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<td>TEMPORARY EROSION CONTROL DEVICES</td>
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<td>WHEELCHAIR RAMPS, NEW CONSTRUCTION AND ALTERNATIONS</td>
<td>WRA-1</td>
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INDEX OF SHEETS
Erosion Control General Notes:
Rock Ditch Checks estimated at 5 cu. yd. per ditch check.
Drop Inlet Silt Fence estimated at 25 lin. ft. per drop inlet.

The quantities and locations of the erosion control devices shown in the plan are estimated and may be altered if and where directed by the engineer to maximize the effectiveness of these devices. The devices are installed in an area to prevent soil disturbance activity in that area beginning.

Refer to Section 110 of the Standard Specifications for additional requirements.

Temporary Erosion Control Quantities:
- Rock Ditch Checks: 400 ft. x 10 cu. yd.
- Drop Inlet Silt Fence: 100 lin. ft. x 25 cu. yd.
- Sediment Removal and Disposal: 100 cu. yd.

For stage construction, sequence refers to maintenance of traffic details.

- Quantity is estimated and is to be used at any stage, if and where directed by the engineer.

Temporary Erosion Control Details

Revisions

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<th>Date</th>
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3-15-12
MAINTENANCE OF TRAFFIC DETAILS

UNIVERSITY ST. will be closed for the duration of this project. COLLEGE ST. will be closed to thru traffic but local traffic will be allowed to access the parking lots of the local businesses.

Driveways are to be delineated using traffic drums 1 & 6 each.

W20-1 (AHEAD) signs are to be placed at all city street intersections through the work zone.

MAINTENANCE OF TRAFFIC QUANTITIES:
- SIGNS: 370, 500 FT.
- TRAFFIC DRUMS: 6 EACH
- BARRIERS: 56 LIN. FT.
PERMANENT PAVEMENT MARKING QUANTITIES:
- THERMOPLASTIC PAVEMENT MARKINGS WHITE 4" = 80 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKINGS WHITE 8" = 100 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKINGS YELLOW 4" = 950 LIN. FT.
### Advance Warning Signs and Devices

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<th>SIGN NUMBER</th>
<th>DESCRIPTION</th>
<th>SIGN SIZE*</th>
<th>STAGE 1</th>
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<th>TOTAL SIGNS REQUIRED</th>
<th>TRAFFIC DRUMS</th>
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**TOTALS:** 3 3

### Earthwork

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**TOTALS:** 300 670 20

**Note:** Earthwork quantities shown above shall be paid as plan quantity.

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<th>HIGH PERFORMANCE PAVEMENT MARKINGS WHITE (8&quot;)</th>
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**TOTALS:** 80 950 100 220

**Note:** This is a high traffic, volume road as defined in section 604.05, standard specifications for highway construction, 2003 edition.

### Retaining Wall

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<th>UNCLASSIFIED EXCAVATION FOR STRUCTURES</th>
<th>ROADWAY</th>
<th>REINFORCING STEEL</th>
<th>ROADWAY</th>
<th>STONE MASONRY</th>
<th>FACING</th>
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**TOTALS:** 18.5 11 4.50 800 10

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**Note:** Shown for information only. Bench marks shall be furnished and placed by state forces.

### Soil Log

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**Soil Characteristics:**
- Soil characteristics tabulated above are representative at the location 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.
- A auger refusal.
## Erosion Control

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<th>LOCATION</th>
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<th>TEMPORARY SEEDING</th>
<th>MULCH COVER</th>
<th>WATER ROCK DITCH CHECKS</th>
<th>DRAIN INLET SLT FENCE</th>
<th>SILT FENCE</th>
<th><em>SEDIMENT REMOVAL &amp; DISPOSAL</em></th>
<th><em>SAND BAG DITCH CHECK</em></th>
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### Note:
- The temporary erosion control devices shown above and on the plans shall be installed in such a sequence as to deter erosion and sediment on U.S. waterways as explained by the National Pollutant Discharge Elimination System Permit.

## Concrete Items

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### Note:
- Quantities are estimated.
- See section 110-43 of the Standard Specifications.

