ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR PROPOSED COUNTY ROAD

VANNDALE-EAST (PHASE 1) (RECONSTRUCTION) (S)
COUNTY ROADS 53 & 140
CROSS COUNTY
FED. AID PROJECT STP-0019(39)

JOB FA1915
NOT TO SCALE

STA. 100+00.00
BEGIN JOB FA1915
FED. AID PROJECT STPR-0019(39)
START NON-PARTICIPATING SECTION

STA. 107+28.00
END NON-PARTICIPATING SECTION

STA. 108+21.00
START PARTICIPATING SECTION

STA. 182+00.00
END JOB FA1915
END PARTICIPATING SECTION
FED. AID PROJECT STPR-0019(39)

AR rubsKs HIGHWAY DIST. 1
DESIGN TRAFFIC DATA

DESIGN YEAR 2036
2016 ADT 390
2036 ADT 450
2036 DVH 68
DIRECTIONAL DISTRIBUTION 0.50
TRUCKS 9%
DESIGN SPEED 30 MPH

P.E. JOB FA1911

DEPUTY DIRECTOR AND CHIEF ENGINEER
GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

NUMBER TITLE
ERRATA ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273 REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273 SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 149)
FHWA-1273 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273 SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273 SUPPLEMENT - WAGE RATE DETERMINATION
100-3 CONTRACTOR'S LICENSE
108-1 LIQUIDATED DAMAGES
108-2 WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
383-1 AGGREGATE BASE COURSE
400-1 TACK COATS
410-1 CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1 RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
605-1 PIPE CULVERTS FOR SIDE DRAINS
620-1 MULCH COVER

BIDDING REQUIREMENTS AND CONDITIONS

JOB FA1915 BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB FA1915 BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB FA1915 CARGO PREFERENCE ACT REQUIREMENTS
JOB FA1915 DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB FA1915 GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB FA1915 ISSUANCE OF PROPOSALS
JOB FA1915 MANDATORY ELECTRONIC CONTRACT
JOB FA1915 PLASTIC PIPE
JOB FA1915 RECYCLED ASPHALT SHINIGLES
JOB FA1915 STORM WATER POLLUTION PREVENTION PLAN
JOB FA1915 SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB FA1915 UTILITY ADJUSTMENTS
JOB FA1915 WARM MIX ASPHALT
TANGENT SECTION
NON-PARTICIPATING SECTION
STA. 100+00 - STA. 107+28

*NOTE: LEVELING COURSE LOCATION AND APPLICATION RATES ARE AT THE DIRECTION OF THE SHERIFF. SEE QUANTITY SHEETS FOR ESTIMATED AMOUNT.
TANGENT SECTION

PARTICIPATING SECTION
STA. 108+21 - STA. 108+70

NOTE: THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

SUPERELEVATION SECTION

PARTICIPATING SECTION
STA. 109+21 - STA. 109+70
DETAIL OF PRIVATE ENTRANCES
ADD'L BASE COURSE AND SURFACING
PARTICIPATING SECTION

DETAIL OF COUNTY ROAD TURNOUT
ADD'L BASE COURSE AND SURFACING
PARTICIPATING SECTION

SPECIAL DETAILS
DETAIL OF PRIVATE ENTRANCES

ASPHALT BASE COURSE
NON-PARTICIPATING SECTION

NOTE: THE ABOVE DETAIL MAY BE MODIFIED TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

TYPICAL SECTION
GUARDRAIL WIDENING

VARIABLE SLOPE TRANSITION (3:1 TO 2:1)

DETAILS OF WIDENING FOR GUARDRAIL
NOT TO SCALE
(GR-9A)

*NOTE: THE CONTRACTOR SHALL DRILL 1" DIA. HOLES FOR THE NEW THRIE-SEAM CONNECTION BOLTS IN THE EXISTING TRANSITION RAIL. CARE SHALL BE EXERCISED TO AVOID THE EXISTING REINFORCING STEEL IN THE RAIL. THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED INCLUDED IN THE VARIOUS CONTRACT ITEMS. SEE STANDARD DRAWING GR-10 FOR ADDITIONAL DETAILS.
LIMITS OF CONSTRUCTION

