WEST OF RIVER BLUFF RD. -
EAST (PASSING LANE) (S)
CLEBURNE COUNTY
ROUTE 16 SECTION 12
FEDERAL AID PROJ. STPF-0012(32)
JOB 050315

STA. 254+00.00
BEGIN JOB 050315
L.M. 4.81

STA. 320+30.00
END JOB 050315
INDEX OF SHEETS

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NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

ROADWAY STANDARD DRAWINGS

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<tr>
<th>DRWG.NO.</th>
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<tr>
<td>CD-P-1</td>
<td>CONCRETE DITCH PAVING</td>
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<td>FES-1</td>
<td>FLARED END SECTION</td>
<td>10-18-96</td>
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<td>FLARED END SECTION</td>
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<td>MAILBOX DETAILS</td>
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<td>PCC-1</td>
<td>CONCRETE PIPE CULVERT FILL HEIGHTS &amp; BEDDING</td>
<td>2-27-14</td>
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<td>PCM-1</td>
<td>METAL PIPE CULVERT FILL HEIGHTS &amp; BEDDING</td>
<td>2-27-14</td>
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<td>PCE-1</td>
<td>PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)</td>
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<td>PCE-2</td>
<td>PLASTIC PIPE CULVERT (PVC F949)</td>
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<td>PU-1</td>
<td>DETAILS OF PIPE UNDERGROUND</td>
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<td>SE-1</td>
<td>TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC</td>
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<td>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</td>
<td>4-15-17</td>
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<td>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</td>
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<td>WF-1</td>
<td>WIRE FENCE WATER GAPS</td>
<td>4-20-79</td>
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<td>CHAIN LINK FENCE</td>
<td>11-17-10</td>
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<tr>
<td>WF-3</td>
<td>WIRE FENCE TYPE C AND D</td>
<td>6-22-02</td>
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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. 140)
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
100-1: CONTRACTOR'S LICENSE
100-4: DEPARTMENT NAME CHANGE
102-1: ISSUANCE OF PROPOSALS
108-1: LIQUIDATED DAMAGES
108-2: WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1: AGGREGATE BASE COURSE
401-1: TACK COATS
400-4: DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
410-1: CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
505-1: PORTLAND CEMENT CONCRETE DRIVEWAY
604-1: RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
605-1: CONCRETE DITCH PAVING
606-1: PIPE CULVERTS FOR SIDE DRAINS
630-1: MULCH COVER
JOB 500315: BIDDING REQUIREMENTS AND CONDITIONS
JOB 500315: BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 500315: BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 500315: CARGO PREFERENCES ACT REQUIREMENTS
JOB 500315: DELAY IN RIGHT OF WAY OCCUPANCY
JOB 500315: DISADVANTAGED BUSINESS ENTERPRISE BIDDERS RESPONSIBILITIES
JOB 500315: GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 500315: LIQUID ANTISTRIPPING ADDITIVE
JOB 500315: MANDATORY ELECTRONIC CONTRACT
JOB 500315: MANDATORY ELECTRONIC DOCUMENT SUBMITAL
JOB 500315: OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 500315: PARTNERING REQUIREMENTS
JOB 500315: PLASTIC PIPE
JOB 500315: PROTECTION OF WATER QUALITY AND WETLANDS
JOB 500315: RUMBLE STRIPS
JOB 500315: SHORING FOR CULVERTS
JOB 500315: SOL STABILIZATION
JOB 500315: STORM WATER POLLUTION PREVENTION PLAN
JOB 500315: SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 500315: UTILITY ADJUSTMENTS
JOB 500315: VALUE ENGINEERING
JOB 500315: WARM MIX ASPHALT

GENERAL NOTES
1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERS WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUOUS MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARDED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
9. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAYING ALONG A NEAT LINE. AFTER SAYING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

Governing specifications and general notes
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - WESTBOUND PASSING LANE
STA. 260+60.00 - STA. 318+30.00

ASSOCIATE BASE COURSE (CLASS 7) VARIABLE COMPACTED DEPTH
68.00 TONS PER STA.

AGGREGATE BASE COURSE (CLASS 7) VARIABLE COMPACTED DEPTH
56.25 TONS PER STA. 
*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

NOTES:
Refer to cross sections for deviation from
the normal slopes. No changes shall be made from
the planned slopes without the approval of
the Engineer.

The thickness of aggregate base course shall be
within plus or minus one inch of the plan thickness
shown. The contractor will correct any deficient
thickness. Payment will not be made for material placed in
excess of the tolerance indicated.

Asphalt for leveling of existing pavement shall be
placed on all and where directed by the Engineer.
Calculations for the amount of leveling and/or
leveling operations shall be performed before
including the leveling operation. Payment will not be
paid for direct. Pay will be considered to be included
in the various per item.

The final 2" of surface course is to be placed
after all other courses have been laid.

CONDITIONAL JOINTS SHALL BE AT LANE LINE.

After placing final 2" of surface course the existing
slab shall be processed as directed by the Engineer
prior to sealing in order to maintain a uniform slope.

*NOTE: This shall be included in the price
bid for various contract items.

TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION - WESTBOUND PASSING LANE

TYPICAL SECTIONS OF IMPROVEMENT
TYPICAL SECTIONS OF IMPROVEMENT

NOCOR! NO.

30'-0" ACWM SURFACE COURSE (1/2"
200 LBS./YD. 30
1178" TACK COAT
VAR. LBS./YD. FOR VARIOUS SLOPES
& TACK COAT
(OUT GAL./YD. MATH)

3'-0"
12'-0"
2'-0"
1'-0"

0.02'/

0.02'/

3'-0" LINES
12'-0" LINES
2'-0" LINES
1'-0" LINES

EXIST. CROWN & CONTROL POINT
MIN. 2" OVERLAY

24'-0" EXISTING LANES
RETAIN AND OVERLAY

VAR. LBS./YD. FOR VARIOUS SLOPES

24'-0" TACK COAT

6'

TAPER 2 LANE TO 3 LANE
STA. 294+00.00 TO STA. 299+40.00
TAPER 3 LANE TO 2 LANE
STA. 296+00.00 TO STA. 320+30.00

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

ASPHALT FOR LEVELING OF EXISTING PAVEREMENT
SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY
THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF
LEVELING OPERATIONS SHALL BE PERFORMED BEFORE
CONSTRUCTING NOTCH AND YIELDING. CALCULATIONS
WILL NOT BE PAID FOR DIRECTLY BUT WILL BE
CONSIDERED TO BE INCLUDED IN THE VARIOUS PAY
ITEMS.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED
AFTER ALL OTHER COURSES HAVE BEEN LAD.
LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

AFTER PLACING FINAL 2" OF SURFACE COURSE, THE
EXISTING SLOPE SHALL BE REDRESSED AS DIRECTED
BY THE ENGINEER.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE
FOR VARIOUS CONTRACT ITEMS.

TYPICAL SECTIONS OF IMPROVEMENT
DETAIL FOR COUNTY ROAD TURNOUT

SPECIAL DETAILS

DETAIL SHOWING TRANSITION TO EXISTING PAVEMENT

- To be used as directed by the Engineer

DETAILS OF SILT FENCE
AT CROSS DRAINS
DETAILS OF RUMBLE STRIPS

LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.