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### Note:
- For C.C. pipe culvert installations use Type 2 bedding unless otherwise specified.
- For C.C. and plastic pipe culvert installations use Type 2 bedding unless otherwise specified.
- See section 110-43 of the Standard Specifications.

## Cold Milling Asphalt Paving

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### From:
- Calculate average depth of cold milling.
- Cold milling asphalt pavement.

## Base and Surfacing

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<th>ACHM Binder Course (1&quot;)</th>
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### SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 090268

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**SUMMARY OF QUANTITIES**

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Revision: [Blank]

Date: [Blank]
**SUMMARY OF QUANTITIES**

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**GENERAL NOTES:**

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.

2. UNDERGROUND CONDUIT SHALL HAVE 24" OF COVER MINIMUM.

3. UNDERGROUND CONDUIT INSTALLED UNDER PAVED SURFACES SHALL BE INSTALLED BY A PUSHING OR BORING METHOD.

4. ALL ELECTRICAL SPLICES SHALL BE INSTALLED USING "HINRA RXL SERIES" ENCAPSULATING SPLICE KITS OR AS APPROVED BY THE JOB ENGINEER.

5. THE CONTRACTOR SHALL PERFORM A 48 HOUR BURN TEST COORDINATED WITH THE JOB ENGINEER.

6. ANY EXISTING EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE CITY.

7. THE ACORN FIXTURES AND STAINLESS STEEL PULL BOXES WITH CAPTIVED STAINLESS STEEL SCREW-COVERS ARE CONSIDERED SUBSIDIARY TO THE ITEM ROADWAY ILLUMINATION POLE.

8. THE LUMINARE SHALL BE OF THE METAL HALIDE DESIGN 100W, 175 WATT, FULL CUT-OFF SYMMETRIC LIGHT DISTRIBUTION ALLOWING LESS THAN 60 UP-LIGHT.

ILLUMINATION DETAILS

1/2" X 24" HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS
GRADE 50
(4 PER POST)

RECEPTACLE

FIXTURE

GND LUG

POLE GND LUG

NOTE:
ALL REINFORCING BARS TO BE GRADE 60

3 - (#6 REINFORCING BARS EACH SIDE)

* (#6 REINFORCING BARS

DETAILED OF CONCRETE APRON
FOR TYPE "HD" PULL BOX

PILASTER
NOTE: The Contractor is encouraged to visit the site prior to preparing and submitting a bid.

GENERAL NOTES

LIVE LOADING: H20

LIDG, PERFORMANCE ZONE: 1

MATERIALS AND STRENGTHS:

Class 2, Grade 60 Concrete Superstructure:

Fy = 6000 psi

Class 3, Grade 40 Reinforcing Steel (MILD) W 36 or 56, 60-

Fy = 4000 psi

Class 5, Grade 70 Reinforcing Steel (MILD) W 80-

Fy = 12000 psi

Structural Steel (MILD) W 706, 5, 50-

Fy = 12000 psi

Structural Steel (MILD) W 755, 5, 50-

Fy = 16000 psi

REINFORCEMENT: Bending shape may be obtained from the Program and Contracts Division.

BREEDS Fittings shall set a release of 2-0" into the material designated as reinforcing steel and batten on the bending length. The top of a support and planer fittings shall be set on or below the channel surface as determined by the best channel definition within the footprint of the fitting foundation for fittings

The material designated as reinforcing steel shall be placed in the level of the existing ground in accordance with subsection 800A. Rock excavations shall be made to net level of the concrete foundations. Concrete shall be placed to meet structural demands and spacing and to avoid discharging of rocks from excessive casting. The concrete shall be placed directly

PAVING: All structural areas, except generalized areas, shall be paved as specified in subsection 800A. Color of point shall be Gray and shall match Federal SPC 901 Color No. 3005.

BRIDGES 1010: The concrete bridge deck shall be given a finish finish as specified for final finishing in subsection 800A. For Class 5 Thresh Bridge Realization Surface Finish. The slabs shall receive a smooth finish as specified for final finishing in subsection 800A for Class A finished finish.

