ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

HWY. 425 - HAMBURG
(WIDENING) (S)
ASHLEY COUNTY
ROUTE 82 SECTION 8

FED. AID PROJ. 9991
JOB CA0202

NOT TO SCALE

STA. 828+40.00
END JOB CA0202
LOG MILE 22.87

STA. 405+99.04 BK. =
STA. 546+96.79 AHD.

STA. 403+80.00
BEGIN JOB CA0202
LOG MILE 17.50

DESIGN TRAFFIC DATA

| DESIGN YEAR | 2037 |
| 2018 ADT | 4,200 |
| 2038 ADT | 5,000 |
| 2038 DHV | 550 |
| DIRECTIONAL DISTRIBUTION | 60% |
| TRUCKS | 17% |
| DESIGN SPEED | 60 MPH |

BEGINNING OF PROJECT
LAT. = N 33°08'02"
LONG. = W 91°49'14"

MID-POINT OF PROJECT
LAT. = N 33°10'21"
LONG. = W 91°47'56"

END OF PROJECT
LAT. = N 33°12'23"
LONG. = W 91°47'54"

LENGTH OF PROJECT CALCULATED ALONG C.L.

| LENGTH | NET | ROADWAY | 26,302.25 | 5.372 |
| 26,302.25 | 5.372 | PROJECT |

BEGIN JOB CA0202
LOG MILE 17.50

CRAFTON, TULL & ASSOCIATES, INC.
No. 109

REGISTERED PROFESSIONAL ENGINEER
TANGENT SECTION
OPEN SHOULDER
NOTCH AND WIDEN
(EX. PAVEMENT CENTERED)
STA, 499+33.04 TO STA, 499+28.83

**NOTES:**

1. The thickness of aggregate base course shall be within plus or minus one inch of the plan thickness shown. The contractor shall correct any deficient thickness that does not meet the plan thickness tolerances. The deficient thickness shall be limited to a maximum of 0.015 inches.

2. The contractor shall provide and install, at no cost to the owner, the aggregate base course on the shoulders.

3. The thickness of aggregate base course shall be within plus or minus one inch of the plan thickness shown. The contractor shall correct any deficient thickness that does not meet the plan thickness tolerances. The deficient thickness shall be limited to a maximum of 0.015 inches.

4. The contractor shall provide and install, at no cost to the owner, the aggregate base course on the shoulders.
DETAIL FOR DRIVEWAY TURNOUTS
OPEN SHOULDER SECTION

NOTES:
- TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ADCM SURFACE COURSE (5")
- COLD LAY PER SEVEN AND
- AGGREGATE BASE COURSE (CLASS T)
- 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

NO. 4 BARS AT 12" HORIZONTAL SPACING

9"
VAR. WIDTH: 9"

VARIABLE HEIGHT

NO. 4 BARS AT 12" VERTICAL SPACING

9"
VAR. WIDTH: 9"

VARIABLE HEIGHT

FRONT VIEW

TOP VIEW

SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL
NOTES:

(*) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

(*) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON
THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT
ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

(*) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE
EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE
EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210.


(*) 6" AGGREGATE BASE COURSE (CLASS T)
TO BE REPLACED WITH ACWM BINDER COURSE 2")

(*) METHOD OF RAISING GRADE
NOT TO SCALE

DETAIL FOR TRANSITIONS

CONSTRUCTION PROJECT INFORMATION SIGN

Job CA0202
Start Date Mo Year
Est. Completion Mo Year

IDRIVE
ARKANSAS.COM

SPECIAL DETAILS

SPECIAL DETAILS
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 4" 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.

DETAILS OF RUMBLE STRIPS
NOTES:
1. REFER TO MAINTENANCE OF TRAFFIC PLANS FOR PLACEMENT OF TRAFFIC DRUMS, SPACING WILL VARY AT INTERSECTIONS AND INTRA-INTERSECTIONS.
2. USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 10' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO GLOBE TRAFFIC.
3. LEVELING SHALL BE PERFORMED AS A MOVING OPERATION BEFORE SHADING TO STAGE 2 TRAFFIC.
4. LEVELING SHALL BE PERFORMED AS A MOVING OPERATION BEFORE SHADING TO STAGE 2 TRAFFIC.
5. THE FINAL 2' OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID.

FULL DEPTH SHOULDER FOR MAINTENANCE OF TRAFFIC (SHOWN IN THE DIRECTION OF TRAFFIC)

- STA.637+90 TO STA.654+75 RT,
- STA.654+75 TO STA.671+80 RT,
- STA.671+80 TO STA.689+25 RT,
- STA.689+25 TO STA.706+75 RT,
- STA.706+75 TO STA.724+90 RT,
STA. 495+13 - N PLACE
DOUBLE 8' x 8' x 12" R.C. BOX CULVERT
WITH 32 BARS L.T. AND R.T.
REMOVE EXIST AND EXTEND 67' LT. AT 25 DEG. SKEW
RETAIL AND EXTEND 44' RT.
COMPLETED LENGTH 82 FT.
DES. = 448.00 CFH; B.A. = 39.65 AC
CHANNEL CHANGE = 40 CU. YD.

THIS SECTION IS PROFILED ALONG THE EXISTING RCB
& ALONG THE SKEWER PORTION OF THE EXTENSION
ON THE LEFT.

WITHIN SPECIAL FLOOD HAZARD AREA
EXIST. ELEV. = 137.34
PROP. ELEV. = 137.96

SKEWERED 25' RT. EWD. PERPENDICULAR TO $E$

APPROX. FL. LT. = 30.95

F.L. LT. = 30.33 LT.

SPECIAL DETAILS

495.23 HWY. 425
### TEMPORARY EROSION CONTROL DETAILS

**LEGEND**
- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- DROP INLET SILT FENCE
- SILT FENCE

<table>
<thead>
<tr>
<th>Date of Revision</th>
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**EQUATION**
- STA 403+80.00 BEGIN JOB CA0202 LOG MILE 17.50
- STA 406+96.79 C.L. HWY. 82 AND 112°26'15"
- STA 496+29.83 C.L. HWY. 425

**CLEARING AND GRUBBING**
TEMPORARY EROSION CONTROL DETAILS
TEMPORARY EROSION CONTROL DETAILS

REVISIONS

LEGEND
- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- SILT FENCE

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

STA 584.15 - STA 587.70 RT,
SILT FENCE - 305 L.R.F. FT.
TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION

REVISION

LEGEND

1: SAND BAG DITCH CHECKS

2: ROCK DITCH CHECKS

3: SILT FENCE

PRESERVE VEGETATION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS
TEMPORARY EROSION CONTROL DETAILS

LEGEND

- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- SILT FENCE

REVISIONS

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CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS
TEMPORARY EROSION CONTROL DETAILS

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

LEGEND

- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- SILT FENCE

DATE OF REVISION

REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER

GEO: TAD
GEO NO. 20523
ARCH: LNC
ARCH NO. 82126
DRAWN: 9/19/2012
CHECKED: 9/19/2012
DRAWN: 9/19/2012
CHECKED: 9/19/2012
TEMPORARY EROSION CONTROL DETAILS

LEGEND

- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- DROP INLET SILT FENCE
- SILT FENCE
- SEDIMENT BASIN

STAGE I

TEMPORARY EROSION CONTROL DETAILS
STAGE 2
TEMPORARY EROSION CONTROL DETAILS
TEMPORARY EROSION CONTROL DETAILS

LEGEND

- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- DROP INLET SILT FENCE
- SILT FENCE
- SEDIMENT BASIN

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650 - 655 C.L. HWY. 82 +
6 STA. 538+65.95 C.L. HWY. 52W
6 E 27° 38' 38"

PRESERVE VEGETATION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION

REVISION

LEGEND

- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- DROP INLET SILT FENCE
- SILT FENCE
- SEDIMENT BASIN
TEMPORARY EROSION CONTROL DETAILS

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LEGEND
- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- DROP INLET SILT FENCE
- SILT FENCE
- SEDIMENT BASIN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS
TEMPORARY EROSION CONTROL DETAILS

DATE OF REVISION

LEGEND

1. SAND BAG DITCH CHECKS
2. ROCK DITCH CHECKS
3. DROP INLET SILT FENCE
4. SILT FENCE
5. SEDIMENT BASIN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS
Temporary Erosion Control Details

- STATION 779.50 to 781.10
  - Silt fence: 160 lin. ft.

- STATION 782.20 to 784.60
  - Silt fence: 230 lin. ft.

- STATION 786.00 to 789.60
  - Silt fence: 60 lin. ft.

Legend:
- SAND BAG DITCH CHECKS
- ROCK DITCH CHECKS
- DROP INLET SILT FENCE
- SILT FENCE
- SEDIMENT BASIN

Stage 2
Temporary Erosion Control Details
STAGE (CONSTRUCTION SEQUENCE):

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AS SHOWN ON MAINTENANCE OF TRAFFIC ADVANCE WARNING SHEET.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE MAINTENANCE OF TRAFFIC DETAILS.

USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 50' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVES.

CONSTRUCT PORTIONS OF HWY. 82 AND CROSS DRAINS AS SHOWN RT. OF C.L. FROM STA. 549+95 TO 828+40. PLACE LEVELING (AS DIRECTED BY THE ENGINEER) RT. OF C.L. UNDER TRAFFIC IN AREAS NEEDED TO MATCH STAGE I PAVING.

CONSTRUCT FULL DEPTH ASPHALT SHOULDERS & WIDENING AT LOCATIONS SHOWN IN SPECIAL DETAILS.

STAGE I QUANTITIES:

SIGNS = BR. 50 FT. EACH
TRAFFIC DRUM = 504 EACH
VERTICAL PANELS = 13 EACH
P.C.C.B. = 2540 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 85805 LIN. FT.

NOTE: THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 3" OR LESS, AND THEN NOTCH ANOTHER ONE MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

CONSTRUCT PORTIONS OF HWY. 82 AND CROSS DRAINS AS SHOWN RT. OF C.L. FROM STA. 549+95 TO 828+40. PLACE LEVELING (AS DIRECTED BY THE ENGINEER) RT. OF C.L. UNDER TRAFFIC IN AREAS NEEDED TO MATCH STAGE I PAVING.

