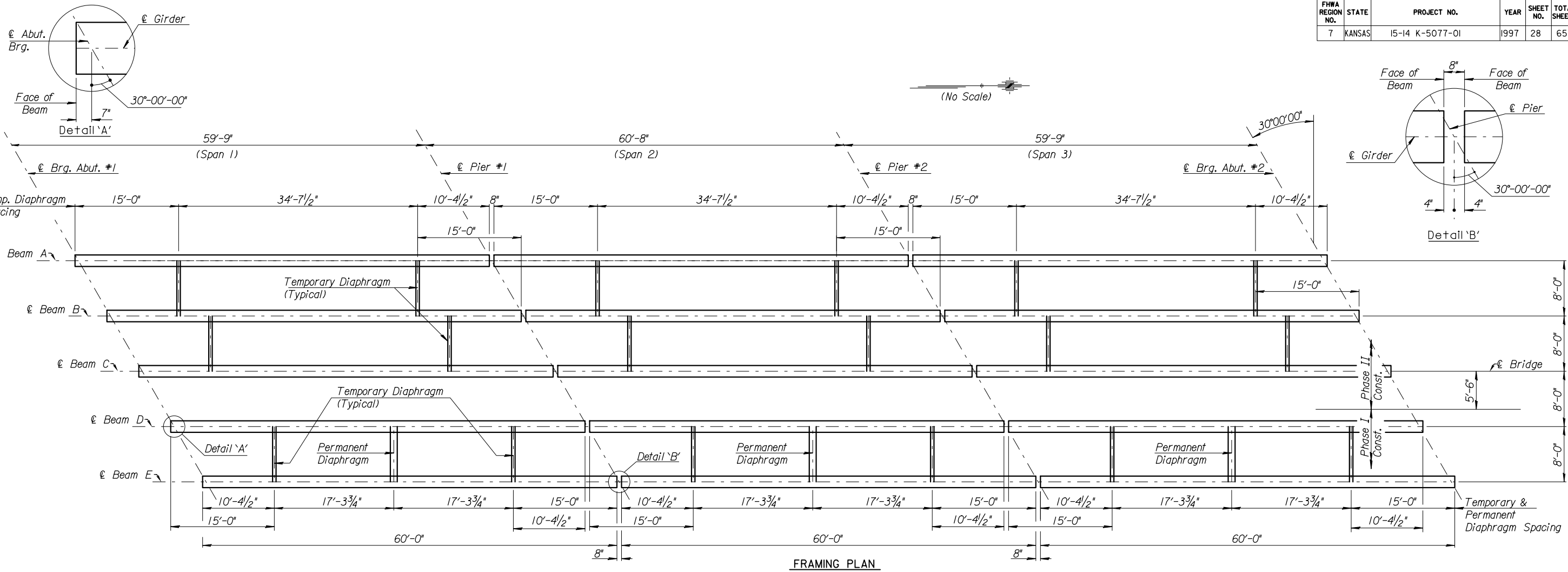
- ⊕ Superstructure Quantities
(Class AAA (AE)(SW) Concrete)
- ⊕⊕ Substructure Quantities
(Class AAA (AE) Concrete)

ELEVATION
(1 to Pier)

Plotted By : <i>Jruby</i>	Std. Base File :
Plot File : <i>k507701b.dgn</i>	Server File : <i>\\Merrick\K507701b.dgn</i>
Plot Date : <i>14-JAN-2013 10:52</i>	Server : <i>witch</i>
View = <i>PL0717</i>	

Sh. No. 27

Plotted By : Jruhy
Plot File : k50701b.dgn
Plot Date : 14-JAN-2013 10:52
Std. Base File :
Server File : i:\nerrick\k50701b.dgn
Server : witch
View= PLOT15

