

| 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. 070284 | | | 1 | 193 |

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

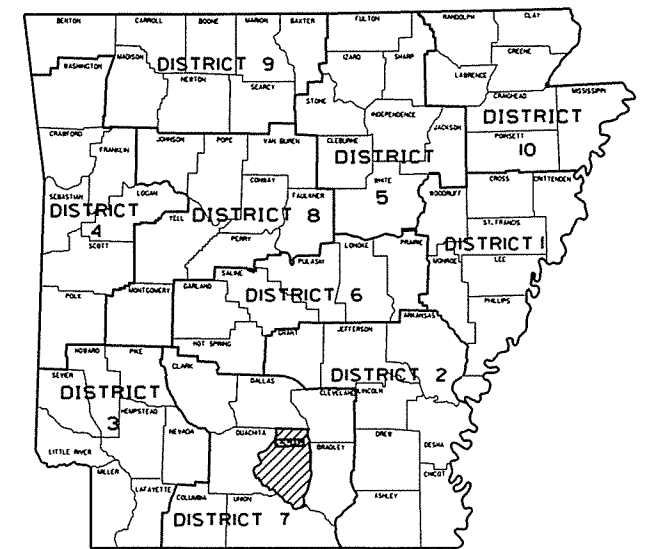
HWY. 172-HAMPTON (S)

CALHOUN COUNTY
ROUTE 167 SECTION 3

FED. AID PROJ. NHPP-0007(19)

JOB 070284

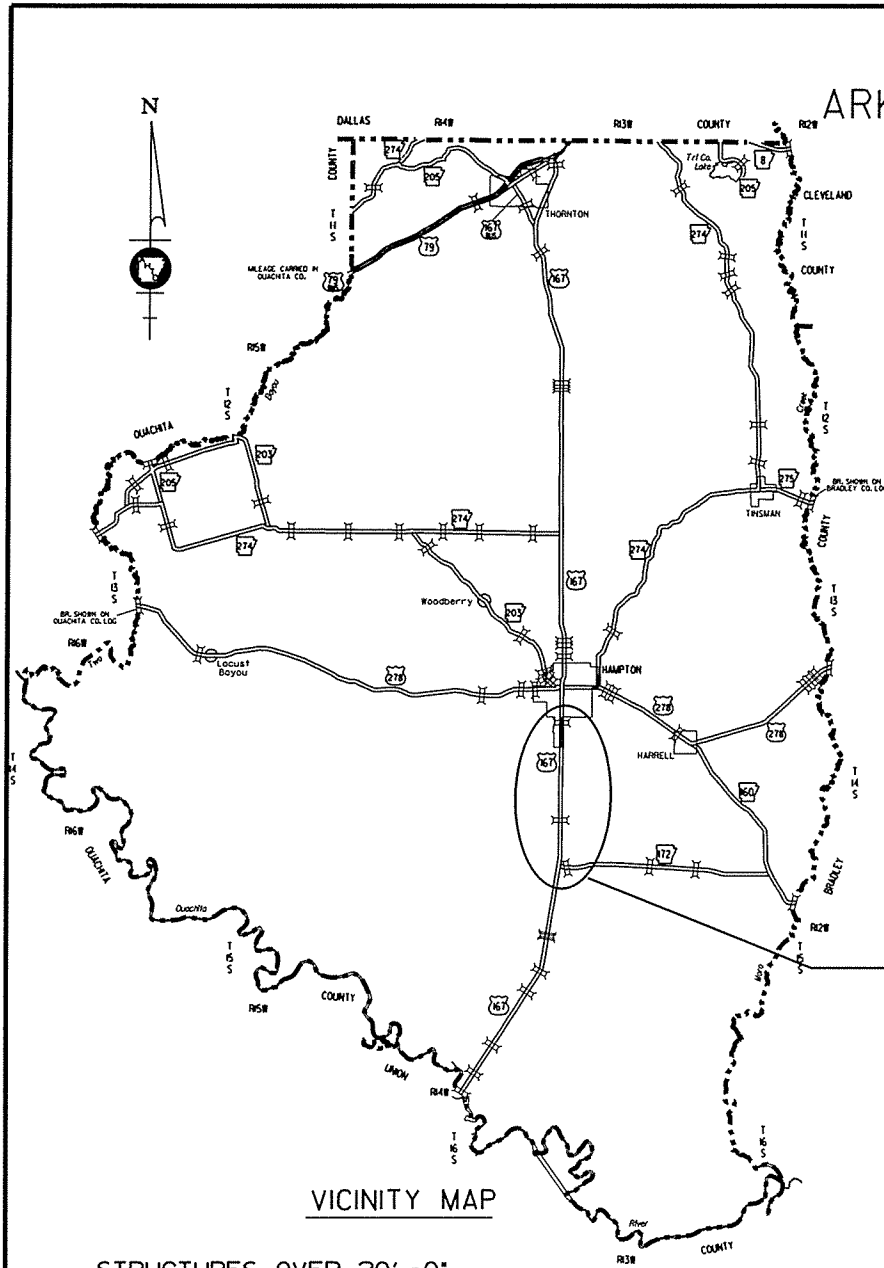
NOT TO SCALE



ARK. HWY. DIST. NO. 7

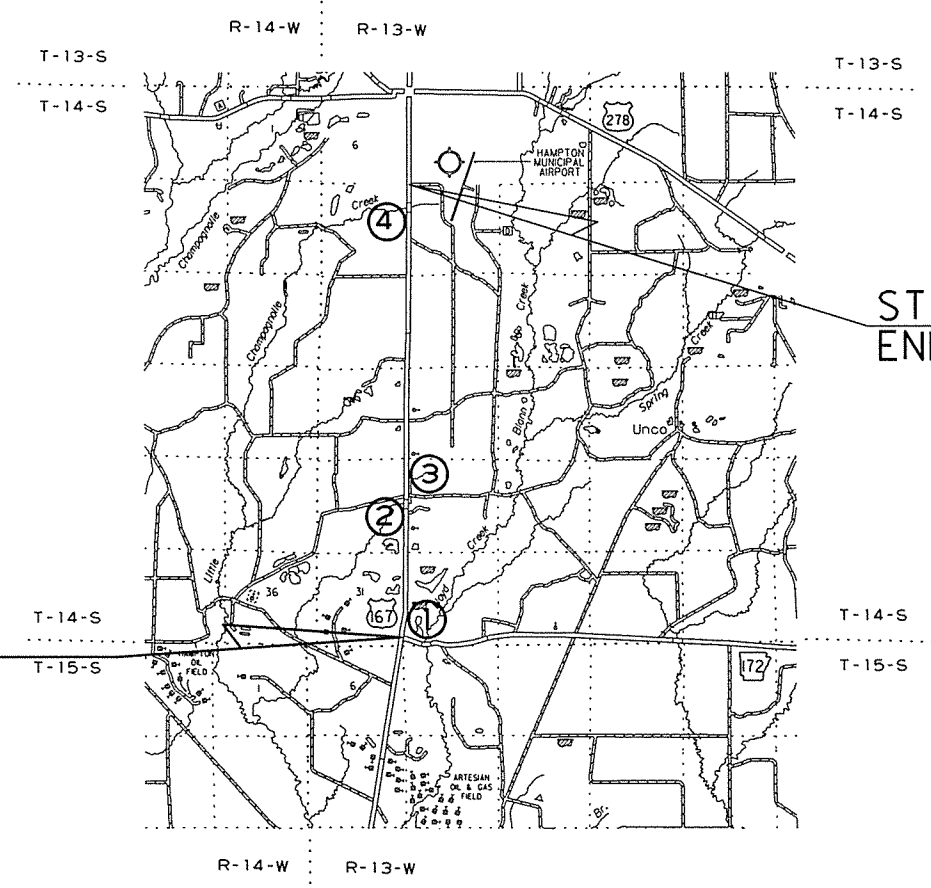
DESIGN TRAFFIC DATA

| | |
|--------------------------|--------|
| DESIGN YEAR | 2016 |
| 2016 ADT | 4000 |
| 2036 ADT | 4900 |
| 2036 DHV | 539 |
| DIRECTIONAL DISTRIBUTION | 0.60 |
| TRUCKS | 25% |
| DESIGN SPEED | 60 MPH |



VICINITY MAP

PROJECT AREA



STA. 568+45.90
END JOB 070284

STA. 309+65.00
END JOB 070283
BEGIN JOB 070284
LOG MILE 8.69

STRUCTURES OVER 20' - 0"

- ① STA. 310+11 IN PLACE
TRI. 6' X 3' X 57' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 51' LT. AND 13' RT.
TO A COMPLETED LENGTH OF 121'
Q50 = 220 CFS D.A. = 180 ACRES
TOTAL SPAN = 20'-4"
- ② STA. 388+86 IN PLACE
TRI. 8' X 3' X 55' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 52' LT. AND 15' RT.
TO A COMPLETED LENGTH OF 122'
Q50 = 190 CFS D.A. = 155 ACRES
TOTAL SPAN = 26'-4"
- ③ STA. 390+50 IN PLACE
DBL. 30' X 42' X 50' C.M.A.P.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
QUAD. 6' X 3' X 55' BOX CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 350 CU. YDS.
TOTAL SPAN = 27'-0"
- ④ STA. 555+10 IN PLACE
TRI. 8' X 3' X 56' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 29' LT. AND 36' RT.
TO A COMPLETED LENGTH OF 121'
CONSTRUCT 6' X 3' X 121' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 570 CFS D.A. = 768 ACRES
TOTAL SPAN = 33'-10"

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
M.E. BANKS
No. 7836
3-18-16

DEPUTY DIRECTOR
AND CHIEF ENGINEER

| | BEGIN PROJECT | MID-POINT OF PROJECT | END PROJECT |
|-----------|---------------|----------------------|-------------|
| LATITUDE | N 33°27'09" | N 33°29'59" | N 33°32'17" |
| LONGITUDE | W 92°28'25" | W 92°28'16" | W 92°28'11" |

LENGTH OF PROJECT CALCULATED ALONG C.L.

| | | |
|-------------------------|------------------|-------------|
| GROSS LENGTH OF PROJECT | 25880.90 FEET OR | 4.901 MILES |
| NET ROADWAY | 25800.41 | 4.886 MILES |
| NET BRIDGES | 80.49 | 0.015 MILES |
| NET PROJECT | 25880.90 | 4.901 MILES |

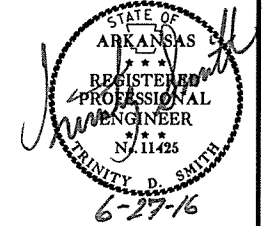
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2 INDEX OF SHEETS, GOV. SPECS., & GEN. NOTES

INDEX OF SHEETS

GOVERNING SPECIFICATIONS

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



| SHEET NO. | TITLE | BRIDGE NO. | DRWG. NO. | DATE |
|-----------|--|------------|-----------|----------|
| 1 | TITLE SHEET | | | |
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| 112 | FLARED END SECTION | | FES-2 | 10-18-96 |
| 113 | MAILBOX DETAILS | | MB-1 | 11-18-04 |
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| 117 | PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE) | | PCP-1 | 2-27-14 |
| 118 | PLASTIC PIPE CULVERT (PVC F949) | | PCP-2 | 2-27-14 |
| 119 | PAVEMENT MARKING DETAILS | | PM-1 | 5-12-16 |
| 120 | DETAILS OF PIPE UNDERDRAIN | | PU-1 | 4-10-03 |
| 121 | REINFORCED CONCRETE BOX CULVERT DETAILS | | RCB-1 | 7-26-12 |
| 122 | EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS | | RCB-2 | 11-20-03 |
| 123 | METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS | | RCB-3 | 10-12-95 |
| 124 | TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC | | SE-2 | 10-18-96 |
| 125 | DETAILS OF SPECIAL ITEMS | | SI-1 | 9-12-13 |
| 126 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | | TC-1 | 9-02-15 |
| 127 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | | TC-2 | 9-02-15 |
| 128 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | | TC-3 | 9-02-15 |
| 129 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER | | TC-4 | 2-27-14 |
| 130 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER | | TC-5 | 10-15-09 |
| 131 | TEMPORARY EROSION CONTROL DEVICES | | TEC-1 | 12-15-11 |
| 132 | TEMPORARY EROSION CONTROL DEVICES | | TEC-2 | 6-02-94 |
| 133 | TEMPORARY EROSION CONTROL DEVICES | | TEC-3 | 11-03-94 |
| 134 | WIRE FENCE TYPE C AND D | | WF-4 | 8-22-02 |
| 135 | DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS | | W-X003-1 | 5-10-66 |
| 136 | DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS | | R-100X-0 | 2-08-63 |
| 137 | DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS | | R-200X-0 | 2-15-63 |
| 138 | DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS | | R-300X-0 | 2-28-63 |
| 139 - 193 | CROSS SECTIONS | | | |

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

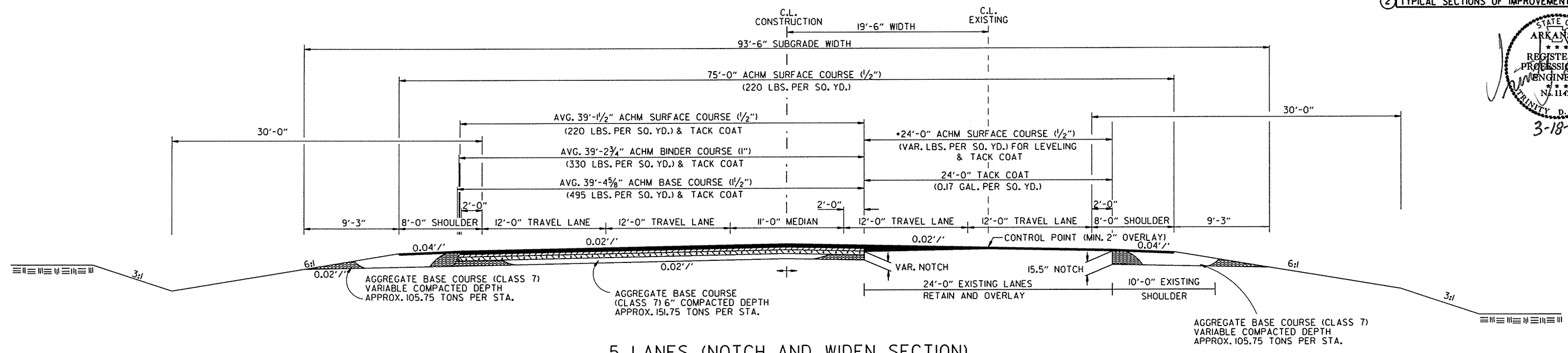
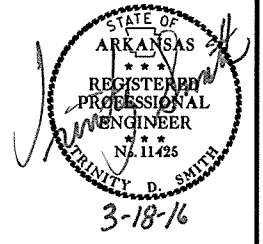
| NUMBER | TITLE |
|------------|---|
| ERRATA | ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS |
| FHWA-1273 | REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS |
| FHWA-1273 | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS |
| FHWA-1273 | SUPPLEMENT - SPECIFIC EQUAL 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 - TRAINING PROGRAM - JOB 070284 |
| FHWA-1273 | SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS |
| FHWA-1273 | SUPPLEMENT - WAGE RATE DETERMINATION |
| 100-3 | CONTRACTOR'S LICENSE |
| 108-1 | LIQUIDATED DAMAGES |
| 108-2 | WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER |
| 303-1 | AGGREGATE BASE COURSE |
| 400-1 | TACK COATS |
| 410-1 | CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES |
| 604-1 | RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES |
| 606-1 | PIPE CULVERTS FOR SIDE DRAINS |
| 620-1 | MULCH COVER |
| JOB 070284 | AIRPORT CLEARANCE REQUIREMENTS |
| JOB 070284 | BIDDING REQUIREMENTS AND CONDITIONS |
| JOB 070284 | BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT |
| JOB 070284 | BROADBAND INTERNET SERVICE FOR FIELD OFFICE |
| JOB 070284 | CARGO PREFERENCE ACT REQUIREMENTS |
| JOB 070284 | COMPACTED EMBANKMENT |
| JOB 070284 | COORDINATION OF WORK |
| JOB 070284 | DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES |
| JOB 070284 | EXTENSION FOR PIPE CULVERTS |
| JOB 070284 | GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION |
| JOB 070284 | ISSUANCE OF PROPOSALS |
| JOB 070284 | MANDATORY ELECTRONIC CONTRACT |
| JOB 070284 | NESTING SITES OF MIGRATORY BIRDS |
| JOB 070284 | PARTNERING REQUIREMENTS |
| JOB 070284 | PLASTIC PIPE |
| JOB 070284 | SHORING FOR CULVERTS |
| JOB 070284 | SOIL STABILIZATION |
| JOB 070284 | STORM WATER POLLUTION PREVENTION PLAN |
| JOB 070284 | SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS |
| JOB 070284 | UTILITY ADJUSTMENTS |
| JOB 070284 | VALUE ENGINEERING |
| JOB 070284 | WARM MIX ASPHALT |
| JOB 070284 | WELLHEAD PROTECTION |

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- 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.
- 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.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- 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.
- 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.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- 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.

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2 TYPICAL SECTIONS OF IMPROVEMENT



5 LANES (NOTCH AND WIDEN SECTION)
 STA. 309+65.00 - STA. 317+31.98
 STA. 331+26.18 - STA. 568+45.90

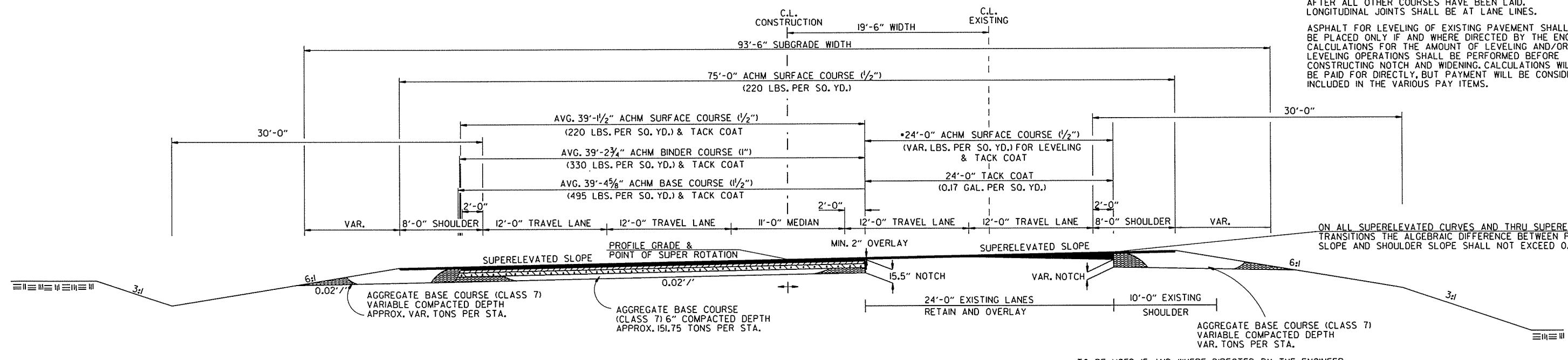
*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

NOTES:
 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.

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

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

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.



5 LANES SUPERELEVATED (NOTCH AND WIDEN SECTION)
 STA. 317+31.98 - STA. 331+26.18

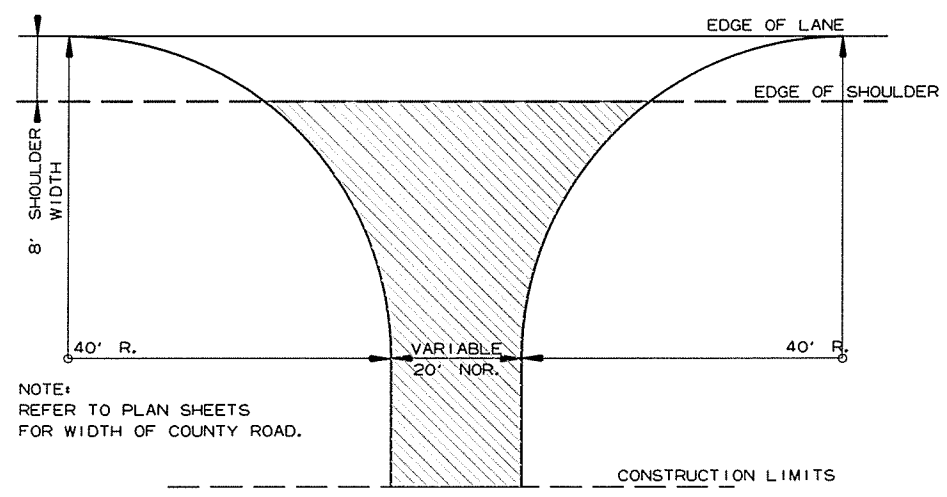
*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

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2 SPECIAL DETAILS

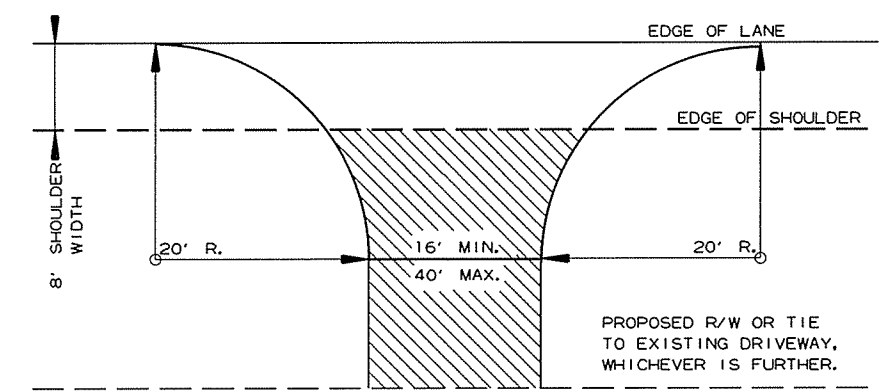


NOTE: REFER TO PLAN SHEETS FOR WIDTH OF COUNTY ROAD.

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

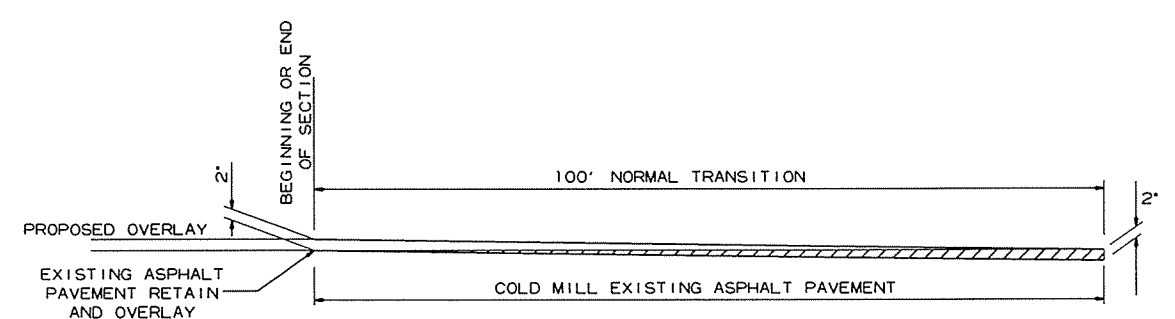
DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



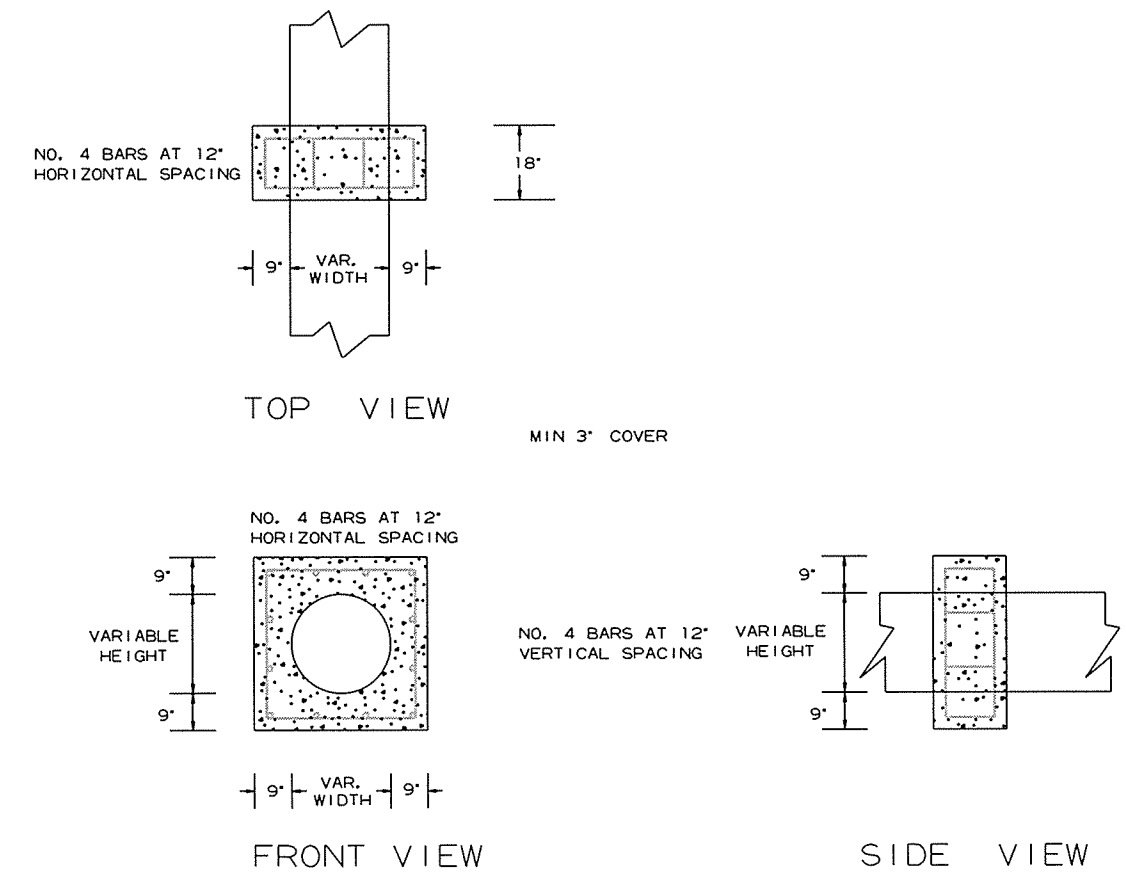
NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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)



DETAIL FOR TRANSITIONS

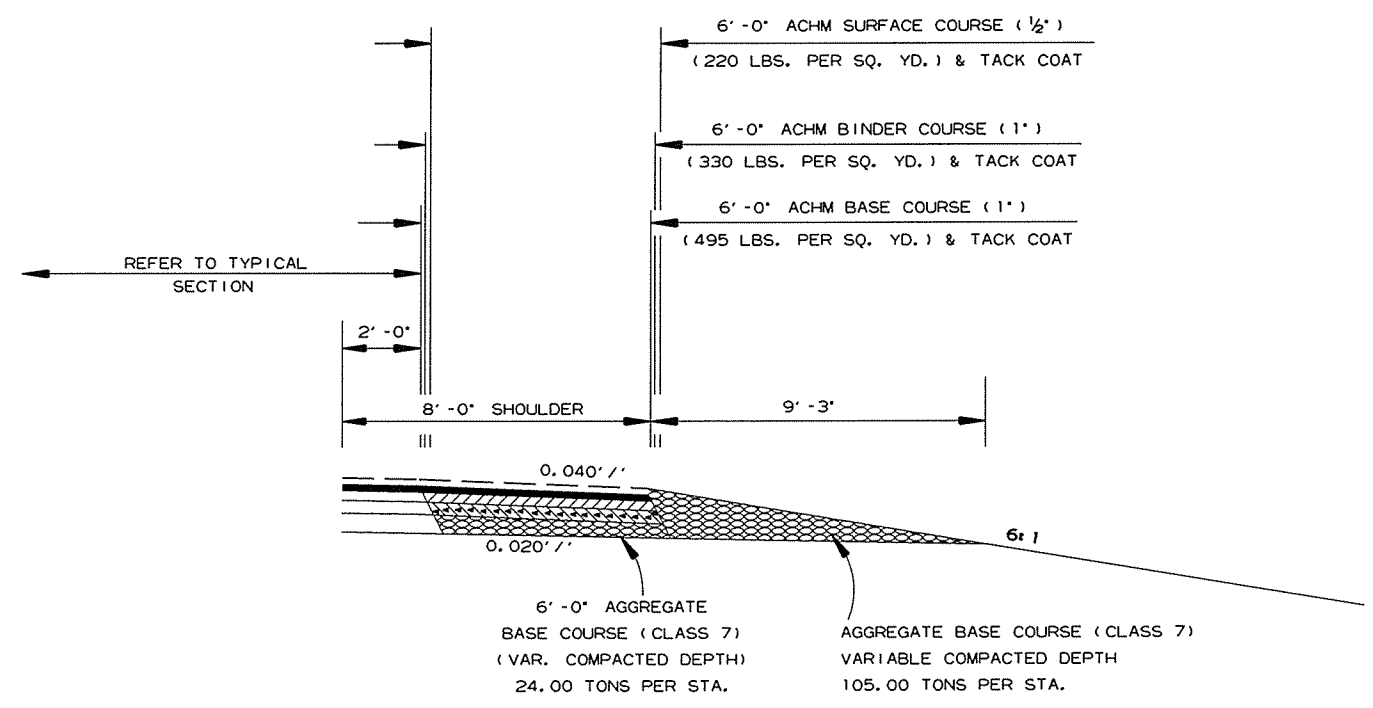


PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL

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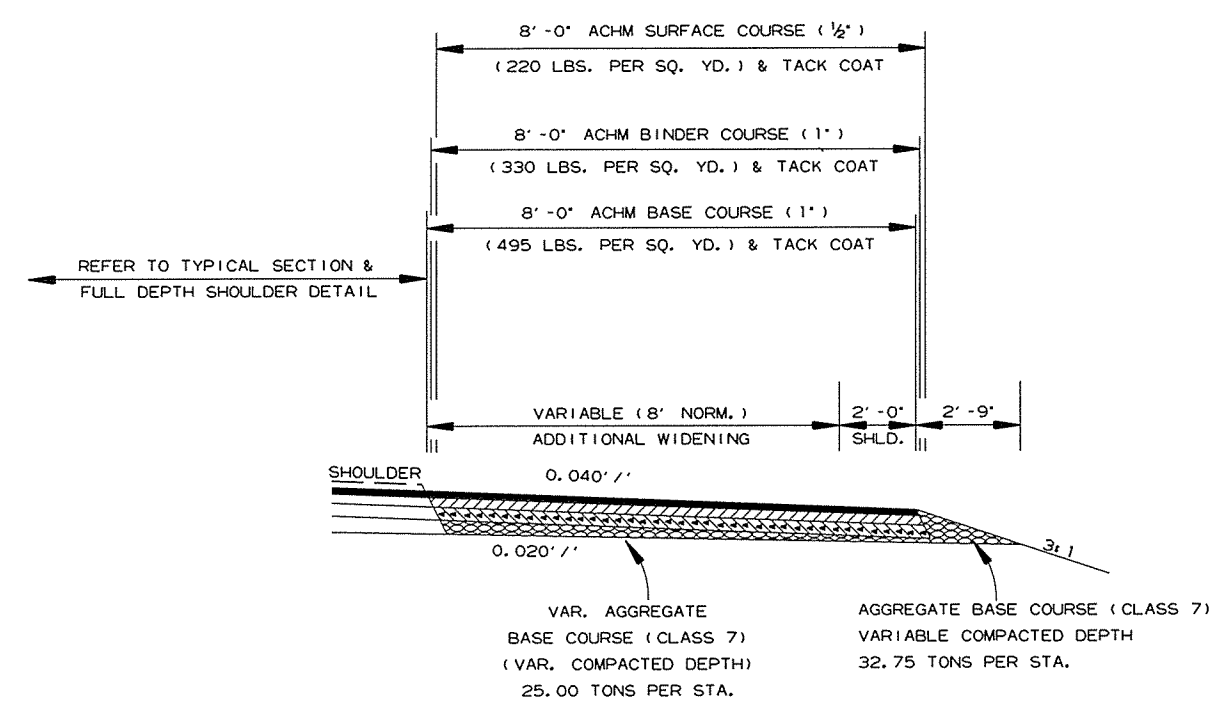
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2 SPECIAL DETAILS



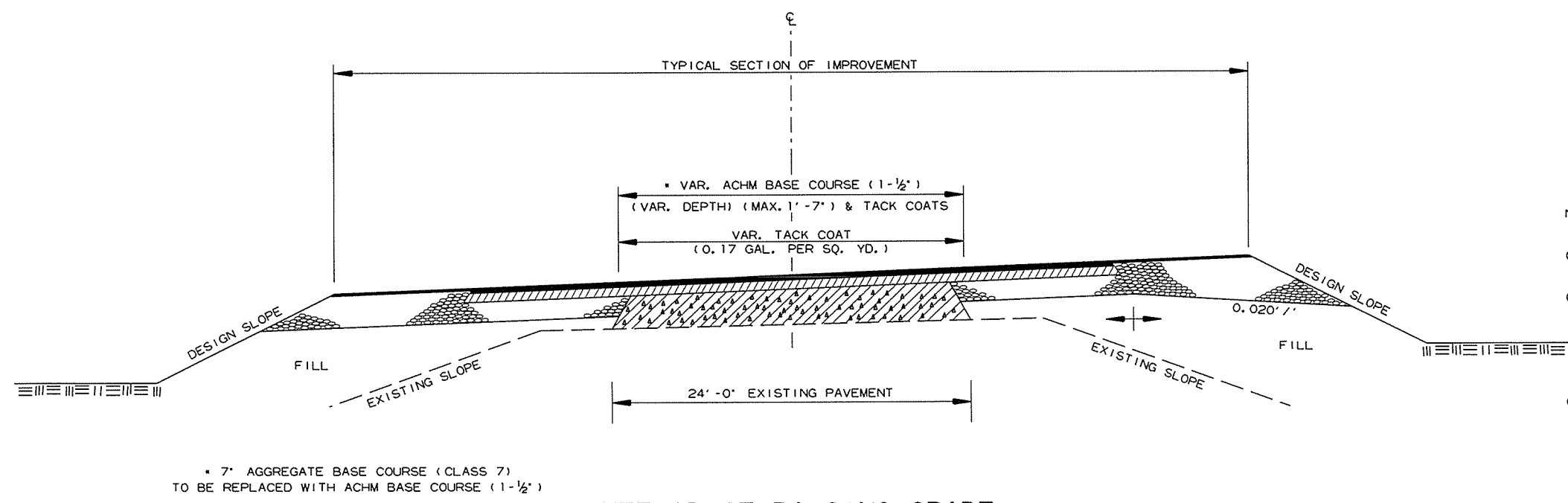
**FULL DEPTH SHOULDER
FOR MAINTENANCE OF TRAFFIC**

STA. 431+96.00 LT. - STA. 436+61.00 LT.
 STA. 443+47.00 LT. - STA. 448+44.00 LT.
 STA. 552+52.00 LT. - STA. 557+66.00 LT.



**ADDITIONAL WIDENING
FOR MAINTENANCE OF TRAFFIC**

STA. 433+05.00 LT. - STA. 435+58.00 LT.
 STA. 444+53.00 LT. - STA. 447+38.00 LT.
 STA. 553+58.00 LT. - STA. 556+59.00 LT.



METHOD OF RAISING GRADE

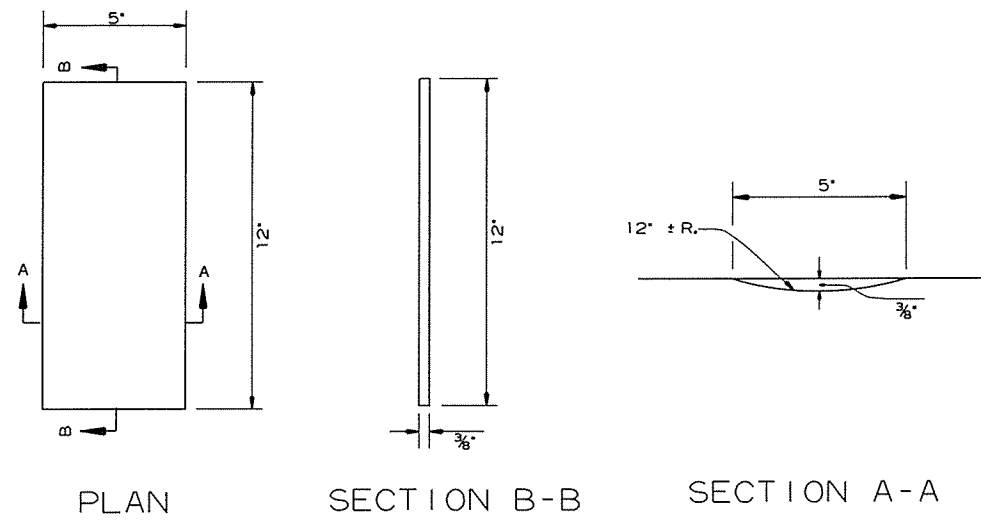
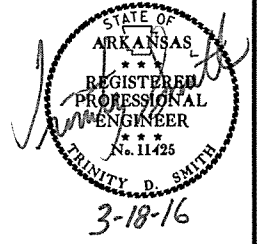
NOTES:

- (1) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.
- (2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
- (3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS.

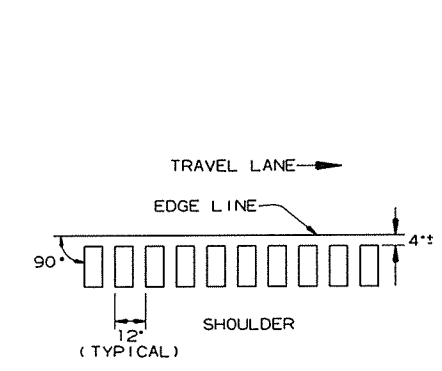
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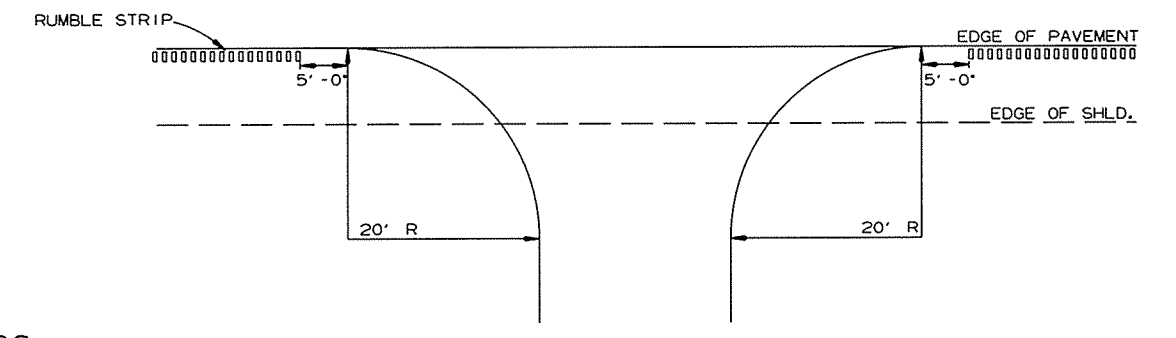
② SPECIAL DETAILS



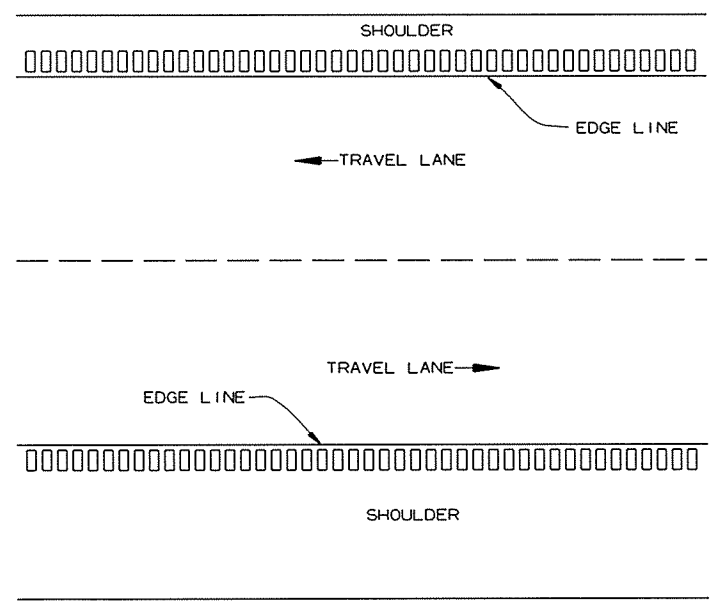
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



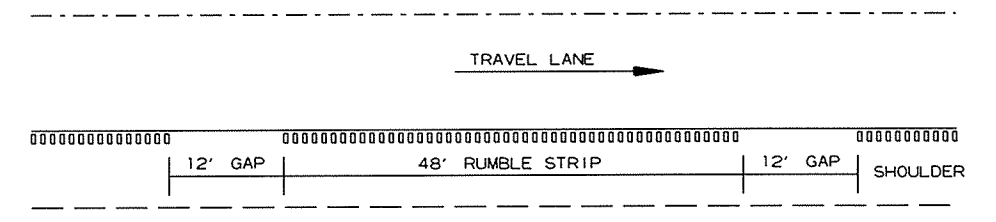
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



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\"/>



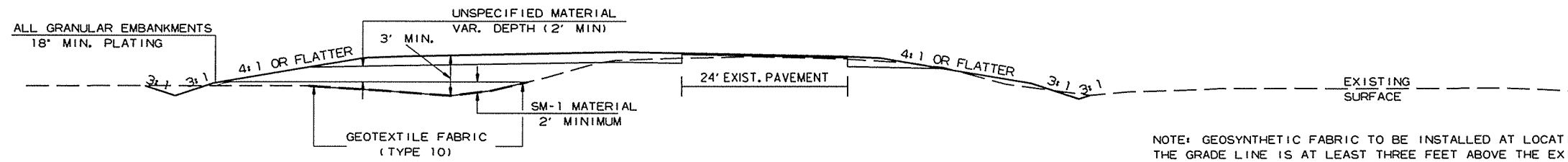
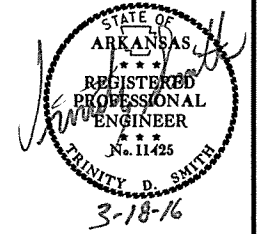
NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

DETAIL FOR GAP PATTERN RUMBLE STRIP

2/18/2016 R070284.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | | | JOB NO. 070284 | 7 | 193 |

② SPECIAL DETAILS

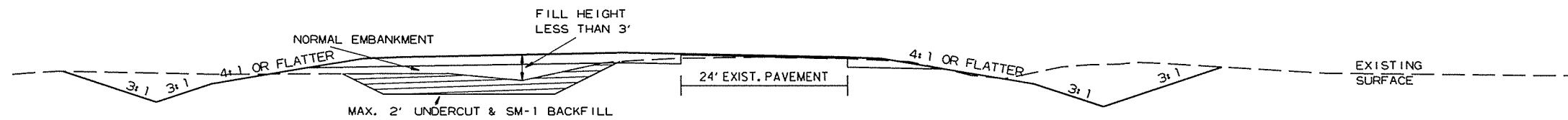


NOTE: GEOSYNTHETIC FABRIC TO BE INSTALLED AT LOCATIONS WHERE THE GRADE LINE IS AT LEAST THREE FEET ABOVE THE EXISTING GRADE.

