<table>
<thead>
<tr>
<th>SYMBOL LEGEND</th>
<th>LINE LEGEND</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY POINTS</td>
<td>SURVEY ALIGNMENT</td>
</tr>
<tr>
<td>TOPO POINTS</td>
<td>CONSTR. ALIGNMENT</td>
</tr>
<tr>
<td>LAND CORNER</td>
<td>EXISTING PAVMT EDGE</td>
</tr>
<tr>
<td>LAND MONUMENT</td>
<td>WIRE FENCE</td>
</tr>
<tr>
<td>FIRE HYDRANT</td>
<td>CONSTRUCTION LIMITS</td>
</tr>
<tr>
<td>LIGHT POLE</td>
<td>CHAIN LINK FENCE</td>
</tr>
<tr>
<td>SIGN</td>
<td>PROPOSED RIGHT-OF-WAY</td>
</tr>
<tr>
<td>WATER METER</td>
<td>WATER LINE</td>
</tr>
<tr>
<td>WATER VALVE</td>
<td>S. S. LINE</td>
</tr>
<tr>
<td>WELL</td>
<td>GAS LINE</td>
</tr>
<tr>
<td>EXISTING DROP INLET</td>
<td>TEMP. CONST. ESMT.</td>
</tr>
<tr>
<td>POWER POLE</td>
<td>EDGE GRAVEL SURFACE</td>
</tr>
<tr>
<td></td>
<td>EXISTING CULVERT</td>
</tr>
<tr>
<td></td>
<td>RIGHT-OF-WAY WITH CONTROL OF ACCESS</td>
</tr>
<tr>
<td>PROPOSED BOX CULVERT</td>
<td></td>
</tr>
<tr>
<td>PROPOSED PIPE CULVERT</td>
<td></td>
</tr>
</tbody>
</table>
SPECIAL DETAILS

TYPICAL SECTION OF IMPROVEMENT

STA. 10+72.40 - STA. 22+26.06
STA. 30+26.74 - STA. 34+60.00
STA. 35+10.00 - STA. 39+14.11
STA. 50+00.12 - STA. 54+13.00
STA. 55+06.00 - STA. 59+50.70

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATION FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
DETAILS OF SILT FENCE AT CROSS DRAINS

DETAIL SHOWING TAPER TO EXISTING PAVEMENT

METHOD OF RAISING GRADE

NOTES:
11. THIS DETAIL TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
12. QUANTITIES FOR METHOD OF GRADE RAISE USING THIS DETAIL TO BE CALCULATED BY THE ENGINEER.
13. DISTANCES BETWEEN EXISTING ASPHALT ROADWAY AND PROPOSED SUBGRADE MAY RANGE FROM ONE FOOT TO THREE FEET.

SILTFENCE

STATEMENT SHEET

SPECIAL DETAILS

100722

8-26-11

PIGEON ROOST CREEK

STA. 103+00.00 - STA. 104+00.00
STA. 114+13.36 - STA. 115+13.36
HURRICANE CREEK
STA. 302+50.02 - STA. 303+50.02
STA. 310+50.02 - STA. 311+50.02
SLAVENS CREEK
STA. 606+00.01 - STA. 607+00.01
STA. 617+00.01 - STA. 618+00.01
TYPICAL AUTOMATIC FLOOD GATE DETAILS

SPECIAL DETAIL OF APPROACH SLAB

DETAIL OF WIDENING FOR GUARDRAIL

* REFER TO STD. DWG. GR-9A FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.
TYPICAL SECTION OF IMPROVEMENT-DETOUR RD.
STA. 34+60 - STA. 35+10

SPECIAL DETAILS FOR
DUMPED RIPRAP AND
SYNTHETIC FIBER FABRIC
HURRICANE CREEK

THIS STREAM IS CLASSIFIED AS A
PERENNIAL STREAM. THE PERENNIAL
STREAM BANK ELEVATION IS 316.0 FT, MSL.

DESIGN HIGH WATER
DEAD ELEV. 318.88

DUMPED RIPRAP &
SYNTHETIC FIBER FABRIC
TO ELEV. 309.00

FILTER BLANKET: 20 GY. YD.

34\0 35\0 36\0 37\0 38\0 39\0
TEMPORARY EROSION CONTROL GENERAL NOTES

The quantities and locations of the erosion control devices shown in the plans are estimated and may be altered if and where directed by the engineer to maximize their effectiveness. The devices are to be installed in an area only when the soil disturbing activity in that area begins.

Refer to Section 110 of the standard specifications for additional requirements.

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2

Rock Ditch Checks (E-81) • 80 CU. YD.
Diversion Ditch (E-82) • 3582 LIN.FT.
Silt Fence (E-111) • 1826 LIN.FT.
Pipe for Slope Drain (E-121) • 181 LIN.FT.
Sediment Basin (E-141) • 96 CU.YD.
Detention of Sediment Basin • 96 CU.YD.
Sediment Removal and Disposal • 500 CU.YD.
Dumped Riprap • 4 CU.YD.

STA. 104+00,00
BEGIN JOB 100722
LOG MILE 1.50

STA. 114+13.36
END PIGEON ROOST CREEK
L.M. 1.69

ROCK DITCH CHECK (E-81) SIDE QL. YD.
STA. 104+00 LT. 5
STA. 104+60 LT. 5
STA. 104+80 LT. 5
STA. 110+17 LT. 5
STA. 110+17 LT. 5
STA. 113+00 LT. 5

DIVERSION DITCH L.I.N. FT.
STA. 104+00 - STA. 104+60 16
STA. 104+60 - STA. 104+80 16
STA. 110+17 - STA. 110+17 16
STA. 113+00 - STA. 113+25 LT. 16

PIPE FOR SLOPE DRAIN L.I.N. FT.
STA. 104+00 - STA. 104+60 16
STA. 104+60 - STA. 104+80 16
STA. 110+17 - STA. 110+17 16
STA. 113+00 - STA. 113+25 LT. 16

DUMPED RIPRAP QL. YD.

STA. 110+17 - STA. 110+17 16
STA. 113+00 - STA. 113+25 LT. 16

SILT FENCE (E-111) LIN.FT.
AROUND TOP OF SLOPE 170
AROUND TOP OF SLOPE 120

DETAILS OF SILT FENCE

AT CROSS DRAINS

TEMPORARY EROSION CONTROL DETAILS

PIGEON ROOST CREEK STAGE 2
TEMPORARY EROSION CONTROL QUANTITIES - STAGE 3

ROCK DITCH CHECKS (E-16) • 35 CU.YD.
SILT FENCE (E-11) • 380 LIN.FT.
SEDIMENT REMOVAL AND DISPOSAL • 200 CU.YD.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
MAINTENANCE OF TRAFFIC - STAGE 1 QUANTITIES

SIGNs = 478 SQ. FT.
BARRICADES TY. III LT. = 48 LIN. FT.
BARRICADES TY. III RT. = 48 LIN. FT.
TRAFFIC DRUMS = 12 EACH
VERTICAL PANELs = 46 EACH
CONSTRUCTION PAVEMENT MARKERS (TY. III YEL./VEL.) = 57 EACH
84' TEMPORARY CULVERT = 115 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
PIGEON ROOST CREEK STAGE 1

