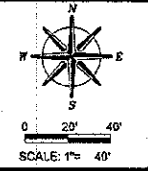


Point modified for clarity
2/22/13

TWP. RT. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	3

ILLINOIS PROJECT BROS-C037(051)
* 08-18121-00-BR
CONTRACT NO. 87467



DATE	REVISIONS

DESIGNED BY	CHECKED BY	DATE

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Ill. Prof. Reg. No. 184-008643

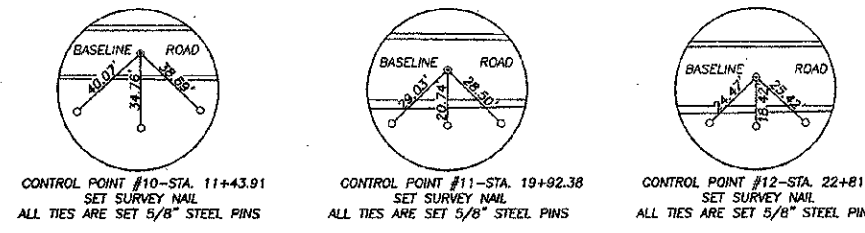
PLAN AND PROFILE
OF
BASELINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

SHEET TITLE
PLAN & PROFILE

JOB NUMBER
2080382

DATE
12/14/2012

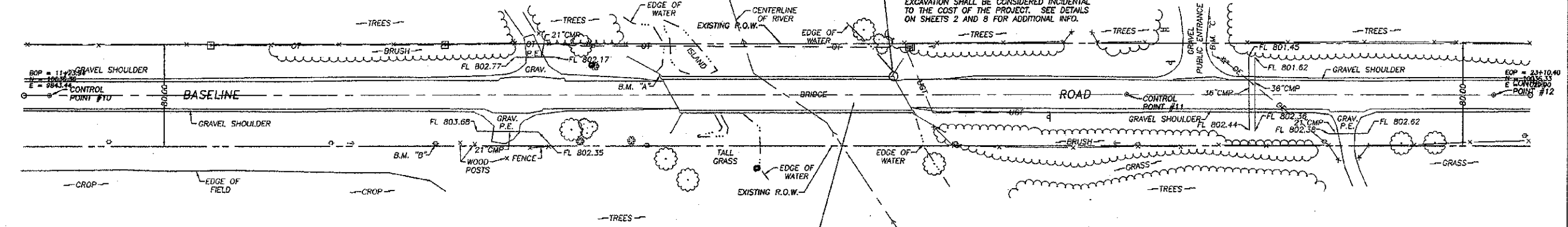
SHEET NO.
3 of 18



CONTROL POINT #10 - STA. 11+43.91
SET SURVEY NAIL
ALL TIES ARE SET 5/8" STEEL PINS

CONTROL POINT #11 - STA. 19+92.38
SET SURVEY NAIL
ALL TIES ARE SET 5/8" STEEL PINS

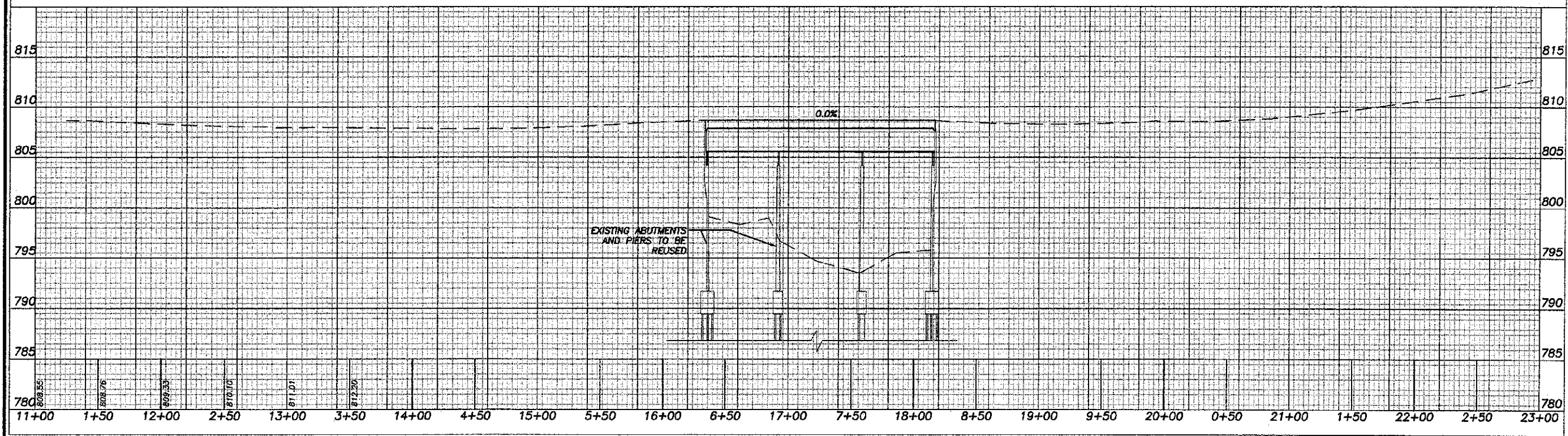
CONTROL POINT #12 - STA. 22+81.63
SET SURVEY NAIL
ALL TIES ARE SET 5/8" STEEL PINS



EXCAVATION WILL BE REQUIRED AT FOUR CORNERS FOR STRUCTURAL REPAIR OF CONCRETE AND BACKWALL/WINGWALL MODIFICATIONS AND AT END OF EXISTING DECK. ALL COSTS ASSOCIATED WITH EXCAVATION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT. SEE DETAILS ON SHEETS 2 AND 8 FOR ADDITIONAL INFO.

STRUCTURE NO. 019-4500
NEW SUPERSTRUCTURE INCLUDING, POURED DECK, STEEL COMPOSITE W27X146 I-BEAMS, AND BEARINGS SUPPORTED BY EXISTING ABUTMENTS AND PIERS. SEATS TO BE ADJUSTED AS REQUIRED TO ACCOMMODATE NEW SUPERSTRUCTURE. EXISTING WINGWALLS TO REMAIN IN PLACE. WORK ALSO INCLUDES CONCRETE REPAIR TO EXISTING SUBSTRUCTURE.

SCALES:
1" = 40' HOR
1" = 5' VER



11/14/2012 10:00 AM

Print modified for clarity.

TWP.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61		DEKALB	18	4

ILLINOIS PROJECT BR08-0037(051)
 08-18121-00-BR
 CONTRACT NO. 87467

2/22/13

GENERAL NOTES

COMPLETE PLANS FOR THE EXISTING STRUCTURE ARE AVAILABLE FROM THE DEKALB COUNTY HIGHWAY OFFICE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THESE PLANS PRIOR TO CONSTRUCTION TO FAMILIARIZE HIMSELF WITH DETAILS OF THE EXISTING STRUCTURE.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO MINOR CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY USED AT THE UNIT PRICE BID FOR THE WORK.

THE CONTRACTOR SHALL COORDINATE THE WORK REQUIRED TO REMOVE AND REATTACH THE EXISTING UTILITIES ATTACHED TO THE EXISTING SUPERSTRUCTURE. EXISTING TELEPHONE CABLE SHALL BE DETACHED FROM THE EXISTING STRUCTURE AND BE REATTACHED TO THE NEW STRUCTURE IN ACCORDANCE WITH REQUIREMENTS OF THE UTILITY COMPANY. ALL SHOP DRAWINGS FOR ATTACHING THE UTILITY TO THE NEW SUPERSTRUCTURE SHALL BE APPROVED BY THE ENGINEER.

FOR UTILITY INFORMATION, CALL J.U.I.L.E. 800-892-0123

CALCULATED WEIGHT OF STRUCTURAL STEEL - 180,827 POUNDS AASHTO M270 GRADE 50 BEAMS, DIAPHRAGMS, SPLICES, FIXED BEARING PLATES, AND ASSOCIATED FASTENERS. WEIGHTS FOR STEEL AND FASTENERS FOR TYPE 1 ELASTOMERIC BEARINGS ASSEMBLIES, INCLUDING SIDE RETAINERS, ARE NOT INCLUDED.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706, GRADE 60.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" DIAMETER, OPEN HOLES 13/16" DIAMETER UNLESS OTHERWISE NOTED.

TIGHTENING AND INSPECTION OF ALL HIGH STRENGTH BOLT CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ISSUE OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A328 (M16A) OR A490 (M253) BOLTS FOR SLIP-CRITICAL CONNECTIONS. EXCEPT TIGHTENING METHODS USING EITHER THE LOAD INDICATING WASHERS OR THE CALIBRATED WRENCH ARE NOT ALLOWED.

REMOVAL OF EXISTING STRUCTURES INCLUDE THE COMPLETE REMOVAL AND SATISFACTORY DISPOSAL OF THE EXISTING SUPERSTRUCTURE INCLUDING BEARINGS AND RELATED HARDWARE.

REMOVAL OF EXISTING STRUCTURES SHALL BE ACCOMPLISHED BY ANY METHOD THE CONTRACTOR ELECTS TO USE BUT MUST CONFORM TO ALL REQUIREMENTS OF THE U.S. ARMY CORPS OF ENGINEERS PERMIT CONDITIONS ALONG WITH ANY OTHER AGENCY REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL CONCRETE AND DEBRIS THAT FALLS INTO THE CREEK AS A RESULT OF ANY CONSTRUCTION OPERATION. REMOVAL METHODS SHALL NOT DAMAGE PORTIONS OF THE STRUCTURE TO REMAIN IN PLACE.