DETAIL OF EMBANKMENTS (GREATER THAN 3 FEET)

NOTE: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

- MATERIAL FOR PLATING TO BE CONSIDERED SUBSIDIARY TO THE PAY ITEM "COMPACTED EMBANKMENT".

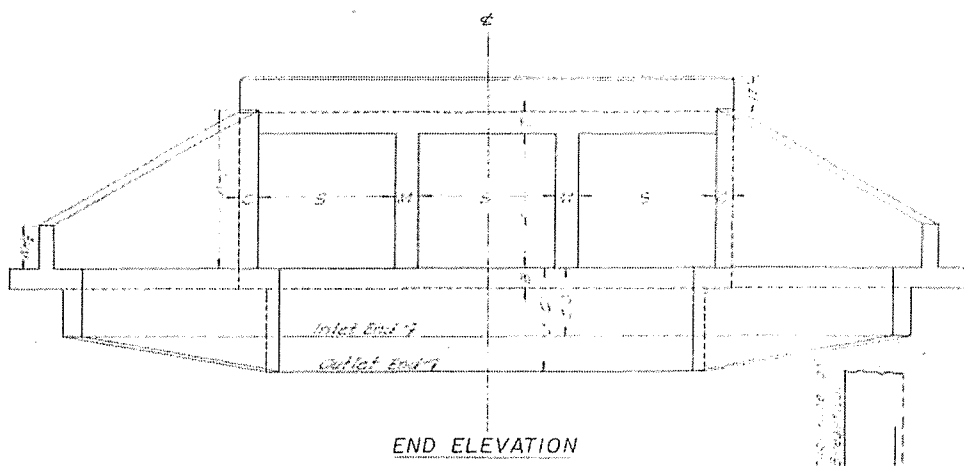


DETAIL OF EMBANKMENTS (3 FEET OR LESS)

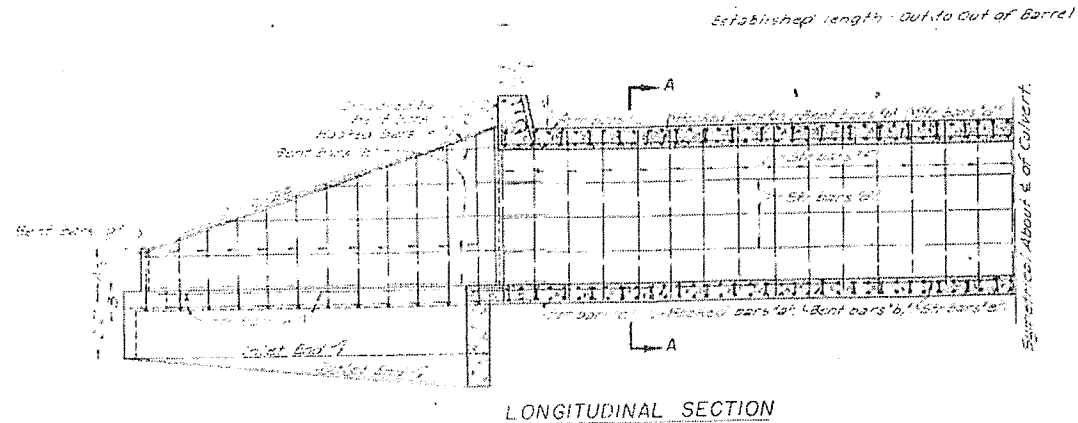
NOTE: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. PROJ. DIST. NO. | STATE | FED. PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | | | JOB NO. 070284 | 8 | 193 |

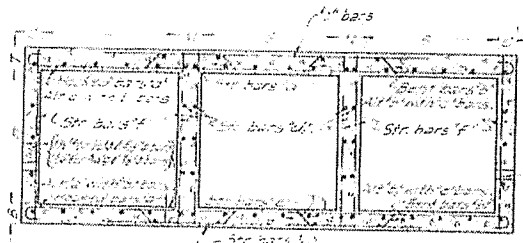
2 SPECIAL DETAILS



END ELEVATION



LONGITUDINAL SECTION



SECTION A-A

A membrane waterproofing for pipe, consisting of three coatings of waterproofing asphalt and two alternate coats of fibrous fabric shall be applied to the surface of concrete to cover expansion joint.

NOTE: Membrane for the expansion joint and membrane water proofing shall be included in the price bid for Class A Concrete

DETAIL OF EXPANSION JOINT FOR CULVERTS WHEN HEIGHT "H"=8' OR MORE

DIMENSIONS AND QUANTITIES

| NUMBER OF SPANS | SPAN | HEIGHT | AREA OF OPENING | MAXIMUM DEPTH OF COVER | THICKNESS OF WALLS | THICKNESS OF DIVISION WALLS | MINIMUM WALL HEIGHT | MINIMUM WIDTH AT WING END | LENGTH OF WINGWALLS | LENGTH OF DIVISION WALLS | CONCRETE CU YDS. | STEEL LB. |
|-----------------|------|--------|-----------------|------------------------|--------------------|-----------------------------|---------------------|---------------------------|---------------------|--------------------------|------------------|-----------|
| | | | | | | | | | | | | |
| 6 | 4' | 6' | 24 | 3'-0" | 6" | 6" | 4'-0" | 10' | 10' | 10' | 1000 | 1000 |
| 5 | 5' | 5' | 25 | 3'-0" | 6" | 6" | 4'-0" | 10' | 10' | 10' | 1000 | 1000 |
| 4 | 6' | 4' | 24 | 3'-0" | 6" | 6" | 4'-0" | 10' | 10' | 10' | 1000 | 1000 |
| 3 | 8' | 3' | 24 | 3'-0" | 6" | 6" | 4'-0" | 10' | 10' | 10' | 1000 | 1000 |

LAP NOTE - In computing quantities of Steel from the above table, add one lap for culvert up to 30'-0" in length and add one lap for each additional 25'-0" in length.

*REINFORCING STEEL - To be deformed bars of structural or intermediate grade.

CHAMFER - All exposed corners to have 3/4" chamfer.

CONCRETE - All concrete to be Class 'A'.

*Reinforcing Steel to be deformed bars of intermediate or rail grade on all Interstate Highways.

STEEL SCHEDULE

For Culvert 30'-0" in Length - Cut to Out of Barrel

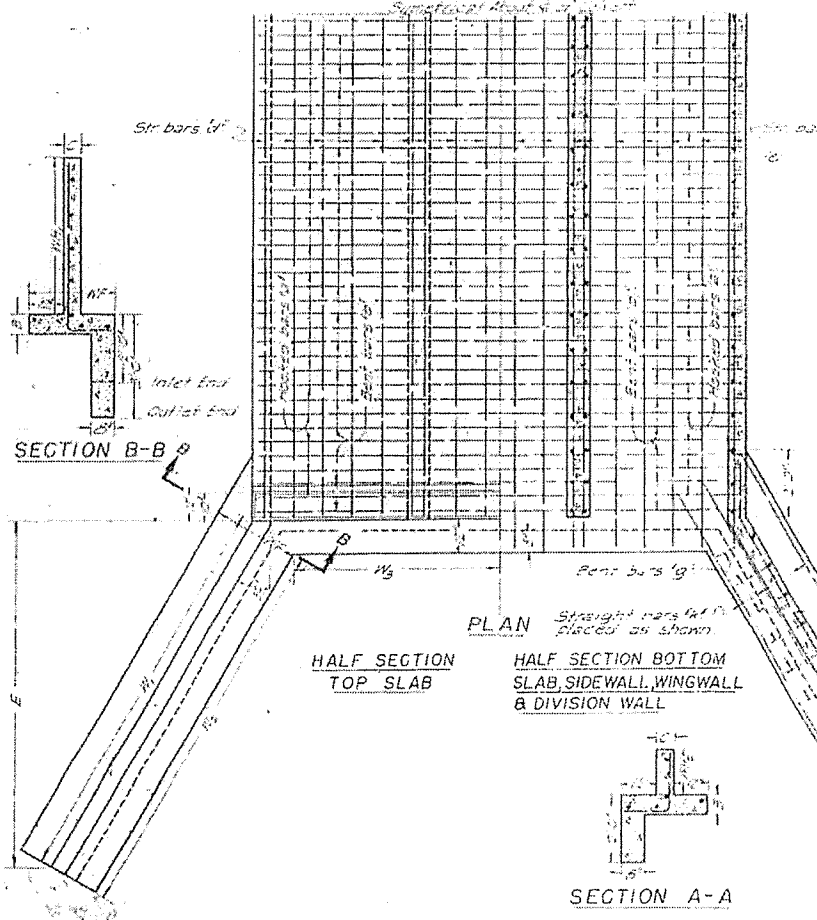
| NUMBER OF SPANS | SPAN | HEIGHT | STRAIGHT 1/2" bars | | STRAIGHT 1/2" bars | | STRAIGHT 1/2" bars | | STRAIGHT 1/2" bars | | STRAIGHT 1/2" bars | |
|-----------------|------|--------|--------------------|--------------------------------|--------------------|--------------------------------|--------------------|--------------------------------|--------------------|--------------------------------|--------------------|--------------------------------|
| | | | In Top Slab | In Sidelwalls & Division Walls | In Top Slab | In Sidelwalls & Division Walls | In Top Slab | In Sidelwalls & Division Walls | In Top Slab | In Sidelwalls & Division Walls | In Top Slab | In Sidelwalls & Division Walls |
| 6 | 4' | 6' | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 5 | 5' | 5' | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 4 | 6' | 4' | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 3 | 8' | 3' | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

NOTE - Lengths given above do not include lap.

A.A.S.H.O. DESIGN LIVE LOADING H-20-S16
UNIT STRESSES
Concrete (N-13) - 840 Lbs per Sq. In.
Reinf. Steel (Int or Rail) - 20,000 Lbs per Sq. In.

SPECIAL MILITARY LOADING
Add'l Loading for Interstate Highways: 2-2400 Lb. Axles @ 30 Ctrs.
Concrete (N-13) 840 Lbs. Per Sq. In.
Reinf. Steel (Int or Rail) - 20,000 Lbs Per Sq. In.

| REVISIONS | DATE |
|------------------------|------------|
| DESIGN | Jan 1946 |
| Expansion Joint | Nov 1952 |
| Design Live Loading | March 1953 |
| H & S Bars | April 1955 |
| Spec. Military Loading | Nov 1957 |



PLAN
HALF SECTION TOP SLAB
HALF SECTION BOTTOM SLAB, SIDEWALL, WINGWALL & DIVISION WALL

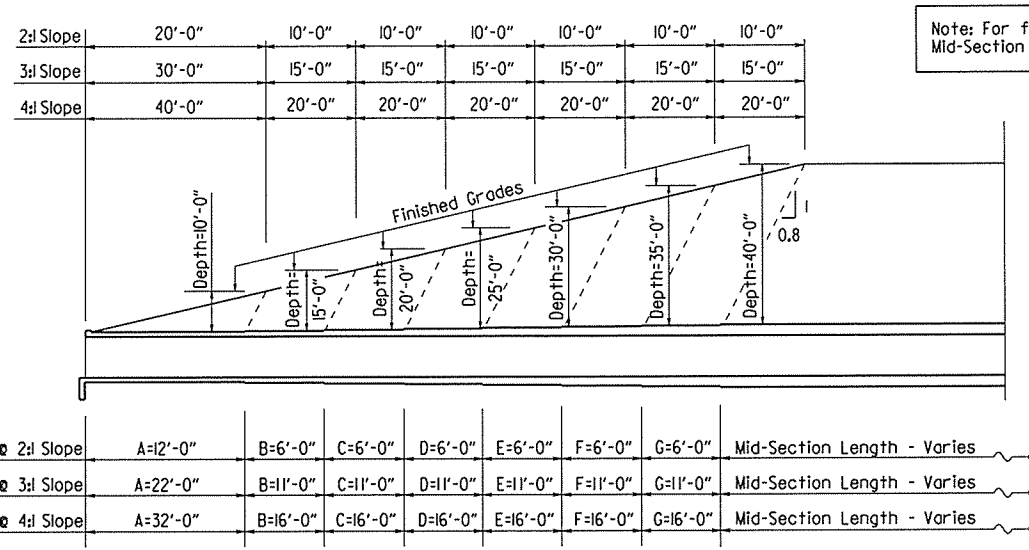
SECTION A-A

SPECIAL DETAILS

10/22/2015
R070284.DGN

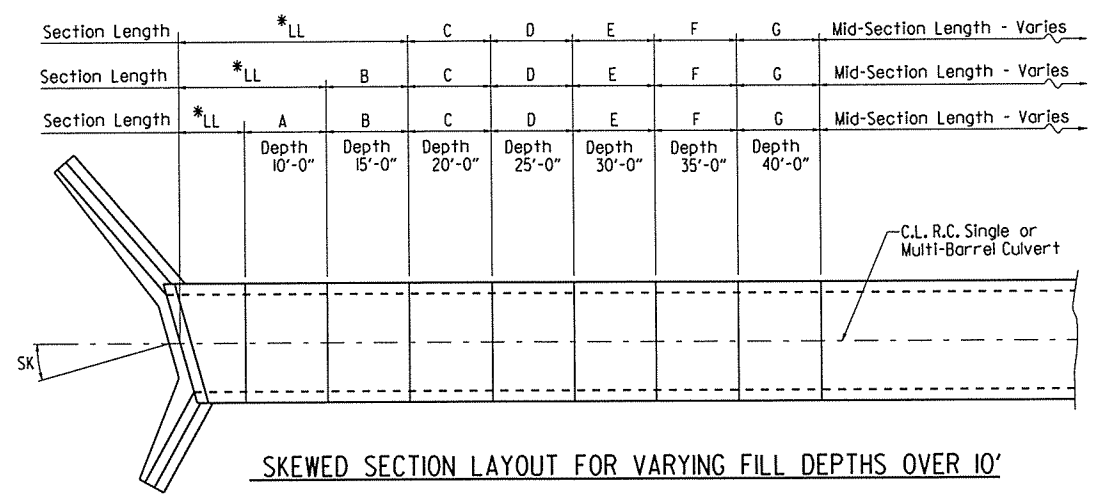
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| | | | | 6 | ARK. | | | |
| JOB NO. | | | | | | 070284 | 11 | 193 |

① SPECIAL DETAILS



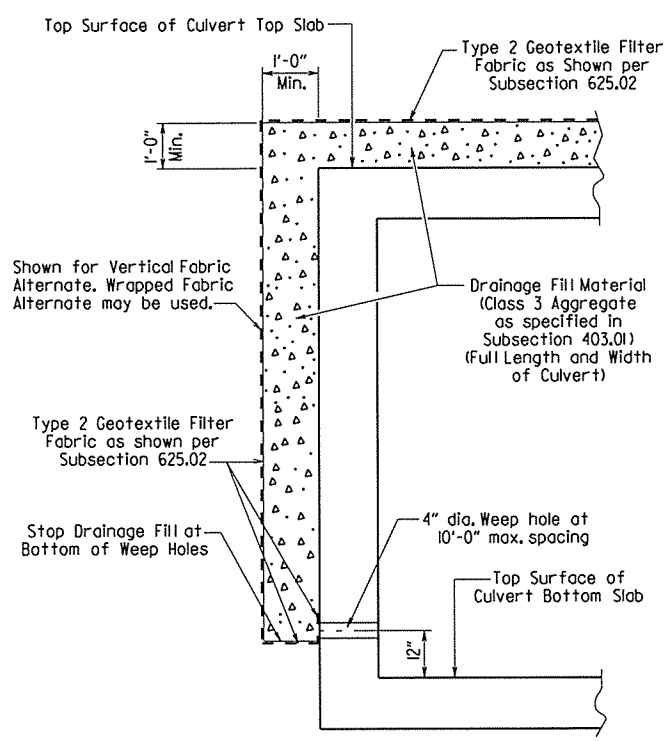
Note: For fill depths 10' and under, use Mid-Section full length of box culvert.

* LL = Skewed End Section Length - See "Skewed End Section Details" Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.

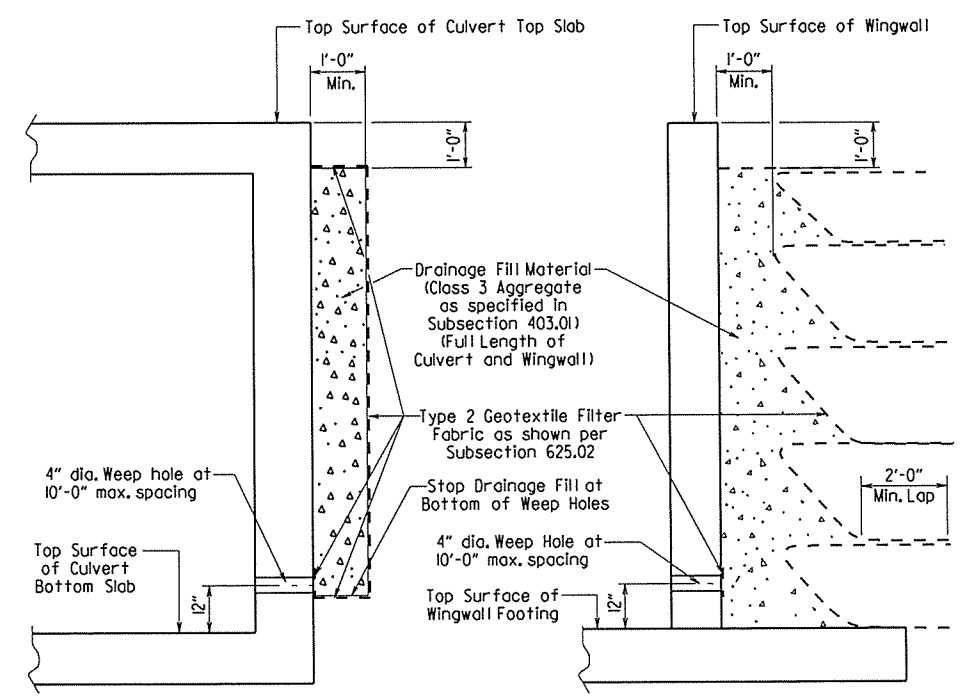


SKewed SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'

LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'
Lengths for Non-Skewed Boxes



CULVERT DRAINAGE DETAIL FOR ROCK FILL
This detail shall be used when rock fill is specified for embankment construction.



VERTICAL FABRIC ALTERNATE (Shown for Culvert, Similar for Wingwall)
WRAPPED FABRIC ALTERNATE (Shown for Wingwall, Similar for Culvert)

For Details of Excavation and Pay Limits, see Standard Drawing RCB-2.

WINGWALL & CULVERT DRAINAGE DETAIL

GENERAL NOTES:

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

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition (2010) with 2010 interim revisions.

LIVE LOADING: HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have 3/4" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Reinforcing Steel Tolerances: The tolerances for reinforcing steel shall meet those listed in 'Manual of Standard Practice' published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for truss bars such as Figure 3 on page 7-4 of the CRSI Manual shall be minus zero to plus 1/2 inch.

Excavation and backfilling shall be in accordance with the requirements of Section 801.

Membrane Waterproofing shall conform to the requirements of Section 815. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalls of R.C. Box culverts and to the construction joint between wingwalls and R.C. Box culvert walls.

Weep Holes in box culvert walls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. The drain opening shall be 4" diameter and shall be placed 12" above the top of the bottom slab.

Weep Holes in wingwalls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 12" above the top of the wingwall footing.

The barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be normal to the centerline of barrel and shall be keyed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise. All longitudinal construction joints shall be submitted to the Engineer for approval.

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage Fill Material will not be paid for directly but shall be considered subsidiary to Class S Concrete.

When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a fine finish shall be applied in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class 5 Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 Protective Surface Treatment".

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

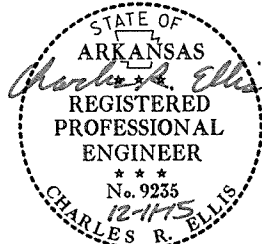
SHEET 1 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
GENERAL NOTES &
LONGITUDINAL SECTION LENGTH SCHEDULE
SPECIAL DETAILS



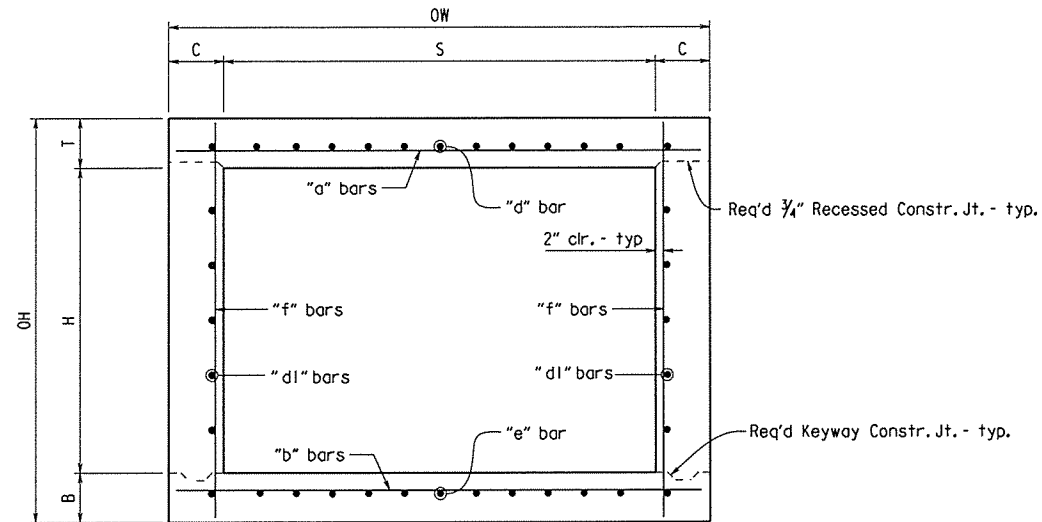
V L14 Culvert-General.dgn

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| | | | | JOB NO. | 070284 | 12 | 193 | |

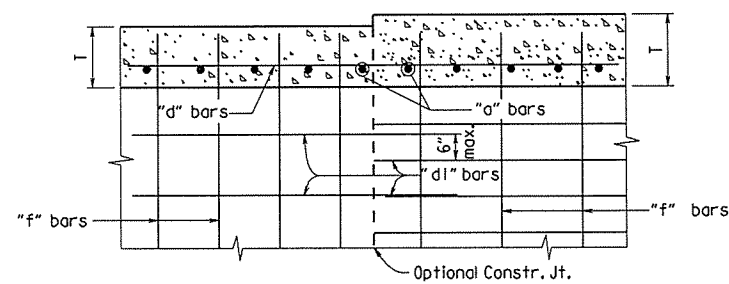
① SPECIAL DETAILS



Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.

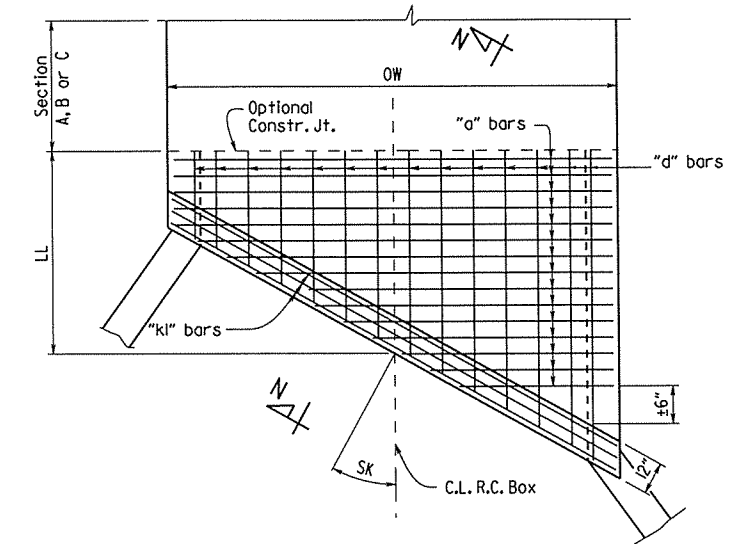


TYPICAL SECTION M-M

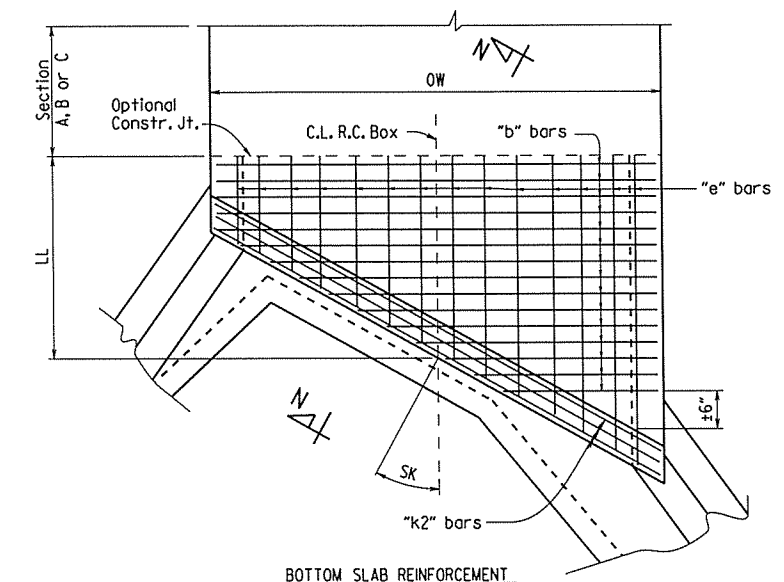


LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



TOP SLAB REINFORCEMENT



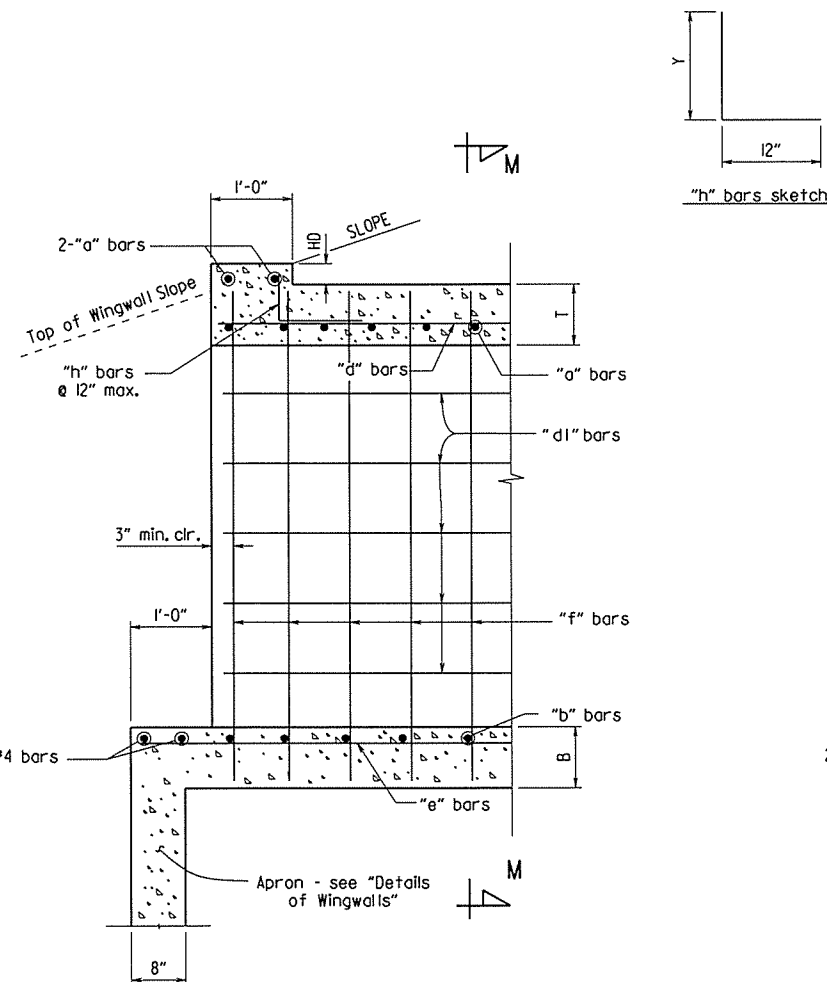
SKewed END SECTION DETAILS

SHEET 2 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF SINGLE BARREL
R.C. BOX CULVERT

SPECIAL DETAILS

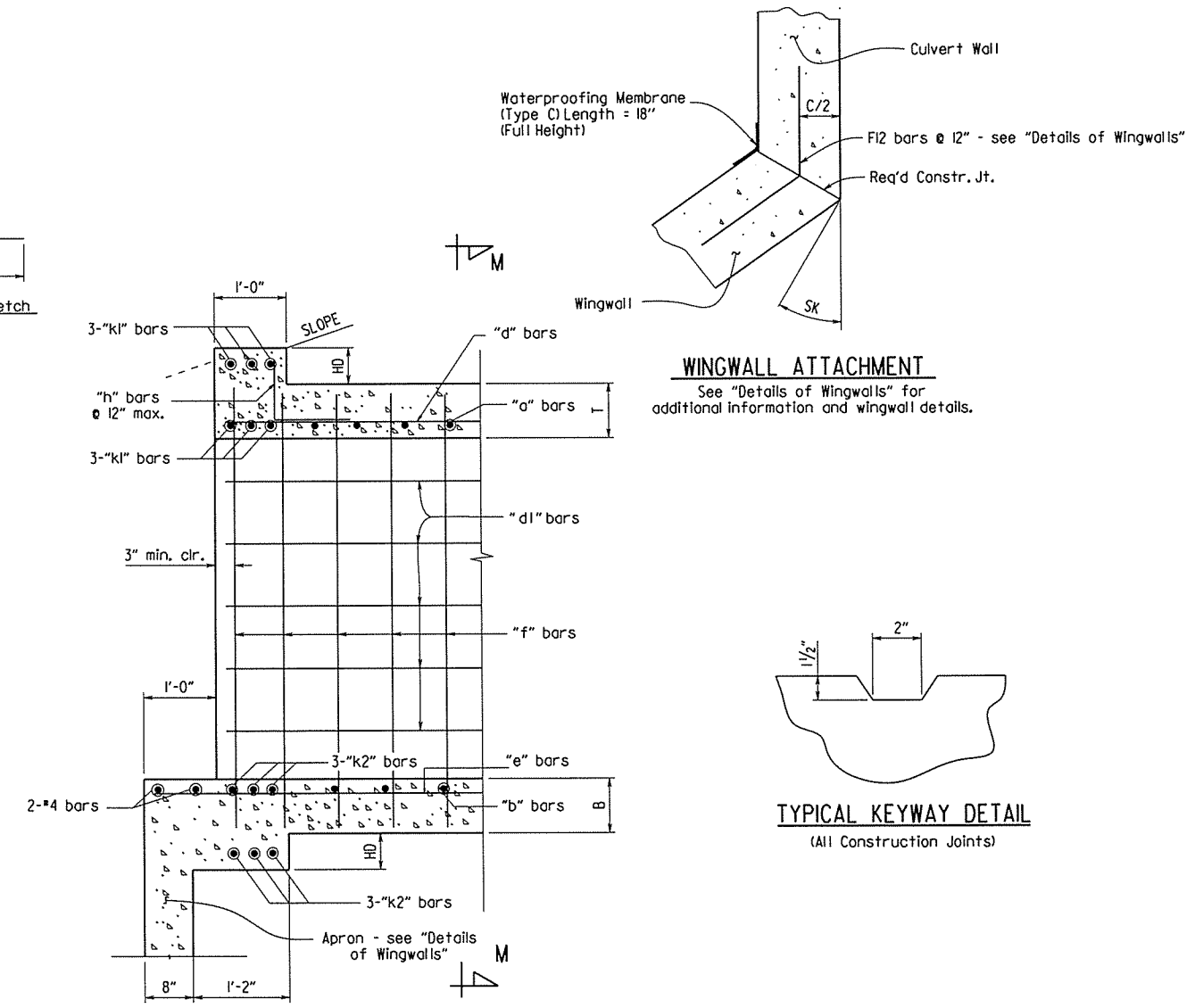


Culvert-General.dgn



PART LONGITUDINAL SECTION

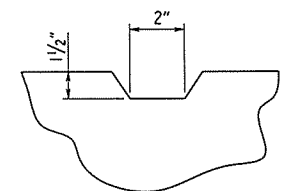
(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

(Skewed Ends)

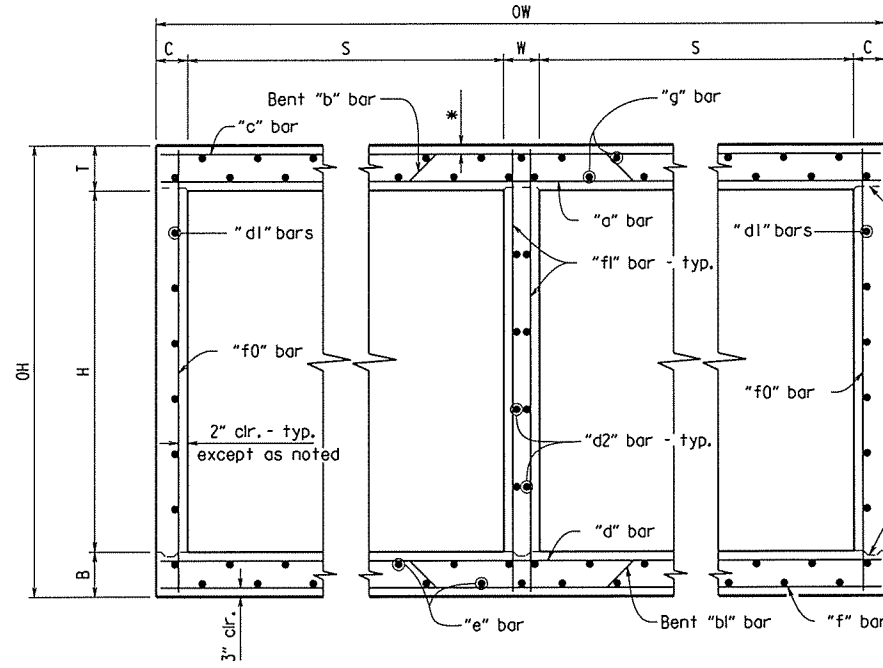
WINGWALL ATTACHMENT
See "Details of Wingwalls" for additional information and wingwall details.



TYPICAL KEYWAY DETAIL
(All Construction Joints)

*2" clr. for fill depth (D) greater than 2 ft.
 2 1/2" clr. for fill depth (D) equal to or less than 2 ft.

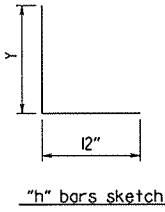
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



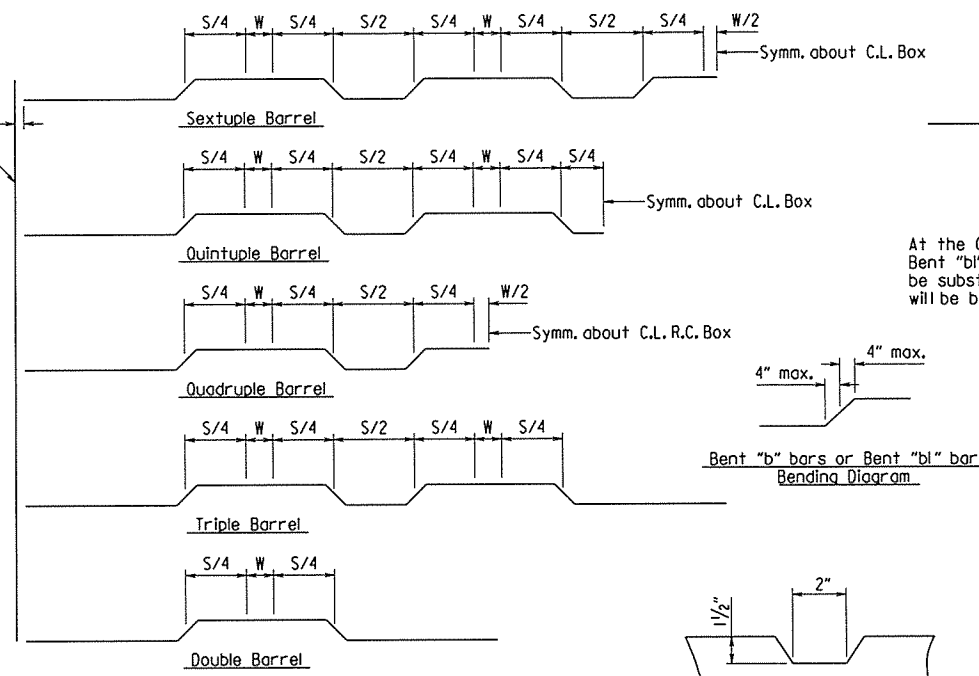
TYPICAL SECTION M-M

Top Slab
 Straight "c" bars shall alternate with Bent "b" bars in top.
 Straight "a" bars shall alternate with Bent "b" bars in bottom.

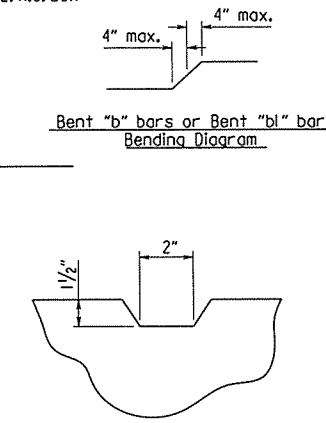
Bottom Slab
 Straight "d" bars shall alternate with Bent "bl" bars in top.
 Straight "f" bars shall alternate with Bent "bl" bars in bottom.



"h" bars sketch



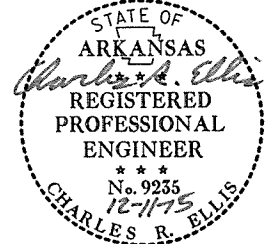
Bent "b" bars or Bent "bl" bars sketch



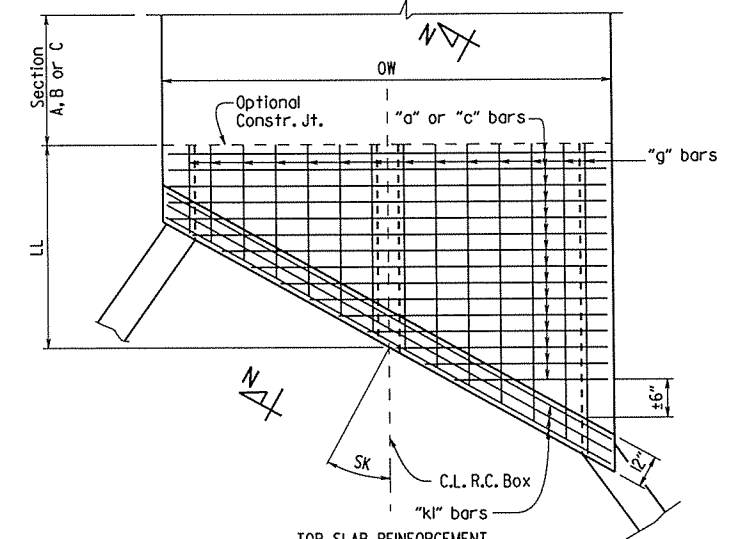
TYPICAL KEYWAY DETAIL
 (All Construction Joints)

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| JOB NO. 070284 | | | | | | | 13 | 193 |

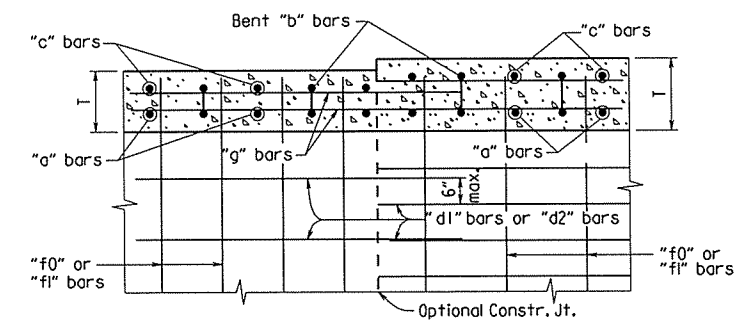
SPECIAL DETAILS



At the Contractor's option in lieu of providing Bent "b" or Bent "bl" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "bl" bar.

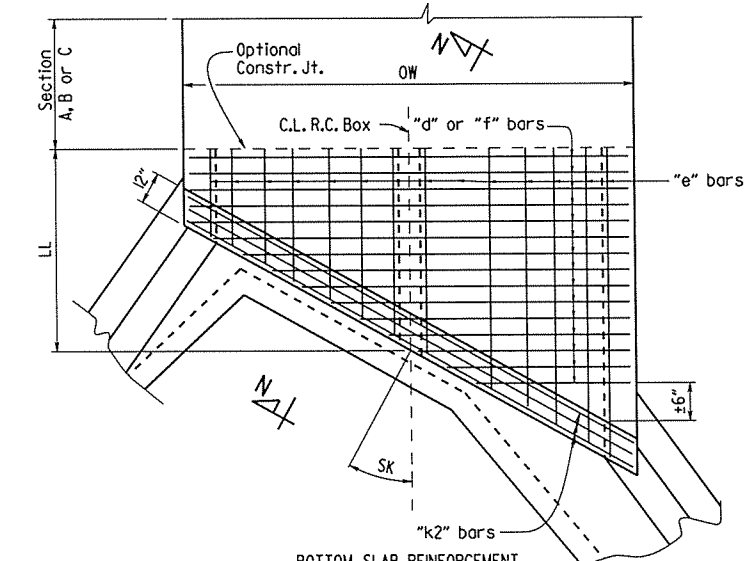


TOP SLAB REINFORCEMENT
 Straight "c" bars in top.
 Straight "a" bars in bottom.

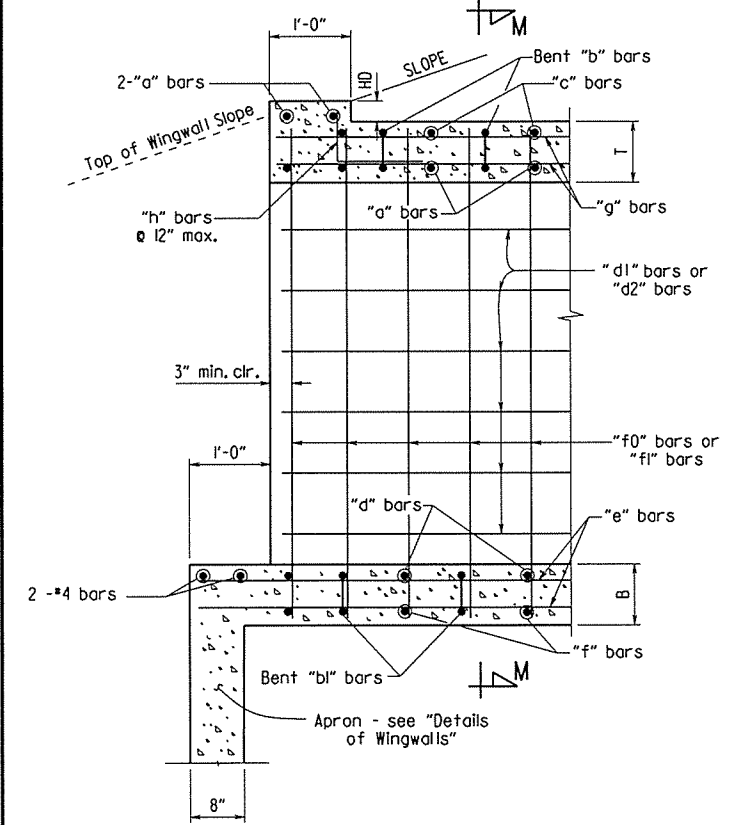


LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
 TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

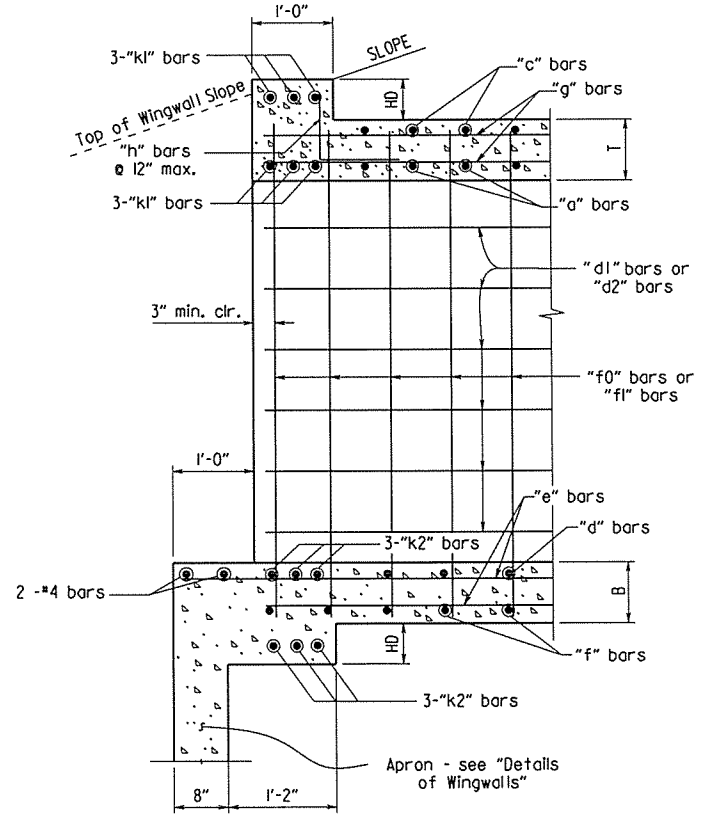
Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.