CONSTRUCT FULL DEPTH ASPHALT SHOULDERS & WIDENING AT LOCATIONS SHOWN IN SPECIAL DETAILS.

EQUATION:

STA. 403+00.00 END JOB CA: 0202 LOG MILE 17.50

STA. 405+00.00 BEGIN JOB CA: 0202 LOG MILE 17.50

STA. 409+91.86 END CONSTRUCTION

CONSTRUCTION STAGE I

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

4" WHITE CONSTRUCTION PAVEMENT MARKING

MAINTENANCE OF TRAFFIC DETAILS
STA. 403+80.00
BEGIN JOB CA0202
LOG MILE 17.50

STA. 491+83.04
BEGIN CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS

4" DOUBLE YELLOW CONSTRUCTION PAINT MARKING

4" WHITE CONSTRUCTION PAINT MARKING

TRAFFIC DRUMS SPACED 20' ON CENTER

VERTICAL PANELS SPACED 50' ON CENTER

4" WHITE CONSTRUCTION PAVEMENT MARKING

STAGE 1 RT. SIDE
MAINTENANCE OF TRAFFIC DETAILS
STAGE 1 RT. SIDE
MAINTENANCE OF TRAFFIC DETAILS

- VERTICAL PANELS SPACED 50' ON CENTER
- FURNISH AND INSTALL 200' PCCB + (2) END UNITS

TRAFFIC DRUMS SPACED 20' ON CENTER
FURNISH AND INSTALL 200' PCCB + (2) END UNITS

4" WHITE CONSTRUCTION PAVEMENT MARKING

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING
STAGE 1 RT. SIDE
MAINTENANCE OF TRAFFIC DETAILS

FURNISH AND INSTALL
AND PLACE
4" FULL END UNITS

FURNISH AND INSTALL
300' P.C.C.B.
2 END UNITS

4" WHITE CONSTRUCTION
PAVEMENT MARKING

4" DOUBLE YELLOW
CONSTRUCTION PAVEMENT MARKING

TRAFFIC DRUMS SPACED
20' ON CENTER

VERTICAL PANELS
SPACED 50' ON CENTER

FULL DEPTH SHOULDER

645

E. HWY. 82

650

640

635

630

655
STAGE 1 RT, SIDE MAINTENANCE OF TRAFFIC DETAILS

FURNISH AND INSTALL 200 FT. C.C. B. + 10 END UNITS

TRAFFIC DRUMS SPACED 20' ON CENTER

FULL DEPTH SHOULDER

NO-STOP E
NO-AD
NO-DATE
FR-NO.
RE-NO.
DATE
REV-NO.
FILT.
REV-NO.
ARK.
JOB NO.
MAINTENANCE OF TRAFFIC DETAILS
MAINTENANCE OF TRAFFIC DETAILS

STAGE 1 RT. SIDE
MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS SPACED 50' ON CENTER

4" WHITE CONSTRUCTION PAVEMENT MARKING

TRAFFIC DRUMS SPACED 20' ON CENTER

2" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

FURNISH AND INSTALL 200 Y.D.C.L.
+ (2) END UNITS

3" WHITE CONSTRUCTION PAVEMENT MARKING

TRAFFIC DRUMS SPACED 50' ON CENTER

2" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

TRAFFIC DRUMS SPACED 20' ON CENTER
STAGE 2 CONSTRUCTION SEQUENCE

1. Maintain advance warning signs & end road work signs from Stage 1.

2. Apply level course to existing lanes if and where directed by the engineer.

3. Apply construction pavement markings as shown in the Stage 2 maintenance of traffic details.

4. Use vertical panels and traffic drums spaced 50’ on center to delineate the work zone. Use traffic drums to delineate driveways.

5. Construct portion of HWY.82 and cross drains from LT. of CL. from STA.548+95 to STA.629+40.

STAGE 2 QUANTITIES:

- Signs = 100.50 FT.
- Traffic Drums = 10 EACH VERTICAL PANELS = 1 EACH Relocating P.C.C.B. = 2ND LIN. FT.
- Construction pavement markings = 10925 LIN. FT.

6. Apply final 2” lift of AC DM surface course and install permanent pavement marking as shown in the permanent pavement marking details and refer to standard drawing PH-1.

NOTE: The quantity of vertical panels provided in the contract is for one side of the roadway for 2 miles. This is the maximum quantity required to allow the contractor to notch one mile, backfill to a point where the vertical differential is 3” or less, and then notch another one-mile section. This is the maximum number of vertical panels that will be paid for. Refer to section 603.02 of the standard specifications for construction requirements.
STA. 403+80.00
BEGIN JOB CA202
LOG MILE 17.50

STA. 491+03.04
BEGIN CONSTRUCTION

TRAFFIC DRUMS SPACED 50' ON CENTER

TRAFFIC DRUMS SPACED 20' ON CENTER

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

4" WHITE CONSTRUCTION PAVEMENT MARKING

Hwy. 82 (Stage 2 Mot)
P1 = 547+34.04
A = 547+34.06
C = 547+34.08
D = 547+34.10

Pt = 548+25.00
Pt = 548+42.97
PT = 549+69.52

L = 253+29
PC = 548+42.99
PT = 550+95.88
NO SUPER

STA. 555

TRAFFIC DRUMS SPACED 20' ON CENTER

Hwy. 82 (Stage 2 Mot)
P1 = 551+39.52
A = 551+40.54
C = 551+41.56
D = 551+42.58

Pt = 552+25.00
Pt = 552+42.97
PT = 553+50.00

L = 252+29
PC = 552+42.99
PT = 554+95.88
NO SUPER

STA. 560

TRAFFIC DRUMS SPACED 50' ON CENTER

Hwy. 82 (Stage 2 Mot)
P1 = 555+39.52
A = 555+40.54
C = 555+41.56
D = 555+42.58

Pt = 556+25.00
Pt = 556+42.97
PT = 557+50.00

L = 252+29
PC = 556+42.99
PT = 558+95.88
NO SUPER

STA. 565

TRAFFIC DRUMS SPACED 50' ON CENTER

Hwy. 82 (Stage 2 Mot)
P1 = 561+39.52
A = 561+40.54
C = 561+41.56
D = 561+42.58

Pt = 562+25.00
Pt = 562+42.97
PT = 563+50.00

L = 252+29
PC = 562+42.99
PT = 564+95.88
NO SUPER

STAGE 2 LT. SIDE
MAINTENANCE OF TRAFFIC DETAILS

Hwy. 82 (Stage 2 Mot)
P1 = 559+39.52
A = 559+40.54
C = 559+41.56
D = 559+42.58

Pt = 560+25.00
Pt = 560+42.97
PT = 561+50.00

L = 252+29
PC = 560+42.99
PT = 562+95.88
NO SUPER

STAGE 2 LT. SIDE
MAINTENANCE OF TRAFFIC DETAILS
MAINTENANCE OF TRAFFIC DETAILS

- **C. HwY. 82**
  - Pt. 580+16.52
  - D: 38°0'0" LT
  - T: 79°0'0"
  - L: 3.02
  - E: 570+08.53
  - Pt. 587+21.49
  - R: 0.093'
  - LS: 630'

- **TRAFFIC DRUMS SPACED 20' ON CENTER**
  - **Const. Limits**
  - **Const. Ends**

- **TRAFFIC DRUMS SPACED 20' ON CENTER**
  - **Const. Limits**
  - **Const. Ends**

- **4" WHITE CONSTRUCTION PAVEMENT MARKING**
  - **4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING**

- **RELOCATING 100' P.L.C.B.**
  - **End Units**

- **STAGE 2 LT. SIDE**
  - **MAINTENANCE OF TRAFFIC DETAILS**
MAINTENANCE OF TRAFFIC DETAILS

- Traffic drums spaced 20' on center
- 4" double yellow construction pavement marking
- 4" white construction pavement marking
- Traffic drums spaced 50' on center
- 6" white construction pavement marking

Stages:

Stage 2 LT. SIDE

- Relocating 40' P.C.C.B. + 12' end units
- Relocating 40' P.C.C.B. + 12' end units

Construction Details:

- Traffic drums spaced 20' on center
- 4" double yellow construction pavement marking
- 4" white construction pavement marking
- Traffic drums spaced 50' on center
MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS SPACED 20' ON CENTER

4" WHITE CONSTRUCTION PAVEMENT MARKING

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

STA. 635+98.00
END CONSTRUCTION

STA. 682+80.55 C.L. HWY. 82
STA. 538+85.99 C.L. HWY. 52W
Δ = 73° 48' 36"

STA. 685+00 C.L. HWY. 82

TRAFFIC DRUMS SPACED 20' ON CENTER

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

4" WHITE CONSTRUCTION PAVEMENT MARKING

675
680
685
665

STAGE 2 LT. SIDE
MAINTENANCE OF TRAFFIC DETAILS
MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS SPACED 20' ON CENTER

TRAFFIC DRUMS SPACED 50' ON CENTER

4" WHITE CONSTRUCTION PAVEMENT MARKING

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

RELOCATING 80' PVC, 5' END UNITS

SIDE OF TRAFFIC

STAGE 2 LT. SIDE

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2 LT. SIDE
MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS SPACED 20' ON CENTER

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

4" WHITE CONSTRUCTION PAVEMENT MARKING

4" WHITE CONSTRUCTION PAVEMENT MARKING

TRAFFIC DRUMS SPACED 50' ON CENTER

TRAFFIC DRUMS SPACED 50' ON CENTER
PERMANENT PAVEMENT MARKING DETAILS

<table>
<thead>
<tr>
<th>Pavement Marking Type</th>
<th>Length (Linear Feet)</th>
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<tbody>
<tr>
<td>6&quot; Yellow Solid Line on Islands</td>
<td>228 lin. ft.</td>
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<tr>
<td>6&quot; White Solid Line on Islands</td>
<td>863 lin. ft.</td>
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<tr>
<td>Arrows</td>
<td>8 each</td>
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<tr>
<td>Words</td>
<td>5 each</td>
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<tr>
<td>Raised Pavement Markers (80°F C.)</td>
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<tr>
<td>Type II (Yellow/White)</td>
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<tr>
<td>Type II (White/Red)</td>
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<tr>
<td>Note: All conflicting existing pavement markings are to be removed.</td>
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THERMOPLASTIC PAVEMENT MARKINGS:

- 6" Yellow Skip Line = 1390 lin. ft.
- 6" Yellow Solid Line = 5509 lin. ft.
- 6" White Skip Line = 4622 lin. ft.
- 6" Double Yellow Solid Line = 3259 lin. ft.
- 8" White Dotted Line = 150 lin. ft.
- 8" White Solid Line = 2082 lin. ft.
- 0" White Hash = 267 lin. ft.

