"THIS PROJECT IS A FULLY CONTROLLED ACCESS FACILITY"
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

HWY. 62/102 - HWY. 72 WIDENING &
INTCHNG. IMPVTS. (S)
BENTON COUNTY
ROUTE I-49 SECTION 29

JOB CA0902
FED. AID PROJECT BIM-B49-0(216) &
ACNHPP-49-1(8)85

STA. H38+00.00
END JOB CA0902
LOG MILE 87.99

STRUCTURES OVER 20'-0" SPAN

STA. H38+56 - IN PLACE
0'8" 4' 8" 4' 24" RC BOX CULVERT
WTH 45° R1, FWD SKEW
WTH SERVICING L.T., R.T.
RETAIN & EXTEND 2' LT. & 4' RT.
DESIGN-100 O.S. (60') 700 ACRES
SPAN-6000

STA. I256+75.00
BEGIN JOB CA0902
LOG MILE 84.56

LENGTH COMPUTED ALONG CENTERLINE OF I-49
GROSS LENGTH OF PROJECT 182,010 FEET OR 3.343 MILES
NET LENGTH OF ROADWAY 146,002 FEET OR 2.790 MILES
NET LENGTH OF BRIDGES 332'7 FEET OR 0.45 MILES
NET LENGTH OF PROJECT 146,002 FEET OR 2.793 MILES

P.E. JOB CA0902
NON-PART.
GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.

2. ALL PIPES, LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LORNE BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.

3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. HIGHWAYS WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUOUS MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BD ITEMS.

5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 501 OF THE STANDARD SPECIFICATIONS.

6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND PROTECTION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE NAMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERAL. WIRE FENCE MAY BE INSTALLED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.

8. THE PROJECT IS COVERED UNDER A SECTION 404 NAINTOWM IN PERMIT. REFER TO SECTION 90 OF THE STANDARD SPECIFICATIONS, EDITION OF 204, FOR PERMIT REQUIREMENTS.

9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 201-3 - UNCERTIFIED EXCAVATION.

10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAVINGS ALONG A NEXT LINE. AFTER SAVINGS, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED TO A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 204, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

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54^0 A.C./A.M. SURFACE COURSE 6'7"

220 LBS. PER SQ. YD.

60^0 EXISTING MEDIAN

54^0 A.C./A.M. SURFACE COURSE 6'7"

220 LBS. PER SQ. YD.

P. F. A. C. A. M. UNDER COURSE 6'7"

440 LBS. PER SQ. YD. & TACK COAT

2-3/4" TACK COAT

60^0 EXISTING MEDIAN

20^0 TACK COAT

7" O.G. & PER. SO. YD. & TACK COAT

20^0 TACK COAT

2-3/4" TACK COAT

60^0 EXISTING MEDIAN

EXISTING MAIN LINES

MILL & OVERLAY

60^0 MEDIAN

PLANE & ELEVATION

20 1/2" NOOTCH

20 1/2" NOOTCH

AGGREGATE BASE COURSE (CL. 4.0)

4 1/2 COMP. DEPTH

0.033 TONS PER STA.

PIPE UNDERDRAIN

AGGREGATE BASE COURSE (CL. 7.1)

4 1/2 COMP. DEPTH

0.015 TONS PER STA.

CONCRETE MEDIAN

TYPE BI

EXHIBIT MEDIAN

20 1/2" NOOTCH

20 1/2" NOOTCH

AGGREGATE BASE COURSE (CL. 7.1)

6 1/2 COMP. DEPTH

0.050 TONS PER STA.

PIPE UNDERDRAIN

AGGREGATE BASE COURSE (CL. 7.1)

6 1/2 COMP. DEPTH

0.050 TONS PER STA.

IMAGE OF PROFESSIONAL ENGINEER

I-49 MAIN LAKES INSIDE WIDENING

I-49 STA. 134+25.00 - 132+28.00

I-49 STA. 132+52.84 - 132+28.00

I-49 STA. 134+19.00 - 142+11.84 LT. / 142+16.85 RT.

TYPICAL SECTIONS OF IMPROVEMENT

I-49 RIGHT AUXILIARY LANE OUTSIDE WIDENING

(REVERSE FOR LEFT AUXILIARY LANE)

I-49 STA. 125+74.80 - 120+74.00 LT.

I-49 STA. 126+00.00 - 132+72.88 RT.

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE ORIGINAL SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE INTENDED FOR MACHINING. ONE MIX OF THE AC/AM THICKNESS OF 2-3/4" PLUS 1/4" IS THE MINIMUM THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED.

3. THE THICKNESS OF THE SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAYED.

4. THE EXISTING ASPHALT PAVEMENT IS TO BE REMOVED FROM THE REMAINING PAVEMENT LANE BY DUMPING ALONG A NEUTRAL LINE. AFTER DUMPING THE PAVEMENT TO BE REMOVED IS TO BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN.

5. PIPE UNDERDRAIN SHALL BE CONNECTED TO DROP INLETS.

6. PRIOR TO AND DURING PLACEMENT OF PAVEMENT, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. THE PIPE WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

7. UNDERDRAINS ARE TO BE CONNECTED TO DROP INLETS.
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE
HIGHWAY GUIDELINES. ALLOTTED MILEAGE SHALL BE MADE FROM
HIGHWAY GUIDELINES WITHOUT THE APPROVAL OF THE
ENGINEER.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE
WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS
INDICATED. MATERIAL WITH THICKNESS GREATER THAN
THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED.
PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN
EXCESS OF THE TOLERANCE INDICATED.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED
AFTER ALL OTHER COURSES HAVE BEEN LAYED.
LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM
THE REMAINING PAVEMENT SHALL BE SEPARATED BY SANDING
ALONG A HEAT LANE. AFTER SANDING THE PAVEMENT TO BE
REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT
WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN ANY
DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN
PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT, THE
CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS
USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS
WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE
VARIOUS CONTRACT ITEMS.

UNDERDRAINS TO BE CONNECTED TO DROP INLETS.

TYPICAL SECTIONS OF IMPROVEMENT

I-49 MAIN LANES INSIDE WIDENING
I-49 STA, 1329+28.00 - 1336+50.00
I-49 STA, 1339+20.00 - 1347+00.00
NOTE:

REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES; NO CHANGES SHALL BE MADE AROSS SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS WITHIN THE LIMITS OF 0.05 INCH. THE AGGREGATE BASE COURSE THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED, PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED OVER BASE COURSE, CONSISTING OF A DRAINAGE LAYER.

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SANDING ALONG A BEAT LINE AFTER SANDING, THE PAVEMENT IS TO BE RESURFACED WITH A 1" THICKNESS LAYER MADE OF MATERIAL THAT WILL NOT DAMAGE THE PAVEMENT; THAT IS TO REMAIN ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE PASTE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAVEMENT FOR THE WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

TYPICAL SECTIONS OF IMPROVEMENT

Hwy. 72 Typical Section
Hwy. 72 Sta. 191+56.67 - 193+05.03
Hwy. 72 Sta. 195+69.21 - 197+32.61

TYPICAL SECTIONS OF IMPROVEMENT

Hwy. 72 Sta. 200+36.66 - 203+46.40

SEE PLAN SHEETS FOR WIDTH AND MARKING TRANSITIONS
CONCRETE BARRIER WALL (MEDIAN TYPE B)
X= 0'-0" to 1'-0" MAX.

GENERAL NOTES FOR CONCRETE BARRIER WALLS
1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 630 OF THE STANDARD SPECIFICATIONS, 2018 EDITION.
2. CONTRACTION JOINTS REQUIRED AT 30'-6" MAXIMUM SPACING IS REQUIRED FOR MEDIAN TYPE C.
3. ALL CONTRACTION JOINTS TO BE FORCED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE 3/4" CHAMFER.
5. THE DESIGN OF BARRIER WALL MEDIAN TYPE C IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT, UNEARTHED FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION.
6. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 10' FOR BARRIER TYPE C MEDIAN: EXPANSION JOINTS SHALL BE FORCED USING "U" RUBBER JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 3/8" CLEAR OF EXPANSION JOINTS.
7. DRAINAGE OPENING TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.

CONCRETE BARRIER WALL (MEDIAN TYPE C)
X= 1'-0" to 5'-0" MAX.

NORMAL SHOULDER
GUARDRAIL TYPE A
5'-6" ADDITIONAL A.C.R.M.
SURFACE COURSE (5")
200 LBS. PER SQYD.

ADDITIONAL AGGREGATE
BASE COURSE ACCESS TO
VARIES DEPENDING ON
VARIATIONS PER SLAB

NOTE: REFER TO STD. ONG. NR-5B
AND CROSS SECTIONS FOR SLOPE
REQUIREMENTS BEHIND GUARDRAIL.

WIDENING FOR GUARDRAIL

CONTRACTION JOINT DETAIL

PORTLAND CEMENT CONCRETE BASE
6" X 2" MESH FABRIC TYPE 3 (0.55 X 0.25) - 4.62 LBS./SQYD.

NOTE:
1. LAY MESH FABRIC MIN 6" LONGITUDINALLY AND MIN 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 6'.
3. MESH FABRIC TYPE 3 WILL NOT BE PAID FOR DIRECTLY, BUT FULL
   COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT
   PRICE AT 0.75 LBS./SQYD. FOR PORTLAND CEMENT CONCRETE BASE 10" (U.13)

DETAIL OF REINFORCING
STEEL FOR PAVEMENT
(MESH FABRIC TYPE 3)

SPECIAL DETAILS
CONTRACTION JOINT DETAIL

CONCRETE BARRIER WALL

SECTION B-B

CONCRETE BARRIER WALL (MEDIAN TYPE B) TRANSITION FOR BRIDGE WIDENING A5979 & B5979

SECTION C-C

NOTE: TRANSITION FOR SOUTH SIDE SHOWN NORTH SIDE TRANSITION IS IDENTICAL.

GENERAL NOTES FOR CONCRETE BARRIER WALLS:

1. ALL BARRIER WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION 5160-2901: SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED 6'-0" MINIMUM SPACING FOR BARRIER SECTION AA & BB. A 6'-0" MAXIMUM SPACING IS RECOMMENDED. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FIXED CONCRETE ON TOP AND IN SOILS OF THE ADJACENT SECTION.
4. DOWEL BARS FOR BARRIER SECTION AA & BB WILL NOT BE REQUIRED IF BARRIER AND MINIMUM 6'-0" BASE ARE CAST AS A COMPLETE UNIT.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL BE FINISHED CLEAN AND STRAIGHT.
6. REINFORCEMENT CMS JOINTS SHALL NOT EXCEED 400 FT. FOR BARRIERS. EXPANSION JOINTS SHALL BE FORMED USING "P" PREFORMED JOINT TILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2'-0" CLEAR AT JOINTS.
7. MAINTAIN 3'-0" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2'-0" CLEARANCE ON ALL OTHER REINFORCEMENT.
8. DRAINAGE OPENINGS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.

BRIDGE 5979 SOUTHBOUND TRAFFIC

BRIDGE 5979 NORTHBOUND TRAFFIC

SECTION A-A

MATERIAL TYPE B

FULLY SOFTENED SECTION

CONCRETE BARRIER WALL (MEDIAN TYPE B) X= 0'-0" TO 1'-0" MAX.

SPECIAL DETAILS

DATE: 6 APR

PROJECT: 53 C" BASE CRSE (CL 7)

CONTRACTOR: C5 TIP
CONCRETE BARRIER WALL
(MEDIAN TYPE B)
X= 0'-0" TO 1'-0" MAX.

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

CONCRETE BARRIER WALL (MEDIAN TYPE B) TRANSITION UNDER BRIDGE 05982

CONTRACTION JOINT DETAIL

SPECIAL DETAILS

GENERAL NOTES FOR CONCRETE BARRIER WALLS
1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 6.0 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTOR JOINTS REQUIRED TO "1'-0"
   MAXIMUM SPACING FOR BARRIER WALLS SECTION AA A IS A 1'-5" MAXIMUM SPACING IS REQUIRED FOR BARRIER WALLS SECTION CC.
   CONTRACTOR JOINTS ARE NOT PERMITTED IN MEDIAN TYPE B.
3. ALL CONTRACTOR JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN DOGS OF BARRIER WALLS.
4. DOWEL BARS FOR BARRIER WALL SECTION AA & CC CAN BE 1/2" IN DIAMETER MINIMUM # OF SHEET METAL REINFORCEMENT ARE CAST AS A COMPLETE UNIT.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 1/2" CHAMFER.
6. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 10' FOR BARRIER WALLS. SPACING BETWEEN EXPANSION JOINTS USING 1'-0" PREFORMED JOINT FILLER, CONTINUOUS REINFORCEMENT SHALL BE OUT 6" CLEAR OF EXPANSION JOINTS.
7. MAINTAIN 3" CLEARANCE ON ALL FOOTING PLATE MOUNTED CLEARANCE ON ALL OTHER reinforcement.
8. DRAINAGE OPENINGS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.
NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE #4 CHAMTERS.
2. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED AT 0'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CEMENT OR HAWNED.
3. CONSTRUCTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS SHALL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DOWEL BARS SHALL BE PLACED IN PROPER LOCATION ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 5'-0" OF DRAINAGE OPENINGS.

CONCRETE BARRIER WALL (MEDIAN TYPE SP-I)
X = 0'-0"
SECTION A-A

CONCRETE BARRIER WALL (MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX
SECTION B-B

CONCRETE BARRIER WALL (MEDIAN TYPE C)
X = 1'-0" TO 5'-0" MAX
SECTION B-B

CONCRETE BARRIER WALL (MEDIAN TYPE SP-I)
X = 1'-0" TO 5'-0" MAX
SECTION A-A

CONCRETE BARRIER WALL (MEDIAN TYPE B) AND (MEDIAN TYPE C) TRANSITION
FOR OVERHEAD SIGN STRUCTURE

SPECIAL DETAILS
GENERAL NOTES FOR CONCRETE BARRIER WALLS
1. All barrier walls shall be constructed in accordance with Section 630 of the Standard Specifications, 2003 Edition.
2. Contract joints required @ 30'-0" maximum spacing is required for Type C median.
3. All contraction joints to be formed in fresh concrete on top and in sides of barrier wall.
4. All exposed edges of concrete barrier wall shall have 3/4" chamfer.
5. The design of barrier wall Type C Median is based on a minimum foundation bearing capacity of one ton per square foot. Unsuitable foundation material shall be removed and replaced to provide a firm foundation.
6. Spacing between expansion joints shall not exceed 100 ft for barrier Type C Median expansion joints shall be formed using "P" preformed joint filler, continuous reinforcement shall be cut 2" clear of expansion joints.
7. Drainage opening to be constructed as directed by the engineer.

NEW DROP INLET (TYPE ST SPECIAL)

EXISTING DROP INLET

NEW DROP INLET (TYPE ST SPECIAL)

SECTION B-B

NEW TOP SLAB, SEE "DETAILS OF MODIFIED DROP INLETS"

EXISTING DROP INLET

FOR ADDITIONAL DETAILS SEE STD.DWG.FPC-90

SECTION A-A

DETAILS OF MODIFIED DROP INLETS

TYPICAL SECTION

(LOOKING AHEAD)

DETAILS OF DROP INLETS (TYPE ST SPECIAL)
DETAILS OF RUMBLE STRIPS

LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER

NOTES:
1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTLINE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE.

2. THE 8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 8" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

3. RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULders.

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)
HWY. 102 INTERCHANGE RAMP TERMINAL

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<td>7</td>
<td>6+19.33</td>
<td>RT 2.00'</td>
<td>HWY 102</td>
<td></td>
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<tr>
<td>8</td>
<td>6+25.08</td>
<td>RT 2.00'</td>
<td>HWY 102</td>
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<tr>
<td>9</td>
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<td>36</td>
<td>6+190.94</td>
<td>RT 2.00'</td>
<td>HWY 102</td>
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NOTE: RADIALS Labeled with + Dimensioned TO THE EDGE OF PAVEMENT, All Others Dimensioned TO THE FACE OF CURB.

SPECIAL DETAILS
NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

AJCMA SURFACE COURSE 9/21" FIND 200 LBS. PER SQ. YD. AND
AGGREGATE BASE COURSE (CLASS 71)
7" COMP. DEPTH IF ASPHALT OR
GRAVEL DRIVE EXISTING OR 6" CONCRETE
IF CONCRETE DRIVE EXISTING.

CONSTRUCTION LIMITS

DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION

NOTE: REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

CONSTRUCTION LIMITS

DETAIL FOR DRIVEWAY TURNOUTS
OPEN SHOULDER SECTION
(ARTERIALS)

NOTE: PROPOSED RUN OR TIE
TO EXISTING DRIVEWAY,
WHICHEVER IS FURTHER.

CONSTRUCTION LIMITS

DETAIL OF TURNOUTS, ASPHALT STREETS,
COUNTY ROADS & STATE HIGHWAYS
CURB & GUTTER SECTION

NOTE: PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS,
& COUNTY ROADS TO BE SAME AS MAIN LANES.

CONSTRUCTION LIMITS

DETAIL FOR DRIVEWAY TURNOUTS
(COLLECTORS)

ASPHALT CONCRETE HOT MIX SURFACE
COURSE 9/21" FIND 200 LBS. PER SQ. YD.
AGGREGATE BASE COURSE (CLASS 71)
7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR
6" CONCRETE IF CONCRETE DRIVE EXIST.

CONSTRUCTION LIMITS
ELEVATION - COLLAR SPECIAL DETAIL

SECTION - COLLAR SPECIAL DETAIL

BAR DIAGRAMS - COLLAR SPECIAL DETAIL

HEADWALL SPECIAL DETAIL

"U" BARS

NOTE: ADDITIONAL CONCRETE AND REINFORCEMENT FOR HEADWALL SPECIAL DETAIL INCIDENTAL TO THE COST OF COLLAR EXTENSIONS.

DETAIL FOR SOLID SODDING AROUND DROP INLETS

PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL

NOTE: 1) PIPE COLLARS TO BE UTILIZED AS APPROVED BY THE ENGINEER. 2) PIPE COLLAR INSTALLATION SHALL BE SUBSIDIARY TO PIPE AND RCB INSTALLATION.
SECTION A-A

SIDE OPENING DETAIL

SIDE OPENING DETAIL

HEAVY DUTY RING & COVER

HEAVY DUTY RING & COVER

PLAN VIEW

PLAN VIEW

SPECIAL AREA INLET

SPECIAL AREA INLET

HWY. 72 STA. 186+36.00 RT.

HWY. 72 STA. 207+67.00 RT.

SIDE OPENING DETAIL

SIDE OPENING DETAIL

GENERAL NOTES:
4. ALL EXPOSED CORNERS TO HAVE 5/16" CHAMFER.
5. STAIRS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
6. ALL REBAR RINGS SHALL BE GRADE 60 AND HAVE 4" X 1/2" COVER.
7. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE Curb.
8. 4" DIA COLUMN SPACED AT MAX 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
9. BASE AND INLET WALLS SHALL BE CAST MONOLITHIC.
10. THE TROUGH SHALL BE CAST INTEGRALLY WITH THE GUTTER.
11. PAYMENT FOR CURB AND CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN DROP INLET COSTS AND/OR DROP INLET EXTENSIONS.
12. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE NO DROP RING AS APPOINTED BY THE ENGINEER.
13. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO AND AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
14. 4"X6" NOTCH SHALL BE-formed IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION REFER TO DRAWING FOR DETAIL OF NOTCH FOR SIDEWALKS.
15. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH APPROVAL OF THE ENGINEER. NO CASTING DESIGN MAY BE MADE WITHOUT APPROVAL OF THE ENGINEER.
16. SPECIAL AREAS SHOWN ON RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH APPROVAL OF THE ENGINEER.

NOTE: THIS DETAIL IS TYPICAL. CHANGES MAY BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

HEAVY DUTY RING & COVER

APPROX. TOTAL WEIGHT = 335 LBS.

HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE CASTING SPECIFICATIONS OF CAST IRON CASTINGS AISI/NSI 358 & 358M.
2. HEAVY DUTY RING AND COVER SHALL BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
**NOTES:**

EXISTING 4" PIPE UNDERDRAIN LATERALS SHALL BE EXTENDED WHERE SHOWN ON THE PLANS OR WHERE DIRECTED BY THE ENGINEER. EXISTING OUTLET PROTECTORS SHOULD BE REMOVED AND RECONSTRUCTED. PAYMENT SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR 4" PIPE UNDERDRAINS.

ANY PIPE UNDERDRAIN OR LATERAL TO REMAIN IN PLACE THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 10" PERMANENT MARKING TAPE TYPE B WHITE AT THE OUTSIDE EDGE OF THE SHOULDERS PLACE TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

**PLAN DETAIL OF EXISTING PIPE UNDERDRAIN LATERAL TO BE RETAINED AND EXTENDED**

**TYPICAL SECTION OF EXISTING PIPE UNDERDRAINS TO BE RETAINED AND EXTENDED**

**UNDERDRAIN OUTLET PROTECTORS**
See Sheet 2% for Headwall Special Detail.

For Lap: Add one lap, top for each Slope Section and one additional lap, top for Slope Sections greater than 45° in length.