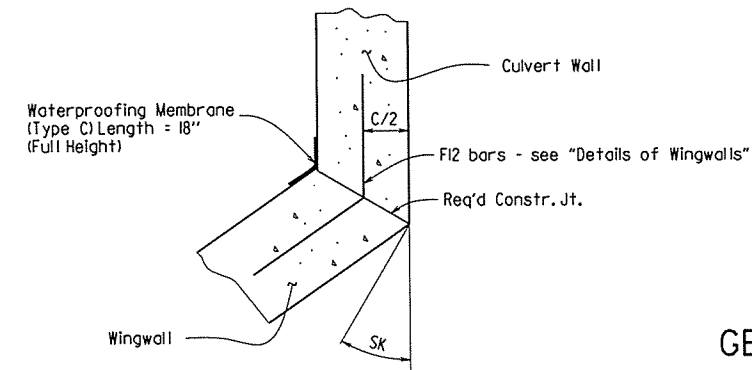
SKewed END SECTION DETAILS
 BOTTOM SLAB REINFORCEMENT
 Straight "d" bars in top.
 Straight "f" bars in bottom.



PART LONGITUDINAL SECTION
 (Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N
 (Skewed Ends)

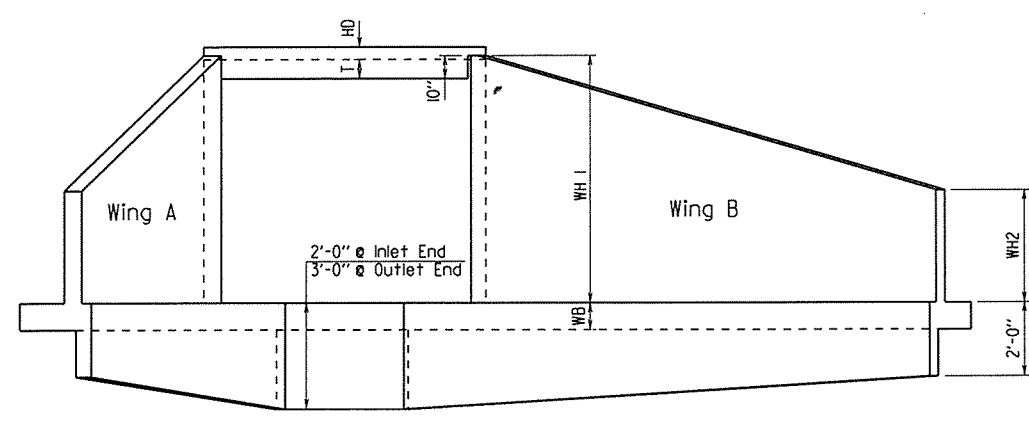
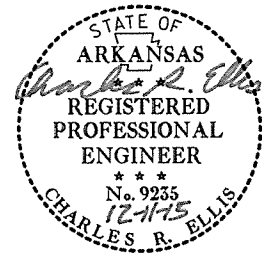


WINGWALL ATTACHMENT
 See "Details of Wingwalls" for additional information and wingwall details.

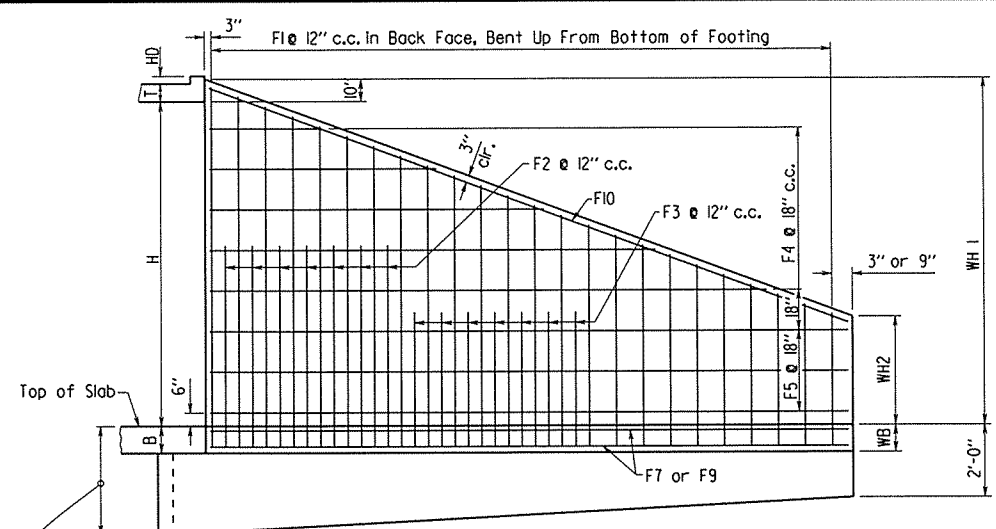
SHEET 3 OF 4
 GENERAL DETAILS OF R.C. BOX CULVERT
 DETAILS OF MULTI-BARREL R.C. BOX CULVERT
 SPECIAL DETAILS

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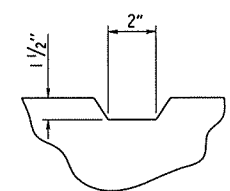


END ELEVATION
Flared Wingwalls Shown

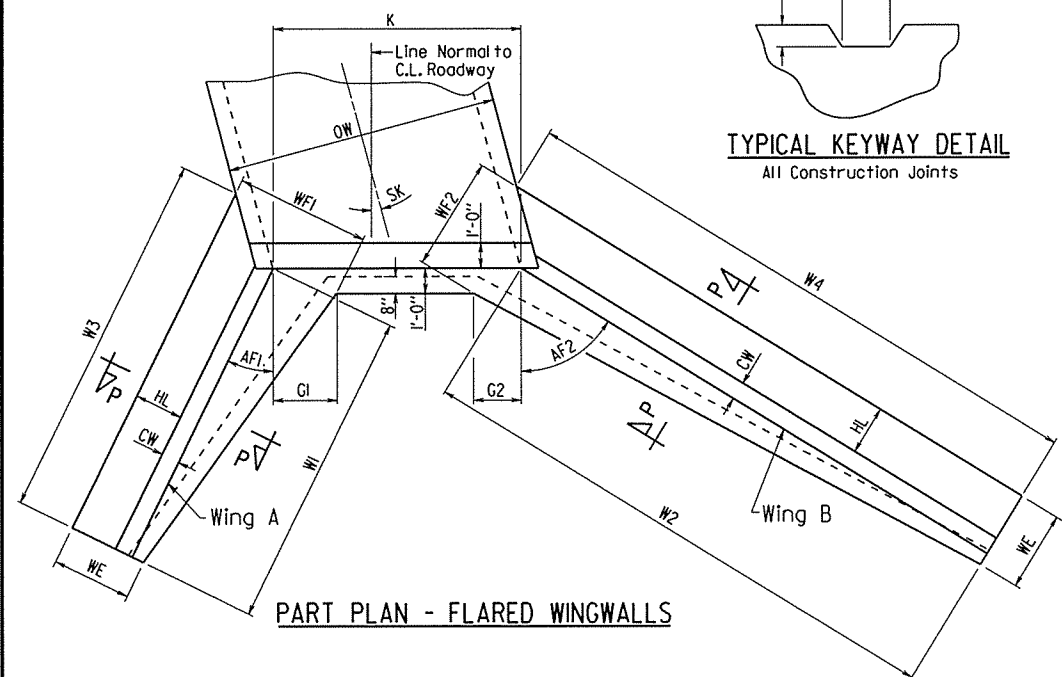


WINGWALL ELEVATION
Showing Back Face Reinforcement

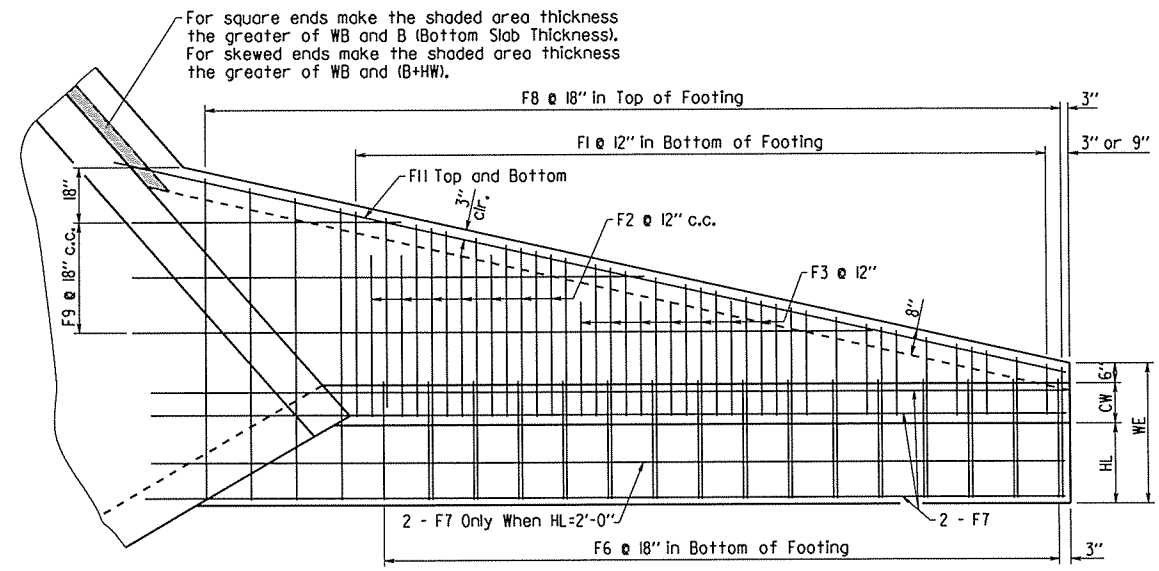
Note: See "Wingwall Section P-P" for additional details and reinforcing.



TYPICAL KEYWAY DETAIL
All Construction Joints

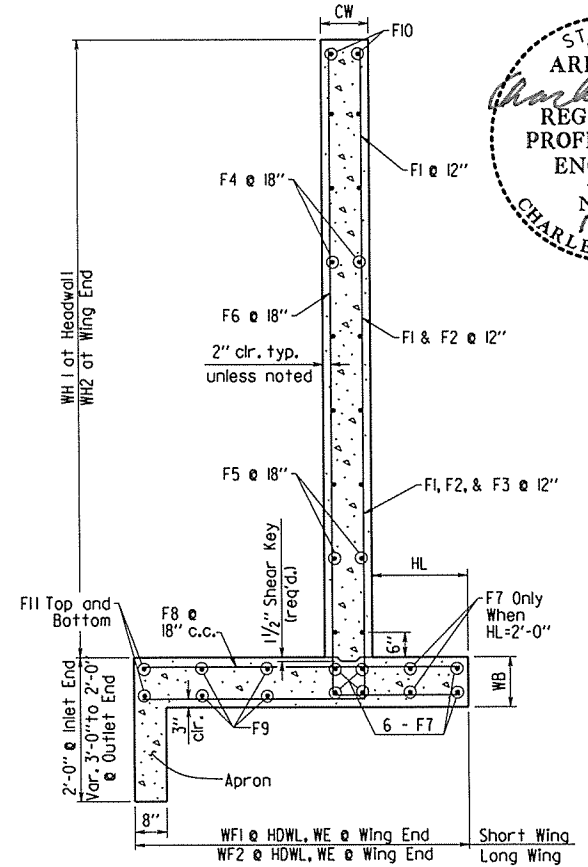


PART PLAN - FLARED WINGWALLS

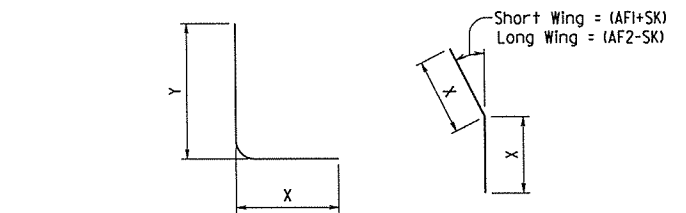


PLAN - FLARED WINGWALLS
Showing Footing Reinforcement

For square ends make the shaded area thickness the greater of WB and B (Bottom Slab Thickness). For skewed ends make the shaded area thickness the greater of WB and (B+HW).

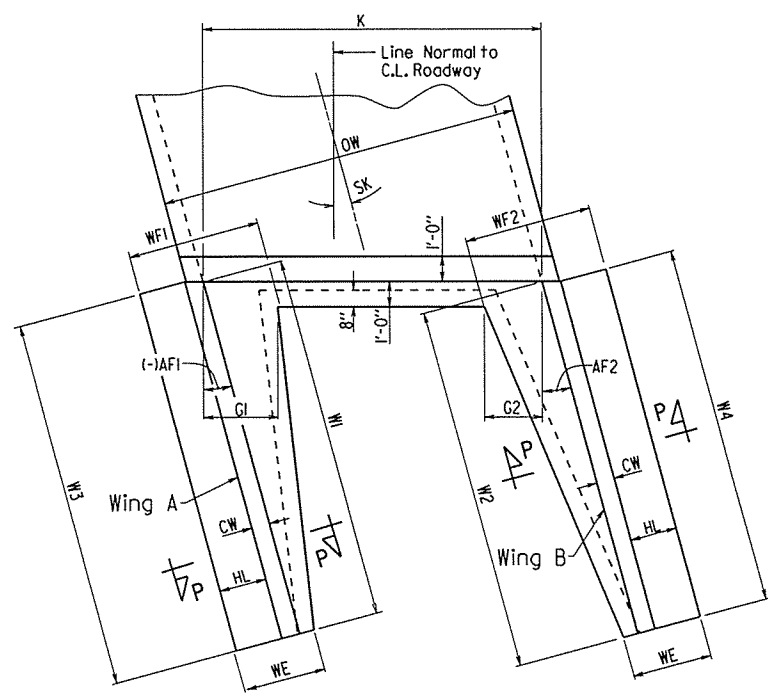


WINGWALL SECTION P-P

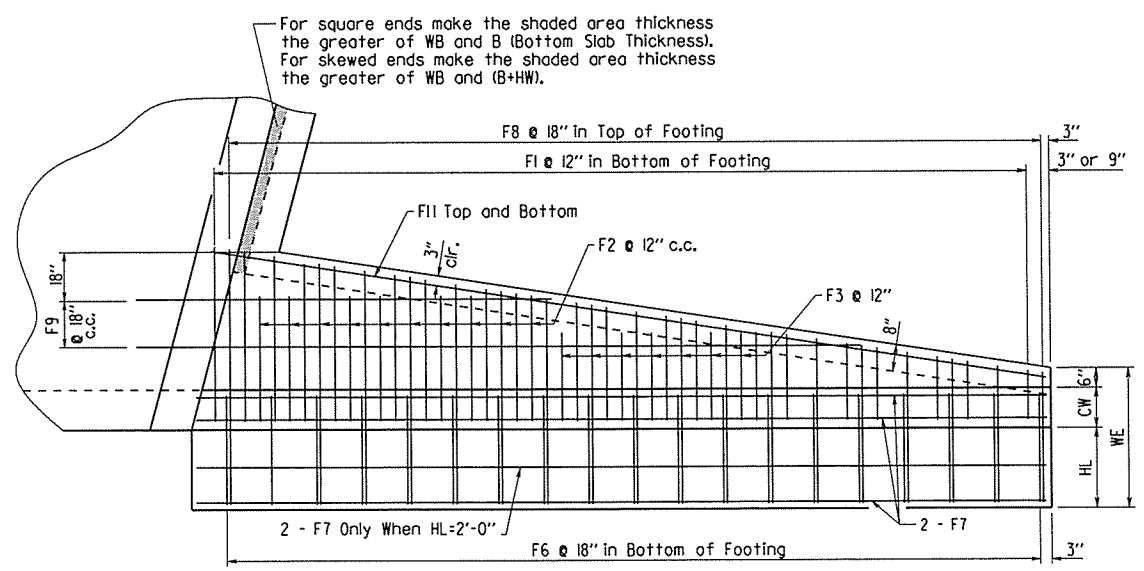


FI, F2, F3, & F6 BARS **F12 BAR**

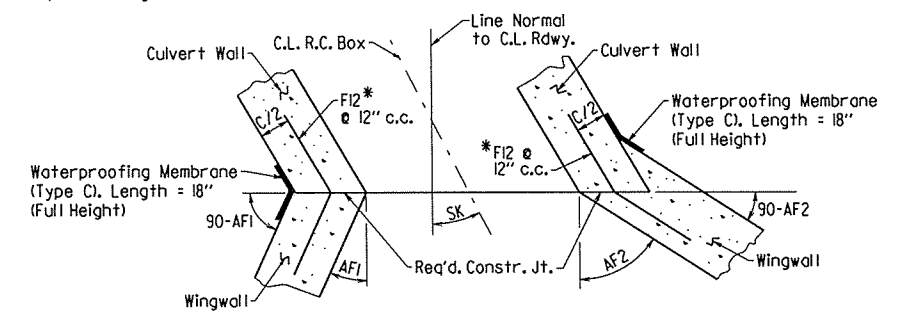
*F12 is a straight bar for parallel wingwalls



PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement



CONSTRUCTION JOINTS
Flared Wingwalls Shown

SHEET 4 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF WINGWALLS
SPECIAL DETAILS

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TEMPORARY EROSION CONTROL GENERAL NOTES

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

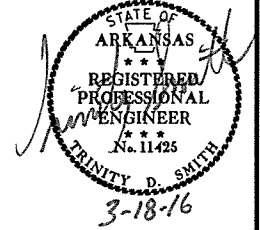
REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TEMPORARY EROSION CONTROL QUANTITIES - CLEARING AND GRUBBING

ROCK DITCH CHECKS (E-6) = 249 CU. YD.
 SILT FENCE (E-11) = 45167
 SEDIMENT REMOVAL AND DISPOSAL = 1756 CU. YD.

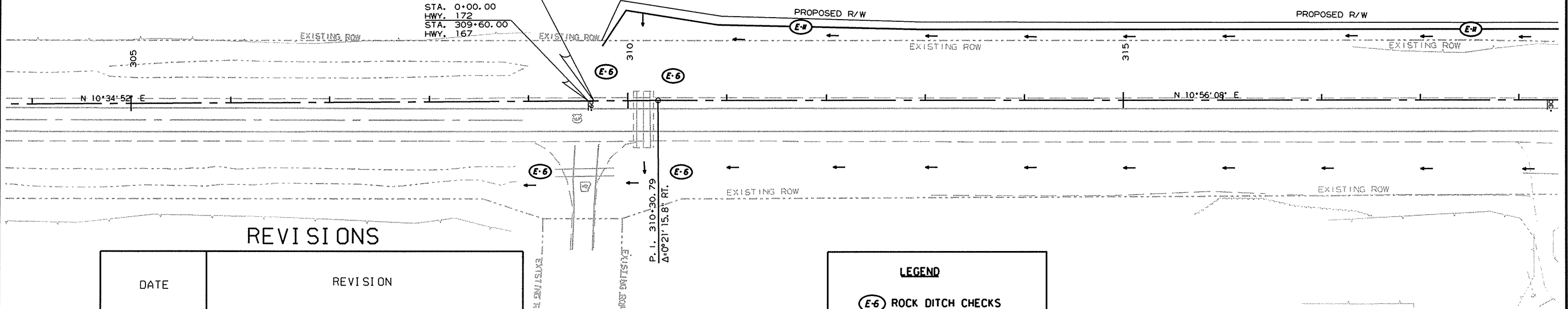
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 15 | 193 |

② TEMPORARY EROSION CONTROL DETAILS



STA. 309+65.00
 END JOB 070283
 BEGIN JOB 070284
 LOG MILE 8.69

STA. 0+00.00 HWY. 172
 STA. 309+60.00 HWY. 167



REVISIONS

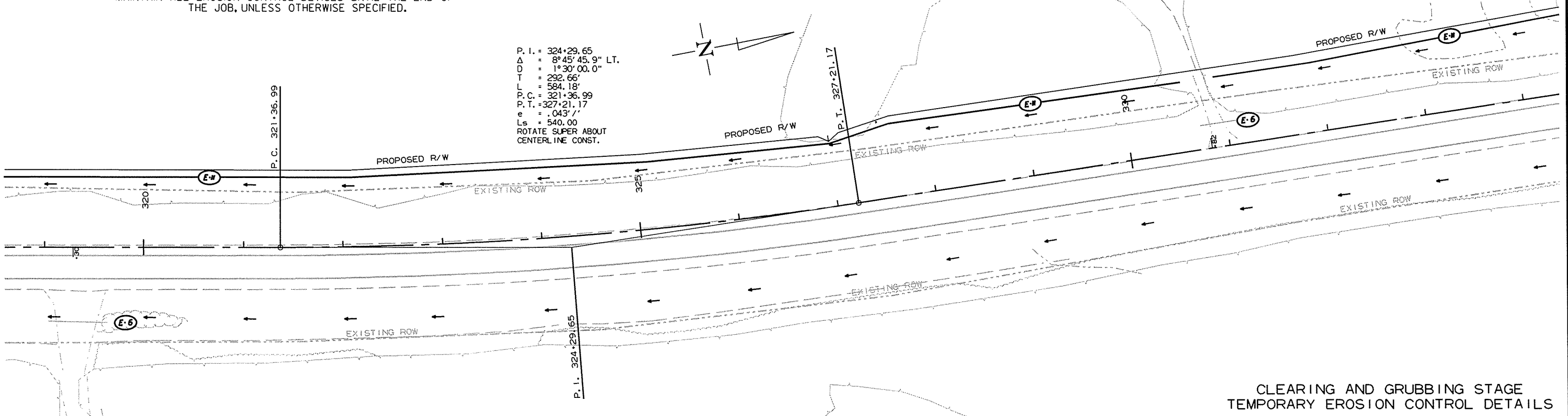
| DATE | REVISION |
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LEGEND

(E-6) ROCK DITCH CHECKS
 (E-11) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

P. I. = 324+29.65
 Δ = 8°45'45.9" LT.
 D = 1°30'00.0"
 L = 232.66'
 T = 584.18'
 P. C. = 321+36.99
 P. T. = 327+21.17
 e = .043' /'
 Ls = 540.00
 ROTATE SUPER ABOUT CENTERLINE CONST.



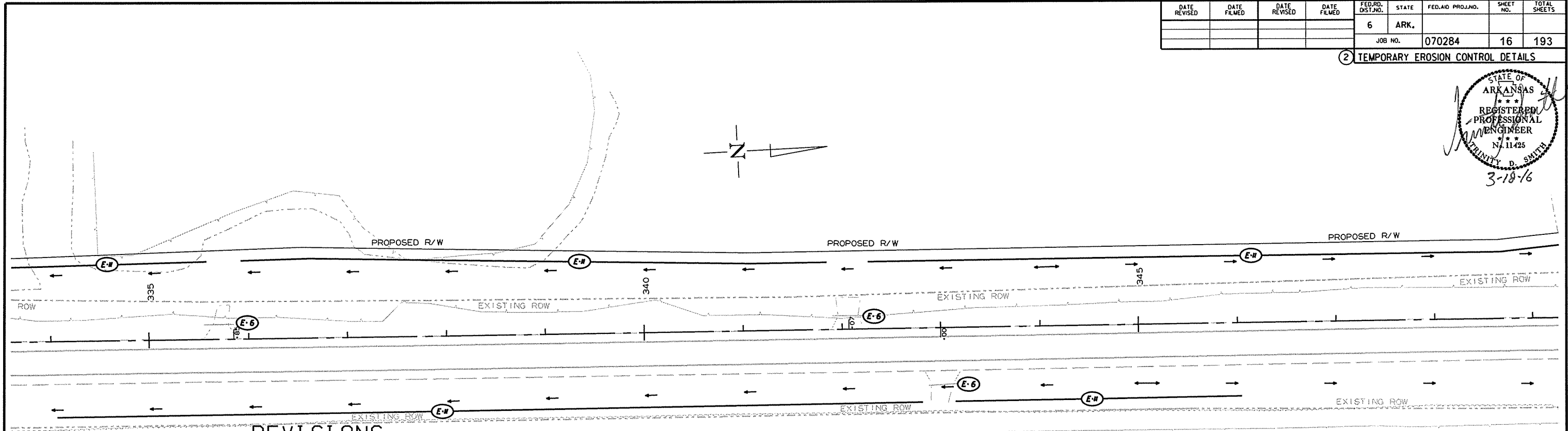
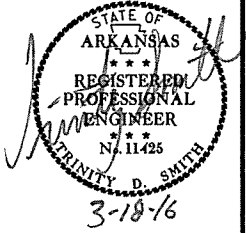
CLEARING AND GRUBBING STAGE
 TEMPORARY EROSION CONTROL DETAILS

3/11/2016

R070284.DGN

| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|------------|--------------|------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 16 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

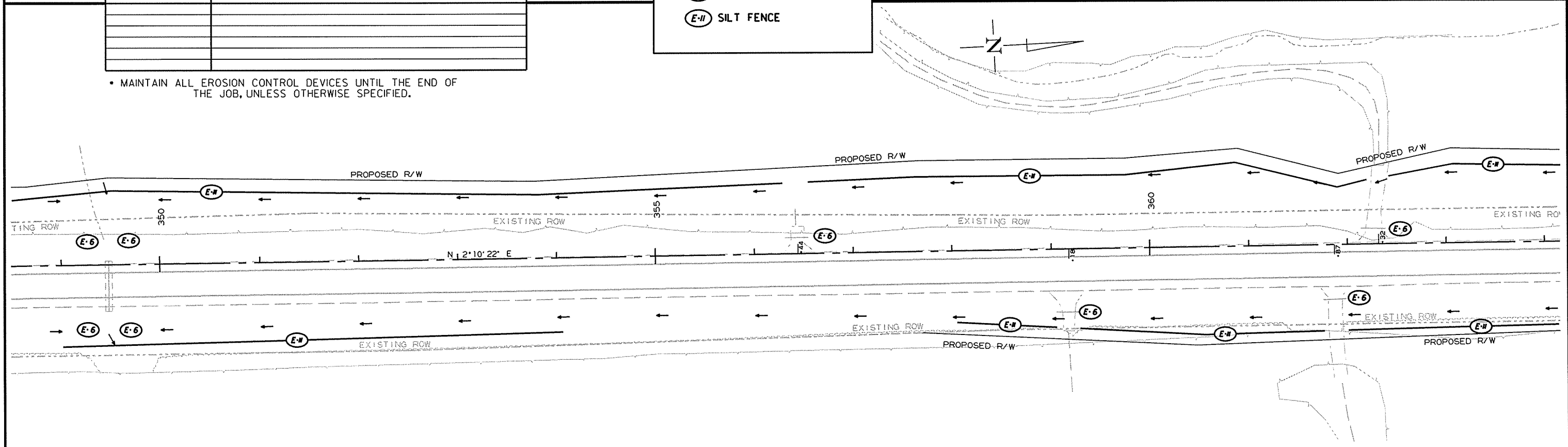
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LEGEND

(E-6) ROCK DITCH CHECKS

(E-II) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

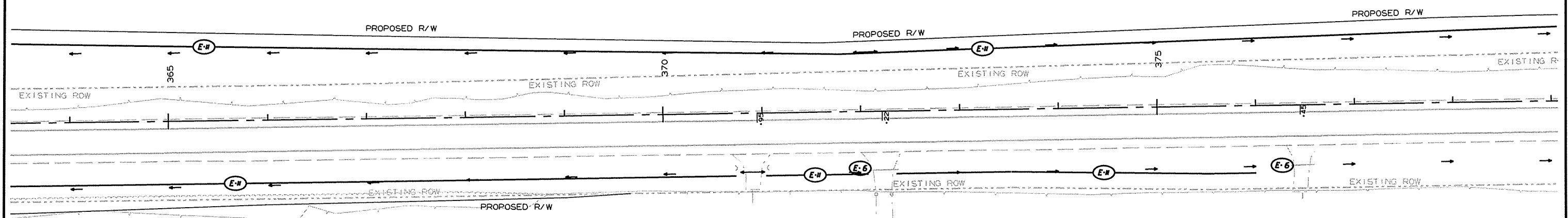
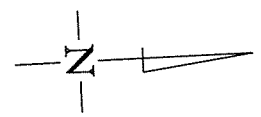
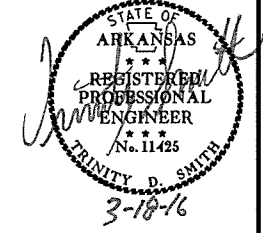


CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

2/18/2016
R070284.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | 17 | 193 |
| | | | | JOB NO. | | 070284 | | |

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

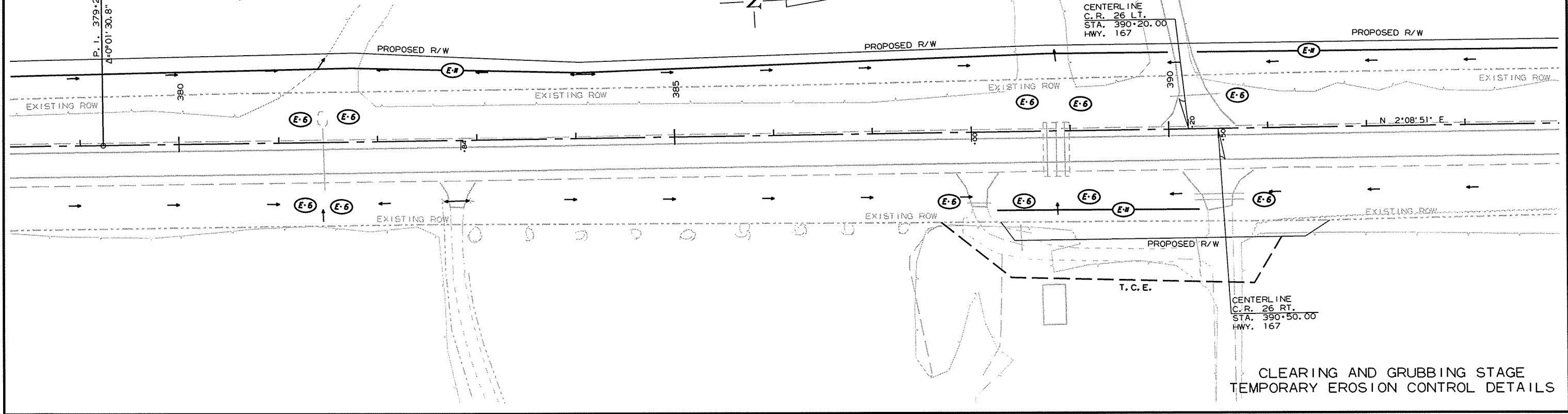
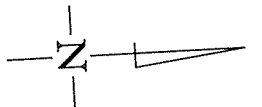
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LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE

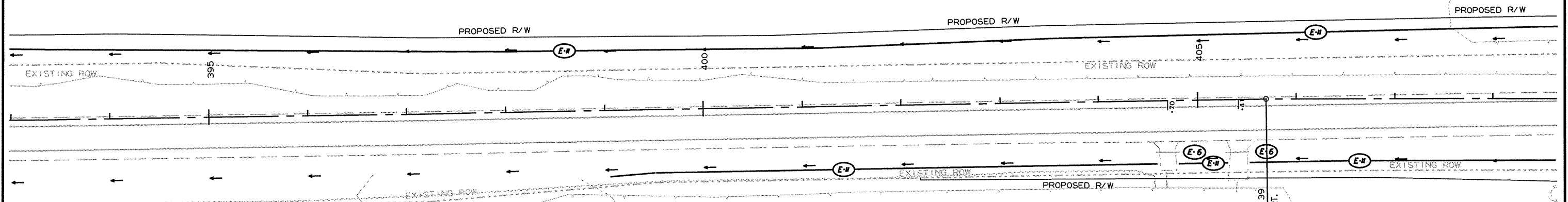
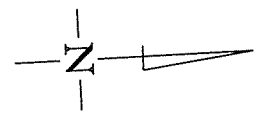
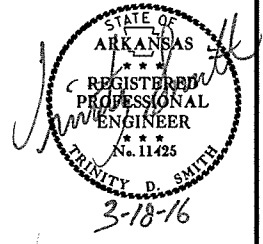
P. I. 379+23.45
4°0'01" 30.8" L.T.
MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



CLEARING AND GRUBBING STAGE
TEMPORARY EROSION 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. 070284 | 18 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

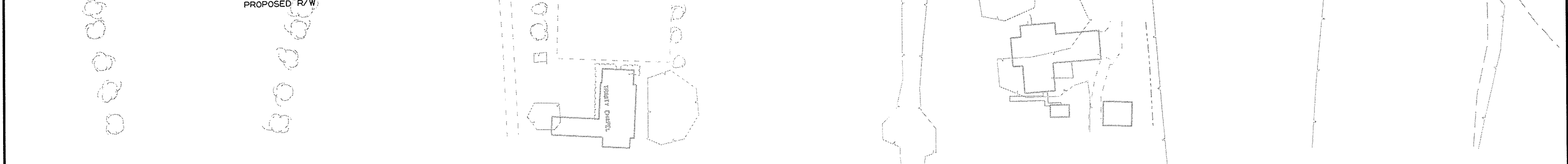
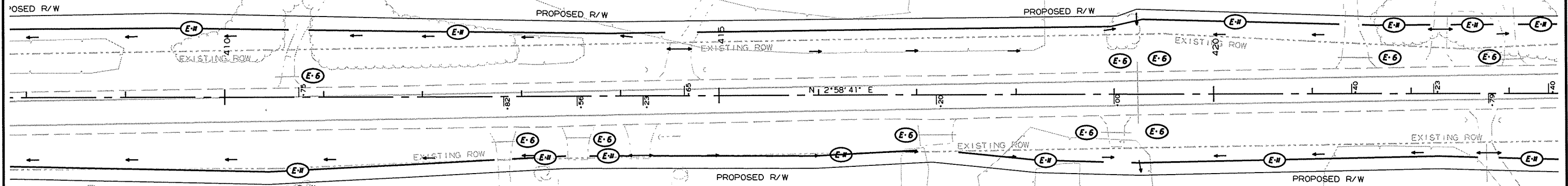
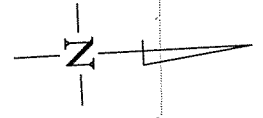
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LEGEND

(E-6) ROCK DITCH CHECKS

(E-N) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

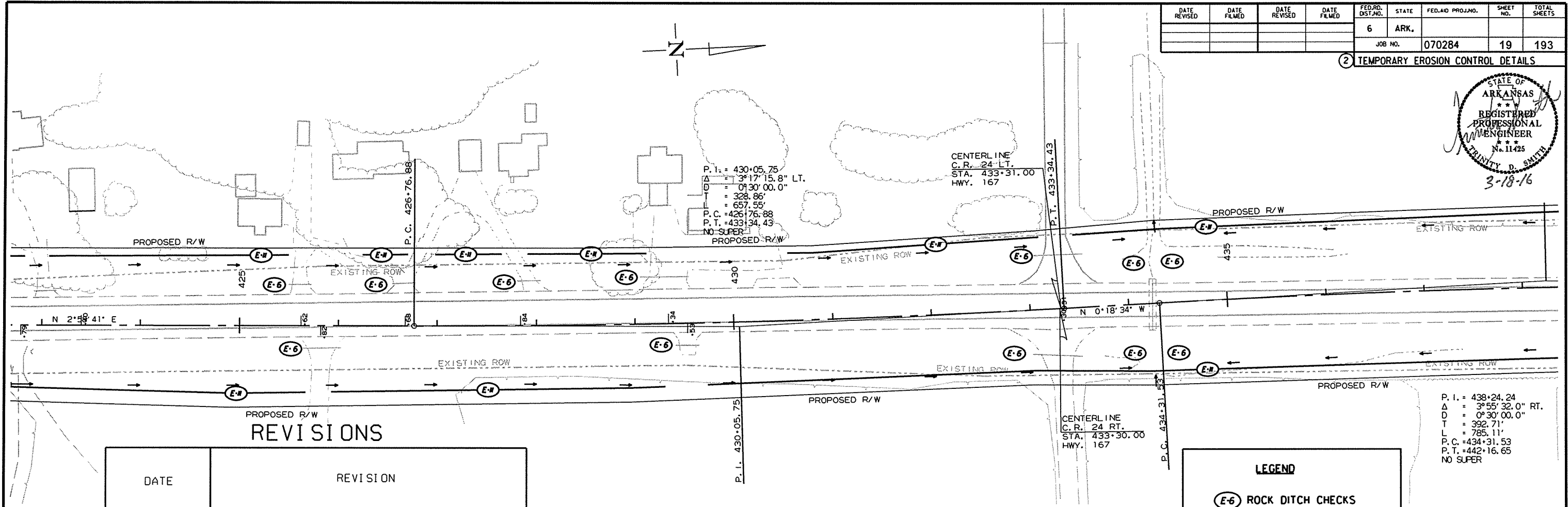


CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

R070284.DGN 2/18/2016

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 19 | 193 |
| JOB NO. 070284 | | | | | | | | |

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

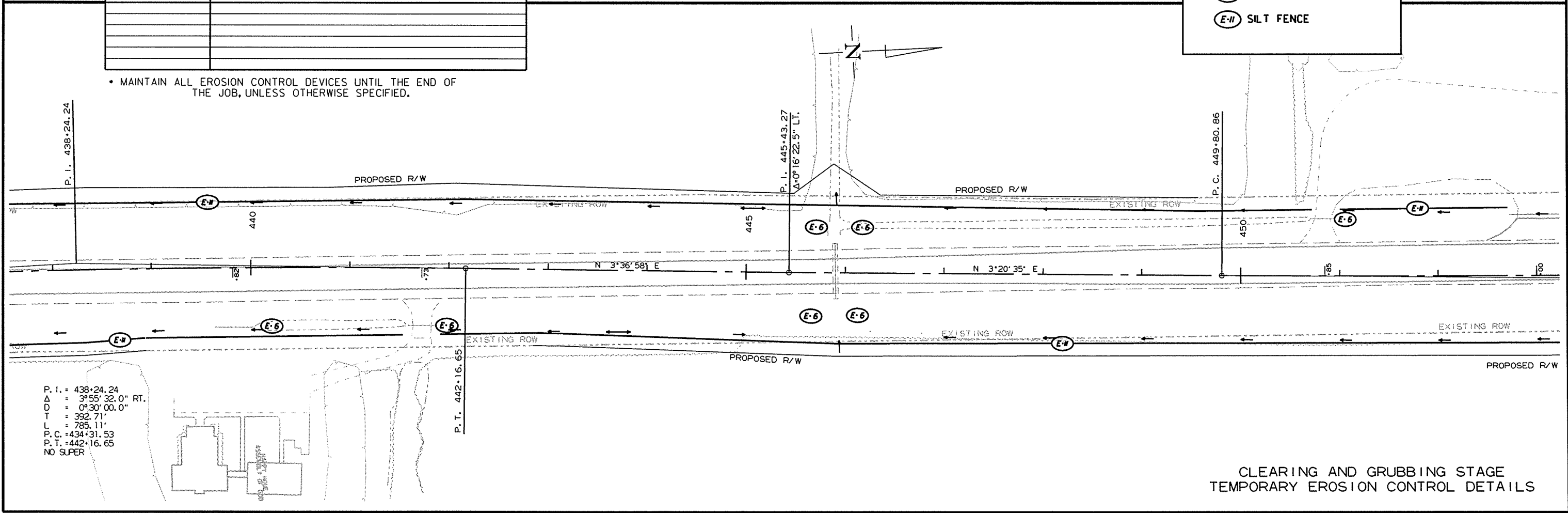
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LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

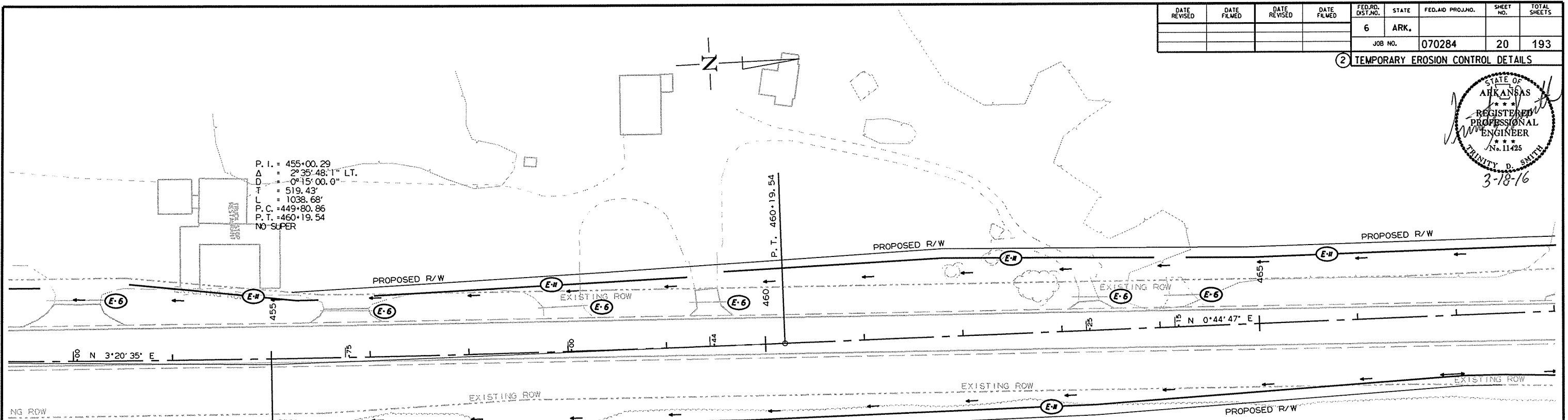
R070284.DCN 3/11/2016

| 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. | 070284 | | 20 | 193 |

② TEMPORARY EROSION CONTROL DETAILS



P. I. = 455+00.29
 Δ = 2°35'48.1" LT.
 D = 0°15'00.0"
 T = 519.43'
 L = 1038.68'
 $P.C.$ = 449+80.86
 $P.T.$ = 460+19.54
 NO SUPER