PROTECTIVE COAT HAS BEEN INCLUDED FOR THE TOP OF DECK AND THE NORTH AND SOUTH EDGE OF THE DECK TO THE DRIPNOTCH.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE (THE WIDE FLANGE BEAMS) (THE TENSION FLANGES, WEBS) AND ALL SPLICE PLATE MATERIAL OF THE STEEL GIRDERS.

BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.

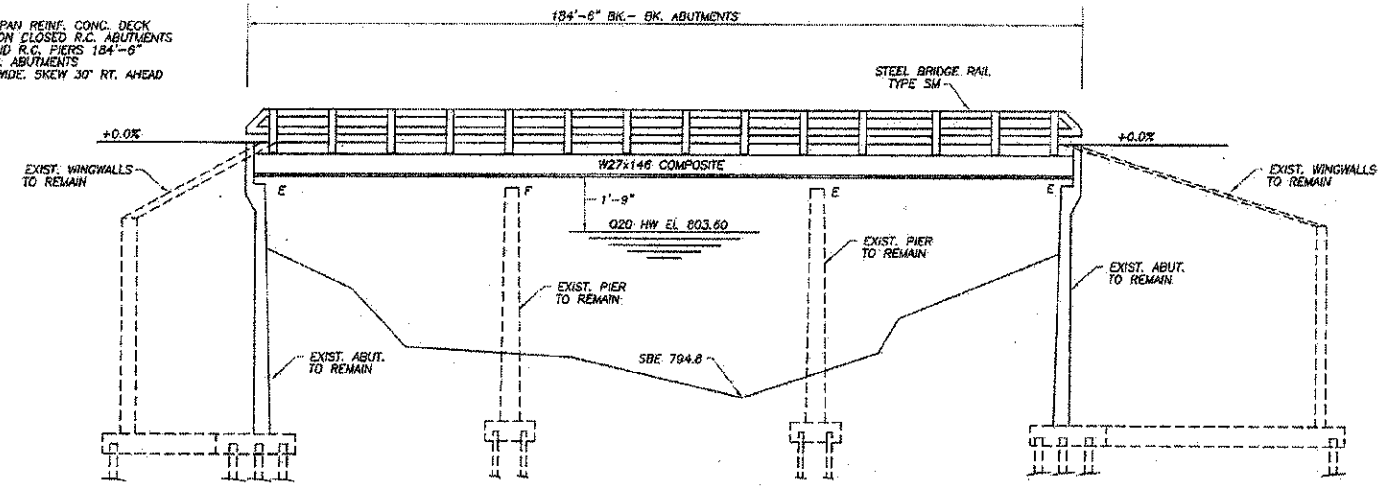
THE CONTRACTOR SHALL MAKE ALLOWANCE FOR THE DEFLECTION OF FORMS, SHRINKAGE AND SETTLEMENT OF FALSEWORK, IN ADDITION TO ALLOWANCE FOR DEAD LOAD DEFLECTION.

IF CANTILEVER FORMING BRACKETS ARE USED ON THE EXTERIOR BEAMS OR GIRDERS, THE BRACKETS SHALL BE PLACED AT THE SAME LOCATIONS AS REQUIRED FOR THE HARDWOOD BLOCKS IN ARTICLE 803.08(b) OF THE STANDARD SPECIFICATIONS. IF ADDITIONAL CANTILEVER FORMING BRACKETS ARE REQUIRED, HARDWOOD BLOCKING SHALL BE WEDGED BETWEEN THE EXTERIOR AND FIRST INTERIOR BEAM AT EACH OF THESE ADDITIONAL BRACKET LOCATIONS.

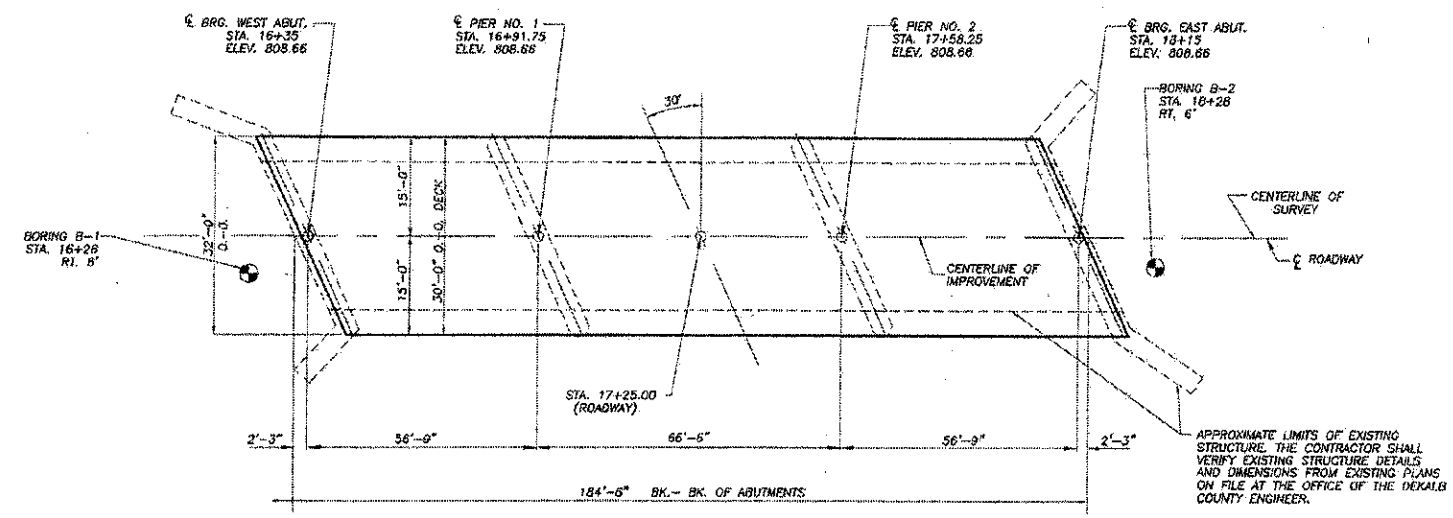
STRUCTURAL STEEL SHALL ONLY BE PAINTED FOR A DISTANCE EQUAL TO THE DEPTH OF EMBEDMENT INTO THE CONCRETE CAP PLUS 3 IN. PAINTED AREAS SHALL BE PRIMED IN THE SHOP WITH A DEPARTMENT APPROVED ZINC RICH PRIMER. FIELD PAINTING WILL NOT BE REQUIRED.

EXISTING STRUCTURE: THREE SPAN REINF. CONC. DECK BRIDGE ON CLOSED R.C. ABUTMENTS AND SOLID R.C. PIERS 184'-6" BK.-BK. ABUTMENTS 28'-4" WIDE, SKEW 30° RT. AHEAD

SALVAGE: NONE.



ELEVATION



PLAN

ALL DIMENSIONS REFERENCING THE EXISTING STRUCTURE SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING WORK OR PROCURING ANY MATERIALS DEPENDENT UPON THOSE DIMENSIONS.

LOADING HS 20-44
 ALLOW 25 psf FOR FUTURE WEARING SURFACE

DESIGN SPECIFICATIONS
 A.A.S.H.T.O. 2007 SPECIFICATIONS AND 2009 INTERIMS

DESIGN DATA
 A.D.T. 1080 (CURRENT)
 1500 (20 YEAR)
 DESIGN SPEED 50 MPH

DESIGN STRESSES
 $f_c = 5000$ psi
 $f_y = 60,000$ psi (REINFORCEMENT)
 $f_y = 50,000$ psi (STRUCTURAL STEEL)
 (AASHTO M270, GRADE 50W)

WATERWAY INFORMATION

DRAINAGE AREA= 230 SQ.M. LOW GRADE ELEV. 808.66 AT STA. 17+25

FLOOD	FREQ. YR.	Q. C.F.S.	OPENING SQ. FT. EXIST.	PROP.	NAT. H.W.E.	HEAD-FT. EXIST.	PROP.	HEADWATER EL.
DESIGN	20	4398	1287	1267	803.6	0.2	0.2	803.6
BASE	100	6280	1487	1487	805.0	0.4	0.3	804.9
MAX. CALC.	500	7977			805.8	1.1	0.7	805.9

SOUTH BRANCH OF KISHWAUKEE
 STA 17+25.00
 SECTION 08-18121-00-BR
 DEKALB COUNTY
 BUILT 2010 LOADING HS20
 STR. NO. 019-4500

LETTERING FOR NAME PLATE
 SEE STD. 515001-03

DESIGNED:	RLR
DRAWN:	BOS
CHECKED:	
DATE:	

BILL OF MATERIAL BRIDGE

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
REMOVAL OF EXISTING SUPERSTRUCTURES	EACH			1
CONCRETE STRUCTURES	CU YD		8.3	8.3
CONCRETE SUPERSTRUCTURE	CU YD	145.5		145.5
BRIDGE DECK GROOVING	SQ YD	611.2		611.2
PROTECTIVE COAT	SQ YD	665.6		665.6
FURNISHING AND ERECTING STRUCTURAL STEEL	L. SUM	7		7
STUD SHEAR CONNECTORS	EACH	2700		2700
REINFORCEMENT BARS (EPOXY COATED)	POUND	37842	1048	38890
NAMEPLATES	EACH	1		1
ELASTOMERIC BEARING ASSEMBLY, TYPE 1	EACH	15		15
STEEL BRIDGE RAIL, TYPE SM	FOOT	389		389
STRUCTURAL REPAIR OF CONCRETE (DEPTH > 5")	SQ FT		21	21
STRUCTURAL REPAIR OF CONCRETE (DEPTH < 5")	SQ FT		30	30



I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS BRIDGE/BOX CULVERT DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMIC ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT "AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES".