SEQUENCE OF CONSTRUCTION
STAGE 1
CONSTRUCT DETOURS AS SHOWN
INSTALL TEMPORARY PIPES AND CONSTRUCT TEMPORARY BRIDGES AS SHOWN
STAGE 2
SHIFT TRAFFIC TO DETOURS
REMOVE EXISTING BRIDGES AND CONSTRUCT NEW RC. BOX CULVERT AND BRIDGES
STAGE 3
SHIFT TRAFFIC TO MAIN LANES AND REMOVE DETOURS
FINISH TILLING

END OF JOB
INSTALL FINAL STRIPING

OVERLAY TANGENT - RIGHT SIDE WIDENING

OVERLAY TANGENT - LEFT SIDE WIDENING
NOTCH AND WIDENING M.O.T. DETAILS
(REVERSE CURB AND VERTICAL PANEL PLACEMENT FOR LEFT SIDE NEW LOCATION)

AS DIRECTED BY THE ENGINEER

AS DIRECTED BY THE ENGINEER
SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOURS AS SHOWN.
INSTALL TEMPORARY PIPES AND CONSTRUCT
TEMPORARY BRIDGES AS SHOWN.

STAGE 2
SHIFT TRAFFIC ONTO DETOURS.
REPLACE EXISTING BRIDGES AND CONSTRUCT
NEW R.C. BOX CULVERT AND BRIDGES.

STAGE 3
SHIFT TRAFFIC TO MAIN LAKES AND REMOVE
DETOURS.
FINISH 3-1-2-1-3.

END OF JOB
INSTALL FINAL STRIPING.

MAINTENANCE OF TRAFFIC DETAILS
HURRICANE CREEK STAGE 1
SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOURS AS SHOWN
INSTALL TEMPORARY PIPE AND CONSTRUCT TEMPORARY BRIDGES AS SHOWN.

STAGE 2
SHIFT TRAFFIC ONTO DETOURS
REMOVE EXISTING BRIDGES AND PUT IN NEW R.C. BOX CULVERT AND BRIDGES.

STAGE 3
SHIFT TRAFFIC TO MAIN LANES AND REMOVE DETOURS
FINISH T.C.I.N.G.
END OF JOB
INSTALL FINAL STRIPING.
MAINTENANCE OF TRAFFIC - STAGE 3 QUANTITIES

SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOURS AS SHOWN.
INSTALL TEMPORARY PIPES AND CONSTRUCT TEMPORARY BRIDGES AS SHOWN.

STAGE 2
SHIFT TRAFFIC ONTO DETOURS.
REMOVE EXISTING BRIDGES AND CONSTRUCT NEW C.B. BOX CULVERT AND BRIDGES.

STAGE 3
SHIFT TRAFFIC TO MAIN LANES AND REMOVE DETOURS.
FINISH TIE-IN.

END OF JOB
INSTALL FINAL STRIPING.

PERMANENT PAVEMENT MARKING QUANTITIES

THERMOPLASTIC PAVEMENT MARKING YELLOW 14" x 2427 L.I.N. FT.,
THERMOPLASTIC PAVEMENT MARKING WHITE 14" x 2427 L.I.N. FT.

FINAL STRIPING DETAIL

MAINTENANCE OF TRAFFIC DETAILS
PIGEON ROOST CREEK STAGE 3
SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOURS AS SHOWN, INSTALL TEMPORARY PIERS AND CONSTRUCT TEMPORARY BRIDGES AS SHOWN.

STAGE 2
SHIFT TRAFFIC OFF DETOURS, REMOVE EXISTING BRIDGES AND CONSTRUCT NEW P.C. BOX CULVERT AND BRIDGES.

STAGE 3
SHIFT TRAFFIC TO MAIN LAKES AND REMOVE DETOURS.
FINISH TIE-IN.

END OF JOB
INSTALL FINAL STRIPING.
**SEQUENCE OF CONSTRUCTION**

**STAGE 1**
- Construct detours as shown.
- Install temporary pipe and construct temporary bridges as shown.

**STAGE 2**
- Shift traffic onto detours. Remove existing bridges and construct new R.C. Box Culvert and Bridges.

**STAGE 3**
- Shift traffic to main lanes and remove detours. Finish T&Ding.

**END OF JOB**
- Install final striping.

---

**FINAL STRIPING DETAIL**

**MAINTENANCE OF TRAFFIC DETAILS**

**SLAVENS CREEK STAGE 3**
### Permanent Pavement Marking Items

<table>
<thead>
<tr>
<th>Location</th>
<th>Bar/Brackets (vertical panels)</th>
<th>Traffic Drums</th>
<th>Pavement Marking Removal</th>
<th>Pavement Marking Removal</th>
<th>Raised Pavement Marking (Ty 8)</th>
<th>Ty 8</th>
<th>Ty 7</th>
<th>Ty 4</th>
<th>Ty 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIN LANES STAGE 1</td>
<td>40 40 12 46 3000</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAIN LANES STAGE 2</td>
<td>90 90 54 63 3632</td>
<td>123</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAIN LANES STAGE 3</td>
<td>60 60 60 63 3832</td>
<td>139</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>300 300 167 180 1332</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: This is a low volume road as defined in Section 104 of the Standard Specifications for Highway Construction, Edition of 2023.

### Maintenance of Traffic Items

<table>
<thead>
<tr>
<th>SGN NO.</th>
<th>SIGN DESCRIPTION</th>
<th>SIGN LOCATION (ft)</th>
<th>SIGN LOCATION (sq. ft)</th>
<th>SIGN LOCATION (sq. ft)</th>
<th>SIGN LOCATION (sq. ft)</th>
<th>SIGN LOCATION (sq. ft)</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
<th>NUMBER REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>030-2</td>
<td>END ROAD WORK</td>
<td>48 x 24</td>
<td>6 6</td>
<td>6 24</td>
<td>12 12</td>
<td>12 12</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>030-3</td>
<td>OBJECT MARKER</td>
<td>12 x 12</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>030-4</td>
<td>OVERTURN MARKER</td>
<td>12 x 12</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>040-1</td>
<td>DOUBLE REVERSE CURVE LEFT</td>
<td>36 x 24</td>
<td>3 3</td>
<td>3 6</td>
<td>3 6</td>
<td>3 6</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>040-2</td>
<td>DOUBLE REVERSE CURVE RIGHT</td>
<td>36 x 24</td>
<td>3 3</td>
<td>3 6</td>
<td>3 6</td>
<td>3 6</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>050-1</td>
<td>T-6 ARROW</td>
<td>48 x 24</td>
<td>6 6</td>
<td>6 36</td>
<td>12 12</td>
<td>12 12</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>050-2</td>
<td>CHEVY ON</td>
<td>18 x 24</td>
<td>40 40</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>050-3</td>
<td>SPEED LIMIT</td>
<td>24 x 24</td>
<td>6 6</td>
<td>6 24</td>
<td>6 24</td>
<td>6 24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>V50-1</td>
<td>ROAD WORK 1500 FT</td>
<td>48 x 48</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>V50-2</td>
<td>ROAD WORK 1000 FT</td>
<td>48 x 48</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>V50-3</td>
<td>ROAD WORK 500 FT</td>
<td>48 x 48</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>744</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Approach Slabs & Approach Gutters (Type Special)

