### Governing Specifications

**Title:** Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2016, and the following Special Provisions and Supplemental Specifications

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### General Notes

1. **Grades Line:** Denotes finished grades shown on plans.
2. All pipe lines, power, telephone, and telegraph lines to be moved or lowered by the respective owners as per agreement with such owners.
3. Any equipment or appliance 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. Mailboxes within the project limits in such a manner that the public may receive contracted mail service. Payment will be considered included in the price bid for the various items.
5. All lands monuments located within the construction area shall be protected in accordance with Section 107.12 of the Standards Specifications.
6. All trees that are not directly interfering with the proposed construction shall be spared as directed by the engineer. Care and protection shall be used to ensure that all trees not to be removed shall be harmed 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 severed. Wire fence may be constructed initially, or nailing fence. The contractor at his own expense, may elect to provide temporary fencing suitable to contain livestock.
8. All flexible base and asphaltic pavements removed shall be paid for under the section 210 - Unclassified Excavation.
9. The existing asphalt pavement to be removed from the remaining pavement shall be separated by spreading a 2%-1/2 inch slate. After spreading, 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 in place shall be repaired at the contractor's expense.

**Governing Specifications and General Notes**
TYPICAL SECTIONS OF IMPROVEMENT (NOTCH & WIDEN)

STA. 107'-0".00 TO STA. 109'-57".72 - SITE 1
STA. 113'-0".00 TO STA. 115'-41".72 - SITE 1
STA. 179'-0".00 TO STA. 187'-0".00 - SITE 2
STA. 218'-0".00 TO STA. 219'-0".00 - SITE 2

TYPICAL SECTIONS OF IMPROVEMENT
DETOUR ROAD

STA. 304'-0".00 TO STA. 308'-24".00 - SITE 1 DETOUR
STA. 308'-24".00 TO STA. 313'-51".87 - SITE 1 DETOUR
STA. 359'-99".99 TO STA. 404'-76".50 - SITE 2 DETOUR
STA. 404'-76".50 TO STA. 413'-03".04 - SITE 2 DETOUR
STA. 422'-0".00 TO STA. 431'-85".25 - SITE 3 DETOUR

TYPICAL SECTIONS OF IMPROVEMENT
DETOUR ROAD - SUPERELAVATION

SITE 1 & 2 - CURVES ROTATES AROUND INCLIDE EDGE
SITE 3 - CURVES ROTATES AROUND CENTERLINE

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

2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLANNED THICKNESS SHOWN. THE CONTRACTOR WILL CONNECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF Approved BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH & WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE INCLUDED IN THE VARIOUS PAY ITEMS.

4. THE FINAL 2' OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER STAGES HAVE BEEN COMPLETED. LONG-DEVELOPMENT JOINTS SHALL BE AT LINE CENTER.
SPECIAL DETAILS

**Detail for Driveway Turnouts**

- **Asphalt Concrete Hot Mix Surface**
  - Course I: 2800 lb. per sq. yd.
  - Aggregate Base Course (Class 7)
  - 2" Comp. depth of asphalt or driveways exist or 6" concrete if existing driveways exist.

- **Aggregate Base Course (Class 7)**
  - Comp. depth if concrete pavement exist or conform to existing driveways.

**Widening for Guardrail**

- Shoulder (4" Normal)
- Guardrail (Type A)
- 2'-0" Add. Acm. Surface Course (1/2") 1292 lbs. per sq. yd.
- Add. Aggregate Base Course (Class 7)
- Var. Comp. Depth (Var. Tng Sta.)

* Note: Refer to Std. OWL or 9A and cross sections for slope requirements below guardrail.

**Detail for Transitions**

- Existing Asphalt Pavement Detain and Overlay
- Cold Will Existing Asphalt Pavement
- Proposed Overlay
- 100' Normal Transition

**Construction Limits**

NOTE: Turnouts and private driveways shall be modified where necessary to meet local conditions as directed by the engineer.

**Special Details**
METHOD OF RAISING GRADE

NOTES:
(1) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.
(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS.

AGGREGATE BASE COURSE (CLASS 7)
6" MIN. COMPACTED DEPTH

SPECIAL DETAIL OF APPROACH SLAB
* REFER TO BRIDGE DRAWINGS
**General Notes**

1. Rumble stripes shall not be installed on bridge decks, approach slabs, intersecting streets or roadways, residential or commercial driveways or across transverse joints of concrete shoulders.

2. Rumble stripes shall not be installed on a paved shoulder that is used as a deceleration lane for the length deemed appropriate by the engineer.

3. Rumble stripes shall be measured by the linear foot longitudinally along the shoulder. Payment shall only include that portion of the shoulder on which rumble stripes have been constructed. No measurement or payment will be made for gravel driveways, turnouts, or other surfaces that have not been constructed.

4. The % depth shall generally apply for the entire 6' length. Some variation to suit shoulder slope breaks may be necessary.

**Special Details**

- **Detail for Gap Pattern Rumble Stripe**
  - 12' gap
  - 65' rumble stripe
  - 12' gap

- **Detail for Rumble Stripe Gap at Driveway Turnouts**
  - Plan View
  - Section A-A
  - Section B-B

**Details of Rumble Stripe**

- Left or Right Shoulder

**Location Plan of Rumble Stripe**

- Typical
- Shoulder
- Edge Line
- Travel Lane
NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HALL ROADS, THIS STREAM IS CLASSIFIED AS A PERMANENT STREAM. THE STREAM BANK ELEVATIONS ARE 254 FEET MSL BETWEEN STATIONS 308+00 AND 309+00. REFER TO SECTION 110.06.01 OF THE 2014 STANDARD SPECIFICATIONS.

TYPICAL SECTION OF IMPROVEMENT - DETOUR ROAD
STA. 308+50 - STA. 309+00

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.
NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK DAMS OR HALE ROADS, THIS STREAM IS CLASSIFIED AS A PERSISTENT STREAM. THE STREAM BANK ELEVATIONS ARE 248 FEET MSL BETWEEN STATIONS 405.05 AND 406.10. REFER TO SECTION 110.00.67 OF THE 2018 STANDARD SPECIFICATIONS.

TYPICAL SECTION OF IMPROVEMENT - DETOUR ROAD
STA. 405+05 - STA. 406+10

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SPECIAL DETAILS FOR DUMPED RIPRAPH AND SYNTHETIC FIBER FABRIC
SITE 2
### Mid-Section

#### Bar Lap Table

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For additional information and outlet sections, see Sheet 2 of 2.

### Details of R.C. Box Culvert

**Triple Barrel Box Culvert**

**Sta. 233+20**

**Special Details**

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Data shown for Mid-Sections, Slope Sections, and Shored End Section is based on the design fill depths shown in the tables, see PLAN AND PROFILE SHEETS for actual fill depths.