The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.
BEGIN CONSTRUCTION
STA. 04+65.50

END CONSTRUCTION
STA. 18+00.00
MAINLINE I-49 SEQUENCE OF CONSTRUCTION

STAGE 1:
SET TEMPORARY PRECAST CONCRETE BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES
INSTALL BOX CULVERT FOR TRAIL AND RELATED PIPE CULVERTS AT BRIDGE REMOVAL.
SEE SPECIAL TRAIL DETAIL SHEETS FOR SEQUENCE OF CONSTRUCTION AND ADDITIONAL INFORMATION,
TRAIL IS TO REMAIN OPEN UNLESS OTHERWISE SPECIFIED ELSEWHERE IN THE PLANS OR AS DIRECTED
BY THE ENGINEER.
CONSTRUCT TEMPORARY RAMPS 2 AT HWY. I-22

STAGE 2a:
RELOCATE TEMPORARY PRECAST CONCRETE BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES
SHIFT TRAFFIC TO TEMPORARY RAMPS 2 AT HWY. I-22
CONSTRUCT OUTSIDE FULL DEPTH SHOULDERS ALONG I-49

STAGE 2b:
RELOCATE TEMPORARY PRECAST CONCRETE BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES
SHIFT TRAFFIC TO THE OUTSIDE
CONSTRUCT MEDIAN DRAINAGE STRUCTURES
CONSTRUCT INSIDE WIDENING AND MEDIAN CONCRETE BARRIER
SEE HWY. I-22 SEQUENCE OF CONSTRUCTION FOR ADDITIONAL INFORMATION

STAGE 3a:
RELOCATE TEMPORARY PRECAST CONCRETE BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES
SHIFT TRAFFIC TO THE INSIDE
CONSTRUCT INSIDE WIDENING AND DRAINAGE STRUCTURE EXTENSIONS
SEE HWY. 72 SEQUENCE OF CONSTRUCTION FOR ADDITIONAL INFORMATION
REMOVE TEMPORARY RAMPS 2 AT HWY. I-22
MILL AND OVERLAY EXISTING PAVEMENT
INSTALL PERMANENT PAVEMENT MARKINGS AND SIGNS

NOTE:
ALL GUARD Rails SHALL BE IN PLACE AS SOON
AS POSSIBLE TO PROTECT SLOPE OR OBJECT
HAZARDS.
DETAIL OF ENTRANCE AND EXIT RAMPS
(HWY. 72 - EXIT 88)

(1) W20-1
(48" X 48")
ALL STAGES

(2) W20-2
(48" X 24")
STAGE 1 & 2

(3) W20-2
(48" X 24")
STAGE 3

DETAIL OF ENTRANCE AND EXIT RAMPS
(WALTON BLVD. - EXIT 85)

(1) W20-1
(48" X 48")
ALL STAGES

(2) W20-2
(48" X 24")
STAGE 1

(3) W20-1
(48" X 48")
STAGE 2 & 3

DETAIL OF ENTRANCE AND EXIT RAMPS
(HWY. 102/62 - EXIT 86)

(1) W20-1
(48" X 48")
STAGE 1 & 3

(2) W20-2
(48" X 24")
STAGE 2

(3) W20-1
(48" X 48")
STAGE 2 & 3

SHOULDER, RAMP, TEMPORARY PAVEMENT & MAINLINE PAVEMENT RECONSTRUCTION SECTION

2" ACHM SURFACE COURSE
4" ACHM BINDER COURSE
8" CLASS 7 BASE (MNJ)

HWY. 72 TEMPORARY PAVEMENT SECTION

2" ACHM SURFACE COURSE
3" ACHM BINDER COURSE
10" CLASS 7 BASE (MNJ)

MISCELLANEOUS DETAILS
MAINTENANCE OF TRAFFIC DETAILS
EDGE DROP OFF TREATMENT

NON-WORKING HOURS
WEDGED SLOPE TO 1/4H OR FLATTER

WORKING HOURS
NO EDGE TREATMENT REQUIRED

EDGE DROP OFF TREATMENT SHALL BE USED WHEN AN EDGE DIFFERENTIAL CONDITION EXISTS FOR THOSE DIMENSIONS AS LABELED ABOVE, UNLESS PROTECTED BY BARRIER OR HAVING AN ADJACENT CLOSED LANE. THE ABOVE IS APPLICABLE FOR SPEEDS OF 45 MPH OR LESS. DROP-OFF MATERIAL SHALL BE CLASS 'A' AGGREGATE OR EQUIVALENT, OR MATERIAL AS DIRECTED BY THE ENGINEER. EDGE DROP-OFF SHALL BE USED IN ADDITION TO OTHER TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ELSEWHERE ON THE PLAN. EDGE DROP-OFF SHALL BE OCCIDENTIAL TO ADVANCE WARNING SIGNS AND DEVICES USED FOR THIS PROJECT.

LEGEND

- FLEXIBLE PAVEMENT

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3 CONSTRUCTION
STA. 1256+75.00 TO 1312+73.00

NOTE:
POSITIVE BARRIER (PRECAST CONCRETE BARRIER) SHALL BE IN PLACE BEFORE CONSTRUCTION OF THE OUTSIDE FOUNDATIONS FOR OVERHEAD SIGN STRUCTURES.

STAGE 3 CONSTRUCTION (RAMP GIRD)
STA. 1315+03.00 TO 1316+56.00
STAGE 3 CONSTRUCTION
STA. 1376 +50,00 TO 1379 + 20,00

NOTE:
POSITIVE BARRIER (PRECAST CONCRETE BARRIER) SHALL BE IN PLACE BEFORE CONSTRUCTION OF THE OUTSIDE FOUNDATIONS FOR OVERHEAD SIGN STRUCTURES.

STAGE 3 CONSTRUCTION
STA. 1424 +11,00 TO 1434 + 29,00

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS
HWY. 102 TYPICAL SECTION
HWY. 102 WEST OF RAMP TERMINALS

HWY. 102 TYPICAL SECTION
HWY. 102 BETWEEN RAMP TERMINALS

HWY. 102 TYPICAL SECTION
HWY. 102 STA. 5+04.24 - 16+68.00

*WORK TO BE COMPLETED DURING NON-PeAK HOURS

SEQUENCE OF CONSTRUCTION

STAGE 2A
PLACE ADVANCED WARNING SIGNS AND DEVICES AS SHOWN IN THE PLAN. CONSTRUCT NEW TURN LANE ON THE SOUTH SIDE OF HWY. 102 WEST OF I-49 AND PORTIONS OF RAMP 4. REMOVE PORTIONS OF EXISTING BRIDGE AS SHOWN ON THE BRIDGE DRAWINGS AND CONSTRUCT BENTS AND PIECE OF JOB NO. 1. COMPLETE BRIDGE PLACEMENT OF BENTS AND OTHER BRIDGE WORK SHALL BE IN ACCORDANCE WITH EP JOB NO. 6A-002 "SPECIAL SAFETY REQUIREMENTS FOR BRIDGES".

STAGE 2B
RELOCATE TEMPORARY PRECAST CONCRETE BARRIER TO NORTH SIDE OF HWY. 102 AND RE-STORE LANES AS SHOWN IN THE PLAN. CONSTRUCT BENTS 2, 3 AND 4 AND COMPLETE BRIDGE PLACEMENT OF BENTS AND OTHER BRIDGE WORK SHALL BE IN ACCORDANCE WITH EP JOB NO. 6A-002 "SPECIAL SAFETY REQUIREMENTS FOR BRIDGES".

STAGE 2C
REPLACE EXISTING LANES OF HWY. 102 TO THE LIMITS SHOWN ON THE PLAN. CONSTRUCT CONCRETE ISLANDS ON HWY. 102 AND RAMP 4; ANY LANE CLOSURES NECESSARY TO CONSTRUCT THE MEDIAN ISLAND ON HWY. 102 SHALL NOT OVERLAP WITH ANY WORK AT ADJACENT INTERCHANGES, RAMPS, OR LOCAL STREETS CROSSING I-49.

RAMP 4 TYPICAL SECTION
RAMP 4 STA. 1024+42.38 - 1030+58.33

RAMP 4 TYPICAL SECTION
RAMP 4 STA. 1029+39.40 - 1030+86.40

MAINTENANCE OF TRAFFIC DETAIL SIDE ROAD TYPICAL SECTIONS
**SEQUENCE OF CONSTRUCTION**

**STAGE 3A**
PLACE ADVANCED WARNING SIGNS AND DEVICES AS SHOWN IN THE PLANS. CONSTRUCT TEMPORARY PAVEMENT ALONG THE SOUTH SIDE OF HWY. 72 AS SHOWN.

**STAGE 3B**
PLACE TEMPORARY PRECAST CONCRETE BARRIER AND ADDITIONAL ADVANCED WARNING SIGNS AND DEVICES AS SHOWN IN THE PLANS. REMOVE NORTH PORTION OF THE EXISTING HWY. 72 BRIDGE. CONSTRUCT NEW NORTH PORTION OF BRIDGE. WOODED ALL BRIDGE WORK SHALL BE IN ACCORDANCE WITH SP Job No. CA09005 "SPECIAL SAFETY REQUIREMENTS FOR BRIDGES" CONSTRUCT WORKING ON NORTH SIDE OF HWY. 72, CONSTRUCT LOOP RAMPS AND AUXILIARY LANES. CONSTRUCTION OF TEMPORARY WORKING LANE TO BE PERFORMED IN SHOULDER. MAINTENANCE OF TRAFFIC DETAILS FOR MORE INFORMATION.

**STAGE 3C**
RELOCATE TEMPORARY PRECAST CONCRETE BARRIER AND SHIFT TRAFFIC TO THE LOCATIONS SHOWN ON THE PLANS. REMOVE SOUTH PORTION OF THE EXISTING HWY. 72 BRIDGE TO ITS DIMENSIONS SHOWN ON THE BRIDGE DRAWINGS. CONSTRUCT SOUTH PORTION OF BRIDGE. WOODED ALL BRIDGE WORK SHALL BE IN ACCORDANCE WITH SP Job No. CA09005 "SPECIAL SAFETY REQUIREMENTS FOR BRIDGES" CONSTRUCT WORKING ON SOUTH SIDE OF HWY. 72. PLACE PERMANENT PAVEMENT MARKINGS.

**MAINTENANCE OF TRAFFIC DETAIL SIDE ROAD TYPICAL SECTIONS**
SEQUENCE OF CONSTRUCTION

STAGE 3A
PLACE ADVANCED WARNING SIGNS AND DEVICES AS SHOWN IN THE PLANS. CONSTRUCT TEMPORARY PAVEMENT ALONG THE SOUTH SIDE OF HWY. 72 AS SHOWN.

STAGE 3B
PLACE TEMPORARY PRECAST CONCRETE BARRIER AND ADDITIONAL ADVANCED WARNING SIGNS AND DEVICES AS SHOWN IN THE PLANS. REMOVE NORTH PORTION OF THE EXISTING HWY. 72 BRIDGE TO THE SOUTH. CONSTRUCT TEMPORARY PAVEMENT ALONG THE SOUTH SIDE OF HWY. 72 AS SHOWN. THE SOUTH PORTION OF BRIDGE WORK SHALL BE IN ACCORDANCE WITH JOE NO. CA5001 "SPECIAL SAFETY REQUIREMENTS FOR BRIDGES," CONSTRUCT WORKING AREA ON NORTH SIDE OF HWY. 72, CONSTRUCT LOOP RAMPS AND AUXILIARY LINES ON N-R-5, SEE "SPECIAL MAINTENANCE OF TRAFFIC DETAILS FOR MORE INFORMATION.

STAGE 3C
RELOCATE TEMPORARY PRECAST CONCRETE BARRIER AND SHIFT TRAFFIC TO THE LOCATIONS SHOWN ON THE PLANS. REMOVE SOUTH PORTION OF THE EXISTING HWY. 72 BRIDGE TO THE DIMENSIONS SHOWN ON THE BRIDGE DRAWINGS. CONSTRUCT SOUTH PORTION OF BRIDGE WORKING ALL BRIDGE WORK SHALL BE IN ACCORDANCE WITH JOE NO. CA5001 "SPECIAL SAFETY REQUIREMENTS FOR BRIDGES," CONSTRUCT PAVEMENT ALONG THE SOUTH SIDE OF HWY. 72. PLACE PERMENANT PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC DETAIL SIDE ROAD TYPICAL SECTIONS
STAGE 3A

4" CONSTRUCTION PAVEMENT MARKINGS - YELLOW = 850 LIN. FT.
4" CONSTRUCTION PAVEMENT MARKINGS - WHITE = 275 LIN. FT.
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS = 135 LIN. FT.
TRAFFIC DRUMS = 62
VERTICAL PANELS = 39
P.C.C.B. = 520 LIN. FT.

EXISTING RIGHT OF WAY

CONST. LIMITS

4" SAP WHITE
520' P.C.C.B. WITH SPECIAL END UNIT

TRAFFIC DRUMS (41) 40' O.C. (1'TY)

TRAFFIC DRUMS (41) 50' O.C.

BECK KOP LANE SHIFT

EXISTING RIGHT OF WAY

STAGE 3A
MAINTENANCE OF TRAFFIC DETAILS
8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING / TYPE II RED / WHITE RAISED PAVEMENT MARKERS @ 36' OC.

4" CONTINUOUS WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" CONTINUOUS YELLOW HIGH PERFORMANCE PAVEMENT MARKING

8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING / TYPE II RED / WHITE RAISED PAVEMENT MARKERS @ 36' OC.

4" CONTINUOUS WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" CONTINUOUS YELLOW HIGH PERFORMANCE PAVEMENT MARKING

8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING / TYPE II RED / WHITE RAISED PAVEMENT MARKERS @ 36' OC.
Pinnacle Hills Pkwy
New Hope Rd
1 1/4 MILES

Walnut St
SE Walton Blvd
EXIT 83
EXIT 85

NOTES:
THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY
ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANE.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON
STRUCTURES WHICH ARE LOCATED OVER THE ROADWAY WHICH ARE CURRENTLY OPEN
TO TRAFFIC, ALL WORK MUST BE FIELD CHECKED PRIOR TO THE ROADWAY LANE
CLOSURES AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE
CLOSURES WILL BE PAID SUBSEQUENTLY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC".
ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.
The contractor shall field verify sign placement and make any adjustments necessary to align signs over intended lanes.

Since the contractor will be required to install overhead signs on structures which are located over the roadways, signs must be clearly visible and to provide lane closures. Closures will be paid as per the pay item 'maintenance of traffic'. All maintenance of traffic work must conform with the MUTCD.

NOTES:

INSTALL

CL-049-05-00001

EXIT 86

EAST EAST WEST
62 12 102
SE 14th St
Hudson Rd
3/4 MILE

EXIT ONLY

10" SHOULDER
12" TRAVEL LANE
12" TRAVEL LANE
12" TRAVEL LANE
12" SHOULDER

CANTILEVER AT START-DEMONSTRATE
INSTALL CL-049-04-008

11.5 FT MIN VERTICAL CLEARANCE OVER THE HIGHEST POINT OF THE ROADWAY.

SEE OVERHEAD SIGN STRUCTURE DETAILS SHEETS FOR DESIGN SPECIFICATIONS.
NOTES:

THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALLOW SIGNS OVER INTERRED LINES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAY, WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS A PART OF TRAFFIC CONTROL PAYMENT FOR PREVENTING LANE CLOSURES DUE TO "CONSTRUCTION BLOCKING TRAFFIC".

ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.
NOTES:

THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LINES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADSWAY, WHICH ARE CURRENTLY OPEN TO TRAFFIC, CONTRACTOR NEED TO MAINTAIN THE EXISTING LANE CLOSED AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURE WILL BE FUND SUBSIDARY TO THE FEE ITEM "MAINTENANCE OF TRAFFIC", ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF MEDIAN FOUNDATION LOCATION AND ELEVATION FOR FABRICATION OF OH SIGN.

EXISTING OH MEDIAN FOUNDATION INSTALLED WITH JOB 090305

SEE OVERHEAD SIGN STRUCTURE DETAILS SHEETS FOR DESIGN SPECIFICATIONS.
NOTES:
The contractor shall prepare proper sign placement and make any adjustments necessary to align signs over intended lanes.

Since the contractor will be required to install overhead signs on structures which are located over the roadways which are currently open to traffic, an overhead sign must be installed at the highest point of the roadway.

Closures will be paid secondary to the pay item "maintenance of traffic". All maintenance of traffic work must conform with the MUTCD.
THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADSFAWS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS A PART OF TRAFFIC CONTROL PAYMENT FOR PREVIOUS LANE CLOSURES WILL BE PAID SUBJECT TO THE PAY ITEM "MAINTENANCE OF TRAFFIC".

ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.
NOTES:
THE CONTRACTOR SHALL VERIFY SIGN PLACEMENT AND MAKE ANY
ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTERSECTING LAKES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON
STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY Open
TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO EMERSE LANE
CLOSURES AND/or LANE MARKINGS. THE COST OF CLOSURES WILL BE PAID SUBORDINARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC".
ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.
NOTES:
The contractor shall field verify sign placement and make any adjustments necessary to allow signs over intended lanes. Since the contractor will be required to install overhead signs on structures which are located over the roadways, they are currently open to traffic, it will be the responsibility of the contractor to provide lane closures as a part of traffic control. Payment for providing lane closures will be the responsibility of the contractor. All maintenance of traffic work must conform with MUTCD.
Northwest Arkansas Community College
EXIT 86

Northwest Medical Center
EXIT 85
Northwest Arkansas Community College
EXIT 86

Pea Ridge
EXIT 88A

[Dimensions and design details]
Hobbs State Park
Conservation Area

Prairie Creek Park
EXIT 86

Adopt A Highway
Litter Control
Next 1 Mile
Wal-Mart
Transportation Services

SS-049-04-STA007-005Bl
60° Radius, 2" Border, White on Blue
(Adopt A Highway) 2K specified length
(Litter Control) 2X specified length, Decal (Med) E 2K
(Wal-Mart) E 2K (Transportation Services) E 2K

Arkansas
Registered Professional Engineer
N.14767
S.18798
5-16-14

SIGN LAYOUT SHEET
EXIT 86

ATTRACTION-EXIT 86

VENTRIS TRAILS END RESORT

Adopt A Highway
Litter Control
Next 1 Mile
Crafton Tull
and Assoc.