<table>
<thead>
<tr>
<th>SLABS</th>
<th>APPROACH DRAINAGE</th>
<th>APPROACH DRAINAGE</th>
<th>APPROACH DRAINAGE</th>
<th>APPROACH DRAINAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS 050-100</td>
<td>STS 050-100</td>
<td>STS 050-100</td>
<td>STS 050-100</td>
<td>STS 050-100</td>
</tr>
<tr>
<td>STS 050-150</td>
<td>STS 050-150</td>
<td>STS 050-150</td>
<td>STS 050-150</td>
<td>STS 050-150</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

**Note:** In the Soil Character Table below, A denotes the Representative Soil; B denotes the Sampled Soil. The Soil Classification is shown as follows:

**Color:**

- Brown
- Black
- Gray
- Red
- Gray

**Index:**

- A1
- A2
- A3
- A4
- A5

**Soil Class:**

- S
- T
- U

**Legal Limit:**

- 0.5
- 1
- 2
- 3

**Density Limit:**

- 20
- 30
- 40
- 50

** gradation:**

- 90
- 90
- 90
- 90

**Note:** The soil characteristics are as tabulated above and are representative in the location of the sample, and from surface indications are typical for the location shown. These data are shown for information only. The data may not be responsible for variations in the soil characteristics when and extent of same differing from above table.
### R.C. BOX COULVERT, STRUCTURE OVER 20' 0" SPAN

#### BASE AND SURFACING

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>LENGTH</th>
<th>A.D.H./MIN. Binder Course (1&quot;)/ (44-22)</th>
<th>A.D.H./MIN. Surface Course (1&quot;)/ (44-22)</th>
<th>Mix Coat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A.C. Binder Course (1&quot;)/ (44-22)</td>
<td>A.C./Cemenitious Binder (1&quot;)/ (44-22)</td>
<td>40oz. A/C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AVG. WIDTH</td>
<td>AVG. TON</td>
<td>AVG. WIDTH</td>
</tr>
<tr>
<td>104+00</td>
<td>104+00</td>
<td></td>
<td>105 2 68</td>
<td>35 3.07</td>
<td>105 2 68</td>
</tr>
<tr>
<td>104+20</td>
<td>104+20</td>
<td></td>
<td>105 2 68</td>
<td>35 3.07</td>
<td>105 2 68</td>
</tr>
<tr>
<td>104+40</td>
<td>104+40</td>
<td></td>
<td>105 2 68</td>
<td>35 3.07</td>
<td>105 2 68</td>
</tr>
<tr>
<td>104+60</td>
<td>104+60</td>
<td></td>
<td>105 2 68</td>
<td>35 3.07</td>
<td>105 2 68</td>
</tr>
<tr>
<td>104+80</td>
<td>104+80</td>
<td></td>
<td>105 2 68</td>
<td>35 3.07</td>
<td>105 2 68</td>
</tr>
</tbody>
</table>

#### SOIL STABILIZATION

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>SOIL STABILIZATION</th>
<th>SOIL STABILIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ENTE PROJECT - IF &amp; B/W ARE IMPACTED BY THE DESIGNER: 100 1 1</td>
<td>ENTE PROJECT - IF &amp; B/W ARE IMPACTED BY THE DESIGNER: 100 1 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TOTAL: 100</td>
<td>TOTAL: 100</td>
</tr>
</tbody>
</table>

#### BENCH MARKS

- BENCH MARKS FOR INFORMATIONAL PURPOSES ONLY
- BENCH MARKS TO BE FINISHED, PLACED AND RECORDED BY STATE FORCES

### STRUCTURES

#### UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY

<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>DIA. (FT)</th>
<th>LENGTH</th>
<th>UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>110+00</td>
<td>COULVERT TIP 3&quot; X 11&quot; X 62 R.C. BOX COULVERT @ 10' 0&quot; LW.</td>
<td>9</td>
<td>11</td>
<td>145 360 90</td>
</tr>
</tbody>
</table>

#### REFRENCING STRUCTURES - ROADWAY

<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>DIA. (FT)</th>
<th>LENGTH</th>
<th>REFRENCING STRUCTURES - ROADWAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>110+00</td>
<td>COOLVERT TIP 3&quot; X 11&quot; X 62 R.C. BOX COULVERT @ 10' 0&quot; LW.</td>
<td>9</td>
<td>11</td>
<td>145 360 90</td>
</tr>
</tbody>
</table>

### WATER

<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>DIA. (FT)</th>
<th>LENGTH</th>
<th>WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>110+00</td>
<td>COOLVERT TIP 3&quot; X 11&quot; X 62 R.C. BOX COULVERT @ 10' 0&quot; LW.</td>
<td>9</td>
<td>11</td>
<td>145 360 90</td>
</tr>
</tbody>
</table>

#### STANDARD DETAILS

- PLAN: 105+00 R.C. BOX HOLE, LP & FT
- PROFILE: 300+00 R.C. BOX HOLE, LP & FT
- TIME: 08-03-05

- VOLUME CONTROL: A.D.H./MIN. Binder Course (1")/ (44-22) MIN. A.D.H./MIN. binder (PG 64-22) 4.1%
- A.D.H./MIN. Surface Course (1")/ (44-22) MIN. A.D.H./MIN. binder (PG 64-22) 5.3%

**Notes:**
- 115 CITATIONS

### QUANTITY SHEET

- BASE: 12,000 ft³
- R.E.D.: 200 ft³
- M. D.: 600 ft³

### SOIL STABILIZATION

- LOCATION: BENCH MARKS
- CROWN: 100 1 1
- TOTAL: 100

### BENCH MARKS

- TIME: 08-03-05
- BENCH MARKS FOR INFORMATIONAL PURPOSES ONLY

### VOLUME CONTROL

- A.D.H./MIN. Binder Course (1")/ (44-22) MIN. A.D.H./MIN. binder (PG 64-22) 4.1%
- A.D.H./MIN. Surface Course (1")/ (44-22) MIN. A.D.H./MIN. binder (PG 64-22) 5.3%

**Notes:**
- 115 CITATIONS
### TEMPORARY PIPE CULVERT

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TEMPORARY PIPE CULVERT</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA. 41+12.36 RD</td>
<td>E</td>
</tr>
<tr>
<td>STA. 38+79.00 RD</td>
<td>W</td>
</tr>
<tr>
<td>TOTAL</td>
<td>20'</td>
</tr>
</tbody>
</table>

**Note:** Corrugated metal pipes to be used with removed and relocated automatic floodgates.

### PIPE UNDERDRAINS

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>UNDERDRAIN OUTLET PROTECTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERIE PROJECT - IN AND BACK</td>
<td>LIN FT</td>
</tr>
<tr>
<td>TOTALS</td>
<td>1000</td>
</tr>
</tbody>
</table>

