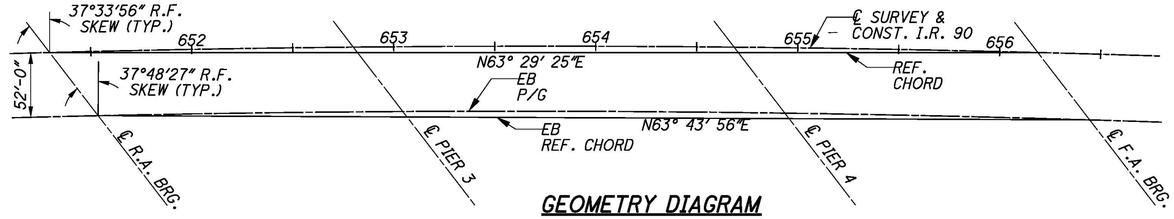
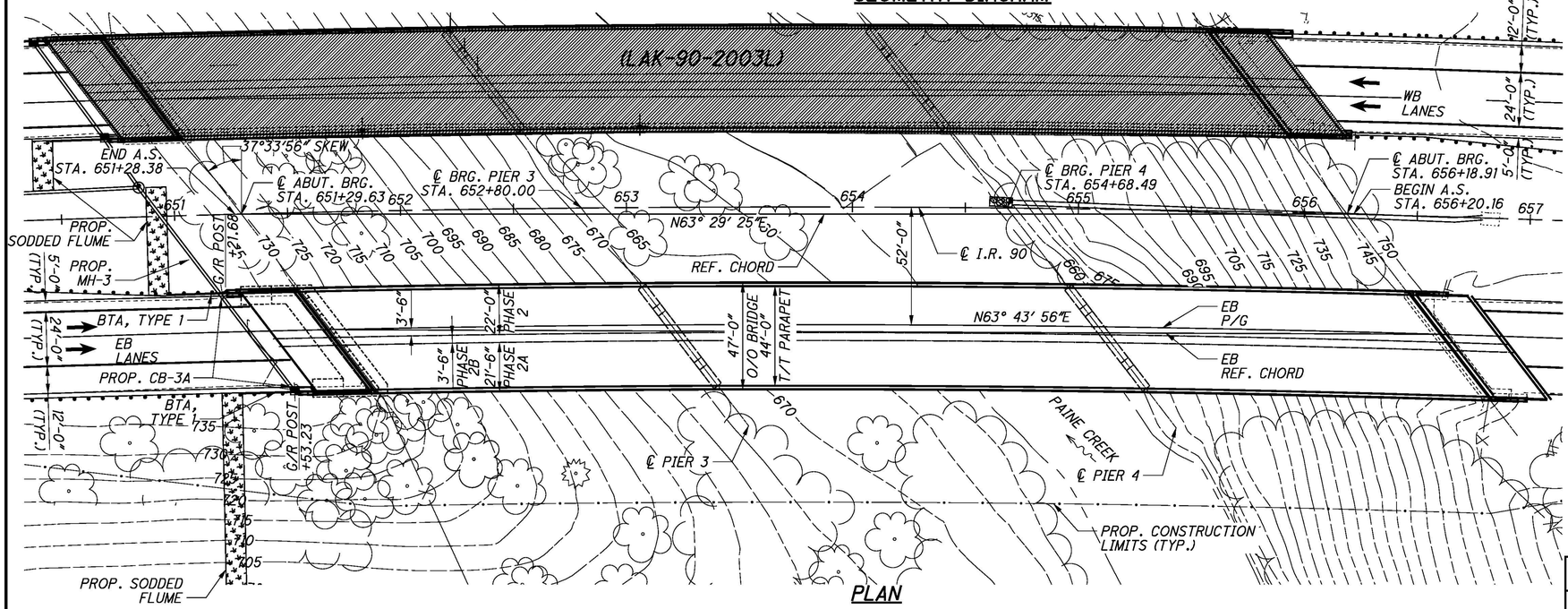
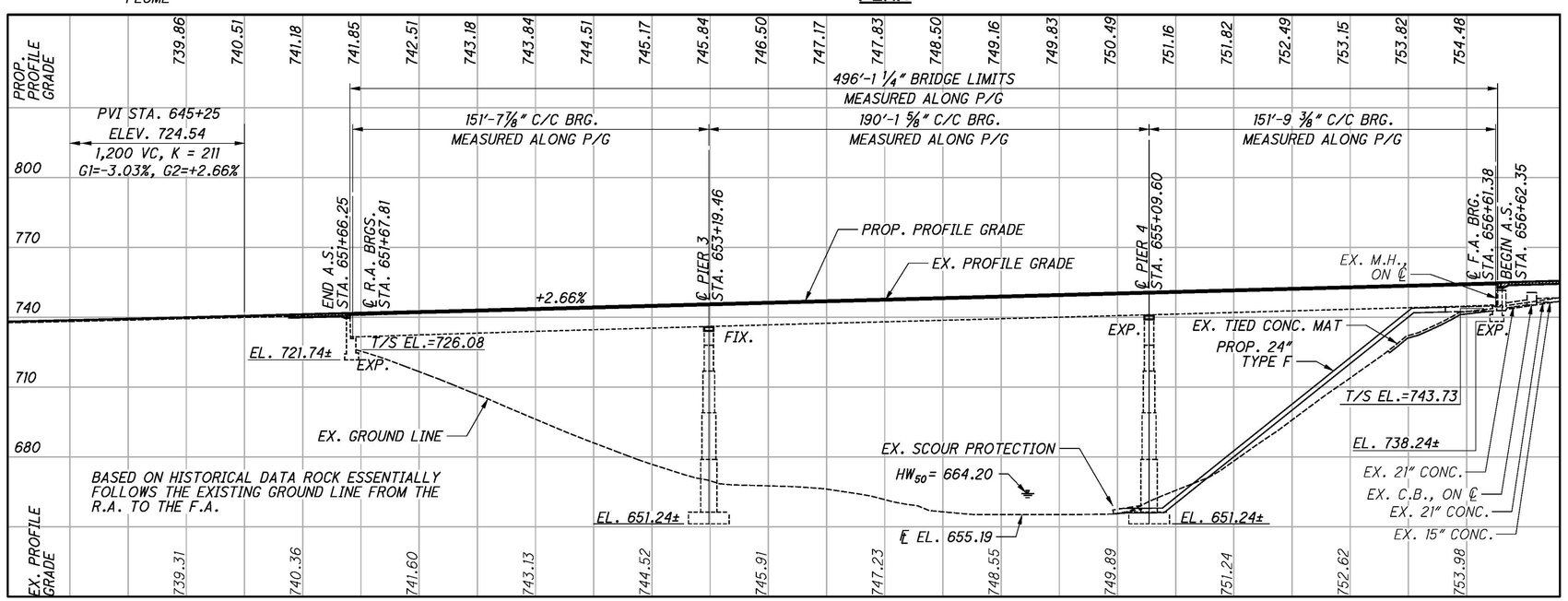
CURVE DATA - I.R. 90
P.I. Sta = 656+10.93 T = 2,449.38'
Δ = 28° 46' 00" (RT) L = 4,795.37'
Dc = 0° 36' 00" E = 309.13'
R = 9,549.30' EX. S.E.=0.0156
PROP. S.E.=0.021 (70MPH)