LA-049-04-03B+0056
6.0" Radius, 2.0" Border, White on Blue
L-EXIT 86C 2H(LATTRACTION-EXIT 86C 2H)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N. 18781
S-16-16
ATTRACTIONS-EXIT  85

ROGERS HISTORIC DISTRICT

WAR EAGLE CAVERN

DAISY AIRGUN MUSEUM

Adopt A Highway
Litter Control
Next 1 Mile
Wells Fargo Advisors
FOOD-EXIT 85

TACO BELL  
DENNY'S  
WAFFLE HOUSE

IHOP  
MCDONALDS  
VILLAGE INN

EXIT 88A XX MPH

EXIT 88B XX MPH
ATTRACTIONS-EXIT 88B

CRYSTAL BRIDGES

PEEL MANSION

BENTONVILLE VISITOR INFO

WALMART VISITOR CENTER

MUSEUM OF NATIVE AMERICAN HISTORY

EXIT 85

XX MPH

EXIT 86

XX MPH

SIGN LAYOUT SHEET
-EXIT 88A

GAS-EXIT 88B

KUM & GO  SHELL  CASEY'S

Adopt A Highway
Litter Control
Next 1 Mile
Wal-Mart
Transportation Services

5-16-14

SIGN LAYOUT SHEET
EXIT 88

72 EAST

E Central Ave

ATTRACTION

WALMART VISITOR CENTER
TBD

DEMONOULAL VISITOR CENTER
TBD

Standard Arrow Custom 13.4'' X 8'' On Black

GM-049-04-ST4416-045b
6.0'' Radius, 2.0'' Border, White on Greens
(EXIT) E Mod 2k specified length (985) E Mod 2k;
6.0'' Radius, 2.0'' Border, White on Greens
(E) E Mod 2k (EAST) E Mod 2k; E Central Ave E Mod 2k; Standard Arrow Custom 13.4'' X 20.3'' 45°

LA-93-04-ST4417-055b
6.0'' Radius, 2.0'' Border, White on Blues
(ATTRACTION) E 2k;
Standard Arrow Custom 13.4'' X 8'' On Black

SIGN LAYOUT SHEET
LODGING-EXIT 88A

SIMMONS SUITES

- EXIT 88B
| Description | Group A | Group B | Group C | Group D | Group E | Group F | Total Qty
|-------------|--------|--------|--------|--------|--------|--------|-----------
| Item 1      | 1      | 2      | 3      | 4      | 5      | 6      | 15        |
| Item 2      | 2      | 3      | 4      | 5      | 6      | 7      | 25        |
| Item 3      | 3      | 4      | 5      | 6      | 7      | 8      | 30        |
| Item 4      | 4      | 5      | 6      | 7      | 8      | 9      | 35        |

**Note:** The quantities are subject to verification and confirmation by the project engineer.
**Concrete Combination Curb and Gutters**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Type A or G'</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-34</td>
<td>3-35</td>
<td>G4.0, 45.4</td>
</tr>
<tr>
<td>4-34</td>
<td>4-35</td>
<td>G4.0, 45.4</td>
</tr>
<tr>
<td>5-34</td>
<td>5-35</td>
<td>G4.0, 45.4</td>
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<tr>
<td>7-34</td>
<td>7-35</td>
<td>G4.0, 45.4</td>
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**Concrete Curb**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Type B or 71'</th>
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</thead>
<tbody>
<tr>
<td>6-30</td>
<td>6-31</td>
<td>71' or 71'</td>
</tr>
<tr>
<td>6-32</td>
<td>6-33</td>
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</tr>
<tr>
<td>6-34</td>
<td>6-35</td>
<td>71' or 71'</td>
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</tbody>
</table>

**Concrete Walks**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length</th>
<th>Concrete Walks</th>
<th>Soil</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-34</td>
<td>6-35</td>
<td>72 ft.</td>
<td>59.2</td>
<td>9.2</td>
<td>5.3</td>
</tr>
<tr>
<td>6-34</td>
<td>7-35</td>
<td>72 ft.</td>
<td>59.2</td>
<td>9.2</td>
<td>5.3</td>
</tr>
<tr>
<td>7-34</td>
<td>8-35</td>
<td>72 ft.</td>
<td>59.2</td>
<td>9.2</td>
<td>5.3</td>
</tr>
<tr>
<td>8-34</td>
<td>9-35</td>
<td>72 ft.</td>
<td>59.2</td>
<td>9.2</td>
<td>5.3</td>
</tr>
</tbody>
</table>

**Concrete Island**

<table>
<thead>
<tr>
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<th>Location</th>
<th>Length</th>
<th>Concrete Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-34</td>
<td>8-35</td>
<td>72 ft.</td>
<td>59.2</td>
</tr>
<tr>
<td>8-34</td>
<td>9-35</td>
<td>72 ft.</td>
<td>59.2</td>
</tr>
</tbody>
</table>

**Concrete Paving**

<table>
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<th>Location</th>
<th>Length</th>
<th>Concrete Paving</th>
<th>Soil</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-34</td>
<td>1-35</td>
<td>72 ft.</td>
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<td>5.3</td>
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</table>

**Culvert Clean Out**

<table>
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<tr>
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<th>Location</th>
<th>Each</th>
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</thead>
<tbody>
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<td>1-34</td>
<td>2-35</td>
<td>3.0</td>
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</table>

**Mailboxes**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Mailboxes</th>
<th>Mailbox Supports</th>
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<tbody>
<tr>
<td>1-34</td>
<td>2-35</td>
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### Erosion Control

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<th>STATION</th>
<th>LOCATION</th>
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<tbody>
<tr>
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<td>0950+00</td>
<td>SITE 1</td>
</tr>
<tr>
<td>0950+00</td>
<td>0950+00</td>
<td>SITE 2</td>
</tr>
<tr>
<td>0950+00</td>
<td>0950+00</td>
<td>SITE 3</td>
</tr>
<tr>
<td>0950+00</td>
<td>0950+00</td>
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</tr>
<tr>
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<tr>
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<td>0950+00</td>
<td>SITE 7</td>
</tr>
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<td>0950+00</td>
<td>SITE 8</td>
</tr>
<tr>
<td>0950+00</td>
<td>0950+00</td>
<td>SITE 9</td>
</tr>
</tbody>
</table>

**CONCRETE BARRIER WALL**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
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</thead>
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<td>SITE 1</td>
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<tr>
<td>0950+00</td>
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<td>SITE 2</td>
</tr>
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<td>0950+00</td>
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<td>0950+00</td>
<td>0950+00</td>
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<td>0950+00</td>
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</tr>
<tr>
<td>0950+00</td>
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**CRASH CUSHION**

<table>
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<th>DESCRIPTION</th>
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<tr>
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<td>Substation CRASH CUSHION - # 1 READING</td>
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### Lighting Summary of Quantities

**LIGHTING SUMMARY OF QUANTITIES**

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<thead>
<tr>
<th>ITEM NUMBER</th>
<th>DATA SHEET</th>
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<tbody>
<tr>
<td>0950+00</td>
<td>SUB-3</td>
<td>CONCRETE PILLAR 3</td>
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<td>0950+00</td>
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**OVERHEAD SIGN STRUCTURE FOUNDATION**

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<tr>
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**FENCING**

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<td>CONCRETE PIKET 6</td>
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**RAMBLE STRIPS IN ASPHALT SHOULDER**

<table>
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<tr>
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<th>STATION</th>
<th>LOCATION</th>
<th>CEMENT STIRRUPS &amp; SHEETERS</th>
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<tr>
<td>0950+00</td>
<td>0950+00</td>
<td>SITE 2</td>
<td>1</td>
</tr>
<tr>
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<td>0950+00</td>
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<td>1</td>
</tr>
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<td>0950+00</td>
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</tr>
<tr>
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<td>0950+00</td>
<td>SITE 5</td>
<td>1</td>
</tr>
<tr>
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<td>0950+00</td>
<td>SITE 6</td>
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</tr>
<tr>
<td>0950+00</td>
<td>0950+00</td>
<td>SITE 7</td>
<td>1</td>
</tr>
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<td>0950+00</td>
<td>0950+00</td>
<td>SITE 8</td>
<td>1</td>
</tr>
<tr>
<td>0950+00</td>
<td>0950+00</td>
<td>SITE 9</td>
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**APPROACH CUTTERS AND SLABS**

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<th>LOCATION</th>
<th>APPROACH CUTTER TYPE SPECIAL</th>
<th>APPROACH CUTTER TYPE B</th>
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<tr>
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<td>15' 7&quot;</td>
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<td>15' 7&quot;</td>
<td>3600</td>
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<td>0950+00</td>
<td>SITE 3</td>
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<td>15' 7&quot;</td>
<td>3600</td>
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<td>15' 7&quot;</td>
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<td>SITE 5</td>
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<td>15' 7&quot;</td>
<td>3600</td>
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<td>15' 7&quot;</td>
<td>15' 7&quot;</td>
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<td>15' 7&quot;</td>
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**RETAIL WALLS**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>CLASS S CONCRETE REEDY</th>
<th>REEDY TOSTEY</th>
<th>UNID EXC FOR STIL REEDY</th>
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**ROUGHNESS SURVEY**

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<td>0950+00</td>
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<td>3&quot; GAUGE</td>
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<td>0950+00</td>
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<td>0950+00</td>
<td>SITE 8</td>
<td>2&quot; GAUGE</td>
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<td>SITE 9</td>
<td>2&quot; GAUGE</td>
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**NOTE:** USE "1'" FOR "12" SHOULDER.
### Structures 1062

**4" Pipe Underdrain**

<table>
<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Location</th>
<th>Method</th>
<th>Pipe Diameter (Inches)</th>
<th>Underdrain Protection</th>
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</table>

**Pavement Repair Over Cahuenga (Asphalt)**

<table>
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<tr>
<th>Location</th>
<th>Asphalt Concrete Paving Details</th>
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</thead>
<tbody>
<tr>
<td></td>
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**Selection of Pipes**

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<th>Location</th>
<th>Method</th>
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<th>Depth (Inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
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**COLD MELTING ASPHALT PAVEMENT**

**Materials**

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<th>Description</th>
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<th>Rate (PSF)</th>
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**Quantities**

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**Asphalt Concrete Patching for Maintenance of Traffic**

<table>
<thead>
<tr>
<th>Location</th>
<th>Tonnage</th>
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<tbody>
<tr>
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<td></td>
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</tbody>
</table>

---

**NOTES:**

- Pipes are to be installed as shown on the plans.
- Underdrains shall be subjected to the proper grade.
- Underdrains shall be installed to the proper grade.
- The contractor shall be responsible for all field work related to this project.

---

**Drawings & Bill of Quantities**

- Civil, Structural, Electrical, Mechanical, and Plumbing.
- Bill of Quantities includes all work necessary to complete the project.

**Additional Notes:**

- All materials and workmanship shall be in accordance with the specifications and plans.
- All work shall be done in a workmanlike manner.
- Payments shall be made in accordance with the terms of the contract.

---

**Specifications:**

- All work shall be in accordance with the latest edition of the American Standard for Testing and Materials (ASTM).
- The contractor shall be responsible for all field work related to this project.

---

**Contact Information:**

- For further information, contact [contractor name] at [phone number].
- All inquiries shall be directed to the contractor.

---

**Certification:**

- The contractor certifies that all work has been completed in accordance with the plans and specifications.
- All work is guaranteed for a period of [number] years.

---

**Safety:**

- All work shall be performed in a safe manner.
- All employees shall wear appropriate safety gear.
- All work shall be completed in accordance with safety regulations.

---

**Signatures:**

- [Contractor name] - Project Manager
- [Date] - Date of Completion

---

**Project Location:**

- [Address] - Project Address
- [City, State, Zip] - Project Location

---

**Additional Information:**

- All work shall be completed within the specified time frame.
- All work shall be in accordance with the plans and specifications.
- All work shall be performed in a workmanlike manner.

---

**Table:**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Method</th>
<th>Length (Feet)</th>
<th>Depth (Inch)</th>
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## BASE AND SURFACES (SEC. 2 OF 2)

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<th>ADH. SURFACE COURSE 6/21/1</th>
<th>PORTLAND CEMENT CONCRETE BASE</th>
<th>PORTLAND CEMENT CONCRETE BASE</th>
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### CONCRETE BASE

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**CONTRACTOR:**

**DATE:**

**QUANTITIES**
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<th>UNIT OF MEASUREMENT</th>
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1. These steel piles shall be Grade 50 and are required to have special driving points which will not be sold for re-use but shall be considered subsidiary to the items for estimating and bidding purposes only. Actual quantities will be determined in the field.

2. The quantities shown for steel pile driving and preparing are for estimating and bidding purposes only. Actual quantities will be determined in the field.

3. Existing Br. Nos. A5979 etc. are 50"-19" wide and 175"-2"" long and consist of a Steel I-Beams, 4-300 units supported by two column concrete intermediate bents with spread footings. Steel/Pl-Beam trusses and bents. Plans of the existing structures may be obtained upon request to the Construction Contract Procurement Section at the Program Management Division.

These bridges shall be removed in accordance with Section 205. All material from the existing bridges shall become property of the Contractor.
## Schedule of Bridge Quantities (Continued) - Job No. CA0902

<table>
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<th>RDB</th>
<th>RSB</th>
<th>RSB</th>
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**Bridge No.**

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<th>LB.</th>
<th>TON</th>
<th>CU. YD</th>
<th>FT.</th>
<th>EACH</th>
<th>CU. YD</th>
<th>TON</th>
<th>LUMP-SUM</th>
<th>LUMP-SUM</th>
<th>SQ. FT.</th>
<th>SQ. YD.</th>
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<tr>
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<td>BENT 2</td>
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**Architectural Finish**

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**ARIZONA HIGHWAY COMMISSION**

**Sheet 2 of 2**

**Route 49**

**Arkansas State Highway Commission**

**Benton County**

**Hwy. 62/102 - Hwy. 72 Widening & Interm. Impvts. (5)**

**DRAFT**

**DESIGNED BY: J. D. JESSE, P.E.**

**DRAWN BY: J. D. JESSE, P.E.**

**REVISED BY: J. D. JESSE, P.E.**

**DATE OF ISSUE: 1/29/02**

**DATE OF CLEARANCE: 2/23/02**

**JOB NO.: C49002**

**TASK NO.: 510**

**SCHEDULE OF BRIDGE QUANTITIES**

**Hwy. 62/102 - Hwy. 72 Widening & Interm. Impvts. (5)**

**BENT NO.: A9579, A95890, DRUING NO.: 5752**
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<tr>
<th>ITEM NUMBER</th>
<th>ITEM</th>
<th>QUANTITIES</th>
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**SUMMARY OF QUANTITIES**

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<th>ITEM</th>
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### TRAFFIC SIGNAL QUANTITIES HWY. 62 AT NB RAMP

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<th>STAGE 2A (26)</th>
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<th>INTERSECTION TOTAL</th>
<th>UNIT</th>
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<tbody>
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<td>SYSTEM LOCAL CONTROLLER - FIRE (8 PHASES)</td>
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<tr>
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<tr>
<td>706</td>
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<tr>
<td>72</td>
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*ONE ADDITIONAL VIDEO DETECTOR AND ONE ADDITIONAL VIDEO PROCESSOR, EDGE CARD SHALL BE PROVIDED AT MNPS 62 FOR FUTURE USE.*

### TRAFFIC SIGNAL QUANTITIES HWY. 102 AT SB RAMP

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**TRAFFIC SIGNAL QUANTITIES**
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CONSTRUCTION NOTES:

1. PRIOR TO IMPLEMENTATION OF STAGE 2A, CONTRACTOR SHALL REPLACE SIGNAL HEAD 5 AND INSTALL NEW CONTROLLER, PULL BOXES, CONDUIT, WIRE, AND VIDEO DECTORS VS, V2, V4, V5, AND V6.

2. EXISTING SIGNAL POLES AND SIGNAL HEADS 1, 4, 6, AND 7 SHALL BE MAINTAINED.

3. CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING CONDUIT AND INSTALL NEW PULL BOXES ON TOP OF THE CONDUIT NEAR POLES A AND B SO THAT THE NEW WIRE CAN BE INCORPORATED INTO THE EXISTING SIGNAL POLES.

4. EXISTING PULL BOXES AND CONTROLLER SHALL BE REMOVED.

5. EXISTING CONDUIT SHALL BE ABANDONED.

6. ADDITIONAL 0.5" NMC FROM CONTROLLER AND POLE TO NEAREST PULL BOX REFER TO STANDARD DRAWING SD-6 HEAVY DUTY PULL BOX. THE COST OF THE 0.5" NMC IS INCLUDED IN ITEM NO. 701 AND 714 RESPECTIVELY.
CONSTRUCTION NOTES:
1. PRIOR TO IMPLEMENTATION OF STAGE 2A, CONTRACTOR SHALL REPLACE SIGNAL HEAD 5 AND INSTALL NEW CONTROLLER, PULL BOXES, CONDUIT, WIRING, AND VIDEO DETECTORS VS. 1, 2, 9, 10, 11, AND 12.
2. EXISTING SIGNAL POLES AND SIGNAL HEADS 4, 6, AND 7 SHALL BE MAINTAINED.
3. CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING CONDUIT AND INSTALL NEW PULL BOXES ON TOP OF THE CONDUIT NEAR POLES 4 AND 9 SO THAT THE NEW WIRING CAN BE INCORPORATED INTO THE EXISTING SIGNAL POLES.
4. EXISTING PULL BOXES AND CONTROLLER SHALL BE REMOVED.
5. EXISTING CONDUIT SHALL BE ABANDONED.
6. ADDITIONAL 6" NMC FROM CONTROLLER AND POLE TO NEAREST PULL BOX. REFER TO STANDARD DRAWING DD-6. LEAVE CURTAIN BOX PULL BOX. THE COST OF THE CURTAIN BOX PULL BOX IS INCLUDED IN ITEM NO. 12. THE ITHEM.
CONSTRUCTION NOTES:

1. PRIOR TO IMPLEMENTATION OF STAGE 2A, CONTRACTOR SHALL INSTALL NEW CONDUCTOR, TEMPORARY POLE, NEW POLE AND PULL BOX CONDUCT, WIRING, SIGNAL HEADS 6, 16 AND 16, AND VIDEO DETECTORS VI, VII, VIII AND IX.

2. WORK TO TRANSITION SIGNAL CONTROL TO NEW POLES AND CONTROLER SHALL TAKE PLACE ON A SUNDAY MORNING BEFORE NOON.

3. EXISTING SIGNAL POLE 4 AND 5 SIGNAL HEADS 6, 16 AND 7 SHALL BE MAINTAINED.

4. CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING CONDUIT AND INSTALL NEW PULL BOX ON TOP OF THE CONDUIT NEAR POLE 4 SO THAT THE NEW WIRING CAN BE INCORPORATED INTO THE EXISTING SIGNAL POLE.

5. EXISTING POLE 6 AND PULL BOXES AND CONTROLLER SHALL BE REMOVED.

6. EXISTING CONDUIT SHALL BE ABANDONED.

7. CONTRACTOR SHALL USE TWO GUY INSTALLATIONS PER TEMPORARY POLE.

8. ADDITIONAL 0.5" NAC FROM CONTROLLER AND POLE TO NEAREST PULL BOX REFER TO STANDARD DRAWING SD-6 HEAVY DUTY PULL BOX. THE COST OF THE 0.5" NAC IS INCLUDED IN ITEM NO. 16 AND TM RESPECTIVELY.
GROUNDING ARRAY
SINGLE-PORT FUSION WELDS

GROUND WIRE TO ANTENNA
(STRANDED)

SOLID E.G.C.

SINGLE PORT FUSION WELD

STRANDED E.G.C.
(OR SOLID)

POLE GROUND CLAMP
COMBINE ALL
E.G.C.'S

CLAMP TO
SOLID #8
E.G.C.

SOLID #8 E.G.C.
PER GOLD BOOK

FUSION WELD

SOLID E.G.C.

FUSION WELD

POLE GROUND CLAMP
COMBINE ALL
E.G.C.'S

TRAFFIC SIGNAL GROUNDING DETAIL

HWY.102 AT SB RAMP
CONSTRUCTION NOTES:

1. UTILIZE EXISTING SIGNAL POLES, HEADS, AND CONTROLLER FOR STAGES 3A & 3B.
2. UTILIZE EXISTING VIDEO DETECTION AND SIGNAL PHASING.
CONSTRUCTION NOTES:
1. PRIOR TO IMPLEMENTATION OF STAGE 3C, CONTRACTOR SHALL INSTALL NEW
   CONTROLLER, NEW SIGNAL POLES C, D, E, F, G, AND H, FULL BOXES, CONDUIT,
   WIRING, SIGNAL HEADS IN-20, PEDESTRIAN SIGNAL HEADS IN-24, AND VIDEO
   DETECTORS VS, V2, VS, V1, W1, AND W2.
2. WORK TO TRANSITION SIGNAL CONTROLLER OPERATION TO NEW POLES AND
   CONTROLLER SHALL TAKE PLACE ON A SUNDAY MORNING BEFORE NOON.
3. EXISTING POLES A AND B, PULL BOXES AND CONTROLLER SHALL BE REMOVED.
4. EXISTING CONDUIT SHALL BE ABANDONED.
5. ADDITIONAL 4½" NAC FROM CONTROLLER AND POLE TO NEAREST PULL BOX;
   REFER TO STANDARD DRAWING SD-4. HEAVY DUTY PULL BOX. THE COST OF THE
   0.5" NAC IS INCLUDED IN ITEM NO.70 AND NO.71 RESPECTIVELY.
6. PRIOR TO IMPLEMENTATION OF FINAL STAGE, SHIFT SIGNAL HEAD 1X AND 1X1
   FINAL LOCATION AND ROTATE VIADUC VS SEE FINAL PLANS.
NOTES TO CONTRACTOR

1. Run separate 50' UR and from each 3 SEC signal head to base of pole.
2. Run separate 75' UR and from each 4 SEC signal head to base of pole.
3. Run separate 50' UR and to each pole with pedestrian push buttons
4. All detector rack channels, including unused shall be brought to terminal strip in detector area of cabinet.
5. The 4 x 4mm polycarbonate shall be ordered with spare terminal strip.
6. Provide power to the service port
7. Work to transition signal controller operation to new poles and/or controller shall take place on Sunday morning before noon.
8. Additional 12" x 12" from controller and pole to nearest pull box. The cost of the 12" x 12" is included in Item No. 10474 or 10475 respectively. For details, see grounding array diagram sheet.

WIRING DIAGRAM

STAGE 3C
GROUNDING ARRAY
SINGLE-PORT FUSION WELDS

GROUND WIRE TO ANTENNA
(STRANDED)

SOLID E.G.C.

SINGLE PORT FUSION WELD

STRANDED E.G.C.
(OR SOLID)

FUSION WELD

CLAMP TO
SOLID #8 E.G.C.

SOLID #8 E.G.C.
PER GOLD BOOK

POLE GROUND CLAMP
COMBINE ALL
E.G.C.'S

TRAFFIC SIGNAL GROUNDING DETAIL

HWY. 72 AT SB RAMP
CONSTRUCTION NOTES:
1. Utilize existing signal poles, heads, and controller for stage 3A.
2. Utilize existing video detection and signal phasing.
CONSTRUCTION NOTES:
1. Utilize existing signal poles, heads, and controller for Stage 3A.
2. Utilize existing video detection and signal phasing.
CONSTRUCTION NOTES:
1. INSTALL EXISTING SIGNAL POLES, SIGNAL HEADS, AND CONTROLLER FOR STAGE 3B.
2. PRIOR TO THE IMPLEMENTATION OF STAGE 3B, SHIFT SIGNAL HEADS 1, 2, 3, 4, 5, AND VIDEO DETECTION CAMERAS 1 AND 5 AS INDICATED ON PLAN.