PROTECTIVE SURFACE TREATMENT: Class 2 Protective Surface Treatment shall be applied to the surface of the roadway and sidewalks and to all exposed surfaces of the concrete bridge capital.

DETAIL DRAWING:

ELEVATION:

Bridge No. 60285

CLASS 1:

Abutment 1

Plan (Lot 1)

Elevation (Lot 1)

Bridge No. 60287

Construction Bridge Rail

Bridge No. 60288

EXISTING BRIDGE: Existing Bridge No. 60285 shall be removed in accordance with Section 205. Portions of the existing bridge shall not be reused to a greater extent and to avoid interference with new construction. This work should be carried out under the control of "Removal of Existing Bridge Structure," All materials from the existing bridge shall be removed at the property of the Contractor, except the following which shall remain the property of the Owner.

Light Rails, Access Door and Fittings, Steel Rails.

The Contractor shall immediately release the bid of the job site until accepted by the City. Paving shall be laid onto City sidewalks by the Contractor. Payment for this work shall be considered as a subject to the "Removal of Existing Bridge Structure." The Contractor shall be expected to avoid discharging or sprinkling any water or part of the audible quality in the structure. Any water released until further notice shall be considered as a subject to the Department.

MAINTENANCE OF TRAFFIC: The roadway closed during the construction of this project.

SHEET 1 OF 2

LAYOUT OF BRIDGE OVER

SAGER CREEK

SAGER CREEK STR. & APPRS.

(LOW LEVEL ROAD)

(UNIVERSITY ST) ISLOAM SPRINGS (S) BENJAMIN COUNTY

ARKANSAS STATE HIGHWAY COMMISSION

ROUTE

LITTLE ROCK

31-17

BENTON

1

DRAWING NRS

52253

SCALE: 1:20

DRAWING NO.

52253

BRIDGE NO.

0417

LITTLE ROCK

UNIVERSITY ST.

ISLOAM SPRINGS (S)

BENTON COUNTY

ARKANSAS STATE HIGHWAY

COMMISSION
GENERAL NOTES
All concrete shall be Class I and shall be poured in the dry. All exposed corners of cap to be chamfered 1/4" unless otherwise noted.
All reinforcing steel shall conform to ASTM A615 Grade 60 or A302 Grade 60.
All anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.
For additional information, see Layout.

TYPICAL ANCHOR BOLT LAYOUT

SHEET 2 OF 2
DETAILS OF PIERS 1 & 2
SAGER CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
SPAN = 25' 0" (2) x 12' 0"
SPAN = 12' 0" (1) x 0'
SPAN = 0'
BRIDGE NO. 04917
DRAWING NO. 52262
PLAN OF ABUTMENT WALL A

KEYED CONSTR. JOINT AT FOOTINGS (TYP.)

NOTE: For reinforcing and additional details of transition rolls, see Brf No. 52375-52775.

For additional details, see Brf No. 52376.

VIEW A-A

NOTE: No stone masonry shall be applied to Abutment No. 4.

Sheet 3 of 4
 DETAILS OF ABUTMENT 2

SAGER CREEK

DEPT.
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROGUE, ARK.

ADJ. LINE No. 04917 DRWNG No. 52265

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Dimensions are cut to cut of bars.

GENERAL NOTES:

All concrete shall be Class S and shall be poured in the dry. All exposed corners to be finished in 3" unless otherwise noted.

All reinforcing steel shall conform to AISI No. 1 or MEL Grade 60. In another words, the steel reinforcing bars shall be free of all rust, nicks, or burrs.

The bondwall above the required construction joint shall not be poured until the adjacent concrete deck is in place. See Brf No. 52265 "Bondwall" for additional information.

Structural steel in splices shall be AISI No. 60 or 50 and shall be added or as "Structural Steel in Beam Splices MEL Grades 50 and 60." All structural steel except steel commonly used in concrete shall be cleaned and painted in accordance with Sections 1103.14.

For additional information, see Layout.
The name of the bridge as shown on the plans shall be preceded on lines 1-3 using 1/4"-rilled letters and numerals 3/8" high.