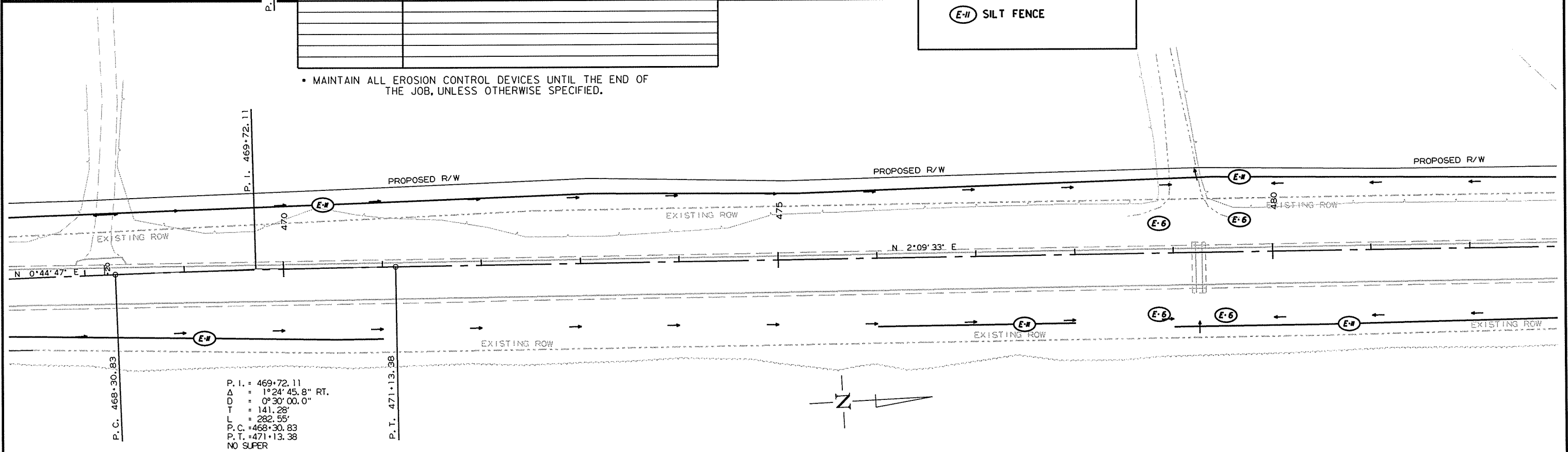
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| DATE | REVISION |
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LEGEND

(E-6) ROCK DITCH CHECKS
 (E-11) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



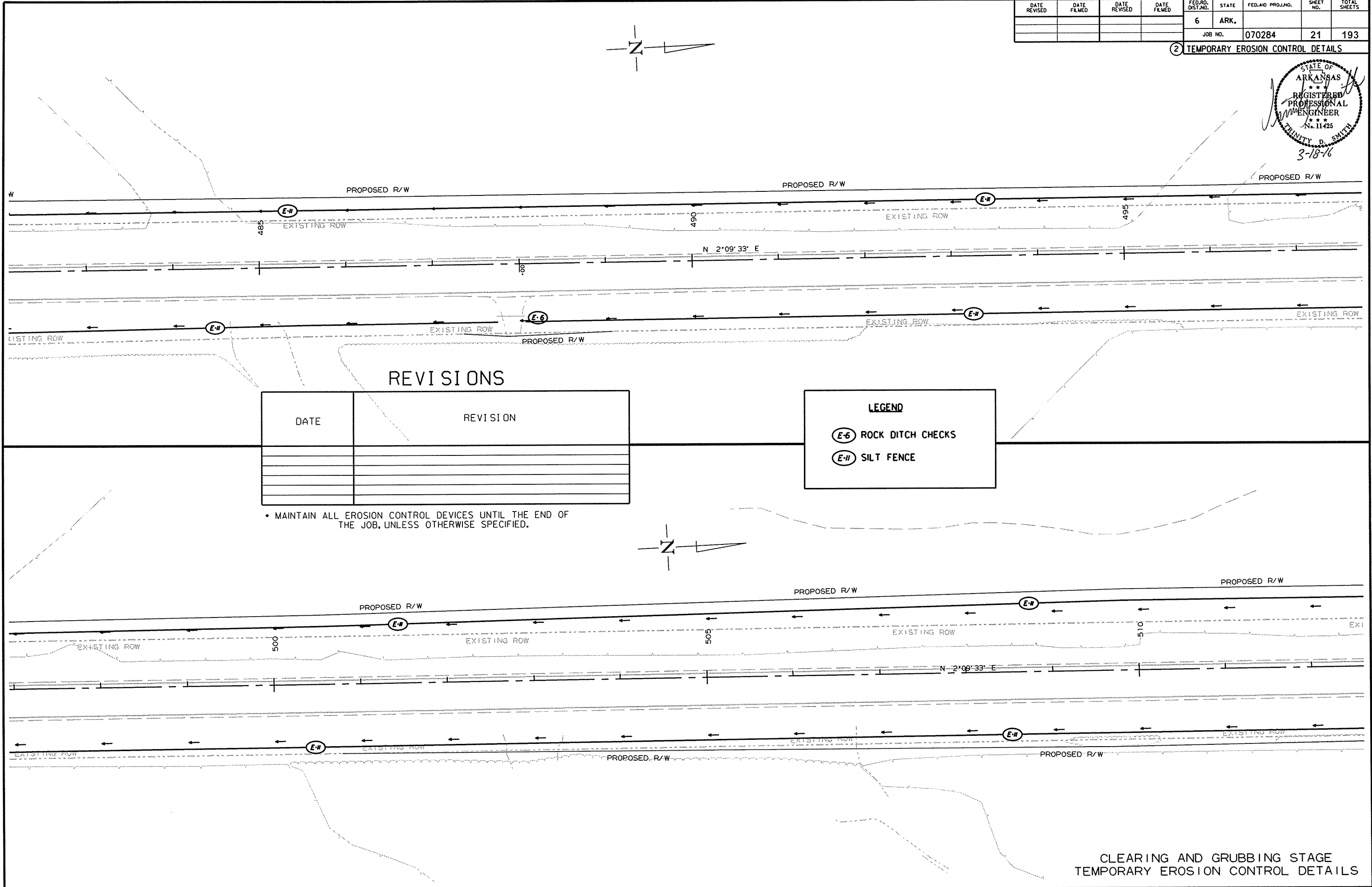
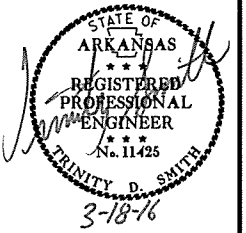
P. I. = 469+72.11
 Δ = 1°24'45.8" RT.
 D = 0°30'00.0"
 T = 141.28'
 L = 282.55'
 $P.C.$ = 468+30.83
 $P.T.$ = 471+13.38
 NO SUPER

CLEARING AND GRUBBING STAGE
 TEMPORARY EROSION CONTROL DETAILS

2/18/2016 R070284.DGN

| 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. 070284 | | | | | | | 21 | 193 |

② TEMPORARY EROSION CONTROL DETAILS



REVISIONS

| DATE | REVISION |
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LEGEND

- ROCK DITCH CHECKS
- SILT FENCE

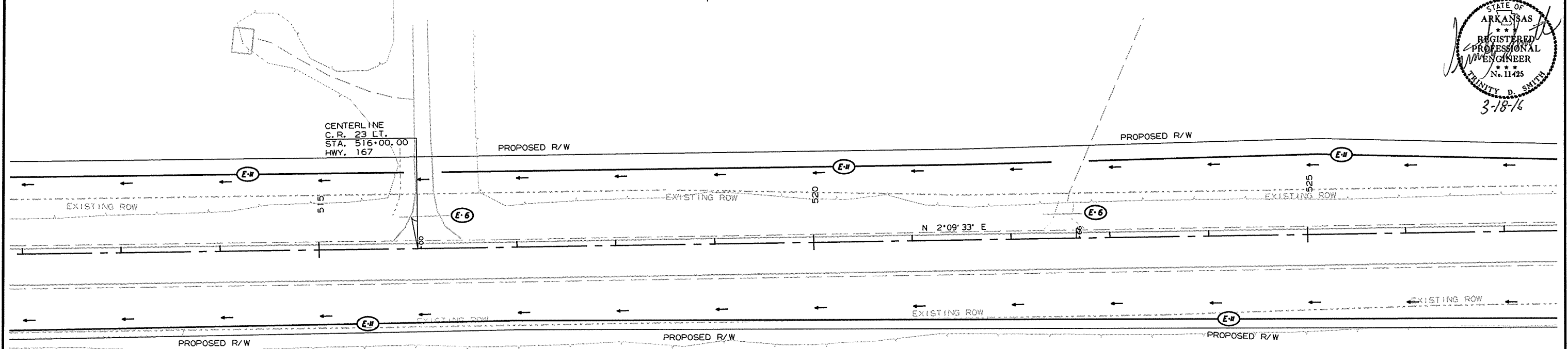
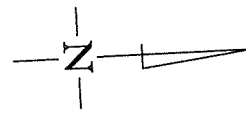
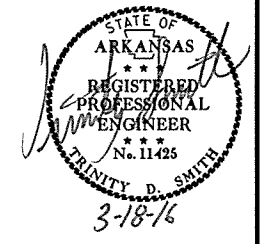
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

2/18/2016 R070284.DGN

| 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. 070284 | | | | | | | 22 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS

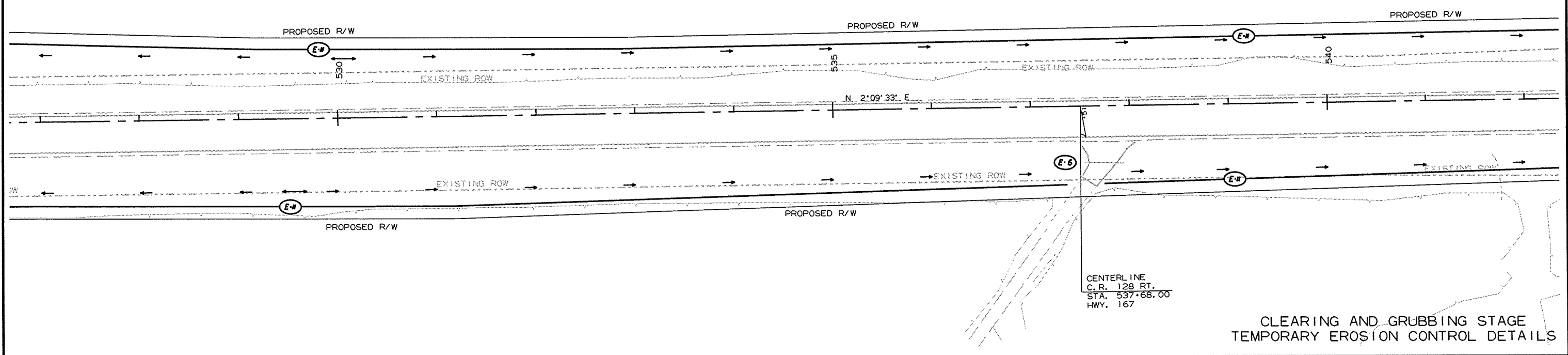
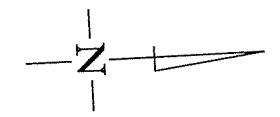


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| LEGEND | |
|--------|-------------------|
| (E-6) | ROCK DITCH CHECKS |
| (E-11) | SILT FENCE |

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



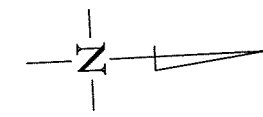
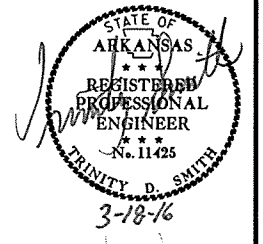
CENTERLINE
C.R. 128 RT.
STA. 537+68.00
HWY. 167

CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

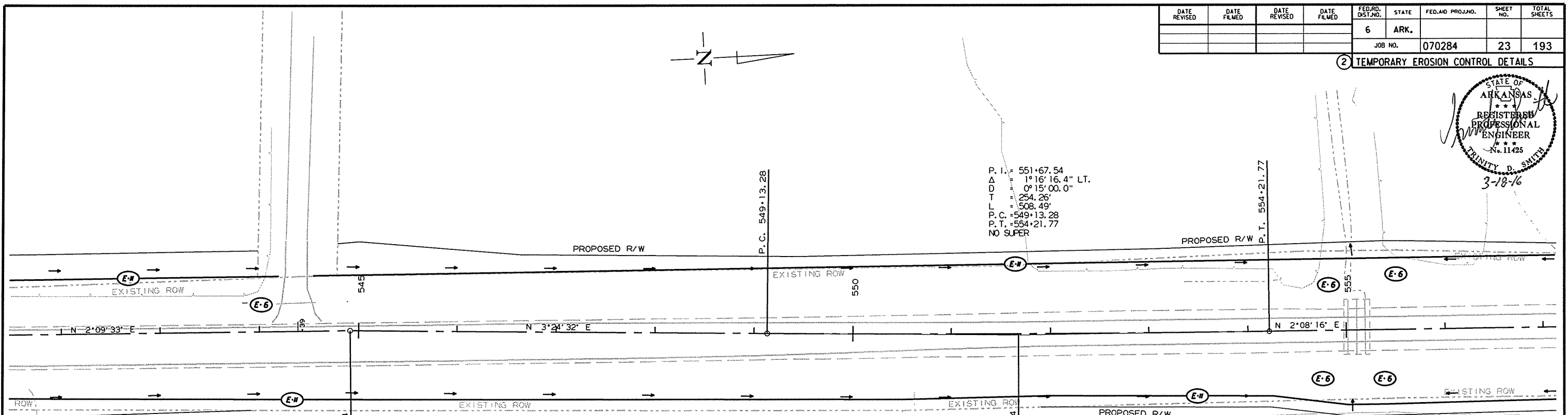
R070284.DGN 2/18/2016

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 23 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



P. I. = 551+67.54
 Δ = 1° 16' 16.4" LT.
 D = 0° 15' 00.0"
 T = 254.26'
 L = 508.49'
 P. C. = 549+13.28
 P. T. = 554+21.77
 NO SUPER



REVISIONS

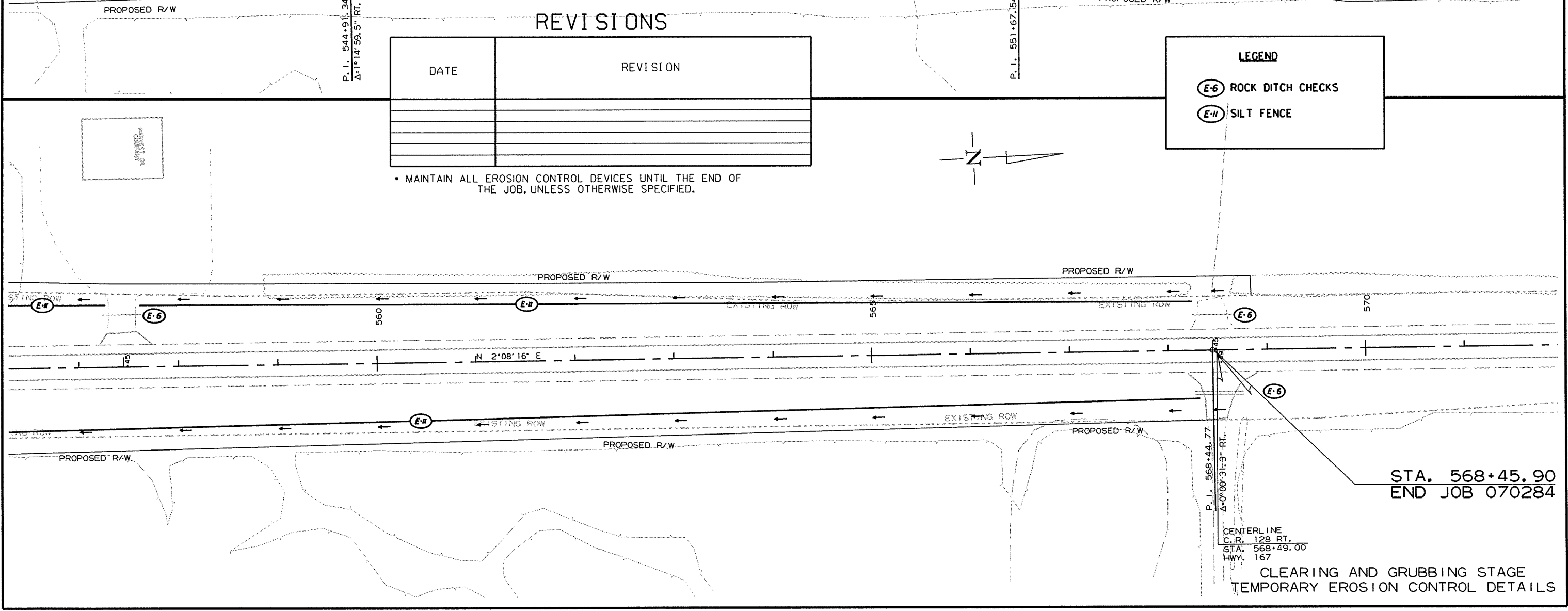
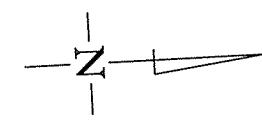
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LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



STA. 568+45.90
 END JOB 070284

CENTERLINE
 C.R. 128 RT.
 STA. 568+49.00
 HWY. 167

CLEARING AND GRUBBING STAGE
 TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL GENERAL NOTES

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

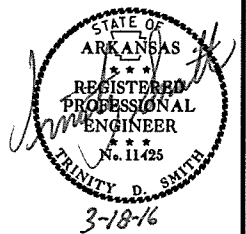
REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 1

ROCK DITCH CHECKS (E-6) = 81 CU. YD.
 SEDIMENT BASIN (E-14) = 6412 CU. YD.
 OBLITERATION OF SEDIMENT BASIN = 6412 CU. YD.
 SEDIMENT REMOVAL AND DISPOSAL = 6439 CU. YD.

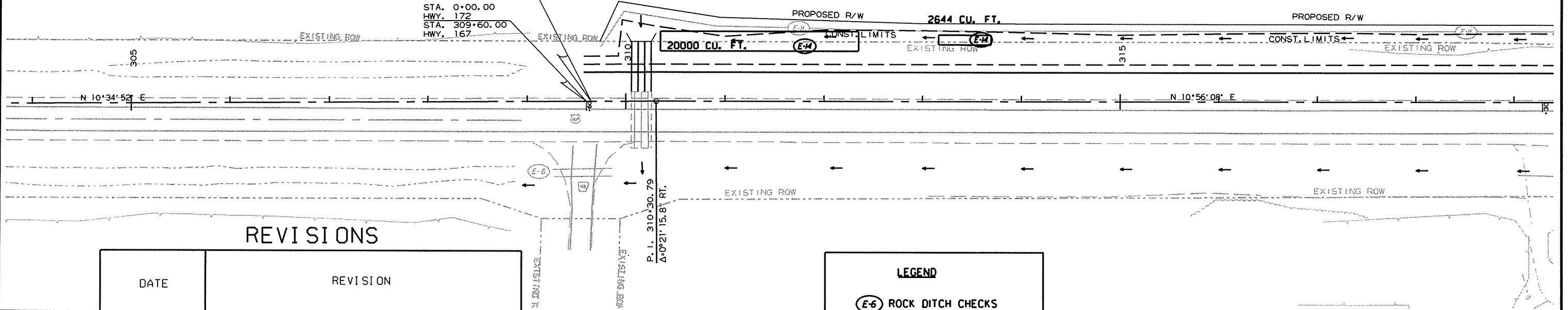
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 24 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



STA. 309+65.00
 END JOB 070283
 BEGIN JOB 070284
 LOG MILE 8.69

STA. 0+00.00 HWY. 172
 STA. 309+60.00 HWY. 167



REVISIONS

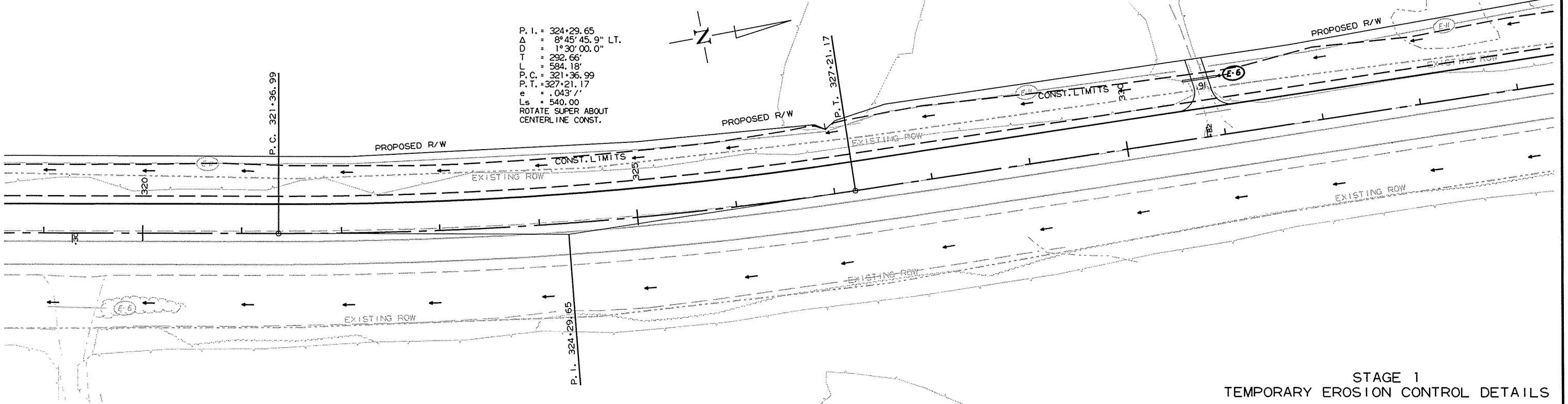
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LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

P. I. = 324+29.65
 Δ = 8°45'45.9" LT.
 D = 1°30'00.0"
 T = 292.66'
 L = 584.18'
 P. C. = 321+36.99
 P. T. = 327+21.17
 e = .043' /'
 Ls = 540.00
 ROTATE SUPER ABOUT CENTERLINE CONST.



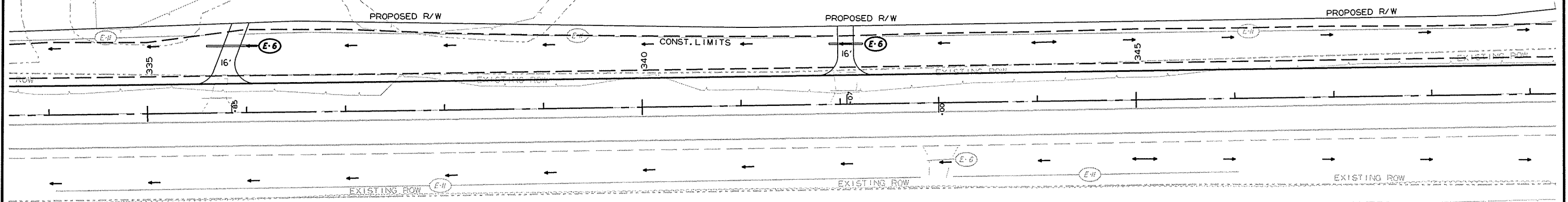
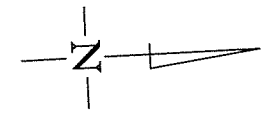
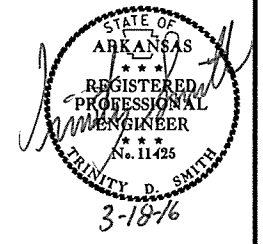
STAGE 1
 TEMPORARY EROSION CONTROL DETAILS

3/11/2016

R070284.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| JOB NO. | | | | | | 070284 | 25 | 193 |

② TEMPORARY EROSION CONTROL DETAILS



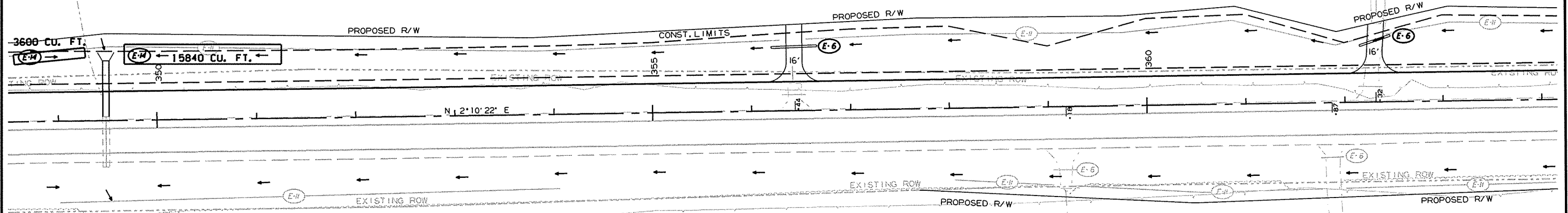
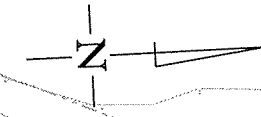
REVISIONS

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LEGEND

- E-6 ROCK DITCH CHECKS
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



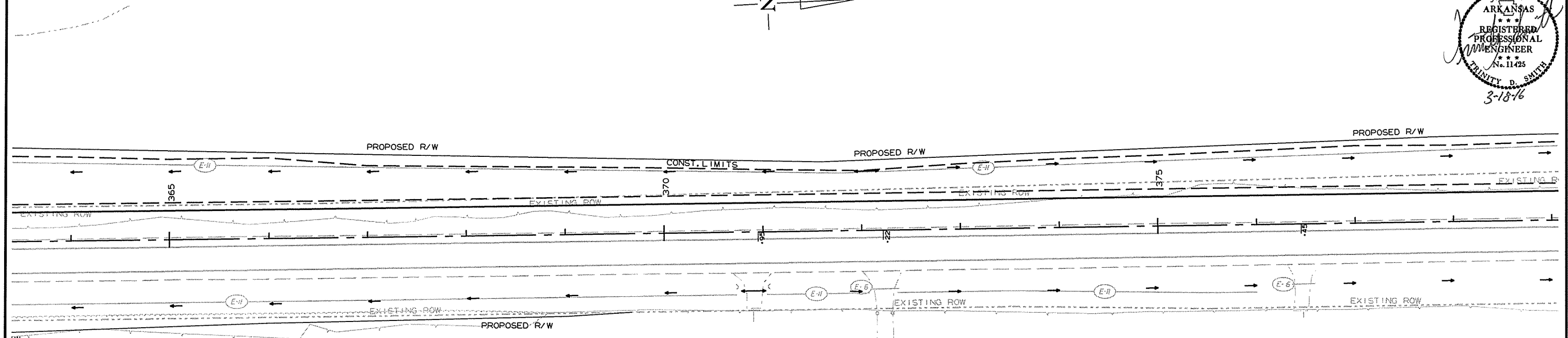
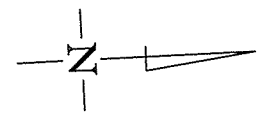
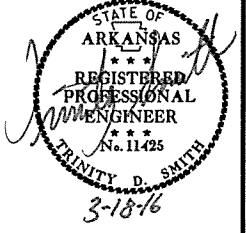
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

2/18/2016

R070284.DGN

| 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. | 070284 | | 26 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



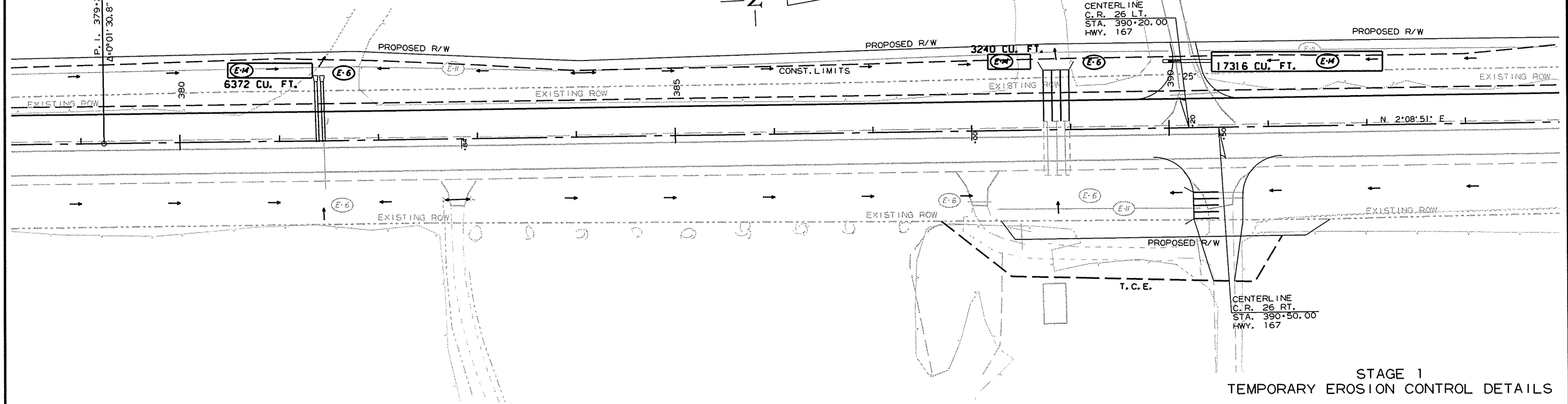
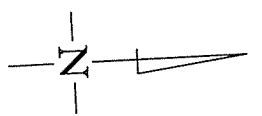
REVISIONS

| DATE | REVISION |
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LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-II) SILT FENCE
- (E-M) SEDIMENT BASIN

P.I. 379+23.45
 4°0'01" 30.8" LT.
 MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

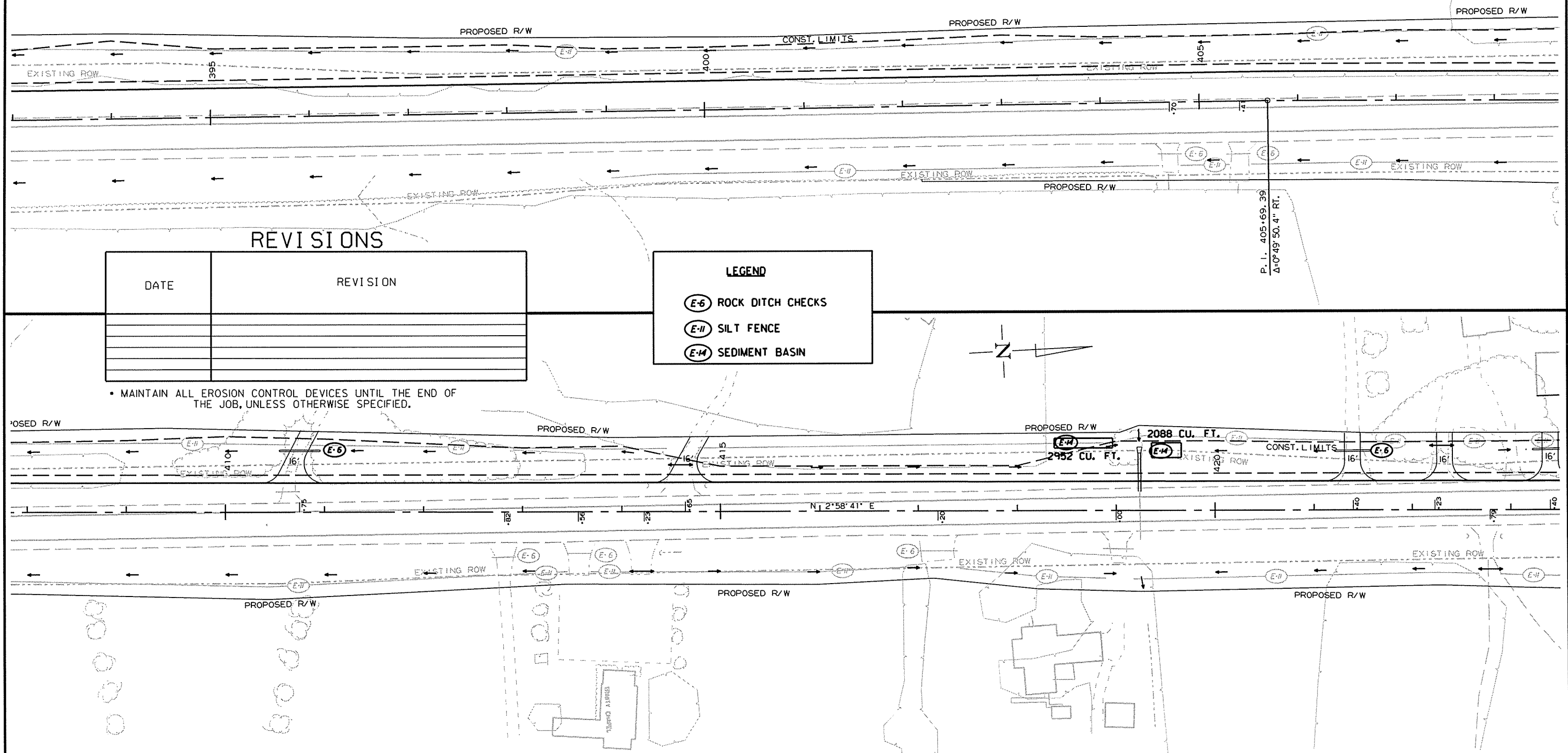
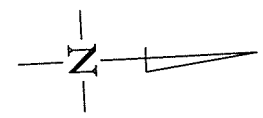
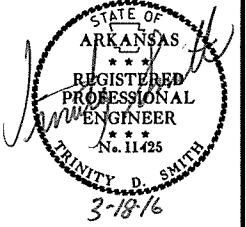


STAGE 1
 TEMPORARY EROSION CONTROL DETAILS

R070284.DGN 3/15/2016

| 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. 070284 | | | | | | | 27 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



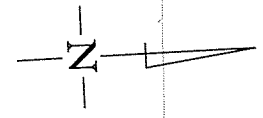
REVISIONS

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LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-II) SILT FENCE
- (E-IV) SEDIMENT BASIN

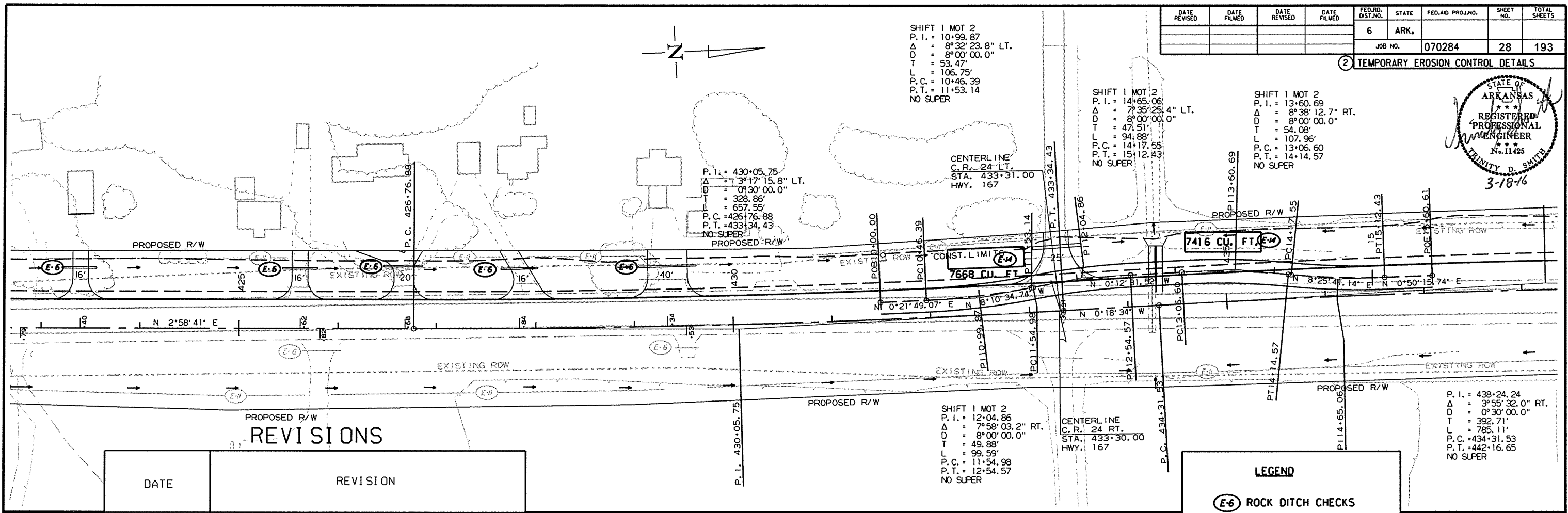
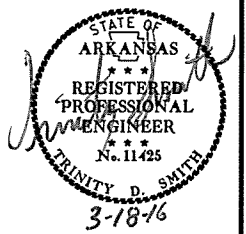
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



R070284.DCN 2/18/2016

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 28 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



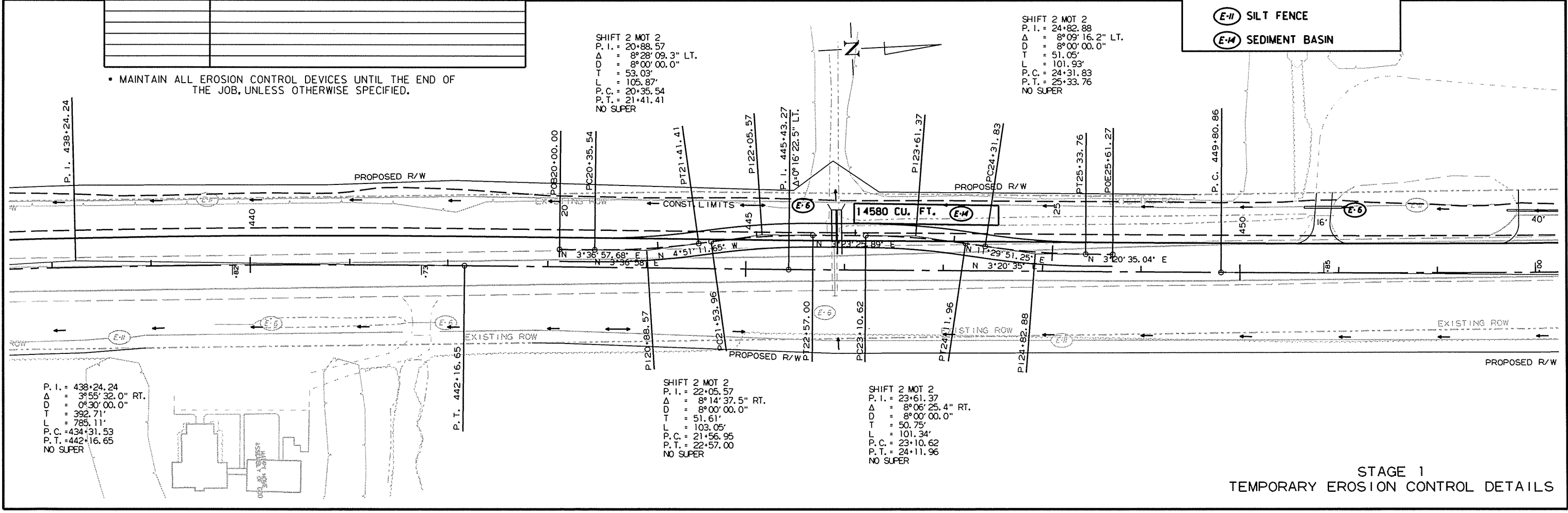
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LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-II) SILT FENCE
- (E-14) SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

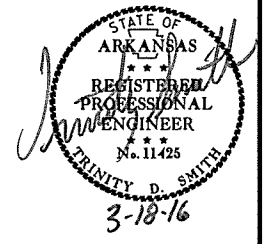


STAGE 1
TEMPORARY EROSION CONTROL DETAILS

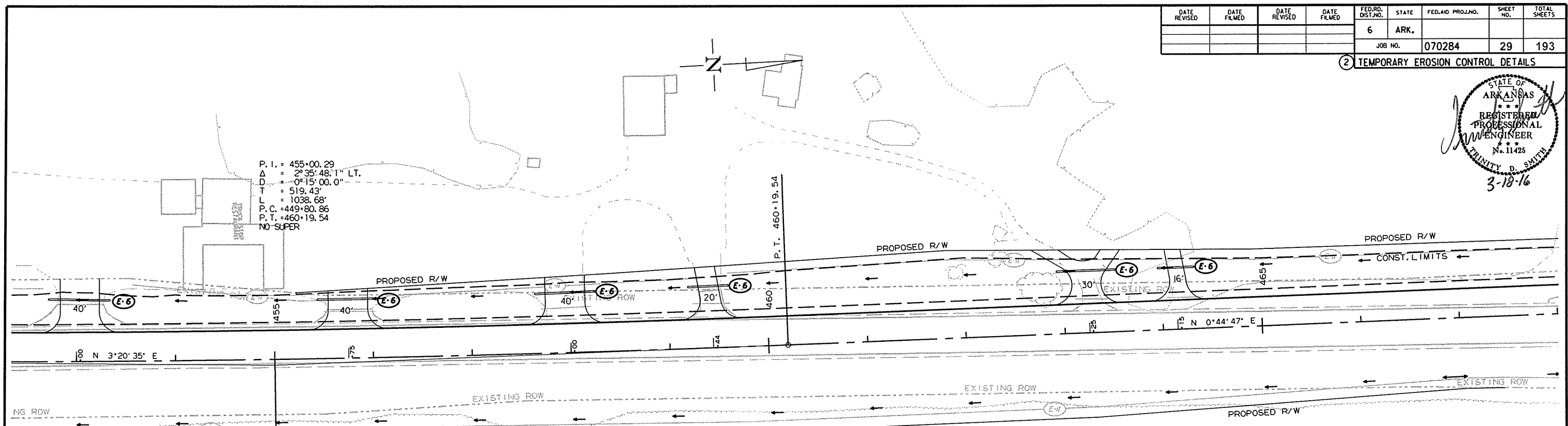
3/11/2016
R070284.DGN

| 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. 070284 | | | | | | | 29 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



P. I. = 455+00.29
 Δ = 2°35'48.1" LT.
 D = 0°15'00.0"
 T = 519.43'
 L = 1038.68'
 $P.C.$ = 449+80.86
 $P.T.$ = 460+19.54
 NO SUPER



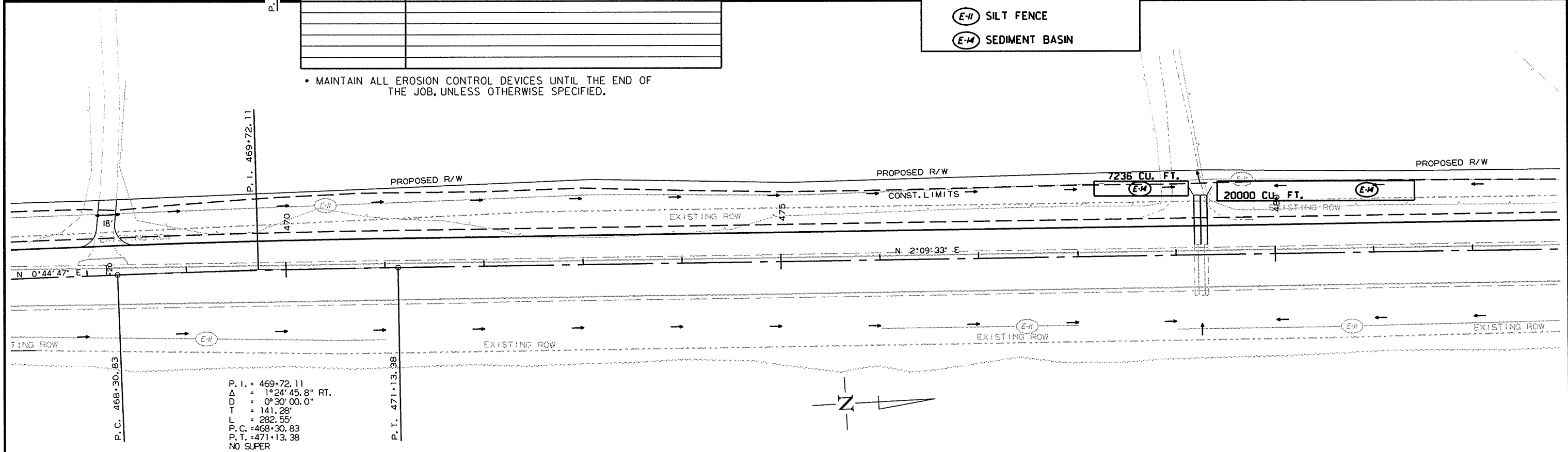
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LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