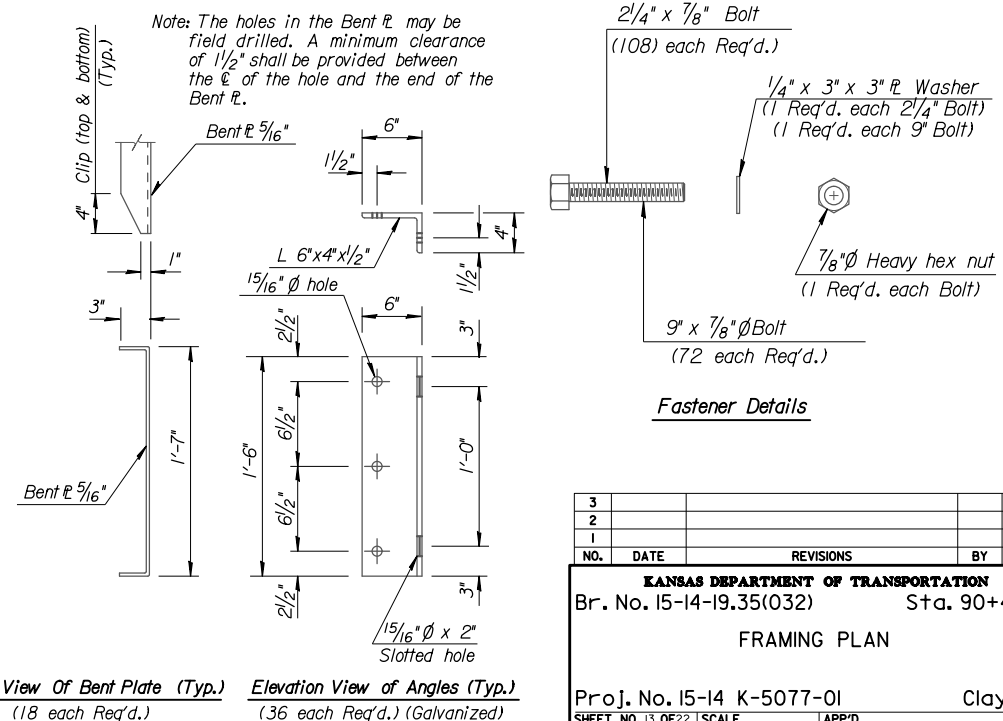
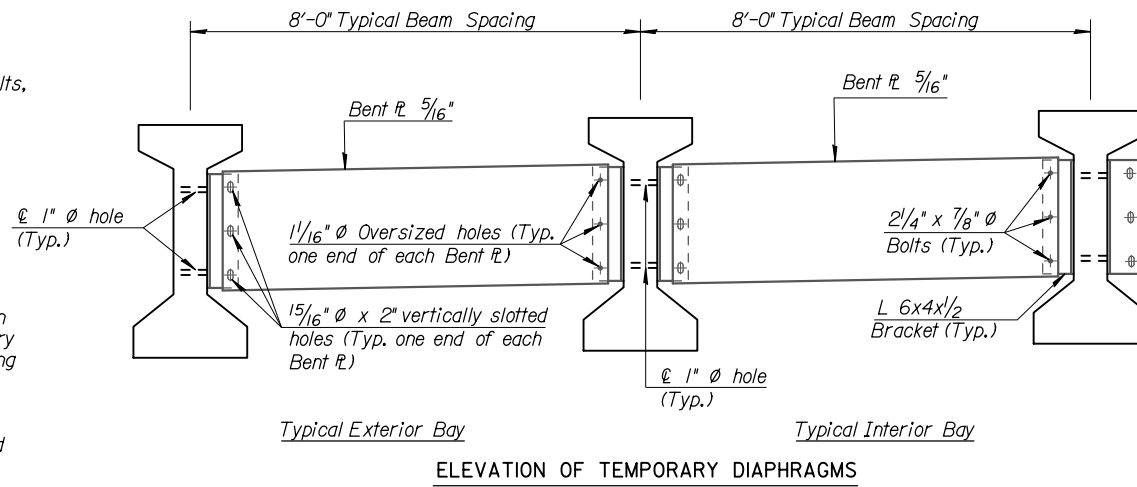


TEMPORARY DIAPHRAGMS: All angles and bent plates for temporary diaphragms shall be ASTM A709 Gr.36 steel. All bolts, nuts, and washers for fasteners shall conform to ASTM A307. The angles, bolts, nuts, and washers shall be galvanized in accordance with the KDOT Specifications, with the exception that the bolts, nuts, and washers may be galvanized in accordance with ASTM B695, Class 5. The temporary diaphragms shall be installed, as shown in the details, prior to placing any superstructure concrete and shall remain in place until the concrete diaphragms and the deck have cured. The Contractor shall remove the angles from the girders and shall fill the holes in the prestressed beams with an approved epoxy grout. The bent plate diaphragms, angles, nuts, bolts, and washers shall remain the property of the Contractor. Shop drawings of the temporary diaphragms shall be submitted to the KDOT Bridge Section for review and approval. The material, equipment, and labor necessary for the installation and removal of the temporary diaphragms including filling the bolt holes shall not be paid for directly, but shall be subsidiary to the bid item "Prestressed Concrete Beams".

At the Contractors option, temporary steel diaphragms may be replaced by CIP concrete diaphragms.

When temporary steel diaphragms are replaced by permanent CIP concrete diaphragms, as approved by the Engineer, all material and labor required to construct the permanent diaphragms shall be subsidiary to other bid items.