TEMPORARY EROSION CONTROL DEVICES

REVISION NO. 1.
REVISION

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

#### Cubic Yard

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#### Wire Fence

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### Removal and Disposal of Items

#### Non-Participating Section

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<th>Fence</th>
<th>Concrete Driveways</th>
<th>Guardrail</th>
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#### Participating Section

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### Clearing and Grubbing

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### Items Removed and Reconstructed

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### Dumped Riprap

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### ReflectORIZED Paint Pavement Marking

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### Notes

- Earthwork quantities shown shall be paid as plan quantity.
- Wire fence computations shown are for plan section.
- Items removed and reconstructed shall be paid as plan quantity.
- Clearing and grubbing computations are for plan section.
- Dumped riprap and reflectORIZED paint pavement marking are paid in accordance with plans.

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<th>Job No.</th>
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**Note:** This is a low-volume road as defined in section 604.03 of the standard specifications for highway construction, 2014 edition.
### AGGREGATE BASE COURSE AND SURFACING

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<tr>
<th>STATION</th>
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<th>*ACHM Surface Course (1/2)</th>
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**USE:** 16814 1719 2740 2264

### GUARDRAIL

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**PROPORTION BY WEIGHT:**
- MINERAL AGGREGATE IN ACHM Binder Course (1/2): 95.8%
- ASPHALT Binder (PG 64-22) in ACHM Binder Course (1/2): 4.3%

**NOTE:** RATES MAY BE MODIFIED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

**Nmax = 115**
### STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

<table>
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### TRAFFIC CONTROL DEVICES

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### PORTLAND CEMENT CONCRETE DRIVEWAY

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### NOTE
- ALL STANDARD SIGN BLANKS TO BE 0.080" THICK. REFER TO STANDARD DWG. SHS-2 FOR CHANNEL POST SPACING DETAILS.

### DIAGRAM

- **Traffic Control Devices**: Diagram showing the placement and arrangement of traffic control devices such as signs and drums.
- **Portland Cement Concrete Driveway**: Diagram indicating the location and extent of the concrete driveway installation.

---

**Graphic Elements**: Diagrams and tables are included to visually represent the data and specifications provided in the text.
### SUMMARY OF QUANTITIES

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<tr>
<th>ITEM NUMBER</th>
<th>ITEM DESCRIPTION</th>
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* DENOTES ALTERNATE BID ITEMS.

### REVISIONS

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

Note: Guard rail with guard rail terminal (type 2) to be installed only at locations shown on plan.

Vary according to shoulder width.

One-Way Traffic

Two-Way Traffic

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

Note: Guard rail with guard rail terminal (type 2) to be installed only at locations shown on plan.

Vary according to shoulder width.

Two-Way Traffic

One-Way Traffic

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

Legend

- Type A: Guard rail terminal
- Guard rail terminal (type 2)

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING OR-9
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

SPECIAL NOTES:
Rail posts shall be set perpendicular to the roadway profile grade and may vary in cross-section.
Wood posts & wood blocks shall be either grade No. 1 structural or better 5% 4500 psi or 10% 4900 ft-lb tensile strength.

NOTE:
These dimensions all need to be adjusted in the field to make the transition from one post type to another post type of W-beam.

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-0A
MAXIMUM FILL HEIGHT

BASED ON STRUCTURAL BACKFILL

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MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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MINIMUM COVER FOR CONSTRUCTION LOADS

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<td>6</td>
<td>8.0'</td>
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MULTIPLE INSTALLATION OF PVC PIPES