For Mid-Sections, Shored End Section is considered subsidiary to the Area Reinforcing Sheet - Roadway G, 60'7.
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**OUTLET SLOPE SECTION:**

- **D**
- **T**
- **B**
- **C**
- **M**
- **ON**
- **SL**

**TOTAL**

**ADDITIONAL WORK FOR TOL.**

**TOTAL:**

**SPECIAL DETAILS:**

- **DATE:**
- **FILE NO:**
- **PROJECT NO:**
- **ENGINEER:**
- **SPECIAL DETAILS:**

**REINFORCING STEEL:**

- **TOP SLAB:**
- **SIDE WALL:**
- **INTERIOR WALL:**

**CLASS "C" CONCRETE**

- **REINFORCING STEEL:**
  - Includes bars and splices required.
  - Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the Item "Reinforcing Steel - Roading 50'-40'x."
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

GENERAL NOTES


LOADING: HL-93

All concrete shall be Class 5 with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have V-10 sharps.

Reinforcing steel shall be grade 60 (yield strength = 60,000 psi) conforming to AASHTO M311 or M332, Type A, with test reports.

Reinforcing Steel Tolerance: The tolerances for reinforcing steel shall be those listed in "Manual of Standard Practice" published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for bars such as Figure 3 on page 4 of the CRSI Manual shall be minus only plus 2.5/16.

Excavation and backfilling shall be in accordance with the requirements of Section 801. Membrane Waterproofing shall conform to Subsection 802.16. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalls of R.C. box culverts and to the construction joint between wingwalls and R.C. box culverts.

Weep holes in box culvert walls shall have a maximum horizontal spacing of 20'-0" and shall be spaced to clear all reinforcing steel. The drain opening shall be 4" diameter and shall be placed 1/2" above the top of the bottom slab.

Weep holes in wingwalls shall have a maximum horizontal spacing of 20'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 1/2" above the top of the wingwall footing.

The barrel components of the culvert may be constructed using continuous pour. For larger culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 30 feet apart unless supervised by staff construction or the contractor as approved by the Engineer. Construction joints between barrel and flank shall be made only where shown in the Plans. Joints shall be normal to the centerline of barrel and shall be sealed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise. All longitudinal construction joints shall be submitted to the Engineer for approval.

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage PB Material shall not be paid for directly but shall be considered subsidiary to Class 5 Concrete.

When the top slab of the box culvert serves as finished roadway surface, curbing and finishing shall be in accordance with subsections 802.17 and 802.29 for bridge roadway surface and a Live Finish shall be applied in accordance with subsection 802.29 for Class 5 Tired Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the Item "Class 5 Concrete-Roadway". Class 3 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 3 Protective Surface Treatment".

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 3977 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

SHEET 1 OF 4

GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE

SPECIAL DETAILS
QUANTITIES
SILT FENCE 1E-111 • 1345 LIN. FT.

REVISIONS
DATE OF
REVISION

LEGEND
@  ROCK DITCH CHECKS
@  SLT FENCE
@  SEDIMENT BARRIER

SITE 1
MAIN LANES
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

STA. 107+00.00
BEGIN JOB 100870 &
BEGIN SITE 1
LOG MILE 9.92

STA. 115+41.72
END SITE 1

FLOORPLAN BOUNDARIES EXTEND THE ENTIRE
JOB LIMITS
SITE 3
MAIN LINES
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

QUANTITIES:
ROCK DITCH CHECKS (E-6) = 9 CU. YDS.
SILT FENCE (E-111) = 485 LIN. FT.

REVISIONS
DATE OF REVISION

LEGEND
Rock Ditch Checks
Silt Fence
Sediment Basin
QUANTITIES
ROCK DITCH CHECKS (E-6) + 21 %1 Yards.

REVISIONS

LEGEND

SITE 3
MAIN LANCES
TEMPORARY EROSION CONTROL DETAILS
STAGE 1
SITE 1
MAIN LANES
TEMPORARY EROSION CONTROL DETAILS
STAGE 3

STA. 115+41.72
END SITE 1

STA. 107+00.00
BEGIN JOB 100870 &
BEGIN SITE 1
LOG MILE 9.92

REVISIONS

DATE OF
REVISION

REVISION

FLOORPLAN BOUNDARIES EXTEND THE ENTIRE
JOB LIMITS

LEGEND

= ROCK DITCH CHECKS

= SILT FENCE

= SEDIMENT BASIN
SITE 3
MAIN LANS
TEMPORARY EROSION CONTROL DETAILS
STAGE 3
MAINTENANCE OF TRAFFIC NOTES:
Traffic is to be maintained on the existing lanes using vertical panels & 30' spacing.
Shift traffic to detour centerline.
Continue detour centerline.
Install retaining wall on opposite side from detour.
Continue detour.
Install new bridges & R.C. Box Culvert.
Shift traffic to construction centerline.
Continue detour centerline.
Install side drain on detour side.
Build drives and install side drain on detour side.
Cone traffic transition area.
Place final layer of ADM Surface Course.
Install permanent pavement markings.

SEQUENCE OF CONSTRUCTION
STAGE 1:
Maintain traffic on existing lanes.
Construct detour each section.
STAGE 2:
Shift traffic to detour centerline.
Continue detour centerline.
Install retaining wall on opposite side from detour.
Continue detour.
Install new bridges & R.C. Box Culvert.
STAGE 3:
Shift traffic to construction centerline.
Continue detour centerline.
Install side drain on detour side.
Build drives and install side drain on detour side.
Cone traffic transition area.
Place final layer of ADM Surface Course.
Install permanent pavement markings.

MAINTENANCE OF TRAFFIC DETAILS
SITE 1
MAIN Lanes
MAINTENANCE OF TRAFFIC DETAILS
ALL STAGES

QUANTITIES
SIGNS = 216,00 SQ. FT.
M A I N T E N A N C E  O F  T R A F F I C  N O T E S:

TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES USING VERTICAL PANELS & 50 FT SPACING ON THE SIDE BEING DETOURED AND WIDENED AND TRAFFIC DRAPED 100 FT SPACING ON THE CONTRA-LANE. ADJACENT LANE TO BE TRAFFIC WIDENED AT 0.5 MI INTERVALS. W10-6 X 60 FT signing are to be placed at all state highways and county road intersections. Transitions through the work zone as shown.

S T A T E HIGHWAYS, COUNTY ROAD INTERSECTIONS, AND DRIVeways ON THE SIDE BEING WIDENED ARE TO BE DELINEATED USING TRAFFIC SIGNS.

C O N S T R U C T I O N  P A V E M E N T  M A R K I N G  Q U A N T I T I E S  B A S E D ON ONE APPLICATION OF 5T, 14" WHITE LINES AND DOUBLE YELLOW CENTER LINE FOR THE ENTIRE PROJECT.
MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANE USING VERTICAL PANELS & 50' SPACING ON THE SIDE BEING NARROWED AND WIDENED AND TRAFFIC SIGNS & 100' SPACING ON WIDENING THE OLD SIGNS ARE TO BE PLACED AT 1/2 MILE INTERVALS. OLD SIGNS OR SIGNS ARE TO BE PLACED AT ALL EXISTING BRIDGES AND COUNTY ROAD INTERSECTIONS THROUGH THE WORK ZONE AS SHOWN.