**Note:** Quantities estimated. See section 104.03 of the Standard Specifications.

### EARTHWORK

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>UNCLASIFIED EXCAVATION</th>
<th>COMPACTED EMBANKMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>104-00-00</td>
<td>114-13-00</td>
<td>MAIN LAKES - ROGGIN ROOST CREEK</td>
<td>10500</td>
<td>11862</td>
</tr>
<tr>
<td>104-00-02</td>
<td>103-20-02</td>
<td>MAIN LAKES - HURRICANE CREEK</td>
<td>575</td>
<td>2496</td>
</tr>
<tr>
<td>617-00-01</td>
<td>617-00-01</td>
<td>MAIN LAKES - SLAVENS CREEK</td>
<td>775</td>
<td>2623</td>
</tr>
<tr>
<td>DETOUR CONSTRUCTION</td>
<td>ROGGIN ROOST CREEK</td>
<td>3060</td>
<td>5588</td>
<td></td>
</tr>
<tr>
<td>DETOUR CONSTRUCTION</td>
<td>HURRICANE CREEK</td>
<td>108</td>
<td>1499</td>
<td></td>
</tr>
<tr>
<td>DETOUR CONSTRUCTION</td>
<td>SLAVENS CREEK</td>
<td>467</td>
<td>4318</td>
<td></td>
</tr>
<tr>
<td>DETOUR REMOVAL</td>
<td>ROGGIN ROOST CREEK</td>
<td>2660</td>
<td>2141</td>
<td></td>
</tr>
<tr>
<td>DETOUR REMOVAL</td>
<td>HURRICANE CREEK</td>
<td>1583</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>DETOUR REMOVAL</td>
<td>SLAVENS CREEK</td>
<td>2601</td>
<td>568</td>
<td></td>
</tr>
<tr>
<td>CHANNEL EXCAVATION</td>
<td>ROGGIN ROOST CREEK</td>
<td>700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHANNEL EXCAVATION</td>
<td>HURRICANE CREEK</td>
<td>260</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHANNEL EXCAVATION</td>
<td>SLAVENS CREEK</td>
<td>210</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIPELINE</td>
<td>DRIED</td>
<td>750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>28994</td>
<td>5042</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Earthwork quantities to be paid as plan quantity.

### EROSION CONTROL ITEMS - PERMANENT

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>SEEDING</th>
<th>LIME</th>
<th>MULCH</th>
<th>COVER</th>
<th>SECONDARY SEEDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTIRE PROJECT</td>
<td>3.76</td>
<td>3.76</td>
<td>3.76</td>
<td>3.76</td>
<td>267.2</td>
</tr>
<tr>
<td>OBLITERATION AREA</td>
<td>3.32</td>
<td>3.32</td>
<td>3.32</td>
<td>3.32</td>
<td>238.6</td>
</tr>
<tr>
<td>TOTALS</td>
<td>7.08</td>
<td>7.08</td>
<td>7.08</td>
<td>7.08</td>
<td>505.8</td>
</tr>
</tbody>
</table>

**Note:** Basis of estimate 2 tons per acre seeding. Water: 150.0 gpg per acre seeding.

### EROSION CONTROL ITEMS - TEMPORARY

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DOCK DITCH CHECKS (D-6)</th>
<th>DIVERSION DITCH (D-6)</th>
<th>SILT FENCE (E-11)</th>
<th>SEEDING</th>
<th>BARRIER</th>
<th>DELIMITATION OF SEEDING BARRIER</th>
<th>REMOVAL AND DISPOSAL (D-12)</th>
<th>TEMPORARY SEEDING</th>
<th>MULCH</th>
<th>COVER</th>
<th>WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIN LAKES STAGE 1</td>
<td>65</td>
<td>465</td>
<td>1201</td>
<td>288</td>
<td>234</td>
<td>254</td>
<td>1000</td>
<td>13</td>
<td>15</td>
<td>500</td>
<td>12</td>
</tr>
<tr>
<td>MAIN LAKES STAGE 2</td>
<td>80</td>
<td>1102</td>
<td>1186</td>
<td>181</td>
<td>90</td>
<td>500</td>
<td>200</td>
<td>14</td>
<td>15</td>
<td>500</td>
<td>12</td>
</tr>
<tr>
<td>MAIN LAKES STAGE 3</td>
<td>35</td>
<td>343</td>
<td>343</td>
<td>343</td>
<td>343</td>
<td>343</td>
<td>343</td>
<td>14</td>
<td>15</td>
<td>500</td>
<td>12</td>
</tr>
<tr>
<td>DETOUR CONSTRUCTION</td>
<td>104</td>
<td>156</td>
<td>156</td>
<td>156</td>
<td>156</td>
<td>156</td>
<td>156</td>
<td>14</td>
<td>15</td>
<td>500</td>
<td>12</td>
</tr>
<tr>
<td>TOTALS</td>
<td>105</td>
<td>6542</td>
<td>4342</td>
<td>4342</td>
<td>4342</td>
<td>4342</td>
<td>4342</td>
<td>14</td>
<td>15</td>
<td>500</td>
<td>12</td>
</tr>
</tbody>
</table>

**Note:** Erosion control devices shall be installed in such a sequence as to deter erosion and sedimentation of U.S. waters. As explained by the National Pollutant Discharge Elimination System Permit.

### CONCRETE DITCH RAVING

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DOCK DITCH</th>
<th>SOIL</th>
<th>SOLD</th>
<th>WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA. 109+68.5 STA. 109+85</td>
<td>STA. 110+00 STA. 110+00</td>
<td>STA. 110+00 STA. 110+00</td>
<td>STA. 110+00 STA. 110+00</td>
<td>STA. 110+00 STA. 110+00</td>
</tr>
<tr>
<td>TOTALS</td>
<td>990</td>
<td>990</td>
<td>990</td>
<td>990</td>
</tr>
</tbody>
</table>

**Note:** Basis of estimate 12 gal per sq yd sold sodding.

*Quantities estimated to be used if and when directed by the Engineer. See section 104.03 of the standard specifications.*
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>265</th>
<th>603</th>
<th>801</th>
<th>802</th>
<th>803</th>
<th>804</th>
<th>8P &amp; 8O5</th>
<th>8F &amp; 805</th>
<th>806</th>
<th>807</th>
<th>808</th>
<th>809</th>
<th>810</th>
<th>811</th>
<th>812</th>
<th>813</th>
<th>814</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRIDGE NO.</td>
<td>1201</td>
<td>1202</td>
<td>1203</td>
<td>1204</td>
<td>1205</td>
<td>1206</td>
<td>1207</td>
<td>1208</td>
<td>1209</td>
<td>1210</td>
<td>1211</td>
<td>1212</td>
<td>1213</td>
<td>1214</td>
<td>1215</td>
<td>1216</td>
<td></td>
</tr>
<tr>
<td>TYPE OF STRUCTURE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>UNEX - EXISTING BRIDGE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>UNLAC - EXISTING CONCRETE BRIDGE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>STRUCTURAL STEEL</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>FILTER BLANKET</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>DUMPED IMPACT</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

**SCHEDULE OF BRIDGE QUANTITIES: JOB 100722**

1. ASTM A250 GRADE 3, 5/" = 45,000 psi
2. Existing Bridge No. 20777 (Site No. 11) is 30' in length and 27.6' wide and is comprised of a concrete deck with asphalt overlay, fiber stringers and supported by steel pile bents with timber caps. After detour is open to traffic, the existing bridge shall be removed in accordance with Section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor.