1. ONE PIPE SHALL BE ROLLED TO THE TRENCH AROUND THE OUTSIDE DIAMETER OF THE PIPE PLUS A CLEAR DISTANCE OF 1/2" (1/8") TO PROVIDE A CLEAR PATHWAY FOR WATERFLOW.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F921; LAY #6 CLASS 1(OR) INSTALLATION SHALL CONFORM TO JSV SPECIAL PREVISION "PLASTIC PIPE" AND SECTION 6.2.12(2) OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION ELEMENT EDITION.
2. PVC PIPE CULVERT DESIGN SHALL CONFORM TO ASHRAE LAY #6 PIPE DESIGN SPECIFICATIONS, FIFTH EDITION (2015) AND 2020 INTERIM.
3. THE MINIMUM ALTERNATE TRENCH WIDTH SHALL BE THE MAXIMUM WIDTH PLUS A SUITABLE WIDE TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT INSULATING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIALS SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE END OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERSHING MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNALTERABLE MATERIAL THAT IS EXCAVATED AT THE BOTTOM OF THE EXCAVATED TRENCH, WHICH IS IN AREA IMPLANTED WITH STRUCTURAL BEDDING AND/OR BACKFILL, WILL BE EXCAVATED AND REPLACED WITH EXACT MATERIAL AS DIRECTED BY THE ENGINEER. SELECTED PIPE BEDDING PER UNIT WEIGHT MATERIAL WILL BE MEASURED AND PAID FOR AS SELECTED PIPE BEDDING.
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNALTERABLE FOR BACKFILL, THE PIPE MOUNTS OR OTHER AREA IDENTIFIED AS STRUCTURAL BACKFILL Materials, OR MATERIALS FROM THE ROADWAY EXCAVATION WILL NOT BE USED AS BACKFILL. THE PIPE, IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF SELECTED PIPE BACKFILL.
7. FOR PIPE TYPES THAT ARE NOT SUITABLE ON THE OUTSIDE DURABLE OR PROFILE WALLS, BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILL IN THE CONSTRUCTION OF PROFILE VALLEY.
8. PVC PIPE OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR JSE'S TIGHTNESS AS SPECIFIED IN ASHRAE SECTIONS 20-5.4.2 AND 30.2. "HOME LAPS BRIDGE CONSTRUCTION SPECIFICATIONS" JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE, DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BEDDING SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 1/4" INTHICKNESS, THE LAYERS SHALL BE BOUND ON EVENLY AND SIMILARLY TO THE ELEVATION OF THE MATERIAL COVERED.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, MORTAR, OR OTHER APPROVED METHODS IN ORDER TO MAINTAIN GRADE AND ALIGNMENT.

LEGEND

- STRUCTURAL BACKFILL MATERIAL
- UNDISTURBED SOIL

ARMS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT (PVC F949)
STANDARD DRAWING PCP-2

DATE: 2.27.14
REVISION: 1.0
ISSUED: 1949
CONCRETE PAVEMENT

ASPHALT PAVEMENT

BROKEN LINE STRIPING

SOLID LINE STRIPING ON CONCRETE PAVEMENT

SOLID LINE STRIPING ON ASPHALT PAVEMENT

ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPPING AT ADJACENT NO PASSING LANES

CROSSWALK AND STOPBAR DETAILS

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISION ADDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT

PAVEMENT EDGE LINE MARKING

RAISED PAVEMENT MARKERS

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERING TO THE AASHTO QUALIFIED PRODUCTS LIST.

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

CROSSWALK AND STOPBAR DETAILS

PHOTO:
- 5-26-16
- 6-12-20
- 4-26-20
- 6-24-20
- 8-22-20
- 7-15-20
- 1-30-20
- 7-31-20
- 12-30-20
## Super-elevation Table for Two-Way Traffic