Example 1: Exemplar 2: Exemplar 3: Exemplar 4: Exemplar 5:

Line 1: Along River
Line 2: Overpass
Line 3: River
Line 4: Highway 5

Face of Canoeing

Alternates attachments may be made providing adequate and approved securing before transportation is begun.

Face of plate and/or name shall be cast bronze and shall meet the material requirements as specified in Section B-6 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include neutral area and text. Plate shall be mounted on a suitable backing material and be shaped to conform to the face of the plate and shall be painted.

Body lettering shall be black, galvanized, square cut and not reworked. The number of letters required and the location and size of the plate for each bridge shall be as determined on the plans.

ARAKANS STATE HIGHWAY COMMISSION
R. MADISON MURPHY - CHAIR
JOHN ED REGENOLD - VICE CHAIR
JOHN BURKHALTER
DICK TRAMMELL
TOM SCHUECK
DIRECTOR - SCOTT E. BENNETT
DEPUTY DIRECTOR/CHIEF ENGINEER - FRANK VOZEL

CONTRACTOR NAME
YEAR

TYPICAL BRIDGE NAME PLATE

Details of Standard Type D Bridge Name Plate


Name plates shall be cast bronze and shall meet the material requirements as specified in Section B-6 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include neutral area and text. Plate shall be mounted on a suitable backing material and be shaped to conform to the face of the plate and shall be painted.

All lettering shall be black, galvanized, square cut and not reworked. The number of letters required and the location and size of the plate for each bridge shall be as determined on the plans.
CONCRETE COMBINATION CURB AND GUTTER

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

ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB

NOTE: USE MODIFIED CURB AS SPECIFIED ON SHEET 10-11.
COMPONENTS FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BUT FOR THE TYPE OF CURB OR CURB AND GUTTER SPEDIFIED.
## Reinforced Concrete Arch Pipe Dimensions

<table>
<thead>
<tr>
<th>INCHES</th>
<th>36</th>
<th>36</th>
<th>42</th>
<th>48</th>
<th>60</th>
<th>72</th>
<th>84</th>
<th>108</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPACER</td>
<td>17</td>
<td>22</td>
<td>27</td>
<td>32</td>
<td>41</td>
<td>49</td>
<td>54</td>
<td>72</td>
</tr>
<tr>
<td>DOWEL</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>13</td>
<td>17</td>
<td>21</td>
<td>23</td>
<td>27</td>
</tr>
</tbody>
</table>

## Reinforced Concrete Horizontal Elliptical Pipe Dimensions

<table>
<thead>
<tr>
<th>INCHES</th>
<th>84</th>
<th>108</th>
<th>120</th>
<th>144</th>
<th>168</th>
<th>216</th>
<th>252</th>
<th>300</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPACER</td>
<td>44</td>
<td>54</td>
<td>60</td>
<td>72</td>
<td>84</td>
<td>108</td>
<td>120</td>
<td>144</td>
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<tr>
<td>DOWEL</td>
<td>19</td>
<td>23</td>
<td>27</td>
<td>32</td>
<td>38</td>
<td>46</td>
<td>54</td>
<td>63</td>
</tr>
</tbody>
</table>

## Construction Sequence

1. Place structural bedding material to grade, do not compact.
2. Install pipe to grade.
3. Compact structural bedding outside the whole width of the pipe.
4. Place and compact the backfill in accordance with the plans and specifications.

**Note:**
- Launch and structural bedding material will not be paid for separately, but compensation will be considered to be included in the price bid per linear foot of concrete pipe.

**Legend:**
- *N* = Normal inside diameter of pipe
- *G* = Outside diameter of pipe
- *H* = Height of Launch over pipe (feet)
- *M* = Maximum
- *L* = Minimum

## Minimum Height of Fill *h* over Circular R.C. Pipe Culverts

### Type 1: Aggregate Base Course (Class 5 or Class 17)

<table>
<thead>
<tr>
<th>INSTALLATION</th>
<th>CLASS III</th>
<th>CLASS IV</th>
<th>CLASS V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE 1</strong></td>
<td>20</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td><strong>TYPE 2</strong></td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

