ARBKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

ABLES CREEK STR. & APPRS. (S)
DREW COUNTY
ROUTE 138 SECTION 3
JOB 020587
FED. AID PROJ. NHPP-0022(37)

NOT TO SCALE

DESIGN TRAFFIC DATA

<table>
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<td>Design Speed</td>
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PROJECT LOCATION

VICTIITY MAP

BRIDGE DATA

STA. 211+50.00
BEGIN JOB NO. 020587
LOG MILE 15.81

STA. 229+50.00
END JOB 020587

GROSS LENGTH OF PROJECT 800.000 FEET OR 0.34 MILES
GROSS LENGTH OF BRIDGES 117.000 FEET OR 0.22 MILES

BEGINNING OF PROJECT

LATITUDE = N 33°44'04" LONGITUDE = W 91°35'15"

MID POINT OF PROJECT

LATITUDE = N 33°41'12" LONGITUDE = W 91°33'40"

END OF PROJECT

LATITUDE = N 33°44'19" LONGITUDE = W 91°31'33"

RAPPROVED

DEPUTY DIRECTOR
AND CHIEF ENGINEER
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### General Notes

1. **Grade Line Denotes Finished Grade Where Shown on Plans.**
2. **All Pipe Lines, Power, Telephone, and Telegraph Lines to Be Moved or Laid Under 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. **All Land Monuments Located Within the Construction Area Shall Be Protected in Accordance With Section 107.12 of the Standard Specifications.**
5. **All Trees That Do Not Directly Interfere With the Proposed Construction Shall Be Spared As Directed By the Engineer. Care and Discretion Shall Be Used to Ensure That All Trees Not to BeRemoved Shall Be Harmed as Little as Possible During the Construction Operations.**
6. **All Flexible Base and Asphaltic Pavements Removed Shall Be Paid For Under the Item No. 215 - Unclassified Excavation.**
7. **The Existing Asphalt Pavement to Be Removed From the Remaining Pavement Shall Be Separated By SAWING Along a Heat Line. After SAWING, 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 Contractors Expense.**

### Governing Specifications & General Notes
NOTES:

- 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.
- THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED.
- EXCESS MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
- ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. THE EROSION OF EXISTING SURFACE COURSE SHOULD BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.
- THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAYED. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
- WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE ANY MATERIAL PLACED IN THE SHOULDER OF AGGREGATE BASE COURSE ON THE SHOULDERS.

TYPICAL SECTIONS OF IMPROVEMENT
METHOD OF RAISING GRADE

NOTES:
- This detail to be used only where directed by the engineer.
- Quantities for method of grade raise using asphalt should be calculated for the proposed roadway and the proposed subgrade.
- The distance between the existing asphalt roadway and the proposed subgrade was one foot or less.
- In locations where the distance between the proposed subgrade and the existing asphalt roadway is more than one foot, scanning of the existing asphalt roadway will be required as stated in Section 210, Subsection 210.09 of the standard specifications.

DETAIL FOR TRANSITIONS

NOTES:
- Turnouts and private drives shall be modified where necessary to meet local conditions as directed by the engineer.

DETAIL FOR DRIVEWAY TURNOUTS

DETAIL FOR EXISTING ASPHALT PAVEMENT RETAIN AND OVERLAY

DETAIL FOR COLD MLL EXISTING ASPHALT PAVEMENT

SPECIAL DETAILS
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<td>4'-10&quot;</td>
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The required number of bars and lengths shown are for estimating purposes only. The actual number and length required shall be determined in field. Unless otherwise noted, all dimensions are in inches.
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10' 

LENGTHS FOR NON-SKEWED BOXES

HEIGHT OF CURVET 20' 0"

Type 2 Geotextile Filter Fabric as shown on Subsection K25.32

Step Drainage Filter at Bottom of Box Culvert

Top Surface of Culvert Top Sub

Type 2 Geotextile Filter Fabric as shown on Subsection K25.32

Drainage Filter Material K25.32 Aggregate as specified in Subsection K45.32

Fasichment and Wear of Culvert I

4" dia. Reinforced at 10'-0" max. spacing

4" dia. Reinforced at 10'-0" max. spacing

4" dia. Reinforced at 10'-0" max. spacing

Top Surface of Culvert Bottom Sub

Top Surface of Culvert Bottom Sub

Top Surface of Culvert Bottom Sub

Note: For fill depths of 10' or under, use Mid-Section full length of box culvert.

GENERAL NOTES:


LIVE LOADINGS: 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 9" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M531 or M332, Type A, with mild test reports.

Reinforcing Steel Tolerances: The tolerances for reinforcing steel shall meet the requirements in "Manual of Standard Practice" published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerances for reinforcing bars as specified in Figure 3 on page 7-4 of the CRSI Manual shall be minus zero to plus 1/2 inch.

Excavation and backfilling shall be in accordance with the requirements of Section 801. Membrane Waterproofing shall conform to the requirements of Section 815. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalks of R.C. Box Culverts and to the construction joint between wingwalls and R.C. Box Culvert walls.

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 drain opening shall be 4" diameter and shall be placed 12" above the top of the bottom slab.

Weep Holes in wingwalls shall have a maximum horizontal spacing of 10'-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 12" above the top of the wingwall footing.

The barrel components of the culvert may be constructed using continuous paws. For longer culvert construction, the Contractor may use multiple paws with transcussion construction joints spaced a minimum of 10 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and wall slabs shall be made only where shown in the Plans. Joints shall be keyed to the centerline of barrel and shall be keyed. 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 Re-Material will not be paid for directly but shall be considered subsidiary to Class 3 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 802.20 for border roadway surfacing and a finish thickness shall be applied in accordance with subsection 802.19 for Class 5 Filled Bridge Roadway Surface Finish. Curbing and finishing shall not be paid for directly, but shall be considered incidental to the items "Class 5 Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 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 1537 and meet the requirements of Section 801. 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 DETAILS OF R.C. BOX CULVERT

GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE

SPECIAL DETAILS
STA. 211+50.00
BEGIN JOB 020587

STA. 229+50.00
END JOB 020587

LEGEND

+ = Rock ditch checks
- = Salt fence

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

DATE OF REVISION

REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

BEGIN JOB 020587

STA. 211+50.00

REVISIONS

DATE OF REVISION

REVISION

END JOB 020587

STA. 229+50.00
SEQUENCE OF CONSTRUCTION

ALL STAGES USE ADVANCE WARNING SIGNS LOCATED AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLAN SHEETS. USE TRAFFIC BARNS AND VERTICAL PANELS AS NOTED IN THE MAINTENANCE OF TRAFFIC PLAN SHEETS TO DELINEATE THE WORK ZONE.

STAGE 1: CONSTRUCT DETOUR TO THE LEFT OF HWY 138 AS SHOWN IN THE PLANS.

STAGE 2A: UTILIZE DETOUR FROM STA. 505+32 TO STA. 514+14 TO MAINTAIN TRAFFIC. NOTCH AND REDECK EXISTING HWY 138 BRIDGE STA. 504+02 TO STA. 504+06. PLACE FINAL STRIPING, INSTALL ALL REMAINING GUARDRAIL, OBSCURE DETOUR, AND FINISH SLOPES WHERE NEEDED.