CONSTRUCTION PAINT WARNING QUANTITIES BASED ON THE APPLICATION OF RT. & LT. EDGE LINES AND DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.
MAINTENANCE OF TRAFFIC NOTES:
TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES USING VERTICAL PANELS & 10' SPACING.
TRAFFIC GUESS & 10' SPACING ONCE WIDENING IS BROUGHT TO GAGE.
TRADE SIGNS ARE TO BE PLACED AT 1/2 MILE INTERVALS.
MORE SIGNS ARE TO BE PLACED AT ALL WORK ZONES AND INTERSECTIONS.
ALL STATE HIGHWAYS, COUNTY ROAD INTERSECTIONS, DELL HIKEWAYS ON THE WORK ZONE ARE TO BE DETAILED.
CONSTRUCTION PAVEMENT MARKING QUANTITIES BASED ON ONE APPLICATION OF RT & 8.75" EDGE LINES AND DOUBLE YELLOW CENTERLINES FOR THE ENTIRE PROJECT.
QUANTITIES
PERMANENT PAVEMENT MARKINGS
STA. 107+00.00 TO STA. 113+00.00
6" DBL. YELLOW - 1425 LIN. FT.
RAISED PAVEMENT MARKINGS
TYPE II (YELLOW/YELLOW) - 11 EACH

MAINTENANCE OF TRAFFIC NOTES
TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES
USING VERTICAL BARRIERS & 5' SPACING
ON THE SIDE BEING NARROWED AND WIDENED
AND TRAFFIC DRUMS & 100' SPACING ONCE WIDENING
W1-1 SIGNS ARE TO BE PLACED AT 1/2 MILE INTERVALS.
W1-1 & W2-2 SIGNS ARE TO BE PLACED AT ALL
STATE HIGHWAYS AND COUNTY ROAD INTERSECTIONS
THROUGH THE WORK ZONE AS SHOWN.
ALL STATE HIGHWAYS, COUNTY ROAD INTERSECTIONS,
AND DRAINAGE ON THE SIDE BEING WIDENED ARE TO BE
DELIMITELED USING TRAFFIC DRUMS.
CONSTRUCTION PAVEMENT MARKING QUANTITIES BASED
ON THE APPLICATION OF RT. & LT. EDGE LINES AND
DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.

CONSTRUCTION PAVEMENT MARKING DETAILS
BASED ON THE APPLICATION OF RT. & LT. EDGE LINES AND
DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.
### Permanent Pavement Marking Details

**Quantities**

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<td>5000 lin. ft.</td>
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<td>6&quot; Yellow Paint</td>
<td>750 lin. ft.</td>
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<td>6&quot; White Paint</td>
<td>5000 lin. ft.</td>
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**RAISED PAVEMENT MARKING**

- Type 11: Yellow/Yellow, 16 each

**Maintenance of Traffic Notes**

Traffic is to be maintained in the existing lanes using vertical panels & 80' spacing on the side being widened and widened. Panel spacing is as indicated on the plans. Traffic is to be controlled using temporary traffic control devices.

1. Percient paving marks are to be placed at 1/2 mile intervals.
2. Percient paving marks are to be placed at all traffic control device and county road intersections.
3. Percient paving marks are to be placed at all State Highway, County Road, and intersection locations.
4. Traffic control devices are to be placed at all State Highway, County Road, and intersection locations.
5. Traffic control devices are to be placed at all State Highway, County Road, and intersection locations.

**Construction of Pavement Marking Quantities**

Based on the application of double yellow line and double yellow line extending to the entire project, and the application of double yellow line to the entire project, and the application of double yellow line to the entire project.

**SITE 2 MAIN LANES**

### Permanent Pavement Marking Details

- **Begin Site 2:** STA. 206-00.00, L.M. 12.00
- **End Site 2:** STA. 219-00.00

The diagram shows the layout of the road with specific markings, including white and yellow paint, reflectorized paint, and traffic control devices. The details are provided in the table and the diagram for each section of the road.
MAINTENANCE OF TRAFFIC NOTES:

TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES USING VERTICAL PANELS & 50' SPACING ON THE 500' BEING WIDENED AND WOODEN AND TRAFFIC DRUMS & 100' SPACING ON EXISTING LANE. REFLECTORIZED SIGNS ARE TO BE PLACED AT 1/2 MILE INTERVALS. RED & GREEN-2 SIGNS ARE TO BE PLACED AT ALL STATE HIGHWAYS AND COUNTY ROAD INTERSECTIONS THROUGH THE WORK ZONE AS SHOWN.

ALL STATE HIGHWAYS, COUNTY ROAD INTERSECTIONS, AND DRINKETS ON THE 500' BEING WIDENED ARE TO BE OIL-HEATED USING TRAFFIC DRUMS.

CONSTRUCTION PAVEMENT MARKING QUANTITIES BASED ON ONE APPLICATION - RT. & LT. EDGE LINES AND DOUBLE YELLOW CENTRAL LINE FOR THE ENTIRE PROJECT.

SITE 3
MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

QUANTITIES:
PERMANENT PAVEMENT MARKING
STA. 228.00 TO STA. 234.00
6" DBL. YELLOW - 2000 L. FEET
6" DBL. YELLOW + 1000 L. FEET
RAISED PAVEMENT MARKINGS
TYPE II (YELLOW/YELLOW) - 3 EACH
### Advance Warning Signs and Devices

<table>
<thead>
<tr>
<th>Sign Number</th>
<th>Description</th>
<th>Stages</th>
<th>Transport</th>
<th>Markings</th>
<th>Vertical Panels</th>
<th>Traffic Drums</th>
<th>Barricades (Type B)</th>
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<td>RSD-3</td>
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**TOTAL:** 48

*Note: This is a low traffic volume road as defined in section 6-04.03, standard specifications for highway construction.*

### Construction Pavement Markings and Permanent Pavement Markings

<table>
<thead>
<tr>
<th>Description</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Removal of Permanent Pavement Markings</th>
<th>Construction Pavement Markings</th>
<th>Removal of Pavement Markings</th>
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*Note: This is a low traffic volume road as defined in section 6-04.03, standard specifications for highway construction.*

*Note: The "L" yellow striping quantity has been estimated based on a double yellow center line strip for the entire project. The project must be marked for passing passing zones prior to the placement of any final striping. Contact the maintenance division after the final lift of surface course has been placed to schedule the zoning of the project.*
## DRIVeways & TURNOUTs

<table>
<thead>
<tr>
<th>STATION</th>
<th>SIZE</th>
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<th>WIDTH</th>
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<th>AGGREGATE MACHINE DRY DRIED (CLASS 7)</th>
<th>ROAD DRAINS</th>
<th>STANDARD DRAWINGS</th>
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<tr>
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TOTAL: 475.00

NOTE: QUANTITIES ESTIMATED. SEE SECTION 109.30 OF THE STD. SPECS.