<table>
<thead>
<tr>
<th>Degree of Grade</th>
<th>Left Lane (FT)</th>
<th>Right Lane (FT)</th>
<th>Left Lane (FT)</th>
<th>Right Lane (FT)</th>
<th>Left Lane (FT)</th>
<th>Right Lane (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum Desired</td>
<td>Maximum Desired</td>
<td>Minimum Desired</td>
<td>Maximum Desired</td>
<td>Minimum Desired</td>
<td>Maximum Desired</td>
</tr>
<tr>
<td>0.0%</td>
<td>0</td>
<td>275</td>
<td>0</td>
<td>275</td>
<td>0</td>
<td>275</td>
</tr>
<tr>
<td>1.0%</td>
<td>0.25</td>
<td>300</td>
<td>0.25</td>
<td>300</td>
<td>0.25</td>
<td>300</td>
</tr>
<tr>
<td>2.0%</td>
<td>0.5</td>
<td>325</td>
<td>0.5</td>
<td>325</td>
<td>0.5</td>
<td>325</td>
</tr>
<tr>
<td>3.0%</td>
<td>0.75</td>
<td>350</td>
<td>0.75</td>
<td>350</td>
<td>0.75</td>
<td>350</td>
</tr>
<tr>
<td>4.0%</td>
<td>1.0</td>
<td>375</td>
<td>1.0</td>
<td>375</td>
<td>1.0</td>
<td>375</td>
</tr>
<tr>
<td>5.0%</td>
<td>1.25</td>
<td>400</td>
<td>1.25</td>
<td>400</td>
<td>1.25</td>
<td>400</td>
</tr>
<tr>
<td>6.0%</td>
<td>1.5</td>
<td>425</td>
<td>1.5</td>
<td>425</td>
<td>1.5</td>
<td>425</td>
</tr>
<tr>
<td>7.0%</td>
<td>1.75</td>
<td>450</td>
<td>1.75</td>
<td>450</td>
<td>1.75</td>
<td>450</td>
</tr>
<tr>
<td>8.0%</td>
<td>2.0</td>
<td>475</td>
<td>2.0</td>
<td>475</td>
<td>2.0</td>
<td>475</td>
</tr>
<tr>
<td>9.0%</td>
<td>2.25</td>
<td>500</td>
<td>2.25</td>
<td>500</td>
<td>2.25</td>
<td>500</td>
</tr>
<tr>
<td>10.0%</td>
<td>2.5</td>
<td>525</td>
<td>2.5</td>
<td>525</td>
<td>2.5</td>
<td>525</td>
</tr>
</tbody>
</table>

### Abbreviations
- NC: Normal Crown
- RC: Reverse Crown
- S: Super-elevation at normal crown slope
- T: Transition Length
- F: Friction Factor
- L: Lane Width
- W: Width of Subgrade
- D: Distance from beginning of super-elevation transition to any point

### General Notes
1. On pavement with two-way traffic, the super-elevation shall be revolved on the inside pavement edge unless otherwise noted on the plan.
2. Super-elevation values shown on the cross sections are values
   - for or to be added to or subtracted from the point of control
3. Lengths for L, W may be rounded in multiples of 25 ft. or 50 ft.
4. In future surface calculations,
   - lanes shall have additional transition lengths as follows:
   
#### Notes:
- Maintain normal crown on inside until super-elevation exceeds 2%.
- Rate of super-elevation shall be computed on straight line method when applicable.

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### Standard Method When Super-elevation Revolves Around Inner Subgrade Point or Inner Pavement Edge

- **Maximum Super-elevation**
  - Outside Inbound or Subgrade Edge
  - Actual S Profile
  - Theoretical Profile
  - Inside Inbound or Subgrade Edge

### Standard Method When Super-elevation Revolves Around Center Line

#### Table: A & B

<table>
<thead>
<tr>
<th>Lane Width</th>
<th>Desired S Profile</th>
<th>S (ft)</th>
<th>Rev.</th>
<th>E (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>50</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

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### Arkansas State Highway Commission

**Tables and Method of Super-elevation for Two-Way Traffic**

**Standard Drawing SE-2**
Channeling devices

**Traffic Control Devices**

**Vertical Panel Placement**

- **Tapered Channeling - 3-lane one-way roadway where center lane is closed.**
- **Tapered Channeling - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.**