### Type 2: Selected Materials (Class 5 or Class 17)

<table>
<thead>
<tr>
<th>INSTALLATION</th>
<th>CLASS III</th>
<th>CLASS IV</th>
<th>CLASS V</th>
</tr>
</thead>
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<tr>
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<td>25</td>
<td>30</td>
</tr>
<tr>
<td><strong>TYPE 2</strong></td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

### Type 3: Structural Bedding

**Minimum Height of Fill *h* over Circular R.C. Pipe Culverts**

### Minimum Height of Fill *h* over R.C. Arch & Horizontal Elliptical Pipe Culverts

<table>
<thead>
<tr>
<th>INSTALLATION</th>
<th>CLASS III</th>
<th>CLASS IV</th>
<th>CLASS V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE 1</strong></td>
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<td>30</td>
</tr>
<tr>
<td><strong>TYPE 2</strong></td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

### Maximum Height of Fill *h* over Circular R.C. Pipe Culverts

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<tr>
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<td>30</td>
</tr>
<tr>
<td><strong>TYPE 2</strong></td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

### Maximum Height of Fill *h* over R.C. Arch & Horizontal Elliptical Pipe Culverts

<table>
<thead>
<tr>
<th>INSTALLATION</th>
<th>CLASS III</th>
<th>CLASS IV</th>
<th>CLASS V</th>
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<td>30</td>
</tr>
<tr>
<td><strong>TYPE 2</strong></td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

## Embankment and Trench Installations

1. Materials in the Launch and structural bedding shall be compacted to 95% of the maximum density according to the type of material used.
2. For trenches with walls of natural soil, for the density of the soil in the lower side of the trench down to 3 ft, the materials shall be compacted to 95% of the maximum density according to the type of material used.
3. For embankments, the material in the lower side zone shall be compacted to 95% of the maximum density according to the type of material used.

## General Notes

1. Concrete pipe culvert construction shall conform to Arkansas State Highway and Transportation Department Specifications. All work shall be performed in conformance with applicable Department Specifications and special provisions unless otherwise noted in the plans, section and subsection notes to the Standard Construction Specifications.
2. Concrete pipe culvert design shall conform to AASHTO LRFD Bridge Design Specifications, Fifth Edition.
3. All pipe shall conform to Section 601 Circular R.C. Pipe Culverts except 10 inch pipe may be installed.
4. All pipe shall be protected during construction by a cover sufficient to prevent damage from passage of equipment.
5. The minimum trench depth shall be the outside diameter of the pipe plus 3 ft. Vertical clearance for bridge shall be the minimum width plus an allowance for 1 ft of roadway.
6. Multiple culverts shall be installed with a minimum clearance of 2 ft between centers of pipe. Refer to standard designs for minimum clearance where flanged sections are used.
7. Pavement material should be placed as directed by the Engineer, and the top of the pavement material should be placed as directed by the Engineer.
8. Not more than one lifting hole may be provided in concrete pipe to facilitate handling. The hole may be cut in place, but if the concrete is broken after forming, the hole shall be filled with normal concrete or other approved method. The diameter of all holes shall be not less than 18 in. and not more than 24 in. The depth of all holes shall be not less than 3 ft. The opening shall be square, unless otherwise directed by the Engineer. Where a lifting hole is required, a lifting hole shall be filled with normal concrete or other approved method as approved by the Engineer.
9. The concrete pipe culvert material shall be excavated at the bottom of the leeside trench section. The area identified as "structural bedding" shall be a minimum of 2 ft from the edge of the surface. The quantity of bedding, wet or dry, shall be measured and paid for as a separate item. The quantity of bedding pay shall be designated according to the type of bedding used.
10. When the existing material excavated for the pipe trench is determined by the Engineer to be unsuitable, it must be removed and replaced with a suitable material. If suitable material is not available, the Engineer may authorize the use of "selected pipe bedding."
MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>TRENCH WIDTH (FT)</th>
<th>PIPE DIAMETER (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4'</td>
<td>4&quot;</td>
</tr>
<tr>
<td>6'</td>
<td>6&quot;</td>
</tr>
<tr>
<td>8'</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
<tr>
<th>COVER (IN)</th>
<th>CONSTRUCTION LOADS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>WEIGHTED PIPE</td>
</tr>
<tr>
<td>8&quot;</td>
<td>WEIGHTED PIPE</td>
</tr>
<tr>
<td>10&quot;</td>
<td>WEIGHTED PIPE</td>
</tr>
</tbody>
</table>

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASHTO MNL 122. TYPE 2 INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 8.2 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO ASHTO LPIU 117 CULVERT DESIGN SPECIFICATIONS, FIFTH EDITION.