## EROsiON CONTROL

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<th>ROCK DITCH CHECKS</th>
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TOTAL: 206.00

NOTE: QUANTITIES ESTIMATED. SEE SECTION 109.30 OF THE STD. SPECS.
## Base and Surfacing

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<th>Station</th>
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<th>Tack Coat</th>
<th>ACIM Binder Course (ft³)</th>
<th>ACIM Surface Course (ft³)</th>
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<tr>
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<tbody>
<tr>
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## ACIM Binder Course (ft³)

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<tbody>
<tr>
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## ACIM Surface Course (ft³)

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</thead>
<tbody>
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<td>200+00'</td>
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## Quantities
| ITEM NO. | REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.) | TEMPORARY BRIDGE STRUCTURE FOR ROADWAY WIDTH | UNCLASSIFIED EXCAVATION FOR STRUCTURES BRIDGE | CLASS V CONCRETE BRIDGE | PLATE | CLASS I PROTECTIVE SURFACE TREATMENT | EPOXY COATED REINFORCING STEEL BRIDGE | REINFORCING STEEL PLATING (IN. DIA.) | STEEL SHELL PLATING (IN. DIA.) | FILE ENCASEMENT | PREBENDING | STRUCTURAL SURFACE BEARINGS | DECK SURFACE BEARING PLATES | FILTER BLANKET | DUMPED RIPRAP |
|---------|-------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------|------|-------------------------------------|-------------------------------|---------------------------------|-----------------|----------------|----------------|-----------------|----------------------|---------------------|----------------|----------------|
| SCHEDULE OF BRIDGE QUANTITIES-JOB 100870 |

**ITEM NO.**

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**TOTALS FOR NO. 1 (BRIDGE NO. 07495):**

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**TOTALS FOR NO. 2 (BRIDGE NO. 07496):**

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**TOTALS FOR JOB NO. 100870:**

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**NOTES:**

1. Plugs and file encasement shall conform to details shown on Job No. 9522.
2. Decks of Bridge No. 9522 consist of one 20-ft. wide. 60/42 roadway and one 100-ft. long and consist of four concrete girders. For design purposes the bridge shall be considered a 20 ft. by 100 ft. bridge. The bridge analysis performed in accordance with AASHTO-LRFD will be shown.
3. No deviations from the pouring sequence shown on Dwg. Nos. 60083 & 60094 will be allowed.

**SCHEDULE OF BRIDGE QUANTITIES-JOB 100870**
<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
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<td>252</td>
<td>WIRE</td>
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**SUMMARY OF QUANTITIES**

**ITEM NUMBER**

251
252
502
253
254
261
262
264
265
266
272
273
274
275
276
277
278
279

**ITEM**

STEEL SHELL
STEEL SHELL PILING
805 FPOXYCOATFD REINFORCING
802 CTASS S CONCRETE-BRIDGE
801 REMOVAL OF EXISTING BRIDGE

**QUANTITY**

24 STATION
25 STATION
1146 LIN. FT
1565 GT. SQ
1158 LIN. FT
2927 YD
5677 YD
2279 YD
717 LIN. FT
2503 YD
1139 YD
1139 YD
33 LIN. FT
1540 YD
1540 YD
1540 YD
1540 YD
1139 YD
1139 YD

**UNIT**

STATION
STATION
LIN. FT
GT. SQ
LIN. FT
YD
YD
YD
LIN. FT
YD
YD
LIN. FT
YD
YD
YD
YD
YD

**REVIZIONS**

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</tr>
<tr>
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<td>1200101</td>
</tr>
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<td>PT</td>
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<tr>
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<td>1200104</td>
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<td>1200105</td>
</tr>
<tr>
<td>R007</td>
<td>PT</td>
<td>1200106</td>
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<td>1200107</td>
</tr>
<tr>
<td>R009</td>
<td>PT</td>
<td>1200108</td>
</tr>
</tbody>
</table>

**Note:** Refer to the survey control details for further information.
STA. 107+00.00
BEGIN JOB 100870 &
BEGIN SITE 1
LOG MILE 9.92

STA. 109+95.29
STA. 109+95.29
15'-0" x 15'-0" BRIDGE, P.1. = 1.09
CONSISTING OF TIMBER BEAMS
SUPPORTED BY TIMBER PILE GENTS
REMOVAL OF EXISTING BRIDGE
SPL. NO. W30020

STA. 109+93.50 TO STA. 111+34.50 - CONSTRUCT
141'-0" x 30'-0" CLEAR RHWY. BRIDGE
140'-0" CONTINUOUS COMP. INTEGRAL
W-BEAM UNIT 149'-48" - 44"
SPL. NO. 074170

SITE 1
MAIN LANKS

FLOODPLAIN BOUNDARIES EXTEND THE ENTIRE
JOB LIMITS

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HILL ROADS,
THIS STREAM IS CLASSIFIED AS A PERMANENT STREAM. THE STREAM
BANK ELEVATIONS ARE 250 FEET GA (BETWEEN STATIONS) 109+30 AND
300+00. REFER TO SECTION 1110.04.11 OF THE 2014 STANDARD SPECIFICATIONS.
Refer to survey control detail sheets for horizontal and vertical control, etc.

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HUNI ROADS,
THIS STREAM IS CLASSIFIED AS A INTERMITTENT STREAM. THE STREAM
MAY BE BLOCKED OFF THE 2,446 FT. AND (156 FT. TO 244.20 FT.)
AREA TO SURVEY CONTROL DETAIL SHEETS OF THE 2018 STANDARD SPECIFICATION GROUP.
Hydraulic Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Discharge</th>
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<tr>
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</tr>
<tr>
<td>Flood Discharge</td>
<td>250.0</td>
<td>254.2</td>
</tr>
</tbody>
</table>

Notes:
- For soil borings and general notes, see Deg. No. 60073.
- Unrestricted water surface without structure or roadway approaches.
- USGS Station 254
- For existing structure: 254
- Proposed line bridge chord elevation = 254.45.
- Drainage area = 25.9 square miles.

Special Notes:
- Unclassified property will not be used directly but may be considered subsidiary to "Unclassified Location."
BAR LIST - PER BENT

<table>
<thead>
<tr>
<th>Bar</th>
<th>No. Ref.</th>
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<td>2°</td>
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<tr>
<td>B405 2</td>
<td>2</td>
<td>27&quot;</td>
<td>2°</td>
<td></td>
</tr>
<tr>
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<td>27&quot;</td>
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<td></td>
</tr>
<tr>
<td>STD</td>
<td>28</td>
<td>27&quot;</td>
<td>2°</td>
<td></td>
</tr>
</tbody>
</table>

General Notes:
- All concrete shall be Class "C" and have a minimum 28 day compressive strength, Fcd = 3000 psi. All exposed corners shall be chamfered 1/2" unless otherwise noted.
- Reinforcing steel shall be Grade 60 yield strength = 60,000 psi conforming to AASHTO M45 or A302 Type B with all required reports.