GENERAL PLAN & ELEVATION
 SECTION 08-18121-00-BR
 DEKALB COUNTY
 S.N. 019-4500

SCALE: 1" = 100'

DATE	REVISION

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

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 ENGINEERS ARCHITECTS SCENARISTS
 www.wendlerdesign.com ph: 312.262.2261
 1400 Professional Design Firm, Inc. 08-1000001

GENERAL PLAN AND ELEVATION
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE

GPE

JOB NUMBER
 2080382

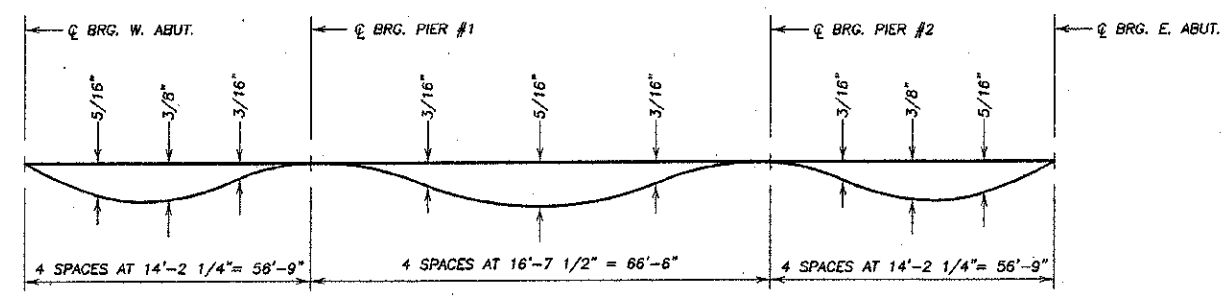
DATE
 2/8/2013

SHEET NO.

4 of 18

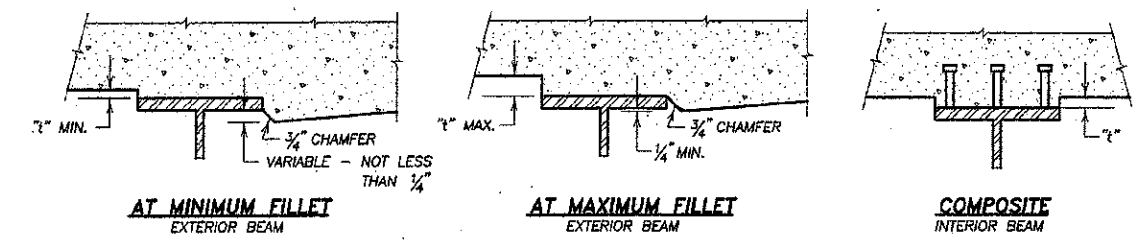
Print mod. Filed for clarity.
2/22/13

TWP. RTE. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	5
ILLINOIS PROJECT BRCS-0037(051)				
* 08-18121-00-BR				
CONTRACT NO. 67467				



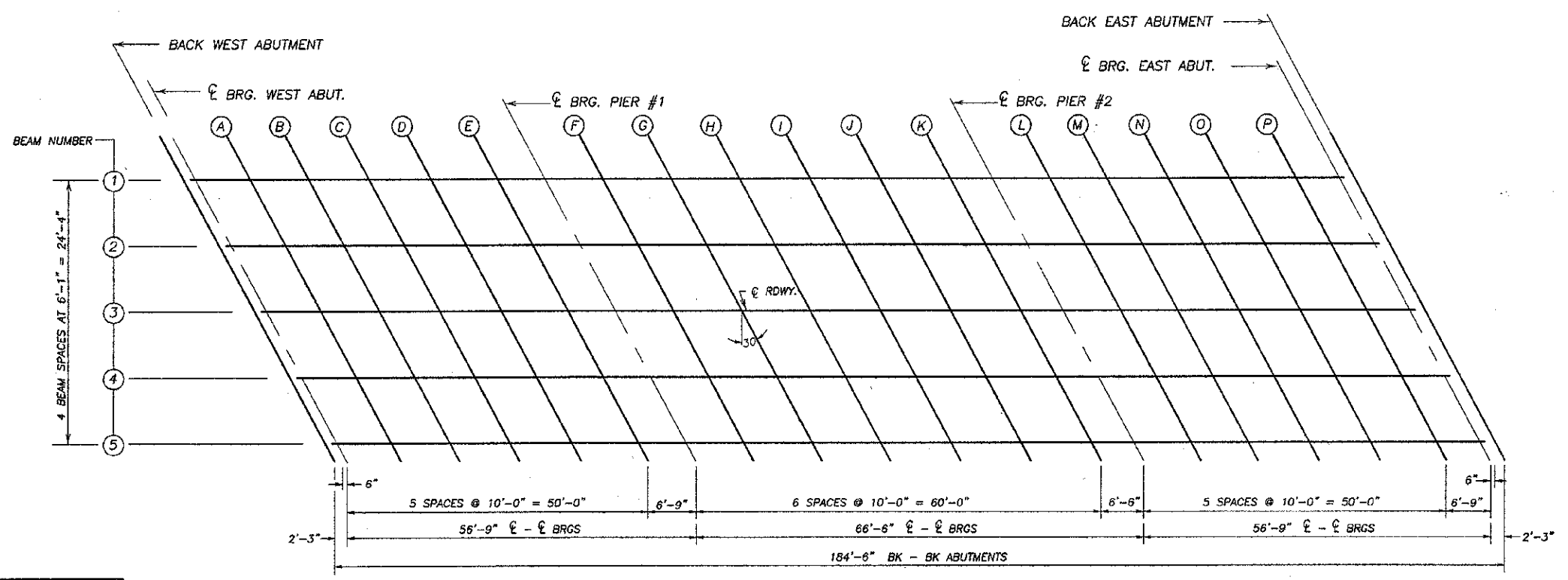
DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AS SHOWN BELOW.



NOTE: TO DETERMINE "t" - AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT THE STATIONS SHOWN. THESE ELEVATIONS SUBTRACTED FROM THE THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS, MINUS FLOOR THICKNESS, EQUALS THE FILLET HEIGHTS ABOVE TOP FLANGE OF BEAMS.

FILLET HEIGHTS



PLAN

DECK LAYOUT
SECTION 08-18121-00-BR
DEKALB COUNTY
S.N. 019-4500

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

NO.	DATE	REVISIONS

DESIGNED BY	RLR
DRAWN BY	BDS
CHECKED BY	
DATE	

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1105 Professional Design Firm No. 154-006618

DECK ELEVATION LAYOUT
OF
BASE LINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

SHEET TITLE
DECK ELEVATION LAYOUT

JOB NUMBER
2080382

DATE
12/14/2012

SHEET NO.
5 of 18

Print modified for clarity.

2/22/13

TWP.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	7

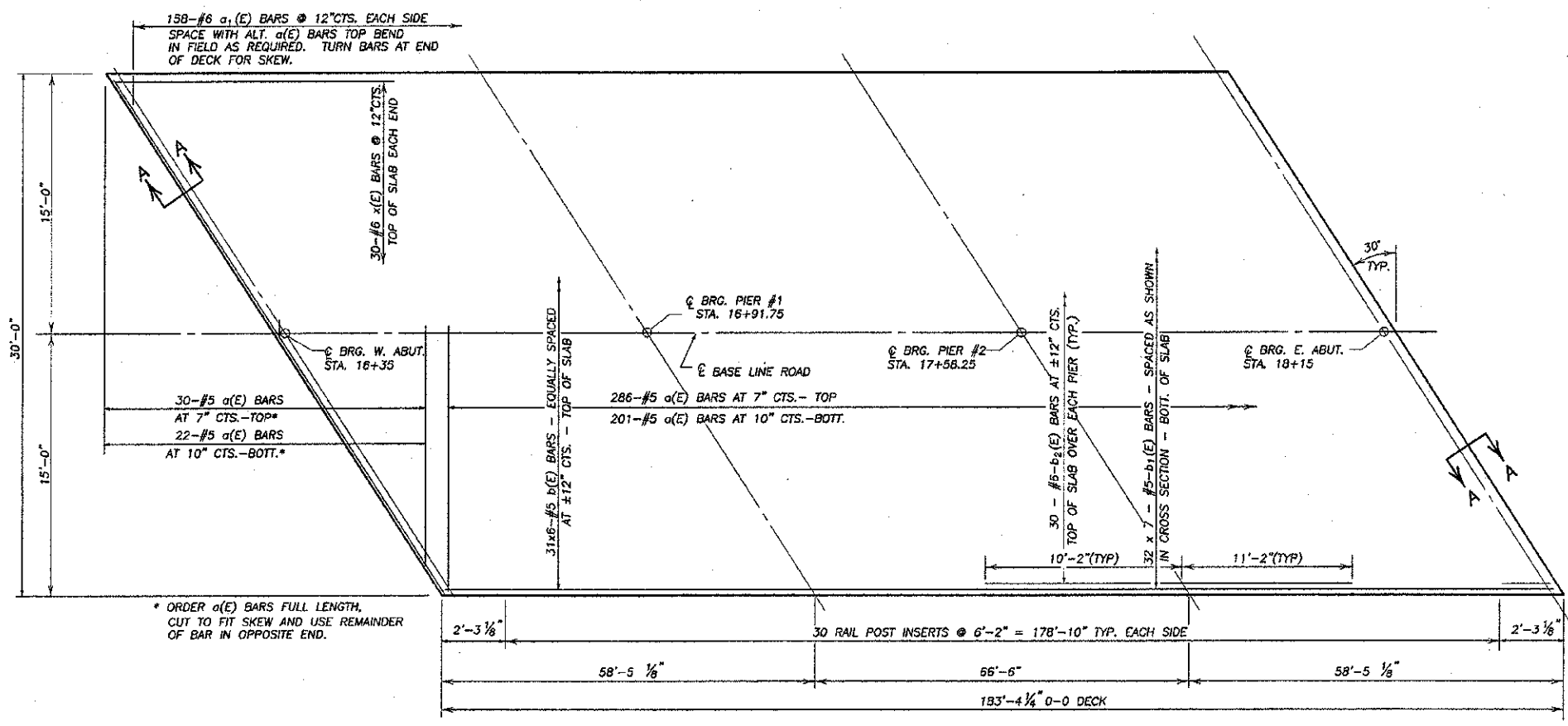
ILLINOIS PROJECT BRGS-0037(051)
 * 08-18121-00-BR
 CONTRACT NO. 07467

