"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

I-430/Rodney Parham Rd.
Intchng. Impvts. (S)
Pulaski County
Route 430 Section 21
Federal Aid Proj. NHPP-430-2(20)18
Job BB0618

Vicinity Map

STA. 123+91.00
End Job BB0618

Bridge Data

For Information Only:

1. 0.00 Mile 1.78
2. Bridge No. BB317
3. 300'-6' Four Span Cont. Comp. Plate Girder Unit
4. 88'-0" Clear Roadway

STA. 105+77.00
Begin Job BB0618

Not To Scale

APPROVED

Deputy Director
And Chief Engineer

Ark, Hwy, Dist. No. 6

Project Location
GOVERNING SPECIFICATIONS

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

NUMBER  ERRATA: ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
PWA-1275 REQUIRED CONTRACT PROVISIONS FEDERAL-AD CONSTRUCTION CONTRACTS
PWA-1275 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
PWA-1275 SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
PWA-1275 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
PWA-1275 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARD
PWA-1275 SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AD PROJECTS
PWA-1275 SUPPLEMENT - WAGE RATE DETERMINATION
100-1 CONTRACTORS LICENSE
100-4 DEPARTMENT NAME CHANGE
100-2 ISSUANCE OF PROPOSALS
108-2 LIQUIDATED DAMAGES
108-1 WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
301-1 AGGREGATE BASE COURSE
400-1 SACK COAL
400-2 DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
410-1 CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
602-1 REFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
602-1 CONCRETE DITCH PAVING
621-1 FILTER SOCKS
622-1 CONCRETE BLANK
631-1 CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING
631-1 CURBING
JOB 080018 ACTUATED CONTROLLER
JOB 080018 AIRPORT CLEARANCE REQUIREMENTS
JOB 080018 ASSESSMENT OF WORKING DAYS-MANAGEMENT OF TRAFFIC
JOB 080018 SECURING REQUIREMENTS AND CONDITONS
JOB 080018 BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080018 BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 080018 CABINET DRAWER ASSEMBLY
JOB 080018 CARDED PREFERENCE ACT REQUIREMENTS
JOB 080018 CLASS C FLASHER IN PORTLAND CEMENT CONCRETE PAVEMENT LIGHTWEIGHT AGGREGATE CONCRETE (AE) AND CLASS (AE) CONCRETE
JOB 080018 DISABAND BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 080018 ELECTRICAL CONDUCTORS FOR LUMINARIES
JOB 080018 ELECTRICAL CONDUCTORS IN CONDUIT
JOB 080018 EMERGENCY BATTERY BACKUP SYSTEM INSTALLATION
JOB 080018 EMPLOYMENT REPORTING
JOB 080018 ENHANCED THERMOPLASTIC PAVEMENT MARKING
JOB 080018 EXTENSION FOR PIPE CULVERTS
JOB 080018 FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT
JOB 080018 GOALS FOR DISABAND BUSINESS ENTERPRISE PARTICIPATION
JOB 080018 P VIDEO DETECTION SYSTEM
JOB 080018 LED COUNCETWAY PEDESTRIAN SIGNAL HEAD
JOB 080018 LED LUMINOUS ASSEMBLY (BUG-OUT TYPE)
JOB 080018 LED TRAFFIC SIGNAL HEAD
JOB 080018 LIGHTWEIGHT AGGREGATE CONCRETE (AE)
JOB 080018 MAINTENANCE OF TRAFFIC
JOB 080018 MANDATORY ELECTRONIC CONTRACT
JOB 080018 MANDATORY ELECTRONIC DOCUMENT SUBMITAL
JOB 080018 NESTING SITES OF MIGRATORY BIRDS
JOB 080018 PAN-tilt ZOOM CAMERA SYSTEM
JOB 080018 PROSECUTION AND PROGRESS WITH BID SCHEDULE
JOB 080018 PROTECTION OF WATER QUALITY AND VEGETATION
JOB 080018 REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 080018 SERVICE POINT ASSEMBLY (SECONDARY SERVICE)
JOB 080018 SHOPPING FOR CULVERTS
JOB 080018 SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT
JOB 080018 SOL STABILIZATION
JOB 080018 SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 080018 STORM WATER POLUTION PREVENTION PLAN
JOB 080018 STREET NAME SIGN (FAST ARM MOUNTED)
JOB 080018 SUBMISSION OF ASPHALT CONCRETE MIX ACCEPTANCE TEST RESULTS
JOB 080018 SYSTEM LOCAL CONTROLLER
JOB 080018 THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)
JOB 080018 TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 080018 LIVELIY ADJUSTMENTS
JOB 080018 WARM MIX ASPHALT

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE AS WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, WATER, TELEPHONE, AND ELECTRICAL LINES TO BE MOVED OR ORDERED BY THE RESPECTIVE OWNERS AS AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND AND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.13 OF THE STANDARD SPECIFICATIONS.
5. ALL TREES THAT DO NOT DIRECTLY INTERFERENCE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER, CARE AND DISCRETION SHALL BE USED TO INURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
7. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A HEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
NOTES:

1. 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.

2. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE A CURB AND GUTTER WITH POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

4. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAR LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

5. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER.
TYPICAL SECTIONS OF IMPROVEMENT

RODNEY PARHAM RD.-MILL AND INLAY

STA. 108+88.07 TO STA. 106+75.93
STA. 109+90.59 TO STA. 109+64.3
STA. 123+51.35 TO STA. 123+90.00

NOTES:

REFER TO CROSS SECTIONS FOR ELEVATIONS FROM THE CURB EDGE. DEVIATIONS FROM THE NORMAL SLOPES SHALL BE MADE ONLY WITH APPROVAL OF THE ENGINEER. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN Laid.

LONGITUDINAL JOINTS SHALL BE AT CURB LINES.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE REFLECTION GARDEN AT ALL TIMES. THE REFLECTION GARDEN SHALL BE PLACED A MINIMUM OF 2 FEET OUTSIDE THE CURB OR GUTTER.

ALL THE ABOVE WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAYMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CRAFTFULLY REMOVED IN SUCH A MANNER THAT ALL THE ASPHALT SURFACE SHALL BE MAINTAINED IN PLACE. THE SURFACE THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
RAMP 1
C.C.G. & C.L.T. & RT.
STA. 10+30.00 TO STA. 11+25.75

RAMP 4
STA. 400+00.00 TO STA. 408+80.28

NOTES:
- Refer to cross sections for deviation from the normal slopes and forms shall be made with
  the engineer.
- The final 2" of surface course is to be placed
  after all other courses have been laid.
- Longitudinal joints shall be at lane lines.
- Prior to and during placement of pavement in front of
  the curb and gutter, the contractor shall provide
  positive drainage at all times. The contractor shall
  maintain positive drainage at all times. The cost of
  any changes shall be considered included in the price bid for the various
  contract items.
- The existing asphalt pavement to be removed from the
  remaining pavement shall be separated by sowing along
  a neat line. After sowing, the pavement to be removed
  shall be至少s removed in a manner that will not
  damage the remaining pavement. Any additional damage
  to the existing pavement that is to remain in place shall
  be repaired at the contractor's expense.
RAMP I
C.C.C. & G.L.T.
STA. II+25.75 TO STA. II+59.60

NOTCH

RAMP IA-C.C.C. & G.R.T.
NOTCH AND WIDEN
STA. II+25.75 TO STA. II+38.00

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.
- The final 2" of surface course is to be placed after all other courses have been laid.
- Longitudinal joints shall be at lane lines.

- Prior to and during placement of pavement in front of the curb and gutter, the contractor shall provide positive drainage. The use of all equipment shall be approved by the Engineer. Payment for this work shall be considered included in the price specified for the various contract items.

- The existing asphalt pavement to be removed from the remaining pavement shall be separated by casing along a neat line. After casual, the pavement to be removed shall be repaired and the Contractor shall be responsible for the maintenance of the pavement that is to remain in place.

TYPICAL SECTIONS OF IMPROVEMENT
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.

RAMP 2A-C.C.C. & G.R.T.
NOTCH AND WIDEN
STA. 107+76.00 TO STA. 109+03.59

STA. 109+03.59 TO STA. 110+51.71

RAMP 4A-C.C.C. & G.L.T.
BERM
STA. 408+34.24 TO STA. 408+71.73

STA. 408+71.73 TO STA. 409+45.67

THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THE WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE EXISTING PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
**LONGITUDINAL**

**TRANSVERSE**

**SAWED LONGITUDINAL JOINT**

**LONGITUDINAL REINFORCEMENT**

**SAWED JOINT AND JOINT SEALANT**

**GENERAL NOTES**

- Sawed joint and joint sealant for transverse construction joint, longitudinal construction joint and sawed longitudinal joint shall conform to the details shown for sawed longitudinal joint on standard drawing FTC-2-6A.

- Expansion joints will be used to control structure ends or fixed objects as shown elsewhere in the plan.

- For further information regarding the placement of concrete reinforcement refer to the governing specifications for continuously reinforced concrete pavement.

- For details of pavement width, pavement thickness and the crown cross-slope refer to typical sections.

- Within any area bounded by two feet pavement length, measured parallel to the centerline and twelve feet of pavement width, measured perpendicular to the pavement centerline, not over 33% of the regular longitudinal steel shall be spliced.

