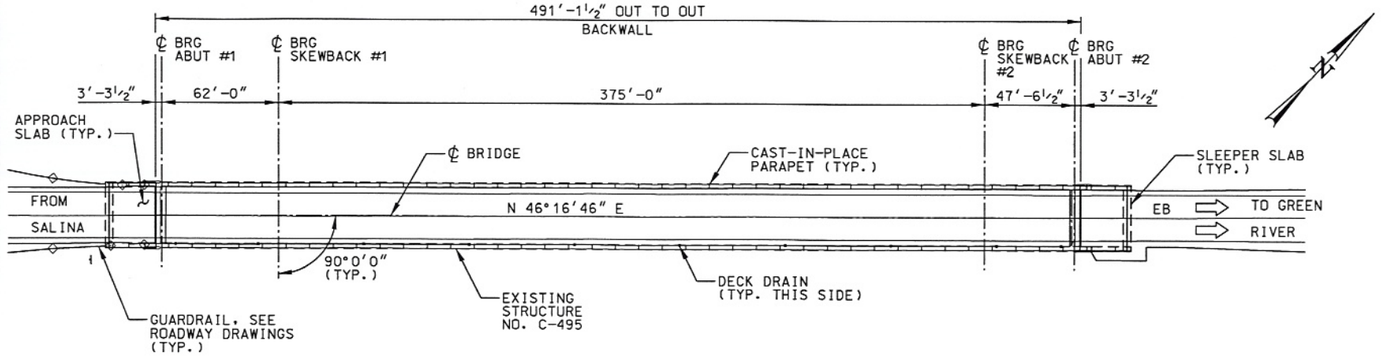

PLAN

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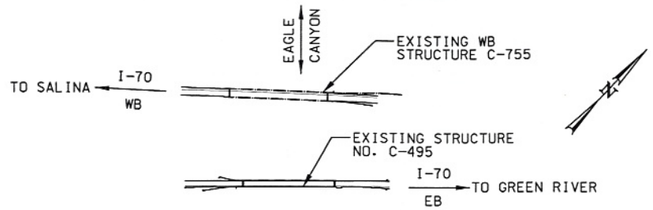


LOCATION PLAN

INDEX OF SHEETS

1. SITUATION & LAYOUT 1
2. SITUATION & LAYOUT 2
3. ABUT. #1 REMOVAL DETAILS
4. ABUT. #2 REMOVAL DETAILS
5. STEEL COLUMN DETAILS
6. STEEL ARCH PLATFORM DETAILS
7. DECK REMOVAL DETAILS
8. PRECAST PANEL LAYOUT
9. TYPICAL PANEL PLANS 1
10. TYPICAL PANEL PLANS 2
11. PRECAST PANEL REINFORCEMENT 1
12. PRECAST PANEL REINFORCEMENT 2
13. PRECAST PANEL DETAILS 1
14. PRECAST PANEL DETAILS 2
15. PRECAST PANEL DETAILS 3
16. DECK DRAIN DETAILS
17. POST-TENSIONING DETAILS 1
18. POST-TENSIONING DETAILS 2
19. APP. SLAB & ABUT. JOINT DETAILS 1
20. APP. SLAB & ABUT. JOINT DETAILS 2
21. EXPANSION JOINT DETAILS
22. PARAPET DETAILS 1
23. PARAPET DETAILS 2
24. MISCELLANEOUS DETAILS
25. PRECAST PANEL STEEL SCHEDULE
26. REINFORCING STEEL SCHEDULE

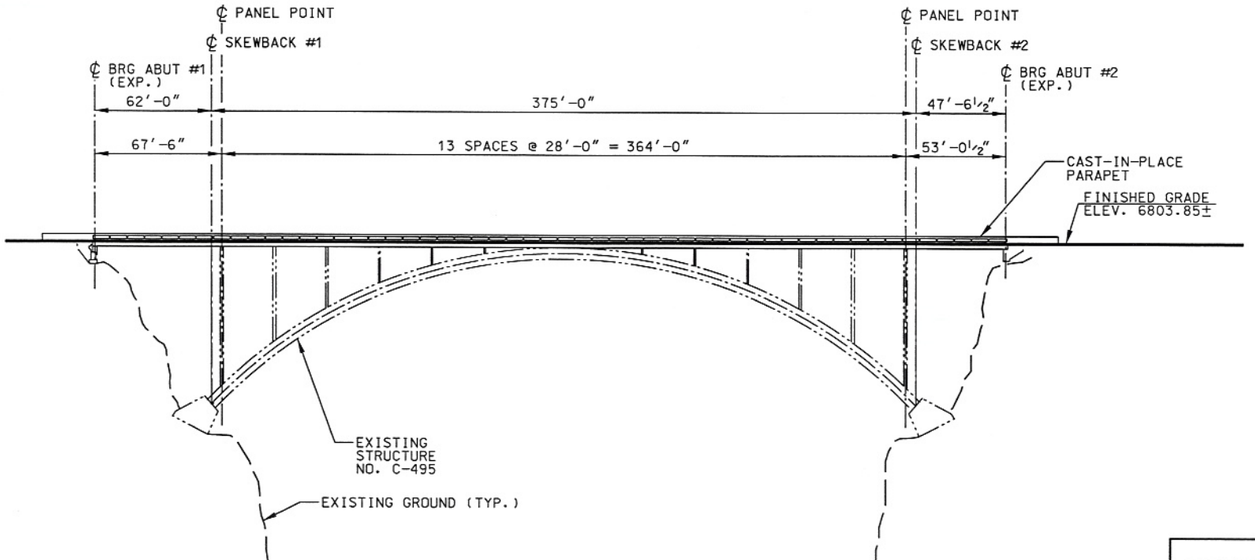
GENERAL NOTES

1. USE COATED DEFORMED CARBON-STEEL BARS CONFORMING TO AASHTO M 284 OR M 111 AND M 31 GRADE 60 FOR ALL REINFORCING STEEL.
2. USE STRUCTURAL STEEL CONFORMING TO AASHTO M 270 GRADE 36 EXCEPT WHERE NOTED OTHERWISE.
3. CHAMFER ALL EXPOSED CONCRETE CORNERS ¾" EXCEPT WHERE NOTED OTHERWISE.
4. PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL EXCEPT WHERE NOTED OTHERWISE.
5. USE CLASS AA (AE) CAST-IN-PLACE CONCRETE EXCEPT WHERE NOTED OTHERWISE.
6. HORIZONTAL DIMENSIONS ARE PLAN. VERTICAL DIMENSIONS ARE PLUMB.
7. CURE PANELS A MINIMUM OF 14 DAYS OR UNTIL f'c = 4000 psi BEFORE HANDLING.
8. USE LIGHTWEIGHT STRUCTURAL CONCRETE FOR CONCRETE DECK PANELS, DECK CLOSURE POURS, AND ALL PARAPET.
9. USE STANDARD STRUCTURAL CONCRETE FOR ABUTMENTS, PEDESTALS, WINGWALLS, APPROACH SLABS, AND SLEEPER SLABS.

DESIGN DATA

HL-93 IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN, FOURTH EDITION AND 2008 INTERIM SPECIFICATIONS (DECK ONLY).

STRUCTURAL CONCRETE-LIGHTWEIGHT:	f'c = 4000 psi; fy (REINF.) = 60,000 psi; n = 12 UNIT WEIGHT = 115 pcf
STRUCTURAL CONCRETE:	f'c = 4000 psi; fy (REINF.) = 60,000 psi; n = 8
STRUCTURAL STEEL:	fy = 36,000 psi
NON-SHRINK GROUT:	f'c = 5000 psi (@ 24 HOURS)
WEARING SURFACE:	½" CONCRETE; 35 psf (FUTURE)
GRINDING SURFACE:	¼" CONCRETE
DESIGN SPEED:	65 mph I-70
TRAFFIC DATA:	2005 ADT = 4300 I-70
PARAPET TEST LEVEL:	TL-4



ELEVATION

BRIDGE LOAD RATING		
	HS20	
	RATING	LOCATION
INV.	1.03	ARCH AT PANEL POINT 1
OPER.	1.72	ARCH AT PANEL POINT 1

LOAD FACTOR RATING

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
2-27-09
STATE OF UTAH

QUANTITIES

ITEM	ESTIMATED	UNIT	AS CONST.
REMOVE BRIDGE	1	EACH	
CONCRETE DECK REMOVAL (EST. LUMP QTY: 16,514 SQ FT)	1	LUMP	
REINFORCING STEEL - COATED (PLAN QUANTITY)	48,276	LB	
STRUCTURAL CONCRETE (EST. LUMP QTY: 92 CU YD)	1	LUMP	
STRUCTURAL CONCRETE - LIGHTWEIGHT (EST. LUMP QTY: 160 CU YD)	1	LUMP	
FULL DEPTH PRECAST CONCRETE DECK PANEL (EST. LUMP QTY: 16,318 SQ FT)	1	LUMP	
THIN BONDED POLYMER OVERLAY, TYPE I	16,690	SQ FT	
ABUTMENT BACKWALL REPAIR	2	EACH	
STRUCTURAL STEEL (EST. LUMP QTY: 23,576 LB)	1	LUMP	
EXPANSION JOINT	66	FT	
CLEANING AND OVERCOATING STRUCTURAL STEEL	1	LUMP	

NO.	DATE	BY	REVISIONS REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. [signature] DATE
SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT [signature] DATE
UDOT BRIDGE ENGR.

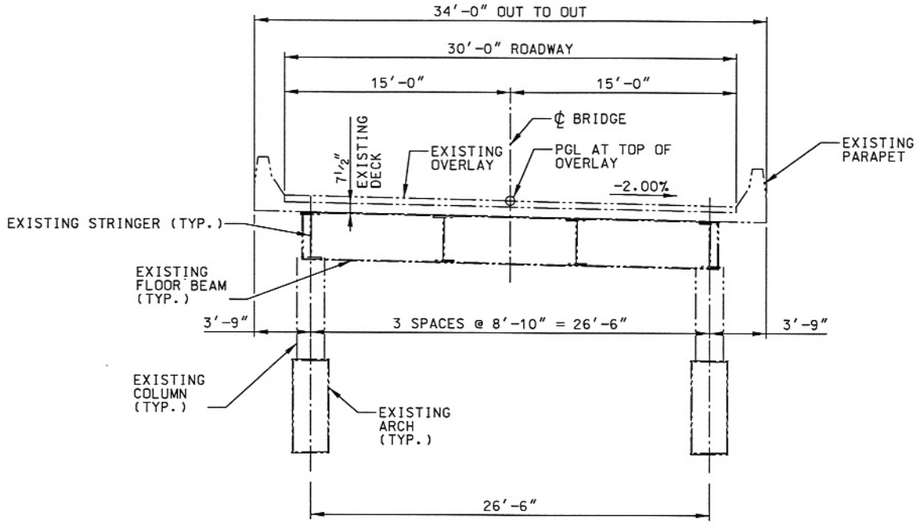
I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
SITUATION & LAYOUT 1

PROJECT NUMBER F-170-3(50)112

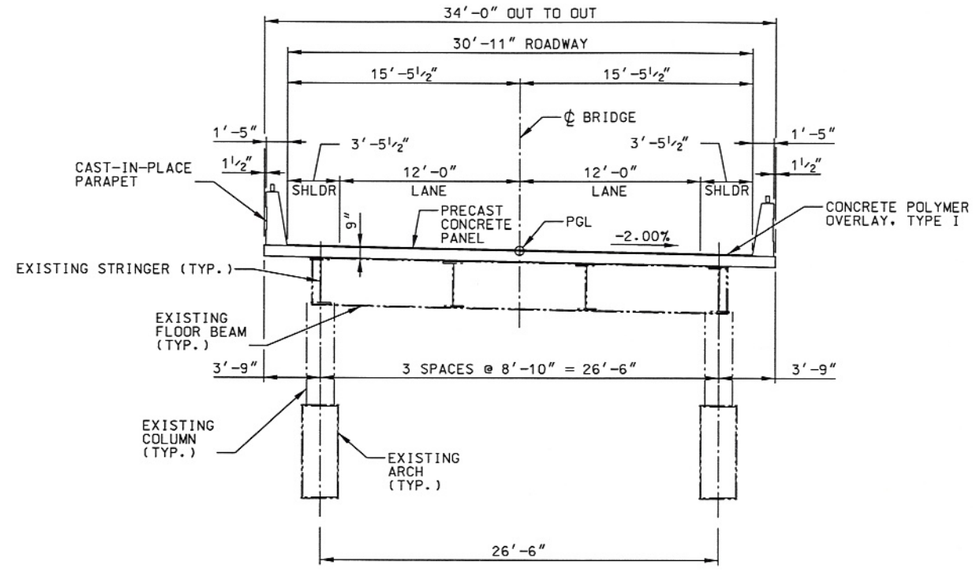
EMERY COUNTY

C-495R2 DRG. NO.

SHT. 1 OF 26



EXISTING SECTION THRU STRUCTURE



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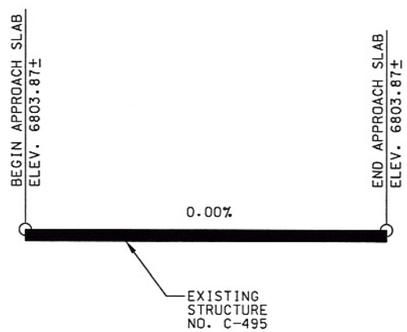


I-70 PROFILE

(AT ℄ BRIDGE)

NOTES

1. FIELD VERIFY FINAL ELEVATION FOR FINISHED GRADE.

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

NO.	DATE	BY	REMARKS

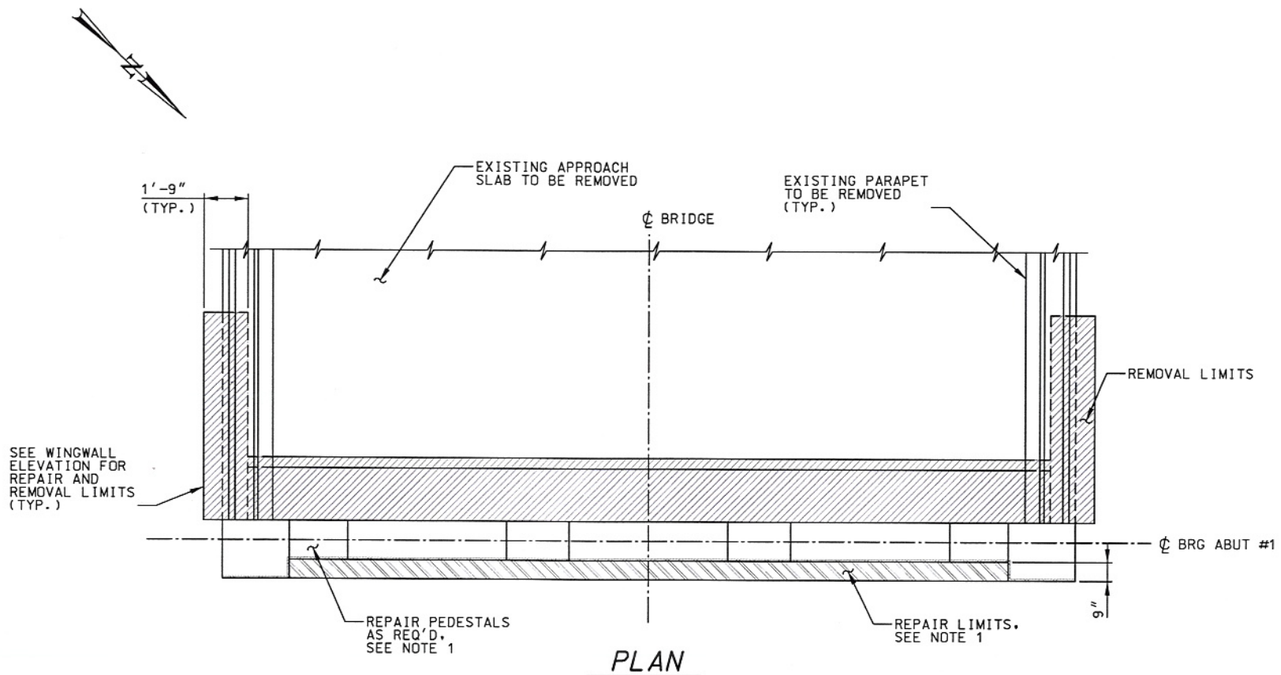
DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. [signature] DATE 7/29/09 REGION DESIGN ENGR.
APPROVED FOR USE BY UDOT [signature] DATE 7/27/09 UDOT BRIDGE ENGR.

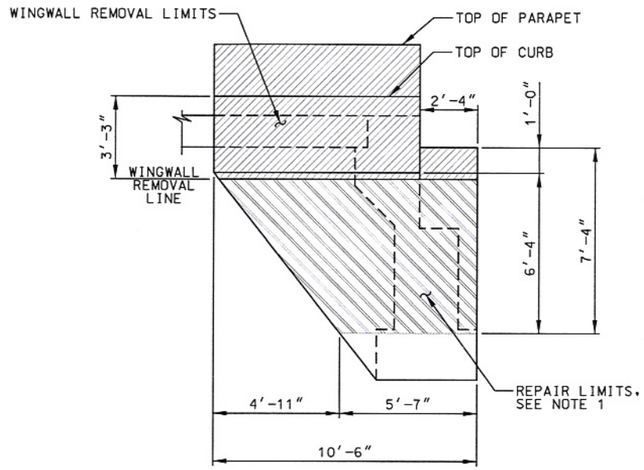
I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
SITUATION & LAYOUT 2
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 2 OF 26

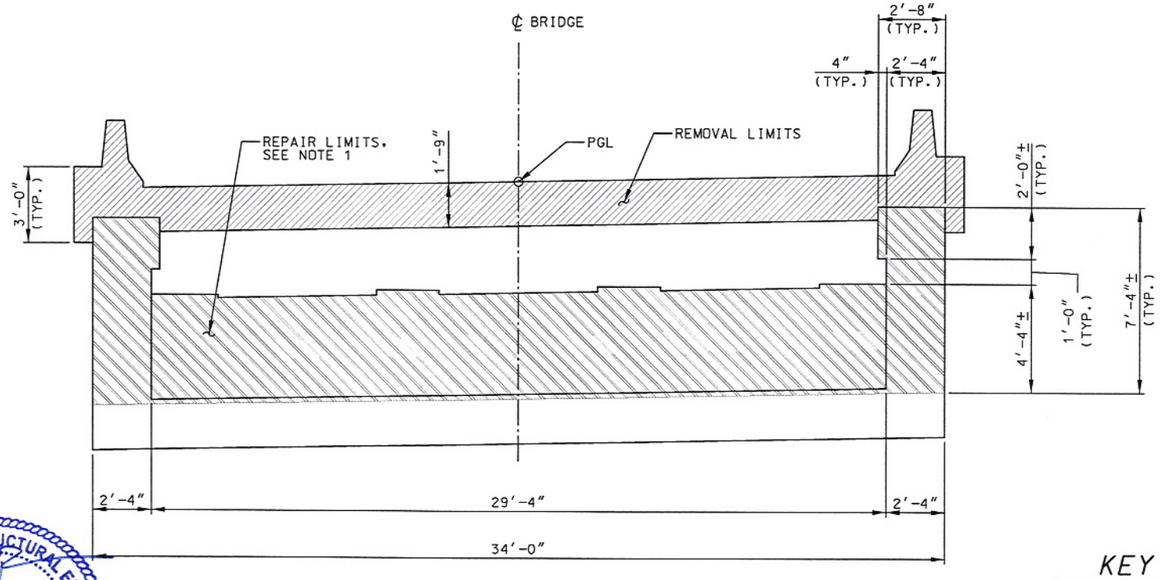
7/27/2009 11:23:45 AM MikeS O:\12008\08B8-034 I-70 Eagle Canyon Bridge\0625_034\Sheet Files\Structures\0625_C-495_B2-SitLayout.dgn



PLAN



WINGWALL ELEVATION



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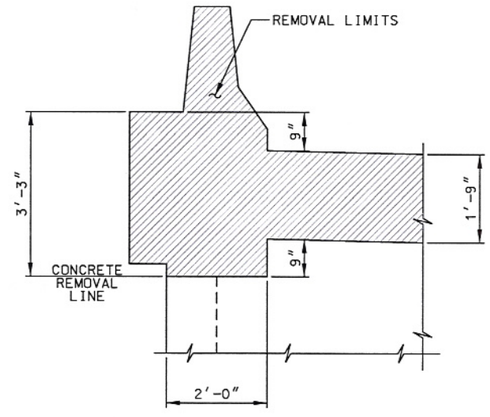

ABUTMENT BACKWALL REMOVAL DETAIL

KEY

- REMOVAL
- REPAIR

NOTES

1. IDENTIFY DELAMINATED AREAS AND REPAIR ABUTMENTS, WINGWALLS, AND PEDESTALS AS REQUIRED BY STANDARD SPECIFICATION SECTION 03924.
2. FOR REMOVAL, MAKE 1/2″ DEEP SAW CUTS TO DEFINE REMOVAL AREA. MAKE A CLEAN EDGE AT SAW CUT LOCATIONS BEFORE PLACING NEW CONCRETE.

PROFESSIONAL STRUCTURAL ENGINEER 336235-2203 LAWRENCE R. REASCH 7-27-09 STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN AFY 1/09 CHECK LRR 1/09
DRAWN MAS 1/09 CHECK LRR 1/09
QUANT. MKC 1/09 CHECK AFY 1/09

APPROVAL RECOMM. [signature] DATE 7/28/09
SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT [signature] DATE 7/28/09
UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
ABUT. #1 REMOVAL DETAILS

PROJECT NUMBER F-170-3(50)112

EMERY
COUNTY

C-495R2
DRG. NO.