REFLECTORIZED PAINT PAVEMENT MARKINGS:

- 0" Yellow Solid Line on Islands = 228 lin. ft.
- 0" White Solid Line on Islands = 863 lin. ft.
- Arrows = 8 each
- Words = 5 each

RACED PAVEMENT MARKERS (80°F C.):

- Type II (Yellow/White) = 774 each
- Type II (White/Red) = 735 each

NOTE: All conflicting existing pavement markings are to be removed.
PERMANENT PAVEMENT MARKING DETAILS

6" WHITE THERMOPLASTIC SOLID LINE WITH RAISED PAVEMENT MARKERS (TYPE II) (80', 0.C.)

6" YELLOW THERMOPLASTIC SOLID LINE WITH RAISED PAVEMENT MARKERS (TYPE II) (80', 0.C.)

6" DOUBLE YELLOW THERMOPLASTIC

6" WHITE THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II) (80', 0.C.)

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II) (80', 0.C.)

6" WHITE THERMOPLASTIC SOLID LINE

6" DOUBLE YELLOW THERMOPLASTIC

6" WHITE THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II) (80', 0.C.)

6" WHITE THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

PERMANENT PAVEMENT MARKING DETAILS
PERMANENT PAVEMENT MARKING DETAILS

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE 13/80" G.C.)

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE 13/80" G.C.)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

C.L. HWY. 82
PL 587+21.49
A: 36'-3'-07"
LT: 0'-00'-00"
D: 0'-00'-00"
I: 472.59'
E: 0.093'/'
LS: 630'

PC = 578+08.53
PT = 587+21.49

LS = 630

PL = 582+81.12
A = 36'-3'-07"
LT = 0'-00'-00"
D = 0'-00'-00"
I = 472.59'
E = 0.093'/'
LS = 630

C.L. HWY. 82
PL 580+00
A: 36'-3'-07"
LT: 0'-00'-00"
D: 0'-00'-00"
I: 472.59'
E: 0.093'/'
LS: 630'

PC = 578+08.53
PT = 587+21.49

LS = 630

PL = 582+81.12
A = 36'-3'-07"
LT = 0'-00'-00"
D = 0'-00'-00"
I = 472.59'
E = 0.093'/'
LS = 630

C.L. HWY. 82
PL 587+21.49
A: 36'-3'-07"
LT: 0'-00'-00"
D: 0'-00'-00"
I: 472.59'
E: 0.093'/'
LS: 630'

PC = 578+08.53
PT = 587+21.49

LS = 630

PL = 582+81.12
A = 36'-3'-07"
LT = 0'-00'-00"
D = 0'-00'-00"
I = 472.59'
E = 0.093'/'
LS = 630
PERMANENT PAVEMENT MARKING DETAILS

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/III/IV)
6" YELLOW THERMOPLASTIC SOLID LINE
6" WHITE THERMOPLASTIC SOLID LINE
6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/III/IV)
6" YELLOW THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/III/IV)
6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/III/IV)
6" YELLOW THERMOPLASTIC SOLID LINE
6" WHITE THERMOPLASTIC SOLID LINE
6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/III/IV)
6" YELLOW THERMOPLASTIC SOLID LINE
6" WHITE THERMOPLASTIC SOLID LINE

REVISED DATE: OCT 20 2023
FILM NO.: 75756

PERMANENT PAVEMENT MARKING DETAILS

5° BREAK IN SKIP LINE AND CENTER TURN LANE AT EVERY COUNTY ROAD AND CITY STREET.
BREAK EDGE LINE AT RADIUS OF EVERY COUNTY ROAD AND CITY STREET.
PERMANENT PAVEMENT MARKING DETAILS

6" WHITE THERMOPLASTIC SKIP LINE
WITH RAISED PAVEMENT MARKERS
(TYPE III'180' O.C.)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE
WITH RAISED PAVEMENT MARKERS
(TYPE III'180' O.C.)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE
WITH RAISED PAVEMENT MARKERS
(TYPE III'180' O.C.)

6" YELLOW THERMOPLASTIC SOLID LINE
PERMANENT PAVEMENT MARKING DETAILS

- 6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II-180 O.C.)
- 6" YELLOW THERMOPLASTIC SOLID LINE
- 6" WHITE THERMOPLASTIC SOLID LINE
- 6" YELLO THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II-180 O.C.)
- 6" YELLOW THERMOPLASTIC SOLID LINE
- 6" WHITE THERMOPLASTIC SOLID LINE

STA. 682+60.55 C.L. HWY. 82
STA. 538+85.99 C.L. HWY. 52W
\[ \Delta = 73' 48' 38" \]
PERMANENT PAVEMENT MARKING DETAILS

C. HwY. 82
6" WHITE THERMOPLASTIC SKIP LINE
WITH RAISED PAVEMENT MARKERS
(TYPE III 180° O.C.)

690

C. HwY. 82
6" YELLOW THERMOPLASTIC
SOLID LINE

695

C. HwY. 82
6" WHITE THERMOPLASTIC
SOLID LINE

700

PERMANENT PAVEMENT MARKING DETAILS

C. HwY. 82
6" WHITE THERMOPLASTIC SKIP LINE
WITH RAISED PAVEMENT MARKERS
(TYPE III 180° O.C.)

705

C. HwY. 82
6" YELLOW THERMOPLASTIC
SOLID LINE

710

C. HwY. 82
6" WHITE THERMOPLASTIC
SOLID LINE

715

PERMANENT PAVEMENT MARKING DETAILS
PERMANENT PAVEMENT MARKING DETAILS

HWY. 82

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

WITH RAISED PAVEMENT MARKERS
(TYPE 10-180 - O.C.)

6" WHITE THERMOPLASTIC SKIP LINE

C.L. HWY. 82

6" YELLOW THERMOPLASTIC SKIP LINE

WITH RAISED PAVEMENT MARKERS
(TYPE 10-180 - O.C.)

C.L. HWY. 82

PC = 724+07.78
PT = 743+98.37
R = +0.023'/'
LS = 540'

HWY. 82

PC = 734+08.75
PT = 751+72.5
R = +0.023'/'
LS = 540'

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE

WITH RAISED PAVEMENT MARKERS
(TYPE 10-180 - O.C.)

C.L. HWY. 82

PC = 740+18.69
PT = 760+00.00
R = +0.000'
LS = 540'

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE

WITH RAISED PAVEMENT MARKERS
(TYPE 10-180 - O.C.)

C.L. HWY. 82

PC = 745+03.92
PT = 760+00.00
R = +0.000'
LS = 540'

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE

WITH RAISED PAVEMENT MARKERS
(TYPE 10-180 - O.C.)

C.L. HWY. 82

PC = 750+04.14
PT = 770+00.00
R = +0.000'
LS = 540'

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE

WITH RAISED PAVEMENT MARKERS
(TYPE 10-180 - O.C.)

C.L. HWY. 82

PC = 755+04.46
PT = 770+00.00
R = +0.000'
LS = 540'

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE

WITH RAISED PAVEMENT MARKERS
(TYPE 10-180 - O.C.)

C.L. HWY. 82

PC = 760+04.78
PT = 780+00.00
R = +0.000'
LS = 540'
PERMANENT PAVEMENT MARKING DETAILS

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS
(TYPE III 180°C)

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS
(TYPE III 180°C)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SKIP LINE

6" WHITE THERMOPLASTIC SOLID LINE

PERMANENT PAVEMENT MARKING DETAILS
PERMANENT PAVEMENT MARKING DETAILS

- 6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/IBI O.C.)

- 6" YELLOW THERMOPLASTIC SOLID LINE

- 6" WHITE THERMOPLASTIC SOLID LINE

- 6" YELLOW THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/IBI O.C.)

- 6" WHITE THERMOPLASTIC SOLID LINE

- 6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/IBI O.C.)

- 6" YELLOW THERMOPLASTIC SOLID LINE

- 6" WHITE THERMOPLASTIC SOLID LINE

- 6" YELLOW THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II/IBI O.C.)
PERMANENT PAVEMENT MARKING DETAILS

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SOLID LINE

6" YELLOW THERMOPLASTIC SOLID LINE

6" WHITE THERMOPLASTIC SKIP LINE WITH RAISED PAVEMENT MARKERS (TYPE II)
### ADVANCE WARNING SIGNS AND DEVICES

<table>
<thead>
<tr>
<th>SIGN NUMBER</th>
<th>DESCRIPTION</th>
<th>SIGN SIZE</th>
<th>STAGE 1</th>
<th>STAGE 2</th>
<th>MAXIMUM NUMBER REQUIRED</th>
<th>TOTAL SIGN REQUIRED</th>
<th>VERTICAL PANELS</th>
<th>TRAFFIC DRUMS</th>
<th>BARRIERS (TYPE II)</th>
<th>FURNISHING &amp; INSTALLING PRECAST CONCRETE BARRIERS</th>
<th>RELOCATING PRECAST CONCRETE BARRIER</th>
<th>CONSTRUCTION PROJECT INFORMATION SIGN UPDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L02-1</td>
<td>ROAD WORK, 150 FT.</td>
<td>48&quot;x48&quot;</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>80.0</td>
<td></td>
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<tr>
<td>L02-2</td>
<td>ROAD WORK, 300 FT.</td>
<td>48&quot;x48&quot;</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>80.0</td>
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</tr>
<tr>
<td>L02-3</td>
<td>ROAD WORK AHEAD</td>
<td>48&quot;x48&quot;</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>178.0</td>
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<tr>
<td>R02-2</td>
<td>END ROAD WORK</td>
<td>60&quot;x24&quot;</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>120.0</td>
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<tr>
<td>R02-5</td>
<td>ROAD WORK NEXT 5 MILES</td>
<td>60&quot;x24&quot;</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>30.0</td>
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<tr>
<td>N02-1</td>
<td>ROAD CLOSED</td>
<td>48&quot;x48&quot;</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>190.0</td>
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<tr>
<td>N02-2</td>
<td>X-CURVE, REVERSE CURVE RT</td>
<td>48&quot;x48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>20.0</td>
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<tr>
<td>N02-3</td>
<td>X-CURVE, REVERSE CURVE LT</td>
<td>48&quot;x48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>20.0</td>
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<tr>
<td>N02-4</td>
<td>DO NOT PASS</td>
<td>26&quot;x36&quot;</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>200.0</td>
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<tr>
<td>N02-8</td>
<td>RIGHT SHOULDER CLOSED</td>
<td>26&quot;x36&quot;</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>100.0</td>
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<tr>
<td>O02-1</td>
<td>BUMP</td>
<td>36&quot;x36&quot;</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>40.0</td>
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<tr>
<td>E11-4</td>
<td>SCAFFOLD DROP OFF</td>
<td>36&quot;x36&quot;</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>100.0</td>
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<tr>
<td>TF</td>
<td>CONSTRUCTION PROJECT INFORMATION SIGN</td>
<td>96&quot;x48&quot;</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>150.0</td>
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<td>TF</td>
<td>SPECIAL CONSTRUCTION PROJECT INFORMATION SIGN UPDATE</td>
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</tr>
</tbody>
</table>

**TOTALS:** 1363.0 144 144 144 144 144 144 144 1362 1362 1362 1362

**NOTE:** This is a high traffic volume road as defined in Section 604.03, Standard Specifications for Highway Construction, 2014 edition.