STAGE 2B: UTILIZE DETOUR FROM STA. 505+32 TO STA. 514+14 TO MAINTAIN TRAFFIC. NOTCH AND REDECK EXISTING HWY 138 BRIDGE STA. 504+02 TO STA. 504+06. PLACE FINAL STRIPING, INSTALL ALL REMAINING GUARDRAIL, OBSCURE DETOUR, AND FINISH SLOPES WHERE NEEDED.

STAGE 2C: UTILIZE DETOUR FROM STA. 505+32 TO STA. 514+14 TO MAINTAIN TRAFFIC. NOTCH AND REDECK EXISTING HWY 138 BRIDGE STA. 504+02 TO STA. 504+06. PLACE FINAL STRIPING, INSTALL ALL REMAINING GUARDRAIL, OBSCURE DETOUR, AND FINISH SLOPES WHERE NEEDED.

STAGE 3: UTILIZE HWY 138 MILE 10.0 TO MAINTAIN TRAFFIC. NOTCH AND REDECK EXISTING HWY 138 BRIDGE STA. 504+02 TO STA. 504+06. PLACE FINAL STRIPING, INSTALL ALL REMAINING GUARDRAIL, OBSCURE DETOUR, AND FINISH SLOPES WHERE NEEDED.

MAINENANCE OF TRAFFIC DETAILS

ALL STAGES USE ADVANCE WARNING SIGNS LOCATED AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLAN SHEETS. USE TRAFFIC BARNS AND VERTICAL PANELS AS NOTED IN THE MAINTENANCE OF TRAFFIC PLAN SHEETS TO DELINEATE THE WORK ZONE.

STAGE 1: CONSTRUCT DETOUR TO THE LEFT OF HWY 138 AS SHOWN IN THE PLANS.

STAGE 2A: UTILIZE DETOUR FROM STA. 505+32 TO STA. 514+14 TO MAINTAIN TRAFFIC. NOTCH AND REDECK EXISTING HWY 138 BRIDGE STA. 504+02 TO STA. 504+06. PLACE FINAL STRIPING, INSTALL ALL REMAINING GUARDRAIL, OBSCURE DETOUR, AND FINISH SLOPES WHERE NEEDED.

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STAGE 3: UTILIZE HWY 138 MILE 10.0 TO MAINTAIN TRAFFIC. NOTCH AND REDECK EXISTING HWY 138 BRIDGE STA. 504+02 TO STA. 504+06. PLACE FINAL STRIPING, INSTALL ALL REMAINING GUARDRAIL, OBSCURE DETOUR, AND FINISH SLOPES WHERE NEEDED.

MAINENANCE OF TRAFFIC DETAILS

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STAGE 3: UTILIZE HWY 138 MILE 10.0 TO MAINTAIN TRAFFIC. NOTCH AND REDECK EXISTING HWY 138 BRIDGE STA. 504+02 TO STA. 504+06. PLACE FINAL STRIPING, INSTALL ALL REMAINING GUARDRAIL, OBSCURE DETOUR, AND FINISH SLOPES WHERE NEEDED.

MAINENANCE OF TRAFFIC DETAILS
Permanent Pavement Markings

Apply permanent pavement markings according to STD.DN: PM-

6" Yellow = 400 Lf. ft.

6" White = 400 Lf. ft.

Raised Pavement Markers:

Type R90, G.C. = 25 Each

NOTE:
The 6" Yellow striping quantity has been estimated based on a double yellow centerline stripe for the entire project. The project must be marked prior to the final lifting of the surface course. If the final lifting of the surface course has not been placed to schedule the zoning of the project.

Pavement Marking Details
### CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

<table>
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<tr>
<th>DESCRIPTION</th>
<th>STAGE 2</th>
<th>STAGE 3</th>
<th>END OF JOB</th>
<th>REMOVAL OF PERMANENT PAVEMENT MARKINGS</th>
<th>CONSTRUCTION PAVEMENT MARKINGS</th>
<th>REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS</th>
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**NOTE:** THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03. STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

**NOTE:** THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO 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.

### ADVANCE WARNING SIGNS AND DEVICES

<table>
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<tr>
<th>SIGN NUMBER</th>
<th>DESCRIPTION</th>
<th>SIGN SIZE</th>
<th>STAGE 1</th>
<th>STAGE 2</th>
<th>STAGE 3</th>
<th>MAXIMUM NUMBER REQUIRED</th>
<th>TOTAL SIGNS REQUIRED</th>
<th>VERTICAL PANELS</th>
<th>TRAFFIC DRUMS</th>
<th>BARRIERS &amp; INSTALLING PRECAST CONCRETE BARRIER</th>
<th>RELOCATING PRECAST CONCRETE BARRIERS</th>
<th>TEMPORARY IMPACT ATTENUATION BARRIER</th>
<th>TEMP. IMPACT ATTENUATION BARRIER (REPAIR)</th>
<th>TEMP. IMPACT ATTENUATION BARRIER (RELOCATION)</th>
<th>QUANTITIES</th>
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**NOTE:** THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03. STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

* QUANTITY ESTIMATED.

SEE SECTION 04400 OF THE STD. SPECS.

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
### Clearing and grubbing

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Clearing and grubbing</th>
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<td>219+00</td>
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### Removal and disposal of items

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<th>Quarrral</th>
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### Earthwork

#### Erosion control

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<th>Temporary seeding</th>
<th>Water</th>
<th>Wattles</th>
<th>Ditch checks</th>
<th>1st filter sock</th>
<th>Sand bag</th>
<th>Rock ditch checks</th>
<th>Sl.T. fence</th>
<th><em>Sediment disposal</em></th>
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<td>Clearing and grubbing</td>
<td>2.02</td>
<td>4.04</td>
<td>2.02</td>
<td>200.0</td>
<td>2.02</td>
<td>1.77</td>
<td>1.77</td>
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<td>Stage 1</td>
<td>0.51</td>
<td>1.02</td>
<td>0.51</td>
<td>52.0</td>
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<td>3.28</td>
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<tr>
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<td>2.02</td>
<td>4.04</td>
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<td>1.77</td>
<td>23.9</td>
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<tr>
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<td>Stage 3</td>
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<td>1.02</td>
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<td>52.0</td>
<td>0.51</td>
<td>3.28</td>
<td>3.28</td>
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<td>16.39</td>
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### Cold milling asphalt pavement

<table>
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<tr>
<th>Station</th>
<th>Location</th>
<th>Avg. Width</th>
<th>Cold milling asphalt pavement</th>
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</thead>
<tbody>
<tr>
<td>218+00</td>
<td>HWY. 138</td>
<td>21.00</td>
<td>233.33</td>
</tr>
<tr>
<td>219+00</td>
<td>HWY. 138</td>
<td>21.00</td>
<td>233.33</td>
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<tr>
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Erosion Control Matting

<table>
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<tr>
<td>214+00.00</td>
<td>214+87.30</td>
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<td>260</td>
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<tr>
<td>215+40.00</td>
<td>215+40.00</td>
<td>HWY. 138 ON RT</td>
<td>175</td>
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<tr>
<td>215+70.60</td>
<td>222+05.65</td>
<td>HWY. 138 ON RT</td>
<td>225</td>
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TOTALS: 603.34