SHT. 3 OF 26

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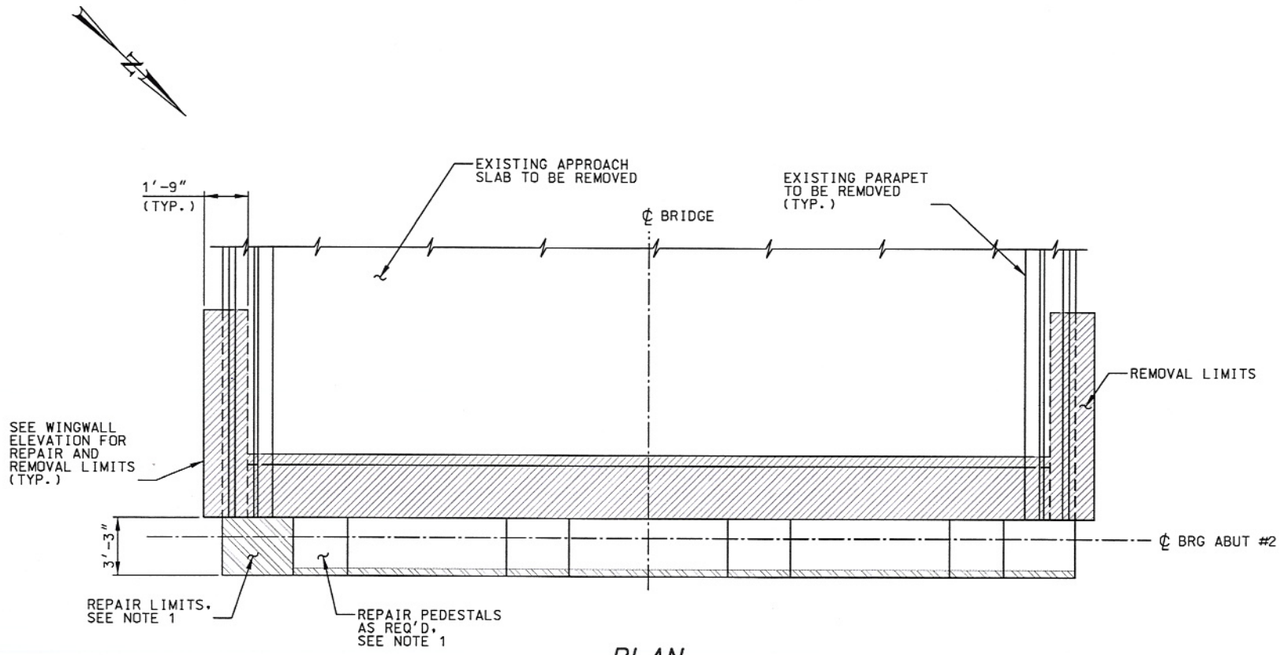

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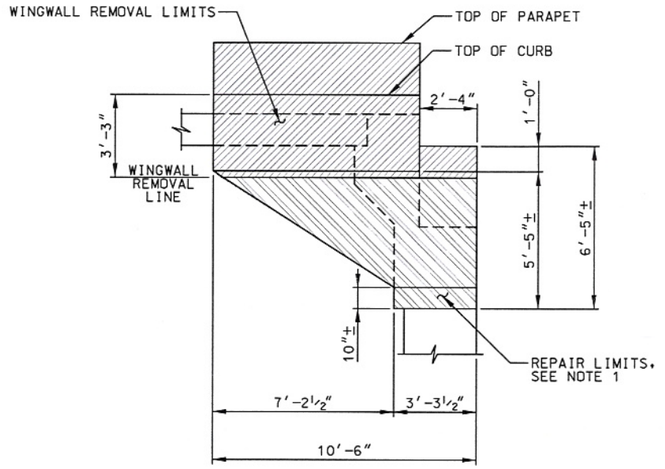
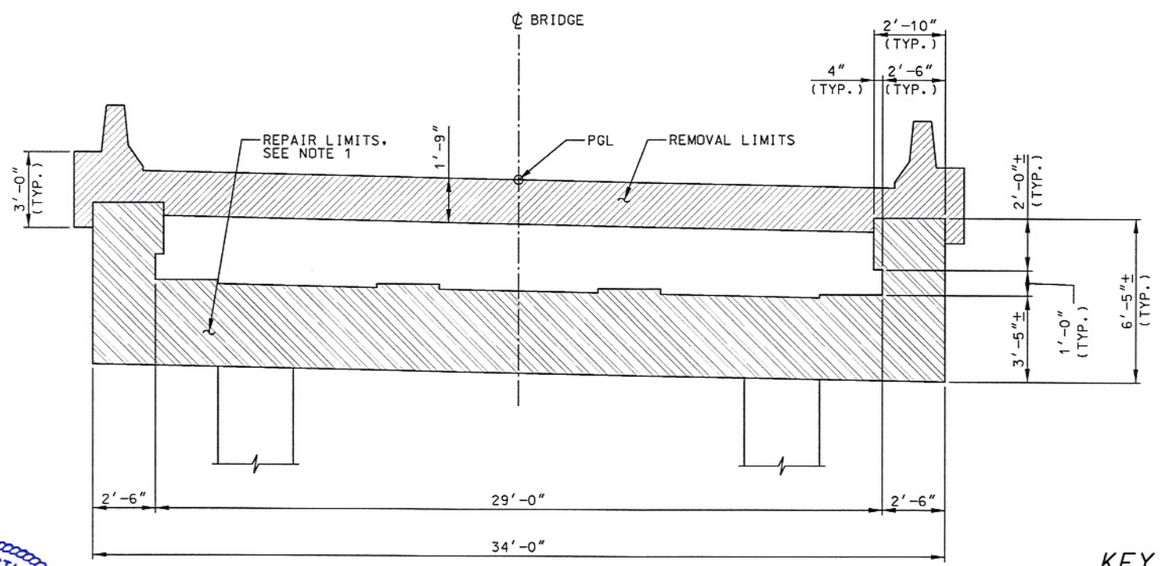


WINGWALL ELEVATION



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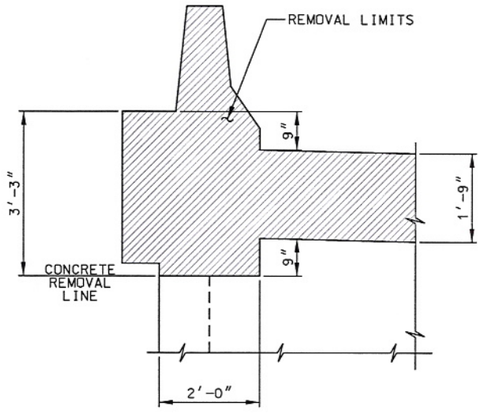


ABUTMENT BACKWALL REMOVAL DETAIL

KEY

REMOVAL

REPAIR

NOTES

1. IDENTIFY DELAMINATED AREAS AND REPAIR ABUTMENTS, WINGWALLS, AND PEDESTALS AS REQUIRED BY STANDARD SPECIFICATION SECTION 03924.
2. FOR REMOVAL, MAKE ½" DEEP SAW CUTS TO DEFINE REMOVAL AREA. MAKE A CLEAN EDGE AT SAW CUT LOCATIONS BEFORE PLACING NEW CONCRETE.

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
1-27-09
STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	AFY	1/09	
DRAWN	MAS	1/09	
QUANT.	MKC	1/09	
CHECK	LRR	1/09	
CHECK	LRR	1/09	
CHECK	AFY	1/09	

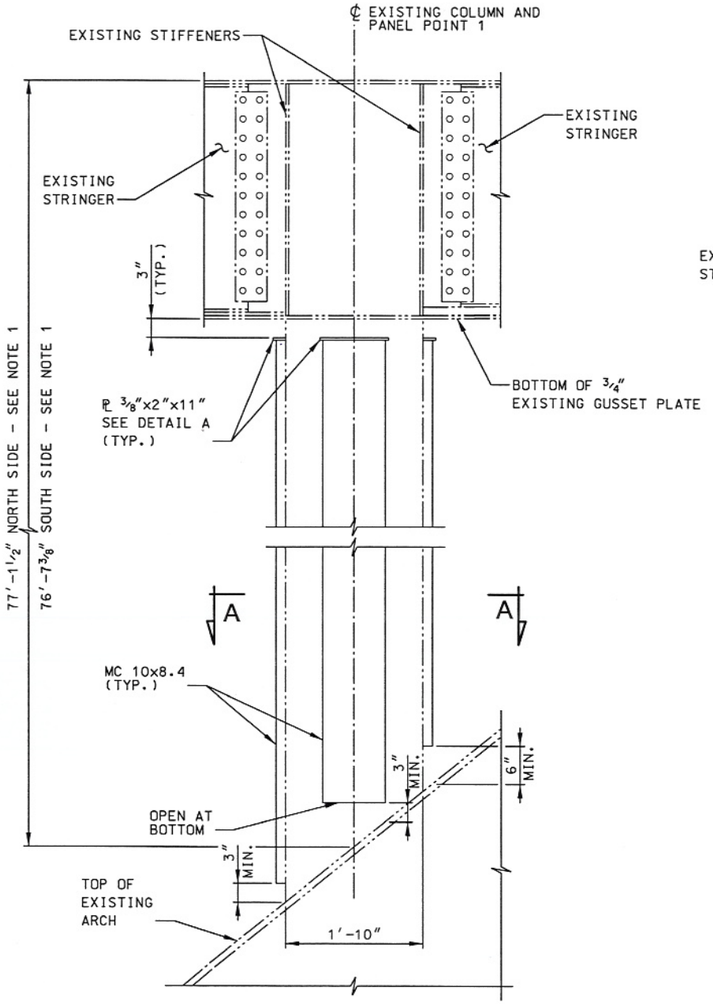
APPROVAL RECOMM. 1/28/09 SENIOR DESIGN ENGR.
APPROVED FOR USE PER UDOT 7/29/09 UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
ABUT. #2 REMOVAL DETAILS
PROJECT NUMBER F-170-3(50)112

EMERY
COUNTY

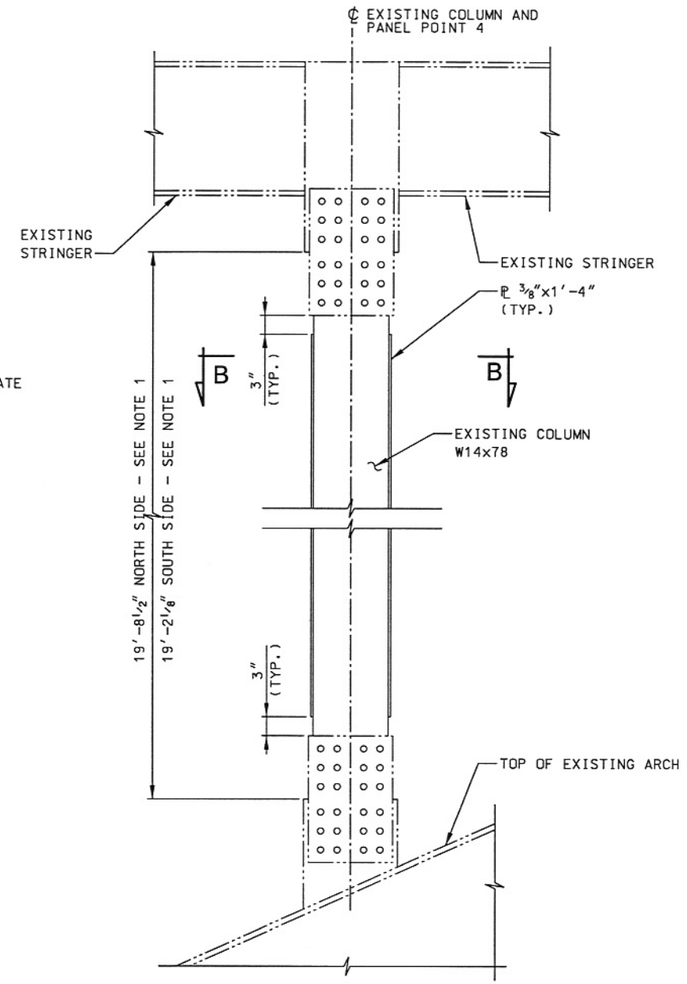
C-495R2
DRG. NO.

SHT. 4 OF 26



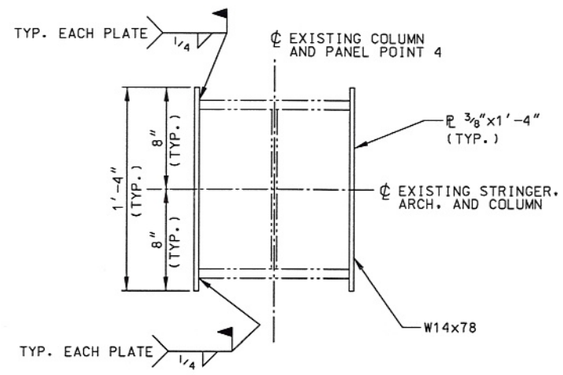
PARTIAL ELEVATION

COLUMN AT PANEL POINT 1

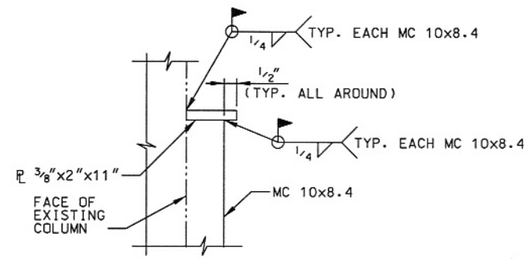


PARTIAL ELEVATION

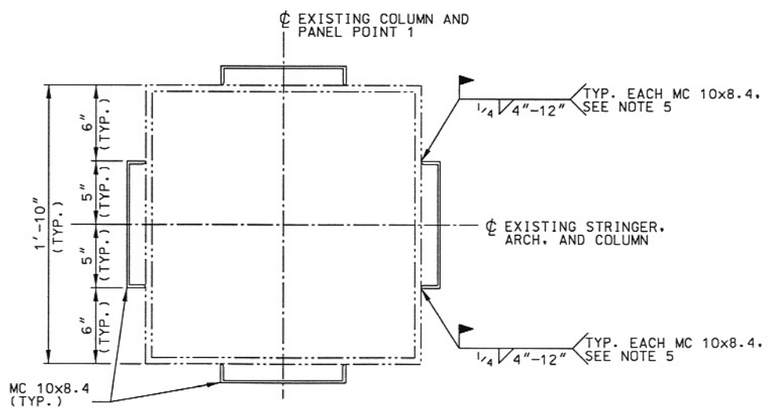
COLUMN AT PANEL POINT 4



SECTION B-B



DETAIL A



SECTION A-A

NOTES

1. FIELD VERIFY COLUMN LENGTHS.
2. SEE SHEET 6 FOR GENERAL STEEL NOTES.
3. REPAIR 4 COLUMNS TOTAL AT PANEL POINTS 1 AND 4 COLUMNS TOTAL AT PANEL POINTS 4.
4. SEE THE DECK PLACEMENT SEQUENCE ON SHEET 7 FOR REPAIRING COLUMNS AT PANEL POINTS 1. COLUMN REPAIRS AT PANEL POINTS 4 ARE INDEPENDENT OF THE DECK PLACEMENT SEQUENCE.
5. STITCH WELD EACH SIDE OF EACH MC 10x8.4 IN 1 FT INCREMENTS BEFORE CONTINUING DOWN THE COLUMN.
6. SEAL WELD ENTIRE LENGTH OF EACH SIDE OF MC 10x8.4 ON COLUMNS AT PANEL POINT 1 AFTER STITCH WELDING IS COMPLETE. USE 1/8" FILLET WELD.
7. PAINT COLUMNS AND COLUMN MODIFICATIONS TO MATCH EXISTING ARCH AND STRINGER COLOR.

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
7-27-09
STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

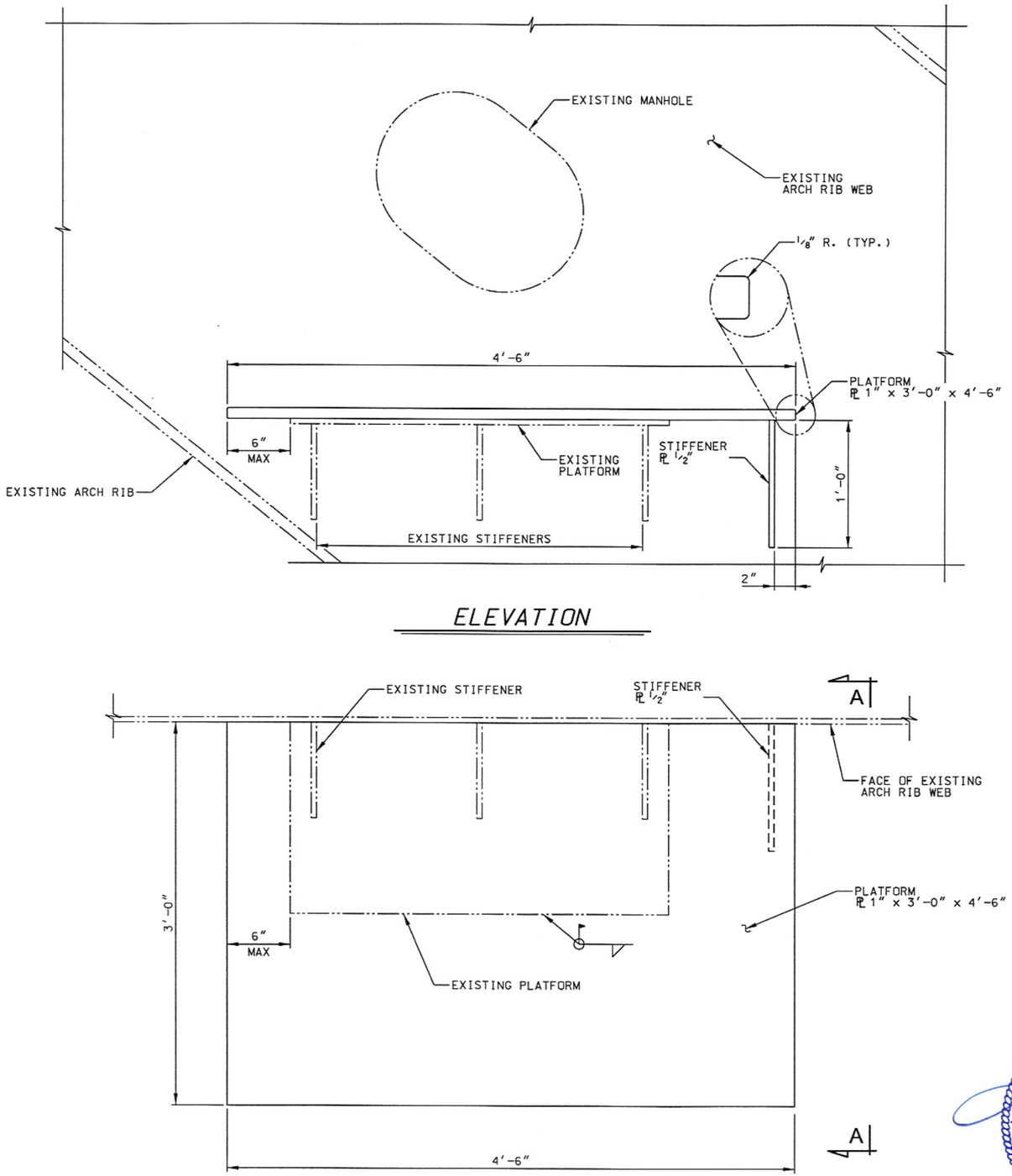
UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. DATE 7/29/09 SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE 7/29/09 UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
COLUMN STEEL DETAILS
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 5 OF 26

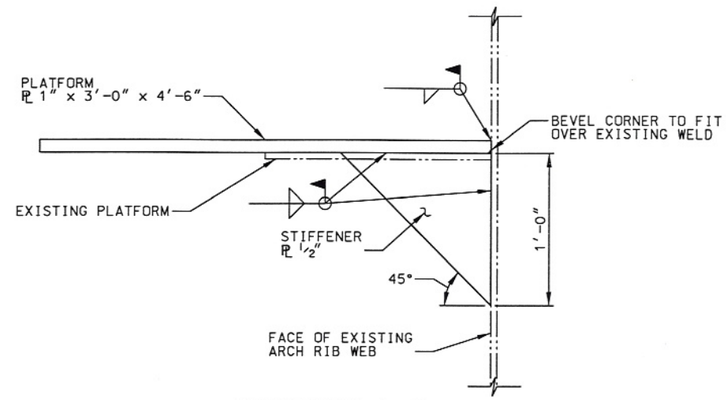


ELEVATION

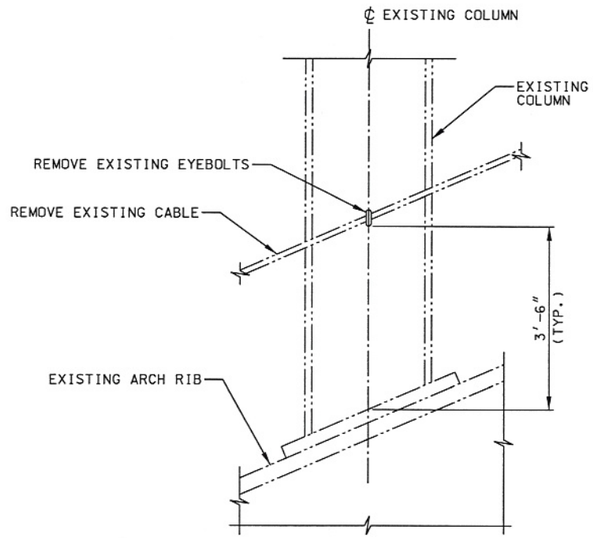
PLAN

PLATFORM NOTES:

1. MODIFY PLATFORMS AT 8 LOCATIONS.
2. PAINT PLATFORMS TO MATCH EXISTING ARCH COLOR.



SECTION A-A



CABLE REMOVAL DETAIL

PROFESSIONAL STRUCTURAL ENGINEER
6336235-2203
LAWRENCE R. REASCH
7/27/09
STATE OF UTAH

GENERAL STEEL NOTES

1. CONFORM WELDING, WELDER QUALIFICATIONS, PREQUALIFICATION OF WELD DETAILS AND INSPECTION OF WELDS TO THE REQUIREMENTS OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5.
2. THE METHODS OF JOINT PREPARATION FOR WELDING SHOWN ON THE PLANS ARE BASED ON THE USE OF MANUAL SHIELDED METAL-ARC WELDING. THE USE OF THIS OR ANY OTHER WELDING PROCESS WILL BE SATISFACTORY ONLY AFTER THE WELDING PROCEDURE HAS BEEN SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. USE THE MINIMUM SIZED STRENGTH FILLET WELDS REQUIRED BY AASHTO/AWS BRIDGE WELDING CODE D1.5 FOR THE THICKNESS OF THE MATERIAL JOINED UNLESS OTHERWISE SPECIFIED. USE A MINIMUM FILLET WELD SIZE OF 5/16", EXCEPT WHERE NOTED OTHERWISE.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. 7/6/09 SENIOR DESIGN ENGR. DATE
APPROVED FOR USE BY UDOT 7/29/09 UDOT BRIDGE ENGR. DATE

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
STEEL ARCH PLATFORM DETAILS
PROJECT NUMBER F-170-3(50)112

EMERY
COUNTY
C-495R2
DRG. NO.
SHT. 6 OF 26

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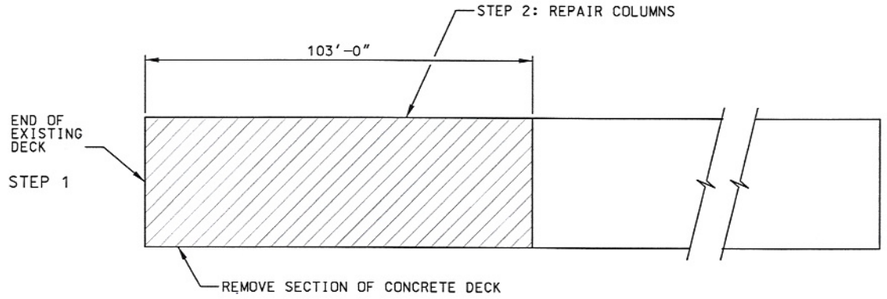
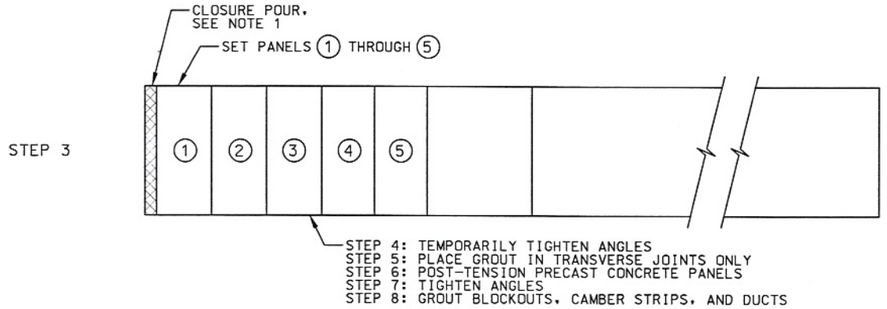
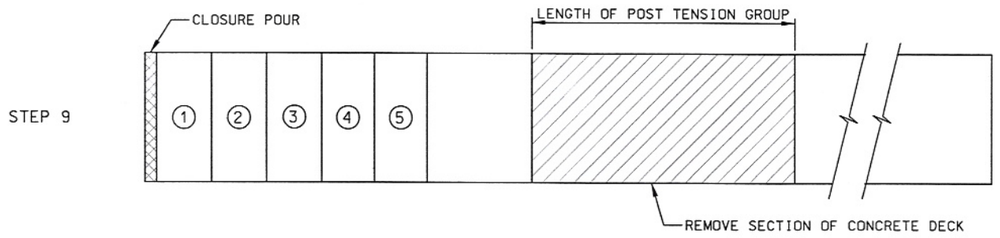
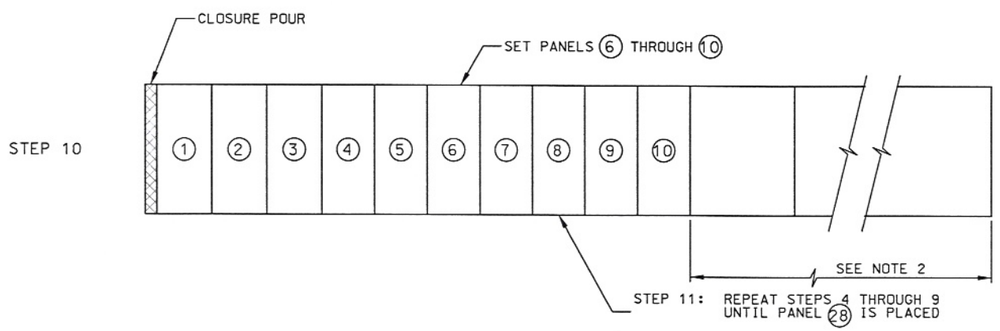
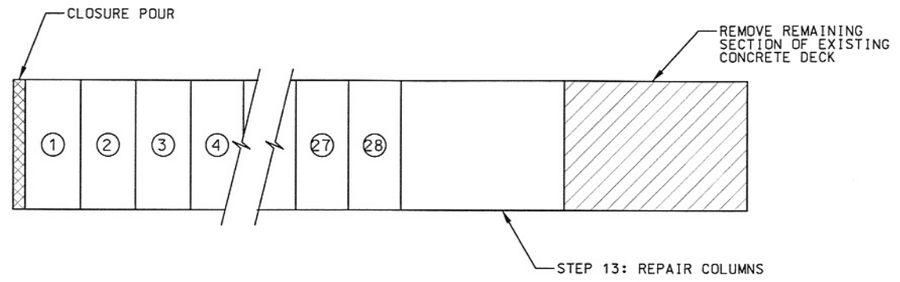








REMOVAL PLAN



DECK REMOVAL AND PLACEMENT SEQUENCE

STEP 1. REMOVE END SECTION OF EXISTING CONCRETE DECK.

STEP 2. REPAIR COLUMNS AT WEST PANEL POINT 1.

STEP 3. SET PRECAST CONCRETE PANELS (1) THROUGH (5).

STEP 4. TEMPORARILY TIGHTEN ANGLES UNTIL READY TO POST-TENSION PANELS.

STEP 5. PLACE GROUT IN TRANSVERSE JOINTS ONLY. CURE TO 500 psi.

STEP 6. LOOSEN ANGLES AND POST-TENSION PRECAST CONCRETE PANELS.

STEP 7. GROUT BLOCKOUTS, CAMBER STRIPS, AND DUCTS.

STEP 8. TIGHTEN ANGLES.

STEP 9. REMOVE SECTION OF CONCRETE DECK EQUAL TO THE LENGTH OF THE NEXT POST-TENSION GROUP.

STEP 10. SET PANELS IN POST-TENSION GROUP.

STEP 11. REPEAT STEPS 4 THROUGH 10 UNTIL PANEL (28) IS PLACED AND ANGLES ARE TEMPORARILY TIGHTENED.

STEP 12. REMOVE REMAINING SECTION OF EXISTING CONCRETE DECK.

STEP 13. REPAIR COLUMNS AT EAST PANEL POINT 1.

STEP 14. CONTINUE WITH STEPS 4 THROUGH 10 UNTIL ALL PANELS ARE PLACED.

STEP 15. PLACE CLOSURE POURS AND APPROACH SLABS.

STEP 16. GRIND DECK AND PLACE CONCRETE POLYMER OVERLAY.

NOTES

1. DO NOT PLACE CLOSURE POUR UNTIL AFTER DECK PANELS ARE GROUTED.
2. SEE PRECAST PANEL LAYOUT ON SHEET 8 FOR REMAINING POST-TENSION GROUPS.

REVISIONS

NO.	DATE	BY	REMARKS

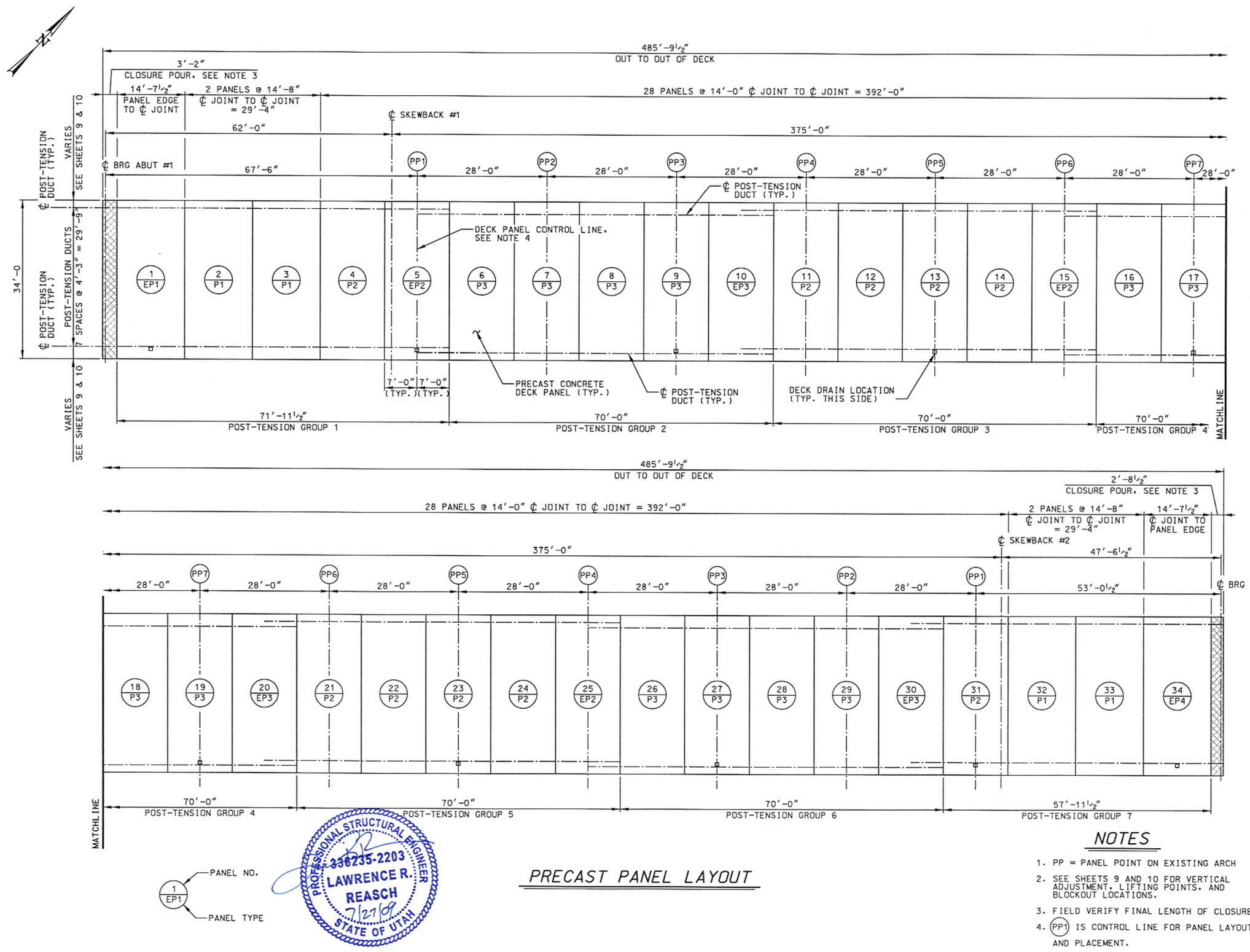
UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. SENIOR DESIGN ENGR. DATE 7/09
APPROVED FOR USE BY UDOT UDOT BRIDGE ENGR. DATE 7/09

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
DECK REMOVAL DETAILS
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 7 OF 26



1 EP1 — PANEL NO. / PANEL TYPE

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
7/27/09
STATE OF UTAH

PRECAST PANEL LAYOUT

NOTES

1. PP = PANEL POINT ON EXISTING ARCH
2. SEE SHEETS 9 AND 10 FOR VERTICAL ADJUSTMENT, LIFTING POINTS, AND BLOCKOUT LOCATIONS.
3. FIELD VERIFY FINAL LENGTH OF CLOSURE POUR.
4. (PP1) IS CONTROL LINE FOR PANEL LAYOUT AND PLACEMENT.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. 7/28/09 SENIOR DESIGN ENGR. DATE
APPROVED FOR USE BY UDOT 7/28/09 UDOT BRIDGE ENGR. DATE

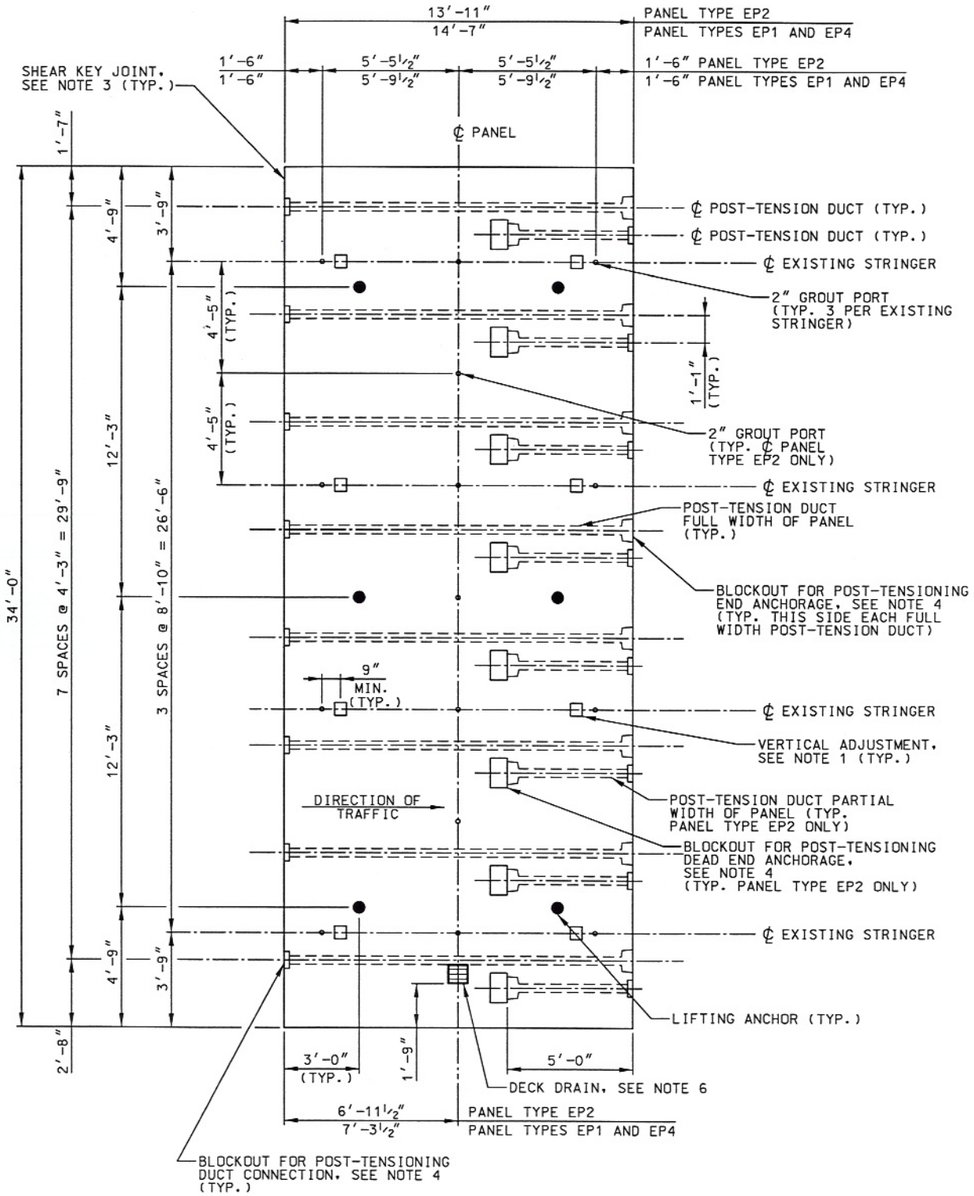
I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PRECAST PANEL LAYOUT
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 8 OF 26

7/27/2009 11:23:51 AM Mike5 D:\2008\8888-834 I-70 Eagle Canyon Bridge\8625_834\Sheets_Files\Structures\8625_C-495_R8-Precast Panel Layout.dgn

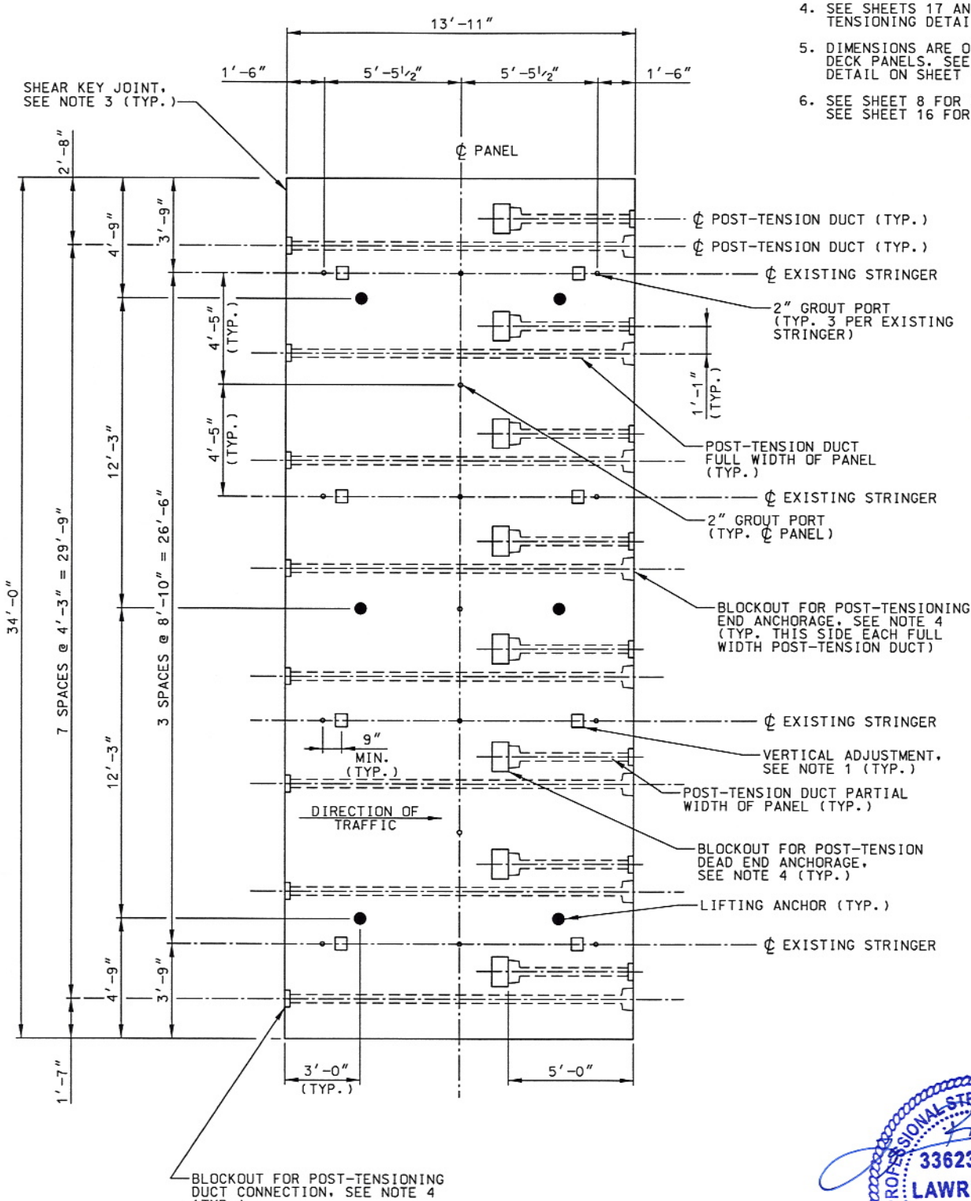
NOTES

1. A MINIMUM OF 2 VERTICAL ADJUSTMENT ASSEMBLIES ARE REQUIRED AT ℄ EACH STRINGER. SEE SHEET 14.
2. SEE SHEETS 11 AND 12 FOR REQUIRED REINFORCING.
3. SEE SHEET 15 FOR SHEAR KEY JOINT DETAIL.
4. SEE SHEETS 17 AND 18 FOR POST-TENSIONING DETAILS.
5. DIMENSIONS ARE OUT-TO-OUT OF PRECAST DECK PANELS. SEE SHEAR KEY JOINT DETAIL ON SHEET 15.
6. SEE SHEET 8 FOR DECK DRAIN LOCATIONS. SEE SHEET 16 FOR DECK DRAIN DETAILS.