DESIGN PARAMETERS
- POSTED SPEED LIMIT
- 35 MPH RAMPS 1 & 2
- 40 MPH 3 & 4
- 55 MPH ON RAMP
- 45 MPH 5
- 55 MPH 5617

LOCATION OF STOP LINES SHOWN ON DRAWING. LOCATION OF CLEAR ZONE DEPENDS ON EARLIER PLAN SHEETS.
**CONSTRUCTION NOTES:**

1. Utilize existing signal poles, signal heads, and controller for Stage 3B.

2. Prior to the implementation of Stage 3B, shift signal heads 1, 2, 3, 4, and video detection cameras 1 and 5 as indicated on plan.
CONSTRUCTION NOTES:
1. UTILIZE EXISTING SIGNAL POLES, HEADS, AND CONTROLLER FOR STAGE 3C.
2. PRIOR TO IMPLEMENTATION OF STAGE 3C, CONTRACTOR SHALL BAG SIGNAL HEADS 6 & 7. CONTRACTOR SHALL ALSO SHIFT SIGNAL HEAD 4 AND VIDEO DETECTORS V6 & V7.
3. PRIOR TO IMPLEMENTATION OF FINAL STAGE, CONTRACTOR SHALL INSTALL NEW CONTROLLER, NEW SIGNAL POLES B, C, D, AND E, FULL BOXES, CONDUIT, WIRING, SIGNAL HEADS 22 AND 23, AND VIDEO DETECTORS V8, V9, V10, V11, V12, AND V13. SEE FINAL SIGNAL PLANS.
4. WORK TO TRANSITION SIGNAL CONTROLLER OPERATION TO NEW POLES AND CONTROLLER SHALL TAKE PLACE ON A SUNDAY MORNING BEFORE NOON.
5. EXISTING POLE A, FULL BOXES, AND CONTROLLER SHALL BE REMOVED AFTER THE NEW SIGNAL & OPERATIONAL PRIOR TO FINAL.
6. EXISTING CONDUIT SHALL BE ABANDONED AFTER THE NEW SIGNAL IS OPERATIONAL PRIOR TO FINAL.
7. ADDITIONAL 0.5" NAC FROM CONTROLLER AND POLE TO NEAREST FULL BOX. REFER TO STANDARD DRAWING SD-6 HEAVY DUTY FULL BOX. THE COST OF THE 0.5" NAC IS INCLUDED IN ITEM NO. 70 AND 74 RESPECTIVELY.
8. FOR CONDUIT DETAIL SEE ELECTRICAL LIGHTING DETAILS IN BRIDGE PLANS.

DESIGN PARAMETERS
POSTED SPEED LIMIT: 45 MPH DAY 72, 35 MPH RAPIDS 1 & 2
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO DISTANCE RECOMMENDATION
LOCATION OF STOP LINES SHOWN ON
PAINTING MARKING PLANS SHEETS
MINIMUM CLEAR ZONE DISTANCE:
2 FEET BEYOND CURB

HWY. T2 AT NB RAMP
STAGE 3C
CONSTRUCTION NOTES:

1. UTILIZE EXISTING SIGNAL POLES, HEADS, AND CONTROLLER FOR STAGE 3C.

2. PRIOR TO IMPLEMENTATION OF STAGE 3C, CONTRACTOR SHALL BAG SIGNAL HEAD 6 & T. CONTRACTOR SHALL ALSO SHIFT SIGNAL HEAD 4 AND VIDEO DETECTORS 6 & 7.

3. PRIOR TO IMPLEMENTATION OF FINAL STAGE, CONTRACTOR SHALL INSTALL NEW CONTROLLER, NEW SIGNAL POLES B, C, D, AND E, PULL BOXES, CONDUIT, WIRING, SIGNAL HEADS 9-20, PEDESTRIAN HEADS 22 AND 23, AND VIDEO DETECTORS V4, V5, V6, V7, AND V8. SEE FINAL SIGNAL PLANS.

4. WORK TO TRANSITION SIGNAL CONTROLLER OPERATION TO NEW POLES AND CONTROLLER SHALL TAKE PLACE ON A SUNDAY WORKING BEFORE MIDNIGHT.

5. EXISTING POLE 4, PULL BOXES, AND CONTROLLER SHALL BE REMOVED AFTER THE NEW SIGNAL IS OPERATIONAL, PRIOR TO FINAL.

6. EXISTING CONDUIT SHALL BE ABANDONED AFTER THE NEW SIGNAL IS OPERATIONAL, PRIOR TO FINAL.

7. ADDITIONAL 0.5" NMC FROM CONTROLLER AND POLE TO NEAREST PULL BOX REFER TO STANDARD DRAWING SD-6 HEAVY DUTY PULL BOX. THE COST OF THE 0.5" NMC IS INCLUDED IN ITEM NO. 10 AND 14 RESPECTIVELY.

8. FOR BRIDGE CONDUIT DETAIL SEE ELECTRICAL LIGHTING DETAILS IN BRIDGE PLANS.
**DETECTOR CHART**

<table>
<thead>
<tr>
<th>DETECTOR LOCATION</th>
<th>HARDWARE INPUTS BY SUPPLIER</th>
<th>PROGRAM ASSIGNMENTS</th>
<th>VIDEO DETECT LENGTH</th>
<th>COMMENT</th>
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<td>DETECTOR ID. *</td>
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**WIRING DIAGRAM**

1. Connect 50# AWG wire from each 3 sec signal head to base pole.
2. Connect 25# AWG from each 6 sec signal head to base pole.
3. All detector rack channels, including unused, shall be brought to terminal strip in detector area on cabinet.
4. The local GVS shall be responsible for providing power to the service point.
5. Additional hardware from controller and pole shall be included in item no. 501A or 502A, respectively, for details see grounding array diagram sheet.

**INTERVAL CHART**

<table>
<thead>
<tr>
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<th>INTERVAL</th>
<th>DETECT</th>
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<th>PHL</th>
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<td>2-VC</td>
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<td>2-VC</td>
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**PHASING DIAGRAM**

- Highway 72 at NB ramp
- Traffic flow diagram
- Traffic volume
- AM peak hour
- PM peak hour

**NOTE:**
- Use 50# AWG wire for each signal head.
- Use 25# AWG wire for each 6 sec signal head.
- All detector rack channels, including unused, shall be brought to terminal strip in detector area on cabinet.
- The local GVS shall be responsible for providing power to the service point.
- Additional hardware from controller and pole shall be included in item no. 501A or 502A, respectively, for details see grounding array diagram sheet.
TRAFFIC SIGNAL GROUNDING DETAIL
NOTE:

1. THE GENERAL SCOPE OF THE LIGHTING WORK SHALL INCLUDE PULL BOXES AND CONDUIT FOR INSTALLATION OF FINAL LIGHTING, WIRING, POWER SUPPLY, AND ADDITIONAL PULL BOXES BY OTHERS. ONLY LIGHTING MATERIALS AND SCOPE SHOWN ON THE LIGHTING PLANS WILL BE INCLUDED IN THIS CONTRACT.

2. FOR INSTALLATION OF LIGHTING BLINDERS SEE BRIDGE SHEETS FOR ADDITIONAL INFORMATION.
NOTE:
1. THE GENERAL SCOPE OF THE LIGHTING WORK SHALL INCLUDE PULL BOXES AND CONDUIT FOR INSTALLATION OF FINAL LIGHTING, WIRING, POWER SUPPLY, AND ADDITIONAL PULL BOXES IF OTHERS DEEMED NECESSARY.
2. INSTALLATION OF THE LIGHTING PLANS WILL BE INCLUDED IN THIS CONTRACT.
3. FOR INSTALLATION OF LIGHTING BLUSTER SEE BRIDGE SHEETS FOR ADDITIONAL INFORMATION.
SERVICE VOLTAGE - 240v/480v
MAIN BREAKER - 2P-60A
CIRCUIT S P 30A
CIRCUIT N P 15A
SPARE X P 15A
SPARE X P 15A

POLE AND BRACKET WIRE - 2C+4 AWG AND GROUND
WIRE FROM METER TO CONTROLLER - 25' 2P+8NH+2NH=32'
HEAT AND NEUTRAL LEADS - USE NON-FUSED TYPE CONNECTORS
GROUND - USE FUSED CONNECTOR
PB TO POLE - 18' OF WIRE

NOTES:
1. THE GENERAL SCOPE OF THE LIGHTING WORK SHALL
   INCLUDE PULL BOXES AND CONDUIT FOR INSTALLATION
   OF FINAL, LIGHTING, WIRING, POWER SUPPLY, ADDITIONAL
   PULL BOXES BY OTHERS. ONLY LIGHTING MATERIALS AND
   SOURCES SHOWN ON THE LIGHTING PLANS WILL BE INCLUDED
   IN THIS CONTRACT.
2. FOR INSTALLATION OF LIGHTING BLUSTERS
   SEE BRIDGE SHEETS FOR ADDITIONAL INFORMATION
3. CONTRACTOR SHALL COORDINATE CONDUIT INSTALLATION
   WITH DRAINAGE STRUCTURES AT POTENTIAL CONFLICT LOCATIONS
   AND ADJUST IN THE FIELD ACCORDINGLY WITH NO ADDITIONAL
   COMPENSATION
4. ALL RATING SHALL BE UL INTEGRATED PANEL RATING

ALL WIRING BY OTHERS
FOR INFORMATION ONLY

LEGEND
EX. SIGNAL POLE & MAST ARN.
PROP. SIGNAL POLE, MAST ARN. & LUMINARIES
TYPE 2 PULL BOX
TYPE 1 PULL BOX
SIGNAL HEAD
VIDEO DETECTOR
NM - NON METALLIC CONDUIT
LUMINARIE & BASE/Foundation

HWY. 72 / LIGHTING WIRING
GENERAL NOTES:
BENCH MARK: 447 dms SE corner of existing Bridge E581, 61.4N, right of way 111-48, 51.6, 0.354+47.8N, 66.4, 133.5H.


LIVE LOADING: HSL3 DESIGN METHOD: LOAD FACTOR SEISMIC PERFORMANCE CATEGORY: A

WATERFRONT AND STRENGTHS:
Class DIAH Concrete (Superstructural)
1.0 x 1.0 x 4.0
Class B Concrete (Superstructural)
1.0 x 1.0 x 4.0
Reinforcing Steel (Grade 60, AASHTO M312 or M320, Type A)
y = 60.00
d = 50.00
Structural Steel (AASHTO M 570, Gr. 50, SD1)
y = 50.00
BONDING: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL PLACING: Piling for Bents 1 and 4 shall be HP24 x 42 (Grade 50) and shall be driven to a minimum safe bearing capacity of 78 tons per pile. Piling in Bents 2 and 3 shall be HP24 x 45 (Grade 50) and shall be driven to a minimum safe bearing capacity of 37 tons per pile. All piles shall be driven into the waterwheel designed as Childs Limestone on the boring legend unless bearing is achieved at a higher elevation. Depths of piling shown are for estimating quantities and for bending designs. Actual lengths to be determined in the field. Piles in and bents shall be driven after excavation to bottom of cap is in place. On all piles the Contractor shall use approved steel pile driving points.

PREPARING: Preparing is required for all piling at Bents 2 and 3 and shall be to a 1' depth into the material designated as Childs Limestone on the boring legend. Quantities of preparing shown are for bidding purposes only. The actual size and depths of the preparing arc to be determined by the Engineer. The Contractor shall be responsible for keeping the prepared holes free of debris prior to backfilling, which may require coatings or other methods. After driving is completed, the prepared holes shall be backfilled with an approved backfill material and coated at the top to prevent future water entry. Coatings used shall be approved by the Engineer. Backfilling shall be done in per Section 80L04. No backfilling will be paid for directly but shall be considered subsidiary to the item "Preparing".

FOOTINGS: Top of footings shall be a minimum of 2'-0" below finished ground line at Bents 2 and 3. Foundations for footings shall be prepared in accordance with Subsection B0L04.

PAINT: New Structural Steel except galvanized members, surfaces in contact with concrete, and as otherwise noted, shall be painted as specified in Subsection B0L17. The color of paint shall be Green and shall match existing.

BRIDGE DECK: The concrete bridge deck shall be given a final finish as specified for final finishing in Subsection B0L19 for Class 5, Tiled Bridge roadway surface finish.

EXISTING BRIDGE: Existing Bridge No. A60579 is 42'-0" wide and 158'-2" 1/8" long and consists of a 158'-2" Cont. Comp. W-Beam unit supported by two column concrete Intermediate bents with spread footings and steel-in-Pile truss and bents. Plans of the existing structures may be obtained upon request to the Construction Contract Procurement Section of the Program Management Division.

THE PROPOSED WORK CONSISTS OF Widening the existing bridge, modifying the existing bridge, constructing new Intermediate bents in the section side of existing bents, removing and replacing portions of the concrete deck, reaving out existing portions of the existing bridge, and replacing the joint seals. For additional requirements in conducting the work, see Section 80.

VERIFICATION: Except as noted, components of the existing bridge are to be retained and joined to the proposed work. Intersections and dimensions shown are based on existing bridge plans. The Contractor is to adhere strictly to the requirements for the verification of the geometry of the existing bridge and its relationship to the proposed work described in Subsection B1L02 and make necessary adjustments to fit the proposed work to the existing structures. Payment for the work is considered subsidiary to the pay item "Modification of Existing Bridge Structure, No. A5579" and "Modification of Existing Bridge Structure, No. B0579."
1. Portion of backwall concrete above the paving bracket to be removed. Existing backwall reinforcing steel to be retained and caged to top of new reinforcing steel shown. Replace the portion of backwall during construction. Existing reinforcing steel shall be replaced by dowels drilled and grouted into place of the contractor's expense.

2. B400-6 ea. spool 0.62 in. E506 (Drill and Grout into Existing Backwall)

3. B402-22 ea. spool 0.62 in. E506 (Drill and Grout into Existing Backwall)

4. B403-12 ea. spool 0.62 in. E506 (Drill and Grout into Existing Backwall)

5. Minimum 8" embedment into existing cap and backwall. Grout shall be used as approved epoxy grout listed on the DPL. Hole diameter and installation procedure shall be as recommended by the grout manufacturer.

6. See "Typical Anchor Bolt Layout" on Ew. 1324.45.

7. Construction Joint at top of backwall along deck cut line.

8. Construction Joint see details on Ew. 5716.

9. This drawing is based on the plans for the bridge. The Contractor shall verify these in the field.

**B403 @ 6" Typ. centered over each pile**
DETAiL OF MELD LOCATION
FOR EXPANSION DEVICE
No Scale

MEELD PRIOR TO POURING.

NOTES:
- Transverse spacing between vertical inch
  anchor Studs shall be 12" b.o.c. 10/16" spacing.
- Concrete shall be hand
  pushed under the
  joint armor.
  For additional joint
details, see Spec.
No. 5717.

DETAiL 2
No Scale

NOTES:
- Membrane waterproofing
  Type C or approved equal,
  sealant full height of backwall
  and cool, see Section 815.

CONSTRUCTION JOINT DETAIL
No Scale

- Steel size is based on original plans.
The contractor shall verify in the field.

BAR LIST

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BENDING DIAGRAM
Dimensions are out to out of bars.

MEMBER: [Member Name]
DATE: [Date]

SHEET 3 OF 3
DETAILS OF BENT I - BRIDGE A
BRIDGES OVER HWY. 62/102
ROUTE 62/102
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: [Drawn By]
CHECKED BY: [Checked By]
DATE: 09/01/97
SCALE: 1/8" = 1'-0"
DRAWING NO.: 5794
BRIDGE NO.: A4973

No Scale
Construction Joint see details on Dwg. 5164

Construction Joint at top of backwall along existing deck out line

End of Bridge 500.00 shown on 'Layout' Elev. 1227.25

See "Typical Anchor Bolt Layout" on Dwg. No. 5163

Condition of Existing Paving to be Retained

These dimensions are based on the original plans. The Contractor shall verify these in the field.

These dimensions are based on the original plans. The Contractor shall verify these in the field.

Existing Beam 1-6½" 1-4½" 2-4½" 3-4½" 3-4½" 1-4½" 1-4½"

Existing Cap to be Retained

Existing Joint see details on Dwg. 5164

3-850 (Ovewlaid 6") from back of backwall, drill & grout into existing backwall

3-850 (Ovewlaid 6") from back of backwall, drill & grout into existing backwall

3-850 (Ovewlaid 6") from back of backwall, drill & grout into existing backwall

Existing Cap & Piles to be Retained

To be Retained

ELEVATION

Looking Ahead Scale: 1" = 1'-0"

TYPICAL ANCHOR BOLT LAYOUT

Scale: 1" = 1'-0"

For details of Gluerett's Bearings, see Dwg. No. 5111.

1. Portion of backwall concrete above the paving bracket to be removed, existing backwall reinforcing steel to be retained and cleaned to top to new reinforcing steel as shown. Replace the portion of backwall during new construction, any de-gaged reinforcing steel shall be re-engaged and grouted in place of the contractor’s expense.

2. B401 - 6 eq. spo. 0½" max. (Ex. Fa. Drill and Grout Into Existing Backwall)

3. B401.7 - 7 eq. spo. 0½" max.)

4. B401.7 - 7 eq. spo. 0½"

5. Minimum 6" embedment into existing cap and backwall. Grout used shall be an approved epoxy grout listed on the SPL/DOT and installation procedure shall be as recommended by the grout manufacturer.

6. B401.7 - 7 eq. spo. 0½" max.)

7. B401.7 - 7 eq. spo. 0½"

8. B401.7 - 7 eq. spo. 0½"

9. Minimum 6" embedment into existing cap and backwall. Grout used shall be an approved epoxy grout listed on the SPL/DOT and installation procedure shall be as recommended by the grout manufacturer.
DETAIL OF WELD LOCATION
FOR EXPANSION DEVICE

1. Weld prior to pouring.

CONSTRUCTION JOINT DETAIL

Angle size is based on original plan. The contractor shall verify in the field.

NOTE:
Transverse spacing between vertical anchor stud and vent hole shall be 6".

Concrete shall be held packed under the joint prior.

For additional joint details, see Dwg. No. 5176.

BAR LIST

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Dimensions are out to out of bore.

NOTE:
Payment for membrane to be considered subsidiary to "Class 1 Concrete-Bridge."
TYPICAL FOOTING PLAN

Scale: 3/4" = 1'-0"

GENERAL NOTES:

All concrete shall be Class 5 with a minimum 28 day compressive strength of 7,000 psi, and shall be poured in the dry. All exposed corners to be chamfered or otherwise treated.

All reinforcing steel shall be Grade 60 yield strength = 60,000 psi conforming to AASHTO M189 or M322, Type A, with all test reports.

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see "Layout".
**TYPICAL FOOTING PLAN**

Scale: ½" = 1'-0"

**GENERAL NOTES:**

- All concrete shall be Class S with a minimum 28 day compressive strength of 4,000 psi, and shall be poured in the dry, all exposed corners to be channelled A unless otherwise noted.
- All reinforcing steel shall be Grade 60 (tensile strength = 60,000 psi) conforming to AASHTO M58 or M332, Type A, with all test reports.
- Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.
- For additional information, see "Layout".

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<td>1/2&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>F801</td>
<td>66</td>
<td>13'-4&quot;</td>
<td>13'-4&quot;</td>
<td>1/2&quot;</td>
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<td>1/2&quot;</td>
</tr>
</tbody>
</table>

**DIMENSIONS are OUT TO OUT of berm.**
INTERIOR BEAM

EXTerior BEAM

1. Tolerance when removable deck forming is used is \(\frac{1}{8}''\) to \(\frac{1}{4}''\). Hunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Notes:
- T - slab thickness as shown on superstructure detail drawings
- Hunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance. Minimum - occurs when top flange contacts bottom reinforcing steel. Maximum - top flange thickness plus \(\frac{1}{8}''\). No increase in concrete and structural steel quantities will be made to maintain tolerances.
- Tolerances shown are applicable only when removable deck forming is used, see Std. Spec. No. 5900 for tolerances when permanent steel deck forms are used. Pay-out for concrete slab shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

Scale: \(\frac{3}{8}'' = 1' - 0''\)

<table>
<thead>
<tr>
<th>TABLE FOR WELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL THICKNESS</td>
</tr>
<tr>
<td>OR TACKED PART</td>
</tr>
<tr>
<td>OR JOINED (INCHES)</td>
</tr>
<tr>
<td>OVER (\frac{3}{8}'')</td>
</tr>
</tbody>
</table>

Note: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

DETAIL Y

Scale: \(\frac{3}{8}'' = 1' - 0''\)

- Grind flush \(5''\) from top of deck.
- Weld prior to pouring deck.

DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

No Scale

DETAILS OF ALTERNATE ANCHORS

Scale: \(\frac{3}{8}'' = 1' - 0''\)

Note: As an alternate to \(\frac{3}{8}''\) stud, \(\frac{1}{2}''\) x \(8''\) stud spaced as shown may be used, see weight of \(\frac{3}{8}''\) stud as basis of measurement of structural sheeet anchors.
NOTES:

All structural steel shall be A690 Grade 50 unless noted otherwise.

Bolted Field Splices may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of plan quantities.