NOTE: AVERAGE WIDTH = 8'0"

Asphalt Concrete Patching for Maintenance of Traffic

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TON</th>
<th>TACK COAT</th>
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<tr>
<td>ENTIRE PROJECT TO BE USED AT AND WHERE DIRECTED BY THE ENGINEER</td>
<td>25</td>
<td>50</td>
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</table>

TOTALS: 25 | 50

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC...30 GAL/ MILE

Concrete Ditch Paving

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>LENGTH</th>
<th>&quot;W&quot;</th>
<th>SOLID SODDING</th>
<th>WATER</th>
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<tbody>
<tr>
<td>220+60.00</td>
<td>220+60.00</td>
<td>HWY. 138 ON RT</td>
<td>39.15</td>
<td>6.00</td>
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<td>13.60</td>
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<tr>
<td>227+23.84</td>
<td>227+65.00</td>
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<tr>
<td>227+65.00</td>
<td>227+65.00</td>
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<td>96.18</td>
<td>6.00</td>
<td>37.44</td>
<td>24.96</td>
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TOTALS: 117.76 | 114.55 | 1.64

Basis of Estimate:
WATER...12.6 GAL/SQ. YD OF SOLID SODDING

Approach Gutter and Slabs

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>APPROACH GUTTER (TYPE A)</th>
<th>APPROACH SLABS</th>
<th>REINFORCING STEEL AWDY. (GR. 66)</th>
<th>AGGREGATE BASE OVR. (CLASS 7)</th>
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<tbody>
<tr>
<td>217+68.50</td>
<td>217+68.50</td>
<td>HWY. 138 ON RT</td>
<td>27.30</td>
<td>3110</td>
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<tr>
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<td>27.30</td>
<td>3110</td>
<td>23.3</td>
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<tr>
<td>219+67.50</td>
<td>219+67.50</td>
<td>HWY. 138 ON RT</td>
<td>27.30</td>
<td>3110</td>
<td>23.3</td>
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<tr>
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<td>219+67.50</td>
<td>HWY. 138 ON RT</td>
<td>27.30</td>
<td>3110</td>
<td>23.3</td>
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TOTALS: 17.00 | 54.50 | 5660 | 46.5

NOTE: USE T=13" FOR 4' SHOULDER.

Driveways & Turnouts

<table>
<thead>
<tr>
<th>STATION</th>
<th>SIDE</th>
<th>LOCATION</th>
<th>WIDTH</th>
<th>ACHM SURFACE COURSE (1/2&quot;)120 LBS. PER SQ. YD. (PG 64-22)</th>
<th>AGGREGATE BASE COURSE (CLASS 7)</th>
</tr>
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<tbody>
<tr>
<td>211+10</td>
<td>LT</td>
<td>HWY. 138</td>
<td>16</td>
<td>43.96</td>
<td>6.44</td>
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</table>

TOTALS: 43.96 | 6.44 | 91.67

Basis of Estimate:
ACHM SURFACE COURSE (1/2")...94.8% MIN. AGG. 5.2% ASPHALT BINDER
MAXIMUM NUMBER OF CYRATIONS = 115 FOR PG 64-22

Bench Marks

<table>
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<tr>
<th>STATION</th>
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TOTAL: 2

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

Selected Pipe Bedding

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<th>STATION</th>
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<tr>
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TOTAL: 100

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

Quantities
SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.

<table>
<thead>
<tr>
<th>STATION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>LOCATION</th>
<th>DEPTH</th>
<th>LIQUID LIMIT</th>
<th>PLASTICITY INDEX</th>
<th>AASHTO CLASSIFICATION</th>
<th>COLOR</th>
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<tbody>
<tr>
<td>214+00</td>
<td>33 44 6.70</td>
<td>91 33 43.60</td>
<td>E'RT</td>
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<td>24</td>
<td>35</td>
<td>A-6(11)</td>
<td>BROWN</td>
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<tr>
<td>214+05</td>
<td>33 44 6.70</td>
<td>91 33 43.70</td>
<td>E'RT</td>
<td>96</td>
<td>24</td>
<td>35</td>
<td>A-6(15)</td>
<td>BROWN</td>
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<tr>
<td>224+59</td>
<td>33 44 14.50</td>
<td>91 33 36.90</td>
<td>20'LT</td>
<td>95</td>
<td>25</td>
<td>29</td>
<td>A-6(17)</td>
<td>BROWN</td>
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<tr>
<td>224+59</td>
<td>33 44 14.51</td>
<td>91 33 37.30</td>
<td>18'LT</td>
<td>95</td>
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AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE
### Quantities

#### BASE AND SURFACING

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<th>STATION</th>
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<th>TACO COAT</th>
<th>ACHMI Binder Course</th>
<th>ACHMI Surface Course</th>
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#### ADDITIONAL WIDETRATION FOR GRADUE

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#### ADDITIONAL FOR LEVERS

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#### ADDITIONAL FOR SUPERELEVATION

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QANTITIES
## SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 020587

<table>
<thead>
<tr>
<th>Item No.</th>
<th>DESCRIPTION</th>
<th>UNCLASSIFIED EXCAVATION</th>
<th>CLASS 1 CONCRETE STRUCTURES</th>
<th>CLASS 2 CONCRETE BRIDGE</th>
<th>CLASS 3 PROTECTIVE TREATMENT</th>
<th>RENGORING</th>
<th>CLEARCOAT EPOXY COATED</th>
<th>STEEL SHELL PLUG</th>
<th>PRE-BACKING EPOXY</th>
<th>WEAK SURFACE PREPARATION</th>
<th>REMOVAL OF EXISTING BRIDGE STRUCTURE</th>
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<tbody>
<tr>
<td>025</td>
<td>020587</td>
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</tbody>
</table>

### BENT NO. 1
- 04.02: 22
- UD: 1290
- 04.01: 232
- 04.17: 354
- 04.17: 40
- 04.12: 619.0
- 04.14: 68.0
- 04.15: 24
- 04.16: 480.0
- 04.17: 63
- 04.18: 295

### BENT NO. 2
- 04.02: 22
- UD: 1290
- 04.01: 232
- 04.17: 354
- 04.17: 40
- 04.12: 619.0
- 04.14: 68.0
- 04.15: 24
- 04.16: 480.0
- 04.17: 63
- 04.18: 295

### BENT NO. 3
- 04.02: 22
- UD: 1290
- 04.01: 232
- 04.17: 354
- 04.17: 40
- 04.12: 619.0
- 04.14: 68.0
- 04.15: 24
- 04.16: 480.0
- 04.17: 63
- 04.18: 295

### BENT NO. 4
- 04.02: 22
- UD: 1290
- 04.01: 232
- 04.17: 354
- 04.17: 40
- 04.12: 619.0
- 04.14: 68.0
- 04.15: 24
- 04.16: 480.0
- 04.17: 63
- 04.18: 295