EP1, EP2 AND EP4 TYPICAL PLAN

(EP2 AND EP4 SHOWN; EP1 MIRRORED ABOUT ℄ PANEL)



EP3 TYPICAL PLAN

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
1-27-09
STATE OF UTAH

REVISIONS			
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SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

SENIOR DESIGN ENGR. — DATE 7/6/09
APPROVAL RECOMM. — DATE
APPROVED FOR USE BY UDOT — DATE 7/6/09
UDOT BRIDGE ENGR.

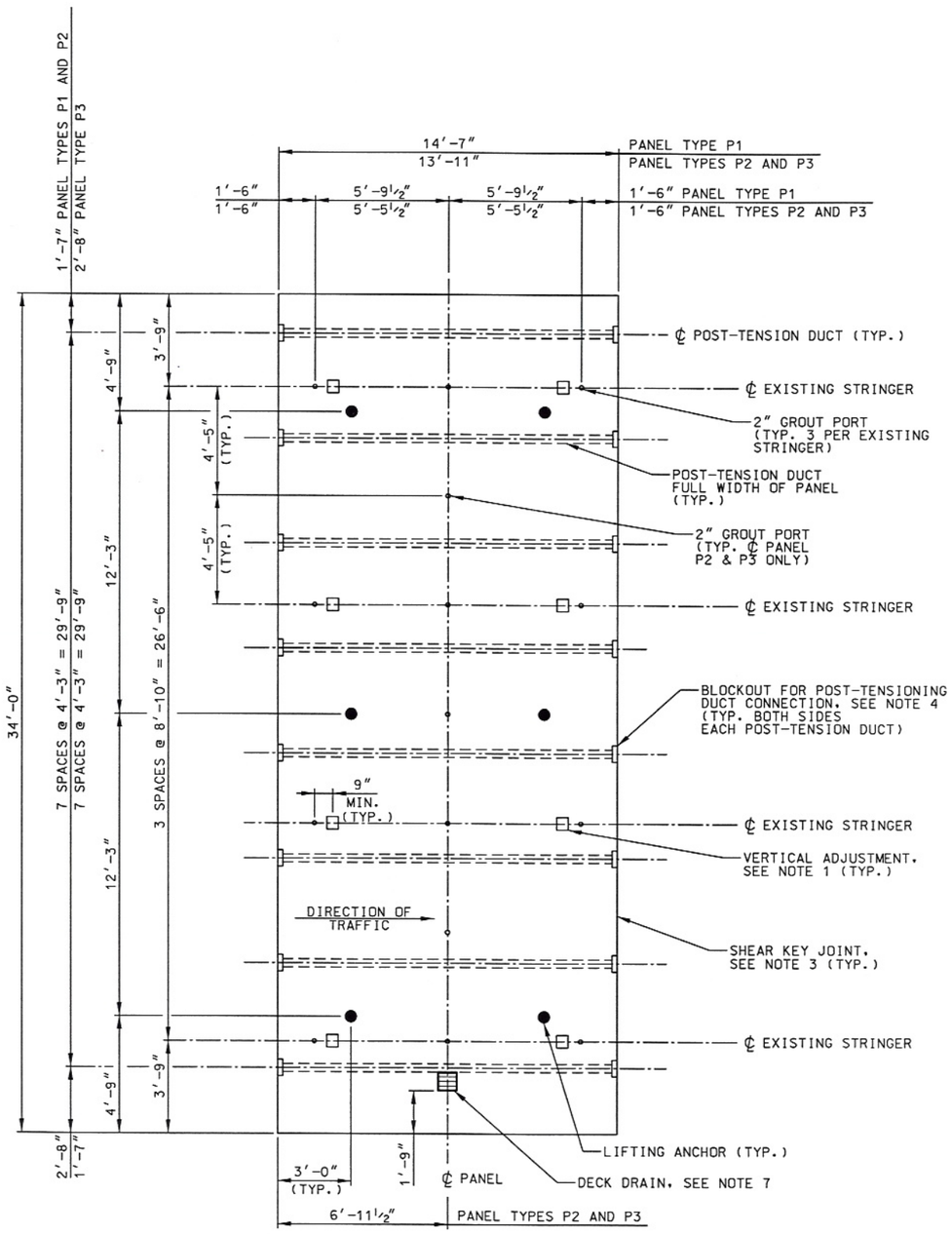
I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
TYPICAL PANEL PLANS 1

PROJECT NUMBER F-170-3(50)112

EMERY COUNTY

C-495R2 DRG. NO.

SHT. 9 OF 26



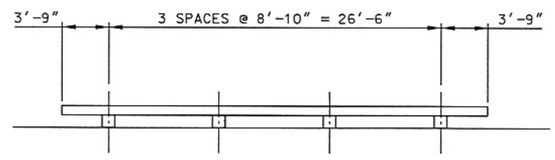
P1, P2, AND P3 TYPICAL PLAN

NOTES

1. A MINIMUM OF 2 VERTICAL ADJUSTMENT ASSEMBLIES ARE REQUIRED AT ℄ EACH STRINGER. SEE SHEET 14.
2. SEE SHEETS 11 AND 12 FOR REQUIRED REINFORCING.
3. SEE SHEET 15 FOR SHEAR KEY JOINT DETAIL.
4. SEE SHEETS 17 AND 18 FOR POST-TENSIONING DETAILS.
5. DIMENSIONS ARE OUT-TO-OUT OF PRECAST DECK PANELS. SEE SHEAR KEY JOINT DETAIL ON SHEET 15.
6. STRUCTURAL CONCRETE AND STRUCTURAL REINFORCEMENT QUANTITIES ARE PAID FOR AS PART OF THE PRECAST DECK PANELS. QUANTITIES SHOWN ARE FOR INFORMATION ONLY.
7. SEE SHEET 8 FOR DECK DRAIN LOCATIONS. SEE SHEET 16 FOR DECK DRAIN DETAILS.

PRECAST DECK PANEL
STRUCTURAL CONCRETE-LIGHTWEIGHT
QUANTITIES
CLASS AA(AE)
(FOR INFORMATION ONLY)

LOCATION	CU. YDS. PER PANEL	NO. OF PANELS	TOTAL CU. YDS.
EP1	13.7	1	13.7
EP2	13.1	3	39.3
EP3	13.1	3	39.3
EP4	13.7	1	13.7
P1	13.7	4	54.8
P2	13.1	10	131.0
P3	13.1	12	157.2



NOTE: SUPPORTS FULL LENGTH OF PANEL.

TYPICAL SHIPPING/STORAGE SUPPORT POINTS

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
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7-27-09
STATE OF UTAH

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			REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. 7/29/09 SENIOR DESIGN ENGR. DATE
APPROVED FOR USE BY UDOT 7/29/09 UDOT BRIDGE ENGR. DATE

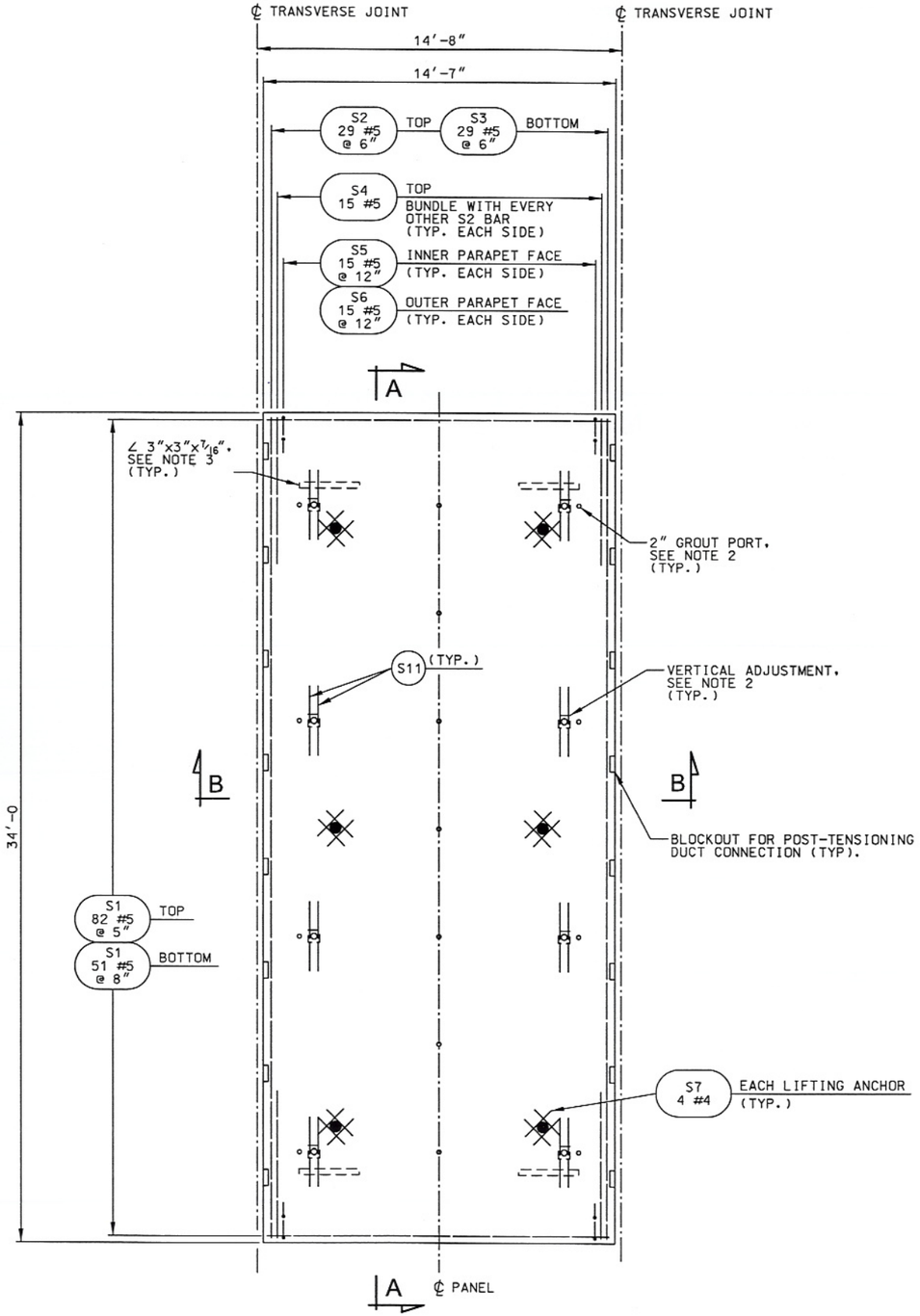
I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
TYPICAL PANEL PLANS 2

PROJECT NUMBER F-170-3(50)112

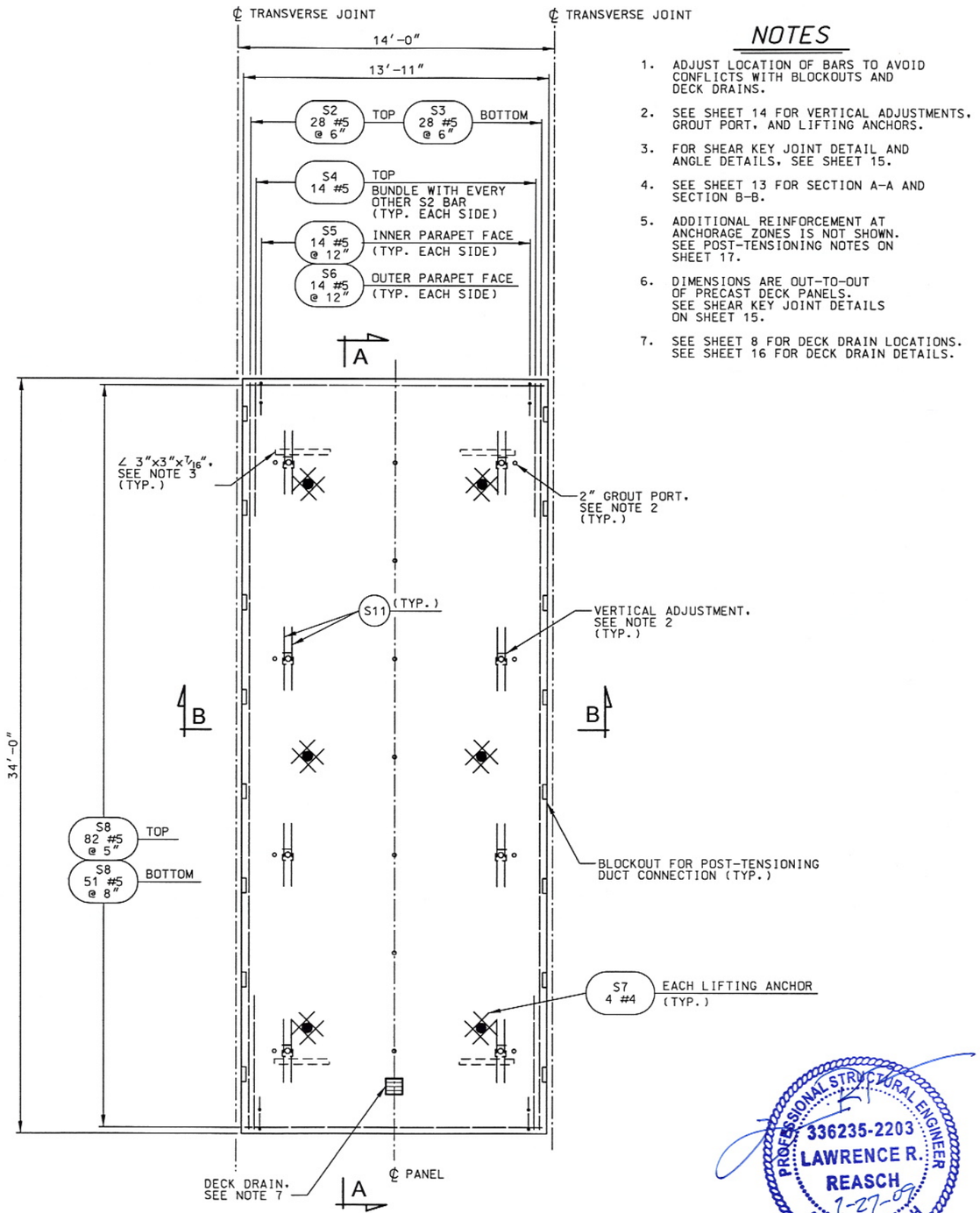
EMERY
COUNTY

C-495R2
DRG. NO.

SHT. 10 OF 26



P1 PANEL REINFORCEMENT PLAN



EP2, EP3, P2, AND P3 PANEL REINFORCEMENT PLAN

(PANEL TYPES P2 AND P3 SHOWN; PANEL TYPES EP2 AND EP3 SIMILAR)

NOTES

1. ADJUST LOCATION OF BARS TO AVOID CONFLICTS WITH BLOCKOUTS AND DECK DRAINS.
2. SEE SHEET 14 FOR VERTICAL ADJUSTMENTS, GROUT PORT, AND LIFTING ANCHORS.
3. FOR SHEAR KEY JOINT DETAIL AND ANGLE DETAILS, SEE SHEET 15.
4. SEE SHEET 13 FOR SECTION A-A AND SECTION B-B.
5. ADDITIONAL REINFORCEMENT AT ANCHORAGE ZONES IS NOT SHOWN. SEE POST-TENSIONING NOTES ON SHEET 17.
6. DIMENSIONS ARE OUT-TO-OUT OF PRECAST DECK PANELS. SEE SHEAR KEY JOINT DETAILS ON SHEET 15.
7. SEE SHEET 8 FOR DECK DRAIN LOCATIONS. SEE SHEET 16 FOR DECK DRAIN DETAILS.

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R.
REASCH
1-27-09
STATE OF UTAH

REVISIONS

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UTAH DEPARTMENT OF TRANSPORTATION
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STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. SIGNOR DESIGN ENGR. DATE 7/6/09
APPROVED FOR USE BY UDOT UDOT BRIDGE ENGR. DATE 7/6/09

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PRECAST PANEL REINFORCEMENT 1

PROJECT NUMBER F-170-3(50)112

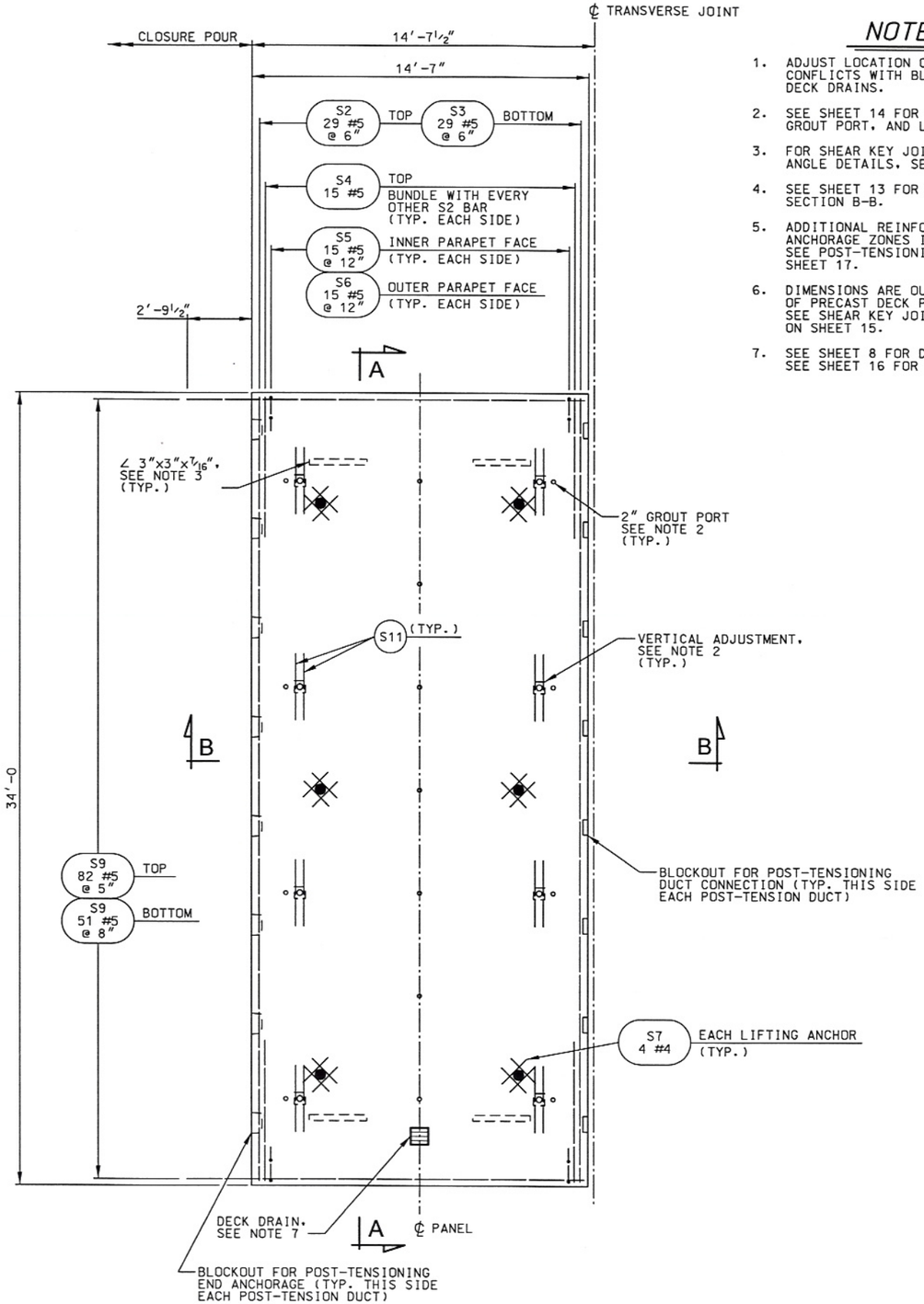
EMERY
COUNTY

C-495R2
DRG. NO.