GEOMETRY DIAGRAM



PLAN



PROFILE SHOWN ALONG PROFILE GRADE OF EB I.R. 90 OVER PAINE CREEK

BENCHMARK ELEV.			
MARK	STATION	OFFSET	ELEV.
NAIL SET	657+21.00	83.39' RT.	737.65
NAIL SET	651+51.16	85.69' RT.	753.43

BORING LOCATION			
MARK	STATION	OFFSET	ELEV.
BORING	648+49.04	47.25' RT.	734.52
BORING	658+11.86	44.72' LT.	759.10

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEETS 2/1141 4/1141

PROPOSED WORK:

1. REMOVE EXISTING DECK, END CROSS FRAMES, EXPANSION JOINTS, RAILING, PORTION OF BACKWALLS, APPROACH SLABS IN PHASES AND OTHER ITEMS NOTED ON PLANS.

2. JACK EXISTING GIRDERS, REMOVE EXISTING BEARINGS, REHABILITATE AND RAISE PIER CAPS AND INSTALL ELASTOMERIC BEARINGS.

3. REHABILITATE PORTIONS OF ABUTMENTS, REPLACE END CROSS FRAMES AND EXPANSION JOINTS, AND REPLACE DECK. REPLACE APPROACH SLABS. PROVIDE SINGLE SLOPE PARAPETS FOR NEW SUPERSTRUCTURE.

4. SEAL EXPOSED CONCRETE SURFACES AS PER PLAN.

5. FIELD PAINT EXISTING STRUCTURAL STEEL.

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

HYDRAULIC DATA (EXISTING PLANS)

DRAINAGE AREA = 25.5 SQ. MILES
Q (50) = 3470 CFS
HIGH WATER (50 YR) = EL. 664.2
STRUCTURE CLEARS THE 50 YEAR HIGHWATER BY 61.4 FT

DESIGN TRAFFIC:
2012 ADT = 41,600
2032 ADT = 49,100 2032 ADTT = 13,260

EXISTING STRUCTURE

TYPE: TWIN THREE SPAN CONTINUOUS PLATE GIRDER WITH REINFORCED CONCRETE DECK

SPANS: 150'-0", 188'-0", 150'-0"± C/C BEARINGS
ROADWAY: 42'-0"± F/F PARAPET
LOADING: C.F. 2000 - ADEQUATE FOR AASHTO ALTERNATE LOADING
SKEW: 37°-00'-00" ± R.F.
WEARING SURFACE: 1.0"± MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25' LONG)
ALIGNMENT: 0°-36'-00" RIGHT
SUPERELEVATION: 0.0156±
STRUCTURAL FILE NUMBERS: 4304772 (R)
DATE BUILT: 1960

PROPOSED STRUCTURE

PROPOSED WORK: NEW WIDENED NON-COMPOSITE REINFORCED CONCRETE DECK ON EXISTING STEEL GIRDERS.
TYPE: TWIN CONTINUOUS STEEL PLATE GIRDER BRIDGES WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 150'-9 7/8", 188'-5 7/8", 149'-2 3/4"± C/C BRGS. ALONG REF CHORD FOR EASTBOUND LANES
ROADWAY: 44'-0"± T/T PARAPET
LOADING: HS20 CASE I AND ALTERNATE MILITARY, FWS=60 PSF
SKEW: 37°-33'-56" R.F. ALONG ℄ SURVEY & CONSTRUCTION
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: 0°-36'-00" RIGHT
SUPERELEVATION: 0.021
COORDINATES: LATITUDE N 41°-42'-56"
LONGITUDE W 81°-09'-48"

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DESIGNED	DRAWN	REVIEWED	DATE
JAD	JAD	JEP	1/2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JWE		4304772	

LAK-90-2003 R
STA. 651+66.25
STA. 656+62.35

SITE PLAN
BRIDGE NO. LAK-90-2003 R
OVER PAINE CREEK

LAK-90-13.10
PID No. 75479

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ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:
THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519, PATCHING CONCRETE STRUCTURES, AS PER PLAN:
PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 526, REINFORCED CONCRETE APPROACH SLAB, (T=15"), AS PER PLAN:
CONCRETE SHALL BE ITEM 511 - CLASS HP CONCRETE, MIX HP4, AS PER PLAN. PAYMENT FOR PARAPETS ON APPROACH SLABS SHALL BE INCLUDED IN THIS ITEM.

ABBREVIATIONS:

ABUT - ABUTMENT
A.S. - APPROACH SLAB
BOT. - BOTTOM
BRG. - BEARING
B.T.A. - BRIDGE TERMINAL ASSEMBLY
BTW. - BETWEEN
C/C - CENTER TO CENTER
CLR. - CLEAR
C.J. - CONSTRUCTION JOINT
CONN. - CONNECTOR
CONST.- CONSTRUCTION
DIA. - DIAMETER
DIM. - DIMENSION
EB - EASTBOUND
E.F. - EACH FACE
EL. - ELEVATION
EX. - EXISTING
F.A. - FORWARD ABUTMENT
F/F - FACE TO FACE
F.F. - FAR FACE
GALV. - GALVANIZED
INCR. - INCREMENT
LT - LEFT
MECH - MECHANICAL
MIN. - MINIMUM
M.O.T. - MAINTENANCE OF TRAFFIC
N.F. - NEAR FACE
NE - NORTHEAST
NO. - NUMBER
NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
NW - NORTHWEST
O/O - OUT TO OUT
PCB - PORTABLE CONCRETE BARRIER
PCPP - PERFORATED CORRUGATED PLASTIC PIPE
P/G - PROFILE GRADE
PROP. - PROPOSED
PVMT. - PAVEMENT
R.A. - REAR ABUTMENT
REINF. - REINFORCING
REQ'D - REQUIRED
RT - RIGHT
SER. - SERIES
SPA. - SPACE
SUPER. - SUPERSTRUCTURE
TEMP. - TEMPORARY
T/S - TOE OF SLOPE
T/T - TOE TO TOE
TYP. - TYPICAL
VC - VERTICAL CLEARANCE
WB - WESTBOUND

ESTIMATED QUANTITIES

CALC BY: JWE DATE: 1/25/2011
CHCK BY: TML DATE: 1/27/2011

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GENERAL	SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2
202	22900	267	SQ YD	APPROACH SLAB REMOVED				267	
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	2
503	21101	32	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN	32				2
509	10001	267942	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	4169	17030	246743		2
509	20001	200	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	200				2
510	09951	678	EACH	DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN	482	196			2
511	50001	799	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			799		2
511	50101	156	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			156		2
511	50201	111	CU YD	CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN	25	86			2
512	10101	2481	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	165	277	2039		2
512	10600	144	FT	CONCRETE REPAIR BY EPOXY INJECTION		144			
513	10201	6344	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN			6344		2
514	00050	69826	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			69826		
514	00056	69826	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			69826		
514	00060	73000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			73000		
514	00066	73000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			73000		2
514	10000	22	EACH	FINAL INSPECTION REPAIR			22		
516	11211	118	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	118				19
516	44101	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) , (1'-3" x 1'-3" x 2.644"), AS PER PLAN	6				20
516	44101	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) , (1'-8" x 1'-8" x 2.000"), AS PER PLAN		6			20
516	44101	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) , (1'-8" x 1'-8" x 2.983"), AS PER PLAN		6			20
516	44401	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) , (1'-6" x 1'-6" x 5.248"), AS PER PLAN	6				20
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	3, 9
519	11101	38	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	38				3, 7
526	25001	262	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN				262	3
843	50000	56	SQ FT	PATCHING CONCRETE STRUCUTRES WITH TROWELABLE MORTAR		56			8

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DESIGNED	DRAWN	REVIEWED	DATE
JAD	JAD	JEP	02/2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JWE		4304772	