2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.

3. THE 6" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL Deviation FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.

4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.

5. THE 3" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12' LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

DETAIL FOR GAP PATTERN RUMBLE STRIP

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.
SPECIAL DETAILS

1. Rumble stripes shall not be installed on bridge decks, approach slabs, intersecting streets or roadways, or across transverse joints of concrete shoulders.
2. Rumble stripes shall be measured by the linear foot longitudinally along the centerline.
3. The 3/8" depth shall generally apply for the entire 16' length. Some variation to suit slope breaks may be necessary.
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.

LEGEND

--rock ditch checks
- -silt fence

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<tr>
<th>TEMPORARY EROSION CONTROL QUANTITIES - CLEARING AND GRUBBING</th>
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<tr>
<td>ROCK DITCH CHECKS (E-61) × 87</td>
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<td>CONST. C.L.</td>
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<tr>
<td>B × 216-43.00</td>
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<tr>
<td>T × 121.92</td>
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<tr>
<td>R × 305.89</td>
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<tr>
<td>PC × 254-46.41</td>
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<tr>
<td>PT × 257-80.23</td>
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12/1/17

12/1/17
TEMPORARY EROSION CONTROL DETAILS

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 DETAILS

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 equipment shall be installed on a temporary basis only when the soil disturbing activity is in that area beginning.

Refer to Section 110 of the Standard Specifications for additional requirements.
TEMPORARY EROSION CONTROL DETAILS

LEGEND

- Rock Ditch Checks
- Silt Fence

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<td>STA 310-00 TO STA 311.25</td>
<td>Silt Fence on LT. = 126 ft.</td>
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<tr>
<td>STA 315-00 TO STA 319.50</td>
<td>Silt Fence on LT. = 450 ft.</td>
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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.

TOTAL CLEARING AND GRUBBING

TEMPORARY EROSION CONTROL DETAILS

REVISIONS

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<th>REVISION</th>
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CLEARING AND GRUBBING

TEMPORARY EROSION CONTROL DETAILS
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 1
SILT FENCE (E-111) 2050 L. N. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
ROCK DITCH CHECKS (E-61) 97 CU. YD.
SILT FENCE (E-111) 2135 L. N. FT.
TEMPORARY EROSION CONTROL QUANTITIES - STAGE 1
SILT FENCE (E-111) = 2,050 L.I. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
ROCK DITCH CHECKS (E-6) = 87 C.L. YD.
SILT FENCE (E-111) = 2,135 L.I. FT.

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.

STAGE 1
TEMPORARY EROSION CONTROL DETAILS
LEGEND

- Rock Ditch Checks
- Silt Fence

TEMPORARY EROSION CONTROL QUANTITIES - STAGE I
SILT FENCE (E-111) - 2060 L.I.N. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
ROCK DITCH CHECKS (E-11) - 87 CU. YD.
SILT FENCE (E-111) - 2135 L.I.N. FT.

CONST. C.L.
PI = 311 + 74.77
Δ = 20'00' 00" LT.
O = 4'30' 00"
T = 325, 68'
L = 446, 72'
PC = 309, 46.28
PT = 313 + 96.61
α = 0.078 '/'
Le = 250'

CONST. C.L.
PI = 317 + 78.60
Δ = 5'01' 29" LT.
O = 3'15' 00"
T = 196, 13'
L = 270, 68'
PC = 316, 39.27
PT = 319 + 16.95
α = 0.061 '/'
Le = 250'

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 WHERE THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
TEMPORARY EROSION CONTROL, GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLAN ARE ESTIMATED AND MAY BE ALTERED WHERE IT IS REQUIRED TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN THIS AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

LEGEND

\( \text{\#} \) = ROCK DITCH CHECKS

\( \text{\#} \) = SILT FENCE

\( \text{\#} \) = SILT FENCE

\( \text{\#} \) = TEMPORARY EROSION CONTROL QUANTITIES

\( \text{\#} \) = RETAIN SILT FENCE

\( \text{\#} \) = ROCK DITCH CHECKS

\( \text{\#} \) = TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2

\( \text{\#} \) = SILT FENCE - 87 CUL YD.

\( \text{\#} \) = ROCK DITCH CHECKS - 6 CUL YD.

\( \text{\#} \) = TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2

\( \text{\#} \) = SILT FENCE - 2135 LIN. FT.

\( \text{\#} \) = ROCK DITCH CHECKS - 87 CUL YD.

\( \text{\#} \) = TEMPORARY EROSION CONTROL QUANTITIES - RETAIN

\( \text{\#} \) = SILT FENCE - 2060 LIN. FT.

\( \text{\#} \) = SILT FENCE - 2135 LIN. FT.
TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2

ROCK DITCH CHECKS (E-6) = 6, CUB. YD.
SILT FENCE (E-111) = 290 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
SILT FENCE (E-111) = 2060 LIN. FT.
ROCK DITCH CHECKS (E-6) = 87, CUB. YD.
SILT FENCE (E-111) = 2135 LIN. FT.

LEGEND

- ROCK DITCH CHECKS
- SILT FENCE

TEMPORARY EROSION CONTROL DETAILS

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 THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBANCE 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 1E-69 = 6 D.U. YD.
SILT FENCE 1E-111 = 296 L.I.N. FT.
TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
SILT FENCE 1E-111 = 2060 L.I.N. FT.
ROCK DITCH CHECKS 1E-69 = 87 D.U. YD.
SILT FENCE 1E-111 = 2135 L.I.N. FT.

LEGEND

- Rock Ditch Checks
- Silt Fence

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS WERE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THE EFFECTIVENESS OF THE DEVICES. THEY ARE TO BE INSTALLED IN AN AREA WHERE THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
SEQUENCE OF CONSTRUCTION

STAGE 1
MAINTAIN TRAFFIC ON EXISTING LANES. BERRY ALONG LT. PERFORM LEVELING OPERATIONS, PLACE CONSTRUCTION PAYMENT WARNINGS, INSTALL SIDE DRAG ON LT.

STAGE 2
MAINTAIN TRAFFIC ON EXISTING LANES. BERRY ALONG BOTH LANE DRIVES ON LT. INSTALL SIDE DRAG ON RT.

STAGE 3
PLACE FINAL 2" OF RRM SURFACE COURSE. INSTALL FINAL STRIPING. SHIFT TRAFFIC TO FINAL SURFACE.
SEQUENCE OF CONSTRUCTION:

STAGE 1

STAGE 2

STAGE 3
Place Final 1' Of AC Mix Surface Course. Install Final Striping. Shift Traffic To Final Surface.

MAINTENANCE OF TRAFFIC

VERTICAL PANELS 50° O.C.

TRAFFIC DRUMS 100° O.C.

TRAFFIC DRUMS = 4 EACH

STANDARD DRIVeway/TRAFFIC DRUM DETAIL
SEQUENCE OF CONSTRUCTION

STAGE 1
- Maintain traffic on existing lanes. Repaint lines on LT. and LT. and perform leveling operations.
- Construct cross drains and driveways on LT. Install side drains on LT.

STAGE 2
- Maintain traffic on existing lanes.
- Install side drains on LT.