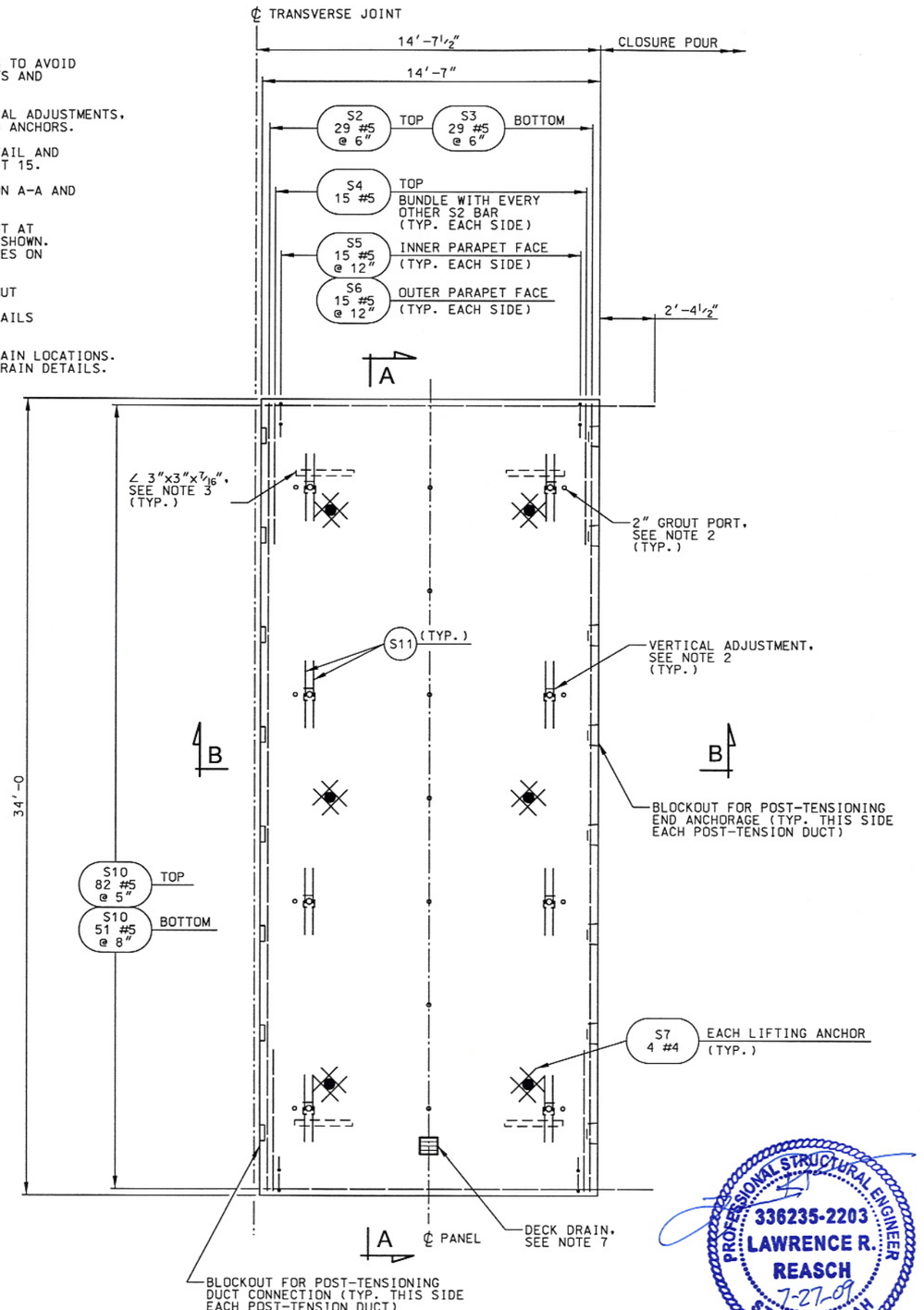
SHT. 11 OF 26

NOTES

1. ADJUST LOCATION OF BARS TO AVOID CONFLICTS WITH BLOCKOUTS AND DECK DRAINS.
2. SEE SHEET 14 FOR VERTICAL ADJUSTMENTS, GROUT PORT, AND LIFTING ANCHORS.
3. FOR SHEAR KEY JOINT DETAIL AND ANGLE DETAILS, SEE SHEET 15.
4. SEE SHEET 13 FOR SECTION A-A AND SECTION B-B.
5. ADDITIONAL REINFORCEMENT AT ANCHORAGE ZONES IS NOT SHOWN. SEE POST-TENSIONING NOTES ON SHEET 17.
6. DIMENSIONS ARE OUT-TO-OUT OF PRECAST DECK PANELS. SEE SHEAR KEY JOINT DETAILS ON SHEET 15.
7. SEE SHEET 8 FOR DECK DRAIN LOCATIONS. SEE SHEET 16 FOR DECK DRAIN DETAILS.



EP1 PANEL REINFORCEMENT PLAN



EP4 PANEL REINFORCEMENT PLAN

PROFESSIONAL STRUCTURAL ENGINEER 336235-2203 LAWRENCE R. REASCH 7-27-09 STATE OF UTAH

NO.	DATE	BY	REMARKS
			REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
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DESIGN	MKC	6/09	CHECK LRR 6/09
DRAWN	MAS	8/09	CHECK LRR 6/09
QUANT.	MKC	6/09	CHECK AFY 6/09

APPROVAL RECOMM. 7/29/09 SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT 7/29/09 UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PRECAST PANEL REINFORCEMENT 2
PROJECT NUMBER F-170-3(50)112

EMERY
COUNTY
C-495R2
DRG. NO.
SHT. 12 OF 26

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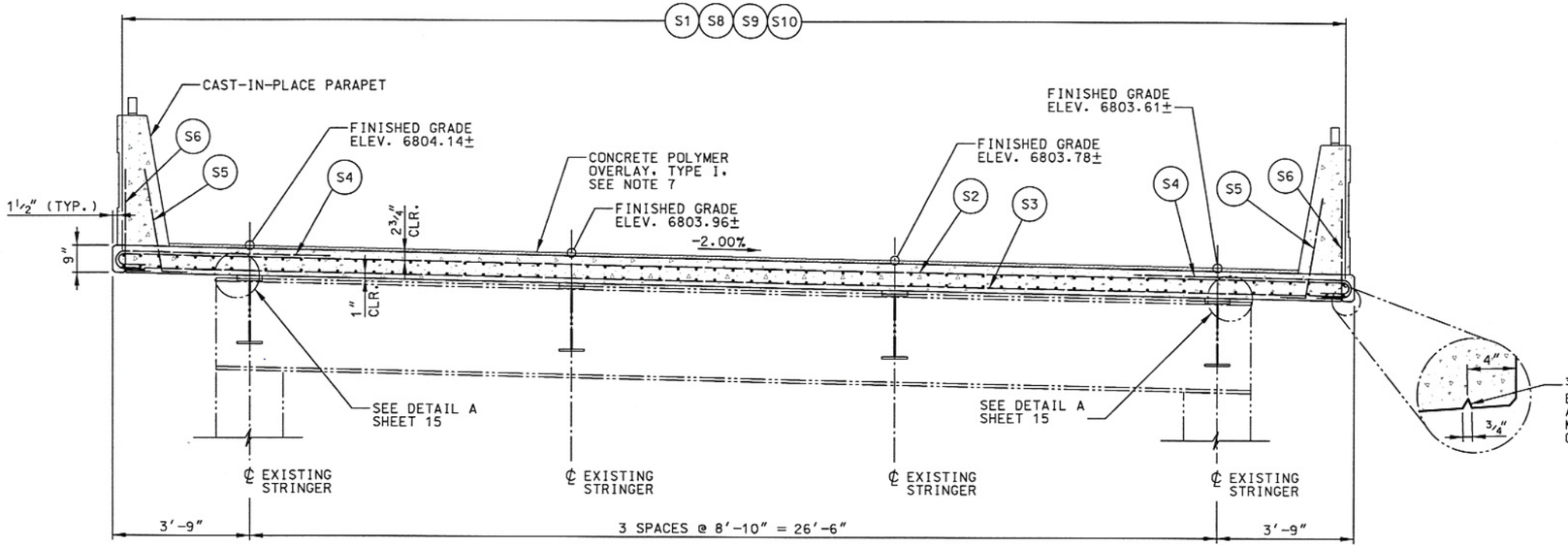
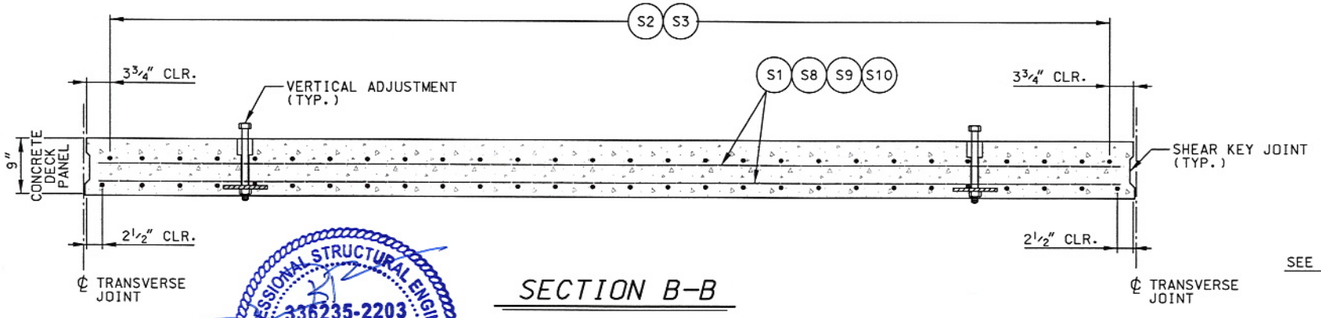


SECTION A-A

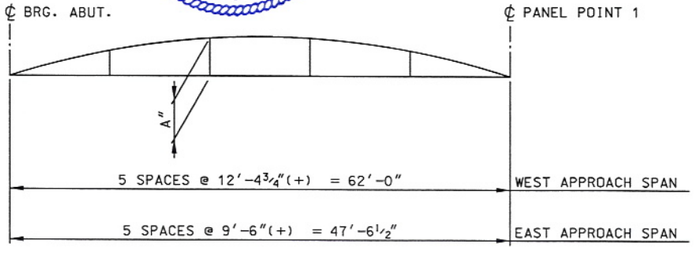
¾" DEEP DRIP GROOVE TYP. BOTH SIDES OF BRIDGE & APPROACH SLABS. MAINTAIN 1" CLR. FOR BOTTOM MAT OF REINFORCING AT DRIP GROOVE.

NOTES

1. THE PRECAST PANELS HAVE A ¼" CONCRETE GRINDING ALLOWANCE FOR CORRECTING UNEVEN ROADWAY SURFACES AT TRANSVERSE JOINTS BETWEEN PRECAST CONCRETE PANELS AND END OF BRIDGE DECK. DECK THICKNESS SHOWN INCLUDES THE ¼" GRINDING SURFACE.
2. TOP SURFACE OF PANELS AND ALL JOINT SURFACES WILL HAVE A HEAVY BROOM FINISH.
3. PRECAST PANEL EDGES ADJACENT TO OTHER PANELS ARE NOT CONSIDERED EXPOSED CORNERS.
4. ALL STRUCTURAL GROUT WILL HAVE A CORROSION INHIBITOR ADMIXTURE.
5. ALL PANEL CONCRETE WILL HAVE A CORROSION INHIBITOR ADMIXTURE.
6. ADJUST BAR LOCATIONS TO AVOID CONFLICTS WITH BLOCKOUTS.
7. APPLY CONCRETE POLYMER OVERLAY ON BRIDGE DECK AFTER CONCRETE GRINDING IS COMPLETE.



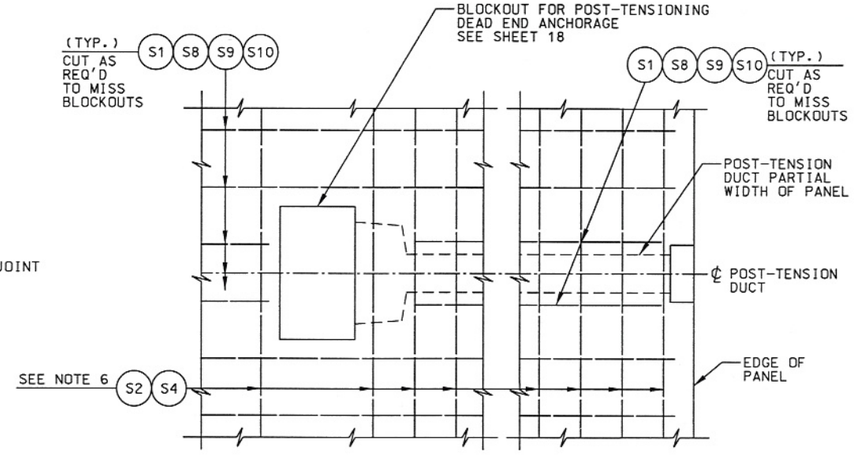
SECTION B-B



CAMBER DIAGRAM

CAMBER NOTES:

1. DIMENSION "A" IS THE TOTAL DEAD LOAD DEFLECTION AT 5TH POINTS.
2. DEAD LOAD DEFLECTIONS INCLUDES THE WEIGHT OF THE PARAPETS. CAMBER STRIP GROUT AND A FUTURE WEARING SURFACE OF 35 PSF.
3. DEAD LOAD DEFLECTIONS BETWEEN WEST PANEL POINT 1 AND EAST PANEL POINT 1 ARE NEGLIGIBLE.
4. DUE TO THE FLAT VERTICAL PROFILE, THERE ARE NO VERTICAL ORDINATES. THE TOTAL CAMBER IS EQUAL TO THE DEAD LOAD DEFLECTION.



EP2 AND EP3 DEAD-END ANCHORAGE REINFORCEMENT DETAIL

EAST AND WEST APPROACH SPANS CAMBER ORDINATES (FT)							
		℄ BRG ABUT	⅕	⅖	⅗	⅘	PANEL POINT 1
STRINGER 1	DEAD LOAD	0.00	0.02	0.03	0.03	0.02	0.00
STRINGER 2	DEAD LOAD	0.00	0.02	0.03	0.03	0.02	0.00
STRINGER 3	DEAD LOAD	0.00	0.02	0.03	0.03	0.02	0.00
STRINGER 4	DEAD LOAD	0.00	0.02	0.03	0.03	0.02	0.00

PROFESSIONAL STRUCTURAL ENGINEER 336235-2203 LAWRENCE R. REASCH 1-27-09 STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

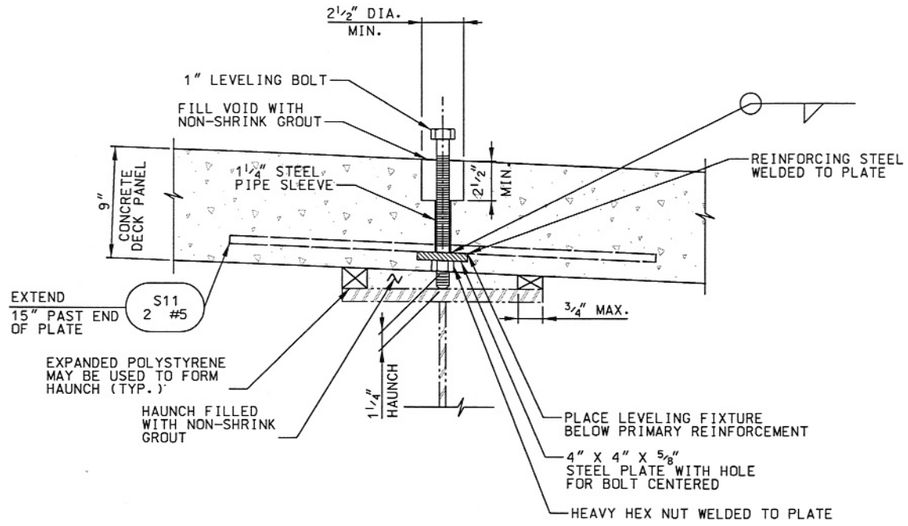
UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

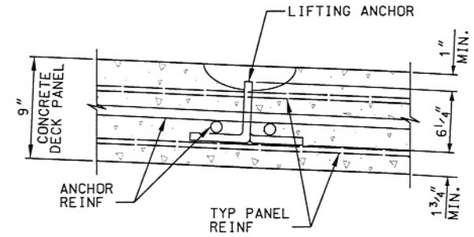
APPROVAL RECOMM. — SENIOR DESIGN ENGR. — DATE
APPROVED FOR USE BY UDOT — UDOT BRIDGE ENGR. — DATE

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PRECAST PANEL DETAILS 1
PROJECT NUMBER F-170-3(50)112

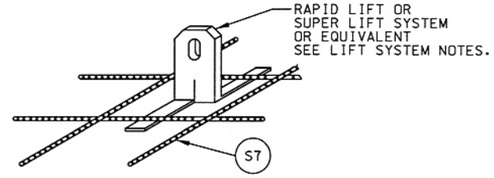
EMERY
COUNTY
C-495R2
DRG. NO.
SHT. 13 OF 26



VERTICAL ADJUSTMENT DETAIL ON EXISTING STRINGER



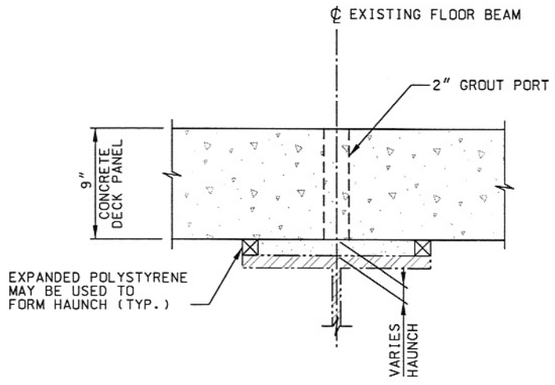
LIFTING ANCHOR ELEVATION



LIFT SYSTEM NOTES:

1. USE RAPID LIFT OR SUPER LIFT SYSTEM WITH ALLOWABLE TENSION LOAD OF 20.000 LBS OR EQUIVALENT.
2. USE A RECESSING MEMBER ASSEMBLY.
3. PLACE LIFTING DEVICES A MINIMUM DISTANCE OF 3 FT FROM THE PANEL EDGES.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATION OF THE LIFT SYSTEM AND WILL SUBMIT PLANS AND HANDLING STRESS CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION OF PANELS.

LIFTING ANCHOR DETAIL

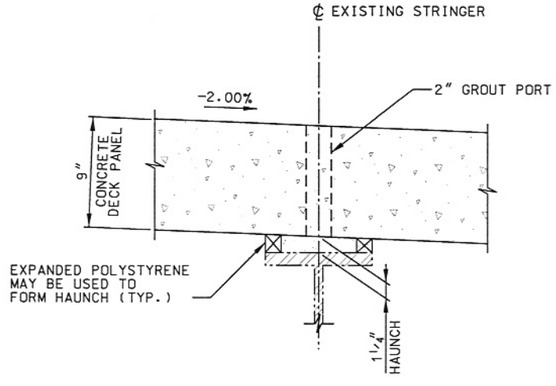


EXISTING FLOOR BEAM HAUNCH DETAIL

NOTES

1. USE THE PCI DESIGN HANDBOOK, PRECAST AND PRESTRESSED CONCRETE, FIFTH EDITION WITH ALL INTERIMS AND ERRATA FOR THE DESIGN AND DETAIL OF LIFTING SUPPORTS AND HANDLING CONSIDERATIONS (NO CRACKING CRITERIA).

PROFESSIONAL STRUCTURAL ENGINEER 336235-2203 LAWRENCE R. REASCH 1-27-09 STATE OF UTAH



EXISTING STRINGER HAUNCH DETAIL

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

NO.	DATE	BY	REMARKS

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. [signature] DATE 6/6/09 — REGION DESIGN ENGR.
APPROVED FOR USE BY UDOT [signature] DATE 6/10/09 — UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PRECAST PANEL DETAILS 2
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
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SHT. 14 OF 26

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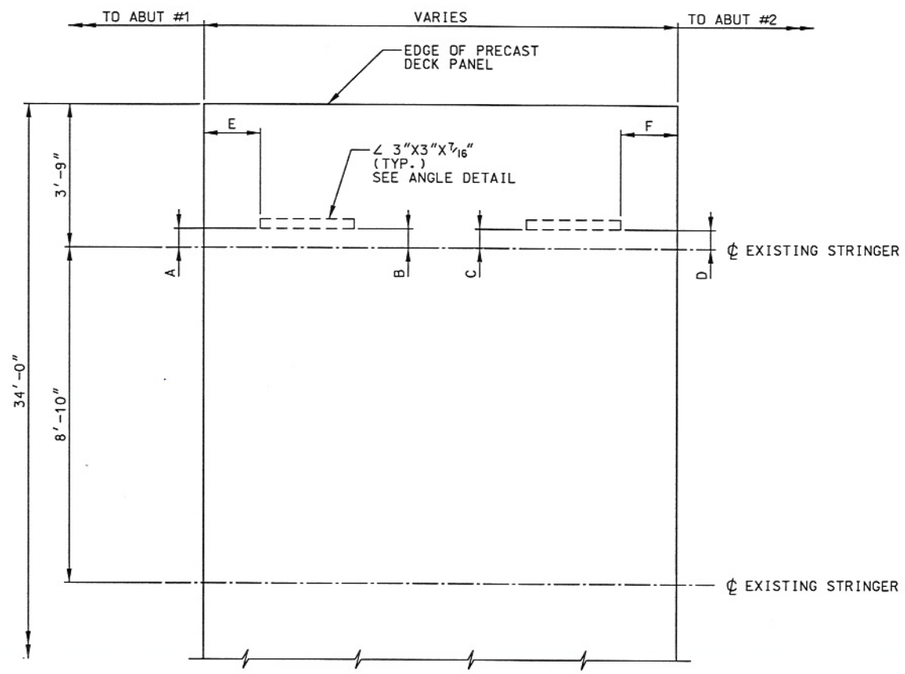
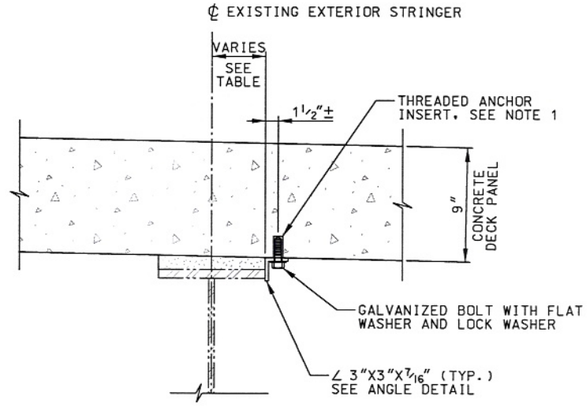


ANGLE LOCATION PARTIAL PLAN

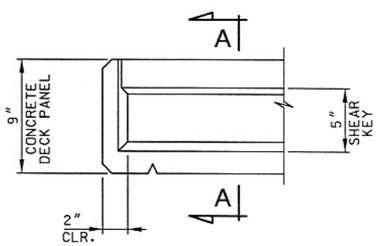
(ANGLE LOCATIONS MIRRORED ABOUT ℄ BRIDGE)

ANGLE LOCATION TABLE						
PANEL	A	B	C	D	E	F
1	8 1/4"	8 1/4"	8 1/4"	8 1/4"	2'-6"	2'-6"
2	8 1/4"	8 1/4"	8 1/4"	8 1/4"	1'-0"	2'-6"
3	8 1/4"	8 1/4"	8 1/4"	8 1/4"	2'-6"	3'-6"
4	8 1/4"	8 1/4"	8 1/4"	8 1/4"	1'-6"	1'-6"
5	8 1/4"	8 1/4"	5 7/8"	5 3/4"	1'-6"	1'-6"
6	5 1/2"	5 3/8"	4 7/8"	4 3/4"	1'-6"	1'-6"
7	4 5/8"	4 3/8"	4 1/4"	4 1/4"	1'-6"	1'-6"
8	4 1/4"	4 1/4"	4 1/4"	4 1/4"	1'-6"	1'-6"
9	4 1/4"	4 1/8"	4 1/8"	4 1/8"	1'-6"	1'-6"
10-26	4 1/8"	4 1/8"	4 1/8"	4 1/8"	1'-6"	1'-6"
27	4 1/8"	4 1/8"	4 1/4"	4 1/4"	1'-6"	1'-6"
28	4 1/4"	4 1/4"	4 1/4"	4 1/4"	1'-6"	1'-6"
29	4 1/4"	4 1/4"	4 3/8"	4 5/8"	1'-6"	1'-6"
30	4 3/4"	4 7/8"	5 3/8"	5 1/2"	1'-6"	1'-6"
31	5 3/4"	5 7/8"	6"	6"	1'-6"	1'-6"
32	6"	6"	6"	6"	2'-6"	5'-10"
33-34	6"	6"	6"	6"	2'-6"	2'-6"

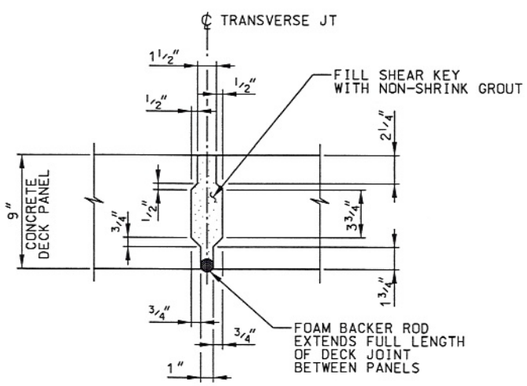


DETAIL A

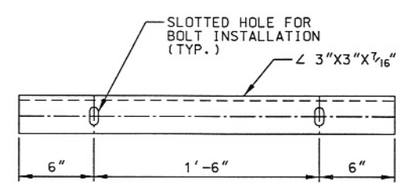
(SEE SECTION A-A ON SHEET 13)



SHEAR KEY SECTION THROUGH DECK PANEL



SECTION A-A: SHEAR KEY JOINT DETAIL



ANGLE DETAIL

NOTES

1. USE CONCRETE THREADED ANCHOR INSERTS. ANCHOR MUST BE RATED TO AN ULTIMATE LOAD OF 5 KIP SHEAR AND 5 KIP TENSION. CAST ANCHOR IN PLACE AVOIDING POST-TENSION DUCTS.
2. PAINT ANGLES TO MATCH STRINGERS.