### BENT NO. 5
- 04.02: 22
- UD: 1290
- 04.01: 232
- 04.17: 354
- 04.17: 40
- 04.12: 619.0
- 04.14: 68.0
- 04.15: 24
- 04.16: 480.0
- 04.17: 63
- 04.18: 295

**Total for Job #120587**
- 04.02: 44
- UD: 6750
- 04.01: 20.30
- 04.17: 44
- 04.14: 1070
- 04.12: 3300
- 04.15: 5000
- 04.16: 800
- 04.17: 44
- 04.18: 295

**Total for Job #20587**
- 04.02: 44
- UD: 6750
- 04.01: 20.30
- 04.17: 44
- 04.14: 1070
- 04.12: 3300
- 04.15: 5000
- 04.16: 800
- 04.17: 44
- 04.18: 295

**Total for Job #30587**
- 04.02: 44
- UD: 6750
- 04.01: 20.30
- 04.17: 44
- 04.14: 1070
- 04.12: 3300
- 04.15: 5000
- 04.16: 800
- 04.17: 44
- 04.18: 295
### SUMMARY OF QUANTITIES

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
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<td>301</td>
<td>CLEANING</td>
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<td>STATION</td>
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<tr>
<td>201</td>
<td>REMOVAL OF EXISTING BRIDGE STRUCTURE (JUNE 30)</td>
<td>1.00</td>
<td>LUMP SUM</td>
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<tr>
<td>202</td>
<td>SPANS CONSTRUCTION (TIER 1)</td>
<td>1.00</td>
<td>LUMP SUM</td>
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<tr>
<td>203</td>
<td>UNLOADING EXCAVATION FOR STRIPED BRIDGES</td>
<td>1.00</td>
<td>CU. YD.</td>
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<td>501</td>
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<td>502</td>
<td>CLASS 6 CONCRETE BRIDGE</td>
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<td>CLEAR PROTECTIVE SURFACE TREATMENT</td>
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<td>505</td>
<td>EPOXY-COATED REINFORCING STEEL (GRADE 90)</td>
<td>43.01</td>
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<td>506</td>
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<tr>
<td>507</td>
<td>STEEL PIPE (DIAM. 6&quot;&quot;)</td>
<td>896</td>
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<td>508</td>
<td>FILE ENCASTEMENT</td>
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<tr>
<td>509</td>
<td>STRUCTURAL STEEL &amp; BRIDGE SPANS (GUSSET-ED)</td>
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<td>510</td>
<td>GALVANIZED REINFORCEMENT</td>
<td>1070.10</td>
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<td>WIRE NAME PLATE (CAPS)</td>
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<tr>
<td>512</td>
<td>FILTER BLANKET</td>
<td>649</td>
<td>SQ. FT.</td>
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<tr>
<td>513</td>
<td>CAPPED SPRING</td>
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<td>SQ. FT.</td>
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### REVISIONS

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<tr>
<td>11050515</td>
<td>B002 &quot;flexible meaning of word&quot; special provision</td>
<td>3,22</td>
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### Survey Control Coordinates

**Project Name:** #020587  
**Date:** 04/28/2016  
**Coordinate System:** Arkansas State Plane - South Zone Based on Static GPS Pts 1 - 6  
**Units:** U.S. Coordinate System North, State Plane.

<table>
<thead>
<tr>
<th>Point</th>
<th>Name</th>
<th>Northing</th>
<th>Easting</th>
<th>Elev</th>
<th>Feature Description</th>
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<tbody>
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<td>1700510.044</td>
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**Note:**
- **Red Cap:** Standard - SCR. Red Cap with 2" Aluminum Cap stamped "standard markings common to all caps, or as indicated (other markings indicated as noted on the point description of the individual point).
- **Gray Cap:** SCR. Gray Cap (w/ 2" Aluminum Cap stamped "standard markings common to all caps, or as indicated (other markings indicated as noted on the point description of the individual point)."

**Basis of Bearing:**
- **ARAL plate plane grid survey points - South Zone determined from GPS control points based on static GPS Pts 1 - 6 convergence angle 00-14-33 Right A 31, 02-46-05 Left A 38-32-42 grid azimuth - Astronomical Azimuth - convergence angle.
REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 226+10.64 - STA. 227+1.29 - IN PLACE
REMOVE AS EXISTING WOODEN BRIDGE STRUCTURE

ENTIRE PROJECT WITHIN FLOODPLAIN BOUNDARY

O Denotes pavement transition

Refer to survey control detail sheets for horizontal and vertical control data.

UNNAMED TRIBUTARY AT STA. 226+99 TO STA. 227+02
IS ENCLOSED AS INTERSECT TO TOP OF SLAB CHANNEL
ELEVATION IS 75 FT. MLLWD PER TO SECTION 920000
TEMPORARY FIL OF THE 2024 STANDARD SPECIFICATIONS.

STA. 229+50.00
END JOB 020587
**Notes**

For Site No. and T.C.E. D峭, see Roadway Plans.

Use Type 4 Approach Gunter's F.K. 4 - 0 + 41 and Type 4 Approach Gunter's F.K. 0 - 0.2 of abutment ends of bridge.

The Contractor shall execute the existing abutment as shown at both ends of abutment.

For full bearing specifications, "Cross Section Transition Sheets," and Hydraulic Data, see PS No. 6058.

**L-60**

**EF70**

**F-90**

**LLL**

**tr**

**Fr**

**tr**

**Eoo**

**rl70**

**Leo**

**hl70**

**[Notes]**

- Transition Sketch.
- Proposed bridge has been positioned to verify.
- Contractor.
- Type.
- Total.
- Distance.
- of submittal.
- C.L.
- interference with.
- Structure.
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The direction of load of the external load plate may not be accurately depicted with respect to T1 and T2 values shown in the "Table of Fabricator Variables".

Gross stress otherwise allowed by the Engineer, welding of the external load plate at expansion bearings to the beam or girder will be allowed only when the approximate average air temperature during the 24 hour period immediately preceding welding is between 70°F and 80°F, and the pads to the external load plates are positioned to center the expansion bearing. The horizontal deformation of the elastic material and the stress of the structural members are required to be considered by the Engineer.

Core shall be taken to ensure that the external load pads are full and continuous contact with the beam or girder flange before welding begins.

Prior to erection of the beams or girders, the Contractor shall verify the orientation of the bearings with respect to t1 and t2.

TABLE OF FABRICATOR VARIABLES

<table>
<thead>
<tr>
<th>Location</th>
<th>Anchor Bolt</th>
<th>Elastomeric</th>
<th>External Load Plate</th>
<th>Anchor Bolt</th>
</tr>
</thead>
<tbody>
<tr>
<td>807.84(t)</td>
<td>M 270, Grade 80</td>
<td>807.84(t)</td>
<td>807.84(t)</td>
<td>807.84(t)</td>
</tr>
</tbody>
</table>

ANCHOR BOLT DETAIL

Anchor bolts may be cast in place or drilled and grouted in place. If anchor bolts are to be cast in place, the Gasketed Sheet Metal Sleeves will not be required.