CL Joint and End of beam are normal to grade.
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

<table>
<thead>
<tr>
<th>POINT OF DEFLECTION</th>
<th>STRUCTURAL STEEL</th>
<th>STRUCTURAL STEEL + SLAB</th>
<th>STRUCTURAL STEEL + PARAPET</th>
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<td>-0.006</td>
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</table>

NOTES:
- The transverse screed rail supports shall be centered over the beam web and centered longitudinally between adjacent rows of shear connectors.
- The pipe shall not interfere with the proper vertical position of the deck reinforcing steel.
- The pipe shall be free of dirt, grease, rust, or other foreign substance before the deck is poured.
- Core shall be exercised so as air voids do not exist in the pipe after placement of the deck concrete.
- All welding shall be performed by a certified welder in accordance with Subsections 622.3.3 and 622.26.

FIELD SPICE DETAILS

- CL Field Splice
- CL Web Splice
- FLANGE SPICE
- WEB SPICE
- FLANGE SPICE

TYPICAL DEAD LOAD DEFLECTIONS DIAGRAM

NOTE:
- Center for Dead Load Deflection plus Vertical Curve 1/8" tolerance.
- Deflections shown are from a chord from CL Bearing to CL Bearing. Vertical curve corrections not included. Negative sign (+) indicates point above chord.
- Stud shear connectors shown shall be 3/16 x 4" long, grooved flush fitted, solid fixed or equal, and automatically welded to the beam flange in accordance with the recommendations of the Manufacturer.

SHEET 4 OF 8
DETAILS OF 176'-0" CONTINUOUS COMPOSITE W-BEAM UNIT - BRIDGE A
BRIDGES OVER HWY. 62/102
ROUTE SE 30
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
BRIDGE NO: 45079 DRAWING NO: 5972
GENERAL NOTES - SUPERSTRUCTURE


MATERIALS AND ELEVATION

Class 3AC Concrete

Reinforcing Steel:
- T-4000 psi
- M320, Type 4
- M600, Type 4

Structural Steel:
- AS40 W 270, Gr. 50
- AS50 W 270, Gr. 50

Concrete:
- Concrete shall be placed on the surface and shall be protected for 72 hours after finishing. The surface shall be struck and the concrete shall be a minimum of 72 hours old before the application of expansion jointing.

Use of longitudinal crack is prohibited.

Slab Joints shall align with slab joints from existing construction. Required Slab Joints shall align with the adjacent open joint.

REINFORCING STEEL:
- All reinforcing steel shall be Grade 60 (Tensile Strength > 60,000 psi) conforming to AASHTO M330 or M322, Type 4, with yield strength and ultimate tensile strength determined by independent testing.
- The reinforcing steel to be accurately located in the forms and firmly held in place by steel or wood supports, sufficient in number and size to prevent displacement during the course of construction.
- The reinforcement shall be fully fixed, without being considered subsidiary to the Item "Cable Coated Reinforcing Steel (Grade 60)".

NC STRUCTURAL STEEL:
- All new structural steel shall be AS40 W 270, Gr. 50 unless otherwise noted and shall be paid for on "Structural Steel in Beam Span W 270, Gr. 50".
- All exposed steel shall be painted in accordance with Subsection 807.14 unless otherwise noted. Structural steel completely embedded in concrete may be AS40 W 270, Gr. 36 or Gr. 50, unless otherwise noted.
- Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 807.5.4 and submitted for approval before fabrication is begun.
- Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted to the Contractor by the Engineer for approval prior to fabrication.
- The final acceptance of the Contractor shall be that the full results of the tests of the resulting strength will be accepted only when shown on the approved shop drawings.
- Payment shall be based on the basis of shapes and materials shown in the plan, and no additional compensation will be made for any adjustments due to substitutions.
- Bolted field splice shown may be eliminated or shop welded splices may be substituted with approval of the Engineer, payment will be made on the basis of plan quantities.
- Beams and field splice plates are considered load carrying members and shall be the responsibility of the Engineer and fabricator. The Engineer shall be responsible for the design and shop fabrication of the splice plates.
- All necessary test results shall be submitted in accordance with Subsection 807.5.5. This work also may not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Span W 270, Gr. 50".
- All beams shall be located in their true position in the shop with the webs horizontal in groups as specified in Subsection 807.5.4.2(b). The length, length of sections, distance between beam centers and openings of joints shall be measured with the beams in their true position and this information shall become part of the permanent records for this job. The component parts shall be correctly marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. Tolerance of 1/8" is allowed for beam.
- Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tension or compressive stresses.
- All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, the contractor shall be permanent and temporary welding as requested with detailed drawings shall be submitted to the Engineer for approval. However, additional welds for attaching latticework or other structures to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. Field welding of new diaphragm connection plates to the existing beam shall be shown as in the plan on welding shall conform to Subsection 802.14.

GENERAL NOTES - SUPERSTRUCTURE (CON.)

Field connections shall be bolted with high-strength bolts and shall be 3/4" bolts unless otherwise noted. Nuts for 3/4" bolts shall be 1" unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam web and on the bottom of the splice flanges.
- Unless otherwise noted, steel diaphragms shall be installed as beams are erected. All bolts in diaphragms and splice plates shall be installed and tightened in accordance with Subsection 807.11 for pouring the concrete deck.
- All stud shear connectors shall be grout fill, solid flanged, or equilibrated and welded in accordance with the recommendations of the manufacturer's stress relieving procedures. Bearing slabs shall be seated in accordance with Subsection 808.08. This work and material are to be considered subsidiary to the Item "Structural Steel in Beam Span W 270, Gr. 50" and will not be paid for directly.

PLANTING STRUCTURAL STEEL:
- All new structural steel, except galvanized steel and steel which is completely enclosed in concrete shall be painted in accordance with Subsection 807.15. The color of the paint shall be specified by the Contractor.
- The roadway channels and end bays (both new and existing) shall be cleaned and painted in accordance with Section 638. This work shall not be paid for separately but shall be considered included in the contract unit price for the various items of the Contract.
- The existing point system used on the existing beams may consist of a ledger based point system. The Contractor shall take all necessary steps to protect the workers modifying the existing beams.
- The area of the existing beams where new diaphragm connection plates will be field welded shall be cleaned and painted in accordance with Section 638. The stainless-steel bearing pads shall be protected against overrun.

REMOVAL OF EXISTING DECK:
- Core shall be exercised during the removal of the existing deck to ensure that the existing point system and the existing structural elements, including shear connectors, are not damaged. Sealed items that are not serviceable, as determined by the Engineer, shall be replaced by the Contractor.
- The deck removal shall progress in a manner that will ensure the stability of the existing structure.
- The existing concrete deck shall be completely removed to the top flange of the existing beams. The portions of the top flange that will be embedded in the new concrete shall be cleaned and protected before the new concrete is placed. This work shall be paid for directly but will be considered subsidiary to the Item "Modification of Existing Bridge Structure (Item No. 49571)"

METHOD OF WORK:
- The Contractor shall prepare portions of the existing deck as shown in "Details of Shop Construction" Dep. No. 5150. During deck removal, the Contractor shall disassemble the diaphragm and other adjacent to Beam Nos. 3 a & 4, as shown in the plans, for fabrication of the diaphragm. This work will not be paid for directly but will be considered subsidiary to the Item "Modification of Existing Bridge Structure (Item No. 49571)"
- All applicable provisions of Section 807, as determined by the Engineer, shall be followed. See Special Provision Job No. 49402 "Special Safety Requirements for Bridges" for additional information.

The Contractor may submit an alternate method of work. The plans shall be submitted to the Engineer for his information and record keeping purposes of not less three weeks prior to the work being performed. The submitted plans shall be approved by an Arkansas Professional Engineer and shall include sufficient details and information to the Engineer's satisfaction. The Contractor shall be responsible for the results obtained by the use the alternate Method of Work. Additional time and labor required for the Contractor to develop and execute the plan will not be paid for directly but will be considered subsidiary to the Item "Modification of Existing Bridge Structure (Item No. 49571)".

SHEET 7 OF 8 DETAILS OF 176'-0" CONTINUOUS CONCRETE BEAM SPAN 1-1/4" ABRIDGES OVER HWY 62/102 ROUTE SEC. ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARK. DRAWN BY: DATE: 3/15/90 SCALE: 1/4"=1'-0" DESIGNED BY: DATE: 1/19/90 SCALE: 1/4"=1'-0" BRIDGE NO. 49571 DRAWING NO. 51715
### SILICONE JOINT DATA

**4" BOLT PERPENDICULAR TO JOINT AT 24 HOUR AVERAGE TEMPERATURE**

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<th>60°F</th>
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<td>1.1&quot;</td>
<td>1.1&quot;</td>
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**10" BOLT PERPENDICULAR TO JOINT AT 60°F**

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<tr>
<th>SIGHT</th>
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<th>50°F</th>
<th>60°F</th>
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<tbody>
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<td>1.2&quot;</td>
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<tr>
<td>4</td>
<td>1.1&quot;</td>
<td>1.1&quot;</td>
<td>1.1&quot;</td>
</tr>
</tbody>
</table>

**SUMMER BAR SIZE**

- 1.5"
- 1.0"

**NOTES:**

1. The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the joint is being opened. If the temperature is intermediate to the table, the temperature of the table may be necessary.

2. The temperature limits recommended by the sealant manufacturer shall be observed.

3. The expansion joint shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

4. **BACKER ROD NOTE:**

   - Use a properly sized backer rod of the depth shown in the manufacturer's literature based on the joint width at the time of ordering.

   - Except as noted, do not install more backer rod than that which can be seated in the same day.

   - The contractor shall verify the application of the backer rod from the joint material after the joint is otherwise set.

---

### DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

**Bumper Bar**

- 1" - 6" long at each beam end, one side only.
- End Beam Angle
- Ceiling, Channel

**Holes in Beam**

- 2.5"-6"
- CL Joint

**Pouring Silicone Joint Seal**

- A detailed explanation of the pouring process is shown.

**CONCRETE PLACEMENT PROCEDURE**

- No Scale

---

**EXPANSION DEVICE INSTALLATION AT END BENTS**

1. The concrete pour adjacent to Joint shall be placed before the end bent is placed. After the end bent backfills are in place and the beams erected, the blocked expansion device shall be installed and adjusted for grade.

2. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backfill concrete, the blocking shall be removed, and the opening adjusted for temperature, and the backfill constructed.

**Note:** At the Contractor's option, the transverse screw may be placed parallel to the skew or perpendicular to CL Bridge.
DETAIL OF WELD LOCATION
FOR EXPANSION DEVICE
No Scale

CONSTRUCTION JOINT DETAIL
No Scale

Bar List

<table>
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<th>Bar No.</th>
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Bending Diagram

Dimensions are given to give a general idea of size. Actual bars may vary.

Sheet 3 of 3
Details of Bent 1 - Bridge B Bridges, Over Hwy. 62/102
Route 66
Arkansas State Highway Commission
Little Rock, Ark.

Drawn by: John Doe
Edited by: Jane Smith
Checked by: John Doe
Date: 01/01/2023
Printed: 01/01/2023
Sheet No. 3 of 3

Page dimensions: 1224.0x792.0

NOTE:
- Transverse spacing between vertical anchor studs and vent holes shall be 6".
- All dimensions are given to give a general idea of size. Actual bars may vary.
- Payment for membrane to be considered extra. See Section B16.
**SECTION A-A**

Scale: $\frac{1}{4}" = 1'-0"

**SECTION B-B**

Scale: $\frac{1}{4}" = 1'-0"

**VIEW D-D**

Scale: $\frac{1}{4}" = 1'-0"

**VIEW C-C**

Scale: $\frac{1}{4}" = 1'-0"

**GENERAL NOTES:**

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered supplementary to the item "Modification of Existing Bridge Structure (BR. No. 89973)."

No portion of the backwall for new construction shall be poured until the beams are in place. The portion of the backwall above the optional construction joint or paving bracket shall not be placed until the adjacent deck panel has been poured.

All concrete shall be Class "G" and be poured in the dry. All exposed corners to be chamfered $\frac{3}{4}"$ unless otherwise noted.

All reinforcing steel shall be Grade 60 (T10) as per AS-SF1 1101-07 or AS-SF1 1101-08, type A, with all test reports.

Structural steel in and about shall be ASTM A 270, Gr. 50 and shall be paid for as "Structural Steel in Beams Span W 210, Grade 50".

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see "Layout".
TYPICAL FOOTING PLAN

Scales: 1/4" = 1'-0"

CL Piles, typ.

TYPICAL FOOTING PLAN

BAR LIST - BENT 2

BAR NO. | LENGTH | "A" | "B" | PIN. DIAM.
--- | --- | --- | --- | ---
B401 | 6' | 3/4" | 5/8" | 5/16"
B402 | 7' | 6'-3" | 5/8" | 5/16"
B501 | 10' | 11'-10" | 5/8" | 5/16"
B502 | 2' | 11'-10" | 5/8" | 5/16"
B601 | To 2 ft. 10" | 13'-4" | 2'-5" | 3/8" | 5/16"
B602 | To 2 ft. 10" | 15'-2" | 0" | 5/16"
B613 | 2' | 11'-5" | 5/16"
B701 | 6' | 11'-10" | 5/16"
B603 | 8' | 20'-6" | 5/8" | 5/16"
C601 | 62' | 13'-5" | 3/4" | 5/16"
C901 | 28' | 15'-6" | 5/16"
C902 | 28' | 9'-11" | 5/16"
F601 | 6' | 13'-4" | 6" | 5/16"

GENERAL NOTES:

All concrete shall be Class S with a minimum 28 day compressive strength, f'c = 3,500 psi, and shall be poured in the dry. All exposed corners to be chamfered 1/4" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 40,000 psi) conforming to AASHTO MI or M322, Type 4, with mill test reports.

Top reinforcing bars shall be properly placed so as to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see "layout".

SHEET 2 OF 4

DETAILS OF INTERMEDIATE BENTS - BRIDGE B
BRIDGES OVER HWY. 62/102

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---

BRIDGE NO. | DRAWING NO. | SHEET SIZE | SCALE: | DATE: | AIR DRAWING NO. | SHEET SIZE | DATE:
--- | --- | --- | --- | --- | --- | --- | ---
GENERAL NOTES:

All concrete shall be Class 5 with a minimum 28 day compressive strength, F'c = 3,500 psi, and shall be poured in the dry. All exposed corners to be chiseled 1/4", unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to ASTM A615 or A325, Type 4, with all tests reported.

Top reinforcing bars shall be properly placed to avoid interference with anchor bars or sheet metal sleeves.

For additional information, see "Layout".

**BAR LIST - BENT 3**

<table>
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<tr>
<th>Bar</th>
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<th>Dia.</th>
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<th>&quot;A&quot;</th>
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**BINDING DIAGRAM**

Dimensions are out to out of bars.
# TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

<table>
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<tr>
<th>POINT OF DEFLECTION</th>
<th>STRUCTURAL STEEL</th>
<th>STRUCTURAL STEEL + SLAB</th>
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**NOTES:**
- Bolted field splices may be eliminated or shop welded splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.
- Flange splice details:

**FIELD SPlice DETAILS**

- \( \frac{1}{4}\) in. HS. Bolts with \( \frac{1}{4}\) in. holes in flanges and webs.

**WEB SPlice**

- \( \frac{1}{4}\) in. HS. Bolts with \( \frac{1}{4}\) in. holes in flanges and webs.

**TRANSVERSE SCREED RAIL SUPPORT DETAIL**

- No Scale

**SHEAR CONNECTOR DETAIL**

- No Scale

**TYPICAL DEAD LOAD DEFLECTIONS DIAGRAM**

- No Scale

**NOTE:**
- Camber for Dead Load Deflection plus Vertical Curve 1/16" tolerance.
- Deflections shown are from a chord from CL Bearing to CL Bearing.
- Vertical curve corrections not included. Negative sign indicates point above chord.

**SHEET 4 OF 8 DETAILS OF 116'-0" CONTINUOUS COMPOSITE W-BEAM UNIT - BRIDGE B BRIDGES OVER HWY. 62/102 ROUTE SEC. ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARK. DETAILED BY:\n\n| DATE | CHK | SHEET | DRAWN BY | CHECKED BY | REV. |
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Bridges No. EB17028 DRIVING NO. 57/E
REINFORCING PLAN & DECK POURING SEQUENCE

Use Type 3 or 4 Joint Sealer. See Subsections 5D.03(1) and 5D.03(2). Basker Rod filler will not be required. Joint Sealer shall be measured and joint pour shall be performed with the slab pour.

NOTE: The pouring sequence of the deck concrete shall be from end to end, beginning at the bottom in one continuous pour. The continuous placement of the deck concrete may create uplift at bent #4 during various stages of the pouring. Due to this condition, a dowel bar shall be placed in the slab to prevent any upward movement at bent #4 during the deck pour.

72 hours shall elapse between the end of the deck pour and the start of the parapet rolling pour. The concrete in a bridge superstructure unit shall be consolidated for the entire pour before concrete has taken its initial set. This may require the use of a reinforcing agent.

The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

SLAB JOINT DETAIL
No Scale

LONGITUDINAL CONSTRUCTION JOINT
No Scale
GENERAL NOTES - SUPERSTRUCTURE


MATERIAL AND STRENGTHS:
Class SAI4 Concrete
Class SAI4 - 60 MPa, ASHTB W32 or W32, Type KI

Structural Steel (in m3):
- M30, 50 ksi
- M35, 50 ksi

Concrete:
Concrete shall be poured in the dry and assembled corners to be shaped to 3" unless otherwise noted. Concrete shall be Class SAI4 with a minimum 28 day compressive strength of 3750 psi. The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class SAI4 Concrete, see Standard Drawing No. F-1505 for allowable modifications and tolerances for permanent Steel deck forms are used.

Concrete in bridge superstructure shall be placed, conditioned and spreaded for the entire pour before any concrete has taken its initial set. This may require the use of a retarder agent. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

The concrete deck shall be given a final finish in accordance with Subsection 802.19 for Class 5 Traffic Bridge roadway surface finish. Movement of the finishing machine across the concrete shall be on piers placed on the surface and shall be prohibited for 72 hours after finishing. The final finishing of a continuous concrete must be placed and tied off to the strike-off tools at each pier. A minimum of 72 hours shall elapse between completion of the slab pour and the start of the pavement rolling pour.

Use of structural steel is prohibited.

Slab Joints shall align with slab joints from existing construction. Required Slab Joints shall align with the proper open joint.

REINFORCING STEEL:
All reinforcing steel shall be Grade 60, 60 ksi (Strength of 90,000 psi) conforming to AASHTO A6160 or 32-2-2 Type A, with mild test reports and shall be epoxy coated. The reinforcing steel to be cast into the superstructure shall be oriented in the forms and firmly held in place by steel wire supports, sufficient in number, and size to prevent displacement during the course of construction. The wire supports will be not placed for direct, but will be considered to be in the item "Epoxy Coated Reinforcing Steel Grp.60".

NEW STRUCTURAL STEEL:
All new structural steel shall be ASHTB M30, 50 ksi unless otherwise noted and shall be placed for its "Structural Steel in Beam Spans (170-70, 80-50)". All exposed surfaces shall be cleaned in accordance with Subsection 902.8 unless otherwise noted. Structural steel completely embedded in concrete may be ASHTB M30, 50 ksi, unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 902.8, submitted and approved prior to fabrication is begun.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted to the Engineer for approval. If approved, the Contractor shall show the change in the drawings and the Engineer shall be notified.

Structural strength will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans. No additional compensation will be made for any adjustments due to substitutions.

Boiled field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of shop quantities.

Booms and field splice plates are considered mill lead curing members and shall meet the Longitudinal Charpy V-notch test specified in Subsection 802.11. These plates shall be full size and shall be placed for direct, but shall be considered subordinate to the items "Structural Steel in Beam Spans (170-70, 80-50)".

Sheets shall be blocked in their true position in the shop with the webs horizontal in groups as specified in Subsection 802.4.5(b). The order, length of sections, distance between booms, opening of joints and other details shall be part of the permanent records for this job. The component parts shall be matched in this assembly and these parts shall be marked on the erection diagram. All beam dimensions are based on a temperature of 65 degrees F. A tolerance of ±1/4" is allowed for boomer.

Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main female and/or compressive stresses.

Adequate records to be made during fabrication of structural steel, including temporary views, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, the Engineer shall be notified in writing with detailed drawings which shall be submitted to the Engineer for approval. All additional welds used for attaching fastening supports shall be to the structural steel that do not exceed the limitations of Subsection 802.15 will not require approval prior to fabrication. Finish welding of new diaphragm connection plates to the existing beams shall be as shown in the plans. All welding shall conform to Subsection 802.26.

GENERAL NOTES - STRUCTURAL (CONT.)
Field connections shall be bolted with high-strength bolts and shall be ≥10° bolts unless otherwise noted. Highs for ≥10° bolts shall be ≥10° unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam webs and on the bottom of the beam flanges.

Unless otherwise noted, steel diaphragms shall be installed as decks are erected. All bolts in diaphragms and field splices shall be lubricated and tightened in accordance with Subsection 802.11 to prevent the concrete deck.

All stud shear connectors shall be granular filled, solidular, or equal and shall be automatically and welded in accordance with the recommendations of the manufacturer.