SCALE: 1" = 10'

REVISION	DATE

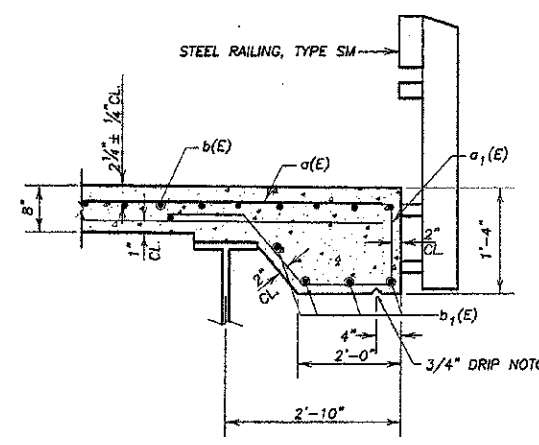
DESIGNED BY	RLR
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CHECKED BY	
DATE	

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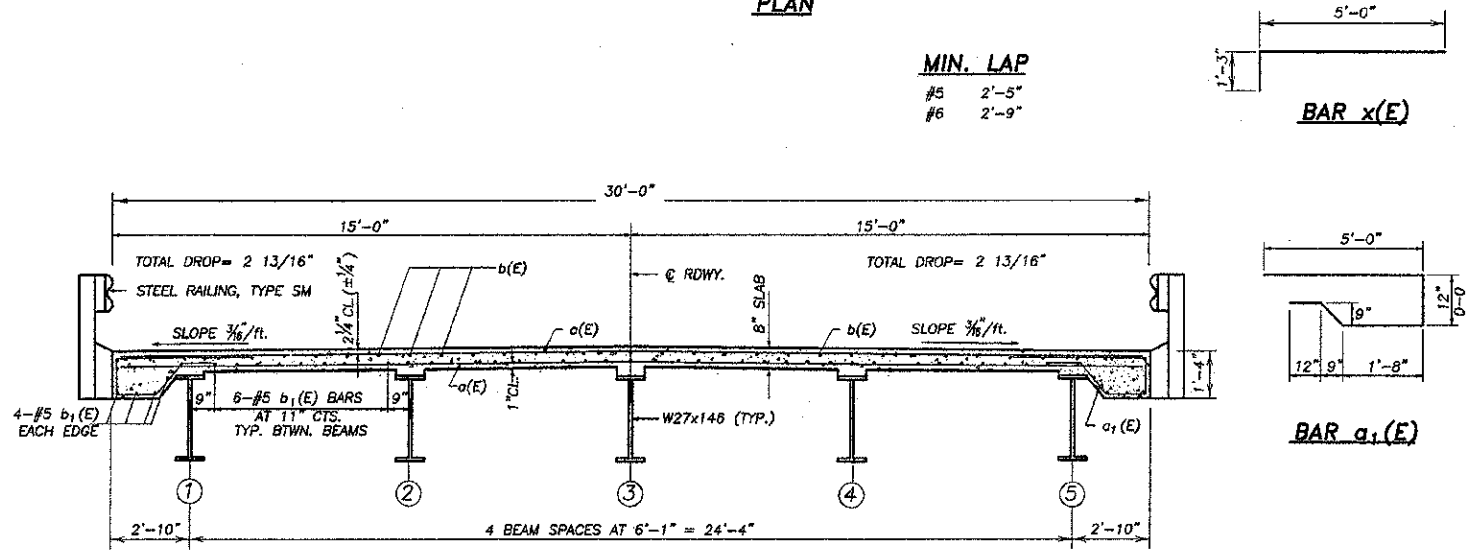


* ORDER a(E) BARS FULL LENGTH. CUT TO FIT SKEW AND USE REMAINDER OF BAR IN OPPOSITE END.

PLAN



SECTION THRU EDGE OF SLAB



CROSS SECTION (LOOKING EAST)

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

SUPERSTRUCTURE SECTION 08-18121-00-BR
 DEKALB COUNTY
 S.N. 019-4500

SUPERSTRUCTURE OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

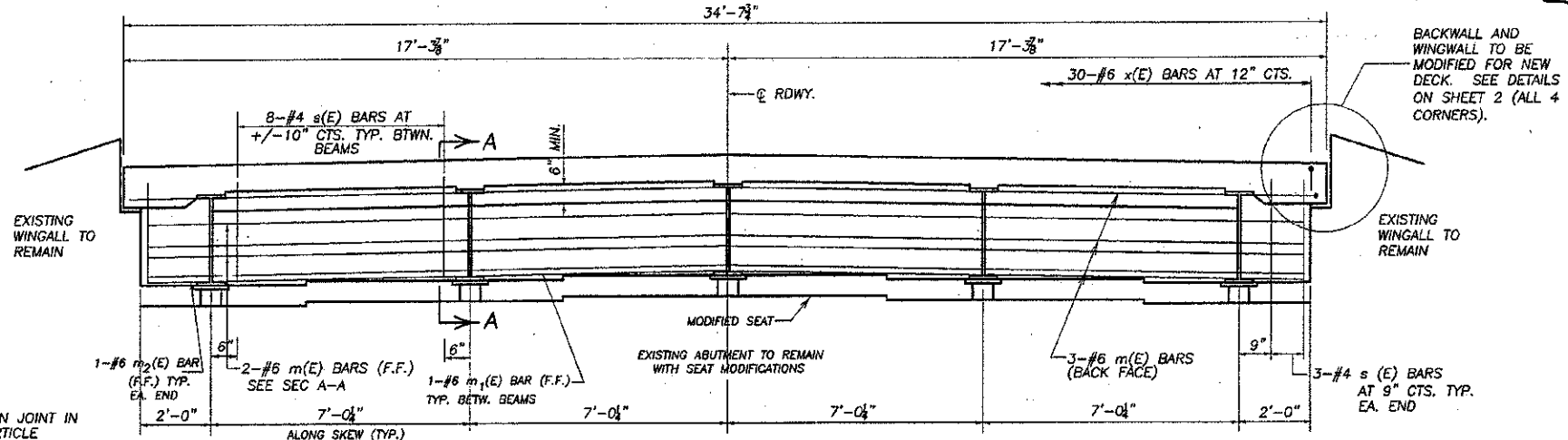
SHEET TITLE
 SUPER STRUCTURE

JOB NUMBER
 2080382

DATE
 12/14/2012

SHEET NO.

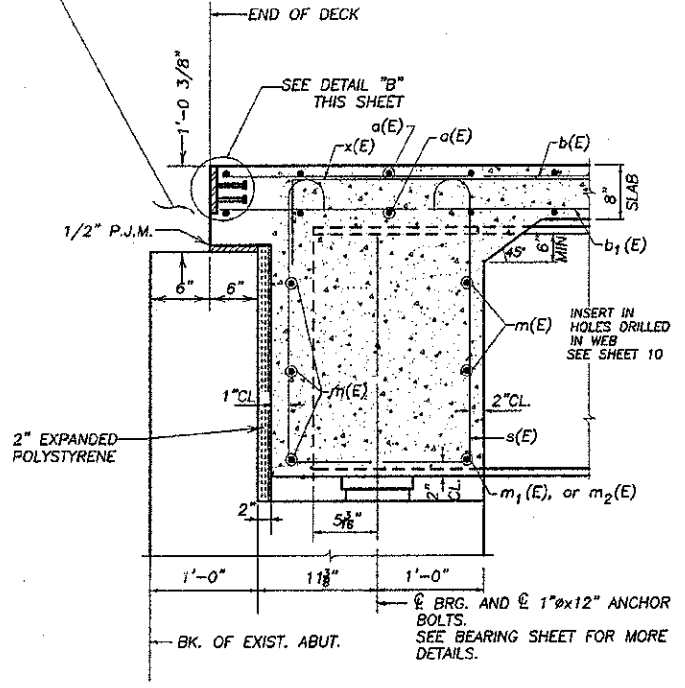
Print modified for clarity.
2122113



TYPICAL ELEVATION OF DIAPHRAGM

**BONDED CONSTRUCTION JOINT IN ACCORDANCE WITH ARTICLE 503.09 OF STD. SPEC'S.

NOTE: PAVEMENT REMOVED TO ALLOW FOR CONSTRUCTION OF NEW BRIDGE SUPERSTRUCTURE SHALL BE REPLACED IN LIKE KIND WITH COSTS BEING INCIDENTAL TO THE COST OF THE PROJECT.



SECTION A-A

DIM. @ RIGHT ANGLES TO ABUT.