The quantity of vertical panels provided in the contract is for one side of the roadway for 2 miles. This is the maximum quantity required to allow the contractor to notch one mile, backfill to a point where the vertical differential is 4" or less, and then notch another one mile section. This is the maximum number of vertical panels that will be paid for. Refer to Section 605.02 of the Standard Specifications for Construction Requirements.

### CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>STAGE 1</th>
<th>STAGE 2</th>
<th>END OF JOB</th>
<th>REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS</th>
<th>REMOVAL OF PERMANENT PAVEMENT MARKINGS</th>
<th>CONSTRUCTION PAVEMENT MARKINGS</th>
<th>RAISED PAVEMENT MARKERS</th>
<th>THERMOPLASTIC PAVEMENT MARKING</th>
<th>REFLECTORIZED PAINT PAVEMENT MARKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTRUCTION PAVEMENT MARKINGS</td>
<td>66805</td>
<td>119760</td>
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<tr>
<td>REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS</td>
<td>2540</td>
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<tr>
<td>REMOVAL OF PERMANENT PAVEMENT MARKINGS</td>
<td>3200</td>
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<tr>
<td>RAISED PAVEMENT MARKERS TYPE 8 (WHITE)</td>
<td>119760</td>
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<tr>
<td>RAISED PAVEMENT MARKERS TYPE 9 (YELLOW)</td>
<td>37460</td>
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<td>13001</td>
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<td>37460</td>
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**TOTALS:** 37460 37460 139760 735 774 76915 73287 2692 267 3 8 3 220

**NOTE:** This is a high traffic volume road as defined in Section 604.03, Standard Specifications for Highway Construction, 2014 edition.

---

**QUANTITIES**
### Removal and Disposal of Culverts

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
<th>Pier Culverts Each</th>
<th>Box Culverts Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24' x 60' C.P. PIPE CULVERT RT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>24' x 60' C.P. PIPE CULVERT LT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>24' x 60' C.P. PIPE CULVERT RT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>24' x 60' C.P. PIPE CULVERT LT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>24' x 60' C.P. PIPE CULVERT RT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>24' x 60' C.P. PIPE CULVERT LT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>24' x 60' C.P. PIPE CULVERT RT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>24' x 60' C.P. PIPE CULVERT LT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>24' x 60' C.P. PIPE CULVERT RT.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>24' x 60' C.P. PIPE CULVERT LT.</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Removal and Disposal of Items

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Concrete Painting</th>
<th>Concrete Dressing</th>
<th>Smw Foundations</th>
<th>Signs</th>
<th>Pole and Foundation</th>
<th>Lumber Pole and Foundation</th>
<th>Decorative Lights</th>
<th>Posts</th>
<th>Rock Column</th>
<th>Planters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SQ. YD.</td>
<td>SQ. YD.</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
</tr>
</tbody>
</table>

### Quantities

**TOTALS:**

- 786+48
- 794+60
- 796+72
- 800+00
- 802+12
- 804+24
- 806+36
- 808+48
- 810+60
- 812+72
- 814+84
- 816+96
- 818+08
- 820+20
- 822+32
- 824+44
- 826+56
- 828+68
- 830+80
- 832+92
- 834+04
- 836+16
- 838+28
- 840+40
- 842+52
- 844+64
- 846+76
- 848+88
- 850+00
- 852+12
- 854+24
- 856+36
- 858+48
- 860+60
- 862+72
- 864+84
- 866+96
- 868+08
- 870+20
- 872+32
- 874+44
- 876+56
- 878+68
- 880+80
- 882+92
- 884+04
- 886+16
- 888+28
- 890+40
- 892+52
- 894+64
- 896+76
- 898+88
- 900+00
- 902+12
- 904+24
- 906+36
- 908+48
- 910+60
- 912+72
- 914+84
- 916+96
- 918+08
- 920+20
- 922+32
- 924+44
- 926+56
- 928+68
- 930+80
- 932+92
- 934+04
- 936+16
- 938+28
- 940+40
- 942+52
- 944+64
- 946+76
- 948+88
- 950+00
- 952+12
- 954+24
- 956+36
- 958+48
- 960+60
- 962+72
- 964+84
- 966+96
- 968+08
- 970+20
- 972+32
- 974+44
- 976+56
- 978+68
- 980+80
- 982+92
- 984+04
- 986+16
- 988+28
- 990+40
- 992+52
- 994+64
- 996+76
- 998+88

**NOTES:**
- Quantities shown above shall include removal and disposal of all headwalls and flared end sections if applicable.
- Removal and disposal of box culvert shall be furnished and placed by state forces.

---

### Cold Milling Asphalt Paving

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Avg. Width</th>
<th>Cold Milling Asphalt Payment</th>
<th>TFEET</th>
<th>SQ. YD.</th>
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<tbody>
<tr>
<td>303+50</td>
<td>HWY 405</td>
<td>93</td>
<td>840 LT.</td>
<td>2</td>
<td>114</td>
</tr>
<tr>
<td>307+20</td>
<td>HWY 405</td>
<td>93</td>
<td>840 LT.</td>
<td>2</td>
<td>114</td>
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<tr>
<td>311+50</td>
<td>HWY 405</td>
<td>93</td>
<td>840 LT.</td>
<td>2</td>
<td>114</td>
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<tr>
<td>315+20</td>
<td>HWY 405</td>
<td>93</td>
<td>840 LT.</td>
<td>2</td>
<td>114</td>
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</table>

**TOTAL:**

- 1944

**NOTE:**
- Average milling depth 5".
### Erosion Control

#### Permanent Erosion Control

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<tbody>
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<td>ACRE</td>
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<td>ACRE</td>
<td>ACRE</td>
<td>ACRE</td>
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<td>ACRE</td>
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<td>ACRE</td>
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<tr>
<td>Entire Project Stage 1</td>
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<td>19.75</td>
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**Basis of Estimate:**
- 2 Tons/Acre of Seeding
- 100.0 M.G./Acre of Seeding
- 20.4 M.G./Acre of Temporary Seeding
- 22 Bags/Location
- 3 Bags/Location
- 1 Cubic Yard/Location

**Note:** The temporary erosion control devices shown above and on the plans shall be installed in such a sequence as to deter erosion and sedimentation on U.S. waterways as explained by the national pollutant discharge elimination system permit.

### Mailboxes

<table>
<thead>
<tr>
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<th>Mailbox Supports</th>
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<td></td>
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**Total:** 33

### Selected Pipe Bedding

#### Geotechnical Fabric

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**Total:** 1

### Culvert Clean Out

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**Total:** 3

### Clearing and Grubbing

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<th>GY YD</th>
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</thead>
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<td>406+00</td>
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<td>406+10</td>
<td>HWY 02</td>
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<td>406+19</td>
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<td>406+47</td>
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<td>406+79</td>
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**To be used if and when directed by the Engineer.

### Flowable Select Material

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</table>

**To be used if and when directed by the Engineer.

### Quantities

**Quantities:**
- See Section 104.03 of the Std. Specs.
### Soil Log (Box 1 of 2)

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>DEPTH</th>
<th>LIQUID LIMIT</th>
<th>PLASTICITY INDEX</th>
<th>ASHIFT CLASSIFICATION</th>
<th>COLOR</th>
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</thead>
<tbody>
<tr>
<td>547-00</td>
<td>29' RT</td>
<td>0.15</td>
<td>A-6</td>
<td>ROUGH &amp; TN</td>
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### Soil Log (Box 2 of 2)

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<th>LOCATION</th>
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<th>LIQUID LIMIT</th>
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<th>ASHIFT CLASSIFICATION</th>
<th>COLOR</th>
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</thead>
<tbody>
<tr>
<td>547-01</td>
<td>29' RT</td>
<td>0.15</td>
<td>A-6</td>
<td>ROUGH &amp; TN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DUMPED RIPRAP AND FILTER BLANKET

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<th>DUMPED RIPRAP FILTER BLANKET</th>
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</tbody>
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### ACIM Patching of Existing Roadway

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<td>ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER</td>
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### CONCRETE ISLAND

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### Asphalt Concrete Patching for Maintenance of Traffic

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<th>TACK COAT</th>
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<tr>
<td></td>
<td>DOLLAR</td>
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### Pavement Repair over Culverts (Asphalt T)

<table>
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<th>STATION LOCATION</th>
<th>WIDTH</th>
<th>LENGTH</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>TOTAL:</td>
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</table>

### Quantities

<table>
<thead>
<tr>
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<th>QUANTITY</th>
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<tbody>
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<td></td>
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</table>

### Notes

- SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE OF THE LOCATION OF THE SAMPLE AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS.
- THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.
- NP = NON-PLASTIC.