Bearings shall be seated in accordance with Subsection 802.8. This work and labor shall be performed by the items "Structural Steel in Beam Spans (170-70, 80-50)" and will not be paid for directly.

PAINTING STRUCTURAL STEEL:
Unless otherwise noted all new structural steel except galvanized steel shall be completely coated in accordance with the painted in accordance with Subsection 802.10. The color of the painted is to be selected by the Engineer.

The roadway openings and end guard rails (both new and existing shall be cleaned and painted in accordance with Section 838. This work will not be paid for separately but shall be considered included in the contract unit price for the various items of the Contract.

The existing paint system used on the existing beams may consist of a lead based paint system. The Contractor shall take all necessary steps to protect the workers modifying the existing beams.

The area of the existing beams where new diaphragm connection plates will be field welded shall be cleaned and painted in accordance with Section 838.

The paintless bearing area shall be protected against overspray.

REMOVAL OF EXISTING DECKS:
Cora shall be exercised during the removal of the existing deck to ensure that the existing point system and the existing structural steel is protected. If this option is selected, the Contractor shall take all necessary steps to protect the workers modifying the existing deck.

The existing point system is completely removed to the top flange of the existing beams. The portions of the top flanges that will be exposed in the new concrete shall be completely protected and shielded from the elements. The area of the top flanges shall be removed for direct, but will be considered subordinate to the item "Modification of Existing Bridge Structure (Grp. 802.01)".

METHOD OF WORK:
The Contractor on subsurface portions of the existing deck shown as "Details of Silage Construction" Deg. No. 576.17. During deck removal, the Contractor shall loosen the diaphragm and end guard rails are applied to Beam No. 8-5, as shown in the plans, to facilitate the construction of this work. The work will not be paid for directly but shall be considered subordinate to the item "Modification of Existing Bridge Structure (Grp. 802.01)".

All provisions of Section 807, as determined by the Engineer, shall be followed. See Special Provision Job No. CA9092 "Special Safety Requirements for Bridges" for additional information.

The Contractor may submit an alternate method of Work. The plans shall be submitted to the Engineer for information and record keeping purposes of least three weeks prior to the work being performed. The submittal shall be prepared and approved by an Arkansas Professional Engineer and shall include sufficient details and information to the Engineer's satisfaction. The Contractor shall be responsible for the results obtained by the use of the alternate Method of Work. A site visit is required for the Contractor to develop and execute the plans which will not be paid for directly but will be considered subordinate to the item "Modification of Existing Bridge Structure (Grp. 802.01)".

SHEET 7 OF 8 DETAILS OF 176’7” CONTINUOUS COMPLETE W-BEAM UNIT - SPAN B BRIDGES OVER HWY, 62/102

ROUTE SEC: ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DATED: CHECKED BY:

SAHER, JR. 9/6/10 MEYERICK, ECHELON

REVISED BY: DATED:

BRIDGE NO. 80279 1/10/10 DRAWING NO. 5702

JOB NO. 106549 322 58

CA9092 106 FT. LIMIT 9/10/10
Refer to Details of End Bents.

"A" Joint, 60°F

Pourled Silicone Joint

Reedy, Channel, O533.3

Panel Angle, L4x4x1/2"

Notes for O5, 1/2 B.A.S. - O5 x 1/2"

Joint Dimensions: 60°, 1/2 B.A.S.

Joint and End of Beams are normal to grade.

CL Joint

End of Beam

"A" Joint in Ends Bents

Perpendicular to CL Joint

Alternate Blocking Details

NOTE: Each expansion joint device shall be blocked in the Shop by the fabricator to the dimensions "A" shown @ 60°F. and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

Expansion Device Installation at End Bents

The Contractor may erect to install the expansion device for the end bents using one of the following two alternatives:

1. The concrete upon pour adjacent to joint shall be placed before the end bent backwall placed. After the end bent backwall forms are in place and the beams erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to bent, immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall concrete shall be placed.

2. The backwall shall be poured to the optional construction joint after beams are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to bent, immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.

CONCRETE PLACEMENT PROCEDURE

No Scale

Note: At the Contractor's option, the transverse screed may be placed parallel to the skew or perpendicular to CL Bridge.

ARRKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

ROUTE SEC.

DESIGN NO. 62/102

Bridges Over Hwy.

CONTRACTOR

claimant: ARKANSAS STATE HIGHWAY COMMISSION

DRAWN BY: AK

DATE: 05/15/00

SHEET 8 OF 8

DETAILS OF 176'-0" CONTINUOUS COMPOSITE W-BEAM UNIT - BRIDGE B BRIDGES OVER HWY. 62/102

LITTLE ROCK, ARK.

DRAWER: AK

DATE: 05/15/00

SHEET 8 OF 8

DRAWING NO. 59779

JOB NO. CAD002672 581

SILICONE JOINT DATA

BENT NUMBER

PERPENDICULAR TO JOINT @ 24 HOUR AVERAGE TEMPERATURE @ 0°F TO JOINT @ 60°F

SUMPER BAR SIZE

1 2.5" 2.5" 2.5" 2.5" 1.25" 1.25" 1.25" 1.25" 4" 4" 4" 4" 4"

The temperature used to set the joint spacing shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The engineer shall establish the temperature, and indication of the table may be necessary.

The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

BOLTER RED NOTE:

Use an appropriately sized backer rod at the depth shown in the manufacturer's literature based on the joint width at the time of sealing.

Except as noted, do not install more backer rod than that which can be seated in the joint material.

The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.
NOTES:
Surface finish for approach slab shall match that used on bridge deck.
For General Notes, Sections, For List, and additional details, see Dwg. No. 5799.
For details of Type Special Approach Gutter, see Dwg. No. 5700.
NOTES:
Surface finish for approach slab shall match that used on bridge deck.
For General Notes, Sections, Bar List, and additional details, see Dwg. No. 57059.
For details of Type Special Approach Gutter, see Dwg. No. 57201.
GENERAL NOTES:

BENCH MARK: AT470 cap SW corner of bridge, 21+45 ft, right of CL Existing Bridge, 51.4: 185.50,00, Elev. 154.00.


LIVE LOADS: M50 DESIGN METHOD: LOAD FACTOR SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTH:

CLASS SHS Concrete Structure (Superstructure): 1 4% x 1,000 psi

CLASS 8 Concrete Substructure: 1 4% x 1,000 psi

Reinforcing Steel: Grade 60, AASHTO M25 or M31, Type A: 1 3% x 60,000 psi

Structural Steel: AASHTO M 270, Gr. 36: 1 3% x 60,000 psi

COMPLIANCE: Bonding laps may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL PLATING: Piling for Bents 1 and 5 shall be HP21x42 Grade 50 and shall be driven to a minimum safe bearing capacity of 78 tons per pile. Piling in Bents 2 through 4 shall be HP21x42 Grade 50 and shall be driven to a minimum safe bearing capacity of 78 tons per pile. All pilings shall be driven into the material designated as St. Louis Limestone on the boring log unless bearing is driven into a material designated as St. Louis Limestone. Lengths of pilings shown are for estimating quantities and are for use in determining payment for cost out and build-up in accordance with the Standard Specifications. Actual lengths to be determined in the field. Piles in and bents shall be driven after settlement at bottom of cap is in place. On all piles the Contractor shall use approved steel pile driving points.

FOOTINGS: All footings shall be minimum of 2'-0" below finished ground line at Bents 2, 3, and 6. Foundations for footings shall be prepared in accordance with Subsection 8.0.04.

PAINT: All new structural steel, except pregalvanized members, surfaces in contact with concrete, and as otherwise noted, shall be painted as specified in Subsection 8.1.10. The color of paint shall be Gray and Alkali Resistant No. 2, Spec. No. 995-10.

PAINT EXISTING STEEL: The existing structural steel shall be cleaned and painted in accordance with Section 8.09 "Cleaning and Painting Existing Structural Steel". The color of paint shall be Gray and Alkali Resistant No. 2, Spec. No. 995-10. For additional information, see SP Job No. CA0902 "Cementation System", "Contractor Certification" and "Paint Contractor Label".

TEXTURED COATING FINISH: Class 3 Textured Coating Finish shall be applied to areas as specified in SP Job No. CA0902 "Textured Coating Finish" and in accordance with Subsection 8.2.0.02. Textured Coating Finish shall not be applied on surfaces where Class 2 Protective Surface Treatment is applied.

BRIDGE DECKS: The concrete bridge deck, except sidewalks, shall be given a fine finish as specified for final finishing in Subsection 8.02.20 for Class 3, Line 1 Bridge Rosedale Surface Finish. Sidewalk shall be given a Class 6, Broomed Finish.

DETAIL DRAWINGS:

DRAWING NO.: DATE REV. DATE DRAWN DATE CHECKED

Stage Construction

97205 - 97209

End Bents

37290 - 37294

Intermediate Bents

37292 - 37293

26'-4" Continuous Composite Beam Unit

37274 - 37275

Elastomeric Bearings

37276 - 37278

Metal Bridge Rail

37283 - 37284

Electrical Lighting Details

37296

Concrete Rippin

56502

Steel Piling

56503

EXISTING BRIDGE: The Existing Bridge No. 05982 is 42'-0" wide and 264'-10" long and consists of a 264'-10" Cont. Comp. Beam unit supported by three column concrete Intermediate Bents with spread footings, pile cap footings and steel-pile treatment ends. Plans of the existing structure may be obtained upon request to the Construction Contract Procurement Section of the Program Management Division.

THE PROPOSED WORK CONSISTS OF: Widening the existing bridge, including the existing bents, constructing new intermediate bents to each side of existing bents, removing and replacing portions of the concrete deck, removing and replacing portions of the existing concrete riprap, and replacing the joint seals. For additional requirements in conducting the work, see Section 8.2.1.

VERIFICATION: Except as noted, components of the existing bridge are to be retained and joined to proposed new work, interconnection and dimensions shown are based on existing bridge plans. The Contractor is to adhere strictly to the requirements for verification of the geometry of the existing bridge and its relationship to the proposed work described in Subsection 8.0.02 and make necessary adjustments to fit the proposed work. All work shall be conducted in accordance with the approved plans and specifications.

REMOVAL AND REUSE: All material removed from the existing bridge shall be disposed of according to Section 9.05. All material removed from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See roadway plans.

THE LAYOUT OF THE BRIDGE OVER I-49 HWY, 62/102 - HWY, 72 WIDENING & STEEL/TC IMPVTS (S) BENTON COUNTY ROUTE I-49 SEC 29 ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARK.

DRAWN BY: DATE: DRAWN: DRAWN: CHECKED: DATE: CHK'D: CHECKED: DATE: CHK'D: CHECKED:

JOB NO.: DRAWING NO.: SHEET 2 OF 3
NOTES:

Details related to maintenance of traffic on bridge plans for information only. For maintenance of traffic, see roadway plane.

1. Temporary Precast Barrier (Do Not Connect to Deck), see 510, Exp. No. TC-4.

2. The concrete slab and parapets are to be removed to the line as indicated in accordance with Section 02. The existing transverse slab reinforcing shall be retained to be capped with the new reinforcing steel. Care shall be exercised during the removal of the existing deck to ensure that the beams, diaphragms, shear connectors, bolted connections and reinforcement are not damaged. Damaged items that are not acceptable as determined by the Engineer, shall be removed by the contractor at no additional payment.

3. Install new diaphragms and connection plate prior to each pour. The new connection plate shall be flush except to the existing beam.


5. Stage external supports in this bay will be required prior to deck removal and shall remain in place until after completion of the Stage 1 deck pour.

6. Construction vehicles shall not travel beyond the centerline of the bridge.

STAGE a - BRIDGE 05982

STAGE b - BRIDGE 05982
NOTES:


2. Saw cut and remove wing wall fill as required and portions of existing backwall, then install new precast wing wall as required to lap with new reinforcement.

3. Portion of backwall removed above the paving break; during Stage I Construction, see End Bent Detail.

4. Drill & grout into existing cap and backwall, see End Bent Detail.

5. Dimensions based on existing plans, the contractor shall verify dimensions in the field.

STAGE I
Looking Ahead Normal to Bent
Shown at Existing Bent 5
(Bent 1 Sillar)

Existing Ground Line - Varies

STAGE I
Looking Ahead Normal to Bent
Shown at Existing Intermediate Bent 2
Intermediate Bents 3 & 4 Similar
5. Remove existing wingwall, wingwall fillet as required and barrier, typ. Any exposed or projecting reinforcing left from the removal to be removed to 1/2" clear and the remaining hole filled with grout.

5. Part of backwall concrete above the paving bracket to be removed. Existing backwall reinforcing steel to be removed and closed to top to new reinforcing steel to be shown. Replace the portion of backwall during new construction, any damaged reinforcing steel shall be removed and grouted into place of the Contractor's expense.
GENERAL NOTES:

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required leveling will not be paid for directly, but will be considered subsidiary to the main "Reconstruction of Existing Bridge Structure (BHR No. 050829)."

No portion of the backwall for new construction shall be poured until the beams are in place. The portion of the backwall above the optional construction (joint or paving bracket) shall not be placed until the adjacent deck pour has been completed.

All concrete shall be Class "S" and be poured in the dry, all exposed corners to be channeled if necessary otherwise noted.

Reinforcing steel shall be Grade 60 (Yield Strength: 60,000 psi conforming to AASHTO M270 or M272, Type A, with mill test reports).

Structural steel in and bends shall be AASHTO W 270, Gr. 50 and shall be paid for as "Structural Steel in Base Spans (W 270, Grade 50)."

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see "Layout."
GENERAL NOTES:

Walls required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required demolition will not be paid for directly, but will be considered subsidiary to the item "Modification of Existing Bridge Structure [Sr. No. 00982]."

No portion of the backwall for new construction shall be poured until the beams are in place. The portion of the backwall above the construction joints or paving breaker shall not be poured until the adjacent deck pour has been made.

All concrete shall be placed at a slump of 5" and be poured in the dry, all exposed corners to be cored & unless otherwise noted.

All reinforcing steel shall be Grade 60 (Yield Strength = 60,000 psi) conformance to AASHTO M276, 60, 50 and shall be paid for as "Structural Steel in Beam Spans (K 216, Grade 50)."

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see "Layout."
B.E. I-49

VIEW D-D
No Scale

SIDEWALK DETAIL
No Scale

Concrete shall be hand packed under the joint strip at the sides. See Fig. No. 57235 and 57255 for additional details.

©/" Pattern Plate, see Fig. No. 57235.

BAR LIST

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BEND DIAMETER
Dimensions are to out of bars.

MATERIAL
- Steel
- Concrete

SHEET 5 OF 5
DETAILS OF BENT I
BRIDGE OVER I-49
ROUTE SE 40
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: I L.
CHECKED BY: P.
FILLED: DATE: 1-20-49
SCALE: 1" = 1'-0" on BRIDGE NO. 5982 DRAWING NO. 5724

4'-6" Studs @ 18" (left end spacing)

Face of Curb
"Gutterline

Cope 6" leg of angle 6" from face of curb and conform to curb detail.
GENERAL NOTES:

Nails required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required dowel will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (BR. No. 50832)."

No portion of the backwall for new construction shall be poured until the beams are in place. The portion of the backwall above the optional construction joint or paving breaker shall not be poured until the adjacent deck pour for has been made.

All corners shall be Class 5 and be poured in the dry. All exposed corners to be chafed with unless otherwise noted.

All reinforcing steel shall be Grade 60 (TMT) Strength of 60,000 psi conforming to AASHTO M 276 or M 332, Type A, with miltest report.

Structural steel in end bents shall be ASTM A 250, Sr. 50 and shall be paid for as "Structural Steel in Beam Spans M 210, Grade 50." Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see "Layout."
### FIELD SPlice DETAILS

**JOINT** = 1/16" - 1/8"

**WEB SPlice**

- 
- 2 - PL. x 2 = 1/8" - 1/2"

**FLANGE SPlice**

- 2 - 2 x 3 = 1/16" - 1/2"
NOTES:

The pouring sequence of the deck concrete shall be from end to end, beginning at Bent 1 in one continuous pour. The continuous placement of the deck concrete may create uplift of Bent 5 during various stages of the deck pour. The Contractor is responsible for securing the beams to prevent any upward movement at Bent 5 during the deck pour. The above pouring sequence may be reversed beginning at Bent 5 and securing the beams on Bent 1.

11 hours shall elapse between the end of the deck pour and the start of a parapet rolling and/or sidewalk pour. 11 hours shall elapse between the end of a sidewalk pour and the start of a parapet rolling pour. The concrete in a bridge superstructure unit must be consolidated for the entire pour before concrete has taken its initial set. This may require the use of a retarding agent.

The Contractor must obtain approval from the engineer for any deviations from the pouring sequence shown.

LONGITUDINAL CONSTRUCTION JIINT
No Scale

SLAB JOINT DETAIL
No Scale

REINFORCING PLAN & DECK POURING SEQUENCE
Scales: 1/8" = 1'-0"

1. CL Joint
2. CL Parapet Joint (5'/8" to 1' Max), Step 4" from top of slab or sidewalk, see Ewp. Nos. 57229 & 57230.
3. CL Vertical Parapet Joint (5'/8" to 1' Max), Step 1'-2" from top of slab or sidewalk, see Ewp. Nos. 57229 & 57230.
4. Existing reinforcing steel spacing from CL Joint to be verified in the field. New transverse reinforcing steel to be bonded to the existing transverse reinforcing steel in the deck.
ELEVATION - CONCRETE PARAPET RAIL - STAGE I

SCALE: 1" = 1'-0"

1. Open Joint at End of Deck
2. "A" - Closed Parapet
3. "B" - Exp. 15" max.

NOTE:
For location of full and partial-depth joints, see "Reinforcing Plan and Deck Pouring Sequence.
Dwg. No. 51228.

SECTION A-A
Scale: 1" = 1'-0"

NOTE:
Form liner shall be max. depth of 2" to provide a min. clearance of 1/8" to parapet reinforcing.

SECTION B-B
Scale: 1" = 1'-0"

"Ashlar Stone" Pattern Concrete Finishing

"Ashlar Stone" Pattern Concrete Finishing

BAR LIST

Dimensions are out to out of bar.

SECTION B-B
Scale: 1" = 1'-0"

TABLE OF VARIABLES

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NOTE:
Form liner shall be max. depth of 2" to provide a min. clearance of 1/8" to parapet reinforcing.
GENERAL NOTES - SUPERSTRUCTURE

CONSTRUCTION SPECIFICATIONS


MATERIAL AND STRENGTH:
Class 511 Concrete
Reinforcing Steel (Grade 60, AASHTO M250 or M272, Type B):
Fy = 60,000 psi
Fy = 50,000 psi
Structural Steel (AASHTO W 270, Gr. 50):
Fy = 50,000 psi
Structural Steel (AASHTO W 270, Gr. 36):
Fy = 38,000 psi

CONCRETE:
Concrete shall be mixed in the dry and all exposed concrete to be conformed to unless otherwise noted. All concrete shall be Class S103 with a minimum 28-day compressive strength of 4,000 psi at the age of 28 days. The 28-day compression strength of concrete is the basis for design and is not a basis for determination of Class S103. Concrete shall be placed and cured in accordance with the American Concrete Institute (ACI) Standard and are the basis for classification of Class 511 Concrete. See Standard Brochure No. 50305 for additional information and for tolerances when Permanent Steel Deck is selected.

Concrete in bridge superstructure shall be proportioned, consolidated, and spread over the entire space for any concrete which has taken its initial set, may require the use of the reinvigorated agent, the Contractor shall provide the Engineer for any deviations from the pouring sequence shown.

The concrete deck, except sidewalks, shall be made in accordance with Subsection 802.60 for Class 3 (Normal Bridge Decks), Surface Finish: Sidewalks shall be given a Class 6 finish, except sidewalks, shall be given a Class 6 finish. The slab shall be placed on the surface and shall be permitted to harden for 72 hours after finishing the pour. Sufficient concrete shall be placed adjacent to the side of the deck to form the curb. The curb shall be placed in two 72-hour shifts between completion of the slab pour and the start of the pour in such a manner as to allow the same pour to be completed in a single pour of 72 hours.

Use of a longitudinal crack release is prohibited.

Siab joints shall align with slab joints from existing construction. Required Siab Joints shall align with the parapet open joint.

REINFORCING STEEL:
All reinforcing steel shall be Grade 60 (Tied Strength = 60,000 psi) conforming to AASHTO M250 or M272, Type B, with mill test reports and shall be epoxy coated. The reinforcing steel to be accurately located in the forms and firmly held in place by steel supports. Sufficient reinforcing steel to prevent displacement during the course of construction. Various reports shall be submitted for direct consideration to the item "Epoxy Coated Reinforcing Steel (Grade 60)."

NEW STRUCTURAL STEEL:
All structural steel shall be AASHTO W 270, Grade 50, unless otherwise noted and shall be designed as "Structural Steel in Beam Spans (W 270, Gr. 50)". All exposed surfaces shall be cleaned in accordance with Subsection 803.60 unless otherwise noted. Structural steel completely embedded in concrete may be AASHTO W 270, Gr. 36 or Gr. 50, unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 802.60. Submittal and approval by the Engineer is required. Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted to the Contractor for approval. Steels of equal or greater strength will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and on additional compensation will be made for any adjustments due to substitutions.