BEAM MOMENT TABLE

	THREE SPAN UNIT		
	0.4 SPAN 1 0.6 SPAN 3	PIER 1 OR 2	0.5 SPAN 2
I_s (in ⁴)	5660	5660	5660
I_c (in ⁴)(n)	15173	0	15173
I_c (in ⁴)(3n)	11380	0	11380
S_s (in ³)	414	414	414
S_c (in ³)(n)	599	0	599
S_c (in ³)(3n)	546	0	546
DC1 (k/ft.)	0.78	0.78	0.78
MDC1 (ft.-k)	182	-294	135
DC2 (k/ft.)	0.025	0.025	0.025
MDC2 (ft.-k)	6	-9	5
DW (k/ft.)	0.3	0.3	0.3
MDW (ft.-k)	76	-104	64
MLL+M (ft.-k)	572	-365	548
M_u (Str. I)(ft.-k)	1352	-1208	1231
$\phi_f M_n$ (ft.-k)	2850	1487	2852
f_s DC1 (ksi)	5.5	8.5	4.0
f_s DC2 (ksi)	0.2	0.3	0.2
f_s DW (ksi)	1.7	3.0	1.4
f_s 1.3(LL+M)(ksi)	14.95	11.2	14.3
f_s (Service II)(ksi)	22.35	23.0	19.9
V_f (k)	15	24	16

BAR s(E)

BAR s1(E)

DETAIL B
3/4" x 7" PLATE FABRICATE TO CROWN (TYP.)
3/4" x 8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS CONFORMING TO ARTICLE 706.32 OF THE STANDARD SPECIFICATIONS AUTOMATICALLY END WELDED. AT 12" ALT. CTS.
1/2" P.J.M.

NOTE: AFTER FABRICATION ALL SURFACES OF THE STEEL PLATES SHALL BE GIVEN ONE SHOP COAT OF PAINT SPECIFIED FOR STRUCTURAL STEEL. NO FIELD PAINTING REQUIRED.

BILL OF MATERIAL - SUPERSTRUCTURE

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	539	#5	29'-8"	□
a1(E)	316	#6	9'-8"	□
m(E)	10	#6	31'-9"	□
m1(E)	8	#6	6'-8"	□
m2(E)	4	#6	1'-8"	□
b(E)	186	#5	32'-7"	□
b1(E)	224	#5	28'-3"	□
b2(E)	60	#6	21'-4"	□
s(E)	76	#4	7'-10"	□
s1(E)	164	#4	4'-1"	□
p(E)	60	#6	6'-8"	□
x(E)	60	#6	6'-3"	□
CONCRETE SUPERSTRUCTURE			CU. YD.	145.5
REINFORCEMENT BARS EPOXY COATED			LBS.	38690
PROTECTIVE COAT **			SQ. YD.	665.5
BRIDGE DECK GROOVING			SQ. YD.	611.2

REINFORCEMENT BARS INDICATED (E) SHALL BE EPOXY COATED. SEE SHEET 7 OF 12 FOR SUPERSTRUCTURE DETAILS.

** INCLUDES TOP OF DECK AND EDGES TO THE DRIP NOTCH.

BEAM REACTION TABLE

	ABUTMENTS	PIER
R _{DC1} (k)	17.3	53.5
R _{DC2} (k)	0.7	1.5
R _{DW} (k)	7	20
R _{L+M} (k)	73	92
R _{TOTAL} (k)	98	167

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

NO.	DATE	REVISION

DESIGNED BY:	RLR
DRAWN BY:	BDS
CHECKED BY:	
DATE:	

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Illinois Professional Design Firm No. 154-000828

SUPERSTRUCTURE DETAILS
OF
BASE LINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

SHEET TITLE
**SUPER
STRUCTURE
DETAIL**

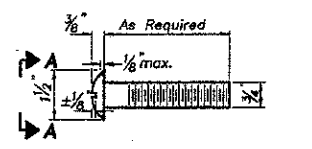
JOB NUMBER
2080382

DATE
12/14/2012

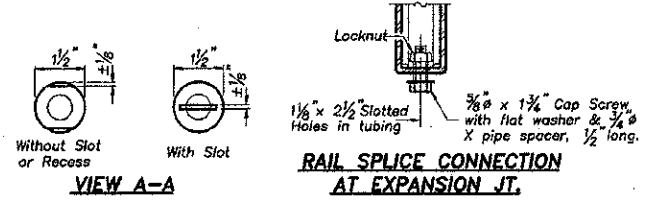
SHEET NO.
8 of 18

Point modified for clarity.
2122113

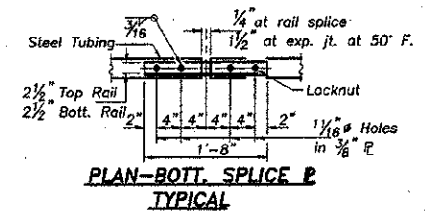
TWP. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	9
ILLINOIS PROJECT BROS-0037(051)				
* 08-18121-00-BR				
CONTRACT NO. 67487				



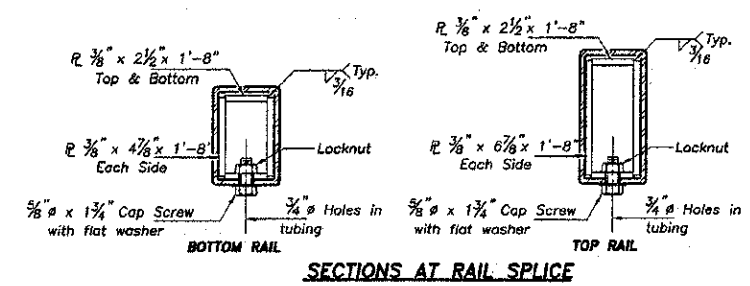
DETAIL OF 3/4" ROUND HEAD BOLT



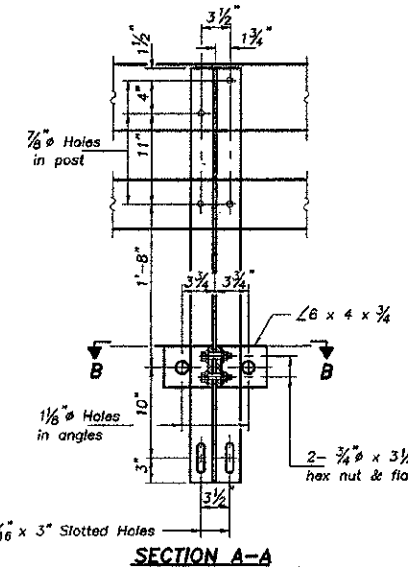
RAIL SPLICE CONNECTION AT EXPANSION JT.