**General Notes:**

1. Speed limit reduction may be implemented only when deemed necessary in the area of 500' when recommended by the State Traffic Engineer.
2. When the existing speed limit is 60 mph and the area requires a speed limit of 50 mph, channeling devices shall be used to reduce the speed limit to 50 mph. Devices may be used at intersections, major grade separations, and other areas requiring a reduction in speed.
3. When the existing speed limit is 60 mph and the area requires a speed limit of 40 mph, channeling devices shall be used to reduce the speed limit to 40 mph. Devices may be used at intersections, major grade separations, and other areas requiring a reduction in speed.
4. The maximum speed of vehicles on channeling devices shall be 15 mph to ensure safety and prevent accidents.
5. Signing lights and/or flags may be used to alert drivers to the presence of channeling devices.
6. Permanent signs no longer applicable when temporary channeling devices are in use.
7. The channeling devices are to be placed on the inside split of the roadway.
8. Channeling devices shall stop all vehicles on grade separations.
9. Channeling devices shall stop all vehicles on grade separations.
10. When channeling devices are used on grade separations, they shall be placed at the beginning of the grade separation and shall be at least 200 feet from any other traffic control devices.
11. Channeling devices shall be used in conjunction with other traffic control devices.
12. Channeling devices shall be used in conjunction with other traffic control devices.
13. Channeling devices shall be used in conjunction with other traffic control devices.
14. Channeling devices shall be used in conjunction with other traffic control devices.
CLEARING AND GRUBBING
CONSTRUCTION SEQUENCE
1. PLACE PERM. CONTROLS (GCS, SILT FENCES, DIVERSION DITCHES), TEMP. EROSION CONTROL
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 DUMPED, PREPARED, SEEDED AND MULCHED AS SHOWN PROPOSED. SLOPES SHALL BE STABILIZED AND STABILIZED IN PLACE, SEEDED TO BE PLANTED AS SEEN ILLUSTRATION.

CONSTRUCTION SEQUENCE
1. EXCAVATE AND STABILIZE INTERCEPTOR OR DIVERSION DITCH.
2. PERFORM PHASE 1 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM PHASE 3 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING AND/or SEEDING BARRIERS OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

GENERAL NOTE
ALL EMBANKMENT SLOPES SHALL BE DUMPED, PREPARED, SEEDED AND MULCHED AS SHOWN PROPOSED. SLOPES SHALL BE STABILIZED AND STABILIZED IN PLACE, SEEDED TO BE PLANTED AS SEEN ILLUSTRATION.

CONSTRUCTION SEQUENCE
1. CONSTRUCT EMBANKMENT SLOPES OR DITCHES, SEED BARRIERS, PLANT SEEDING, PLACE SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SHOWN.
2. PERFORM PHASE 1 EMBANKMENT, PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EMBANKMENT, PLACE SEEDING BARRIERS OR OTHER EROSION CONTROL DEVICES AS REQUIRED.
GENERAL NOTES:

STEEL, WIRE, OR BARBED WIRE FENCE POSTS SHALL CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WFS-1. KENNED LAMPS APPROVED ALTERNATIVES TO WIRE, BARBED WIRE, OR BARBED STEEL FENCE POSTS SHALL BE APPROVED BY THE ENGINEER, SUBJECT TO THE ACCEPTABLE TOLERANCE IN LENGTH OF FENCING OR DEBRIS POSTS SHALL BE - 7"<X>6" X 1 LENGTH. TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

The contractor shall furnish and erect at least 250' of timber line posts of 7 feet length in order to provide sufficient set in soft ground or shallow depressions.

MBAHAYA gates, either single or double, shall be at least 10 feet in width as shown in the plans or otherwise designed by the Engineer.

At stream crossings the fence shall not be constructed across large streams whose clearance is sufficient from the top of the bank to the bridge structure is shown in the plans or otherwise designed.

NOTE: The fence on either side of the bank, where the clearance is not sufficient, the fence shall be terminated by cross connections and two posts adjacent to bridge abutments of culvert or pile walls.

NOTE: Steel line posts shall be 6'-0" maximum length.

