| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 1 | 103 |
| | | | | (1) | CORNIE BAYOU, HARPER & LAPILE CREEKS STRS. & APRRS. (S) | | | |

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS

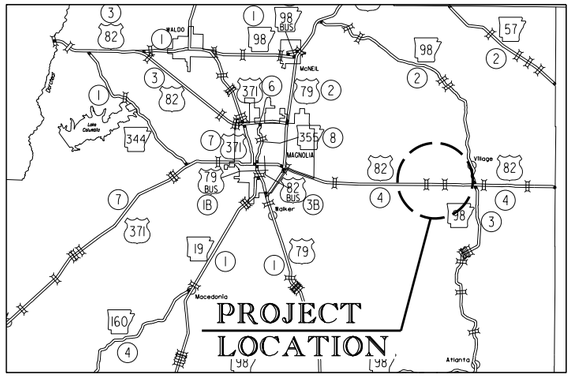
# CORNIE BAYOU, HARPER & LAPILE CREEKS STRS. & APPRS. (S)

## COLUMBIA AND UNION COUNTIES

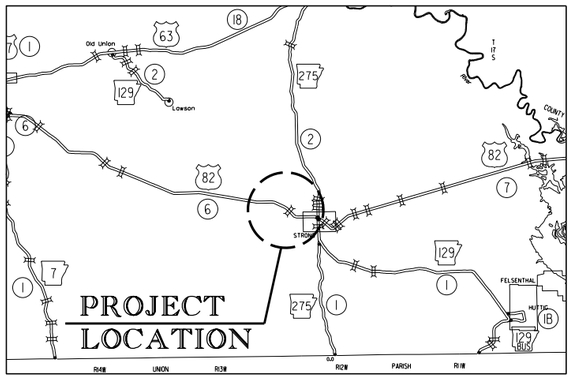
## ROUTE 82 SECTIONS 4 & 6

## JOB 070471

## FEDERAL AID PROJECT NHPP-BFP-0014(35)

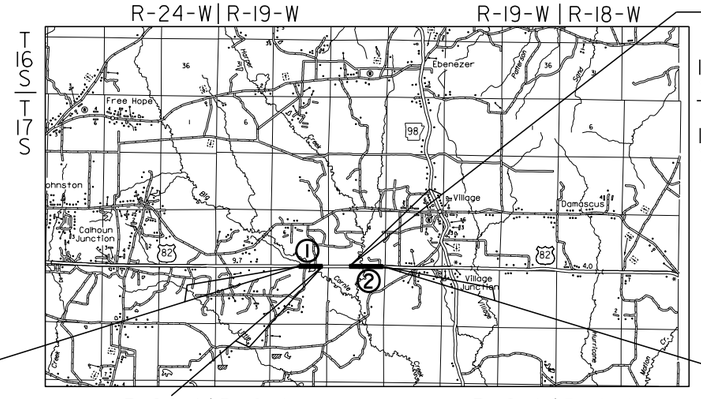



VICINITY MAP - SITES 1 & 2




VICINITY MAP - SITE 3

NOT TO SCALE

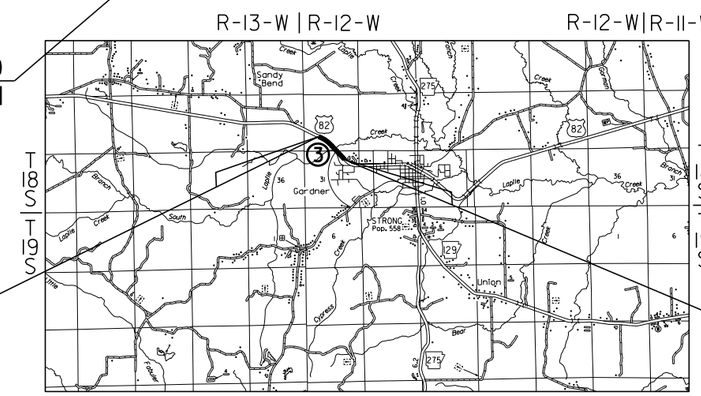



STA. 14+00.00
BEGIN JOB 070471
BEGIN SITE 1
LOG MILE= 9.31

STA. 34+00.00
BEGIN SITE 2
LOG MILE= 10.23

STA. 48+00.00
END SITE 2

NOT TO SCALE




STA. 28+00.00
END SITE 1

STA. 53+00.00
BEGIN SITE 3
LOG MILE= 16.01

STA. 68+00.00
END SITE 3
END JOB 070471

## BRIDGE CONSTRUCTION DATA

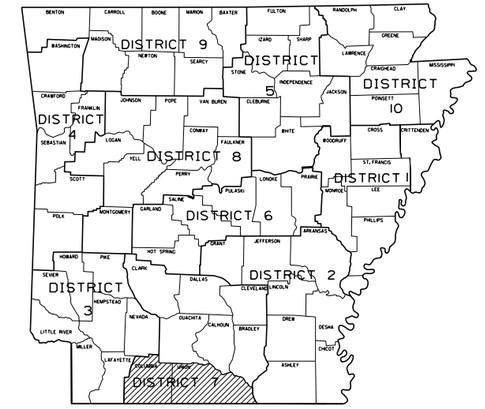
(1) STA. 19+99.75 BRIDGE END
BRIDGE NO. 07510 OVER CORNIE BAYOU
179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER
UNIT TYPE II
(59'-9", 60'-0", 59'-9")
75'-0" CLEAR ROADWAY
180'-6" BRIDGE LENGTH
STA. 21+80.25 BRIDGE END

(2) STA. 39+94.75 BRIDGE END
BRIDGE NO. 07511 OVER HARPER CREEK
179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER
UNIT TYPE II
(59'-9", 60'-0", 59'-9")
75'-0" CLEAR ROADWAY
180'-6" BRIDGE LENGTH
STA. 41+75.25 BRIDGE END

(3) STA. 59+99.75 BRIDGE END
BRIDGE NO. 07512 OVER LAPILE CREEK
179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER
UNIT TYPE II
(59'-9", 60'-0", 59'-9")
75'-0" CLEAR ROADWAY
180'-6" BRIDGE LENGTH
STA. 61+80.25 BRIDGE END

| | | BEGIN | MID-POINT | END |
|---|---|---|---|---|
| SITE 1 | LATITUDE | N 33°15'01" | N 33°15'01" | N 33°15'01" |
| | LONGITUDE | W 93°15'45" | W 93°10'36" | W 93°05'28" |
| SITE 2 | LATITUDE | N 33°15'00" | N 33°15'00" | N 33°15'00" |
| | LONGITUDE | W 93°04'47" | W 93°04'39" | W 93°04'31" |
| SITE 3 | LATITUDE | N 33°07'04" | N 33°06'44" | N 33°06'53" |
| | LONGITUDE | W 92°22'59" | W 92°22'53" | W 92°22'47" |

| LENGTH COMPUTED ALONG C.L. HWY. 82 | | | |
|---|---|---|---|
| GROSS LENGTH OF PROJECT | 4300.00 FEET | 0.814 | MILES |
| NET LENGTH OF ROADWAY | 3758.50 FEET | 0.711 | MILES |
| NET LENGTH OF BRIDGES | 541.50 FEET | 0.103 | MILES |
| NET LENGTH OF PROJECT | 4300.00 FEET | 0.814 | MILES |




## ARKANSAS HIGHWAY DISTRICT 7

. DESIGN TRAFFIC DATA .

DESIGN YEAR----------2044
2024 ADT----------5000
2044 ADT----------5700
2044 DHV----------627
DIRECTIONAL DISTRIBUTION----------0.60
TRUCKS----------15%
DESIGN SPEED----------60 MPH

CERTIFICATE OF AUTHORIZATION
MICHAEL BAKER INTERNATIONAL INC
No. 1126
ARKANSAS - ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-22-2023

Scott.Thornsberry@22/2023 12:33:33 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.07047\CornieHarperLapile\Design\CIVIL\Drawings\R07047101_C0.00.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 2 | 103 |

(I) INDEX OF SHEETS AND STANDARD DRAWINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

## INDEX OF SHEETS


| SHEET NO. | TITLE | BRIDGE NO. | DRWG.NO. |
|---|---|---|---|
| 1 | TITLE SHEET | | |
| 2 | INDEX OF SHEETS AND STANDARD DRAWINGS | | |
| 3 | GOVERNING SPECIFICATIONS AND GENERAL NOTES | | |
| 4 - 7 | TYPICAL SECTIONS OF IMPROVEMENT | | |
| 8 - 9 | SPECIAL DETAILS | | |
| 10 - 18 | TEMPORARY EROSION CONTROL DETAILS | | |
| 19 - 29 | MAINTENANCE OF TRAFFIC DETAILS | | |
| 30 - 32 | PERMANENT PAVEMENT MARKING DETAILS | | |
| 33 - 37 | QUANTITY SHEETS | | |
| 38 | SCHEDULE OF BRIDGE QUANTITIES | 07510, 07511, & 07512 | 63743 |
| 39 | SUMMARY OF QUANTITIES AND REVISIONS | | |
| 40 - 51 | SURVEY CONTROL DETAILS | | |
| 52 - 58 | PLAN AND PROFILE SHEETS | | |
| 59 | LAYOUT OF BRIDGE HIGHWAY 82 OVER CORNIE BAYOU (SHEET I of 2) | 07510 | 63744 |
| 60 | LAYOUT OF BRIDGE HIGHWAY 82 OVER CORNIE BAYOU (SHEET 2 of 2) | 07510 | 63745 |
| 61 | TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS HIGHWAY 82 OVER CORNIE BAYOU (SHEET 1 of 2) | 07510 | 63746 |
| 62 | TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS HIGHWAY 82 OVER CORNIE BAYOU (SHEET 2 of 2) | 07510 | 63747 |
| 63 | LAYOUT OF BRIDGE HIGHWAY 82 OVER HARPER CREEK (SHEET I of 2) | 07511 | 63748 |
| 64 | LAYOUT OF BRIDGE HIGHWAY 82 OVER HARPER CREEK (SHEET 2 of 2) | 07511 | 63749 |
| 65 | TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS HIGHWAY 82 OVER HARPER CREEK (SHEET 1 of 2) | 07511 | 63750 |
| 66 | TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS HIGHWAY 82 OVER HARPER CREEK (SHEET 2 of 2) | 07511 | 63751 |
| 67 | LAYOUT OF BRIDGE HIGHWAY 82 OVER LAPILE CREEK (SHEET I of 2) | 07512 | 63752 |
| 68 | LAYOUT OF BRIDGE HIGHWAY 82 OVER LAPILE CREEK (SHEET 2 of 2) | 07512 | 63753 |
| 69 | TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS HIGHWAY 82 OVER LAPILE CREEK (SHEET 1 of 2) | 07512 | 63754 |
| 70 | TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS HIGHWAY 82 OVER LAPILE CREEK (SHEET 2 of 2) | 07512 | 63755 |
| 71 | DETAILS OF END BENTS (SHEET 1 of 2) | 07510, 07511 & 07512 | 63756 |
| 72 | DETAILS OF END BENTS (SHEET 2 of 2) | 07510, 07511 & 07512 | 63757 |
| 73 | DETAILS OF INTERMEDIATE BENTS (SHEET 1 of 2) | 07510, 07511 & 07512 | 63758 |
| 74 | DETAILS OF INTERMEDIATE BENTS (SHEET 2 of 2) | 07510, 07511 & 07512 | 63759 |
| 75 | DETAILS OF ELASTOMERIC BEARINGS | 07510, 07511 & 07512 | 63760 |
| 76 | DETAILS OF 179'-6" INTEGRAL PRECAST PRESTRESSED CONCRETE GIRDER UNIT (SHEET 1 of 7) | 07510, 07511 & 07512 | 63761 |
| 77 | DETAILS OF 179'-6" INTEGRAL PRECAST PRESTRESSED CONCRETE GIRDER UNIT (SHEET 2 of 7) | 07510, 07511 & 07512 | 63762 |
| 78 | DETAILS OF 179'-6" INTEGRAL PRECAST PRESTRESSED CONCRETE GIRDER UNIT (SHEET 3 of 7) | 07510, 07511 & 07512 | 63763 |
| 79 | DETAILS OF 179'-6" INTEGRAL PRECAST PRESTRESSED CONCRETE GIRDER UNIT (SHEET 4 of 7) | 07510, 07511 & 07512 | 63764 |
| 80 | DETAILS OF 179'-6" INTEGRAL PRECAST PRESTRESSED CONCRETE GIRDER UNIT (SHEET 5 of 7) | 07510, 07511 & 07512 | 63765 |
| 81 | DETAILS OF 179'-6" INTEGRAL PRECAST PRESTRESSED CONCRETE GIRDER UNIT (SHEET 6 of 7) | 07510, 07511 & 07512 | 63766 |
| 82 | DETAILS OF 179'-6" INTEGRAL PRECAST PRESTRESSED CONCRETE GIRDER UNIT (SHEET 7 of 7) | 07510, 07511 & 07512 | 63767 |
| 83 | DETAILS OF TYPE SPECIAL APPROACH SLAB | 07510, 07511 & 07512 | 63768 |
| 84 | DETAILS OF TYPE SPECIAL APPROACH GUTTER | 07510, 07511 & 07512 | 63769 |
| 85 - 103 | CROSS SECTIONS | | |


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

## BRIDGE STANDARD DRAWINGS

| DRWG.NO. | TITLE | DATE |
|---|---|---|
| 55000 | STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS | 02-27-14 |
| 55001 | STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES | 02-27-14 |
| 55005 | STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS | 03-24-16 |
| 55010 | STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE | 04-14-23 |
| 55021 | STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS | 03-24-16 |
| 55070 | STANDARD DETAILS FOR BRIDGE TRAFFIC RAIL TYPE SSTR36 | 09-27-22 |

## ROADWAY STANDARD DRAWINGS

| DRWG.NO. | TITLE | DATE |
|---|---|---|
| DR-2 | DETAILS OF DRIVEWAYS & STREET TURNOUTS | 05-19-22 |
| GR-6 | GUARD RAIL DETAILS | 05-19-22 |
| GR-8 | GUARD RAIL DETAILS | 11-07-19 |
| GR-9 | GUARD RAIL DETAILS | 11-07-19 |
| GR-10 | GUARD RAIL DETAILS | 11-07-19 |
| GR-11 | GUARD RAIL DETAILS | 11-07-19 |
| GR-12 | GUARD RAIL DETAILS | 05-14-20 |
| PCC-1 | CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING | 02-27-14 |
| PCM-1 | METAL PIPE CULVERT FILL HEIGHTS & BEDDING | 02-27-14 |
| PCP-1 | PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE) | 02-27-14 |
| PCP-2 | PLASTIC PIPE CULVERT (PVC F949) | 02-27-14 |
| PCP-3 | PLASTIC PIPE CULVERT (POLYPROPYLENE) | 02-27-20 |
| PM-1 | PAVEMENT MARKING DETAILS | 02-27-20 |
| PU-1 | DETAILS OF PIPE UNDERDRAIN | 12-08-16 |
| SE-2 | TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC | 11-07-19 |
| TC-1 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | 11-07-19 |
| TC-2 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | 05-20-21 |
| TC-3 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | 08-12-21 |
| TC-4 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER | 11-07-19 |
| TC-5 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER | 11-07-19 |
| TEC-1 | TEMPORARY EROSION CONTROL DEVICES | 11-16-17 |
| TEC-2 | TEMPORARY EROSION CONTROL DEVICES | 06-02-94 |
| TEC-3 | TEMPORARY EROSION CONTROL DEVICES | 11-03-94 |


Scott.Thornsberry@9/20/2023 3:40:50 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16388.07047ICornieHarperLapile\Design\CIVIL\Drawings\R070471.02_IND_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 3 | 103 |

(1) GOVERNING SPECIFICATIONS & GENERAL NOTES

## GOVERNING SPECIFICATIONS

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

| NUMBER | TITLE |
|---|---|
| ERRATA_____ | ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS |
| FHWA-1273__ | REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS |
| FHWA-1273__ | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS |
| FHWA-1273__ | SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140) |
| FHWA-1273__ | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES |
| FHWA-1273__ | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS |
| FHWA-1273__ | SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS |
| FHWA-1273__ | SUPPLEMENT - WAGE RATE DETERMINATION |
| FHWA-1273__ | SUPPLEMENT - TRAINING PROGRAM - JOB NUMBER 070471 |
| 100-3_____ | CONTRACTOR'S LICENSE |
| 100-4_____ | DEPARTMENT NAME CHANGE |
| 102-2_____ | ISSUANCE OF PROPOSALS |
| 103-2_____ | CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS |
| 105-4_____ | MAINTENANCE DURING CONSTRUCTION |
| 107-2_____ | RESTRAINING CONDITIONS |
| 108-1_____ | LIQUIDATED DAMAGES |
| 108-2_____ | WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER |
| 110-1_____ | PROTECTION OF WATER QUALITY AND WETLANDS |
| 210-1_____ | UNCLASSIFIED EXCAVATION |
| 303-1_____ | AGGREGATE BASE COURSE |
| 306-1_____ | QUALITY CONTROL AND ACCEPTANCE |
| 307-1_____ | CEMENT |
| 308-1_____ | CEMENT |
| 400-1_____ | TACK COATS |
| 400-4_____ | DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES |
| 400-5_____ | PERCENT AIR VOIDS FOR ACHM MIX DESIGNS |
| 400-6_____ | LIQUID ANTI-STRIP ADDITIVE |
| 400-7_____ | TRACKLESS TACK |
| 404-3_____ | DESIGN OF ASPHALT MIXTURES |
| 409-2_____ | ASPHALT LABORATORY FACLITY |
| 410-1_____ | CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES |
| 410-2_____ | DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS |
| 410-4_____ | EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL |
| 416-1_____ | RECYCLED ASPHALT PAVEMENT |
| 501-2_____ | CEMENT |
| 600-2_____ | INCIDENTAL CONSTRUCTION |
| 603-1_____ | LANE CLOSURE NOTIFICATION |
| 604-1_____ | RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES |
| 604-3_____ | TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH) |
| 606-1_____ | PIPE CULVERTS FOR SIDE DRAINS |
| 617-1_____ | GUARDRAIL TERMINAL (TYPE 2) |
| 617-2_____ | GUARDRAIL DELINEATORS |
| 620-1_____ | MULCH COVER |
| 621-1_____ | FILTER SOCKS |
| 800-1_____ | STRUCTURES |
| 802-3_____ | CONCRETE FOR STRUCTURES |
| 802-4_____ | CEMENT |
| 804-2_____ | REINFORCING STEEL FOR STRUCTURES |
| 808-1_____ | INSTALLATION OF ELASTOMERIC BEARINGS |
| 808-2_____ | ELASTOMERIC BEARINGS |
| JOB 070471_ | ASSESSMENT OF WORKING DAYS – MAINTENANCE OF TRAFFIC |
| JOB 070471_ | BIDDING REQUIREMENTS AND CONDITIONS |
| JOB 070471_ | BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT |
| JOB 070471_ | BROADBAND INTERNET SERVICE FOR FIELD OFFICE |
| JOB 070471_ | BUY AMERICA - CONSTRUCTION MATERIALS |
| JOB 070471_ | CARGO PREFERENCE ACT REQUIREMENTS |
| JOB 070471_ | CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE |
| JOB 070471_ | COLD MILLING – COUNTY PROPERTY |
| JOB 070471_ | CONCRETE BRIDGE DECK CURING AND SURFACE TREATMENT RESTRICTIONS |
| JOB 070471_ | CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS |
| JOB 070471_ | CONSTRUCTION PROJECT INFORMATION SIGN |
| JOB 070471_ | COORDINATION OF WORK |
| JOB 070471_ | DESIGN AND QUALITY CONTROL ASPHALT MIXTURES |
| JOB 070471_ | DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES |
| JOB 070471_ | ESTABLISHING CONTRACT TIME – WORKING DAY CONTRACT |
| JOB 070471_ | FLEXIBLE BEGINNING OF WORK |
| JOB 070471_ | FURNISHING, INSTALLING & LEAVING IN PLACE PRECAST CONCRETE BARRIER WALL |
| JOB 070471_ | GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION |
| JOB 070471_ | LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS |
| JOB 070471_ | LONGITUDINAL JOINT DENSITIES FOR ACHM SURFACE COURSES |
| JOB 070471_ | MANDATORY ELECTRONIC CONTRACT |
| JOB 070471_ | MANDATORY ELECTRONIC DOCUMENT SUBMITTAL |
| JOB 070471_ | NESTING SITES OF MIGRATORY BIRDS |
| JOB 070471_ | PARTNERING REQUIREMENTS |
| JOB 070471_ | PERCENT AIR VOIDS AND NDESIGN FOR ACHM SURFACE MIX DESIGNS |
| JOB 070471_ | PLASTIC PIPE |
| JOB 070471_ | PRICE ADJUSTMENT FOR ASPHALT BINDER |
| JOB 070471_ | PRICE ADJUSTMENT FOR FUEL |
| JOB 070471_ | PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT |
| JOB 070471_ | RUMBLE STRIPS |
| JOB 070471_ | SHORING |
| JOB 070471_ | SHORING FOR CULVERTS |
| JOB 070471_ | SOIL STABILIZATION |
| JOB 070471_ | STORM WATER POLLUTION PREVENTION PLAN |
| JOB 070471_ | SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS |
| JOB 070471_ | TOTAL SOLAR ECLIPSE |
| JOB 070471_ | UTILITY ADJUSTMENTS |
| JOB 070471_ | VALUE ENGINEERING |
| JOB 070471_ | WARM MIX ASPHALT |
| JOB 070471_ | WATER POLLUTION CONTROL |
| JOB 070471_ | WELLHEAD PROTECTION |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
1-23-2024

## GENERAL NOTES

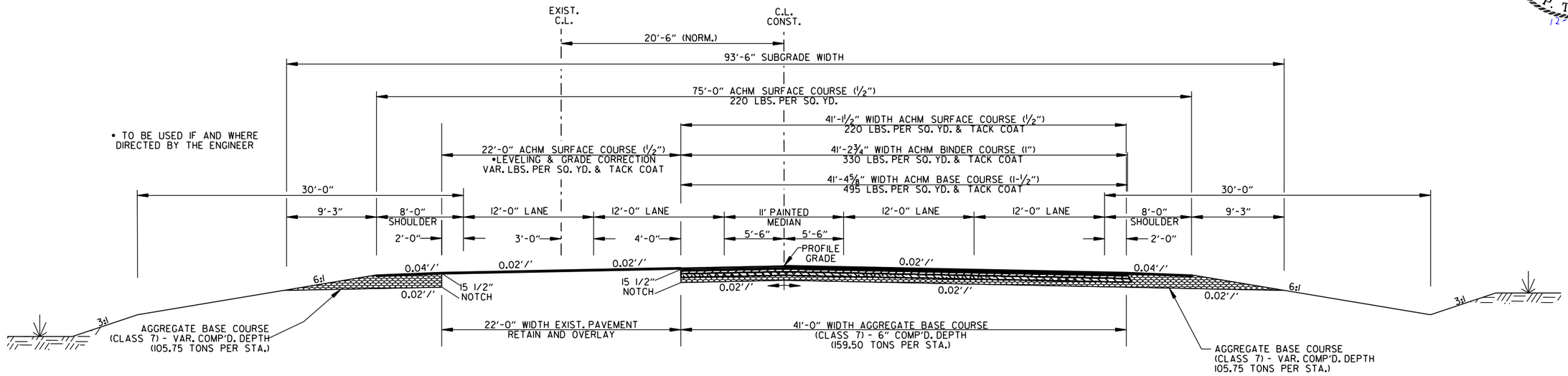
1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. 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 ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 23 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.



Scott.Thornsberry@23/2024 1:38:47 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.07047\CorrieHarper\Lapile\Design\CIVIL\Drawings\R07047L03_GN_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 4 | 103 |
| | | | | (1) | TYPICAL SECTIONS OF IMPROVEMENT | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## TANGENT SECTION

SITE 1: STA. 14+00.00 TO STA. 19+00.00
SITE 1: STA. 23+50.00 TO STA. 28+00.00

SITE 2: STA. 34+00.00 TO STA. 39+00.00
SITE 2: STA. 42+11.75 TO STA. 48+00.00

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

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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

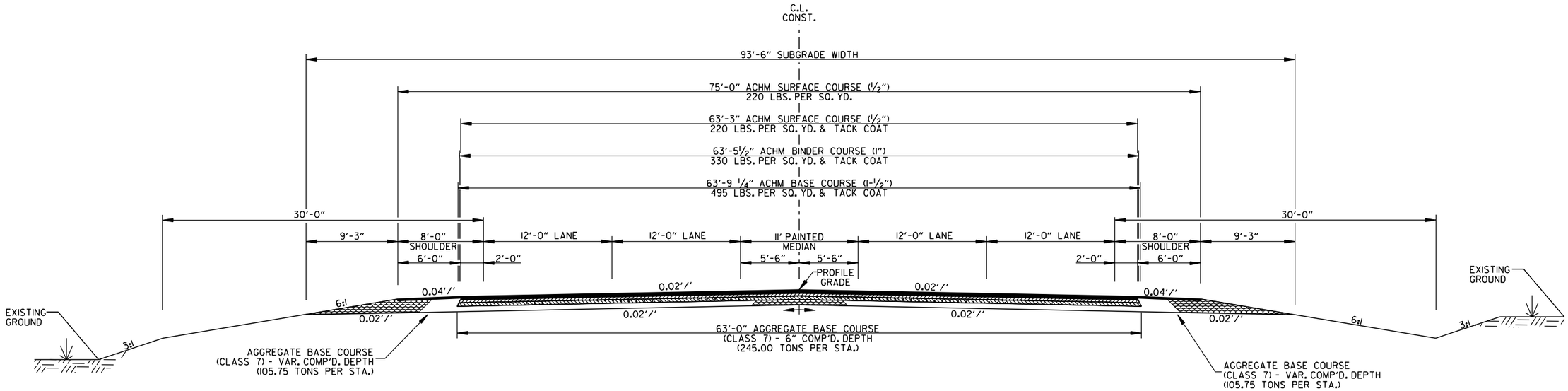
BLEEDER DITCHES - PRIOR TO AND DURING PLACEMENT OF PAVEMENT AT THE NOTCH, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) AND SPACING USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



Scott.Thornsberry@9/20/2023 12:58:17 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471CornileHarperLaplie\Design\CIVIL\Drawings\R070471.04_TS_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 5 | 103 |
| | | | | (1) | TYPICAL SECTIONS OF IMPROVEMENT | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## TANGENT SECTION

SITE 1: STA. 19+00.00 TO STA. 19+63.25
SITE 1: STA. 22+16.75 TO STA. 23+50.00

SITE 2: STA. 38+50.00 TO STA. 39+58.25

SITE 3: STA. 57+50.00 TO STA. 59+63.25
SITE 3: STA. 62+16.75 TO STA. 64+50.00

•REFER TO SPECIAL DETAILS FOR FULL DEPTH SHOULDER LOCATIONS FOR MOT AT BR. ENDS.

NOTES:

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

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

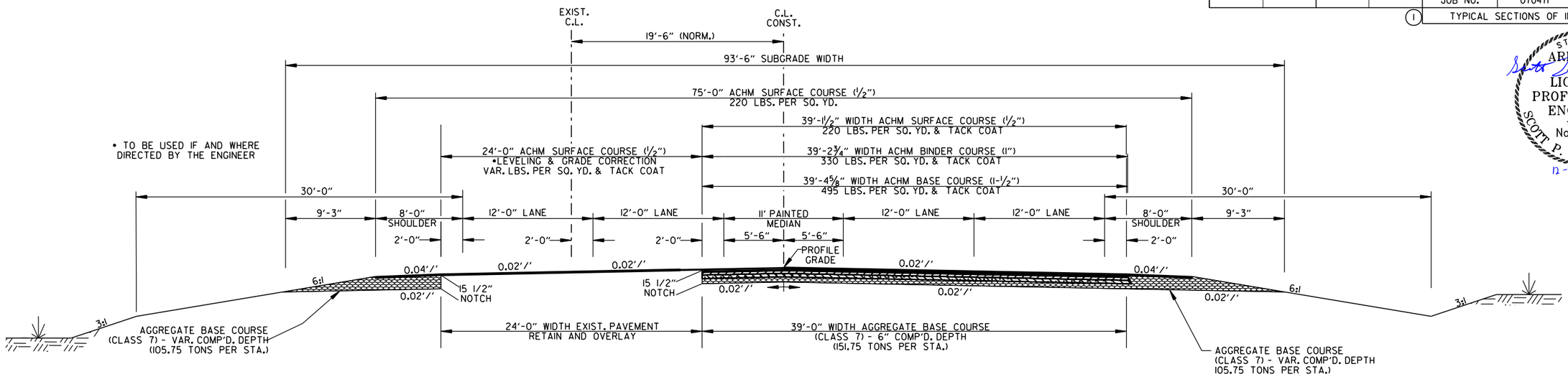
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.


Scott.Thornsberry@20/2023 12:58:18 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\CorrieHarperLaplile\Design\CIVIL\Drawings\R070471_04_TS_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 6 | 103 |

(1) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## TANGENT SECTION

SITE 3: STA. 64+50.00 TO STA. 68+00.00

NOTES:

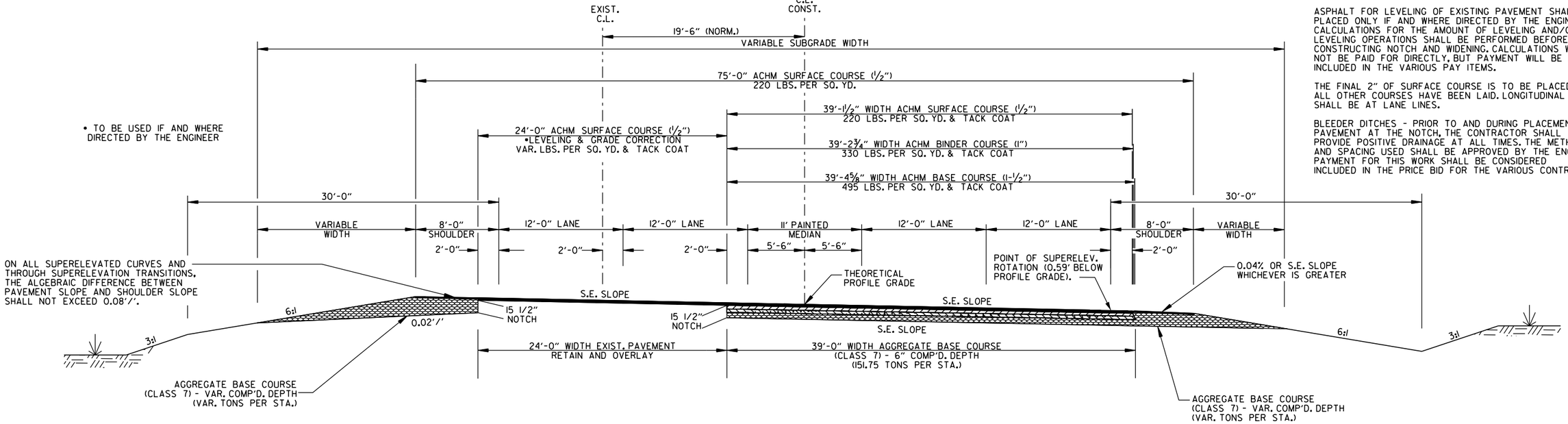
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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

BLEEDER DITCHES - PRIOR TO AND DURING PLACEMENT OF PAVEMENT AT THE NOTCH, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) AND SPACING USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.




## SUPERELEVATED TYPICAL SECTION

SITE 3: STA. 53+00.00 TO STA. 57+50.00

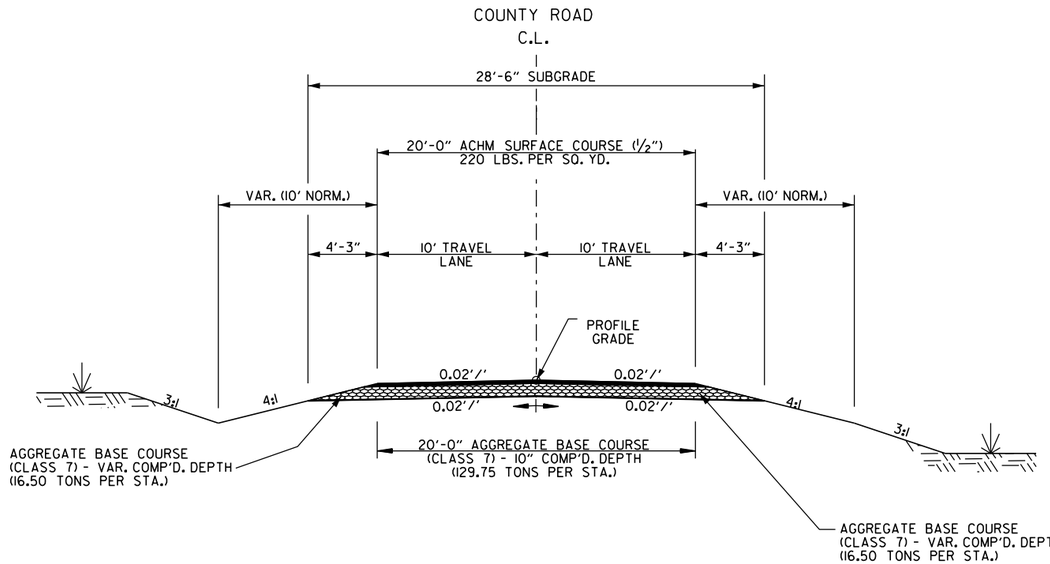


Scott.Thornsberry@20/2023 12:58:18 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938\070471\CornileharperLaplle\Design\CIVIL\Drawings\R070471_04_TS_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 7 | 103 |
| (1) | TYPICAL SECTIONS OF IMPROVEMENT | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## COUNTY ROAD TYPICAL SECTION

SITE 1- STA. 17+22.22 (RT.): C.R. 294 STA. 189+87.30 TO STA. 193+70.44
STA. 24+70.40 (LT.): C.R. 434 STA. 300+29.56 TO STA. 303+00.00

NOTES:

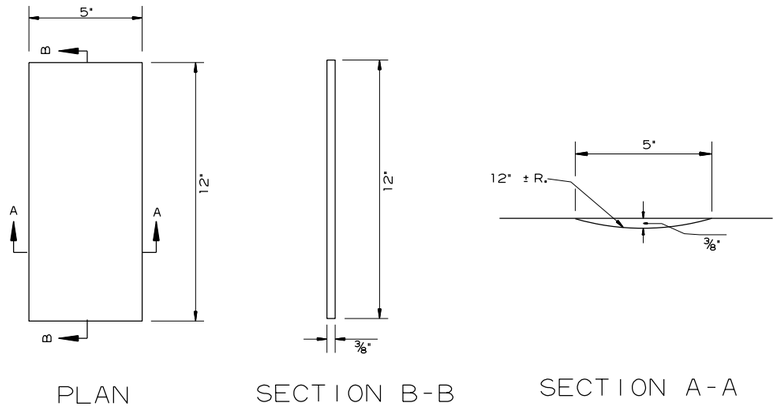
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

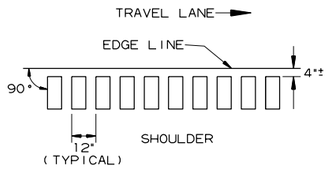

Scott.Thornsberry@20/2023 12:58:9 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16338B_070471CornieHarperLaplle\Design\CIVIL\Drawings\R070471_04_TS_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 8 | 103 |
| | | | | (1) | SPECIAL DETAILS | | | |

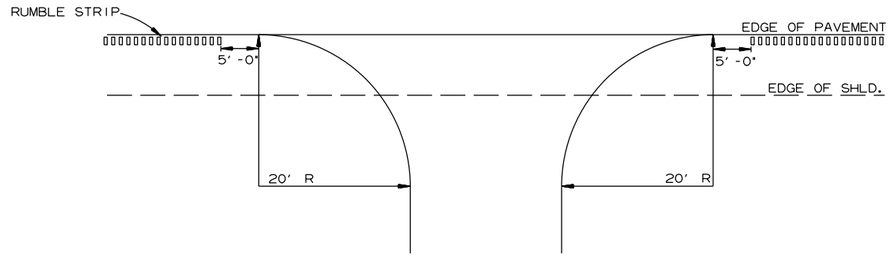
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023



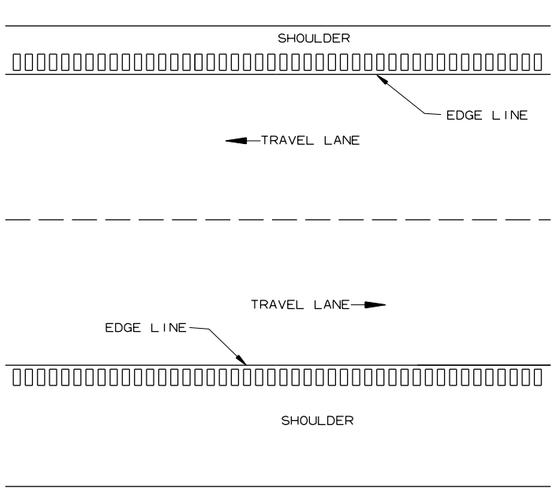

DETAILS OF RUMBLE STRIPS




LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



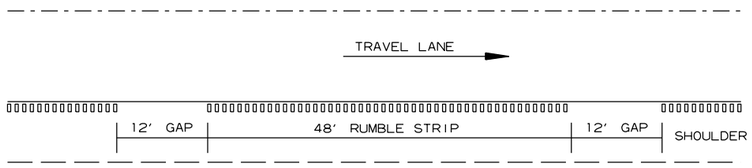

DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS




PLAN VIEW

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 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.



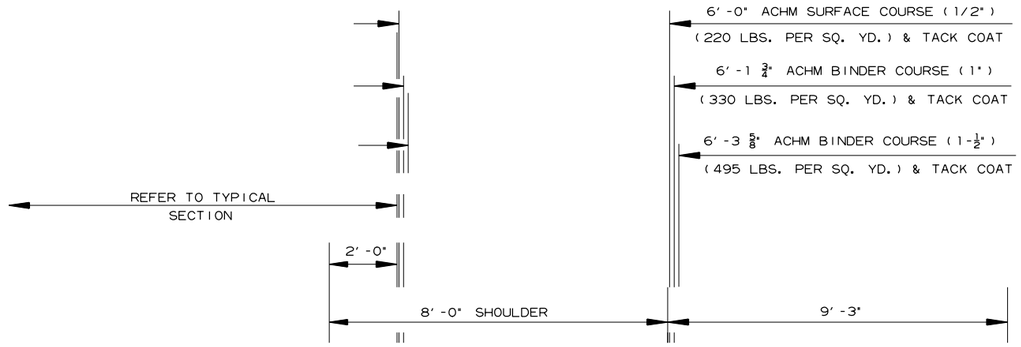

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

DETAIL FOR GAP PATTERN RUMBLE STRIP

Scott.Thornsberry@20/2023 12:58:20 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388_070471\Cornelia\perLapile\Design\CIVIL\Drawings\R070471_05_SD_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 9 | 103 |
| | | | | (1) | SPECIAL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023



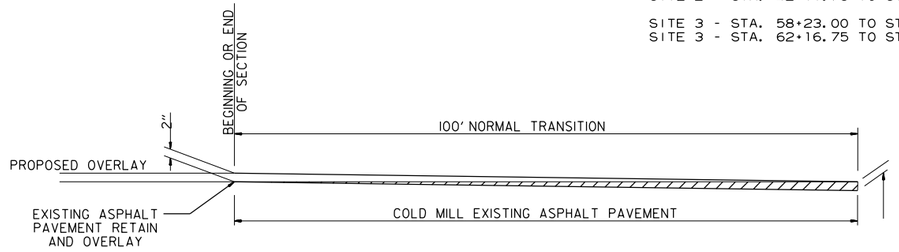

AGGREGATE BASE COURSE (CLASS 7)
VARIABLE COMPACTED DEPTH
76.50 TONS PER STA.

## FULL DEPTH SHOULDER FOR MAINTENANCE OF TRAFFIC

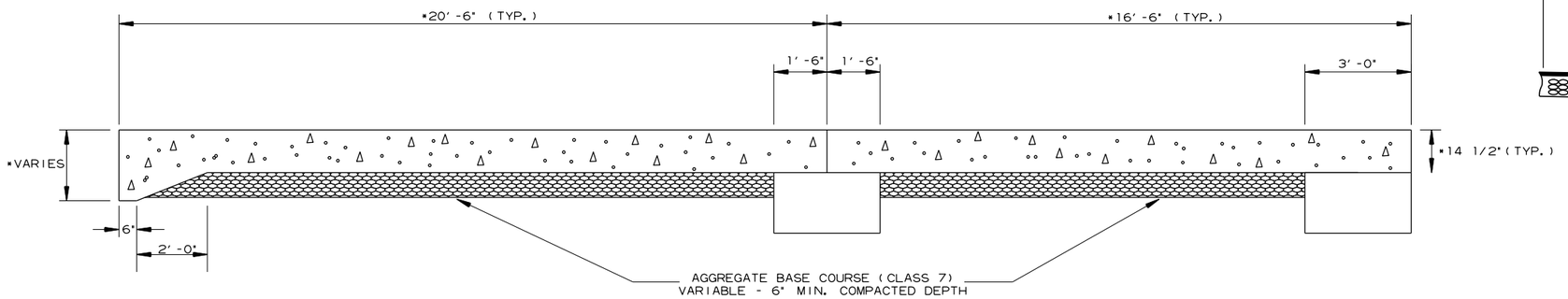
SITE 1 - STA. 18+35.50 TO STA. 19+63.25
SITE 1 - STA. 22+16.75 TO STA. 23+44.50

SITE 2 - STA. 38+30.50 TO STA. 39+58.25
SITE 2 - STA. 42+11.75 TO STA. 43+39.50

SITE 3 - STA. 58+23.00 TO STA. 59+63.25
SITE 3 - STA. 62+16.75 TO STA. 63+57.00

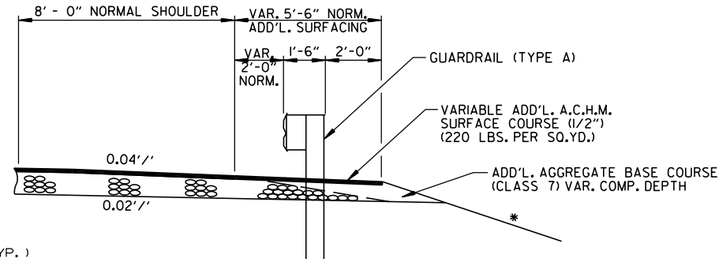



## DETAIL FOR TRANSITIONS




* SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

## SECTION OF APPROACH SLAB




## WIDENING FOR GUARDRAIL

*NOTE:
REFER TO STD. DWG. GR-9 AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.



Scott.Thornsberry@9/20/2023 12:58:20 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Cornlehorper\Lapile\Design\CIVIL\Drawings\R070471_05_SD_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070471 | | 10 | 103 |

1 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

N

EXIST. R/W

10+00

15+00

CONST. LIMITS

C.L. HWY. 82 STA. 17+22.22 =
C.L. CO. RD. 294 STA. 194+00.00
Δ = 86°30'00"

C.L. HWY. 82
S88°05'07"E

20+00

50' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

30' X 60'
400 CU. YDS.

E-14

33' X 66'
403 CU. YDS.

E-14

CONST. LIMITS

EXIST. R/W

EXIST. R/W CONST. LIMITS

PROP. R/W

PI 193+60.73

N 35°07'W

PI 193+01.86

N 80°45'38"W

PC 192+38.49

PT 191+86.82

PROP. R/W

T.C.E.

EXIST. R/W

CORNE BAYOU

EXIST. R/W

PI 190+97.74

C.L. C.R. 294

PROP. R/W

PC 189+89.06

N 12°43'10"E

PROP. R/W

50' NATURAL BUFFER REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN."

STA. 14+00.00
BEGIN JOB 070471
BEGIN SITE 1
LOG MILE= 9.31

| C.L. OF HWY. 82 SAND BAG DITCH CHECK | E-5 | INSTALLATIONS |
|---|---|---|
| STA. 18+68 | RT. | 1 |

| C.L. OF C.R. 294 SAND BAG DITCH CHECK | E-5 | INSTALLATIONS |
|---|---|---|
| STA. 191+82 TO STA. 192+78 | RT. | 2 |

| C.L. OF HWY. 82 SILT FENCE | E-11 | LIN. FT. |
|---|---|---|
| STA. 12+99 TO STA. 20+44 | LT. | 744 |
| STA. 13+02 TO STA. 17+25 | RT. | 456 |
| STA. 18+13 TO STA. 18+67 | RT. | 55 |
| STA. 19+01 TO STA. 19+10 | RT. | 9 |
| STA. 19+18 TO STA. 19+50 | RT. | 69 |
| STA. 19+40 TO STA. 19+86 | RT. | 224 |

| C.L. OF C.R. 294 SILT FENCE | E-11 | LIN. FT. |
|---|---|---|
| STA. 189+88 TO STA. 192+41 | LT. | 213 |
| STA. 189+87 TO STA. 190+88 | RT. | 118 |
| STA. 191+35 TO STA. 192+30 | RT. | 101 |
| STA. 192+54 TO STA. 192+65 | RT. | 43 |

| SEDIMENT BASIN | E-14 | CU. YDS. |
|---|---|---|
| STA. 19+94 | RT. | 403 |
| STA. 21+75 | RT. | 400 |

| C.L. OF HWY. 82 FILTER SOCK | E-3 | LIN. FT. |
|---|---|---|
| STA. 12+99 TO STA. 20+44 | LT. | 760 |
| STA. 13+00 TO STA. 20+42 | LT. | 760 |
| STA. 20+42 TO STA. 20+20 | LT. | 91 |
| STA. 19+89 TO STA. 20+54 | RT. | 247 |
| STA. 21+46 TO STA. 21+77 | RT. | 209 |
| STA. 20+80 TO STA. 21+68 | LT. | 217 |

50' NATURAL BUFFER REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN."

## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

304+03

304+00

C.L. C.R. 434

EXIST. R/W

E-11

PROP. R/W

N 1°54'53"E

PT 302+36.64

PI 301+87.49

N 12°27'18"W

PC 301+35.87

25+00

EXIST. R/W

E-14

24' X 48'
213 CU. YDS.

PI 301+20.19

PI 300+76.41

CONST. LIMITS

30+00

PC 300+31.10

N 1°35'07"W

S88°05'07"E
C.L. HWY. 82

C.L. HWY. 82 STA. 24+70.40 =
C.L. CO. RD. 434 STA. 300+00.00
Δ = 86°30'00"

S88°05'07"E
C.L. HWY. 82

33' X 66'
403 CU. YDS.

30' X 60'
400 CU. YDS.

24' X 48'
213 CU. YDS.

CORNE BAYOU

CONST. LIMITS

EXIST. R/W

EXIST. R/W

EXIST. R/W

EXIST. R/W

20+00

50' NATURAL BUFFER REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN."

| SAND BAG DITCH CHECK | E-5 | INSTALLATIONS |
|---|---|---|
| STA. 23+20 | LT. | 1 |
| STA. 26+26 | RT. | 1 |
| STA. 26+28 | LT. | 1 |

STA. 28+00.00
END SITE 1

## LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-11 = SILT FENCE
- E-3 = FILTER SOCK
- E-14 = SEDIMENT BASIN

| SILT FENCE | E-11 | LIN. FT. |
|---|---|---|
| STA. 20+81 TO STA. 21+82 | LT. | 216 |
| STA. 21+36 TO STA. 23+77 | LT. | 621 |
| STA. 21+46 TO STA. 29+00 | RT. | 865 |
| STA. 24+38 TO STA. 29+00 | LT. | 600 |

| SEDIMENT BASIN | E-14 | CU. YDS. |
|---|---|---|
| STA. 21+75 | LT. | 213 |
| STA. 27+72 | RT. | 213 |

| C.L. OF HWY. 82 FILTER SOCK | E-13 | LIN. FT. |
|---|---|---|
| STA. 21+48 TO STA. 21+64 | LT. | 70 |
| STA. 21+48 TO STA. 21+76 | RT. | 201 |

NOTE:

E-3 FOR SLOPE APPLICATIONS ARE TO BE STAKED PER STANDARD DRAWING TEC-1

E-13 FOR C.L. APPLICATIONS ARE NOT TO BE STAKED

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

HWY. 82 - SITE 1
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberry@20/2023 12:58:21 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\CorneHarperLaple\Design\CIVIL\Drawings\R070471_05E_EC1_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | 070471 | | II | 103 |

(1) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

EXIST. R/W
N
10+00
CONST. LIMITS
C.L. HWY. 82 STA. 17+22.22 =
C.L. CO. RD. 294 STA. 194+00.00
Δ = 86°30'00"
S88°05'07"E
C.L. HWY. 82
PI 193+60.73
PT 193+60.73
N1°35'07"W
EXIST. R/W CONST. LIMITS
PI 193+01.86
PC 192+38.49
PT 191+86.82
M 80.25 S88°
C.L. C.R. 294
T.C.E.
EXIST. R/W
PI 190+97.74
CORNIE BAYOU
EXIST. R/W
CONST. LIMITS
S88°05'07"E
C.L. HWY. 82

| C.L. OF HWY. 82 SAND BAG DITCH CHECK | (E-5) | INSTALLATIONS |
|---|---|---|
| STA. 16+81 | RT. | 1 |

| C.L. OF C.R. 294 SAND BAG DITCH CHECK | (E-5) | INSTALLATIONS |
|---|---|---|
| STA. 192+56 | LT. | 1 |

| C.L. OF HWY. 82 FILTER SOCK | (E-13) | LIN. FT. |
|---|---|---|
| STA. 14+00 TO STA. 18+80 | LT. | 480 |
| STA. 19+10 TO STA. 20+05 | LT. | 95 |

NOTE: OBLITERATE SEDIMENT BASINS AT STA. 19+94, STA. 21+75, & STA. 27+72 RT. FOR A TOTAL 1016 C.Y.

STA. 14+00.00
BEGIN JOB 070471
BEGIN SITE 1
LOG MILE= 9.31

NOTE:
(E-3) FOR SLOPE APPLICATIONS ARE TO BE STAKED PER STANDARD DRAWING TEC-1
(E-13) FOR C.L. APPLICATIONS ARE NOT TO BE STAKED

50' NATURAL BUFFER REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN."

## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |

304+03
304+00
C.L. C.R. 434
N1°54'53"E
PT 302+36.64

LEGEND
(E-5) = SAND BAG DITCH CHECK
(E-11) = SILT FENCE
(E-3) (E-13) = FILTER SOCK
(E-14) = SEDIMENT BASIN

| C.L. OF HWY. 82 FILTER SOCK | (E-13) | LIN. FT. |
|---|---|---|
| STA. 21+36 TO STA. 28+00 | LT. | 664 |

EXIST. R/W
20+00
PI 301+87.49
PC 301+35.87
25+00
N28°42'21"W
PT 300+76.41
RT 301+20.19
CONST. LIMITS
30+00
PC 300+31.10
N1°35'07"W
S88°05'07"E
C.L. HWY. 82
CORNIE BAYOU
50' NATURAL BUFFER REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN."
C.L. HWY. 82 STA 24+70.40 =
C.L. C. R. 434 STA 300+00.00
Δ = 86° 30' 00"

STA. 28+00.00
END SITE 1

N

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

HWY. 82 - SITE 1
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberry@9/20/2023 12:58:23 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.07047\Cornie Harper Laplie\Design\CIVIL\Drawings\R070471_05E_ECL_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | 070471 | | 12 | 103 |

1 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

EXIST. R/W

10+00

N

C.L. HWY. 82 STA. 17+22.22 =
C.L. CO. RD. 1294 STA. 194+00.00
Δ = 86°30'00"

CONST. LIMITS

S88°05'07"E
C.L. HWY. 82

N1°54'53"E

PI 193+60.73

PT 193+60.73

CONST. LIMITS

EXIST. R/W

EXIST. R/W CONST. LIMITS

PI 193+01.86

PC 192+38.49

PT 191+86.82

N38°52'08"E

T.C.E.

EXIST. R/W

CORNIE BAYOU

EXIST. R/W

PI 190+97.74

50' NATURAL BUFFER
REFER TO SPECIAL
PROVISION "STORM
WATER POLLUTION
PREVENTION PLAN."

STA. 14+00.00
BEGIN JOB 070471
BEGIN SITE 1
LOG MILE= 9.31

304+03

304+00

C.L. C.R. 434

N1°54'53"E

PT 302+36.64

PC 301+35.87

25+00

PI 301+87.49

N28°42'27"W

RT 301+20.19

PI 300+76.41

CONST. LIMITS

PC 300+31.10

N1°35'07"W

S88°05'07"E
C.L. HWY. 82

30+00

CONST. LIMITS

EXIST. R/W

EXIST. R/W

20+00

EXIST. R/W

EXIST. R/W

CORNIE BAYOU

50' NATURAL BUFFER
REFER TO SPECIAL
PROVISION "STORM
WATER POLLUTION
PREVENTION PLAN."

EXIST. R/W

EXIST. R/W

C.L. HWY. 82 STA 24+70.40 =
C.L. C. R. 434 STA 300+00.00
Δ = 86° 30' 00"

NOTE: OBLITERATE SEDIMENT BASINS AT
STA. 21+75 FOR A TOTAL 213 C.Y.

STA. 28+00.00
END SITE 1

## LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-11 = SILT FENCE
- E-3 E-13 = FILTER SOCK
- E-14 = SEDIMENT BASIN

## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

N

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

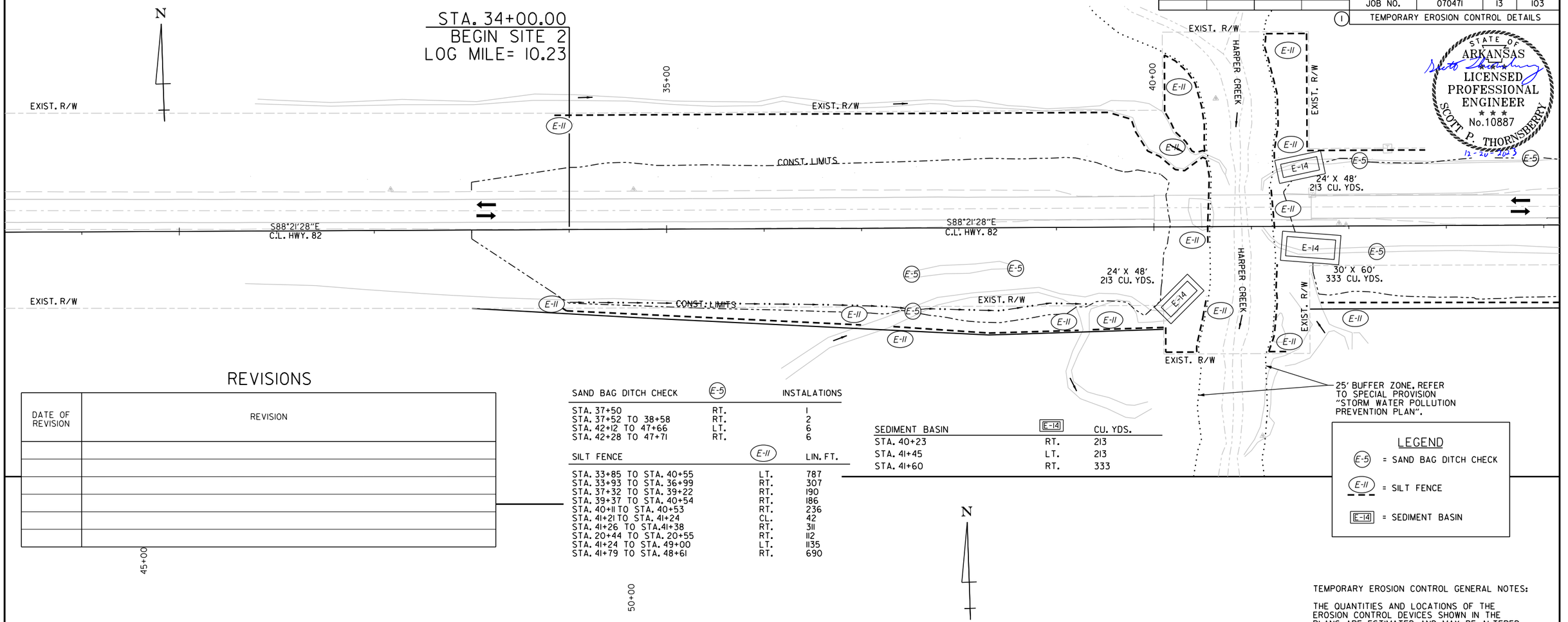
HWY. 82 - SITE 1
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberry@9/20/2023 12:58:24 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\CornieHarperLaplie\Design\CIVIL\Drawings\R070471.05E.ECI.003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 13 | 103 |

(1) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
★ ★ ★
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

| SAND BAG DITCH CHECK | (E-5) | INSTALATIONS |
|---|---|---|
| STA. 37+50 | RT. | 1 |
| STA. 37+52 TO 38+58 | RT. | 2 |
| STA. 42+12 TO 47+66 | LT. | 6 |
| STA. 42+28 TO 47+71 | RT. | 6 |

| SILT FENCE | (E-II) | LIN. FT. |
|---|---|---|
| STA. 33+85 TO STA. 40+55 | LT. | 787 |
| STA. 33+93 TO STA. 36+99 | RT. | 307 |
| STA. 37+32 TO STA. 39+22 | RT. | 190 |
| STA. 39+37 TO STA. 40+54 | RT. | 186 |
| STA. 40+11 TO STA. 40+53 | RT. | 236 |
| STA. 41+21 TO STA. 41+24 | CL. | 42 |
| STA. 41+26 TO STA.41+38 | RT. | 311 |
| STA. 20+44 TO STA. 20+55 | RT. | 112 |
| STA. 41+24 TO STA. 49+00 | LT. | 1135 |
| STA. 41+79 TO STA. 48+61 | RT. | 690 |

| SEDIMENT BASIN | (E-14) | CU. YDS. |
|---|---|---|
| STA. 40+23 | RT. | 213 |
| STA. 41+45 | LT. | 213 |
| STA. 41+60 | RT. | 333 |

### LEGEND

(E-5) = SAND BAG DITCH CHECK

(E-II) = SILT FENCE

(E-14) = SEDIMENT BASIN

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

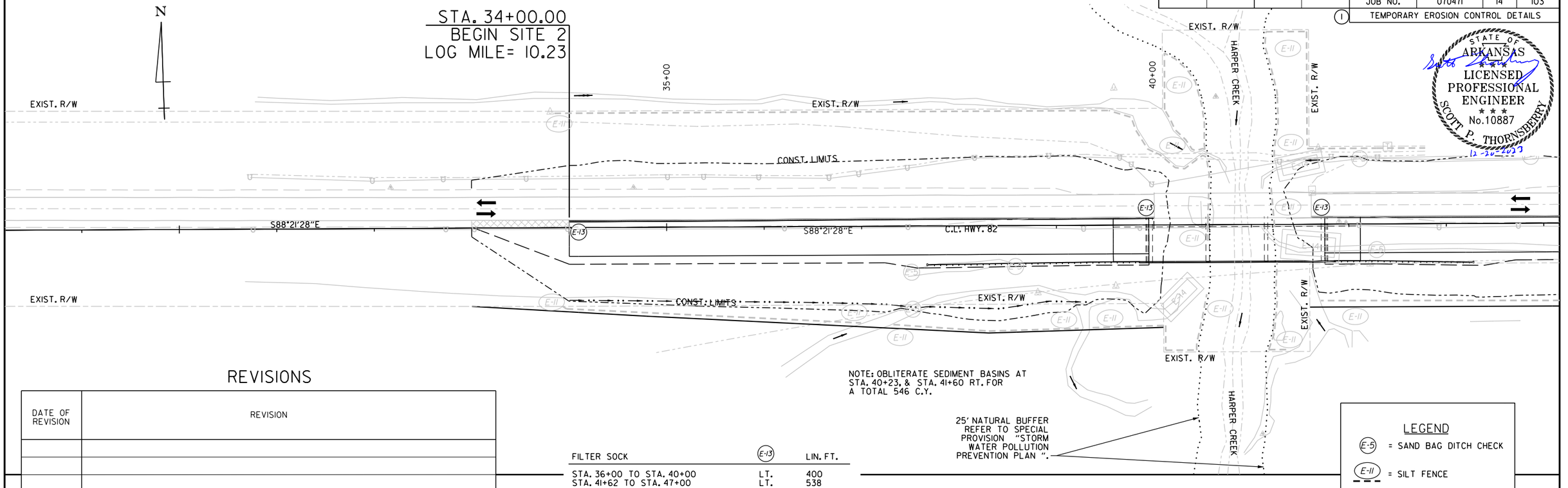
EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

HWY. 82 - SITE 2
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberry@20/2023 12:58:25 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_I69388.070471CorridorHarperLaPlle\Design\CIVIL\Drawings\R070471_05E_EC2_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 14 | 103 |

(1) TEMPORARY EROSION CONTROL DETAILS




STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

NOTE: OBLITERATE SEDIMENT BASINS AT STA. 40+23, & STA. 41+60 RT. FOR A TOTAL 546 C.Y.

25' NATURAL BUFFER REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN ".

| FILTER SOCK (E-13) | | LIN. FT. |
|---|---|---|
| STA. 36+00 TO STA. 40+00 | LT. | 400 |
| STA. 41+62 TO STA. 47+00 | LT. | 538 |

### LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK
- (E-14) = SEDIMENT BASIN

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

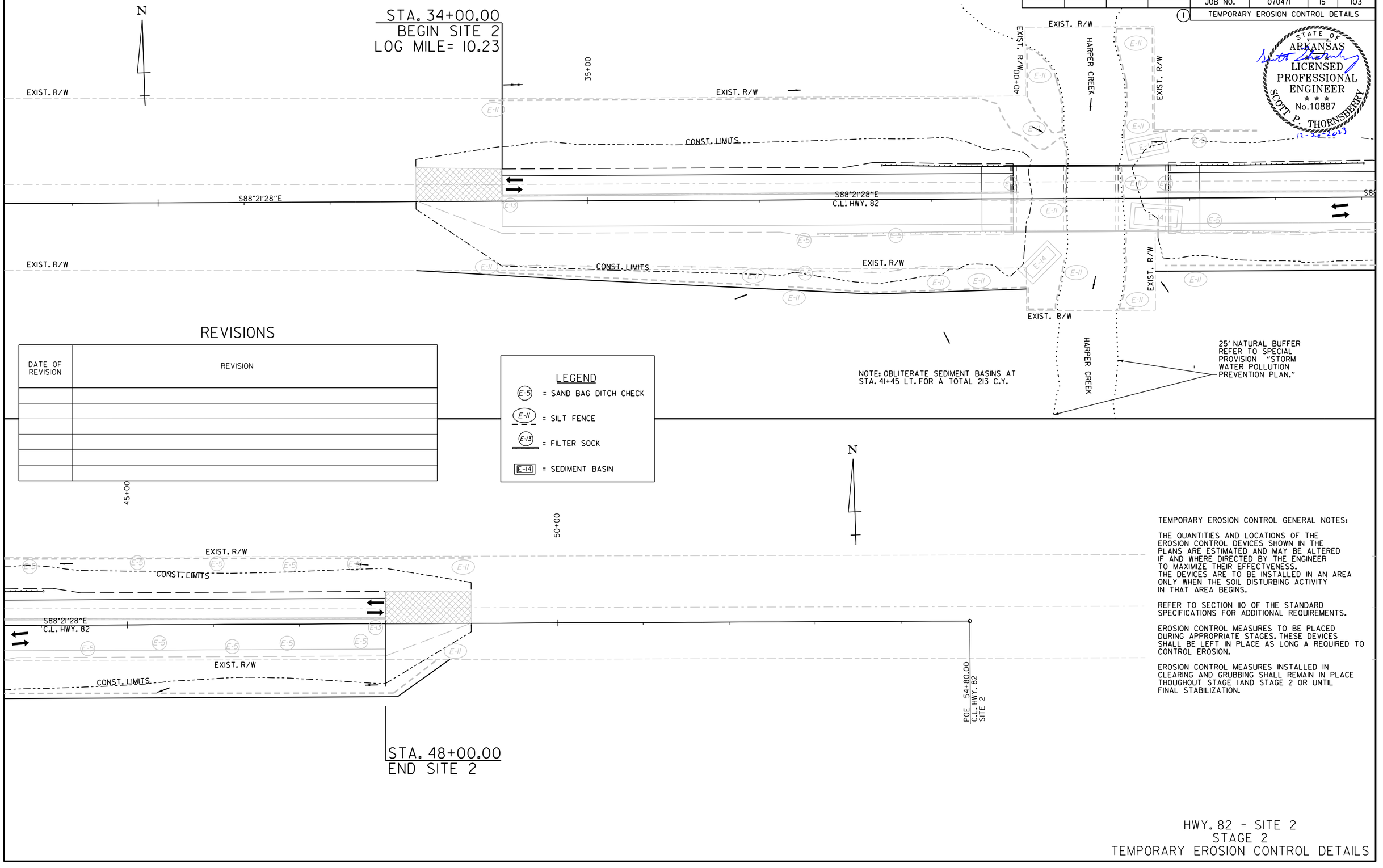
HWY. 82 - SITE 2
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberry@9/20/2023 12:58:26 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388.070471CornileHarperLaplie\Design\CIVIL\Drawings\R070471_05E_EC2_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070471 | | 15 | 103 |

1 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

## LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-11 = SILT FENCE
- E-13 = FILTER SOCK
- E-14 = SEDIMENT BASIN

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

HWY. 82 - SITE 2
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

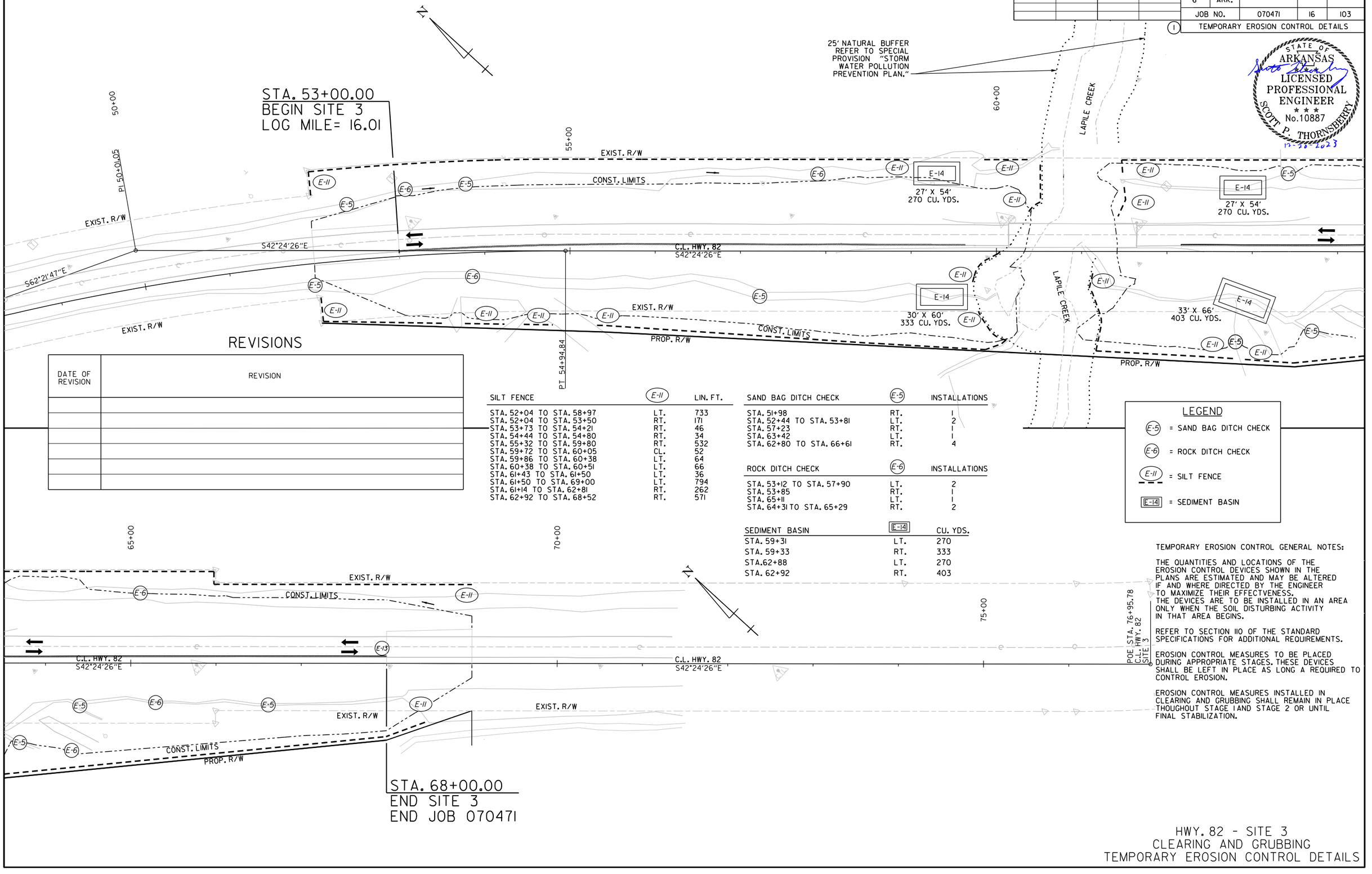
Scott.Thornsberry@9/20/2023 12:58:27 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Cornlea\harperLaplie\Design\CIVIL\Drawings\R070471_05E_EC2_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | 070471 | | 16 | 103 |

1 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| SILT FENCE | E-II | LIN. FT. |
|---|---|---|
| STA. 52+04 TO STA. 58+97 | LT. | 733 |
| STA. 52+04 TO STA. 53+50 | RT. | 171 |
| STA. 53+73 TO STA. 54+21 | RT. | 46 |
| STA. 54+44 TO STA. 54+80 | RT. | 34 |
| STA. 55+32 TO STA. 59+80 | RT. | 532 |
| STA. 59+72 TO STA. 60+05 | CL. | 52 |
| STA. 59+86 TO STA. 60+38 | LT. | 64 |
| STA. 60+38 TO STA. 60+51 | LT. | 66 |
| STA. 61+43 TO STA. 61+50 | LT. | 36 |
| STA. 61+50 TO STA. 69+00 | LT. | 794 |
| STA. 61+14 TO STA. 62+81 | RT. | 262 |
| STA. 62+92 TO STA. 68+52 | RT. | 571 |

| SAND BAG DITCH CHECK | E-5 | INSTALLATIONS |
|---|---|---|
| STA. 51+98 | RT. | 1 |
| STA. 52+44 TO STA. 53+81 | LT. | 2 |
| STA. 57+23 | RT. | 1 |
| STA. 63+42 | LT. | 1 |
| STA. 62+80 TO STA. 66+61 | RT. | 4 |

| ROCK DITCH CHECK | E-6 | INSTALLATIONS |
|---|---|---|
| STA. 53+12 TO STA. 57+90 | LT. | 2 |
| STA. 53+85 | RT. | 1 |
| STA. 65+11 | LT. | 1 |
| STA. 64+31 TO STA. 65+29 | RT. | 2 |

| SEDIMENT BASIN | E-14 | CU. YDS. |
|---|---|---|
| STA. 59+31 | LT. | 270 |
| STA. 59+33 | RT. | 333 |
| STA.62+88 | LT. | 270 |
| STA. 62+92 | RT. | 403 |

### LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-II = SILT FENCE
- E-14 = SEDIMENT BASIN

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

STA. 68+00.00
END SITE 3
END JOB 070471

HWY. 82 - SITE 3
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

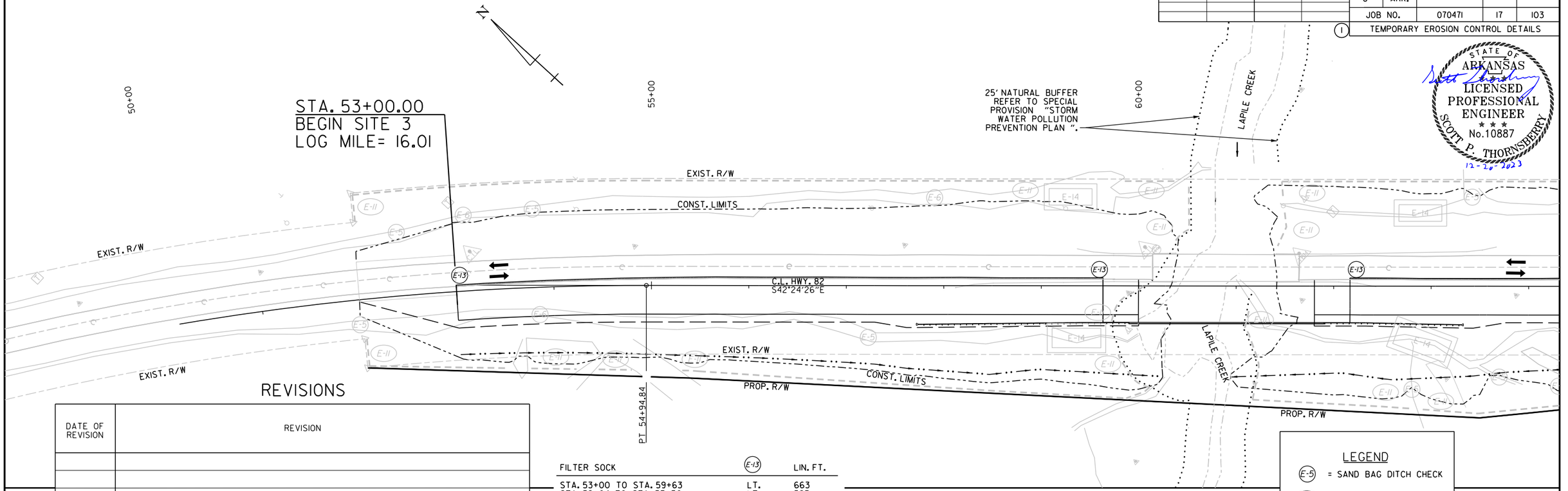
Scott.Thornsberry@9/20/2023 12:58:28 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938.070471\Cornelia Harper Lapile Design\CIVIL\Drawings\R070471_05E_EC3.001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | 070471 | | 17 | 103 |

1 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## REVISIONS

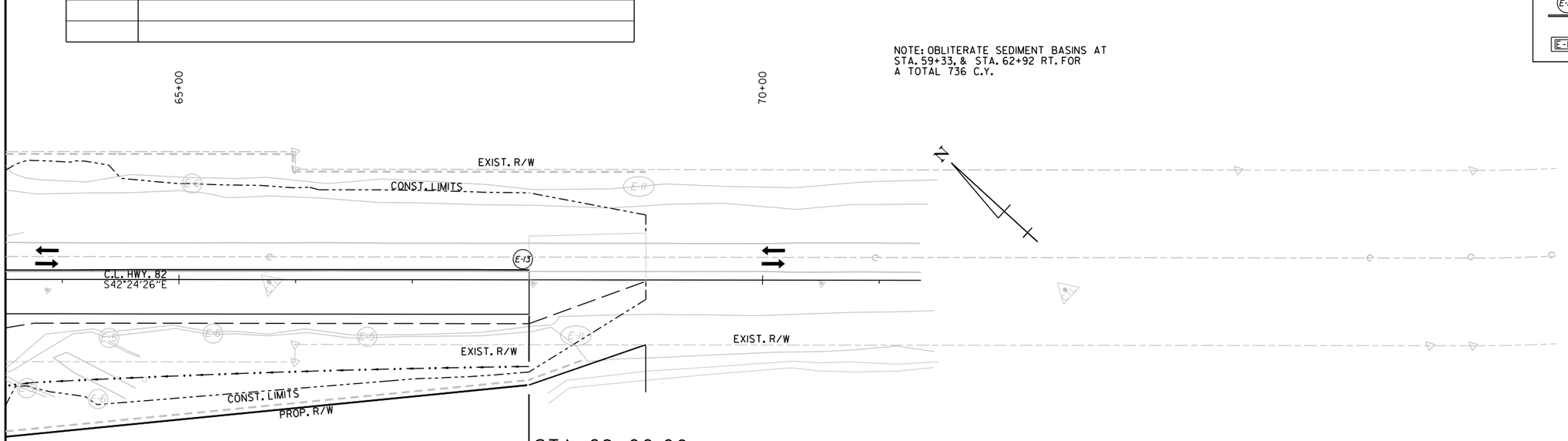
| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

| FILTER SOCK | E-13 | LIN. FT. |
|---|---|---|
| STA. 53+00 TO STA. 59+63 | LT. | 663 |
| STA. 52+04 TO STA. 53+50 | LT. | 583 |

NOTE: OBLITERATE SEDIMENT BASINS AT STA. 59+33, & STA. 62+92 RT. FOR A TOTAL 736 C.Y.

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-11 = SILT FENCE
- E-13 = FILTER SOCK
- E-14 = SEDIMENT BASIN




STA. 68+00.00
END SITE 3
END JOB 070471

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

HWY. 82 - SITE 3
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

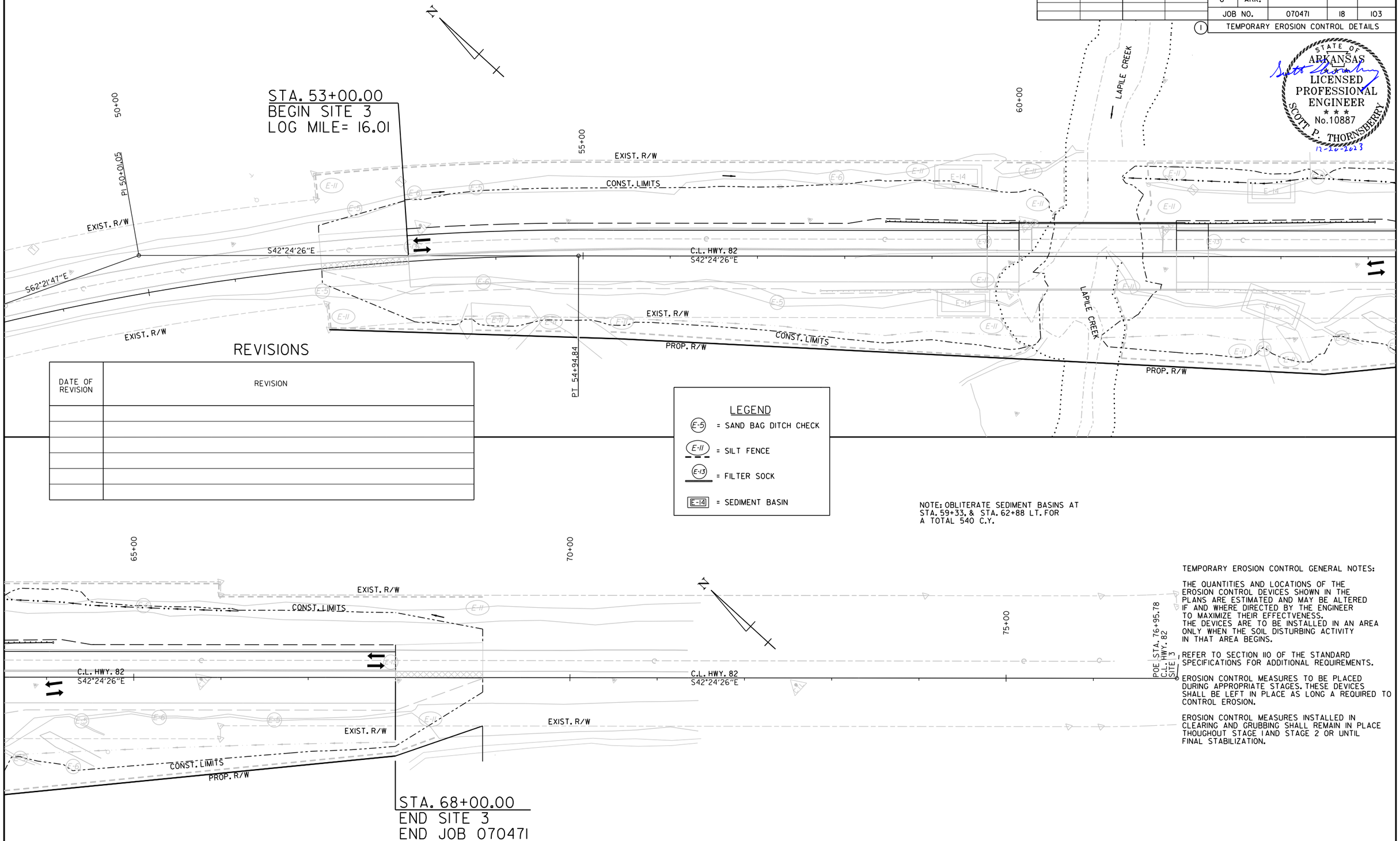

Scott.Thornsberry@9/20/2023 12:58:29 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.070471CornieHarperLapile\Design\CIVIL\Drawings\R070471_05E_EC3_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | 070471 | | 18 | 103 |

(1) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## REVISIONS

| DATE OF REVISION | REVISION |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

## LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK
- (E-14) = SEDIMENT BASIN

NOTE: OBLITERATE SEDIMENT BASINS AT STA. 59+33, & STA. 62+88 LT. FOR A TOTAL 540 C.Y.

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG A REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

HWY. 82 - SITE 3
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberry@9/20/2023 12:58:30 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16388_070471\CornleHarperLapile\Design\CIVIL\Drawings\R070471_05E_EC3_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 19 | 103 |
| | | | | (1) | MAINTENANCE OF TRAFFIC DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
12-20-2023

## LEGEND

TRAFFIC FLOW ARROWS

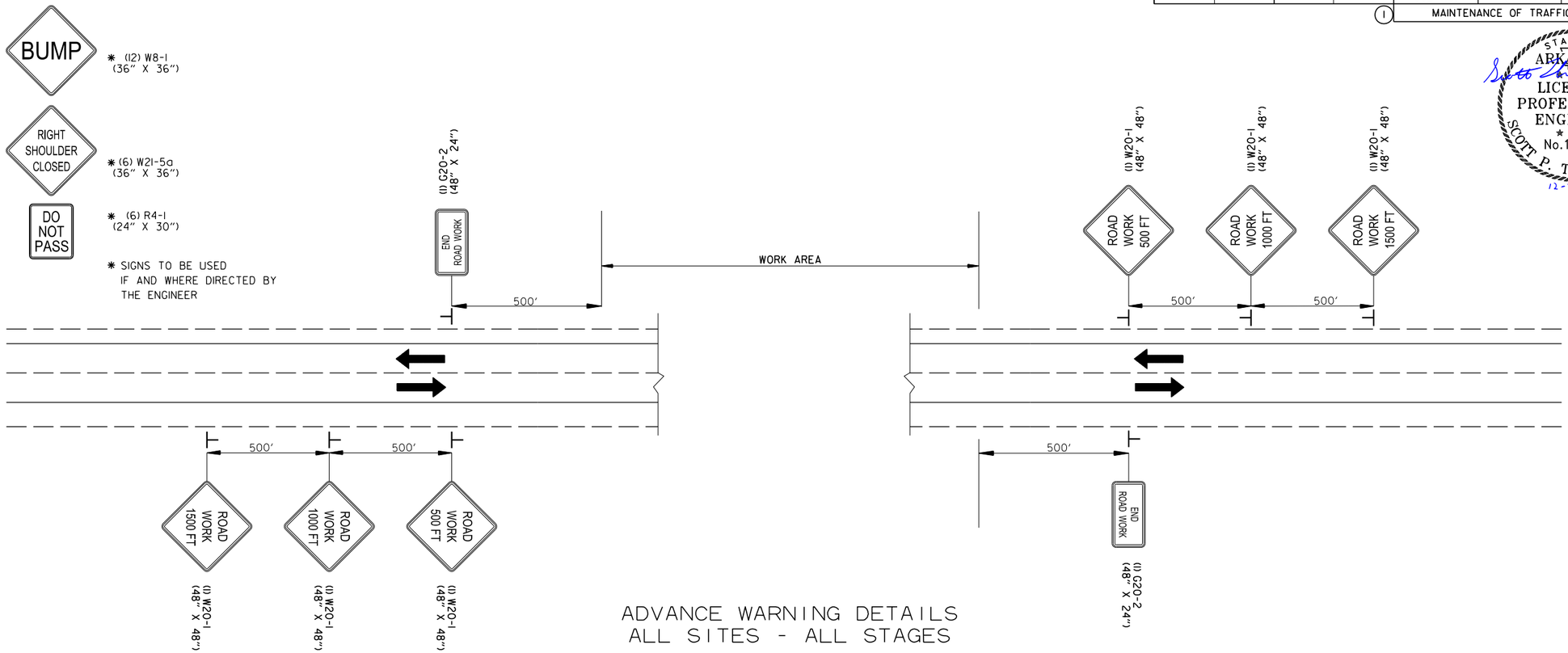
TEMPORARY TRAFFIC SIGN

BUMP — * (12) W8-1 (36" X 36")

RIGHT SHOULDER CLOSED — * (6) W21-5a (36" X 36")

DO NOT PASS — * (6) R4-1 (24" X 30")

* SIGNS TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER




## ADVANCE WARNING DETAILS ALL SITES - ALL STAGES

## CONSTRUCTION SEQUENCE FOR ALL SITES

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS SHOWN ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETAILS) CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHIFT. (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

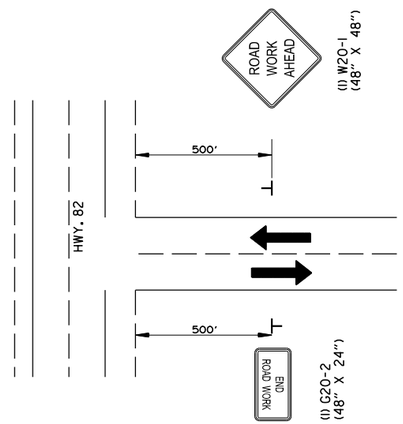
STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.



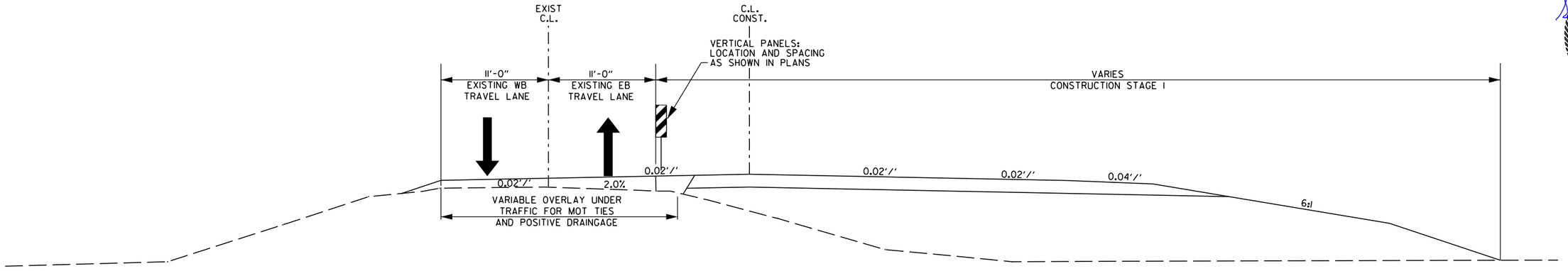

## ADVANCE WARNING COUNTY ROADS - SITE 1 (ALL STAGES)

COUNTY RD. 294
COUNTY RD. 434

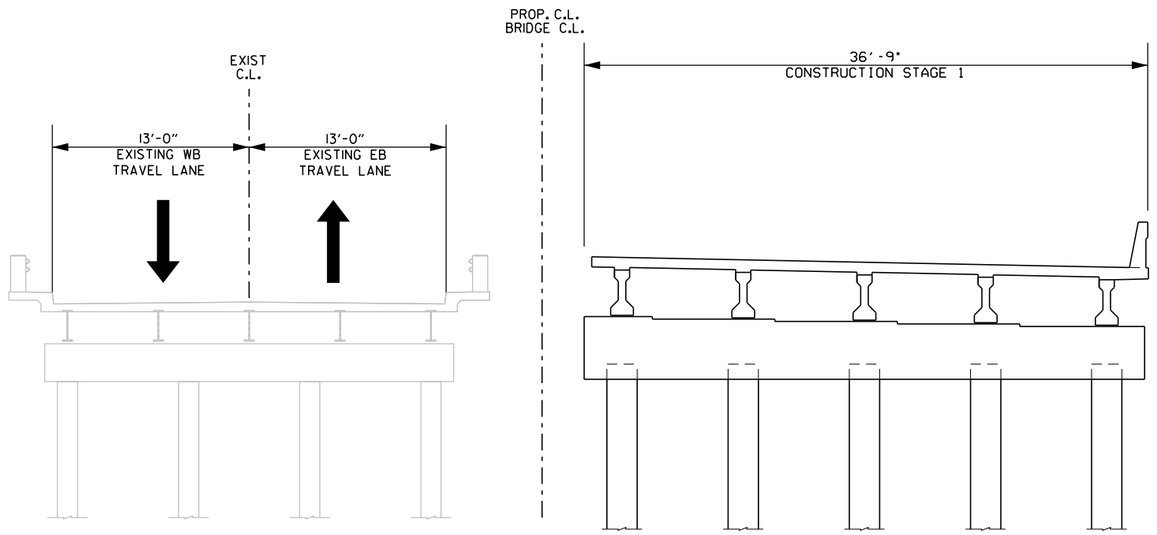
Scott.Thornsberry@20/2023 12:58:31PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388_070471CornieHarperLapile\Design\CIVIL\Drawings\R070471_06_MOT_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 20 | 103 |
| | | | | (1) | MAINTENANCE OF TRAFFIC DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## STAGE 1(SITES 1 & 2)
## MAINTENANCE OF TRAFFIC DETAILS
## TYPICAL SECTION




LOCATIONS SHOWN ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETAILS CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHIFT. (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

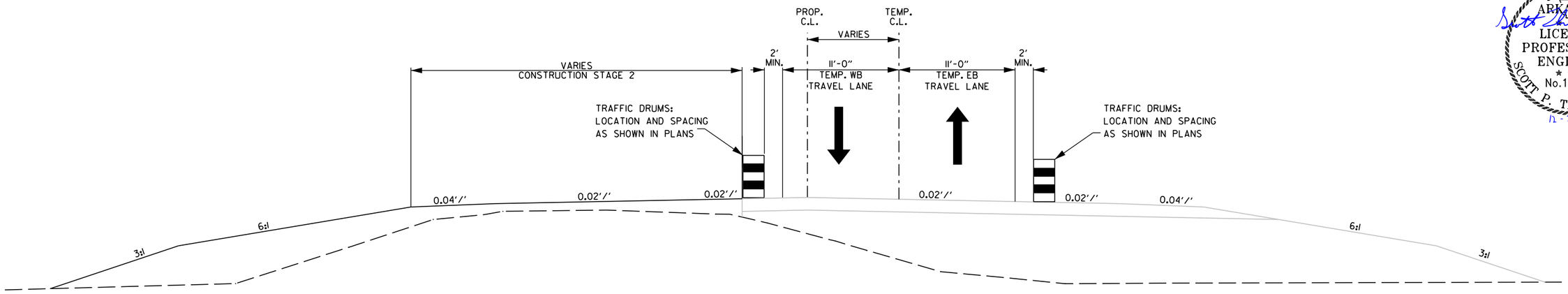
CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

## STAGE 1
## HWY. 82 SITES 1& 2
## MAINTENANCE OF TRAFFIC DETAILS

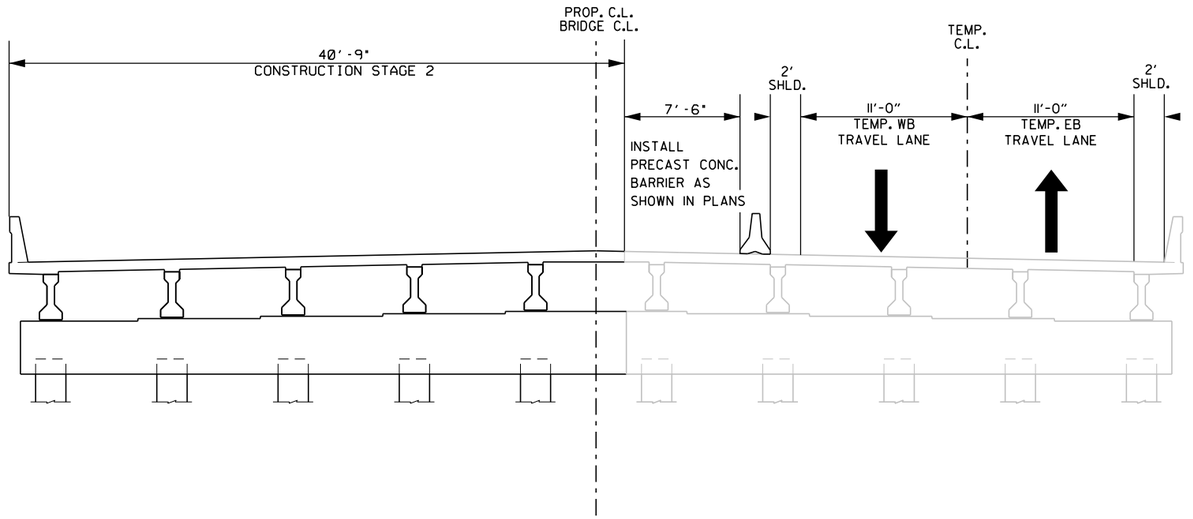

Scott.Thornsberry@9/20/2023 12:58:31 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388.070471CornileHarperLaplie\Design\CIVIL\Drawings\R070471.06_MOT_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 21 | 103 |
| | | | | (1) | MAINTENANCE OF TRAFFIC DETAILS | | | |




STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

## STAGE 2 (SITES 1& 2) MAINTENANCE OF TRAFFIC DETAILS TYPICAL SECTION




LOCATIONS SHOWN ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETAILS CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHIFT. (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

## STAGE 2 HWY. 82 SITES 1& 2 MAINTENANCE OF TRAFFIC DETAILS

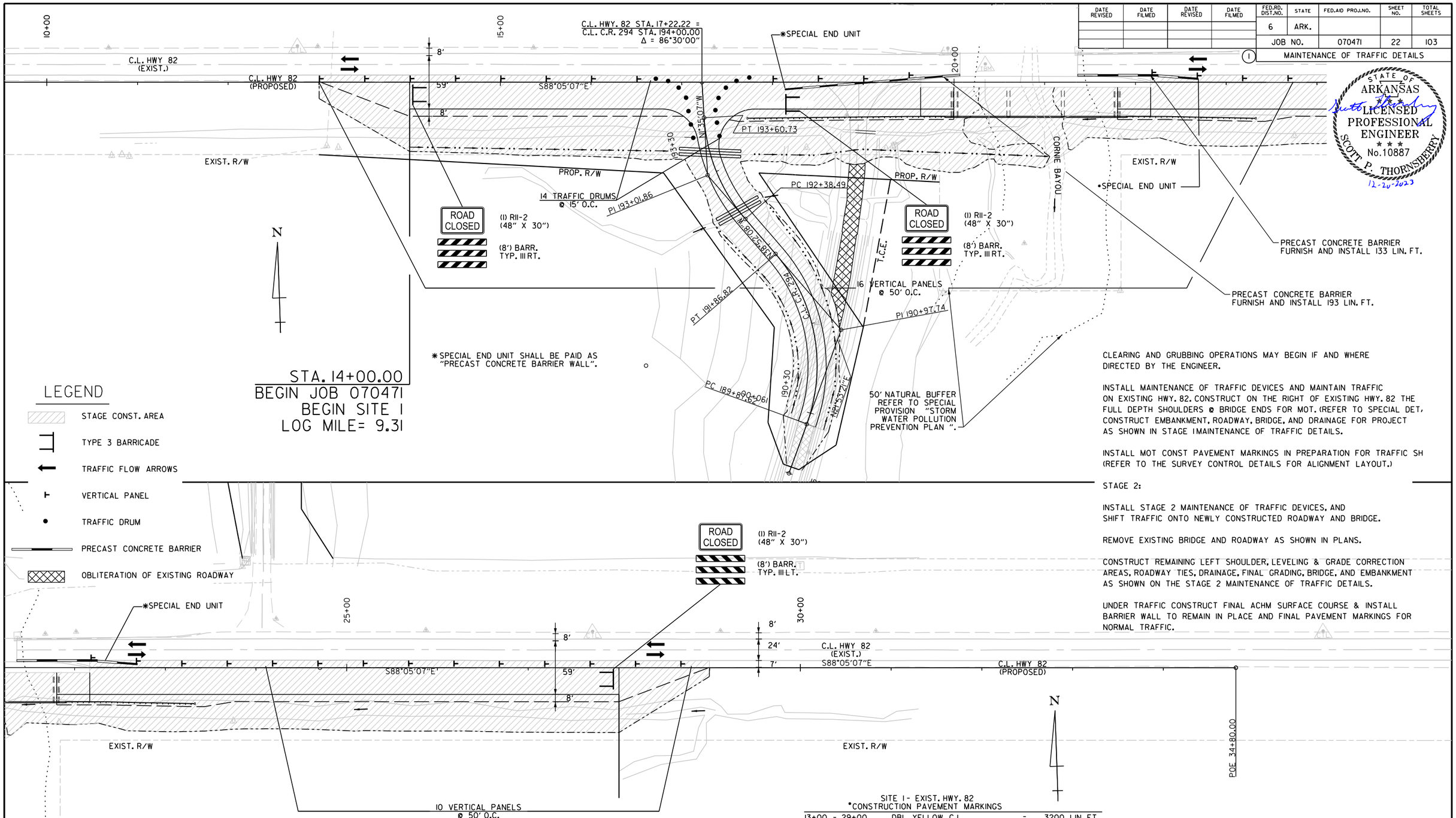
Scott.Thornsberry@9/20/2023 12:58:32 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388.070471\CorrineHarper\Lapile\Design\CIVIL\Drawings\R070471_06_MOT_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 22 | 103 |

MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023




CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DET, CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SH (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

SITE 1 - EXIST. HWY. 82
*CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 13+00 - 29+00 | DBL. YELLOW C.L. | = | 3200 LIN. FT. |
| 13+00 - 29+00 | WH. EDGE LINE (RT. & LT.) | = | 3200 LIN. FT. |

*IF AND WHERE DIRECTED BY THE ENGINEER

SITE 1 - QUANTITIES
(STA. 13+00 TO 29+00)

| | |
|---|---|
| FURN. & INSTALL PRECAST CONC. BARRIER | 326 LIN. FT. |
| VERTICAL PANELS | 26 EACH |
| TRAFFIC DRUMS | 14 EACH |

STAGE 1
HWY. 82 - SITE 1
MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberry@9/20/2023 12:58:33 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163188.070471\CornieHarperLaplie\Design\CIVIL\Drawings\R070471_06_MOT_004.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 23 | 103 |

(1) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

N

NOTE:

REFER TO SURVEY CONTROL DETAIL SHEETS FOR SITES 1-3 "CONST. PVMT. MARKINGS" ALIGNMENTS FOR STAGE 2 TRAFFIC SHIFT.