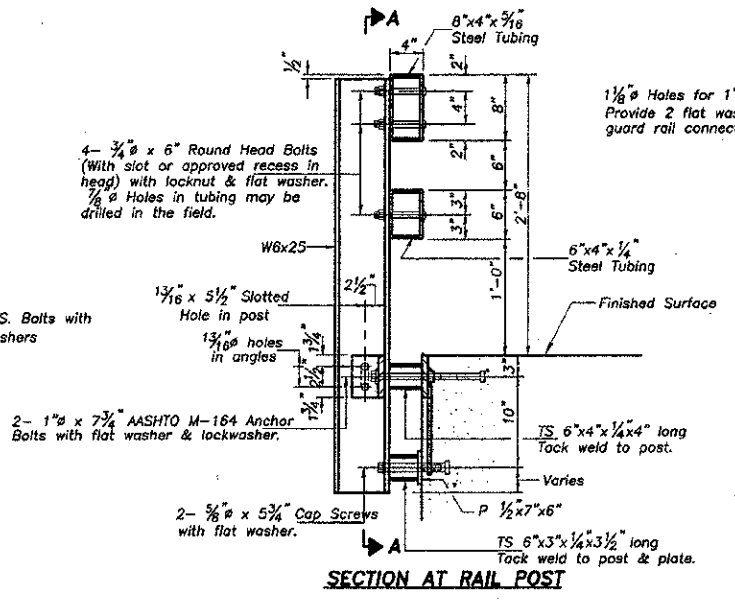
PLAN-BOTT. SPLICE P TYPICAL



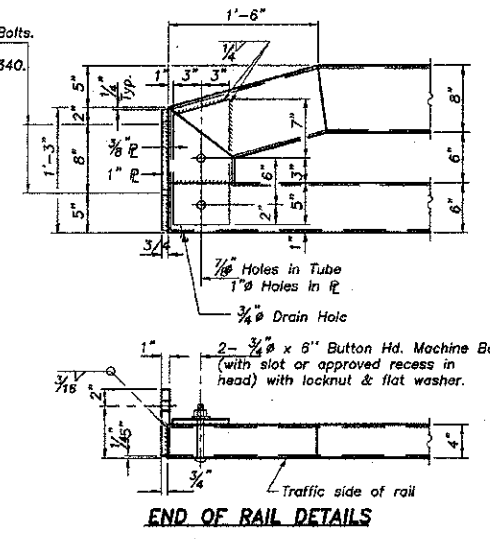
SECTIONS AT RAIL SPLICE



SECTION A-A



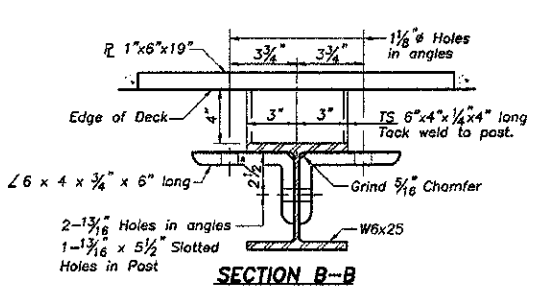
SECTION AT RAIL POST



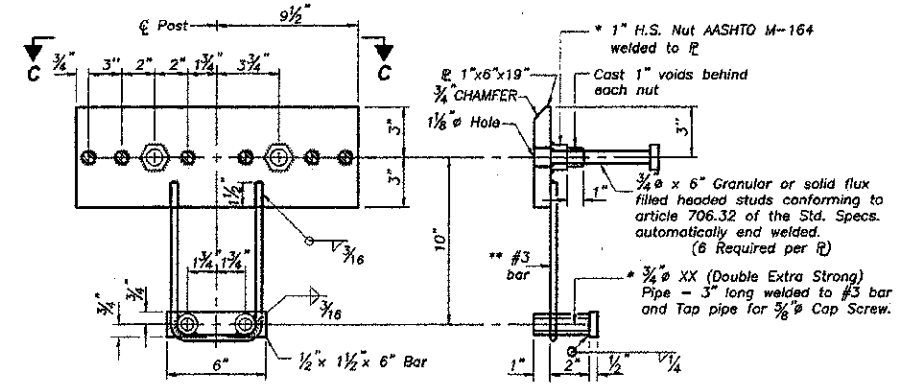
END OF RAIL DETAILS

GENERAL NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F. All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50. Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164. All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232. All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted. Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL BRIDGE RAIL, TYPE SM. All field drilled holes shall be coated with an approved zinc rich paint before erection. For multi-span PPC Deck bridges, sufficient 1/4" x 6" x 1-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to STEEL BRIDGE RAIL, TYPE SM. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement. The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(1)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

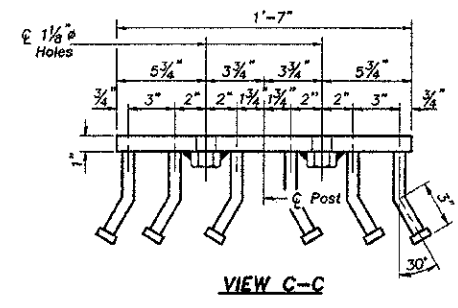


SECTION B-B



ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam Galvanized after fabrication.
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



VIEW C-C

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	369

TYPE SM
STEEL BRIDGE RAIL SIDE MOUNTED
SECTION 08-18121-00-BR
BASE LINE ROAD
DEKALB COUNTY
SN 019-4500

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

R-34 7-1-94 (6'-3" Maximum Post Spacing)

NO.	DATE	REVISIONS

DESIGNED BY	RLR
DRAWN BY	BDS
CHECKED BY	
DATE	

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ENGINEERS ARCHITECTS SURVEYORS
www.wendlereng.com ph: 816.288.2261
Missouri Professional Design Firm No. 164-00046

TYPE SM RAIL DETAILS
OF
BASE LINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

SHEET TITLE
RAIL DETAILS

JOB NUMBER
2060392

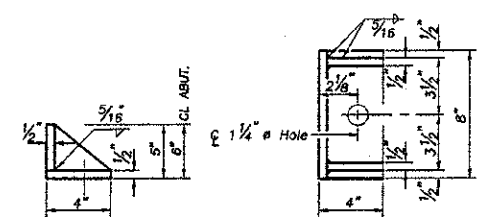
DATE
12/14/2012

SHEET NO.
9 of 18

2/22/13 *Print modified for clarity.*

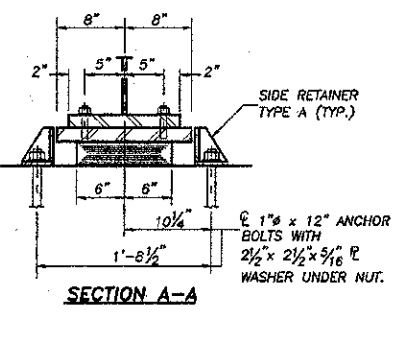
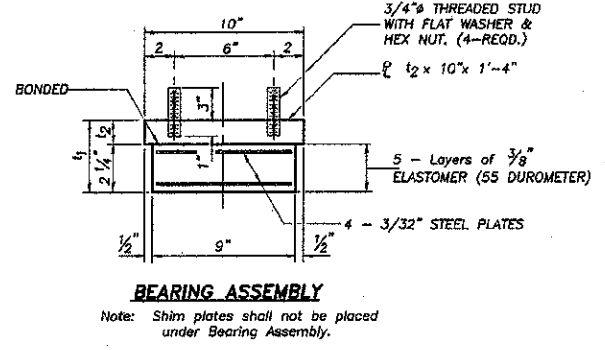
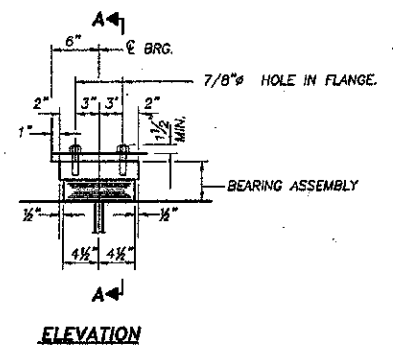
TWP. RTE. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	10

ILLINOIS PROJECT BRGS-0937(051)
 * 08-18121-00-BR
 CONTRACT NO. 67467

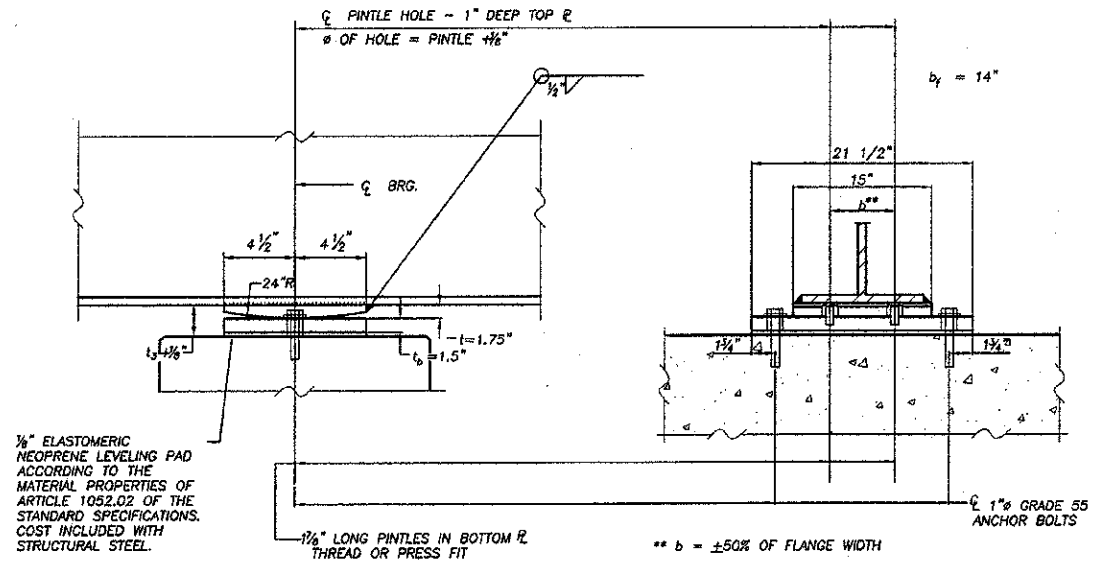


SIDE RETAINER - TYPE A
 Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.
 (30 REQUIRED)

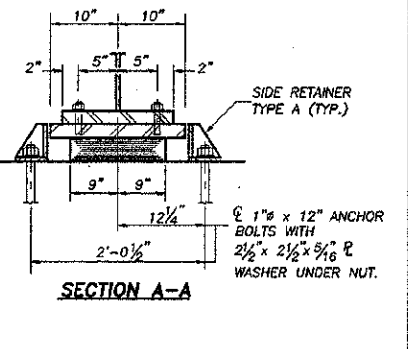
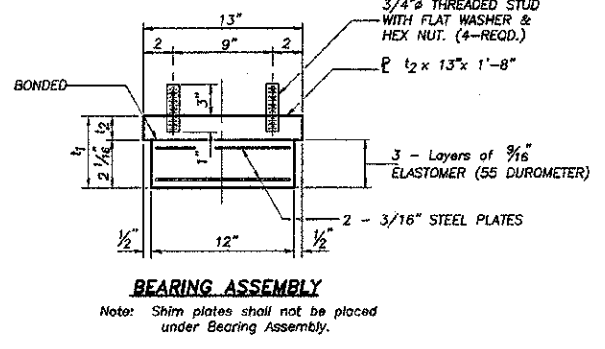
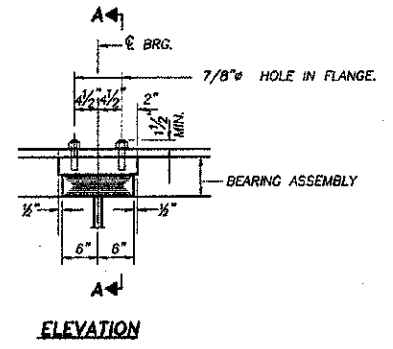
NOTE: THE STRUCTURAL STEEL BEARING PLATES OF THE ELASTOMERIC BEARING ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 GRADE 50.