If anchor bolts are to be drilled and grouted in place, the Gasketed Sheet Metal Sleeves shall be cast in place on steel sleeves shall be dry before grouting is done or approved equal to the specified dimensions of Structural Steel, the dry pad shall be removed and holes for the anchor bolts shall be accurately drilled into the concrete. Bars placed in drilled holes shall be accurately cut and fixed using a DPL approved epoxy or non-shrink grout that complies. This material, Gasketed Sheet Metal Sleeves will not be paid for directly but will be considered subsidiary to the foot "Structural Steel in Beam Spans 270, 270, 270, 270, 270, 270".

GENERAL NOTES

Elastomeric bearings shall conform to Section B88 and shall be paid for at the unit price list for "Elastomeric Bearing".

Overhead load plates shall conform to ASTM 807.84(t) 807.84(t) 807.84(t) 807.84(t) 807.84(t) and shall be gasketed to conform to ASTM 807.84(t) 807.84(t) 807.84(t) 807.84(t) 807.84(t).

Elastomeric load plates shall be completely fabricated including load and bolt head and should be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Subsection B88.8. Other surfaces shall be cleaned in accordance with Subsection B88.8.2.

Anchor bolts, washers, and nuts shall conform to Section B88.34. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Specifications". All materials shall be tested in accordance with the Unit Price list for Structural Steel in Beam Spans 270, 270, 270, 270, 270, 270. Overhead load plates will not be paid for separately but will be considered incidental to the unit price list for Structural Steel in Beam Spans 270, 270, 270, 270, 270, 270. Bearings shall be secured in accordance with Subsection B88.8. This work and materials are considered subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.
All structural steel shall be ASS'T-3 in Z30. Grade 50 unless otherwise noted and shall be held for 27.40. See " Structural Steel in Beam Spans in Z30. Grade 50." See Sec. 50.12, 50.00, and 50.01 for additional notes and details.

**FIELD SPICE DETAIL**

No Scale

*Detail field splices shown may be welded or shop welded splices.Not to be used without the approval of the Engineer.**

All field splice bolts shall be *5.5* in all splices. All holes for splice bolts shall be *5.5* in.
HALF REINFORCING PLAN AND SLAB POURING SEQUENCE

- Plan as shown in "Typical Roadway Section," Dep. No. 60293.
- See Dep. No. 60293 for more details of reinforcing in concrete and diaphragm.

ALTERNATE POURING SEQUENCE

- Direction of pour shall be from near Bent 5 progressing to Bent 1 if restrictions are used and included in a manner that requires Pouring in the slab in the opposite direction. This alternate Pouring Sequence shall be utilized accordingly to where Pouring on the 30' Beam at Pour 1 progresses from near Bent 1 to Bent 5.
**ELEVATION - CONCRETE PARAPET RAIL**

- Wire shall be smooth 9 gage, and conform to ASTM A 273, Class 3, galvanized and dimensioned.
- Three 14 fiberglass reinforcing bars shall be placed, one on each side, and on a 20° angle, across the open joints with a 20° angle of tilt.
- For actual placement of reinforcing steel, see parapet details.

**NOTES:**
- Parapet Studs shall be 5" long, grooved flange filled, solid forged, and subjected to the same quality control as the joint. Joints and parapets shall meet the requirements of Section A1.8. Studs and parapets shall be measured and noted for the records on the Shop Drawings.
- The surfaces of the parapets which will not be in contact with concrete shall be cleaned in accordance with Section A1.8, 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 surcharged as specified by Structural Steel in Shop Drawings.

**TABLE OF VARIABLES**

<table>
<thead>
<tr>
<th>Closed Roll Panels</th>
<th>Open Roll Panels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Length</td>
<td>&quot;D&quot;</td>
</tr>
<tr>
<td>0'-0&quot;</td>
<td>25</td>
</tr>
<tr>
<td>0'-6&quot;</td>
<td>25</td>
</tr>
<tr>
<td>0'-0&quot;</td>
<td>3/4&quot;</td>
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</tbody>
</table>

**SECTION A-A**

- Wire to be smooth 9 gage, conform to ASTM A 273, Class 3, galvanized and dimensioned.

**SECTION B-B**

- Three 14 fiberglass reinforcing bars shall be placed, one on each side, and on a 20° angle, across the open joints with a 20° angle of tilt.

**DETAIL Z**

- For actual placement of reinforcing steel, see parapet details.

**DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL**

- All parapets shall be braced as required to prevent racking. All open joints shall be sized as soon as practical to a minimum width of 3/4 inch. To control cracking before setting, all joints must be grooved before the parapets are slipped. Grooving of the joints must be continued as it will follow the grooved joint.

**CONTINUOUS INTEGRAL W-BEAM UNIT**

**ROUTE**

- SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARK.**

**DRAWING NO. 07425**

**ARKANSAS STATE HIGHWAY COMMISSION**

**DRAFT ENGINEER**

**DATE: 07/22/2018**

**ARKANSAS STATE HIGHWAY COMMISSION**

**DATE: 07/22/2018**

**BRIDGE NO. 07425**

**DRAWING NO. 07425**

**SHEET 6 OF 6**

**DETAILS OF 170'-0" BRIDGE***
GENERAL NOTES
These GENERAL NOTES are applicable unless otherwise shown in the Plan Details, Special Provisions, or Substructure Specifications.


DESIGN SPECIFICATIONS: See Bridge Layouts.

SUPERSTRUCTURE NOTES

MATERIALS AND STRENGTH

Diss SIW Concrete
For Rebar:

Size: 6 in. for Group 8.501

Strength: 4,000 psi

Weight: 900 lbs.

Concrete will be poured in the dry and all exposed corners shall be chiselled 3/4" unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Diss SIW Concrete. See Standard Drawing No. 459055 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Use of a longitudinal split is not permitted on any span of a bridge deck with horizontal curvatures.

The concrete deck roadway surface shall be given a fine finish in accordance with Subsection BS1 for Diss SIW Bridge Decks. Surfacing shall receive a distress from the specified for fine finishing in Subsection BS2 for Diss SIW Bridge Decks. Finishing machine across new concrete shall be on some plates in the direction of the rolling, and any section of a new concrete shall be finished in a direction of the rolling or a direction of the rolling plus or minus 45 degrees.

Ironmongery and steel in the dry section of the bridge shall be poured with a tolerance of 1/2" unless otherwise noted. For the concrete deck roadway surface shall be given a fine finish in accordance with Subsection BS1 for Diss SIW Bridge Decks. Surfacing shall receive a distress from the specified for fine finishing in Subsection BS2 for Diss SIW Bridge Decks. Finishing machine across new concrete shall be on some plates in the direction of the rolling, and any section of a new concrete shall be finished in a direction of the rolling or a direction of the rolling plus or minus 45 degrees.

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**ARKANSAS STATE HIGHWAY COMMISSION**

**CONCRETE DITCH PAVING**

**STANDARD DRAWING CDP-1**

---

**Type A**

- 8" dia. deep hole at 18' on centers
- Excavate to base lines to construct ditch paving and solid sodding.

**Type B**

- 8" dia. deep hole at 18' on centers
- 4" rounding

---

**Energy Dissipators**

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 separately but shall be considered to be excluded in the price bid for concrete ditch paving.

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**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 sod along ditch paving to be placed within 14 days of ditch paving construction.