*SPECIAL END UNIT SHALL BE PAID AS "PRECAST CONCRETE BARRIER WALL."

STA. 14+00.00
BEGIN JOB 070471
BEGIN SITE 1
LOG MILE= 9.31

C.L. CORNIE BAYOU
CONST. PVMT. MRKINGS.
P.I. = 141+04.82
Δ = 9°44'59" RT.
D = 3°30'00"
T = 104.82'
L = 209.35'
P.C. = 140+00.00
P.T. = 142+09.35
NO SUPER

(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
(1) (8') BARR. TYP. III LT.
ROAD CLOSED

50' NATURAL BUFFER REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN ".

C.L. CORNIE BAYOU
CONST. PVMT. MRKINGS.
P.I. = 144+79.92
Δ = 6°53'13" LT.
D = 3°30'00"
T = 98.50'
L = 196.77'
P.C. = 143+81.42
P.T. = 145+78.19
NO SUPER

PRECAST CONCRETE BARRIER
RELOCATE 326 LIN. FT. &
FURNISH AND INSTALL 100 LIN. FT.

(1) W1-4aR (36" X 36")
(1) W13-1 (18" X 18")
XX MPH

EXIST. R/W
03/26/2018 8:24:25 BEGIN CHAIN LIST
500'
10+00
8'
24'
8'
C.L. HWY 82 (EXIST.)
PI 141+04.82
21 TRAFFIC DRUMS @ 50' O.C.
PC 143+81.42
*SPECIAL END UNIT
145+00
PT 145+78.19
20+00
CORNIE BAYOU
EXIST. R/W
*SPECIAL END UNIT
PC 148+06.19
PT 149+74.71
PC 140+00.00
PROP. R/W
PT 142+09.35
8' CONST. PAVEMENT MARKINGS (WHITE)
59'
9 TRAFFIC DRUMS @ 15' O.C.
CONST. PAVEMENT MARKINGS (DBL. YELLOW)
(10) W1-8 (18" X 24")
PI 144+79.92
PROP. R/W
C.L. CORNIE BAYOU CONST. PVMT. MRKINGS.
(1) W13-1 (18" X 18")
(1) W1-4aL (36" X 36")
PI 148+90.52
(1) W13-1 (18" X 18")
(1) W1-4aR (36" X 36")
(2) W1-8 (18" X 24")

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DET, CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SH (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

## LEGEND

- STAGE CONST. AREA
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS
- TRAFFIC DRUM
- PRECAST CONCRETE BARRIER
- TEMPORARY TRAFFIC SIGN
- OBLITERATION OF EXISTING ROADWAY

C.L. CORNIE BAYOU
CONST. PVMT. MRKINGS.
P.I. = 148+90.52
Δ = 5°53'53" LT.
D = 3°30'00"
T = 84.33'
L = 168.52'
P.C. = 148+06.19
P.T. = 149+74.71
NO SUPER

PROP. R/W
PT 302+36.46
PI 301+87.49
PC 301+36.07
13 TRAFFIC DRUMS @ 15' O.C.
EXIST. R/W
PT 149+74.71
PT 301+20.02
150+00
25+00
PI 300+76.41
PC 300+31.10
C.L. CORNIE BAYOU CONST. PVMT. MRKINGS.
PI 148+90.52
(8) W1-8 (18" X 24")
ROAD CLOSED
(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
(1) (8') BARR. TYP. III RT.
18 TRAFFIC DRUMS @ 50' O.C.
EXIST. R/W
PC 152+34.29
C.L. CORNIE BAYOU
CONST. PVMT. MRKINGS.
P.I. = 153+19.25
Δ = 5°56'31" RT.
D = 3°30'00"
T = 84.96'
L = 169.77'
P.C. = 152+34.29
P.T. = 154+04.06
NO SUPER

STA. 28+00.00
END SITE 1

PI 153+19.25
POE 154+04.16
500'
CONST. PAVEMENT MARKINGS (WHITE)
30+00
EXIST. R/W
8'
59'
8'
PT 154+04.06
CONST. PAVEMENT MARKINGS (DBL. YELLOW)
EXIST. R/W

NOTE:

REFER TO SURVEY CONTROLS DETAIL SHEETS FOR SITES 1-3 "CONST. PVMT. MARKINGS" ALIGNMENTS FOR STAGE 2 TRAFFIC SHIFT.

(1) W1-4aL (36" X 36")
(1) W13-1 (18" X 18")
XX MPH

8'
24'
8'
C.L. HWY 82 (EXIST.)
POE 34+80.00

SITE 1- TRAFFIC SHIFT
CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 140+00.00 - 145+62.00 | DBL. YELLOW C.L. | = | 1124 LIN. FT. |
| 140+00.00 - 145+62.00 | WH. EDGE LINE (RT. & LT.) | = | 1124 LIN. FT. |
| 148+15.50 - 154+04.00 | DBL. YELLOW C.L. | = | 1177 LIN. FT. |
| 148+15.50 - 154+04.00 | WH. EDGE LINE (RT. & LT.) | = | 1177 LIN. FT. |

SITE 1- EXIST. HWY. 82
REMOVE PERMANENT PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 14+00.00 - 16+50.00 | DBL. YELLOW C.L. | = | 500 LIN. FT. |
| 14+56.00 - 18+00.00 | WH. EDGE LINE (RT.) | = | 344 LIN. FT. |
| 25+70.00 - 28+00.00 | DBL. YELLOW C.L. | = | 460 LIN. FT. |
| 25+00.00 - 28+00.00 | WH. EDGE LINE (RT.) | = | 300 LIN. FT. |

SITE 1- TRAFFIC SHIFT
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

| | | |
|---|---|---|
| 145+62.00 - 148+15.50 | DBL. YELLOW C.L. | = 507 LIN. FT. |
| 145+62.00 - 148+15.50 | WH. EDGE LINE (RT. & LT.) | = 507 LIN. FT. |

SITE 1- QUANTITIES
(STA. 145+34 TO 149+60)

| | |
|---|---|
| FURN. & INSTALL PRECAST CONC. BARRIER | 100 LIN. FT. |
| RELOCATE PRECAST CONC. BARRIER | 326 LIN. FT. |
| TRAFFIC DRUMS | 61 EACH |

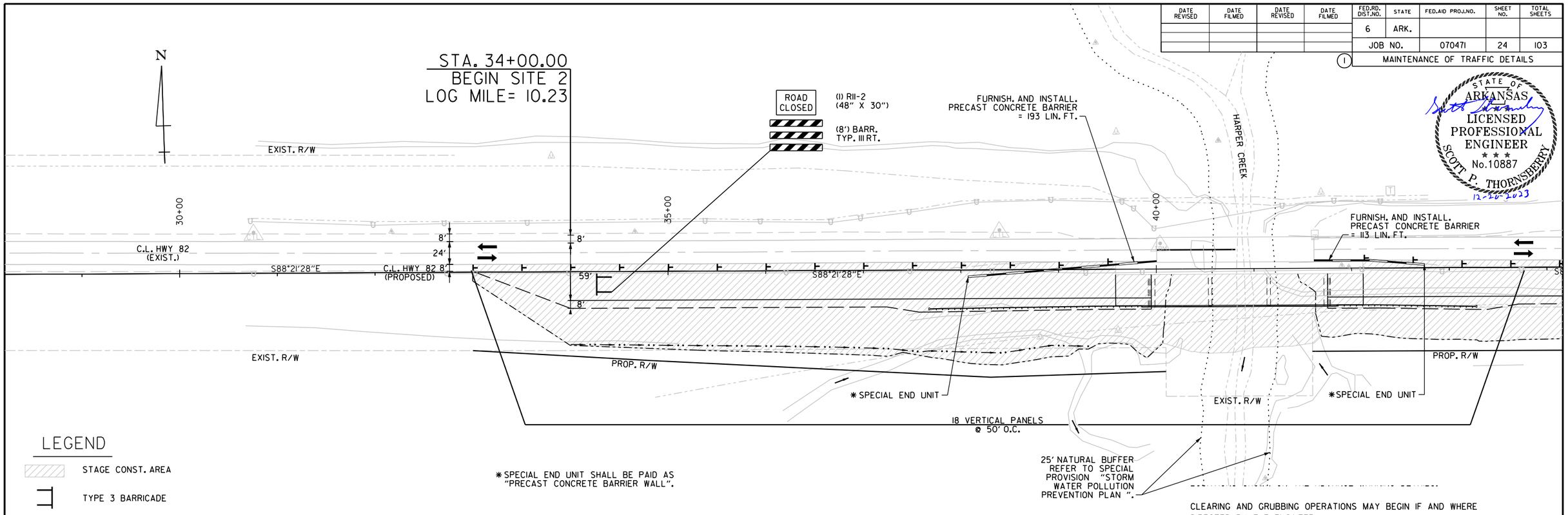
# STAGE 2
# HWY. 82 SITE 1
# MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberry@20/2023 12:58:34 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938\070471CornieHarperLaplie\Design\CIVIL\Drawings\R070471_06_MOT_005.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 24 | 103 |

(1) MAINTENANCE OF TRAFFIC DETAILS




## LEGEND

- STAGE CONST. AREA
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS
- VERTICAL PANEL
- PRECAST CONCRETE BARRIER

*SPECIAL END UNIT SHALL BE PAID AS "PRECAST CONCRETE BARRIER WALL".

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETAILS) CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHIFT. (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

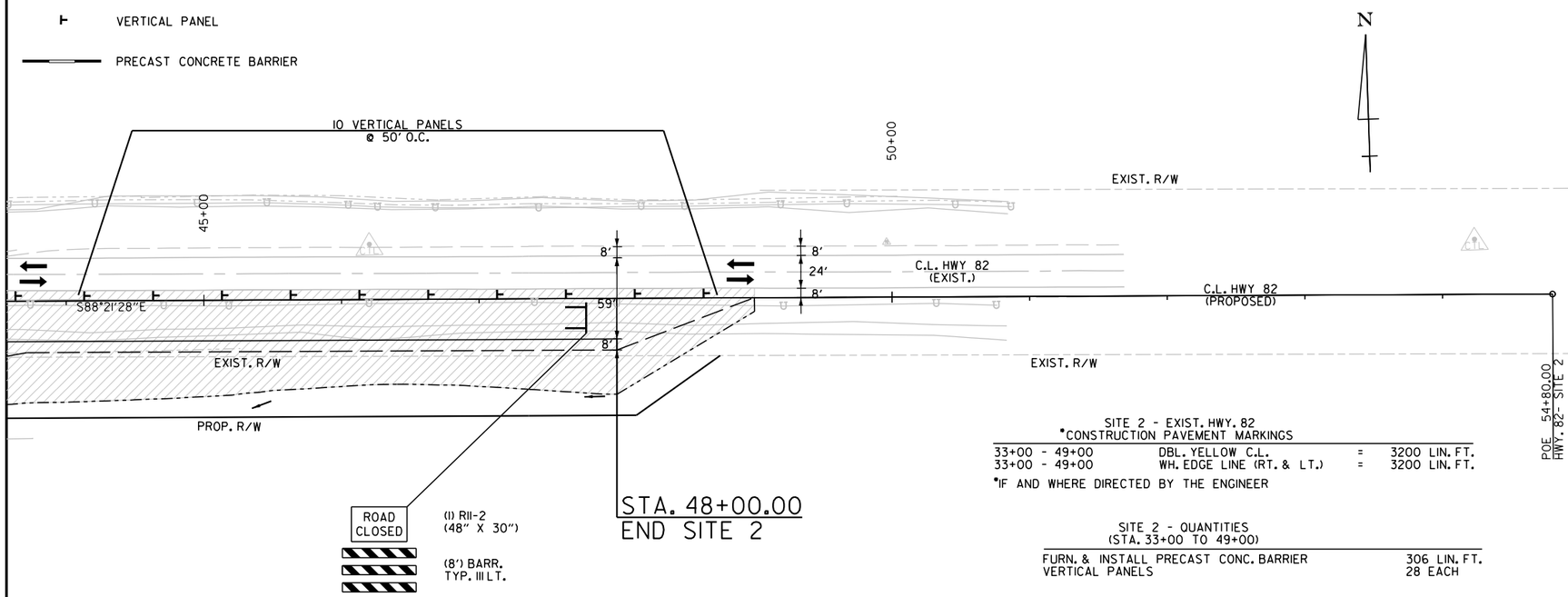
STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.




SITE 2 - EXIST. HWY. 82
*CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 33+00 - 49+00 | DBL. YELLOW C.L. | = | 3200 LIN. FT. |
| 33+00 - 49+00 | WH. EDGE LINE (RT. & LT.) | = | 3200 LIN. FT. |

*IF AND WHERE DIRECTED BY THE ENGINEER

SITE 2 - QUANTITIES
(STA. 33+00 TO 49+00)

| | |
|---|---|
| FURN. & INSTALL PRECAST CONC. BARRIER | 306 LIN. FT. |
| VERTICAL PANELS | 28 EACH |

STAGE I
HWY. 82 - SITE 2
MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

Scott.Thornsberry@9/20/2023 12:58:35 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388.070471\Cornie Harper Laplie\Design\CIVIL\Drawings\R070471_06_MOT_006.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070471 | | 25 | 103 |

(1) MAINTENANCE OF TRAFFIC DETAILS

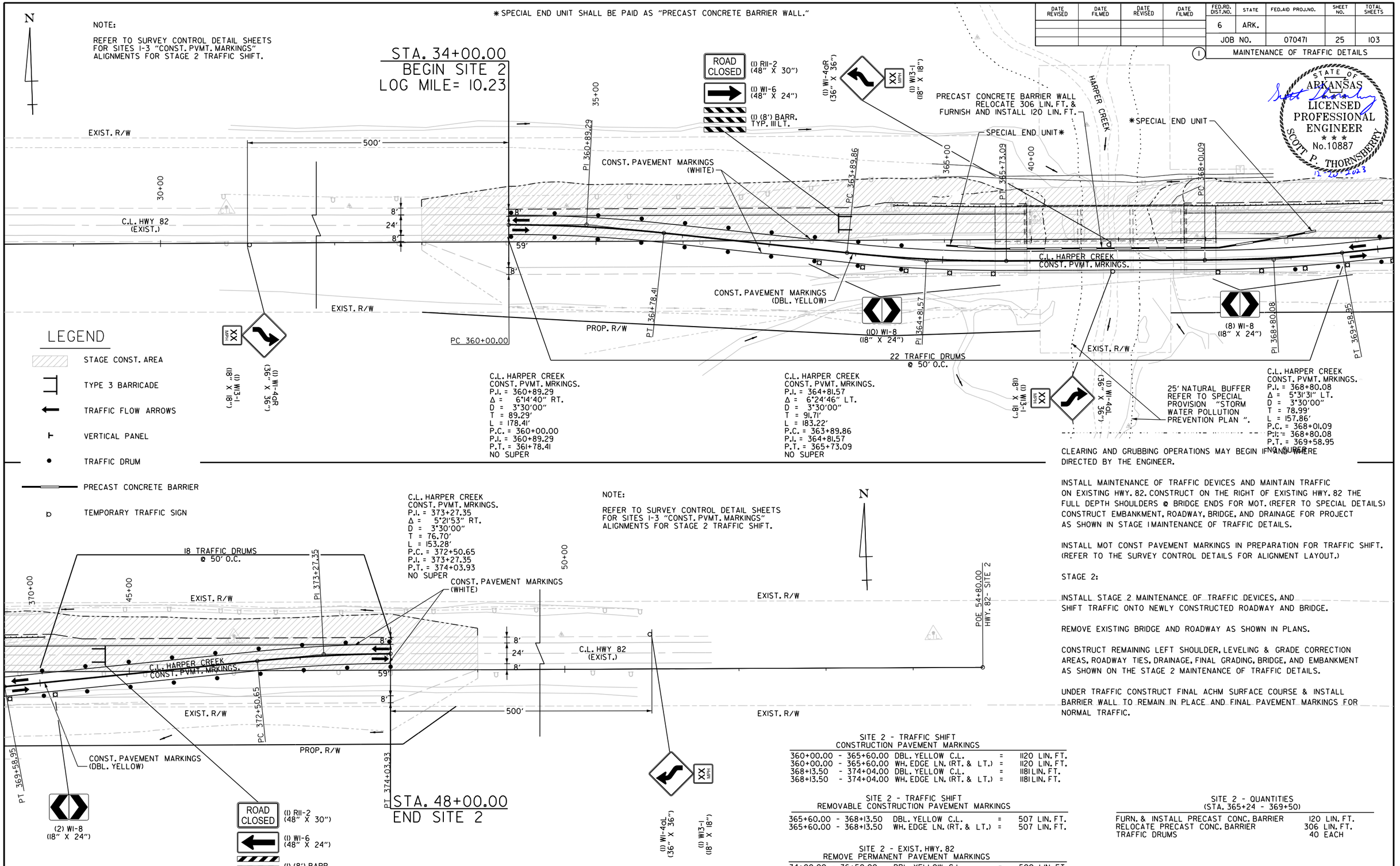
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

N

NOTE:

REFER TO SURVEY CONTROL DETAIL SHEETS FOR SITES 1-3 "CONST. PVMT. MARKINGS" ALIGNMENTS FOR STAGE 2 TRAFFIC SHIFT.

* SPECIAL END UNIT SHALL BE PAID AS "PRECAST CONCRETE BARRIER WALL."




C.L. HARPER CREEK
CONST. PVMT. MRKINGS.
P.I. = 360+89.29
Δ = 6°14'40" RT.
D = 3°30'00"
T = 89.29'
L = 178.41'
P.C. = 360+00.00
P.I. = 360+89.29
P.T. = 361+78.41
NO SUPER

C.L. HARPER CREEK
CONST. PVMT. MRKINGS.
P.I. = 364+81.57
Δ = 6°24'46" LT.
D = 3°30'00"
T = 91.71'
L = 183.22'
P.C. = 363+89.86
P.I. = 364+81.57
P.T. = 365+73.09
NO SUPER

C.L. HARPER CREEK
CONST. PVMT. MRKINGS.
P.I. = 368+80.08
Δ = 5°31'31" LT.
D = 3°30'00"
T = 78.99'
L = 157.86'
P.C. = 368+01.09
P.I. = 368+80.08
P.T. = 369+58.95
NO SUPER

## LEGEND

- STAGE CONST. AREA
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS
- VERTICAL PANEL
- TRAFFIC DRUM
- PRECAST CONCRETE BARRIER
- TEMPORARY TRAFFIC SIGN




NOTE:

REFER TO SURVEY CONTROL DETAIL SHEETS FOR SITES 1-3 "CONST. PVMT. MARKINGS" ALIGNMENTS FOR STAGE 2 TRAFFIC SHIFT.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETAILS) CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHIFT. (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

SITE 2 - TRAFFIC SHIFT
CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 360+00.00 - 365+60.00 | DBL. YELLOW C.L. | = | 1120 LIN. FT. |
| 360+00.00 - 365+60.00 | WH. EDGE LN. (RT. & LT.) | = | 1120 LIN. FT. |
| 368+13.50 - 374+04.00 | DBL. YELLOW C.L. | = | 1181 LIN. FT. |
| 368+13.50 - 374+04.00 | WH. EDGE LN. (RT. & LT.) | = | 1181 LIN. FT. |

SITE 2 - TRAFFIC SHIFT
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 365+60.00 - 368+13.50 | DBL. YELLOW C.L. | = | 507 LIN. FT. |
| 365+60.00 - 368+13.50 | WH. EDGE LN. (RT. & LT.) | = | 507 LIN. FT. |

SITE 2 - EXIST. HWY. 82
REMOVE PERMANENT PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 34+00.00 - 36+50.00 | DBL. YELLOW C.L. | = | 500 LIN. FT. |
| 34+50.00 - 36+90.00 | WH. EDGE LINE (RT.) | = | 240 LIN. FT. |
| 45+50.00 - 48+00.00 | DBL. YELLOW C.L. | = | 500 LIN. FT. |
| 44+70.00 - 47+50.00 | WH. EDGE LINE (RT.) | = | 280 LIN. FT. |

SITE 2 - QUANTITIES
(STA. 365+24 - 369+50)

| | |
|---|---|
| FURN. & INSTALL PRECAST CONC. BARRIER | 120 LIN. FT. |
| RELOCATE PRECAST CONC. BARRIER | 306 LIN. FT. |
| TRAFFIC DRUMS | 40 EACH |

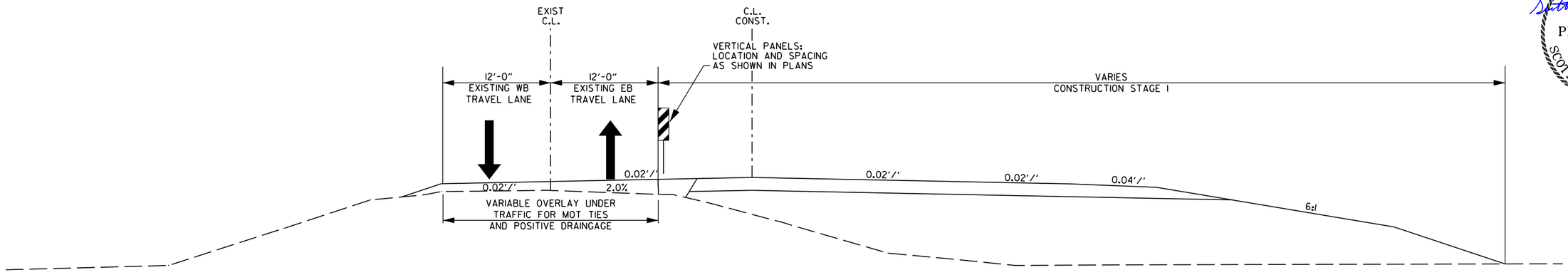
# STAGE 2
# HWY. 82 SITE 2
# MAINTENANCE OF TRAFFIC DETAILS

COLUMBIA COUNTY

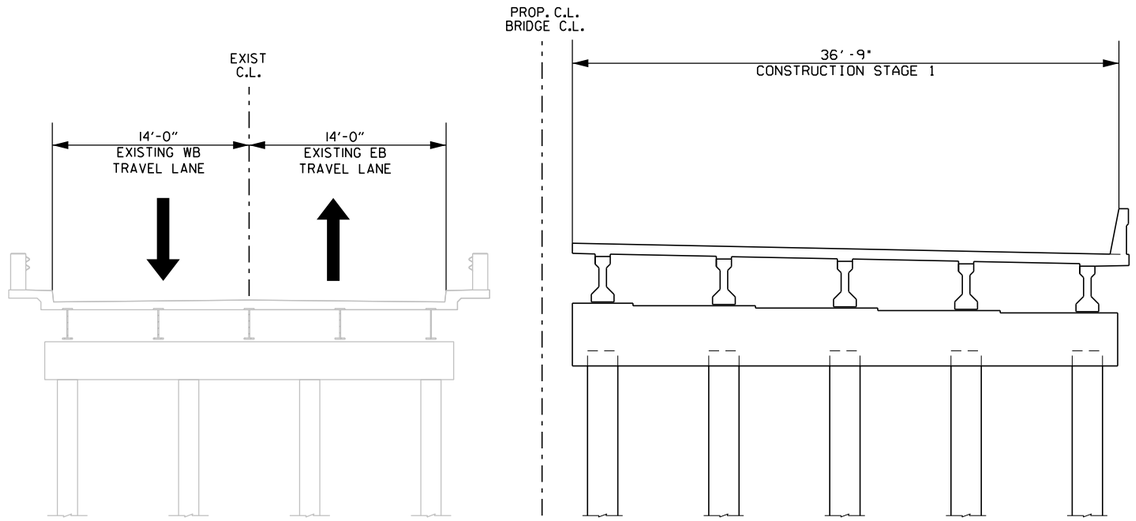
Scott.Thornsberry@9/20/2023 12:58:36 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.070471\CornHarperLaplie\Design\CIVIL\Drawings\R070471_06_MOT_007.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 26 | 103 |
| | | | | (1) | MAINTENANCE OF TRAFFIC DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




## STAGE 1(SITE 3)
## MAINTENANCE OF TRAFFIC DETAILS
## TYPICAL SECTION




LOCATIONS SHOWN ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETAILS CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHIFT. (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

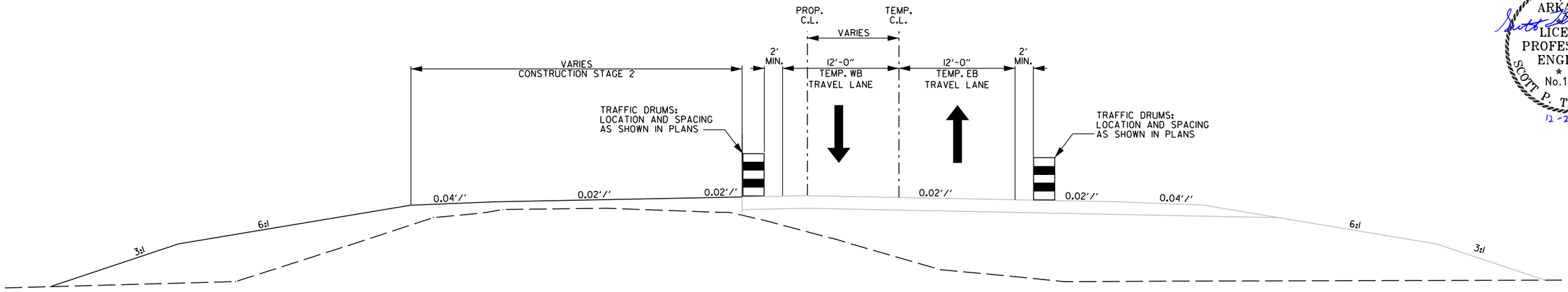
CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

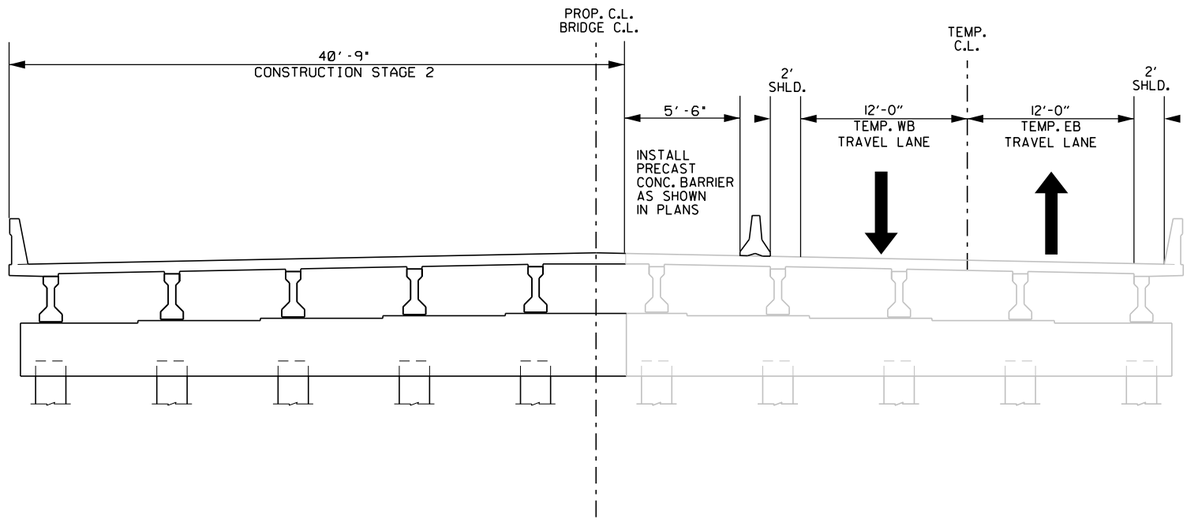
## STAGE 1
## HWY. 82 SITE 3
## MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberry@9/20/2023 12:58:37 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388.070471\CorrineHarper\Laplie\Design\CIVIL\Drawings\R070471.06_MOT_008.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 27 | 103 |
| | | | | (1) | MAINTENANCE OF TRAFFIC DETAILS | | | |




STAGE 2 (SITE 3)
MAINTENANCE OF TRAFFIC DETAILS
TYPICAL SECTION




LOCATIONS SHOWN ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETAILS CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHIFT. (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

STAGE 2
HWY. 82 SITE 3
MAINTENANCE OF TRAFFIC DETAILS

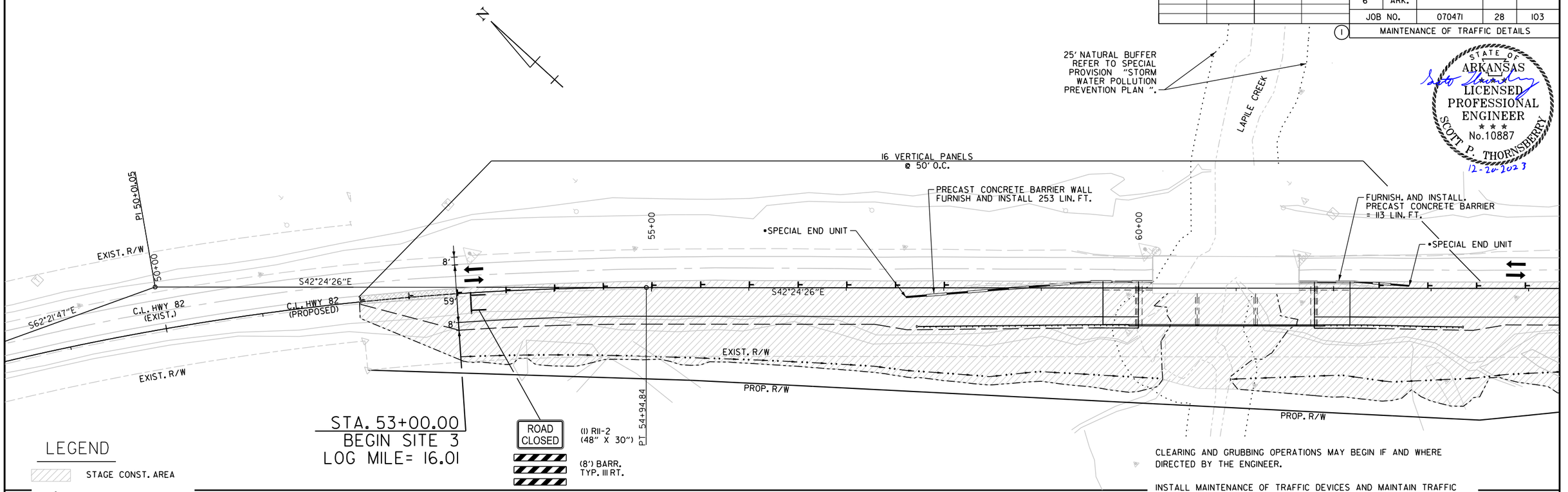
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

Scott.Thornsberry@20/2023 12:58:37 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388.070471CornileHarperLaplle\Design\CIVIL\Drawings\R070471_06_MOT_009.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070471 | | 28 | 103 |

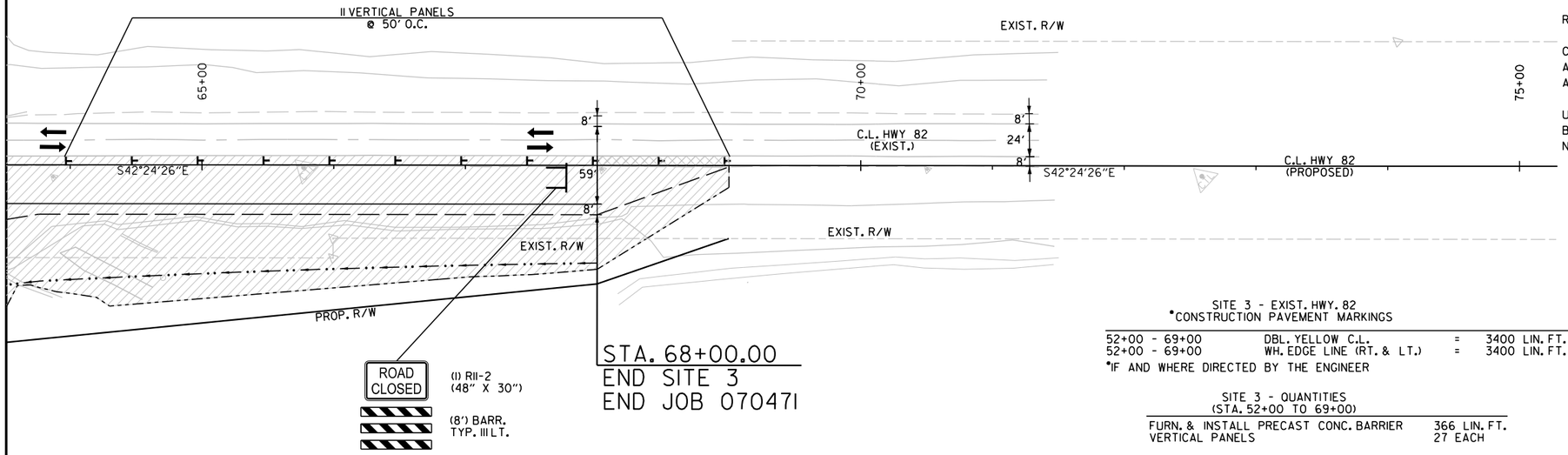
(1) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
12-20-2023




LEGEND

- STAGE CONST. AREA
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS
- VERTICAL PANEL
- PRECAST CONCRETE BARRIER




CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETA CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHI (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.

SITE 3 - EXIST. HWY. 82
•CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 52+00 - 69+00 | DBL. YELLOW C.L. | = | 3400 LIN. FT. |
| 52+00 - 69+00 | WH. EDGE LINE (RT. & LT.) | = | 3400 LIN. FT. |

•IF AND WHERE DIRECTED BY THE ENGINEER

SITE 3 - QUANTITIES
(STA. 52+00 TO 69+00)

| | |
|---|---|
| FURN. & INSTALL PRECAST CONC. BARRIER | 366 LIN. FT. |
| VERTICAL PANELS | 27 EACH |

STAGE 1
HWY. 82 - SITE 3
MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberry@9/20/2023 12:58:38 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16388_070471\Cornelius Harper Lapile\Design\CIVIL\Drawings\R070471_06_MOT_010.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070471 | | 29 | 103 |

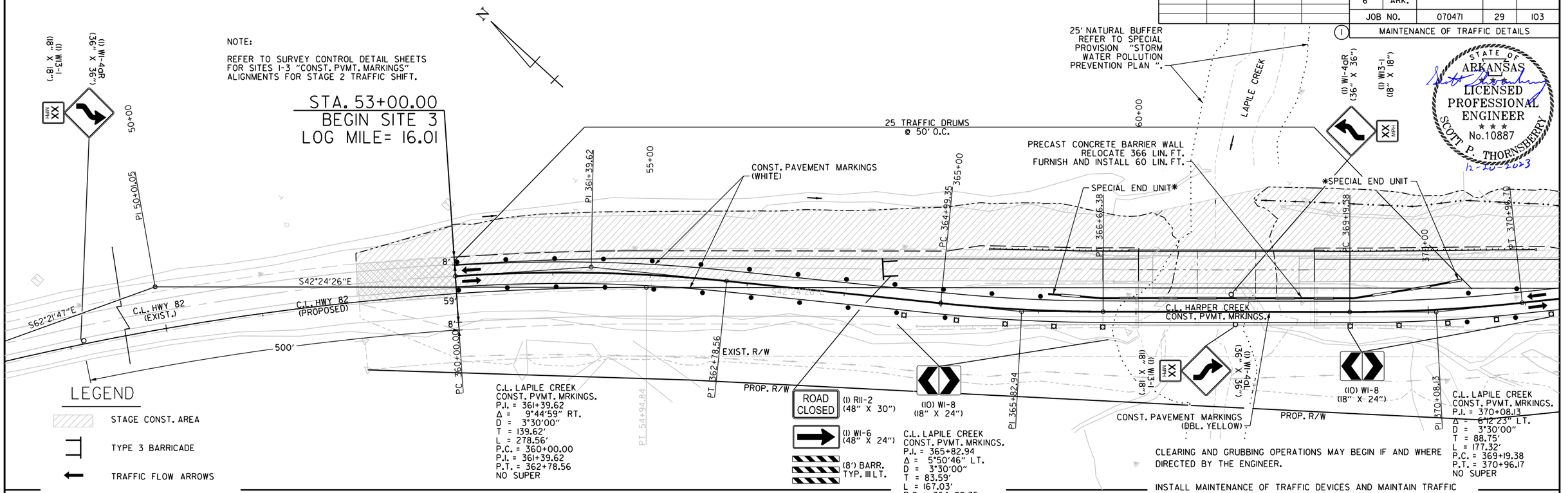
(1) MAINTENANCE OF TRAFFIC DETAILS

*SPECIAL END UNIT SHALL BE PAID AS "PRECAST CONCRETE BARRIER WALL."

NOTE:

REFER TO SURVEY CONTROL DETAIL SHEETS FOR SITES 1-3 "CONST. PVMT. MARKINGS" ALIGNMENTS FOR STAGE 2 TRAFFIC SHIFT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023




## LEGEND

- STAGE CONST. AREA
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS
- VERTICAL PANEL
- TRAFFIC DRUM
- PRECAST CONCRETE BARRIER
- TEMPORARY TRAFFIC SIGN

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL MAINTENANCE OF TRAFFIC DEVICES AND MAINTAIN TRAFFIC ON EXISTING HWY. 82. CONSTRUCT ON THE RIGHT OF EXISTING HWY. 82 THE FULL DEPTH SHOULDERS @ BRIDGE ENDS FOR MOT. (REFER TO SPECIAL DETA CONSTRUCT EMBANKMENT, ROADWAY, BRIDGE, AND DRAINAGE FOR PROJECT AS SHOWN IN STAGE I MAINTENANCE OF TRAFFIC DETAILS.

INSTALL MOT CONST PAVEMENT MARKINGS IN PREPARATION FOR TRAFFIC SHI (REFER TO THE SURVEY CONTROL DETAILS FOR ALIGNMENT LAYOUT.)

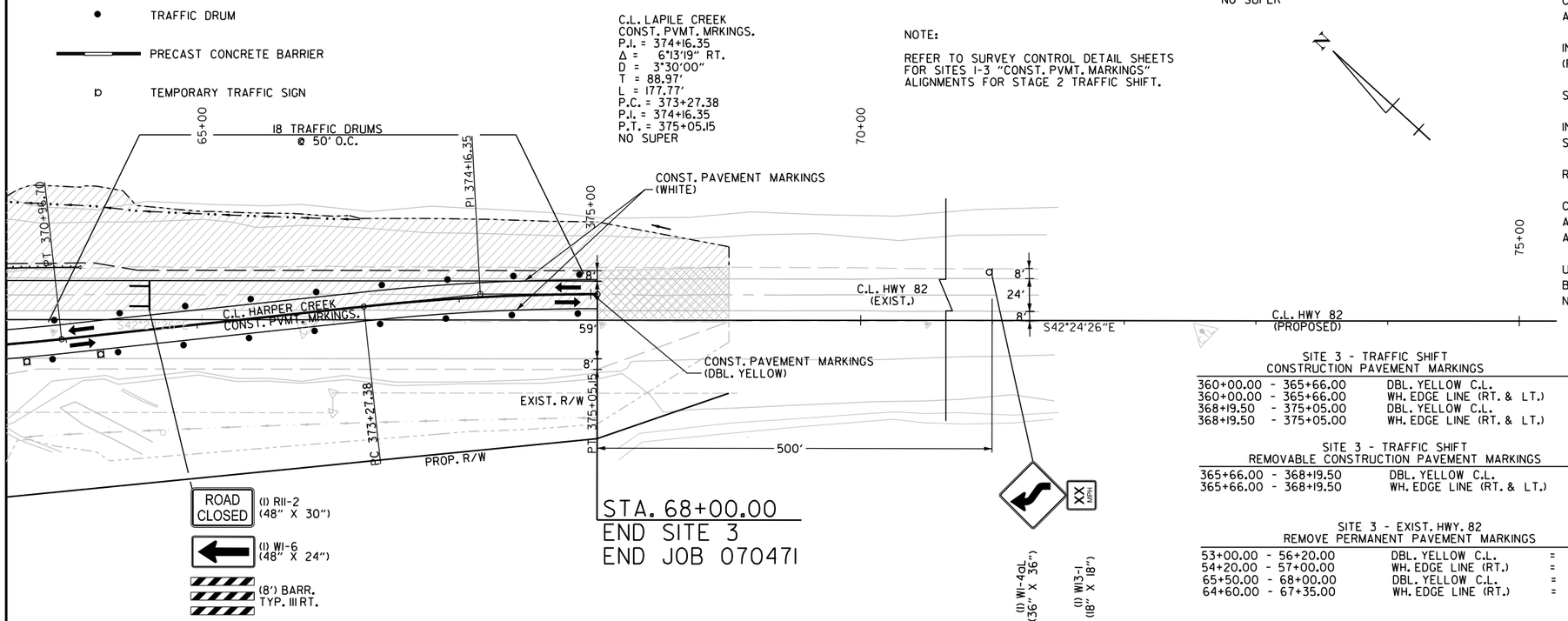
STAGE 2:

INSTALL STAGE 2 MAINTENANCE OF TRAFFIC DEVICES, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED ROADWAY AND BRIDGE.

REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN PLANS.

CONSTRUCT REMAINING LEFT SHOULDER, LEVELING & GRADE CORRECTION AREAS, ROADWAY TIES, DRAINAGE, FINAL GRADING, BRIDGE, AND EMBANKMENT AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

UNDER TRAFFIC CONSTRUCT FINAL ACHM SURFACE COURSE & INSTALL BARRIER WALL TO REMAIN IN PLACE AND FINAL PAVEMENT MARKINGS FOR NORMAL TRAFFIC.




NOTE:

REFER TO SURVEY CONTROL DETAIL SHEETS FOR SITES 1-3 "CONST. PVMT. MARKINGS" ALIGNMENTS FOR STAGE 2 TRAFFIC SHIFT.

STA. 68+00.00
END SITE 3
END JOB 070471

SITE 3 - TRAFFIC SHIFT
CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 360+00.00 - 365+66.00 | DBL. YELLOW C.L. | = | 1132 LIN. FT. |
| 360+00.00 - 365+66.00 | WH. EDGE LINE (RT. & LT.) | = | 1132 LIN. FT. |
| 368+19.50 - 375+05.00 | DBL. YELLOW C.L. | = | 1371 LIN. FT. |
| 368+19.50 - 375+05.00 | WH. EDGE LINE (RT. & LT.) | = | 1371 LIN. FT. |

SITE 3 - TRAFFIC SHIFT
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 365+66.00 - 368+19.50 | DBL. YELLOW C.L. | = | 507 LIN. FT. |
| 365+66.00 - 368+19.50 | WH. EDGE LINE (RT. & LT.) | = | 507 LIN. FT. |

SITE 3 - EXIST. HWY. 82
REMOVE PERMANENT PAVEMENT MARKINGS

| | | | |
|---|---|---|---|
| 53+00.00 - 56+20.00 | DBL. YELLOW C.L. | = | 640 LIN. FT. |
| 54+20.00 - 57+00.00 | WH. EDGE LINE (RT.) | = | 280 LIN. FT. |
| 65+50.00 - 68+00.00 | DBL. YELLOW C.L. | = | 500 LIN. FT. |
| 64+60.00 - 67+35.00 | WH. EDGE LINE (RT.) | = | 275 LIN. FT. |

SITE 3 - QUANTITIES
(STA. 366+10 TO 370+36)

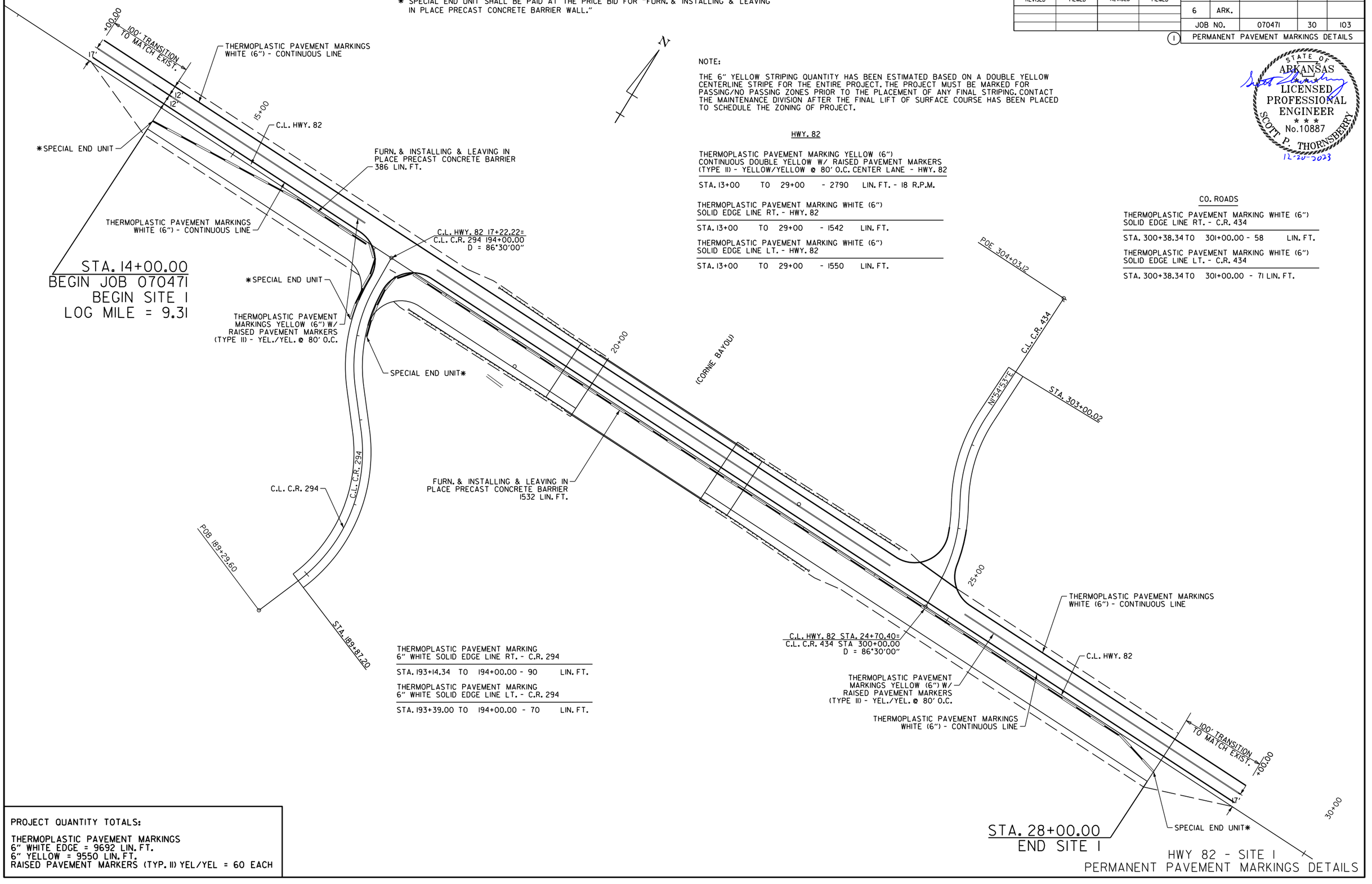
| | |
|---|---|
| FURN. & INSTALL PRECAST CONC. BARRIER | 60 LIN. FT. |
| RELOCATE PRECAST CONC. BARRIER | 366 LIN. FT. |
| TRAFFIC DRUMS | 43 EACH |

STAGE 2
HWY. 82 SITE 3
MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberry@20/2023 12:58:39 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.070471CornieHarperLapile\Design\CIVIL\Drawings\R070471_06_MOT_01.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 30 | 103 |
| | | | | (1) | PERMANENT PAVEMENT MARKINGS DETAILS | | | |

* SPECIAL END UNIT SHALL BE PAID AT THE PRICE BID FOR "FURN. & INSTALLING & LEAVING IN PLACE PRECAST CONCRETE BARRIER WALL."




NOTE:

THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF PROJECT.

HWY. 82

THERMOPLASTIC PAVEMENT MARKING YELLOW (6") CONTINUOUS DOUBLE YELLOW W/ RAISED PAVEMENT MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. CENTER LANE - HWY. 82

STA. 13+00 TO 29+00 - 2790 LIN. FT. - 18 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6") SOLID EDGE LINE RT. - HWY. 82

STA. 13+00 TO 29+00 - 1542 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6") SOLID EDGE LINE LT. - HWY. 82

STA. 13+00 TO 29+00 - 1550 LIN. FT.

CO. ROADS

THERMOPLASTIC PAVEMENT MARKING WHITE (6") SOLID EDGE LINE RT. - C.R. 434

STA. 300+38.34 TO 301+00.00 - 58 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6") SOLID EDGE LINE LT. - C.R. 434

STA. 300+38.34 TO 301+00.00 - 71 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING 6" WHITE SOLID EDGE LINE RT. - C.R. 294

STA. 193+14.34 TO 194+00.00 - 90 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING 6" WHITE SOLID EDGE LINE LT. - C.R. 294

STA. 193+39.00 TO 194+00.00 - 70 LIN. FT.

PROJECT QUANTITY TOTALS:

THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE EDGE = 9692 LIN. FT.
6" YELLOW = 9550 LIN. FT.
RAISED PAVEMENT MARKERS (TYP. II) YEL/YEL = 60 EACH

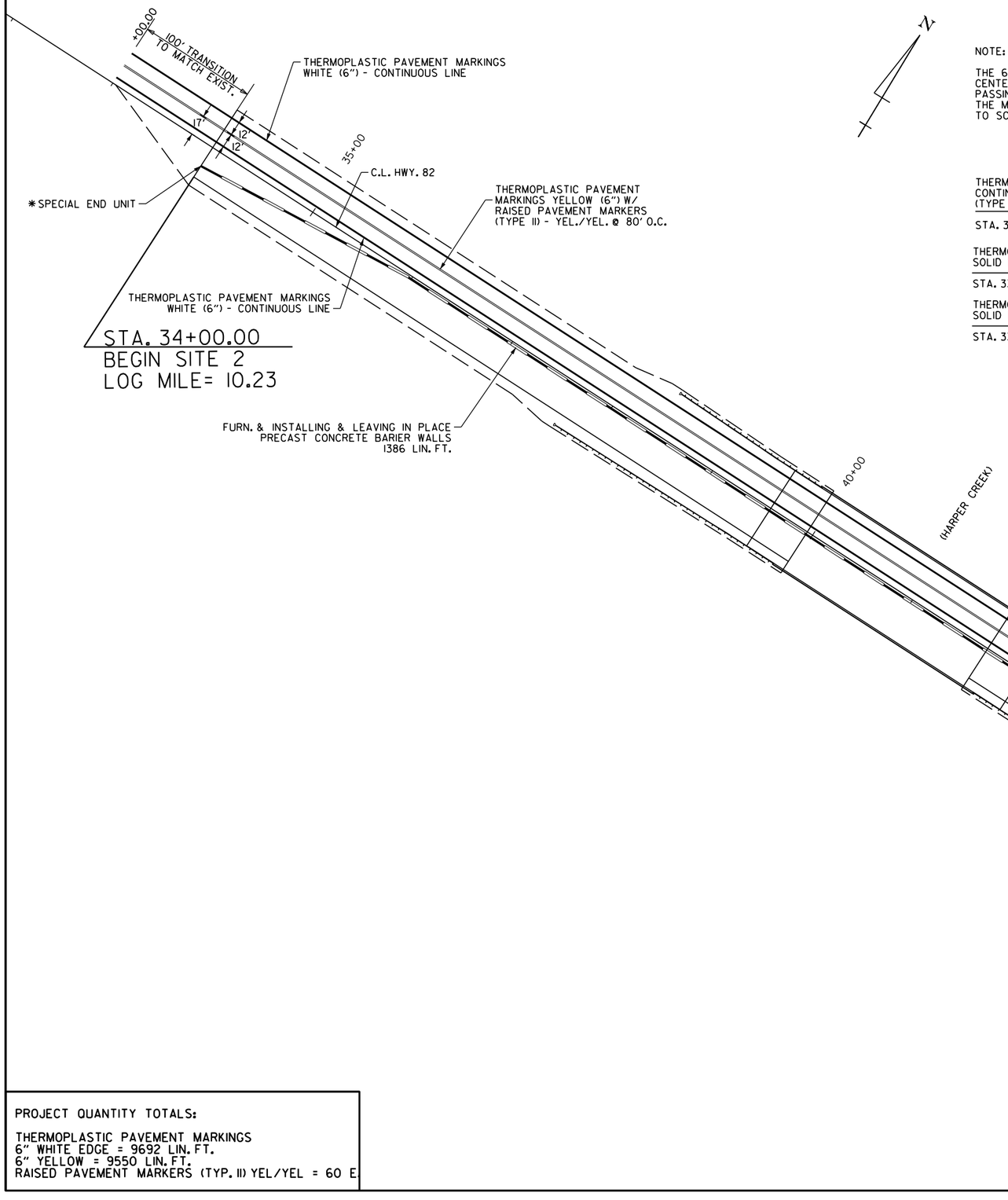
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

HWY 82 - SITE 1
PERMANENT PAVEMENT MARKINGS DETAILS

Scott.Thornsberry@20/2023 12:58:40 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471Cornieharper\Laplile\Design\CIVIL\Drawings\R070471_07_PM_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 31 | 103 |
| | | | | (1) | PERMANENT PAVEMENT MARKINGS DETAILS | | | |

* SPECIAL END UNIT SHALL BE PAID AT THE PRICE BID FOR "FURN. & INSTALLING & LEAVING IN PLACE PRECAST CONCRETE BARRIER WALL."




NOTE:

THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF PROJECT.

HWY. 82

THERMOPLASTIC PAVEMENT MARKING YELLOW (6")
CONTINUOUS DOUBLE YELLOW C.L. W/ RAISED PAVEMENT MARKERS
(TYPE II) - YELLOW/YELLOW @ 80' O.C. CENTER LANE - HWY. 82

STA. 33+00 TO 49+00 - 3200 LIN. FT. - 20 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
SOLID EDGE LINE RT.

STA. 33+00 TO 49+00 - 1600 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
SOLID EDGE LINE LT.

STA. 33+00 TO 49+00 - 1600 LIN. FT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
12-20-2023

PROJECT QUANTITY TOTALS:

THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE EDGE = 9692 LIN. FT.
6" YELLOW = 9550 LIN. FT.
RAISED PAVEMENT MARKERS (TYP. II) YEL/YEL = 60 E.

HWY. 82 - SITE 2
PERMANENT PAVEMENT MARKINGS DETAILS

Scott.Thornsberry@9/20/2023 12:58:41 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\CornleHarperLaplle\Design\CIVIL\Drawings\R070471_07_PM_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 32 | 103 |

(1) PERMANENT PAVEMENT MARKINGS DETAILS




✱ SPECIAL END UNIT SHALL BE PAID AT THE PRICE BID FOR "FURN. & INSTALLING & LEAVING IN PLACE PRECAST CONCRETE BARRIER WALL."

NOTE:

THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF PROJECT.

THERMOPLASTIC PAVEMENT MARKING YELLOW (6")
CONTINUOUS DOUBLE YELLOW C.L. W/ RAISED PAVEMENT MARKERS
(TYPE II) - YELLOW/YELLOW @ 80' O.C. CENTER LANE - HWY. 82

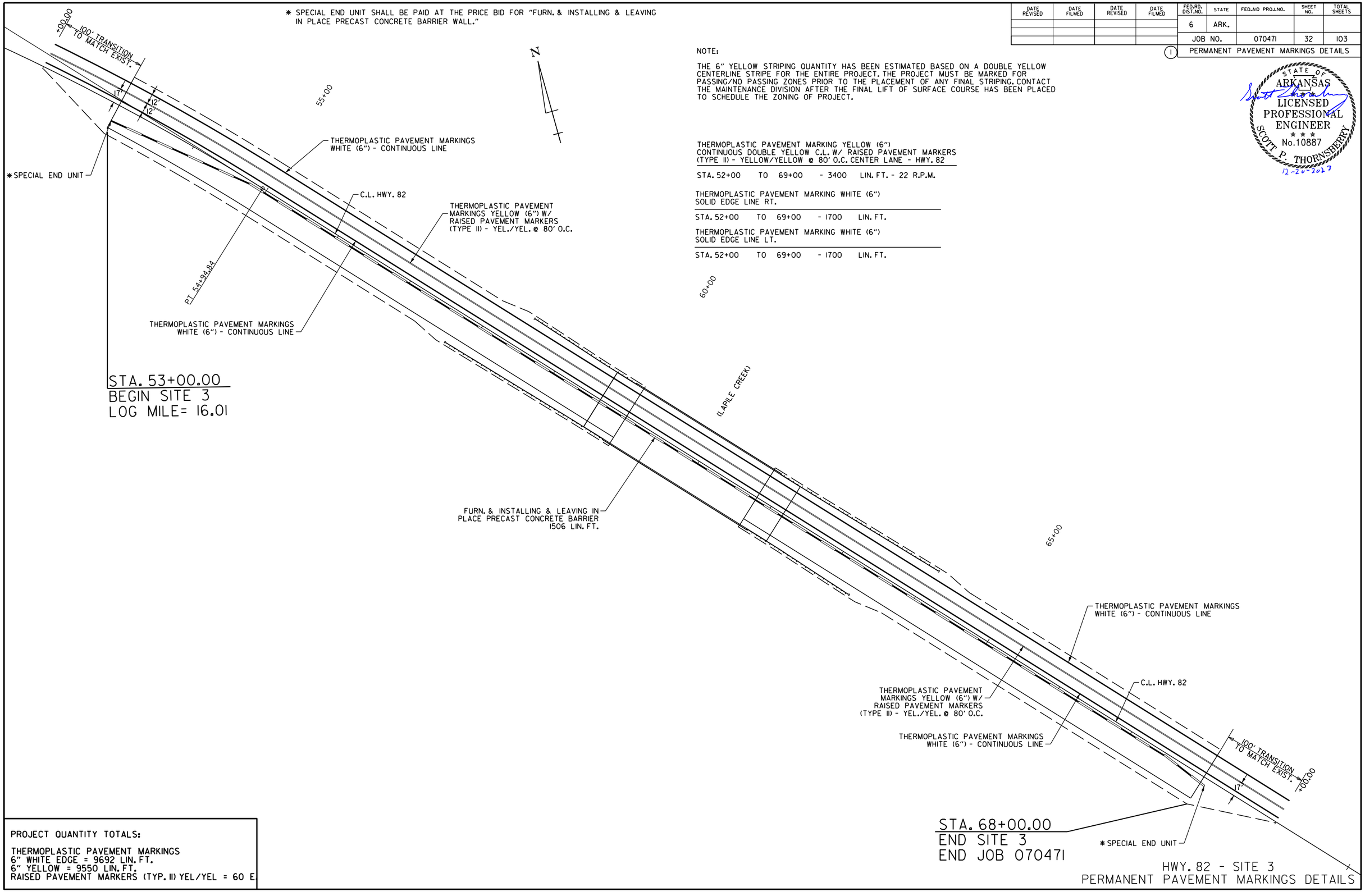
STA. 52+00 TO 69+00 - 3400 LIN. FT. - 22 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
SOLID EDGE LINE RT.

STA. 52+00 TO 69+00 - 1700 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
SOLID EDGE LINE LT.

STA. 52+00 TO 69+00 - 1700 LIN. FT.




STA. 53+00.00
BEGIN SITE 3
LOG MILE= 16.01

STA. 68+00.00
END SITE 3
END JOB 070471

PROJECT QUANTITY TOTALS:

THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE EDGE = 9692 LIN. FT.
6" YELLOW = 9550 LIN. FT.
RAISED PAVEMENT MARKERS (TYP. II) YEL/YEL = 60 E.

HWY. 82 - SITE 3
PERMANENT PAVEMENT MARKINGS DETAILS

Scott.Thornsberry@ 12/20/2023 12:58:42 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\Cornie Harper Lapile\Design\CIVIL\Drawings\R070471_07_PM_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 33 | 103 |
| | | | | (1) | QUANTITY SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

# SOIL LOG

## SUMMARY SOIL CLASSIFICATION TEST RESULTS - CORNIE BAYOU, HARPER & LAPILE CREEK

| BORING NO. | APPROX. STATION | SAMPLE DEPTH (ft.) | WATER CONTENT (%) | ATTERBERG LIMITS | | | PERCENT PASSING #200 | UNIFIED CLASS. | AASHTO CLASS. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | | | |
| B-1 | 61+62 | 3.5 to 5.0 | 20 | NP | NP | NP | 51 | ML | A-4 |
| B-1 | 61+62 | 18.5 to 20.0 | 33 | -- | -- | -- | 4 | SP | A-3 |
| B-1 | 61+62 | 28.5 to 30 | 25 | 54 | 18 | 36 | 71 | CH | A-7-6 |
| B-1 | 61+62 | 38.5 to 40.0 | 37 | 41 | 18 | 23 | 39 | SC | A-7-6 |
| B-1 | 61+62 | 53.5 to 55.0 | 24 | 58 | 19 | 39 | 63 | CH | A-7-6 |
| B-1 | 61+62 | 58.5 to 60 | 31 | -- | -- | -- | 21 | SC | A-2-7 |
| B-1 | 61+62 | 73.5 to 75 | 30 | 58 | 22 | 36 | 88 | CH | A-7-6 |
| B-2 | 60+59 | 2.0 to 3.5 | 20 | NP | NP | NP | 34 | SM | A-2-4 |
| B-2 | 60+59 | 8.5 to 10.0 | 19 | NP | NP | NP | 31 | SM | A-2-4 |
| B-2 | 60+59 | 13.5 to 15.0 | 29 | -- | -- | -- | 5 | SP | A-3 |
| B-2 | 60+59 | 33.5 to 35.0 | 24 | 49 | 16 | 33 | 46 | SC | A-7-6 |
| B-2 | 60+59 | 48.5 to 50.0 | 21 | 57 | 19 | 38 | 75 | CH | A-7-6 |
| B-2 | 60+59 | 63.5 to 65.0 | 31 | -- | -- | -- | 45 | SC | A-7-6 |
| B-2 | 60+59 | 73.5 to 75.0 | 31 | 70 | 23 | 47 | 96 | CH | A-7-6 |
| R-1 | 62+80 | 4.0 to 5.5 | -- | 22 | 16 | 6 | 59 | CL-ML | A-4 |
| R-2 | 59+22 | 2.5 to 4.0 | 20 | 20 | 17 | 3 | 73 | ML | A-4 |
| S-1 | 63+30 | 0.5 to 2.0 | 12 | -- | -- | -- | 50 | ML | A-4 |
| S-1 | 63+30 | 3.5 to 5.0 | 15 | NP | NP | NP | 45 | SM | A-4 |
| S-2 | 58+38 | 4.0 to 5.5 | 18 | 22 | 14 | 8 | 78 | CL | A-4 |
| B-3 | 41+95 | 2.5 to 4.0 | 18 | 42 | 14 | 28 | 73 | CL | A-7-6 |
| B-3 | 41+95 | 8.5 to 10.0 | 17 | 37 | 15 | 22 | 62 | CL | A-6 |
| B-3 | 41+95 | 23.5 to 25.0 | 31 | 69 | 24 | 45 | 94 | CH | A-7-6 |
| B-3 | 41+95 | 33.5 to 35.0 | 26 | 53 | 20 | 33 | 80 | CH | A-7-6 |
| B-3 | 41+95 | 43.5 to 45.0 | 29 | -- | -- | -- | 17 | SC | A-2-7 |
| B-3 | 41+95 | 58.5 to 60.0 | 25 | 47 | 14 | 33 | 28 | SC | A-2-7 |
| B-3 | 41+95 | 68.5 to 70.0 | 25 | 76 | 21 | 55 | 67 | CH | A-7-6 |
| B-4 | 39+65 | 2.0 to 3.5 | 16 | 22 | 16 | 6 | 71 | CL-ML | A-4 |
| B-4 | 39+65 | 8.5 to 10.0 | 26 | 28 | 20 | 8 | 61 | CL | A-4 |
| B-4 | 39+65 | 18.5 to 20.0 | 39 | NP | NP | NP | 54 | ML | A-4 |
| B-4 | 39+65 | 28.5 to 30.0 | 25 | -- | -- | -- | 13 | SM | A-2-4 |
| B-4 | 39+65 | 38.5 to 40.0 | 36 | -- | -- | -- | 13 | SM | A-2-4 |
| B-4 | 39+65 | 53.5 to 55.0 | 24 | 59 | 17 | 42 | 67 | CH | A-7-6 |
| B-4 | 39+65 | 63.5 to 65.0 | 22 | 71 | 20 | 51 | 93 | CH | A-7-6 |
| B-4 | 39+65 | 78.5 to 80.0 | 20 | 47 | 15 | 32 | 71 | CL | A-7-6 |
| R-3 | | 1.0 to 2.5 | 14 | NP | NP | NP | 68 | ML | A-4 |
| R-4 | | 1.0 to 2.5 | 11 | 49 | 12 | 37 | 36 | SC | A-7-6 |
| S-3 | 42+12 | 2.5 to 4.0 | 19 | 39 | 13 | 26 | 71 | CL | A-6 |
| S-4 | | 2.0 to 3.5 | 31 | 59 | 22 | 37 | 69 | CH | A-7-6 |
| B-5 | 21+21 | 2.0 to 3.5 | 23 | 28 | 21 | 7 | 62 | CL-ML | A-4 |
| B-5 | 21+21 | 5.0 to 6.5 | 23 | NP | NP | NP | 54 | ML | A-4 |
| B-5 | 21+21 | 13.5 to 15.0 | 29 | -- | -- | -- | 31 | SM | A-2-4 |
| B-5 | 21+21 | 28.5 to 30.0 | 23 | 52 | 18 | 34 | 79 | CH | A-7-6 |
| B-5 | 21+21 | 38.5 to 40.0 | 27 | 35 | 15 | 20 | 48 | SC | A-6 |
| B-5 | 21+21 | 53.5 to 55.0 | 26 | 43 | 23 | 20 | 44 | SC | A-7-6 |
| B-5 | 21+21 | 63.5 to 65.0 | 20 | 59 | 19 | 40 | 85 | CH | A-7-6 |
| B-5 | 21+21 | 73.5 to 75.0 | 35 | 40 | 19 | 21 | 55 | CL | A-6 |
| B-6 | 21+13 | 0.5 to 2.0 | 18 | NP | NP | NP | 49 | SM | A-4 |
| B-6 | 21+13 | 5.0 to 6.5 | 19 | -- | -- | -- | 50 | SM | A-4 |
| B-6 | 21+13 | 18.5 to 20.0 | 28 | 51 | 32 | 19 | 83 | MH | A-7-5 |
| B-6 | 21+13 | 23.5 to 25.0 | 29 | 60 | 22 | 38 | 95 | CH | A-7-6 |
| B-6 | 21+13 | 33.5 to 35.0 | 31 | 49 | 17 | 32 | -- | CL | A-7-6 |
| B-6 | 21+13 | 48.5 to 50.0 | 26 | 36 | 25 | 11 | 42 | SM | A-6 |
| B-6 | 21+13 | 58.5 to 60 | 26 | -- | -- | -- | 50 | SM | A-4 |
| B-6 | 21+13 | 68.5 to 70.0 | 26 | 55 | 19 | 36 | 69 | CH | A-7-6 |
| B-6 | 21+13 | 78.5 to 80.0 | 24 | 60 | 21 | 39 | 44 | SC | A-7-6 |
| R-5 | | 2.5 to 4.0 | 16 | 30 | 11 | 19 | 57 | CL | A-6 |
| R-6 | | 1.0 to 2.5 | 16 | 30 | 12 | 18 | 52 | CL | A-6 |
| S-5 | | 3.5 to 5.0 | 17 | 33 | 12 | 21 | 58 | CL | A-6 |
| S-6 | | 3.5 to 5.0 | 19 | 28 | 14 | 14 | 61 | CL | A-6 |

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



Scott.Thornsberry 9/20/2023 12:58:43 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388_070471CornileHarperLapile\Design\CIVIL\Drawings\R070471_08_GYT_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 34 | 103 |
| | | | | (1) | QUANTITY SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
1-3-2023

## ADVANCE WARNING SIGNS AND DEVICES

| | SIGN NUMBER | DESCRIPTION | SIGN SIZE | STAGE 1 | STAGE 2 | END OF JOB | MAXIMUM NUMBER REQUIRED | TOTAL SIGNS REQUIRED | | VERTICAL PANELS | TRAFFIC DRUMS | BARRICADES (TYPE III) | | FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER | FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONC. BARRIER | RELOCATING PRECAST CONCRETE BARRIER | CONSTRUCTION PROJECT INFORMATION SIGN UPDATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | RIGHT | LEFT | | | | |
| | | | | LIN. FT. - EACH | | | | NO. | SQ. FT. | EACH | | | | LIN. FT. | | | EACH |
| | W20-1 | ROAD WORK 1500 FT. | 48"x48" | 6 | 6 | | 6 | 6 | 96.0 | | | | | | | | |
| | W20-1 | ROAD WORK 1000 FT. | 48"x48" | 6 | 6 | | 6 | 6 | 96.0 | | | | | | | | |
| | W20-1 | ROAD WORK 500 FT. | 48"x48" | 6 | 6 | | 6 | 6 | 96.0 | | | | | | | | |
| | W20-1 | ROAD WORK AHEAD | 48"x48" | 2 | 2 | | 2 | 2 | 32.0 | | | | | | | | |
| | G20-2 | END ROAD WORK | 48"x24" | 8 | 8 | | 8 | 8 | 64.0 | | | | | | | | |
| | W1-4AR | REVERSE CURVE RT. | 36"x36" | | 6 | | 6 | 6 | 54.0 | | | | | | | | |
| | W1-4AL | REVERSE CURVE LT. | 36"x36" | | 6 | | 6 | 6 | 54.0 | | | | | | | | |
| | W13-1 | SPEED LIMIT (ADVISORY) | 18"x18" | | 12 | | 12 | 12 | 27.0 | | | | | | | | |
| | R11-2 | ROAD CLOSED | 48"x30" | 7 | 6 | | 7 | 7 | 70.0 | | | | | | | | |
| | W1-8 | CHEVRONS | 18"x24" | | 60 | | 60 | 60 | 180.0 | | | | | | | | |
| | R4-1 | DO NOT PASS | 24"x30" | 6 | 6 | | 6 | 6 | 30.0 | | | | | | | | |
| * | W21-5A | RIGHT SHOULDER CLOSED | 36"x36" | 6 | 6 | | 6 | 6 | 54.0 | | | | | | | | |
| | W1-6 | LARGE ARROW | 48"x24" | | 6 | | 6 | 6 | 48.0 | | | | | | | | |
| * | W8-1 | BUMP | 36"x36" | | 12 | | 12 | 12 | 108.0 | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | CONSTRUCTION PROJECT INFORMATION SIGN | 96"x48" | 2 | 2 | 2 | 2 | 2 | 64.0 | | | | | | | | |
| | | CONSTRUCTION PROJECT INFORMATION SIGN UPDATE | | | | | 2 | | | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | |
| | | VERTICAL PANELS | | 81 | | | 81 | | | 81 | | | | | | | |
| | | TRAFFIC DRUMS | | 14 | 144 | | 144 | | | | 144 | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | TYPE III BARRICADE-RT. (8') | | 4 | 3 | | 4 | | | | | 32 | | | | | |
| | | TYPE III BARRICADE-LT. (8') | | 3 | 3 | | 3 | | | | | | 24 | | | | |
| | | | | | | | | | | | | | | | | | |
| | | FURNISHING AND INSTALLING PRECAST CONC. BARRIER | | 998 | 280 | | 1278 | | | | | | | 1278 | | | |
| ** | | FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONC. BARRIER | | | | 4810 | 4810 | | | | | | | | 4810 | | |
| | | RELOCATING PRECAST CONCRETE BARRIER | | | 998 | | 998 | | | | | | | | | 998 | |
| | | | | | | | | | | | | | | | | | |
| | **TOTALS:** | | | | | | | | **1073.0** | **81** | **144** | **32** | **24** | **1278** | **4810** | **998** | **2** |

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

* QUANTITY ESTIMATED.

** 1278 L.F. WILL BE RELOCATED AND LEFT IN PLACE AT END OF JOB.

## CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

| | DESCRIPTION | STAGE 1 | STAGE 2 | END OF JOB | REMOVAL OF PERMANENT PAVEMENT MARKINGS | CONSTRUCTION PAVEMENT MARKINGS | REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | RAISED PAVEMENT MARKERS | THERMOPLASTIC PAVEMENT MARKING | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | TYPE II | 6" | |
| | | | | | | | | (YELLOW/YELLOW) | WHITE | YELLOW |
| | | LIN. FT. - EACH | | | LIN. FT. | | | | LIN. FT. | |
| | REMOVAL OF PERMANENT PAVEMENT MARKINGS | | 4819 | | 4819 | | | | | |
| | CONSTRUCTION PAVEMENT MARKINGS | | 14210 | | | 14210 | | | | |
| | REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | | 3042 | | | | 3042 | | | |
| | | | | | | | | | | |
| | RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW) | | | 60 | | | | 60 | | |
| | | | | | | | | | | |
| | THERMOPLASTIC PAVEMENT MARKING WHITE (6") | | | 9692 | | | | | 9692 | |
| | THERMOPLASTIC PAVEMENT MARKING YELLOW (6") | | | 9390 | | | | | | 9390 |
| * | CONST. PAVEMENT MARKINGS TO BE USED IF & WHERE DIRECTED BY THE ENGINEER | 19600 | | | | 19600 | | | | |
| | | | | | | | | | | |
| | **TOTALS:** | | | | **4819** | **33810** | **3042** | **60** | **9692** | **9390** |

NOTES: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING.
CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

## 4" PIPE UNDERDRAIN

| STATION | STATION | LOCATIONS | 4" PIPE UNDERDRAINS | UNDERDRAIN OUTLET PROTECTORS |
|---|---|---|---|---|
| | | | LIN. FT. | EACH |
| * | ENTIRE PROJECT TO BE USED IF AND | | 2000 | 8 |
| | WHERE DIRECTED BY THE ENGINEER | | | |
| | | | | |
| **TOTALS:** | | | **2000** | **8** |

* NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## TEMPORARY STRUCTURES

| | LOCATION | DESCRIPTION | TEMPORARY CULVERTS 12" LIN. FT. | STD. DWG. NOS. |
|---|---|---|---|---|
| * | SITE 1 | TO BE USED IF AND WHERE DIRECTED | 100 | PCC-1, PCM-1, PCP-1, PCP-2, PCP-3 |
| | @ CO RDS. | BY THE ENGINEER | | |
| | | | | |
| | **TOTAL:** | | **100** | |

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## SOIL STABILIZATION

| STATION | STATION | LOCATION / DESCRIPTION | SOIL STABILIZATION TON |
|---|---|---|---|
| ENTIRE | PROJECT | TO BE USED IF AND WHERE | 600 |
| | | DIRECTED BY THE ENGINEER | |
| | | | |
| **TOTAL:** | | | **600** |

QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## COLD MILLING ASPHALT PAVEMENT

| STATION | STATION | LOCATION | AVG. WIDTH | COLD MILLING ASPHALT PAVEMENT |
|---|---|---|---|---|
| | | | FEET | SQ. YD. |
| 13+00.00 | 14+00.00 | HWY. 82 - SITE 1 - TRANSITION | 32.00 | 355.56 |
| 28+00.00 | 29+00.00 | HWY. 82 - SITE 1 - TRANSITION | 32.00 | 355.56 |
| 189+37.62 | 189+87.62 | CO. RD. 294 - SITE 1 - TRANSITION | 20.00 | 111.11 |
| 33+00.00 | 34+00.00 | HWY. 82 - SITE 2 - TRANSITION | 32.00 | 355.56 |
| 48+00.00 | 49+00.00 | HWY. 82 - SITE 2 - TRANSITION | 32.00 | 355.56 |
| 52+00.00 | 53+00.00 | HWY. 82 - SITE 3 - TRANSITION | 34.00 | 377.78 |
| 68+00.00 | 69+00.00 | HWY. 82 - SITE 3 - TRANSITION | 34.00 | 377.78 |
| | | | | |
| | | | | |
| **TOTAL:** | | | | **2288.91** |

NOTE: COORDINATE COLD MILLING STOCKPILE LOCATIONS WITH DISTRICT ENGINEER.
STOCKPILE LOCATIONS SHALL BE NO FURTHER THAN FIVE MILES FROM EACH SITE.

## CLEARING AND GRUBBING

| STATION | STATION | LOCATION | CLEARING | GRUBBING |
|---|---|---|---|---|
| | | | STATION | |
| 13+00 | 29+00 | SITE 1 C.L. HWY. 82 CORNIE BAYOU | 16 | 16 |
| 33+00 | 49+00 | SITE 2 C.L. HWY. 82 HARPER CREEK | 16 | 16 |
| 52+00 | 69+00 | SITE 3 C.L. HWY. 82 LAPILE CREEK | 17 | 17 |
| 189+37 | 193+02 | SITE 1 CO. RD 294 | 4 | 4 |
| 301+25 | 303+50 | SITE 1 CO. RD 434 | 3 | 3 |
| | | | | |
| **TOTALS:** | | | **56** | **56** |

Stephane.Bossio 1/3/2024 12:40:35 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938\070471\CornieHarperLaplie\Design\CIVIL\Drawings\R070471_08_0YT_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 35 | 103 |
| | | | | (1) | QUANTITY SHEETS | | | |

## EARTHWORK

| STATION | STATION | LOCATION / DESCRIPTION | UNCLASSIFIED EXCAVATION | COMPACTED EMBANKMENT |
|---|---|---|---|---|
| | | | CU. YD. | |
| 13+00 | 29+00 | SITE 1 C.L. HWY. 82 - STAGE 1 | 965 | 13908 |
| 13+00 | 29+00 | SITE 1 C.L. HWY. 82 - STAGE 2 | 215 | 1592 |
| 191+00 | 192+00 | SITE 1 C.L. C.R. 294 | 109 | 1147 |
| 302+00 | 303+50 | SITE 1 C.L. C.R. 434 | 31 | 216 |
| 33+00 | 49+00 | SITE 2 C.L. HWY. 82 - STAGE 1 | 407 | 14452 |
| 33+00 | 49+00 | SITE 2 C.L. HWY. 82 - STAGE 2 | 284 | 1706 |
| 52+00 | 69+00 | SITE 3 C.L. HWY. 82 - STAGE 1 | 3200 | 19656 |
| 52+00 | 69+00 | SITE 3 C.L. HWY. 82 - STAGE 2 | 824 | 5143 |
| | | | | |
| SITE | 1 | REMOVAL OF EXISTING CO. RD. 294 TYPICAL | 120 | 26 |
| SITE | 1 | REMOVAL OF EXISTING CO. RD. 434 TYPICAL | 55 | 16 |
| | | | | |
| | | | | |
| SITE | 1 | @ BRIDGE ENDS | 1100 | |
| SITE | 2 | @ BRIDGE ENDS | 400 | |
| SITE | 3 | @ BRIDGE ENDS | 350 | |
| | | | | |
| **TOTALS:** | | | **8060** | **57862** |

* NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

## REMOVAL AND DISPOSAL OF ITEMS

| STATION | STATION | LOCATION | GUARDRAIL | PIPE CULVERTS |
|---|---|---|---|---|
| | | | LIN. FT. | EACH |
| 19+30 | 20+30 | SITE 1 - LT. OF HWY. 82 | 100 | |
| 19+30 | 20+30 | SITE 1 - RT. OF HWY. 82 | 100 | |
| 21+11 | 22+11 | SITE 1 - RT. OF HWY. 82 | 100 | |
| 21+11 | 23+36 | SITE 1 - LT. OF HWY. 82 | 225 | |
| 191+80 | 192+90 | SITE 1 - C.R. 294; DBL 36" | | 2 |
| 38+00 | 40+25 | SITE 2 - RT. OF HWY. 82 | 225 | |
| 39+25 | 40+25 | SITE 2 - LT. OF HWY. 82 | 100 | |
| 41+37 | 42+37 | SITE 2 - RT. OF HWY. 82 | 100 | |
| 41+37 | 43+62 | SITE 2 - LT. OF HWY. 82 | 225 | |
| 58+14 | 60+39 | SITE 3 - RT. OF HWY. 82 | 225 | |
| 59+39 | 60+39 | SITE 3 - LT. OF HWY. 82 | 100 | |
| 61+39 | 62+39 | SITE 3 - RT. OF HWY. 82 | 100 | |
| 61+39 | 63+64 | SITE 3 - LT. OF HWY. 82 | 225 | |
| | | | | |
| **TOTALS:** | | | **1825** | **2** |

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.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-27-2023

## COUNTY ROAD TURNOUTS

| STATION | LOCATION | SIDE DRAINS | STANDARD DRAWINGS |
|---|---|---|---|
| | | 36" | |
| | | LIN. FT. | |
| 192+50 | C.L. C.R. 294 | 104 | PCC-1, PCM-1, PCP-1, PCP-2 |
| 193+22 | C.L. C.R. 294 | 136 | PCC-1, PCM-1, PCP-1, PCP-2 |
| | | | |
| **TOTAL:** | | **240** | |

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

## SELECTED PIPE BEDDING

| LOCATION | SELECTED PIPE BEDDING |
|---|---|
| | CU.YD. |
| ENTIRE PROJECT TO BE USED IF | |
| AND WHERE DIRECTED BY THE | 30 |
| ENGINEER | |
| | |
| | |
| **TOTAL:** | **30** |

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## APPROACH GUTTERS AND SLABS

| STATION | STATION | LOCATION | APPROACH GUTTER (TYPE SPECIAL) | APPROACH SLABS (TYPE SPECIAL) | REINFORCING STEEL-RDWY. (GR. 60) | AGGREGATE BASE CRS. (CLASS 7) |
|---|---|---|---|---|---|---|
| | | | CU.YD. | CU.YD. | POUND | TON |
| 19+63.25 | 19+99.75 | SITE 1 - C.L. HWY. 82 | 29.22 | 120.40 | 16502 | 84.59 |
| 21+80.25 | 22+16.75 | SITE 1 - C.L. HWY. 82 | 29.22 | 120.40 | 16502 | 84.59 |
| 39+58.25 | 39+94.75 | SITE 2 - C.L. HWY. 82 | 29.22 | 120.40 | 16502 | 84.59 |
| 41+75.25 | 42+11.75 | SITE 2 - C.L. HWY. 82 | 29.22 | 120.40 | 16502 | 84.59 |
| 59+63.25 | 59+99.75 | SITE 3 - C.L. HWY. 82 | 29.22 | 120.40 | 16502 | 84.59 |
| 61+80.25 | 62+16.75 | SITE 3 - C.L. HWY. 82 | 29.22 | 120.40 | 16502 | 84.59 |
| | | | | | | |
| **TOTALS:** | | | **175.32** | **722.40** | **99012.00** | **507.54** |

NOTE: USE T =17.5" FOR 8' SHOULDER.

## GUARDRAIL

| STATION | STATION | LOCATION | GUARDRAIL (TYPE A) | THRIE BEAM GUARDRAIL TERMINAL | GUARDRAIL TERMINAL (TYPE 2) |
|---|---|---|---|---|---|
| | | | LIN. FT. | EACH | |
| 18+46.60 | 19+90.35 | LT. OF C.L. HWY. 82 - SITE 1 | 75 | 1 | 1 |
| 17+71.60 | 19+90.35 | RT. OF C.L. HWY. 82 - SITE 1 | 150 | 1 | 1 |
| 21+89.65 | 24+08.40 | LT. OF C.L. HWY. 82 - SITE 1 | 150 | 1 | 1 |
| 21+89.65 | 23+33.40 | RT. OF C.L. HWY. 82 - SITE 1 | 75 | 1 | 1 |
| 37+66.60 | 39+85.35 | RT. OF C.L. HWY. 82 - SITE 2 | 150 | 1 | 1 |
| 38+41.60 | 39+85.35 | LT. OF C.L. HWY. 82 - SITE 2 | 75 | 1 | 1 |
| 41+84.65 | 43+28.40 | RT. OF C.L. HWY. 82 - SITE 2 | 75 | 1 | 1 |
| 41+84.65 | 44+03.40 | LT. OF C.L. HWY. 82 - SITE 2 | 150 | 1 | 1 |
| 57+71.60 | 59+90.35 | RT. OF C.L. HWY. 82 - SITE 3 | 150 | 1 | 1 |
| 58+46.60 | 59+90.35 | LT. OF C.L. HWY. 82 - SITE 3 | 75 | 1 | 1 |
| 61+89.65 | 63+33.40 | RT. OF C.L. HWY. 82 - SITE 3 | 75 | 1 | 1 |
| 61+89.65 | 64+08.40 | LT. OF C.L. HWY. 82 - SITE 3 | 150 | 1 | 1 |
| | | | | | |
| **TOTALS:** | | | **1350** | **12** | **12** |

## EROSION CONTROL MATTING

| STATION | STATION | LOCATION | LENGTH | CLASS 3 |
|---|---|---|---|---|
| | | | LIN. FT. | SQ. YD. |
| | | | | |
| * ENTIRE | PROJECT | TO BE USED IF AND WHERE | 1400.00 | 1244.44 |
| | | DIRECTED BY THE ENGINEER | | |
| | | | | |
| **TOTAL:** | | | | **1244.44** |

NOTE: AVERAGE WIDTH = 8'-0"
*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## FLOWABLE SELECT MATERIAL

| STATION | LOCATION | CU. YD. |
|---|---|---|
| | | |
| * ENTIRE | **TO BE USED IF AND WHERE DIRECTED** | 15 |
| PROJECT | **DIRECTED BY THE ENGINEER** | |
| | | |
| **TOTAL:** | | **15** |

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## EROSION CONTROL

| STATION | STATION | LOCATION | PERMANENT EROSION CONTROL | | | | | TEMPORARY EROSION CONTROL | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SEEDING | LIME | MULCH COVER | WATER | SECOND SEEDING APPLICATION | TEMPORARY SEEDING | MULCH COVER | WATER | SAND BAG DITCH CHECKS | ROCK DITCH CHECKS | SILT FENCE | FILTER SOCK | SEDIMENT BASIN | OBLITERATION OF SEDIMENT BASIN | *SEDIMENT REMOVAL & DISPOSAL |
| | | | | | | | | | | | (E-5) | (E-6) | (E-11) | (E-13) & (E-3) | (E-14) | | |
| | | | ACRE | TON | ACRE | M.GAL. | ACRE | ACRE | ACRE | M.GAL. | BAG | CU.YD. | LIN. FT. | LIN. FT. | CU.YD. | CU.YD. | CU. YD. |
| ENTIRE | PROJECT | CLEARING AND GRUBBING - SITE 1 | | | | | | 7.96 | 7.96 | 162.4 | 132 | | 4334 | 2555 | 1229 | | 1396 |
| ENTIRE | PROJECT | STAGE 1 - SITE 1 | | | | | | 6.96 | 6.96 | 142.0 | 44 | | | 1239 | | | 2 |
| ENTIRE | PROJECT | STAGE 2 - SITE 1 | 6.88 | 13.76 | 6.88 | 701.8 | 6.88 | 13.76 | 13.76 | 280.7 | | | | | | 1016 | |
| ENTIRE | PROJECT | END OF JOB | | | | | | | | | | | | | | 213 | 15 |
| ENTIRE | PROJECT | CLEARING AND GRUBBING - SITE 2 | | | | | | 5.66 | 5.66 | 115.5 | 330 | | 3996 | | 759 | | 907 |
| ENTIRE | PROJECT | STAGE 1 - SITE 2 | | | | | | 4.30 | 4.30 | 87.7 | | | | 938 | | 546 | |
| ENTIRE | PROJECT | STAGE 2 - SITE 2 | 4.22 | 8.44 | 4.22 | 430.4 | 4.22 | 8.44 | 8.44 | 172.2 | | | | | | 213 | 15 |
| ENTIRE | PROJECT | CLEARING AND GRUBBING - SITE 3 | | | | | | 6.83 | 6.83 | 139.3 | 198 | 18 | 3361 | | 1276 | | 1400 |
| ENTIRE | PROJECT | STAGE 1 - SITE 3 | | | | | | 5.23 | 5.23 | 106.7 | | | | 1246 | | 736 | |
| ENTIRE | PROJECT | STAGE 2 - SITE 3 | 4.98 | 9.96 | 4.98 | 508.0 | 4.98 | 9.96 | 9.96 | 203.2 | | | | | | 540 | |
| | | | | | | | | | | | | | | | | | 10 |
| | | | | | | | | | | | | | | | | | |
| *ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. | | | 1.61 | 3.22 | 1.61 | 164.2 | 1.61 | 6.91 | 6.91 | 141.0 | 110 | 15 | 1169 | 598 | 326 | 326 | 369 |
| | | | | | | | | | | | | | | | | | |
| **TOTALS:** | | | **17.69** | **35.38** | **17.69** | **1804.4** | **17.69** | **76.01** | **76.01** | **1550.7** | **814** | **33** | **12860** | **6576** | **3590** | **3590** | **4114** |

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./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.