TYPE I ELASTOMERIC EXPANSION BRG. - WEST ABUT.
 (5 REQUIRED)



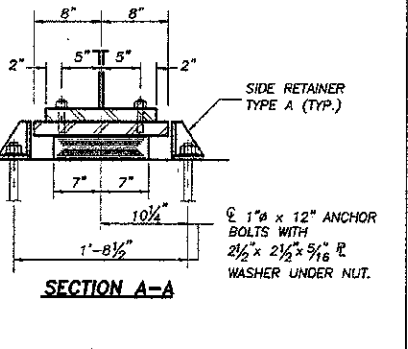
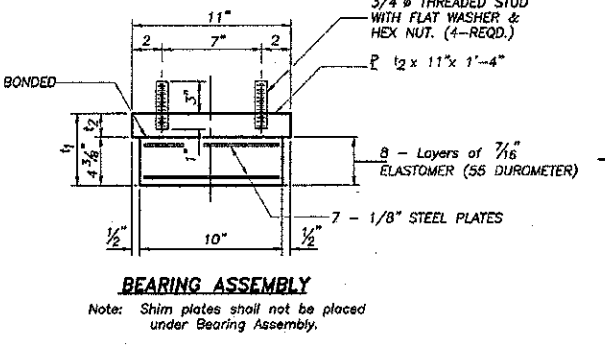
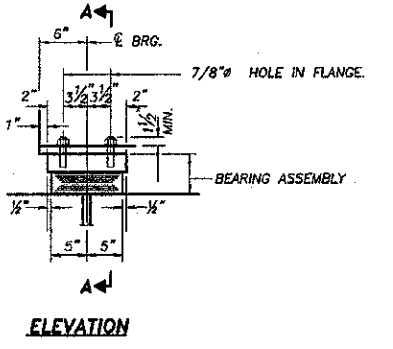
FIXED BEARING ASSEMBLY - WEST PIER
 (QUANTITY INCLUDED IN WEIGHTS OF STRUCTURAL STEEL)



TYPE I ELASTOMERIC EXPANSION BRG. - EAST PIER
 (5 REQUIRED)

BEAM LINE	W. ABUT.		W. PIER	E. PIER		E. ABUT.	
	t ₁ *	t ₂	t ₃ *	t ₁ *	t ₂	t ₁ *	t ₂
① NORTH	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
②	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
③	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
④	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
⑤ SOUTH	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"

* THICKNESS MAY BE MADE UP OF 2" MINIMUM PLATES FULL PERIMETER SHOP WELD ON ALL PLATES



TYPE I ELASTOMERIC EXPANSION BRG. - EAST ABUT.
 (5 REQUIRED)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly Type 1	EACH	15

BEARING DETAILS
 SECTION 08-18121-00-BR
 BASE LINE ROAD BRIDGE
 DEKALB COUNTY
 SN 019-4500

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

REVISIONS

DATE

DESCRIPTION

WENDLER

CIRCULAR BREAKING SOLUTIONS
 ENGINEERS - SURVEYORS - SCIENTISTS
 www.wendlerbrgs.com PH: 815.288.2281
 Illinois Professional Design Firm No. 164-006648

BEARING DETAILS
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE
 BEARING

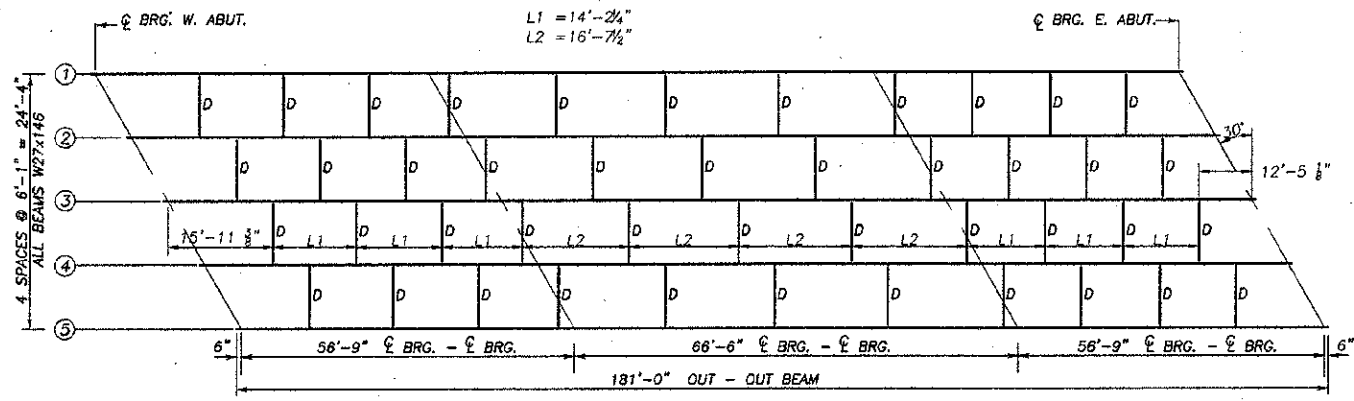
JOB NUMBER
 2080382

DATE
 12/14/2012

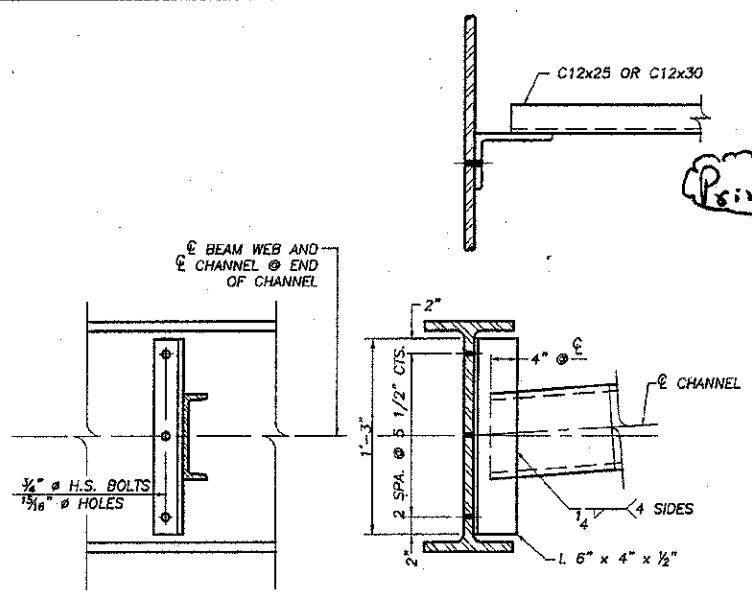
SHEET NO.
 10 of 18

TWP. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61		DEKALB	18	11

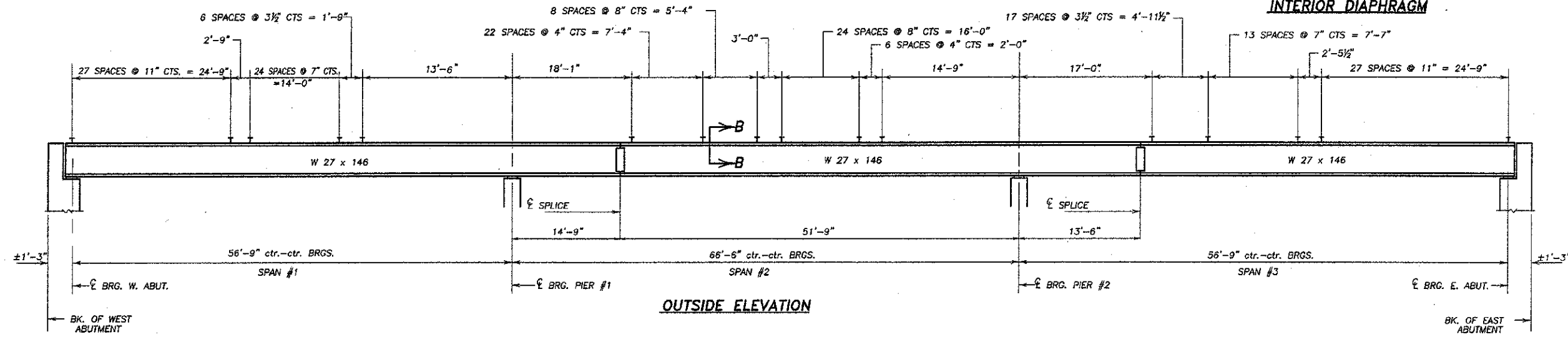
ILLINOIS PROJECT BRCS-0037(051)
 * 08-18121-00-BR
 CONTRACT NO. 87467



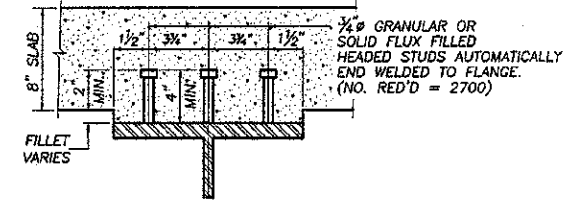
STEEL FRAMING PLAN



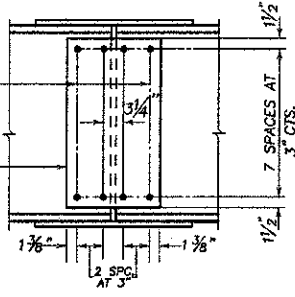
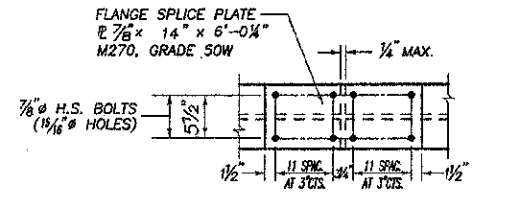
Print modified for clarity.
 2/22/13