---

**ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC**

**PAVEMENT REPAIR OVER CULVERTS (ASPHALT T)**
### REMOVAL AND DISPOSAL OF FENCE

<table>
<thead>
<tr>
<th>STATION</th>
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<th>FENCE</th>
<th>GATES</th>
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</thead>
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<tr>
<td>514-62</td>
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<td></td>
</tr>
<tr>
<td>514-62</td>
<td>HWY 82-1</td>
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<tr>
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### FENCE REMOVED AND RECONSTRUCTED

<table>
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<th>LOCATION</th>
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<th>GATES REMOVED AND RECONSTRUCTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>514-62</td>
<td>HWY 82-1</td>
<td>358</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>358</td>
<td>2</td>
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</table>

### FENCING

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<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>WIRE FENCE</th>
<th>2&quot; CHAIN LINK FENCE</th>
<th>36&quot;-42&quot; FENCE</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### RUMBLE STRIPS IN ASPHALT SHOULDER

<table>
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<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>RUMBLE STRIPS IN ASPHALT SHOULDER</th>
</tr>
</thead>
<tbody>
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### STRUCTURES

<table>
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<th>CLASS</th>
<th>DROP INLET</th>
<th>SPAN</th>
<th>HEIGHT</th>
<th>BASE</th>
<th>UNLOC. EXC. FOR VTN. ROADWAY</th>
<th>SOLD SODDING</th>
<th>WATER</th>
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</thead>
<tbody>
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<td></td>
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</table>

### QUANTITIES

- **NOTE:** FOR C, IV. PIPE CULVERT INSTALLATIONS USE TOTALS:
  - 76 148
- **BASIS OF ESTIMATE:**
  - TOTALS:
  - 9

- **NOTE:** CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL, ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NEEDED TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF CHAIN LINK FENCE.
### DRIVEWAYS & TURNOUTS (BOX 1 OF 2)

<table>
<thead>
<tr>
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<th>SIDE</th>
<th>LOCATION</th>
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<td>LT</td>
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</tr>
<tr>
<td>559/57</td>
<td>RT</td>
<td>HWY 82</td>
</tr>
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<td>559/74</td>
<td>LT</td>
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</tr>
<tr>
<td>563/57</td>
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<td>HWY 82</td>
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<tr>
<td>563/74</td>
<td>LT</td>
<td>HWY 82</td>
</tr>
<tr>
<td>573/57</td>
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### DRIVEWAYS & TURNOUTS (BOX 2 OF 2)

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### CONCRETE DITCH PAYING

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<th>WATER</th>
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**TOTAL:** 324.00

**NOTE:**
- BASIS OF ESTIMATE: ADJUST SURFACE COURSE (1/2") 94.0% MIN. AGG.
- SOIL SODDING: 3% ASPHALT Binder
- BURIED LINE: 115 FOR PG 64-22
- SUBTOTAL: 403.19

---

**QUANTITIES**

- CONCRETE DITCH PAYING: 324.00
- SOIL SODDING: 100.00
- WATER: 162.00
## BASE AND SURFACING (BOX 2 OF 2)

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### SUMMARY OF QUANTITIES (BOX 1 OF 2)

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<td>SAFETY BARRIERS</td>
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<td>TRAFFIC SHIAMS</td>
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### SUMMARY OF QUANTITIES (BOX 2 OF 2)

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*DENOTES ALTERNATE BID ITEMS.
Positional Accuracy: Horiz. - GPS (1.0 meter [HME])  
Ver.- NoS 1st Order (0.05 meter [VHE])
Ver.- NoS 3rd Order (0.10 meter [VHE])

Vertical Datum: NAVD 88 (WGS 84)

Basis of Bearing: Northings and Eastings are derived as "as built" from control points of the original survey and are referenced to the State Plane Coordinate System (SPCS) of 1983.

Survey Control Details: 
- Control fabric maintained by surveyor and by owner. 
-gonométrisme de la carte. 
- Les coordonnées de contrôle seront communiquées à l'utilisateur dans le format approprié. 
- Les valeurs seront prises lors des contrôles de la carte, et l'ensemble du réseau de contrôle sera représenté par un réseau de points de contrôle. 
- La valeur de 0.032 est l'erreur absolue du contrôle. 
- L'erreur absolue du contrôle est de 0.032.
- Les coordonnées de contrôle seront communiquées à l'utilisateur dans le format approprié. 
- Les valeurs seront prises lors des contrôles de la carte, et l'ensemble du réseau de contrôle sera représenté par un réseau de points de contrôle. 
- La valeur de 0.032 est l'erreur absolue du contrôle. 
- L'erreur absolue du contrôle est de 0.032.
### CAESIC CL - HIGHWAY 640

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### SURVEY CONTROL DETAILS
STA 630+93 - INSTALL
18" x 42' PRE-CULVERT
RT. SIDE DRAIN
CONTR. APPR. = 60 CU YD.

STA 635+83 - INSTALL
18" x 42' PRE-CULVERT
RT. SIDE DRAIN
CONTR. APPR. = 67 CU YD.
UNCLASSIFIED EXCAVATION = 20 CY UNCLASSIFIED EXCAVATION

THIS STREAM IS CLASSIFIED AS EPHEMERAL.
THE TOP OF BANK ELEVATION IS 143.95 ft MSL.
REFER TO SECTION 2001 DI01 TEMPO; temporary fill of the 2014 STANDARD SPECIFICATIONS.

EXISTING GROUND @ CL.

PROFILE GRADE

FILL, banks ML, HR, HR, 30
FILL, FILL OUTLET ISLAND

125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146
389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412

625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.
STA 659+61 - IN PLACE
69' x 25' C.P., PIPE CULVERT
LT. SIDE DRAIN - REMOVE
INSTALL 69' x 25' PPE CULVERT
LT. SIDE DRAIN
CONST. APPR. > 68 CU.YD.

STA 661+00 - IN PLACE
24' x 24' C.A. PIPE CULVERT
RT. SIDE DRAIN - REMOVE
INSTALL 24' x 25' PPE CULVERT
RT. SIDE DRAIN
CONST. APPR. > 68 CU.YD.
UNCLASSIFIED EXCAV. > 5 CU.YD.

CONCRETE DITCH PAVING
675+00 675+50 LT. 6 6 350
675+00 675+50 RT. 8 8 350

C.R. HWY. 82
P. H.W. 82
A. 1' 18.724' ST.
B. 0' 0.00' 00'
L. 842.177
C. 672+18.52
D. 672+14.33
E. 0.14'
F. 578+74
G. 578+58
H. 578+32

STA 675+00 - IN PLACE
24' x 25' C.P. PIPE CULVERT
RT. SIDE DRAIN - REMOVE
INSTALL 24' x 25' PPE CULVERT
RT. SIDE DRAIN
CONST. APPR. > 68 CU.YD.
UNCLASSIFIED EXCAV. > 5 CU.YD.

PLAN & PROFILE - HWY. 82

PROPOSED R/W

EXIST. R/W

CUR T readings

505' V.C.

505' V.C.

505' V.C.

505' V.C.

EXIST. R/W

C.R. HWY. 82
P. H.W. 82
A. 1' 18.724' ST.
B. 0' 0.00' 00'
L. 842.177
C. 672+18.52
D. 672+14.33
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STA 659+61 - IN PLACE
69' x 25' C.P., PIPE CULVERT
LT. SIDE DRAIN - REMOVE
INSTALL 69' x 25' PPE CULVERT
LT. SIDE DRAIN
CONST. APPR. > 68 CU.YD.

STA 661+00 - IN PLACE
24' x 24' C.A. PIPE CULVERT
RT. SIDE DRAIN - REMOVE
INSTALL 24' x 25' PPE CULVERT
RT. SIDE DRAIN
CONST. APPR. > 68 CU.YD.

CONCRETE DITCH PAVING
675+00 675+50 LT. 6 6 350
675+00 675+50 RT. 8 8 350

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D. 672+14.33
E. 0.14'
F. 578+74
G. 578+58
H. 578+32

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24' x 25' C.P. PIPE CULVERT
RT. SIDE DRAIN - REMOVE
INSTALL 24' x 25' PPE CULVERT
RT. SIDE DRAIN
CONST. APPR. > 68 CU.YD.
UNCLASSIFIED EXCAV. > 5 CU.YD.

PLAN & PROFILE - HWY. 82

PROPOSED R/W

EXIST. R/W

CUR T readings

505' V.C.

505' V.C.

505' V.C.

505' V.C.
STATION NO. 702+32 IN PLACE
42.24' AT R.C. BOX CULVERT
REPLACE R.C. BOX CULVERT.
REPLACE 42.24' AT R.C.
RETAIN AND EXTEND.
MEASURE LENGTH 200 FT.
NOTE: DRAW TO SCALE.
COMPLETE LENGTH 600 FT.
D.A. = 40.99 FT.
AC = 28.95 AC
CALCULATE EXCAVATION.

THIS STREAM IS CLASSIFIED AS EPHEMERAL.
THE TOP OF CHANNEL ELEVATION 2.54 FT.
MEASURE TO EIGHT FEET DEEP.
PERFORM EXCAVATION TO TEMPORARY FILL OF THE
JOB STANDARD SPECIFICATIONS.

EXISTING GROUND & CL.

PROPOSED R/W

PRESERVE VEGETATION

APPROX. LIMITS SPECIAL FLOOD HAZARD AREA

PRESERVE VEGETATION

REPLY TO SURVEY CONTROL, DETAIL SHEETS FOR HORIZONTAL AND
VERTICAL CONTROL DATA.

ERY. 82

PLAN & PROFILE - HWY. 82

STATE OF
ARKANSAS

REGISTERED
PROFESSIONAL
ENGINEER

15560

JOB NO. CAO202

Page 1

 filled byrne before the

PLANS PREPARED TO SCALE 1 FT = 10 INCHES.
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

THE STREAM IS CLASSIFIED AS PERMANENT. THE TOP OF CHANNEL ELEVATION IS 9.75 FT. MSL. REFER TO SECTION 8320-02 TEMPORARY EIL OF THE 2014 STANDARD SPECIFICATIONS.
Refer to survey control detail sheets for horizontal and vertical control data.
STAGE 2 CONSTRUCTION
STAGE 2 CONSTRUCTION
STAGE 1 CONSTRUCTION

AREA CUT = 55.7 SQ. FT.
AREA FILL = 1.1 SQ. FT.