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## ACHM PATCHING OF EXISTING ROADWAY

| DESCRIPTION | TON |
|---|---|
| ENTIRE PROJECT - TO BE USED IF AND WHERE | 15 |
| DIRECTED BY THE ENGINEER | |
| | |
| **TOTAL:** | **15** |

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

## BENCH MARKS

| STATION | LOCATION | BENCH MARKS |
|---|---|---|
| | | EACH |
| 19+99.75 | SITE 1 - BR. 07510 | 1 |
| 39+94.75 | SITE 2 - BR. 07511 | 1 |
| 59+99.75 | SITE 3 - BR. 07512 | 1 |
| | | |

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

Scott.Thornsberry 9/22/2023 10:09:04 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Corridor\perLapile\Design\CIVIL\Drawings\R070471_08_QYT_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 36 | 103 |
| | | | | (1) | QUANTITY SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
1-24-2024

## BASE AND SURFACING (SHEET 1 OF 2)

| STATION | STATION | LOCATION | LENGTH | AGGREGATE BASE COURSE (CLASS 7) | | TACK COAT | | | | | | ACHM BASE COURSE (1 1/2") | | | | ACHM BINDER COURSE (1") | | | | ACHM SURFACE COURSE (1/2") | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (0.05 GAL. PER SQ. YD.) | | | (0.17 GAL. PER SQ. YD.) | | | | | | | | | | | | | | | | | | | |
| | | | | TON / STATION | TON | TOTAL WID. | SQ.YD. | GALLON | TOTAL WID. | SQ.YD. | GALLON | TOTAL GALLONS | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | TOTAL PG 64-22 |
| | | | FEET | | | FEET | | | FEET | | | | FEET | | | TON | FEET | | | TON | FEET | | | TON | FEET | | | TON |
| **MAIN LANES** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13+00.00 | 14+00.00 | SITE 1C.L. HWY. 82 - TRANSITION | 100.00 | 201.00 | 201.00 | | | | 32.00 | 355.56 | 60.45 | 60.45 | | | | | | | | | | | | | 32.00 | 355.56 | 220.00 | 39.11 | 39.11 |
| 14+00.00 | 18+35.50 | SITE 1C.L. HWY. 82 - NOTCH RT. & SHLD. LT. | 435.50 | 371.00 | 1615.71 | 123.75 | 5988.13 | 299.41 | 22.00 | 1064.56 | 180.98 | 480.39 | 41.39 | 2002.82 | 495.00 | 495.70 | 41.23 | 1995.07 | 330.00 | 329.19 | 41.13 | 1990.24 | 220.00 | 218.93 | 75.00 | 3629.17 | 220.00 | 399.21 | 618.14 |
| 18+35.50 | 19+00.00 | SITE 1C.L. HWY. 82 - NOTCH RT., MOT SHLD. RT., & SHLD. LT. | 64.50 | 365.00 | 235.43 | 142.20 | 1019.10 | 50.96 | 22.00 | 157.67 | 26.80 | 77.76 | 47.69 | 341.78 | 495.00 | 84.59 | 47.38 | 339.56 | 330.00 | 56.03 | 47.13 | 337.77 | 220.00 | 37.15 | 75.00 | 537.50 | 220.00 | 59.13 | 96.28 |
| 19+00.00 | 19+63.25 | SITE 1C.L. HWY. 82 - FULL DEPTH & MOT SHLD. RT. | 63.25 | 450.50 | 284.94 | 208.93 | 1468.31 | 73.42 | | | | 73.42 | 70.07 | 492.44 | 495.00 | 121.88 | 69.61 | 489.20 | 330.00 | 80.72 | 69.25 | 486.67 | 220.00 | 53.53 | 75.00 | 527.08 | 220.00 | 57.98 | 111.51 |
| 22+16.75 | 23+00.00 | SITE 1C.L. HWY. 82 - FULL DEPTH & MOT SHLD. RT. | 83.25 | 450.50 | 375.04 | 208.93 | 1932.60 | 96.63 | | | | 96.63 | 70.07 | 648.15 | 495.00 | 160.42 | 69.61 | 643.89 | 330.00 | 106.24 | 69.25 | 640.56 | 220.00 | 70.46 | 75.00 | 693.75 | 220.00 | 76.31 | 146.77 |
| 23+00.00 | 23+44.50 | SITE 1C.L. HWY. 82 - NOTCH RT., MOT SHLD. RT., & SHLD. LT. | 44.50 | 365.00 | 162.43 | 142.20 | 703.10 | 35.16 | 22.00 | 108.78 | 18.49 | 53.65 | 47.69 | 235.80 | 495.00 | 58.36 | 47.38 | 234.27 | 330.00 | 38.65 | 47.13 | 233.03 | 220.00 | 25.63 | 75.00 | 370.83 | 220.00 | 40.79 | 66.42 |
| 23+44.50 | 28+00.00 | SITE 1C.L. HWY. 82 - NOTCH RT. & SHLD. LT. | 455.50 | 371.00 | 1689.91 | 123.75 | 6263.13 | 313.16 | 22.00 | 1113.44 | 189.28 | 502.44 | 41.39 | 2094.79 | 495.00 | 518.46 | 41.23 | 2086.70 | 330.00 | 344.31 | 41.13 | 2081.64 | 220.00 | 228.98 | 75.00 | 3795.83 | 220.00 | 417.54 | 646.52 |
| 28+00.00 | 29+00.00 | SITE 1C.L. HWY. 82 - TRANSITION | 100.00 | 201.00 | 201.00 | | | | 32.00 | 355.56 | 60.45 | 60.45 | | | | | | | | | | | | | 32.00 | 355.56 | 220.00 | 39.11 | 39.11 |
| 33+00.00 | 34+00.00 | SITE 2 C.L. HWY. 82 - TRANSITION | 100.00 | 201.00 | 201.00 | | | | 32.00 | 355.56 | 60.45 | 60.45 | | | | | | | | | | | | | 32.00 | 355.56 | 220.00 | 39.11 | 39.11 |
| 34+00.00 | 38+30.50 | SITE 2 C.L. HWY. 82 - NOTCH RT. & SHLD. LT. | 430.50 | 371.00 | 1597.16 | 123.75 | 5919.38 | 295.97 | 22.00 | 1052.33 | 178.90 | 474.87 | 41.39 | 1979.82 | 495.00 | 490.01 | 41.23 | 1972.17 | 330.00 | 325.41 | 41.13 | 1967.39 | 220.00 | 216.41 | 75.00 | 3557.50 | 220.00 | 394.63 | 611.04 |
| 38+30.50 | 39+00.00 | SITE 2 C.L. HWY. 82 - NOTCH RT., MOT SHLD. RT., & SHLD. LT. | 69.50 | 365.00 | 253.68 | 142.20 | 1098.10 | 54.91 | 22.00 | 169.89 | 28.88 | 83.79 | 47.69 | 368.27 | 495.00 | 91.15 | 47.38 | 365.88 | 330.00 | 60.37 | 47.13 | 363.95 | 220.00 | 40.03 | 75.00 | 579.17 | 220.00 | 63.71 | 103.74 |
| 39+00.00 | 39+58.25 | SITE 2 C.L. HWY. 82 - FULL DEPTH & MOT SHLD. RT. | 58.25 | 450.50 | 262.42 | 208.93 | 1352.24 | 67.61 | | | | 67.61 | 70.07 | 453.51 | 495.00 | 112.24 | 69.61 | 450.53 | 330.00 | 74.34 | 69.25 | 448.20 | 220.00 | 49.30 | 75.00 | 485.42 | 220.00 | 53.40 | 102.70 |
| 42+11.75 | 43+39.50 | SITE 2 C.L. HWY. 82 - NOTCH RT., MOT SHLD. RT., & SHLD. LT. | 127.75 | 365.00 | 466.29 | 142.20 | 2018.45 | 100.92 | 22.00 | 312.28 | 53.09 | 154.01 | 47.69 | 676.93 | 495.00 | 167.54 | 47.38 | 672.53 | 330.00 | 110.97 | 47.13 | 668.98 | 220.00 | 73.59 | 75.00 | 1064.58 | 220.00 | 117.10 | 190.69 |
| 43+39.50 | 48+00.00 | SITE 2 C.L. HWY. 82 - NOTCH RT. & SHLD. LT. | 460.50 | 371.00 | 1708.46 | 123.75 | 6331.88 | 316.59 | 22.00 | 1125.67 | 191.36 | 507.95 | 41.39 | 2117.79 | 495.00 | 524.15 | 41.23 | 2109.60 | 330.00 | 348.08 | 41.13 | 2104.49 | 220.00 | 231.49 | 75.00 | 3837.50 | 220.00 | 422.13 | 653.62 |
| 48+00.00 | 49+00.00 | SITE 2 C.L. HWY. 82 - TRANSITION | 100.00 | 201.00 | 201.00 | | | | 32.00 | 355.56 | 60.45 | 60.45 | | | | | | | | | | | | | 32.00 | 355.56 | 220.00 | 39.11 | 39.11 |
| 52+00.00 | 53+00.00 | SITE 3 C.L. HWY. 82 - TRANSITION | 100.00 | 201.00 | 201.00 | | | | 24.00 | 266.67 | 45.33 | 45.33 | | | | | | | | | | | | | 34.00 | 377.78 | 220.00 | 41.56 | 41.56 |
| 53+00.00 | 57+50.00 | SITE 3 C.L. HWY. 82 - NOTCH RT. & SHLD. LT. | 450.00 | 363.25 | 1634.63 | 117.75 | 5887.50 | 294.38 | 24.00 | 1200.00 | 204.00 | 498.38 | 39.39 | | 495.00 | | 39.23 | 1961.50 | 330.00 | 323.65 | 39.13 | 1956.50 | 220.00 | 215.22 | 75.00 | 3750.00 | 220.00 | 412.50 | 627.72 |
| 57+50.00 | 58+23.00 | SITE 3 C.L. HWY. 82 - FULL DEPTH | 73.00 | 456.50 | 333.25 | 190.48 | 1545.00 | 77.25 | | | | 77.25 | 63.77 | | 495.00 | | 63.46 | 514.73 | 330.00 | 84.93 | 63.25 | 513.03 | 220.00 | 56.43 | 75.00 | 608.33 | 220.00 | 66.92 | 123.35 |
| 58+23.00 | 59+63.25 | SITE 3 C.L. HWY. 82 - FULL DEPTH & MOT SHLD. RT. | 140.25 | 450.50 | 631.83 | 208.93 | 3255.83 | 162.79 | | | | 162.79 | 70.07 | | 495.00 | | 69.61 | 1084.76 | 330.00 | 178.99 | 69.25 | 1079.15 | 220.00 | 118.71 | 75.00 | 1168.75 | 220.00 | 128.56 | 247.27 |
| 62+16.75 | 63+57.00 | SITE 3 C.L. HWY. 82 - FULL DEPTH & MOT SHLD. RT. | 140.25 | 450.50 | 631.83 | 208.93 | 3255.83 | 162.79 | | | | 162.79 | 70.07 | | 495.00 | | 69.61 | 1084.76 | 330.00 | 178.99 | 69.25 | 1079.15 | 220.00 | 118.71 | 75.00 | 1168.75 | 220.00 | 128.56 | 247.27 |
| 63+57.00 | 64+50.00 | SITE 3 C.L. HWY. 82 - FULL DEPTH | 93.00 | 456.50 | 424.55 | 190.48 | 1968.29 | 98.41 | | | | 98.41 | 63.77 | | 495.00 | | 63.46 | 655.75 | 330.00 | 108.20 | 63.25 | 653.58 | 220.00 | 71.89 | 75.00 | 775.00 | 220.00 | 85.25 | 157.14 |
| 64+50.00 | 68+00.00 | SITE 3 C.L. HWY. 82 - NOTCH RT. & SHLD. LT. | 350.00 | 363.25 | 1271.38 | 117.75 | 4579.17 | 228.96 | 24.00 | 933.33 | 158.67 | 387.63 | 39.39 | | 495.00 | | 39.23 | 1525.61 | 330.00 | 251.73 | 39.13 | 1521.72 | 220.00 | 167.39 | 75.00 | 2916.67 | 220.00 | 320.83 | 488.22 |
| 68+00.00 | 69+00.00 | SITE 3 C.L. HWY. 82 - TRANSITION | 100.00 | 201.00 | 201.00 | | | | 24.00 | 266.67 | 45.33 | 45.33 | | | | | | | | | | | | | 34.00 | 377.78 | 220.00 | 41.56 | 41.56 |
| 189+37.30 | 189+87.30 | SITE 1 C.L. C.R. 294 - TRANSITION | 50.00 | 16.50 | 8.25 | | | | | | | | | | | | | | | | | | | | 20.00 | 111.11 | 220.00 | 12.22 | 12.22 |
| 189+87.30 | 191+00.00 | SITE 1 C.L. C.R. 294 - NOTCH LT. | 112.70 | 81.25 | 91.57 | | | | | | | | | | | | | | | | | | | | 20.00 | 250.44 | 220.00 | 27.55 | 27.55 |
| 191+00.00 | 193+70.44 | SITE 1 C.L. C.R. 294 - FULL DEPTH | 270.44 | 162.75 | 440.14 | | | | | | | | | | | | | | | | | | | | 20.00 | 600.98 | 220.00 | 66.11 | 66.11 |
| 300+29.56 | 303+00.00 | SITE 1 C.L. C.R. 434 - FULL DEPTH | 270.44 | 162.75 | 440.14 | | | | | | | | | | | | | | | | | | | | 20.00 | 600.98 | 220.00 | 66.11 | 66.11 |
| 303+00.00 | 303+50.00 | SITE 1 C.L. C.R. 434 - TRANSITION | 50.00 | 16.50 | 8.25 | | | | | | | | | | | | | | | | | | | | 18.00 | 100.00 | 220.00 | 11.00 | 11.00 |
| **ADDITIONAL FOR LEVELING & GRADE RAISE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13+00.00 | 14+00.00 | SITE 1 C.L. HWY. 82 - RT. LANE & SHLD. CROSS SLOPE CORRECTIO | 100.00 | | | 32.00 | 355.56 | 17.78 | | | | 17.78 | | | | | 16.00 | 177.78 | 102.00 | 9.07 | 16.00 | 177.78 | 220.00 | 19.56 | | | | | 19.56 |
| 14+00.00 | 19+00.00 | SITE 1 C.L. HWY. 82 | 500.00 | | | 44.00 | 2444.44 | 122.22 | | | | 122.22 | | | | | 22.00 | 1222.22 | 108.00 | 66.00 | 22.00 | 1222.22 | 220.00 | 134.44 | | | | | 134.44 |
| 19+00.00 | 19+63.25 | SITE 1: "METHOD OF RAISING GD." - SPEC. DETAIL | 63.25 | | | | | | 22.00 | 154.61 | 26.28 | 26.28 | 22.00 | 154.61 | 560.00 | 43.29 | | | | | | | | | | | | |
| 22+16.75 | 23+00.00 | SITE 1: "METHOD OF RAISING GD." - SPEC. DETAIL | 83.25 | | | 22.00 | 203.50 | 10.18 | 22.00 | 203.50 | 34.60 | 44.78 | 22.00 | 203.50 | 760.00 | 77.33 | | | | | | | | | | | | |
| 23+00.00 | 28+00.00 | SITE 1 C.L. HWY. 82 | 500.00 | | | 44.00 | 2444.44 | 122.22 | | | | 122.22 | | | | | 22.00 | 1222.22 | 150.00 | 91.67 | 22.00 | 1222.22 | 220.00 | 134.44 | | | | | 134.44 |
| 28+00.00 | 29+00.00 | SITE 1 C.L. HWY. 82 - RT. LANE & SHLD. CROSS SLOPE CORRECTIO | 100.00 | | | 32.00 | 355.56 | 17.78 | | | | 17.78 | | | | | 16.00 | 177.78 | 102.00 | 9.07 | 16.00 | 177.78 | 220.00 | 19.56 | | | | | 19.56 |
| 33+00.00 | 34+00.00 | SITE 2 C.L. HWY. 82 - RT. LANE & SHLD. CROSS SLOPE CORRECTIO | 100.00 | | | 32.00 | 355.56 | 17.78 | | | | 17.78 | | | | | 16.00 | 177.78 | 102.00 | 9.07 | 16.00 | 177.78 | 220.00 | 19.56 | | | | | 19.56 |
| 34+00.00 | 39+00.00 | SITE 2 C.L. HWY. 82 | 500.00 | | | 44.00 | 2444.44 | 122.22 | | | | 122.22 | | | | | 22.00 | 1222.22 | 90.00 | 55.00 | 22.00 | 1222.22 | 220.00 | 134.44 | | | | | 134.44 |
| 39+00.00 | 39+58.25 | SITE 2: "METHOD OF RAISING GD." - SPEC. DETAIL | 58.25 | | | | | | 22.00 | 142.39 | 24.21 | 24.21 | 22.00 | 142.39 | 570.00 | 40.58 | | | | | | | | | | | | |
| 42+11.75 | 43+00.00 | SITE 2 C.L. HWY. 82 | 88.25 | | | 66.00 | 647.17 | 32.36 | 22.00 | 215.72 | 36.67 | 69.03 | 22.00 | 215.72 | 965.00 | 104.08 | 22.00 | 215.72 | 330.00 | 35.59 | 22.00 | 215.72 | 220.00 | 23.73 | | | | | |
| 43+00.00 | 48+00.00 | SITE 2 C.L. HWY. 82 | 500.00 | | | 44.00 | 2444.44 | 122.22 | | | | 122.22 | | | | | 22.00 | 1222.22 | 440.00 | 268.89 | 22.00 | 1222.22 | 220.00 | 134.44 | | | | | 134.44 |
| 48+00.00 | 49+00.00 | SITE 2 C.L. HWY. 82 - RT. LANE & SHLD. CROSS SLOPE CORRECTIO | 100.00 | | | 32.00 | 355.56 | 17.78 | | | | 17.78 | | | | | 16.00 | 177.78 | 102.00 | 9.07 | 16.00 | 177.78 | 220.00 | 19.56 | | | | | 19.56 |
| 52+00.00 | 53+00.00 | SITE 3 C.L. HWY. 82 - RT. LANE & SHLD. CROSS SLOPE CORRECTIO | 100.00 | | | 34.00 | 377.78 | 18.89 | | | | 18.89 | | | | | 17.00 | 188.89 | 126.00 | 11.90 | 17.00 | 188.89 | 220.00 | 20.78 | | | | | 20.78 |
| 53+00.00 | 57+50.00 | SITE 3 C.L. HWY. 82 | 450.00 | | | 72.00 | 3600.00 | 180.00 | | | | 180.00 | 24.00 | 1200.00 | 90.00 | 54.00 | 24.00 | 1200.00 | 330.00 | 198.00 | 24.00 | 1200.00 | 220.00 | 132.00 | | | | | 132.00 |
| 57+50.00 | 59+00.00 | SITE 3: "METHOD OF RAISING GD." - SPEC. DETAIL | 150.00 | | | 48.00 | 800.00 | 40.00 | 24.00 | 400.00 | 68.00 | 108.00 | 24.00 | 400.00 | 1580.00 | 316.00 | | | | | | | | | | | | |
| 63+00.00 | 64+50.00 | SITE 3: "METHOD OF RAISING GD." - SPEC. DETAIL | 150.00 | | | 48.00 | 800.00 | 40.00 | 24.00 | 400.00 | 68.00 | 108.00 | 24.00 | 400.00 | 1688.00 | 337.60 | | | | | | | | | | | | |
| 64+50.00 | 68+00.00 | SITE 3 C.L. HWY. 83 | 350.00 | | | 72.00 | 2800.00 | 140.00 | | | | 140.00 | 24.00 | 933.33 | 10.00 | 4.67 | 24.00 | 933.33 | 330.00 | 154.00 | 24.00 | 933.33 | 220.00 | 102.67 | | | | | 102.67 |
| 68+00.00 | 69+00.00 | SITE 3 C.L. HWY. 82 - RT. LANE & SHLD. CROSS SLOPE CORRECTIO | 100.00 | | | 34.00 | 377.78 | 18.89 | | | | 18.89 | | | | | 17.00 | 188.89 | 126.00 | 11.90 | 17.00 | 188.89 | 220.00 | 20.78 | | | | | 20.78 |
| 189+37.30 | 191+00.00 | SITE 1 C.L. C.R. 294 | 162.70 | | | | | | 10.00 | 180.78 | 30.73 | 30.73 | | | | | | | | | 10.00 | 180.78 | 220.00 | 19.89 | | | | | 19.89 |
| **ADDITIONAL FOR SUPERELEVATION** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 53+00.00 | 58+00.00 | SITE 3 C.L. HWY. 82 -SUPERELEVATION NOTCH RT. & SHLD. LT. | 500 | 52.75 | 263.75 | | | | | | | | | | | | | | | | | | | | | | | |
| 58+00.00 | 58+23.00 | SITE 3 C.L. HWY. 82 -SUPERELEVATION FULL DEPTH | 23.00 | 52.75 | 12.13 | | | | | | | | | | | | | | | | | | | | | | | |
| 58+23.00 | 58+99.84 | SITE 3 C.L. HWY. 82 -SUPERELEVATION FULL DEPTH | 76.84 | 5.50 | 4.23 | | | | | | | | | | | | | | | | | | | | | | | |
| **SUBTOTALS (SHEET 1 OF 2):** | | | | | **16053.40** | | **75392.27** | **3769.64** | | **10890.53** | **1851.40** | **5621.04** | | **15061.65** | | **3802.05** | | **26513.34** | | **3930.03** | | **26633.66** | | **2929.70** | | **33337.14** | | **3667.10** | **6573.07** |

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.1% MIN. AGGR.....5.9% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....95.0% MIN. AGGR.....5.0% ASPHALT BINDER
TACK COAT QUANTITIES 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

| LOCATION | TON | TACK COAT |
|---|---|---|
| | | GALLON |
| ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 25 | 50 |
| | | |
| **TOTALS:** | **25** | **50** |

BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

## RUMBLE STRIPS IN ASPHALT SHOULDERS

| STATION | STATION | LOCATION | * RUMBLE STRIPS IN ASPHALT SHOULDERS |
|---|---|---|---|
| | | | LIN.FT. |
| 13+00 | 29+00 | SITE 1 LT. OF C.L. HWY. 82 | 1600.00 |
| 13+00 | 29+00 | SITE 1 RT. OF C.L. HWY. 82 | 1600.00 |
| 33+00 | 49+00 | SITE 2 RT. OF C.L. HWY. 82 | 1600.00 |
| 33+00 | 49+00 | SITE 2 RT. OF C.L. HWY. 82 | 1600.00 |
| 52+00 | 69+00 | SITE 3 RT. OF C.L. HWY. 82 | 1700.00 |
| 52+00 | 69+00 | SITE 3 RT. OF C.L. HWY. 82 | 1700.00 |
| | | | |
| **TOTAL:** | | | **9800** |

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.



Scott.Thornsberry 1/24/2024 9:47:03 AM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Cornelius\perLapile\Design\CIVIL\Drawings\R070471_08_QYT_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 37 | 103 |
| | | | | (1) | QUANTITY SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
1-24-2024

## BASE AND SURFACING (SHEET 2 OF 2)

| STATION | STATION | LOCATION | LENGTH | AGGREGATE BASE COURSE (CLASS 7) | | TACK COAT | | | | | | | ACHM BASE COURSE (1 1/2") | | | | ACHM BINDER COURSE (1") | | | | ACHM SURFACE COURSE (1/2") | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TON / STATION | TON | (0.05 GAL. PER SQ. YD.) | | | (0.17 GAL. PER SQ. YD.) | | | TOTAL GALLONS | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | TOTAL PG 64-22 |
| | | | FEET | | | TOTAL WID FEET | SQ.YD. | GALLON | TOTAL WID FEET | SQ.YD. | GALLON | | FEET | | | TON | FEET | | | TON | FEET | | | TON | FEET | | | TON | TON |
| **ADDITIONAL FOR GUARDRAIL** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18+03.60 | 18+36.60 | SITE 1 LT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 18+36.60 | 18+46.60 | SITE 1 LT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 18+46.60 | 19+46.60 | SITE 1 LT. OF C.L. HWY. 82 | 100.00 | 46.55 | 46.55 | | | | | | | | | | | | | | | | | | | | 4.50 | 50.00 | 220.00 | 5.50 | 5.50 |
| 19+46.60 | 19+90.35 | SITE 1 LT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 17+28.60 | 17+61.60 | SITE 1 RT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 17+61.60 | 17+71.60 | SITE 1 RT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 17+71.60 | 19+46.60 | SITE 1 RT. OF C.L. HWY. 82 | 175.00 | 46.55 | 81.46 | | | | | | | | | | | | | | | | | | | | 4.50 | 87.50 | 220.00 | 9.63 | 9.63 |
| 19+46.60 | 19+90.35 | SITE 1 RT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 21+89.65 | 22+33.40 | SITE 1 LT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 22+33.40 | 24+08.40 | SITE 1 LT. OF C.L. HWY. 82 | 175.00 | 46.55 | 81.46 | | | | | | | | | | | | | | | | | | | | 4.50 | 87.50 | 220.00 | 9.63 | 9.63 |
| 24+08.40 | 24+18.40 | SITE 1 LT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 24+18.40 | 24+51.40 | SITE 1 LT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 21+89.65 | 22+33.40 | SITE 1 RT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 22+33.40 | 23+33.40 | SITE 1 RT. OF C.L. HWY. 82 | 100.00 | 46.55 | 46.55 | | | | | | | | | | | | | | | | | | | | 4.50 | 50.00 | 220.00 | 5.50 | 5.50 |
| 23+33.40 | 23+43.40 | SITE 1 RT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 23+43.40 | 23+76.40 | SITE 1 RT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37+98.60 | 38+31.60 | SITE 2 LT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 38+31.60 | 38+41.60 | SITE 2 LT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 38+41.60 | 39+41.60 | SITE 2 LT. OF C.L. HWY. 82 | 100.00 | 46.55 | 46.55 | | | | | | | | | | | | | | | | | | | | 4.50 | 50.00 | 220.00 | 5.50 | 5.50 |
| 39+41.60 | 39+85.35 | SITE 2 LT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 37+23.60 | 37+56.60 | SITE 2 RT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 37+56.60 | 37+66.60 | SITE 2 RT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 37+66.60 | 39+41.60 | SITE 2 RT. OF C.L. HWY. 82 | 175.00 | 46.55 | 81.46 | | | | | | | | | | | | | | | | | | | | 4.50 | 87.50 | 220.00 | 9.63 | 9.63 |
| 39+41.60 | 39+85.35 | SITE 2 RT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 41+84.65 | 42+28.40 | SITE 2 LT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 42+28.40 | 44+03.40 | SITE 2 LT. OF C.L. HWY. 82 | 175.00 | 46.55 | 81.46 | | | | | | | | | | | | | | | | | | | | 4.50 | 87.50 | 220.00 | 9.63 | 9.63 |
| 44+03.40 | 44+13.40 | SITE 2 LT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 44+13.40 | 44+46.40 | SITE 2 LT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 41+84.65 | 42+28.40 | SITE 2 RT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 42+28.40 | 43+28.40 | SITE 2 RT. OF C.L. HWY. 82 | 100.00 | 46.55 | 46.55 | | | | | | | | | | | | | | | | | | | | 4.50 | 50.00 | 220.00 | 5.50 | 5.50 |
| 43+28.40 | 43+38.40 | SITE 2 RT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 43+38.40 | 43+71.40 | SITE 2 RT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58+03.60 | 58+36.60 | SITE 3 LT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 58+36.60 | 58+46.60 | SITE 3 LT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 58+46.60 | 59+46.60 | SITE 3 LT. OF C.L. HWY. 82 | 100.00 | 46.55 | 46.55 | | | | | | | | | | | | | | | | | | | | 4.50 | 50.00 | 220.00 | 5.50 | 5.50 |
| 59+46.60 | 59+90.35 | SITE 3 LT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 57+28.60 | 57+61.60 | SITE 3 RT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 57+61.60 | 57+71.60 | SITE 3 RT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 57+71.60 | 59+46.60 | SITE 3 RT. OF C.L. HWY. 82 | 175.00 | 46.55 | 81.46 | | | | | | | | | | | | | | | | | | | | 4.50 | 87.50 | 220.00 | 9.63 | 9.63 |
| 59+46.60 | 59+90.35 | SITE 3 RT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 61+89.65 | 62+33.40 | SITE 3 LT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 62+33.40 | 64+08.40 | SITE 3 LT. OF C.L. HWY. 82 | 175.00 | 46.55 | 81.46 | | | | | | | | | | | | | | | | | | | | 4.50 | 87.50 | 220.00 | 9.63 | 9.63 |
| 64+08.40 | 64+18.40 | SITE 3 LT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 64+18.40 | 64+51.40 | SITE 3 LT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| 61+89.65 | 62+33.40 | SITE 3 RT. OF C.L. HWY. 82 | 43.75 | 36.21 | 15.84 | | | | | | | | | | | | | | | | | | | | 3.50 | 17.01 | 220.00 | 1.87 | 1.87 |
| 62+33.40 | 63+33.40 | SITE 3 RT. OF C.L. HWY. 82 | 100.00 | 46.55 | 46.55 | | | | | | | | | | | | | | | | | | | | 4.50 | 50.00 | 220.00 | 5.50 | 5.50 |
| 63+33.40 | 63+43.40 | SITE 3 RT. OF C.L. HWY. 82 | 10.00 | 56.89 | 5.69 | | | | | | | | | | | | | | | | | | | | 5.50 | 6.11 | 220.00 | 0.67 | 0.67 |
| 63+43.40 | 63+76.40 | SITE 3 RT. OF C.L. HWY. 82 | 33.00 | 28.45 | 9.39 | | | | | | | | | | | | | | | | | | | | 2.75 | 10.08 | 220.00 | 1.11 | 1.11 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **SUBTOTALS (SHEET 2 OF 2):** | | | | | **1139.10** | | | | | | | | | | | | | | | | | | | | | **1223.40** | | **134.58** | **134.58** |
| **TOTALS:** | | | | | **17192.50** | | **75392.27** | **3769.64** | | **10890.53** | **1851.40** | **5621.04** | | **15061.65** | **3802.05** | | **26513.34** | | **3930.03** | | **26633.66** | | **2929.70** | | | **34560.54** | | | **3801.68** | **6707.65** |

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.1% MIN. AGGR.....5.9% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....95.0% MIN. AGGR.....5.0% ASPHALT BINDER
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

Scott.Thornsberry 9/24/2024 9:47:05 AM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16388_070471\CornleHarperLaplle\Design\CIVIL\Drawings\R070471_08_QYT_00.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 38 | 103 |
| | | | | ① 07510, 07511 & 07512 - QUANTITIES - 63743 | | | | |

# SCHEDULE OF BRIDGE QUANTITIES - JOB 070471

| BRIDGE NUMBER | NAME PLATE TITLE | UNIT OF STRUCTURE | ITEM NUMBER | 205 | 801 | SP, SS & 802 | SP, SS & 802 | SS & 802 | SP & 803 | SS & 804 | SS & 804 | ① SS & 805 | ① SS & 805 | SS & 805 | SS & 805 | SS & 808 | 812 | SS & 816 | SS & 816 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ITEM | REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. -) | UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE | CLASS S CONCRETE-BRIDGE | CLASS S(AE) CONCRETE-BRIDGE | PRESTRESSED CONCRETE GIRDERS (TYPE II) | CLASS 2 PROTECTIVE SURFACE TREATMENT | REINFORCING STEEL-BRIDGE (GRADE 60) | EPOXY COATED REINFORCING STEEL (GRADE 60) | STEEL SHELL PILING (18" DIAMETER) | STEEL SHELL PILING (20" DIAMETER) | PILE ENCASEMENT | PREBORING | ELASTOMERIC BEARINGS | BRIDGE NAME PLATE (TYPE D) | DUMPED RIPRAP | FILTER BLANKET |
| | | | UNIT | LUMP SUM | CU. YD. | CU. YD. | CU. YD. | LIN. FT. | SQ. YD. | POUND | POUND | LIN. FT. | LIN. FT. | LIN. FT. | LIN. FT. | CU. IN. | EACH | CU. YD. | SQ. YD. |
| 07510 | HIGHWAY 82 OVER CORNIE BAYOU | END BENT NO. 1 | | | 39 | 29.70 | | | | 3,600 | 460 | 460 | | | 100 | | | 140.0 | 244 |
| | | INTERMEDIATE BENT NO. 2 | | | | 38.30 | | | | 4,070 | | | 740 | 80 | | 2,286 | | | |
| | | INTERMEDIATE BENT NO. 3 | | | | 38.30 | | | | 4,070 | | | 740 | 60 | | 2,286 | | | |
| | | END BENT NO. 4 | | | 42 | 29.70 | | | | 3,600 | 460 | 460 | | | 100 | | | 130.0 | 227 |
| | | 179'-6" INTEGRAL PRESTRESSED UNIT TYPE II | | | | | 464.50 | 1785.0 | 1,652.1 | | 120,390 | | | | | | 1 | | |
| | | EXIST. BRIDGE NO. 02667 (SITE NO. 1) | | 1 | | | | | | | | | | | | | | | |
| TOTAL FOR BRIDGE NO. 07510 | | | | | 81 | 136.00 | 464.50 | 1785.0 | 1,652.1 | 15,340 | 121,310 | 920 | 1,480 | 140 | 200 | 4,572 | 1 | 270.0 | 471 |
| 07511 | HIGHWAY 82 OVER HARPER CREEK | END BENT NO. 1 | | | 33 | 29.70 | | | | 3,600 | 460 | 350 | | | 100 | | | 172.0 | 305 |
| | | INTERMEDIATE BENT NO. 2 | | | | 38.30 | | | | 4,070 | | | 930 | 150 | | 2,286 | | | |
| | | INTERMEDIATE BENT NO. 3 | | | | 38.30 | | | | 4,070 | | | 850 | 120 | | 2,286 | | | |
| | | END BENT NO. 4 | | | 32 | 29.70 | | | | 3,600 | 460 | 430 | | | 100 | | | 165.0 | 289 |
| | | 179'-6" INTEGRAL PRESTRESSED UNIT TYPE II | | | | | 464.50 | 1785.0 | 1,652.1 | | 120,390 | | | | | | 1 | | |
| | | EXIST. BRIDGE NO. 02668 (SITE NO. 2) | | 1 | | | | | | | | | | | | | | | |
| TOTAL FOR BRIDGE NO. 07511 | | | | | 65 | 136.00 | 464.50 | 1785.0 | 1,652.1 | 15,340 | 121,310 | 780 | 1,780 | 270 | 200 | 4,572 | 1 | 337.0 | 594 |
| 07512 | HIGHWAY 82 OVER LAPILE CREEK | END BENT NO. 1 | | | 32 | 29.70 | | | | 3,600 | 460 | 630 | | | 100 | | | 261.0 | 474 |
| | | INTERMEDIATE BENT NO. 2 | | | | 38.30 | | | | 4,070 | | | 760 | 180 | | 2,286 | | | |
| | | INTERMEDIATE BENT NO. 3 | | | | 38.30 | | | | 4,070 | | | 740 | 130 | | 2,286 | | | |
| | | END BENT NO. 4 | | | 31 | 29.70 | | | | 3,600 | 460 | 640 | | | 100 | | | 244.0 | 437 |
| | | 179'-6" INTEGRAL PRESTRESSED UNIT TYPE II | | | | | 464.50 | 1785.0 | 1,652.1 | | 120,390 | | | | | | 1 | | |
| | | EXIST. BRIDGE NO. 02912 (SITE NO. 3) | | 1 | | | | | | | | | | | | | | | |
| TOTAL FOR BRIDGE NO. 07512 | | | | | 63 | 136.00 | 464.50 | 1785.0 | 1,652.1 | 15,340 | 121,310 | 1,270 | 1,500 | 310 | 200 | 4,572 | 1 | 505.0 | 911 |
| TOTALS FOR JOB NO. 070471 | | | | | 209 | 408.00 | 1393.50 | 5355.0 | 4,956.3 | 46,020 | 363,930 | 2,970 | 4,760 | 720 | 600 | 13,716 | 3 | 1,112 | 1,976 |

① Steel shell piles shall conform to ASTM A252, Grade 3 (Fy = 45,000 psi)

## TABLE OF APPROACH SLAB QUANTITIES - PER BRIDGE

(FOR INFORMATION ONLY)

| ITEM | REINFORCING STEEL | CONCRETE |
|---|---|---|
| UNIT | LBS. | CU. YDS. |
| BEGIN BRIDGE | 14,966 | 120.40 |
| END BRIDGE | 14,966 | 120.40 |

## TABLE OF APPROACH GUTTER QUANTITIES - PER BRIDGE

(FOR INFORMATION ONLY)

| ITEM | REINFORCING STEEL | CONCRETE |
|---|---|---|
| UNIT | LBS. | CU. YDS. |
| BEGIN BRIDGE | 1,536 | 29.22 |
| END BRIDGE | 1,536 | 29.22 |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

SCHEDULE OF BRIDGE QUANTITIES
CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
COLUMBIA AND UNION COUNTIES
ROUTE 82 SECTIONS 4 AND 6
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: KDH DATE: 03/2021 FILENAME: B070471X_QX1.dgn
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: --- DATE: ---
SCALE: No Scale
BRIDGE NO. 07510, 07511 & 07512 DRAWING NO. 63743

Scott.Thornsberry 12/20/2023 4:35:51 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_QX1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 2-02-2024 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 39 | 103 |

(1) SUMMARY OF QUANTITES AND REVISIONS

## SUMMARY OF QUANTITIES

| ITEM NUMBER | ITEM | QUANTITY | UNIT |
|---|---|---|---|
| 201 | CLEARING | 56 | STATION |
| 201 | GRUBBING | 56 | STATION |
| 202 | REMOVAL AND DISPOSAL OF GUARDRAIL | 1825 | LIN. FT. |
| 202 | REMOVAL AND DISPOSAL OF PIPE CULVERTS | 2 | EACH |
| SS & 206 | FLOWABLE SELECT MATERIAL | 15 | CU. YD. |
| SP, SS, & 210 | UNCLASSIFIED EXCAVATION | 8060 | CU. YD. |
| SP & 210 | COMPACTED EMBANKMENT | 57862 | CU. YD. |
| SP & 210 | SOIL STABILIZATION | 600 | TON |
| SP, SS, & 303 | AGGREGATE BASE COURSE (CLASS 7) | 17700 | TON |
| SS & 401 | TACK COAT | 5671 | GAL. |
| SP, SS, & 405 | MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2") | 3612 | TON |
| SP, SS, & 405 | ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2") | 190 | TON |
| SP, SS, & 406 | MINERAL AGGREGATE IN ACHM BINDER COURSE (1") | 3757 | TON |
| SP, SS, & 406 | ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1") | 173 | TON |
| SP, SS, & 407 | MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2") | 6312 | TON |
| SP, SS, & 407 | ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2") | 396 | TON |
| SP & 412 | COLD MILLING ASPHALT PAVEMENT | 2289 | SQ. YD. |
| SP, SS, & 414 | ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC | 25 | TON |
| SP, SS, & 415 | ACHM PATCHING OF EXISTING ROADWAY | 15 | TON |
| SP, SS, & 504 | APPROACH SLABS | 722.40 | CU. YD. |
| SP, SS, & 504 | APPROACH GUTTERS | 175.32 | CU. YD. |
| 601 | MOBILIZATION | 1.00 | LUMP SUM |
| SP & 602 | FURNISHING FIELD OFFICE | 1 | EACH |
| SS & 603 | MAINTENANCE OF TRAFFIC | 1.00 | LUMP SUM |
| 603 | 12" TEMPORARY CULVERT | 100 | LIN. FT. |
| SS & 604 | SIGNS | 1073 | SQ. FT. |
| SS & 604 | BARRICADES | 56 | LIN. FT. |
| SS & 604 | TRAFFIC DRUMS | 144 | EACH |
| SP, SS, & 604 | CONSTRUCTION PROJECT INFORMATION SIGN UPDATE | 2 | EACH |
| SS & 604 | FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER | 1278 | LIN. FT. |
| SP, SS, & 604 | FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER | 4810 | LIN. FT. |
| SS & 604 | RELOCATING PRECAST CONCRETE BARRIER | 998 | LIN. FT. |
| 604 | CONSTRUCTION PAVEMENT MARKINGS | 33810 | LIN. FT. |
| 604 | REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | 3042 | LIN. FT. |
| 604 | REMOVAL OF PERMANENT PAVEMENT MARKINGS | 4819 | LIN. FT. |
| SS & 604 | VERTICAL PANELS | 81 | EACH |
| SP, SS, & 606 | 36" SIDE DRAIN | 240 | LIN. FT. |
| SS & 606 | SELECTED PIPE BEDDING | 30 | CU. YD. |
| SS & 611 | UNDERDRAIN OUTLET PROTECTORS | 8 | EACH |
| SS & 611 | 4" PIPE UNDERDRAINS | 2000 | LIN. FT. |
| SS & 617 | GUARDRAIL (TYPE A) | 1350 | LIN. FT. |
| SS & 617 | GUARDRAIL TERMINAL (TYPE 2) | 12 | EACH |
| SS & 617 | THRIE BEAM GUARDRAIL TERMINAL | 12 | EACH |
| 620 | LIME | 35 | TON |
| 620 | SEEDING | 17.69 | ACRE |
| SS & 620 | MULCH COVER | 93.70 | ACRE |
| 620 | WATER | 3355.1 | M. GAL. |
| 621 | TEMPORARY SEEDING | 76.01 | ACRE |
| 621 | SILT FENCE | 12860 | LIN. FT. |
| 621 | SAND BAG DITCH CHECKS | 814 | BAG |
| SS & 621 | FILTER SOCK (18") | 6576 | LIN. FT. |
| 621 | SEDIMENT BASIN | 3590 | CU. YD. |
| 621 | OBLITERATION OF SEDIMENT BASIN | 3590 | CU. YD. |
| 621 | SEDIMENT REMOVAL AND DISPOSAL | 4114 | CU. YD. |
| 621 | ROCK DITCH CHECKS | 33 | CU. YD. |
| 623 | SECOND SEEDING APPLICATION | 17.69 | ACRE |
| 626 | EROSION CONTROL MATTING (CLASS 3) | 1244 | SQ. YD. |
| 635 | ROADWAY CONSTRUCTION CONTROL | 1.00 | LUMP SUM |
| SP & 642 | RUMBLE STRIPES IN ASPHALT SHOULDERS | 9800 | LIN. FT. |
| 719 | THERMOPLASTIC PAVEMENT MARKING WHITE (6") | 9692 | LIN. FT. |
| 719 | THERMOPLASTIC PAVEMENT MARKING YELLOW (6") | 9390 | LIN. FT. |
| 721 | RAISED PAVEMENT MARKERS (TYPE II) | 60 | EACH |
| SS & 804 | REINFORCING STEEL-ROADWAY (GRADE 60) | 99012 | POUND |
| | | | |
| | **STRUCTURES OVER 20' SPAN** | | |
| 205 | REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1) | 1.00 | LUMP SUM |
| 205 | REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2) | 1.00 | LUMP SUM |
| 205 | REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3) | 1.00 | LUMP SUM |
| 636 | BRIDGE CONSTRUCTION CONTROL | 1.00 | LUMP SUM |
| 801 | UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE | 209 | CU. YD. |
| SP, SS, & 802 | CLASS S CONCRETE-BRIDGE | 408.00 | CU. YD. |
| SP, SS, & 802 | CLASS S(AE) CONCRETE-BRIDGE | 1393.5 | CU. YD. |
| SS & 802 | PRESTRESSED CONCRETE GIRDERS (TYPE II) | 5355.0 | LIN. FT. |
| SP & 803 | CLASS 2 PROTECTIVE SURFACE TREATMENT | 4956.3 | SQ. YD. |
| SS & 804 | REINFORCING STEEL-BRIDGE (GRADE 60) | 46020 | POUND |
| SS & 804 | EPOXY COATED REINFORCING STEEL (GRADE 60) | 363930 | POUND |
| SS & 805 | STEEL SHELL PILING (18" DIAMETER) | 2970 | LIN. FT. |
| SS & 805 | STEEL SHELL PILING (20" DIAMETER) | 4760 | LIN. FT. |
| SS & 805 | PILE ENCASEMENT | 720 | LIN. FT. |
| SS & 805 | PREBORING | 600 | LIN. FT. |
| SS & 808 | ELASTOMERIC BEARINGS | 13716 | CU. IN. |
| 812 | BRIDGE NAME PLATE (TYPE D) | 3 | EACH |
| SS & 816 | FILTER BLANKET | 1976 | SQ. YD. |
| SS & 816 | DUMPED RIPRAP | 1112 | CU. YD. |
| | | | |
| | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
2-2-2024

## REVISIONS

| DATE | REVISION | SHEET NUMBER |
|---|---|---|
| 2/2/2024 | REMOVED QUANTITY FOR FURNISHING FIELD LABORATORY | 39 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Scott.Thornsberry 2/2/2024 9:18:55 AM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Cornhole\perLaplie\Design\CIVIL\Drawings\R070471_08_SYT_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 40 | 103 |

(1) SURVEY CONTROL DETAILS

SURVEY CONTROL COORDINATES - HWY. 82 - SITES 1 & 2

Project Name: s070471
Date: 3/26/2018
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

| Point Name | Northing | Easting | Elev | Feature | Description |
|---|---|---|---|---|---|
| 1 | 1541126.1403 | 941360.6913 | 352.148 | CTL | ARDOT STD MON STAMPED PN: 1 JOB 070365 |
| 2 | 1540325.5257 | 941311.8121 | 347.430 | CTL | ARDOT STD MON STAMPED PN: 2 JOB 070365 |
| 3 | 1539529.5821 | 941258.3559 | 329.407 | CTL | ARDOT STD MON STAMPED PN: 3 JOB 070365 |
| 4 | 1538734.1495 | 941192.8996 | 322.109 | CTL | ARDOT STD MON STAMPED PN: 4 JOB 070365 |
| 5 | 1537915.8849 | 941213.4047 | 329.469 | CTL | ARDOT STD MON STAMPED PN: 5 JOB 070365 |
| 6 | 1537204.8616 | 941211.2927 | 327.550 | CTL | ARDOT STD MON STAMPED PN: 6 JOB 070365 |
| 7 | 1536413.7821 | 941111.4312 | 309.366 | CTL | ARDOT STD MON STAMPED PN: 7 JOB 070365 |
| 8 | 1535573.9133 | 941045.8289 | 299.588 | CTL | ARDOT STD MON STAMPED PN: 8 JOB 070365 |
| 9 | 1534799.7748 | 940979.5216 | 291.379 | CTL | ARDOT STD MON STAMPED PN: 9 JOB 070365 |
| 10 | 1534015.0973 | 940821.0999 | 285.116 | CTL | ARDOT STD MON STAMPED PN: 10 JOB 070365 |
| 11 | 1533219.5047 | 940699.4053 | 283.760 | CTL | ARDOT STD MON STAMPED PN: 11 JOB 070365 |
| 12 | 1532472.5693 | 940569.4098 | 281.689 | CTL | ARDOT STD MON STAMPED PN: 12 JOB 070365 |
| 13 | 1532007.2242 | 940607.8749 | 281.408 | CTL | ARDOT STD MON STAMPED PN: 13 JOB 070365 |
| 14 | 1531368.3294 | 942231.9762 | 281.874 | CTL | ARDOT STD MON STAMPED PN: 14 JOB 070365 |
| 15 | 1531001.1827 | 942999.2707 | 285.211 | CTL | ARDOT STD MON STAMPED PN: 15 JOB 070365 |
| 16 | 1530724.0855 | 943712.0569 | 300.931 | CTL | ARDOT STD MON STAMPED PN: 16 JOB 070365 |
| 17 | 1530446.3822 | 944460.5423 | 311.747 | CTL | ARDOT STD MON STAMPED PN: 17 JOB 070365 |
| 18 | 1530172.7620 | 945182.3235 | 316.792 | CTL | ARDOT STD MON STAMPED PN: 18 JOB 070365 |
| 19 | 1529859.2826 | 945901.0968 | 317.690 | CTL | ARDOT STD MON STAMPED PN: 19 JOB 070365 |
| 20 | 1529587.8683 | 946625.9780 | 324.549 | CTL | ARDOT STD MON STAMPED PN: 20 JOB 070365 |
| 21 | 1529315.4701 | 947356.0393 | 338.505 | CTL | ARDOT STD MON STAMPED PN: 21 JOB 070365 |
| 22 | 1529082.2061 | 948094.7586 | 351.428 | CTL | ARDOT STD MON STAMPED PN: 22 JOB 070365 |
| 23 | 1528764.0606 | 948829.6410 | 362.076 | CTL | ARDOT STD MON STAMPED PN: 23 JOB 070365 |
| 24 | 1528532.2046 | 949567.3773 | 373.981 | CTL | ARDOT STD MON STAMPED PN: 24 JOB 070365 |
| 25 | 1528259.2704 | 950312.9106 | 374.501 | CTL | ARDOT STD MON STAMPED PN: 25 JOB 070365 |
| 26 | 1527989.2531 | 951030.2059 | 375.710 | CTL | ARDOT STD MON STAMPED PN: 26 JOB 070365 |
| 27 | 1527764.5301 | 951768.3632 | 373.817 | CTL | ARDOT STD MON STAMPED PN: 27 JOB 070365 |
| 28 | 1527667.2827 | 952536.5657 | 349.528 | CTL | ARDOT STD MON STAMPED PN: 28 JOB 070365 |
| 29 | 1527611.9794 | 953303.1511 | 326.289 | CTL | ARDOT STD MON STAMPED PN: 29 JOB 070365 |
| 30 | 1527586.6013 | 954079.0476 | 321.080 | CTL | ARDOT STD MON STAMPED PN: 30 JOB 070365 |
| 31 | 1527522.9680 | 954844.1870 | 344.627 | CTL | ARDOT STD MON STAMPED PN: 31 JOB 070365 |
| 32 | 1527414.5966 | 956221.2132 | 329.481 | CTL | ARDOT STD MON STAMPED PN: 32 JOB 070365 |
| 33 | 1527247.5868 | 958126.7568 | 329.354 | CTL | ARDOT STD MON STAMPED PN: 33 JOB 070365 |
| 34 | 1527212.2626 | 958922.3264 | 337.949 | CTL | ARDOT STD MON STAMPED PN: 34 JOB 070365 |
| 35 | 1527167.7574 | 959699.9959 | 352.117 | CTL | ARDOT STD MON STAMPED PN: 35 JOB 070365 |
| 36 | 1527151.8774 | 960290.7086 | 355.548 | CTL | ARDOT STD MON STAMPED PN: 36 JOB 070365 |
| 37 | 1527114.6622 | 961058.9530 | 337.954 | CTL | ARDOT STD MON STAMPED PN: 37 JOB 070365 |
| 38 | 1527081.4691 | 961888.3318 | 349.174 | CTL | ARDOT STD MON STAMPED PN: 38 JOB 070365 |
| 39 | 1527051.1709 | 962679.5793 | 333.915 | CTL | ARDOT STD MON STAMPED PN: 39 JOB 070365 |
| 40 | 1527021.1178 | 963464.0899 | 295.227 | CTL | ARDOT STD MON STAMPED PN: 40 JOB 070365 |
| 41 | 1526988.9056 | 964255.7904 | 287.943 | CTL | ARDOT STD MON STAMPED PN: 41 JOB 070365 |
| 42 | 1526959.7925 | 965046.3930 | 296.104 | CTL | ARDOT STD MON STAMPED PN: 42 JOB 070365 |
| 43 | 1526930.1124 | 965819.7945 | 292.200 | CTL | ARDOT STD MON STAMPED PN: 43 JOB 070365 |
| 44 | 1526898.9832 | 966590.3929 | 318.629 | CTL | ARDOT STD MON STAMPED PN: 44 JOB 070365 |
| 45 | 1526875.9991 | 967364.0064 | 317.702 | CTL | ARDOT STD MON STAMPED PN: 45 JOB 070365 |
| 46 | 1526798.1268 | 968157.5070 | 304.208 | CTL | ARDOT STD MON STAMPED PN: 46 JOB 070365 |
| 47 | 1526770.6487 | 968941.2935 | 310.200 | CTL | ARDOT STD MON STAMPED PN: 47 JOB 070365 |
| 48 | 1526747.7706 | 969705.9190 | 304.463 | CTL | ARDOT STD MON STAMPED PN: 48 JOB 070365 |
| 49 | 1526693.7133 | 971426.1757 | 288.769 | CTL | ARDOT STD MON STAMPED PN: 49 JOB 070365 |
| 50 | 1526681.6513 | 973373.8035 | 273.150 | CTL | ARDOT STD MON STAMPED PN: 50 JOB 070365 |
| 51 | 1526655.4171 | 974149.1120 | 269.825 | CTL | ARDOT STD MON STAMPED PN: 51 JOB 070365 |
| 52 | 1526620.9070 | 974905.1914 | 250.272 | CTL | ARDOT STD MON STAMPED PN: 52 JOB 070365 |
| 53 | 1526594.2019 | 975691.8059 | 241.287 | CTL | ARDOT STD MON STAMPED PN: 53 JOB 070365 |
| 54 | 1526568.9118 | 976466.4234 | 235.773 | CTL | ARDOT STD MON STAMPED PN: 54 JOB 070365 |
| 55 | 1526542.8426 | 977227.0628 | 235.774 | CTL | ARDOT STD MON STAMPED PN: 55 JOB 070365 |
| 56 | 1526516.3995 | 977943.4941 | 235.614 | CTL | ARDOT STD MON STAMPED PN: 56 JOB 070365 |
| 57 | 1526492.7414 | 978720.8586 | 234.906 | CTL | ARDOT STD MON STAMPED PN: 57 JOB 070365 |
| 58 | 1526466.3343 | 979525.5962 | 234.650 | CTL | ARDOT STD MON STAMPED PN: 59 JOB 070365 |
| 59 | 1526441.3922 | 980331.4378 | 234.159 | CTL | ARDOT STD MON STAMPED PN: 59 JOB 070365 |
| 60 | 1526413.7931 | 981113.4643 | 233.135 | CTL | ARDOT STD MON STAMPED PN: 60 JOB 070365 |
| 61 | 1526387.2609 | 981896.3639 | 233.178 | CTL | ARDOT STD MON STAMPED PN: 61 JOB 070365 |
| 62 | 1526364.3668 | 982659.6663 | 235.172 | CTL | ARDOT STD MON STAMPED PN: 62 JOB 070365 |
| 63 | 1526341.3697 | 983440.2058 | 237.282 | CTL | ARDOT STD MON STAMPED PN: 63 JOB 070365 |
| 64 | 1526318.3086 | 984242.9514 | 248.065 | CTL | ARDOT STD MON STAMPED PN: 64 JOB 070365 |
| 65 | 1526278.9184 | 985034.3660 | 248.458 | CTL | ARDOT STD MON STAMPED PN: 65 JOB 070365 |
| 66 | 1526226.2762 | 985798.4764 | 270.439 | CTL | ARDOT STD MON STAMPED PN: 66 JOB 070365 |
| 67 | 1526116.8147 | 986565.7909 | 287.523 | CTL | ARDOT STD MON STAMPED PN: 67 JOB 070365 |
| 68 | 1526076.6205 | 987139.9645 | 299.475 | CTL | ARDOT STD MON STAMPED PN: 68 JOB 070365 |
| 69 | 1526056.9894 | 989268.5971 | 278.211 | CTL | ARDOT STD MON STAMPED PN: 69 JOB 070365 |
| 70 | 1526042.5214 | 990050.1816 | 284.422 | CTL | ARDOT STD MON STAMPED PN: 70 JOB 070365 |
| 100 | 1543570.2223 | 941661.6867 | 354.335 | GPS | ARDOT GPS MON 140009 |
| 101 | 1541937.6890 | 941389.5705 | 353.698 | GPS | ARDOT GPS MON 140009A |
| 102 | 1532392.4580 | 939923.6259 | 283.195 | GPS | ARDOT GPS MON 140010 |
| 103 | 1531673.6747 | 941693.5168 | 281.614 | GPS | ARDOT GPS MON 140010A |
| 104 | 1527521.2960 | 955172.3485 | 345.240 | GPS | ARDOT GPS MON 140011 |
| 105 | 1527344.8862 | 957373.5544 | 322.450 | GPS | ARDOT GPS MON 140011A |
| 106 | 1526720.6704 | 970325.9698 | 313.322 | GPS | ARDOT GPS MON 140012 |
| 107 | 1526711.5214 | 972592.4330 | 273.326 | GPS | ARDOT GPS MON 140012A |
| 108 | 1526020.9853 | 987682.2499 | 301.284 | GPS | ARDOT GPS MON 140013 |
| 109 | 1526050.8284 | 990835.5201 | 300.882 | GPS | ARDOT GPS MON 140013A |
| 900 | 1532942.1835 | 935679.6266 | 302.047 | TBM | TOKYO JAPANESE REST. SIGN |
| 901 | 1532809.5404 | 938310.4947 | 327.881 | TBM | 1/2" GROUND ROD |
| 902 | 1532075.7378 | 940509.6447 | 283.247 | TBM | CONCRETE PAD FOR SIGNALS |
| 903 | 1532921.7886 | 937377.7400 | 310.294 | TBM | CONCRETE HEADWALL S/SIDE HWY 82 |
| 904 | 1532180.8458 | 940171.2149 | 280.190 | TBM | CONCRETE HEADWALL S/SIDE HWY 82 |
| 905 | 1517246.7222 | 937954.5462 | 308.305 | BM | 5/8" REBAR W/ ARDOT CAP |
| 906 | 1519782.6383 | 937220.2910 | 304.544 | TBM | 5/8" REBAR W/ ARDOT CAP E/SIDE HWY 79 |
| 907 | 1522420.6607 | 936402.4388 | 264.562 | TBM | CONCRETE BRIDGE |
| 908 | 1524848.3910 | 936261.7169 | 272.828 | TBM | CONCRETE CULVERT E/SIDE HWY 79 S |
| 909 | 1527155.6957 | 937733.3114 | 270.445 | TBM | CONCRETE HEADWALL E/SIDE HWY 79 |
| 910 | 1529260.9277 | 939202.2820 | 276.728 | TBM | 5/8" REBAR W/ ARDOT CAP E/SIDE HWY 79 |
| 911 | 1531571.3950 | 940418.7304 | 282.057 | TBM | CONCRETE HEADWALL CHISELLED SQUARE |
| 912 | 1541162.9965 | 941381.6843 | 347.164 | TBM | CONCRETE HEADWALL W/SIDE HWY 79 |
| 913 | 1538940.4574 | 941270.4273 | 309.666 | TBM | CONCRETE HEADWALL W/SIDE HWY 79 |
| 914 | 1536415.7141 | 941070.6648 | 306.561 | TBM | CONCRETE HEADWALL W/SIDE HWY 79 |
| 915 | 1533890.9708 | 940870.8749 | 280.853 | TBM | CONCRETE HEADWALL W/SIDE HWY 79 |
| 916 | 1531036.8729 | 942875.1363 | 282.482 | TBM | CONCRETE HEADWALL N/SIDE HWY 82 |
| 917 | 1529996.1948 | 945410.6111 | 314.427 | TBM | CONCRETE HEADWALL S/SIDE HWY 82 |

SURVEY CONTROL COORDINATES - HWY. 82 - SITES 1 & 2

| Point Name | Northing | Easting | Elev | Feature | Description |
|---|---|---|---|---|---|
| 918 | 1529056.7926 | 947947.4295 | 349.225 | TBM | CONCRETE CULVERT S/SIDE HWY 82 |
| 919 | 1528321.7017 | 950316.8995 | 374.642 | TBM | YAMAHA SIGN NORTHSIDE HWY 82 |
| 920 | 1527587.7663 | 952601.5587 | 349.823 | TBM | CONCRETE HEADWALL SOUTHSIDE HWY 82 |
| 921 | 1527447.8343 | 955997.2168 | 326.714 | TBM | CONCRETE HEADWALL NORTHSIDE HWY 82 |
| 922 | 1527222.5523 | 958033.0224 | 327.626 | TBM | CONCRETE HEADWALL NORTHSIDE HWY 82 |
| 923 | 1527086.0672 | 961173.9731 | 333.656 | TBM | CONCRETE HEADWALL NORTHSIDE HWY 82 |
| 924 | 1526952.7314 | 964060.1818 | 285.382 | TBM | CONCRETE HEADWALL NORTHSIDE HWY 82 |
| 925 | 1526819.6618 | 966946.4122 | 325.965 | TBM | CONC. R/W MONUMENT NE CORNER |
| 926 | 1526789.7890 | 969663.9257 | 293.456 | TBM | CONCRETE HEADWALL NORTHSIDE HWY 82 |
| 927 | 1526561.7007 | 972039.5542 | 271.071 | TBM | CONCRETE HEADWALL SOUTHSIDE HWY 82 |
| 928 | 1526535.9361 | 974417.3979 | 259.391 | TBM | 33.7'S OF CL OF HWY. 82 14.4'S OF |
| 976 | 1526074.0313 | 989445.6834 | 273.461 | TBM | CHISELED SQUARE |
| 977 | 1526084.5618 | 988426.5922 | 292.971 | TBM | 5*' REBAR W\ ALUM CAP |
| 978 | 1526210.3341 | 986049.7679 | 278.521 | TBM | CHSLD SQ. |
| 979 | 1526220.0872 | 985115.6050 | 246.731 | TBM | CHSLD SQ. |
| 980 | 1526345.2166 | 982823.7252 | 236.739 | TBM | CONCRETE BRIDGE END |
| 981 | 1526474.1172 | 980192.1693 | 233.871 | TBM | CHISELED SQUARE IN CENTER |
| 982 | 1526497.6280 | 977984.1671 | 236.618 | TBM | CONCRETE BRIDGE END CHISELED SQUARE |
| 990 | 1532973.9777 | 933047.5531 | 346.340 | BM | NGS BM H 120 |
| 991 | 1518842.5703 | 939757.7064 | 316.520 | BM | NGS BM N 205 |

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999954966 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s070365gi.ctl
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL
IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 140009 - 140009A, 140010 - 140010A, 140011 - 140011A, 140012 - 140012A, 140013 - 140013A
CONVERGENCE ANGLE: 00 38 19 LEFT AT LT: 33-15-04.61 LG: 093-08-28.03
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

SURVEY CONTROL COORDINATES - HWY. 82 - SITE 3

Project Name: s070473
Date: 5/7/2018
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, 700035 - 700035A PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

| Point Name | Northing | Easting | Elev | Feature | Description |
|---|---|---|---|---|---|
| 1 | 1477021.4232 | 1194536.5556 | 125.624 | CTL | ARDOT STD. MON. STAMPED PN: 1 |
| 2 | 1476625.8080 | 1195039.9348 | 120.078 | CTL | ARDOT STD. MON. STAMPED PN: 2 |
| 3 | 1476117.6077 | 1195511.0478 | 119.159 | CTL | ARDOT STD. MON. STAMPED PN: 3 |
| 4 | 1475667.9778 | 1195865.0738 | 119.200 | CTL | ARDOT STD. MON. STAMPED PN: 4 |
| 5 | 1475160.4523 | 1196320.6007 | 119.101 | CTL | ARDOT STD. MON. STAMPED PN: 5 |
| 6 | 1474603.1184 | 1196934.9015 | 122.499 | CTL | ARDOT STD. MON. STAMPED PN: 6 |
| 7 | 1474432.4548 | 1197666.5134 | 129.324 | CTL | ARDOT STD. MON. STAMPED PN: 7 |
| 8 | 1474471.6385 | 1198205.0127 | 137.782 | CTL | ARDOT STD. MON. STAMPED PN: 8 |
| 9 | 1474455.9240 | 1199621.6752 | 119.183 | CTL | ARDOT STD. MON. STAMPED PN: 9 |
| 10 | 1474453.3321 | 1201115.1105 | 114.665 | CTL | ARDOT STD. MON. STAMPED PN: 10 |
| 11 | 1474451.3740 | 1201847.5220 | 112.495 | CTL | ARDOT STD. MON. STAMPED PN: 11 |
| 12 | 1474262.8721 | 1202481.6985 | 116.550 | CTL | ARDOT STD. MON. STAMPED PN: 12 |
| 13 | 1473915.1844 | 1203094.2966 | 117.261 | CTL | ARDOT STD. MON. STAMPED PN: 13 |
| 14 | 1473574.1116 | 1203667.7781 | 116.509 | CTL | ARDOT STD. MON. STAMPED PN: 14 |
| 15 | 1473077.8467 | 1204434.5218 | 115.132 | CTL | ARDOT STD. MON. STAMPED PN: 15 |
| 100 | 1474423.3767 | 1198659.9019 | 136.906 | GPS | ARDOT GPS *700035 |
| 101 | 1474469.7672 | 1200327.4736 | 117.998 | GPS | ARDOT GPS *700035A |
| 102 | 1474308.1652 | 1203100.6736 | 115.068 | GPS | OLD USC & GS BM TT 3 E 1932 |
| 901 | 1474675.6599 | 1196942.8044 | 120.419 | TBM | CHISELED SQUARE |
| 902 | 1474428.6229 | 1197676.8083 | 129.786 | TBM | CHISELED SQUARE |
| 903 | 1474468.0586 | 1200043.4122 | 118.328 | TBM | CHISELED SQUARE |
| 904 | 1474413.3734 | 1201231.5233 | 114.204 | TBM | CHISELED SQUARE |
| 905 | 1473237.5351 | 1204149.8540 | 114.862 | TBM | CHISELED SQUARE |
| 906 | 1472752.7370 | 1204733.0648 | 111.762 | TBM | ARDOT STD. ALUM. BM DISC |
| 907 | 1475996.4507 | 1195612.9391 | 120.360 | TBM | CHISELED SQUARE |

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 1.000045122718 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s070459gi.CTL
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL
IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 700035 - 700035A
CONVERGENCE ANGLE: 00 12 21.25 LEFT AT PN: 9 LT: N 33-06-42.52 LG: W092-22-04.38
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.



Scott.Thornsberry@20/2023 12:58:50 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.07047\CorrieHarperLaplie\Design\CIVIL\Drawings\R07047I_IL_SC_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 41 | 103 |
| | | | | (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

## CONSTRUCTION STAGE 2 ALIGNMENTS ARE PROVIDED FOR CONSTRUCTION PAVEMENT MARKING INSTALLATION

### ALIGNMENT NAME: CORNIE BAYOU - CONST. PVMT. MRKINGS.

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8009 | 140+00.00 | PC | 1526518.2986 | 977349.9908 |
| 8011 | 142+09.35 | PT | 1526499.5623 | 977558.3597 |
| 8012 | 143+81.42 | PC | 1526473.2336 | 977728.3971 |
| 8014 | 145+78.19 | PT | 1526454.8693 | 977924.1919 |
| 8015 | 148+06.19 | PC | 1526447.2512 | 978152.0647 |
| 8017 | 149+74.71 | PT | 1526450.2917 | 978320.4797 |
| 8018 | 152+34.29 | PC | 1526468.3241 | 978579.4375 |
| 8020 | 154+04.06 | PT | 1526471.3222 | 978749.1059 |
| 8021 | 154+04.16 | POE | 1526471.3189 | 978749.2023 |

### ALIGNMENT NAME: HARPER CREEK - CONST. PVMT. MRKINGS.

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8022 | 360+00.00 | PC | 1526355.8191 | 982219.7365 |
| 8024 | 361+78.41 | PT | 1526340.4854 | 982397.3963 |
| 8025 | 363+89.86 | PC | 1526310.8552 | 982606.7644 |
| 8027 | 365+73.09 | PT | 1526295.3764 | 982789.2382 |
| 8028 | 368+01.09 | PC | 1526288.8423 | 983017.1446 |
| 8030 | 369+58.95 | PT | 1526291.9278 | 983174.9156 |
| 8031 | 372+50.65 | PC | 1526311.6815 | 983465.9482 |
| 8033 | 374+03.93 | PT | 1526314.8919 | 983619.1384 |

### ALIGNMENT NAME: LAPILE CREEK - CONST. PVMT. MRKINGS.

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8034 | 360+00.00 | PC | 1476620.5722 | 1195012.8146 |
| 8036 | 362+78.56 | PT | 1476411.9860 | 1195196.9421 |
| 8037 | 364+99.35 | PC | 1476234.6443 | 1195328.4618 |
| 8039 | 366+66.38 | PT | 1476105.7874 | 1195434.6238 |
| 8040 | 369+19.38 | PC | 1475918.9798 | 1195605.2461 |
| 8042 | 370+96.70 | PT | 1475794.7770 | 1195731.6818 |
| 8043 | 373+27.38 | PC | 1475642.2676 | 1195904.7523 |
| 8045 | 375+05.15 | PT | 1475517.7346 | 1196031.4895 |

### HWY. 82 - SITE 1
### ALIGNMENT NAME: CORNIE BAYOU

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8000 | 7+00.00 | POB | 1526521.9903 | 976649.7231 |
| 8001 | 34+80.00 | POE | 1526429.1028 | 979428.1709 |

### HWY. 82 - SITE 2
### ALIGNMENT NAME: HARPER CREEK

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8002 | 27+00.00 | POB | 1526356.2910 | 981519.4624 |
| 8003 | 54+80.00 | POE | 1526276.6211 | 984298.3206 |

### HWY. 82 - SITE 3
### ALIGNMENT NAME: LAPILE CREEK

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8004 | 42+14.74 | POB | 1477205.2365 | 1194100.1624 |
| 8005 | 44+97.05 | PC | 1477074.2836 | 1194350.2588 |
| 8007 | 54+94.84 | PT | 1476468.3574 | 1195136.6485 |
| 8008 | 76+95.78 | POE | 1474843.2456 | 1196620.9585 |

### ALIGNMENT NAME: COUNTY RD. 294 (SITE 1)

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8046 | 189+29.60 | POB | 1526053.9113 | 977752.8248 |
| 8047 | 189+87.62 | PC | 1526107.7446 | 977774.4538 |
| 8049 | 191+86.82 | PT | 1526295.6661 | 977746.4027 |
| 8050 | 192+38.49 | PC | 1526335.8931 | 977713.9796 |
| 8052 | 193+60.73 | PT | 1526448.5830 | 977672.4573 |
| 8053 | 194+00.00 | POE | 1526487.8352 | 977671.3710 |

### ALIGNMENT NAME: COUNTY RD. 434 (SITE 1)

| POINT | STATION | TYPE | NORTHING | EASTING |
|---|---|---|---|---|
| 8054 | 300+00.00 | POB | 1526462.8362 | 978419.1381 |
| 8055 | 300+31.10 | PC | 1526493.9291 | 978418.2776 |
| 8057 | 301+20.02 | PT | 1526578.9612 | 978395.2618 |
| 8058 | 301+36.07 | PC | 1526593.0304 | 978387.5573 |
| 8060 | 302+36.46 | PT | 1526689.5361 | 978364.5744 |
| 8061 | 304+03.12 | POE | 1526856.1015 | 978370.1429 |

Scott.Thornsberry 9/20/2023 12:58:51 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163388.070471CornieHarperLapile\Design\CIVIL\Drawings\R070471_II_SC_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 42 | 103 |
| | | | | (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
12-20-2023

N

STA. 14+00.00
BEGIN JOB 070471
BEGIN SITE 1
LOG MILE= 9.31

MOVEMENT OF TRAFFIC
C.L. CORNIE BAYOU
CONST. PVMT. MRKINGS.
P.I. = 141+04.82
Δ = 7°19'38" LT.
D = 3°30'00"
T = 104.82'
L = 209.35'
P.C. = 140+00.00
P.T. = 142+09.35
NO SUPER

C.L. CORNIE BAYOU
CONST. PVMT. MRKINGS.
P.I. = 144+79.92
Δ = 6°53'13" LT.
D = 3°30'00"
T = 98.50'
L = 196.77'
P.C. = 143+81.42
P.T. = 145+78.19
NO SUPER

C.L. HWY. 82 STA 17+22.22 =
C.L. CO. RD. 294 STA 194+00.00
Δ = 86° 30' 00"

PN:54
PD:AHTD STD MON
STAMPED PN:54

SURVEY BASELINE S88°02'14"E
761.09'

10+00

PN:55
PD:AHTD STD MON
STAMPED PN:55

SURVEY BASELINE S87°53'10"E
716.92'

15+00

PI 141+04.82

PC 143+81.42

145+00

PT 145+78.19

20+00

PN:56
PD:AHTD STD MON
STAMPED PN:56

8000

C.L. HWY. 82

S88°05'07"E
2780.00'

8009

S88°31'32"E

S81°11'53"E

8011

S81°11'53"E
172.07'

8053

C.L. HWY. 82

C.L. CORNIE BAYOU
CONST. PVMT. MARKINGS

8012

S81°11'53"E

8014

S88°05'07"E
228.00'

S88°05'07"E

POB 7+00.00
C.L. HWY. 82
SITE 1

POB 140+00.00
CORNIE BAYOU- SITE 1
CONST. PVMT. MRKINGS.

PT 142+09.35

N01°35'07"W
39.02'

8052

PT 193+60.73

N01°35'07"W

PC 192+38.49

PI 193+01.86

PI 144+79.92

C.L. C.R.294
P.I. = 193+01.88
DELTA = 37°17'01" RT.
D = 30°23'09"
T = 63.61'
L = 122.70'
P.C.=192+38.27
P.T.=193+60.97
NO SUPER

N38°52'08"W

8050

N38°52'08"W
51.02'

N38°52'08"W
80.52'

8049

N38°52'08"W

C.L. C.R.294

PT 191+86.82

PI 190+97.83

C.L. C.R. 294
P.I. = 190+97.83
Δ = 60°45'29" LT.
D = 30°23'09"
T = 110.53'
L = 199.95'
P.C. = 189+87.30
P.T. = 191+87.25
NO SUPER

N21°53'21"E

PC 189+80.06
BEG. CO. RD. 294
CONST.

8047

POB 189+29.60

N 21°53'21" E
58.02'

8046

189+30

SITE 1
SURVEY CONTROL DETAILS

Scott.Thornsberry@9/20/2023 12:58:52 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16388.070471\CornieHarperLaplle\Design\CIVIL\Drawings\R070471_IL_SC_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 43 | 103 |
| | | | | (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

N

C.L. C.R. 434
P.I. = 301+87.49
Δ = 30°37'14" RT.
D = 30°23'09"
T = 51.62'
L = 100.77'
P.C. = 301+35.87
P.T. = 302+36.64
NO SUPER

C.L. C.R. 434
P.I. = 300+76.41
Δ = 27°07'14" LT.
D = 30°23'09"
T = 45.48'
L = 89.25'
P.C. = 300+30.93
P.T. = 301+20.19
NO SUPER

C.L. CORNIE BAYOU
CONST. PVMT. MARKINGS
P.I. = 148+90.52
Δ = 5°53'53" LT.
D = 3°30'00"
T = 84.33'
L = 168.52'
P.C. = 148+06.19
P.T. = 149+74.71
NO SUPER

C.L CORNIE BAYOU
CONST. PVMT. MRKINGS.
P.I. = 153+19.25
Δ = 5°56'31" RT.
D = 3°30'00"
T = 84.96'
L = 169.77'
P.C. = 152+34.29
P.T. = 154+04.06
NO SUPER

C.L. HWY. 82 STA. 24+70.40=
C.L. C.R. 434 STA 300+00.00
Δ = 86°30'00"

8061 C.L. CO. RD. 434 POE 304+03.12
304+00
304+03
C.L. C.R. 434 N01°54'53"E 166.47'
STA. 303+00.00 END CO. RD. 434
8060 PT 302+36.46
N01°54'53"E
PI 301+87.49
N28°42'21"W
PC 301+36.07
25+00
8058
N28°42'21"W 15.68'
8057 N28°42'21"W
PI 300+76.41
PT 301+20.02
PT 149+74.71
N01°35'07"W
PC 148+06.19
SURVEY BASELINE S88°15'25"E 777.72'
PC 300+31.10
8055 N01°35'07"W 30.93'
C.L. HWY. 82
S88°05'07"E 2780.00'
S88°05'07"E 228.00'
C.L. CORNIE BAYOU CONST. PVMT. MARKINGS
8015 S88°05'07"E
N86°01'00"E
8017
N86°01'00"E 259.58'
8054 S88°05'07"E
8059
8018 N86°01'00"E
PI 153+19.25
PN:57 PD:AHTD STD MON STAMPED PN:57
S88°02'29"E
8021
8020
POE 154+04.16 CORNIE BAYOU CONST. PVMT. MARKINGS
30+00
SURVEY BASELINE S88°07'14"E 805.17'
PN:58 PD:AHTD STD MON STAMPED PN:59
S88°05'07"E C.L. HWY. 82
8001
POE 34+80.00 C.L. HWY. 82- SITE I
PI 148+90.52
PC 152+34.29
PT 154+04.06
STA. 28+00.00
END SITE I

SITE I
SURVEY CONTROL DETAILS

Scott.Thornsberry 9/20/2023 12:58:53 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\CornieHarperLaplle\Design\CIVIL\Drawings\R070471_IL_SC_004.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 44 | 103 |
| | | | | (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

N

SURVEY BASELINE S88°13'38"E
806.23'

PN:59
PD:AHTD STD MON STAMPED PN:59

SURVEY BASELINE S87°58'44"E
782.51'

PN:60
PD:AHTD STD MON STAMPED PN:60

Scott.Thornsberry@9/20/2023 12:58:54 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.07047\CornleHarperLaplle\Design\CIVIL\Drawings\R07047LHLSC.005.dgn
REVISED DATE: $$REVDATE$$

SURVEY CONTROL DETAILS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 45 | 103 |
| | | | | (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

N

SURVEY BASELINE S88°03'32"E
783.35'

30+00

PN:61
PD:AHTD STD MON
STAMPED PN:61

SURVEY BASELINE S88°16'55"E
763.65'

35+00

PI 360+89.29

C.L. HARPER CREEK
CONST. PVMT. MRKINGS.
P.I. = 360+89.29
Δ = 6°14'40" RT.
D = 3°30'00"
T = 89.29'
L = 178.41'
P.C. = 360+00.00
P.T. = 361+78.41
NO SUPER

PC 363+89.86

PN:62
PD:AHTD STD MON
STAMPED PN:62

365+00

8002

S88°21'28"E
2780.00'

8022

S88°11'21"E

S81°56'42"E

8024

S81°56'42"E
211.45'

8025

S81°56'42"E

S88°21'28"E

POB 27+00.00
C.L. HWY. 82- SITE 2

STA. 34+00.00
BEGIN SITE 2
LOG MILE= 10.23

POB 360+00.00
HARPER CREEK- SITE 2
CONST. PVMT.
MARKINGS

PT 361+78.41

C.L. HARPER CREEK
CONST. PVMT. MRKINGS.

PI 364+81.57

C.L. HARPER CREEK
CONST. PVMT. MRKINGS.
P.I. = 364+81.57
Δ = 6°24'46" LT.
D = 3°30'00"
T = 91.71'
L = 183.22'
P.C. = 363+89.86
P.T. = 365+73.09
NO SUPER

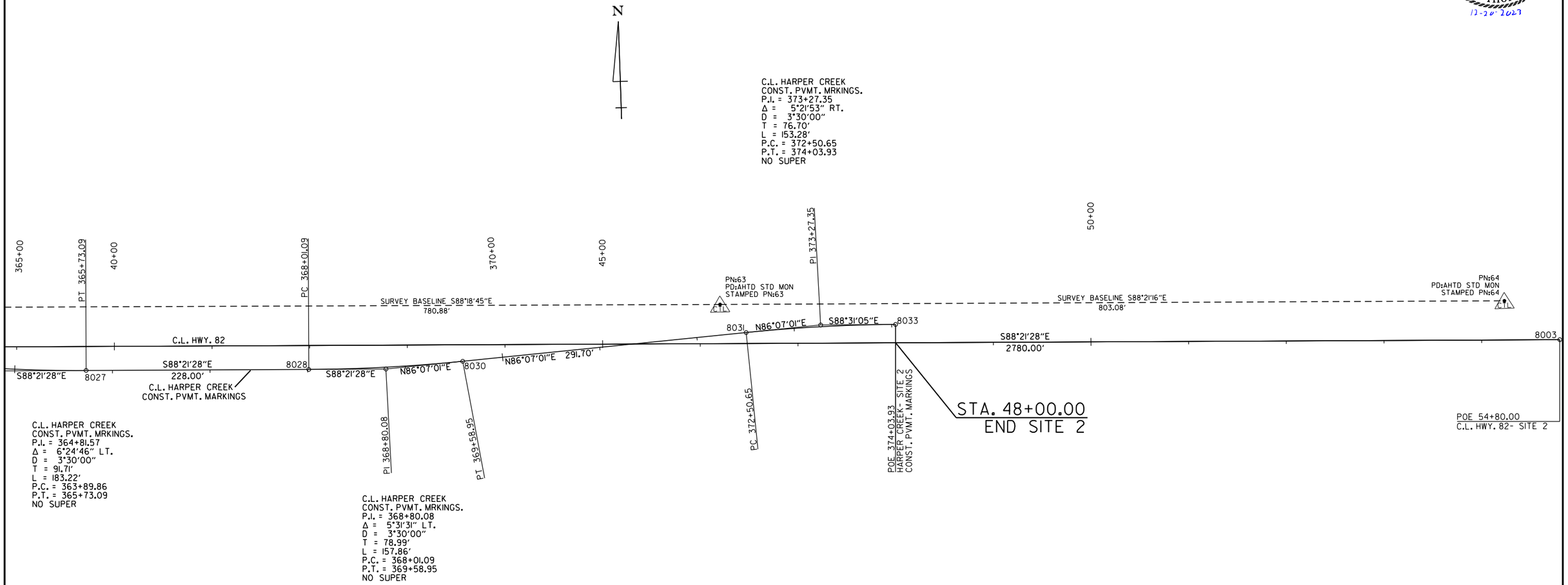
# SITE 2
# SURVEY CONTROL DETAILS

Scott.Thornsberry@9/20/2023 12:58:54 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\CornileHarperLapile\Design\CIVIL\Drawings\R070471_II_SC_006.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 46 | 103 |
| (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
★ ★ ★
No.10887
SCOTT P. THORNSBERRY
12-20-2023



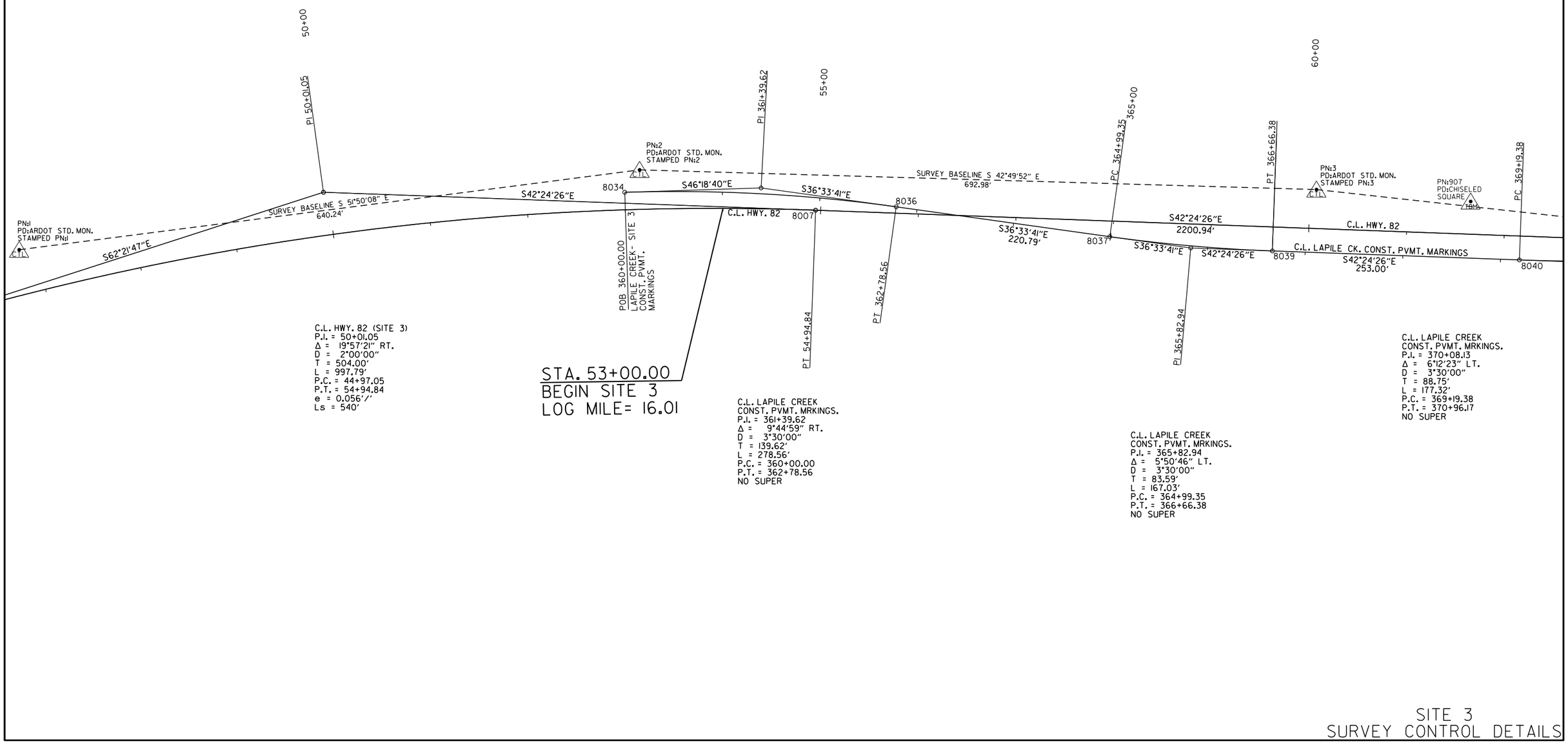

SITE 2
SURVEY CONTROL DETAILS

Scott.Thornsberry@20/2023 12:58:55 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471CornieHarperLaplle\Design\CIVIL\Drawings\R070471_II_SC_007.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 47 | 103 |
| (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




C.L. HWY. 82 (SITE 3)
P.I. = 50+01.05
Δ = 19°57'21" RT.
D = 2°00'00"
T = 504.00'
L = 997.79'
P.C. = 44+97.05
P.T. = 54+94.84
e = 0.056'/'
Ls = 540'

STA. 53+00.00
BEGIN SITE 3
LOG MILE= 16.01

C.L. LAPILE CREEK
CONST. PVMT. MRKINGS.
P.I. = 361+39.62
Δ = 9°44'59" RT.
D = 3°30'00"
T = 139.62'
L = 278.56'
P.C. = 360+00.00
P.T. = 362+78.56
NO SUPER

C.L. LAPILE CREEK
CONST. PVMT. MRKINGS.
P.I. = 365+82.94
Δ = 5°50'46" LT.
D = 3°30'00"
T = 83.59'
L = 167.03'
P.C. = 364+99.35
P.T. = 366+66.38
NO SUPER

C.L. LAPILE CREEK
CONST. PVMT. MRKINGS.
P.I. = 370+08.13
Δ = 6°12'23" LT.
D = 3°30'00"
T = 88.75'
L = 177.32'
P.C. = 369+19.38
P.T. = 370+96.17
NO SUPER

SITE 3
SURVEY CONTROL DETAILS

Scott.Thornsberry@20/2023 12:58:56 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471CorrieHarperLapile\Design\CIVIL\Drawings\R070471_II_SC_008.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 48 | 103 |
| | | | | (1) | SURVEY CONTROL DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

C.L. LAPILE CREEK
CONST. PVMT. MRKINGS
P.I. = 374+16.35
Δ = 6°13'19" RT.
D = 3°30'00"
T = 88.97'
L = 177.77'
P.C. = 373+27.38
P.T. = 375+05.15
NO SUPER

65+00 | 70+00 | 75+00

PC 369+19.38 | 370+00 | PT 370+96.70 | PI 374+16.35 | 375+00

SURVEY BASELINE S 38°12'57" E
572.28'

C.L. LAPILE CK.
CONST. PVMT. MARKINGS

8040 S42°24'26"E | S48°36'49"E | 8042 | S48°36'49"E 230.68' | PN:4 PD:ARDOT STD. MON. STAMPED PN:4 | 8043 S48°36'49"E | S42°23'30"E | 8045 | S42°24'26"E 2200.94' | C.L. HWY. 82 | PN:5 PD:ARDOT STD. MON. STAMPED PN:5 | SURVEY BASELINE S 47°47'01" E 829.45' | 8008

SURVEY BASELINE S 41°54'34" E 681.97'

PI 370+08.13

C.L. LAPILE CREEK
CONST. PVMT. MRKINGS
P.I. = 370+08.13
Δ = 6°12'23" LT.
D = 3°30'00"
T = 88.75'
L = 177.32'
P.C. = 369+19.38
P.T. = 370+96.70
NO SUPER

PC 373+27.38

POE 375+05.15
LAPILE CREEK- SITE 3
CONST. PVMT. MARKINGS

STA. 68+00.00
END SITE 3
END JOB 070461

POE STA. 76+95.78
C.L. HWY. 82- SITE 3

Scott.Thornsberry@9/20/2023 12:58:56 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\CornieHarperLapile\Design\CIVIL\Drawings\R070471_II_SC_009.dgn
REVISED DATE: $$REVDATE$$

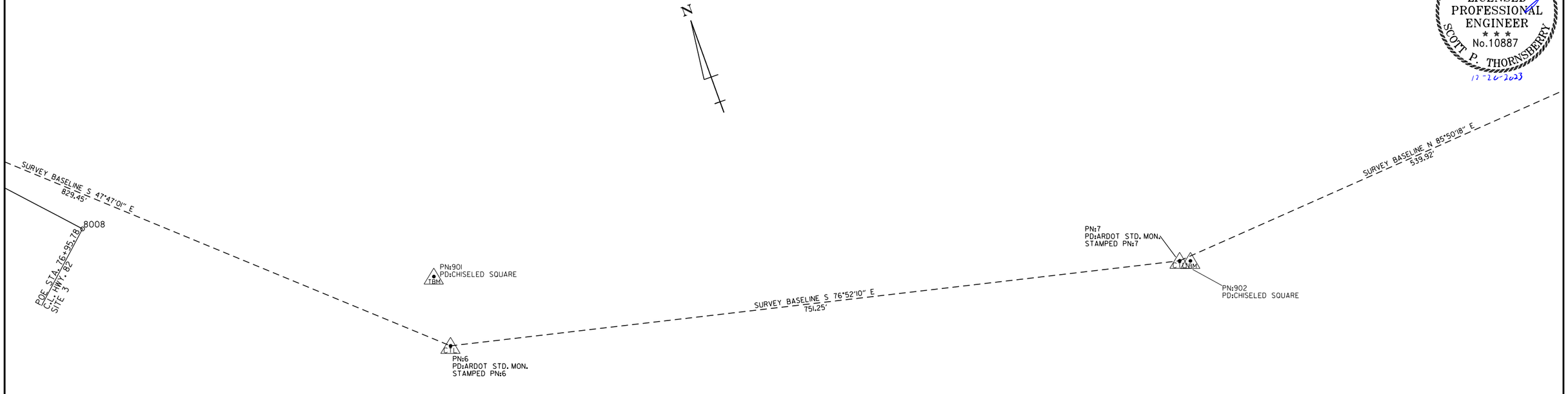
SURVEY CONTROL DETAILS

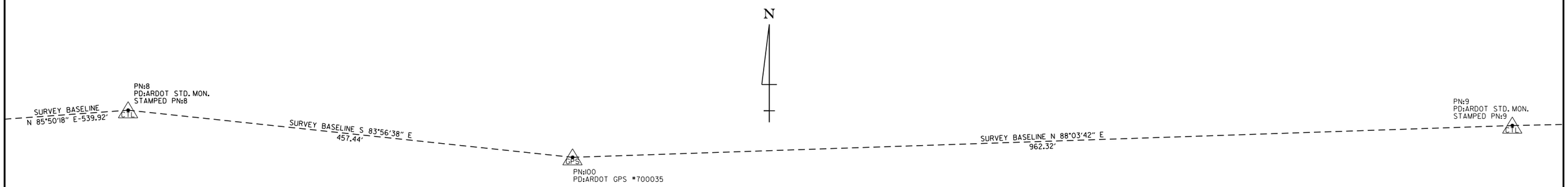
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 49 | 103 |

(1) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023



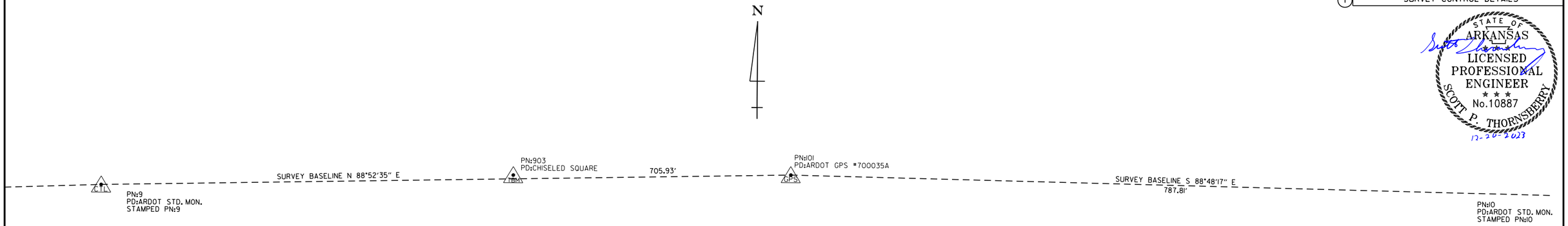

SURVEY CONTROL DETAILS

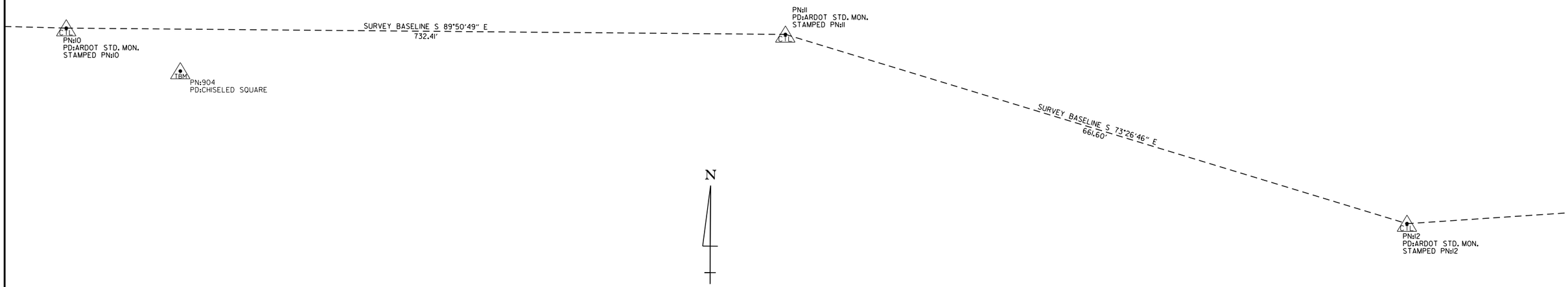
Scott.Thornsberry@9/20/2023 12:58:57 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163188.070471\CorrieHarper Laplie\Design\CIVIL\Drawings\R070471_IL_SC_010.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 50 | 103 |

(1) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023




SURVEY CONTROL DETAILS

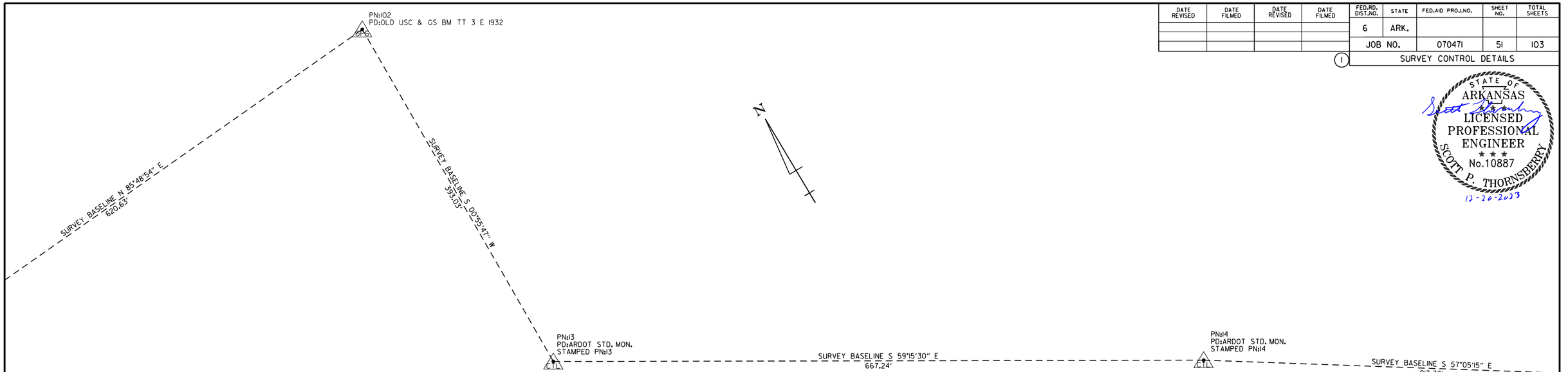
Scott.Thornsberry@9/20/2023 12:58:57 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.07047\CornileHarperLaplle\Design\CIVIL\Drawings\R07047LIL_SC_01.dgn
REVISED DATE: $$REVDATE$$

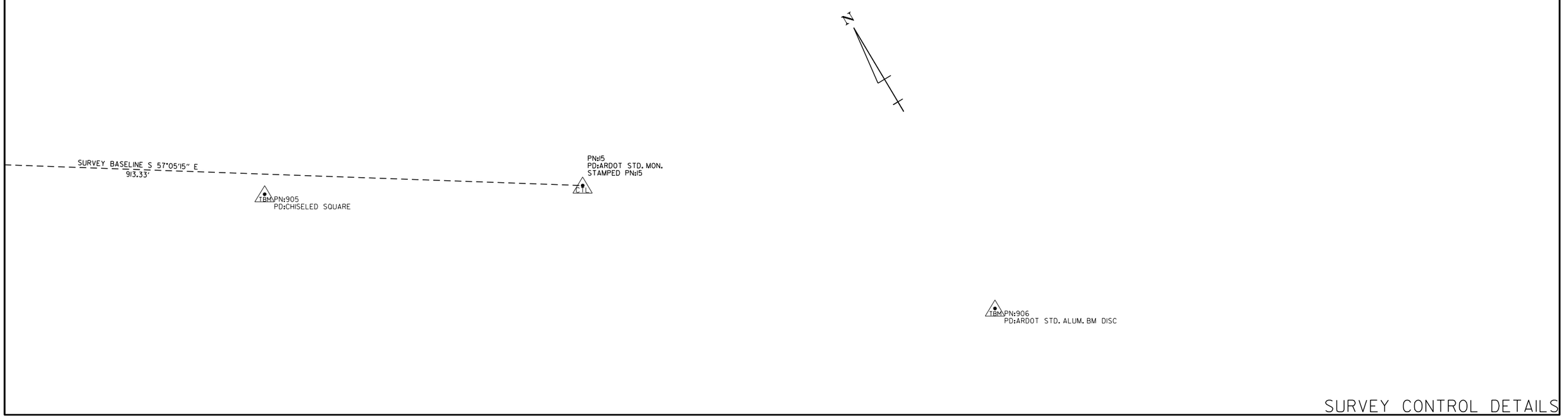
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 51 | 103 |

1 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-26-2023




SURVEY CONTROL DETAILS

Scott.Thornsberry@9/20/2023 12:58:58 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.07047\CornileHarperLaplle\Design\CIVIL\Drawings\R07047LJLSC_012.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 52 | 103 |

PLAN AND PROFILE SHEETS

| STA. | STA. | LOCATION | GUARDRAIL (TYPE A) | THRIE BEAM GUARDRAIL TERMINAL | GUARDRAIL TERMINAL (TYPE 2) |
|---|---|---|---|---|---|
| 18+46.60 | 19+90.35 | LT. OF C.L. HWY. 82 | 75 LIN. FT. | 1 EACH | 1 EACH |
| 17+71.60 | 19+90.35 | RT. OF C.L. HWY. 82 | 150 LIN. FT. | 1 EACH | 1 EACH |
| 21+89.65 | 24+08.40 | LT. OF C.L. HWY. 82 | 150 LIN. FT. | 1 EACH | 1 EACH |
| 21+89.65 | 23+33.40 | RT. OF C.L. HWY. 82 | 75 LIN. FT. | 1 EACH | 1 EACH |

STA. 19+99.75 BRIDGE END
BRIDGE NO. 07510 OVER CORNIE BAYOU
179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER
UNIT TYPE II
(59'-9", 60', 59'-9")
75'-0" CLEAR ROADWAY
180'-6" BRIDGE LENGTH
STA. 21+80.25 BRIDGE END

STA 20+06 TO STA 21+36
EXISTING BRIDGE NO. 02667
130.00' X 31.67' I-BEAM SUPERSTRUCTURE (4@32.0')
WITH SUBSTRUCTURE COMPOSED OF CONCRETE PILE BENTS
REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1) = 1.00 LUMP SUM

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

N

EXIST. R/W

03/26/2018 8:24:25 BEGIN CHAIN LIST

15+00

EXIST. R/W

CORNIE BAYOU

20+00

EXIST. R/W

10+00

100' TRANSITION TO MATCH EXIST.