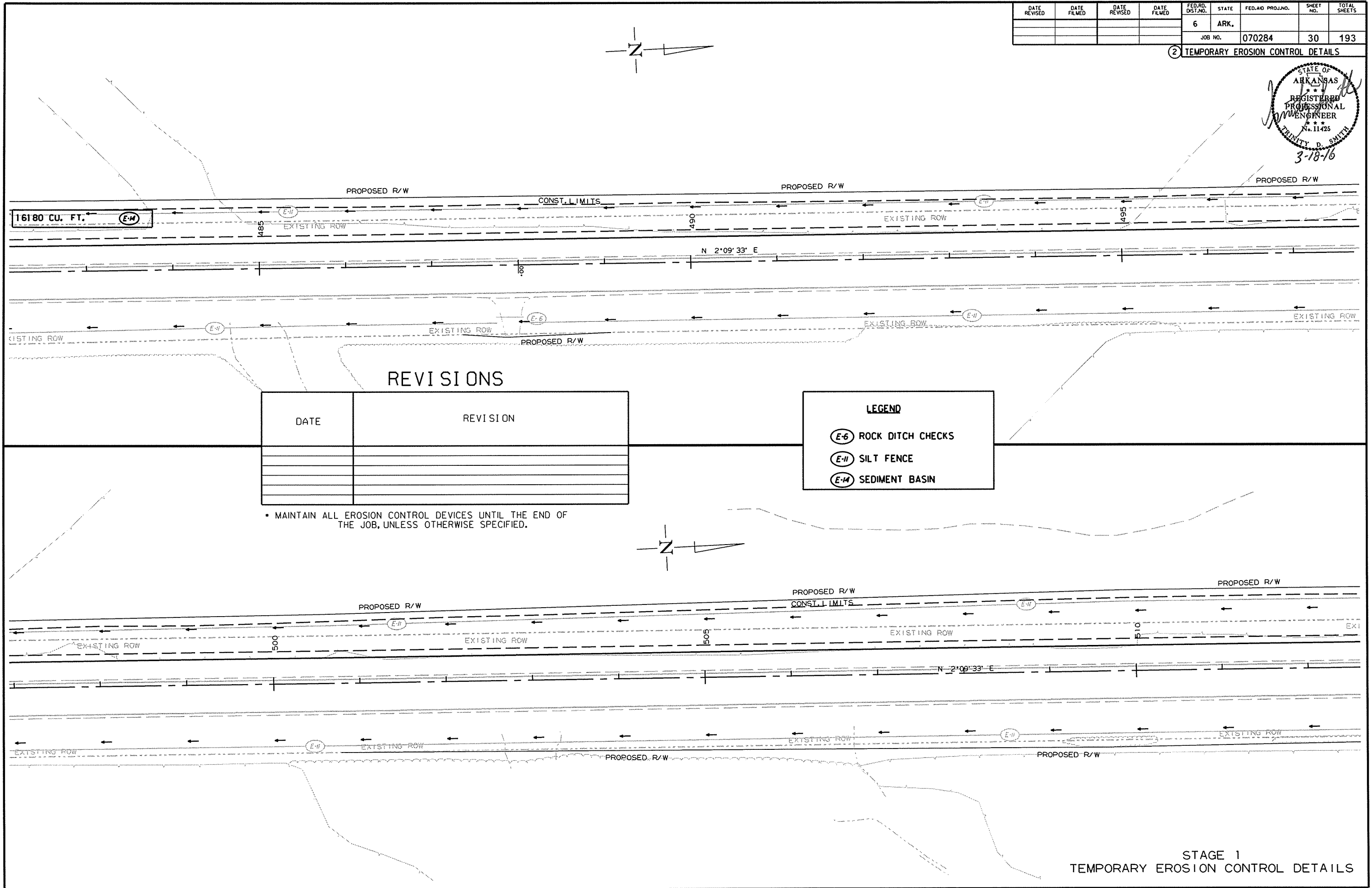
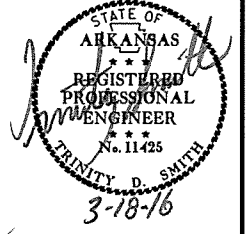
P. I. = 469+72.11
 Δ = 1°24'45.8" RT.
 D = 0°30'00.0"
 T = 141.28'
 L = 282.55'
 $P.C.$ = 468+30.83
 $P.T.$ = 471+13.38
 NO SUPER

STAGE 1
 TEMPORARY EROSION CONTROL DETAILS

R070284.DGN 2/18/2016

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|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 30 | 193 |

② TEMPORARY EROSION CONTROL DETAILS



16180 CU. FT. (E-M)

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LEGEND

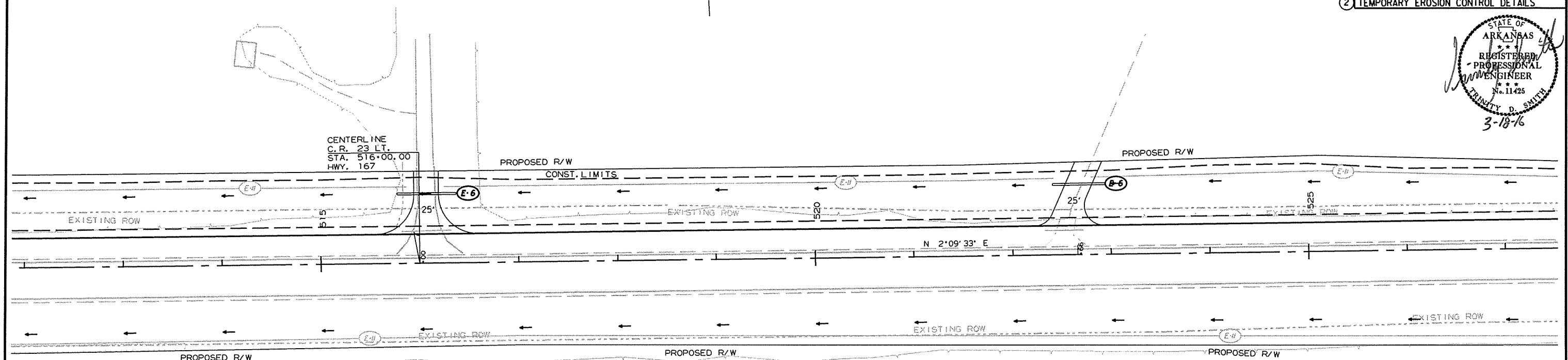
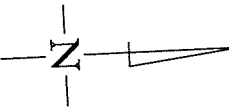
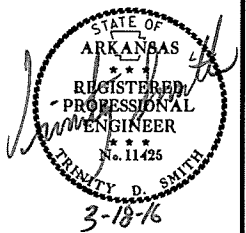
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 31 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS

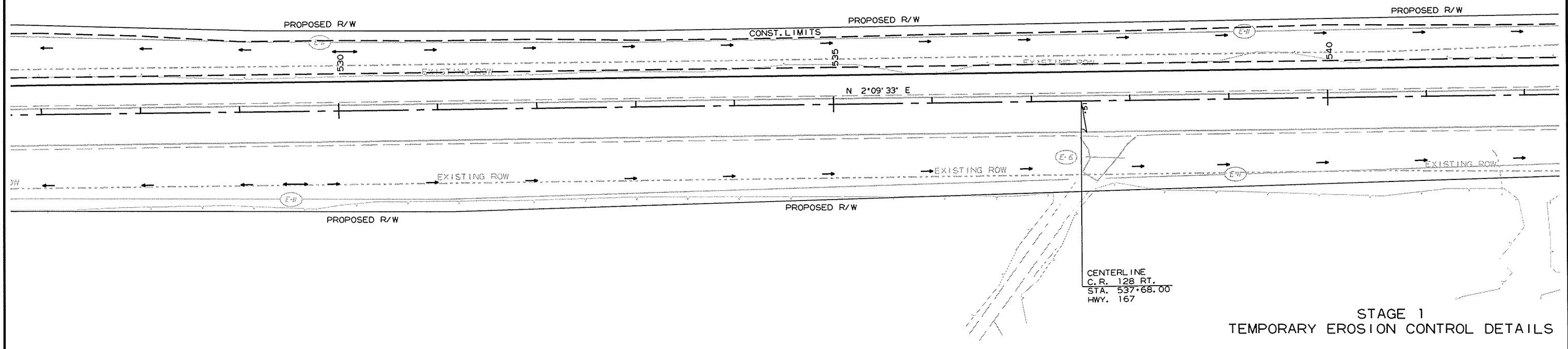
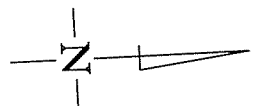


REVISIONS

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| LEGEND | |
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| | ROCK DITCH CHECKS |
| | SILT FENCE |
| | SEDIMENT BASIN |

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

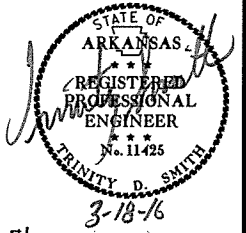


STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 32 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS

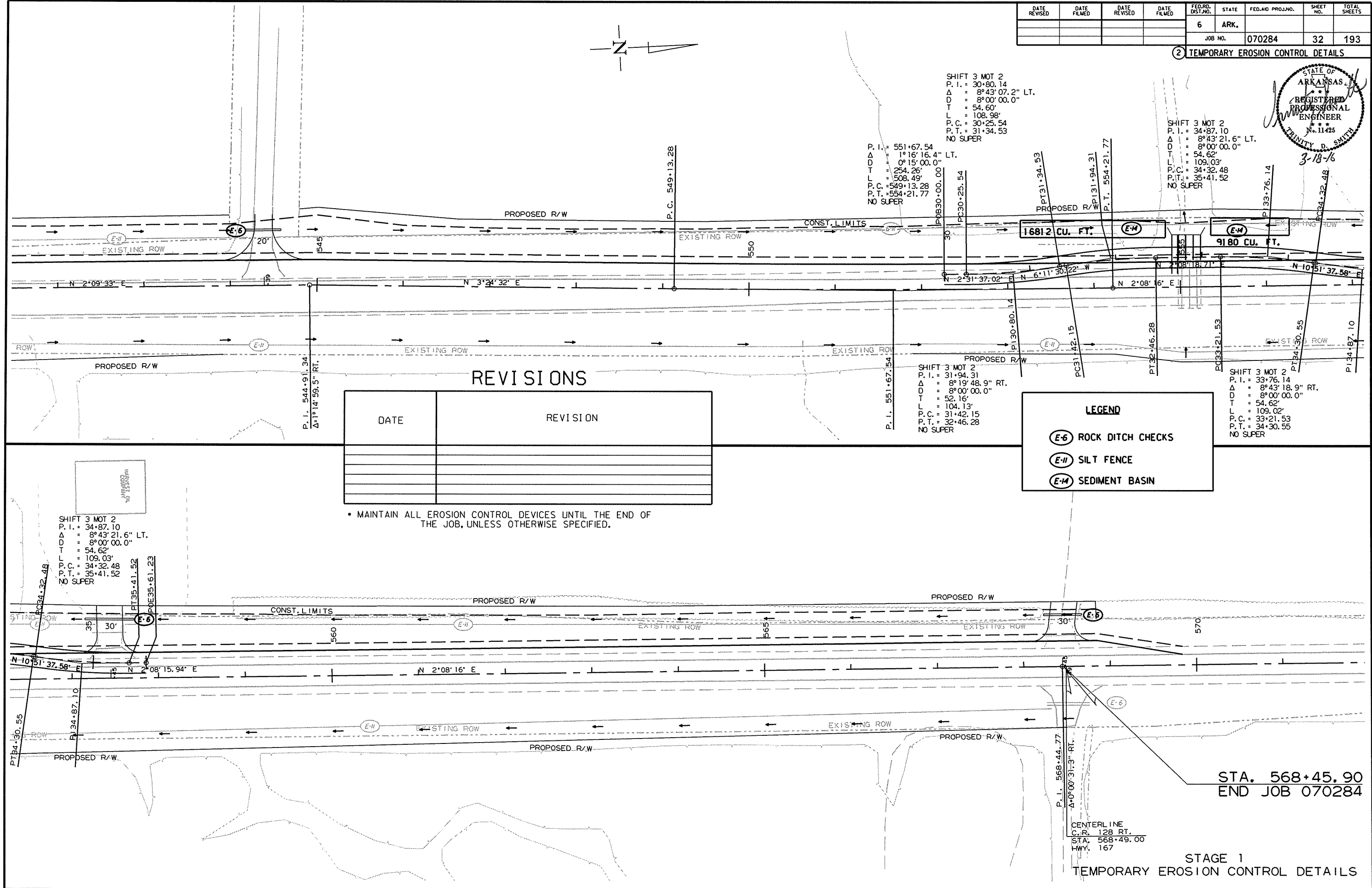


SHIFT 3 MOT 2
P. I. = 30+80.14
Δ = 8°43'07.2" LT.
D = 8°00'00.0"
T = 54.60'
L = 108.98'
P. C. = 30+25.54
P. T. = 31+34.53
NO SUPER

P. I. = 551+67.54
Δ = 1°16'16.4" LT.
D = 0°15'00.0"
T = 254.26'
L = 508.49'
P. C. = 549+13.28
P. T. = 554+21.77
NO SUPER

SHIFT 3 MOT 2
P. I. = 34+87.10
Δ = 8°43'21.6" LT.
D = 8°00'00.0"
T = 54.62'
L = 109.03'
P. C. = 34+32.48
P. T. = 35+41.52
NO SUPER

SHIFT 3 MOT 2
P. I. = 33+76.14
Δ = 8°43'18.9" RT.
D = 8°00'00.0"
T = 54.62'
L = 109.02'
P. C. = 33+21.53
P. T. = 34+30.55
NO SUPER



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LEGEND

- ROCK DITCH CHECKS
- SILT FENCE
- SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STA. 568+45.90
END JOB 070284

CENTERLINE
C.R. 128 RT.
STA. 568+49.00
HWY. 167

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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TEMPORARY EROSION CONTROL GENERAL NOTES

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

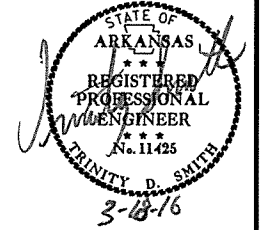
REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2

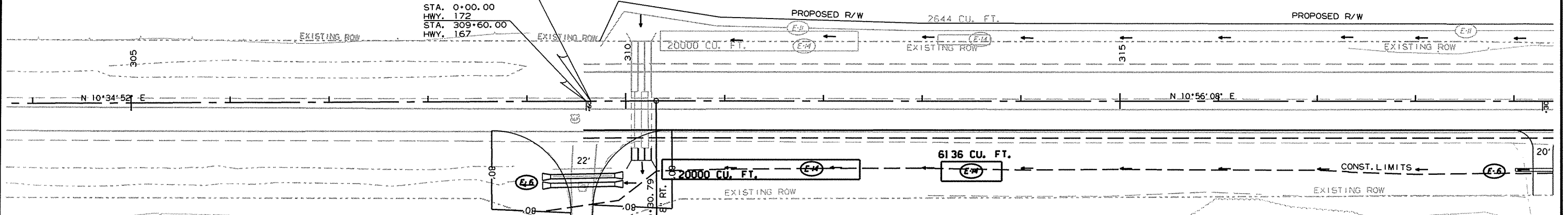
ROCK DITCH CHECKS (E-6) = 60 CU. YD.
 SEDIMENT BASIN (E-14) = 6637 CU. YD.
 OBLITERATION OF SEDIMENT BASIN = 6637 CU. YD.
 SEDIMENT REMOVAL AND DISPOSAL = 6657 CU. YD.

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 33 | 193 |

TEMPORARY EROSION CONTROL DETAILS



STA. 309+65.00
 END JOB 070283
 BEGIN JOB 070284
 LOG MILE 8.69



REVISIONS

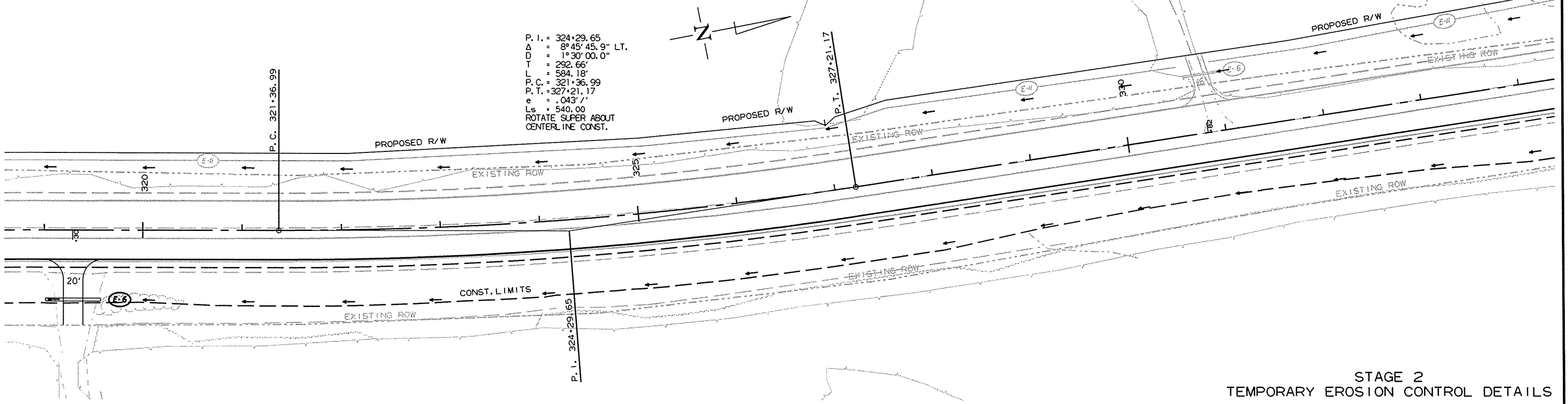
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LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

P. I. = 324+29.65
 Δ = 8°45'45.9" LT.
 D = 1°30'00.0"
 T = 292.66'
 L = 584.18'
 P. C. = 321+36.99
 P. T. = 327+21.17
 e = .043' /'
 Ls = 540.00
 ROTATE SUPER ABOUT CENTERLINE CONST.

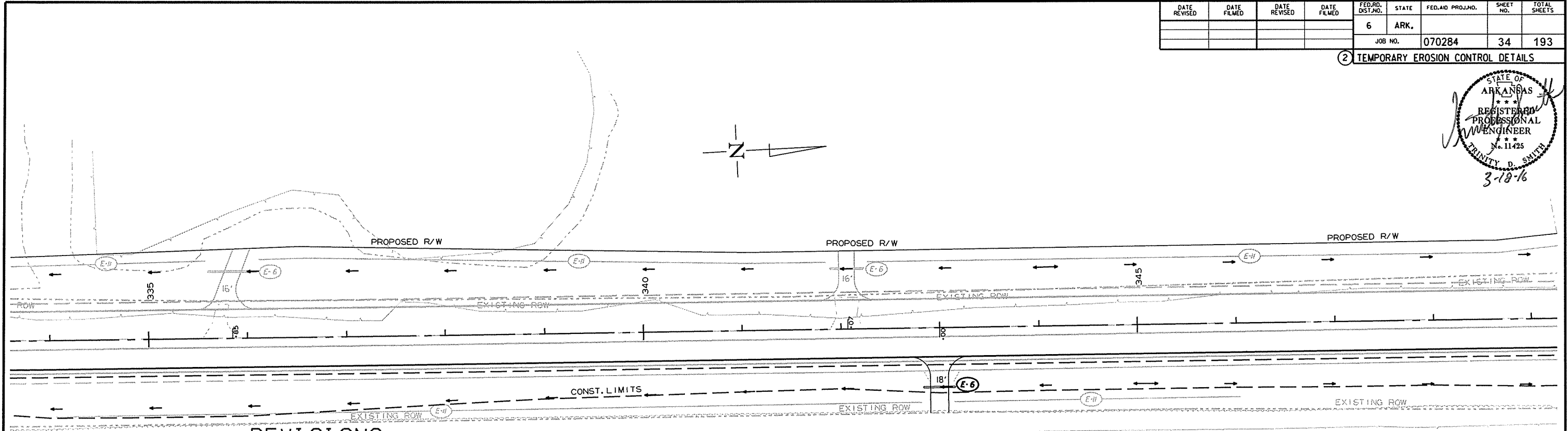
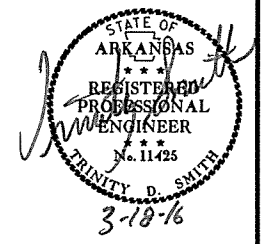


3/11/2016

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| | | | | 6 | ARK. | | | |
| | | | | | | JOB NO. 070284 | 34 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



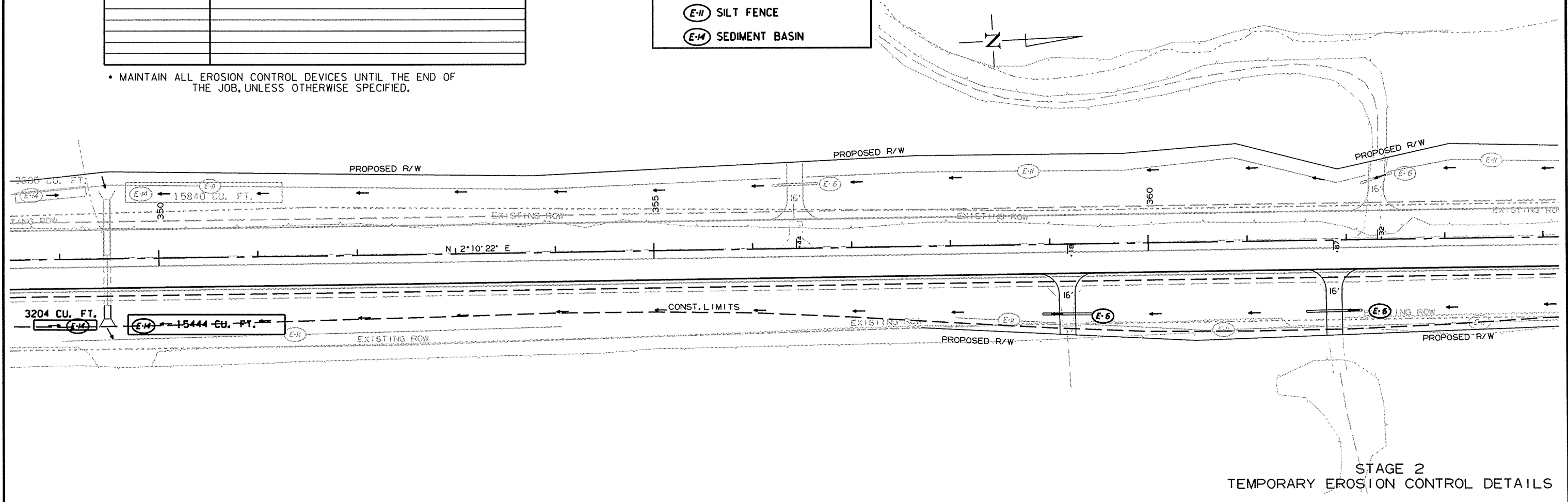
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LEGEND

- ROCK DITCH CHECKS
- SILT FENCE
- SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

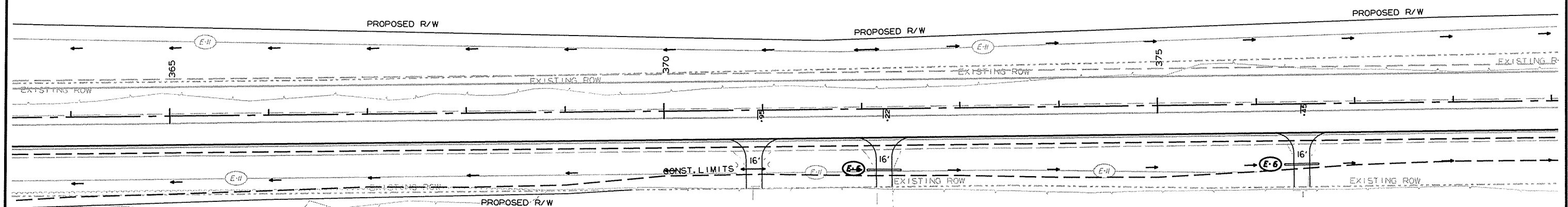
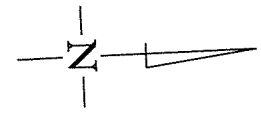
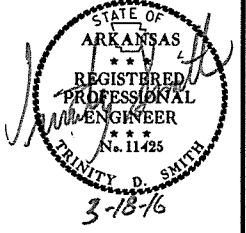


STAGE 2
TEMPORARY EROSION CONTROL DETAILS

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 35 | 193 |

2 TEMPORARY EROSION CONTROL DETAILS



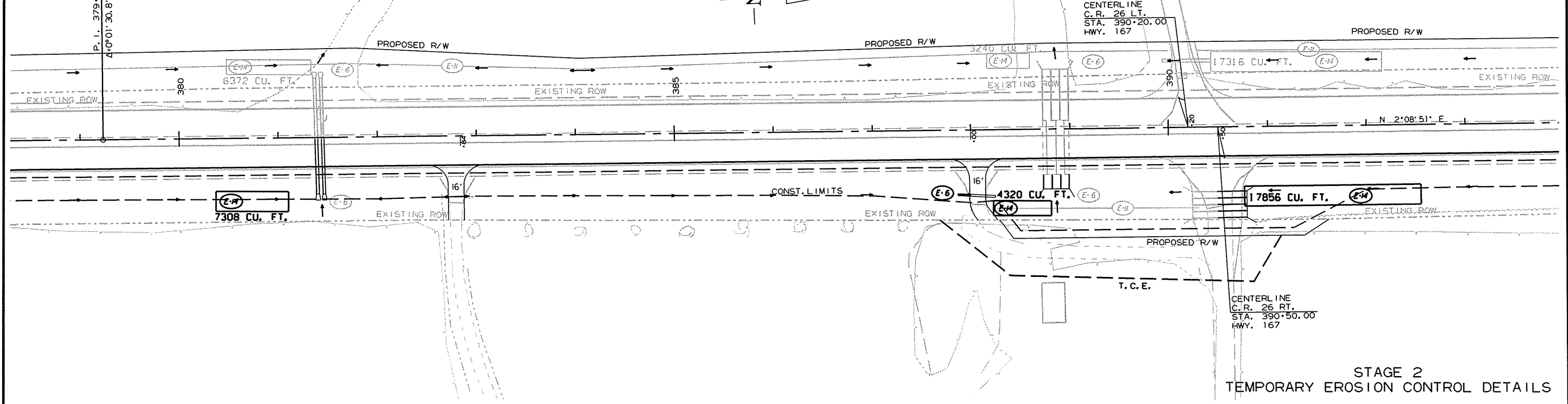
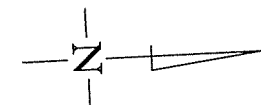
REVISIONS

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LEGEND

- ROCK DITCH CHECKS
- SILT FENCE
- SEDIMENT BASIN

MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

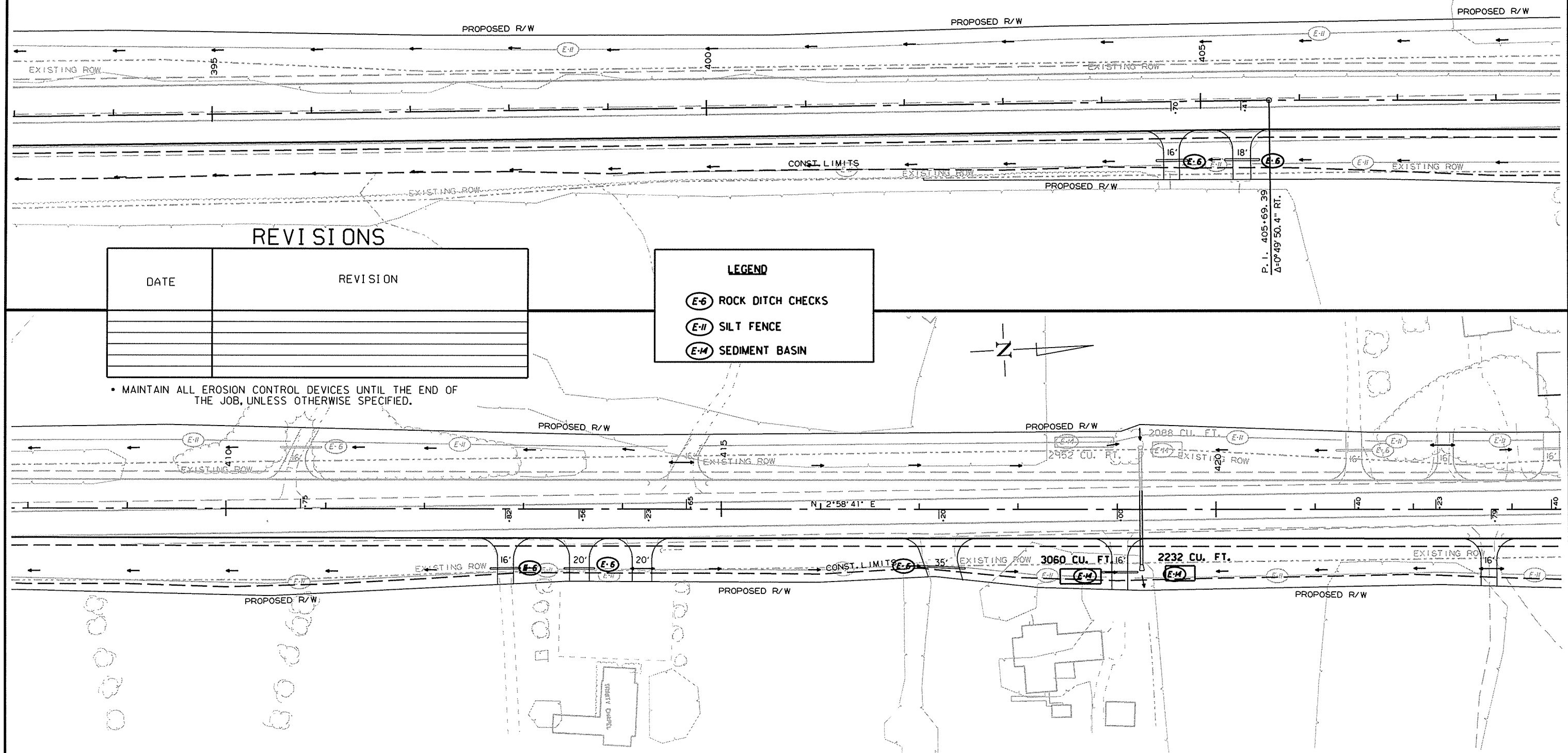
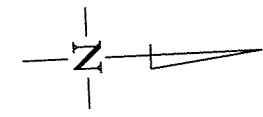
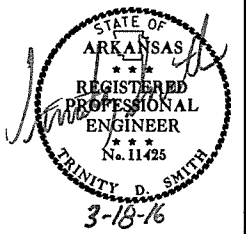


STAGE 2
TEMPORARY EROSION CONTROL DETAILS

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| | | | | 6 | ARK. | | 36 | 193 |
| | | | | JOB NO. | | 070284 | | |

② TEMPORARY EROSION CONTROL DETAILS

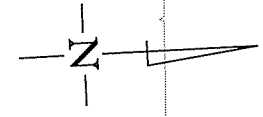


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| LEGEND |
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| (E-6) ROCK DITCH CHECKS |
| (E-II) SILT FENCE |
| (E-M) SEDIMENT BASIN |

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| | | | | | | | JOB NO. 070284 | 37 193 |

2 TEMPORARY EROSION CONTROL DETAILS



SHIFT 1 MOT 2
 P. I. = 10+99.87
 Δ = 8°32'23.8" LT.
 D = 8°00'00.0"
 T = 53.47'
 L = 106.75'
 P. C. = 10+46.39
 P. T. = 11+53.14
 NO SUPER

SHIFT 1 MOT 2
 P. I. = 14+65.06
 Δ = 7°35'25.4" LT.
 D = 8°00'00.0"
 T = 47.51'
 L = 94.88'
 P. C. = 14+17.55
 P. T. = 15+12.43
 NO SUPER

SHIFT 1 MOT 2
 P. I. = 13+60.69
 Δ = 8°38'12.7" RT.
 D = 8°00'00.0"
 T = 54.08'
 L = 107.96'
 P. C. = 13+06.60
 P. T. = 14+14.57
 NO SUPER

P. I. = 430+05.75
 Δ = 3°17'15.8" LT.
 D = 0°30'00.0"
 T = 328.86'
 L = 657.55'
 P. C. = 426+76.88
 P. T. = 433+34.43
 NO SUPER

CENTERLINE
 C. R. = 24 LT.
 STA. 433+31.00
 HWY. 167

SHIFT 1 MOT 2
 P. I. = 12+04.86
 Δ = 7°58'03.2" RT.
 D = 8°00'00.0"
 T = 49.88'
 L = 99.59'
 P. C. = 11+54.98
 P. T. = 12+54.57
 NO SUPER

CENTERLINE
 C. R. = 24 RT.
 STA. 433+30.00
 HWY. 167

P. I. = 438+24.24
 Δ = 3°55'32.0" RT.
 D = 0°30'00.0"
 T = 392.71'
 L = 785.11'
 P. C. = 434+31.53
 P. T. = 442+16.65
 NO SUPER

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• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-II) SILT FENCE
- (E-M) SEDIMENT BASIN

SHIFT 2 MOT 2
 P. I. = 20+88.57
 Δ = 8°28'09.3" LT.
 D = 8°00'00.0"
 T = 53.03'
 L = 105.87'
 P. C. = 20+35.54
 P. T. = 21+41.41
 NO SUPER

SHIFT 2 MOT 2
 P. I. = 24+82.88
 Δ = 8°09'16.2" LT.
 D = 8°00'00.0"
 T = 51.05'
 L = 101.93'
 P. C. = 24+31.83
 P. T. = 25+33.76
 NO SUPER

SHIFT 2 MOT 2
 P. I. = 22+05.57
 Δ = 8°14'37.5" RT.
 D = 8°00'00.0"
 T = 51.61'
 L = 103.05'
 P. C. = 21+56.95
 P. T. = 22+57.00
 NO SUPER

SHIFT 2 MOT 2
 P. I. = 23+61.37
 Δ = 8°06'25.4" RT.
 D = 8°00'00.0"
 T = 50.75'
 L = 101.34'
 P. C. = 23+10.62
 P. T. = 24+11.96
 NO SUPER

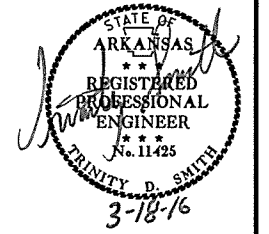
P. I. = 438+24.24
 Δ = 3°55'32.0" RT.
 D = 0°30'00.0"
 T = 392.71'
 L = 785.11'
 P. C. = 434+31.53
 P. T. = 442+16.65
 NO SUPER

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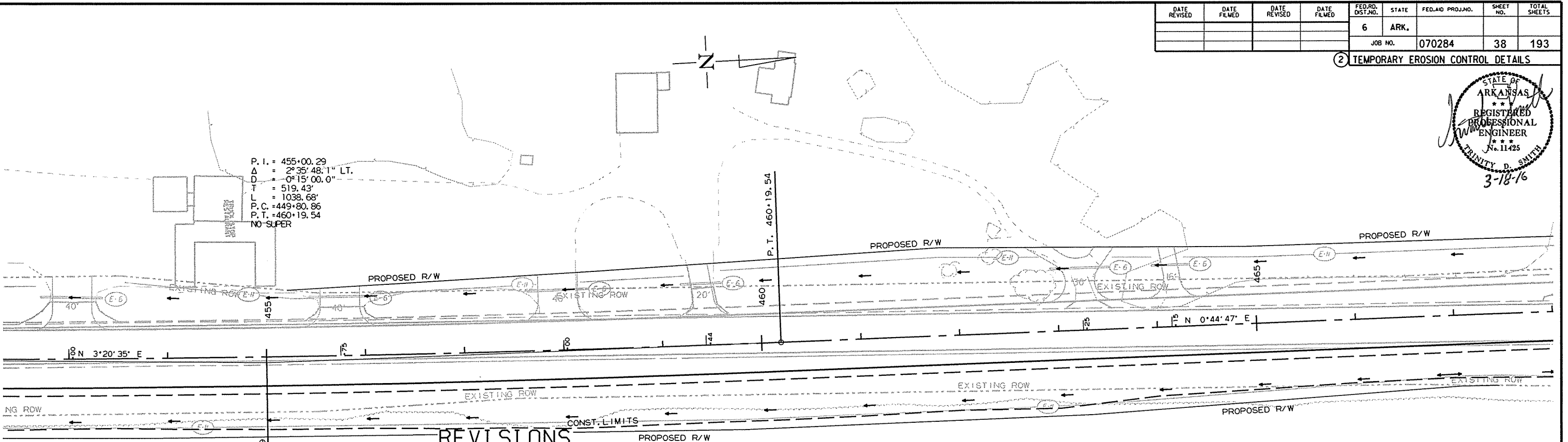
STAGE 2
 TEMPORARY EROSION CONTROL DETAILS

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| | | | | 6 | ARK. | | 38 | 193 |
| | | | | JOB NO. 070284 | | | | |

② TEMPORARY EROSION CONTROL DETAILS



P. I. = 455+00.29
 Δ = 2° 35' 48.1" LT.
 D = 0° 15' 00.0"
 T = 519.43'
 L = 1038.68'
 P. C. = 449+80.86
 P. T. = 460+19.54
 NO SUPER

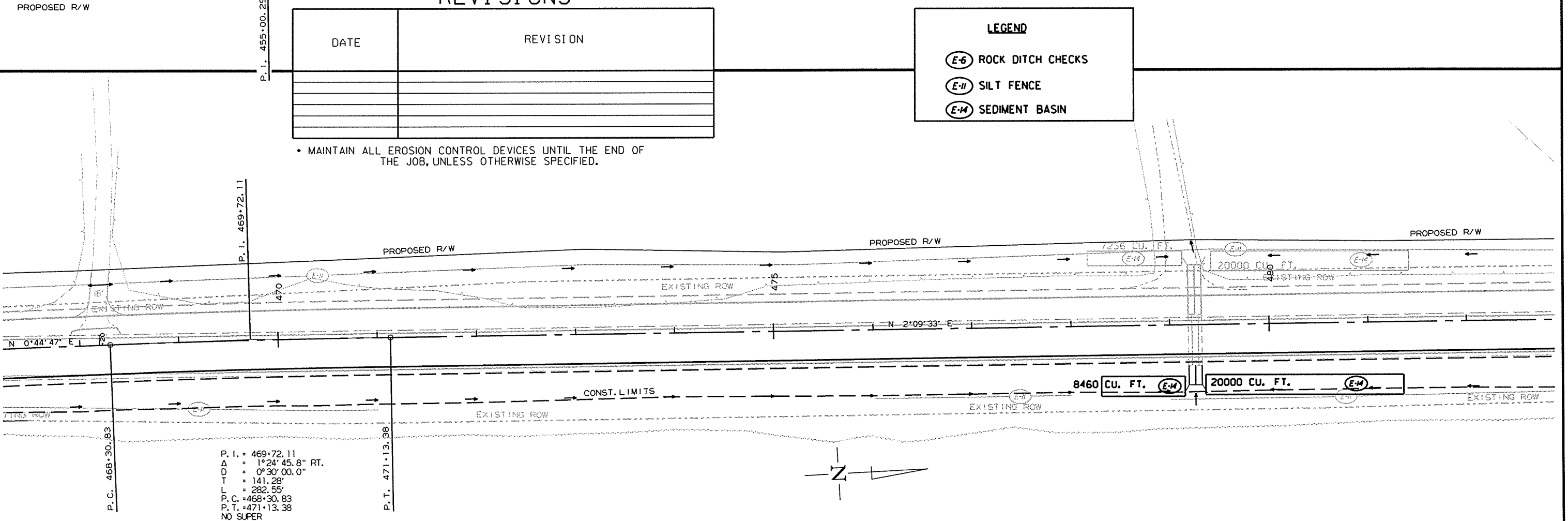


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| LEGEND |
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| (E-6) ROCK DITCH CHECKS |
| (E-11) SILT FENCE |
| (E-14) SEDIMENT BASIN |

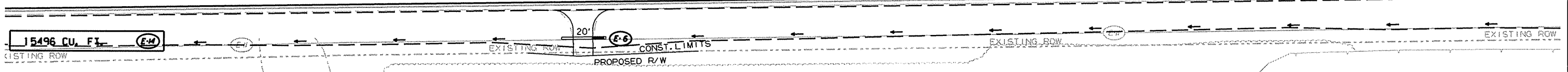
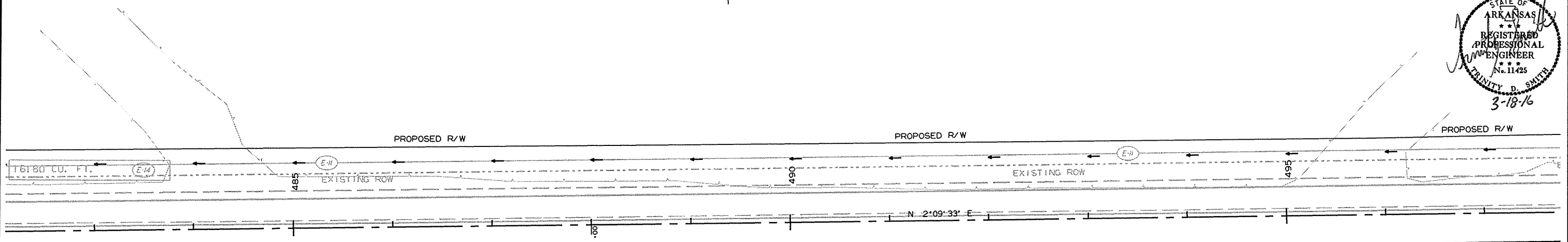
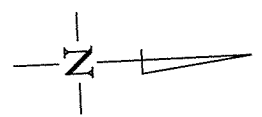
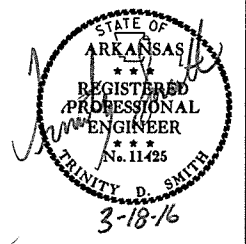
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



P. I. = 469+72.11
 Δ = 1° 24' 45.8" RT.
 D = 0° 30' 00.0"
 T = 141.28'
 L = 282.55'
 P. C. = 468+30.83
 P. T. = 471+13.38
 NO SUPER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 39 | 193 |
| | | | | JOB NO. | 070284 | | | |