*2" wide transverse expansion joints shall be placed in concrete ditch paving at 40' intervals. The space shall be filled with approved joint filler complying with AASHTO M135.*

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**Toe Wall Detail for Concrete Ditch Paving**

---

**Table of Contents**

- General Specifications
- Design and Construction
- Details
- Standard Drawings

---

**APPENDIX A**

**APPENDIX B**

---

**REFERENCES**

- Code of Federal Regulations
- Arkansas Department of Transportation
- American Society of Civil Engineers

---

**DATE**

- 12-01-77

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**REVISIONS**

- 12-01-77

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**DATE FILED**

- 12-01-77
DETAIL OF GUARD RAIL PLACEMENT
BEHIND CURB (W.BEAM)

FOR DESIGN SPEEDS OF 50 MPH OR LESS
ALIGN FACE OF GUARD RAIL WITH FACE OF CURB.

FOR DESIGN SPEEDS OF 55 MPH OR MORE
PLACE GUARD RAIL POSTS AGAINST BACK OF CURB.

CASE 1

CASE 2

DETAILED POST PLACEMENT IN SOLID ROCK (W-BEAM)

NOTE:
Bolts, nuts, washers and plates shall be
described in accordance with Section 827 of the Standard Specifications.
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

- Lap of guard rail shall be as shown for a distance of up to 200', then change to lap in direction of travel.

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

- Lap of guard rail shall be as shown for a distance of up to 200', then change to lap in direction of travel.

LEGEND

- Three beam guard rail terminal
- Guard rail terminal (Type 2)

METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)
ARKANSAS STATE HIGHWAY COMMISSION
GUARD RAIL DETAILS

DETAILS OF WIDENING FOR GUARD RAIL

SECTION A-A

SECTION B-B

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY

METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-9A
**STRUCTURAL STEEL TUBING BLOCKOUT DETAIL**

- **THREE BEAM RAIL SPlice AT POST**
- **POST BOLT HOLES**
- **SLOTS**
- **ATTACH BLOCKOUT TO POST USING 3/8" OR 1/2" MIN. HEAD NUTS AND BOLTS.**
- **1 1/2" (TOLERANCE .050, .050) STRUCTURAL TUBE.**
- **3/8" x 1" POST BOLT SLOT.**
- **200' O.C. POST BOLT HOLES SPACED AT 1-1/2" O.C.**
- **OPTIONAL 3/8" T-HOLE FOR HANDLING DURING FABRICATION AND AS PERMITTED.**
- **NUTS AND BOLTS.**

**GENERAL NOTES:**
- **THE THREE BEAM RAIL SPECIAL END SHOE AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE OF GAUGE AND COATING AS IMPORTED TO THE SPECIFICATIONS.**
- **THE BOLTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE, DRADE AND THE POSTS.**
- **ALL HOLES SHALL BE MADE LENGTH THROUGH THE FULL THICKNESS OF THE POST AND 5' 4" IN THE TRAFFIC MEMBER.**
- **ALL TOP SURFACES SHALL BE FLAT AND THE HOLES SHALL BE MADE IN THE DIRECTION SHOWN ON THE DETAIL.**
- **REFER TO STANDARDS OR FOR POST DETAILS.**
- **USE THREE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.**
- **THE BEAM POSTS & BEAM BLOCKS SHALL BE EITHER STEEL #1 STRUCTURAL OR BOLTED #2 STEEL #1 WITH A STEEL #2 BOLT.**

---

**TRANSITION SECTION**

**CONNECTOR PLATE**

- **CONNECTION PLATE SHALL BE AS SHOWN.**
- **POST BOLTS, 3/8" MIN. HEAD NUTS AND BOLTS.**
- **SLOT**
- **FOR STANDARD DRAWING GR-10A FOR GUARD RAIL POST SPACING DEPTHS.**

**NOTE:**

- **THE THREE BEAM RAIL SPECIAL END SHOE AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE OF GAUGE AND COATING AS IMPORTED TO THE SPECIFICATIONS.**
- **THE BOLTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE, DRADE AND THE POSTS.**
- **ALL HOLES SHALL BE MADE LENGTH THROUGH THE FULL THICKNESS OF THE POST AND 5' 4" IN THE TRAFFIC MEMBER.**
- **ALL TOP SURFACES SHALL BE FLAT AND THE HOLES SHALL BE MADE IN THE DIRECTION SHOWN ON THE DETAIL.**
- **REFER TO STANDARDS OR FOR POST DETAILS.**
- **USE THREE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.**
- **THE BEAM POSTS & BEAM BLOCKS SHALL BE EITHER STEEL #1 STRUCTURAL OR BOLTED #2 STEEL #1 WITH A STEEL #2 BOLT.**

---

**ARKANSAS STATE HIGHWAY COMMISSION**

**GUARD RAIL DETAILS**

**STANDARD DRAWING GR-10**
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 S.E. no. 1 STRUCTURAL OR
BETTER 6.7 FT (WOOD) OR NO. 1 (SOFT) SOUTHERN PINE.

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
THREE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:
THE THREE BEAM SPECIAL END SHOE AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE OF GAUGE ONE CENTIFUGAL BEING 3/16 IN.
RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRACE AND VERTICAL IN CROSS SECTION.
ALWAYS MARK THE LENGTH OF THE CEMENT TO EXTEND THROUGH THE FULL THICKNESS OF THE CEMENT AND NO MORE THAN 3/4 IN. BEYOND IT.
ALL LAP SPLICES INCLUDING SPECIAL END SHOES SHALL BE MADE IN THE MANNER SHOWN ON STANDARD DRAWING GR-I2.
REFER TO STANDARD DRAWING GR-I2 FOR POST DETAILS.
USE THREE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.
THREE BEAM POSTS SHALL BE SAME MATERIAL AS B-BEAM POSTS FOR ENTIRE JOB.
POSTS SHALL BE PLACED AT THE MID-SPAN OF THE THREE BEAM.
WOOD BLOCKS OR WOOD BLOCKS SHALL BE OF THE SAME SIZE AS STRUCTURAL OR BETTER 6/4-8 POSTS OR 9.750 (SOE) SOUTHERN PINE.
GENERAL NOTES

Curtain walls and aprons shall be tied to the precast culvert sections by J bars and H bars in every 10' of section. End sections shall be tied as shown in Fig. 1A. J bars and H bars shall be embedded a minimum of 6" in precast box.

Curtain walls and aprons shall be constructed in accordance with the applicable drawing, with opening and concrete quantities to be installed in place with a minimum of 6" of precast concrete box culvert.

All exposed corners to have a clean chamfer. Inside corners may be adjusted in the field as directed by the Engineer.

CONCRETE, REINFORCING STEEL, LEAK DURANT, GEOTEXTILE WATERPROOFING FABRIC, FILL MATERIALS, AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST CONCRETE BOX CULVERTS ARE TO BE INCLUDED IN THE PROPOSAL BEST FOR THE TIME AS SPECIFIED IN SECTION 45 OF THE STANDARD SPECIFICATIONS.

LEAK DURANT CONSISTS OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:

PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS AS SPECIFIED IN SECTION 20 OF THE STANDARD SPECIFICATIONS.