+00.00

+00.00

C.L. HWY. 82 STA 17+22.22 =
C.L. C.R. 294 STA 194+00.00
Δ = 86° 30' 00"

50' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

CONST. LIMITS

8'

13.5'

11.5'

CONST. LIMITS

11.5'

5'

22'

5'

8'

59'

C.L. HWY. 82

+22.22

S88°05'07"E

S88°05'07"E

59'

PT 193+60.73

EARTHWORK ONLY

N1°35'07"W

R =40'

13.5'

11.5'

R =40'

11.5'

13.5'

EXIST. R/W

CONST. LIMITS

20'

+00 79.85'

PI 193+01.86

+80 100'

PC 192+58.43

+85 100'

PROP. R/W

M-80/26.8RX

CONST. LIMITS

PROP. R/W

T.C.E.

+30 107.28'

+84.14 110'

STA. 19+63.25

EXIST. R/W

CORNIE BAYOU

EXIST. R/W

EXIST. R/W

STA. 22+16.75

PT 191+87.25

HWY. 82 - SITE 1

STA. 14+00.00
BEGIN JOB 070471
BEGIN SITE 1
LOG MILE= 9.31

REMOVAL & DISPOSAL OF GUARDRAIL

| | | | |
|---|---|---|---|
| STA. 19+30.00 | TO | STA. 20+30.00 RT. OF C.L. OF HWY 82 = | 100 LIN. FT. |
| STA. 19+30.00 | TO | STA. 20+30.00 LT. OF C.L. OF HWY 82 = | 100 LIN. FT. |
| STA. 21+11.00 | TO | STA. 22+11.00 RT. OF C.L. OF HWY 82 = | 100 LIN. FT. |
| STA. 21+11.00 | TO | STA. 23+36.00 LT. OF C.L. OF HWY 82 = | 225 LIN. FT. |

LEGEND

PAVEMENT TRANSITION

REFER TO SURVEY CONTROL DETAILS FOR HORIZONTAL AND VERTICAL CONTROLS.

REFER TO C.R. 294 PLAN AND PROFILE SHEET FOR ADDITIONAL INFORMATION

100' TRANSITION TO MATCH EXIST.

PROFILE GRADE

EXISTING GROUND

PVI 14+00.00
ELEV. 237.45

+00.00 RT. 228.87

-0.02%

PVC 17+75.00
ELEV.237.37

VC=150.00'
K=146.74
e=0.19'

PVT 19+25.00
ELEV.238.10

-0.02%

1.00%

-0.53% RT. DT. GR.

PVI 18+50.00
ELEV.237.35

PVC 19+35.00
ELEV.238.20

STA. 19+99.75
BEGIN BRIDGE

1.00%

H.H.W. 232.0'

Q50 DESIGN H.W. 230.5'

PVI 20+90.00
ELEV.239.75

VC=310.00'
K=155.00
e=-0.78'

1.00%

-1.00%

+03.00 RT. 225.16

STA. 21+80.25
END BRIDGE

VC=130.00'
K=141.24
e=0.15'

PVC. 22+95.00
ELEV.237.70

PVT 22+45.00
ELEV.238.20

-1.00%

ELEV. 237.66

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, CORNIE BAYOU IS CLASSIFIED AS A PERRENNIAL STREAM. THE STREAM BANK ELEVATION IS 229 FT. MSL. BETWEEN STATIONS 20+73 AND 20+94.
REFER TO SECTIONS 110.05 (c) OF THE 2014 STANDARD SPECIFICATIONS.

HWY. 82 SITE 1

280 270 260 250 240 230 220 210 200 190

8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00

Scott.Thornsberry@20/2023 12:58:59 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.070471\Cornie\Harper\Laplle\Design\CIVIL\Drawings\R070471_I2_PP_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 53 | 103 |
| (1) | PLAN AND PROFILE SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

REFER TO C.R. 434 PLAN & PROFILE SHEET FOR ADDITIONAL INFORMATION

N

+65 285' PROP. R/W
+50 285' PROP. R/W
N1°54'53"E
PT 302+36.64
+65 225'
+50 175'
PC 301+35.87
25+00
PI 301+87.49
N28°22'28"E
+05 120.06'
+85 120.05'
EXIST. R/W
EXIST. R/W
PI 300+76.41
PI 301+20.19
20'
R =40'
R =40'
CONST. LIMITS
100' TRANSITION TO MATCH EXIST.
+00.00
+00.00
30+00
8'
5'
22'
13.5'
PC 300+31.10
N1°35'07"W
S88°05'07"E
C.L. HWY. 82
+70.40
59'
S88°05'07"E
5'
13.5'
8'
8'
CONST. LIMITS
EARTHWORK ONLY
EXIST. R/W
EXIST. R/W
POE 34+80.00
C.L. HWY. 82
SITE I

C.L. HWY. 82 STA 24+70.40 =
C.L. C.R. 434 STA 300+00.00
Δ = 86° 30' 00"

STA. 28+00.00
END SITE I

LEGEND
PAVEMENT TRANSITION

HWY. 82 SITE I

REFER TO SURVEY CONTROL DETAILS
FOR HORIZONTAL AND VERTICAL CONTROLS.

VC=130.00'
K=141.24
e=0.15'
ELEV. 237.66
PVT 24+25.00
ELEV. 237.00
PVI 28+00.00
ELEV. 236.70
PROFILE GRADE
-0.08%
100' TRANSITION TO MATCH EXIST.
-1.00%
-0.08%
EXISTING GROUND
PVI 23+69.00
ELEV. 237.05

280 270 260 250 240 230 220 210 200 190

23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00

HWY. 82 SITE I

Scott.Thornsberry@20/2023 12:59:00 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388_070471Cornelia Harper Lapile\Design\CIVIL\Drawings\R070471_12_PP_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070471 | | 54 | 103 |
| | | | | (1) | PLAN AND PROFILE SHEETS | | | |

N

STA. 39+94.75 BRIDGE END
BRIDGE NO. 07511 OVER HARPER CREEK
179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER
UNIT TYPE II
(59'-9", 60', 59'-9")
75'-0" CLEAR ROADWAY
180'-6" BRIDGE LENGTH
STA. 41+75.25 BRIDGE END

EXIST. R/W
APPROXIMATE 100 YEAR FLOODPLAIN LIMITS
25' NATURAL BUFFER
HARPER CREEK
EXIST. R/W
EXIST. R/W
35+00
40+00 EXIST. R/W
EXIST. R/W
100' TRANSITION TO MATCH EXIST.
+00.00
+00.00
CONST. LIMITS
5'
22'
5'
8'
13.5'
11.5'
11.5'
8'
S88°21'28"E
S88°21'28"E
C.L. HWY. 82
59'
59'
EARTHWORK ONLY
8'
13.5'
11.5'
11.5'
13.5'
EXIST. R/W
EXIST. R/W
CONST. LIMITS
PROP. R/W
PROP. R/W
+00
80.22'
+78.82
91.15'
+30
110'
+09.55
105'
EXIST. R/W
HARPER CREEK
EXIST. R/W
+59.55
85'
STA. 39+58.25
STA. 42+11.75

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

| STA. | STA. | LOCATION | GUARDRAIL (TYPE A) | THRIE BEAM GUARDRAIL TERMINAL | GUARDRAIL TERMINAL (TYPE 2) |
|---|---|---|---|---|---|
| 37+66.60 | 39+85.35 | RT. OF C.L. HWY. 82 | 150 LIN. FT. | 1 EACH | 1 EACH |
| 38+41.60 | 39+85.35 | LT. OF C.L. HWY. 82 | 75 LIN. FT. | 1 EACH | 1 EACH |
| 41+84.65 | 43+28.40 | RT. OF C.L. HWY. 82 | 75 LIN. FT. | 1 EACH | 1 EACH |
| 41+84.65 | 44+03.40 | LT. OF C.L. HWY. 82 | 150 LIN. FT. | 1 EACH | 1 EACH |

STA. 34+00.00
BEGIN SITE 2
LOG MILE= 10.23

STA 40+00 TO STA 41+62
EXISTING BRIDGE NO. 02668
162.00' X 31.75' I-BEAM SUPERSTRUCTURE (5@32.0')
WITH SUBSTRUCTURE COMPOSED OF CONCRETE PILE BENTS
REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2) = 1.00 LUMP SUM

LEGEND

PAVEMENT TRANSITION

REMOVAL & DISPOSAL OF GUARDRAIL

| | | | |
|---|---|---|---|
| STA. 38+00.00 | TO | STA. 40+25.00 RT. OF C.L. OF HWY 82 = | 225 LIN. FT. |
| STA. 39+25.00 | TO | STA. 40+25.00 LT. OF C.L. OF HWY 82 = | 100 LIN. FT. |
| STA. 41+37.00 | TO | STA. 42+37.00 RT. OF C.L. OF HWY 82 = | 100 LIN. FT. |
| STA. 41+37.00 | TO | STA. 43+62.00 LT. OF C.L. OF HWY 82 = | 225 LIN. FT. |

HWY. 82 - SITE 2

REFER TO SURVEY CONTROL DETAILS
FOR HORIZONTAL AND VERTICAL CONTROLS.

280 270 260 250 240 230 220 210 200 190

PVI 34+00.00
ELEV. 234.86
PVC 36+05.00
ELEV.235.36
VC=110.00'
K=146.23
e=0.10'
PVT 37+15.00
ELEV.236.05
STA. 39+94.75
BEGIN BRIDGE
VC=310.00'
K=155.00
e=-0.78'
PVI 40+85.00
ELEV. 239.75
STA. 41+75.25
END BRIDGE
VC=350.00'
K=136.72
e=1.12'
PVC 42+55.00
ELEV.238.05
ELEV.237.67

100' TRANSITION TO MATCH EXIST.
0.25%
0.25%
1.00%
PROFILE GRADE
EXISTING GROUND
1.00%
-1.00%
-1.00%
-0.19% RT. DT. GR.
H.H.W. 232.0'
050 DESIGN H.W. 230.5'
PVT 42+40.00
ELEV.238.20
+00.00 RT. 225.68
PVI 36+60.00
ELEV. 235.50
+30.00 RT. 224.66
PVC 39+30.00
ELEV.238.20

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, HARPER CREEK IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATION IS 224 FT. MSL. BETWEEN STATIONS 40+83 AND 40+93. REFER TI SECTION 110.05 (c) OF THE 2014 STANDARD SPECIFICATIONS

HWY. 82 - SITE 2

28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00

Scott.Thornsberry@20/2023 12:59:01 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Cornie\HarperLaPile\Design\CIVIL\Drawings\R070471_I2_PP_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 55 | 103 |
| | | | | (1) | PLAN AND PROFILE SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

N

45+00

50+00

EXIST. R/W

CONST. LIMITS

13.5'

8'

8'

59'

S88°21'28"E

C.L. HWY. 82

59'

8'

13.5'

8'

EXIST. R/W

CONST. LIMITS

PROP. R/W

+00.00

100' TRANSITION TO MATCH EXIST.

+00.00

5'

22'

5'

EARTHWORK ONLY

+75
41.86'

+13.93
85'

POE 54+80.00
C.L. HWY. 82
SITE 2

STA. 48+00.00
END SITE 2

LEGEND

PAVEMENT TRANSITION

HWY. 82 - SITE 2

REFER TO SURVEY CONTROL DETAILS FOR HORIZONTAL AND VERTICAL CONTROLS.

VC=350.00'
K=136.72
e=1.12'

ELEV.237.67

PVI 44+30.00
ELEV. 236.30

PVT 46+05.00
ELEV.239.03

PVI 48+00.00
ELEV. 242.07

PROFILE GRADE

EXISTING GROUND

+1.00%

1.56%

1.56%

280 270 260 250 240 230 220 210 200 190

43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00

HWY. 82 - SITE 2

Scott.Thornsberry@20/2023 12:59:02 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388_070471Cornelia\harperLapile\Design\CIVIL\Drawings\R070471_I2_PP_004.dgn
REVISED DATE: $$REVDATE$$

| | GUARDRAIL (TYPE A) | THRIE BEAM GUARDRAIL TERMINAL | GUARDRAIL TERMINAL (TYPE 2) |
|---|---|---|---|
| STA. 58+46.60 TO STA 59+90.35 LT. OF C.L. HWY. 82 | 75 LIN. FT. | 1EACH | 1EACH |
| STA. 57+71.60 TO STA 59+90.35 RT. OF C.L. HWY. 82 | 150 LIN. FT. | 1EACH | 1EACH |
| STA. 61+89.65 TO STA 63+33.40 RT. OF C.L. HWY. 82 | 75 LIN. FT. | 1EACH | 1EACH |
| STA. 61+89.65 TO STA 64+08.40 LT. OF C.L. HWY. 82 | 150 LIN. FT. | 1EACH | 1EACH |

REMOVAL & DISPOSAL OF GUARDRAIL

| | | | |
|---|---|---|---|
| STA. 58+14.00 | TO | STA. 60+39.00 RT. OF C.L. OF HWY 82 = | 225 LIN. FT. |
| STA. 59+39.00 | TO | STA. 60+39.00 LT. OF C.L. OF HWY 82 = | 100 LIN. FT. |
| STA. 61+39.00 | TO | STA. 62+39.00 RT. OF C.L. OF HWY 82 = | 100 LIN. FT. |
| STA. 61+39.00 | TO | STA. 63+64.00 LT. OF C.L. OF HWY 82 = | 225 LIN. FT. |

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 56 | 103 |

1 PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-20-2023

APPROXIMATE 100 YEAR FLOODPLANE LIMITS

LAPILE CREEK

STA. 59+63.25
STA. 59+99.75 BEGIN BRIDGE
STA. 61+80.25 END BRIDGE
STA. 62+16.75

EXIST. R/W
CONST. LIMITS
PROP. R/W
C.L. HWY. 82 S42°24'26"E
PI 50+01.05
S62°21'47"E
100' TRANSITION TO MATCH EXIST.
APPROXIMATE 100 YEAR FLOODPLAIN LIMITS
PT 54+94.84
+40 95'
+65.75 101.21'
+26.14 129'
+50
25' NATURAL BUFFER

C.L. HWY. 82 (SITE 3)
P.I. = 50+01.05
Δ = 19°57'21" RT.
D = 2°00'00"
T = 504.00'
L = 997.79'
P.C. = 44+97.05
P.T. = 54+94.84
e = 0.056'/'
Ls = 540'

STA. 53+00.00
BEGIN SITE 3
LOG MILE= 16.01

STA. 60+14 TO STA. 61+64
EXISTING BRIDGE NO. 02912
150.00' X 33.55' R.C. SLAB SPAN (6@25.0')
WITH SUBSTRUCTURE COMPOSED OF CONCRETE PILE BENTS
REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3) = 1.00 LUMP SUM

STA. 59+99.75 BRIDGE END
BRIDGE NO. 07512 OVER LAPILE CREEK
179'-0" INTEGRAL PRESTRESSED CONCRETE GIRDER
UNIT TYPE II
(59'-9", 60', 59'-9")
75'-0" CLEAR ROADWAY
180'-6" BRIDGE LENGTH
STA. 61+80.25 BRIDGE END.

HWY. 82 - SITE 3

LEGEND
PAVEMENT TRANSITION

REFER TO SURVEY CONTROL DETAILS FOR HORIZONTAL AND VERTICAL CONTROLS.

STA. 53+00.00 MATCH EXISTING SUPERELEVATION (0.056'/')
STA. 53+59.84 MAX SUPERELEVATION (0.056'/')
STA. 58+99.84 END SUPERELEVATION

PVC 53+00.00 ELEV. 118.46
VC=200.00' K=206.19 e=0.24'
PVT 55+00.00 ELEV. 118.63
PVC 56+65.00 ELEV. 119.57
VC=170.00' K=144.07 e=0.25'
PVT 58+35.00 ELEV. 121.54
PVC 58+40.00 ELEV. 121.63
VC=420.00' K=152.73 e=-1.44'
PVI 60+50.00 ELEV. 125.30
ELEV. 122.80

PROFILE GRADE
EXISTING GROUND
100' TRANSITION TO MATCH EXIST.
-0.40% 0.57% 0.57% 0.57% 1.75% 1.75% 1.75% -1.00% -1.00%
-1.03% RT. DT. GR.
0.77% LT. DT. GR.
0.77% RT. DT. GR.

PVI 54+00.00 ELEV. 118.06
PVI 57+50.00 ELEV. 120.05
+00.00 RT. 112.88
+30.00 RT. 105.39
+94.00 RT. 105.69
+17.00 LT. 106.60
050 DESIGN H.W. 115.94

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, LAPILE CREEK IS CLASSIFIED AS A PERENNIAL STREAM, THE STREAM BANK ELEVATION IS 112 FT. MSL. BETWEEN STATIONS 60+40 AND 60+90. REFER TO SECTION 110.05 (c) OF THE 2014 STANDARD SPECIFICATIONS.

HWY. 82 - SITE 3

48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00
80 90 100 110 120 130 140 150 160 170

Scott.Thornsberry@20/2023 12:59:03 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388.07047\Cornielharper\Lapile\Design\CIVIL\Drawings\R07047LI2_PP_005.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 57 | 103 |
| (1) PLAN AND PROFILE SHEETS | | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

APPROXIMATE 100 YEAR FLOODPLAIN LIMITS

65+00 70+00 75+00

EXIST. R/W

CONST. LIMITS

100' TRANSITION TO MATCH EXIST.

00+00

13.5'

8'

5'

24'

59'

S42°24'26"E C.L. HWY. 82

S42°24'26"E

POE STA. 76+95.78
C.L. HWY. 82
SITE 3

EXIST. R/W

EXIST. R/W

CONST. LIMITS

PROP. R/W

+00 55.50'

+00 90'

+50 135'

STA. 68+00.00
END SITE 3
END JOB 070471

APPROXIMATE 100 YEAR FLOODPLAIN LIMITS

LEGEND

PAVEMENT TRANSITION

HWY. 82 - SITE 3

REFER TO SURVEY CONTROL DETAILS
FOR HORIZONTAL AND VERTICAL CONTROLS.

ELEV. 122.80

PVC 63+70.00
ELEV. 122.10

VC=400.00'
K=330.58
e=0.61'

PVT 67+70.00
ELEV. 120.52

PVI 68+00.00
ELEV. 120.58

PROFILE GRADE

-1.00%

-1.00%

0.21%

0.21%

EXISTING GROUND

100' TRANSITION TO MATCH EXIST.

0.77% LT. DT. GR.

0.77% RT. DT. GR.

PVI 65+70.00
ELEV. 120.10

+20.00 LT. 110.47

+00.00 RT. 111.13

170 160 150 140 130 120 110 100 90 80

63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00

HWY. 82 - SITE 3

Scott.Thornsberry@9/20/2023 12:59:03 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\Cornie Harper Laplie\Design\CIVIL\Drawings\R070471_12_PP_006.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 58 | 103 |
| | | | | (1) | PLAN AND PROFILE SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
12-20-2023

APPROXIMATE 100 YEAR FLOODPLAIN LIMITS

STA. 192+50.00 INSTALL
DBL. 36" X 52' SIDE DRAIN
8° LT. FWD. SKEW
Q25 = 89.5 CFS D.A. = 151.7 ACRES
36" PIPE CULVERT = 104'

STA. 193+21.72 INSTALL
DBL. 36" X 68' SIDE DRAIN
18° LT. FWD. SKEW
Q25 = 89.5 CFS D.A. = 151.7 ACRES
36" PIPE CULVERT= 136'

STA. 192+90.21 IN PLACE
DBL. 36" X 27.37' CMP PIPE CULVERT
REMOVE SIDE DRAIN

C.L. C.R. 294
P.I. = 190+97.83
Δ = 60°45'29" LT.
D = 30°23'09"
T = 110.53'
L = 199.95'
P.C. = 189+87.30
P.T. = 191+87.25
NO SUPER

C.L. HWY. 82 STA. 17+22.22=
C.L. C.R. 294 STA. 194+00.00
Δ = 86°30'00"

C.L. HWY. 82 STA. 24+70.40=
C.L. C.R. 434 STA 300+00.00
Δ = 86°30'00"

C.L. C.R. 294
P.I. = 193+01.86
Δ = 37°17'01" RT.
D = 30°30'00"
T = 63.37'
L = 122.24'
P.C. = 192+38.49
P.T. = 193+60.73
NO SUPER

C.L. C.R. 434
P.I. = 301+87.49
Δ = 30°37'14" RT.
D = 30°23'09"
T = 51.62'
L = 100.77'
P.C. = 301+35.87
P.T. = 302+36.64
NO SUPER

C.L. C.R. 434
P.I. = 300+76.41
Δ = 27°07'14" LT.
D = 30°23'09"
T = 45.48'
L = 89.25'
P.C. = 300+30.93
P.T. = 301+20.19
NO SUPER

LEGEND
PAVEMENT TRANSITION

STA. 189+87.30
BEGIN C.R. 294

STA. 303+00.00
END C.R. 434

REFER TO SURVEY CONTROL DETAILS FOR HORIZONTAL AND VERTICAL CONTROLS.

SITE I
C.R. 294

SITE I
C.R. 434

C.R. 294

VC=200.00'
K=99.44
e=0.50'

PVI 189+87.20
ELEV. 231.49
PVC 190+04.30
ELEV. 231.49
PVT 192+04.30
ELEV. 233.47
PVI 193+70.35
ELEV. 236.79
PVI 191+04.30
ELEV. 231.47

PROFILE GRADE
C.L. HWY. 82
0.01%
2.00%
-0.22% RT. DT. GR.
-0.22% LT. DT. GR.
50' TRANSITION TO MATCH EXIST.
EXISTING GROUND

+87.25 RT. 228.80
+87.25 LT. 228.80
+44.00 RT. 228.23
+53.00 LT. 228.21

F.L. IN LT. = 228.21
F.L. OUT RT. = 228.09
F.L. IN LT. = 227.37
F.L. OUT RT. = 226.93

C.R. 434

VC=200.00'
K=48.28
e=1.04'

PVI 300+31.56
ELEV. 236.33
PVC 300+90.00
ELEV. 234.00
PVT 302+90.00
ELEV. 230.14
PVI 303+00.00
ELEV. 230.15
PVI 301+90.00
ELEV. 230.00

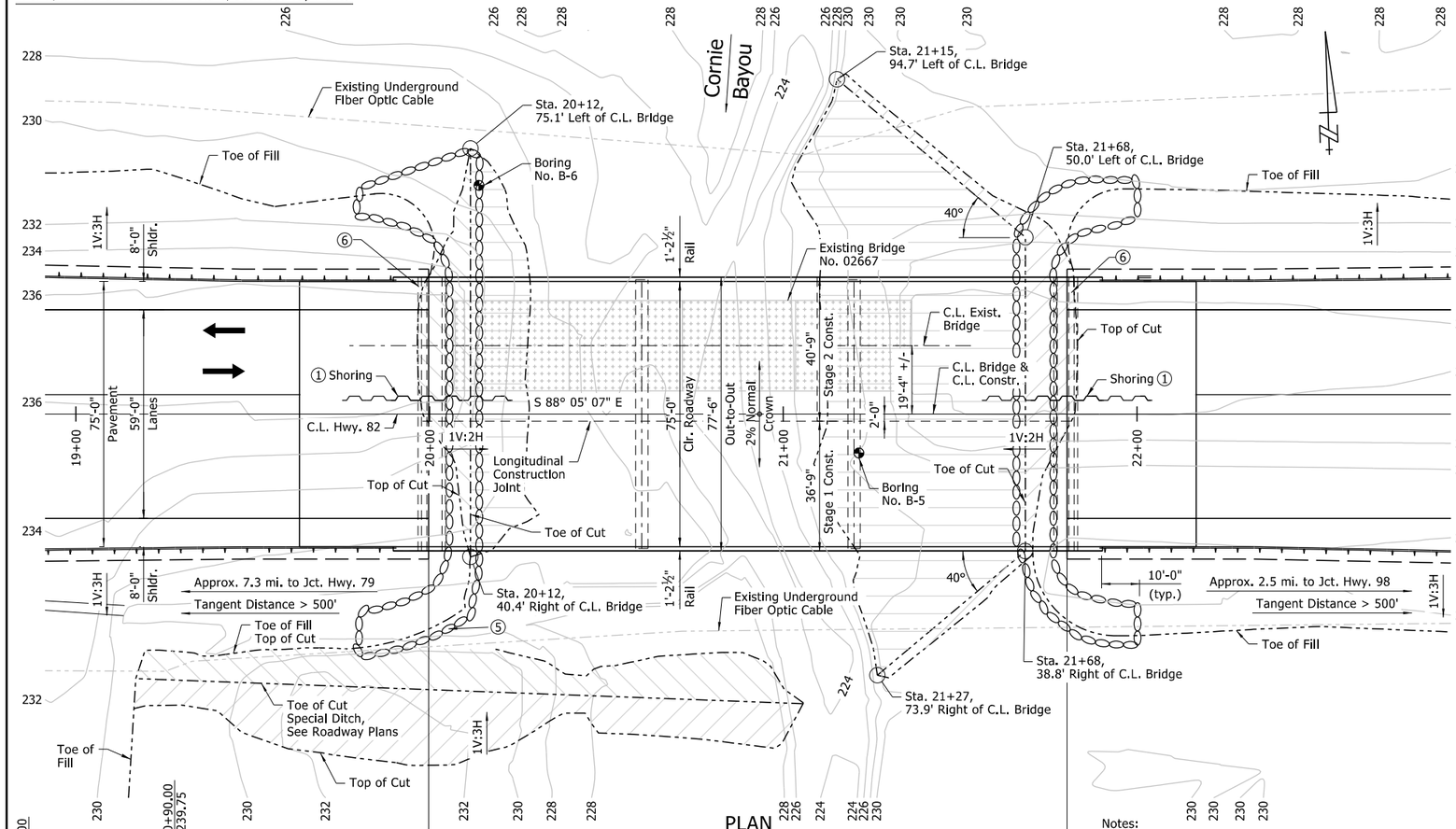
C.L. HWY. 82
-4.00%
PROFILE GRADE
4.00%
0.14%
0.08% RT. DT. GR.
EXISTING GROUND
50' TRANSITION TO MATCH EXIST.

+00.00 RT. 228.62
+00.00 RT. 228.78

PLAN AND PROFILE
C.R. 294 AND C.R. 434

Scott.Thornsberry@20/2023 12:59:04 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Corniel\arparl\apile\Design\CIVIL\Drawings\R070471_I2_PP_007.dgn
REVISED DATE: $$REVDATE$$

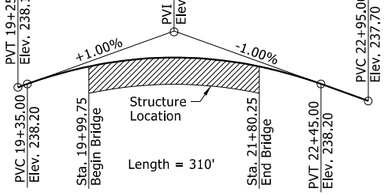
For R/W Data and Guardrail Details, see Roadway Plans.




## PLAN

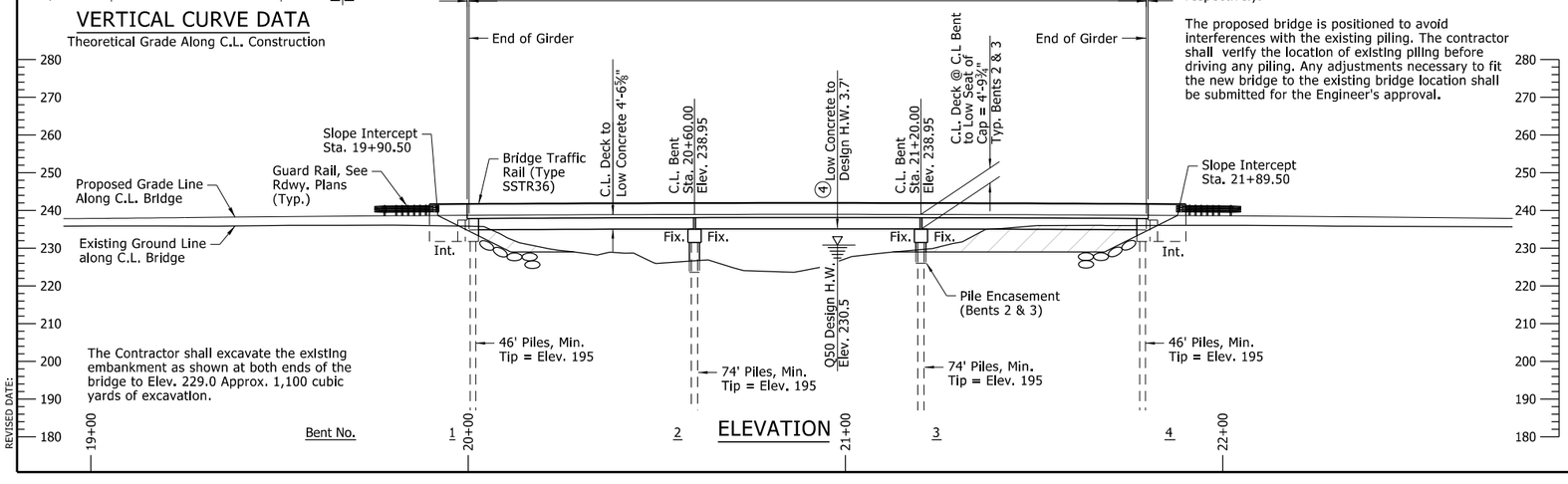
⑤ Place 1'-6" Dumped Riprap on Filter Blanket as shown. Top of Riprap Elev. 233 or as shown. See Std. Dwg. No. 55001. Typ. Bents 1 & 4.

⑥ Install 4"ϕ Pipe Underdrain with Outlet Protectors at both bridge ends in accordance with Section 611 and Std. Dwg. PU-1. For additional details, see Dwg. No. 63762. Pipe shall be considered subsidiary to "Unclassified Excavation".




## VERTICAL CURVE DATA

Theoretical Grade Along C.L. Construction




## ELEVATION

Notes:
For Soil Boring Information, see Dwg. No. 63745.

Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Dwg. No. 63761 for additional information.

Use Type Special Approach Slabs and Type Special Approach Gutters at both ends of bridge. For details, see Dwg. No. 63768 and Dwg. No. 63769, respectively.

The proposed bridge is positioned to avoid interferences with the existing piling. The contractor shall verify the location of existing piling before driving any piling. Any adjustments necessary to fit the new bridge to the existing bridge location shall be submitted for the Engineer's approval.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 59 | 103 |
| | | | | (1) | | 07510 - LAYOUT - 63744 | | |

## GENERAL NOTES

BENCH MARK: Vertical Control Data are shown on the Survey Control Data Sheets.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

LIVE LOADING: HL-93

SEISMIC ZONE: 2 $S_{D1}$ = 0.170 SITE CLASS = E

SEISMIC OPERATIONAL CLASSIFICATION : ESSENTIAL

MATERIALS AND STRENGTHS:

| | |
|---|---|
| Class S(AE) Concrete (superstructure) | f'c = 4,000 psi |
| Class S Concrete (substructure) | f'c = 3,500 psi |
| Class S Concrete (Prestressed Concrete Girders) | f'c = 8,000 psi |
| Reinforcing Steel (AASHTO M 31 or M 322, Type A, Gr, 60) | fy = 60,000 psi |
| Prestressing Strands (AASHTO M 203, Gr. 270) | fpu = 270,000 psi |
| Structural Steel (ASTM A709, Gr. 36) | Fy = 36,000 psi |
| Structural Steel (ASTM A709, Gr. 50 or Gr. 50W) | Fy = 50,000 psi |
| Pipe Pile (ASTM A252,Grade 3) | Fy = 45,000 psi |

BORING LOGS: Boring logs may be obtained from the Construction Contract Development Section of the Program Management Division.

STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 200 tons per pile. Piling in Bents 2 and 3 shall be 20" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 290 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer to the minimum tip elevation shown on this drawing. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. No additional payment will be made for cut-off or build up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural ground. See Std. Dwg. No. 55021 for additional information.

PREBORING: Preboring is required for all piling at Bent 1 and 4. Prebored holes shall have a diameter 9" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the Item "Preboring".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum hammer energy required to obtain the ultimate bearing capacity for both 18" and 20" piles will be 44,200 foot pounds per blow.

BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: Class 2 Protective Surface Treatment shall be applied to the roadway surface and roadway face and top of rails. Class 2 Protective Surface Treatment shall meet the requirements of Section 803.

| DETAIL DRAWINGS: | DRAWING NO(S). |
|---|---|
| Stage Construction Details | 63746 - 63747 |
| End Bents | 63756 - 63757 |
| Intermediate Bents | 63758 - 63759 |
| Elastomeric Bearings | 63760 |
| 179'-6" Integral Prestressed Concrete Girder Unit Type II | 63761 - 63767 |
| Type Special Approach Slab | 63768 |
| Type Special Approach Gutter | 63769 |
| Concrete Filled Steel Shell Piling | 55021 |
| Bridge Traffic Rail (Type SSTR36) | 55070 |

① Shoring, See SP Job 070471 "Shoring".

② Unconstricted water surface elevation without structure or roadway approaches.

③ The total discharge includes flow at this Site and Site 2.

④ Proposed Low Bridge Chord Elevation = 234.18 feet and occurs at Sta. 20+02.25 and Sta. 21+77.75

## HYDRAULIC DATA

| FLOOD DESCRIPTION | FREQUENCY | ③ TOTAL DISCHARGE | DISCHARGE THIS SITE | ② NATURAL WATER SURFACE ELEVATION | WATER SURFACE ELEV. WITH BACKWATER |
|---|---|---|---|---|---|
| | YEARS | CFS | CFS | FEET | FEET |
| Design | 50 | 6,480 | 3,210 | 228.8 | 230.5 |
| Base | 100 | 7,680 | 3,800 | 229.0 | 230.8 |
| Extreme | 500 | 10,770 | 5,320 | 229.6 | 231.8 |
| Overtopping | >500 | --- | --- | --- | --- |

Q100 backwater elevation for existing structure = 231.2 feet.

Drainage area = 12.4 square miles.

Historical H.W Elevation = 232.0 feet (from 1950 construction plans)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

# SHEET 1 OF 2
# LAYOUT OF BRIDGE
# HWY. 82 OVER CORNIE BAYOU
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# COLUMBIA COUNTY
ROUTE 82 SECTION 4

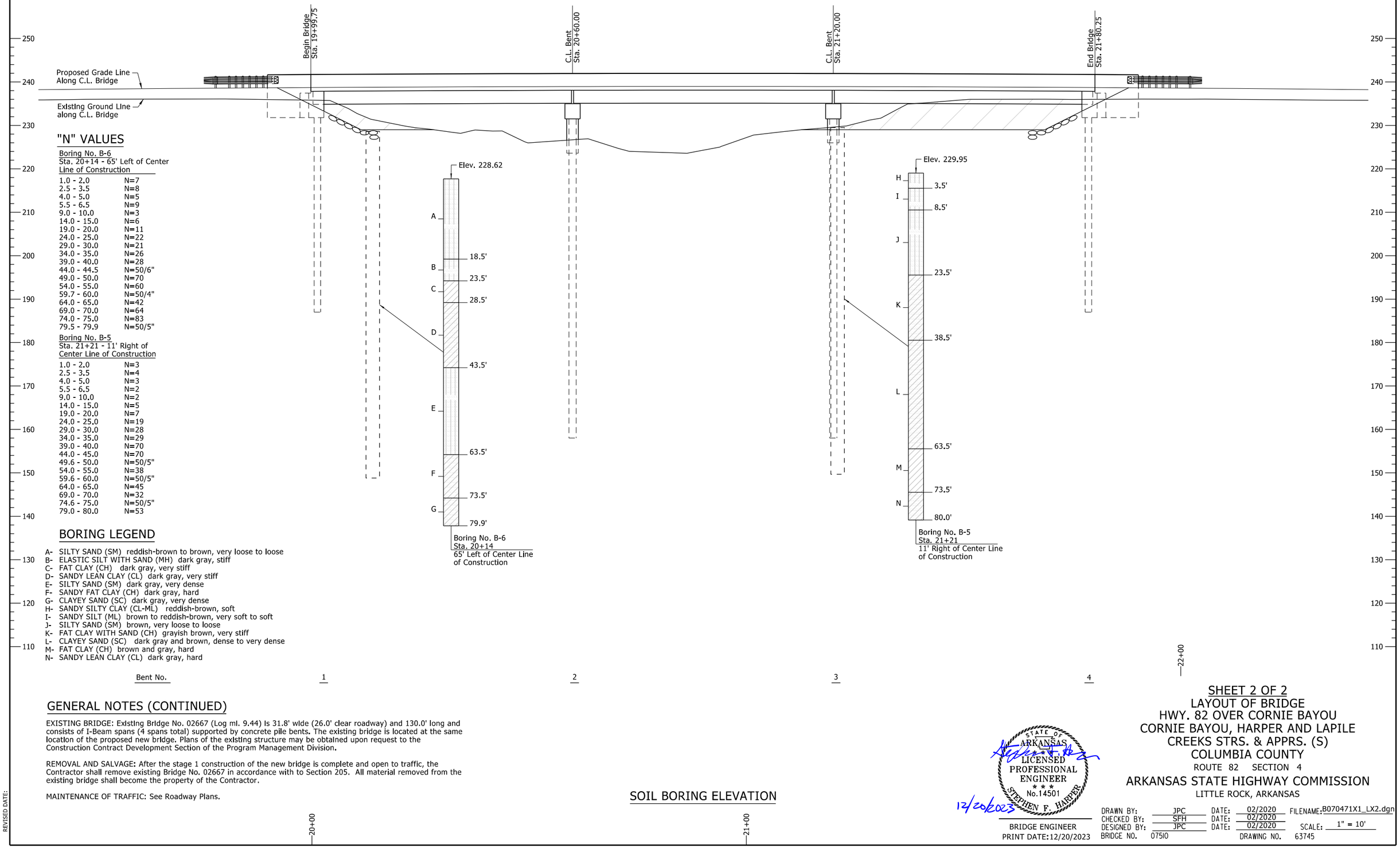
## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: JPC DATE: 02/2020
CHECKED BY: SFH DATE: 02/2020
DESIGNED BY: JPC DATE: 02/2020
FILENAME: B070471X1_LX1.dgn
SCALE: 1" = 20'
BRIDGE NO. 07510
DRAWING NO. 63744

Scott.Thornsberry 12/20/2023 4:37:09 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X1_LX1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 60 | 103 |
| (I) | 07510 - LAYOUT - 63745 | | | |




## "N" VALUES

Boring No. B-6
Sta. 20+14 - 65' Left of Center Line of Construction

| | |
|---|---|
| 1.0 - 2.0 | N=7 |
| 2.5 - 3.5 | N=8 |
| 4.0 - 5.0 | N=5 |
| 5.5 - 6.5 | N=9 |
| 9.0 - 10.0 | N=3 |
| 14.0 - 15.0 | N=6 |
| 19.0 - 20.0 | N=11 |
| 24.0 - 25.0 | N=22 |
| 29.0 - 30.0 | N=21 |
| 34.0 - 35.0 | N=26 |
| 39.0 - 40.0 | N=28 |
| 44.0 - 44.5 | N=50/6" |
| 49.0 - 50.0 | N=70 |
| 54.0 - 55.0 | N=60 |
| 59.7 - 60.0 | N=50/4" |
| 64.0 - 65.0 | N=42 |
| 69.0 - 70.0 | N=64 |
| 74.0 - 75.0 | N=83 |
| 79.5 - 79.9 | N=50/5" |

Boring No. B-5
Sta. 21+21 - 11' Right of Center Line of Construction

| | |
|---|---|
| 1.0 - 2.0 | N=3 |
| 2.5 - 3.5 | N=4 |
| 4.0 - 5.0 | N=3 |
| 5.5 - 6.5 | N=2 |
| 9.0 - 10.0 | N=2 |
| 14.0 - 15.0 | N=5 |
| 19.0 - 20.0 | N=7 |
| 24.0 - 25.0 | N=19 |
| 29.0 - 30.0 | N=28 |
| 34.0 - 35.0 | N=29 |
| 39.0 - 40.0 | N=70 |
| 44.0 - 45.0 | N=70 |
| 49.6 - 50.0 | N=50/5" |
| 54.0 - 55.0 | N=38 |
| 59.6 - 60.0 | N=50/5" |
| 64.0 - 65.0 | N=45 |
| 69.0 - 70.0 | N=32 |
| 74.6 - 75.0 | N=50/5" |
| 79.0 - 80.0 | N=53 |

## BORING LEGEND

A- SILTY SAND (SM) reddish-brown to brown, very loose to loose
B- ELASTIC SILT WITH SAND (MH) dark gray, stiff
C- FAT CLAY (CH) dark gray, very stiff
D- SANDY LEAN CLAY (CL) dark gray, very stiff
E- SILTY SAND (SM) dark gray, very dense
F- SANDY FAT CLAY (CH) dark gray, hard
G- CLAYEY SAND (SC) dark gray, very dense
H- SANDY SILTY CLAY (CL-ML) reddish-brown, soft
I- SANDY SILT (ML) brown to reddish-brown, very soft to soft
J- SILTY SAND (SM) brown, very loose to loose
K- FAT CLAY WITH SAND (CH) grayish brown, very stiff
L- CLAYEY SAND (SC) dark gray and brown, dense to very dense
M- FAT CLAY (CH) brown and gray, hard
N- SANDY LEAN CLAY (CL) dark gray, hard

## GENERAL NOTES (CONTINUED)

EXISTING BRIDGE: Existing Bridge No. 02667 (Log mi. 9.44) is 31.8' wide (26.0' clear roadway) and 130.0' long and consists of I-Beam spans (4 spans total) supported by concrete pile bents. The existing bridge is located at the same location of the proposed new bridge. Plans of the existing structure may be obtained upon request to the Construction Contract Development Section of the Program Management Division.

REMOVAL AND SALVAGE: After the stage 1 construction of the new bridge is complete and open to traffic, the Contractor shall remove existing Bridge No. 02667 in accordance with to Section 205. All material removed from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

SOIL BORING ELEVATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

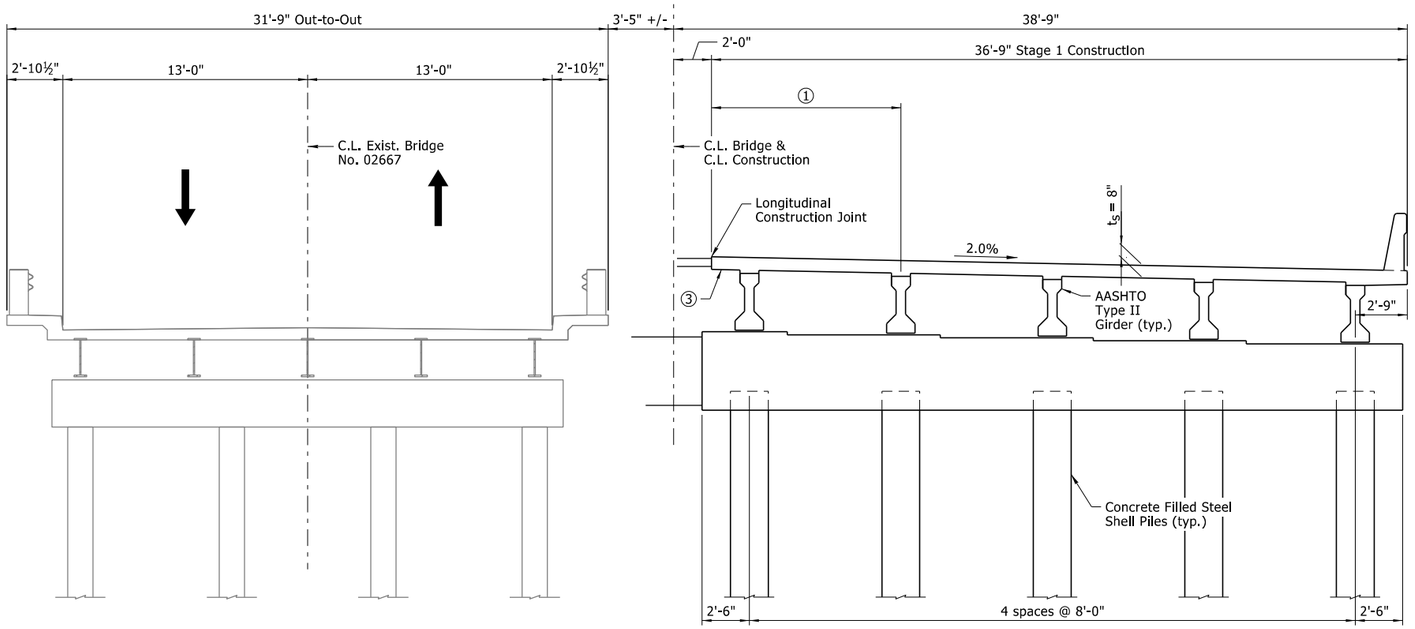
# SHEET 2 OF 2
# LAYOUT OF BRIDGE
# HWY. 82 OVER CORNIE BAYOU
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# COLUMBIA COUNTY
ROUTE 82 SECTION 4

## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

| | | | | |
|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: B070471X1_LX2.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: 1" = 10' |
| BRIDGE NO. | 07510 | | | DRAWING NO. 63745 |

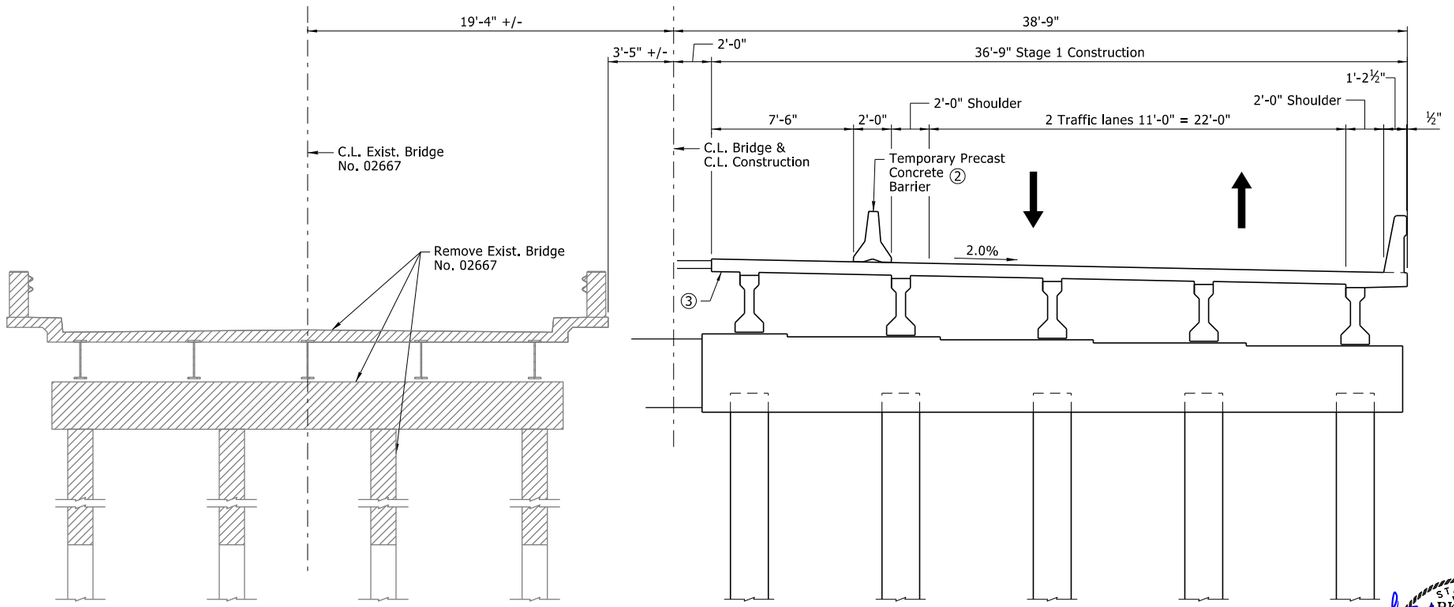
Scott.Thornsberry 12/20/2023 4:37:10 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X1_LX2.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 61 | 103 |
| | | | | (1) | 07510 - STAGE CONSTRUCTION - 63746 | | | |




STAGE 1 CONSTRUCTION

(Looking Forward)




STAGE 2 DEMOLITION

(Looking Forward)

① Construction vehicles shall not travel in this area.

② Do not connect to deck. For details of temporary barrier, see Std. Dwg. TC-4.

③ Contractor may need to keep the overhang form-work and support system in place until Stage 2 construction is complete.

Note:
Details which relate to Maintenance of Traffic are shown on the bridge plans for information only. See Roadway Plans for Maintenance of Traffic.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

SHEET 1 OF 2

# TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS
# HWY. 82 OVER CORNIE BAYOU
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# COLUMBIA COUNTY

ROUTE 82 SECTION 4

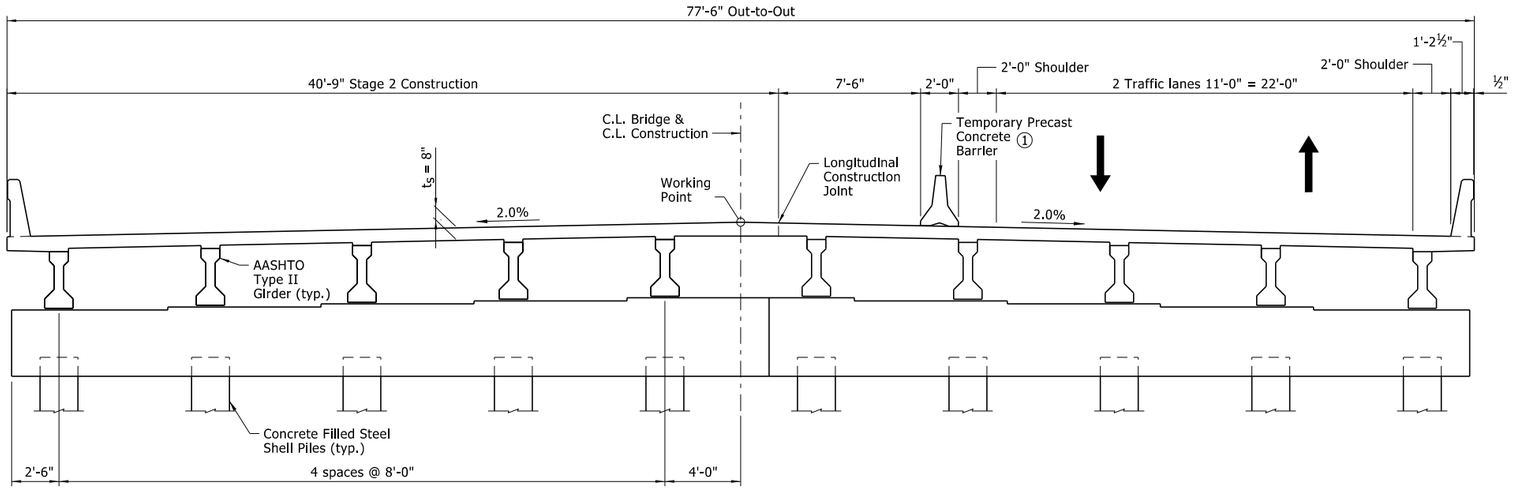
## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: | B070471X1_SC1.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: | ¼" = 1'-0" |
| BRIDGE NO. | 07510 | | | DRAWING NO. | 63746 |

Scott.Thornsberry 12/20/2023 4:37:10 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X1_SC1.dgn
REVISED DATE:

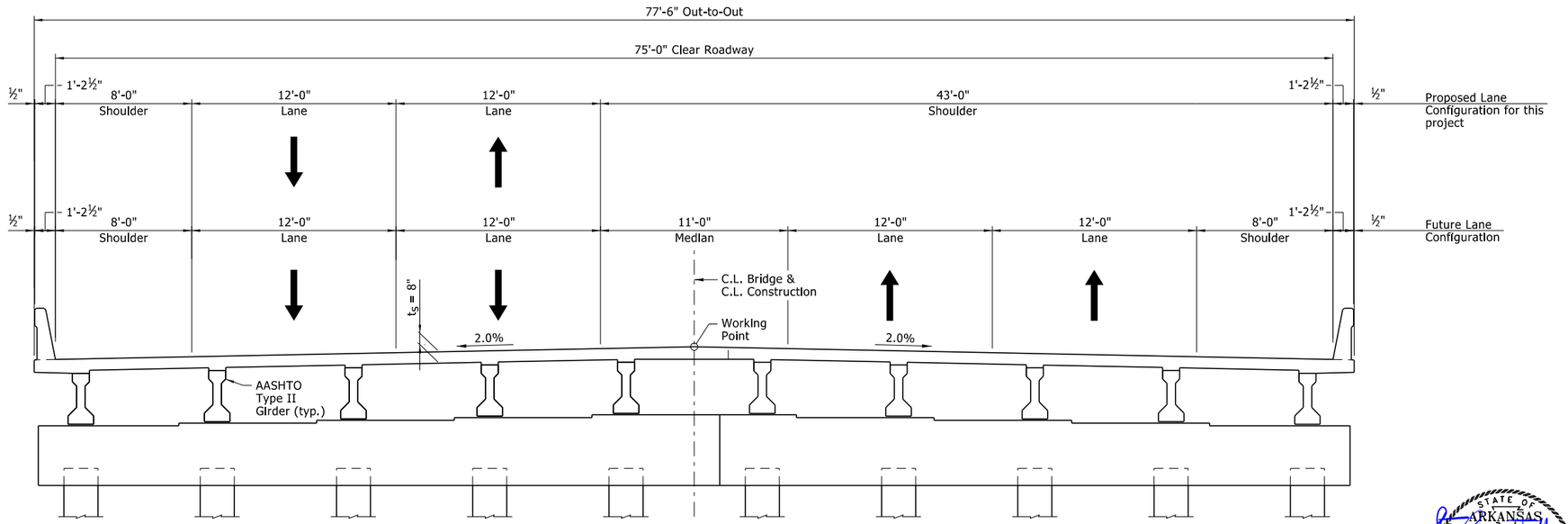
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 62 | 103 |
| | | | | (1) | 07510 - STAGE CONSTRUCTION - 63747 | | | |




STAGE 2 CONSTRUCTION

(Looking Forward)

(1) Do not connect to deck. For details of temporary barrier, see Std. Dwg. TC-4.




COMPLETED SECTION

(Looking Forward)

SHEET 2 OF 2

TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS
HWY. 82 OVER CORNIE BAYOU
CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
COLUMBIA COUNTY
ROUTE 82 SECTION 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

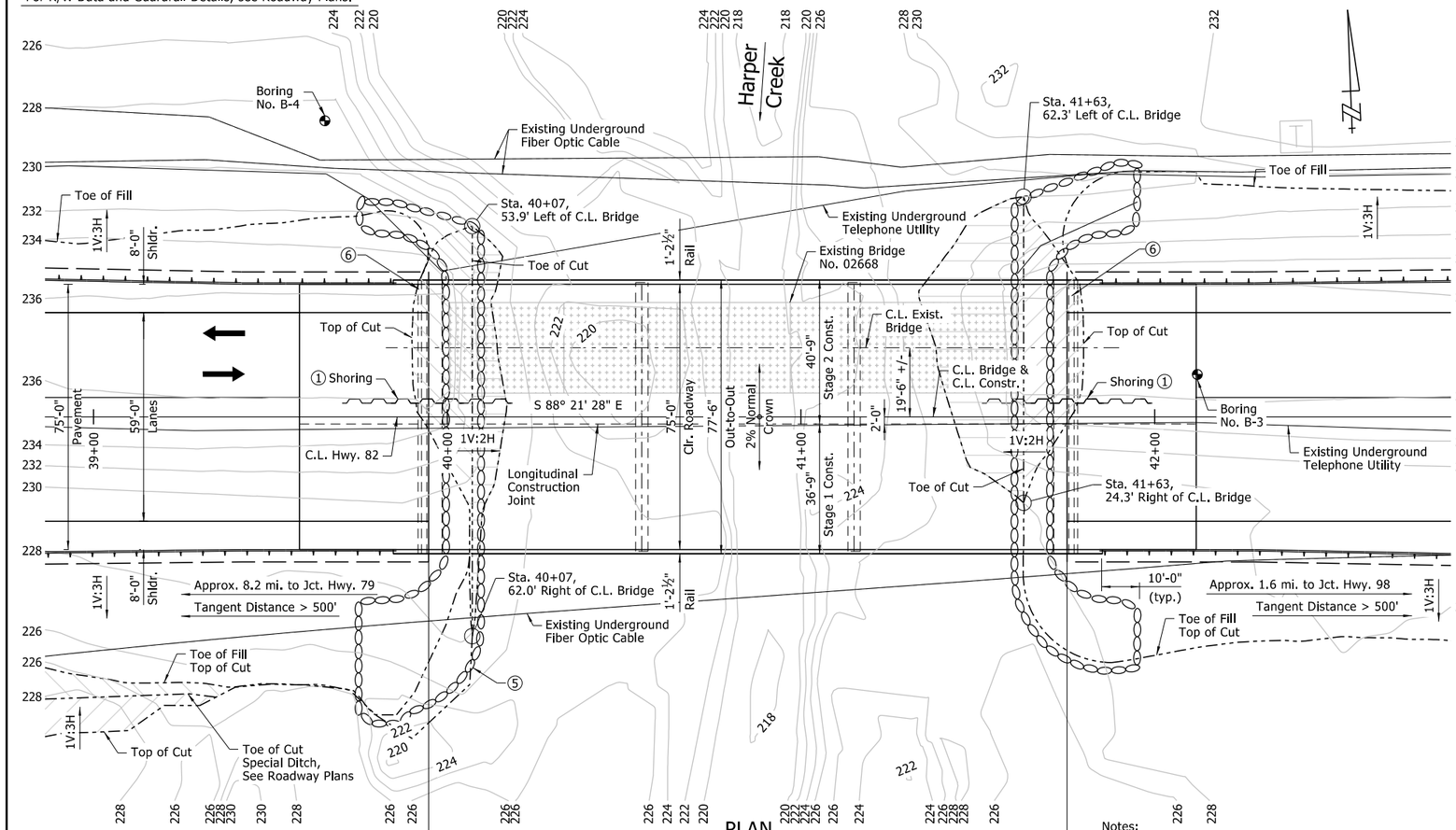
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE:12/20/2023

| | | | | |
|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: B070471X1_SC2.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: ¼" = 1'-0" |
| BRIDGE NO. | 07510 | | | DRAWING NO. 63747 |

Scott.Thornsberry 12/20/2023 4:37:11 PM
WORKSPACE: ARDOT
Y:\Projects\AROOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X1_SC2.dgn
REVISED DATE:

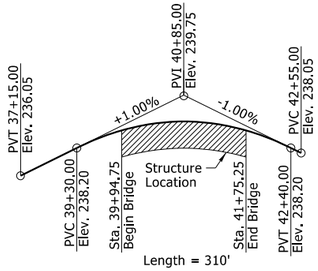
For R/W Data and Guardrail Details, see Roadway Plans.




## PLAN

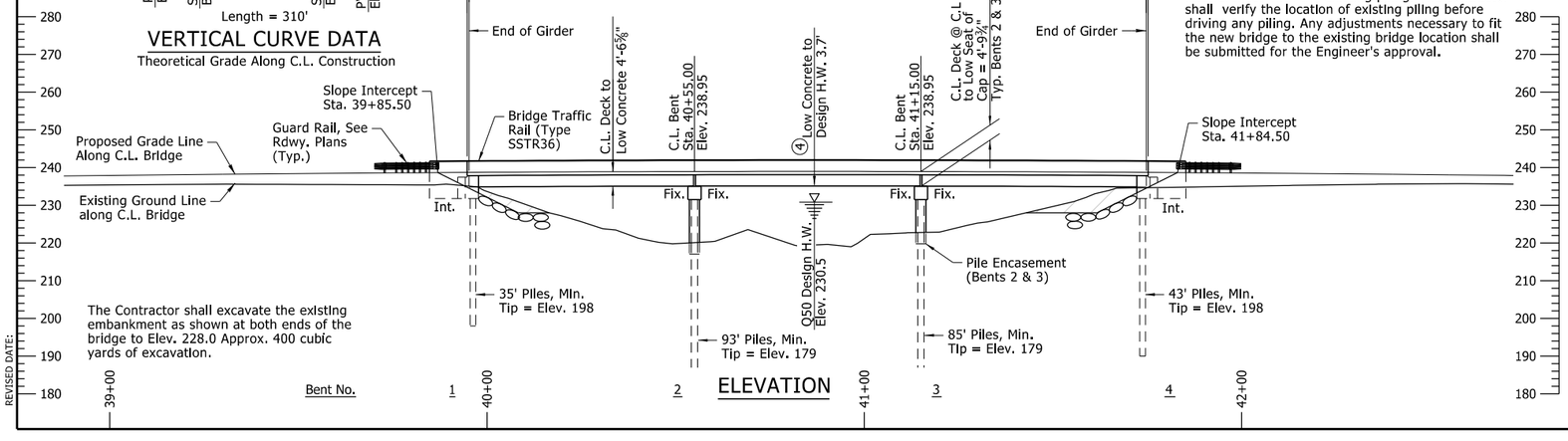
⑤ Place 1'-6" Dumped Riprap on Filter Blanket as shown. Top of Riprap Elev. 233 or as shown. See Std. Dwg. No. 55001. Typ. Bents 1 & 4.

⑥ Install 4"ϕ Pipe Underdrain with Outlet Protectors at both bridge ends in accordance with Section 611 and Std. Dwg. PU-1. For additional details, see Dwg. No. 63762. Pipe shall be considered subsidiary to "Unclassified Excavation".




## VERTICAL CURVE DATA

Theoretical Grade Along C.L. Construction




## ELEVATION

The Contractor shall excavate the existing embankment as shown at both ends of the bridge to Elev. 228.0 Approx. 400 cubic yards of excavation.

Notes:
For Soil Boring Information, see Dwg. No. 63749.

Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Dwg. No. 63761 for additional information.

Use Type Special Approach Slabs and Type Special Approach Gutters at both ends of bridge. For details, see Dwg. No. 63768 and Dwg. No. 63769, respectively.

The proposed bridge is positioned to avoid interferences with the existing piling. The contractor shall verify the location of existing piling before driving any piling. Any adjustments necessary to fit the new bridge to the existing bridge location shall be submitted for the Engineer's approval.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 63 | 103 |
| | | | | (1) | | 07511 - LAYOUT - 63748 | | |

## GENERAL NOTES

BENCH MARK: Vertical Control Data are shown on the Survey Control Data Sheets.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

LIVE LOADING: HL-93

SEISMIC ZONE: 2 $S_{D1}$ = 0.180 SITE CLASS = E

SEISMIC OPERATIONAL CLASSIFICATION : ESSENTIAL

MATERIALS AND STRENGTHS:

| | |
|---|---|
| Class S(AE) Concrete (superstructure) | f'c = 4,000 psi |
| Class S Concrete (substructure) | f'c = 3,500 psi |
| Class S Concrete (Prestressed Concrete Girders) | f'c = 8,000 psi |
| Reinforcing Steel (AASHTO M 31 or M 322, Type A, Gr, 60) | fy = 60,000 psi |
| Prestressing Strands (AASHTO M 203, Gr. 270) | fpu = 270,000 psi |
| Structural Steel (ASTM A709, Gr. 36) | Fy = 36,000 psi |
| Structural Steel (ASTM A709, Gr. 50 or Gr.50W) | Fy = 50,000 psi |
| Pipe Pile (ASTM A252,Grade 3) | Fy = 45,000 psi |

BORING LOGS: Boring logs may be obtained from the Construction Contract Development Section of the Program Management Division.

STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 200 tons per pile. Piling in Bents 2 and 3 shall be 20" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 290 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer to the minimum tip elevation shown on this drawing. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. No additional payment will be made for cut-off or build up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural ground. See Std. Dwg. No. 55021 for additional information.

PREBORING: Preboring is required for all piling at Bent 1 and 4. Prebored holes shall have a diameter 9" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the Item "Preboring".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum hammer energy required to obtain the ultimate bearing capacity for both 18" and 20" piles will be 44,200 foot pounds per blow.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: Class 2 Protective Surface Treatment shall be applied to the roadway surface and roadway face and top of rails. Class 2 Protective Surface Treatment shall meet the requirements of Section 803.

| DETAIL DRAWINGS: | DRAWING NO(S). |
|---|---|
| Stage Construction Details | 63750 - 63751 |
| End Bents | 63756 - 63757 |
| Intermediate Bents | 63758 - 63759 |
| Elastomeric Bearings | 63760 |
| 179'-6" Integral Prestressed Concrete Girder Unit Type II | 63761 - 63767 |
| Type Special Approach Slabs | 63768 |
| Type Special Approach Gutters | 63769 |
| Concrete Filled Steel Shell Piling | 55021 |
| Bridge Traffic Rail (Type SSTR36) | 55070 |

## HYDRAULIC DATA

| FLOOD DESCRIPTION | FREQUENCY | ③ TOTAL DISCHARGE | DISCHARGE THIS SITE | ② NATURAL WATER SURFACE ELEVATION | WATER SURFACE ELEV. WITH BACKWATER |
|---|---|---|---|---|---|
| | YEARS | CFS | CFS | FEET | FEET |
| Design | 50 | 6,480 | 3,270 | 228.8 | 230.5 |
| Base | 100 | 7,680 | 3,880 | 229.0 | 230.8 |
| Extreme | 500 | 10,770 | 5,450 | 229.6 | 231.8 |
| Overtopping | >500 | --- | --- | --- | --- |

① Shoring, See SP Job 070471 "Shoring".

② Unconstricted water surface elevation without structure or roadway approaches.

③ The total discharge includes flow at this Site and Site 1.

④ Proposed Low Bridge Chord Elevation = 234.18 feet and occurs at Sta. 39+97.25 and Sta. 41+72.75

Q100 backwater elevation for existing structure = 231.2 feet.

Drainage area = 10.9 square miles.

Historical H.W Elevation = 232.0 feet (from 1950 construction plans)

SHEET 1 OF 2

# LAYOUT OF BRIDGE
# HWY. 82 OVER HARPER CREEK
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# COLUMBIA COUNTY

ROUTE 82 SECTION 4

## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

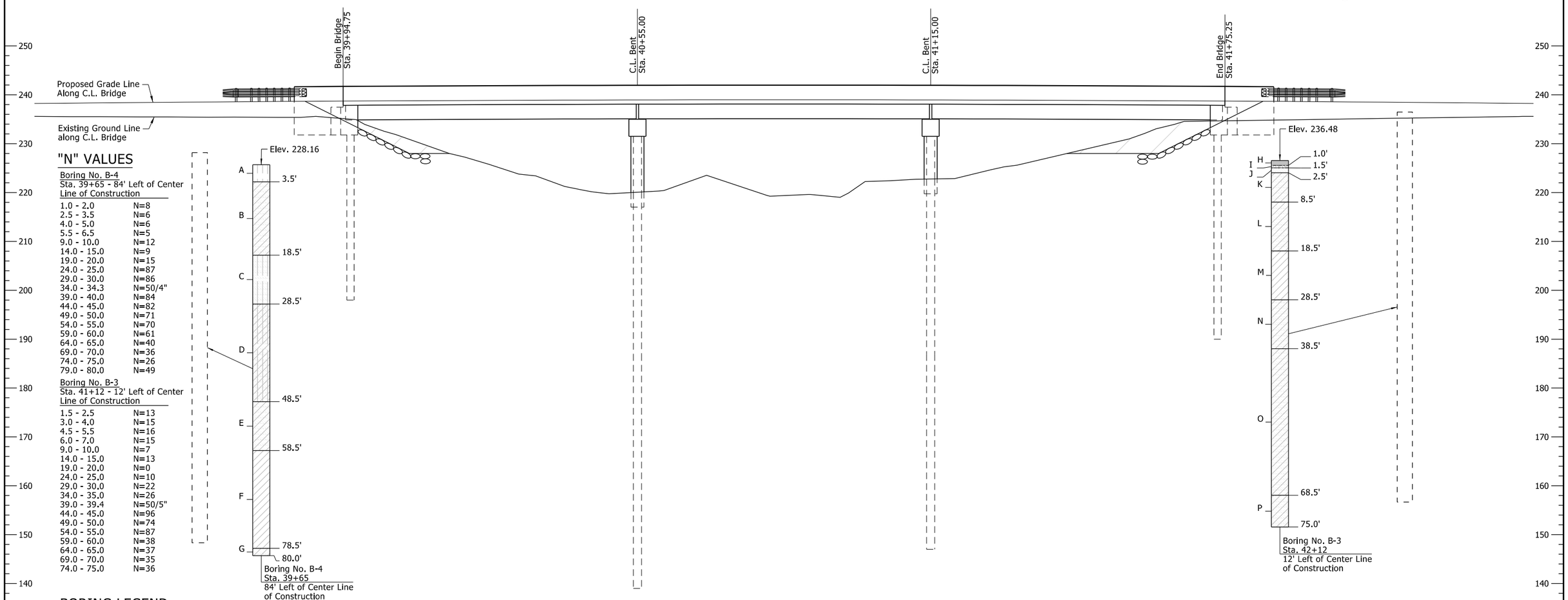
BRIDGE ENGINEER
PRINT DATE: 12/20/2023

DRAWN BY: JPC DATE: 02/2020
CHECKED BY: SFH DATE: 02/2020
DESIGNED BY: JPC DATE: 02/2020
BRIDGE NO. 07511 DRAWING NO. 63748
FILENAME: B070471X2_LX1.dgn
SCALE: 1" = 20'

Scott.Thornsberry 12/20/2023 4:37:12 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X2_LX1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 64 | 103 |
| (I) | 07511 - LAYOUT - 63749 | | | |




## "N" VALUES

Boring No. B-4
Sta. 39+65 - 84' Left of Center Line of Construction

| | |
|---|---|
| 1.0 - 2.0 | N=8 |
| 2.5 - 3.5 | N=6 |
| 4.0 - 5.0 | N=6 |
| 5.5 - 6.5 | N=5 |
| 9.0 - 10.0 | N=12 |
| 14.0 - 15.0 | N=9 |
| 19.0 - 20.0 | N=15 |
| 24.0 - 25.0 | N=87 |
| 29.0 - 30.0 | N=86 |
| 34.0 - 34.3 | N=50/4" |
| 39.0 - 40.0 | N=84 |
| 44.0 - 45.0 | N=82 |
| 49.0 - 50.0 | N=71 |
| 54.0 - 55.0 | N=70 |
| 59.0 - 60.0 | N=61 |
| 64.0 - 65.0 | N=40 |
| 69.0 - 70.0 | N=36 |
| 74.0 - 75.0 | N=26 |
| 79.0 - 80.0 | N=49 |

Boring No. B-3
Sta. 41+12 - 12' Left of Center Line of Construction

| | |
|---|---|
| 1.5 - 2.5 | N=13 |
| 3.0 - 4.0 | N=15 |
| 4.5 - 5.5 | N=16 |
| 6.0 - 7.0 | N=15 |
| 9.0 - 10.0 | N=7 |
| 14.0 - 15.0 | N=13 |
| 19.0 - 20.0 | N=0 |
| 24.0 - 25.0 | N=10 |
| 29.0 - 30.0 | N=22 |
| 34.0 - 35.0 | N=26 |
| 39.0 - 39.4 | N=50/5" |
| 44.0 - 45.0 | N=96 |
| 49.0 - 50.0 | N=74 |
| 54.0 - 55.0 | N=87 |
| 59.0 - 60.0 | N=38 |
| 64.0 - 65.0 | N=37 |
| 69.0 - 70.0 | N=35 |
| 74.0 - 75.0 | N=36 |

## BORING LEGEND

A- SILTY CLAY SAND (CL-ML) brown to reddish brown, medium stiff to stiff
B- SANDY LEAN CLAY (CL) brown, medium stiff to stiff
C- SANDY SILT (ML) dark gray, very stiff to hard
D- SILTY SAND (SM) trace gravel, dark gray, very dense
E- SANDY FAT CLAY (CH) dark gray, hard
F- FAT CLAY (CH) dark gray, hard
G- LEAN CLAY WITH SAND (CL) dark gray, hard
H- ASPHALT CONCRETE - 12 inches
I- AGGREGATE BASE COURSE - 6 inches
J- FILL - POORLY GRADED SAND WITH SLAY (SP) brown and grey
K- LEAN CLAY WITH SAND (CL) brown, stiff to very stiff
L- SANDY LEAN CLAY (CL) with wood pieces, gray, medium stiff to stiff
M- FAT CLAY (CH) dark brown, very soft to stiff
N- FAT CLAY WITH SAND (CH) gray, very stiff
O- CLAYEY SAND (SC) dark gray, very dense
P- SANDY FAT CLAY (CH) dark gray and brown, hard

| Bent No. | 1 | 2 | 3 | 4 |
|---|---|---|---|---|

## GENERAL NOTES (CONTINUED)

EXISTING BRIDGE: Existing Bridge No. 02668 (Log mi. 10.36) is 31.8' wide (26.0' clear roadway) and 162.0' long and consists of I-Beam spans (5 spans total) supported by concrete pile bents. The existing bridge is located at the same location of the proposed new bridge. Plans of the existing structure may be obtained upon request to the Construction Contract Development Section of the Program Management Division.

REMOVAL AND SALVAGE: After the stage 1 construction of the new bridge is complete and open to traffic, the Contractor shall remove existing Bridge No. 02668 in accordance with to Section 205. All material removed from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

SOIL BORING ELEVATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

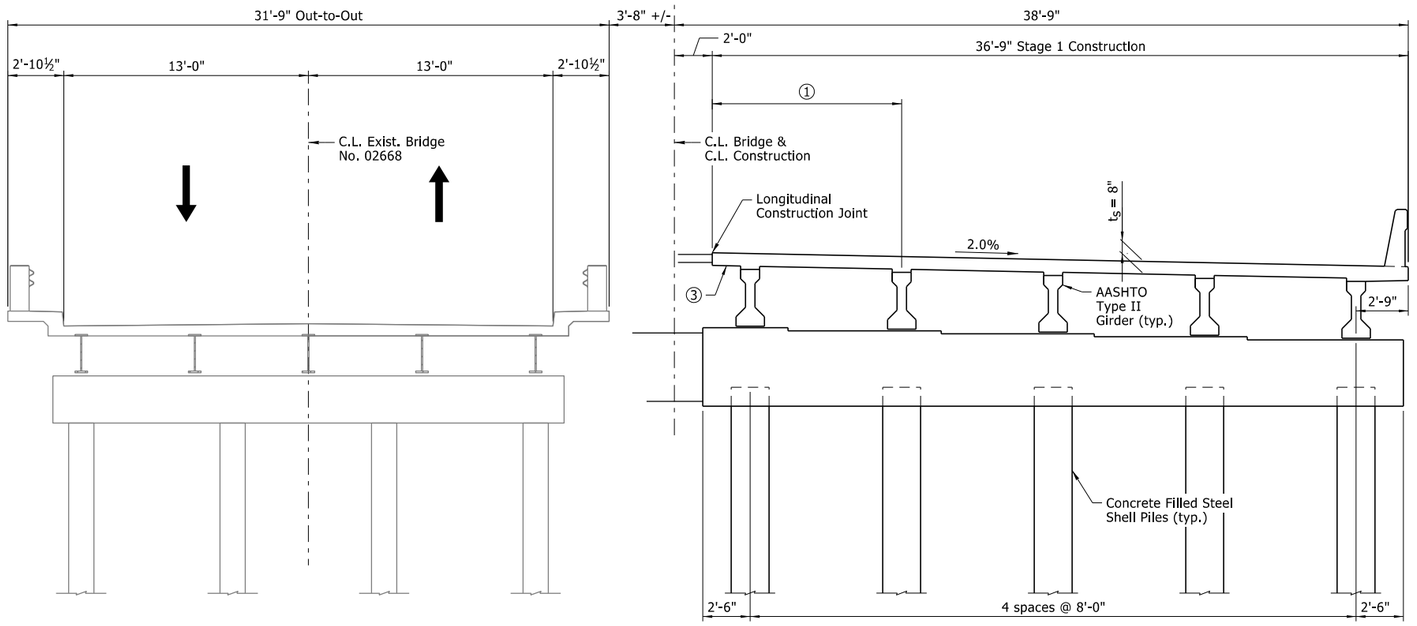
# SHEET 2 OF 2
# LAYOUT OF BRIDGE
# HWY. 82 OVER HARPER CREEK
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# COLUMBIA COUNTY
ROUTE 82 SECTION 4

## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

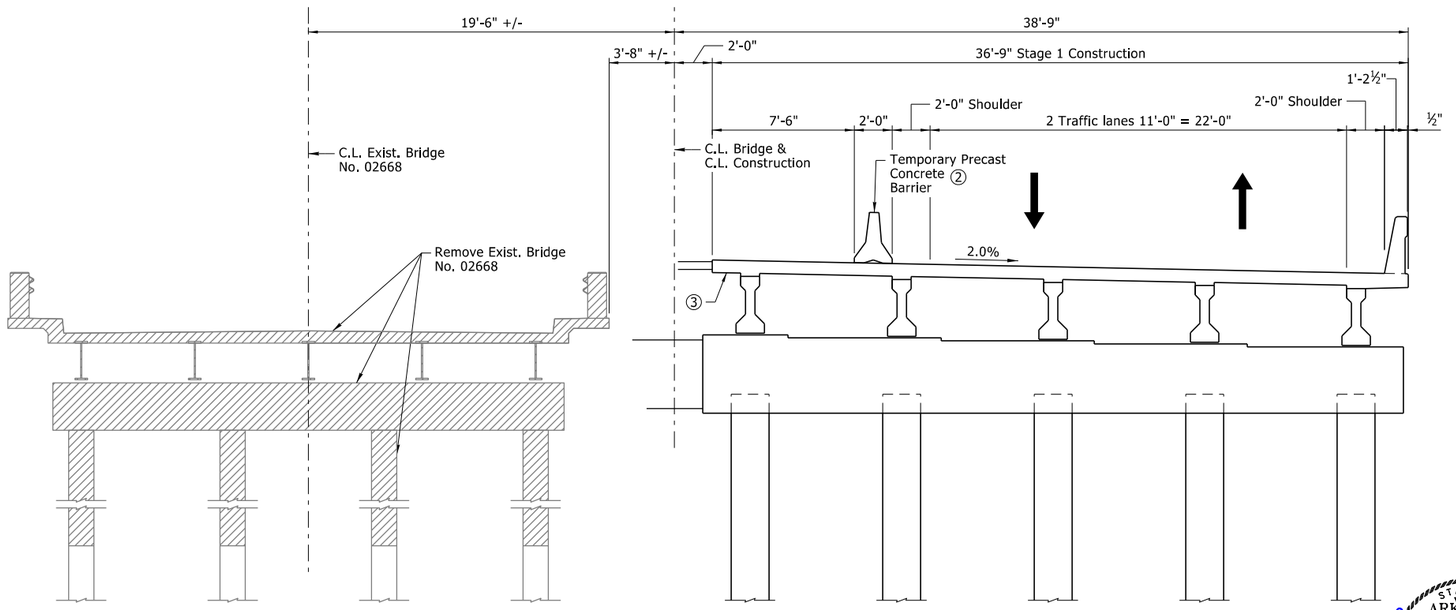
| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: | B070471X2_LX2.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: | 1" = 10' |
| BRIDGE NO. | 07511 | | | DRAWING NO. | 63749 |

Scott.Thornsberry 12/20/2023 4:37:13 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X2_LX2.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 65 | 103 |
| | | | | (1) | 07511 - STAGE CONSTRUCTION - 63750 | | | |




STAGE 1 CONSTRUCTION
(Looking Forward)




STAGE 2 DEMOLITION
(Looking Forward)

① Construction vehicles shall not travel in this area.

② Do not connect to deck. For details of temporary barrier, see Std. Dwg. TC-4.

③ Contractor may need to keep the overhang form-work and support system in place until Stage 2 construction is complete.

Note:
Details which relate to Maintenance of Traffic are shown on the bridge plans for information only. See Roadway Plans for Maintenance of Traffic.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

12/20/2023

BRIDGE ENGINEER
PRINT DATE:12/20/2023

# SHEET 1 OF 2
# TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS
# HWY. 82 OVER HARPER CREEK
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# COLUMBIA COUNTY
ROUTE 82 SECTION 4

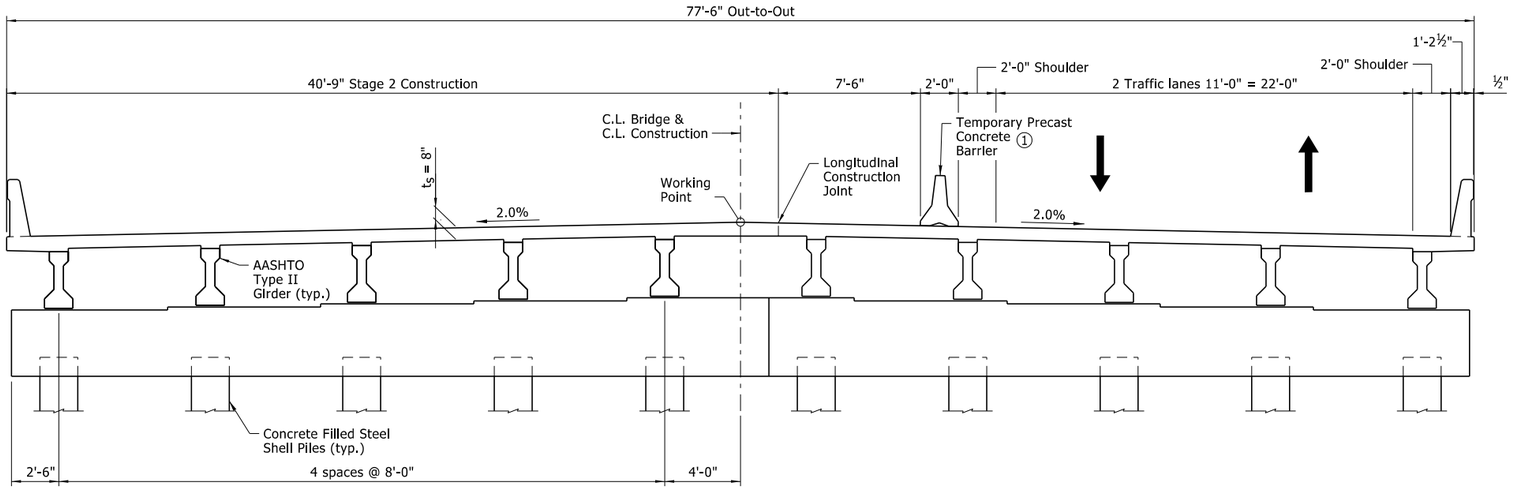
## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: JPC DATE: 02/2020 FILENAME: B070471X2_SC1.dgn
CHECKED BY: SFH DATE: 02/2020
DESIGNED BY: JPC DATE: 02/2020 SCALE: ¼" = 1'-0"
BRIDGE NO. 07511 DRAWING NO. 63750

Scott.Thornsberry 12/20/2023 4:37:13 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X2_SC1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

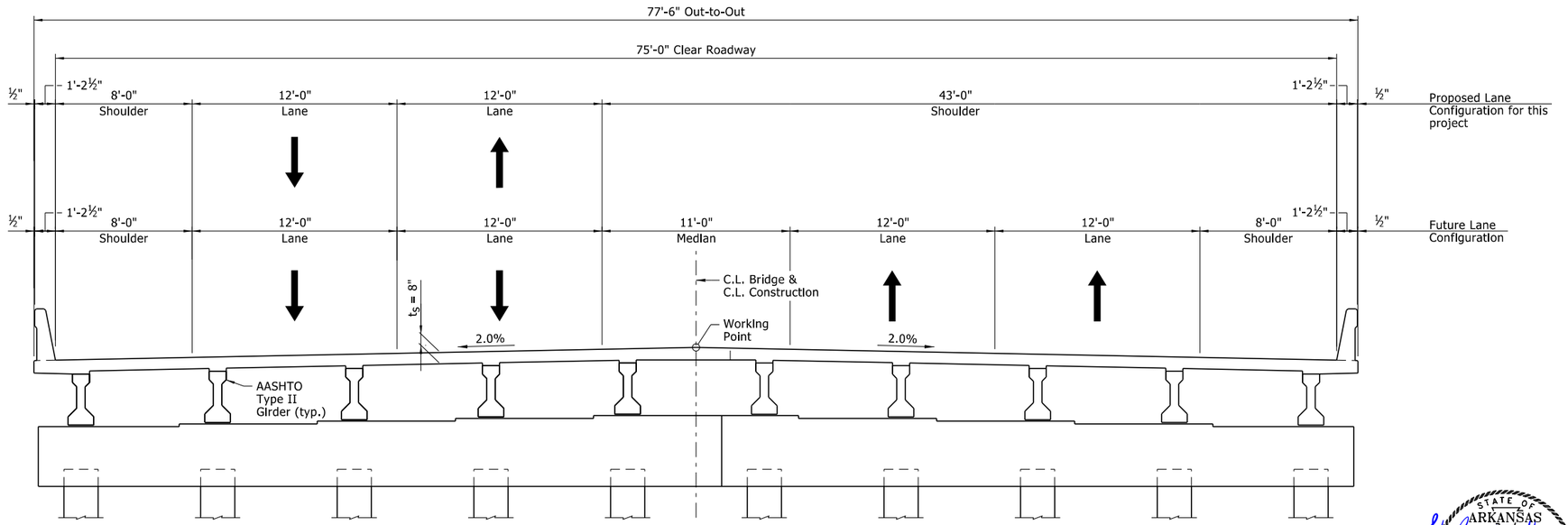
| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 66 | 103 |
| (1) | 07511 - STAGE CONSTRUCTION - 63751 | | | |




## STAGE 2 CONSTRUCTION

(Looking Forward)

(1) Do not connect to deck. For details of temporary barrier, see Std. Dwg. TC-4.




## COMPLETED SECTION

(Looking Forward)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE:12/20/2023

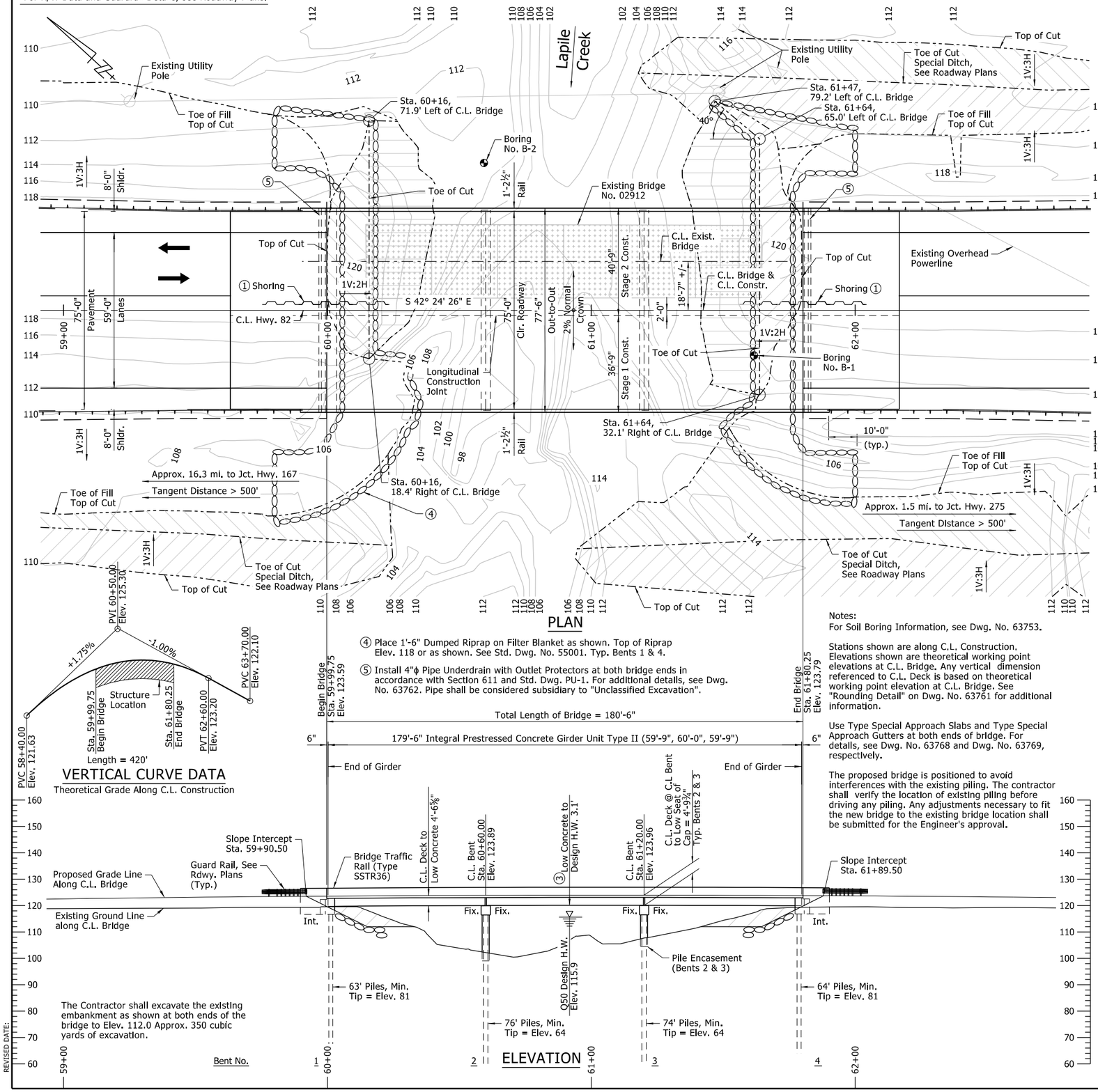
## SHEET 2 OF 2
## TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS
## HWY. 82 OVER HARPER CREEK
## CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
## COLUMBIA COUNTY
ROUTE 82 SECTION 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: | B070471X2_SC2.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: | ¼" = 1'-0" |
| BRIDGE NO. | 07511 | | | DRAWING NO. | 63751 |

Scott.Thornsberry 12/20/2023 4:37:14 PM
WORKSPACE: ARDOT
Y:\Projects\AROOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X2_SC2.dgn
REVISED DATE:

For R/W Data and Guardrail Details, see Roadway Plans.




Notes:
For Soil Boring Information, see Dwg. No. 63753.

Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Dwg. No. 63761 for additional information.

Use Type Special Approach Slabs and Type Special Approach Gutters at both ends of bridge. For details, see Dwg. No. 63768 and Dwg. No. 63769, respectively.

The proposed bridge is positioned to avoid interferences with the existing piling. The contractor shall verify the location of existing piling before driving any piling. Any adjustments necessary to fit the new bridge to the existing bridge location shall be submitted for the Engineer's approval.

④ Place 1'-6" Dumped Riprap on Filter Blanket as shown. Top of Riprap Elev. 118 or as shown. See Std. Dwg. No. 55001. Typ. Bents 1 & 4.

⑤ Install 4"ϕ Pipe Underdrain with Outlet Protectors at both bridge ends in accordance with Section 611 and Std. Dwg. PU-1. For additional details, see Dwg. No. 63762. Pipe shall be considered subsidiary to "Unclassified Excavation".

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 67 | 103 |
| | | | | (1) | | 07512 - LAYOUT - 63752 | | |

## GENERAL NOTES

BENCH MARK: Vertical Control Data are shown on the Survey Control Data Sheets.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

LIVE LOADING: HL-93

SEISMIC ZONE: 2 $S_{D1}$ = 0.192 SITE CLASS = E

SEISMIC OPERATIONAL CLASSIFICATION : ESSENTIAL

MATERIALS AND STRENGTHS:

| | |
|---|---|
| Class S(AE) Concrete (superstructure) | f'c = 4,000 psi |
| Class S Concrete (substructure) | f'c = 3,500 psi |
| Class S Concrete (Prestressed Concrete Girders) | f'c = 8,000 psi |
| Reinforcing Steel (AASHTO M 31 or M 322, Type A, Gr, 60) | fy = 60,000 psi |
| Prestressing Strands (AASHTO M 203, Gr. 270) | fpu = 270,000 psi |
| Structural Steel (ASTM A709, Gr. 36) | Fy = 36,000 psi |
| Structural Steel (ASTM A709, Gr. 50 or Gr. 50W) | Fy = 50,000 psi |
| Pipe Pile (ASTM A252,Grade 3) | Fy = 45,000 psi |

BORING LOGS: Boring logs may be obtained from the Construction Contract Development Section of the Program Management Division.

STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 200 tons per pile. Piling in Bents 2 and 3 shall be 20" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 290 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer to the minimum tip elevation shown on this drawing. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. No additional payment will be made for cut-off or build up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural ground. See Std. Dwg. No. 55021 for additional information.

PREBORING: Preboring is required for all piling at Bent 1 and 4. Prebored holes shall have a diameter 9" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the Item "Preboring".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum hammer energy required to obtain the ultimate bearing capacity for both 18" and 20" piles will be 43,500 foot pounds per blow.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: Class 2 Protective Surface Treatment shall be applied to the roadway surface and roadway face and top of rails. Class 2 Protective Surface Treatment shall meet the requirements of Section 803.

| DETAIL DRAWINGS: | DRAWING NO(S). |
|---|---|
| Stage Construction Details | 63754 - 63755 |
| End Bents | 63756 - 63757 |
| Intermediate Bents | 63758 - 63759 |
| Elastomeric Bearings | 63760 |
| 179'-6" Integral Prestressed Concrete Girder Unit Type II | 63761 - 63767 |
| Type Special Approach Slab | 63768 |
| Type Special Approach Gutter | 63769 |
| Concrete Filled Steel Shell Piling | 55021 |
| Bridge Traffic Rail (Type SSTR36) | 55070 |

## HYDRAULIC DATA

| FLOOD DESCRIPTION | FREQUENCY | DISCHARGE | ② NATURAL WATER SURFACE ELEVATION | WATER SURFACE ELEV. WITH BACKWATER |
|---|---|---|---|---|
| | YEARS | CFS | FEET | FEET |
| Design | 50 | 5,150 | 113.7 | 115.9 |
| Base | 100 | 6,170 | 114.0 | 116.6 |
| Extreme | 500 | 8,750 | 114.7 | 118.0 |
| Overtopping | >500 | --- | --- | --- |

① Shoring, See SP Job 070471 "Shoring".