REV. 06/07/11

GENERAL NOTES & ESTIMATED QUANTITIES
BRIDGE NO. LAK-90-2003 R
OVER PAINE CREEK

LAK-90-13.10
PID No. 75479

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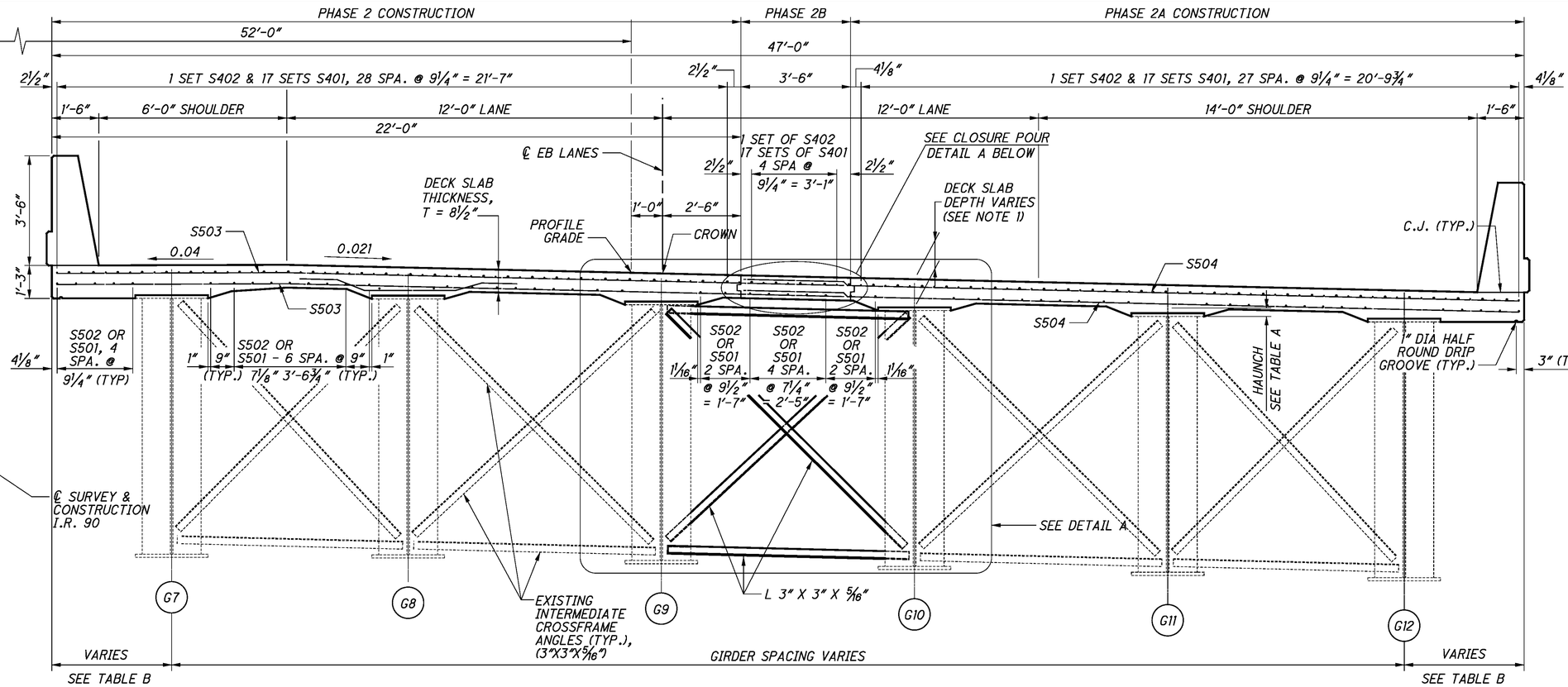
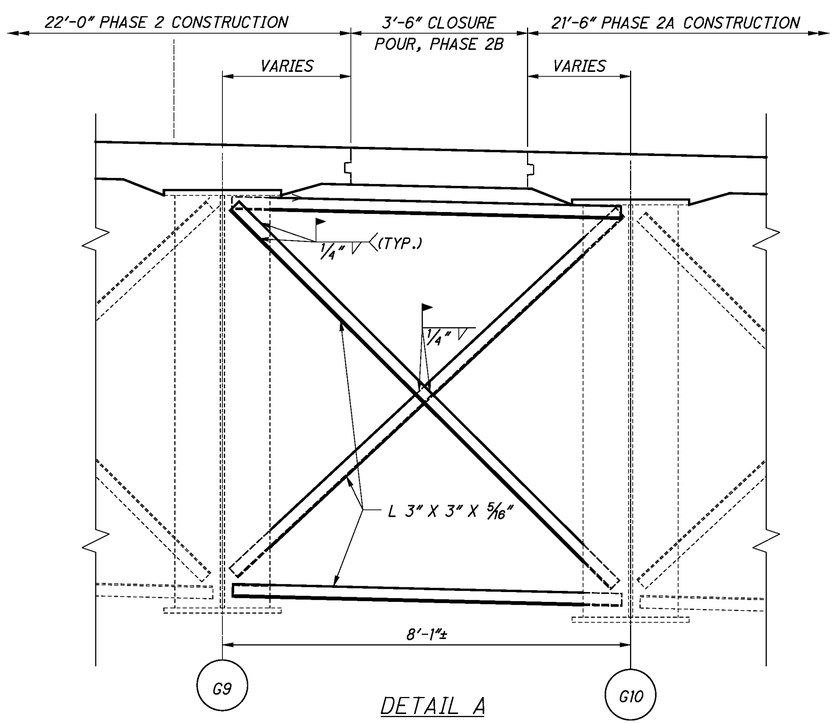
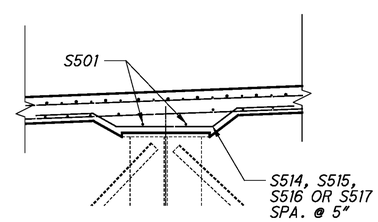
TABLE B: OVERHANG			
SPAN	LOCATION	LEFT SIDE	RIGHT SIDE
	R.A.	3' 7 3/8"	3' 3 1/4"
	0.125L	3' 7 5/8"	3' 3"
	0.25L	3' 7 3/8"	3' 3 1/8"
	0.375L	3' 6 3/4"	3' 3 5/8"
1	0.5L	3' 5 5/8"	3' 4 3/4"
	0.625L	3' 4 1/8"	3' 6 1/4"
	0.75L	3' 2 1/8"	3' 7"
	0.875L	3' 5"	3' 4 3/4"
	PIER 1	3' 7 5/8"	3' 3"
	0.125L	3' 10 1/4"	3' 1 3/8"
	0.25L	4' 0 1/4"	3' 0 1/2"
	0.375L	4' 1 1/2"	3' 0 3/8"
2	0.5L	4' 2"	3' 0 7/8"
	0.625L	4' 1 7/8"	3' 2 1/8"
	0.75L	4' 1"	3' 4 1/8"
	0.875L	3' 11 1/2"	3' 6 3/4"
	PIER 2	3' 9 1/4"	3' 10 1/8"
	0.125L	3' 6 7/8"	4' 1 3/8"
	0.25L	3' 4 1/8"	4' 4 3/4"
	0.375L	3' 4 5/8"	4' 2 1/8"
3	0.5L	3' 6 1/4"	4'-0"
	0.625L	3' 7 3/8"	3' 10 1/4"
	0.75L	3' 8 1/8"	3' 9"
	0.875L	3' 8 3/8"	3' 8 1/8"
	F.A.	3' 8 1/8"	3' 7 3/4"