STAGE 3
- Place final 2" of acme surface course.
- Shift traffic to final surface.

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION

STAGE 1
- Maintain traffic on existing lanes. Repaint lines on LT. and LT. and perform leveling operations.
- Construct cross drains and driveways on LT. Install side drains on LT.

STAGE 2
- Maintain traffic on existing lanes.
- Install side drains on LT.

STAGE 3
- Place final 2" of acme surface course.
- Shift traffic to final surface.

STAGE 1 QUANTITIES TOTALS

TRAFFIC DRUMS 200" O.C. 1 = 75 EACH
TRAFFIC DRUMS 150" O.C. 1 = 35 EACH
VERTICAL PANELS 150" O.C. 1 = 25 EACH
CONSTRUCTION PAVEMENT MARKINGS = 250 Lín. FT.
BARRIER TYPE III 115" RT. 116" 1 = 50 Lín. FT.
BARRIER TYPE III 115" LT. 116" 1 = 50 Lín. FT.
SIGNS = 301.50 SQ. FT.
SEQUENCE OF CONSTRUCTION

STAGE 1

MOUNTAIN TRAFFIC ON EXISTING LINES, MAINTAIN TRAFFIC ON EXISTING LINES, MAINTAIN TRAFFIC ON EXISTING LINES.

STAGE 2

PLACE TRAFFIC DRUMS & CONSTRUCTION MARKINGS, INSTALL SIDE MARKINGS ON LT.

STAGE 3

PLACE FINAL 2" OF ADHESIVE SURFACE COURSE, INSTALL FINAL STRIPING, SHIFT TRAFFIC TO FINAL COURSE.
SEQUENCE OF CONSTRUCTION

STAGE 1
MAINTAIN TRAFFIC ON EXISTING LANES.
Widen L.T. and perform level operations.
Construct cross driveways and driveways on L.T.
Install side driveways on L.T.

STAGE 2
MAINTAIN TRAFFIC ON EXISTING LANES.
Widen the L.R. and perform level operations.
Install side driveways on L.R.

STAGE 3
PLACE FINAL 2" OF ACME SURFACE COURSE
SHIFT TRAFFIC TO FINAL SURFACE.

VERTICAL PANELS & 50' O.C.

6 TRAFFIC DRUMS
6 TRAFFIC DRUMS
6 TRAFFIC DRUMS
4 TRAFFIC DRUMS

VERTICAL PANELS & 50' O.C.

6 TRAFFIC DRUMS
6 TRAFFIC DRUMS

15 TRAFFIC DRUMS

12/21/17
SEQUENCE OF CONSTRUCTION

STAGE 1
MAINTAIN TRAFFIC ON EXISTING LANE.
BEGIN W.G.T. AND PERFORM LEVELING OPERATIONS.
PLACE LATERAL SIDE CENTER ON EYEBROWS.
CONSTRUCT CROSS DRAINAGE AND DRAINAGE ON LT.
INSTALL SIDE DRAINS ON LT.

STAGE 2
MAINTAIN TRAFFIC ON EXISTING LANE.
INSTALL SIDE DRAINAGE ON LT.

STAGE 3
PLACE FINAL 2" OF ACME SURFACE COURSE
SHIFT TRAFFIC TO FINISH SURFACE.
SEQUENCE OF CONSTRUCTION

STAGE 1
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.

STAGE 2
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.
M A I N T A I N T R A F F I C ON E X I S T I N G L A N E S.

STAGE 3
P L A C E " F I N A L " 2 " 5 O C M S A F E S T O R C E.
P L A C E " F I N A L " 2 " 5 O C M S A F E S T O R C E.
P L A C E " F I N A L " 2 " 5 O C M S A F E S T O R C E.
P L A C E " F I N A L " 2 " 5 O C M S A F E S T O R C E.

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION STAGE 1

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION STAGE 2

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION STAGE 3

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION STAGE 4
STAGE 1
Maintain traffic on existing lanes, place control markers, and perform operations, construct cross drain and driveways on Lt. Install side drain on Lt.

STAGE 2
Maintain traffic on existing lanes, widen to the full construction width, and install side drain on Lt.

STAGE 3
Place final T of new surface course, shift traffic to new surface, and perform

TOTAL FOR STAGE 2 QUANTITIES
- Traffic Drums @ 100' O.C. - 50 EACH
- Traffic Drums @ Driv. - 134 EACH
- Traffic Drums @ 200' O.C. - 56 EACH
- Vertical Panels @ 50' O.C. - 82 EACH
- Construction Pavement Markings - 2834 L/FL
- Signs - 251.50 SQ.FT.

STAGE 2
Maintenance of Traffic
SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LAYERS.
PLACE CONSTRUCTION PARTIALLY MAINTAIN
CONSTRUCT CROSS DRUMS AND DIVERT ON LT.
INSTALL SIDE DRUMS ON LT.

STAGE 2

MAINTAIN TRAFFIC ON EXISTING LAYERS.
PLACE CONSTRUCTION PARTIALLY MAINTAIN
CONSTRUCT CROSS DRUMS AND DIVERT ON LT.
INSTALL SIDE DRUMS ON LT.

STAGE 3

PLACE FINAL 2" OF ADM SURFACE COURSE
INSTALL FINAL STRIPING,
SHIFT TRAFFIC TO FINAL SURFACE.

MAINTENANCE OF TRAFFIC

<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>D</th>
<th>DR</th>
<th>COR</th>
<th>CRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAINTAIN TRAFFIC WIDEN ON LT. AND PLACE CONSTRUCTION PARTIALLY MAINTAIN</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONSTRUCT CROSS DRUMS AND DIVERT ON LT.</td>
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<td></td>
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<tr>
<td>INSTALL SIDE DRUMS ON LT.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>MAINTAIN TRAFFIC WIDEN ON LT. AND PLACE CONSTRUCTION PARTIALLY MAINTAIN</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>CONSTRUCT CROSS DRUMS AND DIVERT ON LT.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INSTALL SIDE DRUMS ON LT.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLACE FINAL 2&quot; OF ADM SURFACE COURSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INSTALL FINAL STRIPING</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SHIFT TRAFFIC TO FINAL SURFACE</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

VERTICAL PANELS 50° O.C.

12 TRAFFIC DRUMS 6 COR. TURNOUT
4 TRAFFIC DRUMS 6 DRIV.

TRAFFIC DRUMS 6 O.C.

6 TRAFFIC DRUMS 6 COR. TURNOUT
4 TRAFFIC DRUMS 6 O.C.

TRAFFIC DRUMS 6 O.C.

TRAFFIC DRUMS 6 O.C.

4 TRAFFIC DRUMS 6 O.C.

4 TRAFFIC DRUMS 6 O.C.

17 TRAFFIC DRUMS 6 O.C.

4 TRAFFIC DRUMS 6 O.C.

CONSTRUCTION

PI = 2713.93.82
D = 17.00'
T = 80.41'
L = 144.79'
PC = 274.16.19
e = D/250'
Le = 250'
SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.

RE-DEVELOP AND PERFORM PRELIMINARY OPERATIONS.

CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.

INSTALL SIDE DRAINS ON LT.

STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.

AND INSTALL SIDE DRAINS ON LT.

STAGE 3

PLACE FINAL 2" OF ASHLEY SURFACE COURSE

SHIFT TRAFFIC TO FINAL SURFACE.

MAINTENANCE OF TRAFFIC

STAGE 2

MAINTENANCE OF TRAFFIC

VERTICAL PANELS @ 50' G.C.
SEQUENCE OF CONSTRUCTION

STAGE 1
MAINTAIN TRAFFIC ON EXISTING LANES. PROCEED WITH SEQUENTIAL OPERATIONS. CONSTRUCT CROSS-DRAINS AND DRIVEWAYS ON LT. INSTALL SIDE DRAINS ON RT.

STAGE 2
MAINTAIN TRAFFIC ON EXISTING LANES.Wifi 100' RT. CONSTRUCT CROSS-DRAINS AND DRIVEWAYS ON LT. INSTALL SIDE DRAINS ON RT.

STAGE 3
PLACE FINAL 5'-3' ACM SURFACE COURSE.
DRIFT TRAFFIC TO PAVEMENT.

STATE 2
MAINTENANCE OF TRAFFIC
SEQUENCE OF CONSTRUCTION

STAGE 1
MAINTAIN TRAFFIC ON EXISTING LANE.
BLOCK ON LL LT AND PERFORM LEVELING OPERATIONS.
ALIGN LIMITS, TRANSITION, AND CONSTRUCT CROSS DRUMS AND DIVIDEMENTS ON LT.
INSTALL SIDE DRUMS ON LT.

STAGE 2
MAINTAIN TRAFFIC ON EXISTING LANE.
AND INSTALL SIDE DRUMS ON RT.

STAGE 3
PLACE FINAL 2' OF SOME SURFACE COURSE
INSTALL FINAL DRUMS.
PLACE TRAFFIC TO FINAL SURFACE.

MAINTENANCE OF TRAFFIC

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<thead>
<tr>
<th>Wk</th>
<th>HOV</th>
<th>NOV</th>
<th>Perm.</th>
<th>TKN</th>
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<th>Proj.</th>
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<td>2</td>
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</tbody>
</table>

MAINTENANCE OF TRAFFIC

TRAFFIC DRUMS
#100 G.O.C.

TRAFFIC DRUMS
#10 G.O.C.

VERTICAL PANELS
#50 G.O.C.

VERTICAL PANELS
#50 G.O.C.

200' LANE ADDITION TAPER

100' TRANSITION
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE 6" YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. CONTACT THE PLACEMENT OF ANY FINAL WIPING COORDINATES TO MAINTENANCE CENTER AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE SOLID  12974  LIN. FT
6" WHITE STRIPE  12974  LIN. FT
6" ORANGE STRIPE  12974  LIN. FT
RAISED PAVEMENT MARKERS (TYPE III)
YELLOW/YELLOW  52 EACH  (600 D.C.)
WHITE/RED  52 EACH  (600 D.C.)
PERMANENT PAVEMENT MARKING DETAILS

The 6" yellow striping quantity has been estimated based on a double yellow centerline design for the entire project. Motion to the placement of any final striping condition necessary will be determined during construction after the final lift of surface course has been placed to schedule the zoning of the project.
PERMANENT PAVEMENT MARKING DETAILS

- **6" WHITE EDGE LINE**
- **6" WHITE SKIP LINE** (TYPE II, RPM & 80° G.C.)
- **6" WHITE EDGE LINE**
- **6" Dbl. Yellow/White Center Line** (TYPE II, RPM & 80° G.C.)

**CONSTRUCTION DATA**

- **PI** = 311.76, 77
- **D** = 20' 00" OF LT.
- **T** = 225.68°
- **L** = 446.72°
- **PC** = 300-46.09
- **PT** = 315-06.81
- **R** = 0.786'
- **Ls** = 200'

- **CONSTRUCTION DATA**

- **PI** = 317.76, 80
- **D** = 20' 00" OF LT.
- **T** = 225.68°
- **L** = 446.72°
- **PC** = 300-46.09
- **PT** = 315-06.81
- **R** = 0.786'
- **Ls** = 200'

*THE 6" YELLOW STRIPOING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTER LINE SECTIONS FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING ZONES PRIOR TO THE PLACEMENT OF MARKINGS ON THE WORK ZONES. THE CENTER-GIẢI SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.*

- **STA 320-30.00**
- **END JOB 050315**
### Advance Warning Signs and Devices

<table>
<thead>
<tr>
<th>Stage</th>
<th>Sign Size</th>
<th>Stagger</th>
<th>Number Required</th>
<th>Total Signs Required</th>
<th>Vertical Panels</th>
<th>Traffic Drums</th>
<th>Barricades (Type II)</th>
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<tbody>
<tr>
<td>1</td>
<td>STAGE 1</td>
<td>500</td>
<td>2</td>
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<td>STAGE 2</td>
<td>200</td>
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<td>3</td>
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</table>

#### Note:
- This is a high traffic volume road as defined in Section 604.03, Standard Specifications for Highway Construction.
- Roadway for the full length of the job. This is the maximum quantity required to allow the contractor.
- The minimum width of the horizontal zone is 30 ft.

### Construction Pavement Markings and Permanent Pavement Markings

<table>
<thead>
<tr>
<th>Description</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Removal of Permanent Pavement Markings</th>
<th>Raised Pavement Markings</th>
<th>Thermoplastic Pavement Markings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>STAGE 1</td>
<td>STAGE 2</td>
<td>REMOVAL OF PERMANENT PAVEMENT MARKINGS</td>
<td>RAISED PAVEMENT MARKINGS</td>
<td>THERMOPLASTIC PAVEMENT MARKINGS</td>
</tr>
<tr>
<td>Ма́ркировка дорожных знаков и ограждений</td>
<td>200</td>
<td>200</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Маркировка дорожных знаков и ограждений</td>
<td>200</td>
<td>200</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Note:
- This is a high traffic volume road as defined in Section 604.03, Standard Specifications for Highway Construction.
- The minimum width of the horizontal zone is 30 ft.
### Station Descriptions

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
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<tbody>
<tr>
<td>264+05</td>
<td>CULVERT, 2 PCC-1, FES-1, FES-2</td>
</tr>
<tr>
<td>265+08</td>
<td>CULVERT, 2 PCC-1, FES-1, FES-2</td>
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<tr>
<td>266+16</td>
<td>CULVERT, 2 PCC-1, FES-1, FES-2</td>
</tr>
<tr>
<td>268+02</td>
<td>CULVERT, 2 PCC-1, FES-1, FES-2</td>
</tr>
<tr>
<td>303+00</td>
<td>CULVERT, 2 PCC-1, FES-1, FES-2</td>
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<td>303+16</td>
<td>CULVERT, 2 PCC-1, FES-1, FES-2</td>
</tr>
<tr>
<td>303+32</td>
<td>CULVERT, 2 PCC-1, FES-1, FES-2</td>
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</table>

**Note:** For all pipe culvert installations use Type 2 bedding unless otherwise specified.
### Erosion Control

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Seeding</th>
<th>Mixture</th>
<th>Cover</th>
<th>Water</th>
<th>Temporary Seeding</th>
<th>Mixture</th>
<th>Cover</th>
<th>Water</th>
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### Concrete Ditch Paving