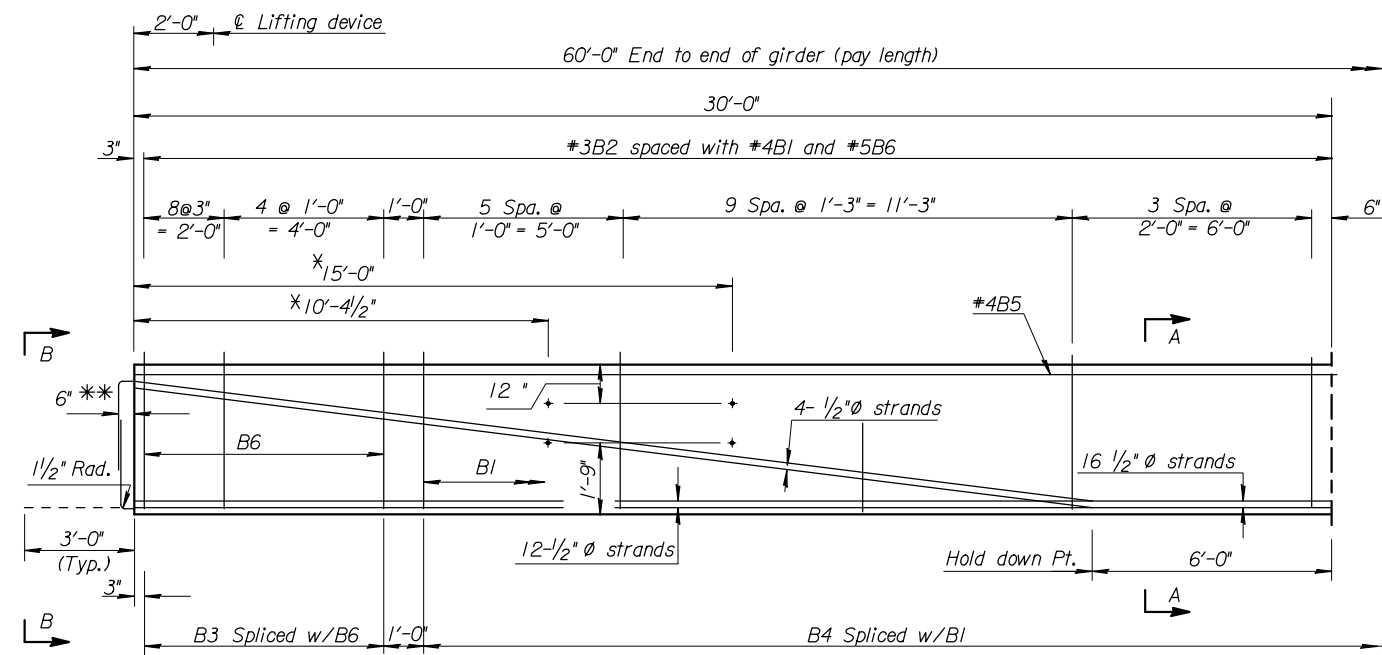
Needle beams may be used in lieu of temporary steel diaphragms to support formwork and stabilize girders during construction, as approved by the Engineer. Needle beam support and framing is considered to be falsework and shall be subject to the falsework review requirements as per the KDOT Specifications.



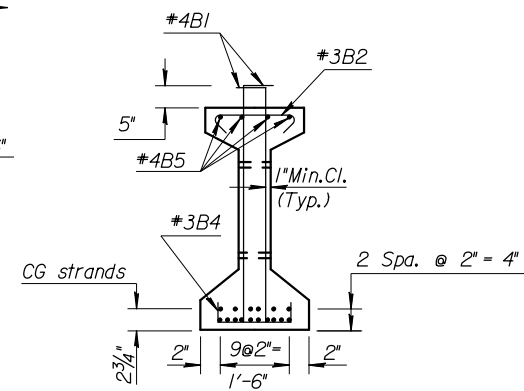
FWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	28	65

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				
KANSAS DEPARTMENT OF TRANSPORTATION				
Br. No. 15-14-19.35(032) Sta. 90+44.75				
FRAMING PLAN				
Proj. No. 15-14 K-5077-01 Clay Co.				
SHEET NO. 13 OF 22	SCALE	APP'D		
DESIGNED	TAH	DETAILED	TAH	QUANTITIES
DESIGN CK.	JSR	DETAIL CK.	JSR	CADD CK.

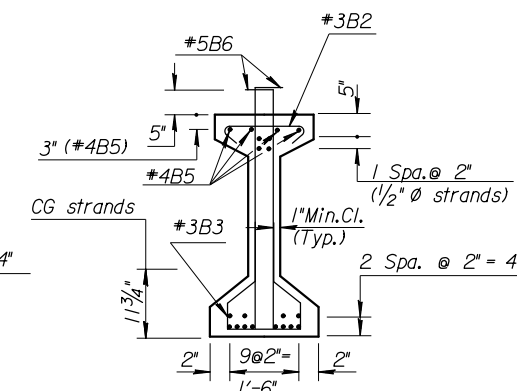
FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	30	65



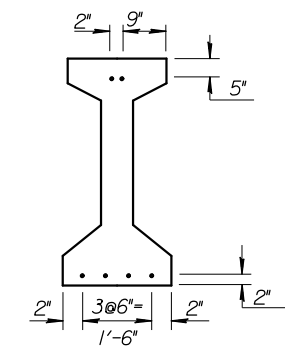
TYPICAL GIRDER ELEVATION TYPE K-3 GIRDERS SPANS 1 Thru 3