TYPE C FENCE (WOOD POSTS)

LINE POST
3'-0" x 6'-0" LENGTH
MAX. SPACING TO BE 12'-0"

LINE BRACE ASSEMBLY
MAX. SPACING TO BE 33'-0"

TYPE C FENCE (STEEL POSTS)

NOTE: Spacing and Size Except Length of Posts. Approach Span, Full Post Assembly, and Corner Bracing for Type C Fence shall conform to Type C Fence, use Galvanized Staples on Wood Posts and Approved Fasteners in Steel Posts.

PRIVATE FENCE TERMINAL INSTALLATION

PRIVATE FENCE TO TYPE C OR D FENCE
7'-0" TO 16'-0"
SANDING SPACE

TYPICAL VEHICULAR GATES

OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF Securing Gate Latches and/or Locks shall meet the Approvals of the Engineer.

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WFS-4

4'-0" FLOOR HEIGHT
4'-0" MALL HEIGHT
1'-0" BELL HEIGHT
1'-0" HORIZONTAL OPENING

USE SAME APPROACH SPANS AS FOR CORNER POSTS

TYPICAL VEHICULAR GATE

3'-0" X 6'-0" FENCE POSTS PER COLUMN
3'-0" X MALL LENGTH BETWEEN POSTS
9'-0" BELL HEIGHT BETWEEN POSTS

Arkansas Highway Commission

DATE: 8-95
REV: C-E-1

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WFS-4

4'-0" FLOOR HEIGHT
4'-0" MALL HEIGHT
1'-0" BELL HEIGHT
1'-0" HORIZONTAL OPENING

USE SAME APPROACH SPANS AS FOR CORNER POSTS

TYPICAL VEHICULAR GATE

3'-0" X 6'-0" FENCE POSTS PER COLUMN
3'-0" X MALL LENGTH BETWEEN POSTS
9'-0" BELL HEIGHT BETWEEN POSTS

Arkansas Highway Commission

DATE: 8-95
REV: C-E-1
END DITCH GRADE ON RT.

INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.

CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = N/A  Q25 = N/A
24" RCP(CL. III)(TYPE 3 BEDDING) = 54 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 60 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH
END DITCH GRADE ON LT.
BEGIN DITCH GRADE ON RT.
118+28
INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 30 CU. YDS.

118+00

117+33
CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = N/A  Q25 = N/A
24" RCP(CL. III)(TYPE 3 BEDDING) = 42 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 48 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH
BEGIN DITCH GRADE ON LT.

117+00

116+00

Cut Volume 37.76
Fill Volume 2.56

Cut Volume 32.64
Fill Volume 6.46

Cut Volume 36.32
Fill Volume 10.82

Cut Volume 27.56
Fill Volume 27.56

Cut Volume 24.33
Fill Volume 24.33

Area Cut 39.62
Area Fill 1.63

Area Cut 34.70
Area Fill 0.31

Area Cut 28.33
Area Fill 8.35

Area Cut 40.63
Area Fill 36.93

Area Cut 15.16
Area Fill 5.85

Area Cut 17.94
Area Fill 3.29

Cut Volume 66.39
Fill Volume 4.42

Area Cut 37.63
Area Fill 5.63
128+00

127+00

126+00

125+33
INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.

125+00

124+63
INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.
136+00

135+00

134+00

133+15

133+00
INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 30 CU. YDS.

INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.

INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 30 CU. YDS.
↑ 170+88  
INSTALL
18" X 36' PIPE CULVERT  
LT. SIDE DRAIN  
CONST. APPR. = 25 CU. YDS.

↑ 170+27  
INSTALL
18" X 36' PIPE CULVERT  
LT. SIDE DRAIN  
CONST. APPR. = 25 CU. YDS.

↑ 170+00  
INSTALL
18" X 36' PIPE CULVERT  
LT. SIDE DRAIN  
CONST. APPR. = 25 CU. YDS.

↑ 169+46  
INSTALL
18" X 36' PIPE CULVERT  
LT. SIDE DRAIN  
CONST. APPR. = 25 CU. YDS.

↑ 169+13  
INSTALL
18" X 36' PIPE CULVERT  
RT. SIDE DRAIN  
CONST. APPR. = 20 CU. YDS.