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length</th>
<th>Mix</th>
<th>Flat</th>
<th>Edge</th>
<th>Water</th>
<th>Note</th>
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### Cold Milling Asphalt Pavement

<table>
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<th>Station</th>
<th>Location</th>
<th>Length</th>
<th>Mix</th>
<th>Flat</th>
<th>Edge</th>
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<th>Note</th>
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### ACME Patching of Existing Roadway

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<th>Tons</th>
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### Mailboxes

<table>
<thead>
<tr>
<th>Location</th>
<th>Mailboxes</th>
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### Earthwork

<table>
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<th>Station</th>
<th>Location (Description)</th>
<th>Unexcavated</th>
<th>Computed</th>
<th>Excavated</th>
<th>Superelevated</th>
<th>Total</th>
<th>Note</th>
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<td>000</td>
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</table>

### Removal and Disposal of Fence

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Fence</th>
<th>Water</th>
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<tbody>
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<td>000</td>
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### 4" Pipe Underdrain

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<th>4&quot; Pipe</th>
<th>Underdrain</th>
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### Removable and Disposal of Culverts

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<tr>
<th>Station</th>
<th>Description</th>
<th>Pipe Culverts</th>
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<tbody>
<tr>
<td>230+30</td>
<td>18&quot; X 24&quot; PIPE CULVERT ON LT.</td>
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<tr>
<td>264+42</td>
<td>18&quot; X 24&quot; PIPE CULVERT ON LT.</td>
<td>1</td>
</tr>
<tr>
<td>254+70</td>
<td>18&quot; X 24&quot; PLASTIC PIPE CULVERT ON LT.</td>
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<tr>
<td>265+09</td>
<td>18&quot; X 24&quot; PIPE CULVERT ON RT.</td>
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</tr>
<tr>
<td>259+66</td>
<td>18&quot; X 24&quot; PIPE CULVERT ON LT.</td>
<td>1</td>
</tr>
<tr>
<td>314+78</td>
<td>18&quot; X 24&quot; PIPE CULVERT ON LT.</td>
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### Fencing

<table>
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<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Min. Fencing</th>
<th>3'-0&quot; Wide</th>
<th>1'-0&quot; Wide</th>
<th>8'-0&quot; Wide</th>
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<tbody>
<tr>
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<td>230+30</td>
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<td>254+70</td>
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<td>LT</td>
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<td>25'</td>
<td>25'</td>
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<tr>
<td>264+42</td>
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<td>LT</td>
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**Note:** Quantities shown below shall include work in disposal of all embankments and flared ends sections if applicable.

### Pavement Repair Over Culverts (Asphalt)

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Width</th>
<th>Length</th>
<th>Tonnage</th>
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<tr>
<td>264+42</td>
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<td>12'</td>
<td>40'</td>
</tr>
<tr>
<td>259+66</td>
<td>LT</td>
<td>25'</td>
<td>12'</td>
<td>60'</td>
</tr>
<tr>
<td>314+78</td>
<td>LT</td>
<td>25'</td>
<td>12'</td>
<td>60'</td>
</tr>
</tbody>
</table>

**Note:** Quantities shown above shall include work in disposal of all embankments and flared ends sections if applicable.

### Dumped Riprap and Filter Blanket

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Dumped Riprap</th>
<th>Filter Blanket</th>
</tr>
</thead>
<tbody>
<tr>
<td>230+30</td>
<td>LT</td>
<td>15'</td>
<td>25'</td>
</tr>
<tr>
<td>254+70</td>
<td>LT</td>
<td>15'</td>
<td>25'</td>
</tr>
<tr>
<td>264+42</td>
<td>LT</td>
<td>15'</td>
<td>25'</td>
</tr>
<tr>
<td>259+66</td>
<td>LT</td>
<td>15'</td>
<td>25'</td>
</tr>
<tr>
<td>314+78</td>
<td>LT</td>
<td>15'</td>
<td>25'</td>
</tr>
</tbody>
</table>

**Note:** Quantities shown above shall include work in disposal of all embankments and flared ends sections if applicable.

### Rumble Strips in Asphalt Shoulders

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Rumble Strips</th>
<th>Tonnage</th>
<th>Cyl. T</th>
<th>CYL. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>254+30</td>
<td>254+30</td>
<td>LT</td>
<td>1'</td>
<td>825'</td>
<td>23'</td>
<td>23'</td>
</tr>
<tr>
<td>264+42</td>
<td>264+42</td>
<td>LT</td>
<td>1'</td>
<td>825'</td>
<td>23'</td>
<td>23'</td>
</tr>
</tbody>
</table>

**Note:** Quantities shown above shall include work in disposal of all embankments and flared ends sections if applicable.

### Asphalt Concrete Patching for Maintenance of Traffic

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Tonnage</th>
<th>CYL. T</th>
<th>CYL. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>254+30</td>
<td>LT</td>
<td>1'</td>
<td>820'</td>
<td>23'</td>
</tr>
</tbody>
</table>

**Note:** Quantities shown above shall include work in disposal of all embankments and flared ends sections if applicable.
### Base and Surfacing

<table>
<thead>
<tr>
<th>Station</th>
<th>Station Location</th>
<th>Length (Feet)</th>
<th>Tack Coat Tons</th>
<th>Base Course Tons</th>
<th>Aggregate Base Course Tons</th>
<th>Tack Coat Gallons</th>
<th>Base Course Gallons</th>
<th>Aggregate Base Course Gallons</th>
<th>Surfacing Course Tons</th>
<th>Aggregate Surfacing Course Tons</th>
<th>Tack Coat Pounds</th>
<th>Base Course Pounds</th>
<th>Aggregate Base Course Pounds</th>
<th>Surfacing Course Pounds</th>
<th>Total Pounds</th>
<th>Total Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>200-00</td>
<td>250+60 Taper</td>
<td>132.13</td>
<td>24.00</td>
<td>286.02</td>
<td>230.00</td>
<td>84.55</td>
<td>250+60 Taper</td>
<td>128.57</td>
<td>230.00</td>
<td>286.02</td>
<td>172.00</td>
<td>293.33</td>
<td>128.57</td>
<td>230.00</td>
<td>286.02</td>
<td>172.00</td>
</tr>
<tr>
<td>200-00</td>
<td>300+30 Taper</td>
<td>132.13</td>
<td>24.00</td>
<td>286.02</td>
<td>230.00</td>
<td>84.55</td>
<td>250+60 Taper</td>
<td>128.57</td>
<td>230.00</td>
<td>286.02</td>
<td>172.00</td>
<td>293.33</td>
<td>128.57</td>
<td>230.00</td>
<td>286.02</td>
<td>172.00</td>
</tr>
</tbody>
</table>