- Maximum splice requirement: 25% of the nominal diameter of the bar or 6 inches whichever is longer.

- At transverse construction joints the regular longitudinal bars shall extend either side of the joint such that the bar splices for the regular longitudinal bars shall be a minimum of four feet from the construction joint. At longitudinal construction joints of the contractor selects to continue the regular transverse steel through the joints, the +4 tie bars shown herein may be deleted.

- Chair details shown herein are examples only; other approved types which will satisfy the requirements noted herein will be permitted. Chair spacings shall not be greater than 32'-0" (longitudinal) and 48'-0" (transverse). Additional chairs shall be used if necessary to meet placement requirements.

- At all lap splices occurring within 5 feet beyond the construction joint, in the direction of paving and a feet back of the construction joint, the length of each shall be double that normally specified for each splice shall be strengthened by splicing in a symmetrical manner with the lap of 1/2-foot length of threaded bar of the same normal size as the longitudinal reinforcement.

**TABLE OF EQUIVALENT LONGITUDINAL REINFORCEMENT**

| Inches | 6     | 9     | 12    | 15    | 18    | 24    | 27    | 30    | 36    | 42    | 48    | 54    | 60    | 66    | 72    | 78    | 84    | 90    | 96    | 108   | 120   | 144   | 168   | 192   | 216   | 240   | 270   | 300   | 330   | 360   | 390   | 420   | 450   | 480   | 510   | 540   | 570   | 600   | 630   | 660   | 690   | 720   | 750   | 780   | 810   | 840   | 870   | 900   | 930   | 960   | 990   | 1020  |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Bar    | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   | 1/2   |
| Spacing|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FEET   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
SPECIAL DETAILS

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. ALL REINF. BARS SHALL BE 4 X 4 AND HAVE 1 1/2" COVER.
3. DROP INLETS AND EXTENSIONS ON CURVED SECTIONS SHALL COMFORM TO THE CURVATURE OF THE CURB.
4. DURING CONSTRUCTION OF THE DRAINAGEeway, the CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
5. PAYMENT FOR CURB AND OR CURB AND GUTTER WITHIN THE LIMIT OF CONTRACT MAY BE MADE TO THE CONTRACTOR PURSUANT TO DROP INLETS AND/OR DROP INLET EXTENSIONS.
6. CONCRETE DITCH PAVING & SOLID SODDING SHALL BE PAID FOR SEPARATELY.
7. CONSTRUCT EXTENSIONS UPSTREAM OF DROP INLET UNLESS OTHERWISE SPECIFIED.

GENERAL NOTES:

CONTRACTOR:

4-7-20 EX:

CONTRACTOR:

4-7-20 EX:

CONTRACTOR:

4-7-20 EX:
CONCRETE WALK THROUGH ISLAND

NOTE: CONCRETE WALK THROUGH ISLAND SHALL BE Poured MONOLITHICALLY, ALL MATERIALS REQUIRED TO CONSTRUCT CONCRETE WALK THROUGH ISLAND SHALL BE INCLUDED IN THE PRICE BID FOR CONCRETE ISLAND.

CONCRETE WALK THROUGH ISLAND

PIECE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL

DETAI OF TURNOUTS, ASPHALT STREETS, COUNTY ROADS & STATE HIGHWAYS CURB & GUTTER SECTION

TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION
PORTLAND CEMENT CONCRETE BASE

6" x 12" MESH FABRIC (TYPE 3) (50% x NO. 9) = 4.25 LBS./60 YD.

NOTES:
1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12'.
3. CONCRETE BASE IS LESS THAN 15" AND IS NOT PAIRED FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE 8.80 PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (15" U.T.1.

DETAILED STEEL FOR PAVEMENT
(MESH FABRIC TYPE 3)

10" WHITE REFLECTORIZED PAINT
PAVEMENT MARKING
(TYPE A CURB FACE)

8" WHITE THERMOPLASTIC OR
8" WHITE ENHANCED THERMOPLASTIC
PAVEMENT MARKING

ISLAND STRIPING DETAIL

P.C.C. BASE WIDENING DETAIL
P.C.C. BASE WIDENING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

10" WHITE REFLECTORIZED PAINT PAVEMENT MARKING
(TYPE A CURB FACE)

8" WHITE THERMOPLASTIC OR
8" WHITE ENHANCED THERMOPLASTIC
PAVEMENT MARKING
STAGE 2 CONSTRUCTION

VERTICAL PANEL

0.020'/'

3d

STAGE 1 & 2 TRAFFIC
EXISTING PAVEMENT

DETAIL FOR STAGE CONSTRUCTION
RODNEY PARHAM RD.

STAGE 1 CONSTRUCTION

VERTICAL PANEL

0.020'/'

3d

STAGE 1 & 2 TRAFFIC
EXISTING PAVEMENT

DETAIL FOR STAGE CONSTRUCTION
RAMP 4

VERTICAL PANEL

0.040'/'

MATCH EXIST.

3d

6d

7d

3d

SPECIAL DETAILS
LEGEND

- Rock Ditch Checks
- Silt Fence
- Filter Sock 18"x18"

Note: Clearing & grubbing controls shall be placed as necessary to retard erosion and grudging. Retain all erosion control devices until end of construction unless otherwise noted.

DATE OF REVISION | REVISION
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CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS
LEGEND

- Rock Ditch Checks
- SLT Fence
- Filter Sock (8")

Note: Perimeter controls shall be placed as clearing and grading operations and planted vegetation devices are placed at the end of construction unless otherwise noted.

REVISIONS

<table>
<thead>
<tr>
<th>DATE OF REVISION</th>
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STAGE 2
TEMPORARY EROSION CONTROL DETAILS
NOTE:
FOR LANE CLOSURES OTHER THAN AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE, LEAVE OUT RSVP-SIGNS.

TRAFFIC DRUMS @ 60' O.C. - 13 EACH
780' TAPER FOR LANE CLOSURE

TRAFFIC DRUMS @ 100' O.C. - 5 EACH
500' STABILIZING ZONE

ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM PLACEMENT
FOR OUTSIDE LANE CLOSURE
(I-430)
NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT RSS-1 SIGNS.

ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM LAYOUT
FOR INSIDE LANE CLOSURES
(I-430)

TRAFFIC DRUMS @ 100 D.C. - 5 EACH
500' STABILIZING ZONE
NOTE: FOR LANE CLOSURES OTHER THAN AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE, LEAVE OUT RS-1500W.

ADVANCE WARNING SIGNS FOR INSIDE & MIDDLE LANE CLOSURES (I-430)
ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM LAYOUT
FOR INSIDE & MIDDLE LANE CLOSURES
(I-430)

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS
TYPICAL TRAFFIC DRUM LAYOUT
FOR DIVERSION OF LANE CLOSURES
(1'-430)

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING RODNEY PARHAM RD. (ALL STAGES)

RIGHT SHOULDER CLOSED

ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

ADVANCE WARNING I-430 (ALL STAGES)
INSTALL ADVANCE WARNING SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS, INSTALL END ROAD WORK SIGNS AT THE END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAILS AND STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL VERTICAL PANELS AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT RT. OF ROONEY PARKHAM RD. FROM STA. 105+37.00 TO STA. 107+76.00, RT. OF RAMP 2A, LLT. OF RAMP I, LLT. OF ROONEY PARKHAM RD. FROM STA. 108+75.93 TO STA. 120+02.13, AND RT. OF RAMP 4 AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

OBLITERATE EXISTING ISLAND BETWEEN RAMPS 3 AND 3A, AND CONSTRUCT NEW ISLAND AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 1 QUANTITIES:
SIGNs = 396 SQ. FT.
VERTICAL PANELS = 5 EACH
TRAFFIC DRUMS = 3 EACH
FURNISHING AND INSTALLING P.C.C.B. = 453 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH

STAGE 1 MAINTENANCE OF TRAFFIC DETAILS
CONSTRUCTION SEQUENCE

STAGE 2:
INSTALL VERTICAL PANELS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT LT. OF ROdney ParHam RD FROM STA. 110+75.00 TO STA. 119+69.26. INSTALL CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

OBLITERATE EXISTING ISLANDS BETWEEN RAMPS I AND II, RAMPS 2 AND 2A, AND RAMPS 4 AND 4A. CONSTRUCT NEW ISLANDS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

OBLITERATE CENTRAL ISLAND BETWEEN RAMPS I AND II, RAMPS 2 AND 2A, AND RAMPS 4 AND 4A. CONSTRUCT NEW ISLANDS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT CENTRAL ISLAND WALK THROUGH ODNEY PARHAM RD AT STA. 10+00. OBLITERATE EXISTING CENTRAL ISLAND ON ROdney ParHam RD FROM STA. 10+00 TO STA. 119+69.26. MILL & INLAY ROney PARHAM RD FROM STA. 10+00 TO STA. 119+69.26 AND INSTALL CONSTRUCTION PAVEMENT MARKINGS AS SHOWN.