Bolts and splice plates shall be made with Grade 50 structural steel. Payment will be made on the basis of size and shape quantity.

Beams and field splice plates are considered main load carrying members and shall meet the Minimum Longitudinal Capacity Test requirement specified in Subsection 807.60. This work and material will be paid for directly, but shall be considered subject to the item "Structural Steel in Beam Spans (W 270, Gr. 50)."

All beams shall be braced in their true position in the shop with the webs horizontal in the plane of the web. The beams shall be positioned in the shop and supported on brackets, if additional support is required. A detailed shop drawing for each beam shall be submitted to the Engineer for approval. Additional drawings used for attaching fieldwork support devices or extended supports shall be for structural purposes only and shall be used with the limitations of Subsection 802.15. Job shop shall not be required prior approval for construction. Field welding of shop connections shall be permitted, but welding shall be in the direction of the straight tensile or compressive stresses.

GENERAL NOTES - SUPERSTRUCTURE

Field connections shall be bolted with high-strength bolts and shall be N 50 bolts unless otherwise noted. Bolts for N 50 bolts shall be by N 4 unless otherwise noted. Bolts shall be placed with heads on the top of the exterior deck webs and on the bottom of the beam flanges.

Unless otherwise noted, steel diaphragms shall be instilled as beams are erected. All bolts in diaphragms and field splices shall be instilled and tightened in accordance with Subsection 801.74 prior to pouring the concrete deck.

All stud shear connectors shall grout drill filled, solid fixed, or equal and shall be out of sight and in accordance with the recommendations for the connection of the diaphragms. Diaphragms shall be installed on the beams as shown in the shop drawings and bolts shall be tightened in accordance with Subsection 808.60. The work and material shall be considered as subject to the item "Steel Structural Steel in Beam Spans (W 270, Gr. 50)" and will not be paid for directly.

PAINTING STRUCTURAL STEEL:
Unless otherwise noted, all structural steel except galvanized steel and steel which is completely enclosed in concrete shall be painted in accordance with Subsection 801.75. The color of paint shall conform to Federal Standard 595B, Color Chip No. 28022, Gray.

The existing structural steel shall be cleaned and painted in accordance with Section 820 "Cleaning of STRUCTURAL STEEL" to ensure that the paint is properly applied and shall meet the requirements shown in Subsection 624, Color Chip No. 2622, for Additional Information, see SP Job CA0902 "Corrosion Control System, Carpenter Certification and Paint Contractor (Paint)"

The roadway elements and beam areas (both new and existing) shall be cleaned and painted in accordance with Subsection 628. This work shall not be paid for separately but shall be considered included in the contract unit price for the various items of the Contract.

The existing paint system used on the existing beams shall be a lead-based paint system. The Contractor shall take all necessary steps to protect the workers modifying the existing beams.

The electrostatic bearing pads shall be protected against overspray.

REMOVAL OF EXISTING DECK:
Cores shall be exercised during the removal of the existing deck to ensure that the existing paint system and the existing structural steel. Including shear connectors, are not damaged. Damaged items shall be made good as determined by the Engineer, shall replace at the Contractor's expense.

The deck removal shall progress in a manner that will maintain the stability of the existing structure.

The existing concrete deck shall be completely removed to the top flange of the existing concrete deck. The portions of the top flange that are embedded in the new concrete shall be cleaned and free of lint and protected until the new deck is in place for the respective structure.

METHODOLOGY OF EXISTING BRIDGE STRUCTURE (BR. 05030):
METHOD OF WORK:
The Contractor shall remove portions of the existing deck as shown in "Details of Stage Construction" (Fig. Nos. 57020 & 57020). During deck removal, the Contractor shall ensure the disassembly and removal of the items shown in Fig. Nos. 57020 & 57020. It shall be the Contractor's responsibility, to facilitate construction. This work shall be paid for directly and will be considered subject to the item "Modification of Existing Bridge Structure (Br. 05020)."

All applicable provisions of Section 801, as determined by the Engineer, shall be followed. See Special Provision Job No. CA1002 "Special Safety Requirements for Bridges" for additional information.

The Contractor may submit an alternate Method of Work. The proposal shall be submitted to the Engineer for information and evaluation. This work will be performed after the proposal has been reviewed and approved by the Engineer and the appropriate considerations are provided for the new deck. This shall not be considered subject to the item "Modification of Existing Bridge Structure (Br. 05020)."

The contractor shall be responsible for the result obtained by the use of the alternate Method of Work. All work, materials, and labor required for the Contractor to develop and execute the Alternate Method of Work shall be considered subject to the item "Modification of Existing Bridge Structure (Br. 05020)."

SHEET 8 OF 11
DETAILS OF 264'-0" CONTINUOUS COMPOSITE "W" BEAM STRUCTURE OVER I-49
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

BRIDGE NO. 05030
DRAWING NO. 5723
**SILICONE JOINT DATA**

<table>
<thead>
<tr>
<th>Joint Date</th>
<th>Details for Blocking Expansion Joint Device</th>
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- **Alternate Blocking Details:** Bolt & spacer may be attached to channel & angle for blocking.
- **Note:** Each expansion joint device shall be blocked in the shop by the fabricator to the dimension A shown at 60°F, and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a minimum spacing of 8 feet.

- **DETAILS FOR BLOCKING EXPANSION JOINT DEVICE**

**CONCRETE PLACEMENT PROCEDURE**

1. The concrete cap pour adjacent to joint shall be placed before the end bend backwall is placed. After the end beam backwall forms are in place and the beams are erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed and the opening adjusted for temperature, and the backwall constructed.

2. The backwall shall be poured to the optional construction joint after beams are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.

---

**EXPLANATION OF DRAWING:**

- **Refer to Details of End Bents**
- **Pouring Silicone Joint**
- **Holes for 1/2" x 1/2" Bolts - 3/8" x 1/2" Bolts in Flange.**
- **Holes for 1/2" x 1/2" Bolts - 3/8" x 1/2" Bolts in Flange.**
- **Plate, Angle, or other shapes, attached to channel & angle for blocking.**
- **Alternate Blocking Details**
- **Bolt & spacer may be attached to channel & angle for blocking.**

---

**EXPANSION DEVICE INSTALLATION AT END BENTS**

- **The Contractor may elect to install the expansion device for the end bents using one of the following two alternatives:**
  1. The concrete cap pour adjacent to joint shall be placed before the end bend backwall is placed. After the end beam backwall forms are in place and the beams are erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed and the opening adjusted for temperature, and the backwall constructed.
  2. The backwall shall be poured to the optional construction joint after beams are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.
SECTION THROUGH SIDEWALK - STAGE 2

No Scale

Note: install seal in stib joint and parapet joint with seaming procedure as recommended by the manufacturer. The sealer shall be recessed to prevent damage and be allowed to cure prior to removal of the outer seaming material.

CL Joint
@ Bant 5

Poured Silicone joint

SCALE: 1" = 1'-0"

STAGE 2 SIDEWALK REINFORCING PLAN

BAR SIZES: 1" x 1.5"

LONGITUDINAL BAR

ELEVATION MARKER

SECTION A-A

No Scale

3/4" x 1/2" Stubs in 3/4" Pattern Plate,
Top 4" leg of angle for 3/4" Flat Head Cap Screws @ 2" o.c. Install screws in the shop
and ship as a unit. Remove screws on one
side after erection is complete.

(1) Measured from CL Joint.
(1) Place as shown in "Stage 2 Sidewalk
Detail, Dwg. No. 57235.

1/4" Pattern PL (conform
to Sidewalk Curb Detail,
see Dwg. No. 57235), stop
1" above gutter.

Bumper Bar, see
Dwg. No. 57232.

Note: Concrete shall be
hard packed under the
joint armor.

Coped 3/4" tapered
under sidewalk.

DETAIL B

No Scale

The surfaces of the 3/4" plates shall be painted
with aluminum epoxy paint in accordance with
Section 4.5.3, or as approved by the Engineer.
Only one coat is required and shall be applied
in the fabricator's shop. Painting will not be
paid for directly, but will be considered
additional for "Structural Steel in beam Spans
(270, 6, 50%)."
ELEVATION SHOWING LIGHT POLE SUPPORT DETAIL
For locations see Dwg. No. 57202
Scale $\frac{n}{1}= \frac{1}{12}$

*The Contractor shall verify the required anchor bolt size and corresponding bolt circle with the selected light pole base with the City of Bentonville prior to installing the anchor bolts. The light pole base shall not hang over the face of the light pole support pedestal.

PLAN - LIGHT POLE SUPPORT PEDESTAL
For locations see Dwg. No. 57202
Scale $\frac{n}{1}= \frac{1}{12}$

SECTION A-A
For additional details see Dwg. No. 57239
For details of Junction Box, Cables and Expansion Fittings, see Dwg. No. 57239.

SECTION B-B
Scale $\frac{n}{1}= \frac{1}{12}$

SECTION C-C
Scale $\frac{n}{1}= \frac{1}{12}$

SECTION D-D
Scale $\frac{n}{1}= \frac{1}{12}$

NOTES:
1. Class 3 Textured Coating Finish (Color: Gray, Color Chip No. 37160).
2. P504E bars at north edge of deck, no sidewalk. P505E bars at south edge of deck, with sidewalk.
3. S605E or S504E bars, 2 layers required at north edge of deck and 4 layers required at south edge of deck.
4. For details of light pole support pedestal, see Dwg. No. 57239.

BAR LIST
Scale $\frac{n}{1}= \frac{1}{12}$

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Dimensions are out to out of bars.

SHEET N OF 11
DETAILS OF 25'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
BRIDGE OVER I-49
ROUTE 12, SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: DRAFTSMAN: CHECKED BY: DRAWN BY: DESIGNED BY:
BRIDGE NO. 05802 DRAWING NO. 57234
![Diagram of Elastomeric Bearings]

**ELASTOMERIC BEARING**

- **Note:** Anchor bolts may be cast in place or drilled and grouted into place. If anchor bolts are to be cast in place, the galvanized sheet metal sleeves will not be required.

**GENERAL NOTES**

- Elastomeric bearings shall conform to Section 609 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings".

- External load plates and steel rails shall conform to AASHTO M 270, Grade 50. Pipe sleeves shall be ASTM A500, Grade B, and shall be galvanized to conform to AASHTO M 252, Class C or AASHTO M 296, Class 50.

- External load plates and steel rails shall be completely fabricated (including bending and bolt holes) and shall be cleaned before installing the elastomeric bearing. Surfaces in contact with the elastomeric bearing shall be cleaned in accordance with subsection 609.10 and the surfaces shall be protected in accordance with subsection 807.44(b) for pipe steel and in accordance with subsection 807.17. The unit price shall include the Federal Standard 590, Color Chart No. 2502, Gray. Polishing will not be paid for directly, but shall be considered supplementary to "Elastomeric Bearings".

- Anchor Bolts, Washers, and Nuts shall conform to subsection 807.47 of the Standard Specifications. The anchor bolt grade of steel shall be specified in the "Table of Fabricator Variables," and the anchor bolts shall be circular with rounded heads and specified size as shown in details.

- Pipe sleeves, Anchor Bolts, Washers, and Nuts shall be paid for at the unit price bid for "Steel Beams in Beam Spans (M 270, Grade 50)." External load plates, mosaic plates and No. 9 bearing plates will not be measured or paid for separately but will be considered included in the unit price bid for "Elastomeric Bearings." Beams with mosaic plates shall be paid for in accordance with subsection 807.46, Bearings with mosaic plates shall be paid for in accordance with subsection 807.46. Where mosaic plates are considered to be plastic, the "Elastomeric Bearings" and all will not be paid for directly.

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**TABLE OF FABRICATOR VARIABLES**

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<th>Location</th>
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<th>Bearing Material</th>
<th>Maximum Design Load</th>
<th>Minimum Design Load</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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**NOTES:**

- The dimension "F" does not apply to mosaic plates - see "PLAN VIEW"
NOTES:
Light fixtures and poles are not included in this contract and will be installed by others.
All hardware shall be corrosion resistant, galvanized or stainless rigid steel.
Conduct foundation in accordance with pole manufacturer's guidelines and per these plans, with the Engineer for manufacturing requirements.
Refer to plan for conduit and conductor sizes, see long sweep 10' below at all conduit bends that meet NEC minimum radius requirements.
The pole, supplement ground and all other metal equipment and grounding lugs together using minimum 7/0 AWG solid bare copper and approved ethylene wools and connect to ground rod system.
Contractor shall coordinate with the Engineer and the City of Bentsville to determine bolt spacing prior to the construction of the lighting poles.
The Contractor shall use caution when installing conduits in barrier to not impact rebar or construction joints.

BOX NOTES:
New 3/8 galvanized steel construction with gasket, recessed and flush in parapet wall, internal copper ground bar with min. 4 lugs.
External ground lug, banded to 2/0 ground wire system using 6 AWG copper wire.
splice wires in box according to NEC. All wires shall be type THW or greater.

SECTION A-A
No Scale
Note: Junction box and lid material shall be 16 gauge galvanized, 1/8" thick. Lid material shall be 14 gauge galvanized, 1/4" thick. Joints may be made of 1/4" thick material if approved by the Engineer.

SECTION B-B
No Scale

SECTION C-C
No Scale

ELECTRICAL LIGHTING DETAILS
HWY 72 OVER I-49
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

CONDUCT DETAILS
No Scale

EXPANSION FITTING DETAIL (Typ)
No Scale

Note: The movement range of the expansion fitting shall not exceed the movement range of the bridge expansion joints.
NOTES:
The Contractor shall make field measurements to determine the following:
1. To verify that dimension "A" is sufficient to prevent the sign over the
   intended lane while maintaining adequate horizontal clearances.
2. To determine the column height "H" required to maintain the minimum
   vertical clearance with the centerline of the sign located at the
   edge of the travel lane (if the structural height "H" exceeds 30'-6"
   contact the Engineer).

These verifications and measurements are required prior to submittal
of this shop drawings. The column height "H" shall be shown on the shop
drawings with a note stating that the Contractor has made the required
field measurements.

BAR LIST-PER SIGN STRUCTURE

<table>
<thead>
<tr>
<th>MARK</th>
<th>NNLFDEOL</th>
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<td>49</td>
<td>4'-0&quot;</td>
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NOTE: See sign details and plan sheets for
number, size and orientation of signs. For
details of range sign, see deg. no. 5206.
Signs are to be centered over the
intended lane or placed as directed by the Engineer.

LEVELS:

For "Detail A" thru ”Detail B" and "New D'-B", see deg. no. 5204.
For "Detail A" thru "Detail P", see deg. no. 5206.

LEGEND

H = Near Side
F = For Side
W = Underneath

ELEVATION

TRUSS CAMBER DIAGRAM
**ARIZONA STATE HIGHWAY COMMISSION**

**CONCRETE DITCH PAVING**

**STANDARD DRAWING CDP-1**

---

**GENERAL NOTES:**

- The full width of each section shall be poured monolithically.
- Toe walls to be constructed full width at each end of ditch paving, and poured monolithically.
- Solid bar along ditch paving to be placed within 14 days of ditch paving construction.
- 3" wide transverse expansion joints shall be placed in concrete ditch paving at 45 intervals. The space shall be filled with approved joint filler complying with AASHO M213.

---

**ENERGY DISSIPATORS**

- Number of elements per row varies with width of paving specified.
- Energy dissipators to be used for the entire length of ditch when slope of ditch paving exceeds 7%. The dissipators will not be paid for directly but shall be considered to be included in the price bid for concrete ditch paving.

---

**TOE WALL DETAIL FOR CONCRETE DITCH PAVING**

- Toe wall depth may be altered to 3" in order to construct it in rock excavation.
CONCRETE COMBINATION CURB AND GUTTER

DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.

ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB

CONCRETE CURB

DETAILS OF MODIFIED CURB

ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS
STANDARD DRAWING CC-1
**Case 1**

Plan View Steel Posts

Other post configurations acceptable.

Notes:
- For existing soil deposits all ranging from 0 to 5", the depth of required drilling 3' is equal to 5'.
- Zone A
- Zone B

Beam according to Section B,C,D,E.

Plan View Wood Posts

Other post configurations acceptable.

Notes:
- For existing soil deposits all ranging from 0 to 5", the depth of required drilling 3' is equal to 5'.
- Zone A
- Zone B

Beam according to Section B,C,D,E.

**Case 2**

Plan View Steel Posts

Other post configurations acceptable.

Notes:
- For existing soil deposits all ranging from 0 to 5", the depth of required drilling 3' is equal to 5'.
- Zone A
- Zone B

Beam according to Section B,C,D,E.
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDERT WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

METHODS OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-9
Details of Widening for Guard Rail

Method of Installation of Guard Rail at Fixed Obstacle
THREE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

NOTE:

The three beam guardrail, special end shoe and the transition section shall be made of steel and shall be of Grade A or Grade B structural steel. The guardrail shall be of 1-1/2" cold-formed steel with the holes placed on the traffic face of the rail. The holes shall be drilled and the bolts shall be driven in. The nuts shall be Grade A or Grade B or they shall be Grade C and the lock washers shall be fitted with a groove. The transition section shall be designed for the specific project. The guardrail shall be designed to withstand the forces of the vehicles and shall be connected to the bridge girder using Grade A or Grade B or Grade C bolts and the lock washers shall be fitted with a groove.

THREE BEAM RAIL SPLICE AT POST

TRANSITION SECTION

CONNECTOR PLATE

The connector plate shall be made of Grade A or Grade B or Grade C structural steel. The holes shall be drilled and the bolts shall be driven in. The nuts shall be Grade A or Grade B or Grade C or they shall be Grade C and the lock washers shall be fitted with a groove. The transition section shall be designed for the specific project. The guardrail shall be designed to withstand the forces of the vehicles and shall be connected to the bridge girder using Grade A or Grade B or Grade C bolts and the lock washers shall be fitted with a groove.

THREE BEAM GUARD RAIL SPECIFICATION

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING CR-10
THREE BEAM RAIL WITH STEEL TUBING BLOCKOUT AND STEEL POSTS I-7

W-BEAM TO THREE BEAM TRANSITION RAIL WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST POST 8

THREE BEAM RAIL WITH WOOD OR PLASTIC BLOCKOUTS & WOOD POSTS POSTS I-6

THREE BEAM RAIL WITH WOOD OR PLASTIC BLOCKOUT & WOOD POST POST 7

W-BEAM TO THREE BEAM TRANSITION RAIL WITH WOOD OR PLASTIC BLOCKOUT & WOOD POST POST 8

GENERAL NOTES:
- Rail posts shall be set perpendicularly to the roadway profile, grade and vertically in cross section.
- Wood posts & wood blocks shall be either tan a kevil structural or better ZZ zinc or aluminum.** SOUTHERN PINE.

NOTE: These dimensions will need to be adjusted in the field to make the transition from the W-beam to the three beam post 8.

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A
**CONSTRUCTION SEQUENCE**

1. Place structural bedding material to grade, do not compact.
2. Install pipe to grade.
3. Compact structural bedding outside the middle third of the pipe.
4. Place and compact the bedding area up to the middle of the pipe.
5. Complete bedding according to subsection 00600.

NOTICE: HANDS AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BD PER LINEAR FOOT OF CONCRETE PIPE.

**REINFORCED CONCRETE ARCH PIPE DIMENSIONS**

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**MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS**

**MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS**

**MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS**

**MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS**

**REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS**

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**MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS**

**GENERAL NOTES**

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS SPECIFICATIONS FOR SEWER, CONSTRUCTION SEQUENCES WHICH APPLIES TO THE INSTALLATION OF PIPE CULVERTS. NUTS IN THE PLANS, SECTIONS AND SUBSEQUENT REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.

2. CONCRETE PIPE CULVERT DESIGN SHALL COMPLY WITH ARKANSAS HIGHWAY DESIGN SPECIFICATIONS, FIFTH EDITION ENDING WITH ISSUE 2015.

3. ALL PIPE SHALL CONFORM TO SECTION 601G CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO ASHSHI 110 AND ARCH AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO ASHSHI 110 AND ARCH AND HORIZONTAL ELLIPTICAL PIPE CULVERTS.

4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EARTHWORK.

5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE BLOW WITHIN WHICH RECOMMENDED FOR WORKING CONDITIONS.

6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 36 INCHES. BETWEEN STRINGS OF DRAIN, REFER TO STANDARD SPECIFICATIONS FOR MINIMUM CLEARANCES WHERE PLANCED END SECTIONS ARE USED.

7. HINTOMO MATERIALS SHOULD BE PLACED AT THE CONSTRUCTION ENDS OF THE PIPE TO PREVENT LOSS OF STRUCTURAL MATERIAL WHENев MATERIAL IS USED FOR STRUCTURAL BEDDING MATERIAL AND/OR BACKFILL.

8. NO HINTOMO MATERIALS SHOULD BE FIXED TO THE ORIGINAL PIPE TO FACILITATE HANDLING. HINTOMO MATERIALS CAN BE PLACED, BUT NOT THE TRENCH CLOTH. WHEN EVEN MATERIAL IS USED FOR STRUCTURAL BEDDING MATERIAL AND/OR BACKFILL.