② TEMPORARY EROSION CONTROL DETAILS



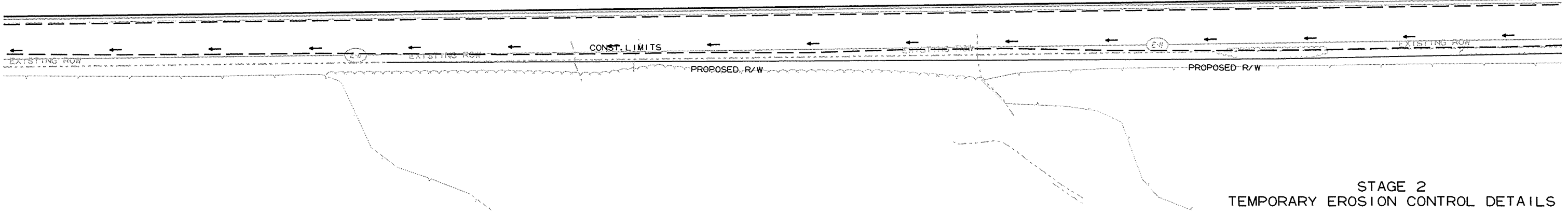
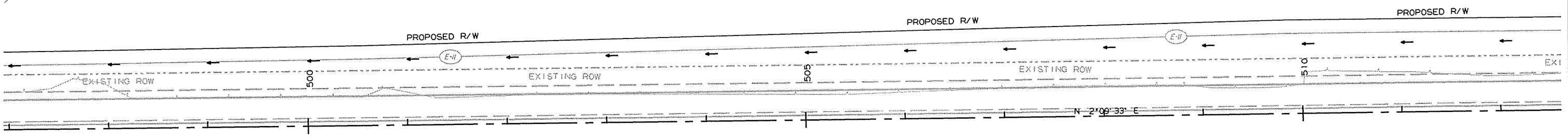
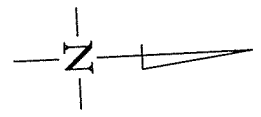
REVISIONS

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

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

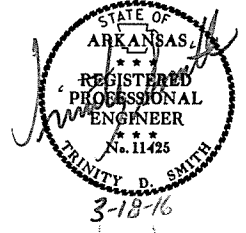
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 41 | 193 |
| | | | | JOB NO. | 070284 | | | |

② TEMPORARY EROSION CONTROL DETAILS



SHIFT 3 MOT 2
 P. I. = 30+80.14
 Δ = 8°43'07.2" LT.
 D = 8°00'00.0"
 T = 54.60'
 L = 108.98'
 P. C. = 30+25.54
 P. T. = 31+34.53
 NO SUPER

SHIFT 3 MOT 2
 P. I. = 34+87.10
 Δ = 8°43'21.6" LT.
 D = 8°00'00.0"
 T = 54.62'
 L = 109.03'
 P. C. = 34+32.48
 P. T. = 35+41.52
 NO SUPER

P. I. = 551+67.54
 Δ = 1°16'16.4" LT.
 D = 0°15'00.0"
 T = 254.26'
 L = 508.49'
 P. C. = 549+13.28
 P. T. = 554+21.77
 NO SUPER

SHIFT 3 MOT 2
 P. I. = 31+94.31
 Δ = 8°19'48.9" RT.
 D = 8°00'00.0"
 T = 52.16'
 L = 104.13'
 P. C. = 31+42.15
 P. T. = 32+46.28
 NO SUPER

SHIFT 3 MOT 2
 P. I. = 33+76.14
 Δ = 8°43'18.9" RT.
 D = 8°00'00.0"
 T = 54.62'
 L = 109.02'
 P. C. = 33+21.53
 P. T. = 34+30.55
 NO SUPER

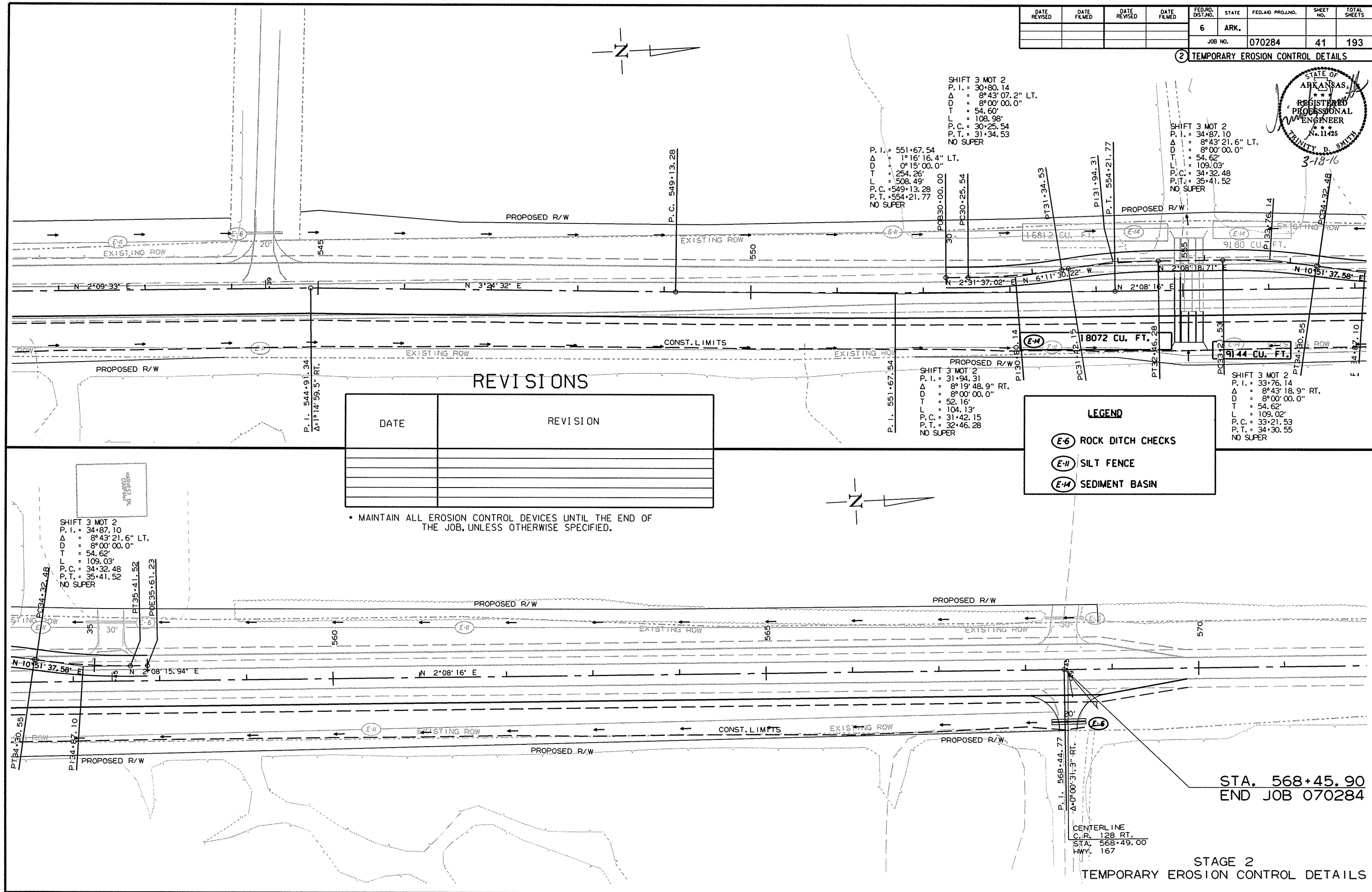
REVISIONS

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

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-II) SILT FENCE
- (E-III) SEDIMENT BASIN

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



STA. 568+45.90
 END JOB 070284

CENTERLINE
 C.R. 128 RT.
 STA. 568+49.00
 HWY. 167

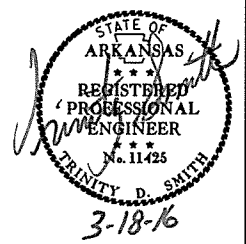
STAGE 2
 TEMPORARY EROSION CONTROL DETAILS

3/11/2016

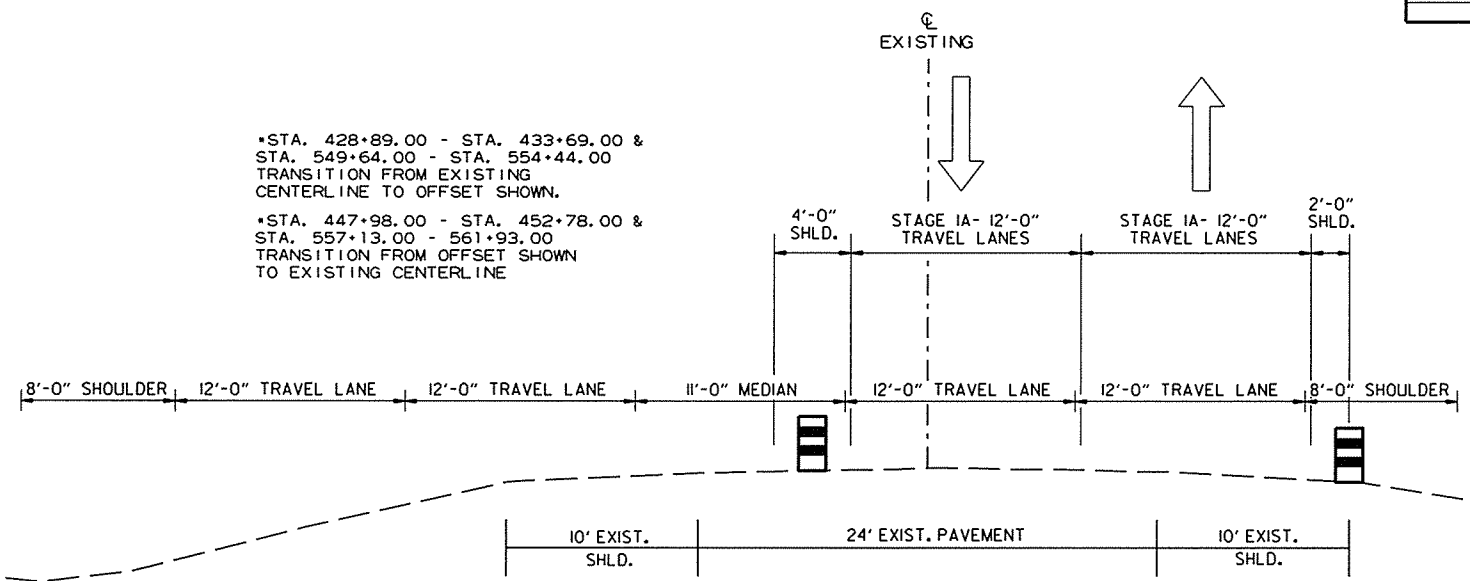
R070284.DGN

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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|--------------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | | JOB NO. | 070284 |
| | | | | | | | SHEET NO. | 42 |
| | | | | | | | TOTAL SHEETS | 193 |

② MAINTENANCE OF TRAFFIC DETAILS

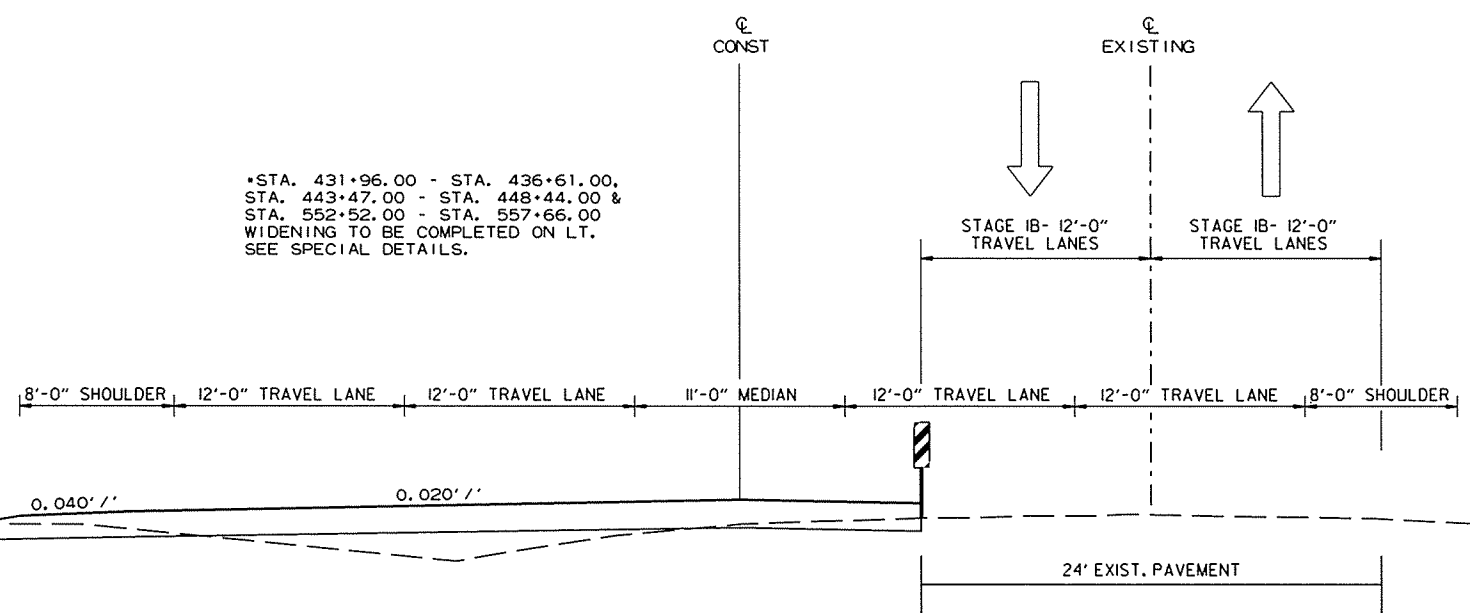


• STA. 428+89.00 - STA. 433+69.00 &
 STA. 549+64.00 - STA. 554+44.00
 TRANSITION FROM EXISTING
 CENTERLINE TO OFFSET SHOWN.
 • STA. 447+98.00 - STA. 452+78.00 &
 STA. 557+13.00 - 561+93.00
 TRANSITION FROM OFFSET SHOWN
 TO EXISTING CENTERLINE



STAGE 1A LANE SHIFT RT.
 STA. 428+89.00 - STA. 452+78.00
 STA. 549+64.00 - STA. 561+93.00

• STA. 431+96.00 - STA. 436+61.00,
 STA. 443+47.00 - STA. 448+44.00 &
 STA. 552+52.00 - STA. 557+66.00
 WIDENING TO BE COMPLETED ON LT.
 SEE SPECIAL DETAILS.



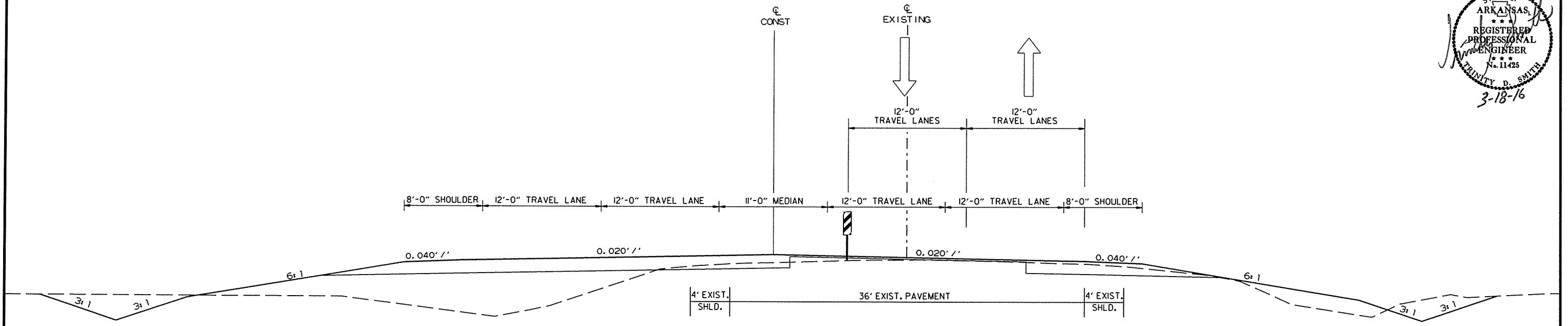
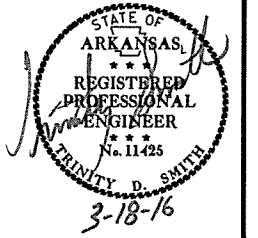
STAGE 1B
 STA. 309+65.00 - STA. 428+89.00
 STA. 561+93.00 - STA. 568+45.90

3/11/2016

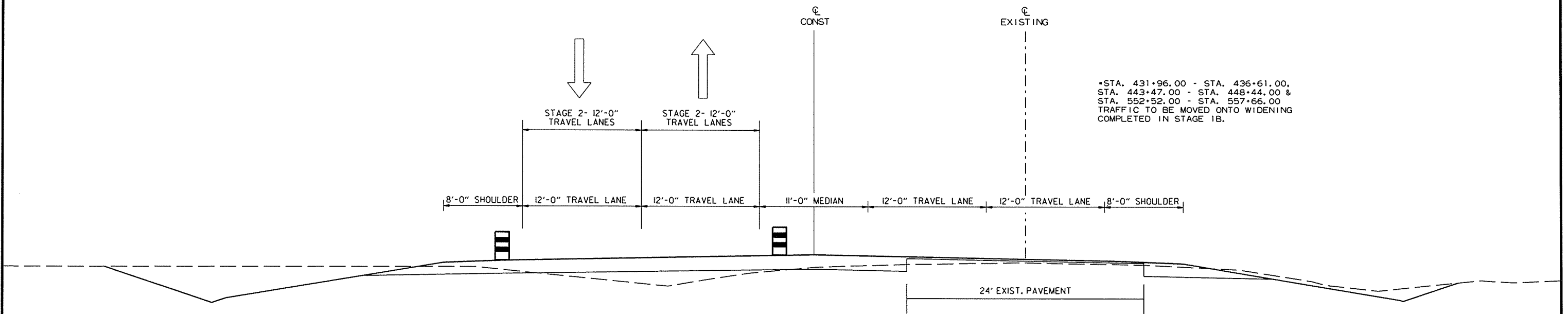
R070284.DGN

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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 43 | 193 |

② MAINTENANCE OF TRAFFIC DETAILS



STAGE 1 EXISTING PASSING LANES
STA. 452+78.00 - STA. 549+64.00



*STA. 431+96.00 - STA. 436+61.00,
STA. 443+47.00 - STA. 448+44.00 &
STA. 552+52.00 - STA. 557+66.00
TRAFFIC TO BE MOVED ONTO WIDENING
COMPLETED IN STAGE 1B.

STAGE 2
STA. 309+65.00 - STA. 431+96.00
STA. 436+61.00 - STA. 443+47.00
STA. 448+44.00 - STA. 552+52.00
STA. 557+66.00 - STA. 568+45.90

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SEQUENCING:

STAGE 1A: SHIFT TRAFFIC RT. FROM STA. 428+89 TO STA. 457+78 AND STA. 549+64 TO STA. 561+93.

STAGE 1B: EXTEND CULVERTS LT., NOTCH AND WIDEN FOR LANES ON LEFT, AND PERFORM TEMPORARY WIDENING FOR STAGE 2 NOT WHERE SHOWN. MAINTAIN TRAFFIC ON EXISTING LANES. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT.

STAGE 2: PLACE CONSTRUCTION PAVEMENT MARKINGS, CONSTRUCT RT. SIDE OF CULVERTS, NOTCH AND WIDEN FOR LANES ON RT. UTILIZE TRAFFIC DRUMS ON THE CONSTRUCTION LANE EDGE AT 50' O.C. SPACING ON RT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT NEW LANE EDGE ON LT.

STAGE 3: REMOVE TEMPORARY WIDENING ON LT. PLACE FINAL 2" OF SURFACE COURSE AND INSTALL PERMANENT PAVEMENT MARKINGS.

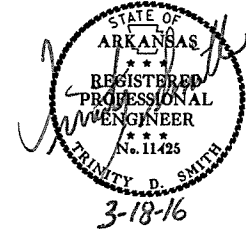
MAINTENANCE OF TRAFFIC - STAGE 1 QUANTITIES

SIGNS = 627 SQ. FT.
 TYPE III BARRICADES RT. = 48 LIN. FT.
 TRAFFIC DRUMS = 364 EACH
 VERTICAL PANELS = 184 EACH
 FURNISHING AND INSTALLING CONCRETE BARRIER = 1962 LIN. FT.
 TEMPORARY IMPACT ATTENUATION BARRIER = 2 EACH
 TEMPORARY IMPACT ATTENUATION BARRIER REPAIR = 2 EACH
 REMOVAL OF PERMANENT PAVEMENT MARKINGS = 15521 LIN. FT.
 CONSTRUCTION PAVEMENT MARKINGS = 24158 LIN. FT.
 RAISED PAVEMENT MARKINGS (TYPE II) = 181 EACH

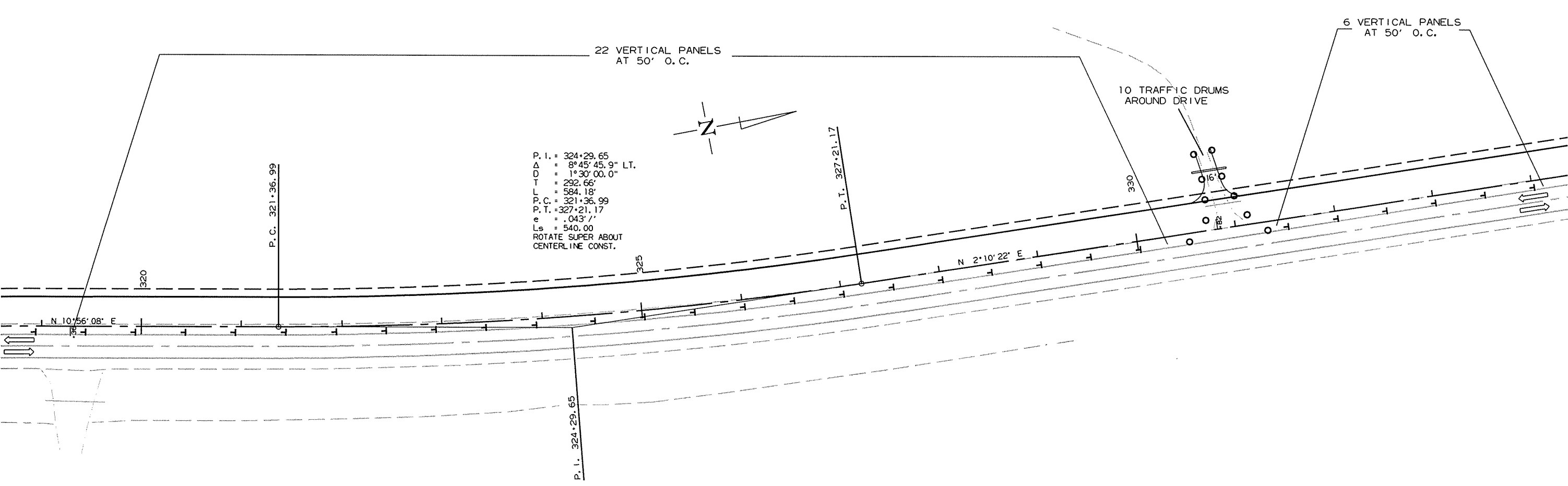
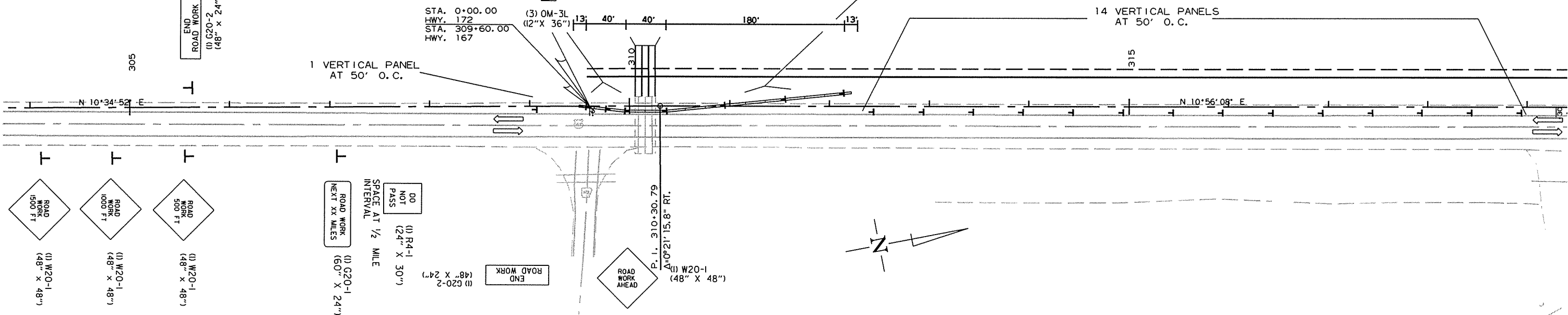
SHOULDER CLOSED (6) RSP-1 (48" X 30")
 IF AND WHERE DIRECTED BY THE ENGINEER

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| | | | | 6 | ARK. | | | |
| | | | | | | | JOB NO. 070284 | 44 193 |

MAINTENANCE OF TRAFFIC DETAILS



STA. 309+65.00
 END JOB 070283
 BEGIN JOB 070284
 LOG MILE 8.69

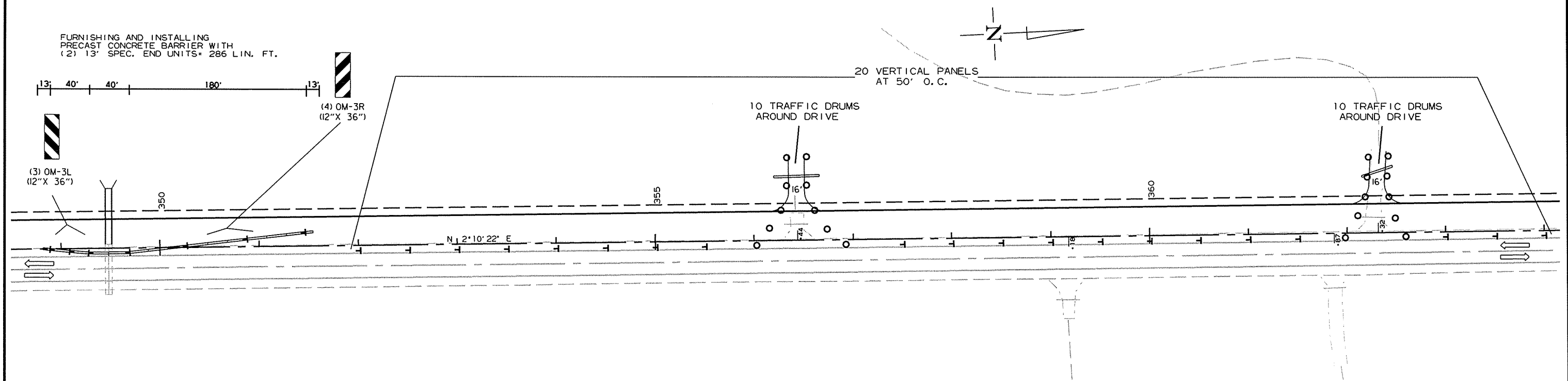
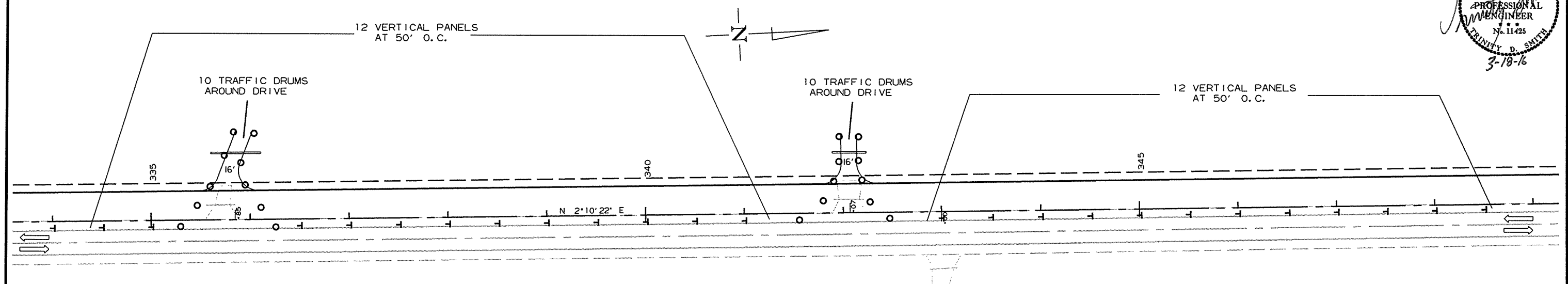


3/15/2016

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 45 | 193 |

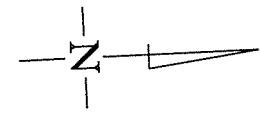
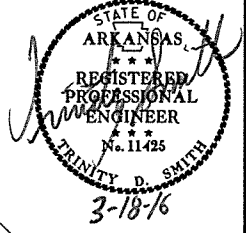
② MAINTENANCE OF TRAFFIC DETAILS



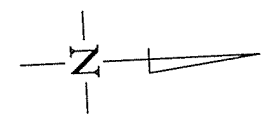
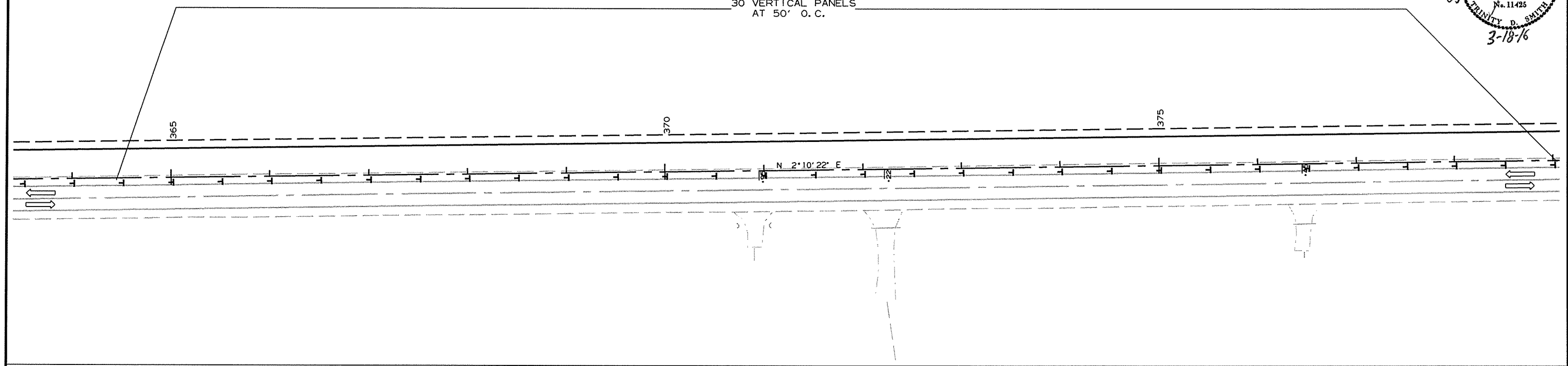
R070284.DCN 3/11/2016

| 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. 070284 | 46 193 |

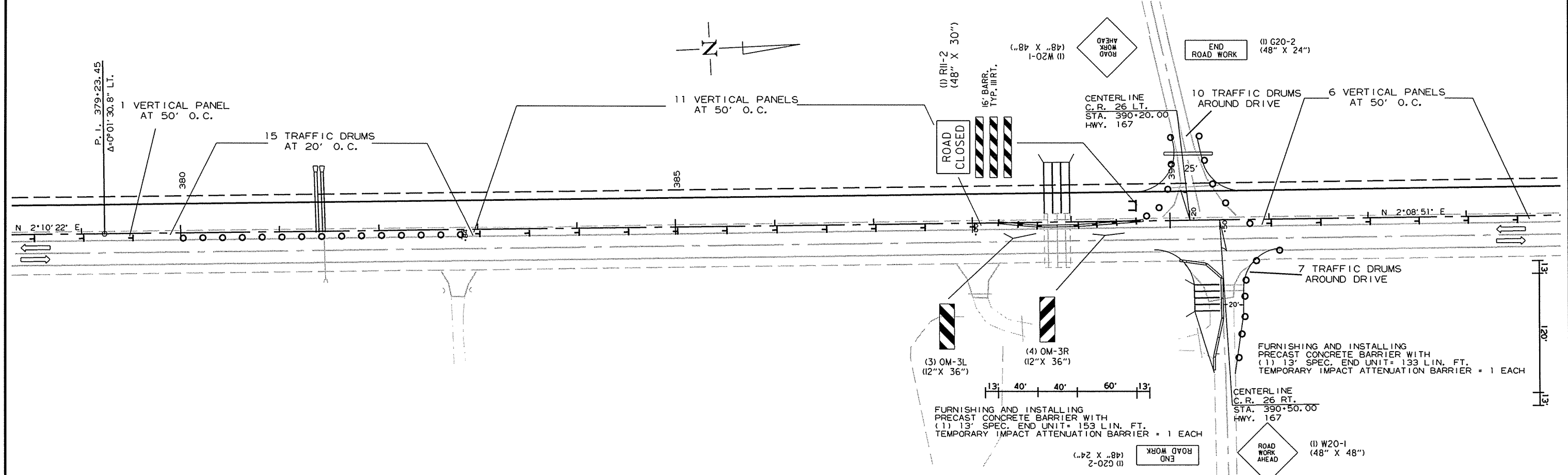
② MAINTENANCE OF TRAFFIC DETAILS



30 VERTICAL PANELS
AT 50' O.C.



11 VERTICAL PANELS
AT 50' O.C.

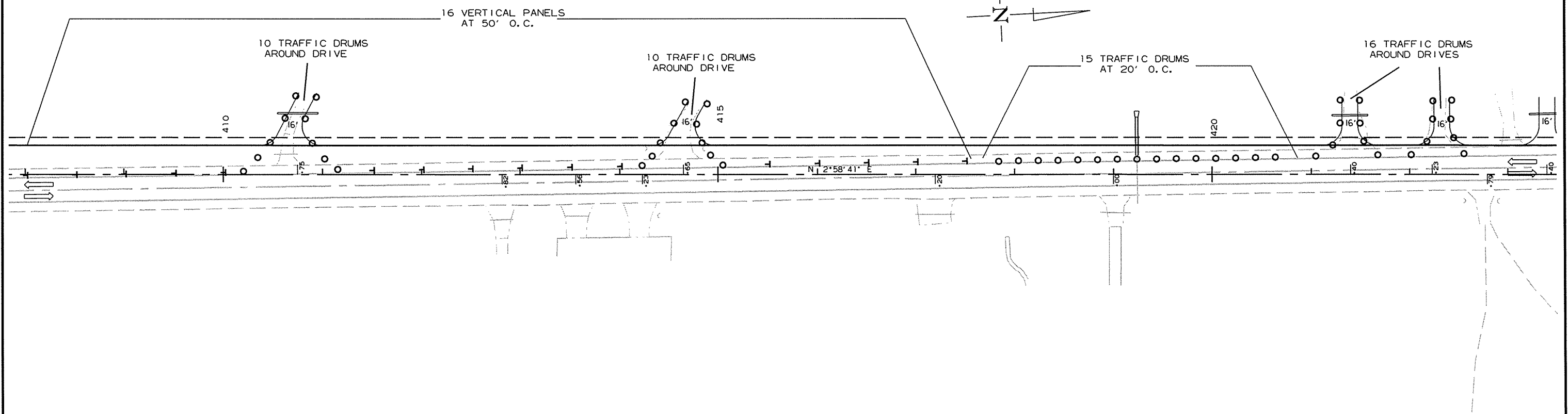
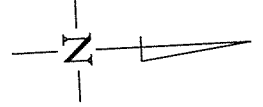
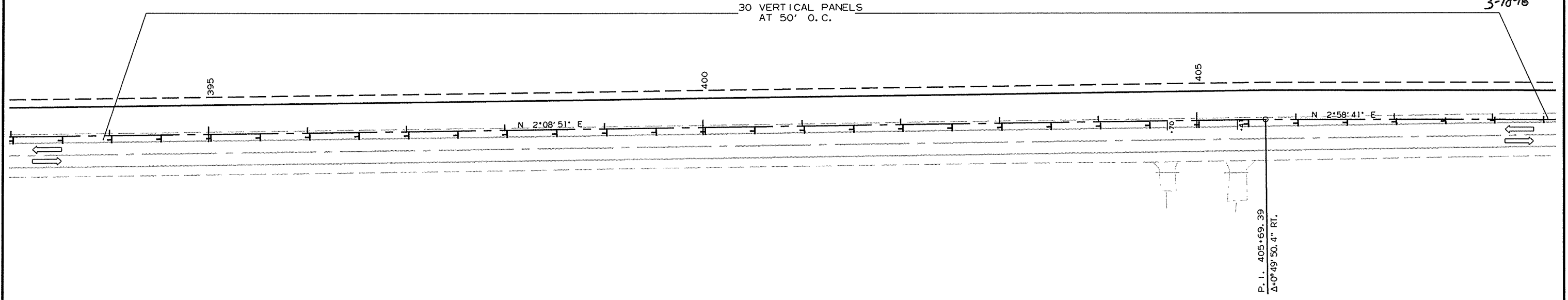
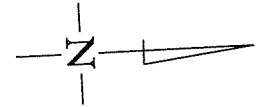
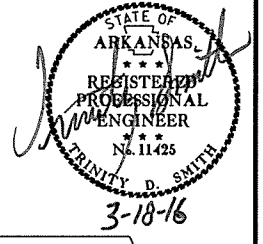


MAINTENANCE OF TRAFFIC DETAILS STAGE 1

R070284.DGN 3/15/2016

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 47 | 193 |

② MAINTENANCE OF TRAFFIC DETAILS



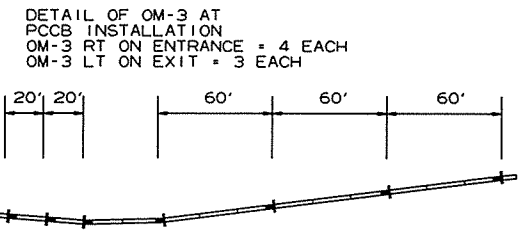
2/18/2016

R070284.DGN

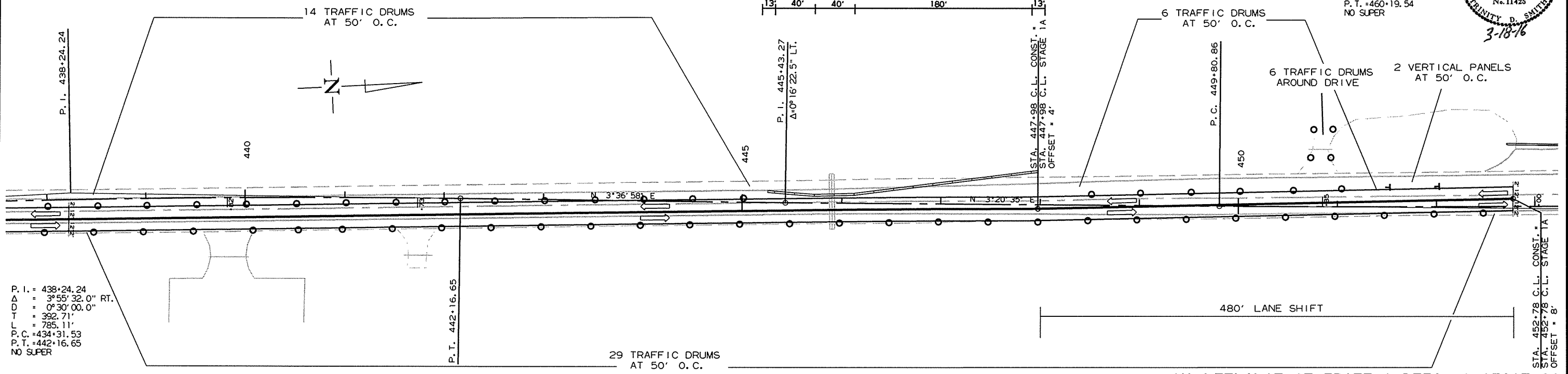
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 49 | 193 |

② MAINTENANCE OF TRAFFIC DETAILS

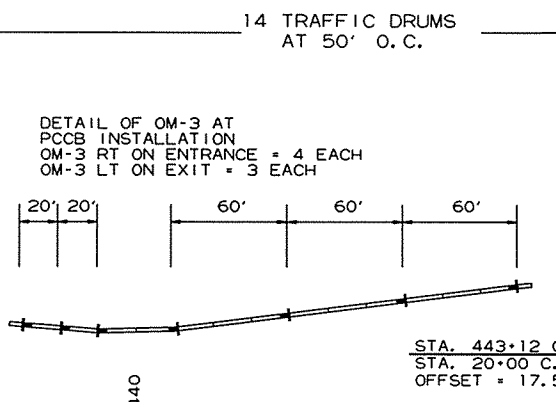
P. I. = 455+00.29
 Δ = 2°35'48.1" LT.
D = 0°15'00.0"
T = 519.43'
L = 1038.68'
P.C. = 449+80.86
P.T. = 460+19.54
NO SUPER



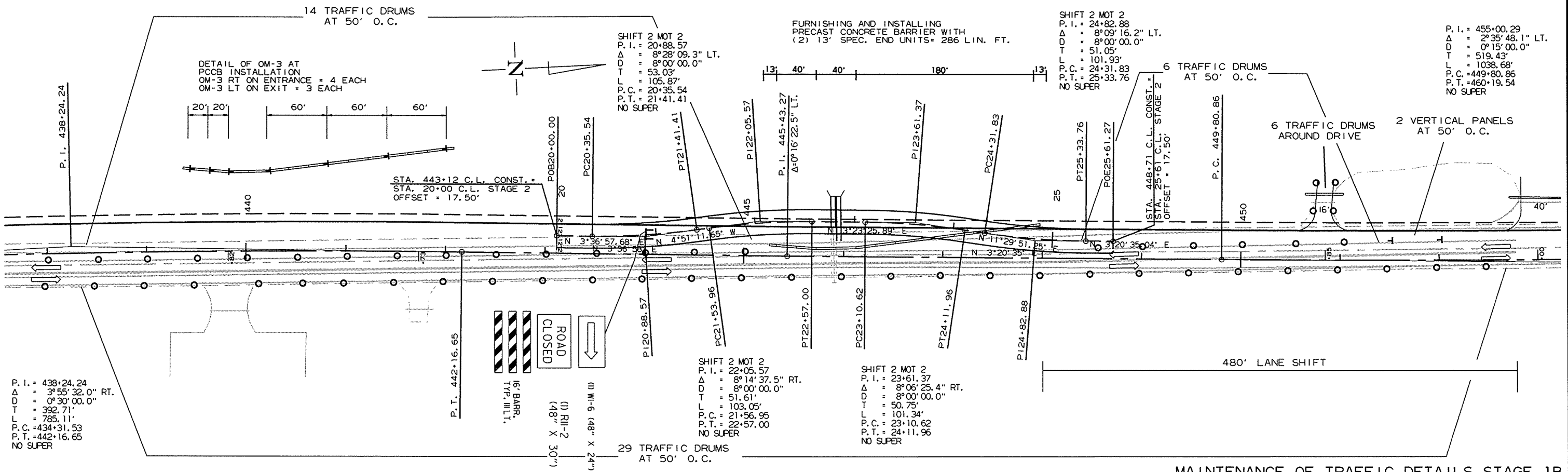
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WITH (2) 13' SPEC. END UNITS = 286 LIN. FT.