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

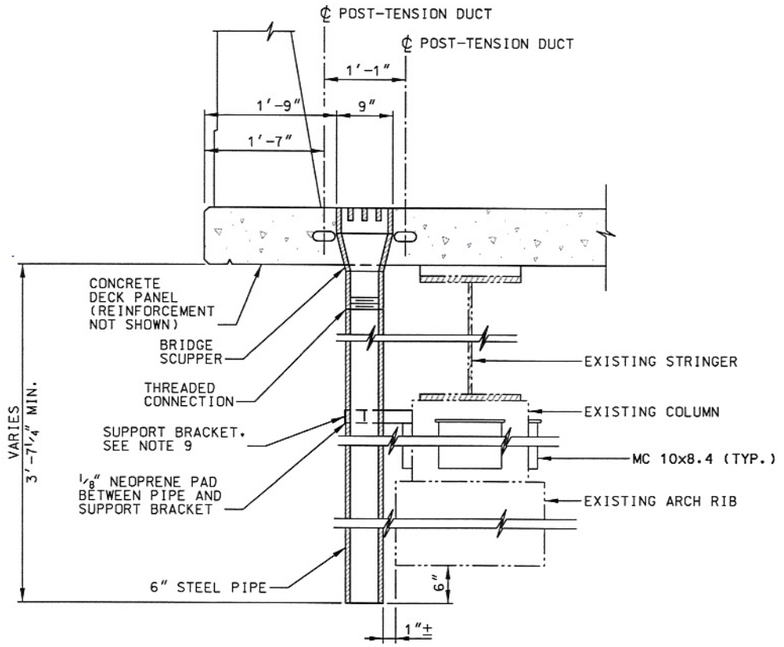
REVISIONS			
NO.	DATE	BY	REMARKS

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. 7/29/09 SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT 7/29/09 UDOT BRIDGE ENGR.

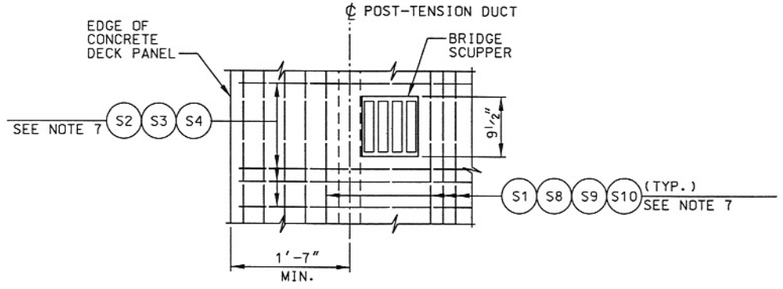
I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PRECAST PANEL DETAILS 3
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 15 OF 26

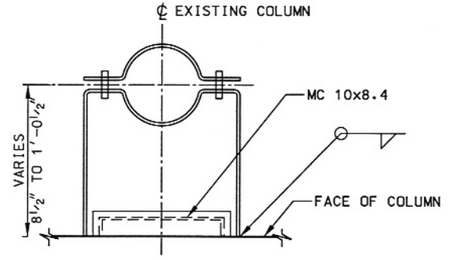


DECK DRAIN DETAIL

(PANEL POINT 1 SHOWN; OTHER LOCATIONS SIMILAR)



DECK DRAIN PLAN



SUPPORT BRACKET DETAIL

(PANEL POINT 1 SHOWN; OTHER LOCATIONS SIMILAR)

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
7-27-09
STATE OF UTAH

NOTES

1. USE 6″ DIA. STD. GALVANIZED PIPE FOR STEEL DRAIN PIPE.
2. USE PIPES AND FITTINGS MADE WITH GROOVED TYPE COUPLINGS OR OTHER JOINTS APPROVED BY THE ENGINEER.
3. ALL DRAINS, PIPE FITTINGS, SUPPORTS, FASTENERS, AND CONNECTIONS MUST BE GALVANIZED AFTER FABRICATION.
4. USE STRUCTURAL CARBON STEEL GRATING CONFORMING TO AASHTO M-270, GRADE 36.
5. BRIDGE SCUPPERS ARE INCLUDED IN PRICE FOR DECK PANELS.
6. STEEL PIPE IS INCLUDED IN PRICE FOR STRUCTURAL STEEL.
7. ADJUST LOCATION OF BARS TO MISS DECK DRAINS.
8. PAINT PIPE AND SUPPORTS TO MATCH COLUMNS.
9. PLACE SUPPORT BRACKETS AT 12′ MAX. SPACING ALONG COLUMN.
10. SEE SHEET 8 FOR DECK DRAIN LOCATIONS.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	MKC	6/09	CHECK LRR 6/09
DRAWN	MAS	6/09	CHECK LRR 6/09
QUANT.	MKC	6/09	CHECK AFY 6/09

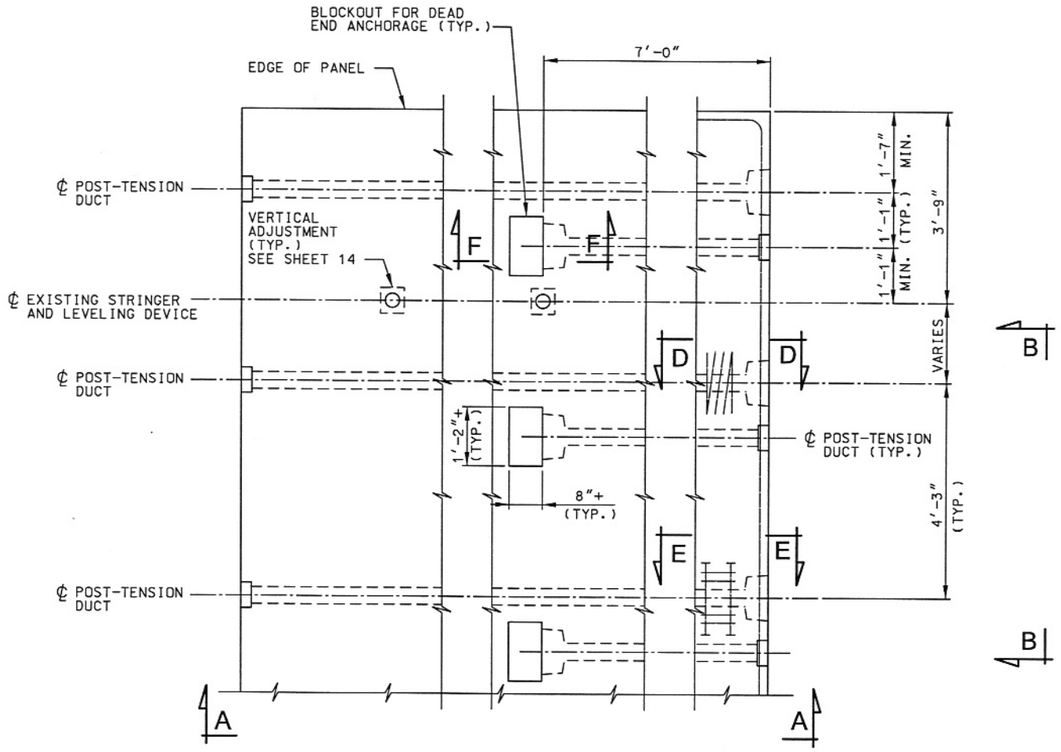
SENIOR DESIGN ENGR. — DATE 7/28/09 — APPROVAL RECOMM.
UDOT BRIDGE ENGR. — DATE 7/28/09 — APPROVED FOR USE BY UDOT

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
DECK DRAIN DETAILS
PROJECT NUMBER F-170-3(50)112

EMERY
COUNTY

C-495R2
DRG. NO.

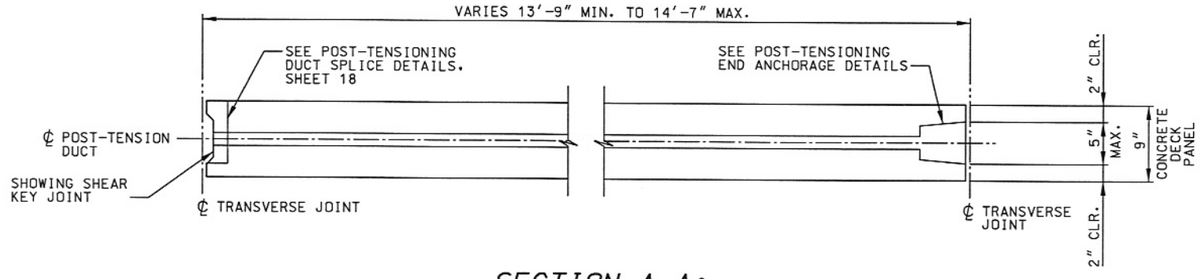
SHT. 16 OF 26



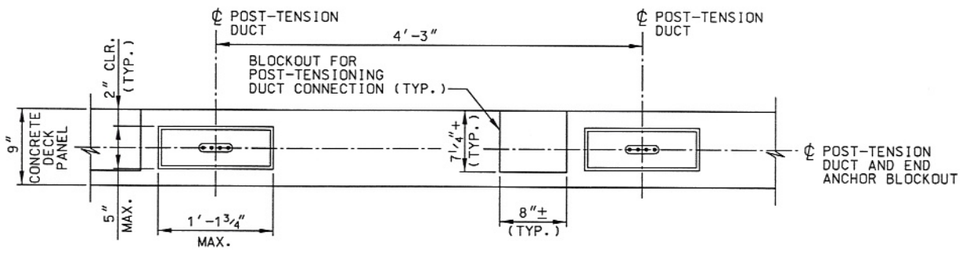
POST-TENSION END ANCHORAGE DETAIL

POST-TENSIONING NOTES:

1. USE 0.6" DIA. GRADE 270 LOW RELAXATION STRANDS CONFORMING TO ASTM A416.
2. USE 4 STRANDS PER DUCT.
3. GALVANIZE BEARING PLATE ANCHOR HEADS AND METAL TRUMPETS AT ANCHORAGES. DO NOT GALVANIZE STRAND GRIPPING WEDGES.
4. DESIGN BASED ON THE FOLLOWING POST-TENSION DUCT PARAMETERS:
   COEFFICIENT OF FRICTION = 0.25
   WOBBLE FRICTION COEFFICIENT = 0.0002
   IF THE PROPOSED DUCT DOES NOT MEET THESE VALUES, THEN THE CONTRACTOR TO ADJUST THE JACKING FORCE TO PRODUCE THE FINAL POST-TENSIONING FORCE LISTED BELOW.
5. BEGIN STRESSING AT CENTER OF PANELS. DO NOT ALLOW THE ECCENTRICITY OF THE PRESTRESSING FORCE TO EXCEED $^1/_8$ OF THE PANEL WIDTH AT ANY TIME. SUBMIT STRESSING SEQUENCE TO ENGINEER FOR APPROVAL PRIOR TO WORK.
6. DECK PANELS MUST BE ALLOWED TO SLIDE ON EXISTING STRINGERS DURING PRESTRESSING.
7. P-JACKING PER STRAND = 42.7 KIPS.
8. P-FINAL PER STRAND = 40.9 KIPS (AFTER LOSSES DUE TO FRICTION, ANCHORAGE SET AND ELASTIC SHORTENING).
9. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN OF ALL POST-TENSIONING ELEMENTS AND ANCHORAGE ZONE REINFORCEMENT (REQUIRED FOR SPLITTING, BURSTING, SPALLING, EDGE TENSION AS DEFINED IN AASHTO LRFD ARTICLE 5.10.9.3.6, ETC.) INCLUDING THE LOCAL ZONE (REGION IMMEDIATELY SURROUNDING POST-TENSIONING DEVICES). DESIGN MUST CONFORM WITH AASHTO LRFD SPECIFICATIONS. TYPICAL REINFORCING FOR TWO DIFFERENT MANUFACTURERS ARE SHOWN.
10. SEE SHEET 7 FOR DECK REMOVAL AND PLACEMENT SEQUENCE.
11. SEE SHEET 18 FOR SECTIONS D-D, E-E, AND F-F.
12. CURE DECK PANELS A MINIMUM OF 28 DAYS PRIOR TO POST-TENSIONING OPERATIONS.



SECTION A-A: TYPICAL TRANSVERSE PANEL SECTION



SECTION B-B: TYPICAL LONGITUDINAL PANEL SECTION

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
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1-27-09
STATE OF UTAH

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	MKC	6/09	CHECK	LRR	6/09
DRAWN	MAS	6/09	CHECK	LRR	6/09
QUANT.	MKC	6/09	CHECK	AFY	6/09

APPROVAL RECOMM. SENIOR DESIGN ENGR. DATE 7/29/09
APPROVED FOR USE BY UDOT BRIDGE ENGR. DATE 7/30/09

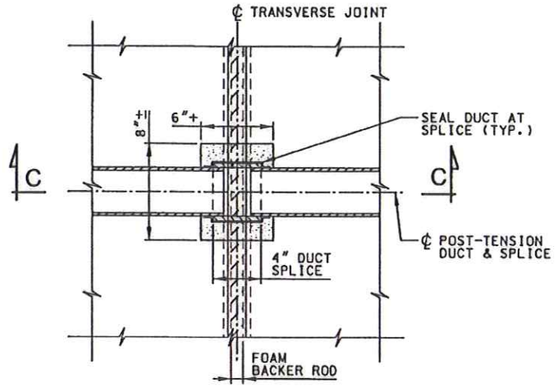
NO.	DATE	BY	REMARKS

REVISIONS

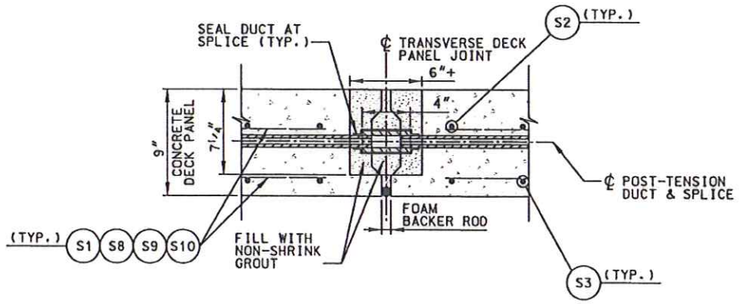
I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
POST-TENSIONING DETAILS 1
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 17 OF 26

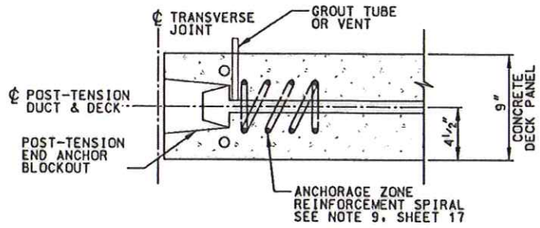
7/27/2009 11:24:02 AM MikeS O:\2008\0808-934 I-70 Eagle Canyon Bridge\6625.03\Sheets\Files\Structures\6625_C-495_17 Post Tensioning Details 1.dgn



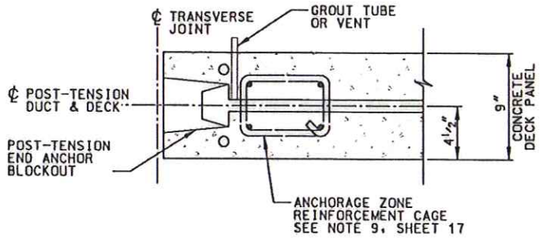
DETAIL AT DUCT CONNECTION



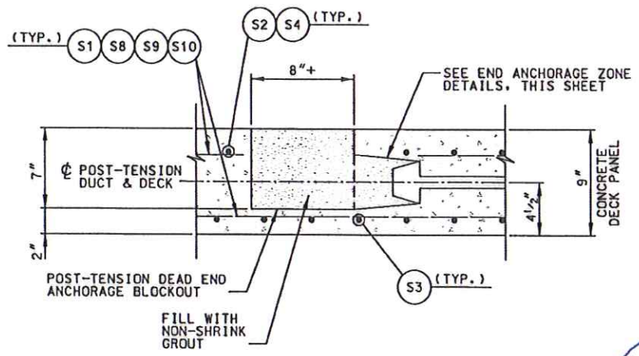
SECTION C-C: POST-TENSION DUCT SPLICE



SECTION D-D: END ANCHORAGE ZONE REINFORCEMENT OPTION 1



SECTION E-E: END ANCHORAGE ZONE REINFORCEMENT OPTION 2



SECTION F-F: DEAD END ANCHORAGE BLOCKOUT

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
7-27-09
STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	MKC	6/09	CHECK LRR 6/09
DRAWN	MAS	6/09	CHECK LRR 6/09
CHKD.	MKC	6/09	CHECK AFV 6/09

APPROVAL RECOMM. [signature] DATE 7/09
APPROVED FOR USE BY UDOT [signature] DATE 7/09
REGION ENGR. — UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
POST-TENSIONING DETAILS 2
PROJECT NUMBER F-170-3(50)112