**SCHEDULE OF BRIDGE QUANTITIES**

**LAKE-MARMADUKE STRS. & APPRS. (S)**

**GREENE COUNTY**

**ROUTE 24 SEC. 4**

**ARKANSAS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARK.**

**DRAWN BY: M.T.**
**DESIGNED BY: D.M.**

**DRAWING NO.: 07211, 07222**

**BRIDGE NO.: 07211, 07222**

**DRAWING NO.: 05926**
## SUMMARY OF QUANTITIES

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>G. R.</td>
<td>22</td>
<td>STATION</td>
</tr>
<tr>
<td>202</td>
<td>G. R.</td>
<td>22</td>
<td>STATION</td>
</tr>
<tr>
<td>203</td>
<td>R. D. &amp; D. S. OF P.I.R.</td>
<td>2342</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>204</td>
<td>R. D. &amp; D. S. OF P. 0. CUL./B.R.S</td>
<td>5</td>
<td>BACH</td>
</tr>
<tr>
<td>205</td>
<td>R. D. &amp; D. S. OF FLOOD ON T.R.</td>
<td>2</td>
<td>BACH</td>
</tr>
<tr>
<td>210</td>
<td>U. N. A. C. E.</td>
<td>26965</td>
<td>QL., YD</td>
</tr>
<tr>
<td>210</td>
<td>C. B.</td>
<td>15426</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>100</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>9750</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>T. G.</td>
<td>100</td>
<td>GAL.</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>1905</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>81</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>3108</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>174</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>1392</td>
<td>YD. QL</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>11</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>100</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>156.2</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>A. C. T.</td>
<td>48.50</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1.00</td>
<td>LAMP.SR.</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1.00</td>
<td>LUMP.SUM</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>40</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>42</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>78</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>116</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>744</td>
<td>GQ. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>192</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>61</td>
<td>TON</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>12712</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>3063</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>3063</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>53</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>560</td>
<td>YD. QL</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>56</td>
<td>YD. QL</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>56</td>
<td>YD. QL</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>142</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>29</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>42</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>50</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>100</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>8</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1000</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>825</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>6</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>2079</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>15</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>7.09</td>
<td>ACRE</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>9.56</td>
<td>ACRE</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>7511</td>
<td>ACRE</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1.87</td>
<td>ACRE</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>3442</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>330</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>330</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1100</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>489</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>140</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>7.09</td>
<td>ACRE</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>998</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1.00</td>
<td>LUMP.SUM</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>3</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>6627</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>6011</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>616</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>80</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>2</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>20058</td>
<td>ROUND</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>136</td>
<td>ROUND</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>240</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>100</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>200</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>100</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>286.10</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>16.5</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>53207</td>
<td>ROUND</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1090</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>1600</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>850</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>200</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>100</td>
<td>LIT. FT</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>136410</td>
<td>ROUND</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>2</td>
<td>BACH</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>500</td>
<td>QL., YD</td>
</tr>
<tr>
<td>300</td>
<td>M. I.</td>
<td>315</td>
<td>QL., YD</td>
</tr>
</tbody>
</table>

## REVISIONS

<table>
<thead>
<tr>
<th>DATE</th>
<th>DESCRIPTION</th>
<th>PAGE NO. (S)</th>
</tr>
</thead>
</table>

---

*DEFINED AL TERMINBO BE ITEMS:
Details of Temporary Bridge Structure
20'-0" Roadway
Route 34  Sec. 4
Arkansas State Highway Commission
Little Rock, Ark.

Sheet 2 of 2

Bar List for Parapet Rail Units

<table>
<thead>
<tr>
<th>Mark</th>
<th>20'-0&quot; RAIL</th>
<th>20'-0&quot; RAIL</th>
<th>MAX.</th>
<th>BARS/UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>F101</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
<tr>
<td>F102</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
<tr>
<td>F103</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
<tr>
<td>F104</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
<tr>
<td>F105</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
<tr>
<td>F106</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
<tr>
<td>F107</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
<tr>
<td>F108</td>
<td>8.0</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Minimum capacity of guard rail attachment by concrete insert anchor assembly or other means shall be G200 lbs. Ultimate shear capacity per rail and insert shall be 1500 lbs per assembly. There shall be a minimum of four bolts per attachment located as shown. The contractor may use the insert anchor assembly shown or one similar which provides the same vertical load and thread length. The capacity of the insert anchor assembly shall be certified by the manufacturer.

Guard rail attachment using other types of concrete inserts will be allowed provided they meet the above capacity specified, the capacity is certified, and approved by the Engineer before use.

The threaded steel insert shall have a bold section, type A, minimum thread depth of 200. The guard rail shall be connected with 1/4" x 2 1/8" strength hex bolts and one forged steel washer. See Section 307 of the Standard Specifications.

Bolts shall conform to the requirements of ASTM A325 or A490 and shall be threaded full length. Bolts and washers shall be galvanized in accordance with ASTM A325.

Bolts shall be installed in accordance with Subsection 802.2100 of the Standard Specifications.

For details of guard rail see Fig. 19-D and 20-H.

Concrete Insert Anchor Assembly

Concrete Insert Anchor Assembly, see details.

Typical Plan of Precast Parapet Rail for End Span

Front Elevation of Precast Parapet Rail for 20'-0" End Span

Front Elevation of Precast Parapet Rail for 25'-0" End Span

Front Elevation of Precast Parapet Rail for 19'-0" End Span

Section A-A

Scale: 1\" = 1'-0"

Section B-B

Scale: 1\" = 1'-0"

Section C-C

Scale: 1\" = 1'-0"
UNFILLED STEEL SHELL PILES

- Reinforcing bars shall be placed to minimize interference with anchor bars and cap reinforcing.

ALTERNATE CONNECTION DETAIL

3" Pin Dia.

PART SECTION

ELEVATIONS

ALTERNATE FLAT TIP DETAIL

GENERAL NOTES FOR UNFILLED STEEL SHELL PILES
Sheet pile shall conform ASTM A92, Grade 35k. Flange and 42k, Grade 56k. Piling shall not be filled with concrete after driving.
See temporary bridge layout for additional driving instructions.
Sheet pile will not be pried for driving but shall be installed in the plane of temporary bridge structure to avoid interference.
Temporary bridge structure will not be required.
Sheet pile driving may be done open or closed ended.

TABLE FOR SHELL PILES

<table>
<thead>
<tr>
<th>SHELLS</th>
<th>1&quot; NORMAL</th>
<th>2/3&quot; TIP: 1/2&quot; THICK</th>
<th>4/3&quot; TIP: 3/4&quot; THICK</th>
<th>5/3&quot; TIP: 1&quot; THICK</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>5.00&quot;</td>
<td>5.50&quot;</td>
<td>6.00&quot;</td>
<td>6.50&quot;</td>
</tr>
</tbody>
</table>

DETAILS OF UNFILLED STEEL SHELL PILES FOR TEMPORARY BRIDGE STRUCTURE

ROUTE 34  SEC 4
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DESIGNER:       DRAWN:       CHECKED:       ISSUE:

PRINTED:  DRAWING NO. 61939

BRIEFLY ENGINEER: 0721.07232  DRAFTER 007473

July 20, 2002

0710742600  0710742600  0710742600  0710742600
GENERAL NOTES
All concrete shall be Class "S" with a minimum 28-day compressive strength of 4000 psi. Concrete shall be poured in the dry and all exposed surfaces to be Shaded X, unless otherwise noted.