REMOVE CONSTRUCTION PAVEMENT MARKINGS AS PERMANENT PAVEMENT MARKINGS ARE INSTALLED AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

STAGE 2 QUANTITIES:

SIGNS = 396 SQ. FT,

VERTICAL PANELS = 68 EACH,

CONSTRUCTION PAVEMENT MARKINGS = 3998 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (WORDS) = 3 EACH

CONSTRUCTION PAVEMENT MARKINGS (ARROWS) = 9 EACH

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS = 3998 LIN. FT.
FINAL STRIPING QUANTITIES

RAISED PAVEMENT MARKERS TYPE III WHITE/RED @ 80' O.C. = 53 EACH
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (8") = 303 LIN. FT.
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 937 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (6") = 1570 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (8") = 457 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 585 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YIELD LINE = 40 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WORDS = 12 EACH
THERMOPLASTIC PAVEMENT MARKING ARROWS = 22 EACH

PERMANENT PAVEMENT MARKING DETAILS
### Construction Pavement Markings and Permanent Pavement Markings

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<td>Construction Pavement Markings (Arrows)</td>
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<td>Removal of Construction Pavement Markings</td>
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<td>Radar Pavement Markers Type I (White/Red)</td>
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<td>Thermoplastic Pavement Marking Yellow 18&quot;</td>
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<td>Thermoplastic Pavement Marking White 12&quot;</td>
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<td>ReflectORIZED Paint Pavement Marking White (12&quot;)</td>
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**TOTALS:**

- 3896
- 5
- 9
- 3998
- 53
- 3103
- 3103
- 3910
- 8910
- 457
- 457
- 885
- 437
- 437
- 40
- 40
- 12
- 12
- 22
- 22
- 900
- 900

**Note:** This is a high traffic volume road as defined in Section 604.03, Standard Specifications for Highway Construction.
<table>
<thead>
<tr>
<th>SIGN NUMBER</th>
<th>DESCRIPTION</th>
<th>SIGN SIZE</th>
<th>LANE CLOSURE</th>
<th>MAXIMUM NUMBER REQUIRED</th>
<th>TOTAL SIGNS REQUIRED</th>
<th>VERTICAL PANELS</th>
<th>TRAFFIC DRUMS</th>
<th>FURNISHING &amp; INSTALLING PRECAST CONC. BARRIER</th>
<th>TEMPORARY IMPACT ATTENUATION BARRIER</th>
<th>TEMP. IMPACT ATTEN. BARR. (REPAIR)</th>
<th>* ADVANCE WARNING ARROW PANEL</th>
<th>* PORTABLE CHANGEABLE MESSAGE SIGN</th>
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<tr>
<td>W0-1-1</td>
<td>ROAD WORK 1000 FT.</td>
<td>48'x48'</td>
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<td>6</td>
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<td>FINES DOUBLE IN WORK ZONES</td>
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<td>4</td>
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<td>TRAFFIC DRUMS</td>
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<td>TEMP. IMPACT ATTEN. BARR. (REPAIR)</td>
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<td>1</td>
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<tr>
<td>ADVANCE WARNING ARROW PANEL</td>
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<tr>
<td>PORTABLE CHANGEABLE MESSAGE SIGN</td>
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</table>

**Note:** This is a high traffic volume road as defined in Section 504.03, Standard Specifications for Highway Construction.

**Note:** The quantity of traffic drums provided is for one side of the roadway for the full length of the job. However, the installation of traffic drums shall never exceed the actual work area by more than 1/4 mile, unless approved by the engineer.

* QUANTITY ESTIMATED.

See Section 104.03 of the Std. Specs. To be used if and where directed by the engineer.
### Clearing and Grubbing

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<tr>
<th>Station</th>
<th>Location</th>
<th>Clearing</th>
<th>Grubbing</th>
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</thead>
<tbody>
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<td>400+00</td>
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**Totals:** 8 8

### Removal and Disposal of Items

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Curbing and Gutter</th>
<th>Concrete Islands</th>
<th>Approach Gutters</th>
<th>Walks</th>
<th>Headwalls</th>
<th>Guardrail</th>
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<td>105+77</td>
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**Totals:** 28 28

**Note:** The quantity shown above for the removal and disposal of guardrail shall include the removal and disposal of all guardrail, terminals, and terminal anchor posts.

### Erosion Control

**Permanent Erosion Control**

- Seeding: Acre, Ton, Acre M.Gal.
- Mulch: Acre SQ.Yd.
- Water: Acre M.Gal.

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<tr>
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<th>Location</th>
<th>Seeding</th>
<th>Mulch</th>
<th>Water</th>
<th>Temporary Seeding</th>
<th>Mulch</th>
<th>Water</th>
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<tr>
<td>Entire</td>
<td>Project</td>
<td>Clearing and Grubbing</td>
<td>1.50</td>
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<td>Entire</td>
<td>Project</td>
<td>Stage 2</td>
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<td>3.00</td>
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<td>17.7</td>
<td>1.50</td>
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</table>

**Temporary Erosion Control**

- Sand Bag Checks: (E-4) Bag, (E-6) Ton, (E-10) Sq. Yd.
- Rock Ditch Checks: 3 Cyl. Location

**Silt Fence**

- 34 ft.

**Basis of Estimate:**

- 2 Tons/Acre of Seeding
- 100 M.Gal./Acre of Seeding
- 20 M.Gal./Acre of Temporary Seeding

### Earthwork

**Quantities**

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<tr>
<th>Station</th>
<th>Location</th>
<th>Description</th>
<th>Unclassified Excavation</th>
<th>Compacted Embankment</th>
<th>Std. Spec. Stabilization</th>
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<td>Stage 1</td>
<td>1675</td>
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<tr>
<td>Entire</td>
<td>Project</td>
<td>Stage 2</td>
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**Note:** Earthwork quantities shown above shall be paid as plan quantity.

### Concrete Walks

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<td>110+19</td>
<td>110+27</td>
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<tr>
<td>112+51</td>
<td>112+58</td>
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<tr>
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**Total:** 1083

**Note:** See section 104.03 of the STD. SPEC.
### Structures

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<th>Description</th>
<th>Reinforced Concrete Pipe</th>
<th>Flared End Sections for R.C. Pipe Culverts</th>
<th>Drop Inlets</th>
<th>Solid Sodding</th>
<th>Water</th>
<th>Std. Dwg. Nos.</th>
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**Total:** 8, 1

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### Cones Island

**Concrete Island**

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<th>Curved Face Type</th>
<th>Concrete Island Type</th>
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<td>A</td>
<td>230</td>
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<tr>
<td>106-00</td>
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**Total:** 921

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### Cones Ditch Paving

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<th>ITE</th>
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**Total:** 679.42

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### Concrete Combination Curb and Gutter

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**Total:** 19

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### 4" Pipe Underdrain

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<th>Outlet Protectors</th>
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**Total:** 4

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### Quantities

- Basis of Estimate: 12.6 gal / sq. yd. of solid sodding
- Note: Quantity estimated. See section 104.03 of the std. specs.
### Cold Milling Asphalt Pavement

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<tr>
<td>105+77.00</td>
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<td>Rodney Parham Rd.</td>
<td>38.06</td>
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<tr>
<td>117+53.23</td>
<td>123+01.00</td>
<td>Rodney Parham Rd.</td>
<td>71.65</td>
<td>5219.08</td>
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**TOTAL:** 10623.90

### Achim Patching of Existing Roadway

**Description**

**Tack Coat for Maintenance of Traffic**

**Achim Surface Course (1/2")**

**Tack Coat Quantiites Were Calculated Using The Emulsified Asphalt Rates. Refer To SS-400-1 For the Residual Asphalt Application Rates.**

**Asphalt Concrete Patching for Maintenance of Traffic**

- **Basis of Estimate:**
  - See Section 104.09 of the STD. Specs.
  - Maximum number of gyrations = 205 for PG 76-22
  - Tack Coat Quantities Were Calculated Using the Emulsified Asphalt Rates. Refer To SS-400-1 For the Residual Asphalt Application Rates.

### Surfacing

<table>
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<th>Station</th>
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<th>Length</th>
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<td></td>
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### Portland Cement Concrete Base

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<th>Length</th>
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<th>Achim Base Course (1/2&quot;)</th>
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<th>Continuously Reinforced Concrete Base</th>
<th>Reinforcing Steel for Pavement (Bars)</th>
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<tr>
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**TOTAL:** 10623.90

### Quantities

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<th>Tack Coat Location TON</th>
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<table>
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**TOTAL:** 10623.90

**QUANTITIES**
### Schedule of Bridge Quantities - Job No. BB0618

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>UNIT OF STRUCTURE</th>
<th>ITEM</th>
<th>CLASS 5 concrete bridge</th>
<th>CLASS 6A concrete bridge</th>
<th>REINFORCING STEEL - BRIDGE (GRADE 60)</th>
<th>METAL BRIDGE RAILING (TYPE A)</th>
<th>TRANSITIONAL APPROACH RAILING</th>
<th>BRIDGE NAME PLATE (TYPE B)</th>
<th>MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)</th>
<th>LIGHTWEIGHT AGGREGATE CONCRETE (AE)</th>
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</thead>
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<td>0.40</td>
<td>0.40</td>
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**Totals for Job No. BB0618**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>UNIT OF STRUCTURE</th>
<th>ITEM</th>
<th>CLASS 5 concrete bridge</th>
<th>CLASS 6A concrete bridge</th>
<th>REINFORCING STEEL - BRIDGE (GRADE 60)</th>
<th>METAL BRIDGE RAILING (TYPE A)</th>
<th>TRANSITIONAL APPROACH RAILING</th>
<th>BRIDGE NAME PLATE (TYPE B)</th>
<th>MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)</th>
<th>LIGHTWEIGHT AGGREGATE CONCRETE (AE)</th>
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**Note:**
- All quantities are in cubic yards (yd³) except where noted.
- Items 001 to 017 represent the various components of the bridge project.
- The totals for the job include all necessary components.
- The table is read vertically, with each column representing a different category of materials or components.
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SUMMARY OF QUANTITIES AND REVISIONS
## SURVEY CONTROL COORDINATES