SECTION A-A



SECTION B-B

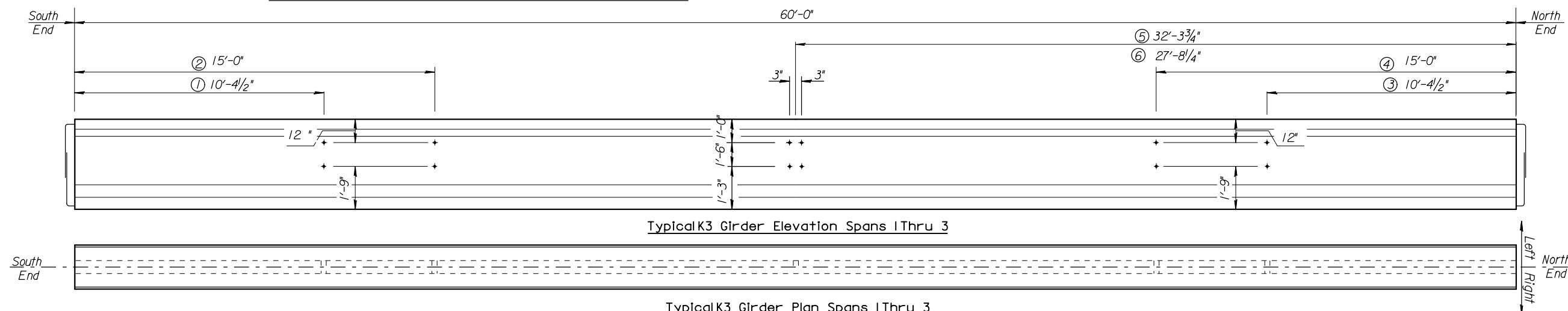


STRAND EXTENSION DETAIL

(60"-0" span beams)

* Holes or inserts
for Temp. Diap.
3/4" Ø Open coil insert
interior face of exterior
girders, 1" Ø formed
holes at interior girder

Note: Extend 4 strands 3'-0" beyond the end of the beam. Strands not shown shall be cut flush with the end of the beam. See "Strand Extension Details".



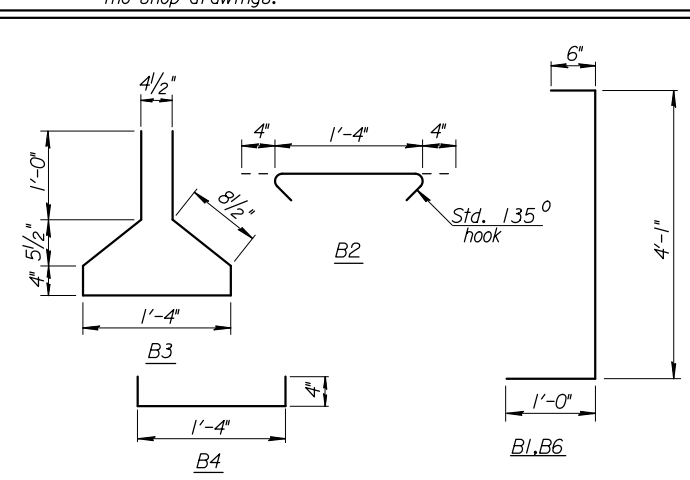
Typical K3 Girder Elevation Spans 1 Thru 3

Typical K3 Girder Plan Spans 1 Thru 3

NOTE: The hold down force at the harp points for 4 strands at 3.87 kips per strand = 15.48 kips total.

NOTE: Epoxy coat all bars.

NOTE: During transportation and construction only, support beams on bearing points a maximum of 5 feet from the beam end. The Fabricator shall show the proposed support locations on the shop drawings.

[illegible]

BILL OF MATERIAL		
Item	Unit	Quantity
Prestressed concrete beams (K-3) (15 Beams @ 60'-0")	Lin.Ft.	900
The following quantities are given for information only and shall not be paid for directly but shall be made <u>subsidiary</u> to the bid item "Prestressed Concrete Beams"		
Beam concrete (f'c= 5000 PSI) (f'ci = 4,000 psi.)(per beam)	Cu.Yds.	8.1
Approx. Wt. per K-3 beam	Tons	16.4
1/2"Ø Prestressing strand (270 KSI low relaxation fy= 243 KSI)	Lin.Ft.	15,863
Epoxy reinforcing steel (fy=60,000 PSI)	Lbs.	12,915
Elastomeric Brg. pads (3/4"x1'-1"x1'-8")	Each	30
3/4" Ø Coil tie inserts	Each	48
3/4" Ø x 1'-6" Threaded coil rods	Each	24
Lifting devices	Each	30
Bearing plates (1/2"x1'-3"x1'-8")	Each	30

Note: Beams shall not be transported to the construction site until the concrete strength of the Prestressed Beams reaches 4,500 psi.