**Remarks for Construction:**
- Maximum number of gyrations is 115.
- Maximum number of superimposed layers is 3.
- Tack coat quantities were calculated using the base course aggregate rates. Refer to section C for the residual asphalt application rates.
<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
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<tr>
<td>199</td>
<td>STANDING</td>
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<tr>
<td>250</td>
<td>MAINTENANCE AND CLEANING OF PIPE</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>251</td>
<td>MAINTENANCE AND CLEANING OF STATION</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>252</td>
<td>MAINTENANCE AND CLEANING OF REINFORCED</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>253</td>
<td>MAINTENANCE AND CLEANING OF PIPE</td>
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<td>EACH</td>
</tr>
<tr>
<td>254</td>
<td>MAINTENANCE AND CLEANING OF REINFORCED</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>255</td>
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<tr>
<td>256</td>
<td>MAINTENANCE AND CLEANING OF REINFORCED</td>
<td>4</td>
<td>EACH</td>
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</tbody>
</table>

**Notes:**
- Items marked with an asterisk (*) indicate alternate bid options.
### Survey Control Coordinates

**Project Name:** 05035  
**Date:** 7/17/2015  
**Coordinate System:** Arkansas State Plane Coordinates  
**Based on:** NAVD 1988 & 1989  
**Projected to:** U.S. Survey Foot

**Coordinates Listed Below Are Ground (Located) Coordinates**

<table>
<thead>
<tr>
<th>Point No.</th>
<th>N</th>
<th>E</th>
<th>Direction</th>
<th>Code</th>
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<td>0.0000</td>
<td>CTL</td>
<td>N 207 ANTD MLSN STAMPED PL 5</td>
</tr>
</tbody>
</table>

**Primary Control Measurements:**
- **Pole & Cap:** Standard - 5.0” DIA. Steel with 2” Aluminum Cap stamped.  
- **Spray Point:** Standard - 24” Wood Stake.

**Notes:**
- AHTD: Information for HC 2012.
- AHTD PN: Number of Pole.
- AHTD MON: Date of Control Survey.
- STAMPED: Control Pole stamped.
- CTL: Pole stamped.
- NGS: Control Point in the National Geodetic Survey System.
- GPS: Control Point in the Global Positioning System.
- AMD: Arkansas Div. of Mines & Energy Control.

**Horizontal Datum:** AR DMS 2012/2013

**Vertical Datum:** NAVD 1988 & 1989

**Survey Control Details**
Refer to survey control detail sheets for horizontal and vertical control data.
Refer to survey control detail sheets for horizontal and vertical control data.

STA. 296-61, B1 BEGIN SUPELEVEATION
STA. 302-61.83 MAX. SUPELEVEATION (0.086°)
STA. 304-61.83 MAX. SUPELEVEATION (0.086°)
STA. 303-76, 4 END SUPELEVEATION

CONSTRUCTION ITEMS

FENCE ITEMS

STA. 296-70 SIDE GATES TYPE C
STA. 300-60 SIDE GATES TYPE D

CONSTRUCTION NOTE

REMOVAL AND DISPOSAL OF FENCE ITEMS

STA. 300-60 INSTALL PIPE CULVERT
STA. 302-60 INSTALL PIPE CULVERT
STA. 302-62 INSTALL PIPE CULVERT
STA. 306-60 INSTALL PIPE CULVERT

CONSTRUCT APRIL + 20 CUB. YD.
CONSTRUCT APRIL + 30 CUB. YD.
CONSTRUCT APRIL + 15 CUB. YD.

FENCE ITEMS

STA. 296-70 300-92 301-20 301-60 302-60 303-60 304-60 305-60 306-60 307-60 308-60 309-60 310-60

REMOVAL AND DISPOSAL OF FENCE ITEMS

STA. 300-60 INSTALL PIPE CULVERT
STA. 302-60 INSTALL PIPE CULVERT
STA. 302-62 INSTALL PIPE CULVERT
STA. 306-60 INSTALL PIPE CULVERT

CONSTRUCT APRIL + 20 CUB. YD.
CONSTRUCT APRIL + 30 CUB. YD.
CONSTRUCT APRIL + 15 CUB. YD.
CROSS SECTIONS

STA. 321+30.00 END 100' TRANSITION

STA. 300-30.00 END JOB 050315
END 200' LINE ADDITION TAPER
BEGIN 100' TRANSITION

EXISTING ROADWAY

CROSS SECTION STA. 319+00 TO STA. 321+00
Refer to tabulation of quantities for "A" & "B" dimensions.

Type A

Type B

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

Energy dissipators to be used for the entire length of ditch when slope of ditch paving exceeds 7%. The dissipators will not be paid for directly but shall be considered to be included in the price bid for concrete ditch paving.

GENERAL NOTES:
The full width of each section shall be poured monolithically.

Toe walls to be constructed full width at each end of ditch paving and poured monolithically.

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

3" wide transverse expansion joints shall be placed in concrete ditch paving at 40' intervals. The space shall be filled with approved joint filler complying with AASHTO M213.
TABLE OF DIMENSIONS

<table>
<thead>
<tr>
<th>DIA.</th>
<th>WALL</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>S</th>
<th>GAUGE</th>
<th>MAX.</th>
<th>MIN.</th>
<th>1/2&quot;</th>
<th>1&quot;</th>
<th>1 1/2&quot;</th>
<th>2&quot;</th>
<th>S</th>
<th>GAUGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>2</td>
<td>8</td>
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<td>36</td>
<td>40</td>
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<td>64</td>
<td>69</td>
<td>74</td>
<td>74</td>
<td>80</td>
<td>86</td>
</tr>
</tbody>
</table>

ARCH PIPE

The measured span and rise shall not vary more than 1/2 percent from the values specified by AASHTO M 205.

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

END VIEW

CIRCULAR PIPE

MULTIPLE C.M. PIPE CULVERTS

FLARED END SECTION

STANDARD DRAWING FES-2
GENERAL NOTES
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR CORROSION RESISTANCE IN ACCORDANCE WITH SECTION 631.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON WOOD POSTS.
3. MAILBOX SUPPORT SYSTEMS SHALL BE ASSEMBLED WITH MOUNTING PLATES FOR ADJUSTABLE HEIGHT. HOLE LOCATION MAY VARY AS DIRECTED BY THE ENGINEER.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE MAY BE ADJUSTED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE MAY BE ADJUSTED TO FIT MAILBOXES OF A DIFFERENT SIZE.
6. MAILBOX SUPPORT SYSTEMS OFFERING THESE SHOWN MAY BE USED PROVIDED THEY ARE ON THE LOCAL QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.

MAILBOX DETAILS

SHELF

PLATFORM

BRACKET

ANTI-TWIST PLATE

CLAMP

SPACER

SPACING FOR MULTIPLE POST INSTALLATION

SINGLE INSTALLATION

DOUBLE INSTALLATION

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD DRAWING MB-1
# INSTALLATION OVER CIRCULAR R.C.