AREA CUT = 39.6 SQ. FT.
AREA FILL = 18.3 SQ. FT.

AREA CUT = 41.5 SQ. FT.
AREA FILL = 26.5 SQ. FT.

AREA CUT = 66.6 SQ. FT.
AREA FILL = 0.5 SQ. FT.

AREA CUT = 40.2 SQ. FT.
AREA FILL = 24.8 SQ. FT.
STAGE 1

AREA CUT = 61.8 SQ. FT.
AREA FILL = 18.3 SQ. FT.
STAGE 2

CROSS SECTION STA 573+00 TO STA 575+00

CROSS SECTIONS
CROSS SECTION STA. 653+00 TO STA. 653+00

STAGE 2 CONSTRUCTION

STAGE 1 CONSTRUCTION

AREA CUT + 21.2 SQ. FT.
AREA CUT + 26.5 SQ. FT.
AREA FILL + 45.2 SQ. FT.
AREA FILL + 62.2 SQ. FT.

653+00

CUT VOLUME + 92 CU. YD.
FILL VOLUME + 144 CU. YD.

CUT VOLUME + 106 CU. YD.
FILL VOLUME + 229 CU. YD.

AREA CUT + 28.5 SQ. FT.
AREA CUT + 31.0 SQ. FT.
AREA FILL + 46.7 SQ. FT.
AREA FILL + 61.7 SQ. FT.

652+00

CUT VOLUME + 125 CU. YD.
FILL VOLUME + 54 CU. YD.

CUT VOLUME + 115 CU. YD.
FILL VOLUME + 110 CU. YD.

AREA CUT + 36.7 SQ. FT.
AREA CUT + 37.9 SQ. FT.
AREA FILL + 45.5 SQ. FT.
AREA FILL + 60.5 SQ. FT.

651+10

CUT VOLUME + 11 CU. YD.
FILL VOLUME + 2 CU. YD.

CUT VOLUME + 14 CU. YD.
FILL VOLUME + 13 CU. YD.

STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

CROSS SECTIONS
CROSS SECTIONS

AREA CUT + 13.3 SQ. FT.
AREA FILL + 38.4 SQ. FT.
AREA CUT + 6.7 SQ. FT.
AREA FILL + 74.9 SQ. FT.

STAGE 2 CONSTRUCTION

STAGE 1 CONSTRUCTION

OUT VOLUME + 44 CU. YD.
FILL VOLUME + 163 CU. YD.
FILL VOLUME + 257 CU. YD.

CROSS SECTION STA. 658+00 TO STA. 658+00

AREA CUT + 10.2 SQ. FT.
AREA FILL + 49.5 SQ. FT.
AREA CUT + 14.3 SQ. FT.
AREA FILL + 63.9 SQ. FT.

OUT VOLUME + 15 CU. YD.
FILL VOLUME + 78 CU. YD.
FILL VOLUME + 49 CU. YD.

CROSS SECTION STA. 657+00 TO STA. 658+00

AREA CUT + 9.3 SQ. FT.
AREA FILL + 53.5 SQ. FT.
AREA CUT + 13.2 SQ. FT.
AREA FILL + 52.05 SQ. FT.

STAGE 1
STAGE 2

STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION

OUT VOLUME + 20 CU. YD.
FILL VOLUME + 112 CU. YD.
FILL VOLUME + 72 CU. YD.

STAGE 1:
STAGE 2:

CROSS SECTION STA. 656+59 TO STA. 658+00

STAGE 1
STAGE 2

STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION

OUT VOLUME + 29 CU. YD.
FILL VOLUME + 29 CU. YD.
STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

AREA CUT: 4.7 SQ. FT.
AREA FILL: 45.7 SQ. FT.

AREA CUT: 1.7 SQ. FT.
AREA FILL: 105.9 SQ. FT.

STAGE 1

CUT VOLUME: 26 CU. YD.
FILL VOLUME: 133 CU. YD.

STAGE 2

CUT VOLUME: 16 CU. YD.
FILL VOLUME: 346 CU. YD.

STAGE 3

CUT VOLUME: 8 CU. YD.
FILL VOLUME: 299 CU. YD.

STAGE 4

CUT VOLUME: 87 CU. YD.
FILL VOLUME: 229 CU. YD.

CROSS SECTION STA. 723+00 TO STA. 725+00
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.
- 2" 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 PAID FOR DIRECTLY BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

ENERGY DISSIPATORS

ARMS 20500-1016

TOE WALL DETAIL FOR CONCRETE DITCH PAVING

ARMS 20500-1016
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 STANDARDS. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.
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END VIEW

Concrete Arch Pipe

NOTES:
1. The measured span and rise shall not vary more than 2% per cent from the values specified by AASHTO M 206.
2. The table of dimensions and the table of arch pipe dimensions are based on the values specified by AASHTO M 206.
SECTION A-A

SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

SECTION A-A

SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: 1" DIMENSIONS AND REINFORCING BAR SIZES SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

SECTION A-A

SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

SECTION A-A

SECTION B-B

GRATE FOR TYPE E DROP INLET

NOTE: REM. BARS TO BE 4" BARS ON 8" STIRLS WITH 6" MAIL COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECT TO TRAFFIC.

SECTION A-A

SECTION B-B

APPROXIMATE TOTAL WEIGHT = 300 LBS.

SECTION A-A

SECTION B-B

HEAVY DUTY RING & COVER

SECTION A-A

SECTION B-B

JUNCTION BOX (TYPE E)

SECTION A-A

SECTION B-B

NOTE: REM. BARS TO BE 4" BARS ON 8" STIRLS WITH 6" MAIL COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECT TO TRAFFIC.

SECTION A-A

SECTION B-B

DETAIL OF YARD DRAIN

SECTION A-A

SECTION B-B

DRAIN INLET (TYPE E)

SECTION A-A

SECTION B-B

DROP INLET (TYPE E)

SECTION A-A

SECTION B-B

PLAN

NOTE: REM. BARS TO BE 4" BARS ON 8" STIRLS WITH 6" MAIL COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECT TO TRAFFIC.

SECTION A-A

SECTION B-B

NOTE: REM. BARS TO BE 4" BARS ON 8" STIRLS WITH 6" MAIL COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECT TO TRAFFIC.
Mailbox Details

GENERAL NOTES
1. Mailbox posts may be wood or metal. Wood posts shall be pressure-treated for ground contact in accordance with Section 0279.22 of the Standard Specifications.
2. Anti-twist plates shall be used only on metal posts.
3. Mailbox shelf, bracket & platform shall be galvanized or painted steel. Metal platform shall be a minimum of 1/4" thick and shall be assembled with bolted connections. Platforms shall be riveted to the bracket with 3/8" diameter, 1-1/2" long bolts. Steel shelf shall be a minimum of 1/8" thick and shall be assembled with bolted connections. Steel shelf shall be riveted to the bracket with 3/8" diameter, 1-1/2" long bolts.
4. The Mailbox shelf and platform that is shown is for standard size mailboxes. The shelf and platform size shall be modified to fit mailboxes of a different size.
5. Mailbox shelf and platform may be fabricated from 1/4" thick steel plate or 1/2" thick timber. Steel plate shall have a tolerance of +/- 1/2" according to AASHTO.
GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CONCRETE BOX CULVERT END SECTIONS AS SHOWN. CURTAIN WALLS SHALL HAVE A MINIMUM OF 2" IN PRECAST BOX.

WINGS, CURTAIN WALLS AND APRONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PRECAST CONCRETE BOX CULVERT AND CONCRETE QUANTITIES AS SHOWN. CURTAIN WALLS SHALL HAVE A MINIMUM OF 2" IN HEIGHT.

ALL EXPOSED CORNERS TO HAVE 3/8" CHAMBERS.

WINGS, CURTAIN WALLS AND APRONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

MIXTURE SHALL CONSIST OF A SAND CEMENT MATURE MEETING THE FOLLOWING REQUIREMENTS:
- PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS AS SPECIFIED IN SECTION E 161 OF THE STANDARD SPECIFICATIONS.
- SAND CEMENT MATURE SHALL CONSIST OF NOT LESS THAN 68% SAND AND NOT MORE THAN 32% CEMENT.
- THE SAND CEMENT MATURE SHAL BE PLACED IN MINIMUM 6" THICK LAYERS AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL voids.
- VINYL MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 04 00 20 4001 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO BOX CULVERT JOINTS.

THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERIOR JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER HORIZONTAL SECTIONS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT. SECTION END HOLES SHALL HAVE A MINIMUM OF 2" DETAIL AND SHALL HAVE A MINIMUM OF 2" SPACING. SECTIONS END HOLES SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" IN DIAMETER AND SHALL BE PLACED 6" ABOVE THE TOP OF THE BOTTOM SLAB.

DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT. SEE DETAILS ON THIS SHEET.

MINIMUM BARS SHALL BE 2" IN DIAMETER ON EACH SIDE OF JOINT: ON MULTIPLE JOINTS, MINIMUM BARS SHALL BE 2" IN DIAMETER ON ONE SIDE OF JOINT.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO USE ANY SUBSTITUTE MATERIAL CONFORMING TO SECTION 04 00 20 4001 OF THE STANDARD SPECIFICATIONS IN PLACE OF LEAN GIRDER.

Curtain Wall & Apron

Arkansas State Highway Commission
PreCast Concrete Box Culverts
Standard Drawing PBC-1

<table>
<thead>
<tr>
<th>BAR NO.</th>
<th>SIZE</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>J</td>
<td>4</td>
<td>1-6&quot;</td>
</tr>
<tr>
<td>L</td>
<td>4</td>
<td>3&quot;-2&quot;</td>
</tr>
</tbody>
</table>

NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT.
CONSTRUCTION SEQUENCE
1. Place structural, bedding material to grade, DO NOT COMPACT
during handling, pipe may be placed in cut, into or on trench
crossed after any, are reamed or ground, the pipe, shall not be more than the pipe in diameter of two
otherwise, pipe shall be placed in position of adjustment, and pipe shall be filled with mortar, concrete or other by
2. When directed by the Engineer, unsuitable material that is encountered at the bottom of
3. Complete backfill according to subsection bedrock.
4. If pipe is not available, use the size of "selective pipe bedrock."
CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE, DO NOT COMPACT.
2. INSTALL STRUCTURAL BEDDING)*
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
   * COMPLETE STRUCTURAL BEDDING INSTALLATION BY WORKING FROM SIDE TO SIDE
   ** UNLESS IT IS LESS THAN 24 INCHES IN DIAMETER, CORRUGATION SHALL NOT EXCEED 30 INCHES OR 3/4 TIMES THE SIZE OF THE PIPE.
** NOT EXCEPTED.

NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAIRED SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

EQUIVALENT METAL THICKNESSES AND GAUGES

<table>
<thead>
<tr>
<th>STEEL</th>
<th>Gauges</th>
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<tbody>
<tr>
<td>PINE COTATED</td>
<td>UNCOATED</td>
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<tr>
<td>ZINC</td>
<td>ZINC</td>
</tr>
<tr>
<td>TYPE</td>
<td>TYPE</td>
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<tr>
<td>0.075</td>
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** GENERAL NOTES **

1. METAL PIPE, CURVATURE CONSTRUCTION SHALL CONFORM TO ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT SPECIFICATIONS, AASHTO SPECIFICATIONS, AND THE REQUIREMENTS OF THE ENGINEER.
2. METAL PIPE TO EXIST AND NOT COMPACT.
3. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE NO MINIMUM COMPACTIBLE WITH THE OPERATION CONDITIONS.
4. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE NO MINIMUM COMPATIBLE WITH THE OPERATION CONDITIONS.
5. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE NO MINIMUM COMPATIBLE WITH THE OPERATION CONDITIONS.
6. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE NO MINIMUM COMPATIBLE WITH THE OPERATION CONDITIONS.
7. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE NO MINIMUM COMPATIBLE WITH THE OPERATION CONDITIONS.
MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>TRENCH WIDTH</th>
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MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
<tr>
<th>COVER #2</th>
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<th>COVER #4</th>
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<th>COVER #6</th>
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<td>&quot;H&quot; 20-30&quot;</td>
<td>&quot;H&quot; 30-40&quot;</td>
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<td>8&quot;</td>
<td>9&quot;</td>
<td>10&quot;</td>
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GENERAL NOTES

1. PIPE SHALL CONFORM TO ASSTI HDPE TYPE 5 INSTALLATION SHALL CONFORM TO JOB SPECIFICATION PLASTIC PIPE AND SECTION 600 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION CURRENT EDITION.

2. PLASTIC PIPE WITH DESIGN SHALL CONFORM TO ASSTI HDPE DESIGN SPECIFICATIONS FIFTH EDITION GOOD WITH ADDED INTERME.

3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM PLUS A SUITABLE WIDTH TO ENSURE WORKING ROOM FOR PROPER AND SAFELY PLACE AND COMPACT MACHINERY AND OTHER MATERIAL.

4. UNSUITABLE MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE TRENCH TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN UNPROCESSED MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.

5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH SHALL BE BOLSTERED AND NOT USED FOR PLACEMENT OF SELECTED PIPE BEDDING.

6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE MATERIAL, AND THE AREA IDENTIFIED AS STRUCTURAL BACKFILL IS COMPACTED BY THE USE OF UNCOMPACTED MACHINERY, THE AREA SHALL BE THROWN IN LIEU OF SUITABLE MATERIAL.

7. FOR PIPE TRENCHES THAT ARE NOT DETERMINED TO BE SUITABLE FOR STRUCTURAL BACKFILL, THE UNCOMPACTED MUST BE PLACED.

8. HIGH DENSITY POLYETHYLENE PIPE OF OTHER THAN SHOWN WILL NOT BE ALLOWED.

9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR S6 TOUGHNESS AS SPECIFIED IN ASSTI HDPE DESIGN SPECIFICATIONS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL AND/or BACKFILL OUTSIDE THE MIDDLE THIRD OF THE PIPE.

2. COMPACT TOP 5" OR OTHER CONSTRUCTION MATERIAL USED FOR STRUCTURAL BEDDING OR OTHER APPROVED MATERIALS.

3. PLACE PLASTIC PIPE IN TRENCH AND/OR BACKFILL.

4. The STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 18" IN HEIGHT, TO BE COMPACTED TO THE REQUIRED DENSITY.

5. WHEN DIRECTED BY THE ENGINEER, THE USE OF MACHINERY TO PUSH THE MATERIAL INTO PLACE IS ALLOWED.

LEGEND

- HDPE PLASTIC PIPE
- "H" = FILL HEIGHT FT.
- C = COVER #2
- S = COVER #3
- 0 = COVER #4
- 5 = COVER #5
- 6 = COVER #6
- D = DIRECTION OF PIPE LAYING
- B = DESIGNATED BACKFILL MATERIAL
- 0 = UNDISTURBED SOIL

PLASTIC PIPE CULVERT
(HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

ARKANSAS STATE HIGHWAY COMMISSION
**MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL**

| TRENCH WIDTH | PIPE DIAMETER | MIN. COVER
|--------------|---------------|-----------
| "H"          | "A"           | 2'-6"     |
| "H" - 10'-0" | "A" - 10'-0"  | 3'-0"     |
| "H" - 20'-0" | "A" - 20'-0"  | 4'-0"     |

![Diagram of Trench Section]

**MINIMUM COVER FOR CONSTRUCTION LOADS**

\[
\text{MIN. COVER (KIPs)} = \begin{cases} 
200 & \text{for } H < 20' \text{ and } A \\
250 & \text{for } H \geq 20' 
\end{cases}
\]

**INSTALLATION**

- **TYPE 2**

  1. Structural bedding material shall be compacted to 95% of maximum density according to the type and class of material used.
  2. Place structural bedding material to grade, do not compact.
  3. Install pipe to grade.
  4. Compact structural bedding outside the middle third of the pipe.
  5. The structural backfill shall be placed and compacted in layers not exceeding 6" in thickness. It shall be compacted to a minimum of 95% of maximum density according to the type and class of material used.
  6. Fill excavation areas with undisturbed soil.

**GENERAL NOTES**

1. Pipe shall conform to AASHTO M242. Plastic pipe installation shall conform to AASHTO M242 for additional details.
2. Plastic pipe selected design shall conform to AASHTO M242 for additional details.
3. The maximum acceptable trench width shall be determined by engineering judgment to ensure proper grade and slope.
4. Aggregate material shall be placed and compacted in layers not exceeding 6" in thickness.
5. The structural bedding material shall be compacted to a minimum of 95% of maximum density according to the type and class of material used.
6. The structural bedding material shall be compacted to a minimum of 95% of maximum density according to the type and class of material used.
7. All other materials, including structural backfill, shall be compacted to a minimum of 95% of maximum density according to the type and class of material used.
8. PVC pipes of diameters other than shown will not be allowed.
9. Joints for PVC pipe shall meet the requirements for soil, joints, and compacted soil as specified in AASHTO M242 and M243. All joints shall be selected from the catalog of the manufacturer.

**CONSTRUCTION SEQUENCE**

1. Place structural bedding material to grade, do not compact.
2. Install pipe to grade.
3. Compact structural bedding outside the middle third of the pipe.
4. The structural backfill shall be placed and compacted in layers not exceeding 6" in thickness. It shall be compacted to a minimum of 95% of maximum density according to the type and class of material used.
5. Fill excavation areas with undisturbed soil.

**TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS**

- PLASTIC PIPE CULVERT (PVC F949)
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

ASPHALT PAVEMENT

SOLID LINE STRIPING ON CONCRETE PAVEMENT

SOLID LINE STRIPING ON ASPHALT PAVEMENT

ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPPING AT ADJACENT NO PASSING LANES

YIELD LINE DETAIL

CROSSWALK AND STOPBAR DETAILS

PAVEMENT EDGE LINE MARKING

DETAIL OF STANDARD
RAISED PAVEMENT MARKERS

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1
STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW.

<table>
<thead>
<tr>
<th>BAR SIZE</th>
<th>PIN DIAMETER</th>
<th>HOOK EXTENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5/8&quot;</td>
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</tr>
<tr>
<td>4</td>
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<td>4&quot;</td>
</tr>
<tr>
<td>5</td>
<td>3 1/16&quot;</td>
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<tr>
<td>6</td>
<td>4 1/2&quot;</td>
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<tr>
<td>7</td>
<td>5/4&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>8</td>
<td>6&quot;</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

If the overall height of the hook (see diagram below) for a "d", "o", "e", or "o" bent bar is greater than the corresponding top or bottom slab thickness less 2 1/2 inches, each bent bar shall be replaced with either a straight bar or a "d", "o", "e", or "o" bent bar from the table below, the two bars shall be the same diameter as, and placed at the same spacing as, the "d", "o", "e", or "o" bent bars they replace.

N.B.: Dimensions of bars are measured out to out of bars.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

The hooked bars shall be placed in the bottom of the top slab and the top of the bottom slab. The straight bars shall be placed in the top of the top slab and the bottom of the bottom slab. See Table above for lengths of replacement hooked and straight bars.

For skewed culverts, the replacement straight bar may have to be cut in field to fit.

REPLACEMENT BAR LENGTHS TABLE

<table>
<thead>
<tr>
<th>BAR SIZE</th>
<th>LENGTH OF HOOKED BAR</th>
<th>LENGTH OF STRAIGHT BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;a&quot;</td>
<td>L + F - 0&quot;</td>
<td>see &quot;o&quot; bar length</td>
</tr>
<tr>
<td>&quot;b&quot;</td>
<td>L + F - 2&quot;</td>
<td>see &quot;o&quot; bar length</td>
</tr>
<tr>
<td>&quot;c&quot;</td>
<td>L + F - 4&quot;</td>
<td>see &quot;o&quot; bar length</td>
</tr>
<tr>
<td>&quot;d&quot;</td>
<td>L + F - 6&quot;</td>
<td>see &quot;o&quot; bar length</td>
</tr>
<tr>
<td>&quot;e&quot;</td>
<td>L + F - 10&quot;</td>
<td>see &quot;o&quot; bar length</td>
</tr>
<tr>
<td>&quot;f&quot;</td>
<td>L + F - 12&quot;</td>
<td>see &quot;o&quot; bar length</td>
</tr>
</tbody>
</table>

L = "d", "o", "e", or "o" bent bar dimensions

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMpressive STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE A515 IN 390 OR 53 GRADE 60.