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NO.	DATE	REVISIONS	BY	APP'D	

KANSAS DEPARTMENT OF TRANSPORTATION

Br. No. 15-14-19.35(032) Sta. 90+44.75

K-3 BEAM DETAILS

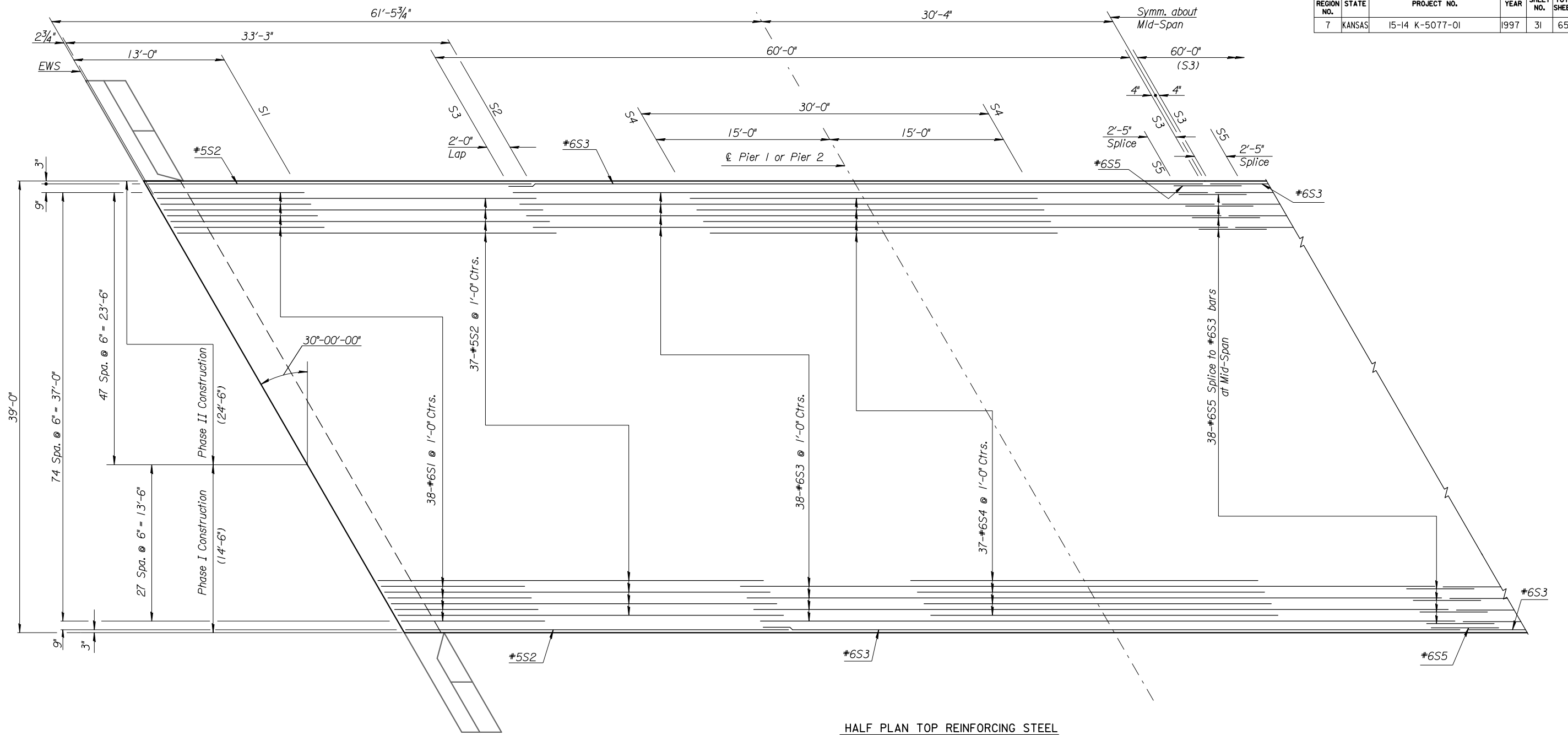
Proj. No. 15-14 K-5077-01 Clay Co.

SHEET NO. 15 OF 22	DATE	9-1-96	APP'D	
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DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.
			TAH	TRACE CK.
				TAH

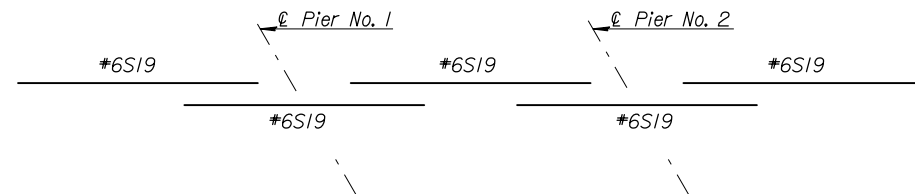
Sh. No. 30

Plotted By : Jruby
Plot File : k507701a.dgn
Plot Date : 14-JAN-2013 10:52

Std. Base File :
Server File : i:\nerrick\k507701a.dgn
Server : wltch
View= PLOT11