## Minimum Height of Fill "H" Over Circular R.C. Pipe Culverts

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION TYPE</th>
<th>MINIMUM HEIGHT OF FILL &quot;H&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE I or TYPE II</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>TYPE III</td>
<td>10</td>
</tr>
</tbody>
</table>

**Note:** For minimum cover values, "H" shall include a minimum of 1/2" of pavement and/or base.

---

## Maximum Height of Fill "H" Over Circular R.C. Pipe Culverts

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION TYPE</th>
<th>MAXIMUM HEIGHT OF FILL &quot;H&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE I</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>TYPE II</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>TYPE III</td>
<td>12</td>
</tr>
</tbody>
</table>

**Note:** If fill height exceeds or fits a special design concrete pipe will be required using type 1 installation.

---

## Minimum Height of Fill "H" Over R.C. Arch & Horizontal Elliptical Pipe Culverts

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION TYPE</th>
<th>MINIMUM HEIGHT OF FILL &quot;H&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE I or TYPE II</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>TYPE III</td>
<td>10</td>
</tr>
</tbody>
</table>

**Note:** Installation will not be allowed for R.C. Arch & Horizontal Elliptical Pipe Culverts.

## Maximum Height of Fill "H" Over R.C. Arch & Horizontal Elliptical Pipe Culverts

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION TYPE</th>
<th>MAXIMUM HEIGHT OF FILL &quot;H&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE I</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>TYPE II</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>TYPE III</td>
<td>12</td>
</tr>
</tbody>
</table>

**Note:** Installation will not be allowed for Arch & Horizontal Elliptical Pipe Culverts.

---

## Construction Sequence

1. Place structural bedding material to grade, do not compact.
2. Install pipe to grade, compact structural bedding outside middle third of pipe.
3. Compact bedding around the area included in the base area of the pipe.
4. Complete bed fill, according to subsection 1 for R.C. pipes.

**Note:** Haunch 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.

---

## EMBANKMENT AND TRENCH INSTALLATIONS

1. Material in the haunch and over structural bedding is considered to be part of the maximum density according to the type or class of material used.
2. Use trenches with walls of finished. If the pipe in the lower side, a trench with walls of finished, it does not meet the external, shall be graded and compacted to bedding of the maximum density according to the type or class of material used.
3. For embankment, the material in the lower side zone shall be considered to be part of the maximum density according to the type or class of material used.

---

## General Notes

1. Concrete pipe culvert construction shall conform to Arkansas State Highway and Transportation Department specification for pipe culverts. The specifications shall be used in conjunction with the subsection referred to the standard construction specifications.
2. Concrete pipe culvert design shall conform to AASHTO Type I design specifications, Fifth Edition, used with 300 psi concrete.
3. Pipe shall conform to section 6-12a-Circular R.C. Pipe Culverts shall conform to AASHTO Type I and 6-12 Circular R.C. Pipe Culverts shall conform to AASHTO Type I and 6-12 Circular R.C. Pipe Culverts.
4. Pipe shall be placed during construction by a sufficient to prevent damage to material for shipment or during excavation.
5. The maximum trench width shall be the outside diameter of the pipe plus 24 inches. The maximum allowable trench width shall be the minimum width practical for working conditions.
6. Multiple pipe culverts shall be installed with a minimum clear of 24 inches between center lines of pipe. Refer to subsection B. for minimum clearances when placed end sections are used.
7. Imposing material should be placed as directed by the engineer. At the ends of the culvert 12 inches distance to structural bedding. When bedding material is used for structural bedding and/or backfill.
8. Not more than 20% of the hole will be provided in concrete pipe to facilitate handling. The hole may be cut in place or within the trench. Concrete after forming and stripping. Holes shall be more than 2 inches in diameter or more than 2 inches in diameter for two or more consecutive holes in any 12-inch section of pipe. The two or more consecutive holes shall be spaced 100 feet apart. The 20% rule shall be in accordance with the engineer.
9. When directed by the engineer, unsuitable material that is encountered at the bottom of the excavated sections of the area excluded as structural bedding. As directed by the engineer, unsuitable material shall be excavated, displaced and replaced with selected fill bedding. The quantity of material required will be determined by the engineer. When directed by the engineer, unsuitable material shall be excavated, replaced, and replaced with selected fill bedding. No material required will be determined by the engineer. When directed by the engineer, unsuitable material shall be excavated, replaced, and replaced with selected fill bedding. No material required will be determined by the engineer. When directed by the engineer, unsuitable material shall be excavated, replaced, and replaced with selected fill bedding. No material required will be determined by the engineer. When directed by the engineer, unsuitable material shall be excavated, replaced, and replaced with selected fill bedding. No material required.
INSTALLATION TYPE

SELECTED MATERIALS (CLASS SM-I, STRUCTURAL BACKFILL AND STRUCTURAL BEDDING) AGGREGATE TYPE SM-3 IN PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>TRENCH WIDTH (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;H&quot; &lt; 0'-6&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;H&quot; &gt; 0'-6&quot;</td>
</tr>
<tr>
<td>0'-0&quot;</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td>0'-6&quot;</td>
<td>2'-2&quot;</td>
</tr>
<tr>
<td>0'-12&quot;</td>
<td>2'-4&quot;</td>
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</table>

MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>COVER (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>0'-6&quot;</td>
</tr>
<tr>
<td>MEASURED &amp; GRADED</td>
<td>2'-0&quot;</td>
</tr>
</tbody>
</table>

GENERAL NOTES

1. Pipe shall conform to AASHTO M965. Type B installation shall conform to job specifications and pipe and specific interpretation of the standard specifications for highway construction current editions.

2. Plastic pipe culvert design shall conform to AASHTO M965 bridge design specifications, 5th edition (00) with 00 notes.

3. The maximum allowable trench width shall be the minimum with plus a sufficient width to ensure working room to properly and safely place and compact backfilling and other backfill material.

4. Medium or larger is used by the engineer at the ends of the culvert to prevent loss of structural bedding when pipe used for structural bedding and/or backfill.

5. When directed by the engineer, unstable material that is encountered at the bottom of the excavated trench below the area identified as "structural bedding area" shall be excavated and replaced with pipe. The pipe shall conform to the specified requirements for pipe, and pipe that is placed at the bottom of the trench shall be compacted to a minimum cover of 0'-0" and placed in the excavated area. The excavated area shall be filled with a specified materials.

6. When the existing material excavated for the pipe trench is determined by the engineer to be unstable material, the pipe trench shall be filled with structural bedding material. All excavated area shall be filled with materials.

7. FOR PIPE TYPES THAT ARE NOT SATISFACTORY CONCRETE OR FLEXIBLE WALLS, BACKFILL GRADATIONS SHOULD BE SELECTED TO PREVENT THE PIPE FROM SETTLING.

8. HIGH DENSITY POLYETHYLENE PIPE OF DIAMETERS OTHER THAN 2' WILL NOT BE ALLOWED.


MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
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<tbody>
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<td>&quot;H&quot; &lt; 0'-6&quot;</td>
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MINIMUM COVER FOR CONSTRUCTION LOADS

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<tr>
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**GENERAL NOTES**

1. PIPE SHALL CONFORM TO ASTM F921 CLASS PVC INSTALLATION SHALL COMPLY TO JOB SPECIAL PROVISION.

2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO ASHTO LPDS BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION 2010 WITH JOB INTERPRETATIONS.

3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUITABLE WIDTH TO ENSURE WORKING ROOM TO PROPER AND SAFETY PLACE AND COMPACT MICROSOFT AND OTHER BACKFILL MATERIAL.