3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUITABLE MARGIN TO ENHANCE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT MACHINING AND OTHER BACKFILL MATERIAL.

4. PERIMETER MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE END OF THE CONTRACTION TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERIMETER MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.

5. WHEN DIRECTED BY THE ENGINEER, UNDERSIZED MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATION OR THE AREA ENCIRCLED BY "STRUCTURAL BEDDING "SHALL BE REPLACED WITH THE SIZED MATERIAL. NO SUBSTITUTE MATERIAL ACCEPTABLE. NO SUBSTITUTE MATERIAL ACCEPTABLE.

6. WHEN THE ENCOUNTERED MATERIAL EXPECTED FOR THE PIPE IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR適合 THE PIPE, THE AREA ENCIRCLED BY "STRUCTURAL BEDDING "SHALL BE REPLACED WITH THE SIZED MATERIAL. NO SUBSTITUTE MATERIAL ACCEPTABLE.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE, DO NOT COMPACT.

2. INSTALL PIPES TO GRADE.

3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.

4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS, NOT EXCEEDING THE LAYER SHALL BE BUILT OR ELEVATED SIMILAR TO THE ELEVATION OF THE MINIMUM COVER.

5. PIPE INSTALLATION MAY BE REQUIRED THE USE OF RESTRAINTS, WELDING OR AN APPROVED METHOD IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

LEGEND

M = FILL HEIGHT (FT)
B = OUTER DIAMETER OF PIPE (IN)

- STRUCTURAL BEDDING MATERIAL

- BACKFILL MATERIAL

- UNDISTURBED SOIL

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

<table>
<thead>
<tr>
<th>PIPE DIAMETER (IN)</th>
<th>NUMBER OF PIPES</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>4</td>
</tr>
<tr>
<td>6&quot;</td>
<td>6</td>
</tr>
<tr>
<td>8&quot;</td>
<td>8</td>
</tr>
<tr>
<td>10&quot;</td>
<td>2</td>
</tr>
</tbody>
</table>

ARKANSAS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

5-3 STANDARDS DRAWING PCP-1
CLEARING AND GRUBBING

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

EXCAVATION

EXISTING GROUND

CROSS} INTERCEPTOR OR
DIVERSION DITCH

EXISTING GROUND

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

GENERAL NOTE

ALL CUT SLOPES SHALL BE DREDGED, PREFILLED, SEDIMENT AND MALTED AS THE WORK PROGRESS. SLOPES SHALL BE STABILIZED IN EQUIL. INCREMENTS NOT TO EXCEED 25 FT, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE
1. Excavate and stabilize interceptor (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 ditch, ditch banks, or other erosion control devices as required.

EMBANKMENT

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

SIDE DITCH STABILIZED AS REQUIRED.

EXISTING GROUND

VARIOUS EROSION CONTROL DEVICES

GENERAL NOTE

PHASE 1 EMBANKMENT

PHASE 2 EMBANKMENT

PHASE 3 EMBANKMENT

CONSTRUCTION SEQUENCE
1. Construct diversion ditches, check dams, sediment basins, silt fences.
2. Place phase 1 embankment. Stabilize as required.
3. Place phase 2 embankment with permanent or temporary seeding.
4. Place phase 3 embankment with permanent or temporary seeding.
5. Pour final phase embankment with permanent or temporary seeding. Stabilize as required.

NOTES:

- SLOPES TO BE DREDGED, PREFILLED, SEDIMENT AND MALTED AS THE WORK PROGRESS.
- SLOPES TO BE STABILIZED IN EQUIL. INCREMENTS.
- NOTES TO EXCEED 25 FT, MEASURED VERTICALLY.

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3