For Details of Unfilled Steel Shell Piles, see Draw. No. 60076.

For Details of 21°-6' Precast Spans, see Draw. No. 5216.

APPROXIMATE QUANTITIES

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Int.</td>
<td>1.5 Cu.Yds.</td>
</tr>
<tr>
<td>End</td>
<td>1.5 Cu.Yds.</td>
</tr>
</tbody>
</table>

(For Information Only)

DETAILS OF PILE BENTS FOR TEMPORARY BRIDGE

(M6" DIA. UNFILLED STEEL SHELL PILES)

PRECAST CONCRETE SPANS - 24°-6' RDWY.

ROUTE SEC. LITTLE ROCK, AR.

ARCHITECT: ARKANSAS STATE HIGHWAY COMMISSION

BROOK ENGINEER

BROKE NO. 0749 & 07420 - DRAWING NO. 60076
GENERAL NOTES FOR UNFILLED STEEL SHELL PILES

Steel shell piling shall conform to ASTM A53, Grade 36 (Fy = 45,000 psi).

Steel shell piling shall be driven open or closed ended. It shall be required to comply with ANSI/AWS D1.4 Structural Steel Code-Reinforcing Steel and applicable portions of ANSI/AWS D115-Bridge Welding Code.

Painting of steel piles will not be required. Steel shell piling may be driven open or closed ended.

ALTERNATE CONNECTION DETAIL

UNFILLED STEEL SHELL PILES

1. Steel shell piling shall not be filled with concrete after driving.

TYP. HOOKED BAR DETAIL

PART SECTION ELEVATIONS

ALTERNATE FLAT TIP DETAIL

PART SECTION ELEVATIONS

ALTERNATE VANED TIP DETAIL

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER

UNFILLED STEEL SHELL PILES FOR TEMPORARY BRIDGE

ARCHITECT: LITTLE ROCK, ARK.
DRAWN BY: SEK
CHECKED BY: SEK
SCALING: 1/8" - 1'-0"

ARCHITECT: LITTLE ROCK, ARK.
DRAWN BY: SEK
CHECKED BY: SEK
SCALING: 1/8" - 1'-0"

ARCHITECT: LITTLE ROCK, ARK.
DRAWN BY: SEK
CHECKED BY: SEK
SCALING: 1/8" - 1'-0"

ARCHITECT: LITTLE ROCK, ARK.
DRAWN BY: SEK
CHECKED BY: SEK
SCALING: 1/8" - 1'-0"
3/8" polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place. Polystyrene will not be used for direct bonding to the Shotcrete.

Use of polystyrene shall not be considered subsidiary to the item "Closs & Byrd Concrete Restraint".

Polystyrene shall not be used for direct bonding, but shall be considered subsidiary to the item "Closs & Byrd Concrete Restraint".
Plan:

Elevation:

Looking Back Bent 1  Looking Ahead Bent 4

Section A-A:

Detail of End Bents

Big Slough

Arkansas State Highway Commission

Route Sec.

Details of End Bents

Arkansas Bear Commission

Engineer

No. 50094

For General Notes, see Sec No. 55005.

Top reinforcing bars and pile anchorage in cap shall be properly spaced to avoid interference with anchor bolts.

Ground/ Backfill and pipe underdrains required behind cap, see Sec No. 60005 for details.

For additional information, see Layout.

See "Sec. No. 4" on Drawing 60005.

Typical Anchor Bolt Layout

No Scale

For details of anchor bolts, see Sec No. 60008.
Notes:
For general notes, see Std. Dwg. No. 55006.
Top reinforcing bars and pile anchorage in cap shall be properly placed to avoid interference with anchor bolts or steel metal sleeves.
For additional information, see layout.

Typical Anchor Bolt Layout

For details of anchor bolts, see Std. Dwg. No. 55070.

Dimensions are in and out of bars.
Pouring Sequence

Pour concrete to approximate thickness for full length of Pour as shown when using Transverse Screed.

Concrete Placement Procedure

Note:
- Pour with the same number may be placed simultaneously or separately. All Pours 11 through Pour 24 must be closed before Pour 1 can be poured. Pour 14 shall engage between the end of Pour 1 and the start of the next pour. 10 hours shall elapse between subsequent pours. No contractions from the pouring sequence shown will be allowed.
- Concrete in bridge superstructure shall be placed, consolidated, and trimmed off for the entire pour before any concrete has taken its initial set. This may require the use of a retracting anchor.
- Any rolling pour made before the entire subunit has been placed must be approved by the Engineer.
- Unless otherwise noted, required sub joints and pouring sequence construction joints shall align with expansion joints or the gusset.
- Concrete diagonal to and beneath the slab shall be poured continuous with the deck. A rest of 48 hours shall elapse before the intermediate beam pour and the deck slab pour.

Anchor Bolt Details

Anchor bolts shall comply with Appendix E and scribed according to Subsection 8507.4. Nuts and Washers for bolts shall be as specified in Subsection 8507.4.

Bearing Plate Detail

Anchor bolts shall comply with Appendix E and specified according to Subsection 8507.4. Nuts and Washers for bolts shall be as specified in Subsection 8507.4.

See End Bolt Details on Sheet No. 60087 for reinforcing and additional details.
### Table of Dead Load Deflections (Inches)

<table>
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<th>Structural Steel</th>
<th>Structural Steel + Parapet</th>
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<tr>
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<tr>
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**Note:** All columns represent load of deflection as shown in the diagram. Values are rounded to the nearest 0.000 inch. Dimensions are to be reviewed and approved by the Architect and Engineer.
CROSS SECTIONS

STA. 112+43.65 END
GUARDRAIL WIDENING ON RT.
STA. 112+60.65 END
GUARDRAIL ON RT.
DETOUR C.L.

STA. 111+43.90 BEGIN
GUARDRAIL WIDENING ON LT.
DETOUR C.L.

STA. 111+43.90 BEGIN
GUARDRAIL WIDENING ON LT.
DETOUR C.L.

STA. 30-05 INSTALL
RT. A. RD.
TEMPORARY PIPE CulVERT

CROSS SECTION STA. 111+35 TO STA. 112+00
CROSS SECTIONS

STAGE 1  STAGE 2  STAGE 3

265
260
255
250
245
240
235
230
225
220
215
210
205
200
195
190
185
180
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

CUT VOLUME 0 CU.YD.  FILL VOLUME 0 CU.YD.  CUT VOLUME 0 CU.YD.  FILL VOLUME 0 CU.YD.  CUT VOLUME 0 CU.YD.  FILL VOLUME 0 CU.YD.
The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and embankment under the bridge end including around the end of the bridge. The embankment shall be placed in layers, each of which shall be not more than 1.5 feet in thickness. Each layer (or sublayer) shall be measured and compacted by the use of standard equipment or the application of the experimental. Refer to Subsections 20270, 20280 and 20281 for construction requirements.
GENERAL NOTES:

These GENERAL NOTES are applicable unless otherwise shown in the Panel Details, Special Provisions, or Subsection Specifications.