EMERY
COUNTY
C-495R2
DRG. NO.
SHT. 18 OF 26

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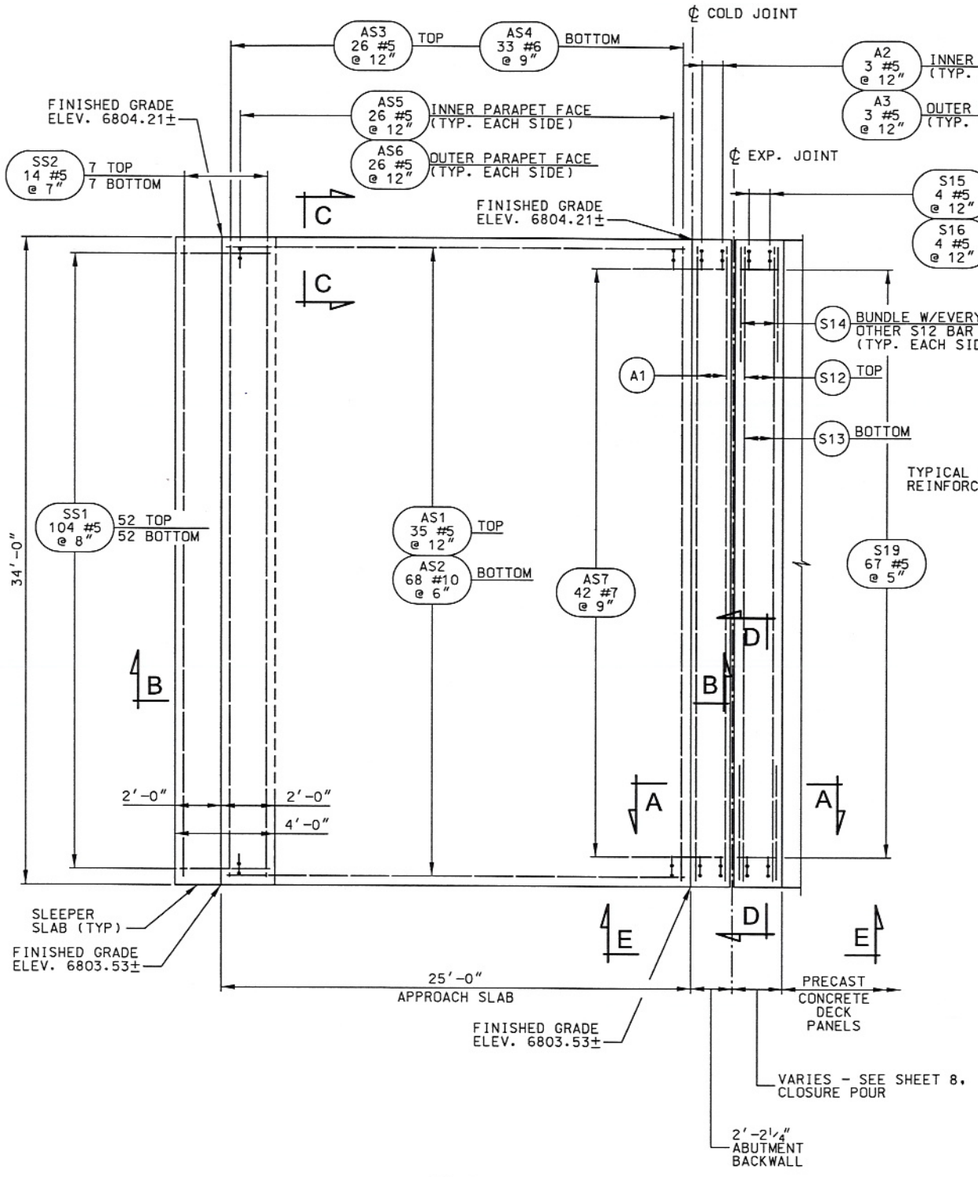
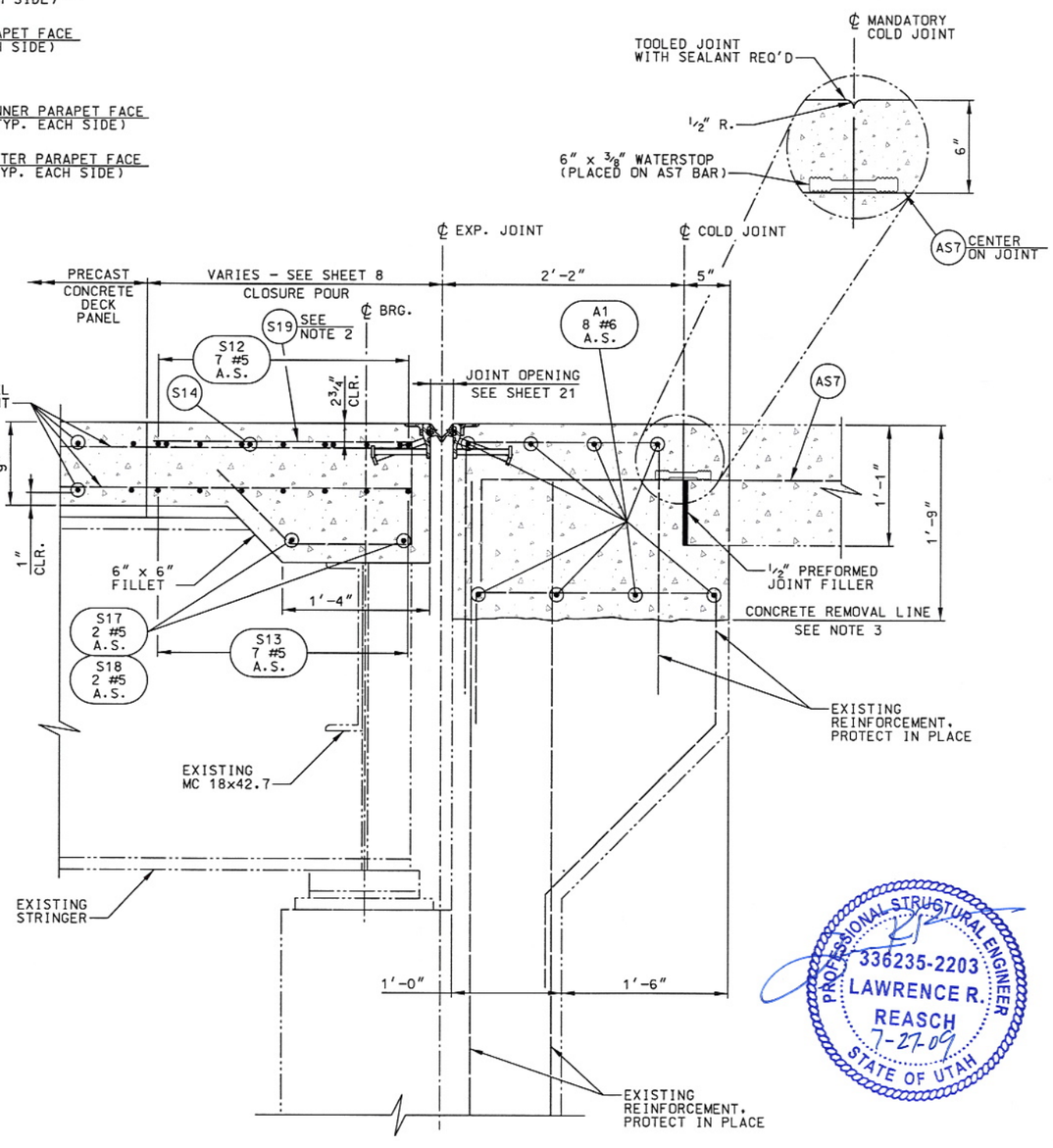


PLAN



SECTION A-A

NOTES

1. SEE SHEET 21 FOR EXPANSION JOINT DETAILS.
2. ADJUST LOCATIONS OF BARS TO AVOID CONFLICTS WITH TOP FLANGE OF STRINGERS.
3. SEE SHEETS 3 AND 4 FOR REMOVAL LIMITS.
4. SEE SHEET 20 FOR SECTIONS B-B, C-C, D-D, AND E-E.
5. PLACE ABUTMENT BEFORE PLACING CLOSURE POUR.
6. SEE SHEET 20 FOR STRUCTURAL CONCRETE QUANTITIES.

QUANTITIES	
STRUCTURAL CONCRETE-LIGHTWEIGHT	CU YD
DECK CLOSURE POURS	7.5

PROFESSIONAL STRUCTURAL ENGINEER 336235-2203 LAWRENCE R. REASCH 7-27-09 STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

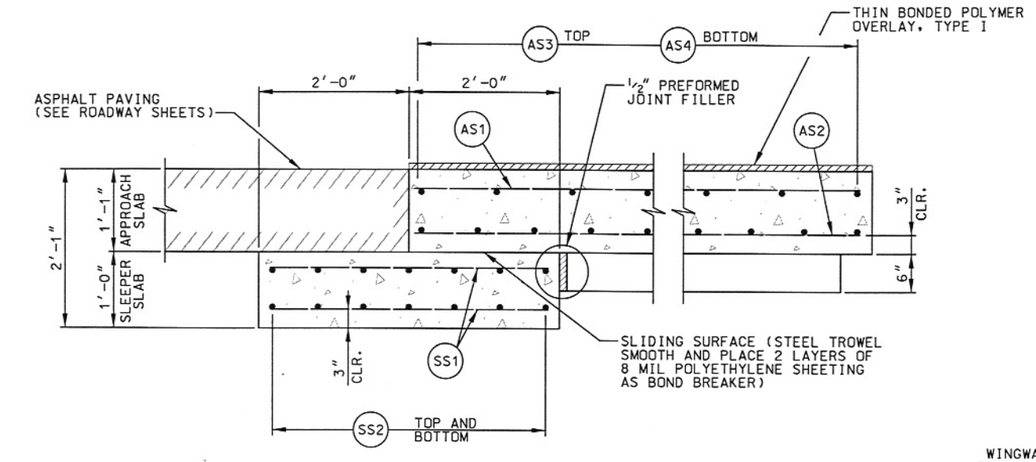
UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

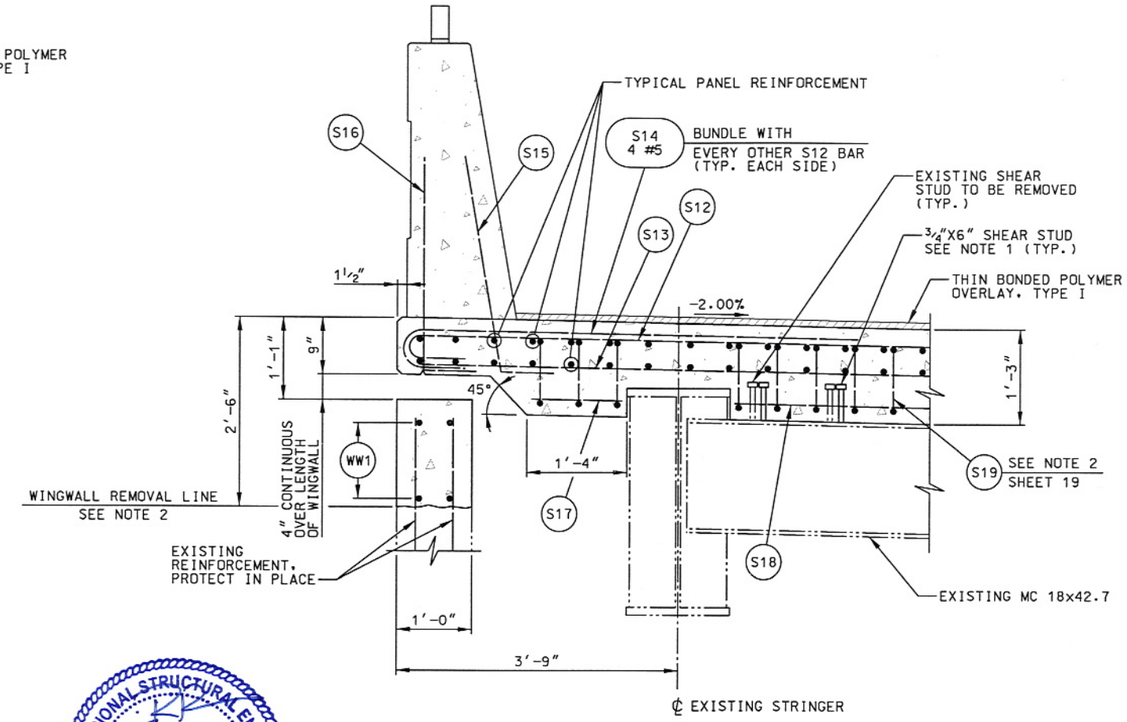
APPROVAL RECOMM. Senior Design Engr. DATE 7/29/09
APPROVED FOR USE BY UDOT Utah Bridge Engr. DATE 7/29/09

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
APP. SLAB & ABUT. JOINT DETAILS 1
PROJECT NUMBER F-170-3(50)112

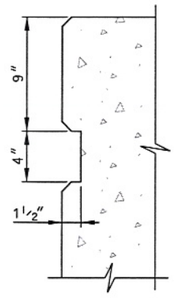
EMERY COUNTY
C-495R2 DRG. NO.
SHT. 19 OF 26



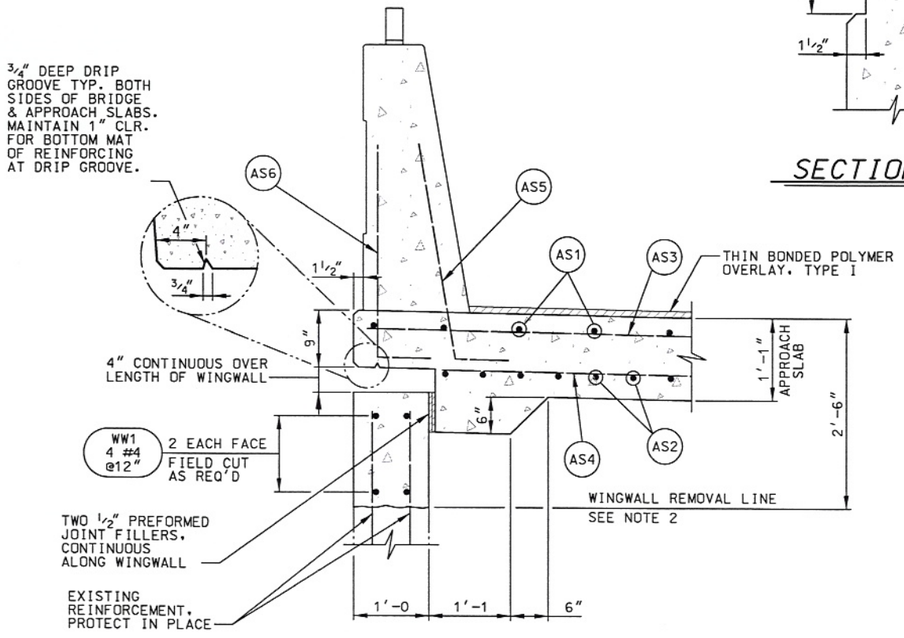
SECTION B-B



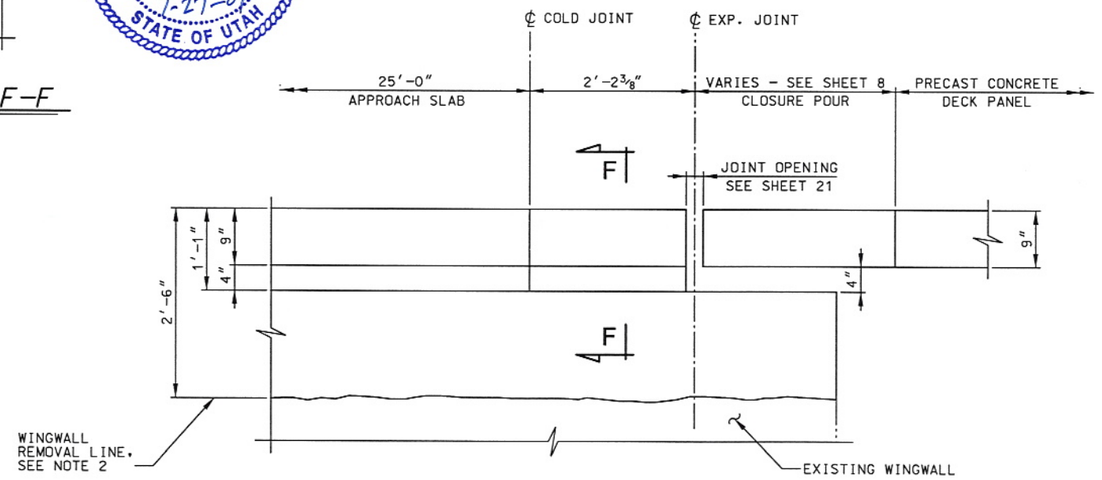
SECTION D-D



SECTION F-F



SECTION C-C



SECTION E-E

(PARAPET NOT SHOWN FOR CLARITY)

NOTES:

1. INSTALL ONE NEW SHEAR STUD FOR EACH EXISTING STUD REMOVED. THE NEW STUD MUST BE IN CLOSE PROXIMITY TO THE REMOVED STUD.
2. SEE SHEETS 3 AND 4 FOR REMOVAL LIMITS.

QUANTITIES	
STRUCTURAL CONCRETE	CU YD
ABUTMENT BACKWALLS	11.3
APPROACH SLABS	68.2
SLEEPER SLABS	10.1
WINGWALLS	1.7

PROFESSIONAL STRUCTURAL ENGINEER 336235-2203 LAWRENCE R. REASCH 7-27-09 STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	MKC 1/09	CHECK	LRR 1/09
DRAWN	MAS 1/09	CHECK	LRR 1/09
QUANT.	MKC 1/09	CHECK	AFY 1/09

APPROVAL RECOMM. 7/09 DATE — SUPP. DESIGN ENGR.
APPROVED FOR USE BY UDOT 7-29 DATE — UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
APP. SLAB & ABUT. JOINT DETAILS 2
PROJECT NUMBER F-170-3(50)112

EMERY
COUNTY
C-495R2
DRG. NO.
SHT. 20 OF 26

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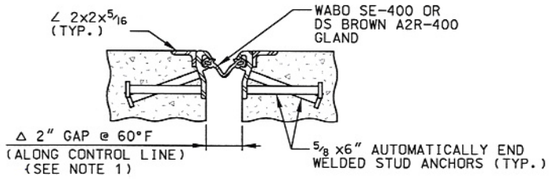
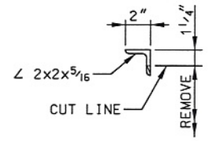
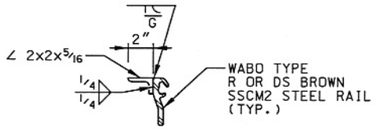


EXPANSION DEVICE SECTION AT ROADWAY



ANGLE CUT DETAIL



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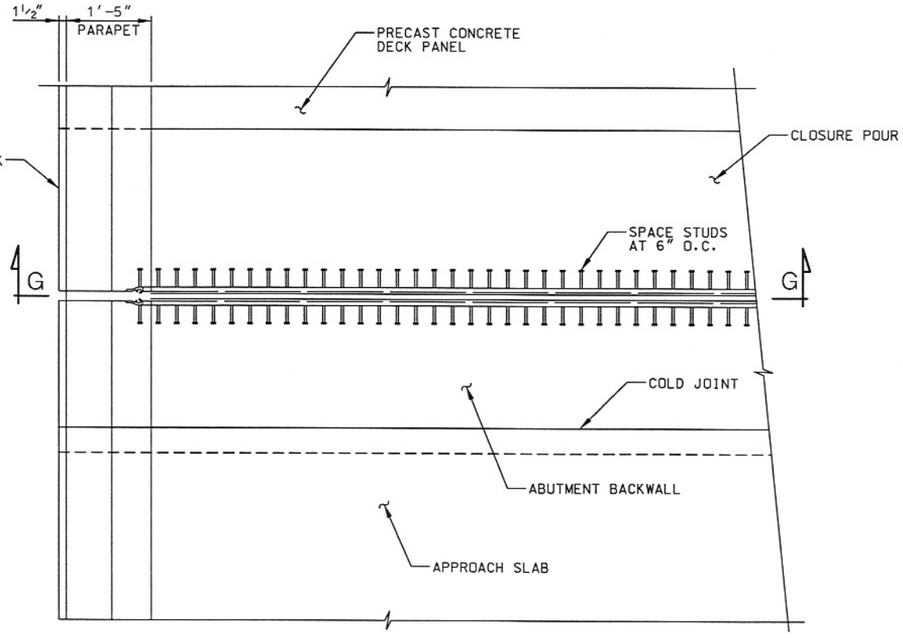
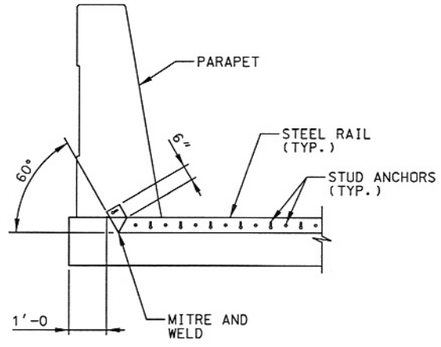


PLAN – EXPANSION JOINT



SECTION G-G

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
7-27-09
STATE OF UTAH

NOTES

1. DIMENSIONS PRECEDED BY A DELTA Δ: INCREASE OR DECREASE RESPECTIVELY, 3/16" FOR EACH 10°F VARIATION BELOW OR ABOVE 60° F.
2. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF EXPANSION DEVICE.
3. FIELD CUT AND WELD IN ACCORDANCE WITH THE STEEL RAIL MANUFACTURER'S RECOMMENDATIONS.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. SENIOR DESIGN ENGR. DATE 7/29/09
APPROVED FOR USE BY UDOT BRIDGE ENGR. DATE 7/29/09

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
EXPANSION JOINT DETAILS
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 21 OF 26

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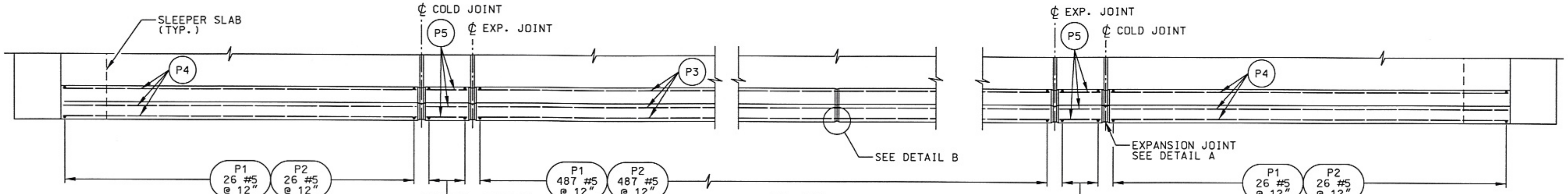
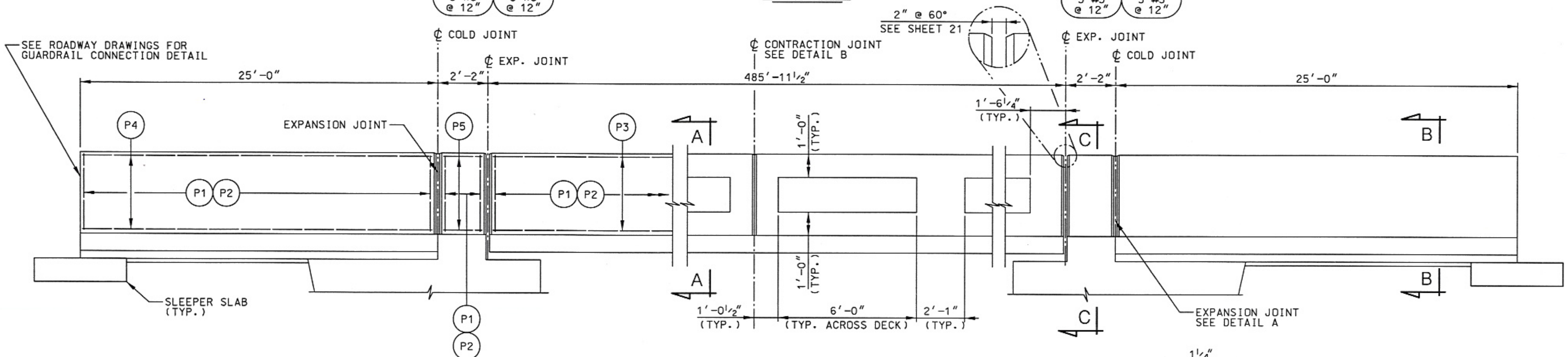
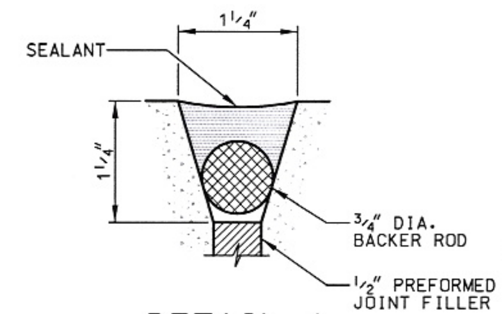