CONSTRUCTION AND MATERIALS FOR CULVERT & CULVERT DRAINAGE, INCLUDING CULVERTS AND GRANULAR MATERIAL, SHALL BE SUBJECT TO THE 80 ITEM, "CLASS 5 CONCRETE".

MEMBER WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 80 OF THE STANDARD SPECIFICATIONS.

MEMBER WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS 80 FOR THE R.C. CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE CRSI EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE T-4 OF THE CRS MANUAL SHALL BE MINUS ZERO TO PLUS 1/16 INCH.

WEAP HOLES IN BOX CULVERT WALLE SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 12" AND SHALL BE SPACED TO CLEAR THE DRAIN. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 1/2" ABOVE THE Top OF THE BOTTOM SLAB. THE WEAP HOLES IN MINNOWS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 20" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) REAP HOLES IN EACH MINNOW. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 1" ABOVE THE Top OF THE MINNOW FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SUPERSede THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.


R.C. BOX CULVERT HEADWALL MODIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1
SOLID SODDING
R. C. BOX CUL.VT.

PARTIAL SECTION SHOWING SOLID SODDING
AT HEADWALLS AND WING WALLS

LENGTH MEASURED ALONG CENTER OF 2" STRIP OF SOLID SODDING.

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

CHANNEL CHANGE

NOTE:

LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

SECTION C-C

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW L.INE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE. ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.
II

- REMOVE WINGS, APRONS, FOOTINGS AND TERRNLAS.

These dimensions to be 2 inches plus 60% times diameter of steel.

- REMOVE TOP SLAB, BOTTOM SLAB, WALLS AND WINGS BEYOND THESE LINES.

2 WIRE TIES EACH SP11E.

III

- REMOVE WINGS, APRONS, FOOTINGS AND TERRNLAS.

TOP VIEW
R.C. BOX CULVERT

REINFORCING DETAILS AND CULVERT DIMENSIONS
SAME AS STANDARD CULVERT DRAWINGS

ARAKANS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING
EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

E-3-00 CHANGE DRAWING * FROM A-A
E-3-00 CHANGE DRAWING * FROM A-A
0.3-02 NAME ALL METHOD OF EXTENSION
0.3-02 NAME ALL METHOD OF EXTENSION
0.3-02 COMPLETE CONCRETE CLASS
0.3-02 COMPLETE CONCRETE CLASS
0.5-00 DATED
REVISED
DATE
DATE FILED

SECTION A-A
METHOD 1

SECTION A-A
METHOD 2

GENERAL NOTES

THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL
CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE
LENGTHENED. MAKING NO ALLOWANCE FOR OVERHEADAGE
BEYOND THE LINES INDICATED.

IN ALL INSTANCES CONCRETE SHALL BE REMOVED
SO AS TO PERMIT FULL 40 DIAMETER SPICE 
OF REINFORCING STEEL.

REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE
SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.

ON R.C. BOX CULVERTS THAT HAVE AN EXISTING
CONCRETE APRON, THE CONCRETE APRON SHALL BE REMOVED
WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE
WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR
NEW CONCRETE OF THE CLASS SPECIFIED AND NO
ADDITIONAL COMPENSATION WILL BE ALLOWED.

MATERIALS FOR SECURING BARS SHALL MEET
THE REQUIREMENTS OF SECTION NO. 2 OF THE
STANDARD SPECIFICATIONS.

DOMEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING
PROCEEDS WITH THE BAR INSERTED INTO THE AUGER, AND
SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL MEET
THE SPECIFIED MATERIALS. IT COMPLETELY
SURROUNDS THE BARS AND FILLS THE HOLES.

THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER
METHOD I OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED,
PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.

NOTE:
PART OF THIS STANDARD IS TO BE USED FOR ANY
DETAILS RELATIVE TO NEW CONSTRUCTION.
SEE STANDARD DRAWING LISTED IN TABLE OF
STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

USE STANDARD DRAWING RCB-3 FOR
METHOD OF EXTENDING
EXISTING R.C. BOX CULVERTS.
### Super-elevation Table for Two-Way Traffic

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</table>

**General Notes:**

1. On pavement with two-way traffic, the super-elevation shall be revolved on the inside pavement edge unless otherwise noted on the plans.
2. Super-elevation values shown on the cross-sections are values measured at the inside edge of the lane, unless otherwise noted on the plans.
3. Lengths of super-elevation transition are multiples of 25 ft. or 50 ft.
4. Pavement widths other than 2 lanes shall have additional transition lengths as follows:
   - 2 Lane Undivided: 0°
   - 2 Lane Undivided: 4°
   - 2 Lane Undivided: 8°

**Abbreviations:**

- AC: Normal Crown
- RC: Reverse Crown
- NEC: Normal Crown Super-elevation at normal crown slope
- PEP: Rate of super-elevation ft., per ft. of curve
- LC: Length of super-elevation transition ft.
- D: Distance from beginning of super-elevation transition to outside edge ft.
- B: Maximum crown ft., of super-elevation ft.
- C: Normal Crown ft.

**Notes:**

- Maintain normal crown on inside until super-elevation exceeds 2°.
- Unless otherwise noted, super-elevation shall be maintained using applicable LA.

---

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

**Standard Drawing SE-2**

**Arkansas State Highway Commission**

**Tables and Method of Super-elevation for Two-Way Traffic**
NOTE: BARS NUMBER LENGTH SPACING

20' 0"
STEEL TO STEEL

P.D.

BARS

ER{FoRaEdio}{ef

OUTLET

AT REINFORCING

B

REIIOVE COIFACIEO OVER CULVERTS

REPAIR FLL

E

CULVERT.

PROPOSED OVERLAY QUANTITIES
REINFORCED CONCRETE SPRING BOXES

BARS

ASPHALT

(A.SPHALT)

4' 0"

A.C.HJ.

BITER

168 LB.

17' 0"

BARS

8"

16' 0"

1/2" HOLES

15' 0"

1/2" HOLES

16"

1/4" HOLES

12"

NOTICE: FILL HEIGHT ABOVE TOP OF BOX = 12' 0".

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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

** Offset Distance for Two Way Traffic Only

 Offset Distance Table

<table>
<thead>
<tr>
<th>Offset Distance</th>
<th>4 4.5</th>
<th>6.0</th>
<th>8.0</th>
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<tr>
<td>Feet</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</table>

If offset distance is not attainable, then see "Barrier Placement with Attenuator—Detail shown below.

Barrier shall be dowelled to pavement when the B dimension is less than 4' - 0' and the D dimension is greater than 24 inches.

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."
NOTES:
- Size of basin to be determined by volume required; however, a minimum length-to-width ratio of 2:1 shall be used.
- Slope to be 1:1 or flatter.

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

SEDIMENT BASIN WITH PIPE OUTLET (E-10)

NOTES:
- Slope to be 1:1 or flatter.
- Top of bank.

TEMPOORARY EROSION CONTROL DEVICES

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD DRAWING TEC-2
CLEARING AND GRUBBING

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

EMBANKMENT

CONSTRUCTION SEQUENCE
1. CONSTRUCT DIVERSION DITCHES, DIVERSION 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 FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

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

EXCAVATION

CONSTRUCTION SEQUENCE
1. EXCAVATE AND STABILIZE INTERCEPTORS 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, CONSTRUCT SIGHT CHECKS, DIVERSION DITCH CHECKS, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

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

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3
GENERAL NOTES:

1. THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

2. WHEN A FENCE LINE APPROACHES A DITCH OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE DRIFT MAY BE STRANGLED TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

3. IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRAVING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE DULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

4. 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.
### Bar List for Barrel Section 6A9 in Length

<table>
<thead>
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<th>Bar No.</th>
<th>Size (in)</th>
<th>Length (ft)</th>
<th>Note</th>
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</tr>
<tr>
<td>2</td>
<td>1</td>
<td>10</td>
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<tr>
<td>3</td>
<td>0.75</td>
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<td>4</td>
<td>1.25</td>
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<td>0.75</td>
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<tr>
<td>7</td>
<td>1.25</td>
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### Dimensions

- **Section:** Barrel
- **Type:** A
- **Size:** 6A9

### Quantities

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<th>Item</th>
<th>Unit</th>
<th>Quantity</th>
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</table>

### Design Load

- **Code No:** 6A9
- **Speciality:** Barrel

### Details of Standard Barrel Sections

**Class B Concrete**

**AR KANSAS STATE HIGHWAY COMMISSION**

**Details of Standard Barrel Sections**

**For Reinforced Concrete Box Culverts**

**662K99545SMNS - 3:1 to 4:1 SLOPES UNDER 8" COVER**

**Standard Drawing No. P-500X-0**
### General Notes:

Concrete: 7.5 concrete mix, Class 3, and shall be poured in the dry.

Afferent requirements, design, and emulsion, and strengths to be determined as per standards.

Note: All lengths are in feet and inches.

### Dimensions

#### Rebar Schedule

<table>
<thead>
<tr>
<th>Position</th>
<th>Length</th>
<th>Diameter</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
<td>120'</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>150'</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

#### Dimensions

- Width: 20 feet
- Height: 10 feet
- Length: 150 feet

#### Quantities

- Steel: 60 tons
- Reinforcing: 400 feet

### Reinforced Concrete Box Culverts

4000 cubic feet. 3:1 on 4:1 SLOPES

### TABLE OF BARREL SECTIONS

<table>
<thead>
<tr>
<th>Position</th>
<th>Diameter</th>
<th>Length</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
<td>24''</td>
<td>120'</td>
<td>8</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>30''</td>
<td>150'</td>
<td>5</td>
</tr>
</tbody>
</table>

### Notes:

- All dimensions are in feet and inches.
- Special requirements for reinforcement are in accordance with the Standard Specifications for Highway Construction and Materials, 1961 edition.

### Class S Concrete

ARKANSAS STATE HIGHWAY COMMISSION

DETAILED PLANS

FOR

REINFORCED CONCRETE BOX CULVERTS

4000 CUBIC FEET. 3:1 on 4:1 SLOPES

UNION 5" OVER

STANDARD DRAWING NO. R-2000-G