SUPERSTRUCTURE NOTES:

MATERIALS AND STRENGTHS:

Class I Steel Concrete:
- Masonry units: 3500 psi
- Concrete: 3500 psi
- Reinforcing steel: 77,000 psi
- Reinforcement: 76,000 psi
- Bolt grade: 10.9

Class II Steel Concrete:
- Masonry units: 4000 psi
- Concrete: 4000 psi
- Reinforcing steel: 77,000 psi
- Reinforcement: 76,000 psi
- Bolt grade: 10.9

Concrete in concrete decks shall be Class II 5640 with a minimum 28 day compressive strength of 6,000 psi. Concrete in structural members shall be Class I 5640 unless otherwise noted.

CONCRETE:

All concrete shall be Class III 5640 with a minimum 28 day compressive strength of 6,000 psi. Concrete shall be poured in the dry and all exposed concrete shall be finished by the contractor.

STRENGTH REQUIREMENTS:

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31-83, Type II, with all top bars to be prestressed. The reinforcing steel to be reasonably located in the forms and firmly held in place by steel wire, sufficient in number and size to prevent displacement during construction. The wire supports will not be paid for, but will be considered subsidiary to the item "Ready Mixed Reinforcing Steel Grade 60." Any steel so specified shall be in accordance with the standard specifications and approved before fabrication is begun.

STANDARD STRUCTURAL DETAILS:

For additional information and notes, see layout and plan details.

CONCRETE:

Unless otherwise noted, concrete in case, edges and footings except for structural footings shall be Class II 5640 with a minimum 28 day compressive strength of 6,000 psi. Concrete in structural footings shall have a minimum 28 day compressive strength of 7,000 psi. Concrete in reinforced steel shall be Grade 60 and payed conforming to AASHTO M 3 or M 322, Type II, with all test reports.

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 or higher, with all test reports.

STRESS GENERATING:

Structural steel in end bents shall be kastal 270 with grade and payment as specified in the plans.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT AND PLAN DETAILS.

STANDARD GENERAL NOTES FOR STEEL BRIDGE STRUCTURES:

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: J. L. TAYLOR

DATE: 8/2/89

APPROVED BY: J. R. KILBREAS

ADDED: 9/1/89

DESIGNED BY: J. L. TAYLOR

DRAWING NO: 5506

INW2006058033
ARKANSAS HIGHWAY COMMISSION
DICK TRAMMEL - CHAIR
TOM SCHUECK - VICE CHAIR
ROBERT S. MOORE, JR.
DALTON A. "ALEC" FARMER, JR.
PHILIP TALDO
DIRECTOR - SCOTT E. BENNETT
DEPUTY DIRECTOR/CHIEF OPERATING OFFICER - LORIE H. TUDDOR
DEPUTY DIRECTOR/CHIEF ENGINEER - Emanuel Banks

CONTRACTOR
COMPANY NAME
YEAR

NOTE: The design live loading here using 1/8"-raised
letters and numerals 3/16" High. Examples: 40 20

NOTE: Place the year in which Contract was awarded here
using 1/8"-raised numerals 3/16" High. Example: 2004

NOTE: Place the name of the company operating the construction contract here using
1/8"-raised letters and numerals 3/16" High. Example: AECO CONSTRUCTION, INC.

TYPICAL BRIDGE NAME PLATE

STANDARD DETAILS FOR
TYPE D BRIDGE NAME PLATE

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: RSH DATE: 2/27/2004 SCALE: 1/8" = 1'-0"
CHECKED BY: RSH DATE: 2/27/2004
DESIGNED BY: TSH DATE: 2/27/2004
DRAWING NO: 5500
 METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

**NOTE** GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE 2) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.

- **LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.**

ONE-WAY TRAFFIC

TWO-WAY TRAFFIC

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

**NOTE** GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE 2) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.

- **LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.**

ONE-WAY TRAFFIC

TWO-WAY TRAFFIC

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

**NOTE** GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.

- **LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.**

LEGEND

- THREE BEAM GUARD RAIL TERMINAL
- GUARD RAIL TERMINAL (TYPE 2)

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-9
DETAILS OF WIDENING FOR GUARD RAIL

SECTION A-A

SECTION B-B

METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.
SPECIAL END SHOE

THREE BEAM RAIL

TRANSITION SECTION

CONNECTOR PLATE

GENERAL NOTES:
The three beam rail, special for shoes and the transition section shall be used off site and shall be of grade A. The concrete shall be Type I, RAIL POSTS SHALL BE SET PERPENDICULAR TO THE HIGHWAY PROFILE AND "C" INLET THRU CHOICE OF DESIGNER. ALL 600 MM RADIUS SHAPE MOLDING SHALL BE APPLIED PERMITTED TO EXTEND THROUGH THE FULL THICKNESS OF THE FACE. ALL LAY, SPACES, INCLUDING SPECIAL FOR SHOES, SHALL BE MADE IN THE DIRECTION AND IN CONFORMITY TO DRAWING 807.19. REVISED DRAWING 807.19 POST DETAILS.

USE THREE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. THREE BEAM POSTS SHALL BE SAME MATERIAL AS THREE BEAM POSTS FOR SHOE JOB. THREE BEAM RAIL BLOCKOUTS SHALL BE MADE FROM NO. 1 STRUCTURAL OR BEATER STRUT (DO NOT USE A SOLUTION FOR).
THREE BEAM RAIL WITH STEEL TUBING BLOCKOUT AND STEEL POSTS 1-7

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 1-6

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 perpendicular to the roadway profile grade and vertically in cross section.

Wood posts & wood blocks shall be either dense No. 1 Structural or better or 1400 ft or WBI/255 ft Southern Pine.

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-II
THREE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

1. THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 6 Gages, AND COATING SHALL BE TYPE I.

2. RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

3. ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT, ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-15.

4. REFER TO STANDARD DRAWING GR-I2 FOR POST DETAILS.

5. USE THREE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

6. THREE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

7. POSTS SHALL BE PLACED AT THE MID-SPAN OF THE W-BEAM.

8. USE WOOD BLOCKS TO BE EITHER DECORATIVE OR BETTER 1-1/2" THICK OR NO (I.O.) + SOUTHERN PINE.

REFERENCE: (1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.

(2) REFER TO APPROACH GUTTER DETAILS.

(3) LENGTH OF BLOCKOUT ON POST # TO BE MODIFIED TO FIT RAIL WIDTH.

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-12

DATE

REVIEW

REVISION

PRINTED
MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

MINIMUM COVER FOR CONSTRUCTION LOADS

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO A105. TYPE 5 INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE AND SECTION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION CURRENT EDITION".

2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIEZE DESIGN SPECIFICATIONS, FIFTH EDITION.

3. WHERE SUBJECT TObreakTHIKE WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUITABLE MITER TO ENSURE WORKING ROOM TO PROPEEPL AND SAFETY PLACE AND COMPACT MDLING AND OTHER BACKFILL MATERIAL.