MAINTENANCE OF TRAFFIC DETAILS STAGE 1A



FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WITH (2) 13' SPEC. END UNITS = 286 LIN. FT.

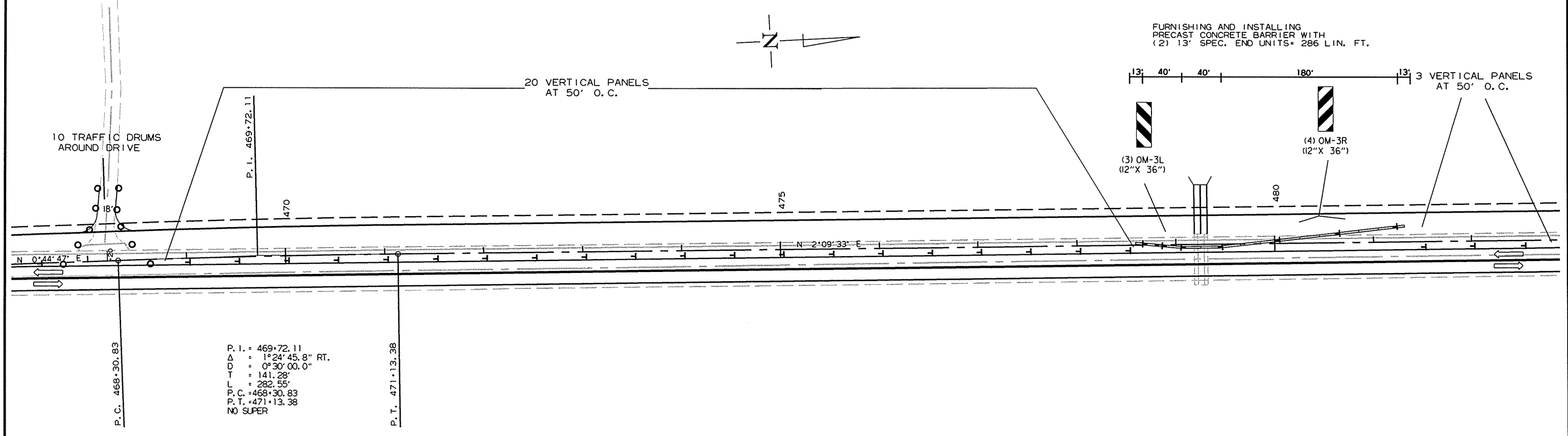
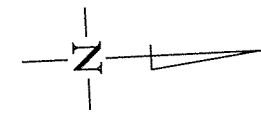
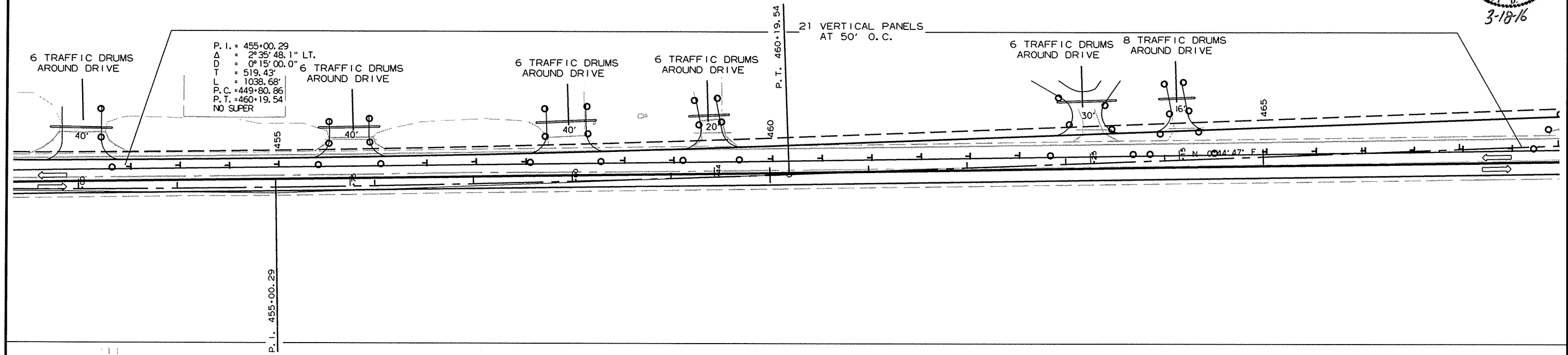
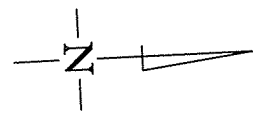


MAINTENANCE OF TRAFFIC DETAILS STAGE 1B

3/10/2016 R070284.DGN

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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|----------------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | | JOB NO. 070284 | 50 193 |

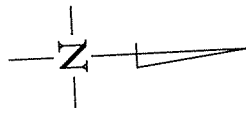
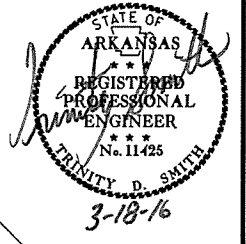
② MAINTENANCE OF TRAFFIC DETAILS



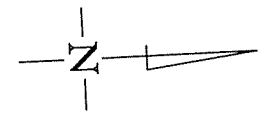
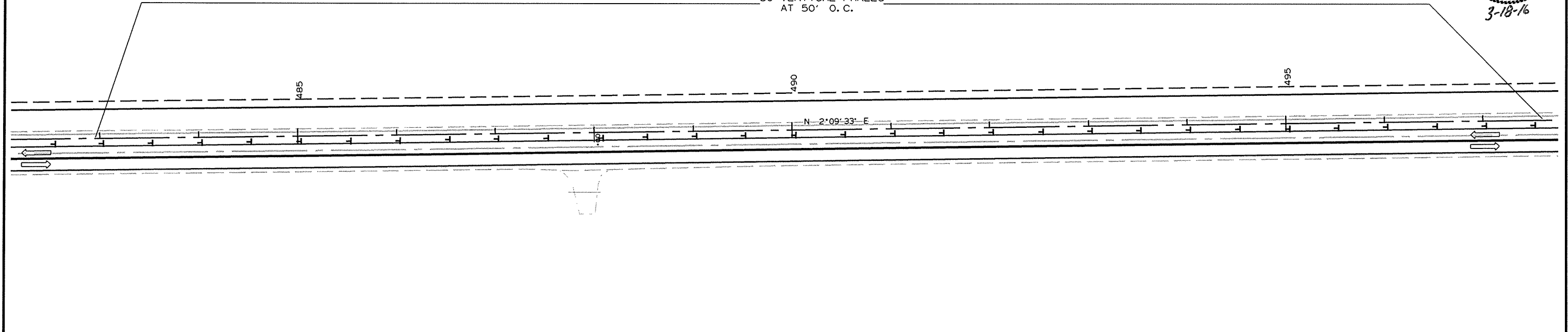
R070284.DCN 3/11/2016

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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 51 | 193 |

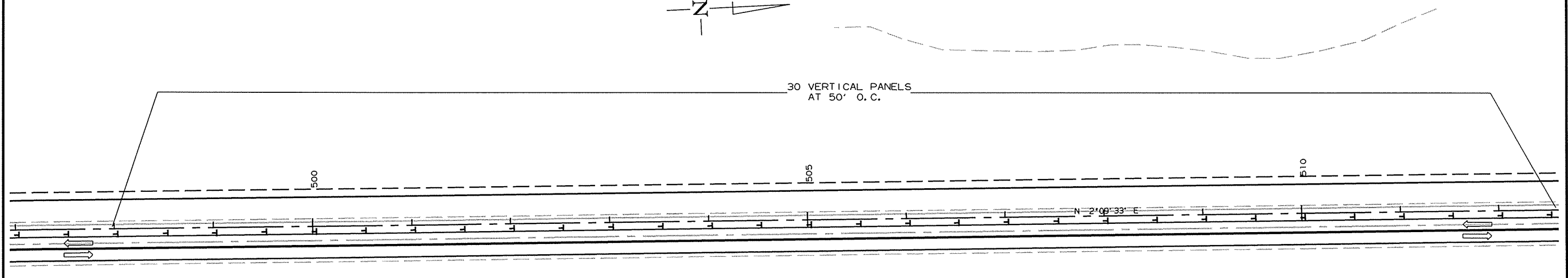
② MAINTENANCE OF TRAFFIC DETAILS



30 VERTICAL PANELS
AT 50' O. C.



30 VERTICAL PANELS
AT 50' O. C.

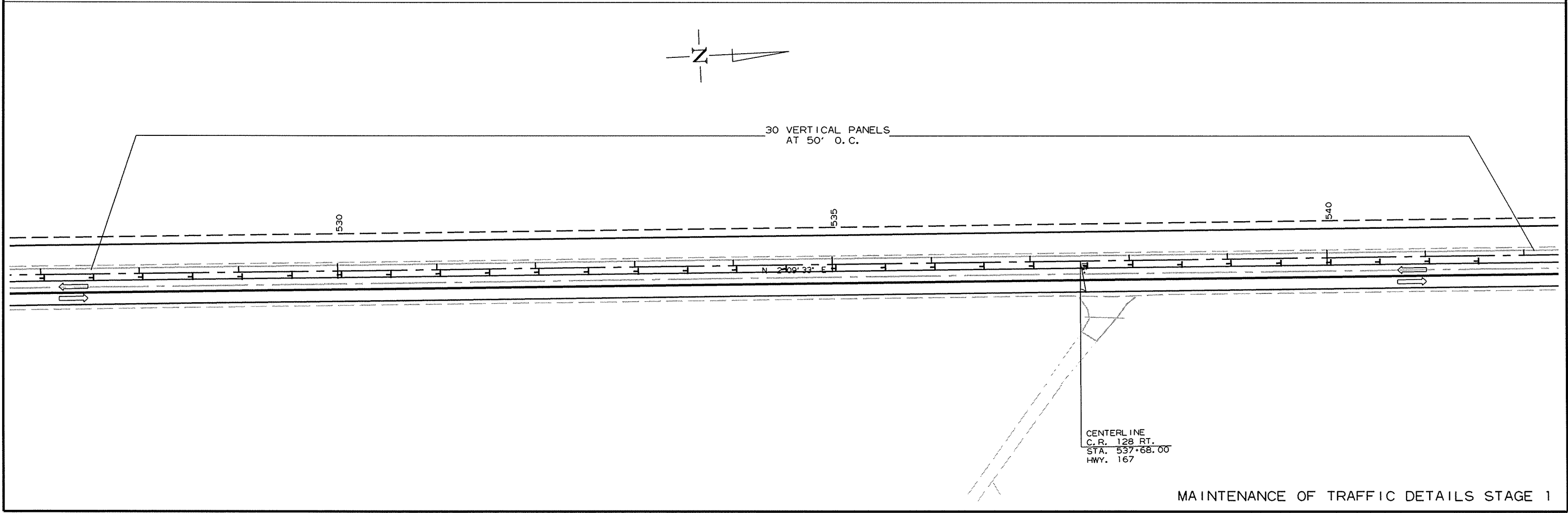
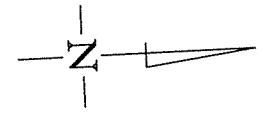
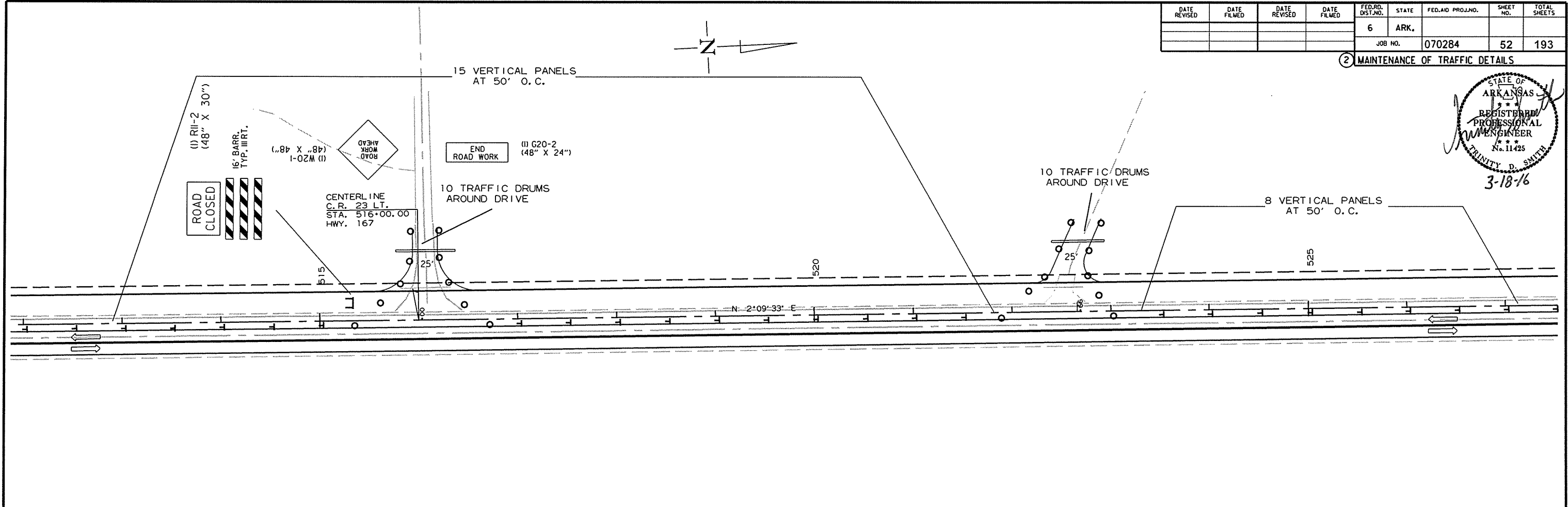
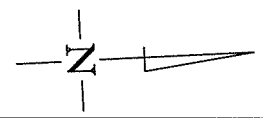
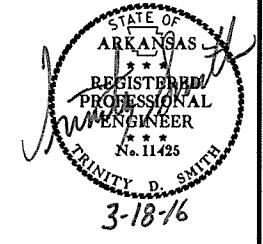


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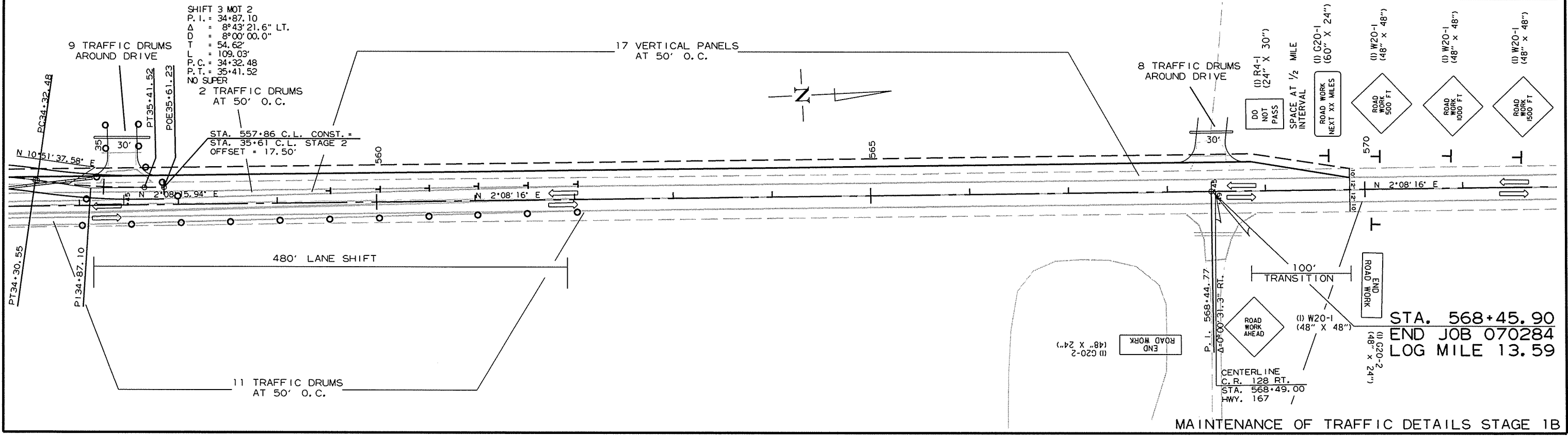
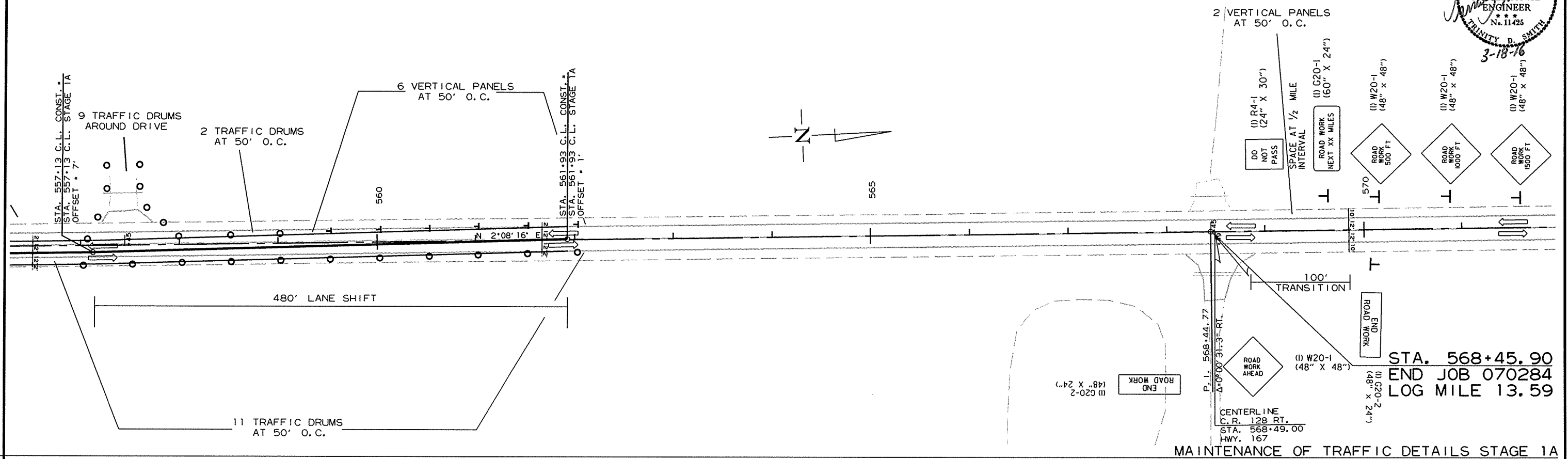
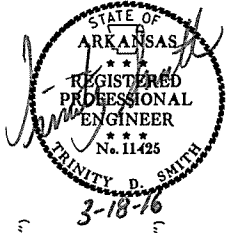
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. AID DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 52 | 193 |
| | | | | JOB NO. | | 070284 | | |

② MAINTENANCE OF TRAFFIC DETAILS



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. RD. PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | 54 | 193 | |

2 MAINTENANCE OF TRAFFIC DETAILS



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SEQUENCING:

STAGE 1a: SHIFT TRAFFIC RT. FROM STA. 428+89 TO STA. 457+78 AND STA. 549+64 TO STA. 561+93.

STAGE 1b: EXTEND CULVERTS LT., NOTCH AND WIDEN FOR LANES ON LEFT, AND PERFORM TEMPORARY WIDENING FOR STAGE 2 NOT WHERE SHOWN. MAINTAIN TRAFFIC ON EXISTING LANES. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT.

STAGE 2: PLACE CONSTRUCTION PAVEMENT MARKINGS. CONSTRUCT RT. SIDE OF CULVERTS. NOTCH AND WIDEN FOR LANES ON RT. UTILIZE TRAFFIC DRUMS ON THE CONSTRUCTION LANE EDGE AT 50' O.C. SPACING ON RT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT NEW LANE EDGE ON LT.

STAGE 3: REMOVE TEMPORARY WIDENING ON LT. PLACE FINAL 2" OF SURFACE COURSE AND INSTALL PERMANENT PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC - STAGE 2 QUANTITIES

SIGNS = 814 SQ. FT.
 TYPE III BARRICADES RT. = 64 LIN. FT.
 TYPE III BARRICADES LT. = 16 LIN. FT.
 TRAFFIC DRUMS = 1205 EACH
 RELOCATING CONCRETE BARRIER = 1673 LIN. FT.
 TEMPORARY IMPACT ATTENUATION BARRIER = 3 EACH
 TEMPORARY IMPACT ATTENUATION BARRIER REPAIR = 3 EACH
 REMOVAL OF PERMANENT PAVEMENT MARKINGS = 9781 LIN. FT.
 CONSTRUCTION PAVEMENT MARKINGS = 80029 LIN. FT.
 REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS = 4326 LIN. FT.
 RAISED PAVEMENT MARKINGS = 1302 EACH
 PERMANENT PAVEMENT MARKINGS (TYPE III) = 23835 LIN. FT.
 1200' LANE SHIFT

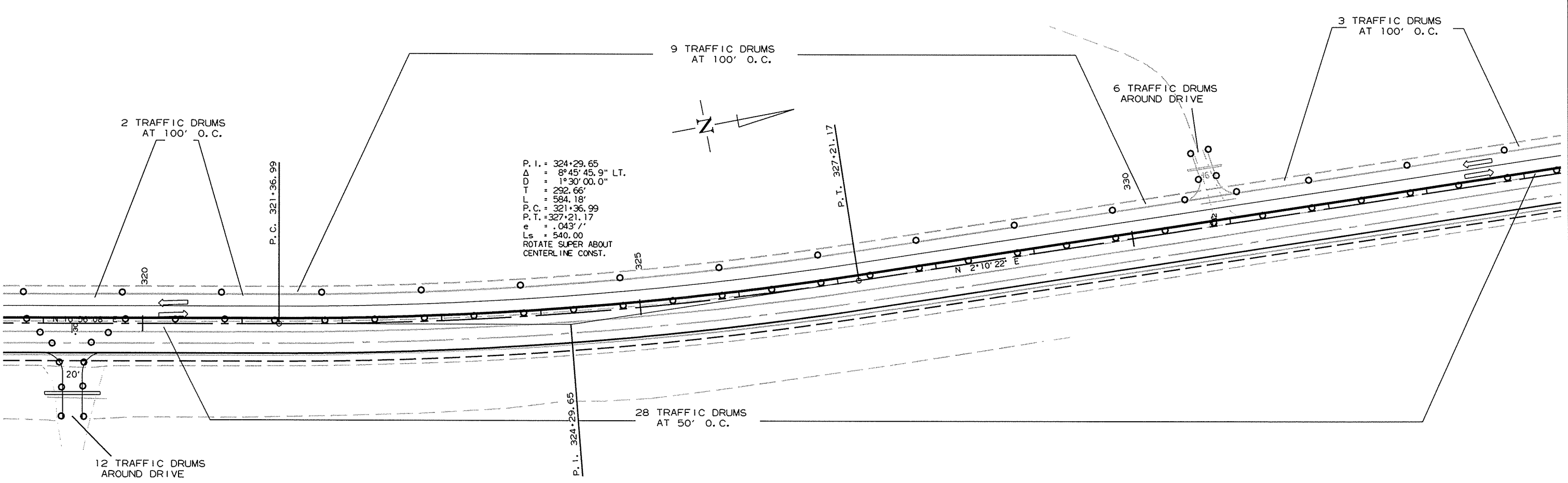
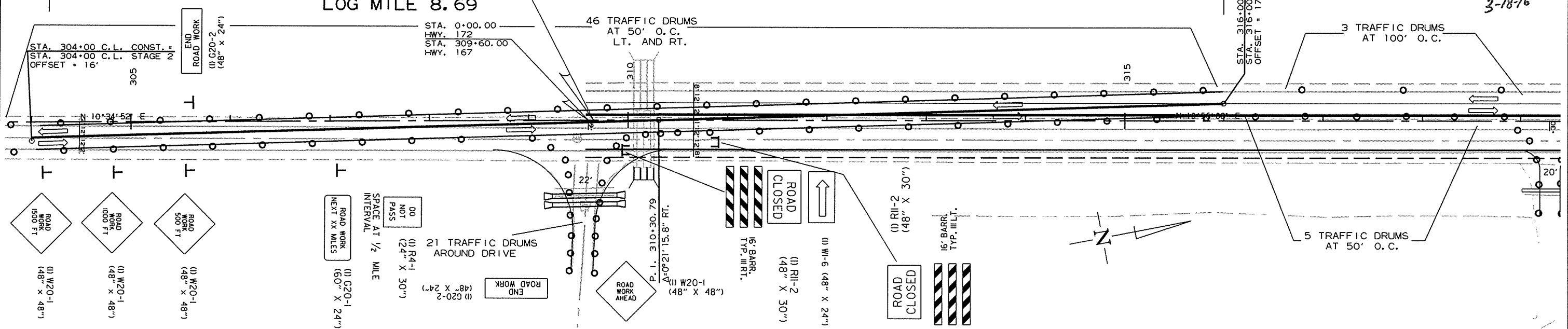
SHOULDER CLOSED (6) RSP-1 (48" X 30")
 IF AND WHERE DIRECTED BY THE ENGINEER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | 55 | 193 |

2 MAINTENANCE OF TRAFFIC DETAILS

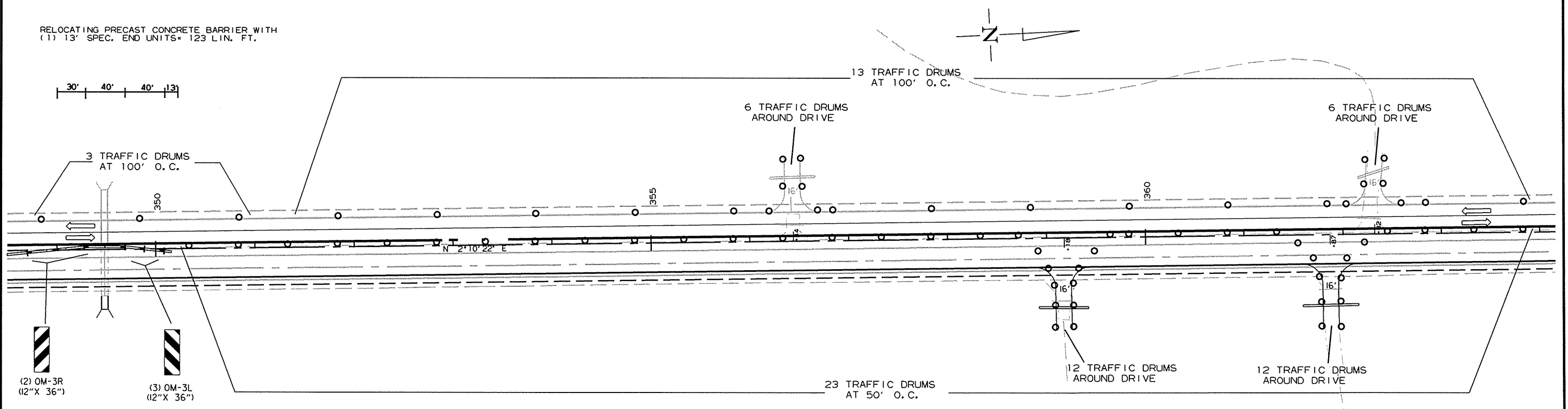
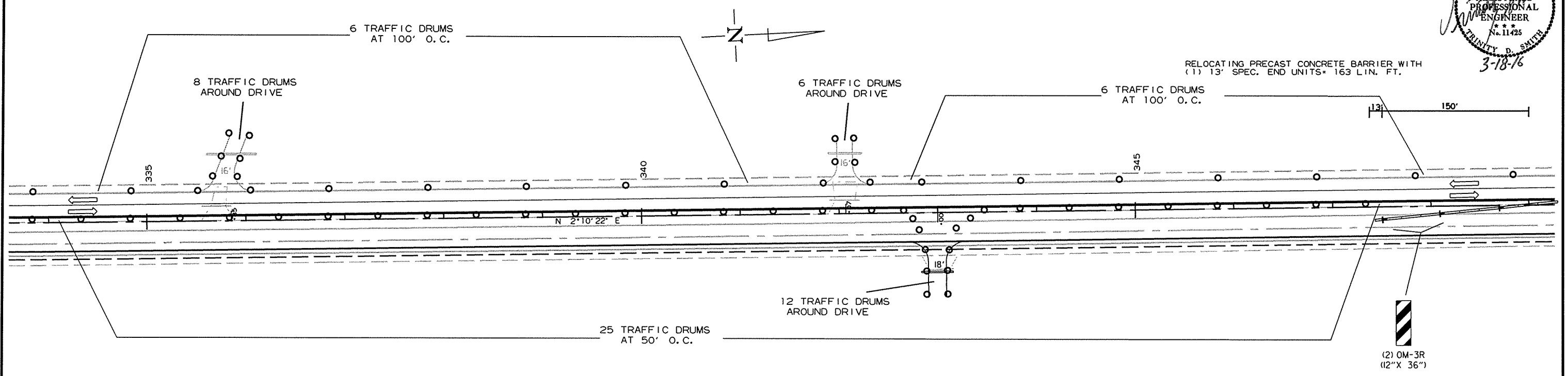
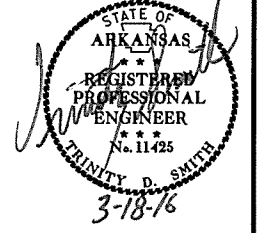


STA. 309+65.00
 END JOB 070283
 BEGIN JOB 070284
 LOG MILE 8.69



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 56 | 193 |

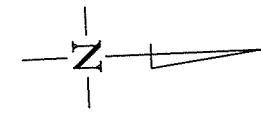
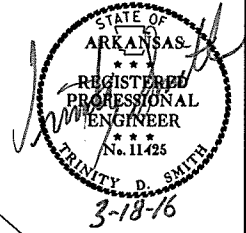
② MAINTENANCE OF TRAFFIC DETAILS



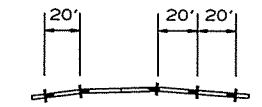
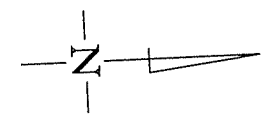
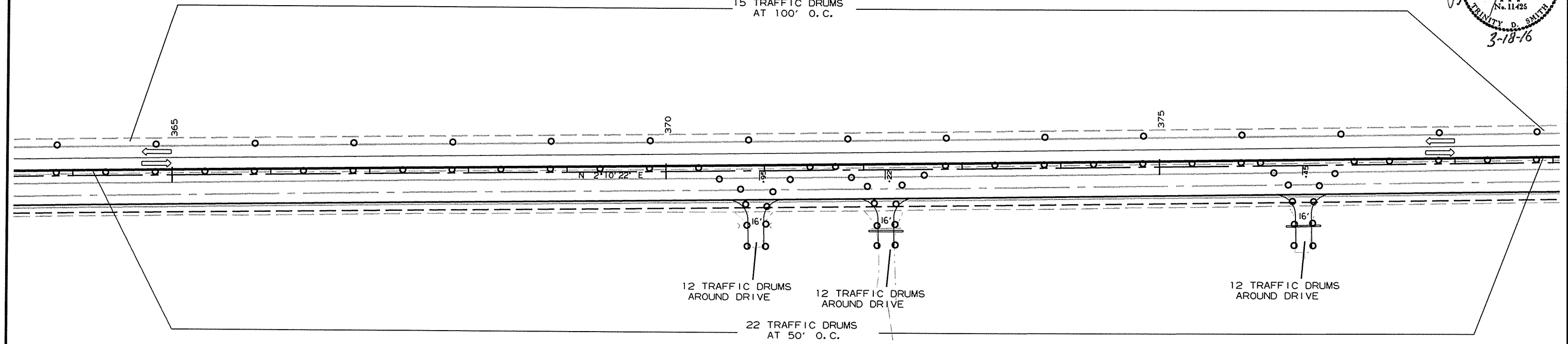
3/11/2016 R070284.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 57 | 193 |
| | | | | | | JOB NO. | 070284 | |

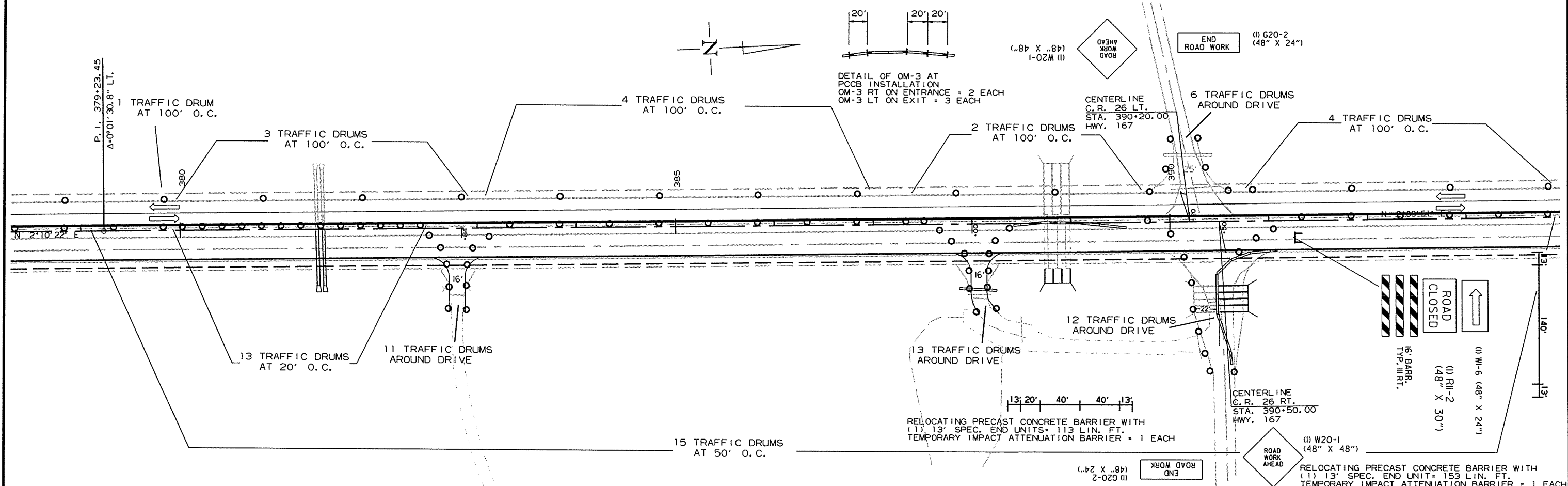
② MAINTENANCE OF TRAFFIC DETAILS



15 TRAFFIC DRUMS AT 100' O.C.



DETAIL OF OM-3 AT PCCB INSTALLATION
 OM-3 RT ON ENTRANCE = 2 EACH
 OM-3 LT ON EXIT = 3 EACH

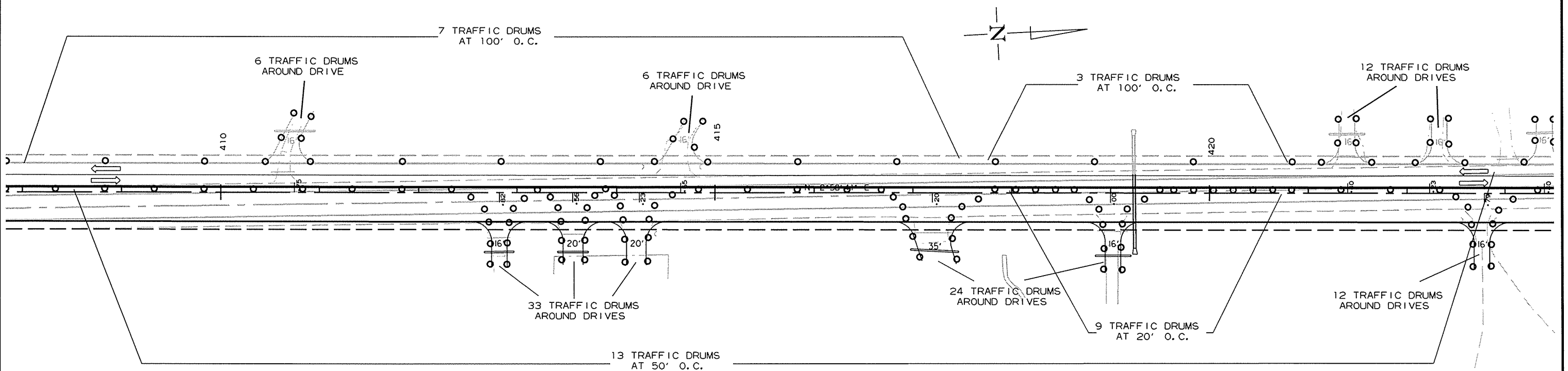
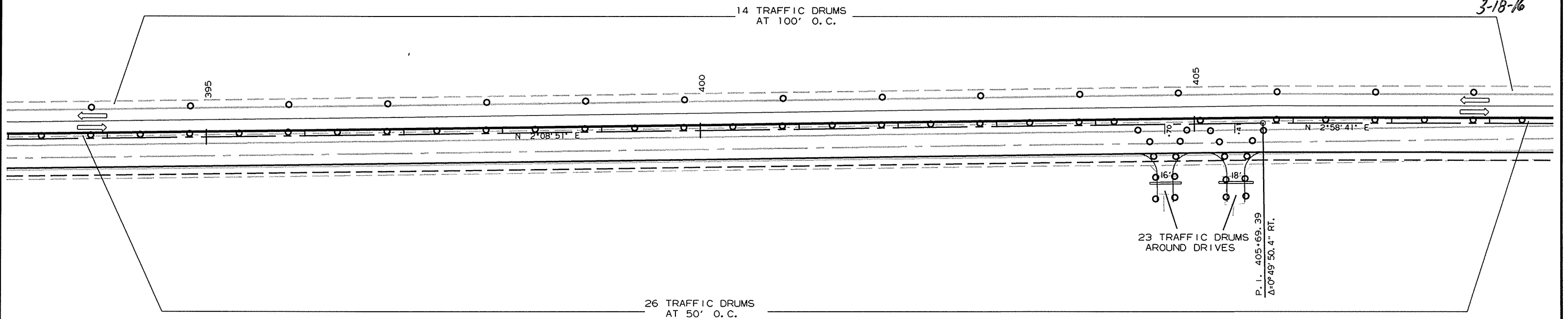
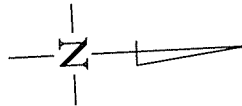


MAINTENANCE OF TRAFFIC DETAILS STAGE 2

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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 58 | 193 |
| | | | | JOB NO. | | 070284 | | |

② MAINTENANCE OF TRAFFIC DETAILS

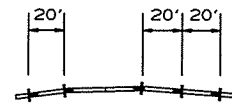


2/18/2016

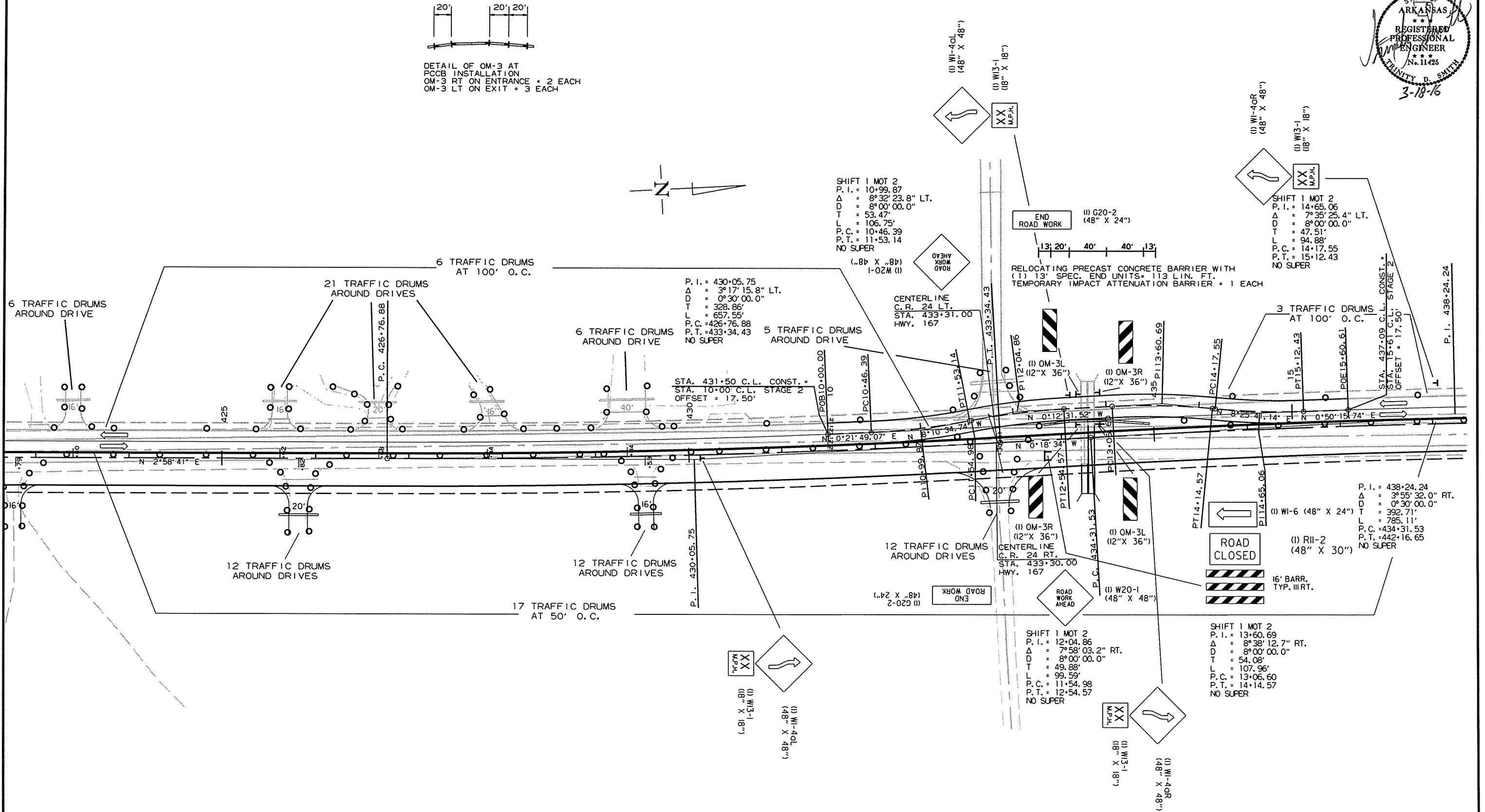
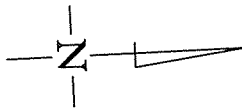
R070284.DGN

| 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. | 070284 | | 59 | 193 |

2 MAINTENANCE OF TRAFFIC DETAILS



DETAIL OF OM-3 AT PCCB INSTALLATION
 OM-3 RT ON ENTRANCE = 2 EACH
 OM-3 LT ON EXIT = 3 EACH

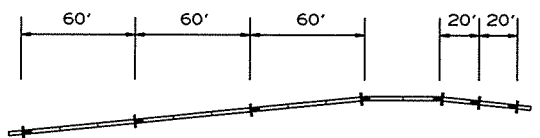
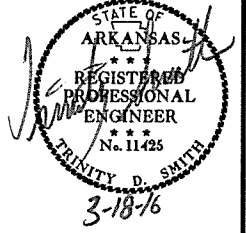


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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| | | | | | | | JOB NO. 070284 | 60 193 |