LEAK DURANT SANDING MATERIAL CONSISTS OF NOT LESS THAN 10% BY WEIGHT
time cement weight. LEAK DURANT MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENT. THE CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 2-INCH THICK LAYERS MEASURE AND THROUGHLY RODDED AND HAULED AROUND BOX TO THOROUGHLY FILL ALL PORES.

GEOTEXTILE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 45 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO BOX CULVERT JOINTS.

The geotextile waterproofing shall be required on the top exterior joint and shall extend 1-foot down the sides of the culvert.

In outer barrel. one deep hole is required in exterior walls of box culvert and each corner of box culvert at top exterior joint. This opening shall be spaced to clean all remaining reinforcing steel. The clean opening shall be provided with a filter fabric on both top and bottom of the opening.

DRAINAGE FABRIC IS REQUIRED AT THE EXTREME WALLS OF THE ASSEMBLED CULVERT. SEE DETAILS ON THIS DRAWING.

Wooden posts shall be 3/4" x 6" on each side of joint. On multilap joints, the teardrop-shaped waterproofing shall be applied to the top of the joint. With the approval of the engineer, the contract will be allowed to substitute an adobe details to the standard specifications in lieu of the leak durant.

BAR LIST

<table>
<thead>
<tr>
<th>BAR</th>
<th>NO.</th>
<th>SIZE</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>2</td>
<td>7/8&quot;</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>4</td>
<td>7/8&quot;</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td></td>
<td>7/8&quot;</td>
<td>1-5&quot;</td>
</tr>
<tr>
<td>L</td>
<td>4</td>
<td>7/8&quot;</td>
<td>2-2&quot;</td>
</tr>
<tr>
<td>M</td>
<td>4</td>
<td>7/8&quot;</td>
<td>1-9&quot;</td>
</tr>
</tbody>
</table>

**NOTE**: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1
<table>
<thead>
<tr>
<th>INSTALLATION</th>
<th>MATERIAL REQUIREMENTS FOR RAUNCH AND STRUCTURAL BEDDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE 1: AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)</td>
<td></td>
</tr>
<tr>
<td>TYPE 2: SELECTED MATERIALS (CLASS S1, S2, OR SP 40)</td>
<td>OR TYPE 3: INSTALLATION MATERIAL</td>
</tr>
<tr>
<td>TYPE 3: ASHALT-MIX CLASSIFICATION (A-ROM OR H-1)</td>
<td>OR TYPE 1 OR 2 INSTALLATION MATERIAL</td>
</tr>
</tbody>
</table>

**NOTE** - SH-3 WILL NOT BE ALLOWED.

- MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STORES LARGER THAN 3 INCHES.

### CONSTRUCTION SEQUENCE
1. PLACE STRUCTURAL BEDDING MATERIAL TO GAUGE, DO NOT COMPACT.
2. INSTALL PIPE TO GAUGE.
3. COMPARE SPIRAL DIMENSIONS OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE BACKFILLING ACCORDING TO THE DESIGN.

**NOTE**: RAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF CONCRETE PIPE.

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

<table>
<thead>
<tr>
<th>INSTALLATION TYPE</th>
<th>MATERIAL REQUIREMENTS FOR RAUNCH AND STRUCTURAL BEDDING</th>
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<tbody>
<tr>
<td>TYPE 1: AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)</td>
<td></td>
</tr>
<tr>
<td>TYPE 2: SELECTED MATERIALS (CLASS S1, S2, OR SP 40)</td>
<td>OR TYPE 3: INSTALLATION MATERIAL</td>
</tr>
<tr>
<td>TYPE 3: ASHALT-MIX CLASSIFICATION (A-ROM OR H-1)</td>
<td>OR TYPE 1 OR 2 INSTALLATION MATERIAL</td>
</tr>
</tbody>
</table>

**NOTE** - SH-3 WILL NOT BE ALLOWED.

- MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STORES LARGER THAN 3 INCHES.

### GENERAL NOTES
- CONCRETE PIPE CULVERT CONSTRUCTION SHALL COMPLY WITH ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT (ARKIST) STANDARDS, EXCEPT AS MODIFIED OR APPROVED BY THE CONTRACTOR.
- THE SELECTED PIPE CULVERT DESIGN SHALL CONFORM TO ASHATO LPCD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION, CURRENT REVISION.
- ALL PIPE USED IN THE INSTALLATION OF CONCRETE PIPE CULVERTS SHALL CONFORM TO ASHATO LPCD AND CONTRACTOR Specifications FOR PIPE MATERIALS AND INSTALLATION.
- ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
- THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WORKABLE, PER WORKING CONDITIONS.
- NO BOX SECTIONS SHALL BE Installed WITH A MINIMUM CLEARANCE OF 6 INCHES. BURIED END OF PIPE REFER TO ACTUATING DESIGN FOR MINIMUM EMBANKMENT THICKNESS END SECTIONS ARE SOLVED.
- IMPERVIOUS MATERIAL SHOUL D BE PLACED AS DIRECTED BY THE ENGINEER. AT THE END OF THE EMBANKMENT TO PREVENT LOSS OF STRUCTURAL BEDDING MATERIAL WHEN PERMA material IS USED FOR STRUCTURAL BEDDING AND/OR RAUNCH.
- NOT MORE THAN ONE 1 INCH WIDE HOLE MAY BE PLACED IN CONCRETE PIPES TO ENSURE HANDLING. HOLE MAY BE LEFT IN PLACE OR CUT OUT AND THE PIPE CONNECTED TO THE HOLES. THE HOLE SHALL NOT BE MESS THAN 3 MESS OF THE DIAMETER OF TWO PIPE CONNECTIONS. ALL Holes SHALL BE FILLED WITH MORTAR CONCRETE OR STABILIZED WITH CONCRETE AS APPROVED BY THE ENGINEER.
- WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCHES OR IN THE AREA OF STRUCTURAL BEDDING, SHALL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REMOVED AS PART OF THE EXCAVATION, WHICH IS NOT REPLACED. SHALL BE CREDITED TO THE CONTRACTOR.
- WHEN THE EXISTING MATERIAL ENCOUNTERED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE, THE CONTRACTOR SHALL BE NOTIFIED AND THE COST OF THE UNSUITABLE MATERIALS. MATERIALS FROM THE REMOVAL EXCAVATION WILL NOT BE CREDITED TO THE CONTRACTOR.
CONCRETE PAVEMENT

BROKEN LINE STRIPING

ASPHALT PAVEMENT

SOLID LINE STRIPING ON CONCRETE PAVEMENT

SOLID LINE STRIPING ON ASPHALT PAVEMENT

APPROVED PRODUCTS LIST.