All reinforcing steel shall conform to ACI 318-95 and AASHTO M 145-96.

Concrete footing is placed by contractor.

For Details of Pipe Pile and Pipe Anchorage, See Deq No. 5965.

For Details of Anchor Bolt, See Deq No. 5943.

For additional information, See Layout.
ARKANSAS HIGHWAY COMMISSION
R. MADISON MURPHY - CHAIR
JOHN ED REGENOLD - VICE CHAIR
JOHN BURKHALTER
DICK TRAMMEL
TOM SCHUECK
DIRECTOR - SCOTT E. BENNETT
DEPUTY DIRECTOR/CHIEF ENGINEER - FRANK VOZEL

CONTRACTOR COMPANY NAME

YEAR

TYPICAL BRIDGE NAME PLATE

Details of Standard Type D Bridge Name Plate
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK. 72201

Bridge No. 2387

Drawing No. 2387

[Diagram with specifications and details for bridge design and construction]
Refer to tabulation of quantities for "A" dimensions.

Refer to tabulation of quantities for "B" dimensions.

The steel and additional concrete for the walls shall not be paid for directly, but shall be considered to be included in the price bid for "Concrete Ditch Paving."

The toe wall, depth may be altered to 1'-0" when directed by the engineer in rock excavation.

Toe wall detail for concrete ditch paving.

General Notes:
The full width of each section shall be pierced 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'-0" intervals. The space shall be filled with approved joint filler complying with AASHTO M48.

Energy dissipators to be used for the entire length of ditch when slope of ditch paving exceeds 4%. The dissipators will not be paid for directly, but shall be considered to be included in the price bid for concrete ditch paving.

Number of elements per row varies with width of paving specified.

Arkansas State Highway Commission

Concrete Ditch Paving

Standard Drawing CDP-1
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

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

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

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

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
THREE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

1. All bolts and hardware shall be galvanized or hot-dipped.
2. All nuts and washers shall be galvanized or hot-dipped.
3. All bolts shall be tightened to the specified torque.
4. All connections shall be made with a minimum of two bolts per connection point.
5. All guard rail components shall be painted with the proper color scheme.

THREE BEAM RAIL SPLICE AT POST

TRANSITION SECTION

THREE BEAM GUARD RAIL DETAILS

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD DRAWING GR-10
PLATE - GUARD RAIL TERMINAL (TYPE I)

ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE: Settings 1 & 2 of guard rail terminal shall be made for at the points as per.

SECTION 1

TERMINAL SECTION

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

NOTE: Whenever possible, all working at Terminal Anchor and the "A" assembly should be done prior to placing concrete around the post in accordance with the standards specifications.
CONSTRUCTION SEQUENCE

1. Place structural bedding material to grade, do not compact.
2. Install pipe to grade.
3. Cover structural bedding outside the middle third of the pipe.
4. Complete fill, according to construction plans.

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

EMBANKMENT INSTALLATIONS

1. Material in the lower side, hunch, and outer structural bedding shall be compacted to 96% of the maximum density according to the type or class of material used.

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

<table>
<thead>
<tr>
<th>DIAMETER</th>
<th>LENGTH</th>
<th>SIDE MATERIAL</th>
<th>UNDER MATERIAL</th>
<th>2/3 VER.</th>
<th>1/3 VER.</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>42</td>
<td>12</td>
<td>24</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>20</td>
<td>56</td>
<td>16</td>
<td>32</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>24</td>
<td>88</td>
<td>24</td>
<td>48</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>30</td>
<td>108</td>
<td>30</td>
<td>60</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>36</td>
<td>132</td>
<td>36</td>
<td>72</td>
<td>36</td>
<td>72</td>
</tr>
<tr>
<td>42</td>
<td>156</td>
<td>42</td>
<td>84</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>48</td>
<td>180</td>
<td>48</td>
<td>96</td>
<td>48</td>
<td>96</td>
</tr>
</tbody>
</table>

GENERAL NOTES

1. All pipe shall be protected during construction by a cover sufficient to prevent damage from loads of equipment.
2. The bottom of the trench shall be the bottom of the pipe plus 24 inches. The bottom of the trench shall be the bottom of the pipe plus 24 inches. All working dimensions shall be the same with the exception of the maximum density according to the type or class of material used.
3. All structural bedding and structural bedding end caps shall be installed with a minimum clearance of 24 inches.
4. Reinforced concrete arch pipe shall not be installed with a minimum clearance of 24 inches.
5. The maximum length of the pipe shall be limited to 50 feet. For lengths in excess of 50 feet, two pieces of pipe shall be used, with a minimum clearance of 24 inches between them.
6. Materials shall not include organic materials or stones larger than 2 inches.
7. Materials shall be placed as directed by the engineer as the top of embankment approval for structural bedding when percolation materials is used.
8. The bottom of the trench shall be 24 inches below the bottom of the pipe plus 24 inches. The bottom of the trench shall be 24 inches below the bottom of the pipe plus 24 inches. All working dimensions shall be the same with the exception of the maximum density according to the type or class of material used.

TRENCH INSTALLATIONS

1. The bottom of the hunch and outer structural bedding shall be compacted to 96% of the maximum density according to the type or class of material used.
2. For trenches with walls of natural soil, the density of the soil in the lower side, hunch, and outer structural bedding shall be 96% of the maximum density according to the type or class of natural soil used.

MAXIMUM HEIGHT OF FILL OVER R.C. PIPE CULVERTS

<table>
<thead>
<tr>
<th>INSTALLATION TYPE</th>
<th>CLASS OF PIPE</th>
<th>MAXIMUM HEIGHT OF FILL OVER R.C. PIPE CULVERTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE 1</td>
<td>EXPANSION 1</td>
<td>21</td>
</tr>
<tr>
<td>TYPE 2</td>
<td>SELECTED MATERIAL</td>
<td>17</td>
</tr>
<tr>
<td>TYPE 3</td>
<td>SELECTED MATERIAL</td>
<td>13</td>
</tr>
</tbody>
</table>

NOTE: FILL HEIGHT EXCEEDS 60 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 3 INSTALLATION.

- LEGEND -

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>CLASS OF PIPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPANSION</td>
<td>CLASS III-V</td>
</tr>
<tr>
<td>SELECTED</td>
<td>CLASS I-V</td>
</tr>
</tbody>
</table>

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1
### Corrugated Steel Pipe (Round) H-20 Loading

<table>
<thead>
<tr>
<th>Pipe Diameter (Inches)</th>
<th>Minimum Cover Top of Pipe to Subgrade (Inches)</th>
<th>Maximum Full Height Above Top of Pipe Steel (Feet)</th>
<th>Metal Thickness in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>12</td>
<td>12</td>
<td>0.024</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>16</td>
<td>0.032</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>20</td>
<td>0.038</td>
</tr>
<tr>
<td>24</td>
<td>24</td>
<td>24</td>
<td>0.044</td>
</tr>
<tr>
<td>28</td>
<td>28</td>
<td>28</td>
<td>0.050</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td>30</td>
<td>0.056</td>
</tr>
<tr>
<td>36</td>
<td>36</td>
<td>36</td>
<td>0.064</td>
</tr>
<tr>
<td>42</td>
<td>42</td>
<td>42</td>
<td>0.074</td>
</tr>
<tr>
<td>48</td>
<td>48</td>
<td>48</td>
<td>0.084</td>
</tr>
<tr>
<td>54</td>
<td>54</td>
<td>54</td>
<td>0.094</td>
</tr>
<tr>
<td>60</td>
<td>60</td>
<td>60</td>
<td>0.104</td>
</tr>
<tr>
<td>72</td>
<td>72</td>
<td>72</td>
<td>0.120</td>
</tr>
</tbody>
</table>