**Project Name:** BOBDLE

**Date:** 4/25/2018

**Coordinate System:** Arkansas State Plane Coordinates

Based on an AHA-GPS PTS - 600041 - 60005A

Projected for Ground Coordinates

**Units:** U.S. Survey Foot

### COORDINATES LISTED BELOW ARE GROUND (LOCALIZED) COORDINATES

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<th>Northing</th>
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<th>SX</th>
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*Standard Primary Control Monument - Rebar & Cap. Standard - 5/8" x 24" Rebar with 2.5" Aluminum Cap stamped. (Includes all common information here) plus other markings indicated in the point description of the individual point. AHA monuments will be stamped "AHA-Auto Trans Dept." with "PM-160" and "TS-0160". Monuments that are set by Consultants will be stamped "AHA-Auto Trans Dept." with "PM-160" and "TS-0160". The consultant Professional Surveyor in charge will stamp his/hers PLS license number on the cap.*

### SK, SY, SZ - Represents the standard error estimate of the coordinate values of each point at the 95% confidence level (one sigma) based on the least squares analysis of the control network. See the AHA/STDS Technical Data Guide data tag definition for SK, SY, and SZ for additional information. These values shall be used when control points are added and the entire network is reprocessed using least square analysis. A value of 0.000 is defined as fixed (no adjustment) in the least squares. An accuracy level of 0.000 is defined as the location by handhold GPS survey or asked from 0.000 distance.

Reference control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall not be used for vertical control unless the elevation has been established from the project data with 3-wire leveling techniques.

All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. No survey control shall not be independent of the survey control listed above. This includes horizontal coordinates and elevations.

### Vertical Datum

**NAV 1988 NAVD BSI**

<table>
<thead>
<tr>
<th>Point</th>
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### Vertical Datum

**NAV 1988 NAVD BSI**

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### Basis of Bearing

**Grd Bearings based on AHA-GPS points:**

- **BAHPT:** 2000-05-07
- **LH:** 36.16-06-28 N
- **LA:** 92-22-27 W

**Grid North & Astronomical North:**

- **ANG:** 0-00-00-00
- **ANG:** 0-00-00-00

Note: Information in italics is for identification only. It is not to be part of the actual Control Table or Control Detail Sheets.
### RODNEY PARKHAM

<table>
<thead>
<tr>
<th>POINT NO.</th>
<th>TYPE</th>
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### RAMP 1

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### 1-430

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Refer to survey control detail sheets for horizontal and vertical control data.
### SUMMARY OF TRAFFIC SIGNAL QUANTITIES

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<th>1430 NB RAMPS</th>
<th>QUANTITY</th>
<th>UNIT</th>
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<tr>
<td>SP</td>
<td>ETHERNET SWITCH, TILO0 HARDENED (8-PORT)</td>
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<td>SP</td>
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<td>SP</td>
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<tr>
<td>SP</td>
<td>BATTERY BACKUP SYSTEM</td>
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<td>PTZ CAMERA (SYSTEM)</td>
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<tr>
<td>SP &amp; 706</td>
<td>TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)</td>
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<td>SP &amp; 707</td>
<td>COUNTPDOWN PEDESTRIAN SIGNAL HEAD, LED</td>
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<td>483</td>
<td>847</td>
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<tr>
<td>711</td>
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</tbody>
</table>

* ONE SPARE VIDEO DETECTOR (IP) AND ONE SPARE VIDEO PROCESSOR, EDGE CARD I/P (2 CAMERA) SHALL BE SUPPLIED PER INTERSECTION.
TRAFFIC SIGNAL NOTES:


2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND. LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.

3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE COUNTY TO A SERVICE POLE WITH EXTERNAL RAINWATER BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE STREET-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SECONDARY CONNECTION BETWEEN THE SERVICE POLE AND THE PRIMARY CONTROL CABINET. THE SECONDARY CONNECTION SHALL BE MADE USING MODIFIED CONNECTING CABLE (M.C.C.) TO PROVIDE TO THE PRIMARY CONTROL CABINET. THE SECONDARY CONNECTION SHALL BE MADE USING MODIFIED CONNECTING CABLE (M.C.C.) TO PROVIDE TO THE PRIMARY CONTROL CABINET.

4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.

5. LOAD CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.

6. CONTROLLER CABINET SHALL BE WIDEN SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BE CUT OFF TO LOAD SWITCH POWER BUSS.

7. ALL PARTS OF THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROPER SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS AND WITH THE MANUAL ON UNIFORM CONTROL DEVICES, CURRENT EDITION.

8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING MACHINES. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE SUPPORT DETAILS MAY BE USED.

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.

10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

12. ALL CONCRETE PULL BOXES SHALL BE TYPE 2 HD UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.

13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

14. LUMINARIES ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.

15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL BE CONNECTED TO THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTIVATE THE ASSOCIATED PHASE COMBINATION (C.O.M.) DETECTORS - SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNTING DATA.

16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.

17. TO DETERMINE UTILITIl CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINARE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITIl CLEARANCE ABOVE THE LUMINARE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINARE ARM USED, AN ADDITIONAL SIX (6') FEET SHOULD BE USED TO DETERMINE UTILITIl CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTORS" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.

18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADSIDE CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO DESIGN PARAMETERS, MINIMUM CLEARANCE DISTANCE FOR NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.

19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMERGENCY MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK OR ENCOUNTERED PRIOR TO BEGINNING EMERGENCY AND AT LEAST 1/2 OF THE REMAINING EMERGENCY LENGTH IS KEPT FREE OF COMPETENT ROCK.

20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP HEADED-HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING.支付 FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO MSHA STANDARDS.

22. ONE VIDEO PROGRAMMING MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.

23. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PREVIOUS NOTIFICATION.


25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTIVATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.

26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

27. IN FUTURE BOXES, STEEL BASES, JUNCTION BOXES AND CONTROLLER CABETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG TO MILD STEEL OR NON-FLAMMABLE METAL TO THE CONDUIT TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH KILN OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO EACH CABLE.

28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE SIGNAL CABLES ARE OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT THE CONTRACTOR SHALL PROVIDE FLASHIERS TO DIRECT TRAFFIC WHILE THE SIGNAL IS OUT OF SERVICE.
NOTES:

1. PLACE A SILICONE SEAL BETWEEN THE CABINET FOUNDATION AND THE CABINET.

2. ENCLOSURE SHALL BE TESCO CLASS 2X-100-M-G OR CITY APPROVED EQUAL PRIOR TO BID.

3. EXTERIOR 12 GAUGE GALVANIZED STEEL, AND INTERIOR 14 GAUGE COLD ROLLED STEEL. ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.

4. CONSTRUCTION WILL BE NEMA 4X, RAINTIGHT.

5. ALL NUTS, BOLTS, AND SCREWS WILL BE STAINLESS STEEL.

6. NUTS, BOLTS, AND SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.

7. NAME PLATES WILL BE PROVIDED AS REQUIRED.

8. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.