9. HINTOMO MATERIALS Not HINTOMO Material that is encountered at the bottom of the excavated trench and area covered as 'structural bedding' above will be excavated and replaced with selected soil that has been approved for use in structural bedding. NO HINTOMO MATERIALS SHOULD BE PLACED IN STRUCTURAL BEDDING AREAS DESIGNATED ABOVE WILL BE EXCAVATED AND REPLACED WITH SELECTED SOIL THAT HAS BEEN APPROVED FOR USE IN STRUCTURAL BEDDING. NO HINTOMO MATERIALS SHOULD BE PLACED IN STRUCTURAL BEDDING AREAS DESIGNATED ABOVE WILL BE EXCAVATED AND REPLACED WITH SELECTED SOIL THAT HAS BEEN APPROVED FOR USE IN STRUCTURAL BEDDING. NO HINTOMO MATERIALS SHOULD BE PLACED IN STRUCTURAL BEDDING AREAS DESIGNATED ABOVE WILL BE EXCAVATED AND REPLACED WITH SELECTED SOIL THAT HAS BEEN APPROVED FOR USE IN STRUCTURAL BEDDING. NO HINTOMO MATERIALS SHOULD BE PLACED IN STRUCTURAL BEDDING AREAS DESIGNATED ABOVE WILL BE EXCAVATED AND REPLACED WITH SELECTED SOIL THAT HAS BEEN APPROVED FOR USE IN STRUCTURAL BEDDING.
MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

**INSTALLATION TYPE**
SELECTED MATERIALS: GLASS (MW-4, MW-5, or MW-6)

- AGGREGATE BASE COURSE CLASS 4, 5, 6, or 7 MAY BE USED IN LIEU OF SELECTED MATERIAL.
- DRILL HOLE WILL NOT BE ALLOWED.

**STRUCTURAL BEDDING MATERIAL**
SHELLS WITH A MAXIMUM PARTICLE SIZE OF 1.5 INCHES

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<tr>
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<tr>
<td>10&quot;</td>
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**MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES**

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<tr>
<td>DEPTH</td>
<td>3'</td>
<td>3'</td>
<td>3'</td>
<td>3'</td>
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<tr>
<td>FEET PER LINEAR FOOT</td>
<td>7'</td>
<td>7'</td>
<td>7'</td>
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**MINIMUM COVER FOR CONSTRUCTION LOADS**

- Minimum cover of 3'-0" or greater
- Maximum cover of 6'-0"

**GENERAL NOTES**

1. PIPE SHALL CONFORM TO ASHRAE 143-1997 INSTALLATION SHALL CONFORM TO JOB SPECIFICATION "PLASTIC PIPE" AND SECTION 120.2 OF THE STANDARD SPECIFICATIONS FOR MARYLAND CONSTRUCTION, CURRENT EDITION.
2. PLASTIC PIPE DELIVERY DESIGN SHALL CONFORM TO ASHTO UNDRAINED DESIGN SPECIFICATION, THIRD EDITION.
3. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS 6" FOR SMOOTH TOWING TO PROVIDE EASIER TOWING AND PROPERLY AND EASILY PLACE THE PIPE INTO THE TRENCH.
4. THE MAXIMUM MATERIAL SHOULD BE RELEASED AS DIRECTED BY THE ENGINEER. THE TRENCH CAN BE LIMITED TO THE END OF THE TRENCH TO PREVENT LOSS OF STRUCTURAL BEDDING MATERIALS. THE MATERIAL IS USED FOR STRUCTURAL BEDDING AND BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSTABLE MATERIALS THAT ARE ENCOUNTERED AT THE BOTTOM OF THE EXCAVATION ARE REJECTED AS "STRUCTURAL TYPE", BEDDING MUST BE EXECUTED AND REPLACED WITH SELECTED PIPE BEDDING. THE TRENCH CAN BE LIMITED TO THE END OF THE TRENCH TO PREVENT LOSS OF STRUCTURAL BEDDING MATERIALS. THE MATERIAL IS USED FOR STRUCTURAL BEDDING AND BACKFILL.
6. WHEN THE EXCAVATED MATERIALS ARE ENCOUNTERED AS THE PIPE TRENCH IS REJECTED AS "STRUCTURAL TYPE", BEDDING MUST BE EXECUTED AND REPLACED WITH SELECTED PIPE BEDDING.
7. IF THE PIPE MATERIALS ARE ENCOUNTERED AS THE PIPE TRENCH IS REJECTED AS "STRUCTURAL TYPE", BEDDING MUST BE EXECUTED AND REPLACED WITH SELECTED PIPE BEDDING.
8. THE PIPE MATERIALS ARE ENCOUNTERED AS THE PIPE TRENCH IS REJECTED AS "STRUCTURAL TYPE", BEDDING MUST BE EXECUTED AND REPLACED WITH SELECTED PIPE BEDDING.
9. JOINTS FOR HIGH PRESSURE PIPE MEET THE REQUIREMENTS FOR 60-LB. UNEQUAL AS SPECIFIED IN ASHTO, SECTION 21.2.8.4 AND 21.2 POLYETHYLENE PIPE CONSTRUCTION SPECIFICATIONS.
10. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
11. 4" X 6" PIPE MOLDED ELASTOMER SEAL.

**CONSTRUCTION SEQUENCE**

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE, DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE STRUCTURAL BEDDING INSIDE LAYERS NOT EXCEEDING THE LAYERS SHALL BE REJECTED OR REMOVED AND REPLACED WITH STRUCTURAL BEDDING MATERIAL.
5. ATTACK THE USE OF RESTRAINTS, BENDING OR OTHER APPROVED METHODS TO HELP MANTAIN GRADE AND ALIGNMENT.
NOTE:
1. DRAINAGE BASEFILL TO BE SUBORDINARY TO PIPE UNDERDRAIN.
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBORDINARY TO PIPE UNDERDRAIN.
3. DRAINAGE MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, 2" in the width of the trench at the top.

PLAN VIEW

SIDE VIEW

FRONT VIEW

UNDERDRAIN OUTLET PROTECTORS

NOTE: LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 25'-0 INTERVALS ON GRADES. THE 25'-0 DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

DETAILS OF PIPE UNDERDRAIN

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD DRAWING PL-1
SOLID SODDING
R.C. BOX CULVERT

PLAN
PARTIAL SECTION SHOWING SOLID SODDING
AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

EXCAVATION
E12:00PM 5/14/2012
MCCONNELL

LONGITUDINAL SECTION
BACKFILL DETAILS FOR
BOX CULVERT

SECTION C-C
DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:
ROADWAY EXCAVATION CHANNEL CHANGES WILL BE PAID FOR AT R.C. BOX CULVERT LOCATION. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONSIDERED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION CHANNEL CHANGES SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SPECIFIED AND SHALL BE CONSIDERED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBGRADE WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

ARKANSAS STATE HIGHWAY COMMISSION
EXCAVATION PAY LIMITS,
BACKFILL, & SOLID SODDING
FOR BOX CULVERTS

STANDARD DRAWING RCB-2
NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MUST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEAD FOR THROUGH LANE(S) SHALL STILL BE ALIGNED WITH THROUGH LANE(S) AS SHOWN ON DETAILS.

GENERAL NOTES:

1. FOUR SECTION "PROTECTED" PERPENDICULAR LEFT TURN HEADS SHOULD BE PLACED ON CENTERLINE OF APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE ROLES OTHER THAN AS SHOWN ON PLAN PER CTB REQUIREMENTS OR TRANSFER OF PARCELS RECORDING MORE THAN 10 FEET FROM CENTERLINES OR PROPERTY AND MIGHT REQUIRE REMOVAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MUST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH LANE.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACE(S) LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF ZZM NUTC.
MAIN BREAKER NOT NEAR CONTROLLER CABINET
SECONDARY REQUIRED

NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES: MAIN BREAKER NEAR CONTROLLER CABINET, and MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S and THE CITY'S OR COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY. THE FOLLOWING DETAILS ARE TO BE CONSIDERED:

1. ALL SITUATIONS, ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL MAIN BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTER, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY, ELECTRICAL CONDUCTORS AND WEATHERHEADS WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (240 VOLT) UNTIL UP TO TYPICAL SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT, WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY THE CITY/COUNTY. CONTRACTOR SHALL PROVIDE A SERVICE POLE, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.


MAIN BREAKER NEAR CONTROLLER CABINET
SECONDARY NOT REQUIRED

GROUND ROD: 10 X 4" GROUND ROD SHALL BE INSTALLED IN THE CITY/COUNTY BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 6" NICE SHALL BE INCLUDED IN ITEM 701. THE METER BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR
(100 AMP)

30' WIRE SERVICE WIRE PAID SEPARATELY

30' WIRE STREET LIGHT WIRE PAID SEPARATELY

SERVICE GROUND TO THE MAIN BREAKER, AS SUCH, CONTRACTOR GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT 50A BRANCH

MAIN BREAKER WIRING
(TYPICAL)
### Super-elevation Table for One-way Traffic

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>La (ft)</th>
<th>Minimum Desirable</th>
<th>Lb (ft)</th>
<th>Minimum Desirable</th>
<th>Lc (ft)</th>
<th>Minimum Desirable</th>
<th>Ld (ft)</th>
<th>Minimum Desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Abbreviations**

- NC: Normal Crown
- RC: Reverse Crown
- S: Super-elevation
- L1: Length of Super-elevation Transition
- L2: Length of Transition,
- W: Width of Pavement
- M: Maximum Rate of Super-elevation (ft per ft)
- C: Normal Crown Pt.

**General Notes**

1. On pavements with one-way traffic, the super-elevation shall be established on the outside lane point.
2. Super-elevation values shown on the cross-section are values at the 75 ft point.
3. A 75 ft horizontal curve radius is required to produce the desired super-elevation.
4. Super-elevation values may be used for ramps.
5. Normal super-elevation values shall apply to both crowns.
6. Super-elevation values based on 4 lanes shall have additional transition lengths as follows:
   - 6 Lane Divided: 228 ft
   - 8 Lane Divided: 456 ft

---

**Arkansas State Highway Commission**

**Tables and Method of Super-elevation for One-way Traffic**

Date: 12/27/77

Revision: 8/16/79

Date Filed: 1/28/80

**Standard Drawing SE-1**
### Superelevation Table for Two-Way Traffic

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>Minimum</th>
<th>Desired</th>
<th>25 mph</th>
<th>30 mph</th>
<th>40 mph</th>
<th>50 mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1° 10'</td>
<td>275</td>
<td>300</td>
<td>275</td>
<td>300</td>
<td>275</td>
<td>300</td>
</tr>
<tr>
<td>2° 10'</td>
<td>200</td>
<td>250</td>
<td>200</td>
<td>250</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>3° 10'</td>
<td>175</td>
<td>200</td>
<td>175</td>
<td>200</td>
<td>175</td>
<td>200</td>
</tr>
<tr>
<td>4° 10'</td>
<td>150</td>
<td>175</td>
<td>150</td>
<td>175</td>
<td>150</td>
<td>175</td>
</tr>
<tr>
<td>5° 10'</td>
<td>125</td>
<td>150</td>
<td>125</td>
<td>150</td>
<td>125</td>
<td>150</td>
</tr>
</tbody>
</table>

**Abbreviations:***

- NC - Normal Crown
- RC - Reverse Crown
- S - Superelevation at Normal Crown Slope
- I - Superelevation at Intermediate Crown Slope
- L - Length of Superelevation Transition
- T - Width of Super elevation Transition to Any Point
- W - Width of Subgrade

**General Notes:**

1. On pavement with two-way traffic, the superelevation shall be revolved on the inside pavement edge unless otherwise noted on the plans.
2. All lengths shall be added to or subtracted from the point of control.
3. Lengths for L may be found in multiples of 25 ft or 50 ft. For maximum flexibility, the length shall be an odd multiple.
4. Pavements under 2 lanes shall have additional transition lengths as follows:
   - 1 lane Undivided: 150 ft
   - 2 lane Undivided: 250 ft
   - 2 lane Divided: 200 ft

**Note:** Maintain normal crown on inside until superelevation exceeds 2\°.

### Standard Method When Superelevation Revolves Around Center Line

**Formula:**

\[ \text{L} = \frac{300}{\text{S}} \]

**Table:**

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>Minimum</th>
<th>Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td>1° 10'</td>
<td>275</td>
<td>300</td>
</tr>
<tr>
<td>2° 10'</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>3° 10'</td>
<td>175</td>
<td>200</td>
</tr>
<tr>
<td>4° 10'</td>
<td>150</td>
<td>175</td>
</tr>
<tr>
<td>5° 10'</td>
<td>125</td>
<td>150</td>
</tr>
</tbody>
</table>

**Note:** Maintain normal crown on inside until superelevation exceeds 2\°.

### Standard Method When Superelevation Revolves Around Inner Subgrade Point

**Table:**

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>Minimum</th>
<th>Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td>1° 10'</td>
<td>275</td>
<td>300</td>
</tr>
<tr>
<td>2° 10'</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>3° 10'</td>
<td>175</td>
<td>200</td>
</tr>
<tr>
<td>4° 10'</td>
<td>150</td>
<td>175</td>
</tr>
<tr>
<td>5° 10'</td>
<td>125</td>
<td>150</td>
</tr>
</tbody>
</table>

**Note:** Maintain normal crown on inside until superelevation exceeds 2\°.

### Standard Method When Superelevation Revolves Around Outer Subgrade Point or Inner Pavement Edge

**Table:**

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>Minimum</th>
<th>Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td>1° 10'</td>
<td>275</td>
<td>300</td>
</tr>
<tr>
<td>2° 10'</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>3° 10'</td>
<td>175</td>
<td>200</td>
</tr>
<tr>
<td>4° 10'</td>
<td>150</td>
<td>175</td>
</tr>
<tr>
<td>5° 10'</td>
<td>125</td>
<td>150</td>
</tr>
</tbody>
</table>

**Note:** Maintain normal crown on inside until superelevation exceeds 2\°.
NOTE:
ALL ADDITIONAL MOUNTING HARDWARE, BOLTS, NUTS, CHAINELS AND BAR STAPLES MOUNTED TO MOUNT SECONDARY SIGNS WILL BE CONSIDERED TO BE SUPPLEMENTAL TO THE MAIN SIGN SUPPORT SPECIFIED. FRAME WILL BE CONSIDERED CONNECTED TO THE MAIN SUPPORT.
THE GUSSETED STEEL CHANNEL AND BAR SUPPORTS WILL BE ATTACHED TO THE FRAME.
REFER TO THE PC PRESSURE FORMULA ON PAGE 58 OF THE ARKANSAS PUBLICATION STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNS.
ALL BOLT HOLES SHALL BE 5/8" UNLESS OTHERWISE SPECIFIED.
MOUNTING HARDWARE

ONE SIGN

TWO SIGNS

HEIGHT AS REQUIRED
FOR SIGNS SPECIFIED

CHANNEL SHALL BE FULL LENGTH
OF RECTANGULAR AND SQUARE SIGNS
AND SHALL EXTEND 6 INCHES BEYOND
END OF SIGN. MOUNTING BRACKETS
SHALL BE 1/4" THICK.

TOP PLATE

7 TRAPEZOID TOP STEEL PLATE (WH6)

30" (TOP)

1/4" THICK STEEL PLATE (WH6)

30" (TOP)

HEIGHT AS REQUIRED
FOR SIGNS SPECIFIED

R6-1 STANDOFF

BASIS OF ESTIMATE
APPLIED TO ALL STEEL

PERI-PERI RIGID ANCHOR

GRADE 50 HOOK AND RING

TYPE-1

HEIGHT AS REQUIRED
FOR SIGNS SPECIFIED

INSTALLATION

THE STUB ANCHOR SHALL BE SET IN
AN IN-PLACE ARMORED CONCRETE.
FASTEN REFER TO STANDOFFS-SHS-3
FOR THE FASTENING DETAILS.

ARIZONA STATE HIGHWAY COMMISSION
DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS
STANDARD DRAWING SHS-7
CLEANING AND GRUBBING

CONSTRUCTION SEQUENCE:
1. PLACE PERMANENT CONTROLS (E.G., BFS, FENCE, DIRECTION DEVICES, WEED/WIRE BARRIERS)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION

EXISTING GROUND
INTERCUTTER OR
GRADUATION DITCH
EXISTING GROUND
PHASE 1 EXCAVATION
PHASE 2 EXCAVATION
FINAL PHASE EXCAVATION

GENERAL NOTE:
ALL CUT HILLS SHALL BE DUG, FAMILY SEEDED AND MAINTAINED AS
FOR HIGHWAY SLOPES. CUTS SHALL BE STABILIZED IN
DEGREE INCREMENTS NOT TO EXCEED 30 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE:
1. DIG, FILL TOPS, AND STABILIZE INTERCUTTER AND/OR EROSION DEVICES.
2. PERFORM PHASE 1 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING,
   OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
3. PERFORM PHASE 2 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING,
   OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
4. PERFORM FINAL PHASE OF EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING,
   OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.

EMBANKMENT

OVERSIZED DITCH TO BE IN PLACE
UNTIL SLOPE IS COMPLETELY STABILIZED.

FINAL EMBANKMENT
PHASE 2 EMBANKMENT
PHASE 1 EMBANKMENT

SIDE DITCH
STABILIZE AS REQUIRED
EXISTING GROUND

GENERAL NOTE:
ALL EMBANKMENT SLOPES SHALL BE DUG, FAMILY SEEDED AND MAINTAINED AS
FOR HIGHWAY SLOPES. EMBANKMENTS SHALL BE STABILIZED IN
DEGREE INCREMENTS NOT TO EXCEED 30 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE:
1. CONSTRUCT DIRECTION DEVICES, DITCH DEVICES, EMBANKMENT BASE, BGS, FENCE,
   OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PERFORM PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING,
   OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
3. PERFORM PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING,
   OR OTHER EROSION CONTROL DEVICES, AND EMBANKMENTS TO BE TEMPORARILY
   SEEDED FOR A PERIOD OF GREATER THAN 30 DAYS.
4. PLACE FINAL EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING,
   EMBANKMENTS AND SLOPE GRADES AND MAINTAIN UNTIL EMBANKMENTS
   ARE STABILIZED.

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION
CONTROL DEVICES

STANDARD DRAWING TEC-3
I-49 STA.1313+00 TO STA.1315+00

STAGE 1
- CUT AREA: 422.8 SQ. FT.
- FILL AREA: 13.0 SQ. FT.

STAGE 2
- CUT VOLUME: 800 CUB YD.
- FILL VOLUME: 60 CUB YD.

STAGE 3
- CUTOVER

STAGE 2
- CUT VOLUME: 0 CUB YD.
- FILL VOLUME: 0 CUB YD.

STAGE 3
- CUTOVER

STAGE 2
- CUT VOLUME: 0 CUB YD.
- FILL VOLUME: 0 CUB YD.

MATCH EXISTING LINES & MEDIAN BARRIER

STAGE 2
- CUT AREA: 54.0 SQ. FT.
- FILL AREA: 2.0 SQ. FT.

STAGE 3
- CUTOVER

STAGE 2
- CUT VOLUME: 0 CUB YD.
- FILL VOLUME: 0 CUB YD.

STAGE 3
- CUTOVER

STAGE 2
- CUT VOLUME: 0 CUB YD.
- FILL VOLUME: 0 CUB YD.
STA, 1327+00

Stage 2

Stage 2

STA, 1326+05.35

Stage 2

Stage 2

STA, 1326+00

Stage 2

Stage 2

I-49 CROSS SECTIONS

I-49 STA, 1326+00 TO STA, 1327+00
STA. 017+06.70 - IN PLACE
DROP INLET IN MEDIAN
REPLACE AND CONSTRUCT
TYPE 5, DROP INLET 3.25" LT. OF CL, H = 12"-4"
WITH AT 8' F.
DRIP INLET CONNECTS TO TYPE 3 BEYOND
CONNECT TO EXISTING PVC PIPES
DROP INLET = 5'-0" x 4'-6"

STA. 137+06.70

STA. 134+00

STA. 134+00

1-49 STA. 1346+00 TO STA. 1347+07
STA.1370+15

STA.1370+00

STA.1369+00

I-49 STA.1369+00 TO STA.1370+15
The image contains a diagram with various stages labeled as Stage 1, Stage 2, and Stage 3. The stages are measured in feet and include areas calculated for each stage, such as cut area and fill area. There are annotations for STA 1401+73, STA 1401+50, and STA 1400+65, indicating different sections of the road or pipeline. The diagram also includes notes for volume calculations and construction details.
TEMPORARY RAMP 2 STA.102+00 TO STA.103+00
I-49/HWY 102 RAMP 4 STA 1024+00 TO STA 1025+50

- STA 1025+00
- STA 1025+50
- STA 1024+50
- STA 1024+00
STA 1027+00

STA 1026+50

STA 1026+00

1-49 HWY, I-02 RAMP 4 STA 1026+00 TO STA 1027+00
RAMP-5 STA.1438+00 TO STA.1439+50
RAMP-6 STA. 197+00 TO STA. 198+50
STA. 185+00

STA. 184+00

STA. 183+69

STA. 183+59

BEGIN CONSTRUCTION

STA. 183+00

HWY. 72 STA. 183+00 TO STA. 185+00