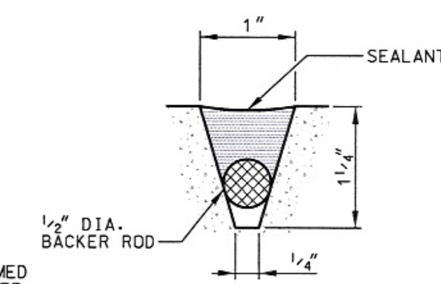
PLAN



ELEVATION

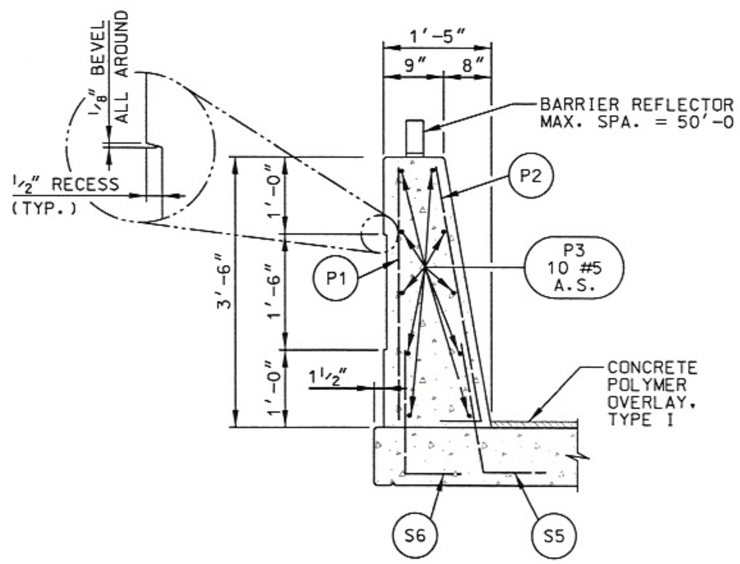


DETAIL A

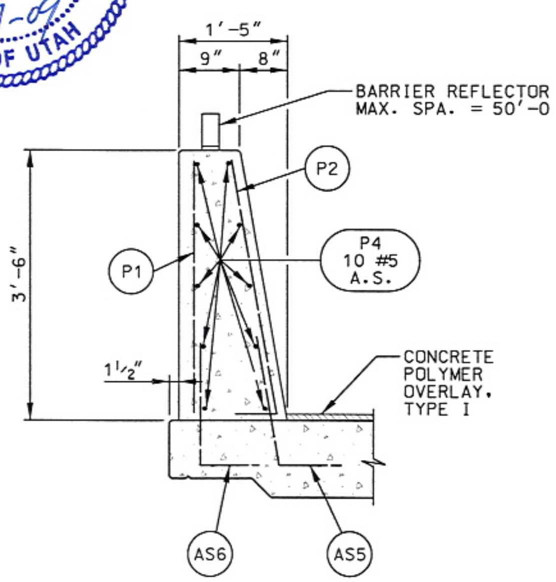


DETAIL B

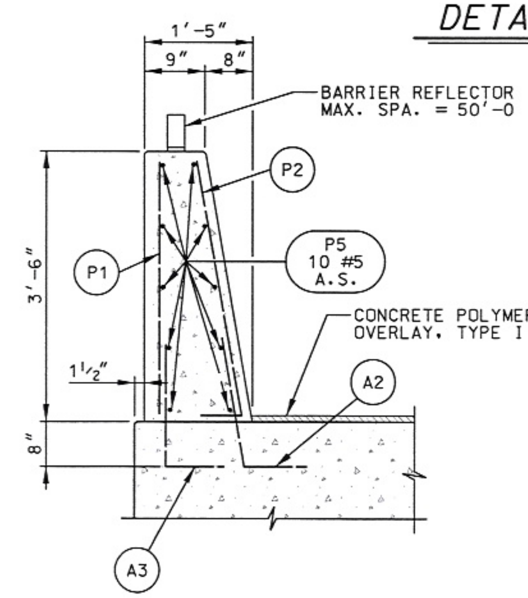
PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
7-27-09
STATE OF UTAH



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES

1. ALTERNATE ALL REINFORCING STEEL SPLICES.
2. PROVIDE 2″ MIN. COVER TO REINFORCING STEEL UNLESS NOTED OTHERWISE.
3. PLACE CONTRACTION JOINT ON SIDES AND TOP OF PARAPET.
4. EXTEND SEALANT AND FOAM BACKER ROD FROM DECK TO TOP OF PARAPET ON THE INSIDE PARAPET FACE AND ACROSS THE TOP OF PARAPET.
5. LOCATE STRUCTURE NUMBER ON RIGHT-HAND SIDE OF APPROACH PARAPET. SEE SHEET 23.
6. HORIZONTAL DIMENSIONS ARE AT EDGE OF DECK.
7. PLACE CONTRACTION JOINTS AT 24′-3″ SPACING ON ALL PARAPETS.

QUANTITIES	
STRUCTURAL CONCRETE - LIGHTWEIGHT	CU YD
ALL PARAPETS	151.65

NO.	DATE	BY	REMARKS
△	05/27/09	JHO	REMOVED EB STRUCTURE FROM PLANS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMM. 7/09 SENIOR DESIGN ENGR. DATE
APPROVED FOR USE BY UDOT 7/09 UDOT BRIDGE ENGR. DATE

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PARAPET DETAILS 1

PROJECT NUMBER F-170-3(50)112

EMERY COUNTY

C-495R2 DRG. NO.

SHT. 22 OF 26

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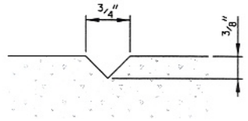
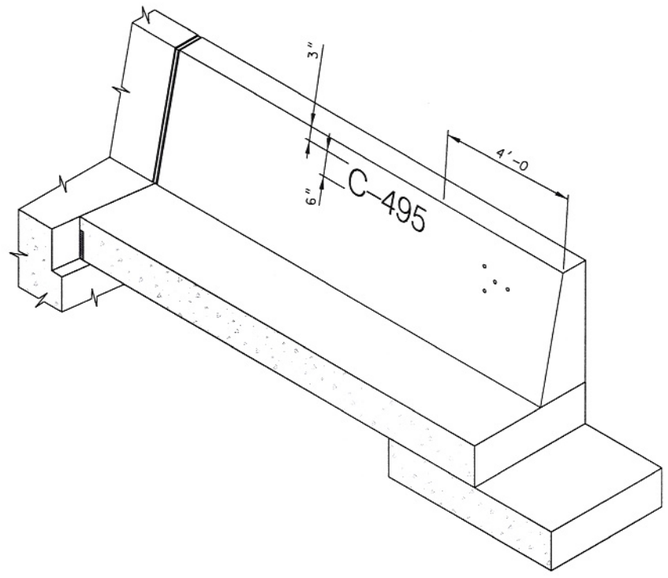
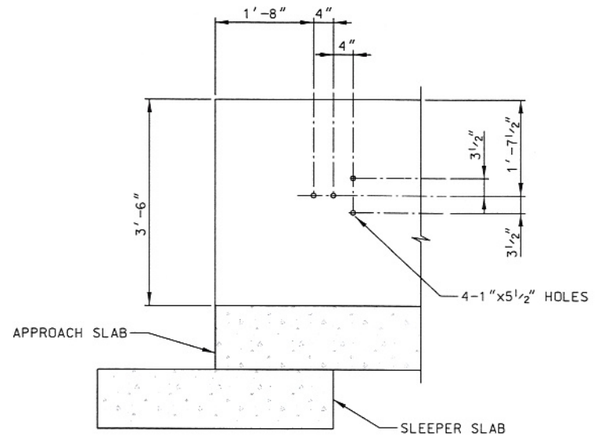


TYPICAL SECTION THRU
STRUCTURE NUMBER



STANDARD END ISOMETRIC



STANDARD END DETAIL

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	MKC	6/09	CHECK	LRR	6/09
DRAWN	MAS	6/09	CHECK	LRR	6/09
QUANT	MKC	6/09	CHECK	AFY	6/09

APPROVED FOR USE BY UDOT — SENIOR DESIGN ENGR — DATE 7/28/09
APPROVED FOR USE BY UDOT — LOCAT BRIDGE ENGR — DATE 7/28/09

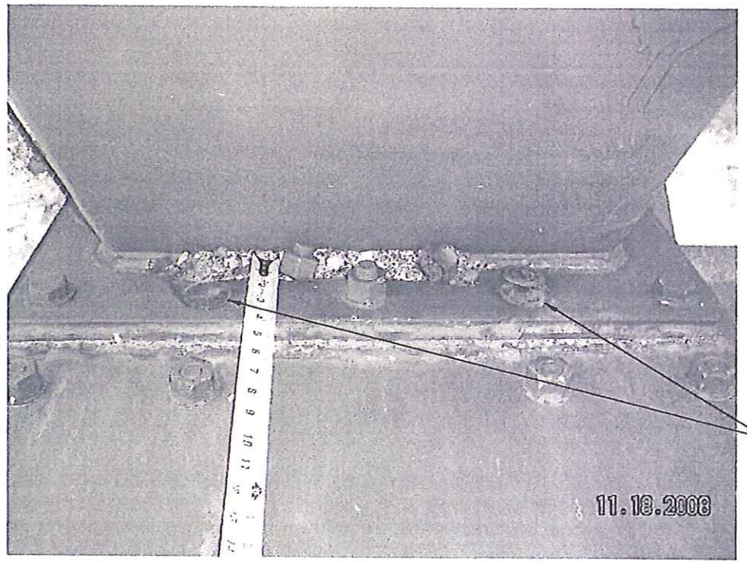
NO.	DATE	BY	REMARKS

REVISIONS

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PARAPET DETAILS 2
PROJECT NUMBER F-170-3(50)112

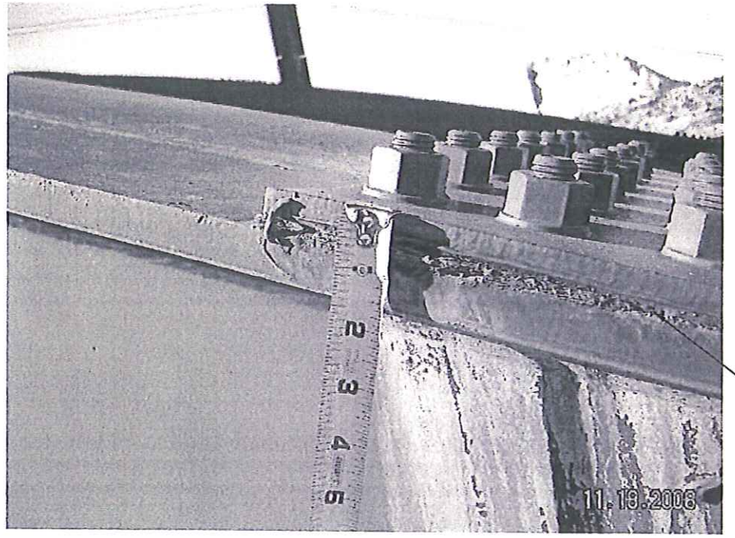
EMERY COUNTY
C-495R2
DRG. NO.
SHT. 23 OF 26

7/27/2009 11:48:27 AM MikeS D:\2008\08086 I-70 Eagle Canyon Bridge\SHEETFILES\Structures\16625_C-495_23-Parapet Details 2.dgn



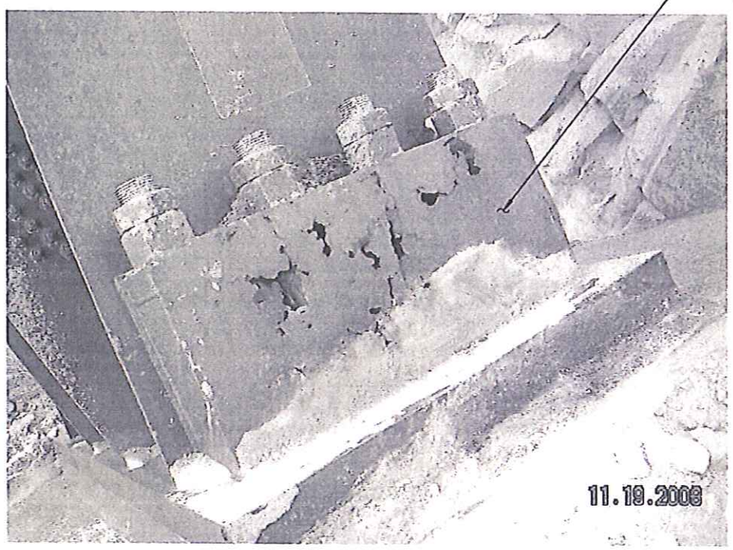
REPLACE SHEARED BOLTS AT CONNECTION OF WEST PANEL POINT 2 COLUMN AND ARCH (TYP. 2 LOCATIONS ON SOUTH ARCH)

DETAIL A



CAULK JOINTS AT SPLICE PLATES (TYP. ALL SPLICE PLATES)

DETAIL C



REMOVE EXISTING PLATE AND REPLACE WITH 3/8" PLATE. WELD ALL AROUND WITH A 1/4" FILLET WELD. (TYP. SOUTHWEST SKEWBACK ONLY) SEE NOTE 2

DETAIL B

NOTES

1. DETAIL A, DETAIL B, AND DETAIL C WILL BE PAID FOR IN STRUCTURAL STEEL
2. CLEAN OUT DEBRIS AND INSPECT ALL SKEWBACKS.
3. PAINT ENTIRE BRIDGE. MATCH EXISTING BRIDGE COLOR.

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
1-22-09
STATE OF UTAH

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

APPROVAL RECOMMENDED: Manager Engineering Section — DATE 1/19/09
APPROVED FOR USE BY UDOT: UDOT Bridge Engineer — DATE 1/09

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
MISCELLANEOUS DETAILS

PROJECT NUMBER F-170-3(50)112

EMERY COUNTY

C-495R2 DRG. NO.

SHT. 24 OF 26

PRECAST PANEL STEEL SCHEDULE

(FOR INFORMATION ONLY)

LOCATION	MARK	SIZE	NO. BARS	LENGTH	TOTAL LENGTH	SKETCH
PRECAST CONCRETE PANELS	S1	5	532	14′-1″	7492′-4″	
	S2	5	958	34′-11″	33450′-2″	3″ (TYP.), 180°, 180°, 10″, 33′-3″, 10″
	S3	5	958	33′-8″	32252′-8″	
	S4	5	964	6′-1″	5864′-4″	3″, 180°, 5′-3″, 10″
	S5	5	964	3′-7″	3454′-4″	1′-0″, 78°, 2′-7″
	S6	5	964	3′-7″	3454′-4″	1′-0″, 2′-7″
	S7	4	816	1′-6″	1224′-0″	
	S8	5	3724	13′-5″	49963′-8″	
	S9	5	133	17′-4″	2305′-4″	
	S10	5	133	16′-9″	2227′-9″	
	S11	5	544	2′-10″	1541′-4″	

PROFESSIONAL STRUCTURAL ENGINEER
336235-2203
LAWRENCE R. REASCH
7-27-07
STATE OF UTAH

NOTES

1. REINFORCING STEEL DIMENSIONS ARE OUT TO OUT OF BAR UNLESS OTHERWISE SPECIFIED.
2. OMIT SPLICES AT FABRICATOR'S OPTION. HOWEVER, IN SUCH CASE, THE FABRICATOR ASSUMES RESPONSIBILITY FOR FIT.
3. COAT ALL BARS.
4. QUANTITY SHOWN IS FOR INFORMATION ONLY.

SUMMARY OF REINFORCING

1224′-0″ OF #4 BARS AT 0.668 LB/FT = 817.6 LB
142,006′-3″ OF #5 BARS AT 1.043 LB/FT = 148,031.6 LB

TOTAL 148,930.2 LB

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK AFY 6/09

SENIOR DESIGN ENGR. DATE 7/6/09
APPROVAL RECOMM.
UDOT BRIDGE ENGR. DATE 7/6/09
APPROVED FOR USE BY UDOT

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
PRECAST PANEL STEEL SCHEDULE
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 25 OF 26

REINFORCING STEEL SCHEDULE

LOCATION	MARK	SIZE	NO. BARS	LENGTH	TOTAL LENGTH	SKETCH
ABUTMENT	A1	6	16	33′-8″	538′-8″	
	A2	5	12	3′-7″	43′-0″	1′-0″, 78°, 2′-7″
	A3	5	12	3′-7″	43′-0″	1′-0″, 2′-7″
WINGWALL	WW1	4	16	10′-2″	162′-8″	
APPROACH SLAB	AS1	5	70	24′-8″	1726′-8″	
	AS2	10	136	24′-8″	3354′-8″	
	AS3	5	52	33′-8″	1750′-8″	
	AS4	6	66	33′-8″	2222′-0″	
	AS5	5	104	3′-7″	372′-8″	1′-0″, 78°, 2′-7″
	AS6	5	104	3′-7″	372′-8″	1′-0″, 2′-7″
	AS7	7	84	8′-0″	672′-0″	1′-0″, 7′-0″
DECK CLOSURE POUR	S12	5	14	34′-11″	488′-10″	3″ (TYP.), 180°, 180°, 10″, 33′-3″, 10″
	S13	5	14	33′-8″	471′-4″	
	S14	5	16	6′-1″	97′-4″	3″, 180°, 5′-3″, 10″

LOCATION	MARK	SIZE	NO. BARS	LENGTH	TOTAL LENGTH	SKETCH
DECK CLOSURE POUR (CONT'D)	S15	5	16	3′-7″	57′-4″	1′-0″, 78°, 2′-7″
	S16	5	16	3′-7″	57′-4″	1′-0″, 2′-7″
	S17	5	8	1′-2″	9′-4″	
	S18	5	12	7′-1″	85′-0″	
	S19	5	134	4′-11″	658′-10″	2′-4″, 9″, 45°, 11″, 11″
PARAPET	P1	5	1090	3′-2″	3451′-8″	
	P2	5	1090	4′-0″	4360′-0″	101°, 3′-2, 10″
	P3	5	20	512′-1″	10241′-8″	485′-5″, 3′-4″ MIN. (TYP.), 8 SPLICES REQ'D
	P4	5	40	24′-7″	983′-4″	
	P5	5	40	1′-10″	73′-4″	
SLEEPER SLAB	SS1	5	208	3′-8″	762′-8″	
	SS2	5	28	33′-8″	942′-8″	

NOTES

1. REINFORCING STEEL DIMENSIONS ARE OUT TO OUT OF BAR UNLESS OTHERWISE SPECIFIED.
2. OMIT SPLICES AT FABRICATOR'S OPTION. HOWEVER, IN SUCH CASE, THE FABRICATOR ASSUMES RESPONSIBILITY FOR FIT.
3. COAT ALL BARS.

SUMMARY OF REINFORCING

162′-8″	OF #4 BARS AT 0.668 LB/FT =	108.7 LB
27,582′-8″	OF #5 BARS AT 1.043 LB/FT =	28,768.7 LB
2,760′-8″	OF #6 BARS AT 1.502 LB/FT =	4,146.5 LB
672′-0″	OF #7 BARS AT 2.044 LB/FT =	1,373.6 LB
3,354′-8″	OF #10 BARS AT 4.303 LB/FT =	14,435.1 LB
	TOTAL	48,276.3 LB

PROFESSIONAL STRUCTURAL ENGINEER 336235-2203 LAWRENCE R. REASCH 7-27-09 STATE OF UTAH

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

REVISIONS	NO.	DATE	BY	REMARKS

DESIGN MKC 6/09 CHECK LRR 6/09
DRAWN MAS 6/09 CHECK LRR 6/09
QUANT. MKC 6/09 CHECK SBS 6/09

APPROVAL RECOMM. [signature] DATE 7/6/09 BENGT@ DEBON ENGR.
APPROVED FOR USE BY UDOT [signature] DATE 7/27/09 UDOT BRIDGE ENGR.

I-70; EAGLE CANYON BRIDGE
DECK REPLACEMENT
REINFORCING STEEL SCHEDULE 2
PROJECT NUMBER F-170-3(50)112

EMERY COUNTY
C-495R2 DRG. NO.
SHT. 26 OF 26