9. A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.

10. ENCLOSURE WILL BE FACTORY WIRE AND CONFORM TO REQUIRED NEMA STANDARDS.

11. INTERNAL WIRING DIAGRAM SHALL BE SUBMITTED.

12. ALL CONCRETE FOR SERVICE POINT PEDESTAL FOUNDATIONS SHALL BE CLASS "S" OR GREATER.
### TRAFFIC SIGNAL QUANTITIES

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP &amp; 701</td>
<td>SYSTEM LOCAL CONTROLLER T52-TYPE 2, E-NET (8 PHASES)</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SP</td>
<td>ETHERNET SWITCH, T100 HARDENED (8-PORT)</td>
<td>1</td>
<td>EACH</td>
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<tr>
<td>SP</td>
<td>E-NET CABLE (EXT/RX Only CAT 6E)</td>
<td>1522</td>
<td>LIN FT</td>
</tr>
<tr>
<td>SP</td>
<td>LOCAL RADIO (E-NET T 6) WITH ANTEENNA</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SP</td>
<td>BATTERY BACKUP SYSTEM</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SP</td>
<td>PTZ CAMERA SYSTEM</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SP &amp; 706</td>
<td>TRAFFIC SIGNAL HEAD, LED (3 SECTION, 1 WAY)</td>
<td>8</td>
<td>EACH</td>
</tr>
<tr>
<td>SP &amp; 707</td>
<td>Countdown Pedestrian Signal Head LED</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>708</td>
<td>TRAFFIC SIGNAL CABLE (5C14 A.W.G.)</td>
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<td>LIN FT</td>
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<tr>
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<td>TRAFFIC SIGNAL CABLE (2C0/14 A.W.G.)</td>
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<tr>
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<td>GALVANIZED STEEL CONDUIT (2&quot;)</td>
<td>20</td>
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<tr>
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<td>GALVANIZED STEEL CONDUIT (2&quot;)</td>
<td>20</td>
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</tr>
<tr>
<td>710</td>
<td>NON-METALLIC CONDUIT (2&quot;)</td>
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</tr>
<tr>
<td>711</td>
<td>CONCRETE PULL BOX (TYPE 2)</td>
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</tr>
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<td>711</td>
<td>CONCRETE PULL BOX (TYPE 2 HD)</td>
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<td>EACH</td>
</tr>
<tr>
<td>714</td>
<td>TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (92&quot;)</td>
<td>1</td>
<td>EACH</td>
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<tr>
<td>714</td>
<td>TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (22'5&quot;)</td>
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<td>EACH</td>
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<tr>
<td>SP</td>
<td>LED LUMINAIRES ASSEMBLY</td>
<td>4</td>
<td>EACH</td>
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<td>715</td>
<td>TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SP</td>
<td>SERVICE POINT ASSEMBLY (2 CIRCUITS)</td>
<td>1</td>
<td>EACH</td>
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<td>SP</td>
<td>REMOVAL OF TRAFFIC SIGNAL EQUIPMENT</td>
<td>0.50</td>
<td>LUMP SUM</td>
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<tr>
<td>SP</td>
<td>18&quot; STREET NAME SIGN</td>
<td>3</td>
<td>EACH</td>
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<tr>
<td>SP &amp; 733</td>
<td>VIDEO DETECTOR (IP)</td>
<td>6</td>
<td>EACH</td>
</tr>
<tr>
<td>733</td>
<td>VIDEO MONITOR (CLR)</td>
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<tr>
<td>SP &amp; 733</td>
<td>VEHICLE DETECTOR RACK (16 CHANNELS)</td>
<td>1</td>
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<tr>
<td>SP &amp; 733</td>
<td>CENTRAL CONTROL UNIT (8 CHANNELS)</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>*</td>
<td>VIDEO PROCESSOR, EDGE CARD (2 CAMERA)</td>
<td>4</td>
<td>EACH</td>
</tr>
</tbody>
</table>

* ONE SPARE VIDEO DETECTOR (IP) AND ONE SPARE VIDEO PROCESSOR, EDGE CARD (2 CAMERA) SHALL BE SUPPLIED.

### OVERHEAD STREET NAME

**MARKER STANDARD MAST ARM MOUNTED**

**NOTES:**

1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM-456 TYPE 8 OR 9. REFLECTIVE SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL BE ALSO ALODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1/2" CORNER RADIUS. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM ON THE NEARSIDE LEFT POLE, SEE STANDARD DRAWING SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE SERIES C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.
TWO LOCAL RADIOS WITH ANTENNAS MOUNTED ON MAST ARM
ONE FACING EAST
ONE FACING WEST

RODNEY PARHAM RD.

TYPE 2 PULL BOX
PTZ CAMERA

I-430 SB RAMP
EXIT RAMP

DESIGN PARAMETERS
POSTED SPEED LIMIT:
40 MPH EAST AND WEST APPROACH
30 MPH NORTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS
LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).
MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND BACK OF CURB

I-430 SB RAMPS/ RODNEY PARHAM RD.

POLE LOCATIONS

<table>
<thead>
<tr>
<th>POLE</th>
<th>LOCATION &amp; STATION</th>
<th>OFFSET</th>
<th>X, Y COORDINATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>R. PARHAM - STA. 119+97.17</td>
<td>43.73' LT.</td>
<td>1194764.59, 2077703.97</td>
</tr>
<tr>
<td>B</td>
<td>R. PARHAM - STA. 120+69.65</td>
<td>44.15' RT.</td>
<td>1194765.58, 2077817.89</td>
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<tr>
<td>C</td>
<td>R. PARHAM - STA. 120+61.01</td>
<td>43.74' LT.</td>
<td>1194715.69, 2077745.01</td>
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</tbody>
</table>

TRAFFIC FLOW DIAGRAM

EXISTING 2000 PEAK HOUR TRAFFIC VOLUMES

LEGEND:
1000 - AM PEAK
900 - PM PEAK

 EXIST. ROW

PC122 +01.09

SCALE IN FEET

LOCATION: I-430 SB RAMPS/RODNEY PARHAM RD
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6
SCALE: 1" = 60'
DRAWN BY: CJ5

DATE: 4-27-18
FILENAME: 1000618.dgn
WIRING DIAGRAM

NOTES TO CONTRACTOR:
1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
DETECTOR SYSTEM DESCRIPTION: JOB BB0618

DETECTOR ASSIGNMENTS

HARDWARE INPUTS

BY SUPPLIER

PROGRAM ASSIGNMENTS

LOCAL

MATERIAL / SYSTEM

DETECTOR

NUMBERS

COMMENTS

TUBE LENGTHS

DET. ID # LOCATION DIRECTION TPYE DET. # CAB. TRM # AMP. CHN # CON. IMP # PHS SYSTEM DET # DETECTOR NUMBERS

V21 A&B SB LEFT TURN FAR COMB. 1 V10 2 2 CAMERA V2 23"

V22 A&B SB LEFT TURN NEAR LOCAL 2 V2 2 CAMERA V2 23"

V24A&B WB FAR LOCAL 5 V4 4 CAMERA V4 23"

V24A&B WB NEAR COMB. 6 V12 4 4 CAMERA V7 23"

V27 A&B WB LEFT TURN FAR COMB. 7 V15 7 7 CAMERA V7 23"

V22 A&B WB LEFT TURN NEAR LOCAL 8 V7 7 CAMERA V7 23"

V28 A&B EB FAR LOCAL 9 V8 8 CAMERA V8 23"

V28 A&B EB NEAR COMB. 10 V16 8 8 CAMERA V3 37"

PB8 A&B WEST TO EAST PED. P8 8

R. PARHAM SOUTH LEG

SPARE AMP. CHN # 3.4.11.16

CONTROLLER INPUT ABBREVIATIONS:

V = VEHICLE INPUT

D = SYSTEM OR AUXILIARY INPUT

P = PEDESTRIAN INPUT

NOTE: "AMP CHN#" REFERS TO THE RACK OUTPUT POSITION. THIS IS WURED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE. EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

PHASING DIAGRAM

INTERVAL CHART

SIGNAL FACES

IQ" LENSES

ONE SECTION (SOLID SYMBOL)

NOTE:

1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.

3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED

**TRAFFIC SIGNAL QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP &amp; 701</td>
<td>SYSTEM LOCAL CONTROLLER TS2 TYPE 2 E-NET (8 PHASES)</td>
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<td>SP</td>
<td>ETHERNET SWITCH T100 HARDENED (8-PORT)</td>
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<td>EACH</td>
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<td>SP</td>
<td>E-NET CABLE (EXTERIOR CAT 5E)</td>
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<td>BATTERY/BACKUP SYSTEM</td>
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<td>EACH</td>
</tr>
<tr>
<td>SP</td>
<td>PTZ CAMERA SYSTEM</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SP &amp; 706</td>
<td>TRAFFIC SIGNAL HEAD, LED (3 SECTION, 1 WAY)</td>
<td>8</td>
<td>EACH</td>
</tr>
<tr>
<td>SP &amp; 707</td>
<td>COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED</td>
<td>4</td>
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<tr>
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<td>711</td>
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<td>SP</td>
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<td>REMOVAL OF TRAFFIC SIGNAL EQUIPMENT</td>
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<tr>
<td>733</td>
<td>VIDEO MONITOR (CUR)</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SP &amp; 733</td>
<td>VEHICLE DETECTOR RACK (16 CHANNEL)</td>
<td>1</td>
<td>EACH</td>
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<tr>
<td>SP &amp; 733</td>
<td>CENTRAL CONTROL UNIT (8 CHANNEL)</td>
<td>2</td>
<td>EACH</td>
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<tr>
<td>* SP &amp; 733</td>
<td>VIDEO PROCESSOR, EDGE CARD IP (2 Camera)</td>
<td>4</td>
<td>EACH</td>
</tr>
</tbody>
</table>

* ONE SPARE VIDEO DETECTOR (P) AND ONE SPARE VIDEO PROCESSOR, EDGE CARD IP (2 Camera) SHALL BE SUPPLIED.

**NOTES:**

1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM D656 TYPE 6 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL BE ALSO ALUMINIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADE PRIOR TO FABRICATION OF THE SIGNS. THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM ON THE NEARSIDE LEFT POLE. SEE STANDARD DRAWING SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE SERIES C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.
NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATIONAL USE IN CASE THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSTRAK THAT MEET A.D.A.S. STANDARDS.

PHASING DIAGRAM

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

INSTALL BATTERY BACKUP SYSTEM

VZ32A PRESENCE 6' x 50' VDZ (TYPICAL)

VZ31A 65' BEHIND STOP LINE

VZ42AB PULSE 6' x 6' VDZ (TYPICAL)

100' BEHIND STOP LINE

VIDEO DETECTOR VZ MOUNTED ON LUMINAIRE ARM

NOTE TO CONTRACTOR:
ALL DETECTORS SHALL HAVE BACKPLATES.

SIGNAL FACES

I2" LENSES

ONE SECTION (SOLID SYMBOL)

INSTALL BATTERY BACKUP SYSTEM

VZ32A PRESENCE 6' x 50' VDZ (TYPICAL)

VZ31A 65' BEHIND STOP LINE

VZ42AB PULSE 6' x 6' VDZ (TYPICAL)

100' BEHIND STOP LINE

VIDEO DETECTOR VZ MOUNTED ON LUMINAIRE ARM

NOTE TO CONTRACTOR:
ALL DETECTORS SHALL HAVE BACKPLATES.