HALF PLAN TOP REINFORCING STEEL

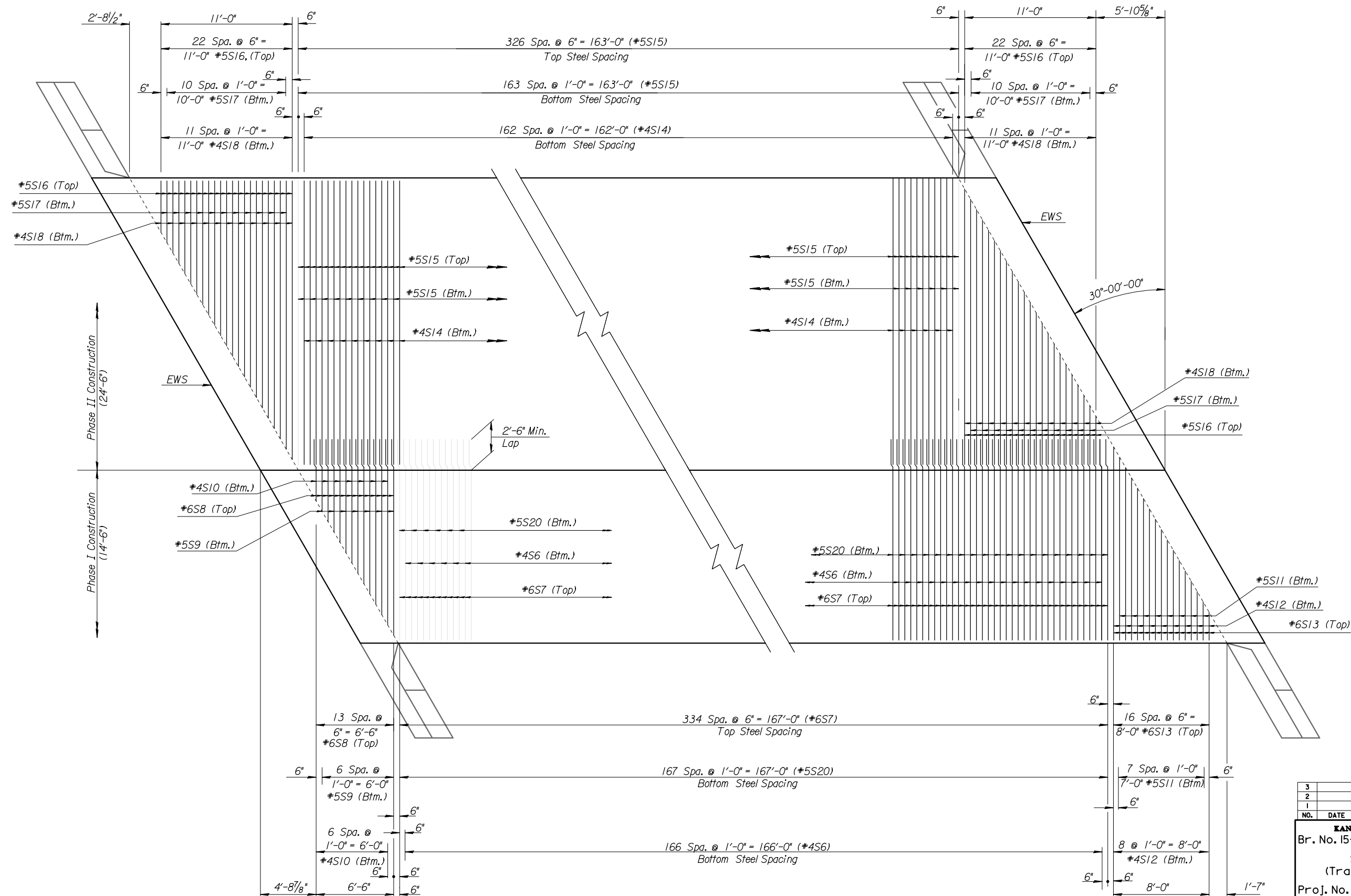


BOTTOM REINFORCING PATTERN
(Lap 3'-1" Typ.) (35 Sets Required)

FWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	I5-14 K-5077-01	1997	31	65

3				
2				
1				
NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
Br. No. 15-14-19.35(032)		Sta. 90+44.75		
SUPERSTRUCTURE DETAILS				
(Longitudinal Reinforcing Steel)				
Proj. No. 15-14 K-5077-01			Clay Co.	
SHEET NO. 16 OF 22		SCALE	APP'D	
DESIGNED	TAH	DETAILED	TAH	QUANTITIES
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.
				CADD
				SSH
				TAH

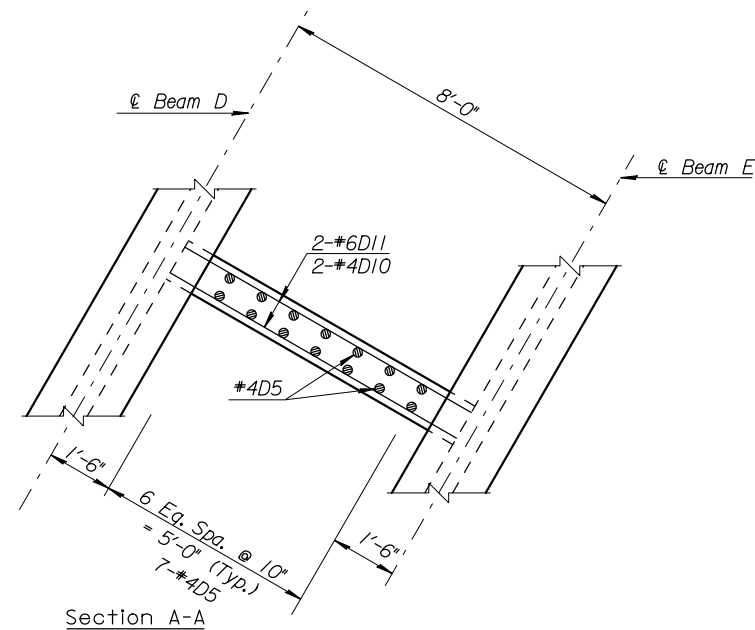
3								
2								
1								
NO.	DATE		REVISIONS		BY		APP'D	
<p align="center">KANSAS DEPARTMENT OF TRANSPORTATION</p> <p align="center">Br. No. 15-14-19.35(032) Sta. 90+44.75</p> <p align="center">SUPERSTRUCTURE DETAILS</p> <p align="center">(Transverse Reinforcing Steel)</p> <p align="center">Proj. No. 15-14 K-5077-01 Clay Co.</p>								
SHEET NO. 17 OF 22	SCALE		APP'D					
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH	CADD	SSH	
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	JSR	CADD CK.	TAH	