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

5. WHEN DIRECTED BY THE ENGINEER, UNSTABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH DESIGN THE AREA ENCOUNTERED AT "STRUCTURAL BEDDING AREAS" WILL BE EXCAVATED AND REPLACED WITH RECOMMENDED SOCKET "STRUCTURAL BEDDING MATERIAL" OR ROCKIES, UNDISTURBED AREA UP TO THE SELECTED PIPE INSTALLATION PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE INSTALLATION".

6. WHEN THE EXISTING MATERIAL ENCOURAGED FOR THE PIPE INSTALLATION IS DETERMINED BY THE ENGINEER TO BE UNSTABLE STRUCTURAL BEDDING OR ROCKIES, UNDISTURBED AREA UP TO THE SELECTED PIPE INSTALLATION PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE INSTALLATION".

7. FOR PIPE TYPES THAT ARE NOT SHOWN ON THE OUTSIDE EXPOSED OR PROPOSED "MKL" "OUTSIDE EXPOSED" INSTALLATION SHOULD BE SELECTED THAT WILL PERMIT THE INSTALLATION OF PROPER VALLEY.

8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.

9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOCKET TIGHTNESS AS SPECIFIED IN ASHTO SECTION 24.2.2 AND 24.2.2 "ASHTO LPDS BRIDGE DESIGN SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

...
6. ANY SHOULDER.
5. THE DROP STANDARD
4. SHORT INLET SHALL

NOTE:
1. Unless otherwise specified on the plans, the Underdrain cover shall be through a compacted earth bed and shall be subject to pipe underdrain.
2. Granular material shall be wrapped around the pipe and placed on the width of the trench at the top.

PLAN VIEW

SIDE VIEW

DETAILS OF PIPE UNDERDRAIN

NOTES FOR PIPE UNDERDRAINS

1. Geotextile fabric shall meet the requirements of Section 6-9 for Type I. Payment for geotextile fabric and granular filter material shall be included in the price bid per lineal ft. for 4" pipe underdrains in accordance with Section 6-9 of the Standard Specifications.
2. A non-perforated pipe schedule 40 PVC pipe laterals with outlet protectors shall be installed as shown. No holes laterals will be measured and paid for by the unit in accordance with Section 6-9 of the Standard Specifications.
3. Existing 4" pipe underdrains may be connected to proposed drop inlets or extended where directed by the engineer. Payment for connecting to drop inlets shall be considered included in the price bid for 4" pipe underdrains.
4. The location of all laterals shall be marked with 4" x 3" permanent paint marks before the location of the shoulder, placed transverse to traffic. Payment for this work shall be included in the price bid for the various contract items.
5. Payment for the rodent screen shall be included in the price bid per each for "underdrain outlet protectors.
6. Any existing laterals that interfere with installation of the new underdrain system shall be removed and disposed of as directed by the engineer. Payment for the removal and disposal of underdrain outlet protectors shall be considered included in the price bid for the various contract items. Existing underdrain outlet protectors shall be removed under the new "removal of existing underdrain outlet protectors.
7. At locations where a single lateral is used the contractor shall have the following options: install outlet protector as shown on standard drawing 46/50 and cover the underdrain with 2, install an outlet protector with a single hole.

UNCOVERED OUTLET SCREEN

FLAT ENDED STAINLESS STEEL 316; 1/4" OPENING SIZE 0.302" X 100"
### TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

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**ABBREVIATIONS**

- NC: Normal Crown
- RC: Reverse Crown
- S: Super Elevation at Normal Crown Slope
- SPT: Rate of Super Elevation (FT/Ft)
- L: Distance from Beginning of Super Elevation Transition to any Point
- D: Normal Crown (FT)
- MAX = 3° 30' or less

**GENERAL NOTES**

1. On pavements with two-way traffic, the super elevation shall be revolved on the inside shoulder edge unless otherwise noted on the plans.
2. Super elevation values shown on the cross sections are values + or - to be added to or subtracted from the point of control.
3. Distances for multiples of 25 ft. or 50 ft. are permitted for calculational purposes.
4. Pavements wider than 2 lanes shall have additional transition lengths as follows:
   - 3 LANE UNDIVIDED: +1250
   - 4 LANE UNDIVIDED: +1450
   - 5 LANE UNDIVIDED: +1500

**NOTE:** Maintain normal crown on inside until super elevation exceeds 2C.

---

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

- Inside edge: Super elevation
- Inside edge: Profile
- Inside edge: Control point

---

**SUPERELEVATION FORMULA**

\[
\text{Super Elevation} = \frac{\text{Ls} \times \text{SPT}}{\text{Ls} + \text{SPT}}
\]

- Ls = Normal Crown (FT)
- SPT = Rate of Super Elevation (FT/Ft)

---

**METHOD OF SUPERELEVATION**

- Outside Subgrade Edge
- Inside Subgrade Edge
- Control Point

---

**ARKANSAS STATE HIGHWAY COMMISSION**

**TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC**

**STANDARD DRAWING SE-2**
NOTES:
- MAX. PULL HEIGHT ABOVE TOP OF BOX = 15'-0".

STEEL SCHEDULE

<table>
<thead>
<tr>
<th>BARS</th>
<th>NUMBER</th>
<th>LENGTH</th>
<th>SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
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<td>10&quot;</td>
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<td>&quot;B&quot;</td>
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<td>&quot;C&quot;</td>
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ALL STEEL TO BE #4 BARS

REINFORCED CONCRETE SPRING BOX

DETAILS OF CONCRETE STEPS & WALKS

GENERAL NOTES
- RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER. HOWEVER, TREAD WIDTHS SHALL BE AT LEAST 3'-0" WALKING CLEARANCE AT 45° INTERVALS.
- TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45° INTERVALS.

ARRAANS STATE HIGHWAY COMMISSION
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1
SLOPE TO BE 1:1 OR FLATTER

NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

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DETERMINED BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. PLACE PERIMETER CONTROLS (i.e., Silt Fences, Diversion Ditches, Sediment Basins, etc.)
2. PERFORM CLEARING AND GRUBBING OPERATION

EXCAVATION

EXISTING GROUND
INTERCEPTOR OR DIVERSION DITCH
EXISTING GROUND

PHASE 1 EXCAVATION
PHASE 2 EXCAVATION
FINAL PHASE EXCAVATION

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

EXCAVATION

EXISTING GROUND
INTERCEPTOR OR DIVERSION DITCH
EXISTING GROUND

PHASE 1 EXCAVATION
PHASE 2 EXCAVATION
FINAL PHASE EXCAVATION

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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 DITCHES, CONTRACT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.

TEMPORARY EROSION CONTROL DEVICES

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD DRAWING TEC-3
GENERAL NOTES:

These installations to be used where normal fencing installation would cause the collecting of drift in the channel of the depression will not permit normal installation. Installations will be made only where directed by the engineer.

When a fence line approaches a ditch, gully or depression, the last post on level ground shall be placed close enough to the edge of the drop off that the fence may be strung to the post in the depression without touching the ground.

In terrain of such extreme irregularity that minor grading will not be feasible, the normal fence shall continue on grade and the gullies or depressions treated by auxiliary fences as shown.

Payment for the type installation used will not be made directly but will be included in the contract unit price bid for wire fence or chain link fence.

25' - 0' MAXIMUM

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