4. HOPEFOU MATERIAL SHOAL BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE COULVERT TO PREVENT LOSS OF STRUCTURAL BEOOING WHEN PEPPED MATERIAL IS USED FOR STRUCTURAL BEOOING AND/OR BACKFILL.

5. WHEN DIRECTED BY THE ENGINEER, INSULATING MATERIAL THAT IS ENGAGED AT THE BOTTOM OF THE EXCAVATED TRENCH IS THE AREA IDENTIFIED AS "STRUCTURAL BEDDING". THE AREA SHALL BE EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

6. WHEN THE EXISTING MATERIAL, EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILL, THE AREA SHALL BE EXCAVATED AND BACKFILLED WITH THE SUITABLE INSULATING MATERIAL.) FROM THE HIGHWAY EXCAVATION WILL BE USED TO BACKFILL. THE PIPE, IF INSULATING MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF SELECTED PIPE BACKFILL.

7. FOR PIPE TYPES THAT ARE NOT SMOOTH, ON THE OUTSIDE CORRUGATED (OR PROFILE RAIL) BACKFILL GRADES SHOULD BE SELECTED THAT WILL MINIMIZE THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.

8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN SHALL NOT BE ALLOWED.

9. JOINTS FOR HIGH DENSITY POLYETHYLENE PIPES SHALL CONFORM TO WATERWORKS DESIGN SPECIFICATIONS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEOOING MATERIAL TO GRADE, DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS, NOT EXCEEDING THE LAYERS SHALL BE BROUGHT TO THE WORKING GRADE.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, MOUNTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

NOTE:

"PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIEZE DESIGN SPECIFICATIONS, FIFTH EDITION"

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1
**INSTALLATION TYPE**

<table>
<thead>
<tr>
<th><strong>SELECTED MATERIALS</strong></th>
<th><strong>CLASS A, B, 42, OR GH-H</strong></th>
</tr>
</thead>
</table>

**NOTE**
- Aggregate base course is Class 4, 5, 6, or 711 which may be used in lieu of selected materials. This will not be allowed.
- Structural bedding material shall have a maximum particle size of 3/4 inch. Structural material shall be placed within the limits of the excavation and shall be compacted or otherwise stabilized to prevent loss of structural bedding when structural material is used for structural bedding and/or for backfill.
- The minimum allowable trench width shall be the maximum plus a sufficient width to ensure working room to properly and safely place and compact bedding and other backfill material.
- Waterproofing material shall be placed as specified by the engineer at the ends of the culvert to prevent loss of structural bedding when pervious material is used for structural bedding and/or for backfill.
- When directed by the engineer, acceptable materials that are encountered at the bottom of the excavated trench, such as pipe, shall be compacted or otherwise stabilized to prevent loss of structural bedding when pervious material is used for structural bedding and/or for backfill.
- The material inside the trench that is not compacted or otherwise stabilized shall be compacted or otherwise stabilized to prevent loss of structural bedding when pervious material is used for structural bedding and/or for backfill.
- Trenches shall be backfilled with structural bedding material in accordance with ASTM D3693, the recompaction standard for structural bedding material.
- Pipe diameters other than shown will not be allowed.
- Joints for PVC pipes shall meet the requirements for soil tightness as specified in ASSE 2641 or other equivalent structural bedding specifications and shall be installed per manufacturer's recommendations.
- Joins for galvanized steel pipes shall be free of defects and free of any rust or corrosion.

**MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL**

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>&quot;H&quot;</th>
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<tbody>
<tr>
<td>36&quot;</td>
<td>6.0</td>
</tr>
<tr>
<td>42&quot;</td>
<td>6.0</td>
</tr>
</tbody>
</table>

**NOTE**
- Minimum cover shall be determined from the top of the pipe to the bottom of the maintained construction roadway surface. The surface shall be maintained.

**MINIMUM COVER FOR CONSTRUCTION LOADS**

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>MINIMUM COVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>36&quot;</td>
<td>6.0</td>
</tr>
<tr>
<td>42&quot;</td>
<td>6.0</td>
</tr>
</tbody>
</table>

**TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS**

1. Structural bedding, embankment, and outer structural bedding material shall be compacted to the maximum density according to the type or class of material used.

**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. The structural backfill shall be placed and compacted in layers not exceeding 2 feet. The material shall be broken at 2 feet on center.
5. Pipe installation may require the use of restraints, jointing or other approved methods in order to keep maintain grade and alignment.

**GENEAL NOTES**

1. PVC pipes shall conform to ASTM F729 and/or PVC pipe installation shall conform to job special provision.
2. Plastic pipe culverts shall conform to ASSE 2641 or equivalent specifications.
3. Specialized methods shall be used for structural bedding.
4. Specifications are based on the manufacturer's recommendations and may vary depending on the type of pipe used.
5. Joins for PVC pipes shall meet the requirements for soil tightness as specified in ASSE 2641 or other equivalent structural bedding specifications and shall be installed per manufacturer's recommendations.
6. Joins for galvanized steel pipes shall be free of defects and free of any rust or corrosion.
7. Pipe diameters other than shown will not be allowed.
8. PVC pipes of diameters other than shown will not be allowed.
9. Joints for PVC pipes shall meet the requirements for soil tightness as specified in ASSE 2641 or other equivalent structural bedding specifications and shall be installed per manufacturer's recommendations.
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

CONCRETE PAVEMENT

BROKEN LINE STRIPING

ASPHALT PAVEMENT

SOLID LINE STRIPING ON CONCRETE PAVEMENT

SOLID LINE STRIPING ON ASPHALT PAVEMENT

ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPPING AT ADJACENT NO PASSING LANES

YIELD LINE DETAIL

CROSSWALK AND STOPBAR DETAILS

NOTE:
THE RED LINE OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.
TYPE II RED/CLEAR OR YELLOW/YELLOW REFLECTIVE REFLECTOR

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

REVISION HISTORY

<table>
<thead>
<tr>
<th>DATE</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>6/22/96</td>
<td>REVISE NOTE 1 &amp; 2</td>
</tr>
<tr>
<td>4/26/96</td>
<td>REVISE GENERAL NOTES 3 &amp; 4</td>
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<tr>
<td>9/50/80</td>
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</tr>
<tr>
<td>8/22-92</td>
<td>ADD DETAILS OF STANDARD RAISED PAVEMENT MARKERS</td>
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<tr>
<td>7/02-96</td>
<td>REVISE NOTES FOR Bituminous Surface Treatment</td>
</tr>
<tr>
<td>11/30-96</td>
<td>FINAL</td>
</tr>
</tbody>
</table>

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1
NOTE:
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THREADED CONCRETE, EARTH AND GRAVEL, OR GRAVEL ON TOP, EARTH ON THE BOTTOM, OR THE WIDTH OF THE TRENCH AT THE TOP.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, CAP, FABRIC C, OR THE WIDTH OF THE TRENCH AT THE TOP.