### Corrugated Aluminum Pipe (Round) H-20 Loading

<table>
<thead>
<tr>
<th>Pipe Diameter (Inches)</th>
<th>Minimum Cover Top of Pipe to Subgrade (Inches)</th>
<th>Maximum Full Height Above Top of Pipe Steel (Feet)</th>
<th>Metal Thickness in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>12</td>
<td>12</td>
<td>0.024</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>16</td>
<td>0.032</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>20</td>
<td>0.038</td>
</tr>
<tr>
<td>24</td>
<td>24</td>
<td>24</td>
<td>0.044</td>
</tr>
<tr>
<td>28</td>
<td>28</td>
<td>28</td>
<td>0.050</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td>30</td>
<td>0.056</td>
</tr>
<tr>
<td>36</td>
<td>36</td>
<td>36</td>
<td>0.064</td>
</tr>
<tr>
<td>42</td>
<td>42</td>
<td>42</td>
<td>0.074</td>
</tr>
<tr>
<td>48</td>
<td>48</td>
<td>48</td>
<td>0.084</td>
</tr>
<tr>
<td>54</td>
<td>54</td>
<td>54</td>
<td>0.094</td>
</tr>
<tr>
<td>60</td>
<td>60</td>
<td>60</td>
<td>0.104</td>
</tr>
<tr>
<td>72</td>
<td>72</td>
<td>72</td>
<td>0.120</td>
</tr>
</tbody>
</table>

### General Notes

1. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

2. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

3. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

### Type 2 Embankment and Trench Installations

1. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

2. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

### Construction Sequence

1. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

2. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

3. Where bending moments exceeding 2 ft-kips per square foot is required for given full heights, the foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures. The foundation should be designed to prevent bending failures.

### Notes

Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### General Notes

1. All pipe shall be protected during construction by a cover sufficient to prevent damage from passage of vehicles.

2. The maximum allowable bends with shall be the minimum allowable bend for given full height.

3. The maximum allowable bend shall be the minimum allowable bend for given full height.

4. The maximum allowable bend shall be the minimum allowable bend for given full height.

5. The maximum allowable bend shall be the minimum allowable bend for given full height.

### Material Requirements

**Type 2**

- Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### Embankment and Trench Material

- Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### Notes

Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### General Notes

1. All pipe shall be protected during construction by a cover sufficient to prevent damage from passage of vehicles.

2. The maximum allowable bends with shall be the minimum allowable bend for given full height.

3. The maximum allowable bend shall be the minimum allowable bend for given full height.

4. The maximum allowable bend shall be the minimum allowable bend for given full height.

5. The maximum allowable bend shall be the minimum allowable bend for given full height.

### Structural Backfill and Structural Bedding Material

- Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### Notes

Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### General Notes

1. All pipe shall be protected during construction by a cover sufficient to prevent damage from passage of vehicles.

2. The maximum allowable bends with shall be the minimum allowable bend for given full height.

3. The maximum allowable bend shall be the minimum allowable bend for given full height.

4. The maximum allowable bend shall be the minimum allowable bend for given full height.

5. The maximum allowable bend shall be the minimum allowable bend for given full height.

### Structural Backfill and Structural Bedding Material

- Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### Notes

Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### General Notes

1. All pipe shall be protected during construction by a cover sufficient to prevent damage from passage of vehicles.

2. The maximum allowable bends with shall be the minimum allowable bend for given full height.

3. The maximum allowable bend shall be the minimum allowable bend for given full height.

4. The maximum allowable bend shall be the minimum allowable bend for given full height.

5. The maximum allowable bend shall be the minimum allowable bend for given full height.

### Structural Backfill and Structural Bedding Material

- Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### Notes

Structural backfill and structural bedding material shall not be used for separating, but compensation will be considered to be included in the price bid per lineal foot of metal pipe.

### General Notes

1. All pipe shall be protected during construction by a cover sufficient to prevent damage from passage of vehicles.

2. The maximum allowable bends with shall be the minimum allowable bend for given full height.

3. The maximum allowable bend shall be the minimum allowable bend for given full height.

4. The maximum allowable bend shall be the minimum allowable bend for given full height.

5. The maximum allowable bend shall be the minimum allowable bend for given full height.
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 ASTM M 30 or M 301, Grade 60.

Construction and materials for windwall, drainageנו tell, weep holes and granular material shall be subsidiary to the box cement, grade 5 concrete.

Membrane waterproofing shall conform to the requirements of Section 6 of the Standard Specifications.

Membrane waterproofing shall be applied to all construction joints in the top slab and the outside of all box culverts as directed by the Engineer. No Payment shall be made for this item until payment will be considered to be included in the various Items 601 for the 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 (CRSI) except that the tolerance for culls bars such as Figure 3 on page 7-4 of the CRSI manual shall be minus zero to plus 1/2 inch.

Concrete is required to be 30"-45° and spaced to allow all reinforcing steel to be spaced to 6"m and 12"m.

The Requirements shown in this drawing shall supersede the corresponding requirements on all reinforced concrete box culvert standard drawings.

ARUBA STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1
PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

GENERAL NOTES:
- ROADWAY EXCAVATION CHANNEL CHANGES 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 EXCAVATED AREA THAT IS BELOW THE CHANNEL FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGES) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.
- EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE EXCAVATED AREA THAT IS BELOW THE CHANNEL FLOW LINE. ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE IS SUBSTRARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

SECTION A-A
DETAILS THROUGH EXISTING CHANNELS

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2
### SUPERELEVATION TABLE FOR TWO-WAY TRAFFIC

<table>
<thead>
<tr>
<th>Degree of Superelevation (%)</th>
<th>Left Lane (ft)</th>
<th>Right Lane (ft)</th>
<th>Minimum Radii (ft)</th>
<th>Maximum Radii (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>100</td>
<td>100</td>
<td>502</td>
<td>502</td>
</tr>
<tr>
<td>0.50</td>
<td>105</td>
<td>105</td>
<td>475</td>
<td>475</td>
</tr>
<tr>
<td>1.00</td>
<td>110</td>
<td>110</td>
<td>452</td>
<td>452</td>
</tr>
<tr>
<td>1.50</td>
<td>115</td>
<td>115</td>
<td>430</td>
<td>430</td>
</tr>
<tr>
<td>2.00</td>
<td>120</td>
<td>120</td>
<td>412</td>
<td>412</td>
</tr>
<tr>
<td>2.50</td>
<td>125</td>
<td>125</td>
<td>395</td>
<td>395</td>
</tr>
<tr>
<td>3.00</td>
<td>130</td>
<td>130</td>
<td>380</td>
<td>380</td>
</tr>
<tr>
<td>3.50</td>
<td>135</td>
<td>135</td>
<td>365</td>
<td>365</td>
</tr>
<tr>
<td>4.00</td>
<td>140</td>
<td>140</td>
<td>352</td>
<td>352</td>
</tr>
<tr>
<td>4.50</td>
<td>145</td>
<td>145</td>
<td>340</td>
<td>340</td>
</tr>
<tr>
<td>5.00</td>
<td>150</td>
<td>150</td>
<td>330</td>
<td>330</td>
</tr>
</tbody>
</table>