SIGNAL FACES

I2" LENSES

ONE SECTION (SOLID SYMBOL)
NOTES TO CONTRACTOR:
1. ONE SEPARATE 1-6c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

GROUND WIRING DIAGRAM

1-5c
1-CATSE
1-5c
1-CATSE
1-CATSE

SERVICE POINT AND MAIN BREAKER BY CONTRACTOR
WITHIN 10 FT OF CONTROLLER (SEE ARDOT STANDARD DRAWING SD-9)

BATTERY BACKUP SYSTEM

GROUNDING ARRAY
SINGLE-PORT FUSION WELDS

GROUND WIRE TO ANTENNA
(STRANDED)
SOLID E.G.C.

SINGLE PORT FUSION WELD
STRANDED E.G.C.
(OR SOLID)

CLAMP TO
SOLID *B
E.G.C.

POLE GROUND CLAMP
COMBINE ALL
E.G.C.'s

SOLID *B E.G.C. PER
STANDARD SPECIFICATIONS OF HIGHWAY CONSTRUCTION, 2014 EDITION

2-5c,1-1c/*8 E.G.C.

1-20c.4-CATSE,1-20c/*12,2-1c/*8 E.G.C.

1-20c.3-CATSE,1-PTZ CABLE,
5-5c,1-20c/*12,1-1c/*8 E.G.C.

1-20c.3-CATSE,1-PTZ CABLE,
5-5c,1-20c/*12,1-1c/*8 E.G.C.

1-20c.3-CATSE,1-PTZ CABLE,
5-5c,1-20c/*12,1-1c/*8 E.G.C.

LOCATION: 1-430 NB HWY/RODNEY PARHAM ROAD
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: 1/4 DRAWN BY: CJS
DETECTOR SYSTEM DESCRIPTION: JOB BB0618

RODNEY PARHAM RD./I-40 NB RAMPS

DETECTOR ASSIGNMENTS

<table>
<thead>
<tr>
<th>DET. #</th>
<th>LOCATION DIRECTION</th>
<th>TYPE</th>
<th>CAS. TRM. #</th>
<th>CHN. #</th>
<th>AMP. #</th>
<th>CON. TRM.</th>
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<td>V11</td>
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<td>CAMERA V3</td>
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<tr>
<td>V262 A&amp;B</td>
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<td>6</td>
<td>V3</td>
<td>3</td>
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<tr>
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<td>PT1</td>
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<tr>
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<td>R. PARHAM SOUTH LEG</td>
</tr>
</tbody>
</table>

SPARE AMP. CHN #: 3, 4, 11, 16

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: *AMP CHN #* Refers to the rack output position. This is wired to controller input detector number which is programmed to actuate the designated phase. EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

DETECTOR CHART

IPNO: 615042
DRAWN BY: CJS
DATE: 6/27/99

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

ONE SECTION (SOLID SYMBOL)

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROS Walk THAT MEET A.D.A.S. STANDARDS.
GENERAL NOTES

All concrete shall be Class C-3 with a minimum 31 day compressive strength of 3000 psi, and adhered to the old and exposed corners of the bridge, which are not be damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29)

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

PLATE ENDS

All reinforcing shall be Grade 60 with a minimum 28 day compressive strength of 3000 psi. All reinforcing shall be placed in the joint and exposed corners of the bridge, which are not damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29).

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

PLAN OF BENT 1, SOUTHEAST CORNER

PLATE ENDS

All reinforcing shall be Grade 60 with a minimum 28 day compressive strength of 3000 psi. All reinforcing shall be placed in the joint and exposed corners of the bridge, which are not damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29).

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

PLAN OF BENT 5, SOUTHWEST CORNER

PLATE ENDS

All reinforcing shall be Grade 60 with a minimum 28 day compressive strength of 3000 psi. All reinforcing shall be placed in the joint and exposed corners of the bridge, which are not damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29).

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

ELEVATION OF BENT 1, SOUTHEAST CORNER

PLATE ENDS

All reinforcing shall be Grade 60 with a minimum 28 day compressive strength of 3000 psi. All reinforcing shall be placed in the joint and exposed corners of the bridge, which are not damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29).

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

ELEVATION OF BENT 5, SOUTHWEST CORNER

PLATE ENDS

All reinforcing shall be Grade 60 with a minimum 28 day compressive strength of 3000 psi. All reinforcing shall be placed in the joint and exposed corners of the bridge, which are not damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29).

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

SIDEWALK CURB DETAIL

Perpendicular or Parallel to Existing Curb

PLATE ENDS

All reinforcing shall be Grade 60 with a minimum 28 day compressive strength of 3000 psi. All reinforcing shall be placed in the joint and exposed corners of the bridge, which are not damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29).

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

SIDEWALK DETAIL

Perpendicular or Parallel to Existing Curb

PLATE ENDS

All reinforcing shall be Grade 60 with a minimum 28 day compressive strength of 3000 psi. All reinforcing shall be placed in the joint and exposed corners of the bridge, which are not damaged during installation of new reinforcing steel.

All reinforcing steel shall be Grade 60 yield strength - 60,000 psi and shall conform to AISI A 615 M 3 or M 200 Type A with all test reports.

Structural steel in and beam shall be A606 or A588 unless otherwise noted and shall be paid for as "Structural Steel in Place" (per Scope M615/0, G9.9.29).

Data 1 Protective Surface Treatment shall be applied to the new roadway face of curb, sidewalk surface, and face of old of the concrete parapet wall.

For additional information, see (Dwg. No. 6051).

NOTE: All reinforcing bars and joint areas not shown for clarity. See Modification to Existing Slab Reinforcement on Dwg. No. 6093 for additional information.

For placement of new sidewalk reinforcing see "Details of Bent 1 Sidewalk Reinforcement" on Dwg. No. 6093.
GENERAL NOTES

Transitional Approach Railing shall be placed at locations shown in the plans.

All concrete shall be Class "D" with a minimum 28 day compressive strength of 1,500 psi and shall be poured in the dry. All exposed corners to be chiselled "V" unless otherwise noted.

All reinforcing steel shall be Grade 60 conforming to AASHTO M 35 or M 122, Type A, with ASTM test reports.

Unless otherwise required in the plans, curing and finishing shall be in accordance with Subsection 604.03 and the surface finish type and areas of application shall recommend used on the adjacent bridge railing or concrete barrier wall. See Subsection 602.03 for Class I Protective Surface Treatment. Payment for surface finishes shall not be paid for directly but shall be considered incidental to the unit price bid for "Transitional Approach Railing."

Transitional Approach Railing shall be paid for at the contract unit price bid for "Transitional Approach Railing." See Section 80 for additional information.

QUANTITIES - FOR INFORMATION ONLY

<table>
<thead>
<tr>
<th>CLASS</th>
<th>REINFORCING STEEL</th>
<th>CONCRETE</th>
<th>CLASS 1 PROTECTIVE COATING TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4,300 cu. yds.</td>
<td>37,500 lb.</td>
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</table>

Dimensions are out to out of bars.

PICTORIAL OF TRANSITIONAL APPROACH RAILING

NO SCALE

DETAILS OF BENT 5 TRANSITIONAL APPROACH RAILING

ROUTE 62

ARKANSAS STATE HIGHWAY COMMISSION

DRAWN BY: [Signature]

ARCHITECTURAL ENGINEER

PUBLIC WORKS ADMINISTRATION

SCHEDULE, SCALE: AS SHOWN

BRIDGE NO. 8537

DRAWING NO. 6019
New P90 and #43 dowel spacing shown is intended to not interfere with existing transverse reinforcing bars. The contractor shall make minor adjustments if necessary to avoid damaging the existing transverse reinforcing bars. Spacing shown is measured along edge of Existing Curb.

- Bridge on Curve
- Bridge on Tangent
- Bridge on Line

**PLAN**

- C.L. 0 Joint Open

- C.L. Full Depth Perforated Joint 1/2" to 1" Min. Step 4" From top of slab.
- C.L. Partial Depth Perforated Joint 1/2" to 1" Min. Step 1 1/2" From top of slab.

**MODIFICATION TO EXISTING SLIDER PLATES**

- C.L. Joint to C.L. Joint

**SIDEWALK SLAB JOINT DETAIL**

- Use 1/2" x 1" Joint Sealer. See Subsections 50.02.09 and 50.02.11. Backer Rod filler shall be installed before pouring slab to be poured. Sidewalk Slab joints and Joint Sealer shall be detailed in Superstructure. Sidewalk Slab joints are to be spaced, they shall be sealed as shown in drawings.

**SECTION THRU DRAIN**

- No Scope

**SIDEWALK REINFORCEMENT DETAIL**

- C.L. Joint to C.L. Joint

Use 1/2" x 1" Joint Sealer. See Subsections 50.02.09 and 50.02.11. Backer Rod filler shall be installed before pouring slab to be poured.
CUT AREA 4,500 SQ.FT.
FILL AREA 6,500 SQ.FT.
STAGE 1

RODNEY PARHAM

CROSS SECTION STA.100+78 TO STA.100+78
CROSS SECTIONS

STAGE I

STAGE II

END 25' TRANSITION

BEGIN 20' TAPER
STA. 0+00 to 19.47 on Rodney Parham =
STA. 300+00.00 on RAMP 3:
STA. 409+12.94 on RAMP 4
\( \Delta 90'00'00'' \)

STAGE 1

CUT VOLUME 194 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2

CUT VOLUME 146 CU.YD.
FILL VOLUME 0 CU.YD.