3. PAYMENT FOR PIPE LATERALS SHALL BE IN ACCORDANCE WITH SECTION 405 OF THE STANDARD SPECIFICATIONS.

4. FOR THE GRANULAR MATERIAL THE PRICE SHALL BE BASED PER PIPE LENGTH.

5. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT MARKING TAPE TYPE B55B AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSELY TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE FOR "4" PIPE UNDERDRAINS." WHEN PLACED ALONG PAVEMENT EDGE, NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTMD 7387.


7. ANY EXISTING UNDERDRAIN SYSTEMS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS SHAL BE REMOVED UNDER THE "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS." WHEN PLACED ALONG PAVEMENT EDGE, NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 7387.

8. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNOUSED HOLE OR INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

9. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

10. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

11. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

12. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

13. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

14. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

15. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

16. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

17. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

18. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

19. UNDERDRAIN OUTLET PROTECTORS SHALL MEET THE REQUIREMENTS OF SECTION 250 OF THE STANDARD SPECIFICATIONS.
REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS 5 WITH A MINIMUM 28 DAY COMpressive STRENGTH OF 3500 PSI.
REINFORCING STEEL SHALL BE AASHTO M368 M-55, GRADE 60.
CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND ORNAMENTAL MATERIAL, SHALL BE SUBSIDIARY TO THE BD ITEM "CLASS 5 CONCRETE".
MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION B5 OF THE STANDARD SPECIFICATIONS.
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BD FOR R.C. BOX CULVERT.
REINFORCING STEEL TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRS). EXCEPT THAT THE TOLERANCE FOR FRISB BARS SUCH AS Figure 3 ON PAGE 7-4 OF THE CRS MANUAL SHALL BE MAXUS ZERO TO PLUS 7/16 INCH.
 WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE ORIFICE DIAMETER SHALL BE 3/4" AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.
 WEAP HOLES IN MINIMUM WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 15'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH MINIMUM WALL. THE ORIFICE DIAMETER SHALL BE 1/2" AND SHALL BE PLACED 12" ABOVE THE TOP OF THE MINIMUM WALL FOOTING.
THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.

WINGWALL & CULVERT DRAINAGE DETAIL

REPLACEMENT BAR LENGTHS TABLE

<table>
<thead>
<tr>
<th>BAR SIZE</th>
<th>LENGTH OF HOOKED BAR</th>
<th>LENGTH OF STRAIGHT BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>L + F - 0&quot;</td>
<td>See &quot;o&quot; BAR LENGTH</td>
</tr>
<tr>
<td>5&quot;</td>
<td>L + F - 2&quot;</td>
<td>See &quot;o&quot; BAR LENGTH</td>
</tr>
<tr>
<td>6&quot;</td>
<td>L + F - 4&quot;</td>
<td>See &quot;o&quot; BAR LENGTH</td>
</tr>
<tr>
<td>7&quot;</td>
<td>L + F - 8&quot;</td>
<td>See &quot;o&quot; BAR LENGTH</td>
</tr>
<tr>
<td>8&quot;</td>
<td>L + F - 10&quot;</td>
<td>See &quot;o&quot; BAR LENGTH</td>
</tr>
<tr>
<td>9&quot;</td>
<td>L + F - 12&quot;</td>
<td>See &quot;o&quot; BAR LENGTH</td>
</tr>
</tbody>
</table>

L = "08" - 3 INCHES

REINFORCED CONCRETE BOX CULVERT HEADWALL MODIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

GENERAL NOTES:
ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) 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 SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE. UNDERCUT SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS A.A. AND B.B. RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.

PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

SECTION B-B
DETAILS FOR NEW CHANNELS

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

CHANNEL CHANGE

EXISTING CHANNEL

1'-6"

SOLID SODDING

R.C. BOX CULV'T.

1'-6"

SOLID SODDING

PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

SECTION A-A
DETAILS THROUGH EXISTING CHANNELS

EXCAVATION STRUCTURAL EXCAVATION THICKNESS OF BOTTOM SLAB (CHANNEL CHANGE)

ROADWAY EXCAVATION STRUCTURAL EXCAVATION THICKNESS OF BOTTOM SLAB (CHANNEL CHANGE)

HUNERCUR SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS B.B. AND B.B. RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.

NOTES:
LENGTH MEASURED ALONG THE CENTER OF A 2'-STRIP OF SOLID SODDING.

CHANNEL CHANGE

EXISTING CHANNEL

1'-6"

SOLID SODDING

R.C. BOX CULV'T.

1'-6"

SOLID SODDING

PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

SECTION A-A
DETAILS THROUGH EXISTING CHANNELS

EXCAVATION STRUCTURAL EXCAVATION THICKNESS OF BOTTOM SLAB (CHANNEL CHANGE)

ROADWAY EXCAVATION STRUCTURAL EXCAVATION THICKNESS OF BOTTOM SLAB (CHANNEL CHANGE)

HUNERCUR SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS B.B. AND B.B. RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.

NOTE: LENGTH MEASURED ALONG THE CENTER OF A 2'-STRIP OF SOLID SODDING.
Typical Application: Traffic Control Devices on a 2-Lane Highway Where the Entire Roadway is Closed and a Bypass Detour is Provided.

Typical Application - 4-Lane Divided Roadway Where One Roadway is Closed.

Typical Application - 4-Lane Undivided Roadway Where Half of the Roadway is Closed.

NOTES:
1. Signs shown for one direction of travel only.
2. Delimiters on bypass where needed.

Typical Application - Roadway Closed Beyond Detour Point.

Typical Application - 2-Lane Highway Where One Lane is Closed and Flagging is Provided.

Typical Application - 4-Lane Undivided Roadway with Inside Lane Closed.
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. Place perimeter controls (e.g., silt fences, diversion ditches, sediment basins, etc).
2. Perform clearing and grubbing operation.

EXCAVATION

EXISTING GROUND
INTERCEPTOR OR DIVERSION DITCH
EXISTING GROUND

GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE
1. Excavate and stabilize interceptor and/or diversion ditches.
2. Perform Phase 1 excavation. Place permanent or temporary seeding.
3. Perform Phase 2 excavation. Place permanent or temporary seeding.
4. Perform final Phase of excavation. Place permanent or temporary seeding. Secure ditches, construct ditch checks, diversion ditches, sediment basins, or other erosion control devices as required.

EMBANKMENT

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

GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE
1. Construct diversion ditches, ditch checks, sediment basins, silt fences, or other erosion control devices as specified.
2. Place Phase 1 embankment with permanent or temporary seeding. Place Phase 2 embankment with permanent or temporary seeding. Place final Phase of embankment with permanent or temporary seeding. Diversion ditches and slope drains are to be temporarily abandoned for a period of greater than 21 days.
3. Place Phase 2 embankment with permanent or temporary seeding. Place diversion ditches and slope drains if embankment construction is to be temporarily abandoned for a period of greater than 21 days.
4. Place final Phase of embankment with permanent or temporary seeding. Place diversion ditches and slope drains and maintain until entire slope is stabilized.

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3