REVISED GENERAL NOTES & RULES

BROKEN LINE STRIPING

CONTINUOUS YELLOVg

CONTINUOUS WHITE

STRIPE AT ADJACENT NO PASSING LANE

CONTINUOUS WHITE

BREAKED LINE STRIPING

CONTINUOUS WHITE

STOPBAR OFFSET 4' FROM CROSSWALK

REDUCED LINE WIDTHS, SPACING & NOTES

REVISED GENERAL NOTES

REMOVED, RELOCATED, DIRT, PAVERS

ADDED, RELOCATED, DIRT, PAVERS

REMOVED, RELOCATED, DIRT, PAVERS

REMOVED, DIRT, PAVERS

REMOVED, DIRT, PAVERS

REMOVED, DIRT, PAVERS

NO PASSING LANE DETAIL

YIELD LINE DETAIL

CROSSWALK AND STOPBAR DETAILS

NOTE:
- Dimensions shown for raised pavement markers are typical. The contractor may substitute similar markers with equivalent dimensions. Approval for similar markers may be made by referring to the ARDOT certified products list.

NOTES:
1. Refer to the striping details for pavement marking line widths.
2. This detail is used to comply with the latest revisions of the "Manual on Uniform Traffic Control Devices for Streets and Highways."
3. Raised pavement markers shall be placed on an 80 feet spacing unless otherwise shown in the plans.
NOTE:
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE UNDERDRAIN GEOTEXTILE FABRIC.
2. GEOTEXTILE FABRIC SHALL BE WRAPPED AROUND THE LATERAL AND LAPPED AT THE TOP.
3. GRANULAR MATERIAL SHALL BE WRAPPED IN FLAT TILL FABRIC, IF THE WIDTH OF THE TRENCH AT THE TOP.

DETAILS OF PIPE UNDERDRAIN

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 409 FOR TYPE 1. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 6102 OF THE STANDARD SPECIFICATIONS.

2. "4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN (HEREON). LATERALS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 6102 OF THE STANDARD SPECIFICATIONS. UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 6102 OF THE STANDARD SPECIFICATIONS. UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 6102 OF THE STANDARD SPECIFICATIONS.

3. EXISTING "4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DRAIN LATERALS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DRAIN LATERALS SHALL BE INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS.

4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH "4" X "2" PERMANENT PAVEMENT MARKING TAPE TYPE AHW1 AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: INSTALL OUTLET PROTECTORS AS SHOWN ON STANDARD DRAWING PU-I AND GROUT THE UNDERDRAIN HOE OR INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOE.

NOTE:
IN UNDERDRAIN OUTLET PROTECTORS, THE 25' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

DETAILS OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTES FOR PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1790 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD DRAWING PU-I

DETAILS OF PIPE UNDERDRAIN

NOTE:
IN UNDERDRAIN OUTLET PROTECTORS, THE 25' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.
CONCRETE SHALL BE CLASS 5 WITH A MINIMUM 28 DAY COMpressive STRENGTH OF 3500 PSI.
REINFORCING STEEL SHALL BE AASHTO M 305 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BIDDING SPECIFICATIONS.

REINFORCING STEEL TOLERANCES FOR STEEL SHALL BE MEET;
THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (ERSHS), EXCEPT THAT THE TOLERANCES FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE T-4 OF THE EOS MANUAL, SHALL BE PLUS OR MINUS 1/8 INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM SPACING OF 12"-0" OF THE BOTTOM BENT BAR, AND SHALL BE PLACED 2" ABOVE THE TOP OF THE BOX CULVERT.

WEEP HOLES IN MINERAL WELLS SHALL HAVE A MAXIMUM SPACING OF 12"-0" AND SHALL BE PLACED 2" ABOVE THE TOP OF THE WINFALL, FOOTING.

THE TOLERANCES SHOWN IN THIS DRAWING SHALL SURPASS THE CORRESPONDING REQUIREMENTS FOR THE ALL-REINFORCEMENT BOX CULVERT STANDARD DRAWINGS.
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

SECTION A-A
DETAILS THROUGH EXISTING CHANNELS

SECTION B-B
DETAILS FOR NEW CHANNELS

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.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDING WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.
### TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

#### GENERAL NOTES
1. On pavements with two-way traffic, the superelevation shall be revolved around the inner pavement edge unless otherwise noted on the plans.
2. Super-elevation values shown in the cross-sections are values to be added to or subtracted from the point of control.
3. Super-elevation values on multiples of 25 ft. or 50 ft. to permit simpler calculating.
4. Pavements wider than 2 lanes shall have additional transition lengths as follows:
   - 3 lanes or more: 10 x L
   - 2 lanes: 5 x L

#### STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>30 MPH</th>
<th>50 MPH</th>
<th>70 MPH</th>
<th>90 MPH</th>
<th>110 MPH</th>
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<tbody>
<tr>
<td>15°</td>
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<td>300</td>
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<td>300</td>
</tr>
</tbody>
</table>

#### STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

- **Note:** Maintain normal crown on inner edge until super-elevation exceeds 2C.

#### SUPERELEVATION FORMULA

\[ \frac{2C \times L}{L + \frac{1}{2}} \]

### SUPERELEVATION TABLE FOR TWO-WAY TRAFFIC

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>30 MPH</th>
<th>50 MPH</th>
<th>70 MPH</th>
<th>90 MPH</th>
<th>110 MPH</th>
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</tr>
</tbody>
</table>

#### SUPERELEVATION FORMULA

\[ \frac{2C \times L}{L + \frac{1}{2}} \]

### SUPERELEVATION TABLE FOR TWO-WAY TRAFFIC

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>30 MPH</th>
<th>50 MPH</th>
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</tr>
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</table>

#### SUPERELEVATION FORMULA

\[ \frac{2C \times L}{L + \frac{1}{2}} \]
4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (see BARRIER STABILIZATION DETAIL - BRIDGE DECKS STD. DRWG. TC-4).

Barrier shall be dowelled to pavement when the dimension is less than 4'-0" and the dimension is greater than 24 inches.

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

General Notes

<table>
<thead>
<tr>
<th>Speed</th>
<th>Offset Distance (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 mph</td>
<td>3</td>
</tr>
<tr>
<td>25 mph</td>
<td>12</td>
</tr>
</tbody>
</table>

If offset distance is not attainable, then use "Barrier Placement With Attenuator" detail shown below.

Min. 3'-0" from edge of travel lane to nearest edge of attenuator.

** Offset Distance Table

<table>
<thead>
<tr>
<th>Offset Distance for Two Way Traffic Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>3' from edge of travel lane to nearest edge of attenuator</td>
</tr>
</tbody>
</table>
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. PLACE PERIMETER CONTROLS (i.e., SILT FENCES, DIVERSION DITCHES, SEDIMENT BASINS, etc.).
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION

EXISTING GROUND

INTERCEPTOR OR DIVERSION DITCH

EXISTING GROUND

NOTE: NUMBER OF PHASES WILL VARY.

PHASE 1 EXCAVATION

PHASE 2 EXCAVATION

FINAL PHASE EXCAVATION

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. PLACE DIVERSION DITCHES AND/OR OTHER EROSION CONTROL DEVICES AS NEEDED.

EMBANKMENT

NOTES:
- NUMBER OF PHASES WILL VARY.
- THREE PHASES SHOWN FOR ILLUSTRATION.

GENERAL NOTE

ALL EMBANKMENT 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. 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 DIVERSION DITCHES AND/OR OTHER EROSION CONTROL DEVICES AS NEEDED.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND/OR OTHER EROSION CONTROL DEVICES AS NEEDED.
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