TRANSVERSE SECTION



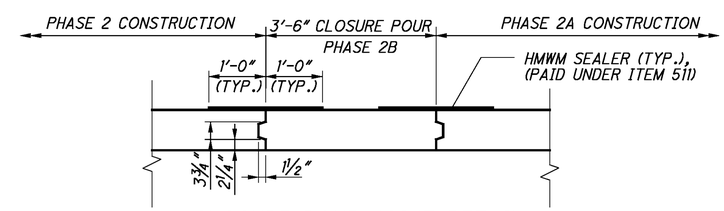
DETAIL A



ADDITIONAL HAUNCH REINF.

(TYP. IN SPAN 1 ONLY,)
TYP. OVER EACH GIRDER
SEE SHEET 15/23 FOR LOCATIONS

TABLE A: HAUNCH (INCHES)				
GIRDER	R.A.	PIER 3	PIER 4	F.A.
7	7.56	2.52	3.48	2.00
8	9.96	4.68	5.00	4.56
9	9.36	4.20	4.20	3.60
10	9.12	3.72	3.36	3.36
11	7.92	2.64	3.36	2.76
12	7.20	2.88	2.76	2.28



CLOSURE POUR JOINT DETAIL

NOTES:

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE USES THE HAUNCH THICKNESS PROVIDED IN TABLE A AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ± 3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

2. MINIMUM LAP LENGTHS:
   LAP NO. 4 BARS 2'-0".
   LAP NO. 5 BARS 3'-4"
   LAP NO. 6 BARS 3'-0"

3. FOR PARAPET REINFORCING DETAILS SEE SHEET 18/23.

4. FOR BAR STAGGER DIAGRAM OVER PIERS SEE SHEET 15/23.

5. TRANSVERSE BAR SPACING IS MEASURED ALONG THE PROFILE GRADE.

6. TRANSVERSE BARS ARE PLACED PERPENDICULAR TO THE REFERENCE CHORD/REFERENCE TANGENT.

7. SEE STD. DWG. GSD-1-96 FOR INTERMEDIATE AND END CROSSFRAME NOTES.

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JAD	SBH	JEP	02/2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JWE		4304772	

TRANSVERSE SECTION
BRIDGE NO. LAK-90-2003R
OVER PAINE CREEK

LAK-90-13.10
PID No. 75479

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