PLAN

Plotted By : <i>Jrudy</i>	Std. Base File :
Plot File : <i>k507701b.dgn</i>	Server File : <i>i:\nerrick\k507701b.dgn</i>
Plot Date : <i>14-JAN-2013 10:52</i>	Server : <i>witch</i>
View= <i>PL0718</i>	

Plotted By : <i>Iruby</i>	Std. Base File :
Plot File : <i>k507701b.dgn</i>	Server File : <i>\\Merrick\k507701b.dgn</i>
Plot Date : <i>14-JAN-2013 10:52</i>	Server : <i>witch</i>
View = <i>PL0723</i>	



3'-3 ³/₄"

3 Eq. Spa.
= 2'-9"

1'-0"

#6D11

4"x4" Fillet
(Typ.)

#4D5

#4D10

2" Cl.
(Typ.)

#6D11

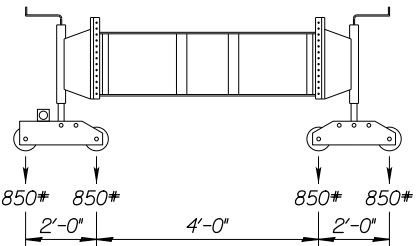
3							
2							
1							
NO.	DATE	REVISIONS	BY	APP'D			
<p align="center">KANSAS DEPARTMENT OF TRANSPORTATION</p> <p align="center">Br. No. 15-14-19.35(032) S+a. 90+44.75</p> <p align="center">SUPERSTRUCTURE DETAILS</p> <p align="center">(Diaphragm at Midspan)</p> <p align="center">Proj. No. 15-14 K-5077-01 Clay Co.</p>							
SHEET NO. 19 OF 22		SCALE	APP'D				
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH	CADD	SSH
DESIGN CK.	JSR	DETAIL CK.	TAH	QUAN. CK.	JSR	CADD CK.	TAH

FWHA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-14 K-5077-01	1997	35	65

GENERAL NOTES

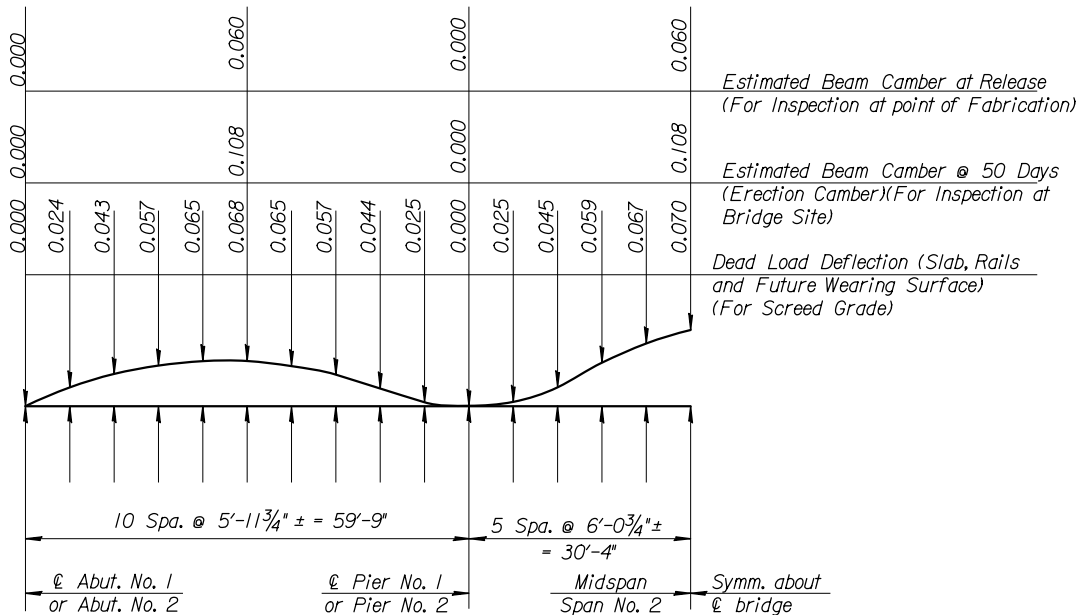
CONCRETE PLACING SEQUENCE: The sequence of placing concrete in the slab and curbs shall be as shown, or the Contractor shall submit an alternate placing sequence for review. The alternate placing sequence shall be given to the Engineer at the Preconstruction Conference. The alternate placing sequence shall include the proposed rate of concrete placement in cubic yards per hour, the plant capacity, placement direction, construction joint location, a description of the equipment used in placing the concrete, proposed admixtures, and the quantity of concrete in each placing segment. Any additional cost for the Contractor's alternate plan of placing concrete, including admixtures, shall be at the Contractor's expense and shall be considered subsidiary to the bid item, "Class AAA Concrete (AE)(SW)". Approval of the Contractor's alternate sequence is required prior to placement of concrete in the deck.