② Unconstricted water surface elevation without structure or roadway approaches.

③ Proposed Low Bridge Chord Elevation = 119.05 feet and occurs at Sta. 60+02.25

Q100 backwater elevation for existing structure = 116.7 feet.

Drainage area = 23.2 square miles.

No Historical H.W. data available.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
STEPHEN F. HARPER
No.14501
12/20/2023
BRIDGE ENGINEER
PRINT DATE: 12/20/2023

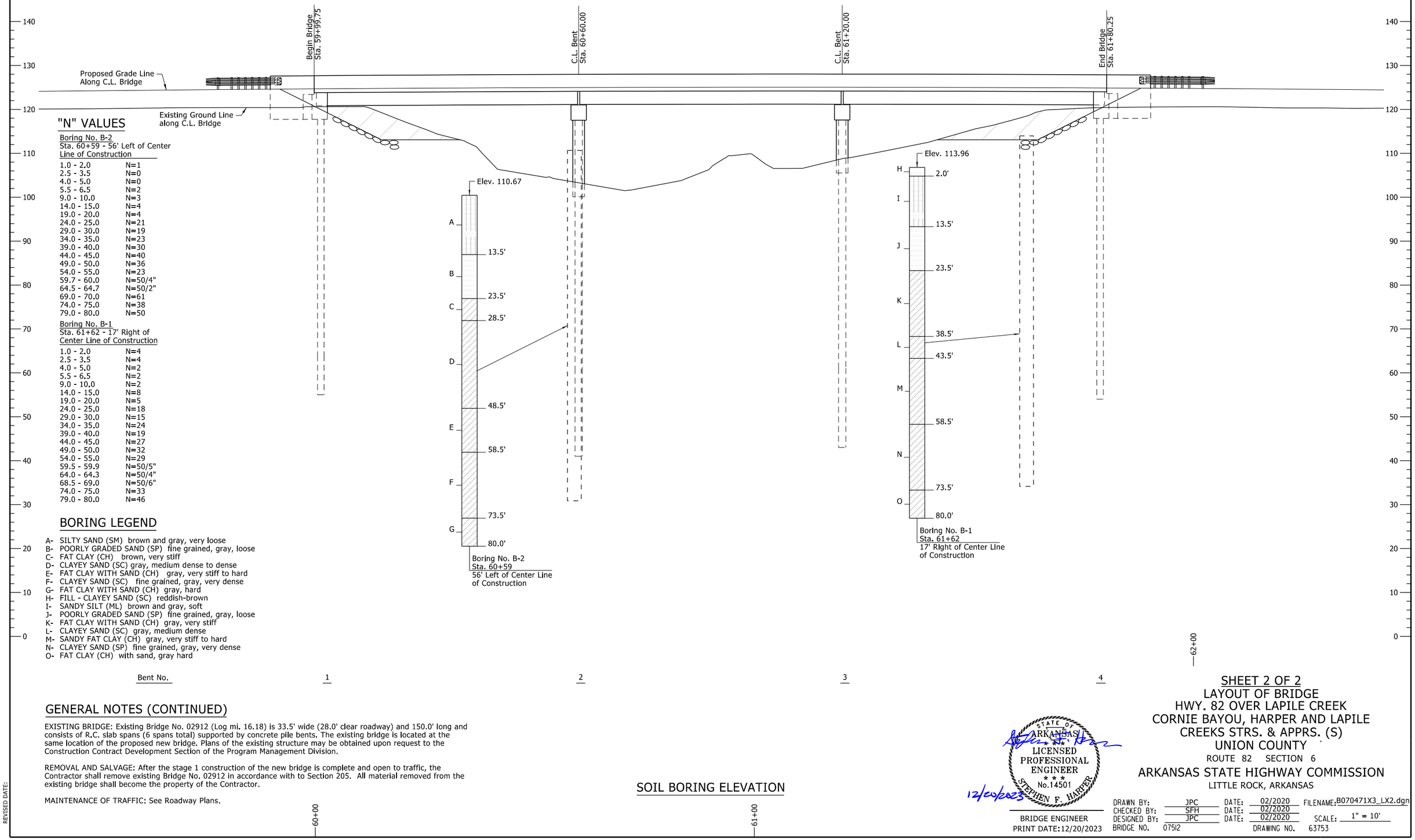
# SHEET 1 OF 2
# LAYOUT OF BRIDGE
# HWY. 82 OVER LAPILE CREEK
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# UNION COUNTY
ROUTE 82 SECTION 6

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: | B070471X3_LX1.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: | 1" = 20' |
| BRIDGE NO. | 07512 | | | DRAWING NO. | 63752 |

Scott.Thornberry 12/20/2023 4:37:14 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X3_LX1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 68 | 103 |
| | | | | (1) | 07512 - LAYOUT - 63753 | | | |




## "N" VALUES

Boring No. B-2
Sta. 60+59 - 56' Left of Center Line of Construction

| | |
|---|---|
| 1.0 - 2.0 | N=1 |
| 2.5 - 3.5 | N=0 |
| 4.0 - 5.0 | N=0 |
| 5.5 - 6.5 | N=2 |
| 9.0 - 10.0 | N=3 |
| 14.0 - 15.0 | N=4 |
| 19.0 - 20.0 | N=4 |
| 24.0 - 25.0 | N=21 |
| 29.0 - 30.0 | N=19 |
| 34.0 - 35.0 | N=23 |
| 39.0 - 40.0 | N=30 |
| 44.0 - 45.0 | N=40 |
| 49.0 - 50.0 | N=36 |
| 54.0 - 55.0 | N=23 |
| 59.7 - 60.0 | N=50/4" |
| 64.5 - 64.7 | N=50/2" |
| 69.0 - 70.0 | N=61 |
| 74.0 - 75.0 | N=38 |
| 79.0 - 80.0 | N=50 |

Boring No. B-1
Sta. 61+62 - 17' Right of Center Line of Construction

| | |
|---|---|
| 1.0 - 2.0 | N=4 |
| 2.5 - 3.5 | N=4 |
| 4.0 - 5.0 | N=2 |
| 5.5 - 6.5 | N=2 |
| 9.0 - 10.0 | N=2 |
| 14.0 - 15.0 | N=8 |
| 19.0 - 20.0 | N=5 |
| 24.0 - 25.0 | N=18 |
| 29.0 - 30.0 | N=15 |
| 34.0 - 35.0 | N=24 |
| 39.0 - 40.0 | N=19 |
| 44.0 - 45.0 | N=27 |
| 49.0 - 50.0 | N=32 |
| 54.0 - 55.0 | N=29 |
| 59.5 - 59.9 | N=50/5" |
| 64.0 - 64.3 | N=50/4" |
| 68.5 - 69.0 | N=50/6" |
| 74.0 - 75.0 | N=33 |
| 79.0 - 80.0 | N=46 |

## BORING LEGEND

A- SILTY SAND (SM) brown and gray, very loose
B- POORLY GRADED SAND (SP) fine grained, gray, loose
C- FAT CLAY (CH) brown, very stiff
D- CLAYEY SAND (SC) gray, medium dense to dense
E- FAT CLAY WITH SAND (CH) gray, very stiff to hard
F- CLAYEY SAND (SC) fine grained, gray, very dense
G- FAT CLAY WITH SAND (CH) gray, hard
H- FILL - CLAYEY SAND (SC) reddish-brown
I- SANDY SILT (ML) brown and gray, soft
J- POORLY GRADED SAND (SP) fine grained, gray, loose
K- FAT CLAY WITH SAND (CH) gray, very stiff
L- CLAYEY SAND (SC) gray, medium dense
M- SANDY FAT CLAY (CH) gray, very stiff to hard
N- CLAYEY SAND (SP) fine grained, gray, very dense
O- FAT CLAY (CH) with sand, gray hard

## GENERAL NOTES (CONTINUED)

EXISTING BRIDGE: Existing Bridge No. 02912 (Log mi. 16.18) is 33.5' wide (28.0' clear roadway) and 150.0' long and consists of R.C. slab spans (6 spans total) supported by concrete pile bents. The existing bridge is located at the same location of the proposed new bridge. Plans of the existing structure may be obtained upon request to the Construction Contract Development Section of the Program Management Division.

REMOVAL AND SALVAGE: After the stage 1 construction of the new bridge is complete and open to traffic, the Contractor shall remove existing Bridge No. 02912 in accordance with to Section 205. All material removed from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

SOIL BORING ELEVATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

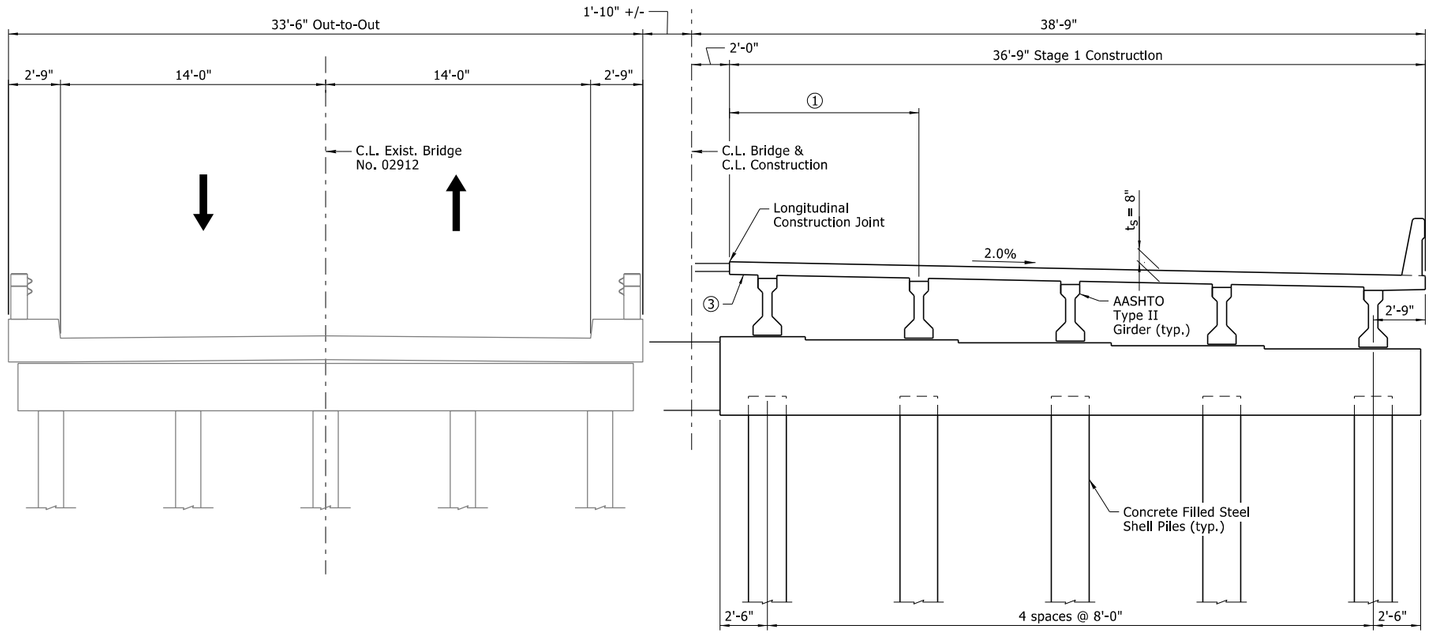
# SHEET 2 OF 2
# LAYOUT OF BRIDGE
# HWY. 82 OVER LAPILE CREEK
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# UNION COUNTY
ROUTE 82 SECTION 6

## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: JPC DATE: 02/2020
CHECKED BY: SFH DATE: 02/2020
DESIGNED BY: JPC DATE: 02/2020
BRIDGE NO. 07512
FILENAME: B070471X3_LX2.dgn
SCALE: 1" = 10'
DRAWING NO. 63753

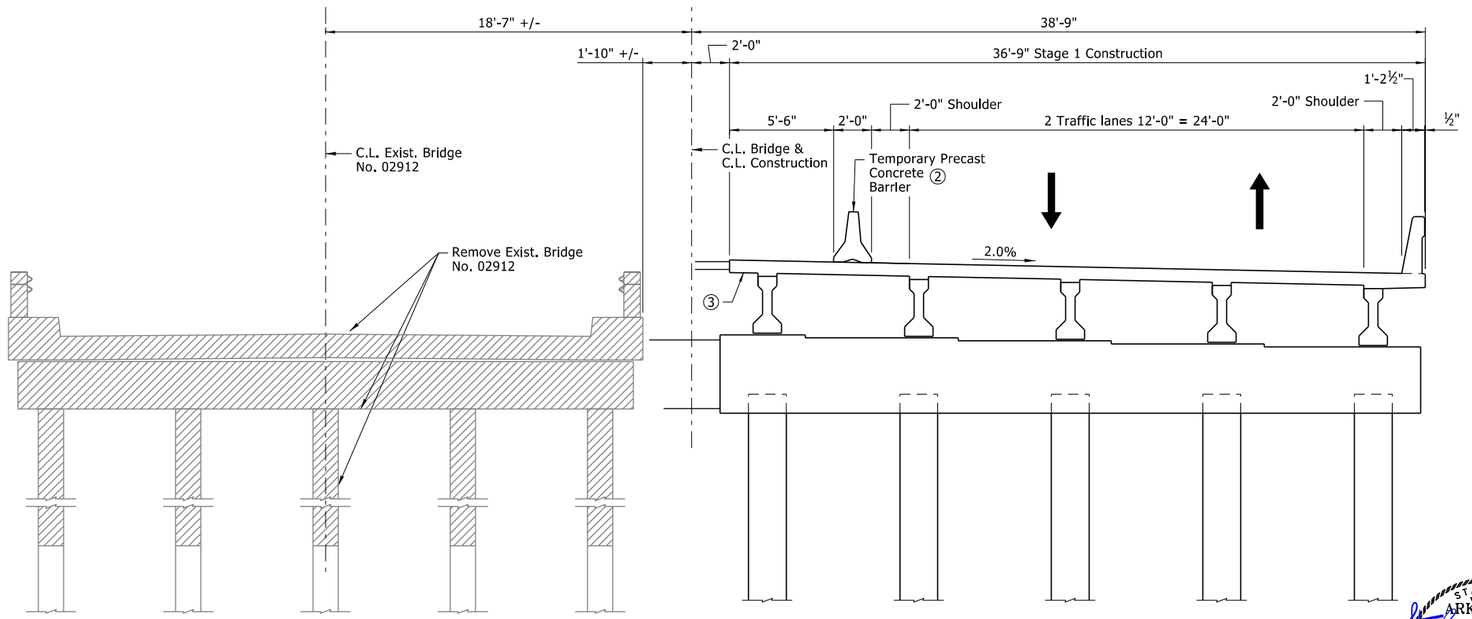
Scott.Thornsberry 12/20/2023 4:37:16 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X3_LX2.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 69 | 103 |
| | | | | (1) | 07512 - STAGE CONSTRUCTION - 63754 | | | |




## STAGE 1 CONSTRUCTION

(Looking Forward)




## STAGE 2 DEMOLITION

(Looking Forward)

① Construction vehicles shall not travel in this area.

② Do not connect to deck. For details of temporary barrier, see Std. Dwg. TC-4.

③ Contractor may need to keep the overhang form-work and support system in place until Stage 2 construction is complete.

Note:
Details which relate to Maintenance of Traffic are shown on the bridge plans for information only. See Roadway Plans for Maintenance of Traffic.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

12/20/2023

BRIDGE ENGINEER
PRINT DATE:12/20/2023

# SHEET 1 OF 2
# TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS
# HWY. 82 OVER LAPILE CREEK
# CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
# UNION COUNTY

ROUTE 82 SECTION 6

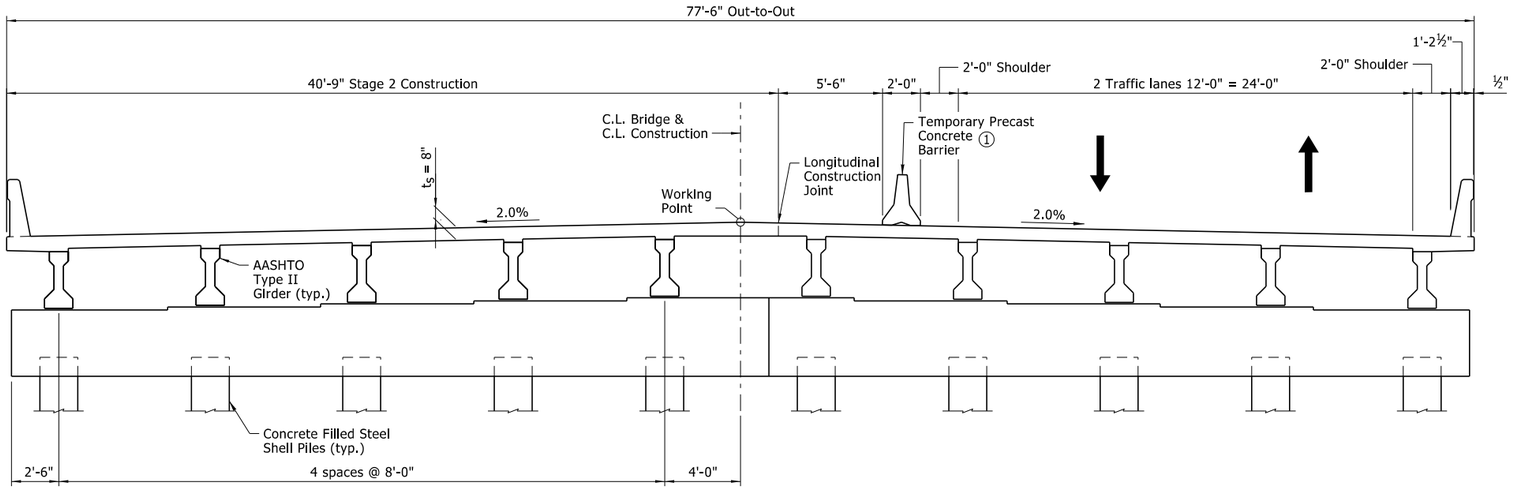
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: | B070471X3_SC1.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: | ¼" = 1'-0" |
| BRIDGE NO. | 07512 | | | DRAWING NO. | 63754 |

Scott.Thornsberry 12/20/2023 4:37:16 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X3_SC1.dgn
REVISED DATE:

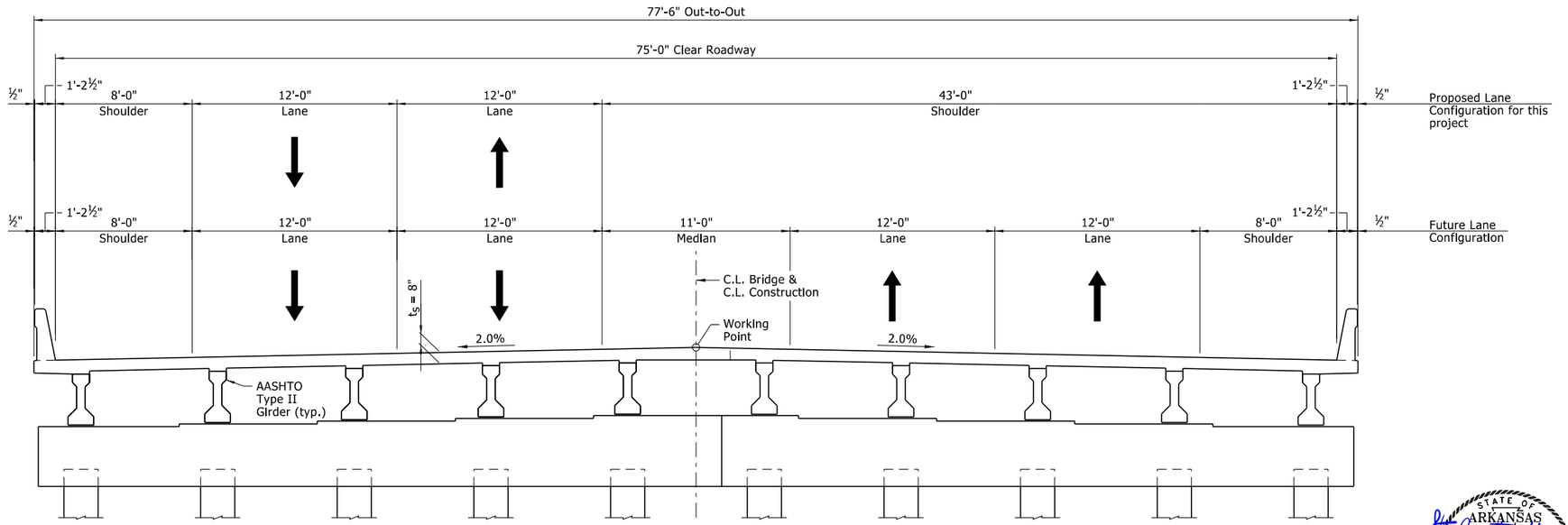
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 70 | 103 |
| | | | | (1) | 07512 - STAGE CONSTRUCTION - 63755 | | | |




## STAGE 2 CONSTRUCTION

(Looking Forward)

(1) Do not connect to deck. For details of temporary barrier, see Std. Dwg. TC-4.




## COMPLETED SECTION

(Looking Forward)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE:12/20/2023

## SHEET 2 OF 2
## TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS
## HWY. 82 OVER LAPILE CREEK
## CORNIE BAYOU, HARPER AND LAPILE CREEKS STRS. & APPRS. (S)
## UNION COUNTY
ROUTE 82 SECTION 6

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

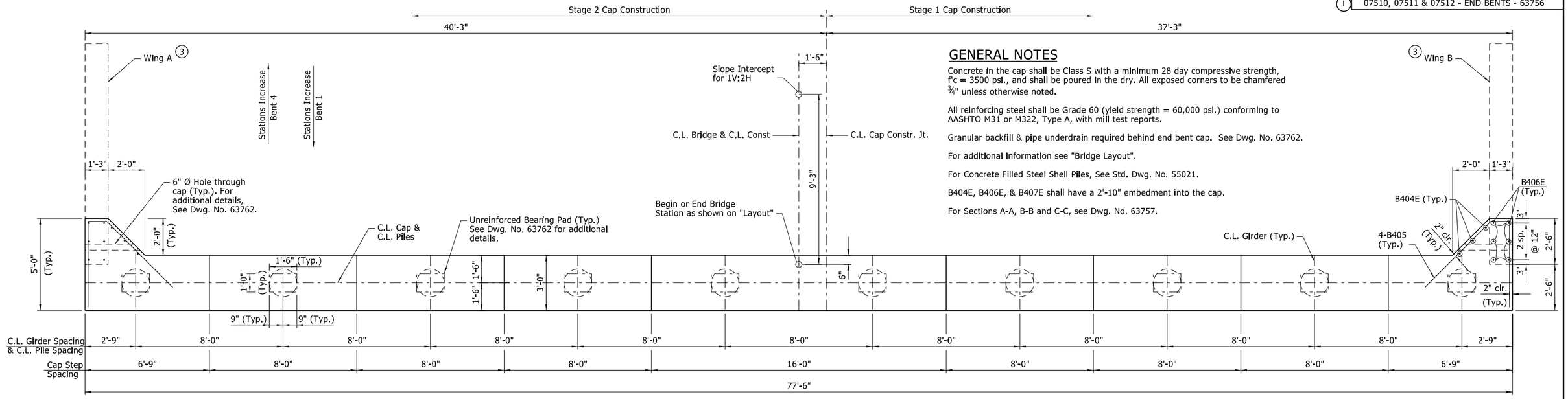
| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | JPC | DATE: | 02/2020 | FILENAME: | B070471X3_SC2.dgn |
| CHECKED BY: | SFH | DATE: | 02/2020 | | |
| DESIGNED BY: | JPC | DATE: | 02/2020 | SCALE: | ¼" = 1'-0" |
| BRIDGE NO. | 07512 | | | DRAWING NO. | 63755 |

Scott.Thornsberry 12/20/2023 4:37:17 PM
WORKSPACE: ARDOT
Y:\Projects\AROOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X3_SC2.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 71 | 103 |

(1) 07510, 07511 & 07512 - END BENTS - 63756




## GENERAL NOTES

Concrete in the cap shall be Class S with a minimum 28 day compressive strength, f'c = 3500 psi., and shall be poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi.) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Granular backfill & pipe underdrain required behind end bent cap. See Dwg. No. 63762.

For additional information see "Bridge Layout".

For Concrete Filled Steel Shell Piles, See Std. Dwg. No. 55021.

B404E, B406E, & B407E shall have a 2'-10" embedment into the cap.

For Sections A-A, B-B and C-C, see Dwg. No. 63757.

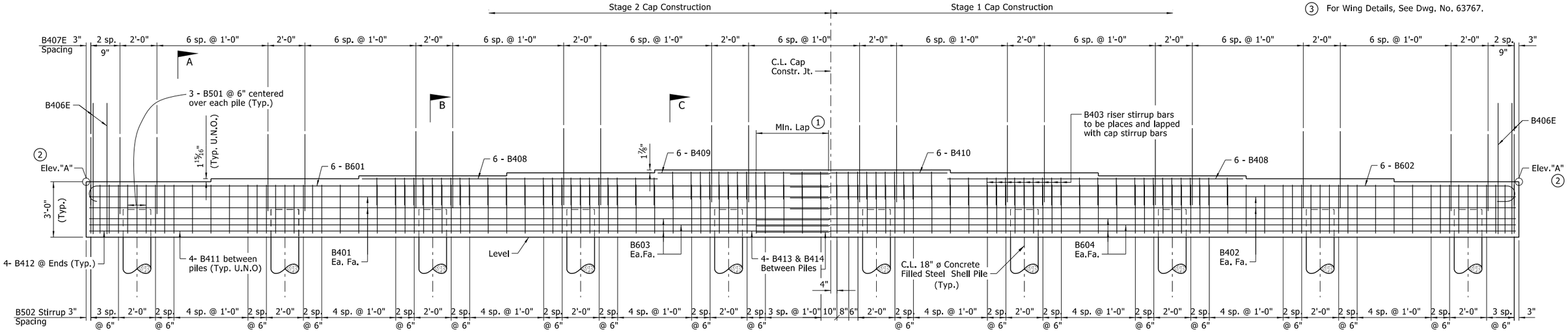
## PLAN

Scale : ⅜" = 1'-0"

(1) Lap #4 Bars = 1'-9" , Lap #6 Bars = 2'-7"

(2) For Elev. "A". See Dwg. No. 63757.

(3) For Wing Details, See Dwg. No. 63767.




## ELEVATION

Looking Ahead
(Shown for Bent 4, Reverse for Bent 1)
Scale : ⅜" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

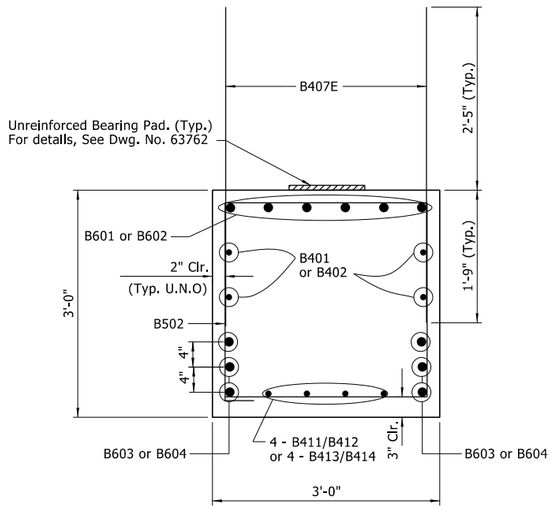
# SHEET 1 OF 2
# DETAILS OF END BENTS
# CORNIE BAYOU, HARPER AND LAPILE CREEKS
ROUTE SECTION

## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

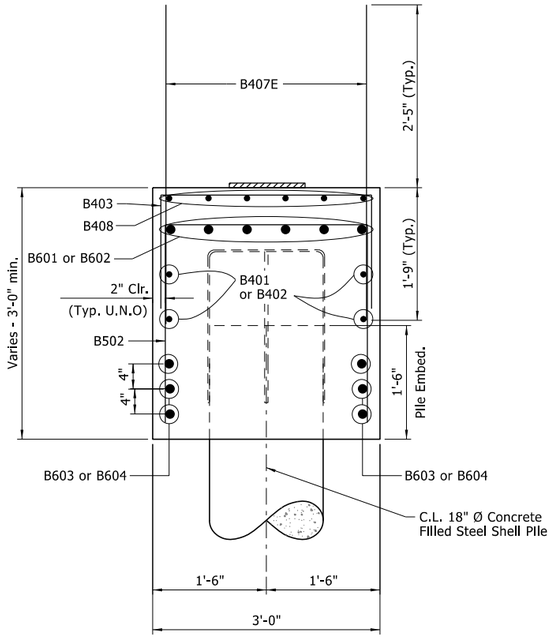
DRAWN BY: SCR DATE: 10/2020
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 10/2020
BRIDGE NO. 07510, 07511 & 07512
DRAWING NO. 63756
FILENAME: B070471X_AX1.dgn
SCALE: ⅜" = 1'-0"

Scott.Thornsberry 12/20/2023 4:37:17 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471Cornie&HarperLapile\Design\BRIDGE\Drawings\B070471X_AX1.dgn
REVISED DATE:

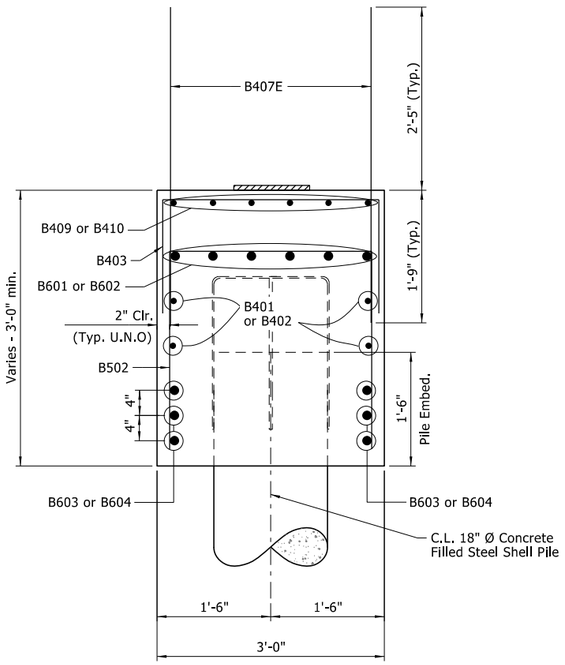
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 72 | 103 |
| | | | | (1) | 07510, 07511 & 07512 - END BENTS - 63757 | | | |




SECTION A-A




SECTION B-B




SECTION C-C

## TABLE OF VARIABLES

| Location | Bent 1 | Bent 4 |
|---|---|---|
| Cornie Bayou | | |
| Elev. "A" | 234.11 | 234.11 |
| Harper Creek | | |
| Elev. "A" | 234.11 | 234.11 |
| Lapile Creek | | |
| Elev. "A" | 118.98 | 119.18 |

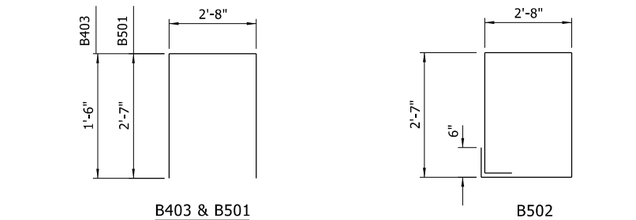
## BAR LIST-PER BENT

| MARK | NO. REQ'D. | LENGTH | P.D. |
|---|---|---|---|
| B401 | 4 | 40'-1" | Str. |
| B402 | 4 | 38'-10" | Str. |
| B403 | 71 | 5'-6" | 2" |
| B404E | 6 | 5'-3" | Str. |
| B405 | 8 | 10'-8" | 2" |
| B406E | 12 | 6'-4" | Str. |
| B407E | 138 | 4'-2" | Str. |
| B408 | 12 | 15'-10" | Str. |
| B409 | 6 | 9'-10" | Str. |
| B410 | 6 | 7'-7" | Str. |
| B411 | 32 | 6'-2" | Str. |
| B412 | 8 | 1'-8" | Str. |
| B413 | 4 | 5'-1" | Str. |
| B414 | 4 | 2'-10" | Str. |
| | | | |
| | | | |
| B501 | 30 | 7'-7½" | 2½" |
| B502 | 89 | 11'-0" | 2½" |
| | | | |
| B601 | 6 | 40'-9" | 4½" |
| B602 | 6 | 40'-4" | 4½" |
| B603 | 6 | 40'-1" | Str. |
| B604 | 6 | 39'-8" | Str. |
| | | | |
| | | | |

## BENDING DIAGRAMS

All bars designated with an "E" suffix are to be epoxy coated.

Dimensions are out to out of bars.





Scott.Thornberry 12/20/2023 4:37:18 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938B_070471Cornie\harper\Lapile\Design\BRIDGE\Drawings\B070471X_AX2.dgn
REVISED DATE:


STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

SHEET 2 OF 2
DETAILS OF END BENTS
CORNIE BAYOU, HARPER AND LAPILE CREEKS
ROUTE SECTION

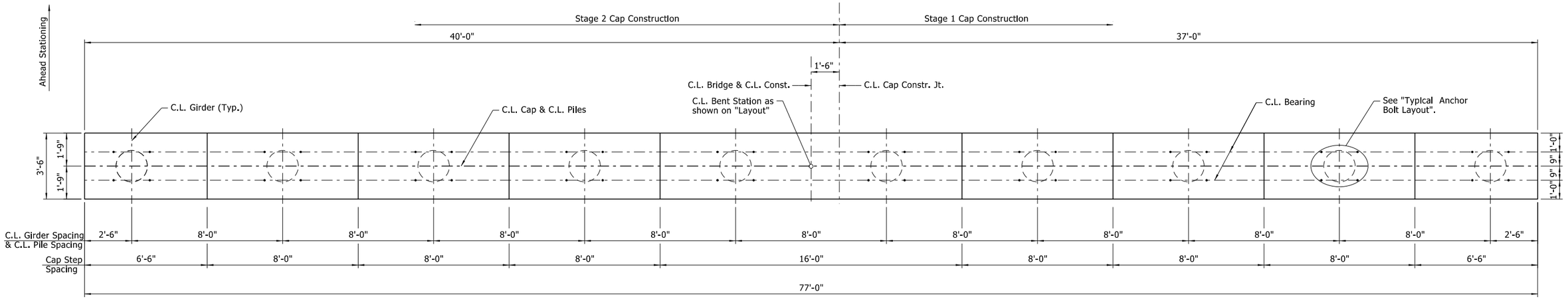
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 10/2020 FILENAME: B070471X_AX2.dgn
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 10/2020 SCALE: 1" = 1'-0"
BRIDGE NO. 07510, 07511 & 07512 DRAWING NO. 63757

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 73 | 103 |

(1) 07510, 07511 & 07512 - INT. BENTS - 63758



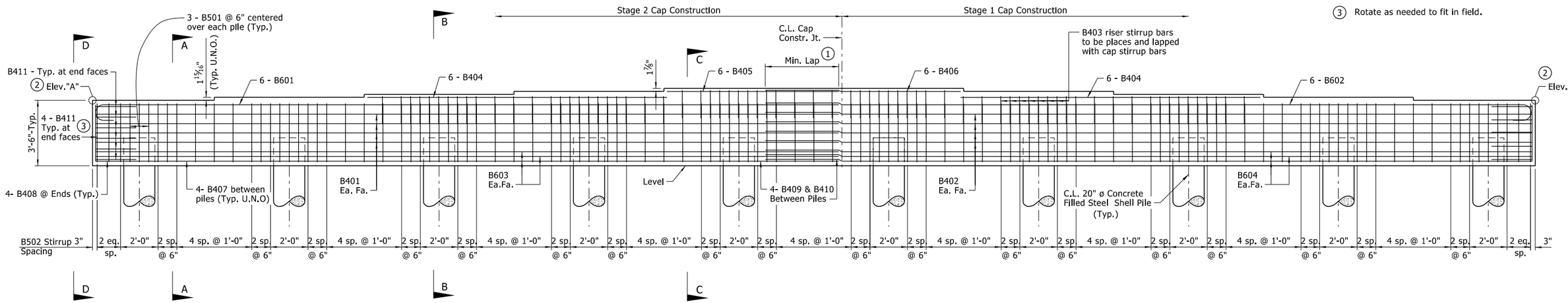

## PLAN

Scale : ⅜" = 1'-0"

(1) Lap #4 Bars = 1'-9", Lap #6 Bars = 2'-7"

(2) For Elev. "A". See Dwg. No. 63759.

(3) Rotate as needed to fit in field.




## ELEVATION

Scale : ⅜" = 1'-0"

## GENERAL NOTES

Concrete in the cap shall be Class S with a minimum 28 day compressive strength, f'c = 3500 psi., and shall be poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

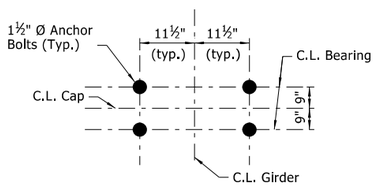
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi.) conforming to AASHTO M31 or M322, Type A, with mill test reports.

For additional information see "Bridge Layout".

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For Concrete Filled Steel Shell Piles, See Std. Dwg. No. 55021.

For Sections A-A, B-B, C-C and D-D, see Dwg. No. 63759.




## TYPICAL ANCHOR BOLT LAYOUT

No Scale

For details of elastomeric bearings, See Dwg. No. 63760.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

## SHEET 1 OF 2
## DETAILS OF INTERMEDIATE BENTS
## CORNIE BAYOU, HARPER AND LAPILE CREEKS
ROUTE SECTION

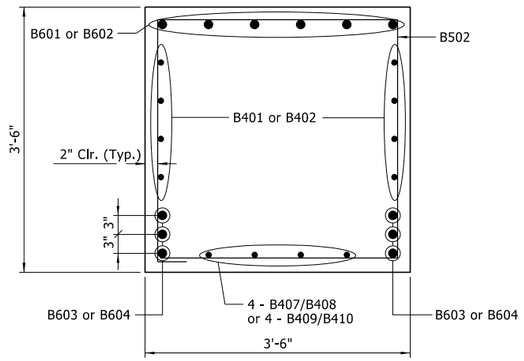
## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | SCR | DATE: | 10/2020 | FILENAME: | B070471X_BX1.dgn |
| CHECKED BY: | SFH | DATE: | 03/2021 | | |
| DESIGNED BY: | SCR | DATE: | 10/2020 | SCALE: | As Shown |
| BRIDGE NO. | 07510, 07511 & 07512 | | | DRAWING NO. | 63758 |

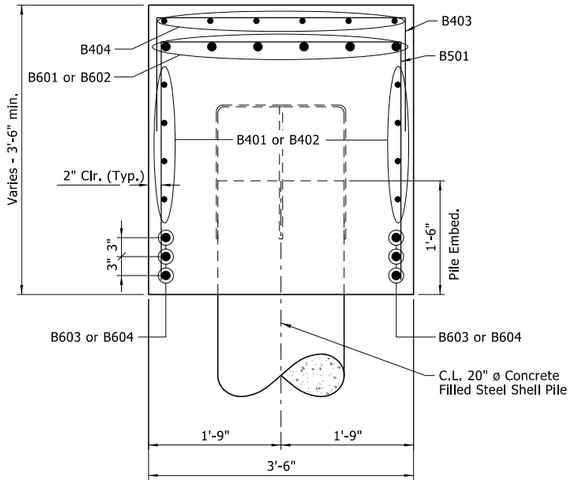
Scott.Thornberry 12/20/2023 4:37:18 PM
WORKSPACE: AROOT
Y:\Projects\AROT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_BX1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 74 | 103 |
| | | | | (1) | 07510, 07511 & 07512 - INT. BENTS - 63759 | | | |

Note:
For Anchor Bolt Details & Elastomeric Bearing, See Dwg. No. 63760.




SECTION A-A




SECTION B-B

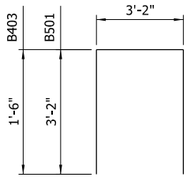
## BAR LIST-PER BENT

| MARK | NO. REQ'D. | LENGTH | P.D. |
|---|---|---|---|
| B401 | 8 | 39'-10" | Str. |
| B402 | 8 | 38'-7" | Str. |
| B403 | 71 | 6'-0" | 2" |
| B404 | 12 | 15'-10" | Str. |
| B405 | 6 | 9'-4" | Str. |
| B406 | 6 | 8'-1" | Str. |
| B407 | 32 | 6'-0" | Str. |
| B408 | 8 | 1'-4" | Str. |
| B409 | 4 | 4'-6" | Str. |
| B410 | 4 | 3'-3" | Str. |
| B411 | 20 | 6'-4" | 3" |
| | | | |
| B501 | 30 | 9'-3½" | 2½" |
| B502 | 87 | 13'-2" | 2½" |
| | | | |
| B601 | 6 | 40'-6" | 4½" |
| B602 | 6 | 40'-1" | 4½" |
| B603 | 6 | 39'-10" | Str. |
| B604 | 6 | 39'-5" | Str. |

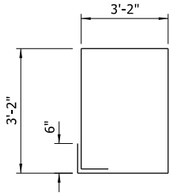
### BENDING DIAGRAMS

All bars designated with an "E" suffix are to be epoxy coated.

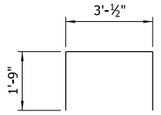
Dimensions are out to out of bars.



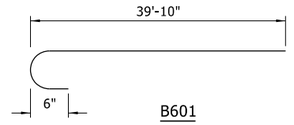

B403 & B501



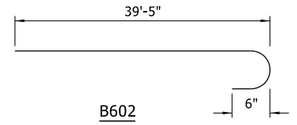

B502



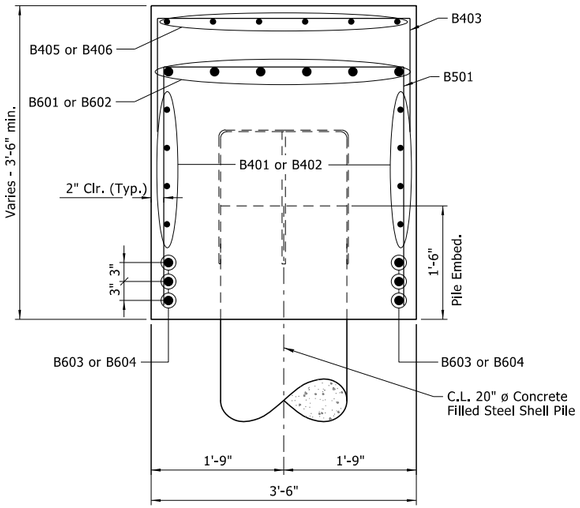

B411



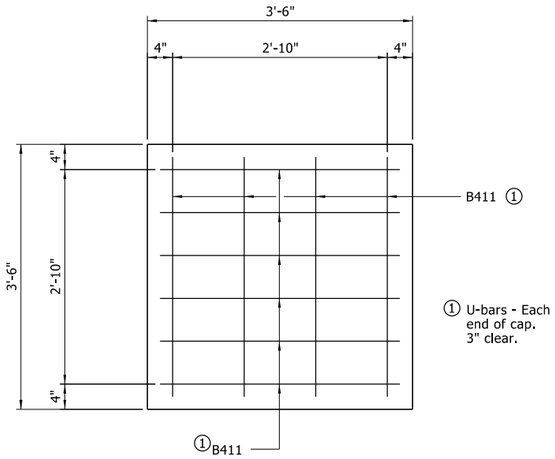

B601




B602




SECTION C-C




SECTION D-D

## TABLE OF VARIABLES

| Location | Bent 2 | Bent 3 |
|---|---|---|
| Cornie Bayou | | |
| Elev. "A" | 234.08 | 234.08 |
| Harper Creek | | |
| Elev. "A" | 234.08 | 234.08 |
| Lapile Creek | | |
| Elev. "A" | 119.03 | 119.09 |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

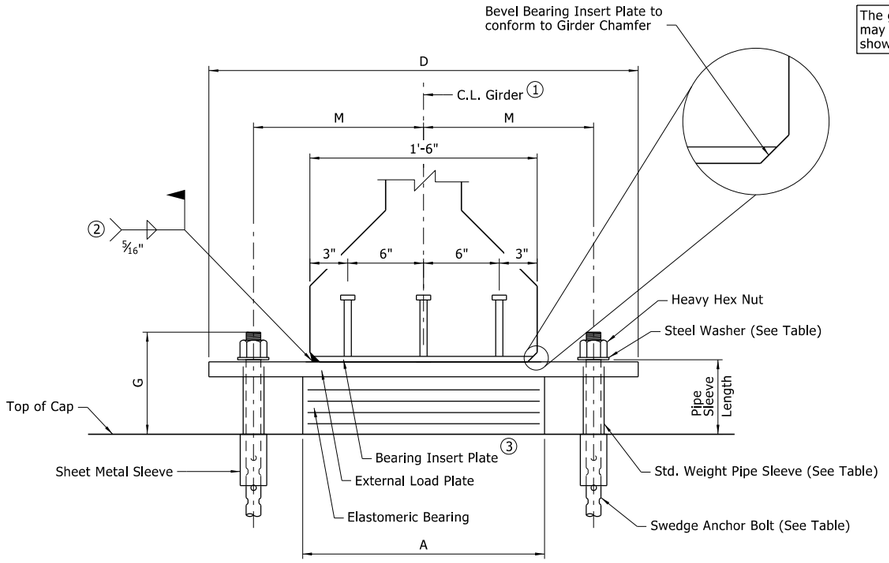
# SHEET 2 OF 2
# DETAILS OF INT BENTS
# CORNIE BAYOU, HARPER AND LAPILE CREEKS
ROUTE SECTION

## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 10/2020 FILENAME: B070471X_BX2.dgn
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 10/2020 SCALE: 1" = 1'-0"
BRIDGE NO. 07510, 07511 & 07512 DRAWING NO. 63759

Scott.Thornsberry 12/20/2023 4:37:19 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapileDesign\BRIDGE\Drawings\B070471X_BX2.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 75 | 103 |
| | | | | (1) 07510, 07511 & 07512 - ELASTO. BRNGS. - 63760 | | | | |

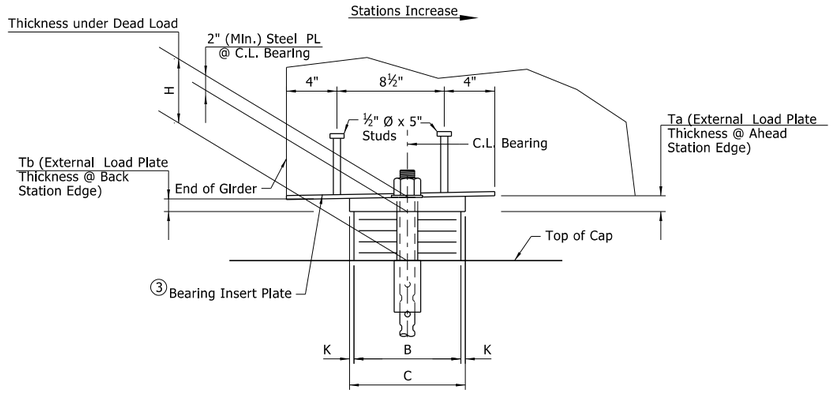



FRONT VIEW

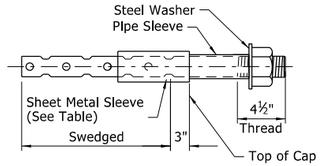
(1) C.L. Elastomeric Pad shall be aligned with C.L. Girder.

The grade and the direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in the "Table of Fabricator Variables".

Prior to erection of the beams, the Contractor shall verify the orientation of the bearings with respect to Ta and Tb.



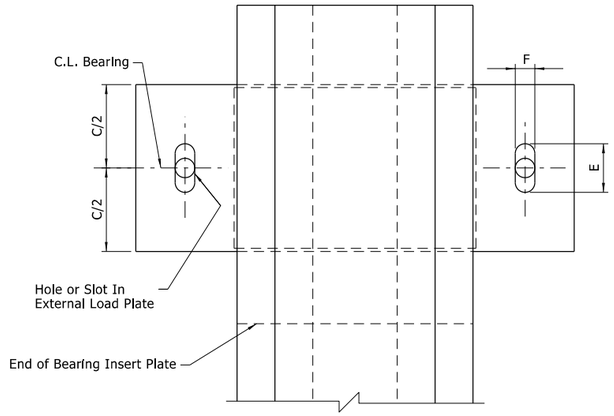

SIDE VIEW




ANCHOR BOLT DETAIL

Note:
Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of girders, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the concrete. Bolts placed in drilled holes shall be accurately set and fixed using a QPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the item "Structural Steel in Beam Spans (A709, Gr. 50W).

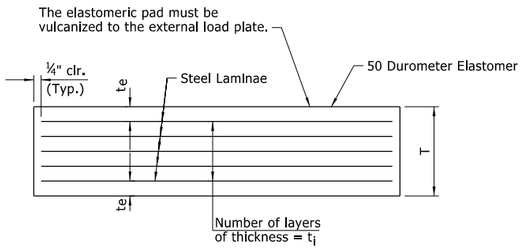



PLAN VIEW

(2) Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearing insert plate will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.

Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

(3) Bearing Insert Plate (ASTM A709, Gr. 50W) & Studs shall be considered subsidiary to the item "Prestressed Concrete Girders (Type II)". Studs shall conform to Subsection 807.08.




$t_i$ = thickness of elastomer between steel laminae
$t_e$ = thickness of elastomer cover on top and bottom of pad
N = number of elastomer layers of thickness $t_i$

ELASTOMERIC BEARING

## GENERAL NOTES

Elastomeric Bearings shall conform to Section 808 and shall be paid for at the unit price bid for "Elastomeric Bearings".

External load plates and shear blocks shall conform to ASTM A709, Grade 50W. Pipe sleeves shall be ASTM A500, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or ASTM B695, Class 50.

External load plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808.03. Other surfaces shall be blast cleaned in accordance with Subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers and Nuts shall be paid for at the unit price bid for "Prestressed Concrete Girders (Type II)". External load plates will not be measured or paid for separately, but will be considered incidental to the unit price bid for "Elastomeric Bearings".

Bearings without masonry plates shall be seated in accordance with Subsection 808.08. This work and materials are considered subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

## TABLE OF FABRICATOR VARIABLES

(4) Maximum Load = Service I Limit State.

| BRIDGE NO(S). | LOCATION | | BEARING TYPE | NO. OF BEARINGS EACH BENT | MAXIMUM DESIGN (4) LOAD (kips) | ELASTOMERIC PAD | | | | | | | | EXTERNAL LOAD PLATE | | | | | | | | ANCHOR BOLT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BENT NO(S). | BEAM OR GIRDER NO. | | | | G | H | A | B | N | $t_i$ | $t_e$ | NO. & THICKNESS OF STEEL LAMINAE | T | C | D | E | F | K | M | $T_a$ | $T_b$ | ANCHOR BOLT (Ø x L) | ANCHOR BOLT GRADE | PIPE SLEEVE SIZE (Ø x L) | SHEET METAL SLEEVE SIZE (Ø x L) | STEEL WASHER SIZE (O.D.) |
| 07510, 07511 & 07512 | 2 & 3 | All | Fix. | 20 | 121.5 | 6⅝" | 3¾" | 18" | 7" | 2 | ½" | ¼" | 3 @ 12ga | $1^{13}/_{16}$" | 8" | 28½" | 2¼" | 2¼" | ½" | 11½" | 2.00" | 2.00" | 1½" x 25" | 55 | 1½" x 4⅛" | 3" x 11" | 3" |




12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

# DETAILS OF ELASTOMERIC BEARINGS CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

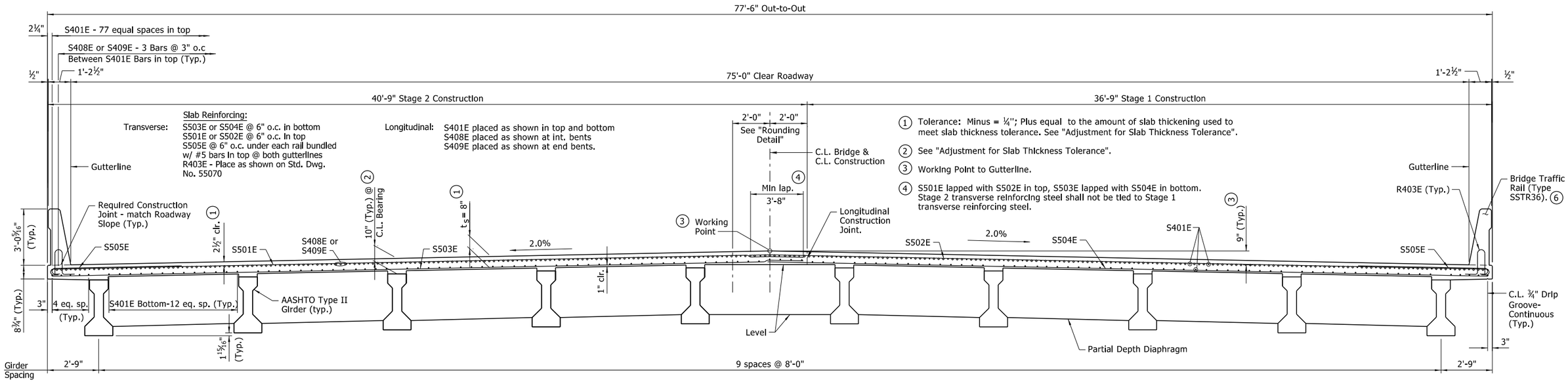
DRAWN BY: SCR DATE: 03/2021 FILENAME: B070471X_EX1.dgn
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 03/2021 SCALE: None
BRIDGE NO. 07510, 07511 & 07512 DRAWING NO. 63760

Scott.Thornsberry 12/20/2023 4:37:19 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_EX1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 76 | 103 |

(1) 07510, 07511 & 07512 - 179'-6" INT. UNIT - 63761




(1) Tolerance: Minus = ¼"; Plus equal to the amount of slab thickening used to meet slab thickness tolerance. See "Adjustment for Slab Thickness Tolerance".

(2) See "Adjustment for Slab Thickness Tolerance".

(3) Working Point to Gutterline.

(4) S501E lapped with S502E in top, S503E lapped with S504E in bottom. Stage 2 transverse reinforcing steel shall not be tied to Stage 1 transverse reinforcing steel.

## TYPICAL SECTION

⅜" = 1'-0"

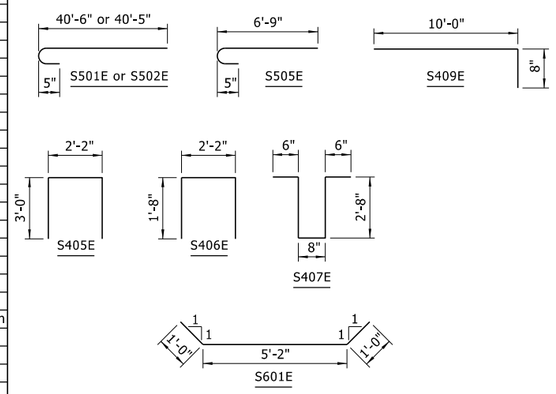
## BAR LIST

| MARK | NO. REQ'D. | LENGTH | P.D. |
|---|---|---|---|
| S401E | 1025 | 38'-0" | Str. |
| S402E | 10 | 40'-1" | Str. |
| S403E | 10 | 39'-0" | Str. |
| S404E | 528 | 6'-3" | Str. |
| S405E | 138 | 8'-0" | 2" |
| S406E | 20 | 5'-4" | 2" |
| S407E | 441 | 6'-8" | 2" |
| S408E | 462 | 20'-0" | Str. |
| S409E | 462 | 10'-6¾" | 3" |
| S410E | 66 | 4'-7" | Str. |
| S411E | 66 | 3'-6" | Str. |
| | | | |
| S501E | 361 | 41'-1" | 3¾" |
| S502E | 361 | 41'-0" | 3¾" |
| S503E | 361 | 40'-6" | Str. |
| S504E | 361 | 40'-5" | Str. |
| S505E | 722 | 7'-4" | 3¾" |
| | | | |
| S601E | 12 | 7'-2" | 4½" |
| S602E | 144 | 6'-0" | Str. |
| | | | |
| R400E | 96 | 5'-3" | 2½" |
| R401E | 696 | 6'-4" | As Shown |
| R402E | 120 | 5'-6" | Str. |
| R403E | 696 | 3'-6" | 3¾" |
| R404E | 64 | 13'-9½" | Str. |
| R405E | 32 | 13'-8" | Str. |
| R406E | 96 | 15'-8" | Str. |
| R407E | 32 | 9'-8" | Str. |
| | | | |
| W401E | 80 | 3'-11" | 3¾" |
| W402E | 120 | 6'-4½" | Str. |
| | | | |
| W701E | 104 | 12'-2" | Str. |

BENDING DIAGRAMS

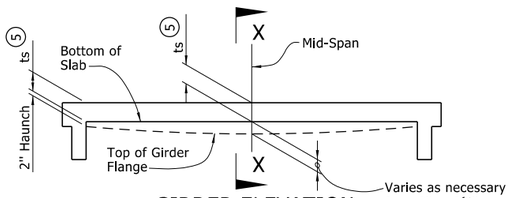
Note: All bars designated with an "E" suffix are to be epoxy coated. Dimensions are out to out of bars.

For additional details, see Std. Dwg. No. 55070.



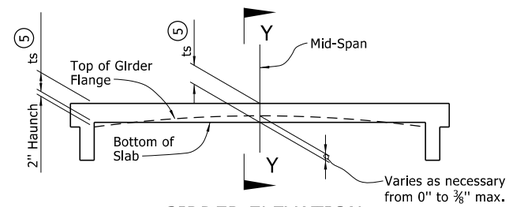

## GIRDER ELEVATION

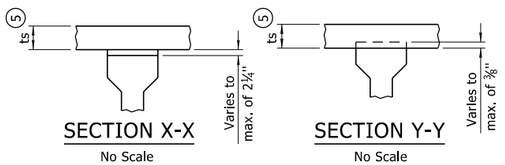
No Scale




## GIRDER ELEVATION

No Scale




## ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

(5) Tolerance when using removable deck forming is +½", -¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance. See Std. Dwg. No. 55005 for tolerances when permanent steel deck is used.

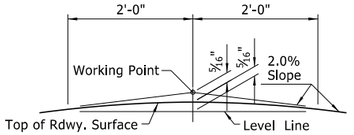
Girder Elevation sketches show the range of acceptability of the top of the Girder relative to bottom of slab after the placement of the slab. When the top of the Girder projects more than ⅜" into the slab, a raise in grade will be necessary. Girders shall be set in a sufficient number of spans over suitable increments so the revised grade line will produce a smooth riding surface. Variation of haunch height will be at the Contractor's expense.

(6) For Table of Rail Variables, See Dwg. No. 63764. For Additional Details, See Std. Dwg. No 55070.

Notes:

Class 2 Protective Surface Treatment shall be applied to the Roadway Surface, and the Face and Top of Concrete Bridge Traffic Rail.

Bar positions and clearances from the forms shall be maintained by means of stays, tie hangers, or other approved devices per Subsection 804.06. Placement of slab bolsters or high chairs with full length lower runners directly on removable deck forms will not be allowed.




NOTE: Working Point matches Theoretical Roadway Grade.

## ROUNDING DETAIL

No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

## SHEET 1 OF 7

# DETAILS OF 179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

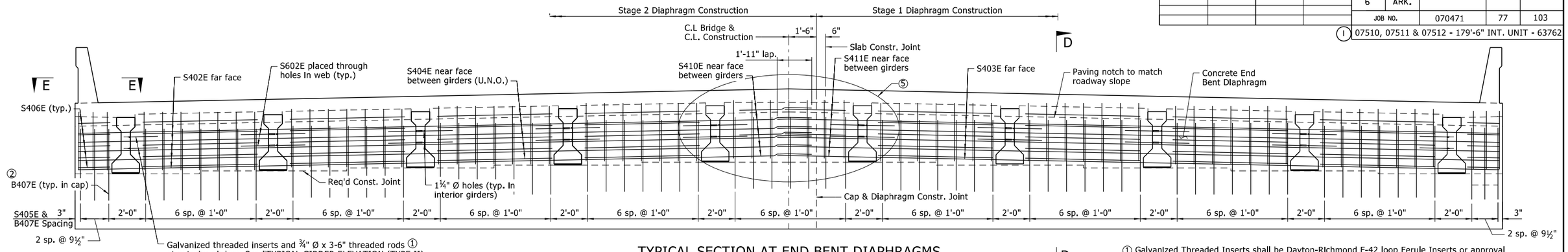
## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | SCR | DATE: | 09/2020 | FILENAME: | B070471X_SX1.dgn |
| CHECKED BY: | SFH | DATE: | 03/2021 | | |
| DESIGNED BY: | SCR | DATE: | 09/2020 | SCALE: | As Shown |
| BRIDGE NO. | 07510, 07511 & 07512 | | | DRAWING NO. | 63761 |

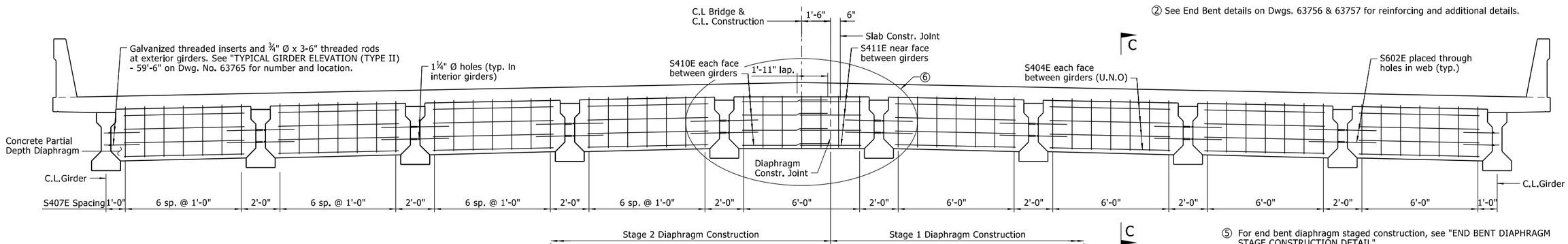
Scott.Thornsberry 12/20/2023 4:37:20 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_SX1.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 77 | 103 |
| | | | | (1) 07510, 07511 & 07512 - 179'-6" INT. UNIT - 63762 | | | | |




## TYPICAL SECTION AT END BENT DIAPHRAGMS

Looking Ahead for Bent 4, Reverse for Bent 1
Deck reinforcing omitted for clarity.
⅜" = 1'-0"




## TYPICAL SECTION AT PARTIAL DEPTH DIAPHRAGMS

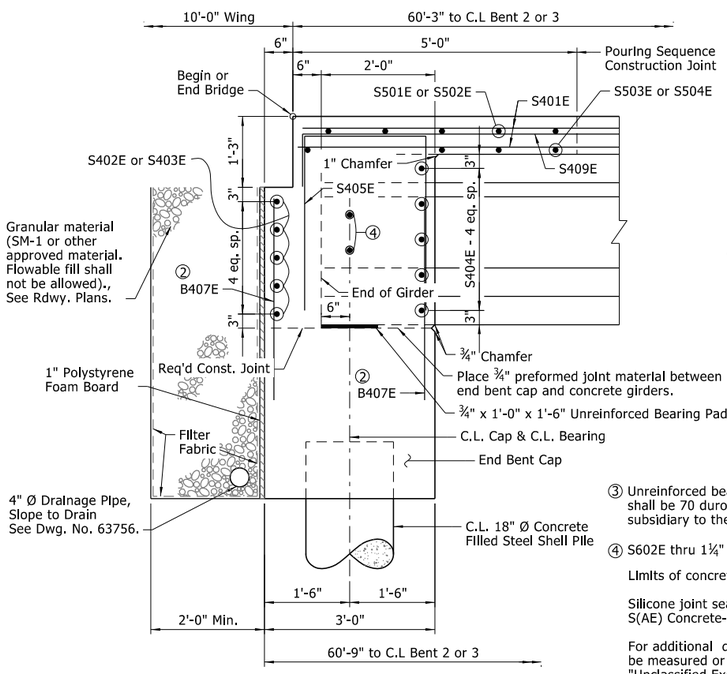
Looking Ahead
Deck reinforcing omitted for clarity.
⅜" = 1'-0"

① Galvanized Threaded Inserts shall be Dayton-Richmond F-42 loop Ferule Inserts or approval equal. ¾" Ø Galvanized Threaded Rods shall be ASTM A709, Gr. 36 or AASHTO M 31 or M322 Type A, Gr. 60. Galvanizing shall be in accordance with AASHTO M 322, Class C or ASTM B695, Class 50. These items will not be paid for directly but shall be considered subsidiary to the item "Prestressed Concrete Girders (Type II)".

② See End Bent details on Dwgs. 63756 & 63757 for reinforcing and additional details.

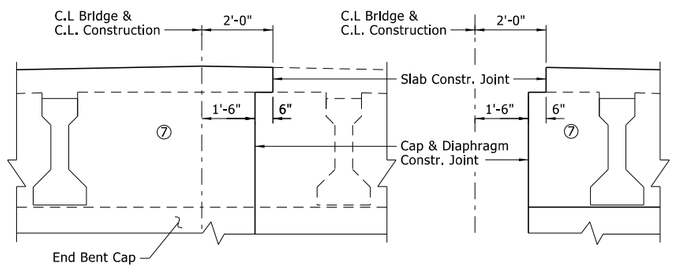
⑤ For end bent diaphragm staged construction, see "END BENT DIAPHRAGM STAGE CONSTRUCTION DETAIL"

⑥ For partial depth diaphragm staged construction, see "PARTIAL DEPTH DIAPHRAGM STAGE CONSTRUCTION DETAIL"




## SECTION D-D

¾" = 1'-0"




## STAGE 2 CONSTRUCTION




## STAGE 1 CONSTRUCTION

⑦ Concrete diaphragms at end bents shall be poured monolithically with the deck.

## END BENT DIAPHRAGM STAGE CONSTRUCTION DETAIL

Reinforcement omitted for clarity.
No Scale

③ Unreinforced bearing pads shall meet the requirements of Section 808 with the exception that hardness shall be 70 durometer. Unreinforced bearing pads shall not be paid for directly but shall be considered subsidiary to the item "Class S(AE) Concrete - Bridge".

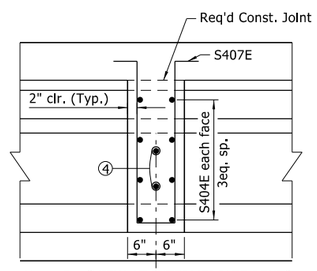
④ S602E thru 1¼" Ø holes in web.

Limits of concrete end diaphragm shall match plan dimension of end bent cap.

Silicone joint sealant will not be paid for directly, but shall be considered subsidiary to the item "Class S(AE) Concrete-Bridge".

For additional details of pipe underdrain see Std. Dwg. PU-1 and Section 611. Pipe underdrains will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation for Structures - Bridge".

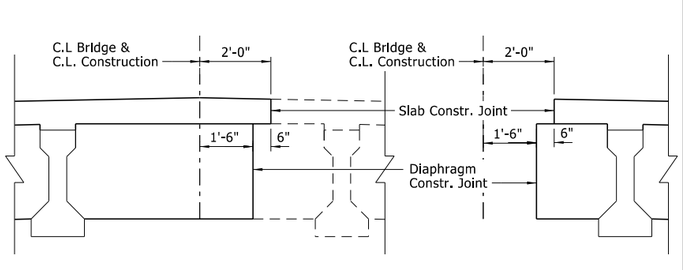
1" Polystyrene Foam Board, Filter Fabric & Granular Material will not be paid for directly, but shall be considered subsidiary to various bid items.




## SECTION C-C

¾" = 1'-0"

Note: For "VIEW AT INTERMEDIATE BENT", See Dwg. No. 63763.

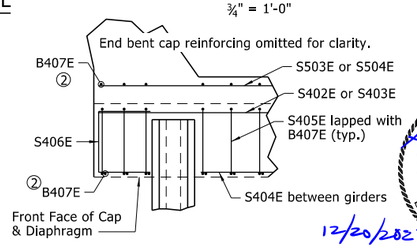



## STAGE 2 CONSTRUCTION

## STAGE 1 CONSTRUCTION

## PARTIAL DEPTH DIAPHRAGM STAGE CONSTRUCTION DETAIL

Reinforcement omitted for clarity.
No Scale




## SECTION E-E

¾" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

## SHEET 2 OF 7

# DETAILS OF 179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

## ARKANSAS STATE HIGHWAY COMMISSION

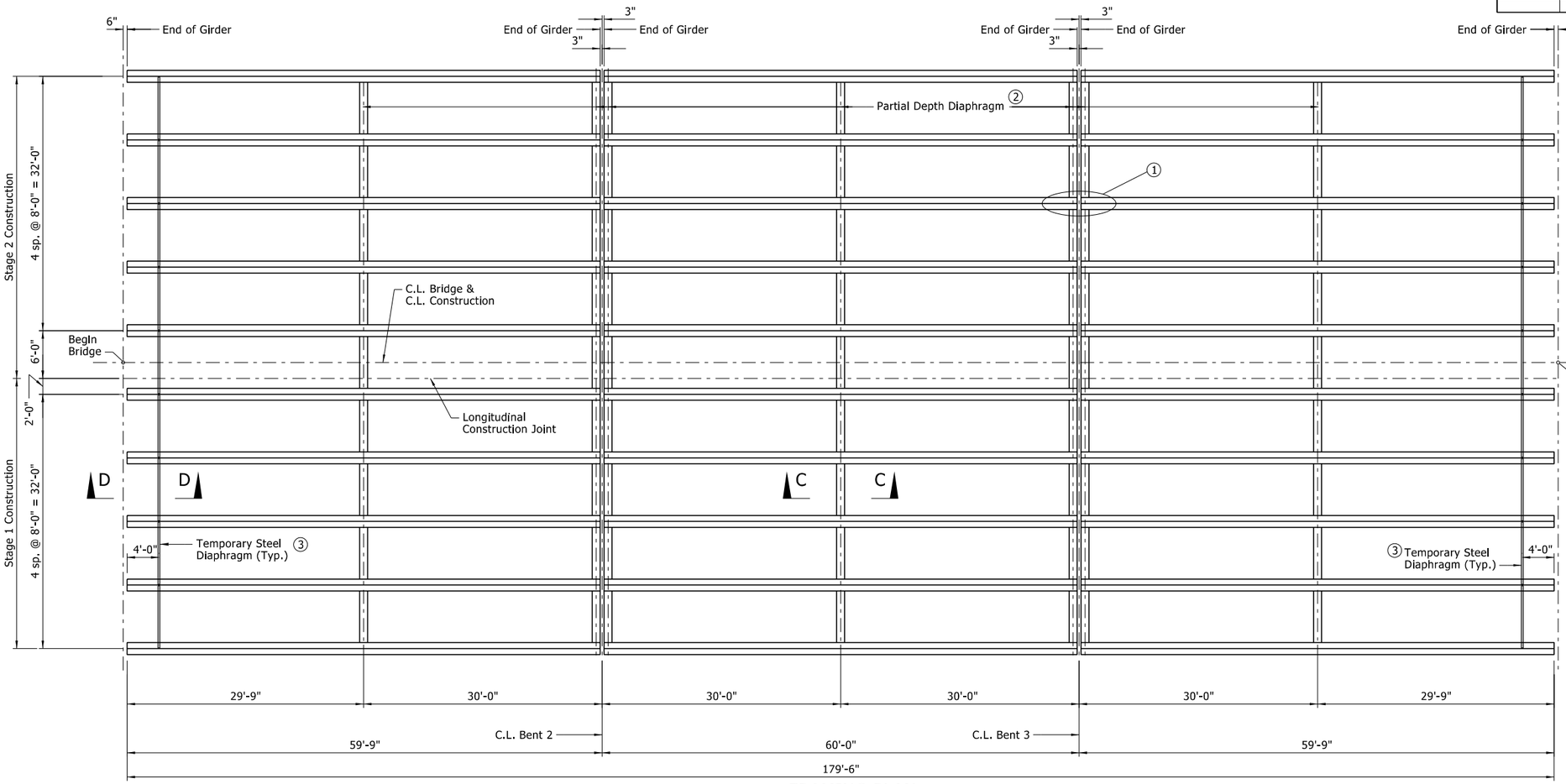
LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | SCR | DATE: | 09/2020 | FILENAME: | B070471X_SX2.dgn |
| CHECKED BY: | SFH | DATE: | 03/2021 | | |
| DESIGNED BY: | SCR | DATE: | 09/2020 | SCALE: | As Shown |
| BRIDGE NO. | 07510, 07511 & 07512 | | | DRAWING NO. | 63762 |

Scott.Thornsberry 12/20/2023 4:37:21 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_SX2.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 78 | 103 |

(1) 07510, 07511 & 07512 - 179'-6" INT. UNIT - 63763




## FRAMING PLAN

Scale : ⅛" = 1'-0"

Notes:
For Details of End Bent Diaphragms and Partial Depth Diaphragms see Dwg. No. 63762.

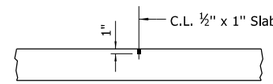
For "Section C-C" and "Section D-D", see Dwg. No. 63762.

(1) After erection, the ends of girders at all bents shall be blocked using temporary blocking to maintain proper location on bents caps. The ends of girders at interior bents shall remain blocked until all bearings are welded and 72 hours after all partial depth concrete diaphragms are poured. The ends of girders at end bents shall remain blocked until the temporary steel diaphragms are in place.

(2) For details of alternate steel diaphragm, see "DETAILS OF STEEL DIAPHRAGM" on Dwg. No. 63766.

(3) After the concrete deck construction and curing is complete, the temporary steel diaphragm and connecting elements may remain in place or be removed and become the property of the Contractor and the holes in the girder webs filled with a QPL approved non-shrink epoxy grout. For additional diaphragm details, see "DETAILS OF STEEL DIAPHRAGM" on Dwg. No. 63766.

(4) See Dwg. No. 63760 for additional details.



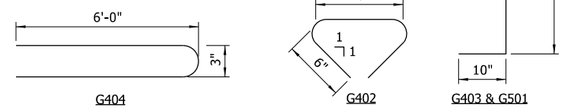

Use Type 3 or 4 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Baker Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab and shall align with the open joints at the front face of the rail except at the end bent diaphragms. Slab joints shall be installed before the railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations.

## TRANSVERSE SLAB JOINT DETAIL

No Scale

## BAR-LIST - PER GIRDER

| MARK | NO. REQ'D. | LENGTH | PIN DIA. | BENDING DIAGRAMS Dimensions are out to out of bars. |
|---|---|---|---|---|
| G301 | 6 | 2'-6" | Str. | |
| G401 | 44 | 2'-7" | 2" | |
| G402 | 22 | 1'-11" | 3" | |
| G403 | 152 | 4'-6½" | 2" | |
| G404 | 10 | 12'-1" | 2" | |
| G405 | 2 | 59'-4" | Str. | |
| G501 | 24 | 4'-6" | 2½" | |

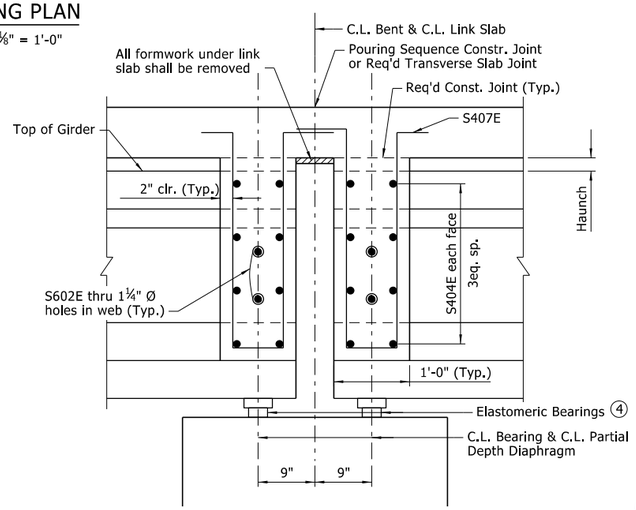



All bars in the Bar List will not be paid for directly, but will be considered subsidiary to the item "Prestressed Concrete Girders (Type II)"

At the Contractor's option, the two G401 bars may be furnished as one bar.

## VIEW AT INTERMEDIATE BENT

Scale : 1" = 1'-0"




STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.14501 STEPHEN F. HARPER

12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

## SHEET 3 OF 7

# DETAILS OF 179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT

CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

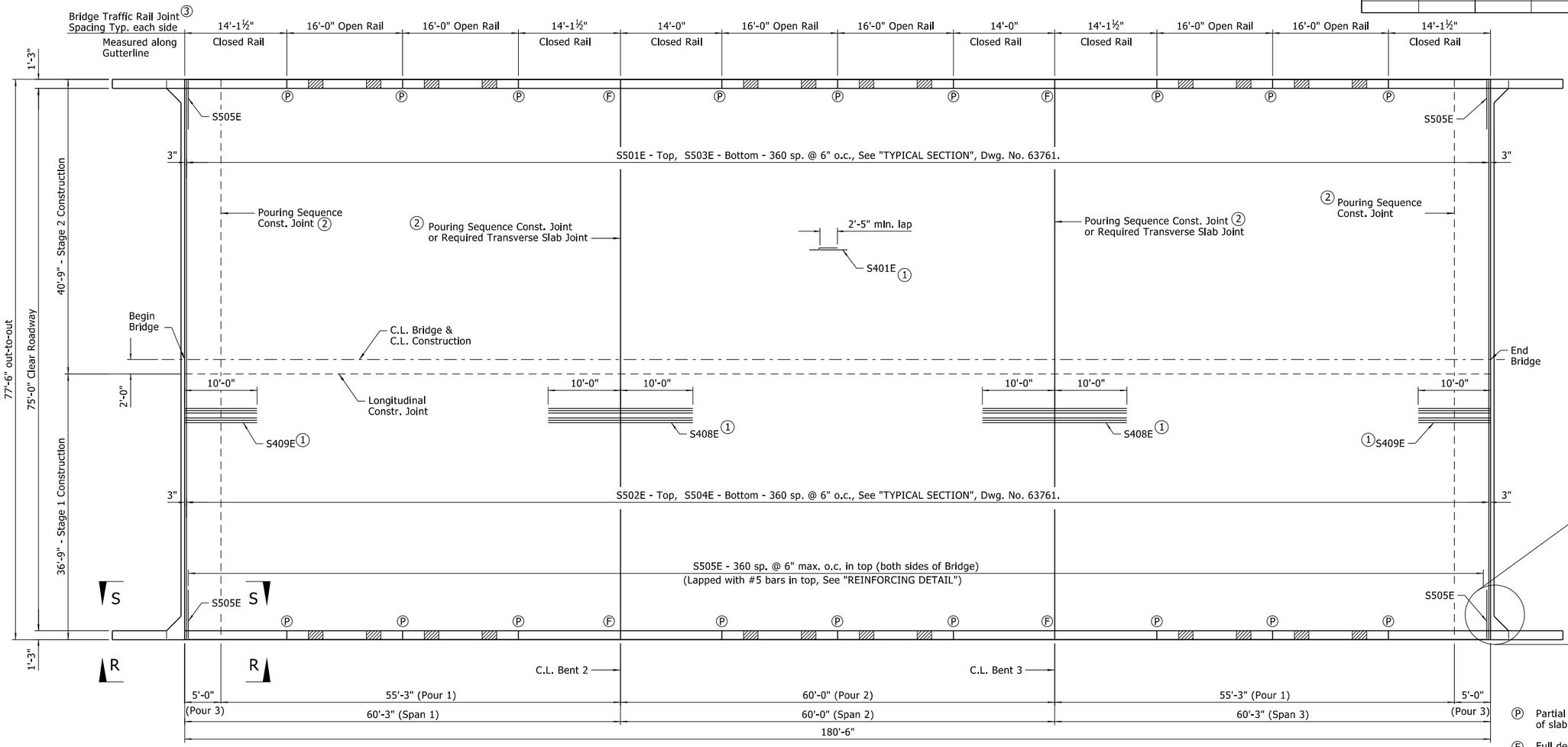
| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | SCR | DATE: | 09/2020 | FILENAME: | B070471X_SX3.dgn |
| CHECKED BY: | SFH | DATE: | 03/2021 | | |
| DESIGNED BY: | SCR | DATE: | 09/2020 | SCALE: | As Shown |
| BRIDGE NO. | 07510, 07511 & 07512 | | | DRAWING NO. | 63763 |

Scott.Thornsberry 12/20/2023 4:37:22 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_SX3.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

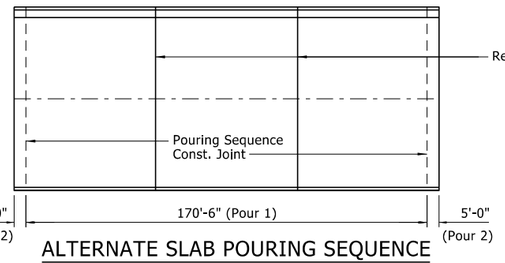
| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 79 | 103 |

(1) 07510, 07511 & 07512 - 179'-6" INT. UNIT - 63764




## REINFORCING PLAN AND SLAB POURING SEQUENCE

⅛" = 1'-0"




## ALTERNATE SLAB POURING SEQUENCE

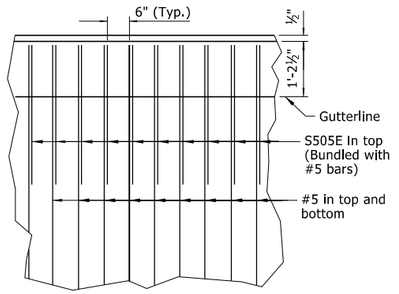
No Scale

POURING SEQUENCE NOTE:
Pours with the same number may be placed simultaneously or separately. All pours (1) must be placed before pours (2) can be placed. Where applicable, all pours (2) must be placed before pours (3) can be placed. A minimum of 48 hours shall elapse before the end of a pour and the start of the next pour. A minimum of 72 hours shall elapse between the end of a pour and the start of an adjacent pour. The partial depth concrete diaphragms shall not be poured prior to 90 days after the release of the strands for the girders.

A minimum of 72 hours shall elapse between the completion of the slab and the pouring of the bridge railing. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire length of pour before any concrete has taken its initial set. This may require the use of a retarding agent.

Concrete diaphragms at end bents shall be poured monolithically with the deck. All partial depth diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured.




## REINFORCING DETAIL

No Scale

Rails and wings are included in span construction and are included in span quantities.

Rail spacing and joint depth shown are typical for both sides of roadway. For reinforcing details, see Std Dwg. No. 55070.

## TABLE OF RAIL VARIABLES

For Additional Details, See Std. Dwg. No. 55070.

| Closed Rail Panels | | | Open Rail Panels | | | | | |
|---|---|---|---|---|---|---|---|---|
| Panel Length | A | R4XXE | Panel Length | B | C | D | E | R4XXE |
| 14'-1½" | 27 | R404E | 16'-0" | 8 | 3'-0" | 11 | 6'-0" | R406E |
| 14'-0" | 27 | R405E | | | | | | |

Ⓟ Partial depth rail joint at this location. (Stop 1'-4" above top of slab)

Ⓕ Full depth rail joint at this location. (Stop 6" above top of slab)

① Placed as shown in "TYPICAL SECTION", See Dwg. No. 63761.

② Align with rail open joint unless noted otherwise. See Dwg . No. 63763 for "TRANSVERSE SLAB JOINT DETAIL"

③ See "TABLE OF RAIL VARIABLES". For Additional Details, See Std. Dwg. No. 55070.

For "VIEW R-R' & "VIEW S-S", see Dwg. No. 63767.

For "BAR LIST", See Dwg. No. 63761.

For "GENERAL NOTES", See Dwg. No. 63766.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

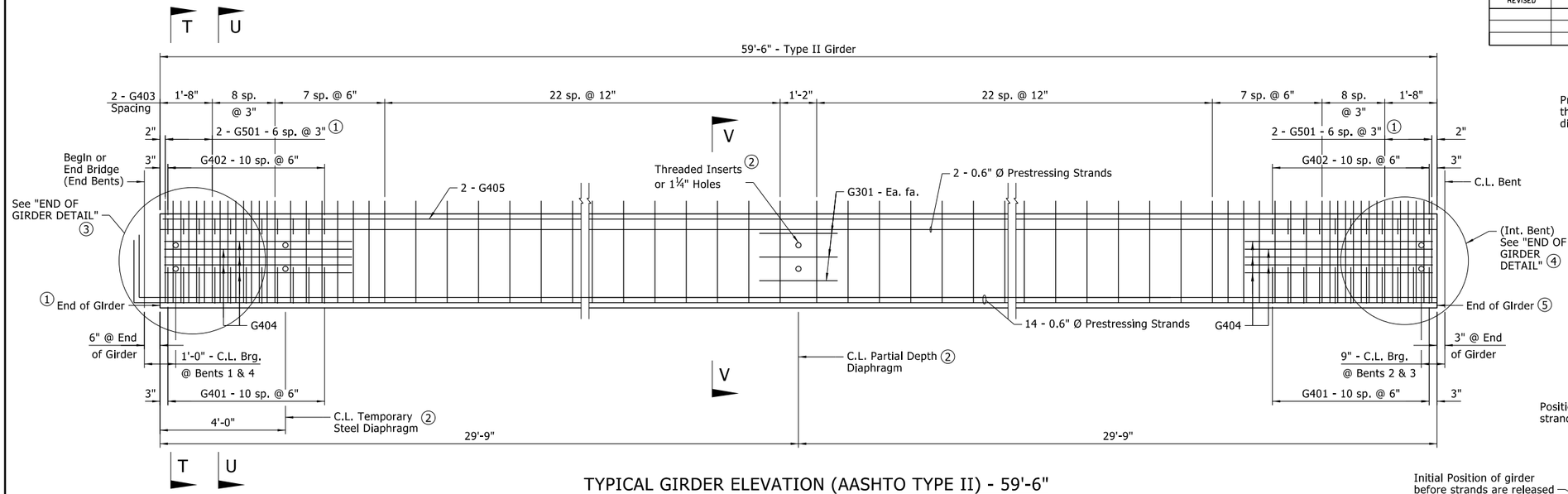
# SHEET 4 OF 7
# DETAILS OF 179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT
## CORNIE BAYOU, HARPER AND LAPILE CREEKS
ROUTE SECTION

## ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 09/2020
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 09/20210
BRIDGE NO. 07510, 07511 & 07512
FILENAME: B070471X_SX4.dgn
SCALE: As Shown
DRAWING NO. 63764

Scott.Thornsberry 12/20/2023 4:37:22 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938B_070471Cornie\HarperLapile\Design\BRIDGE\Drawings\B070471X_SX4.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 80 | 103 |
| | | | | (I) 07510, 07511 & 07512 - 179'-6" INT. UNIT - 63765 | | | | |




## TYPICAL GIRDER ELEVATION (AASHTO TYPE II) - 59'-6"

Spans 1 & 3 Shown, Span 2 Similar

½" = 1'-0"

Dimensions are measured along girders.

Temporary Steel Diaphragms are only on Span 1 & 3. See Dwg. No. 63763 for locations.

Prestressing strands will not be paid for directly, but will be considered subsidiary to the item "Prestressed Concrete Girders (Type II)".

(1) For "End of Girder Detail", See Dwg. No. 63766 for details.

At End Bents 1 & 4, shop bend 6 bottom prestressing strands from end of the girder into diaphragms as shown. Cut any remaining strands flush with the end of girder. See "Strand Arrangements" detail for patterns.

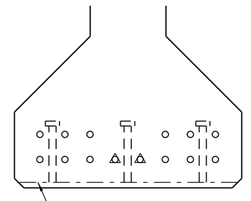
At the Contractor's option, the location for bent up strands may be varies. The total number of bent - up strands shall not be changed.

(2) Holes and inserts shown are for diaphragms, See Dwg. No. 63762 for additional details.

(3) For Bearing Pad details at Bents 1 & 4, see Dwg. No. 63762.

(4) For Elastomeric Bearing details of Bents 2 & 3, see Dwg. No. 63760.

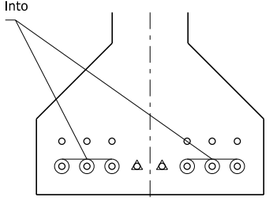
(5) At Intermediate bents only, saw cut or grind all strands flush with end of the girder. The ends of the girders and the cut-off strands shall be coated with a 1/16" min. thick coating of a QPL approved epoxy resin.




## END OF GIRDER VIEW AT INTERMEDIATE BENT

No Scale

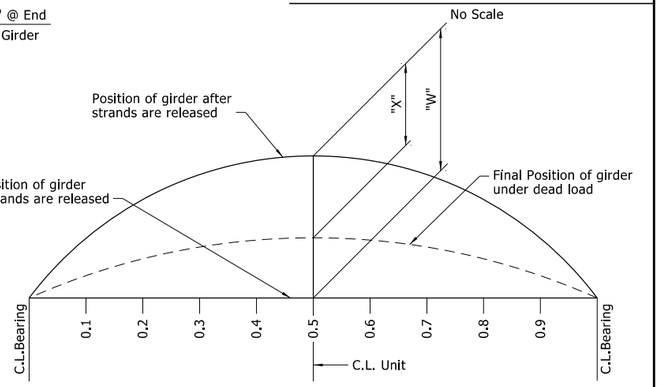
Prestressing Strands to be extended through Girder Ends and bent up into diaphragm at Bents 1 & 4 only.



△ Debonded Strands

## END OF GIRDER VIEW AT END BENT

No Scale




"W" is expected Camber of girder at 90 days after release (Prestress + Dead Load of girder).

"X" is Dead Load Deflection of Slab + Diaphragms + Composite Dead Load.

## CAMBER & DEFLECTIONS (INCHES)

Camber and Deflection values shown are based on a concrete girder strength, f'c = 8000 psi. See "SPECIAL CAMBER NOTES" on Dwg. No. 63766.

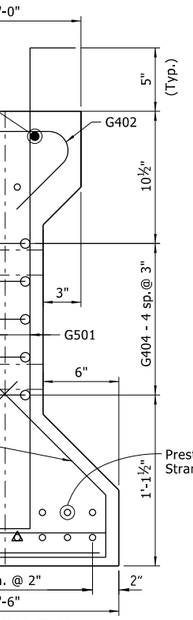
| Span Pt. | Interior | | Exterior | |
|---|---|---|---|---|
| | "X" | "W" | "X" | "W" |
| C.L.Bearing | 0.000 | 0.000 | 0.000 | 0.000 |
| 0.1 | 0.303 | 0.731 | 0.255 | 0.731 |
| 0.2 | 0.601 | 1.299 | 0.505 | 1.299 |
| 0.3 | 0.836 | 1.718 | 0.702 | 1.717 |
| 0.4 | 0.986 | 1.967 | 0.829 | 1.967 |
| 0.5 | 1.038 | 2.050 | 0.871 | 2.049 |

Table is symm. about the C.L. Unit.

Note: 'W' & 'X' are based on the required minimum concrete strength and may very from the dimensions shown. Different strengths may require adjustments. 'W' & 'X' shall be measured along bottom of girders unless otherwise approved by the Engineer. The contractor shall provide the Engineer with the following information:

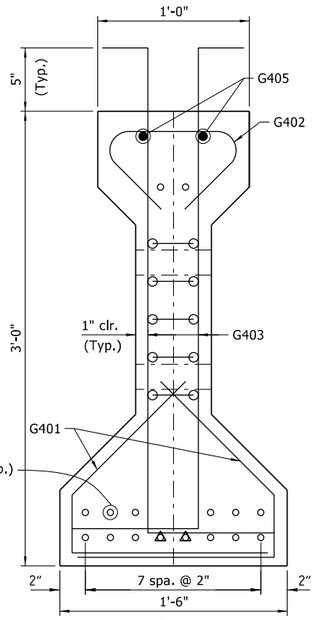
- Actual 28-day concrete strength of prestressed concrete girders.
- Estimated age of prestressed concrete girders at time of erection which shall not be less than 90 days from release.
- Profile of each girder under its own weight in final position.

Following receipt of the above data, the Engineer will evaluate the dead load and, if necessary, will provide an updated deflection diagram to the contractor. See "Adjustment for Slab Thickness Tolerance" on Dwg. No. 63761 for limitations of the girder final position under dead load. The Contractor is responsible for any adjustment necessary to meet slab thickness tolerance and to achieve an acceptable finished grade. No payment shall be made for any additional concrete in the slab when camber is less than shown.



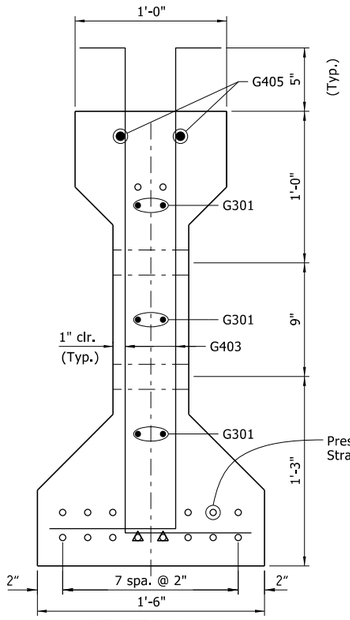

## SECTION T-T

△ Debonded Strands



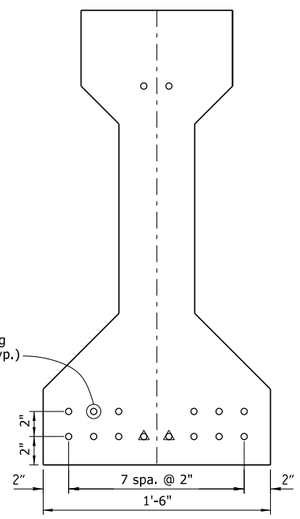

## SECTION U-U

2" = 1'-0"




## SECTION V-V

2" = 1'-0"




## STRAND ARRANGEMENTS

△ Debonded Strands

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

## SHEET 5 OF 7

# DETAILS OF 179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 09/2020
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 09/2020
BRIDGE NO. 07510, 07511 & 07512
FILENAME: B070471X_SX5.dgn
SCALE: As Shown
DRAWING NO. 63765

Scott.Thornsberry 12/20/2023 4:37:23 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471Cornie\HarperLapile\Design\BRIDGE\Drawings\B070471X_SX5.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 81 | 103 |

(1) 07510, 07511 & 07512 - 179'-6" INT. UNIT - 63766

# GENERAL NOTES

PRESTRESSED CONCRETE GIRDERS

Pretensioning steel shall be 0.6" Ø Low Relaxation strands with a minimum ultimate strength of 270 ksi and shall conform to AASHTO M 203.

Distances from the forms and spacing of the Prestressing Steel shall be maintained by stays, ties, hangers, spacers, or other approved supports which shall be shown on the shop drawings.

All girders shall be Type II as noted on the details and shall be the standard prestressed sections adopted by the Joint Committee of AASHTO and the Prestressed Concrete Institute. All girders shall be cast in concrete floored pallets and in metal forms. All work and materials shall be as specified in Subsection 802.22.

Concrete shall be Class S and shall have a minimum 28 day compressive strength, f'c = 8,000 psi. The initial tensile force applied to each 0.6" Ø strand shall be 43,950 lbs. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 6,000 psi.

Dimensions shown are to the center of the strands.

The Contractor shall submit the method and sequence for the release of strands to the Engineer for approval prior to casting of the girders.

Holes and inserts shall be cast into the girders. Field drilling of holes shall not be permitted.

The tops of the girders shall be roughened to an amplitude of ¼" and shall be scrubbed transversely with a coarse wire brush to remove all laitance to produce an adequate surface for bonding the slab.

After detensioning, saw cut, grind or bend up strands as designated by the plans. Heat-cutting or bending methods shall not be done within 6" of the girder.

Extreme care shall be exercised in handling and moving precast prestressed concrete girders. Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregard of this requirement may lead to the collapse of the girder. The Contractor's proposed lifting details shall be submitted on shop drawings to the Engineer for approval. The use of holes for lifting purposes will not be permitted.