**Notes:**
- NC: Normal Crown
- RC: Reverse Crown
- Zero change of superelevation at normal crown slope
- "L" is the run of superelevation transition to any point (ft)
- "W" is the width of pavement (ft) or width of subgrade (ft)
- "D MAX" = R - 55 (ft)

**General Notes:**
1. On pavement with two-way traffic, the superelevation shall be revolved around the inside pavement edge unless otherwise noted on the plans.
2. Superelevation shall be from 0.5% to 3% and shall be provided on both sides of the street.
3. Lengths for L shall be increased in multiples of 25 ft or 50 ft, as permitted under calculations.
4. Pavements wider than 2 lanes shall have additional transition lengths as follows:
   - 2 lanes: no additional length
   - 3 lanes: 25 ft
   - 4 lanes: 50 ft
   - 5 lanes: 75 ft

**Superelevation Formula:**

\[ L = \frac{W}{2 \times \tan(\theta)} \]

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

**Standard Method When Superelevation Revolves Around Center Line**

---

**Arkansas State Highway Commission**

**Tables and Method of Superelevation for Two-Way Traffic**

**Standard Drawing SE-2**

---

FILE STOREDCON
GENERAL NOTES
1. Bales shall be installed so that the bales are extended around the sides rather than along the top of the bales. The bales shall be a minimum of 36 inches in length.
2. Bales shall be placed into ditches, a minimum of 4" and no gaps shall be left between bales.

BALE STRAW DITCH CHECK (E-1)

STAGE I
PLANT BOTTOM RETAIN

STAGE II
PLANT FOUNDATION

SECTION A-B
SECTION B-C

STAGE III
PLANT GROWTH

SECTION 4-5
SECTION 5-6

DROP INLET SILT FENCE (E-7)

SECTION 4-C
SECTION 5-C

GENERAL NOTES
1. Bales shall be installed so that the bales are extended around the sides rather than along the top of the bales. The bales shall be a minimum of 36 inches in length.
2. No gaps shall be left between bales.
3. Bales shall be completed and approved by the Engineer and shall be placed in an approved unit pack box per bale for bales on ditch check.

SILT FENCE ON R/W FENCE (E-42)

GENERAL NOTES
1. Bales shall be placed together with a berm beam frame. The area of overlap may be supplemented with additional material for overlap will not be made.

BALE STRAW DITCH CHECK (E-1)

SAND BAG DITCH CHECK (E-8)

NUMBER OF SAND BAGS

WATER LEVEL

PLANT SAND BAGS CHECK

IN AREA OF DITCH

FLOW LINE OF DITCH

SECTION A-B
SECTION B-C

GENERAL NOTES
1. Bales shall be placed together with a berm beam frame. The area of overlap may be supplemented with additional material for overlap will not be made.

BALE STRAW DITCH CHECK (E-1)

ROCK DITCH CHECK (E-6)

GENERAL NOTES
1. Bales shall be placed together with a berm beam frame. The area of overlap may be supplemented with additional material for overlap will not be made.

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES
STANDARD DRAWING TEC-I
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. PLACE PERIMETER CONTROLS (e.g. SILT FENCES, DIVERSION DITCHES, SEEDING BROADCAST).
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION

EXISTING GROUND
INTERCEPTOR OR DIVERSION DITCH
EXISTING GROUND

NOTE: NUMBER OF PHASES WILL VARY. THREE PHASES SHOWN FOR ILLUSTRATION.

GENERAL NOTE
ALL CUT SLOPES SHALL BE DRIED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 20 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, STABILIZE INTERCEPTOR OR DIVERSION DITCH. SEEDING, SEEDING, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

NOTE:
NUMBER OF PHASES WILL VARY. THREE PHASES SHOWN FOR ILLUSTRATION.

GENERAL NOTE
ALL EMBANKMENT SLOPES SHALL BE DRIED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 20 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE
1. LARGER-SCALE GROUNDWORK AS NECESSARY, SITE SEEDING, EMBANKMENT BARRIERS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. EMBANKMENTporn DITCHES AND SLOPE SPANS OF EMBANKMENT CONSTRUCTION TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 30 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. EMBANKMENT SLOPES OR OTHER EROSION CONTROL DEVICES AS REQUIRED. EMBANKMENT CONSTRUCTION TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 30 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. EMBANKMENT SLOPES OR OTHER EROSION CONTROL DEVICES AS REQUIRED.
### Bar List for Various Sections of Barrel

<table>
<thead>
<tr>
<th>Section</th>
<th>Designation</th>
<th>Bar List / Diagram date</th>
<th>Main Lines / Diagram date</th>
<th>Type of Section</th>
<th>Length</th>
<th>Number of Barrels</th>
<th>Diameter</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GENERAL NOTES:**
- The Bar List is to be inserted in the designated section of the drawing.
- All steel is to be Grade 60 unless otherwise specified.
- All dimensions are in millimeters (mm).}

---

### Design Load

**Load:**

**Load Group:**

**Design Load:**

### Dimensions

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Unit Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### Class S Concrete

**ARAKANS STATE HIGHWAY COMMISSION**

** DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS**

**7.89% SPANS**

**SLOPES**

**OVER 6% COVER**

**STANDARD DRAWING NO. 8-3008-30**
### Class G Concrete

**ARKANSAS STATE HIGHWAY COMMISSION**

**DETAILS OF STANDARD WINGS**

**REINFORCED CONCRETE BOX CULVERTS**

*18" SHEET*  
**2:1 @18° SLOPES**

**SINGLE DECKS, THREE LANE**  
ALL DEPTHS OF COVER

**QUADRUPLE & QUINTUPLE**  
H-29250594-915

**STANDARD DRAWING NO. W-18-51**

---

**Table:**

<table>
<thead>
<tr>
<th>Roadway Length ft</th>
<th>Headwall Length ft</th>
<th>Approach Dimension in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Bore</td>
<td>Double Bore</td>
<td>Triple Bore</td>
</tr>
<tr>
<td>Length of Culvert</td>
<td>Left Entry</td>
<td>Right Entry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Notes:**

- All lengths are to be used in conjunction with standard shop drawings.
- All details to be used in conjunction with theGeneral Specifications.
- All dimensions are to be verified with the project engineer.
- All dimensions are in standard shop drawings.

---

**Diagrams:**

- Single Bore Culvert
- Double Bore Culvert
- Triple Bore Culvert
- Quadruple Bore Culvert

---

**Legend:**

- *Part A*: Plan View
- *Part B*: Front Elevation
- *Part C*: Side Elevation

---

**Details:**

- **Single Bore Culvert:**
  - Right Entry
  - Left Entry

- **Double Bore Culvert:**
  - Right Entry
  - Left Entry

- **Triple Bore Culvert:**
  - Right Entry
  - Left Entry

- **Quadruple Bore Culvert:**
  - Right Entry
  - Left Entry
CROSS SECTION STA.305.32 TO STA. 306.18