All concrete for the pier diaphragms and the abutment above the bridge seats shall be placed and hand vibrated to the bottom of deck elevation just prior to the normal paving train operations. The work shall be accomplished in a manner to avoid cold joints in either the slab or in the diaphragms.



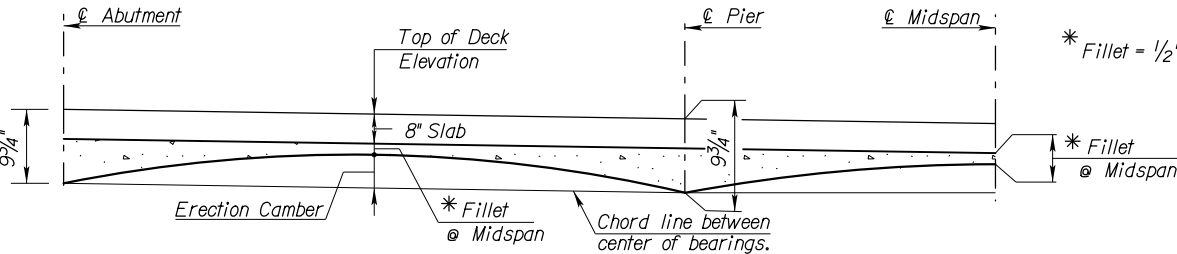
ASSUMED FINISHING MACHINE
VALUES LOADING DIAGRAM

Note: Rotation in the exterior girder was calculated assuming screed wheel loads as shown and placed 3" beyond the outside of the deck. When the actual screed loadings are greater than these assumed loads, the Contractor shall submit to the Engineer design calculations for a torsional analysis of the exterior girder and bracing using the actual screed loads. The design calculations shall bear the seal of a licensed Professional Engineer.



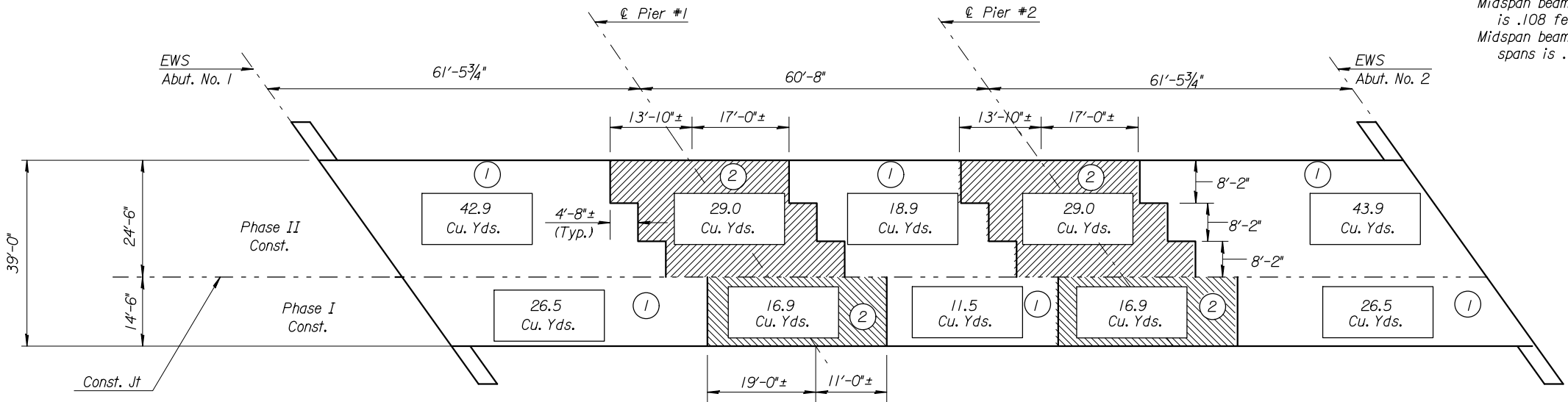
DEAD LOAD DEFLECTIONS

Ordinates are in feet.
Note: Dead Load Deflections are downward
Beam Concrete E_{release} = 3.605E6 psi
Beam Concrete E_{50 days} = 4.030E6 psi



VARIABLE FILLET DIAGRAM
(At E Beams)

NOTE: Midspan beam camber in end spans at release is .060 feet.
Midspan beam camber in intermediate span at release is .060 feet.
Midspan beam camber at 50 days (erection camber) in end spans is .108 feet.
Midspan beam camber at 50 days (erection camber) in intermediate spans is .108 feet.



CONCRETE PLACING SEQUENCE
(See General Notes)

3								
2								
1								
NO.	DATE	REVISIONS				BY	APP'D	
KANSAS DEPARTMENT OF TRANSPORTATION								
Br. No. 15-14-19.35(032)					Sta. 90+44.75			
AUXILIARY SUPERSTRUCTURE DETAILS								
Proj. No. 15-14 K-5077-01					Clay Co.			
SHEET NO. 20 OF 22		SCALE		APP'D		QUANTITIES		SSH
DESIGNED	TAH	DETAILED	TAH	QUANTITIES	TAH	CADD	SSH	
DESIGN CK.	JSR	DETAIL CK.	JSR	QUAN. CK.	JSR	CADD CK.	TAH	