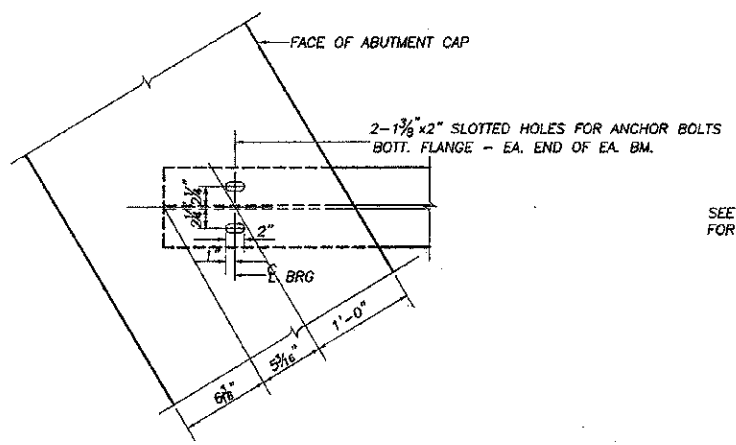
OUTSIDE ELEVATION



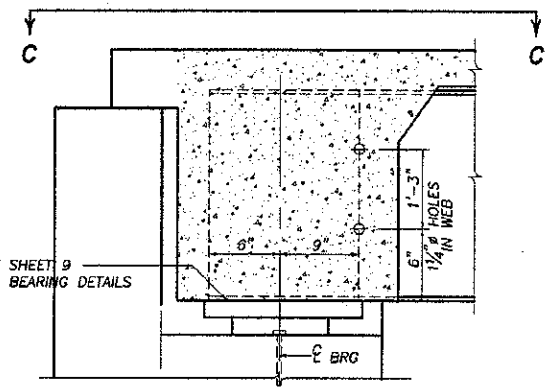
SECTION B-B



DETAIL OF SPLICE
 (ALL SPLICE PLATES N.T.R.)



DETAIL C-C



SECTION AT ABUT.
 (ALONG BEAM E)

PROPOSED TOP OF BEAM ELEVATIONS *

LOCATION	BEAM No.	1	2	3	4	5
BRG. W. ABUT.		807.67	807.77	807.87	807.77	807.67
BRG. W. PIER (#1)		807.67	807.77	807.87	807.77	807.67
BRG. E. PIER (#2)		807.67	807.77	807.87	807.77	807.67
BRG. E. ABUT.		807.67	807.77	807.87	807.77	807.67

* ALLOW FOR 1/2" POSITIVE FILLET

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

SCALE: 1"=

REVISIONS

DESIGNED BY: RLR
 DRAWN BY: RLR
 CHECKED BY: BDS
 DATE: 2/6/2013

wendler
 GROUND-BREAKING SOLUTIONS
 engineers, surveyors, scientists
 www.wendlergs.com ph: 815.288.2281
 Illinois Professional Design Firm No. 194.00848

STRUCTURAL STEEL DETAILS
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

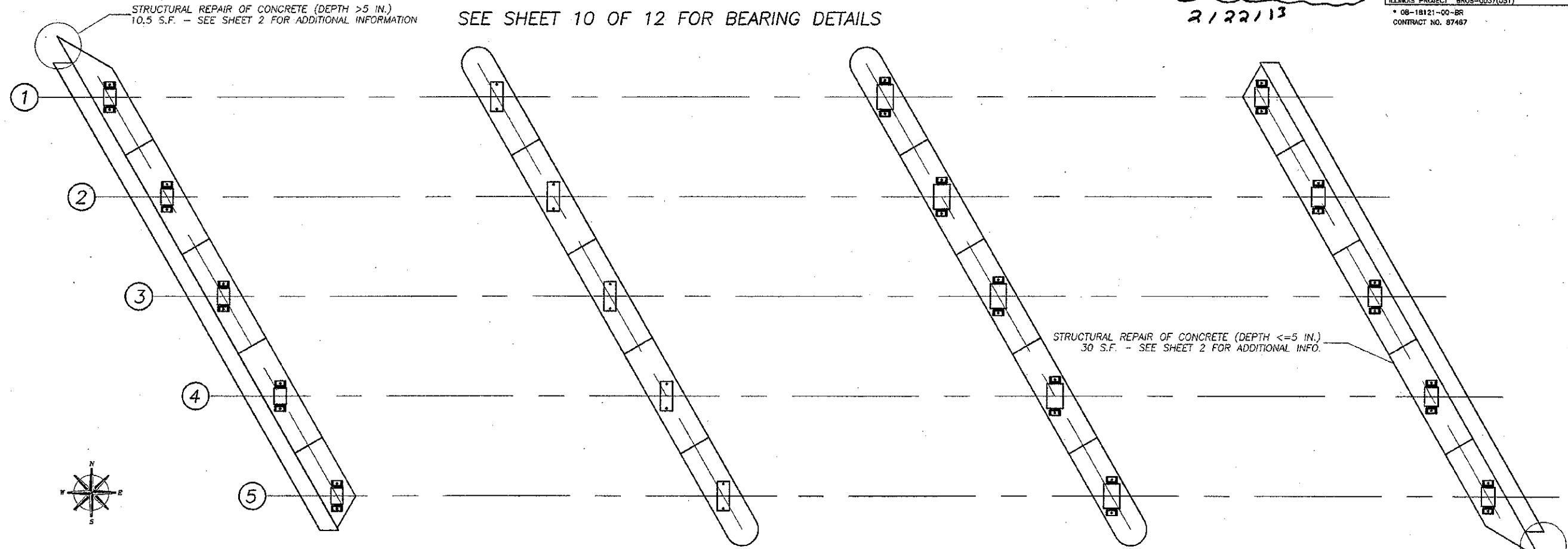
SHEET TITLE
**STEEL
 DETAILS**

JOB NUMBER
 2080382
 DATE
 2/6/2013
 SHEET NO.
11 of 18

STRUCTURAL STEEL DETAILS
 SECTION 08-18121-00-BR
 BASE LINE ROAD
 DEKALB COUNTY
 SN 019-4500

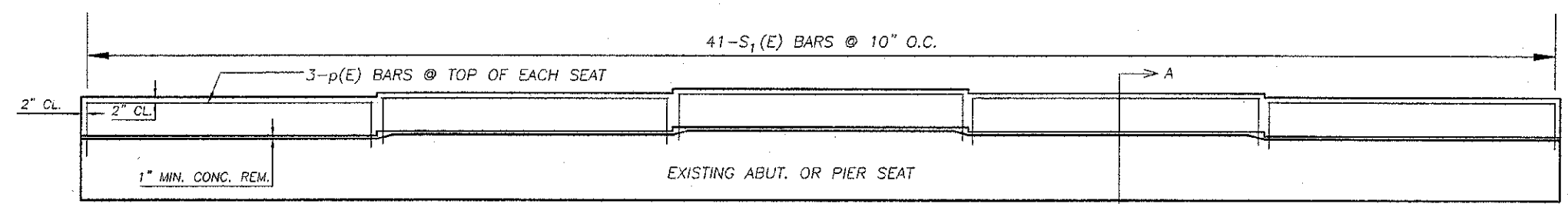
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2/22/13

TWP. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61		DEKALB	18	12
ILLINOIS PROJECT: BROS-QD37(051)				
* 08-18121-00-BR				
CONTRACT NO. 87487				



SEE SHEET 10 OF 12 FOR BEARING DETAILS

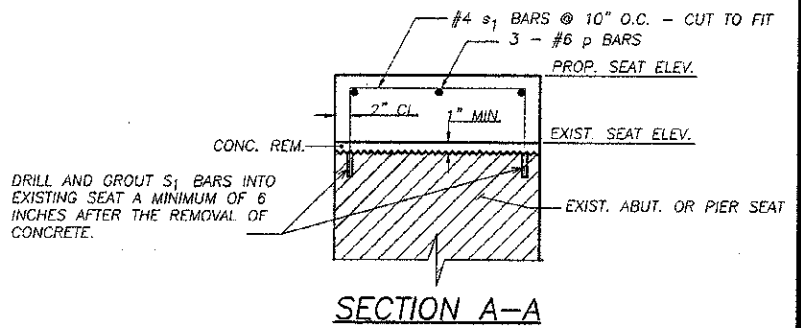
PLAN



ELEVATION

* CONTRACTOR SHALL VERIFY EXISTING SEAT ELEVATIONS.

	SEAT ELEVATIONS											
	W. ABUT.			W. PIER			E. PIER			E. ABUT.		
	EXIST.*	PROP.	DIFF.*	EXIST.*	PROP.	DIFF.*	EXIST.*	PROP.	DIFF.*	EXIST.*	PROP.	DIFF.*
BEAM 1	804.15	805.06	+0.91	804.20	805.10	+0.90	804.12	805.01	+0.89	804.15	804.88	+0.73
BEAM 2	804.25	805.16	+0.91	804.30	805.20	+0.90	804.22	805.11	+0.89	804.25	804.98	+0.73
BEAM 3	804.35	805.25	+0.90	804.40	805.29	+0.89	804.32	805.20	+0.88	804.35	805.07	+0.72
BEAM 4	804.25	805.16	+0.91	804.30	805.20	+0.90	804.22	805.11	+0.89	804.25	804.98	+0.73
BEAM 5	804.15	805.06	+0.91	804.20	805.10	+0.90	804.12	805.01	+0.89	804.15	804.88	+0.73



SECTION A-A

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

NO.	DATE	REVISIONS

DESIGNED BY:	RLR
DRAWN BY:	BDS
CHECKED BY:	
DATE:	

wendler
 GEOTECHNICAL SOLUTIONS
 ENGINEERS - SURVEYORS - SCIENTISTS
 www.wendlereng.com Ph: 815.288.2281
 Illinois Professional Design Firm No. 184-00348

ABUTMENT AND PIER DETAILS
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE
 ABUTMENT & PIER DETAILS

JOB NUMBER
 2080382

DATE
 12/14/2012

SHEET NO.
 12 of 18