The points of support and directions of the reactions with respect to the member shall be approximately the same during transportation and storage as when the member is in its final position.

Reinforcing steel shall be Grade 60 (fy = 60,000 psi.) conforming to AASHTO M 31 or M 322, Type A with mill test reports.

The Contractor may submit alternate strand patterns with design calculations for review and approval.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before fabrication is begun.

CONCRETE

All concrete in slab, rail and diaphragms shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

The concrete deck (roadway surface) shall be given a tine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam or girder. When permitted, the use of a longitudinal strike-off will require that a vertical camber adjustment be made in the strike-off to account for the future dead load deflection due to any railings, median barrier, and sidewalks.

REINFORCING STEEL

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports and shall be epoxy coated. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL

Structural steel shall be ASTM A709 with grade and payment as specified in the plans. Grade 50W steel shall not be painted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e). Grade 36 and Grade 50 steel shall be painted unless otherwise noted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84. Structural steel completely embedded in concrete may be ASTM A709, Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before fabrication is begun.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

SPECIAL CAMBER NOTES

The camber and dead load deflection values shown on the plans are estimated based on the required minimum concrete strength for the prestressed concrete girders. The contractor shall provide the Engineer with the following information:

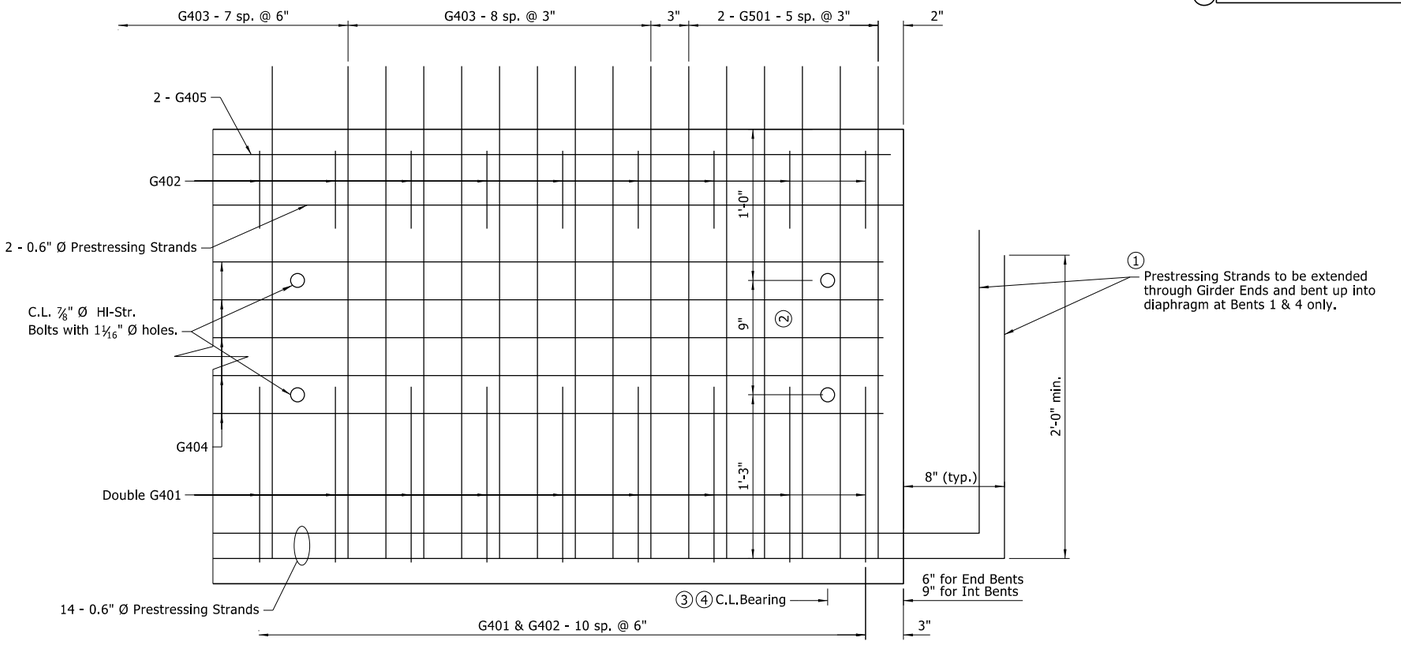
A. Actual 28-Day concrete strength of prestressed concrete girders

B. Estimated age of prestressed concrete girders at time of erection which shall not be less than 90 days from release.

C. Profile of each girder under its own weight in final position.

D. Number of days since release of strands of each girder.

Following receipt of the above data, the Engineer will evaluate the dead load and, if necessary, will provide an updated deflection diagram to the contractor.




## END OF GIRDER DETAIL

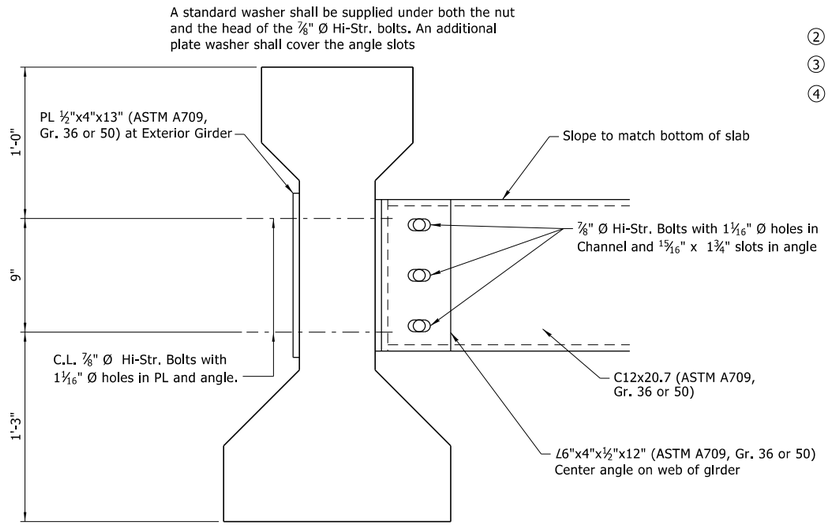
(1) At End Bents 1 & 4, shop bend 6 bottom prestressing strands from end of the girder into diaphragms as shown. Cut any remaining strands flush with the end of girder. See "Strand Arrangements" detail for patterns on Dwg. No. 63765.

At the Contractor's option, the location for bent up strands may be varied. The total number of bent - up strands shall not be changed.

(2) Holes and inserts shown are for diaphragms. See Dwg. No. 63762 for additional details.

(3) For Bearing Pad details at Bents 1 & 4, see Dwg. No. 63762.

(4) For Elastomeric Bearing details of Bents 2 & 3, see Dwg. No. 63760.




## DETAILS OF STEEL DIAPHRAGM

Steel diaphragms shall be used at locations noted as Temporary Steel Diaphragm. The Temporary Steel Diaphragms and components will not be paid for directly, but shall be considered subsidiary to the item "Prestressed Concrete Girders (Type II)".

Permanent steel diaphragms may be used in lieu of concrete diaphragms at locations noted as Partial Depth Diaphragm. Payment will be based on concrete diaphragms.

All components of steel diaphragms (Permanent and Temporary) shall be galvanized.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

# SHEET 6 OF 7

## DETAILS OF 179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

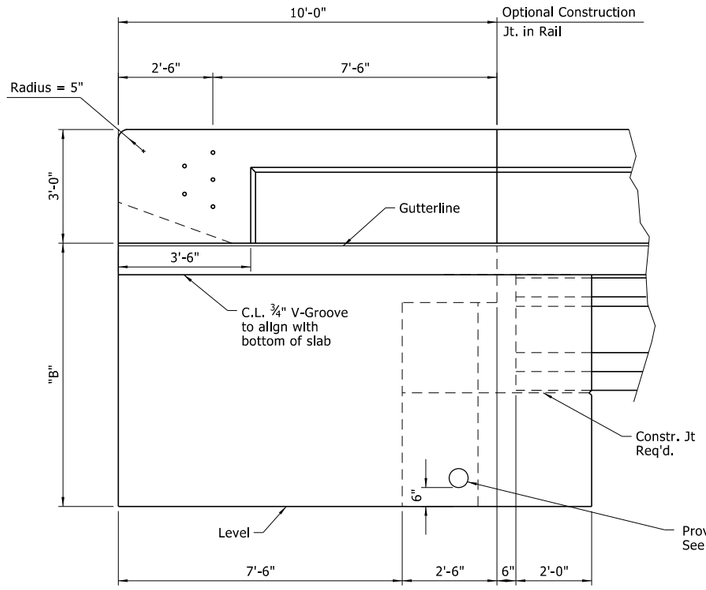
## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | SCR | DATE: | 09/2020 | FILENAME: | B070471X_SX6.dgn |
| CHECKED BY: | SFH | DATE: | 03/2021 | | |
| DESIGNED BY: | SCR | DATE: | 09/2020 | SCALE: | 2"=1'-0" |
| BRIDGE NO. | 07510, 07511 & 07512 | | | DRAWING NO. | 63766 |

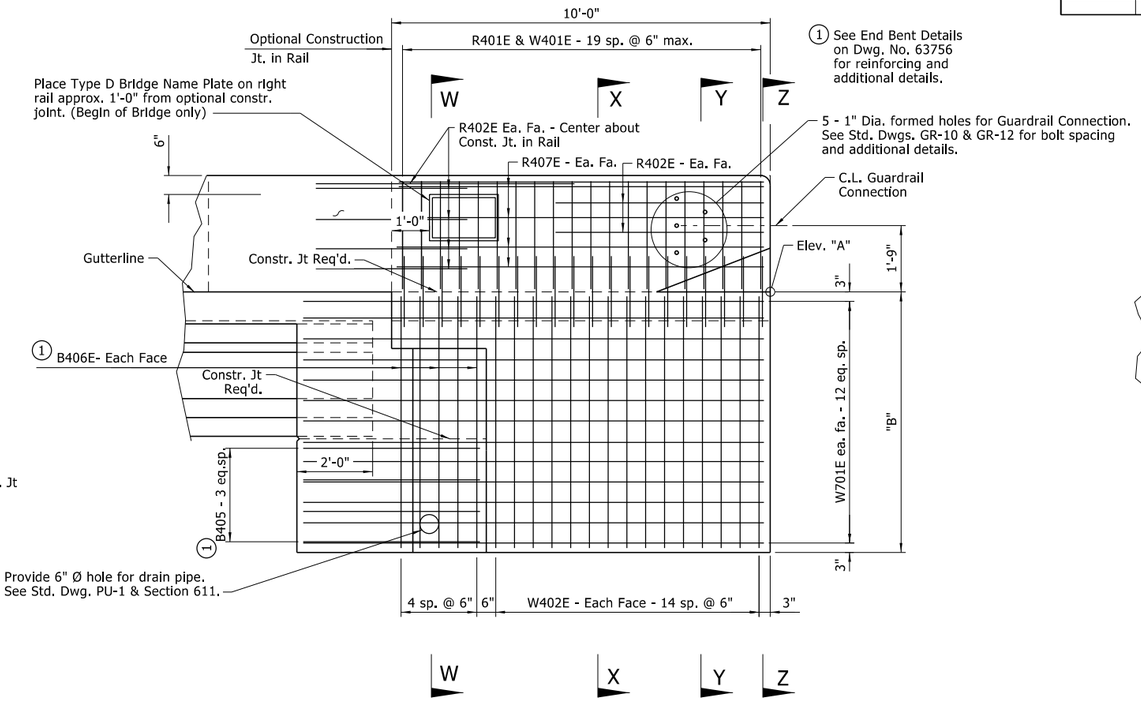
Scott.Thornberry 12/20/2023 4:37:24 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_SX6.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 82 | 103 |
| | | | | (1) 07510, 07511 & 07512 - 179'-6" INT. UNIT - 63767 | | | | |




VIEW R-R

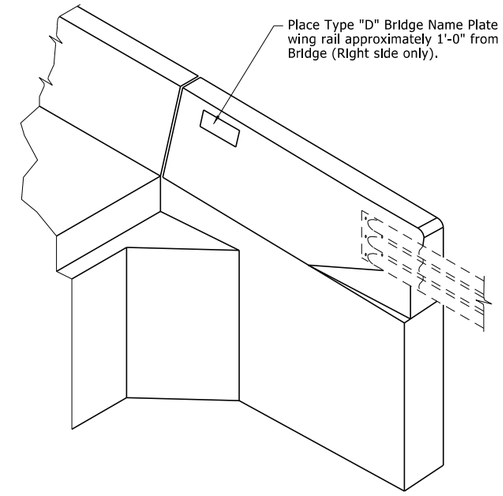
½" = 1'-0"




VIEW S-S

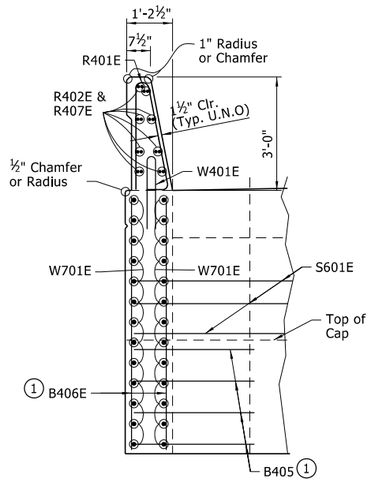
½" = 1'-0"

Note:
See Roadway Plans for guardrail locations.



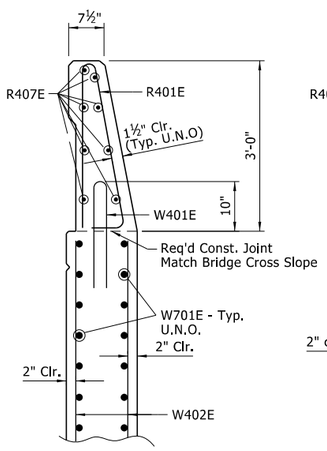

THREE DIMENSIONAL VIEW OF RAIL & END BENT

No Scale



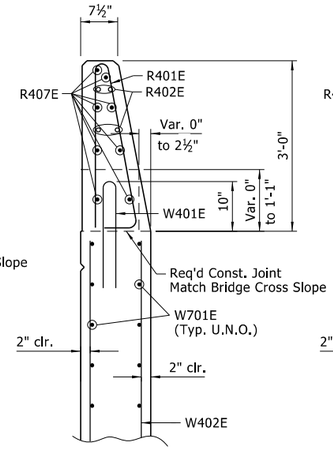

SECTION W-W

½" = 1'-0"



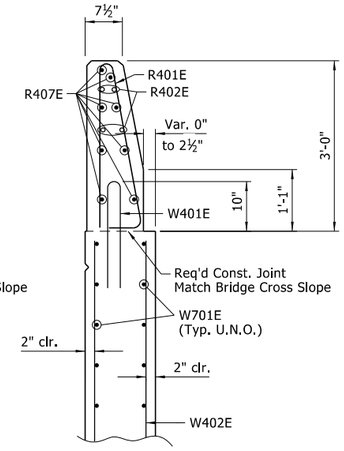

SECTION X-X

¾" = 1'-0"




SECTION Y-Y

¾" = 1'-0"

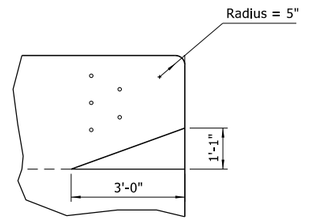



SECTION Z-Z

¾" = 1'-0"

## TABLE OF VARIABLES

| Location | Bent 1 | Bent 4 |
|---|---|---|
| Cornie Bayou | | |
| Elev. "A" | 237.90 | 237.90 |
| "B" | 6'-8⅝" | 6'-8⅝" |
| Harper Creek | | |
| Elev. "A" | 237.90 | 237.90 |
| "B" | 6'-8⅝" | 6'-8⅝" |
| Lapile Creek | | |
| Elev. "A" | 122.76 | 122.99 |
| "B" | 6'-8½" | 6'-8¾" |




VERTICAL TAPER

½" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

SHEET 7 OF 7

# DETAILS OF 179'-6" INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

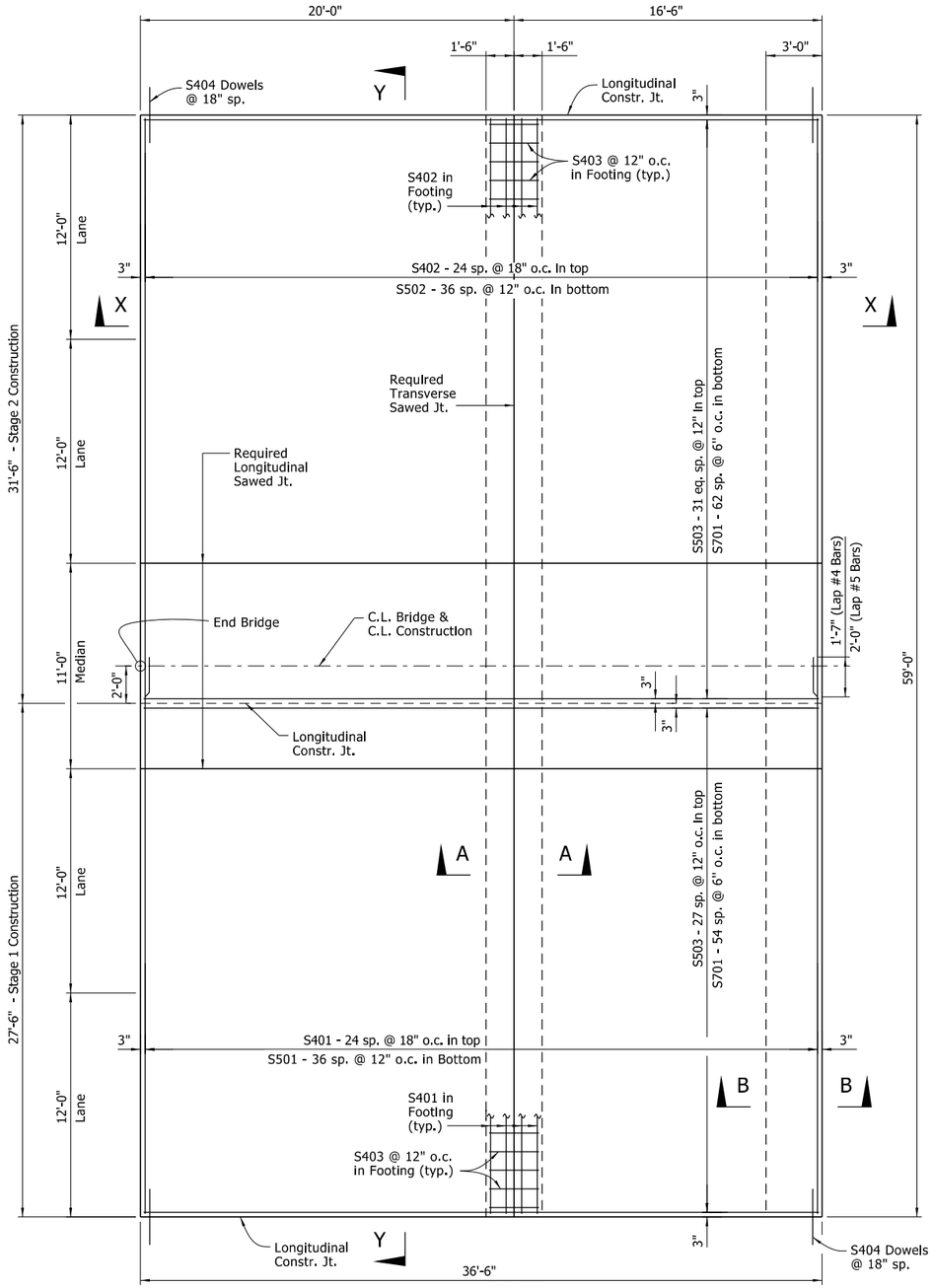
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 09/2020 FILENAME: B070471X_SX7.dgn
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 09/2020 SCALE: As Shown
BRIDGE NO. 07510, 07511 & 07512 DRAWING NO. 63767

Scott.Thornsberry 12/20/2023 4:37:25 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_SX7.dgn
REVISED DATE:

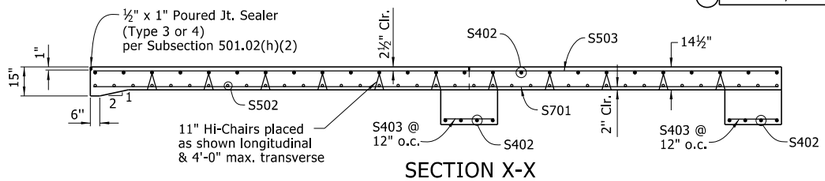
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 83 | 103 |
| | | | | (1) | 07510, 07511 & 07512 - APPR. SLAB - 63768 | | | |




## PLAN

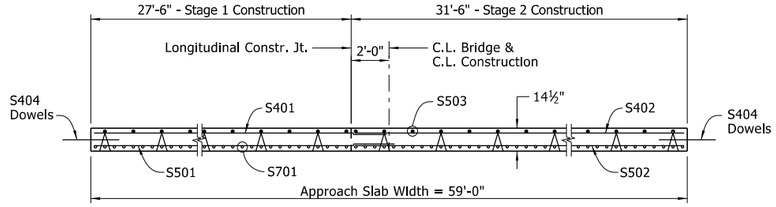
Shown for End Bridge
Begin Bridge Similar
¼" = 1'-0"

Note:
The surface finish for Approach Slabs shall match that used on the bridge deck.




## SECTION X-X

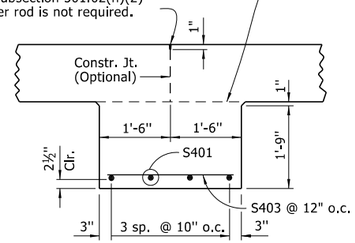
¼" = 1'-0"




## SECTION Y-Y

No Scale

½" x 1" Poured Jt. Sealer (Type 3 or 4) per Subsection 501.02(h)(2)
Backer rod is not required.

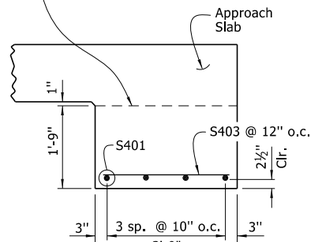



## SECTION A-A

No Scale

Required Constr. Joint. Smooth surface with trowel.

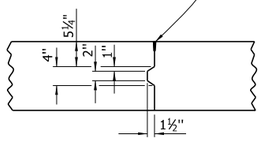
Approach Slab




## SECTION B-B

No Scale

½" x 1" Poured Jt. Sealer (Type 3 or 4) per Subsection 501.02(h)(2)
Backer rod is not required.




## DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

¾" = 1'-0"

## BAR LIST FOR ONE TYPE SPECIAL APPROACH SLAB

| Mark | No. Req'd. | Length | Pin Dia. |
|---|---|---|---|
| S401 | 33 | 29'-1" | Str. |
| S402 | 33 | 31'-2" | Str. |
| S403 | 118 | 2'-8" | Str. |
| S404 | 50 | 3'-0" | Str. |
| | | | |
| S501 | 37 | 29'-6" | Str. |
| S502 | 37 | 31'-2" | Str. |
| S503 | 60 | 36'-2" | Str. |
| | | | |
| S701 | 118 | 36'-2" | Str. |
| | | | |

## TABLE OF QUANTITIES FOR ONE TYPE SPECIAL APPROACH SLAB (FOR INFORMATION ONLY)

| Reinforcing Steel | Concrete |
|---|---|
| (Lbs.) | (Cu. Yds.) |
| 14,966 | 120.40 |

## GENERAL NOTES

All concrete shall be Class S (AE) with a minimum 28 day compressive strength f`c = 4,000psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Slabs will be measured and paid for in accordance with Section 504.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

# DETAILS OF TYPE SPECIAL APPROACH SLAB CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

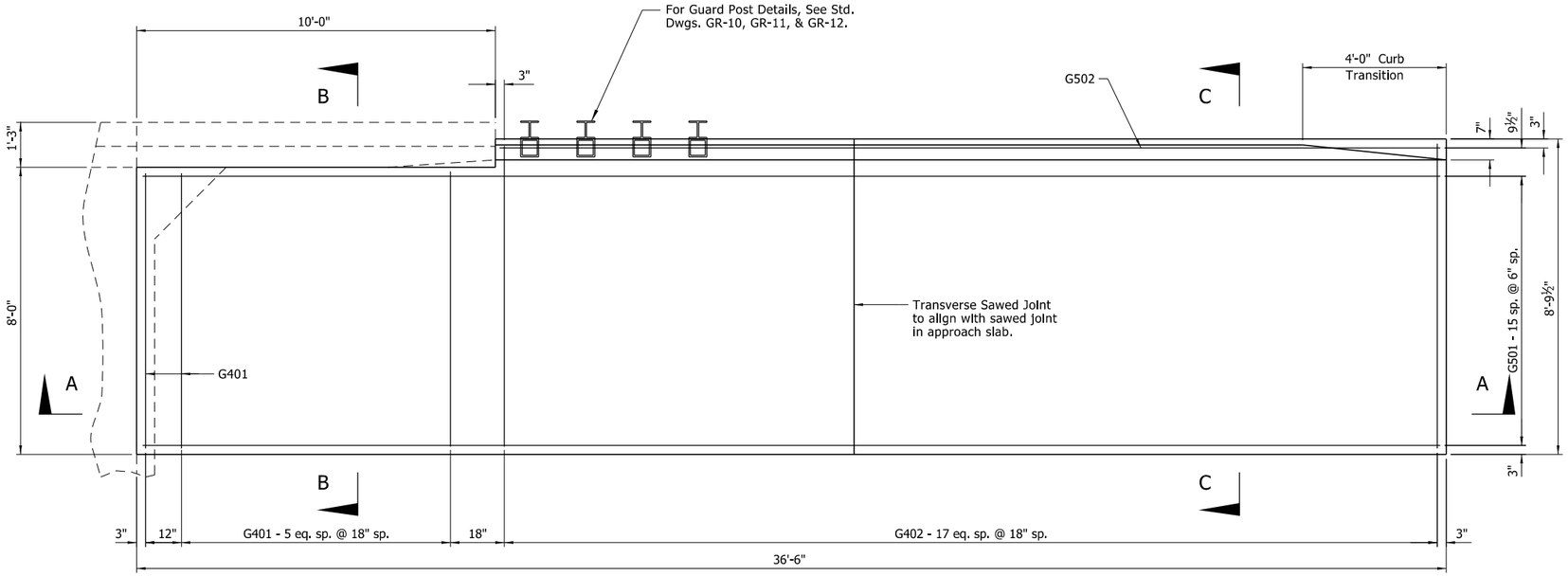
DRAWN BY: KDH DATE: 10/2020 FILENAME: B070471X_AS.dgn
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 10/2020 SCALE: As Shown
BRIDGE NO. 07510, 07511 & 07512 DRAWING NO. 63768

Scott.Thornsberry 12/20/2023 4:37:25 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471Cornie\HarperLapile\Design\BRIDGE\Drawings\B070471X_AS.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 84 | 103 |

(1) 07510, 07511 & 07512 - APPR. GUTTER - 63769



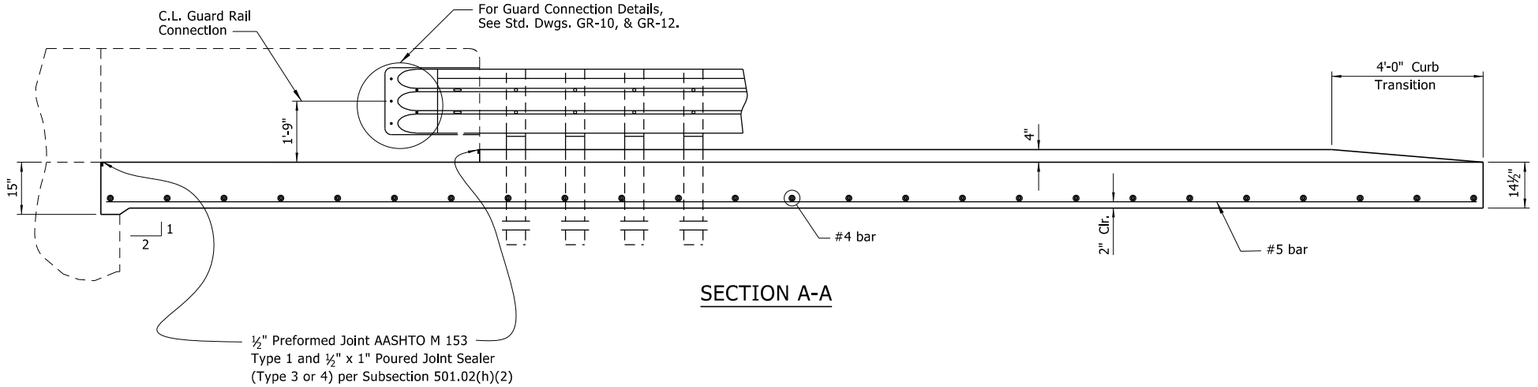

HALF PLAN OF APPROACH GUTTER

## BAR LIST FOR ONE TYPE SPECIAL APPROACH GUTTER

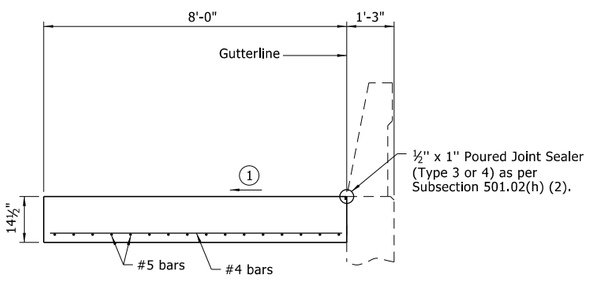
| Mark | No. Req'd. | Length | Pin Dia. |
|---|---|---|---|
| G401 | 7 | 7'-8" | Str. |
| G402 | 18 | 8'-5½" | Str. |
| | | | |
| G501 | 16 | 36'-2" | Str. |
| G502 | 1 | 26'-2" | Str. |

## TABLE OF QUANTITIES FOR ONE TYPE SPECIAL APPROACH GUTTER (FOR INFORMATION ONLY)

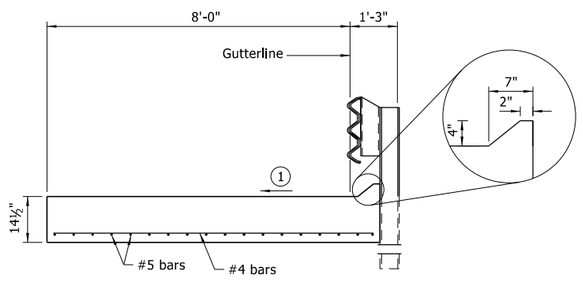
| Reinforcing Steel | Concrete |
|---|---|
| (Lbs.) | (Cu. Yds.) |
| 768 | 14.61 |




SECTION A-A




SECTION B-B




SECTION C-C

(1) Match Roadway cross-slope as required at a given approach gutter location.

## GENERAL NOTES

All concrete shall be Class S (AE) with a minimum 28 day compressive strength f`c = 4,000psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Gutters will be measured and paid for in accordance with Section 504.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
12/20/2023

BRIDGE ENGINEER
PRINT DATE: 12/20/2023

# DETAILS OF TYPE SPECIAL APPROACH GUTTER CORNIE BAYOU, HARPER AND LAPILE CREEKS

ROUTE SECTION

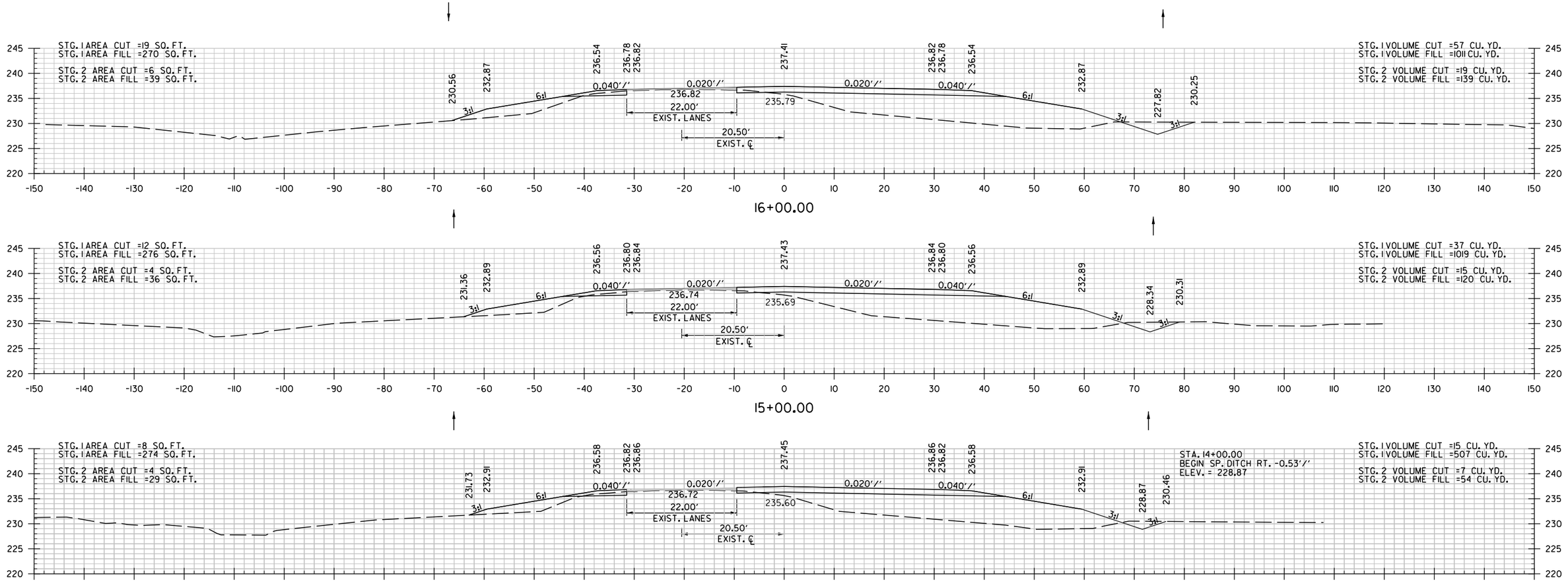
## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: KDH DATE: 10/2020 FILENAME: B070471X_AG.dgn
CHECKED BY: SFH DATE: 03/2021
DESIGNED BY: SCR DATE: 10/2020 SCALE: ½" = 1'-0"
BRIDGE NO. 07510, 07511 & 07512 DRAWING NO. 63769

Scott.Thornsberry 12/20/2023 4:37:37 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471CornieHarperLapile\Design\BRIDGE\Drawings\B070471X_AG.dgn
REVISED DATE:

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 85 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

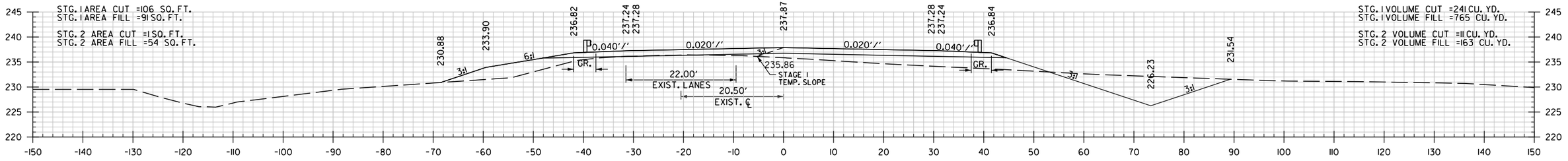



STA. 13+00 TO STA. 16+00

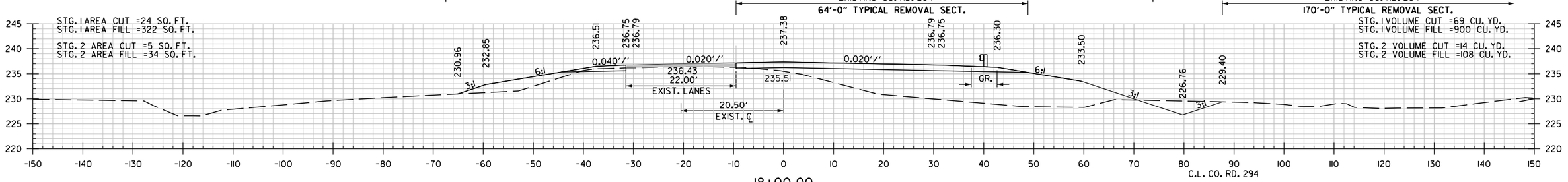
SITE 1

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 86 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

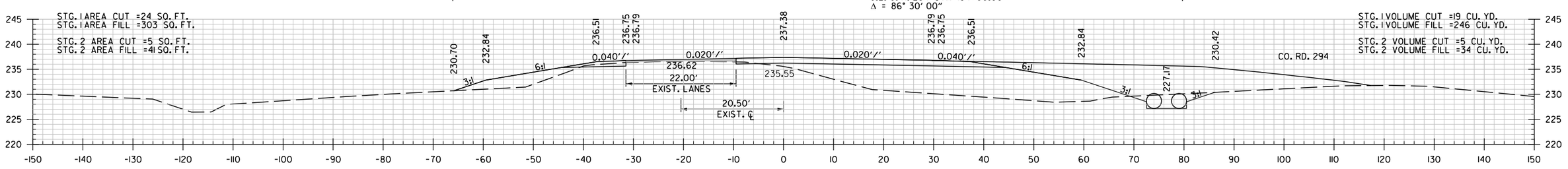
## STA. 19+63.25 - BEGIN APPROACH SLAB & GUTTERS



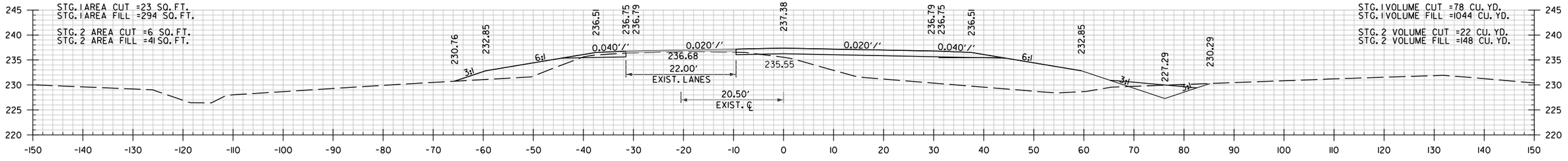

## 19+00.00




## 18+00.00




## 17+22.22



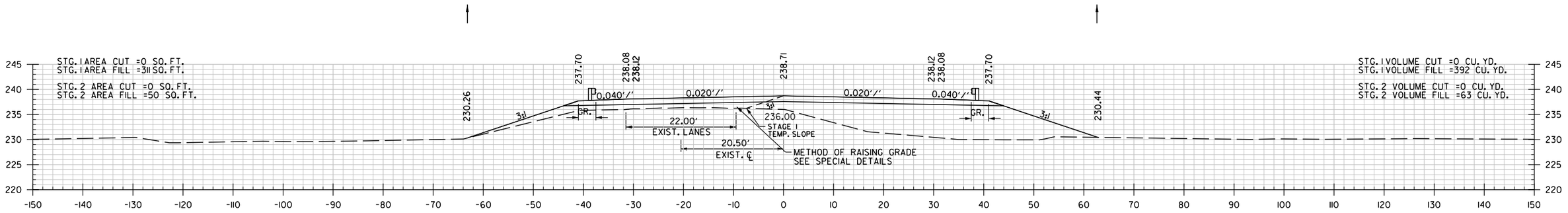

## 17+00.00

STA. 17+00 TO STA. 19+00

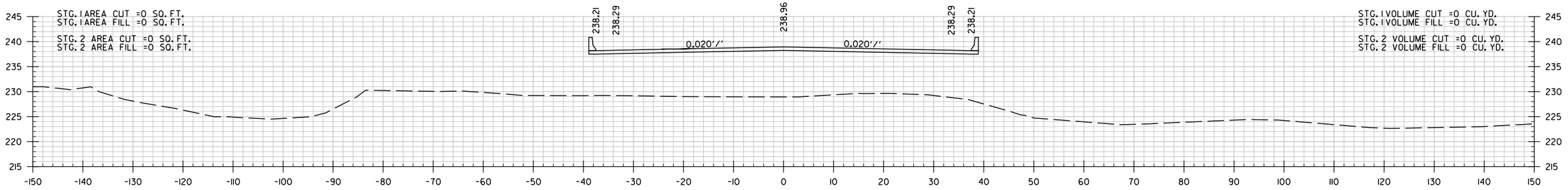
SITE 1

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 87 | 103 |

(1) CROSS SECTIONS

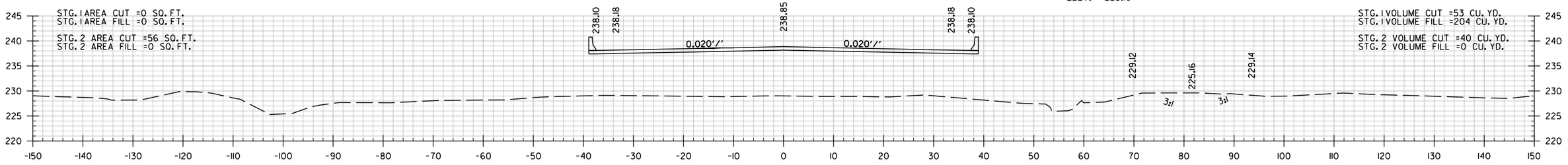



21+80.25
END BRIDGE

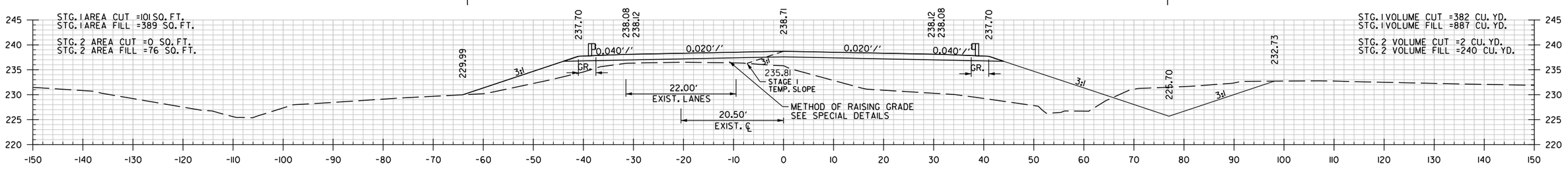



21+12.17
BRIDGE TOE OF SLOPE

STA. 21+03.00
END SP. DITCH RT. - 0.53'/'
ELEV. = 225.16




20+28.11
BRIDGE TOE OF SLOPE



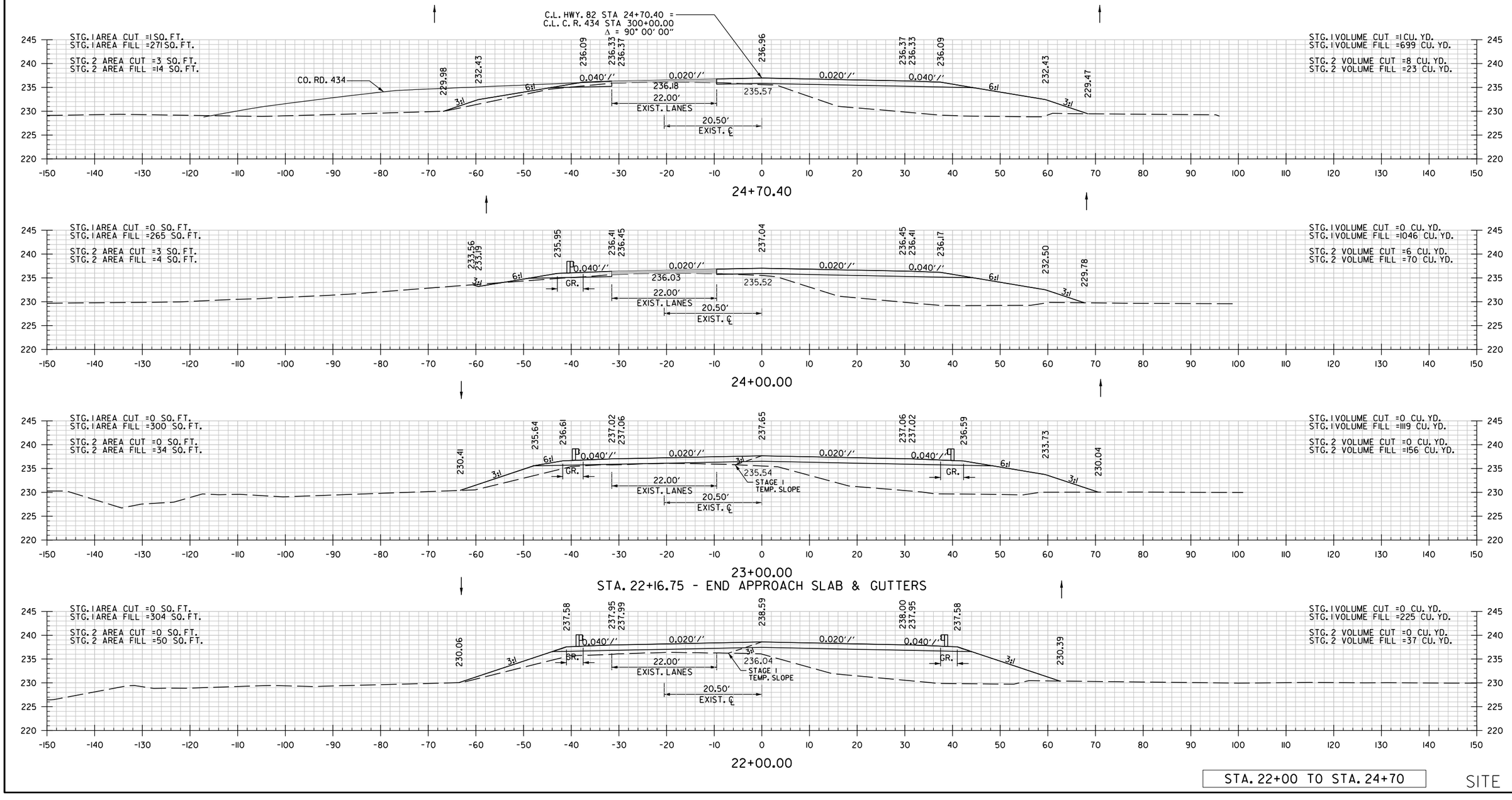

19+99.75
BEGIN BRIDGE

STA. 20+00 TO STA. 21+80

SITE I

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 88 | 103 |

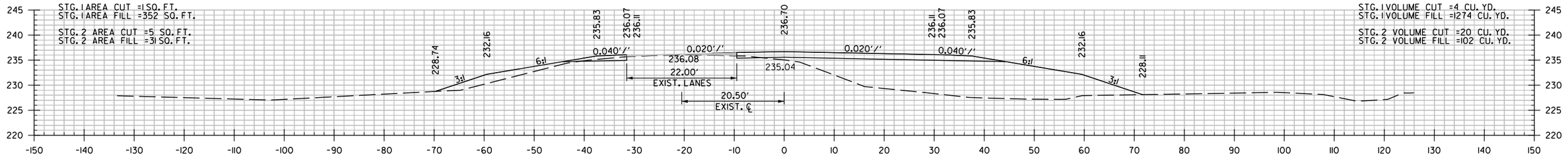
(1) CROSS SECTIONS



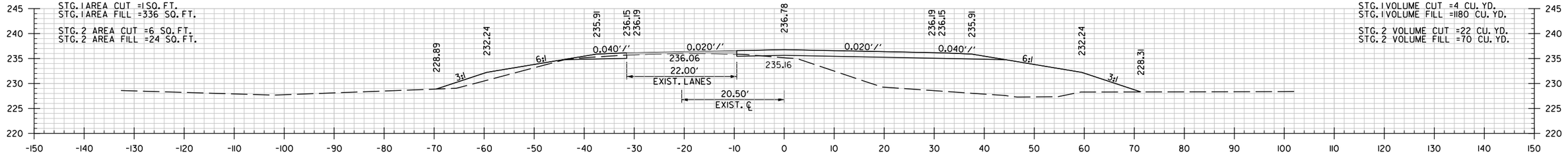

SITE 1

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

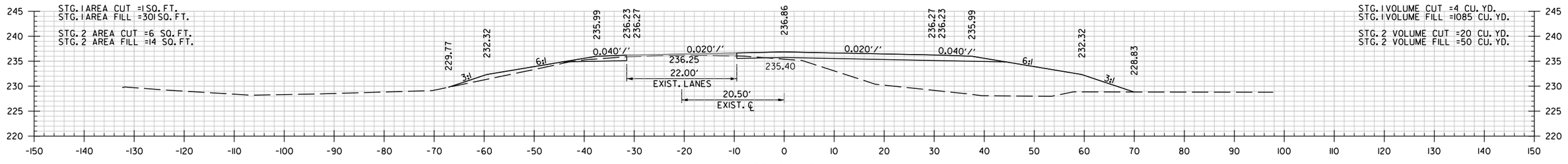
| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 89 | 103 |
| (1) | CROSS SECTIONS | | | |



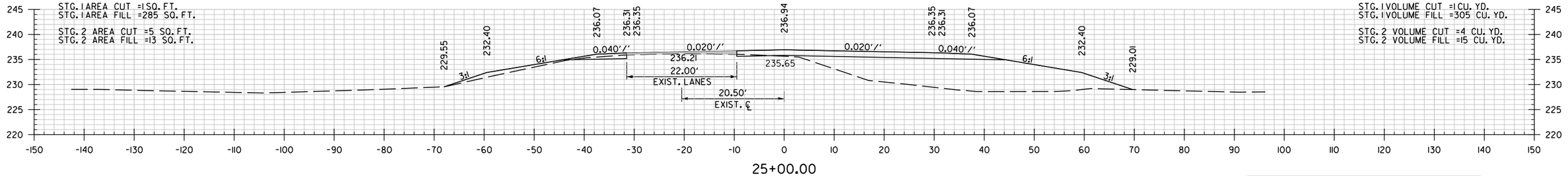

28+00.00
END SITE 1& BEGIN 100' TRANSITION




27+00.00




26+00.00




25+00.00

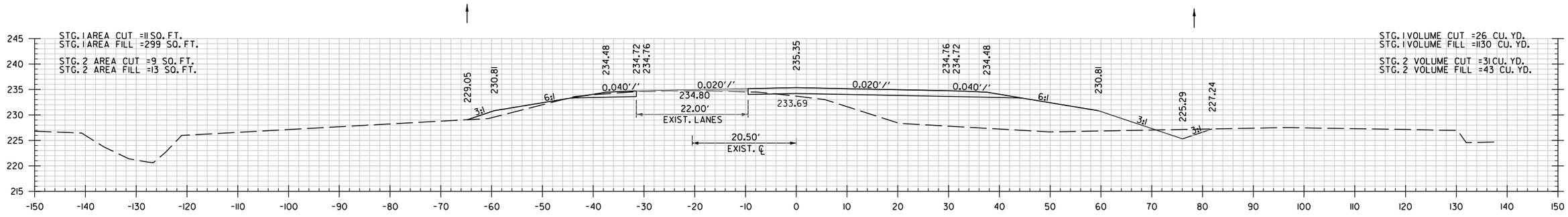
STA. 25+00 TO STA. 28+00

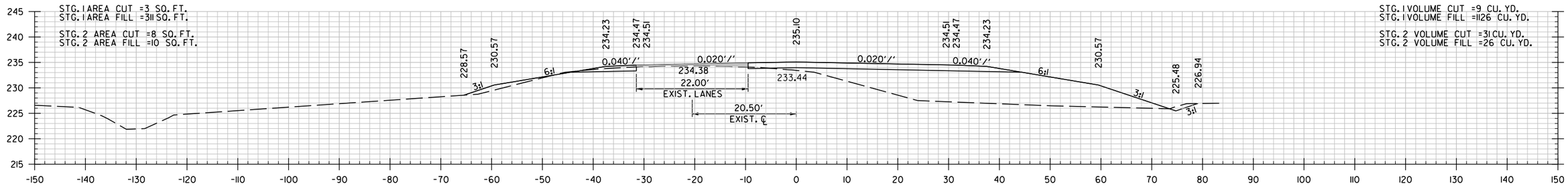
SITE 1

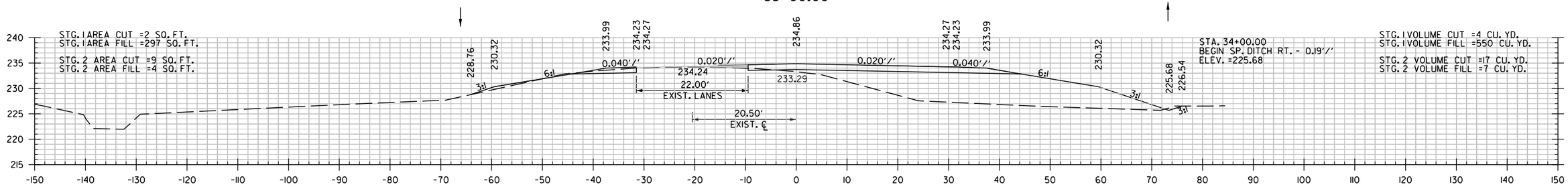
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

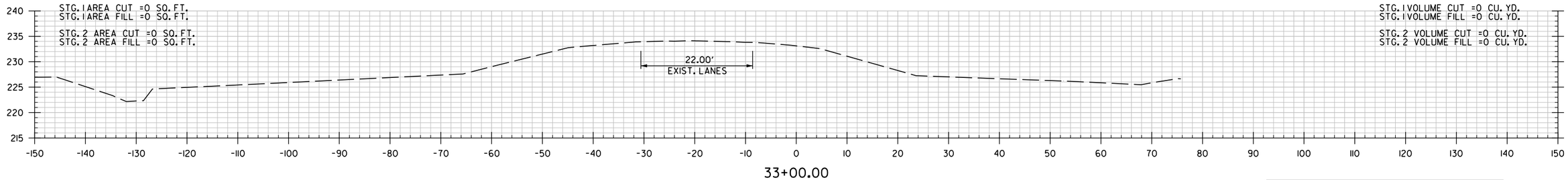
| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 90 | 103 |

(1) CROSS SECTIONS




STA. 33+00 TO STA. 36+00

SITE 2

Scott.Thornsberry@20/2023 12:59:40 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471CornileHarperLaplle\Design\CIVIL\Drawings\R070471_21_CX_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 91 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

STG. 1 AREA CUT =0 SQ. FT.
STG. 1 AREA FILL =414 SQ. FT.

STG. 2 AREA CUT =0 SQ. FT.
STG. 2 AREA FILL =199 SQ. FT.

STG. 1 VOLUME CUT =46 CU. YD.
STG. 1 VOLUME FILL =1404 CU. YD.

STG. 2 VOLUME CUT =2 CU. YD.
STG. 2 VOLUME FILL =428 CU. YD.

218.74 | 237.70 | 238.10 238.12 | 238.71 | 238.12 238.08 | 237.70 | 221.79

0.040'/' | 0.020'/' | 0.020'/' | 0.040'/'

3:1 | GR. | 22.00' EXIST. LANES | 20.50' EXIST. ℄ | 235.10 STAGE 1 TEMP. SLOPE | GR. | 3:1

## 39+94.75
## BRIDGE END
## STA. 39+58.25 - BEGIN APPROACH SLAB & GUTTERS

STA. 39+30.00
END SP. DITCH RT. - 0.19'/'
ELEV. =224.66

STG. 1 AREA CUT =26 SQ. FT.
STG. 1 AREA FILL =386 SQ. FT.

STG. 2 AREA CUT =150 SQ. FT.
STG. 2 AREA FILL =45 SQ. FT.

STG. 1 VOLUME CUT =102 CU. YD.
STG. 1 VOLUME FILL =1570 CU. YD.

STG. 2 VOLUME CUT =7 CU. YD.
STG. 2 VOLUME FILL =139 CU. YD.

229.95 | 233.91 | 236.86 | 237.27 237.31 | 237.90 | 237.31 237.27 | 236.87 | 224.72 | 228.48

3:1 | 6:1 | 0.040'/' | 0.020'/' | 0.020'/' | 0.040'/' | 3:1

GR. | 22.00' EXIST. LANES | 20.50' EXIST. ℄ | 235.40 STAGE 1 TEMP. SLOPE | GR. | 3:1 | 3:1

## 39+00.00

STG. 1 AREA CUT =29 SQ. FT.
STG. 1 AREA FILL =462 SQ. FT.

STG. 2 AREA CUT =3 SQ. FT.
STG. 2 AREA FILL =30 SQ. FT.

STG. 1 VOLUME CUT =83 CU. YD.
STG. 1 VOLUME FILL =1428 CU. YD.

STG. 2 VOLUME CUT =17 CU. YD.
STG. 2 VOLUME FILL =93 CU. YD.

228.93 | 232.39 | 236.02 | 236.27 236.31 | 236.90 | 236.31 236.27 | 235.83 | 233.01 | 224.91 | 228.45

3:1 | 6:1 | 0.040'/' | 0.020'/' | 235.91 | 22.00' EXIST. LANES | 20.50' EXIST. ℄ | 234.82 | 0.020'/' | 0.040'/' | GR. | 6:1 | 3:1 | 3:1

## 38+00.00

STG. 1 AREA CUT =16 SQ. FT.
STG. 1 AREA FILL =309 SQ. FT.

STG. 2 AREA CUT =6 SQ. FT.
STG. 2 AREA FILL =20 SQ. FT.

STG. 1 VOLUME CUT =50 CU. YD.
STG. 1 VOLUME FILL =1126 CU. YD.

STG. 2 VOLUME CUT =28 CU. YD.
STG. 2 VOLUME FILL =61 CU. YD.

228.79 | 231.37 | 235.04 | 235.28 235.32 | 235.91 | 235.32 235.28 | 235.04 | 231.37 | 225.10 | 227.50

3:1 | 6:1 | 0.040'/' | 235.32 | 22.00' EXIST. LANES | 20.50' EXIST. ℄ | 234.37 | 0.020'/' | 0.040'/' | 6:1 | 3:1 | 3:1

## 37+00.00

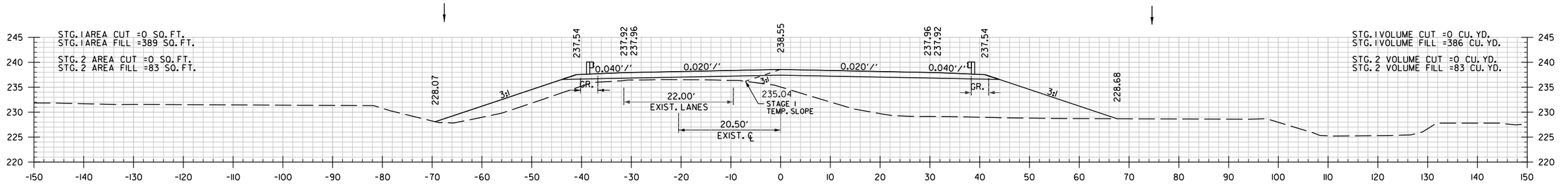
STA. 37+00 TO STA. 39+95

SITE 2

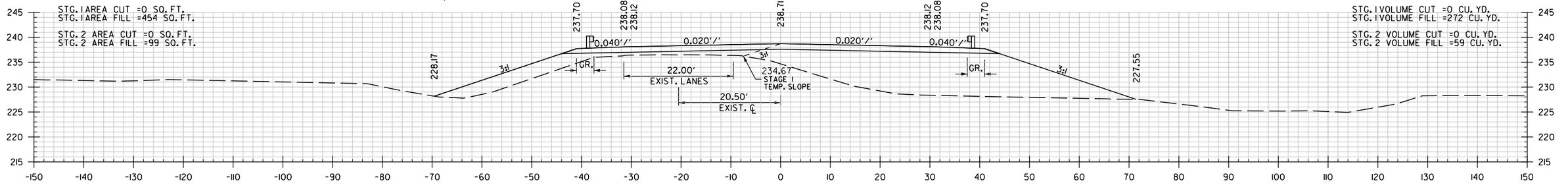
Scott.Thornsberg 9/20/2023 12:59:40 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Cornelia Harper Lapile\Design\CIVIL\Drawings\R070471_21_CX_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 92 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

## STA. 42+11.75 - END APPROACH SLAB & GUTTERS

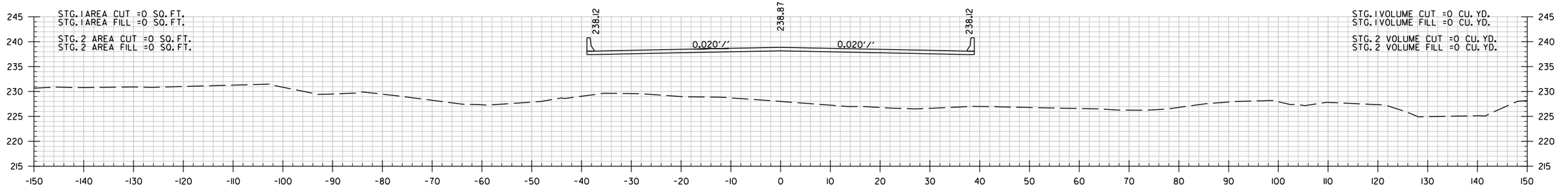



42+00.00



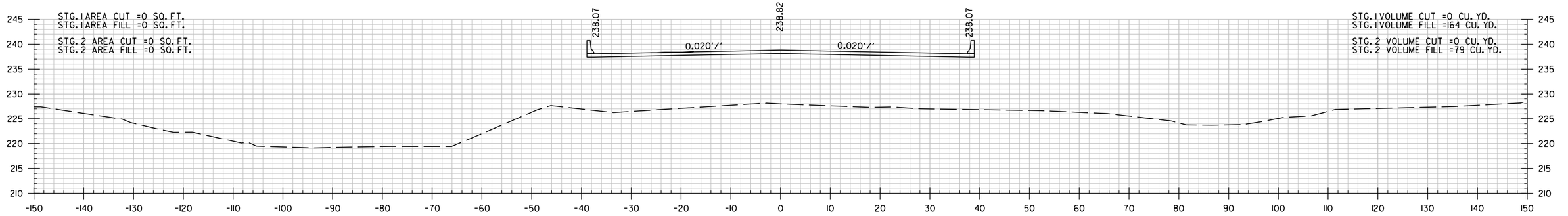

41+75.25

BRIDGE END




41+42.95

TOE OF SLOPE




40+16.45

TOE OF SLOPE

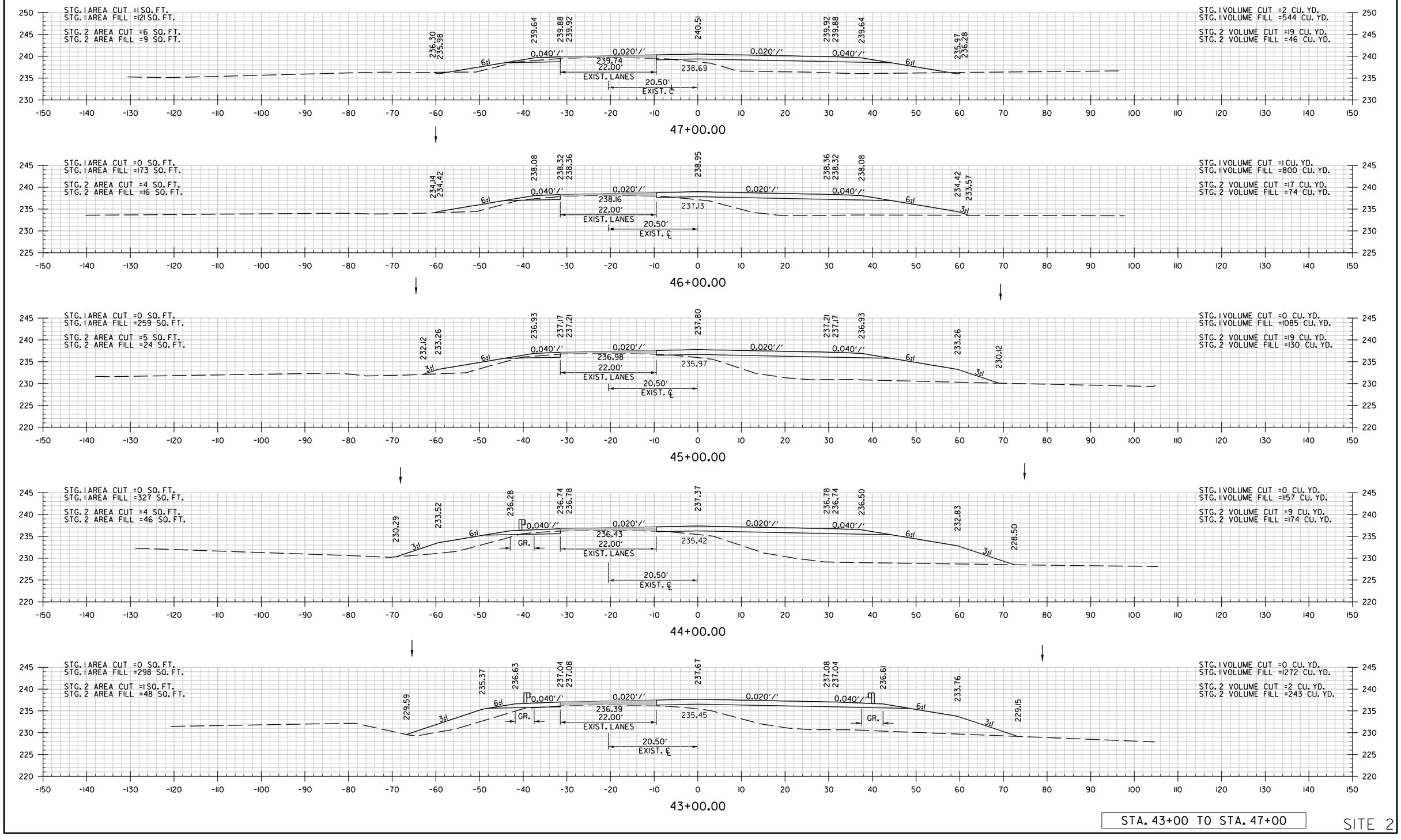
STA. 40+16 TO STA. 42+00

SITE 2

Scott.Thornsberg@20/2023 12:59:40 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_163588.070471CorridorHarperLaplie\Design\CIVIL\Drawings\R070471_2i_CX_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 93 | 103 |

(1) CROSS SECTIONS




STA. 43+00 TO STA. 47+00

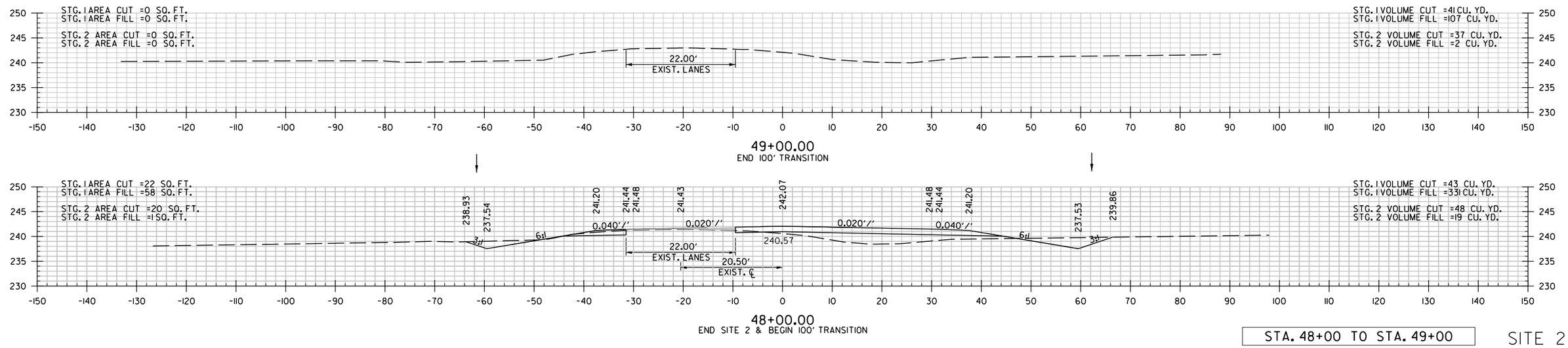
SITE 2

Scott.Thornsberry@20/2023 12:59:40 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\CornileHarperLaplle\Design\CIVIL\Drawings\R070471_21_CX_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 94 | 103 |

(1) CROSS SECTIONS

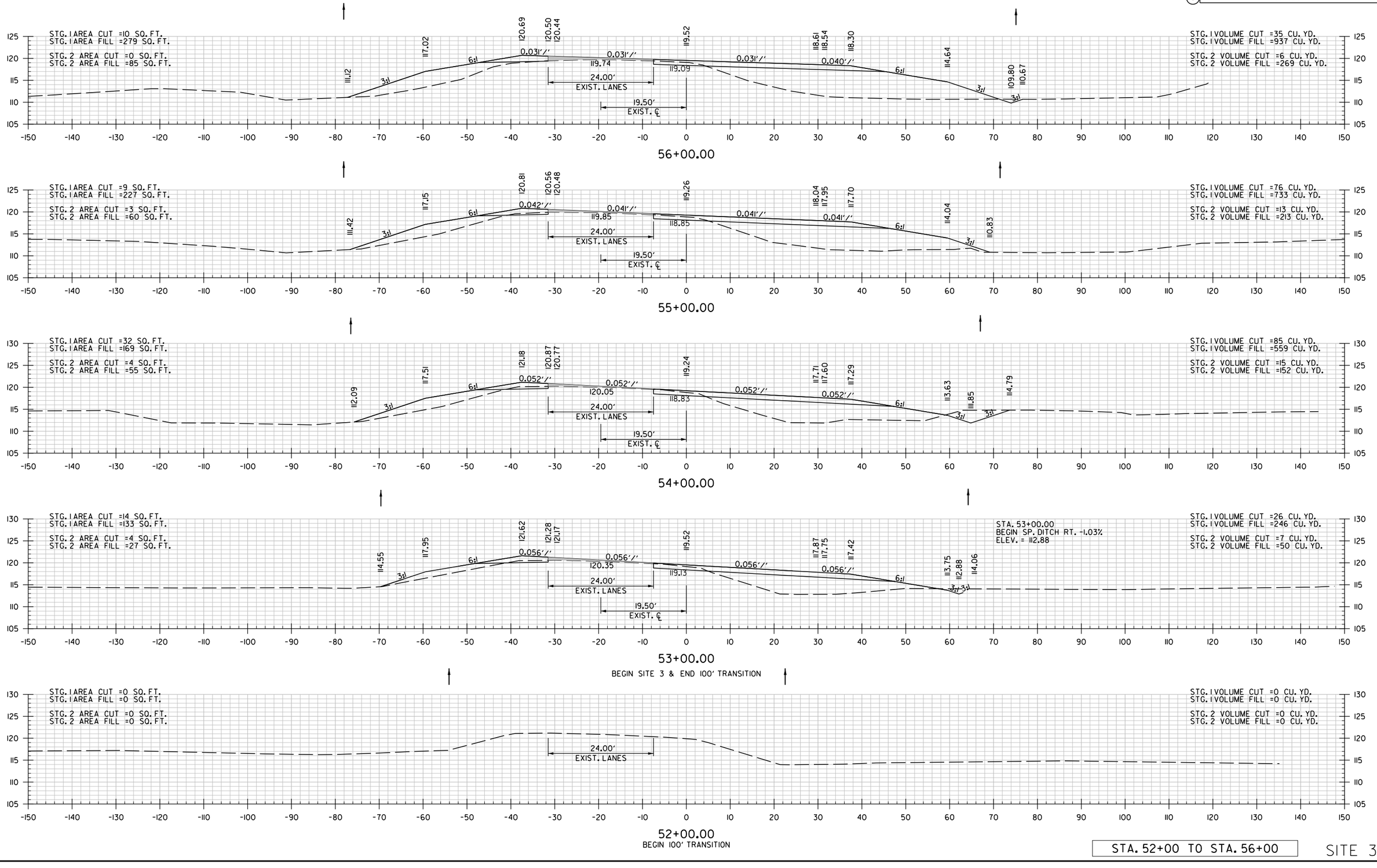



STA. 48+00 TO STA. 49+00

SITE 2

Scott.Thornsberg@9/20/2023 12:59:41 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\Cornie Harper Laplie\Design\CIVIL\Drawings\R070471_2i_CX_001.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 95 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

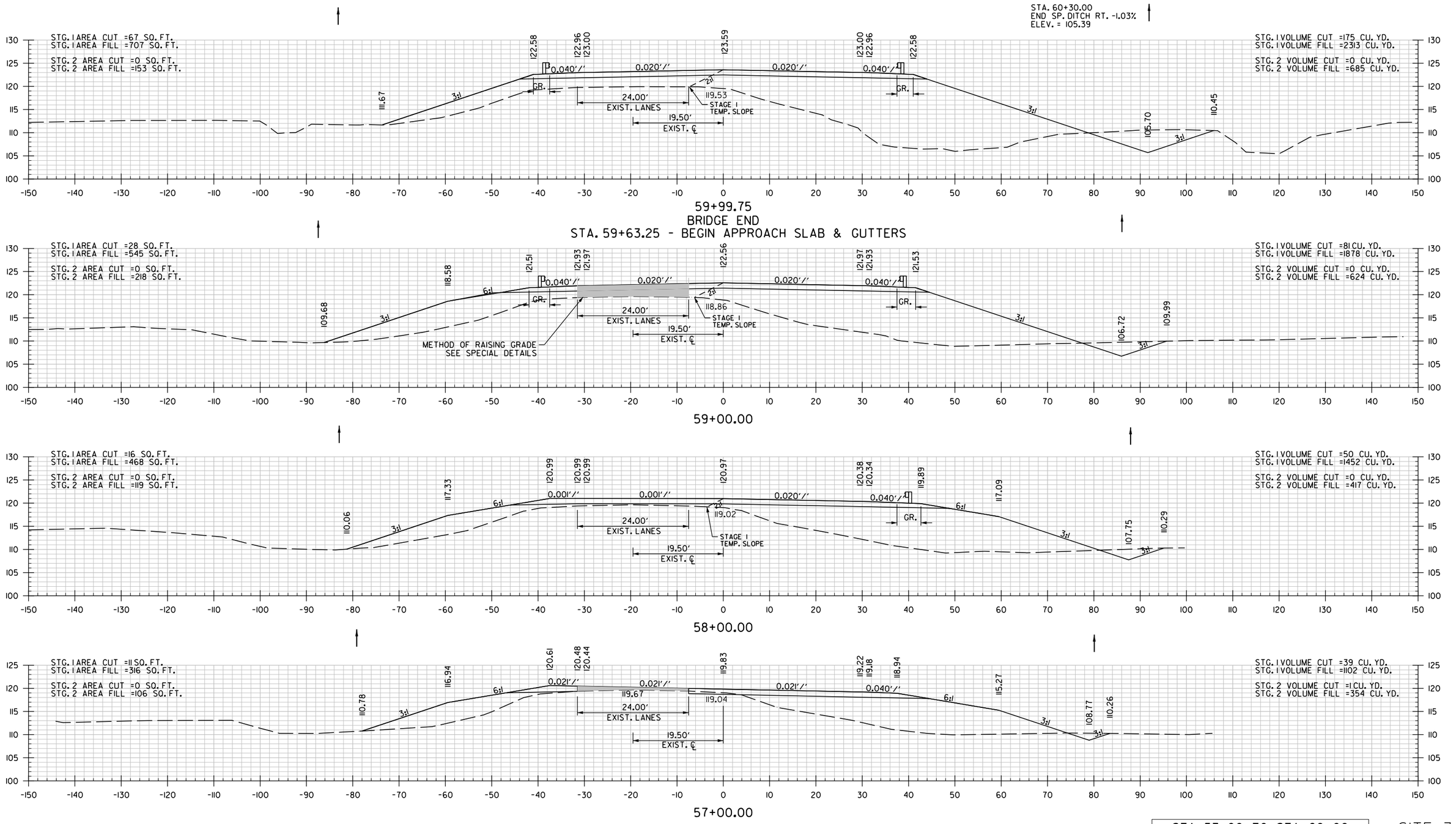



STA. 52+00 TO STA. 56+00

SITE 3

Scott.Thornsberry@20/2023 12:59:45 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_193388.070471CornieHarperLaplle\Design\CIVIL\Drawings\R070471_21_CX_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 96 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

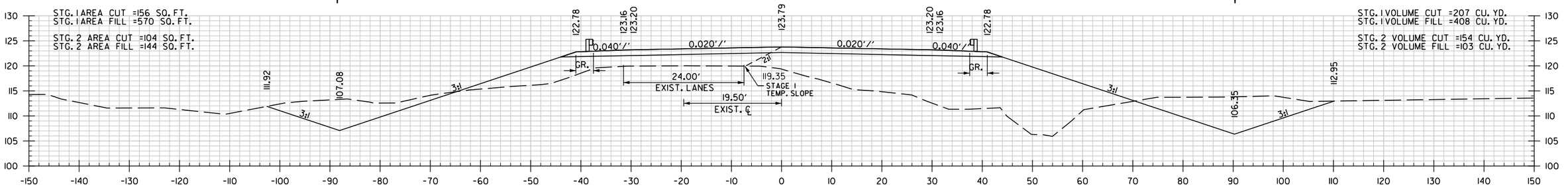



STA. 57+00 TO STA. 60+00

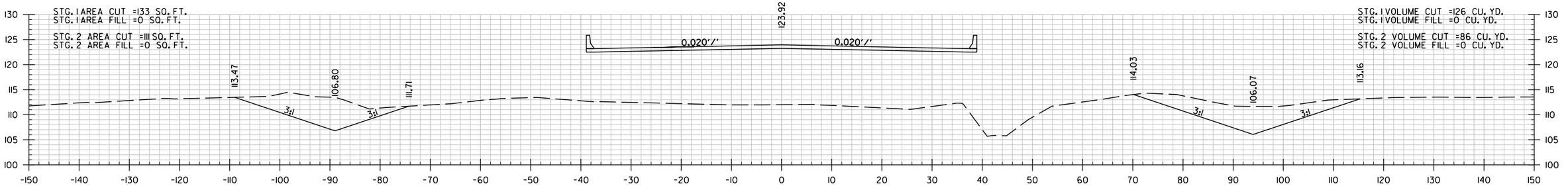
SITE 3

Scott.Thornsberg@20/2023 12:59:46 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471CornieHarperLaplie\Design\CIVIL\Drawings\R070471.21.CX.002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 97 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

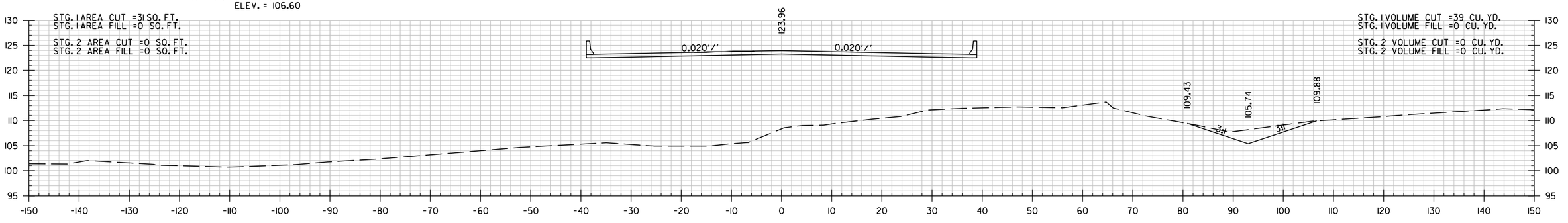



61+80.25
BRIDGE END



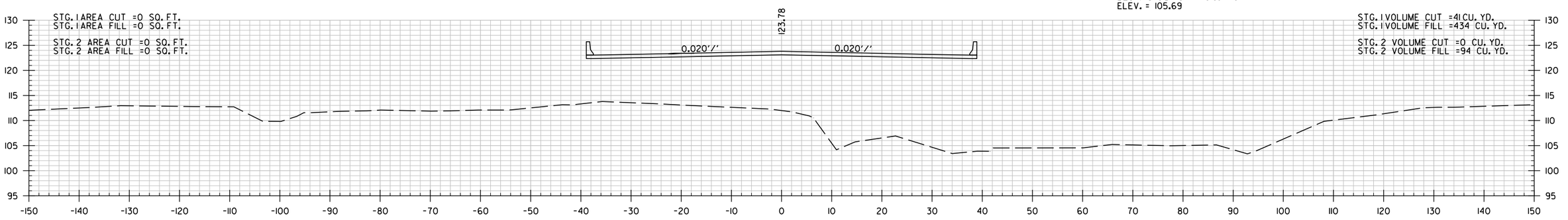

61+41.63
TOE OF SLOPE

STA. 61+17.00
BEGIN SP. DITCH LT. 0.77%
ELEV. = 106.60




61+00.00

STA. 60+94.00
BEGIN SP. DITCH RT. 0.77%
ELEV. = 105.69



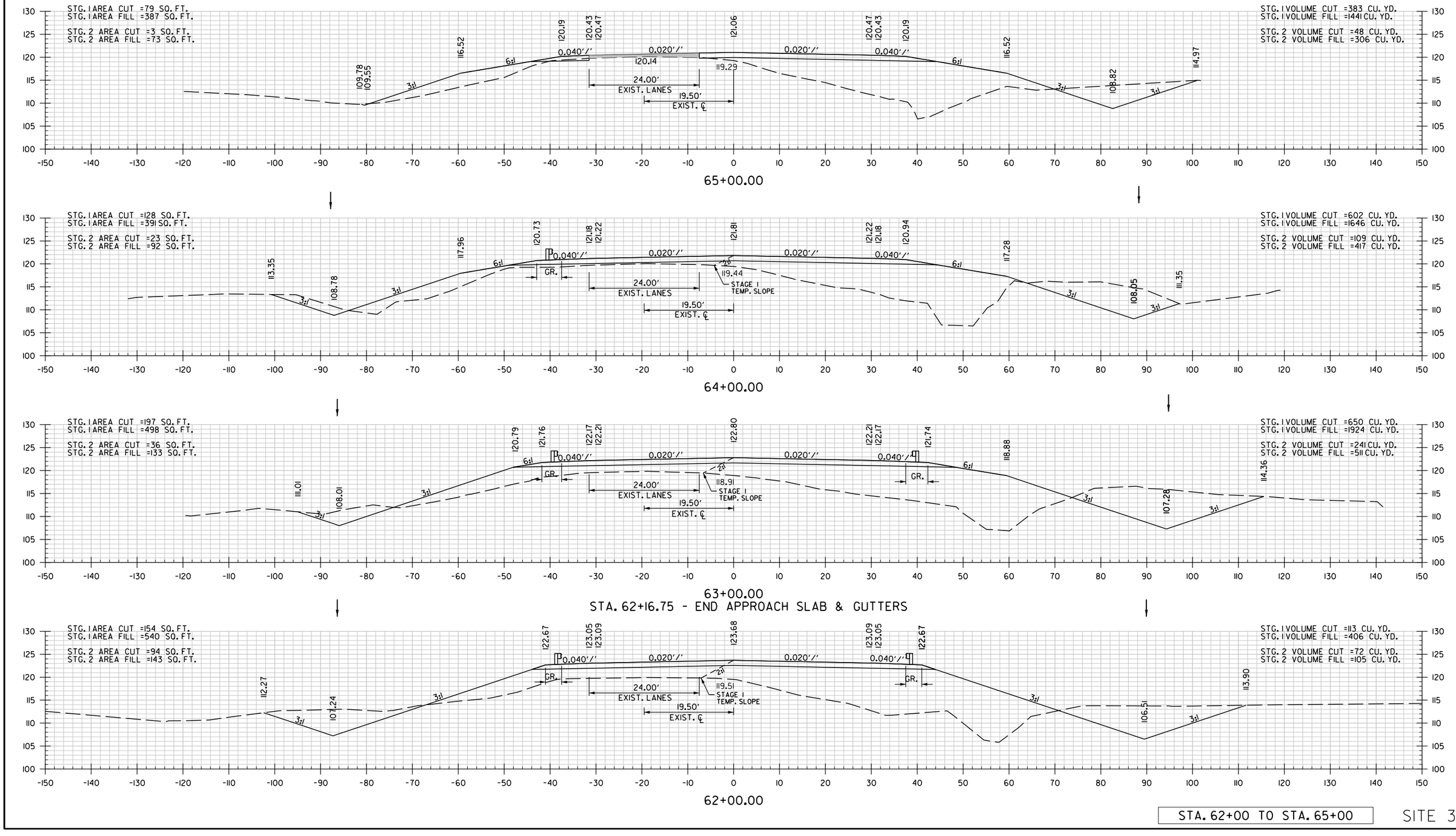

60+32.92
TOE OF SLOPE

STA. 60+33 TO STA. 61+80

SITE 3

Scott.Thornsberg@/20/2023 12:59:47 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\CorniHarperLapile\Design\CIVIL\Drawings\R070471_21_CX_002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 98 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |




STA. 62+00 TO STA. 65+00

SITE 3

Scott.Thornsberg 9/20/2023 12:59:47 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_69388_070471\Cornelius Harper Lapile\Design\CIVIL\Drawings\R070471_21_CX_002.dgn
REVISED DATE: $$REVDATE$$

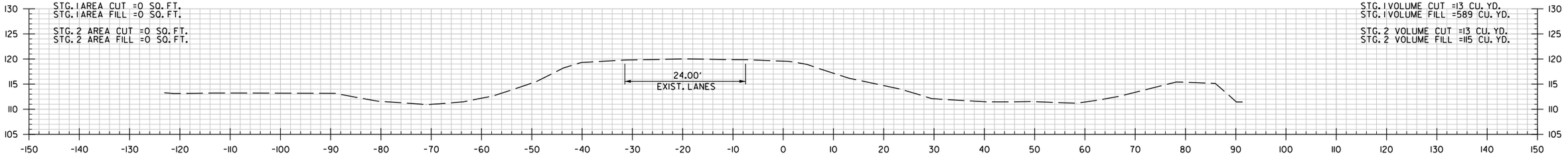
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 99 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

STG. 1 AREA CUT =0 SQ. FT.
STG. 1 AREA FILL =0 SQ. FT.

STG. 2 AREA CUT =0 SQ. FT.
STG. 2 AREA FILL =0 SQ. FT.

STG. 1 VOLUME CUT =13 CU. YD.
STG. 1 VOLUME FILL =589 CU. YD.

STG. 2 VOLUME CUT =13 CU. YD.
STG. 2 VOLUME FILL =115 CU. YD.




## 69+00.00
END 100' TRANSITION

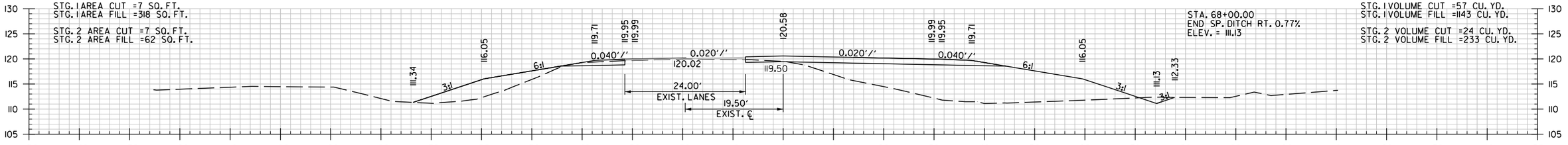
STG. 1 AREA CUT =7 SQ. FT.
STG. 1 AREA FILL =318 SQ. FT.

STG. 2 AREA CUT =7 SQ. FT.
STG. 2 AREA FILL =62 SQ. FT.

STG. 1 VOLUME CUT =57 CU. YD.
STG. 1 VOLUME FILL =1143 CU. YD.

STG. 2 VOLUME CUT =24 CU. YD.
STG. 2 VOLUME FILL =233 CU. YD.

STA. 68+00.00
END SP. DITCH RT. 0.77%
ELEV. = 111.13



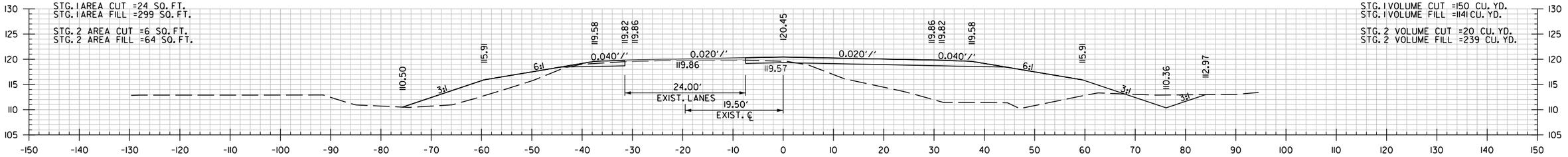

## 68+00.00
END SITE 3 & BEGIN 100' TRANSITION
END JOB 070471

STG. 1 AREA CUT =24 SQ. FT.
STG. 1 AREA FILL =299 SQ. FT.

STG. 2 AREA CUT =6 SQ. FT.
STG. 2 AREA FILL =64 SQ. FT.

STG. 1 VOLUME CUT =150 CU. YD.
STG. 1 VOLUME FILL =1141 CU. YD.

STG. 2 VOLUME CUT =20 CU. YD.
STG. 2 VOLUME FILL =239 CU. YD.




## 67+00.00

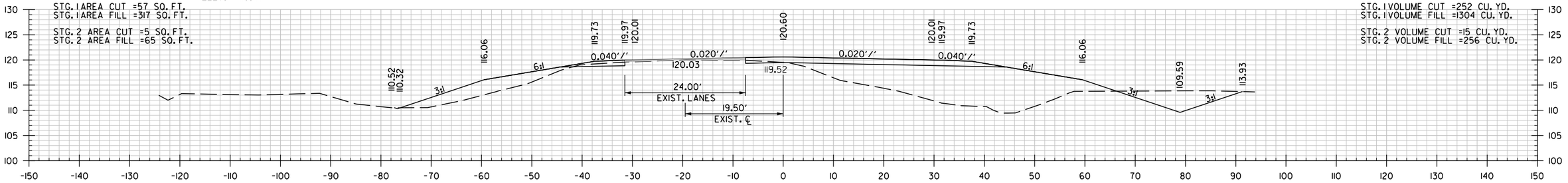
STA. 66+20.00
END SP. DITCH LT. 0.77%
ELEV. = 110.47

STG. 1 AREA CUT =57 SQ. FT.
STG. 1 AREA FILL =317 SQ. FT.

STG. 2 AREA CUT =5 SQ. FT.
STG. 2 AREA FILL =65 SQ. FT.

STG. 1 VOLUME CUT =252 CU. YD.
STG. 1 VOLUME FILL =1304 CU. YD.

STG. 2 VOLUME CUT =15 CU. YD.
STG. 2 VOLUME FILL =256 CU. YD.