CUT AREA 43 SQ.FT.
FILL AREA 0 SQ.FT.

CUT AREA 43 SQ.FT.
FILL AREA 0 SQ.FT.

CUT AREA 33 SQ.FT.
FILL AREA 0 SQ.FT.
TOE WALL DETAIL 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.
- 1" wide transverse expansion joints shall be placed in concrete ditch paving at 40-foot intervals. The space shall be filled with approved joint filler complying with AASHTO M213.

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 1%. THE DISSIPATORS WILL NOT BE TYPED SEPARATELY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED.
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 STD. DR.-L. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE SO FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

DETAILED OF MODIFIED CURB

0" ON HIGH SIDE OF SUPERELEVATION.
GENERAL NOTES

- OTHER TYPES OF EXPANSION JOINTS MAY BE CONSTRUCTED AT THE DISCRETION OF THE CONTRACTOR AFTER APPROVAL BY THE ENGINEER.

- LOADING TRANSITION UNITS AND DOORS SHALL BE SECURED PARALLEL TO THE PAVEMENT SURFACE AND CENTERLINE.

- ALL EXPANSION JOINTS, INCLUDING ALL MATERIALS, DEVICES AND WORK REQUIRED, SHALL BE CONSIDERED AS SUBCONTRACT WORK AND SHALL BE INCLUDED IN THE UNIT PRICE FOR POPULATING CONCRETE PAVING. DIRECT PAYMENT WILL BE MADE FOR ANY MATERIALS AND CHAIN, STEEL OR ANY OTHER DEVICE SHOWN OR FOR ITS INSTALLATION.

1" DENOTES THICKNESS OF SLAB.

SECTION C-C

DETAIL OF WIDE FLANGE BEAM & JOINT SUPPORT

NOTE: 12" x 5/8" STEEL PLATE IS SLOPE OF BEAM AFTER PLACEMENT OF CONCRETE.

SECTION A-A

DETAIL OF WIDE FLANGE BEAM & JOINT SUPPORT

NOTE: 12" x 5/8" STEEL PLATE IS SLOPE OF BEAM AFTER PLACEMENT OF CONCRETE.

SECTION B-B

DETAIL OF EXPANSION JOINT

NOTE: BOARD JOINT FILLER OF SPECIFIED TYPE SHALL BE PLACED IN BOARD JOINTS IN EACH OF TWO ROWS OF EXPANSION JOINTS, AT THE ELEVATION OF THE JOINING SLAB OF CONCRETE. JOINT ASSEMBLY SHALL BE SECURED IN PLACE 3" FROM EITHER END OF STUD OR 3" FROM BOARD JOINT TOP, DEPENDING ON THE LOCATION OF THE JOINING SLAB. JOINT SEALING PLUGS SHALL NOT BE REMOVED UNTIL IMMEDIATELY PRIOR TO INSTALLATION OF BOARD.

SECTION C-C

DETAIL OF END PLATE ATTACHMENT TO WIDE FLANGE BEAM

ELEVATION

PLAN

CONTINUOUSLY REINFORCED STANDARD DRAWING CPCR-3

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF TERMINAL JOINTS FOR CONCRETE PAVEMENT
DETAILS OF ENTRANCE & EXIT RAMPS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED

LONGITUDINAL CONSTRUCTION JOINT

SECTION A - A

DETAIL FOR JUNCTION WITH FLEXIBLE TYPE PAVEMENT STRUCTURE
TABLE OF DIMENSIONS

<table>
<thead>
<tr>
<th>PIPE</th>
<th>R.C. PIPE CULVERTS</th>
<th>C.M. PIPE CULVERTS</th>
<th>C.M. ARCH PIPE</th>
<th>ALTERNATE CONSTRUCTIONS TO THE PIPE CULVERTS</th>
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<tr>
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<td>WALL</td>
<td>C</td>
<td>D</td>
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NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

PIPE PAY LENGTH FOR REINFORCED CONCRETE PIPE CULVERTS

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

END VIEW CONCRETE ARCH PIPE

MULTIPLE C.M. PIPE CULVERTS

FLARED END SECTION

STANDARD DRAWING FES-2
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.

**CONCRETE PAVEMENT**

**BROKEN LINE STRIPING**

**SOLID LINE STRIPING ON CONCRETE PAVEMENT**

**SOLID LINE STRIPING ON ASPHALT PAVEMENT**

**ASPHALT PAVEMENT**

**CONCRETE PAVEMENT**

**STRIPING AT ADJACENT NO PASSING LANES**

**YIELD LINE DETAIL**

**CROSSWALK AND STOPBAR DETAILS**

**PAVEMENT EDGE LINE MARKING**

**DETIAL OF STANDARD RAISED PAVEMENT MARKERS**

**ARKANSAS STATE HIGHWAY COMMISSION**

**PAVEMENT MARKING DETAILS**

**STANDARD DRAWING PM-1**
GENERAL NOTES:

THIS DRAWING IS TO BE CONSIDERED AS TYPICAL ONLY.

THE LOCATION OF THE STRIPING AND PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER IN ADJUSTING THE LOCATIONS OF THE MARKERS TO THE NTSI SPECIFIED PRODUCTS LIST.

THE DIRECTIONAL ARROWS SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" LATEST REVISION.

REVISIONS:

12-89: REVISED RAISED PAVEMENT MARKERS FOR 80' SPACING.

9-12-95: REVISED WIDTH OF STANDING

7-27-96: REVISED DETAILS OF STANDARD RAISED PAVEMENT MARKERS

10-3-94: REVISERS ACCORDING TO THE LATEST POLICY.

11-7-95: REMOVED HAZARD MARKERS

6-5-95: REVISED FOR 2009 MTC ED

4-2-94: REVISED NOTES

8-28-94: REVISED "ADDED & REVISED NOTES: ENTRANCE & EXIT RAMPS"

5-8-95: REMOVED HAZARD MARKERS

7-29-94: CHANGED TYPES TO ROWAN NUMERALS

4-26-96: REVISED WIDTH OF PAVEMENT MARKERS

2-2-95: PLACED IN USE

ARKANSAS STATE HIGHWAY COMMISSION

PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PW-2
NOTES:
1. UNLESS OTHERWISE SPECIFIED ON THE 
   PLANS, THE UNDERDRAIN COVER SHALL 
   BE THOROUGHLY COMPACTED EARTH AND 
   SHALL BE SUBMERGED TO PIPE UNDERDRAIN.
2. GRANULAR MATERIAL SHALL BE WRAPPED 
   WITH GEOTEXTILE FABRIC LAMINATED TO 
   TWO SIDES OF THE TRENCH AT THE TOP.
3. UNDERDRAIN COVER MUST BE INCLUDED 
   IN THE PRICE BID FOR EACH "4" PIPE UNDERDRAIN.
4. "4" PIPE UNDERDRAINS SHALL BE ADDED OR 
   REMOVED AT EACH PIPE INLET LOCATION.
5. UNDERDRAIN COVER MAY BE CONNECTED TO 
   PROPOSED DRAIN OUTLETS OR EXTENDED WHERE 
   DIRECTED BY THE ENGINEER. PAYMENT FOR 
   CONNECTING TO DRAIN OUTLETS SHALL BE INCLUDED 
   IN THE PRICE BID FOR "4" PIPE UNDERDRAINS.
6. THE LOCATION OF ALL LATERALS SHALL BE 
   MARKED WITH "4" X "4" PERMANENT PAINTING MARKING 
   TAPE AT THE OUTSIDE EDGE OF THE 
   SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR 
   THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR 
   THE VARIOUS CONTRACT ITEMS.
7. PAYMENT FOR THE RODENT SCREEN SHALL BE 
   INCLUDED IN THE PRICE BID FOR EACH "UNDERDRAIN OUTLET PROTECTORS.
8. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH 
   INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY 
   THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. 
   EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE 
   REMOVED UNDER THIS ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."
9. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: INSTALL OUTLET PROTECTOR AS SHOWN 
   ON STANDARD DRAWING PU-1 AND DRILL THE UNUSED HOLES OR INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

UNDERDRAIN COVER WHERE REQUIRED

DRAIN PIPE ON GRADE

GRANULAR MATERIAL

GEOTEXTILE FABRIC

ALL AROUND & LAPPED AT TOP

DRAIN PIPE

DETAILS OF PIPE UNDERDRAIN

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 405 FOR PIPE D. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE 
   INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS IN ACCORDANCE WITH SECTION 405 SPECIFICATIONS.
2. "4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREIN. LATERALS WILL BE MEASURED 
   AND BILLED FOR AS "4" PIPE UNDERDRAINS. UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 405, THE 
   CONTRACTOR SHALL PROVIDE UNDERDRAIN OUTLET PROTECTORS FOR THE INSTALLATION OF "4" PIPE UNDERDRAINS. PAYMENT FOR CONNECTING TO 
   DRAIN OUTLETS SHALL BE INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS.
3. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH "4" X "4" PERMANENT PAINTING MARKING TAPE AT THE OUTSIDE EDGE OF THE 
   SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID FOR EACH "UNDERDRAIN OUTLET PROTECTORS.
5. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY 
   THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE 
   REMOVED UNDER THIS ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."
6. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: INSTALL OUTLET PROTECTOR AS SHOWN 
   ON STANDARD DRAWING PU-1 AND DRILL THE UNUSED HOLES OR INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.
CONDUIT ENTRY TO EXISTING POLE BASE

ANCHOR BASE

EARTH

ELEVATION

NOTE:
ALL REINFORCING BARS TO BE GRADE 60

REINF. BARS each side

CONCRETE PULL BOX DETAIL

TYPE "HD" CONCRETE PULL BOX

NOTE:
ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 2'-6" WIDE AND 1'-0" IN DEPTH. ALL PAINTING SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE APRON SHALL BE INSTALLED FOR A MINIMUM OF 1'-0" IN DEPTH. A MINIMUM OF 1'-0" OF PAINTING IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.
NOTE: WHERE LEFT TURN HEAD ON C1 AND C2 IS NOT CALLED FOR, IT IS RECOMMENDED THAT IT BE ALLOWED FOR FUTURE PLANS THAT MAY REQUIRE IT. THE CENTERS OF THE HEADS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

GENERAL NOTES:

1. Four section "Protected/Permissive" left turn heads should be placed a minimum of two (2') feet to the right of the centerline of the approaching left turn lane.

2. Three section "Protected" left turn heads should be placed on the centerline of the approaching left turn lane.

3. When it is necessary to place poles other than as shown on plan sheet C, in right-of-way extending more than the feet past to the left of the centerline of the approaching left turn lane, it is necessary to determine the appropriate length as determined by the engineer. A new pole may be required. The contractor shall be responsible for determining the appropriate length to installing the last pole if additional compensation is required.

4. Signal head spacing shall, in no case, be less than eight (8') feet between heads on center, measured horizontally perpendicular to the approach.

5. All signal heads shown on this detail sheet shall be located according to the dimensions shown in relation to the approach side of the intersection.

6. Maximum mounting height of signal heads located between 20 feet and 23 feet from stop bar shall be in accordance with figure 10-5-5 of 2009 MUTCD.
Main breaker not near controller cabinet secondary required

With power isolation assembly

Main breaker not near controller cabinet secondary not required

Without power isolation assembly
### Superelevation Table for One-Way Traffic

**Notes:**
1. On curves with one-way traffic, the superelevation shall be applied on the inside lane.
2. Superelevation values shown on the cross sections are values of + or - to be added or subtracted from the most of control.
3. Superelevation for $La$ may be reduced in multiples of 25 ft or 50 ft.
4. Minimum $La$ values may be used for ramps. Desirable values shall be applied at main lanes.
5. Divided alignments wider than 4 lanes shall have additional transition lengths as follows:
   - 6 lane divided: 250 ft
   - 8 lane divided: 500 ft

#### Table

<table>
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<th>Degree of Curve</th>
<th>$La$ (ft)</th>
<th>$Lc$ (ft)</th>
<th>$Lr$ (ft)</th>
<th>$Dc$ (ft)</th>
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#### Abbreviations

- $NC$: Normal Crown
- $RC$: Reverse Crown
- $S$: Superelevation
- $Lc$: Distance from Beginning of Superelevation Transition to Any Point
- $La$: Length of Superelevation Transition Segment
- $Dc$: Minimum Desirable Values

#### General Notes

1. On curves with one-way traffic, the superelevation shall be applied on the inside lane.
2. Superelevation values shown on the cross sections are values of + or - to be added or subtracted from the most of control.
3. Superelevation for $La$ may be reduced in multiples of 25 ft or 50 ft.
4. Minimum $La$ values may be used for ramps. Desirable values shall be applied at main lanes.
5. Divided alignments wider than 4 lanes shall have additional transition lengths as follows:
   - 6 lane divided: 250 ft
   - 8 lane divided: 500 ft

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**Notes on Payement with One-Way Traffic:**

1. On curves with one-way traffic, the superelevation shall be applied on the inside lane.
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3. Superelevation for $La$ may be reduced in multiples of 25 ft or 50 ft.
4. Minimum $La$ values may be used for ramps. Desirable values shall be applied at main lanes.
5. Divided alignments wider than 4 lanes shall have additional transition lengths as follows:
   - 6 lane divided: 250 ft
   - 8 lane divided: 500 ft
**A** Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.

1. Regular traffic control devices to be used when needed.
2. Street names may be used when desirable for directing detoured traffic.

**B** Typical application - 4-lane divided roadway where one roadway is closed.

1. Complete scene shown only in crosswalk direction.
2. Two-way traffic separated with positive barrier.
3. Channeling devices separate work area from traveled way.
4. Automatic flashing resistance device if optional, refer to notes.

**C** Typical application - 4-lane divided roadway where half of the roadway is closed.

1. Complete scene shown only in crosswalk direction.
2. Two-way traffic separated with positive barrier.
3. Automatic flashing resistance device if optional, refer to notes.

**D** Typical application - roadway closed beyond detour point.

1. Crossed lights should be provided to warn flaggers at night as needed.
2. If entire work area is visible from one station, a single flagger may be used.
3. Channeling devices are to be extended to a point where they are visible to approaching traffic.

**E** Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.

1. Complete scene shown only in crosswalk direction.
2. Two-way traffic separated with positive barrier.
3. Automatic flashing resistance device if optional, refer to notes.

**F** Typical application - 4-lane undivided roadway with inside lane closed.

1. Complete scene shown only in crosswalk direction.
2. Two-way traffic separated with positive barrier.
3. Automatic flashing resistance device if optional, refer to notes.

**NOTES**

1. Roadway names may be used when desirable for directing detoured traffic.
2. Street names may be used when desirable for directing detoured traffic.

- **General Notes**
  - Advisory speed limits on W-3 or W-4 current warning signs to be determined at site. Use 4-8 mph speed is greater than 60 mph and 3-5 mph speed is less.
  - Where the existing speed limit is 60 mph and the lane to be closed is greater than 15 ft, the 4.5-5 ft. shall be installed at the location of the existing 60 mph speed limit. The 4.5-5 ft. shall be installed at a maximum of 60 mph intervals.
  - The end of the 4.5-5 ft. shall be installed at a maximum of 60 mph intervals.
  - The end of the 4.5-5 ft. shall be installed at a maximum of 60 mph intervals.
  - The 4.5-5 ft. shall be installed at a maximum of 60 mph intervals.

- **TYPICAL ADVANCE WARNING SIGN PLACEMENT**
  - Taper formula:
    
    $L_{1000} = \sqrt{\frac{S - 10}{S + 10}} \times 1000$
    
    - For speeds of 40 mph or more, use $L_{1000}$.
    
    - For speeds of 30 mph or less, use $L_{1000}$.
    
    - Minimum length of taper, 6.
    
    - Maximum value of posted speed limit prior to work or with reduced speed.
    
    - Minimum offset.

- **GENERAL NOTES**
  - Advisory speed limits on W-3 or W-4 current warning signs to be determined at site. Use 4-8 mph speed is greater than 60 mph and 3-5 mph speed is less.
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  - Taper formula:
    
    $L_{1000} = \sqrt{\frac{S - 10}{S + 10}} \times 1000$
    
    - For speeds of 40 mph or more, use $L_{1000}$.
    
    - For speeds of 30 mph or less, use $L_{1000}$.
    
    - Minimum length of taper, 6.
    
    - Maximum value of posted speed limit prior to work or with reduced speed.
    
    - Minimum offset.

- **GENERAL NOTES**
  - Advisory speed limits on W-3 or W-4 current warning signs to be determined at site. Use 4-8 mph speed is greater than 60 mph and 3-5 mph speed is less.
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  - The 4.5-5 ft. shall be installed at a maximum of 60 mph intervals.
Typical application - daily maintenance operations of short duration on a 2-lane divided roadway where half of the roadway is closed.

Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.
A 4 feet or greater preferred, if less than 4 feet, Precast Units shall be connected to slab (See BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

** Offset Distance for Two Way Traffic Only

<table>
<thead>
<tr>
<th>Offset Distance</th>
<th>Min.</th>
<th>Max.</th>
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<tr>
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<tr>
<td>&gt; 4&quot;</td>
<td>18</td>
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If offset distance is not attainable, then see "Barrier Placement With Attenuator" detail shown below.

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

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
STANDARD DRAWING TC-5
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES, DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION

EXCAVATION

EXISTING GROUND

INTERCEPTOR OR DIVERSION DITCH

EXISTING GROUND

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

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

CONSTRUCTION SEQUENCE
1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MOUNTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

EMBANKMENT

EMBANKMENT

CONSTRUCTION SEQUENCE
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING.
4. PLACE PHASE 3 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING.

GENERAL NOTE
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED,_SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE
1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MOUNTAIN UNTIL ENTIRE SLOPE IS STABILIZED.
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS

ENTRANCE RAMP

EXIT RAMP

DETAIL "A"

SEAL JOINT ACCORDING TO DETAILS SHOWN ON STDLONG FJT-6A

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT RAMP THICKNESS.

THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAYING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE SUBSIDIARY TO THE ABOVE ITEMS.

ARIZONA STATE HIGHWAY COMMISSION

DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS

STANDARD DRAWING TR-1