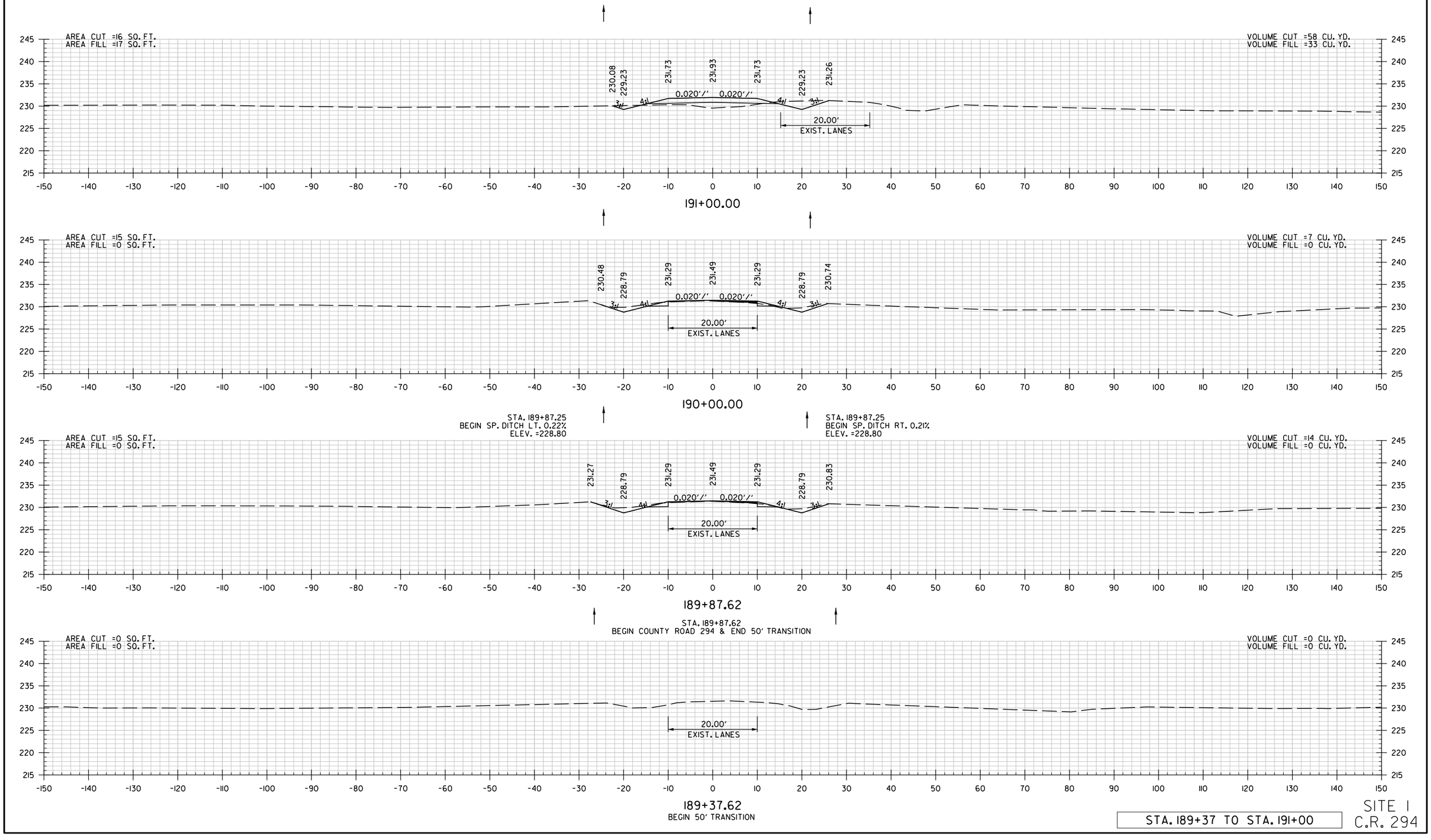

## 66+00.00

STA. 66+00 TO STA. 69+00

SITE 3

Scott.Thornsberg 9/20/2023 12:59:48 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388.070471\Cornie Harper Laplie\Design\CIVIL\Drawings\R070471.21.CX.002.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 100 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

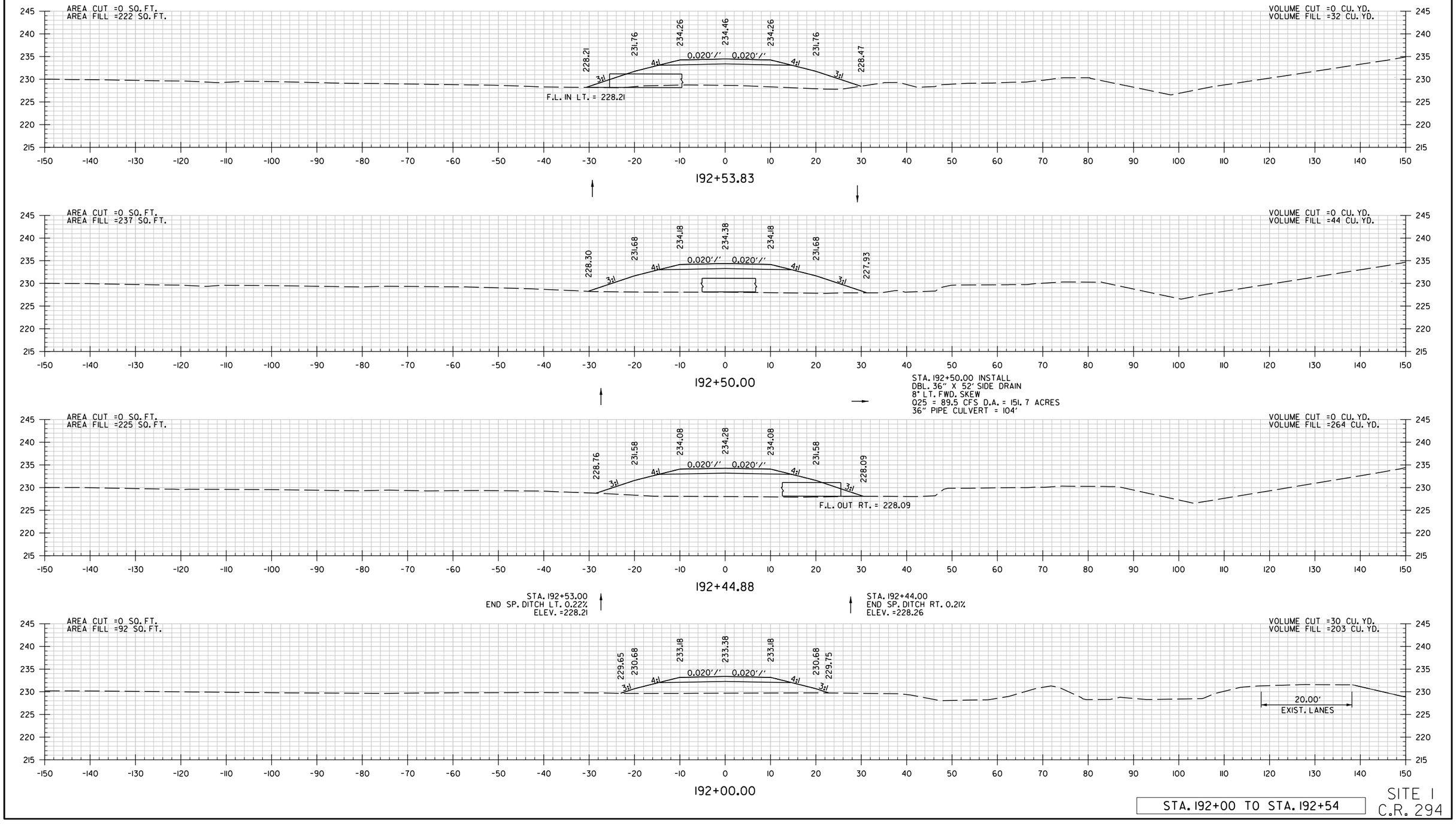



STA. 189+37 TO STA. 191+00

SITE 1
C.R. 294

Scott.Thornsberry@9/20/2023 12:59:49 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938_070471CornHarperLaplle\Design\CIVIL\Drawings\R070471_21_CX_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 101 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |



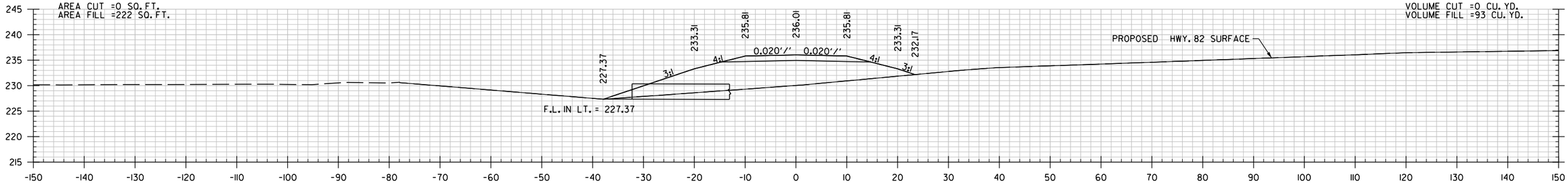

STA. 192+00 TO STA. 192+54

SITE 1
C.R. 294

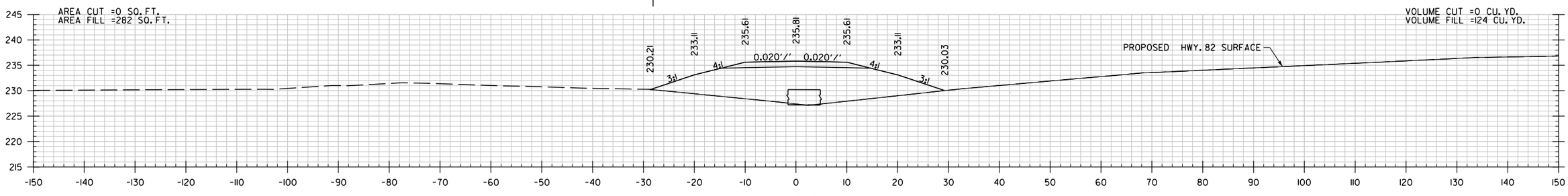
Scott.Thornsberry 9/20/2023 12:59:49 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_169388_070471\Cornelius Harper Lapile\Design\CIVIL\Drawings\R070471_21_CX_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070471 | 102 | 103 |
| | | | | (1) | CROSS SECTIONS | | | |

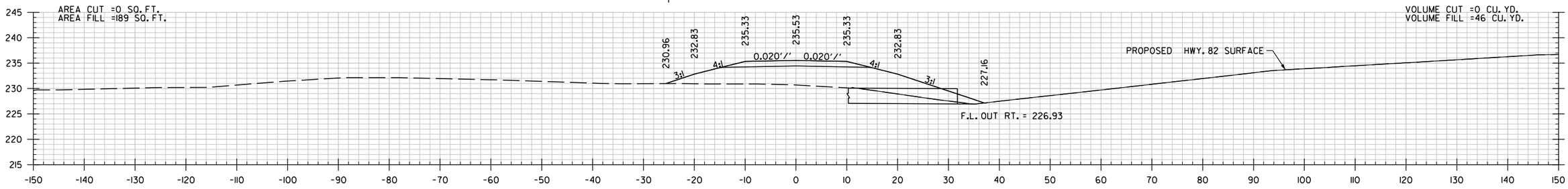
STA. 193+60.73
TIE TO HWY. 82 LANE EDGE



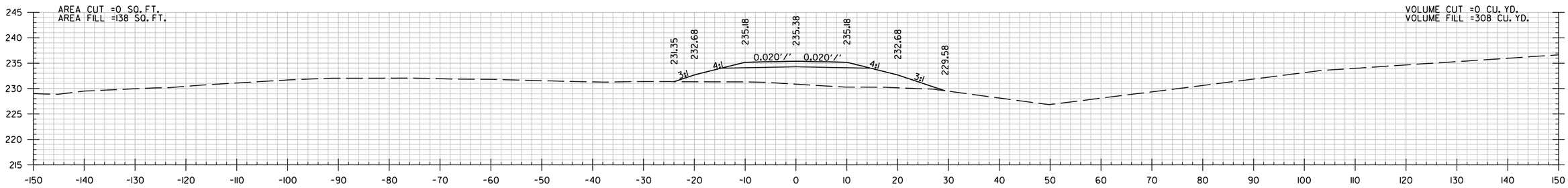

193+31.67




193+21.72




193+07.55




193+00.00

STA. 193+00 TO STA. 193+32

SITE 1
C.R. 294

Scott.Thornsberry 9/20/2023 12:59:50 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16938_070471\Cornelia Harper Lapile\Design\CIVIL\Drawings\R070471_21_CX_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 070471 | 103 | 103 |
| (1) | CROSS SECTIONS | | | |



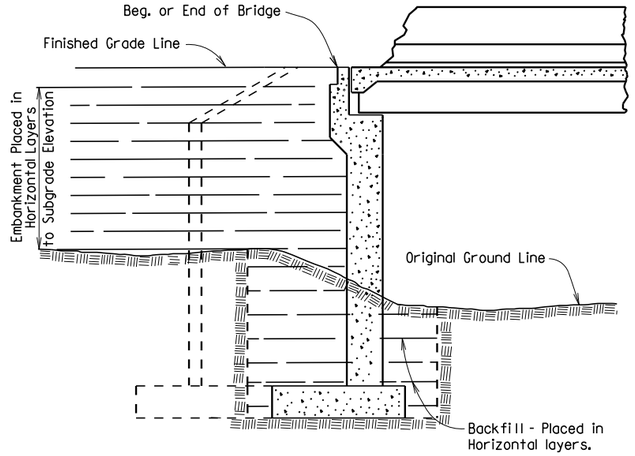

STA. 301+00 TO STA. 303+50

SITE 1
C.R. 494

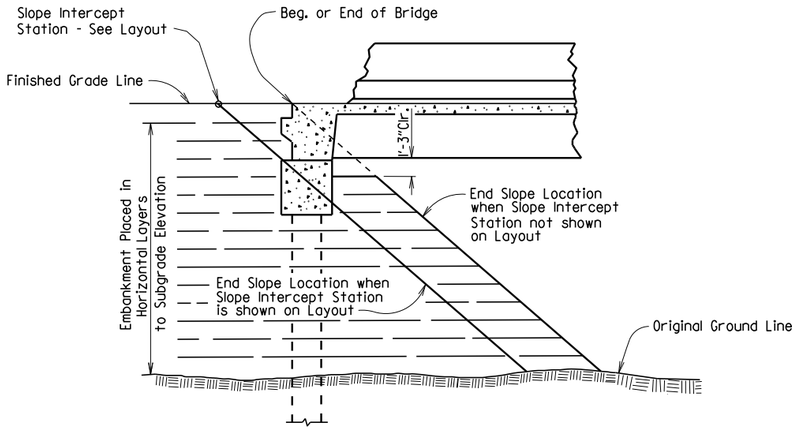
Scott.Thornsberd 9/20/2023 12:59:51 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_16388_070471\CornelHarperLaplle\Design\CIVIL\Drawings\R070471_21_CX_003.dgn
REVISED DATE: $$REVDATE$$

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | | | |

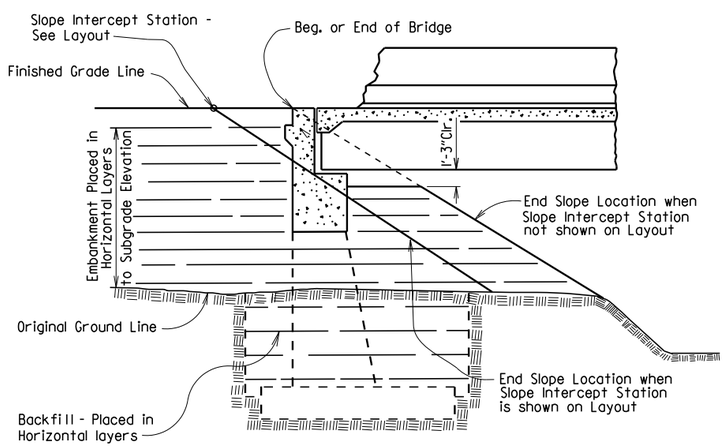
1 EMBANKMENT & BACKFILL 55000



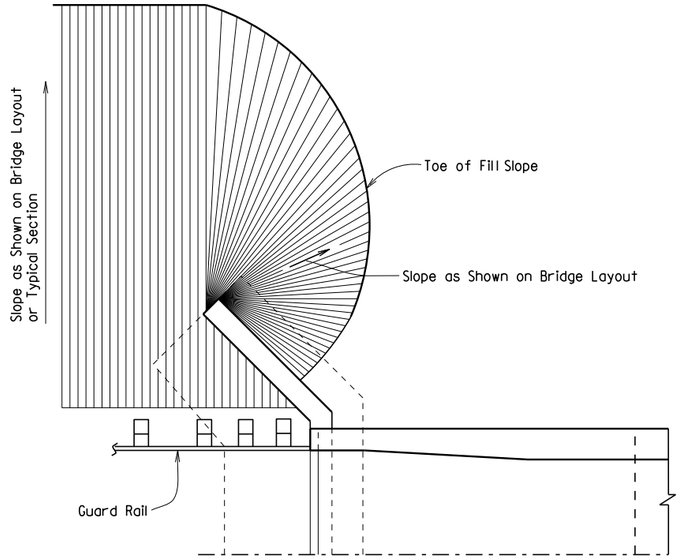

EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



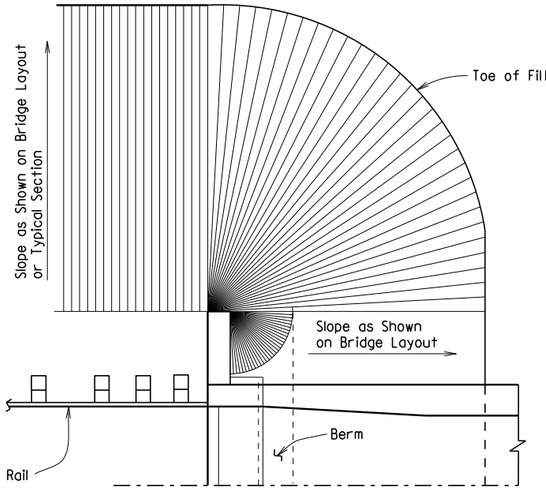

EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



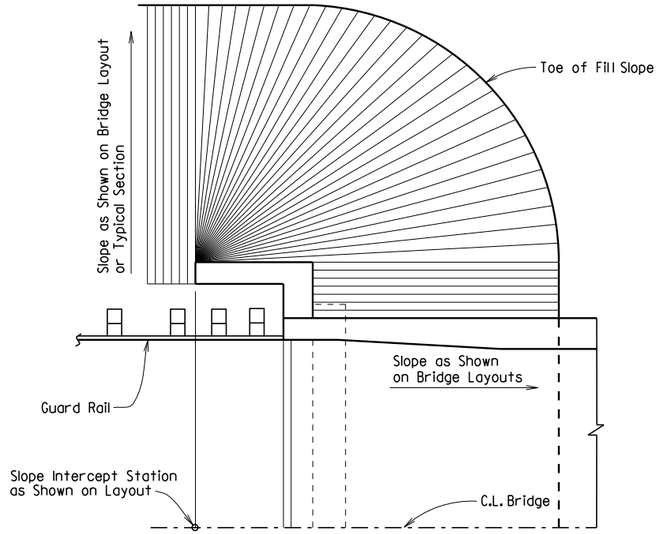

EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



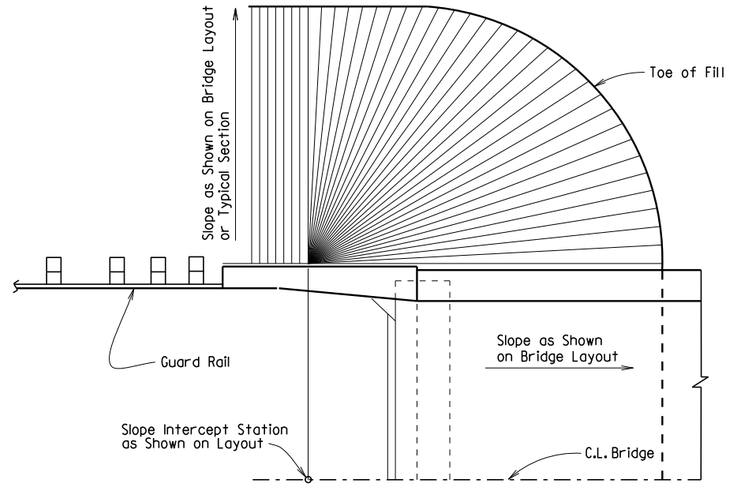

VERTICAL WALL ABUTMENTS




SPILL-THROUGH END BENTS WITH STUB WING




SPILL-THROUGH END BENTS WITH TURNBACK WING




SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

# STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

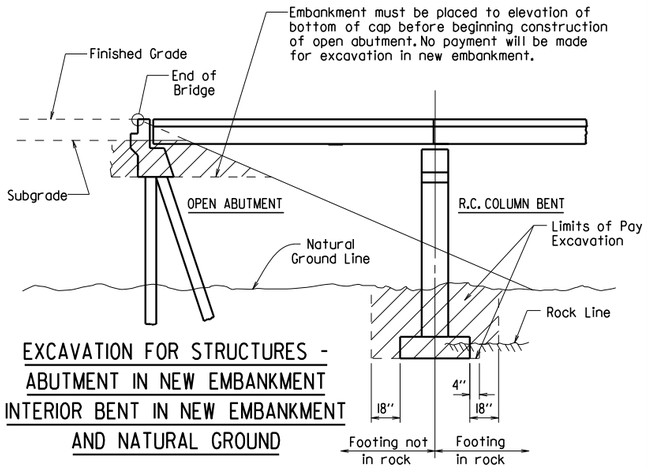
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: -

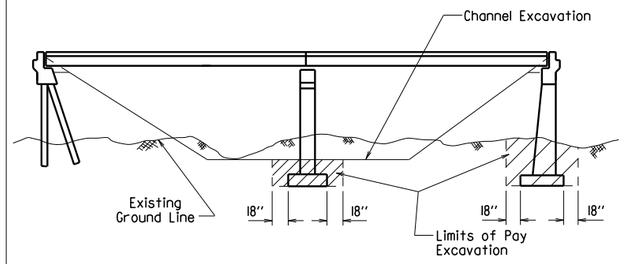
DRAWING NO. 55000

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | | | |

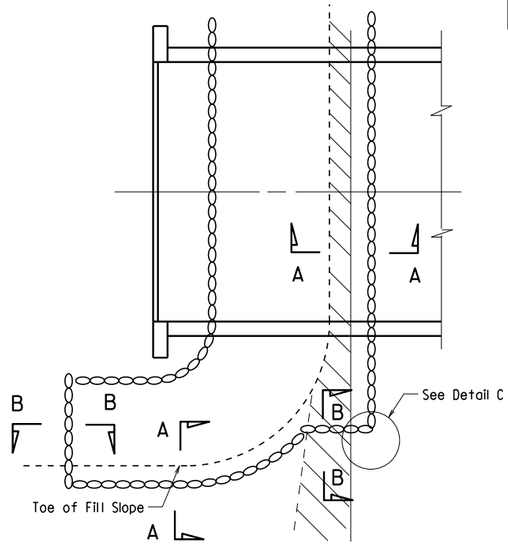
1 RIPRAP & EXCAV. 55001



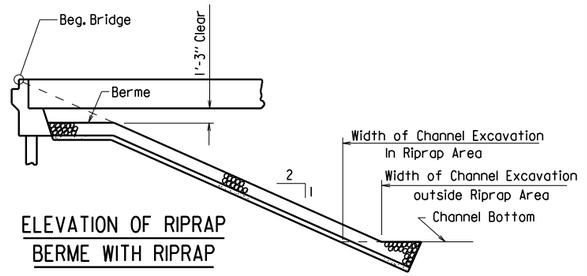

EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



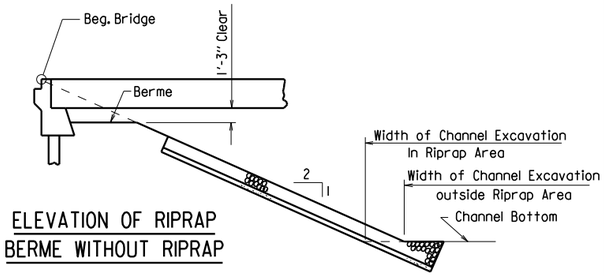

EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



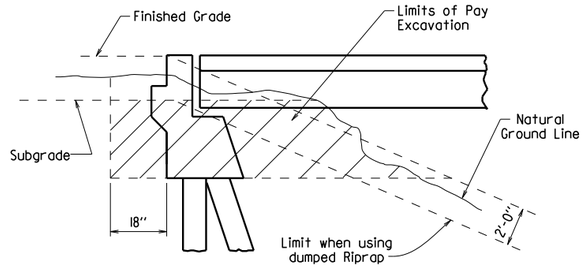

PLAN OF DUMPED RIPRAP



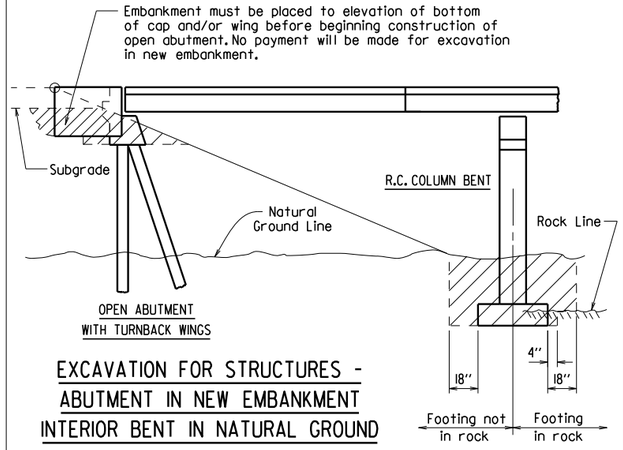

ELEVATION OF RIPRAP BERME WITH RIPRAP



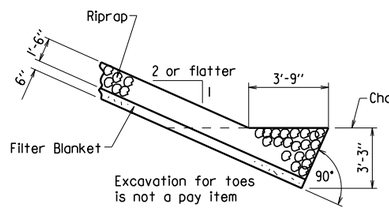

ELEVATION OF RIPRAP BERME WITHOUT RIPRAP




EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND

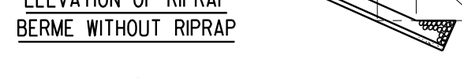



EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND

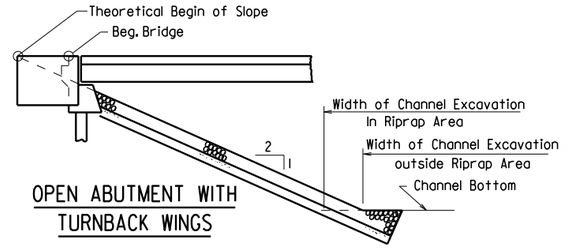



SECTION A-A

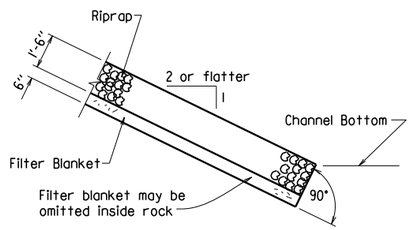
(Toe Excavation in Soil)




SECTION B-B




OPEN ABUTMENT WITH TURNBACK WINGS



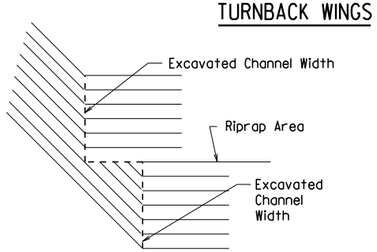

SECTION A-A

(Toe Excavation in Rock)

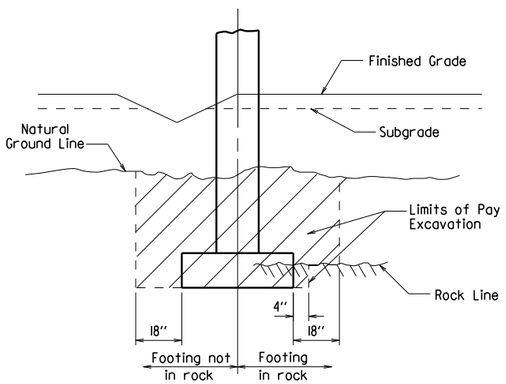
Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

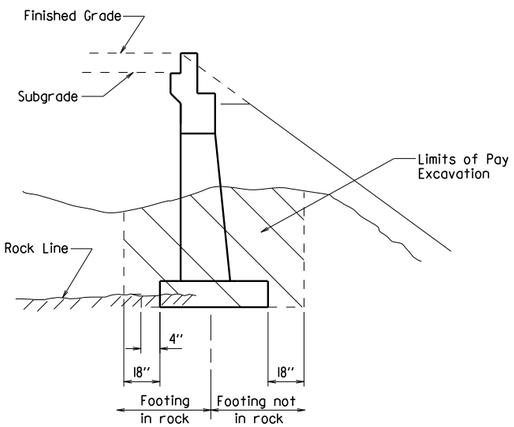
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.




DETAIL C




EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND




EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

# STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

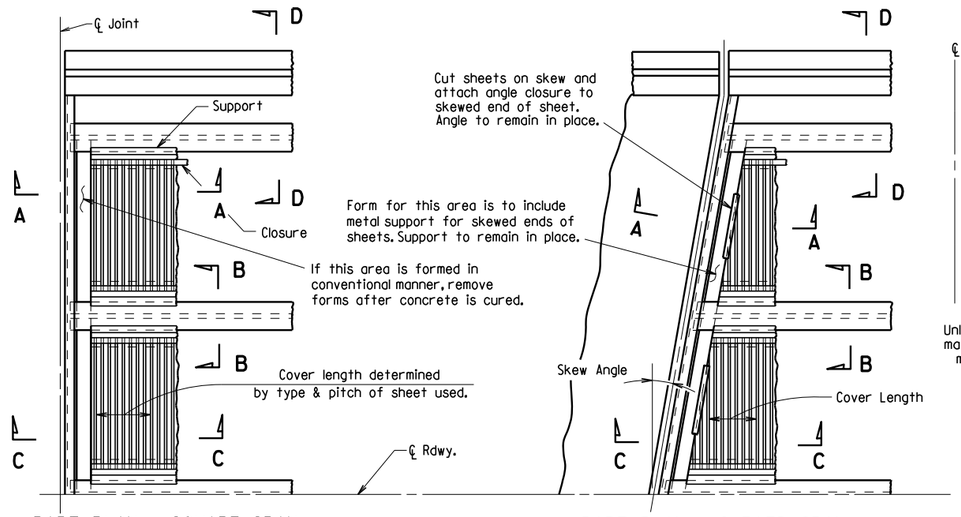
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b5500l.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE:

DRAWING NO. 55001

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 3/24/16 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | | | |
| | | | | ① | BRIDGE DECK FORMS | | 55005 | |



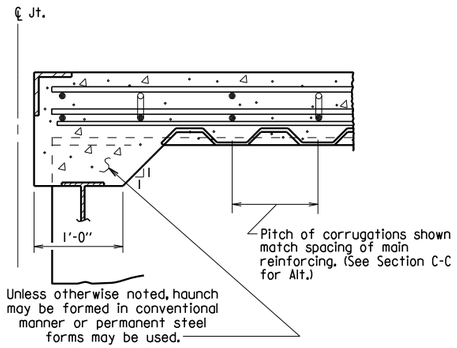

## PART PLAN - SQUARE SPAN

3/8" = 1'-0"



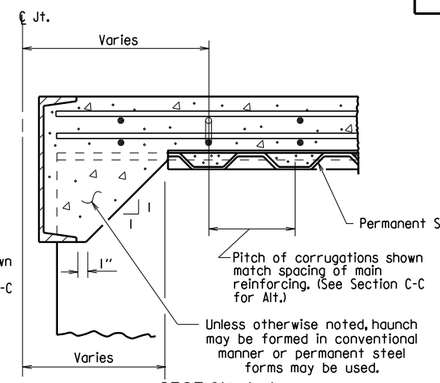

## PART PLAN - SKEWED SPAN

3/8" = 1'-0"



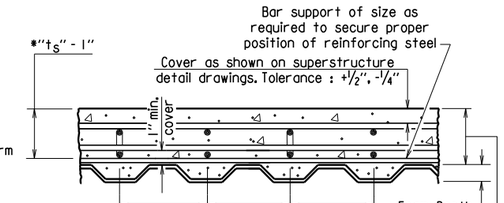

## SECTION A-A

N.T.S.
(Angle at end of span)



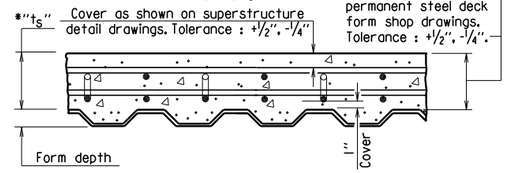

## SECTION A-A

N.T.S.
(Channel at end of span)



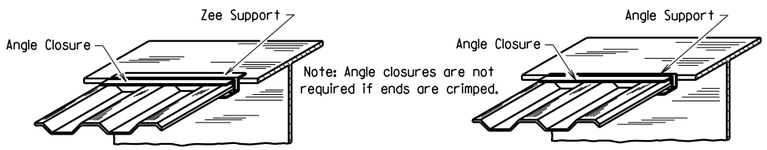

## SECTION C-C

1" = 1'-0"




## SECTION C-C - ALTERNATE

1" = 1'-0"
(Applicable when corrugations do not match spacing of main reinforcement)




## SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

*$t_s$ = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.




## SECTION B-B

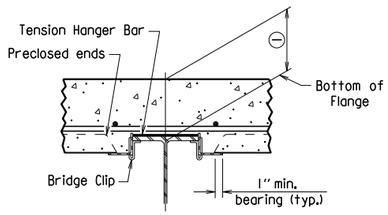
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

③ ⚠ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



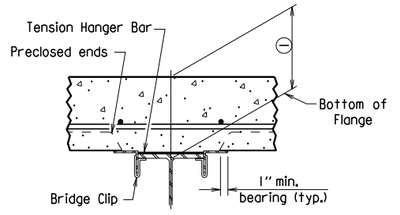

## SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



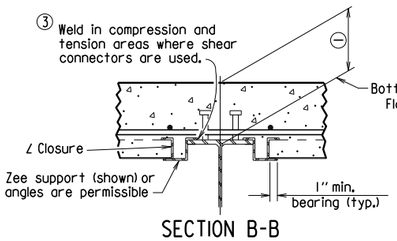

## SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



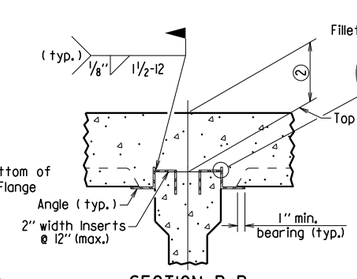

## SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



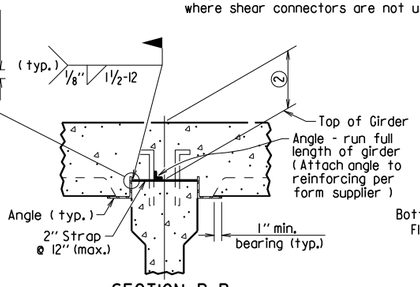

## SECTION B-B

1" = 1'-0"
(Showing ∠ Closure)



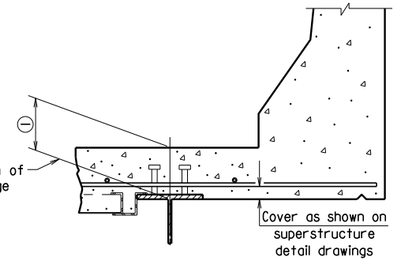

## SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Insert cast in girder)




## SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Strap)




## SECTION D-D

1" = 1'-0"
Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = $t_S$ + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

# STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

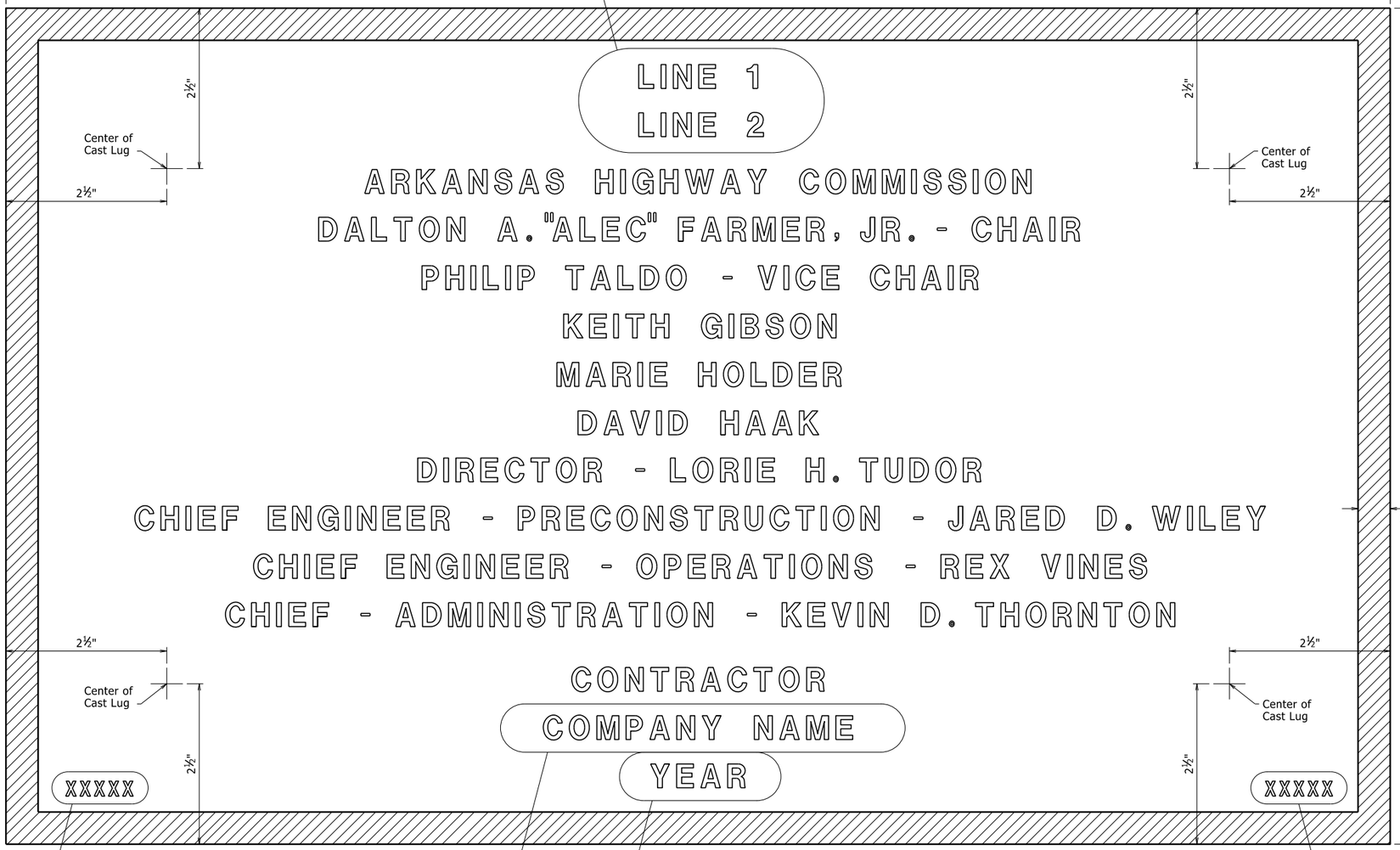
| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | KDH | DATE: | 2-27-2014 | FILENAME: | b55005.dgn |
| CHECKED BY: | BEF | DATE: | 2-27-2014 | SCALE: | NONE |
| DESIGNED BY: | STD. | DATE: | — | | |

DRAWING NO. 55005

| DATE REVISED | DATE REVISED | FED. RD. DIST. NO. | STATE | JOB NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| 4-14-23 | | 6 | ARK. | | | |
| | | TYPE D NAME PLATE - 55010 | | | | |

The name of the bridge as shown on the plans shall be placed on Lines 1 & 2 using ⅛" raised letters and numerals ⅜" high.

| | Example 1 | Example 2 | Example 3 | Example 4 |
|---|---|---|---|---|
| Line 1 | RED RIVER | SOUTHERN RAILROAD | SALINE RIVER | HIGHWAY 5 |
| Line 2 | RELIEF | OVERPASS | RELIEF | |



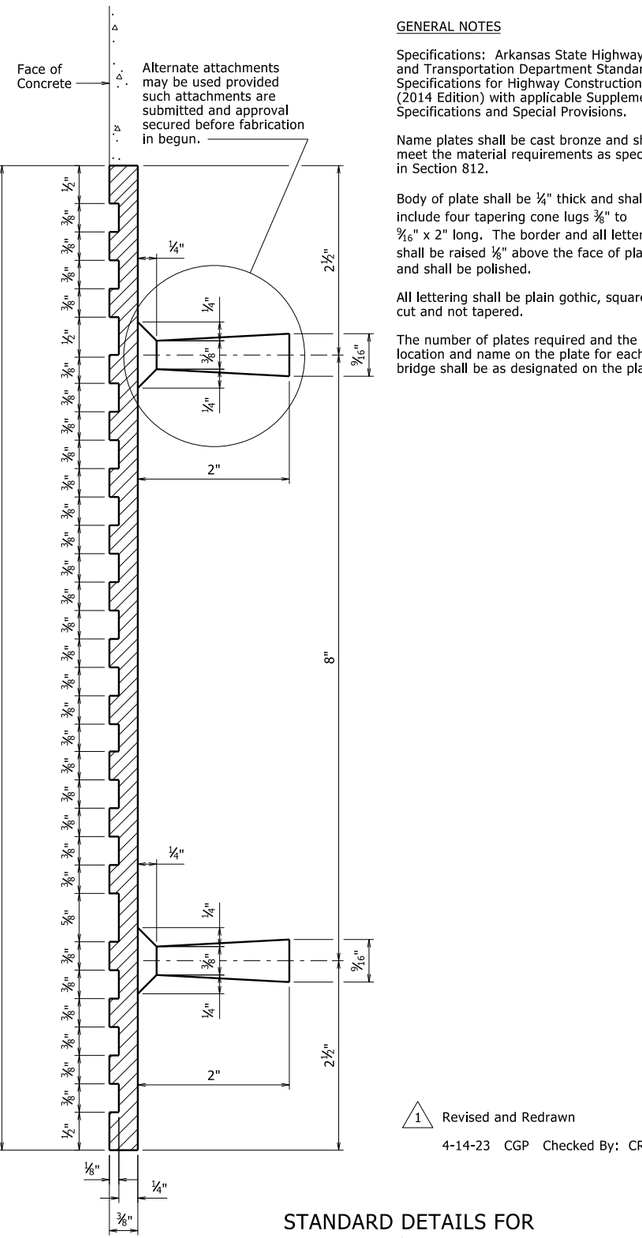

Place the design live loading here using ⅛" raised letters and numerals ¼" high. Examples: HS20, HL-93

Place the Year in which Contract was awarded here using ⅛" raised numerals ⅜" high. Example: 2001

Place the name of the company awarded the construction contract here using ⅛" raised letters and numerals ⅜" high. Example: ABCD CONSTRUCTION, INC.

Place the Bridge number here using ⅛" raised letters and numerals ¼" high. Examples: A1234, 05432

TYPICAL BRIDGE NAME PLATE




GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be ¼" thick and shall include four tapering cone lugs ⅜" to 9/16" x 2" long. The border and all lettering shall be raised ⅛" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

1 Revised and Redrawn
4-14-23 CGP Checked By: CRE

STANDARD DETAILS FOR
TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

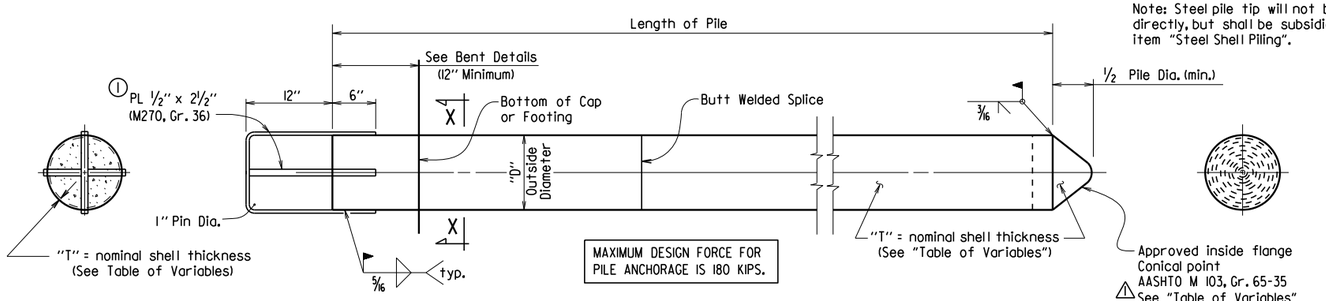
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55010

PRINT DATE: 4/20/2023

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 3/24/16 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | | | |

(1) STEEL SHELL PILES 55021

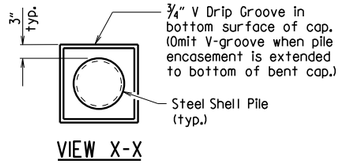



Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

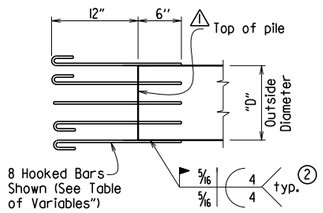
## CONCRETE FILLED STEEL SHELL PILE

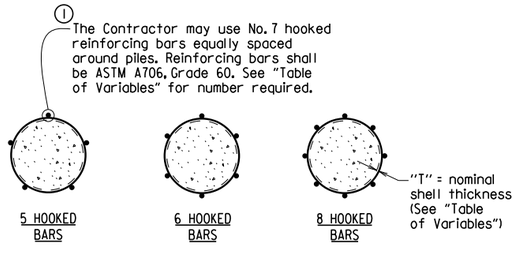
(1) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

(2) Welding shall comply with ANSI/AWS D1.4 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D1.5 Bridge Welding Code.



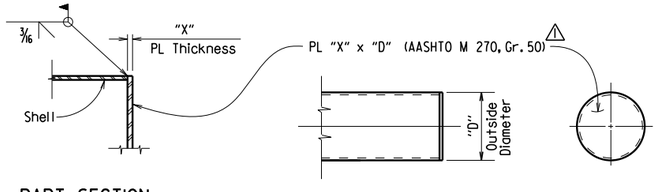

## VIEW X-X




## ALTERNATE PILE ANCHORAGE DETAIL

Note: Hooked bars shall be oriented to provide the required concrete clearances shown in the plans.

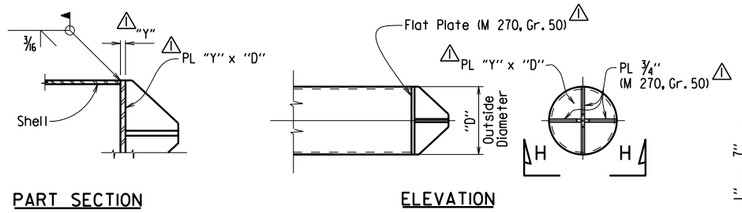



PART SECTION

ELEVATION

## ALTERNATE FLAT TIP DETAIL

Note: The alternate flat tip detail shall not be used on steel shell piling to be driven through embankments constructed with internal geosynthetic reinforcement.

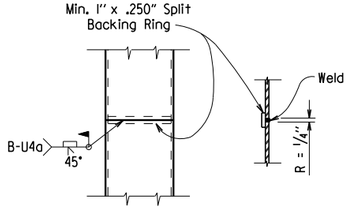



PART SECTION

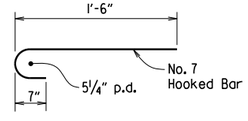
ELEVATION

VIEW H-H

## ALTERNATE VANED TIP DETAIL




## TYPICAL SPLICE DETAILS




## HOOKED BAR DETAIL

## TABLE OF VARIABLES

| OUTSIDE DIAMETER "D" | NOMINAL SHELL THICKNESS "T" | (1) PLATE THICKNESS "X" | (1) PLATE THICKNESS "Y" | NO. OF HOOKED BARS FOR ALTERNATE PILE ANCHORAGE | (1) MINIMUM CONICAL TIP DESIGN LOAD (KIPS) |
|---|---|---|---|---|---|
| 14" | 0.50" | 2¼" | 1½" | 5 | 859 |
| 16" | 0.50" | 2¼" | 1½" | 5 | 986 |
| 18" | 0.50" | 2½" | 1½" | 6 | 1,114 |
| 20" | 0.50" | 2½" | 1¾" | 6 | 1,241 |
| 24" | 0.50" | 2¾" | 1¾" | 8 | 1,495 |

(1) Revised and added various details by KWY, Ck'd. by BEF, 3/24/16.

## GENERAL NOTES FOR CONCRETE FILLED STEEL SHEEL PILES:

Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi.)

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

Steel shell piling that extends above the ground and is not protected by pile encasement shall be painted in accordance with Subsection 805.02.

See Bridge Layout for size and estimated length of steel shell piles and for driving information.

Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".

## GENERAL NOTES FOR PILE ENCASEMENTS:

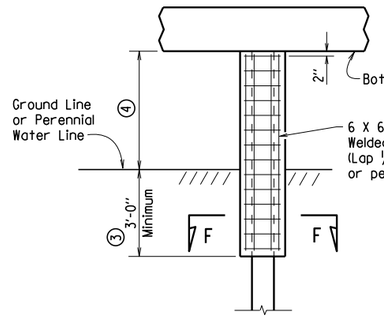
(1) See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

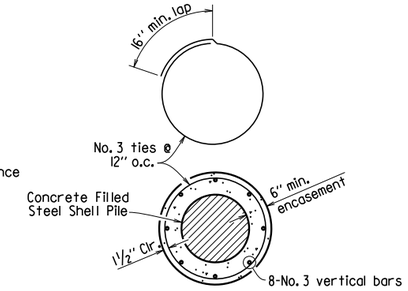
Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

Welded wire fabric shall conform to AASHTO M 55 or M 221.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".




SECTION F-F (REINF. ALTERNATE)

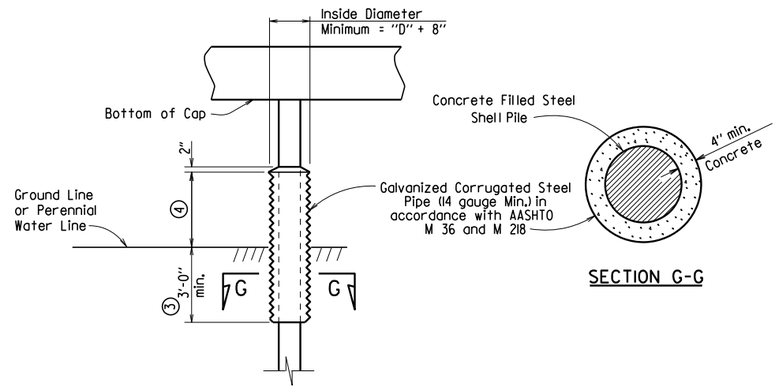
## PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(5) (Shown with Encasement to Bottom of Cap)

(3) Unless otherwise noted on Bridge Layout.

(4) See Bridge Layout for height of pile encasement (3'-0" Minimum).

(5) Pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the detail for partial height encasement.




SECTION G-G

## ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(Shown with Partial Height Encasement)

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on March 24, 2016. This copy is not a signed and sealed document.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

# STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS

## ARKANSAS STATE HIGHWAY COMMISSION

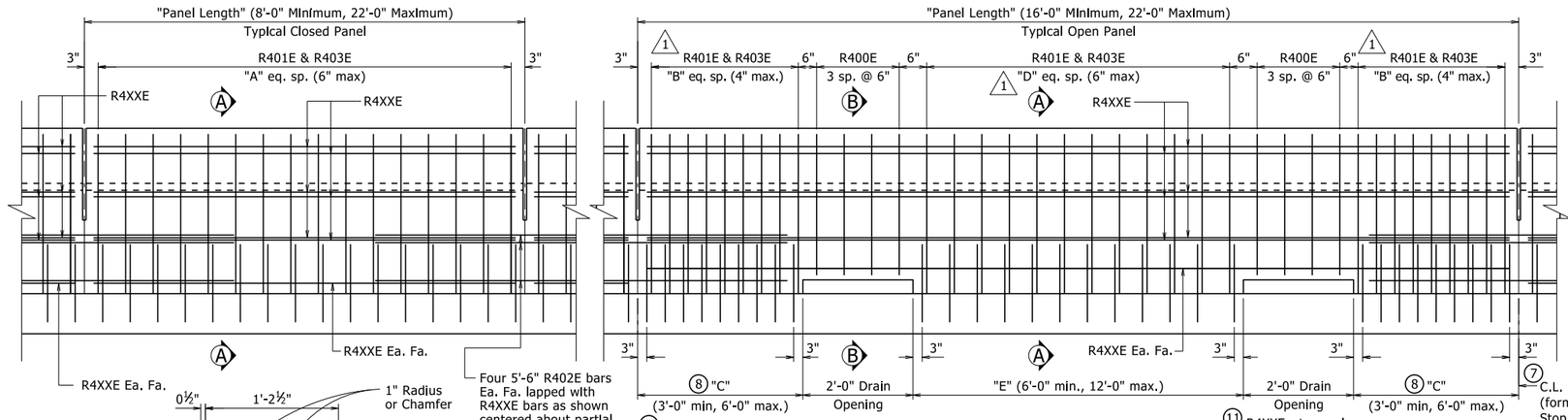
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55021.dgn
CHECKED BY: B.E.F. DATE: 2/27/2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55021

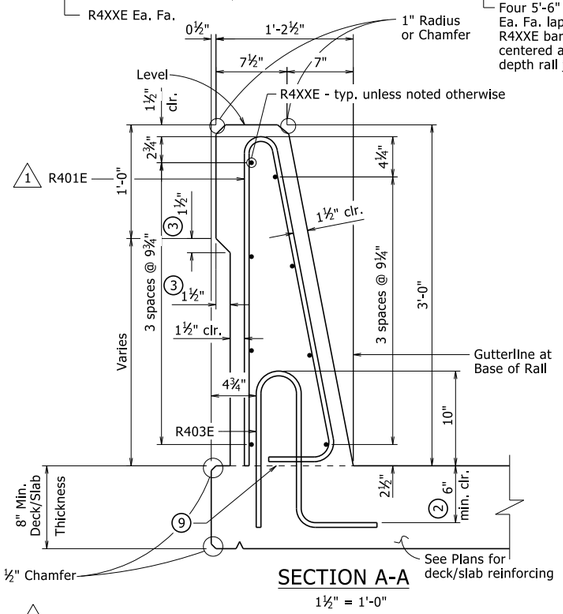
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 09/27/2022 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | | | |

TYPE SSTR36 - 55070



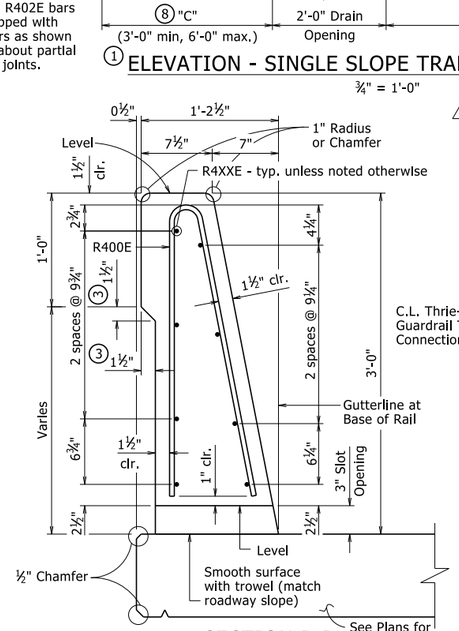

## ① ELEVATION - SINGLE SLOPE TRAFFIC RAIL

¾" = 1'-0"



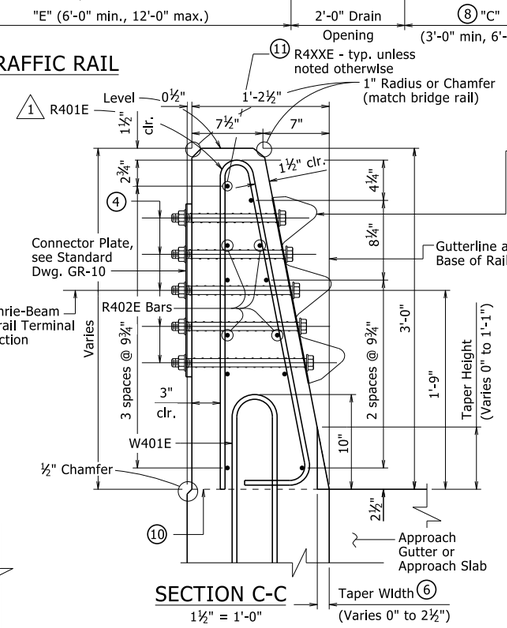

## SECTION A-A

1½" = 1'-0"



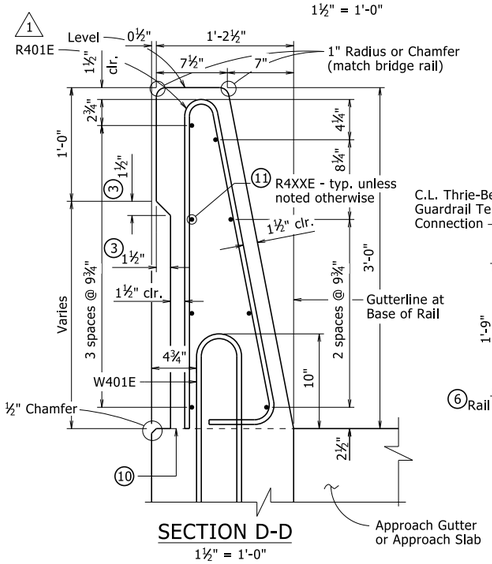

## SECTION B-B

1½" = 1'-0"



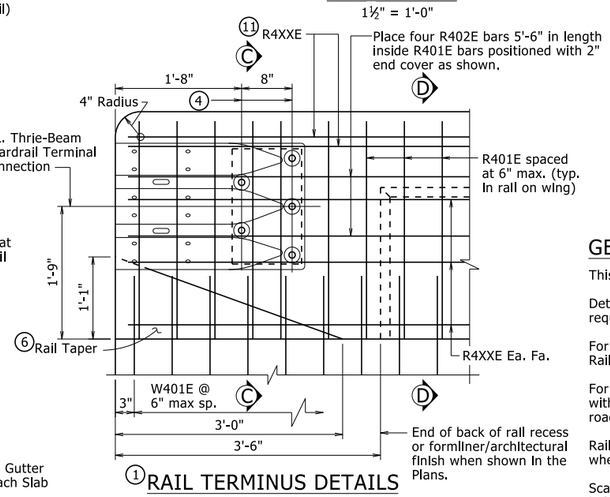

## SECTION C-C

1½" = 1'-0"




## SECTION D-D

1½" = 1'-0"




## ① RAIL TERMINUS DETAILS

1" = 1'-0"

⑦ C.L. Full-Depth Rail Joint (formed width ¼" to 1" max). Stop 6" from top of deck/slab or sidewalk. Place at all intermediate bents locations where rail is continuous.

⑦ C.L. Partial-Depth Rail Joint (formed width ¼" to 1" max). Stop 16" from top of deck/slab or sidewalk. Place at all remaining locations other than at intermediate bents.

① All measurements shown are along gutterline at base of rail.

② Minimum embedment into deck/slab.

③ Eliminate recess when formliner with architectural finish is used. See Plans for additional information.

④ C.L. 1" ø formed holes for ⅞" ø bolts. See Standard Drawings GR-10 and GR-12 for additional information.

⑤ Only applicable for bridges with rail cast directly on bridge deck/slab surface. Increase height as necessary for sidewalks, see Plans for additional information.

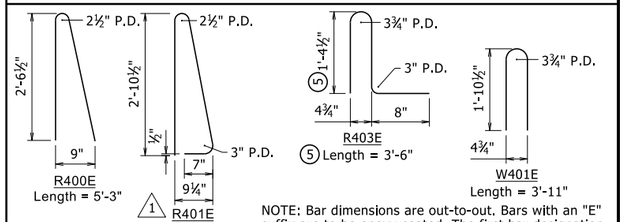
⑥ Field bend front leg of R401E bar as required to maintain minimum 1½" front face clearance within limits of taper.

⑦ When optional slip forming is used: to control cracking, all rail joints must be V-grooved around the perimeter of the rail prior to concrete set and sawing. Depth of V-groove shall be ½". Sawing of the joints shall be done as soon as practical to a width of ¼", and must be controlled so it will follow the V-Groove.

⑧ End posts shall be the same length within a panel.

Bolt Special End Shoe to face of rail as shown. Tapered washers are not required between the head of the bolts and the sloped face of the rail. Tighten the five terminal connection bolts in a well distributed pattern to prevent damage or distortion of the thrie-beam connection. Cut bolts off after installation so as to extend no more than ¾" beyond nut. Paint ends of cut-off bolts with zinc-rich paint. This work and material will not be paid for directly but shall be considered subsidiary to associated contract items.

### BENDING DIAGRAM




NOTE: Bar dimensions are out-to-out. Bars with an "E" suffix are to be epoxy coated. The first bar designation number indicates the reinforcing bar size.

⑨ Required Construction Joint. Level where water flows away from rail, match roadway slope where water flows toward rail.

⑩ Top of Abutment Wing & Required Construction Joint (match bridge deck/slab construction joint slope). See Plans for Wing reinforcing.

⑪ These bars will not be included in the "Table of Variables". See Plans for details.

## TABLE OF VARIABLES

| Closed Rail Panels | | | Open Rail Panels | | | | | |
|---|---|---|---|---|---|---|---|---|
| Panel Length | A | R4XXE | Panel Length | B | C | D | E | R4XXE |
| | | | | | | | | |

See Plans for table with values.

## GENERAL NOTES

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria.

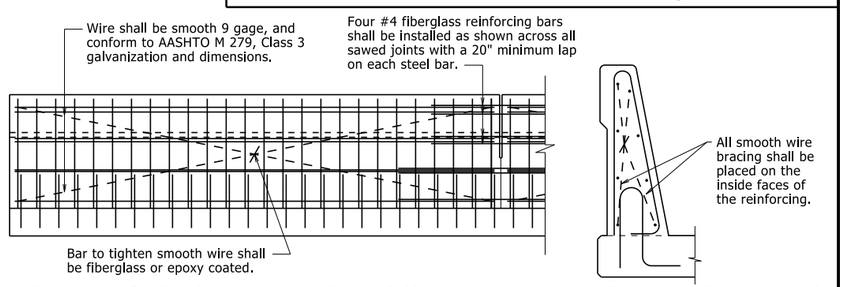
Details shown are general for bridges without sidewalks. See Plans for additional details and requirements specific to bridges with sidewalks.

For Table of Variables, Rail Bar List, locations of Full and Partial Depth Rail Joints, and Wing & Rail Bar Lists, see Plans.

For location of drain openings, see Plans. Drain openings shown are not applicable for bridges with sidewalks. Drain openings will not be allowed over Railroad Right of Way, travelled roadways, and protected waterways.

Rail Terminus details, including Rail Taper, are not applicable for bridges with sidewalks or when bridge railing is continuous with roadway railing.

Scales shown are for 22"x34" drawings. When using 11"x17" drawings, reduce scale by one half.




The extruded rail shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Unless otherwise noted, exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of Class 2, Rubbed Finish.

All panels shall be braced as required to prevent racking.

Slip forming will not be allowed on bridges where formliner with architectural treatment is used unless approval from the Engineer is obtained.

## DETAILS OF OPTIONAL SLIP FORMING OF BRIDGE TRAFFIC RAIL

No Scale

△1 Modified bending diagram and spacing for R401E bar.

By: CGP, Checked by: CMW 09/27/2022

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on November 5, 2020. This copy is not a signed and sealed document.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

# STANDARD DETAILS FOR BRIDGE TRAFFIC RAIL TYPE SSTR36

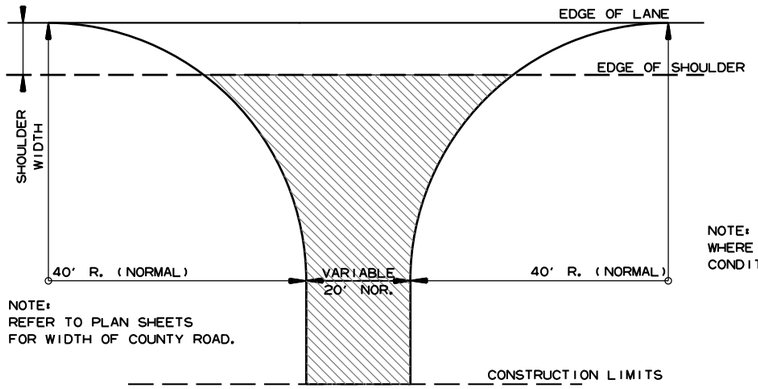
## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KWY DATE: 11/5/2020
CHECKED BY: LJB DATE: 11/5/2020
DESIGNED BY: STD. DATE: -----
FILENAME: b55070.dgn
SCALE: As Noted

DRAWING NO. 55070

PRINT DATE: 10/6/2022

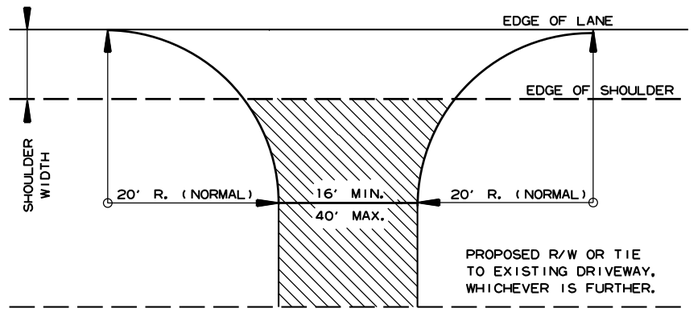



NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ACHM SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH, UNLESS OTHERWISE
SPECIFIED IN PLANS.

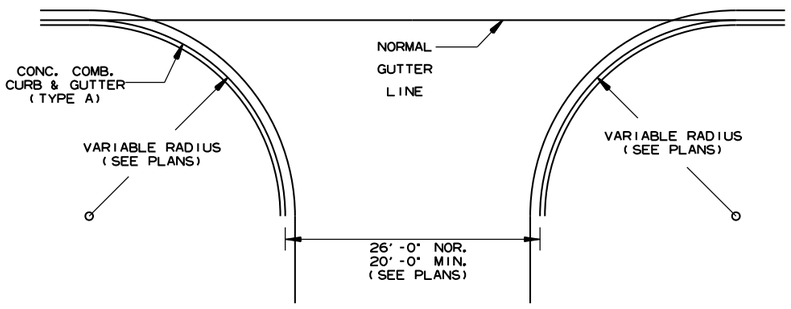
## DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION




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

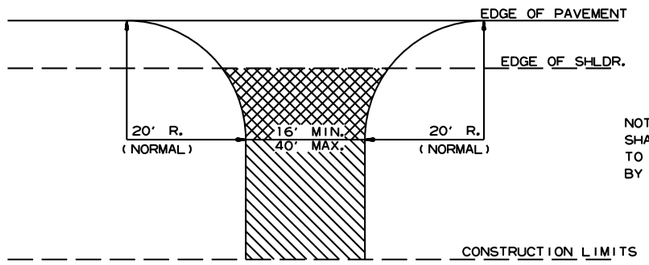
ACHM SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT OR
GRAVEL DRIVE EXISTING; OR 6"
CONCRETE IF CONCRETE DRIVE
EXISTING.

## DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)




NOTE:
PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS,
& COUNTY ROADS TO BE SAME AS MAIN LANES.

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




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

ASPHALT CONCRETE HOT MIX SURFACE
COURSE (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR
6" CONCRETE IF CONCRETE DRIVE EXIST.

AGGREGATE BASE COURSE (CLASS 7)
9" COMP. DEPTH OR CONFORM
TO EXISTING DRIVEWAY

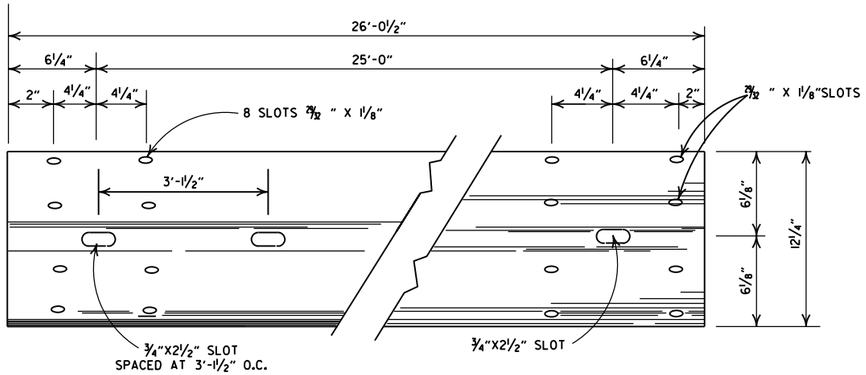
## DETAIL FOR DRIVEWAY TURNOUTS (COLLECTORS)

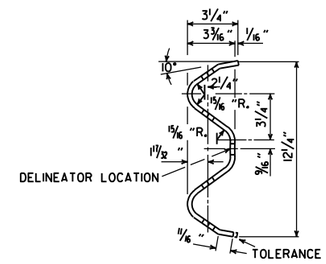
| DATE REV | DATE FILMED | DESCRIPTION |
|---|---|---|
| 5-19-22 | | ISSUED |

ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF DRIVEWAYS & STREET TURNOUTS

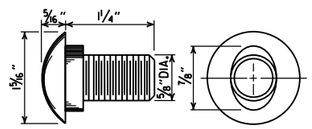
STANDARD DRAWING DR-2



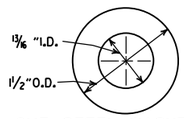




## DETAILS OF W-BEAM GUARDRAIL

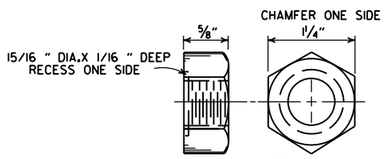
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



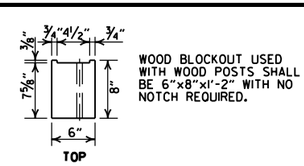

## SPLICE BOLT
## POST BOLT - SAME EXCEPT LENGTH




## CUT STEEL WASHER

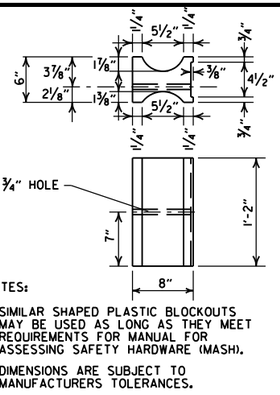



## NUT




WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

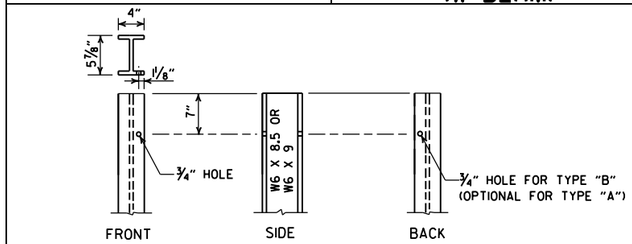
## WOOD BLOCKOUT (W-BEAM)



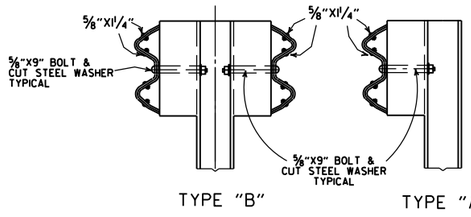

NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

## PLASTIC BLOCKOUT (W-BEAM)




## STEEL POST




## DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARDRAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARDRAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

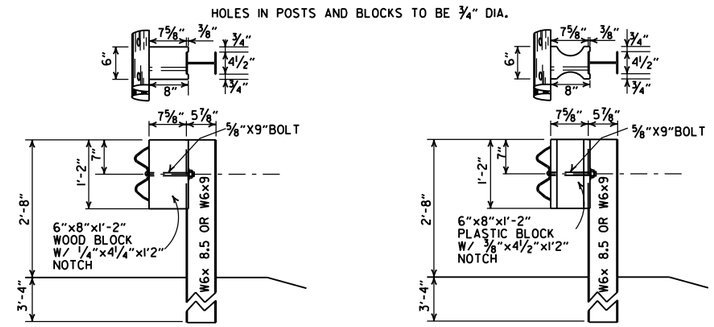
USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARDRAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARDRAIL.

DELINEATORS SHALL BE MOUNTED AT 37.5' SPACING ON THE FRONT FACE OF THE GUARDRAIL. SPACING MAY BE REDUCED IN CURVES, AS DIRECTED BY THE ENGINEER. COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR GUARDRAIL.




WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

## DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)




POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

## DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

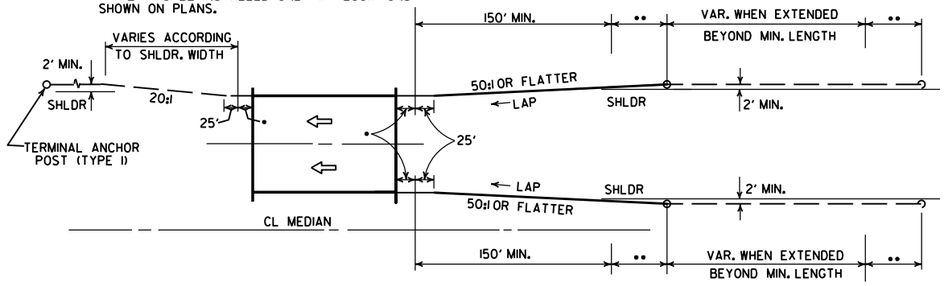
| DATE | REVISION | FILMED |
|---|---|---|
| 05-19-22 | REVISED GENERAL NOTES, ADDED DELINEATOR LOCATION. | |
| 11-07-19 | RENUMBERED AND RENAMED | |
| 11-16-17 | REVISED GENERAL NOTES AND RAISED GUARDRAIL HEIGHT 3" | |
| 07-14-10 | RAISED HEIGHT OF GUARDRAIL 1" | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 04-10-03 | REVISED GENERAL NOTES | |
| 08-22-02 | REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & STEEL POST | |
| 11-16-01 | REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS | |
| 03-30-00 | REMOVED GUARDRAIL AT BRIDGE ENDS | |
| 01-12-00 | ADDED PLASTIC BLOCKOUT | |
| 08-12-98 | REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARDRAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES | |
| 04-03-97 | REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS | |
| 10-18-96 | REVISED WOOD POST NOTE | |
| 06-02-94 | ADDED ALT. STEEL POST SIZE | |
| 08-05-93 | REVISED STEEL POST SIZE | 8-5-93 |
| 10-01-92 | REDRAWN & REVISED | 10-1-92 |
| 08-15-91 | REVISED WASHER NOTE | 8-15-91 |
| 08-02-90 | REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK | 8-2-90 |
| 07-15-88 | REVISED SECTION 3 & GENERAL NOTES | |
| 03-04-88 | REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK | 780-3-4-88 |
| 10-30-87 | REVISED WOOD LINE POST DETAIL | 546-10-30-87 |
| 10-09-87 | REDRAWN & REVISED | 802-10-9-87 |

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

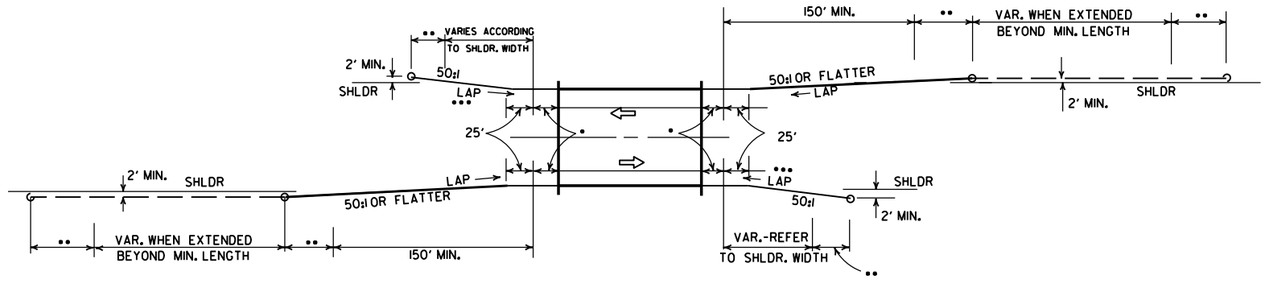
STANDARD DRAWING GR-6

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.




ONE-WAY TRAFFIC

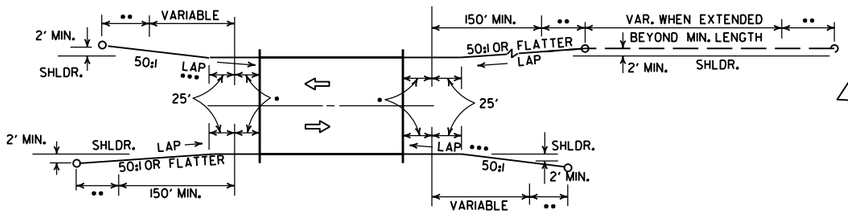
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.




TWO-WAY TRAFFIC

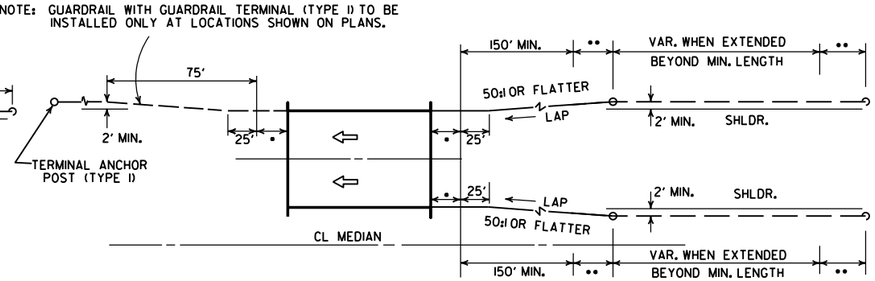
## METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.




TWO-WAY TRAFFIC

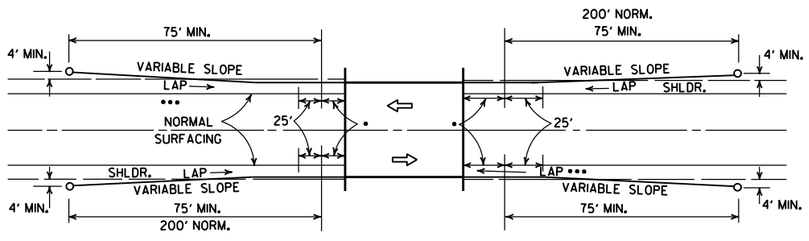
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.




ONE-WAY TRAFFIC

## METHOD OF INSTALLATION OF GUARDRAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.




## METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

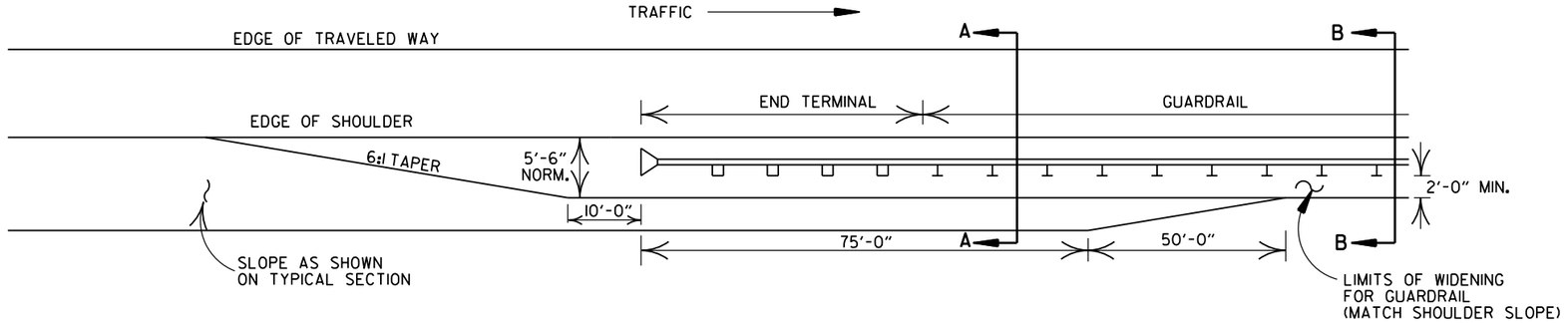
- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

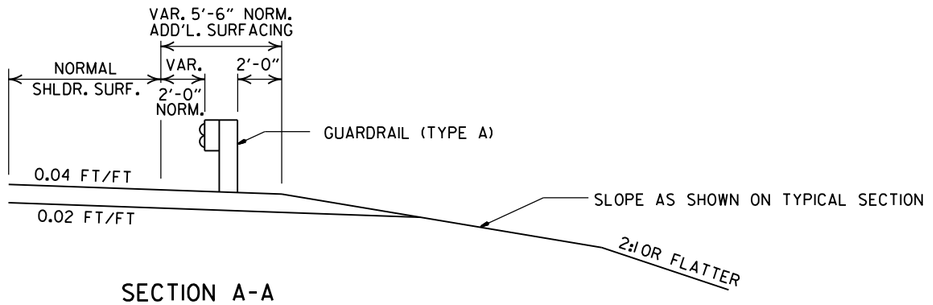
| DATE | REVISION | DATE FILM |
|---|---|---|
| | | |
| | | |
| | | |
| 11-07-19 | RENUMBERED AND RENAMED | |
| 4-17-08 | REVISED LAYOUTS | |
| 11-10-05 | REMOVED GUARDRAIL NOTES AND DETAILS | |
| 11-16-01 | DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1) | |
| 1-12-00 | ADDED CONSTRUCTION NOTE | 1-12-00 |
| 6-26-97 | REVISED LAYOUT | |
| 10-1-92 | REDRAWN & REVISED | 10-1-92 |
| | ADDED NOTE | |
| 10-9-87 | REDRAWN & REVISED | |

ARKANSAS STATE HIGHWAY COMMISSION

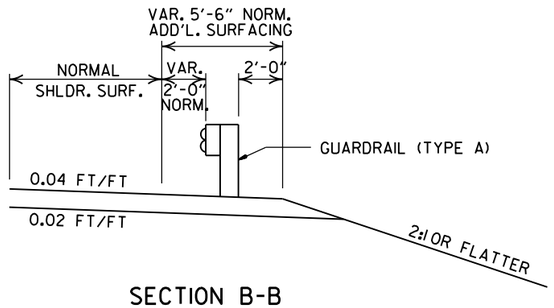
# GUARDRAIL DETAILS

STANDARD DRAWING GR-8



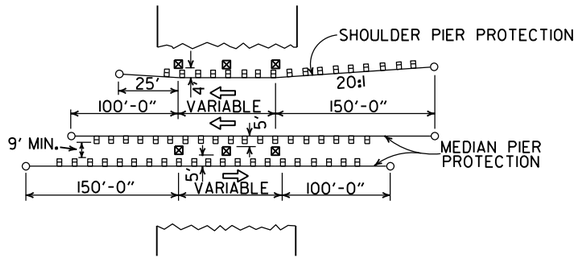




SECTION A-A



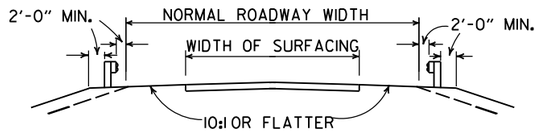

SECTION B-B

## DETAILS OF WIDENING FOR GUARDRAIL

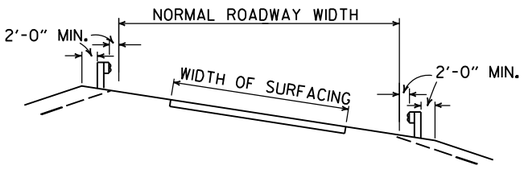



## METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARDRAIL.




SECTION ON TANGENT




SECTION ON CURVE

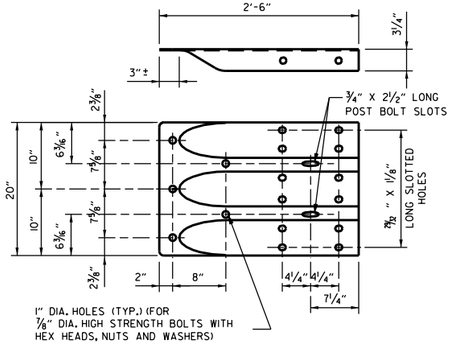
## DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY

| DATE | REVISION | DATE FILM |
|---|---|---|
| 11-07-19 | RENUMBERED AND RENAMED | |
| 4-17-08 | MINOR REVISION | |
| 11-10-05 | DRAWN | |

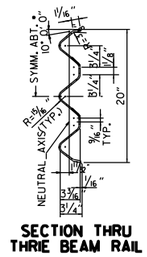
ARKANSAS STATE HIGHWAY COMMISSION

# GUARDRAIL DETAILS

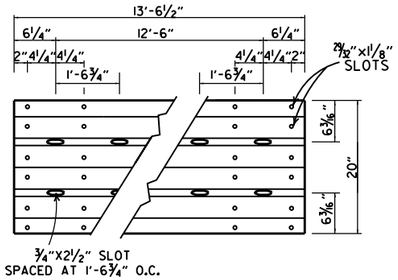
STANDARD DRAWING GR-9



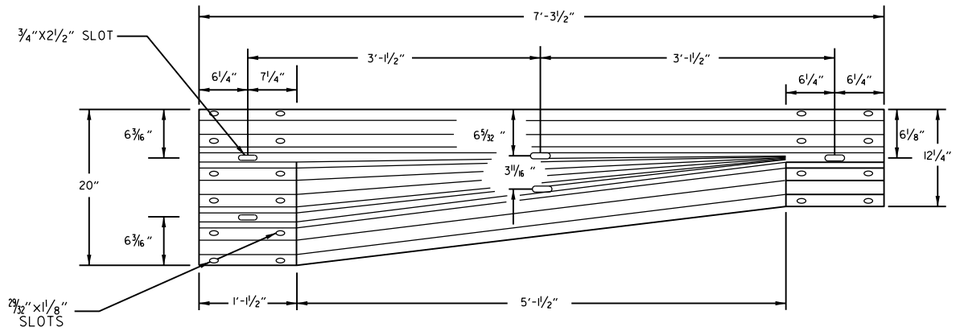

## SPECIAL END SHOE



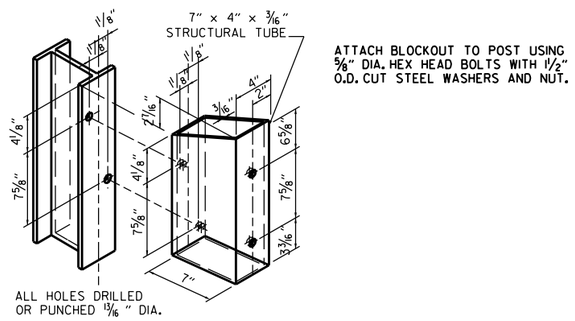

SECTION THRU THRIE BEAM RAIL



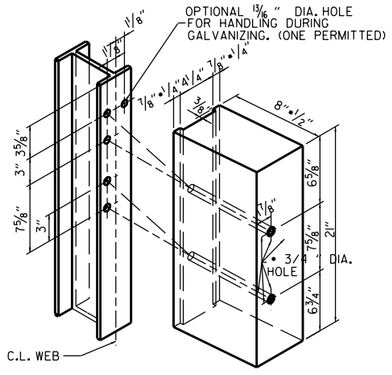

## THRIE BEAM RAIL




## TRANSITION SECTION



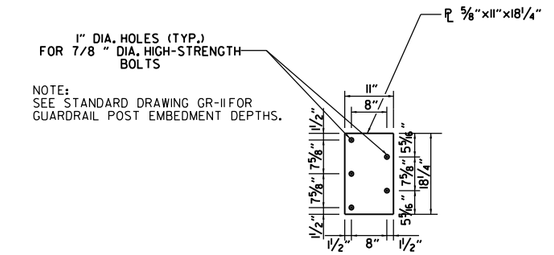

## STRUCTURAL STEEL TUBING BLOCKOUT DETAIL




ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

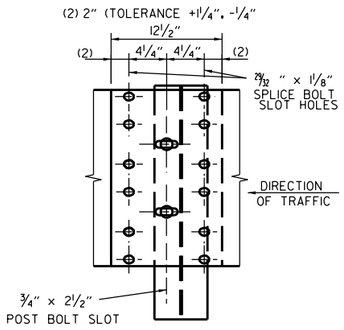
## HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.




## CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.




## THRIE BEAM RAIL SPLICE AT POST

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE 1.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3"4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

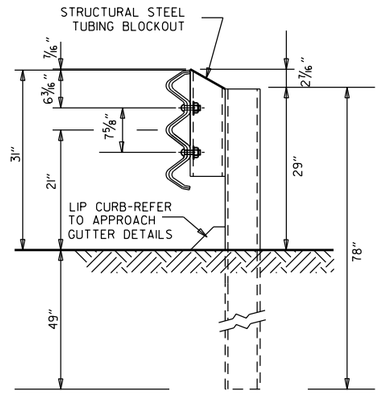
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

| DATE | REVISION | FILMED |
|---|---|---|
| 11-07-19 | RENAMED AND REVISED REFERENCES | |
| 11-16-17 | REVISED TRANSITION SECTION, GUARD RAIL HEIGHT, AND GENERAL NOTES; MOVED THRIE BEAM GUARD RAIL CONNECTIONS AT BRIDGES ENDS TO STD. DRWG. GR-12 | |
| 07-14-10 | RAISED HEIGHT OF W-BEAM 1" | |
| 11-29-07 | ADDED PLASTIC BLOCKOUTS | |
| 11-10-05 | ADDED NOTE FOR ATTACHING STEEL BLOCKOUT | |
| 11-18-04 | REVISED GENERAL NOTES | |
| 10-9-03 | REVISED GENERAL NOTES | |
| 04-10-03 | REVISED GENERAL NOTES | |
| 08-22-02 | REVISED NOTE (2) | |
| 06-29-00 | MOVED DIMENSION LINES | |
| 05-18-00 | ADDED NOTE | |
| 03-30-00 | DRAWN & ISSUED | |

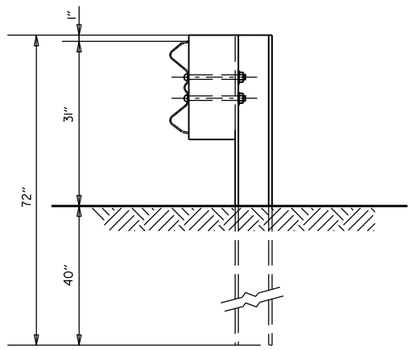
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

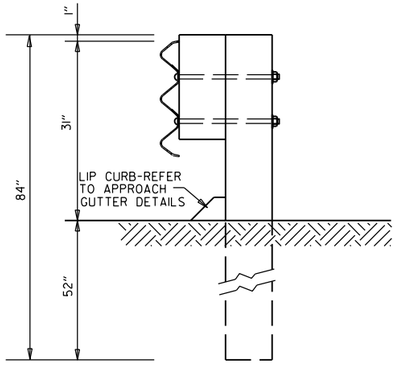
STANDARD DRAWING GR-10



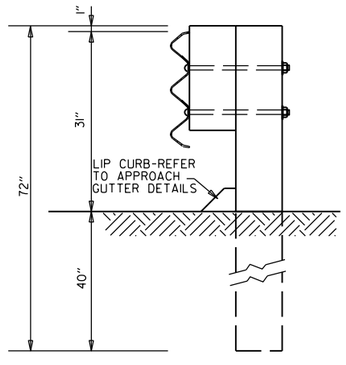

THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



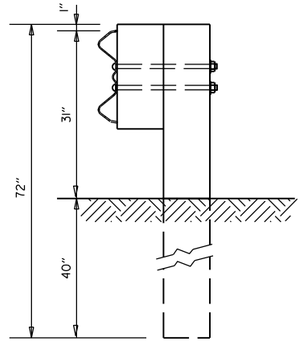

W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8




THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6




THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7




W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

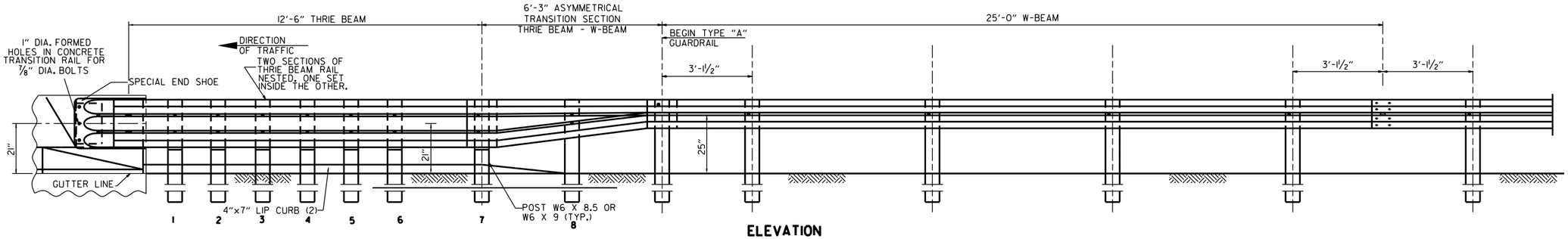
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO.1 1350 f SOUTHERN PINE.

| DATE | REVISION | FILMED |
|---|---|---|
| | | |
| | | |
| | | |
| 11-07-19 | RENAMED | |
| 11-16-17 | REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-11 | |
| 07-14-10 | REVISED POST 8 DIMENSIONS | |
| 11-29-07 | ADDED PLASTIC BLOCKOUTS | |
| 08-22-02 | REVISED LIP CURB NOTE | |
| 03-30-00 | DRAWN & ISSUED | |

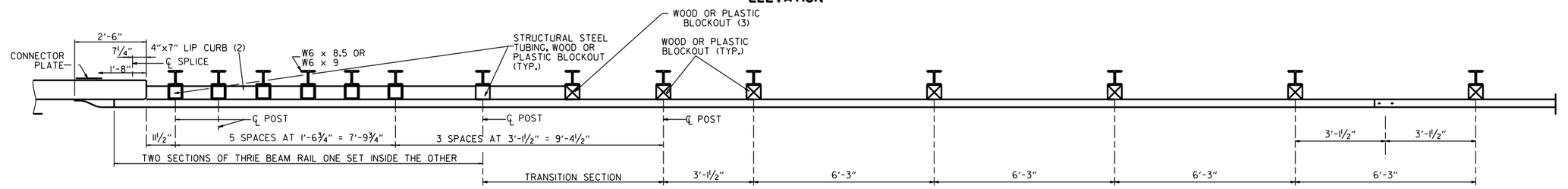
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

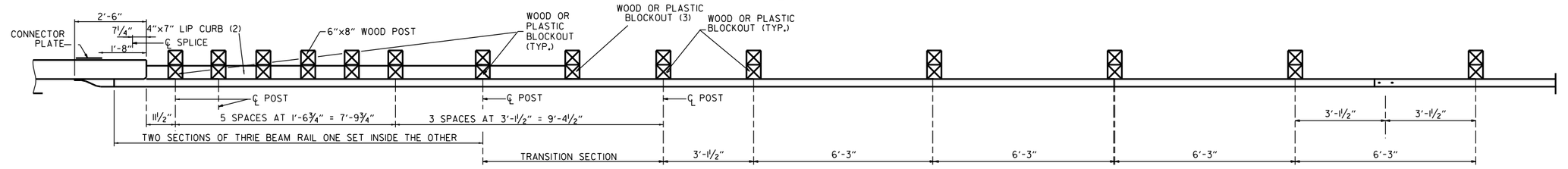
STANDARD DRAWING GR-11




**ELEVATION**




**PLAN**




**PLAN**

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

# THRIE BEAM GUARDRAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

POSTS SHALL NOT BE PLACED AT SPLICE LOCATIONS ALONG W-BEAM RAILS.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

| DATE | REVISION | FILMED |
|---|---|---|
| 05-14-20 | REVISED NOTES | |
| 11-07-19 | RENAMED & REVISED REFERENCES | |
| 11-16-17 | RE-DRAWN FROM STD. DWG. GR-10 & ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

STANDARD DRAWING GR-12

## REINFORCED CONCRETE ARCH PIPE DIMENSIONS

| EQUIV. DIA. | SPAN | | RISE | |
|---|---|---|---|---|
| | AASHTO M 206 | ARDOT NOMINAL | AASHTO M 206 | ARDOT NOMINAL |
| INCHES | INCHES | | | |
| 15 | 18 | 18 | 11 | 11 |
| 18 | 22 | 22 | 13½ | 14 |
| 21 | 26 | 26 | 15½ | 16 |
| 24 | 28½ | 29 | 18 | 18 |
| 30 | 36¼ | 36 | 22½ | 23 |
| 36 | 43⅜ | 44 | 26⅝ | 27 |
| 42 | 51⅛ | 51 | 31⅜ | 31 |
| 48 | 58½ | 59 | 36 | 36 |
| 54 | 65 | 65 | 40 | 40 |
| 60 | 73 | 73 | 45 | 45 |
| 72 | 88 | 88 | 54 | 54 |
| 84 | 102 | 102 | 62 | 62 |
| 90 | 115 | 115 | 72 | 72 |
| 96 | 122 | 122 | 77½ | 77 |
| 108 | 138 | 138 | 87⅛ | 87 |
| 120 | 154 | 154 | 96⅞ | 97 |
| 132 | 168¾ | 169 | 106½ | 107 |

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

## REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

| EQUIV. DIA. | AASHTO M 207 | |
|---|---|---|
| | SPAN | RISE |
| INCHES | INCHES | |
| 18 | 23 | 14 |
| 24 | 30 | 19 |
| 27 | 34 | 22 |
| 30 | 38 | 24 |
| 33 | 42 | 27 |
| 36 | 45 | 29 |
| 39 | 49 | 32 |
| 42 | 53 | 34 |
| 48 | 60 | 38 |
| 54 | 68 | 43 |
| 60 | 76 | 48 |
| 66 | 83 | 53 |
| 72 | 91 | 58 |
| 78 | 98 | 63 |
| 84 | 106 | 68 |

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

## 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. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

**NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.**

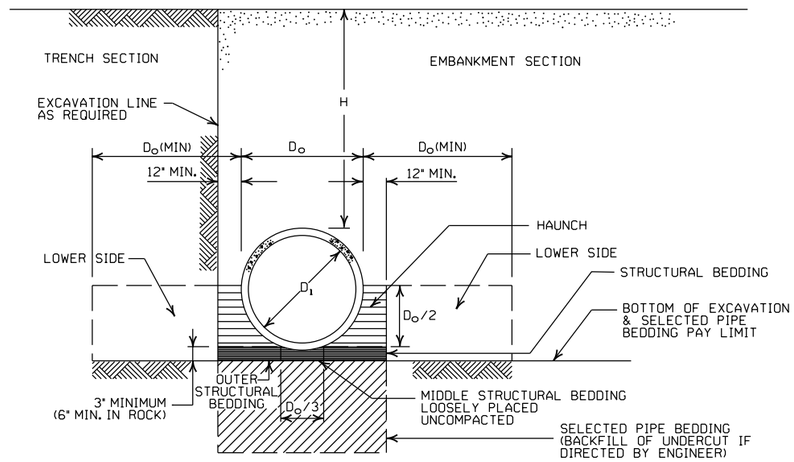
## - LEGEND -

$D_1$ = NORMAL INSIDE DIAMETER OF PIPE
$D_O$ = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

| INSTALLATION TYPE | MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING |
|---|---|
| TYPE 1 | AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7) |
| TYPE 2 | SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL* |
| TYPE 3** | AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL |

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.




## EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

## GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

## MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

| | CLASS OF PIPE | | | |
|---|---|---|---|---|
| | CLASS III | | CLASS IV | CLASS V |
| INSTALLATION TYPE | TYPE 1 OR 2 | TYPE 3 | ALL | ALL |
| PIPE ID (IN.) | FEET | | | |
| 12-15 | 2 | 2.5 | 2 | 1 |
| 18-24 | 2.5 | 3 | 2 | 1 |
| 27-33 | 3 | 4 | 2 | 1 |
| 36-42 | 3.5 | 5 | 2 | 1 |
| 48 | 4.5 | 5.5 | 2 | 1 |
| 54-60 | 5 | 7 | 2 | 1 |
| 66-78 | 6 | 8 | 2 | 1 |
| 84-108 | 7.5 | 8 | 2 | 1 |

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

## MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | | |
|---|---|---|---|
| | CLASS III | CLASS IV | CLASS V |
| | FEET | | |
| TYPE 1 | 21 | 32 | 50 |
| TYPE 2 | 16 | 25 | 39 |
| TYPE 3 | 12 | 20 | 30 |

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

## MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | |
|---|---|---|
| | CLASS III | CLASS IV |
| | FEET | |
| TYPE 2 OR TYPE 3 | 2.5 | 1.5 |

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

## MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | |
|---|---|---|
| | CLASS III | CLASS IV |
| | FEET | |
| TYPE 2 | 13 | 21 |
| TYPE 3 | 10 | 16 |

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 2-27-14 | REVISED GENERAL NOTE 1. | |
| 12-15-11 | REVISED FOR LRFD DESIGN SPECIFICATIONS | |
| 5-18-00 | REVISED TYPE 3 BEDDING & ADDED NOTE | |
| 3-30-00 | REVISED INSTALLATIONS | |
| 11-06-97 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

## CORRUGATED STEEL PIPE (ROUND)

| PIPE DIAMETER (INCHES) | ① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET) | MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) | | | | |
|---|---|---|---|---|---|---|
| | | METAL THICKNESS (INCHES) | | | | |
| | | 0.064 | 0.079 | 0.109 | 0.138 | 0.168 |
| 2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | | | |
| 12 | 1 | 84 | 91 | | | |
| 15 | 1 | 67 | 73 | | | |
| 18 | 1 | 56 | 61 | | | |
| 24 | 1 | 42 | 46 | 59 | | |
| 30 | 2 | 34 | 36 | 47 | | |
| 36 | 2 | | 30 | 39 | 41 | |
| 42 | 2 | | 43 | 67 | 70 | 73 |
| 48 | 2 | | 37 | 58 | 61 | 64 |
| ② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM | | | | | | |
| 36 | 1 | 48 | 60 | 88 | 111 | 118 |
| 42 | 1 | 41 | 51 | 72 | 90 | 102 |
| 48 | 1 | 36 | 45 | 64 | 77 | 85 |
| 54 | 2 | 32 | 40 | 59 | 71 | 79 |
| 60 | 2 | 29 | 36 | 53 | 64 | 71 |
| 66 | 2 | 26 | 33 | 47 | 58 | 64 |
| 72 | 2 | 24 | 30 | 44 | 53 | 59 |
| 78 | 2 | | 28 | 41 | 49 | 54 |
| 84 | 2 | | 26 | 38 | 45 | 51 |
| 90 | 2 | | 24 | 35 | 43 | 45 |
| 96 | 2 | | 22 | 33 | 40 | 44 |
| 102 | 2 | | | 31 | 38 | 42 |
| 108 | 2 | | | 30 | 35 | 39 |
| 114 | 2 | | | 28 | 34 | 37 |
| 120 | 2 | | | 27 | 32 | 35 |

## CORRUGATED ALUMINUM PIPE (ROUND)

| PIPE DIAMETER (INCHES) | ① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET) | MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) | | | | |
|---|---|---|---|---|---|---|
| | | METAL THICKNESS IN INCHES | | | | |
| | | 0.060 | 0.075 | 0.105 | 0.135 | 0.164 |
| | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM | | | | |
| 12 | 1 | 45 | 45 | | | |
| 18 | 2 | 30 | 30 | 52 | | |
| 24 | 2 | 22 | 22 | 39 | 41 | |
| 30 | 2 | | 18 | 31 | 32 | 34 |
| 36 | 2.5 | | 15 | 26 | 27 | 28 |
| 42 | 2 | | | 43 | 43 | 44 |
| 48 | 2 | | | 40 | 41 | 43 |
| 54 | 2 | | | 35 | 37 | 38 |
| 60 | 2 | | | | 33 | 34 |
| 66 | 2 | | | | | 31 |
| 72 | 2 | | | | | 29 |

## 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. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

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

| INSTALLATION TYPE | MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING |
|---|---|
| TYPE 1 | AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) |
| TYPE 2 | SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③ |

③ SM-3 WILL NOT BE ALLOWED.

## EQUIVALENT METAL THICKNESSES AND GAUGES

| METAL THICKNESS IN INCHES | | | GAUGE NUMBER |
|---|---|---|---|
| STEEL | | | |
| ZINC COATED | UNCOATED | ALUMINUM | |
| 0.064 | 0.0598 | 0.060 | 16 |
| 0.079 | 0.0747 | 0.075 | 14 |
| 0.109 | 0.1046 | 0.105 | 12 |
| 0.138 | 0.1345 | 0.135 | 10 |
| 0.168 | 0.1644 | 0.164 | 8 |

## CORRUGATED METAL PIPE ARCHES

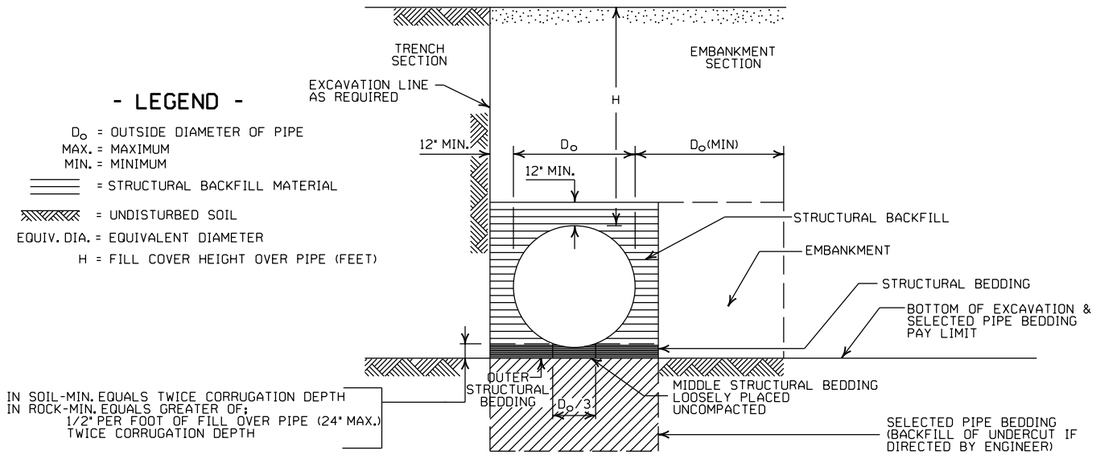
| EQUIV. DIA. (INCHES) | PIPE DIMENSION SPAN X RISE (INCHES) | MINUMUM CORNER RADIUS (INCHES) | STEEL | | | | ALUMINUM | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | MIN. THICKNESS REQUIRED INCHES | ① MIN. HEIGHT OF FILL, "H" (FT.) | MAX. HEIGHT OF FILL, "H" (FT.) | | MIN. THICKNESS REQUIRED INCHES | ① MIN. HEIGHT OF FILL, "H" (FT.) | MAX. HEIGHT OF FILL, "H" (FT.) | |
| | | | | INSTALLATION | INSTALLATION | | | INSTALLATION | INSTALLATION | |
| | | | | TYPE 1 | TYPE 1 | | | TYPE 1 | TYPE 1 | |
| | | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM | | | |
| 15 | 17x13 | 3 | 0.064 | 2 | 15 | | 0.060 | 2 | 15 | |
| 18 | 21x15 | 3 | 0.064 | 2 | 15 | | 0.060 | 2 | 15 | |
| 21 | 24x18 | 3 | 0.064 | 2.25 | 15 | | 0.060 | 2.25 | 15 | |
| 24 | 28x20 | 3 | 0.064 | 2.5 | 15 | | 0.075 | 2.5 | 15 | |
| 30 | 35x24 | 3 | 0.079 | 3 | 12 | | 0.075 | 3 | 12 | |
| 36 | 42x29 | 3½ | 0.079 | 3 | 12 | | 0.105 | 3 | 12 | |
| 42 | 49x33 | 4 | 0.079 | 3 | 12 | | 0.105 | 3 | 12 | |
| 48 | 57x38 | 5 | 0.109 | 3 | 13 | | 0.135 | 3 | 13 | |
| 54 | 64x43 | 6 | 0.109 | 3 | 14 | | 0.135 | 3 | 14 | |
| 60 | 71x47 | 7 | 0.138 | 3 | 15 | | 0.164 | 3 | 15 | |
| 66 | 77x52 | 8 | 0.168 | 3 | 15 | | | | | |
| 72 | 83x57 | 9 | 0.168 | 3 | 15 | | | | | |
| | | | ② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | | | | |
| | | | | INSTALLATION | | INSTALLATION | | | | |
| | | | | TYPE 2 | TYPE 1 | TYPE 2 | TYPE 1 | | | |
| 36 | 40x31 | 5 | 0.079 | 3 | 2 | 12 | 15 | | | |
| 42 | 46x36 | 6 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 48 | 53x41 | 7 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 54 | 60x46 | 8 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 60 | 66x51 | 9 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 66 | 73x55 | 12 | 0.079 | 3 | 2 | 15 | 15 | | | |
| 72 | 81x59 | 14 | 0.079 | 3 | 2 | 15 | 15 | | | |
| 78 | 87x63 | 14 | 0.079 | 3 | 2 | 15 | 15 | | | |
| 84 | 95x67 | 16 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 90 | 103x71 | 16 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 96 | 112x75 | 18 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 102 | 117x79 | 18 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 108 | 128x83 | 18 | 0.138 | 3 | 2 | 15 | 15 | | | |

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

- LEGEND -

$D_o$ = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)




## EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

## GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 2-27-14 | REVISED GENERAL NOTE 1. | |
| 12-15-11 | REVISED FOR LRFD DESIGN SPECS | |
| 3-30-00 | REVISED INSTALLATIONS | |
| 11-06-97 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

| INSTALLATION TYPE | •• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING |
|---|---|
| TYPE 2 | •SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) |

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

## MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

| PIPE DIAMETER | CLEAR DISTANCE BETWEEN PIPES |
|---|---|
| 18" | 1'-6" |
| 24" | 2'-0" |
| 30" | 2'-6" |
| 36" | 3'-0" |
| 42" | 3'-6" |
| 48" | 4'-0" |

## MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

| PIPE DIAMETER | TRENCH WIDTH (FEET) | |
|---|---|---|
| | "H" < 10'-0" | "H" >OR= 10'-0" |
| 18" | 4'-6" | 4'-6" |
| 24" | 5'-0" | 6'-0" |
| 30" | 5'-6" | 7'-6" |
| 36" | 6'-0" | 9'-0" |
| 42" | 7'-0" | 10'-6" |
| 48" | 8'-0" | 12'-0" |

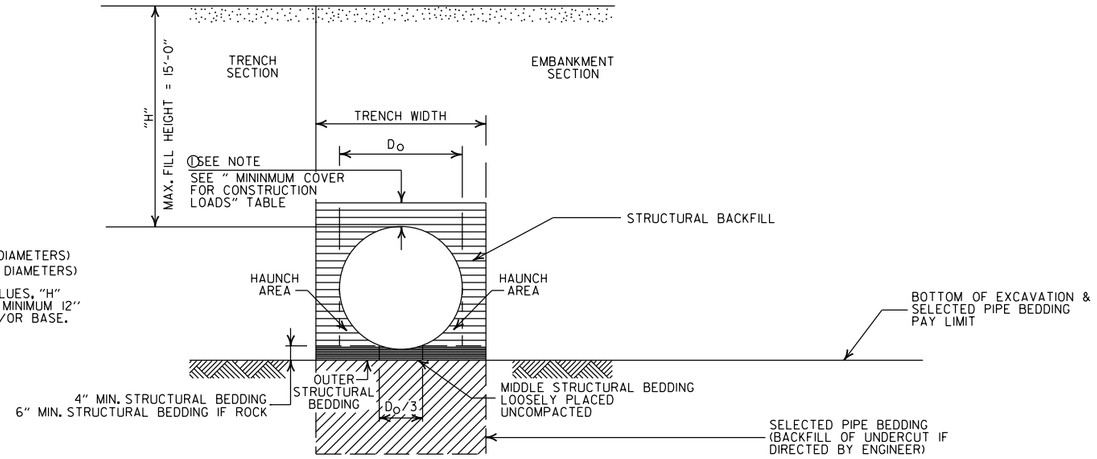
①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

## MINIMUM COVER FOR CONSTRUCTION LOADS

| PIPE DIAMETER | ② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS | | | |
|---|---|---|---|---|
| | 18.0-50.0 (KIPS) | 50.0-75.0 (KIPS) | 75.0-110.0 (KIPS) | 110.0-175.0 (KIPS) |
| 36" OR LESS | 2'-0" | 2'-6" | 3'-0" | 3'-0" |
| 42" OR GREATER | 3'-0" | 3'-0" | 3'-6" | 4'-0" |

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.




## TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

## 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 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

## GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

## - LEGEND -

H = FILL HEIGHT (FT.)
D = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 2-27-14 | REVISED GENERAL NOTE 1. | |
| 12-15-11 | REVISED GENERAL NOTES & MINIMUM COVER NOTE | |
| 11-17-10 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

| INSTALLATION TYPE | •• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING |
|---|---|
| TYPE 2 | •SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) |

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PVC PIPE.

## MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

| PIPE DIAMETER | TRENCH WIDTH (FEET) | |
|---|---|---|
| | "H" < 10'-0" | "H" >OR= 10'-0" |
| 18" | 4'-6" | 4'-6" |
| 24" | 5'-0" | 6'-0" |
| 30" | 5'-6" | 7'-6" |
| 36" | 6'-0" | 9'-0" |

## MULTIPLE INSTALLATION OF PVC PIPES

| PIPE DIAMETER | CLEAR DISTANCE BETWEEN PIPES |
|---|---|
| 18" | 1'-6" |
| 24" | 2'-0" |
| 30" | 2'-6" |
| 36" | 3'-0" |

## MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

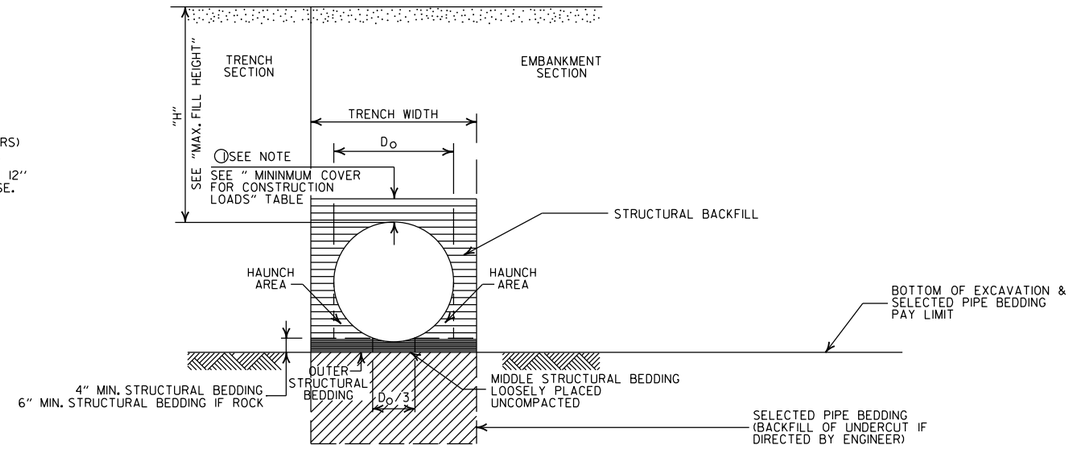
| PIPE DIAMETER | "H" |
|---|---|
| 18" | 45'-0" |
| 24" | 45'-0" |
| 30" | 40'-0" |
| 36" | 40'-0" |

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

## MINIMUM COVER FOR CONSTRUCTION LOADS

| PIPE DIAMETER | ② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS | | | |
|---|---|---|---|---|
| | 18.0-50.0 (KIPS) | 50.0-75.0 (KIPS) | 75.0-110.0 (KIPS) | 110.0-175.0 (KIPS) |
| 18" THRU 36" | 2'-0" | 2'-6" | 3'-0" | 3'-0" |

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.




## TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

## 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 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

## GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

## - LEGEND -

H = FILL HEIGHT (FT.)
$D_O$ = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL

| DATE | REVISION | DATE FILMED |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 2-27-14 | REVISED GENERAL NOTE 1. | |
| 12-15-11 | REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL | |
| 11-17-10 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

| INSTALLATION TYPE | **MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING |
|---|---|
| TYPE 1 | AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) |
| TYPE 2 | *SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) OR TYPE 1 INSTALLATION MATERIAL |

*SM3 WILL NOT BE ALLOWED.

** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF POLYPROPYLENE PIPE.

## MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

| PIPE DIAMETER | CLEAR DISTANCE BETWEEN PIPES |
|---|---|
| 18" | 1'-6" |
| 24" | 2'-0" |
| 30" | 2'-6" |
| 36" | 3'-0" |
| 42" | 3'-6" |
| 48" | 4'-0" |
| 60" | 5'-0" |

## MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

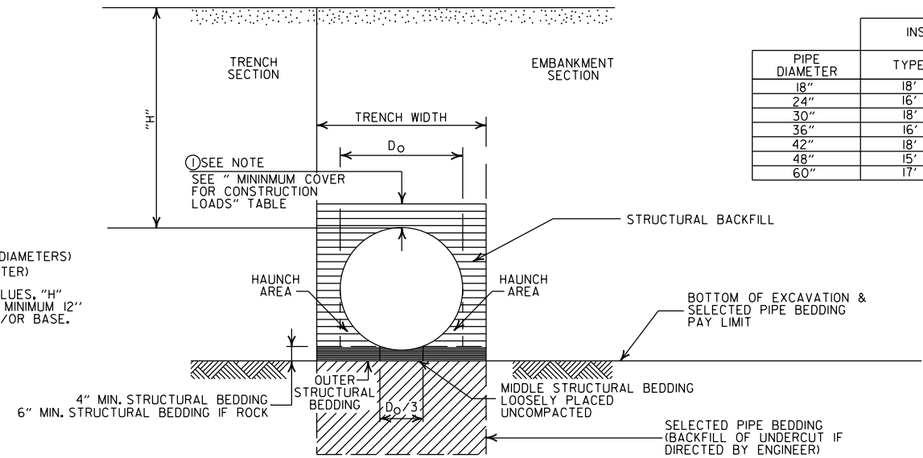
| PIPE DIAMETER | TRENCH WIDTH (FEET) | |
|---|---|---|
| | "H" < 10'-0" | "H" >OR= 10'-0" |
| 18" | 4'-6" | 4'-6" |
| 24" | 5'-0" | 6'-0" |
| 30" | 5'-6" | 7'-6" |
| 36" | 6'-0" | 9'-0" |
| 42" | 7'-0" | 10'-6" |
| 48" | 8'-0" | 12'-0" |
| 60" | 10'-0" | 15'-0" |

①NOTE:
12" MIN. (18" - 42" DIAMETERS)
24" MIN. (60" DIAMETER)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

## MAXIMUM HEIGHT OF FILL "H"

| PIPE DIAMETER | INSTALLATION TYPE | |
|---|---|---|
| | TYPE 1 | TYPE 2 |
| 18" | 18' | 14' |
| 24" | 16' | 12' |
| 30" | 18' | 14' |
| 36" | 16' | 12' |
| 42" | 18' | 13' |
| 48" | 15' | 11' |
| 60" | 17' | 12' |




## MINIMUM COVER FOR CONSTRUCTION LOADS

| PIPE DIAMETER | ② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS | | | |
|---|---|---|---|---|
| | 18.0-50.0 (KIPS) | 50.0-75.0 (KIPS) | 75.0-110.0 (KIPS) | 110.0-150.0 (KIPS) |
| 36" OR LESS | 2'-0" | 2'-6" | 3'-0" | 3'-0" |
| 42" OR GREATER | 3'-0" | 3'-0" | 3'-6" | 4'-0" |

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

## EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

## 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 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

## GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M330, TYPE S, INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

## - LEGEND -

H = FILL HEIGHT (FT.)
$D_O$ = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

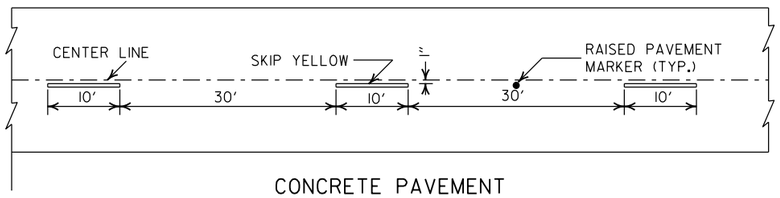
= UNDISTURBED SOIL

| DATE | REVISION | DATE FILMED |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 02-27-20 | REVISED | |
| 11-07-19 | ISSUED | |

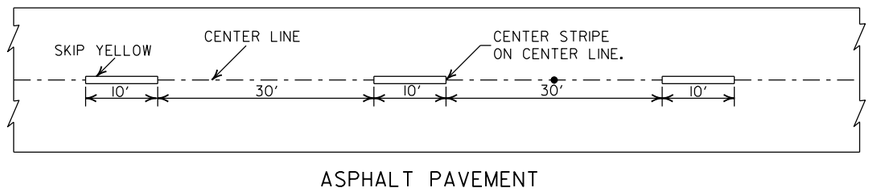
ARKANSAS STATE HIGHWAY COMMISSION

# PLASTIC PIPE CULVERT (POLYPROPYLENE)

STANDARD DRAWING PCP-3

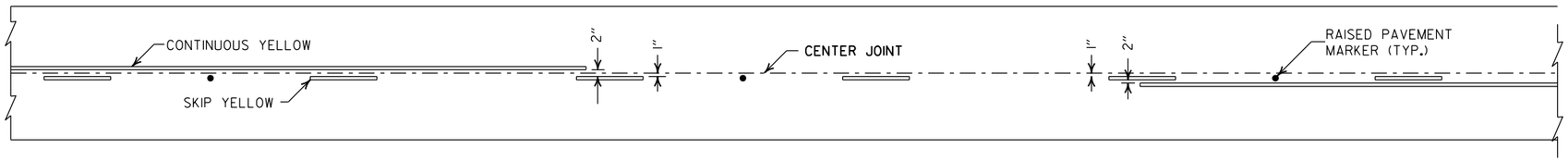



CONCRETE PAVEMENT

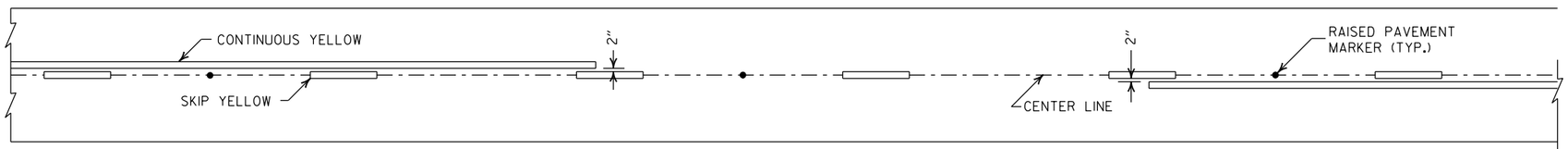



ASPHALT PAVEMENT

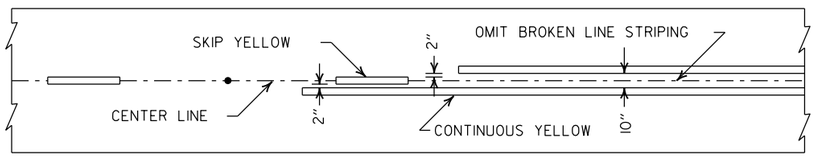
## BROKEN LINE STRIPING



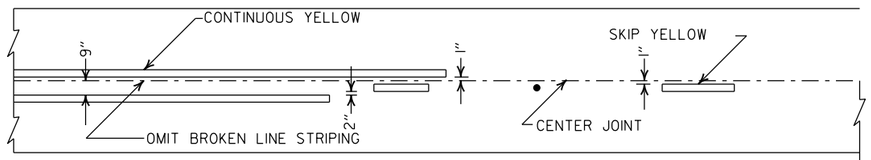

## SOLID LINE STRIPING ON CONCRETE PAVEMENT




## SOLID LINE STRIPING ON ASPHALT PAVEMENT

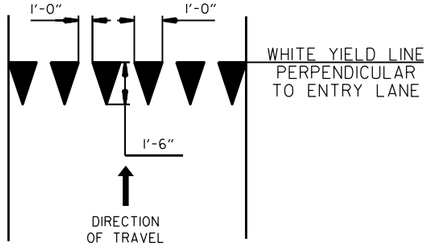



ASPHALT PAVEMENT

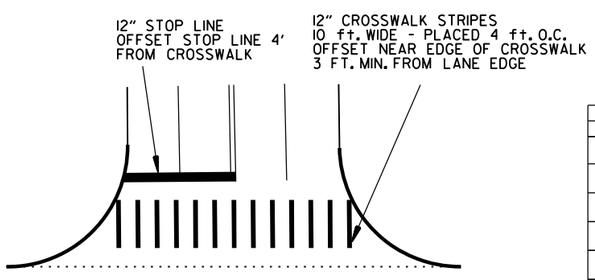



CONCRETE PAVEMENT

## STRIPING AT ADJACENT NO PASSING LANES

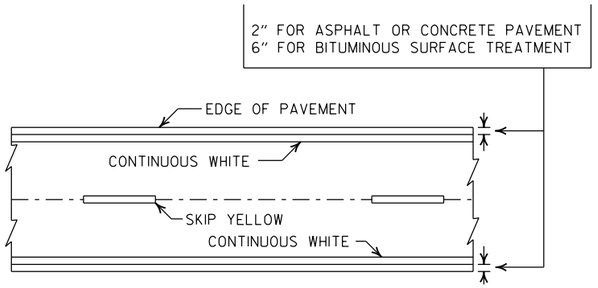



## YIELD LINE DETAIL




## CROSSWALK AND STOP LINE DETAILS

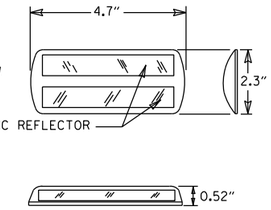
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.




## PAVEMENT EDGE LINE MARKING

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW




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

## DETAIL OF STANDARD RAISED PAVEMENT MARKERS

| DATE | REVISION | FILMED |
|---|---|---|
| 2-27-20 | REVISED STOP LINE DETAILS | |
| 6-1-17 | ADDED YIELD LINE DETAIL | |
| 5-12-16 | REVISED LINE WIDTHS, SPACING, & NOTES | |
| 9-12-13 | REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS | |
| 11-17-10 | REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS | |
| 11-18-04 | REVISED NOTE 2 & GENERAL NOTES | |
| 8-22-02 | ADDED CROSSWALK & STOPBAR DTLS. | |
| 7-02-98 | ADDED DETAILS OF STD. RAISED PAV'T. MARKERS | |
| 4-26-96 | REV. NOTES 3&4; ADDED R.P.M. | |
| 9-30-80 | DRAWN | 1-9-30-80 |

ARKANSAS STATE HIGHWAY COMMISSION

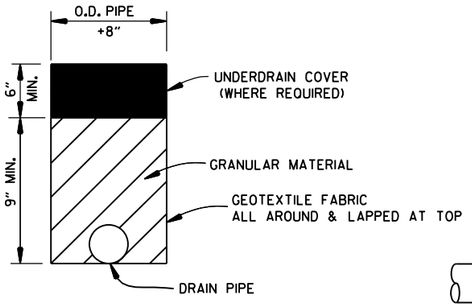
# PAVEMENT MARKING DETAILS

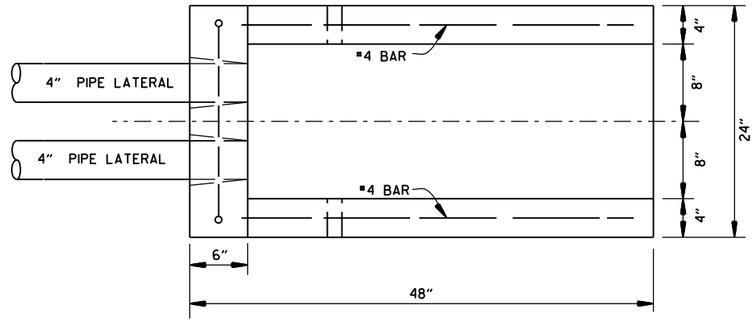
STANDARD DRAWING PM-1

NOTE:

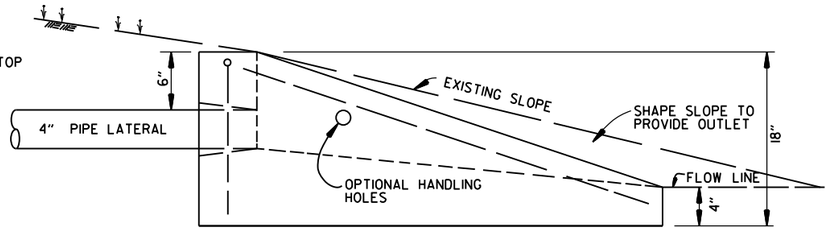
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

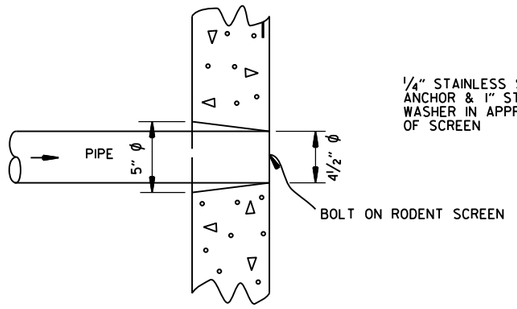


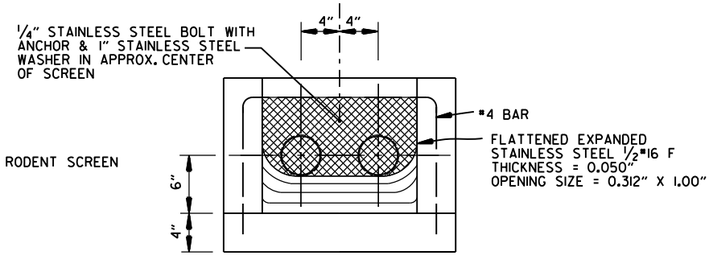

PLAN VIEW



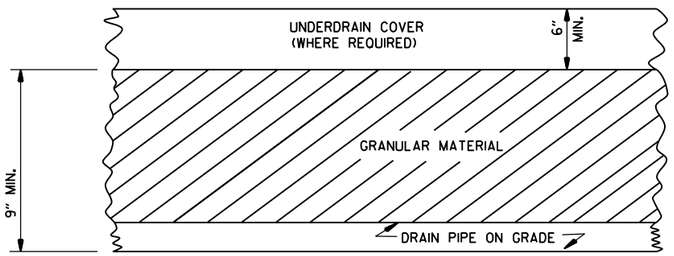

SIDE VIEW




DETAIL OF HOLE
FOR 4" PIPE




FRONT VIEW
(DETAIL OF RODENT SCREEN)




DETAILS OF PIPE UNDERDRAIN

## NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE 1. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

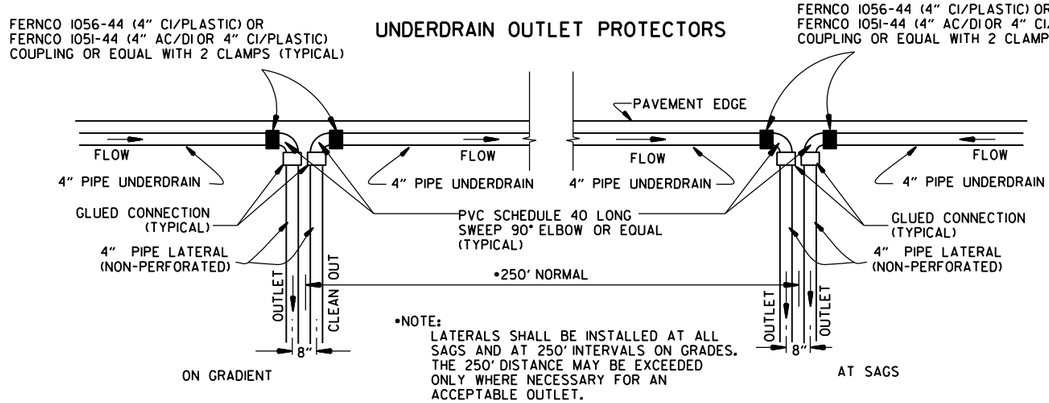
4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. 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 THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

## UNDERDRAIN OUTLET PROTECTORS




DETAIL OF PIPE UNDERDRAIN LATERALS
WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 12-8-16 | ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC | |
| 4-10-03 | REVISED NOTE 3 | |
| 1-12-00 | REVISED DETAIL OF UNDERDRAIN LATERALS | |
| 11-18-98 | REVISED NOTE | |
| 10-18-96 | REVISED MIN. DEPTH & GEOTEXTILE FABRIC | |
| 4-26-96 | ADDED LATERAL NOTE; 5½" TO 5" | |
| 11-22-95 | REVISED LATERALS | |
| 7-20-95 | REVISED LATERALS & ADDED NOTE | |
| 11- 3-94 | REVISED FOR DUAL LATERALS | 11- 3-94 |
| 10- 1-92 | SUBSTITUTED GEOTEXTILE | 10- 1-92 |
| 8-15-91 | ADDED POLYEDTHYLENE PIPE | 8-15-91 |
| 11- 8-90 | DELETED ALTERNATE NOTE | 11- 8-90 |
| 1-25-90 | ADDED 4" SNAP ADAPTER | 1-25-90 |
| 11-30-89 | DEL. (SUBGRADE); ADDED (WHERE REQUIRED) | 11-30-89 |
| 7-15-88 | ISSUED P.L.M. | 647-7-15-88 |

ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

## SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

| DEGREE OF CURVE | 30 MPH | | | 35 MPH | | | 40 MPH | | | 45 MPH | | | 50 MPH | | | 55 MPH | | | 60 MPH | | | 65 MPH | | | 70 MPH | | | 75 MPH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | |
| | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE |
| 0° 15' | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | |
| 0° 30' | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | RC | 96 | | RC | 96 | | RC | 96 | | 0.022 | 101 | |
| 0° 45' | NC | | | NC | | | NC | | | NC | | | RC | 96 | | RC | 96 | | 0.024 | 106 | | 0.026 | 110 | | 0.030 | 120 | | 0.032 | 125 | |
| 1° 00' | NC | | | NC | | | NC | | | RC | 90 | | 0.022 | 101 | | 0.026 | 110 | | 0.030 | 120 | | 0.034 | 130 | | 0.038 | 139 | 300 | 0.042 | 149 | 300 |
| 1° 15' | NC | | | NC | | | RC | 84 | | 0.022 | 95 | | 0.028 | 115 | | 0.032 | 125 | | 0.038 | 139 | | 0.042 | 149 | | 0.046 | 158 | | 0.052 | 173 | |
| 1° 30' | NC | | | RC | 78 | | 0.022 | 88 | | 0.028 | 108 | | 0.032 | 125 | | 0.038 | 139 | | 0.044 | 154 | | 0.050 | 168 | 300 | 0.056 | 182 | | 0.062 | 197 | |
| 1° 45' | RC | 72 | | RC | 78 | | 0.026 | 97 | | 0.030 | 113 | | 0.036 | 134 | | 0.044 | 154 | | 0.050 | 168 | 300 | 0.056 | 182 | | 0.064 | 202 | | 0.070 | 216 | |
| 2° 00' | RC | 72 | | 0.024 | 86 | | 0.028 | 101 | | 0.034 | 122 | | 0.042 | 149 | | 0.048 | 163 | | 0.056 | 182 | | 0.064 | 202 | | 0.070 | 216 | | 0.080 | 240 | |
| 2° 15' | RC | 72 | | 0.026 | 90 | | 0.032 | 109 | | 0.038 | 131 | | 0.046 | 158 | | 0.054 | 178 | 300 | 0.062 | 197 | | 0.070 | 216 | | 0.078 | 235 | 350 | 0.088 | 259 | 350 |
| 2° 30' | 0.022 | 75 | | 0.028 | 94 | | 0.034 | 113 | | 0.042 | 140 | | 0.050 | 168 | | 0.058 | 187 | | 0.068 | 211 | | 0.076 | 230 | | 0.086 | 254 | | 0.096 | 278 | |
| 2° 45' | 0.024 | 79 | | 0.030 | 98 | | 0.038 | 122 | | 0.046 | 149 | 200 | 0.054 | 178 | | 0.064 | 202 | | 0.072 | 221 | | 0.082 | 245 | | 0.092 | 269 | | 0.100 | 288 | 400 |
| 3° 00' | 0.026 | 83 | | 0.034 | 105 | | 0.040 | 126 | | 0.050 | 158 | | 0.058 | 187 | 250 | 0.068 | 211 | | 0.078 | 235 | | 0.088 | 259 | | 0.098 | 283 | 400 | D MAX = 2° 45' | | |
| 3° 15' | 0.028 | 86 | | 0.036 | 109 | | 0.044 | 134 | | 0.052 | 162 | | 0.062 | 197 | | 0.072 | 221 | | 0.082 | 245 | | 0.092 | 269 | | 0.100 | 288 | | | | |
| 3° 30' | 0.030 | 90 | | 0.038 | 113 | | 0.046 | 139 | 200 | 0.056 | 171 | | 0.066 | 206 | | 0.076 | 230 | | 0.086 | 254 | | 0.096 | 278 | 350 | D MAX = 3° 30' | | | | | |
| 3° 45' | 0.032 | 93 | | 0.040 | 117 | | 0.050 | 147 | | 0.058 | 176 | | 0.070 | 216 | | 0.080 | 240 | | 0.090 | 264 | | 0.098 | 283 | | | | | | | |
| 4° 00' | 0.034 | 97 | | 0.042 | 121 | 200 | 0.052 | 151 | | 0.062 | 185 | | 0.072 | 221 | | 0.084 | 250 | | 0.094 | 274 | 350 | 0.100 | 288 | | | | | | | |
| 4° 15' | 0.036 | 100 | | 0.044 | 125 | | 0.054 | 155 | | 0.064 | 189 | | 0.076 | 230 | | 0.086 | 254 | 350 | 0.096 | 278 | | D MAX = 4° 15' | | | | | | | | |
| 4° 30' | 0.036 | 100 | | 0.046 | 129 | | 0.056 | 160 | | 0.068 | 198 | | 0.078 | 235 | | 0.090 | 264 | | 0.098 | 283 | | | | | | | | | | |
| 4° 45' | 0.038 | 104 | 200 | 0.048 | 133 | | 0.060 | 168 | | 0.070 | 203 | | 0.082 | 245 | | 0.092 | 269 | | 0.100 | 288 | | | | | | | | | | |
| 5° 00' | 0.040 | 108 | | 0.050 | 137 | | 0.062 | 172 | | 0.072 | 207 | | 0.084 | 250 | | 0.094 | 274 | | D MAX = 5° 15' | | | | | | | | | | |
| 5° 30' | 0.044 | 115 | | 0.054 | 144 | | 0.066 | 181 | | 0.078 | 221 | 250 | 0.088 | 259 | | 0.098 | 283 | | | | | | | | | | | | |
| 6° 00' | 0.046 | 119 | | 0.058 | 152 | | 0.070 | 189 | | 0.082 | 230 | | 0.092 | 269 | | 0.100 | 288 | | | | | | | | | | | | |
| 6° 30' | 0.050 | 126 | | 0.062 | 160 | | 0.074 | 198 | | 0.086 | 239 | | 0.096 | 278 | 300 | D MAX = 6° 30' | | | | | | | | | | | | | |
| 7° 00' | 0.052 | 130 | | 0.064 | 164 | | 0.078 | 206 | | 0.090 | 248 | | 0.098 | 283 | | | | | | | | | | | | | | | |
| 7° 30' | 0.054 | 133 | | 0.068 | 172 | | 0.080 | 210 | | 0.092 | 252 | | 0.100 | 288 | | | | | | | | | | | | | | | |
| 8° 00' | 0.058 | 140 | | 0.070 | 176 | | 0.084 | 219 | | 0.094 | 257 | 300 | D MAX = 8° 25' | | | | | | | | | | | | | | | | |
| 8° 30' | 0.060 | 144 | | 0.072 | 179 | | 0.086 | 223 | 250 | 0.096 | 261 | | | | | | | | | | | | | | | | | | |
| 9° 00' | 0.062 | 148 | | 0.076 | 187 | | 0.088 | 227 | | 0.098 | 266 | | | | | | | | | | | | | | | | | | |
| 9° 30' | 0.064 | 151 | | 0.078 | 191 | | 0.092 | 235 | | 0.100 | 270 | | | | | | | | | | | | | | | | | | |
| 10° 00' | 0.066 | 155 | | 0.080 | 195 | | 0.094 | 240 | | D MAX = 10° 30' | | | | | | | | | | | | | | | | | | | |
| 11° 00' | 0.070 | 162 | | 0.084 | 203 | | 0.096 | 244 | | | | | | | | | | | | | | | | | | | | | |
| 12° 00' | 0.074 | 169 | | 0.088 | 211 | 250 | 0.098 | 248 | | | | | | | | | | | | | | | | | | | | | |
| 13° 00' | 0.076 | 173 | | 0.090 | 215 | | 0.100 | 252 | 300 | D MAX = 13° 45' | | | | | | | | | | | | | | | | | | | |
| 14° 00' | 0.080 | 180 | | 0.094 | 222 | | | | | | | | | | | | | | | | | | | | | | | | |
| 15° 00' | 0.082 | 184 | | 0.096 | 226 | | | | | | | | | | | | | | | | | | | | | | | | |
| 16° 00' | 0.086 | 191 | | 0.098 | 230 | | | | | | | | | | | | | | | | | | | | | | | | |
| 17° 00' | 0.088 | 194 | | 0.100 | 234 | | | | | | | | | | | | | | | | | | | | | | | | |
| 18° 00' | 0.090 | 198 | 250 | D MAX = 19° 30' | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19° 00' | 0.092 | 202 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20° 00' | 0.094 | 205 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21° 00' | 0.096 | 209 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22° 00' | 0.096 | 209 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23° 00' | 0.098 | 212 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24° 00' | 0.098 | 212 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25° 00' | 0.100 | 216 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D MAX = 28° 30' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)

GENERAL NOTES

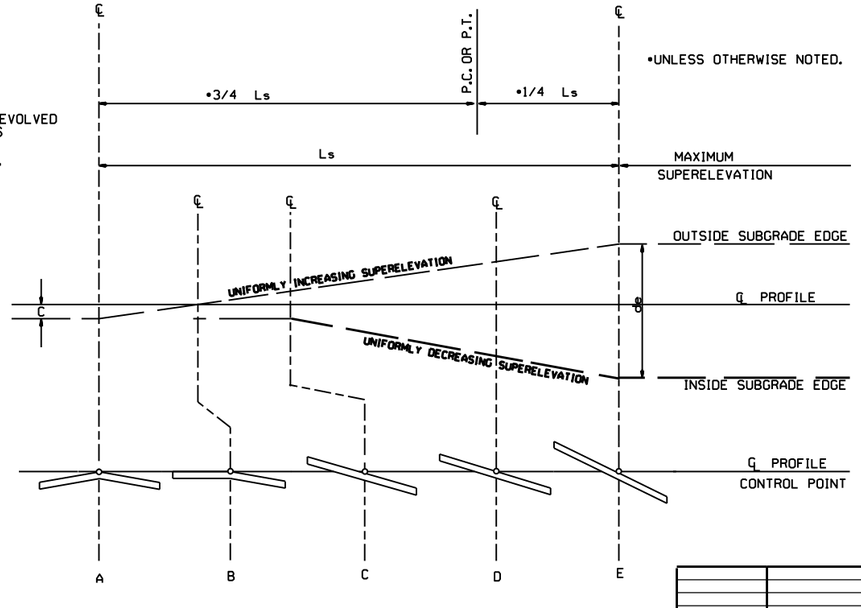
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

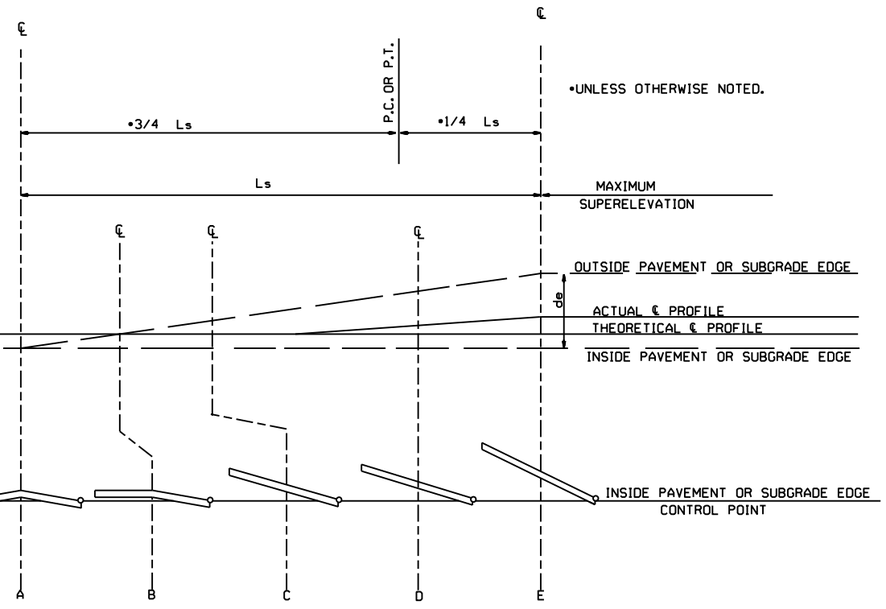
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$




STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE




STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

| DATE | REVISION | DATE FILLMED |
|---|---|---|
| 11-07-19 | REVISED SUPERELEVATION TABLE | |
| 10-18-96 | ADDED FORMULA | |
| 01-09-87 | ISSUED | 534-1-9-87 |

ARKANSAS STATE HIGHWAY COMMISSION

# TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

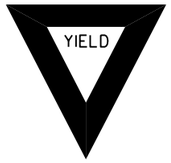
STANDARD DRAWING SE-2

R1-1




STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2




STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1




STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5




STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a




STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1




STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2




STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



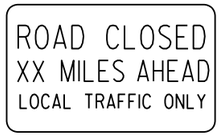

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2




48"X30"

R11-3A




60"X30"

R11-4




60"X30"

W21-5a




STD. 36"X36"
FWY. 48"X48"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2



STD. 36"X36"
FWY. 48"X48"

W1-3



STD. 48"X48"

W1-4



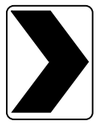
STD. 48"X48"

W1-6



STD. 48"X24"
SPECIAL 60"X30"

W1-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



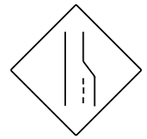
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1




STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7




EXPWY. 36"X36"
FWY. 48"X48"

W9-2




STD. 36"X36"
FWY. 48"X48"

W13-1




STD. 24"X24"

W20-1




STD. 48"X48"

W20-2




STD. 48"X48"

W20-3




STD. 48"X48"

W20-4




STD. 48"X48"

W20-5




STD. 48"X48"

W20-7a




STD. 36"X36"
FWY. 48"X48"

W21-2




STD. 30"X30"
SPECIAL 36"X36"

W21-5




STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b



STD. 48"X48"

R56-1




STD. 18"X18"

W8-11




STD. 36"X36"
FWY. 48"X48"

W8-9



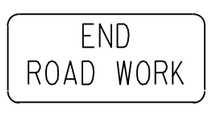

STD. 36"X36"
FWY. 48"X48"

G20-1



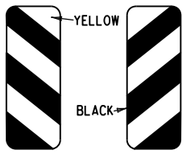

60"X24"

G20-2




48"X24"

OM-3L OM-3R




12"X36"

M4-9



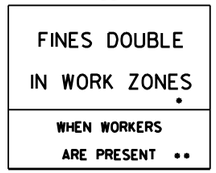

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10




48"X18"

R55-1




36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

| | |
|---|---|
| 500 FT | ½ MILE |
| 1000 FT | ¾ MILE |
| 1500 FT | 1 MILE AHEAD |

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

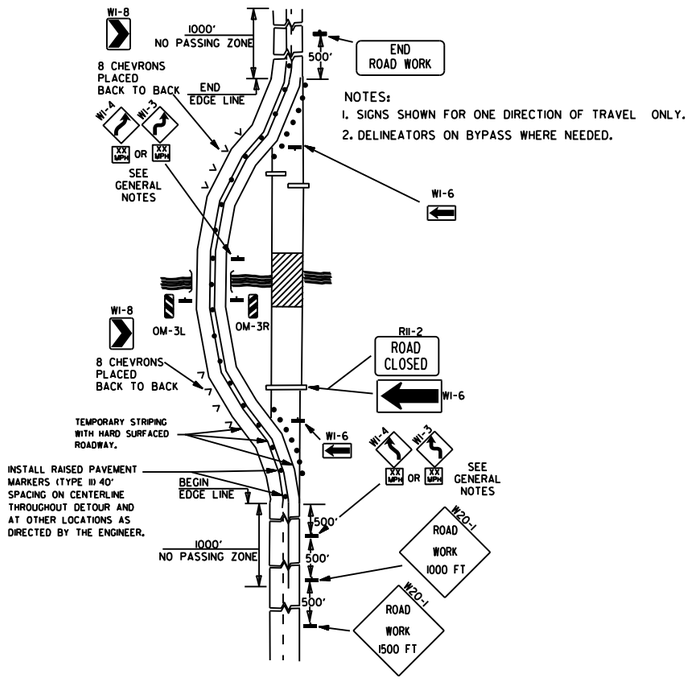
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

| DATE | REVISION | FILMED |
|---|---|---|
| 11-07-19 | REVISED FOR MASH | |
| 4-13-17 | DELETED RSP-1 & ADDED W21-5a | |
| 9-2-15 | REVISED REDUCED SPEED LIMIT AHEAD SIGNS<br>REVISED ROAD WORK NEXT XX MILES | |
| 12-15-11 | REVISED W24-1 | |
| 11-17-10 | DELETED W8-9a & ADDED W8-9 | |
| 10-15-09 | ADDED REFERENCE TO MASH & ADDED SIGN W24-1 | |
| 4-17-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | REVISED NOTES | |
| 10-9-03 | REVISED NOTE 1 | |
| 11-16-01 | REVISED NOTE 7 | |
| 9-28-00 | REVISED NOTE | |
| 11-18-98 | ADDED NOTE | |
| 6-26-97 | REVISED NOTE 5 | |
| 4-03-97 | REVISED NOTE 5 | |
| 10-18-96 | ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7 | |
| 10-12-95 | ADDED R55-1 | |
| 6-8-95 | REVISED TO CORRECT SIGN ILLUSTRATIONS | 6-8-95 |
| 2-2-95 | REVISED PER PART VI, MUTCD SEPT. 3, 1993 | |
| 8-15-91 | DRAWN AND PLACED IN USE | |

ARKANSAS STATE HIGHWAY COMMISSION

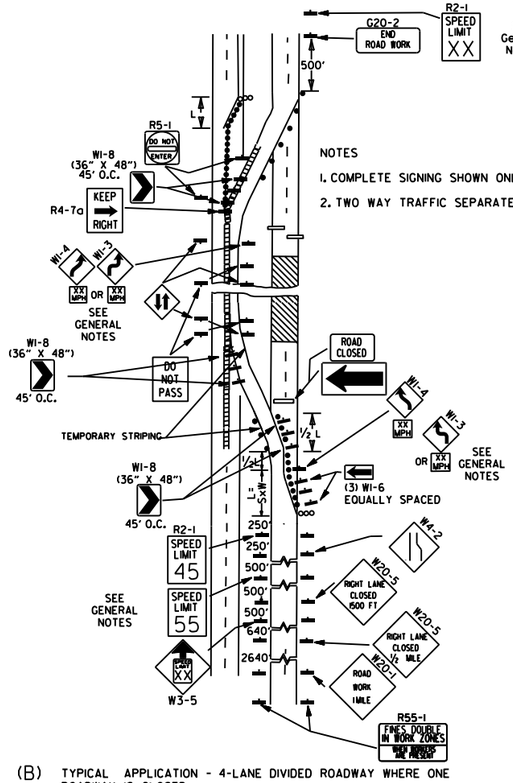
# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



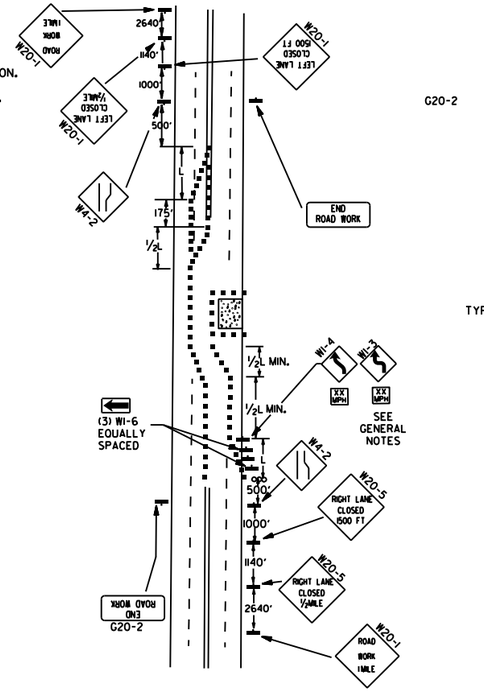

NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

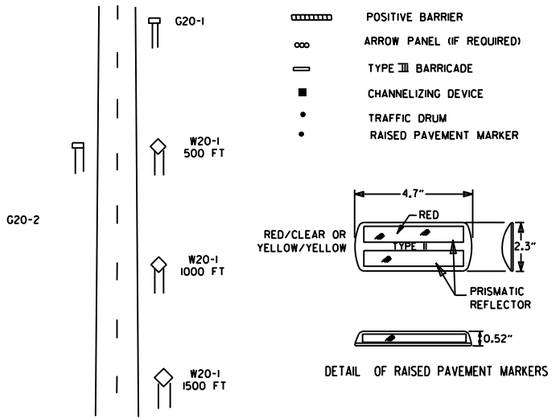



NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.




(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.




DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:

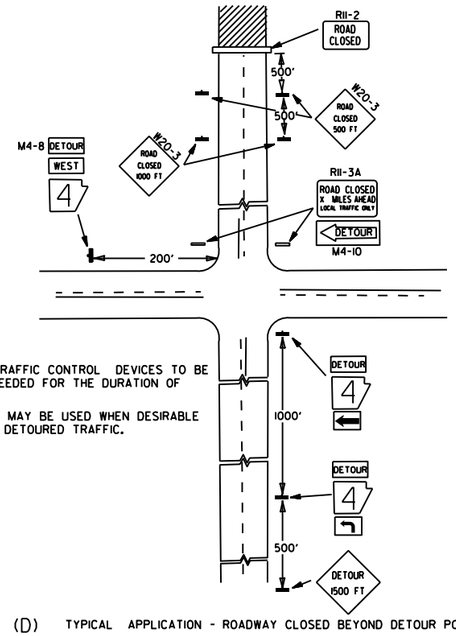
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W= WIDTH OF OFFSET.

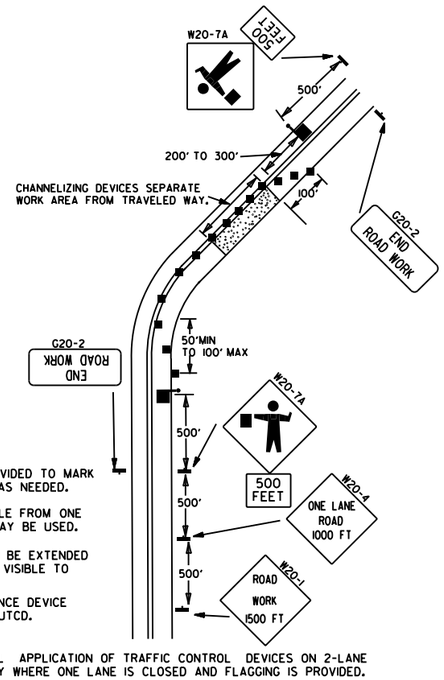
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



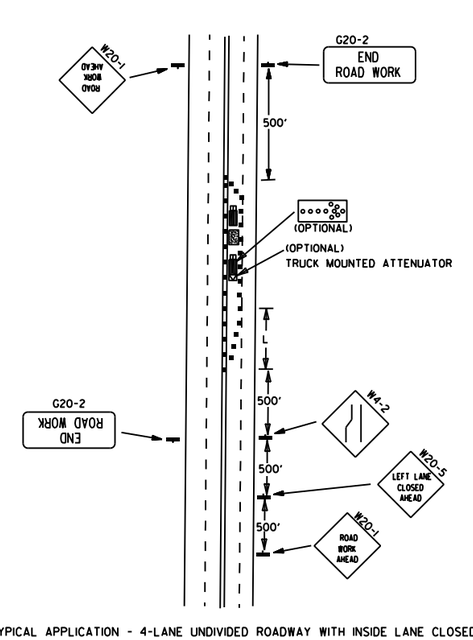

NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.




NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



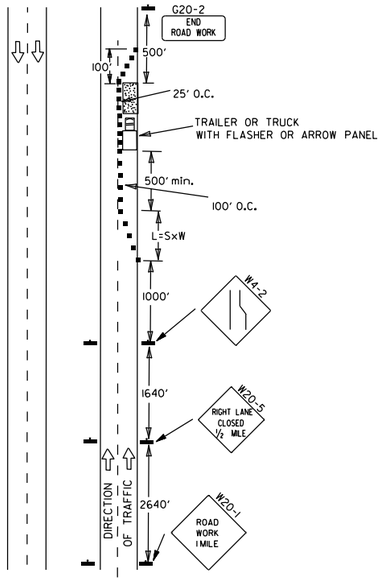

(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

| DATE | REVISION | FILMED |
|---|---|---|
| 05-20-21 | REVISED NOTE 7 | |
| 11-07-19 | REVISED NOTE 1, ADDED NOTE 9 | |
| 9-2-15 | REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5 | |
| 9-12-13 | REVISED DETAIL OF RAISED PAVEMENT MARKERS | |
| 3-11-10 | ADDED (AFAD) | |
| 11-20-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | ADDED GENERAL NOTE | |
| 10-18-96 | ADDED R55-1 | |
| 4-26-96 | CORRECTED (a) BEHIND G20-2 | |
| 6-8-95 | CORRECTED SIGN IDENT. ON W1-4A | 6-8-95 |
| 2-2-95 | REVISED PER PART VI, MUTCD, SEPT. 3, 1993 | |
| 8-15-91 | DRAWN AND PLACED IN USE | |

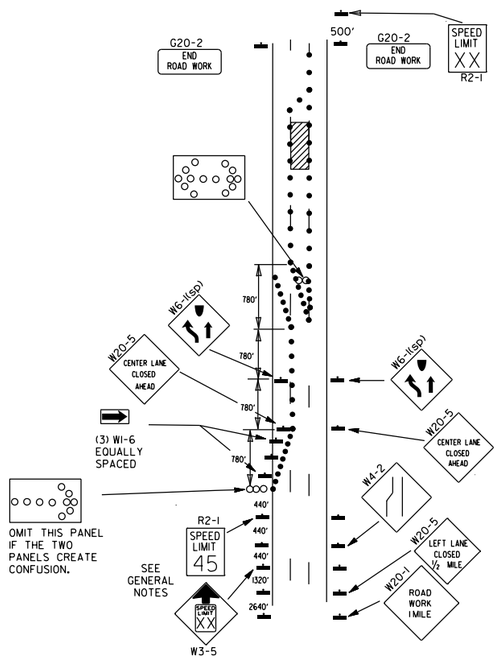
ARKANSAS STATE HIGHWAY COMMISSION

# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2




(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.




(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

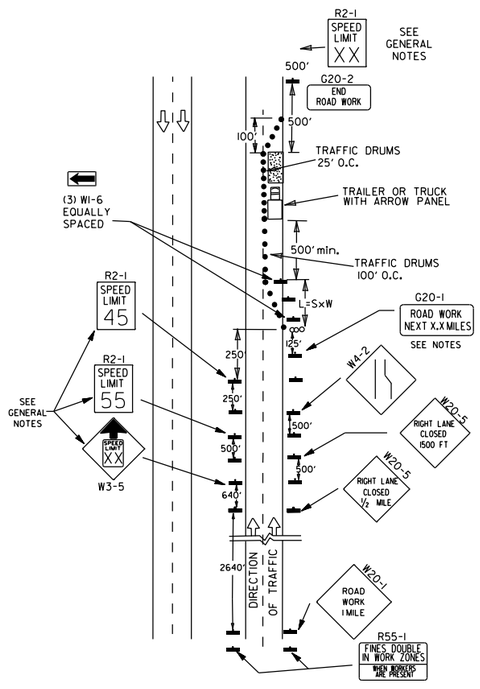
ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

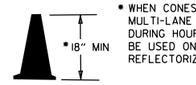
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS, AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).




(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

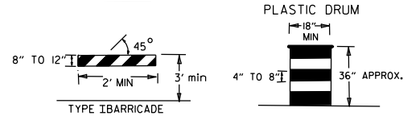
## CHANNELIZING DEVICES



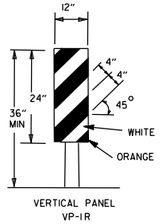

* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

CONES

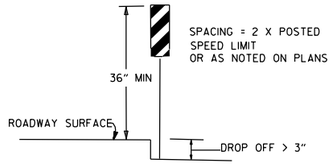
PLASTIC DRUM



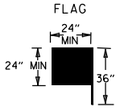

NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.




VERTICAL PANEL PLACEMENT




FLAG




FLAG SHALL BE OF GOOD GRADE RED MATERIAL

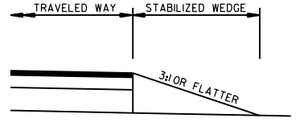
| TRAFFIC CONTROL DEVICES | | | |
|---|---|---|---|
| NON-INTERSTATE | | | |
| VERTICAL DIFFERENTIAL | LOCATION | TRAFFIC CONTROL | |
| | | ≤ 45 MPH | > 45 MPH |
| ≤ 1" | CENTERLINE | W8-11 | W8-11 |
| > 1" ≤ 3" | CENTERLINE | W8-11 AND CENTERLINE LANE STRIPING | W8-11 AND CENTERLINE LANE STRIPING |
| > 3" | CENTERLINE | STANDARD LANE CLOSURE[6] | STANDARD LANE CLOSURE[6] |
| ≤ 3" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | W8-9 AND TRAFFIC DRUMS[1] | W8-9 AND TRAFFIC DRUMS[1] |
| > 3" ≤ 6" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1] | W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1] |
| > 6" ≤ 18" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1] | W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2] |
| > 18" ≤ 24" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1] | A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS[3] |
| > 24" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | PRECAST CONCRETE BARRIER[4] & EDGE LINES | PRECAST CONCRETE BARRIER[4] & EDGE LINES |

| INTERSTATE | | |
|---|---|---|
| VERTICAL DIFFERENTIAL | LOCATION | TRAFFIC CONTROL |
| ≤ 3" | CENTERLINE | W8-11 AND LANE STRIPING |
| ≤ 3" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2] |
| > 3" ≤ 6" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2] |
| > 6" | EDGE OF TRAVELED LANE OR EDGE OF SHOULDER | PRECAST CONCRETE BARRIER & EDGE LINES |

| INTERSTATE AND NON-INTERSTATE | | |
|---|---|---|
| FORESLOPE | HEIGHT | TRAFFIC CONTROL |
| 1:1 | > 2 FT | PRECAST CONCRETE BARRIER |
| 2:1 | ≤ 5 FT | TRAFFIC DRUMS |
| 2:1 | > 5 FT | PRECAST CONCRETE BARRIER |
| Flatter than 2:1 | N/A | TRAFFIC DRUMS |

GENERAL NOTES:

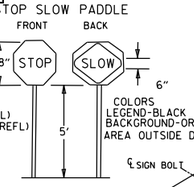
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

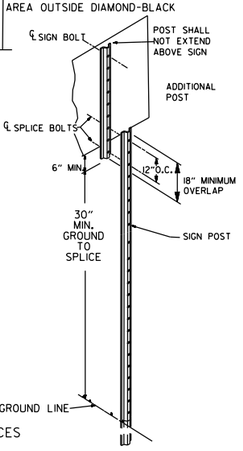



STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE

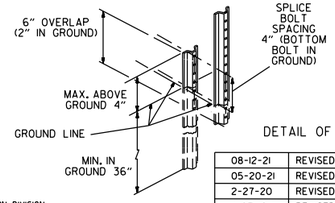


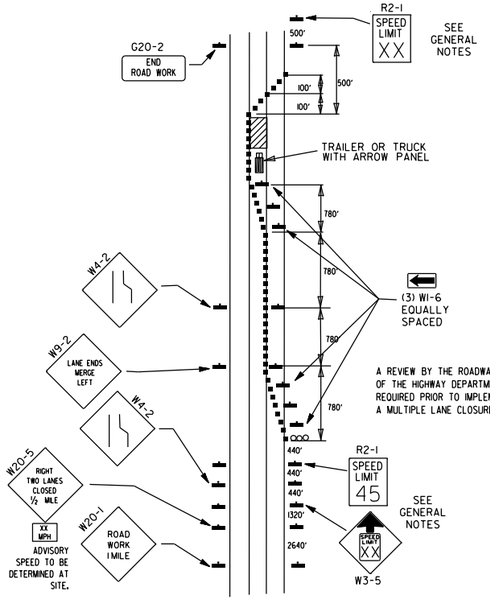

NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.




DETAIL OF SPLICES




A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

| DATE | REVISION | FILMED |
|---|---|---|
| 08-12-21 | REVISED TRAFFIC CONTROL DEVICES AND NOTES | |
| 05-20-21 | REVISED NOTE 10 | |
| 2-27-20 | REVISED TRAFFIC CONTROL DEVICES DETAILS | |
| 11-07-19 | REVISED NOTE 9, ADDED NOTE 11 | |
| 7-25-19 | REVISED TRAFFIC CONTROL DEVICES DETAILS | |
| 9-2-15 | REVISED NOTE 2 & REPLACED R2-5A WITH W3-5 | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 11-20-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | ADDED NOTE | |
| 10-1-98 | ADDED NOTE | |
| 4-03-97 | ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE | |
| 10-18-96 | ADDED R55-1 | |
| 10-12-95 | MOVED UPPER SPLICE | |
| 6-8-95 | REVISED SPLICE DETAIL, TEXT | 6-8-95 |
| 2-2-95 | REVISED PER PART VI, MUTCD, SEPT. 3, 1993 | |
| 8-15-91 | DRAWN AND PLACED IN USE | |

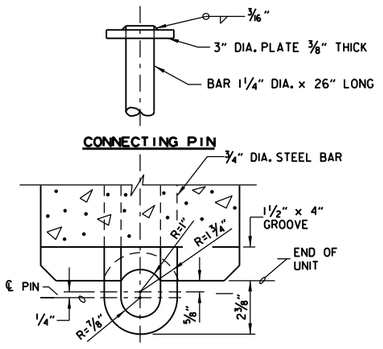
ARKANSAS STATE HIGHWAY COMMISSION

# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

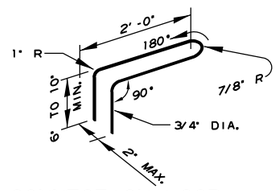
## REINFORCING BAR TABLE PER BARRIER UNIT

| MARK | LOCATION | BAR SIZE | (NO. BARS) | SKETCH |
|---|---|---|---|---|
| H-1 | HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS | #5 | (6) | 19'-3" |
| H-2 | CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY | #5 | (6) | 6'-6" |
| H-3 | TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1 | #4 | (2) | 1'-6" |
| S-1 | OVER LIFT HOLES | #4 | (2) | 2'-5", LIFTING HOLE, 90°, 3 3/8" R |
| S-2 | HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS | #4 | (2) | 1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP |
| V-1 | VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS | #5 | (16) | TOTAL LENGTH 4'-9"; 2 3/16" R; 12°; 1 1/2"; 9"; 2'-1 3/8"; 4 3/8" |

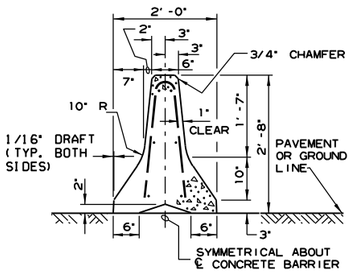



SECTION E-E

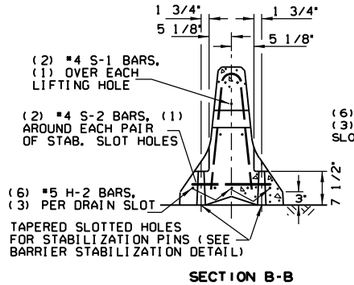
CONNECTION DETAILS



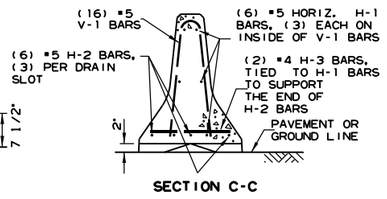

CONNECTION LOOP



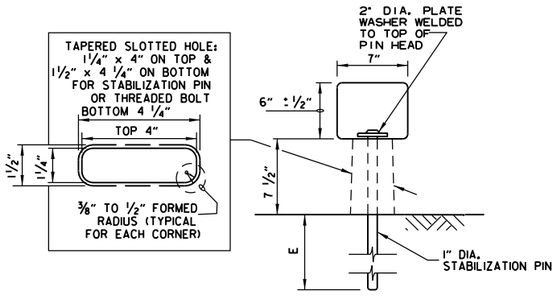

SECTION A-A




SECTION B-B



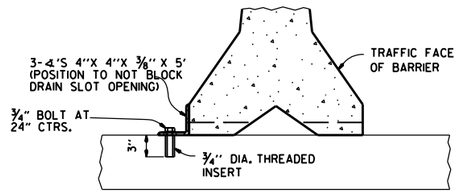

SECTION C-C




BARRIER STABILIZATION DETAIL

ROADWAY SECTION

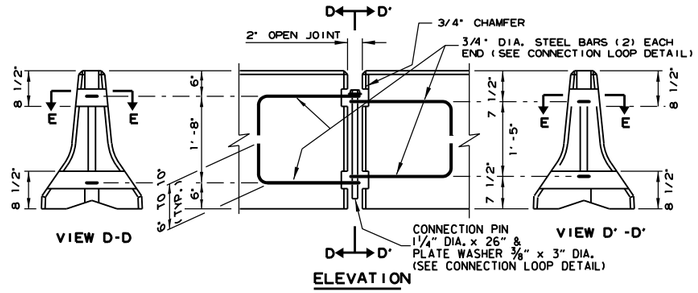
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



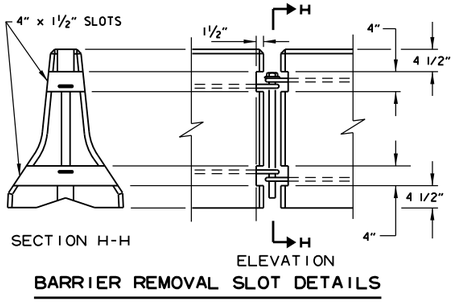

NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

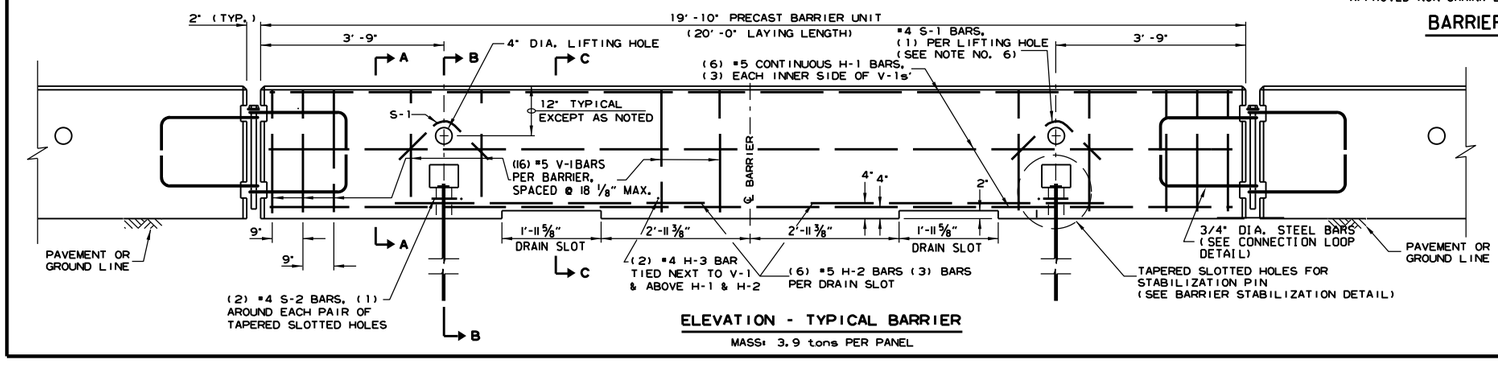
BRIDGE DECKS




ELEVATION




BARRIER REMOVAL SLOT DETAILS




ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

### GENERAL NOTES

(1) THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

(2) MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

(3) OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

(4) DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

(5) ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

(6) A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

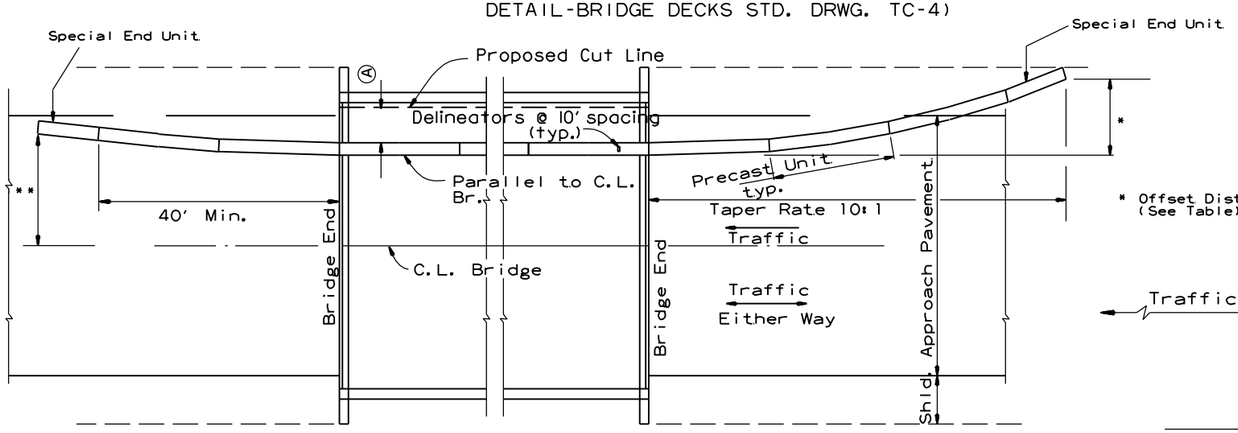
| DATE | REVISION | FILMED |
|---|---|---|
| 11-07-19 | REVISED NOTE 3 | |
| 2-27-14 | REVISED BARRIER STABILIZATION DETAIL | |
| 10-15-09 | ADDED REFERENCE TO WASH | |
| 8-5-09 | REV. NOTE 3 CONCERNING DRAIN SLOTS | |
| 11-29-07 | REVISED NOTE 3 | |
| 5-25-06 | DELETED GENERAL NOTE 7 | |
| 11-18-04 | REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS | |
| 4-10-03 | REVISED GENERAL NOTE 2 | |
| 8-22-02 | ISSUED NEW DRAWING | |

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

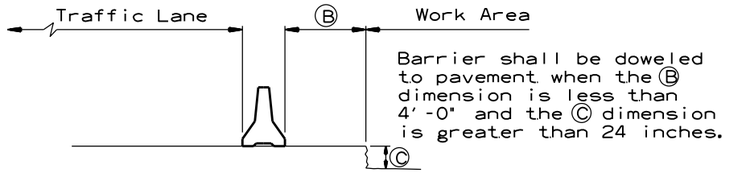
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)




* Offset Distance (See Table)

## BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

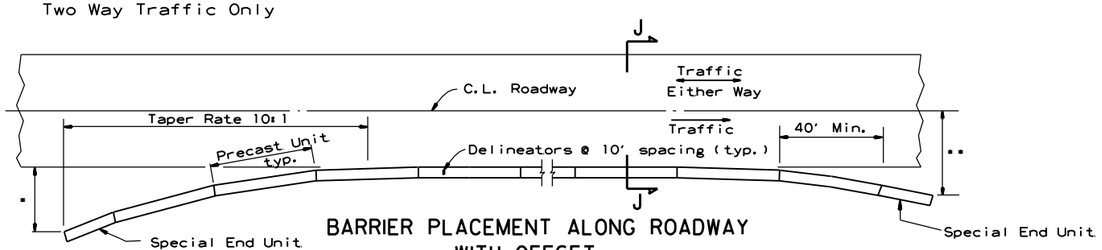



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

## SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only




## BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

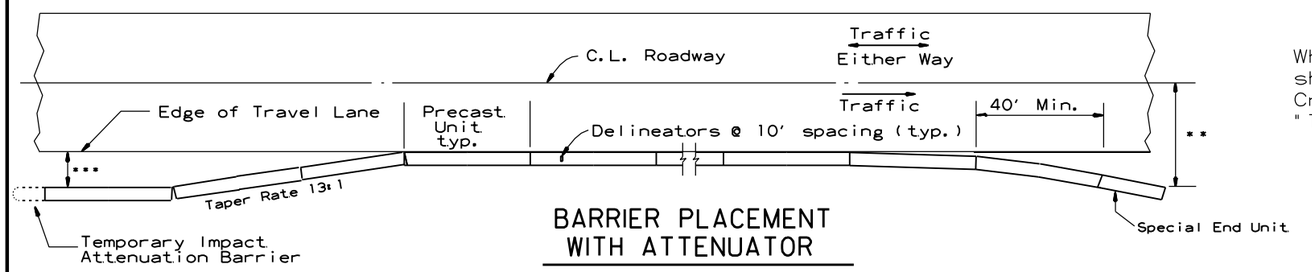
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

| Speed (MPH) | Offset Distance (FT.) |
|---|---|
| ≤ 45 | 12 |
| > 45 | 18 |

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

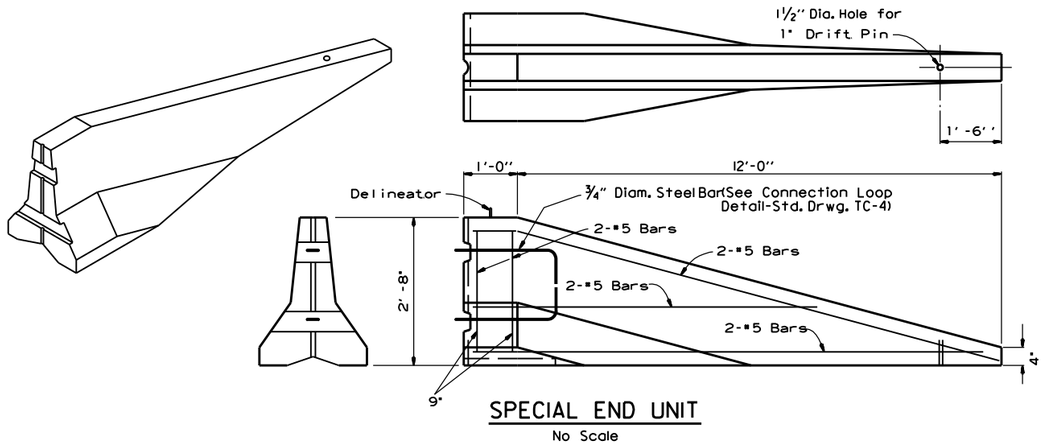



## BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator




## SPECIAL END UNIT

No Scale

### General Notes

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

| DATE | REVISION | FILMED |
|---|---|---|
| 11-07-19 | REVISED NOTE | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 5-25-06 | REVISED BARRIER PLACEMENT | |
| 8-22-02 | ISSUED NEW DRAWING | |

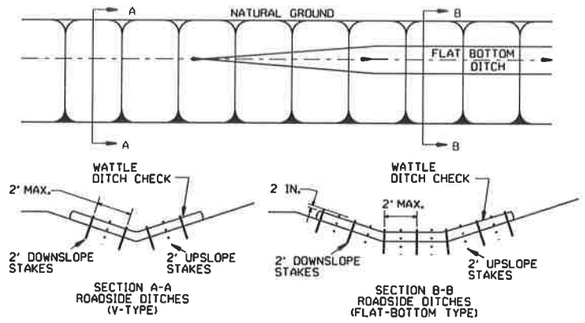
**ARKANSAS STATE HIGHWAY COMMISSION**

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

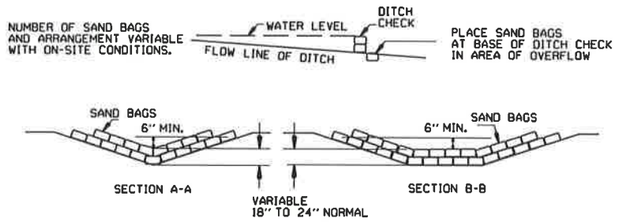
STANDARD DRAWING TC-5

GENERAL NOTES

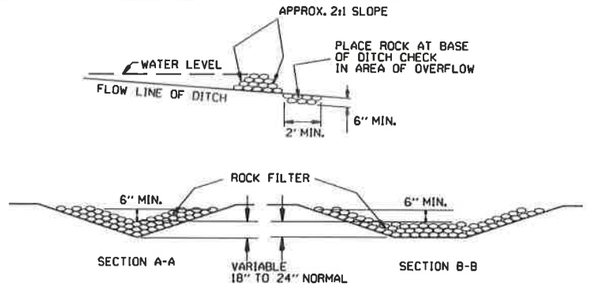
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.




## WATTLE DITCH CHECK (E-1)




## SAND BAG DITCH CHECK (E-5)

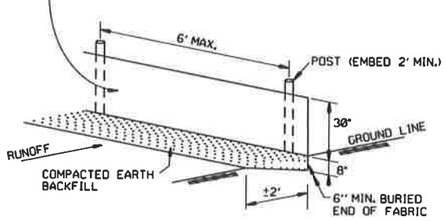



## ROCK DITCH CHECK (E-6)

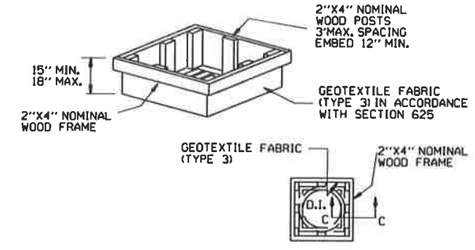
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

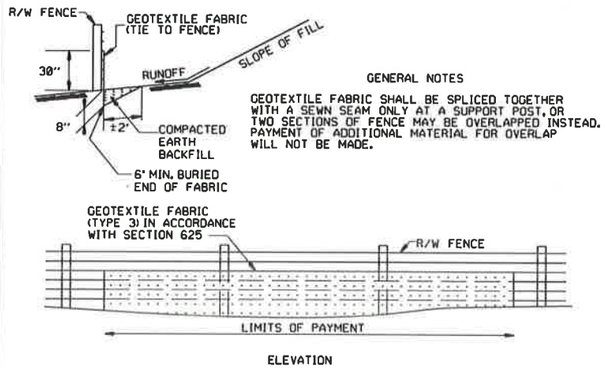
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.




## SILT FENCE (E-11)




## DROP INLET SILT FENCE (E-7)




GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

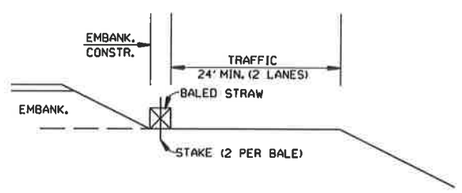
## SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

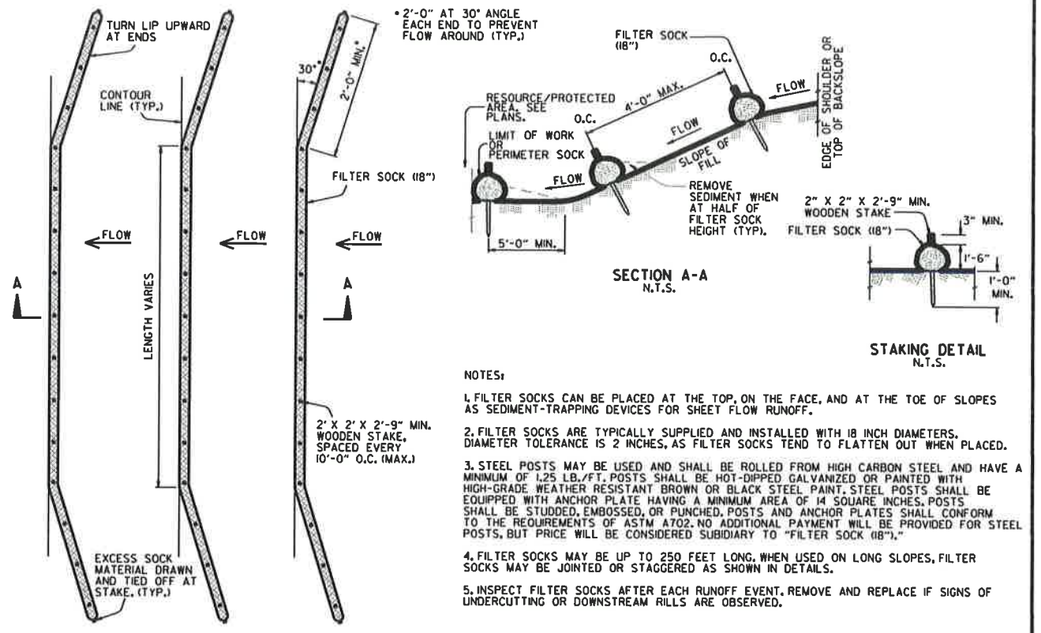
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.




## BALED STRAW FILTER BARRIER (E-2)




NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

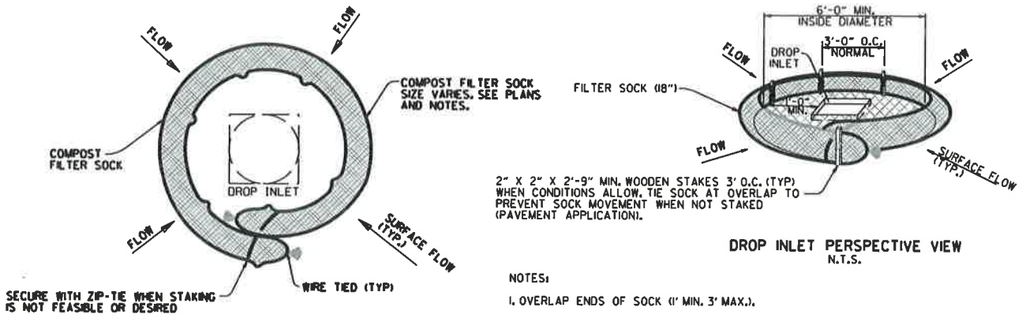
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

## FILTER SOCK ALONG SLOPE (E-3)




NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

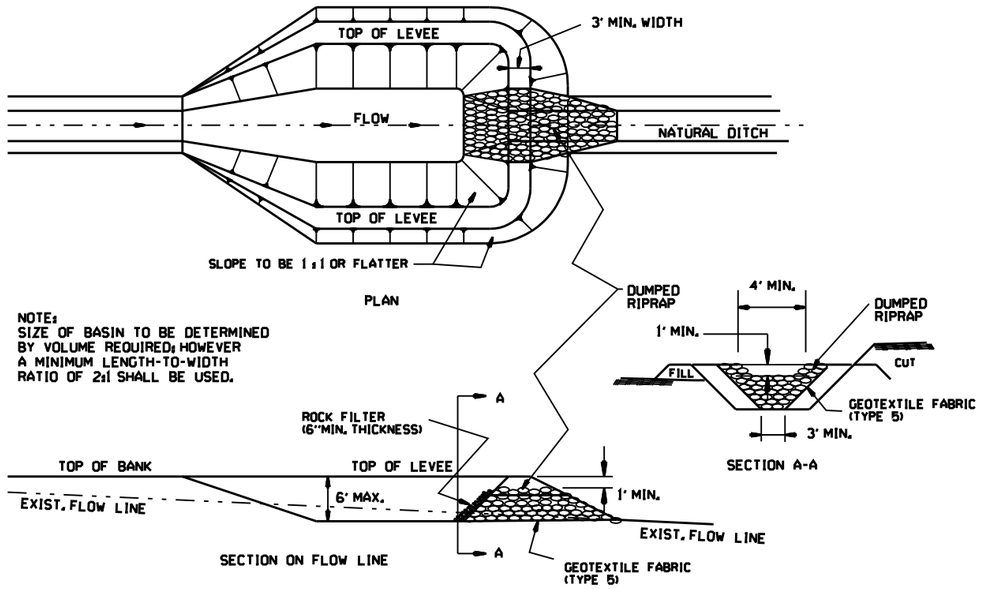
## COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

| DATE | REVISION | FILMED |
|---|---|---|
| 11-16-17 | ADDED FILTER SOCK E-3 AND E-13 | |
| 12-15-11 | DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK | |
| 11-18-98 | ADDED NOTES | |
| 07-02-98 | ADDED BALED STRAW FILTER BARRIER (E-2) | |
| 07-20-95 | REVISED SILT FENCE E-4 AND E-11 | 7-20-95 |
| 07-15-94 | REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC | |
| 06-02-94 | REVISED E-1,4,7 & 11; DELETED E-2 & 3 | 6-2-94 |
| 04-01-93 | REDRAWN | |
| 10-01-92 | REDRAWN | |
| 08-02-76 | ISSUED R.D.M. | 298-7-28-76 |

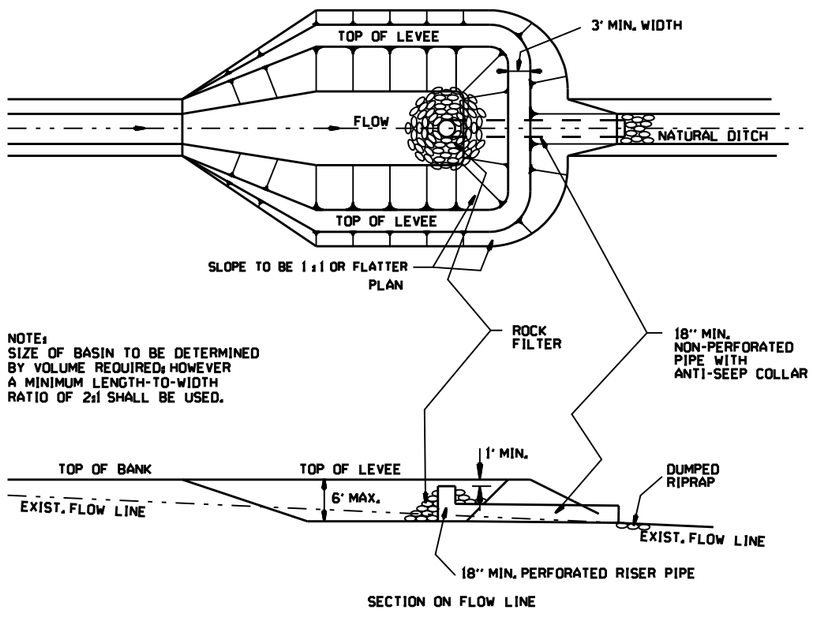
ARKANSAS STATE HIGHWAY COMMISSION

# TEMPORARY EROSION CONTROL DEVICES

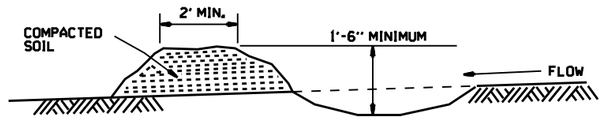
STANDARD DRAWING TEC-1



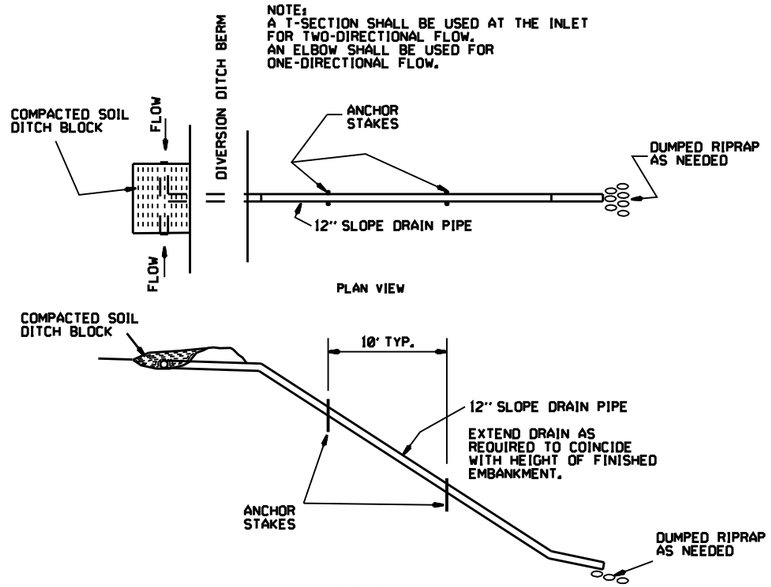

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



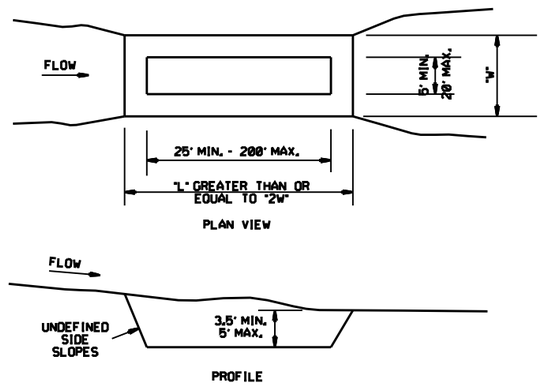

SEDIMENT BASIN WITH PIPE OUTLET (E-10)




DIVERSION DITCH (E-8)




SLOPE DRAIN (E-12)




SEDIMENT BASIN (E-14)

| DATE | REVISION | FILMED |
|---|---|---|
| 6-2-94 | Revised E-8 & E-12; Added E-14 & Deleted E-13 | |
| 4-1-93 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# TEMPORARY EROSION CONTROL DEVICES

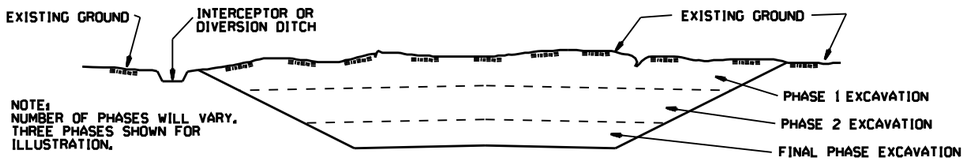
STANDARD DRAWING TEC-2

# 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



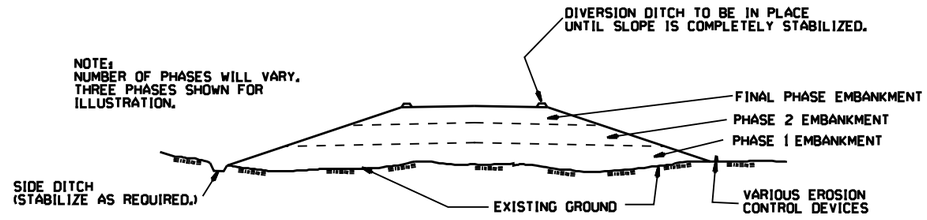

GENERAL NOTE

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. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

# EMBANKMENT




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. 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. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

| DATE | REVISION | FILMED |
|---|---|---|
| 11-03-94 | CORRECTED SPELLING | |
| 6-2-94 | Drawn & Issued | 6-2-94 |

ARKANSAS STATE HIGHWAY COMMISSION

# TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3