② MAINTENANCE OF TRAFFIC DETAILS



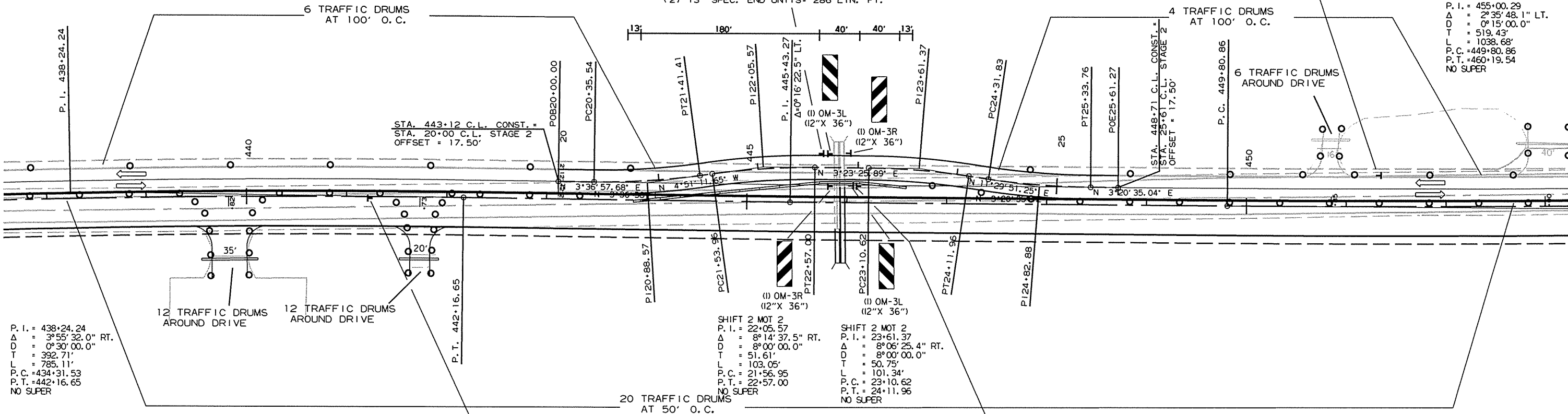
DETAIL OF OM-3 AT PCCB INSTALLATION
 OM-3 RT ON ENTRANCE = 4 EACH
 OM-3 LT ON EXIT = 3 EACH

SHIFT 2 MOT 2
 P.I. = 20+88.57
 Δ = 8°28'09.3" LT.
 D = 8°00'00.0"
 T = 53.03'
 L = 105.87'
 P.C. = 20+35.54
 P.T. = 21+41.41
 NO SUPER

SHIFT 2 MOT 2
 P.I. = 24+82.88
 Δ = 8°09'16.2" LT.
 D = 8°00'00.0"
 T = 51.05'
 L = 101.93'
 P.C. = 24+31.83
 P.T. = 25+33.76
 NO SUPER

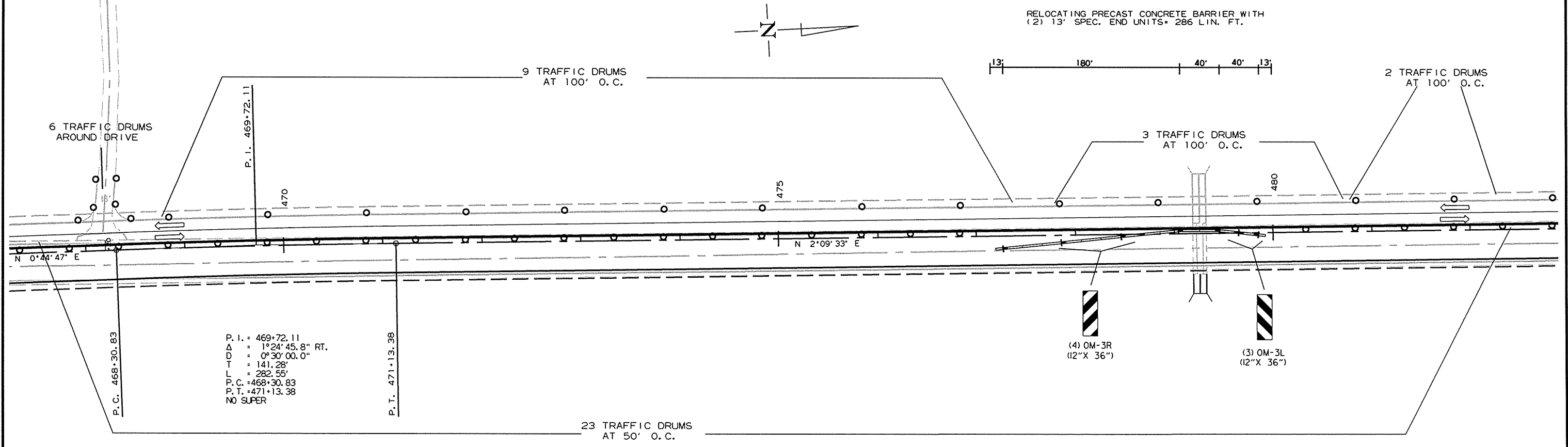
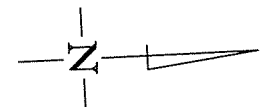
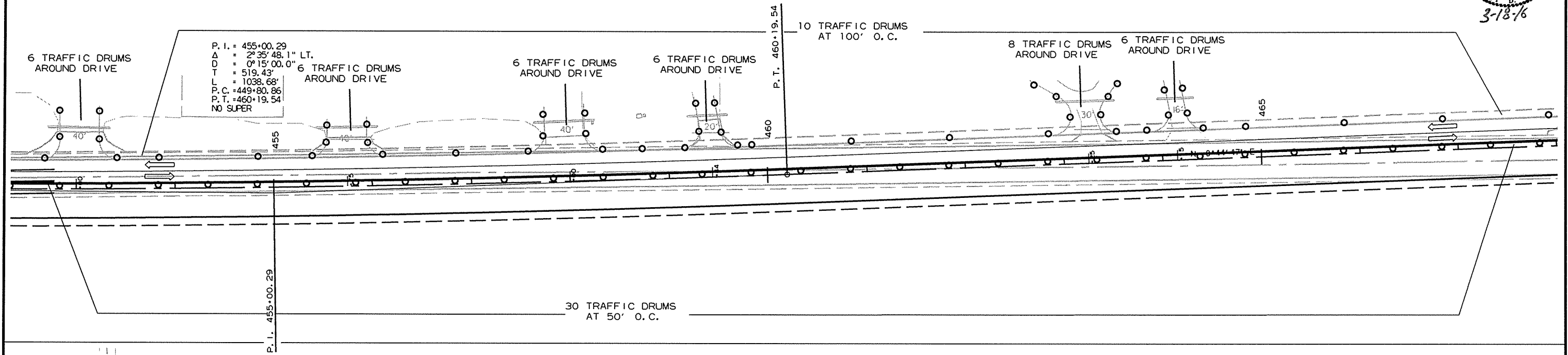
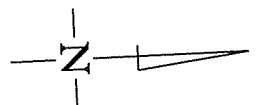
P.I. = 455+00.29
 Δ = 2°35'48.1" LT.
 D = 0°15'00.0"
 T = 519.43'
 L = 1038.68'
 P.C. = 449+80.86
 P.T. = 460+19.54
 NO SUPER

RELOCATING PRECAST CONCRETE BARRIER WITH
 (2) 13' SPEC. END UNITS = 286 LIN. FT.



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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 070284 | 61 | 193 |

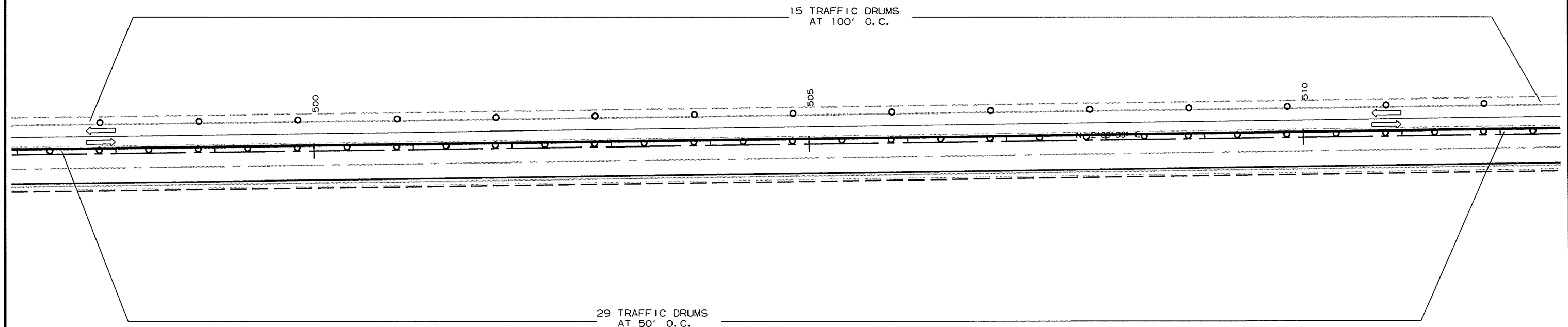
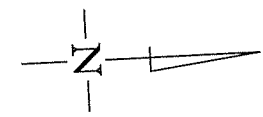
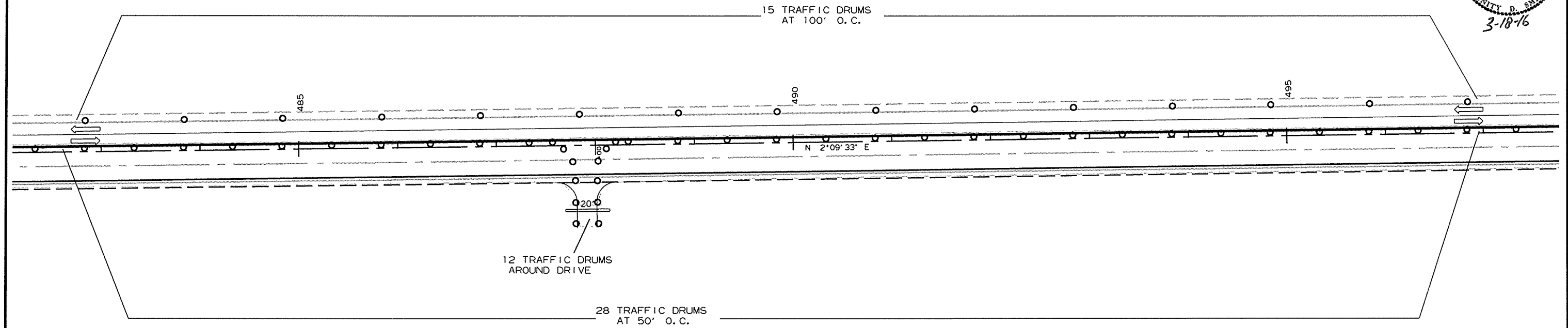
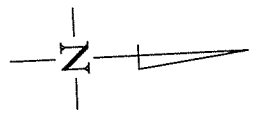
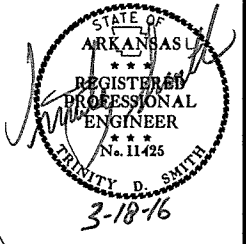
② MAINTENANCE OF TRAFFIC DETAILS



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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | JOB NO. 070284 | 62 | 193 |

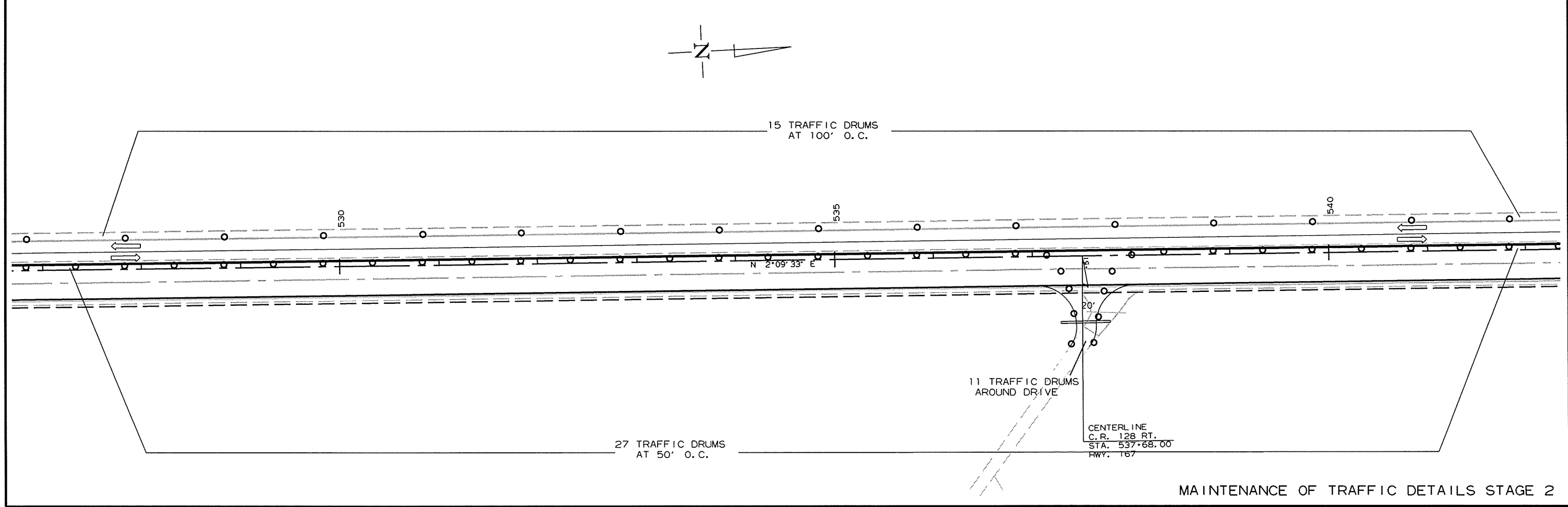
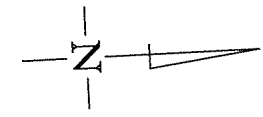
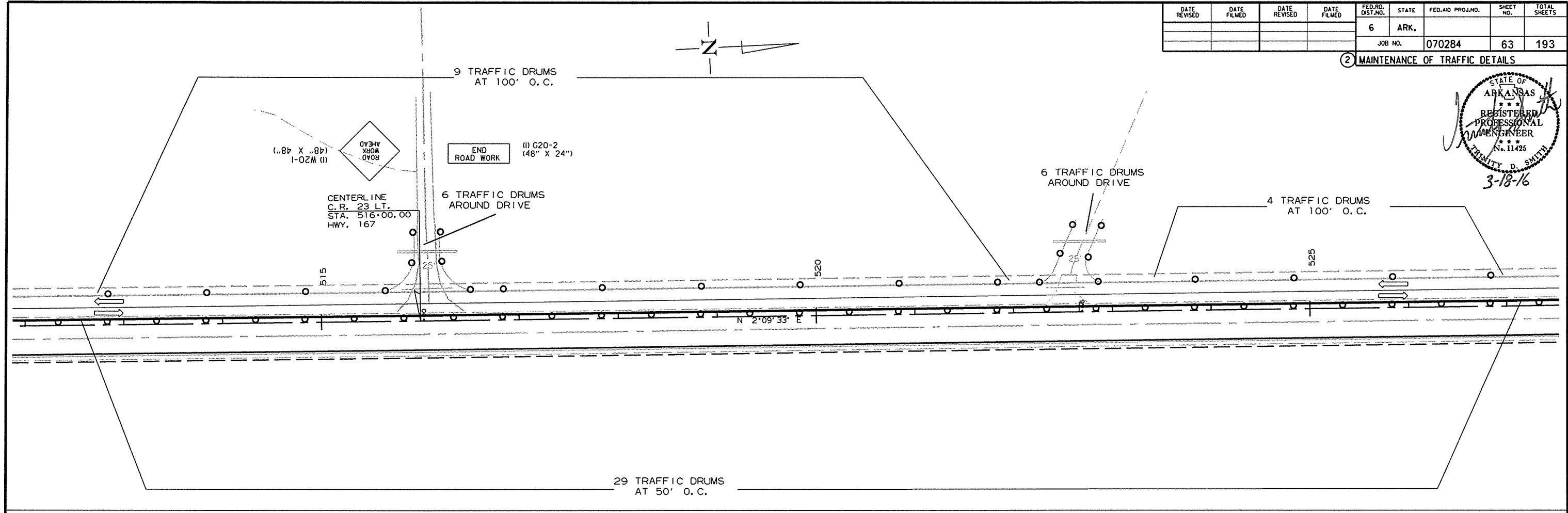
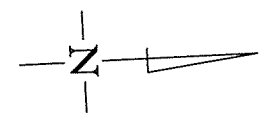
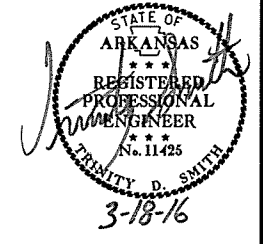
② MAINTENANCE OF TRAFFIC DETAILS



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|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 63 | 193 |

② MAINTENANCE OF TRAFFIC DETAILS

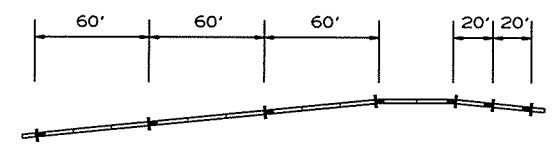
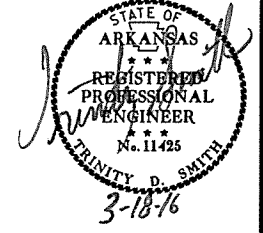


MAINTENANCE OF TRAFFIC DETAILS STAGE 2

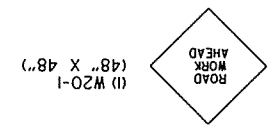
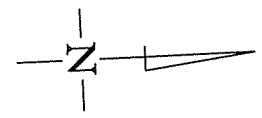
R070284.DGN 2/18/2016

| 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. 070284 | 64 193 |

② MAINTENANCE OF TRAFFIC DETAILS



DETAIL OF OM-3 AT PCCB INSTALLATION
 OM-3 RT ON ENTRANCE = 4 EACH
 OM-3 LT ON EXIT = 3 EACH



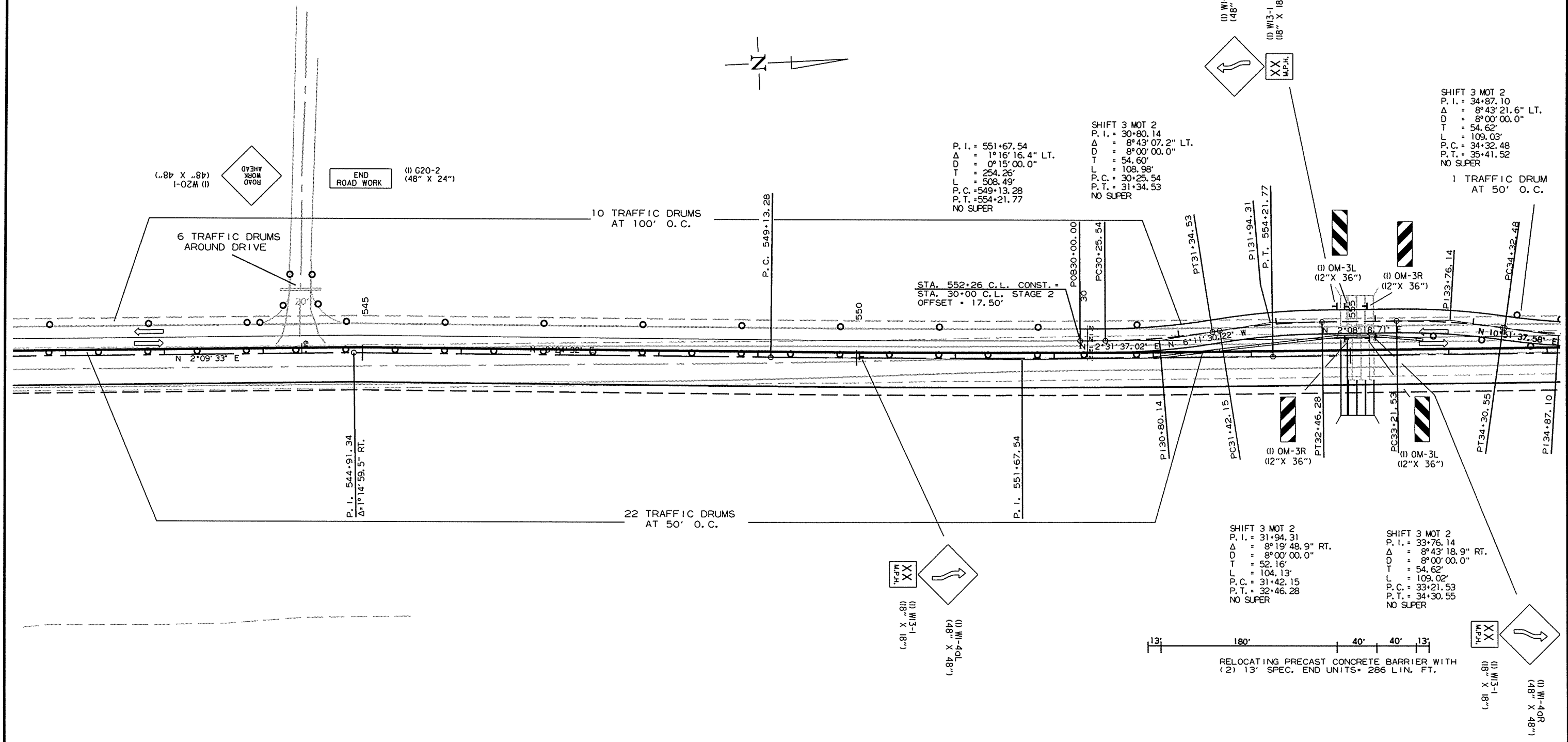
END ROAD WORK

(1) G20-2 (48" X 24")

P. I. = 551+67.54
 Δ = 1° 16' 16.4" LT.
 D = 0° 15' 00.0"
 T = 254.26'
 L = 508.49'
 P.C. = 549+13.28
 P.T. = 554+21.77
 NO SUPER

SHIFT 3 MOT 2
 P. I. = 30+80.14
 Δ = 8° 43' 07.2" LT.
 D = 8° 00' 00.0"
 T = 54.60'
 L = 108.98'
 P.C. = 30+25.54
 P.T. = 31+34.53
 NO SUPER

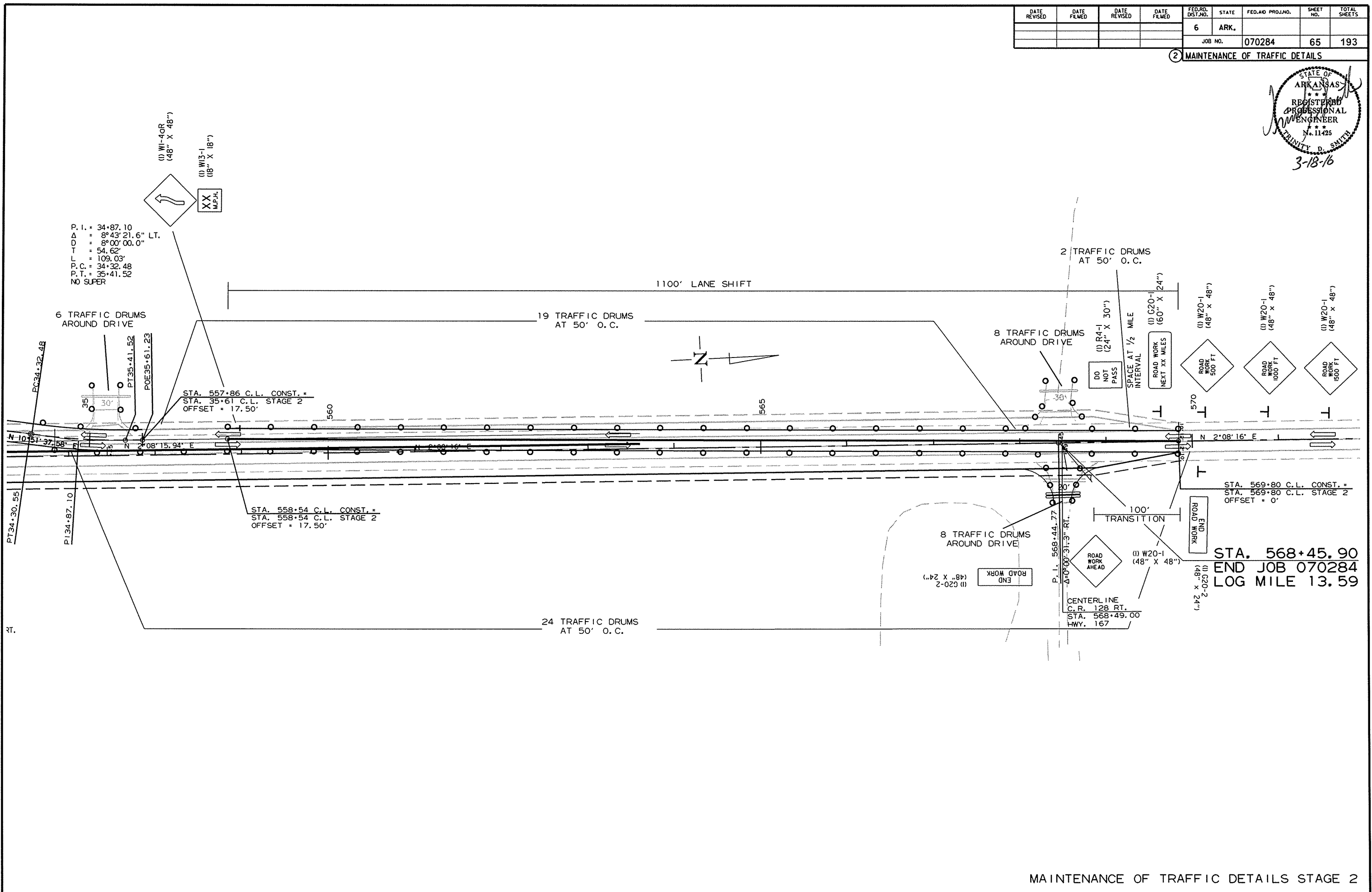
SHIFT 3 MOT 2
 P. I. = 34+87.10
 Δ = 8° 43' 21.6" LT.
 D = 8° 00' 00.0"
 T = 54.62'
 L = 109.03'
 P.C. = 34+32.48
 P.T. = 35+41.52
 NO SUPER
 1 TRAFFIC DRUM AT 50' O.C.



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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 65 | 193 |

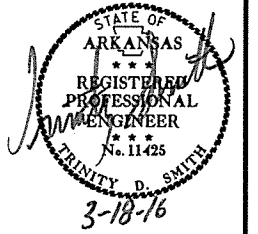
② MAINTENANCE OF TRAFFIC DETAILS



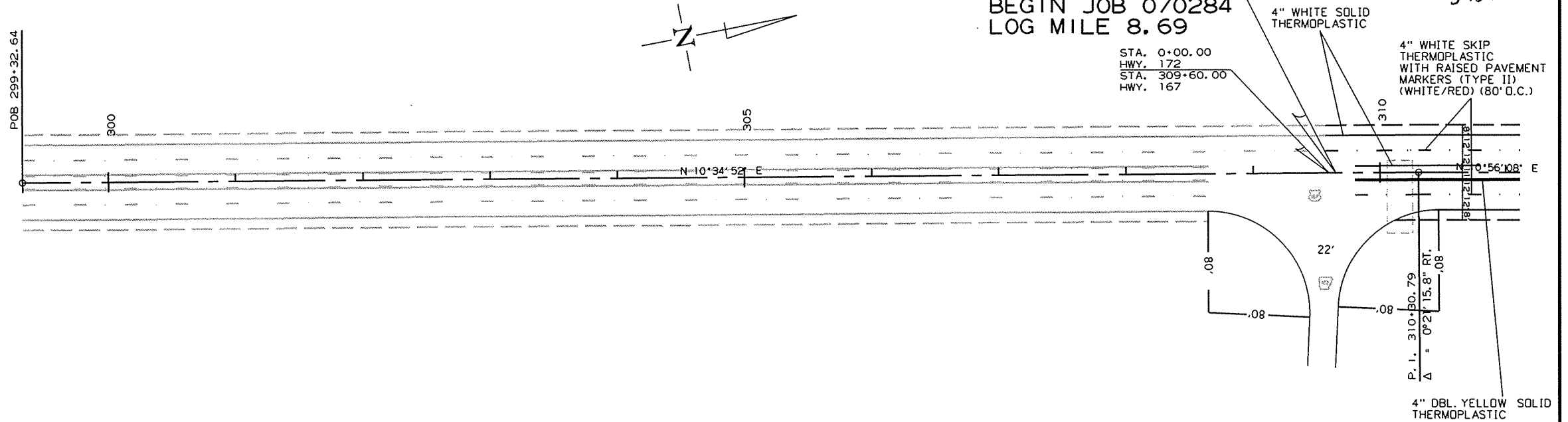
R070284.DGN 3/10/2016

| 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. 070284 | | | | | | | 66 | 193 |

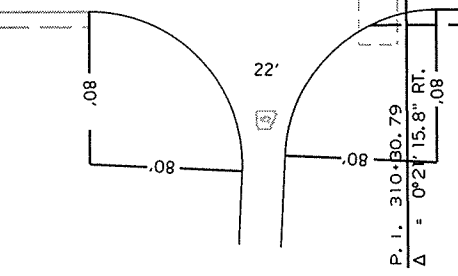
2 PERMANENT PAVEMENT MARKING DETAILS



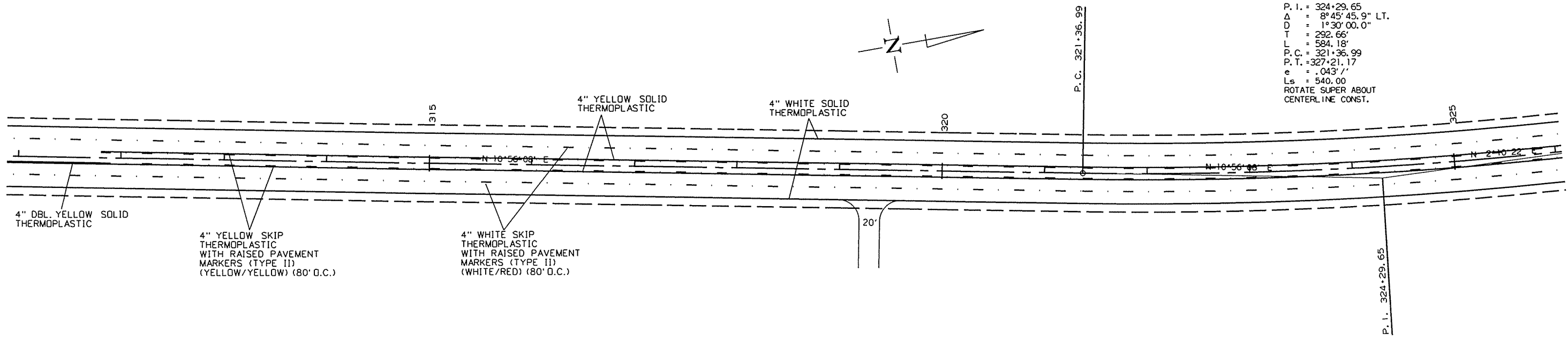
STA. 309+65.00
 END JOB 070283
 BEGIN JOB 070284
 LOG MILE 8.69



STA. 0+00.00
 HWY. 172
 STA. 309+60.00
 HWY. 167



4" DBL. YELLOW SOLID THERMOPLASTIC

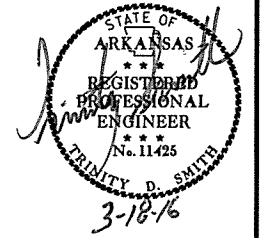


P. I. = 324+29.65
 Δ = 8° 45' 45.9" LT.
 D = 1° 30' 00.0"
 L = 292.66'
 T = 584.18'
 P. C. = 321+36.99
 P. T. = 327+21.17
 e = .043' /'
 Ls = 540.00
 ROTATE SUPER ABOUT CENTERLINE CONST.

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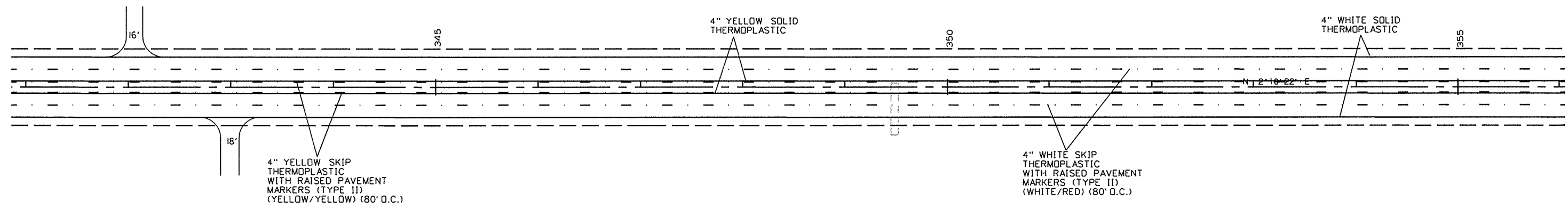
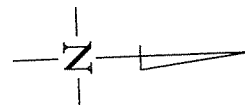
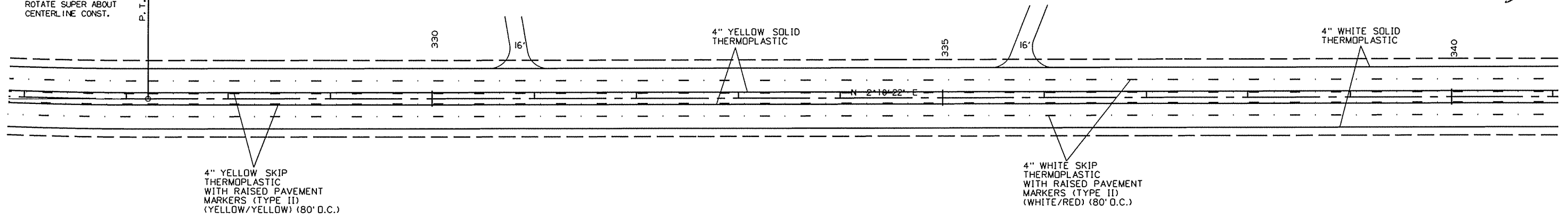
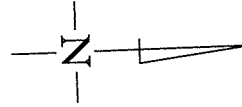
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 67 | 193 |

② PERMANENT PAVEMENT MARKING DETAILS



P. I. = 324+29.65
 Δ = 8°45'45.9" LT.
 D = 1°30'00.0"
 T = 292.66'
 L = 584.18'
 P. C. = 321+36.99
 P. T. = 327+21.17
 e = .043' /'
 Ls = 540.00
 ROTATE SUPER ABOUT
 CENTERLINE CONST.

P. T. = 327+21.17

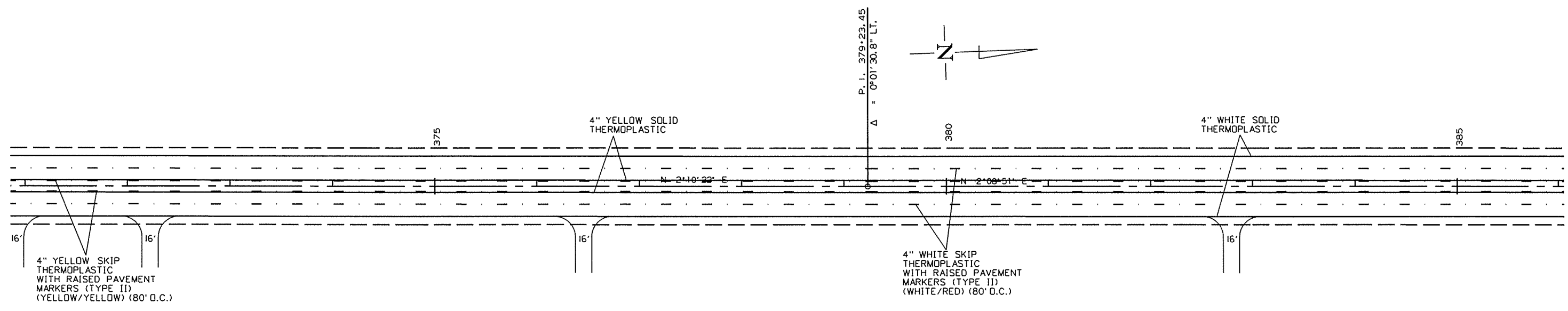
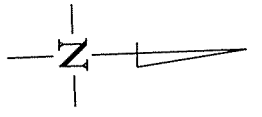
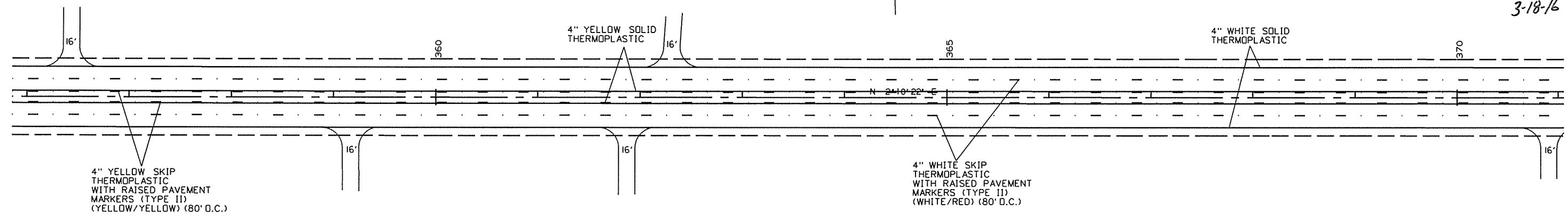
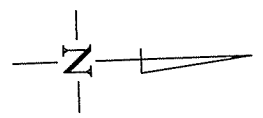
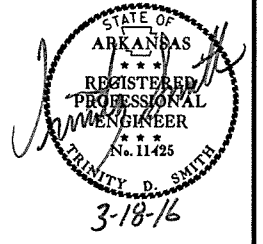


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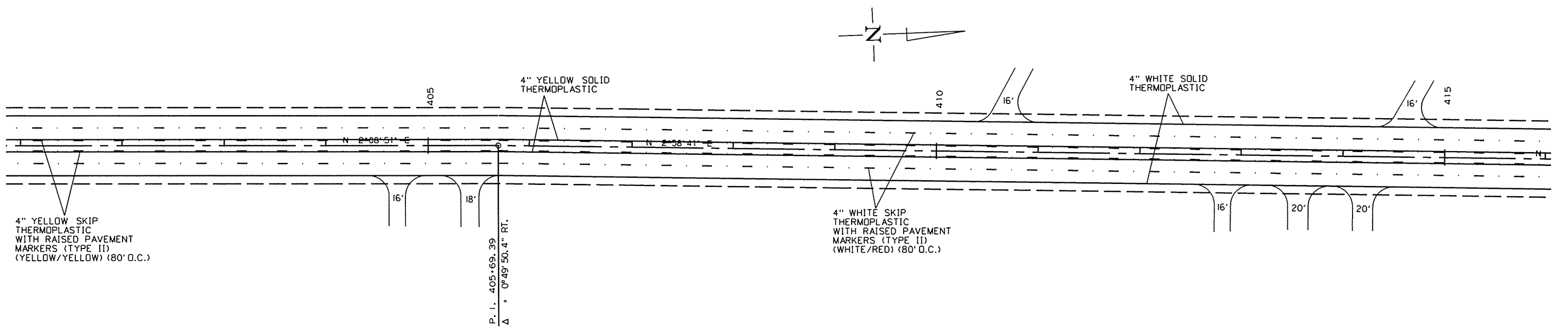
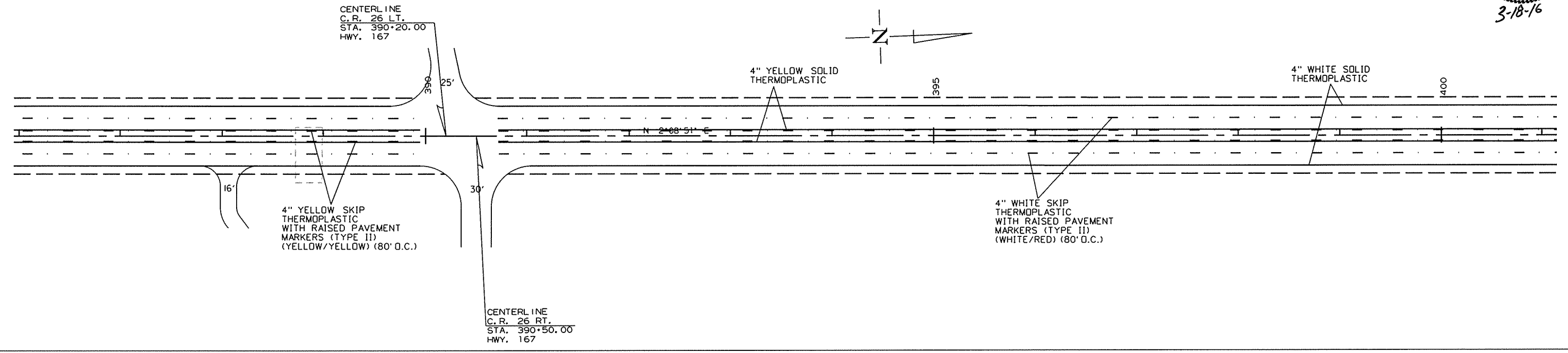
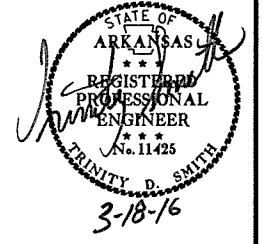
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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 68 | 193 |

② PERMANENT PAVEMENT MARKING 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. 070284 | | | | | | | 69 | 193 |

② PERMANENT PAVEMENT MARKING DETAILS

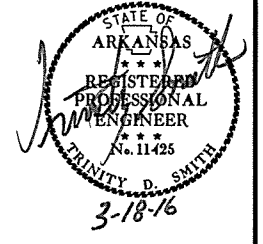


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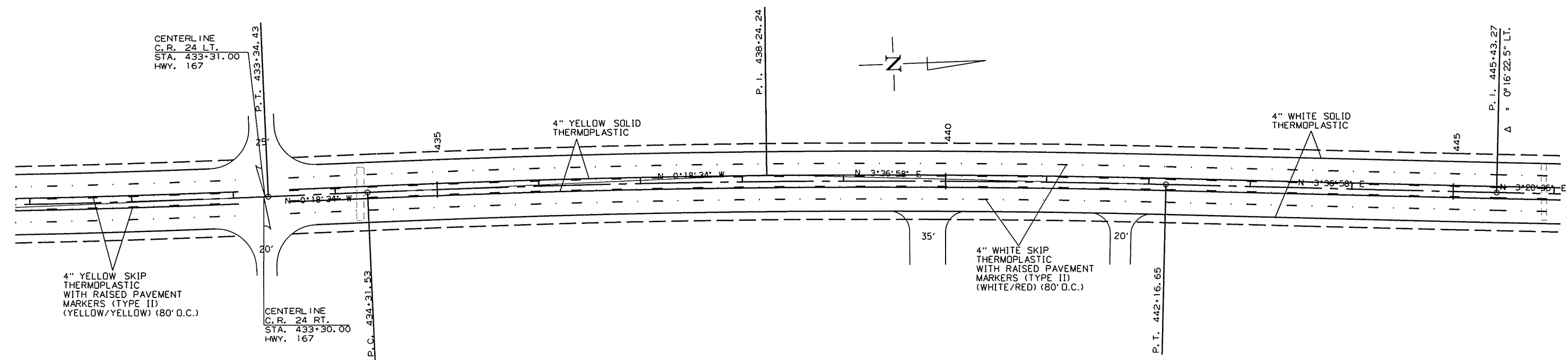
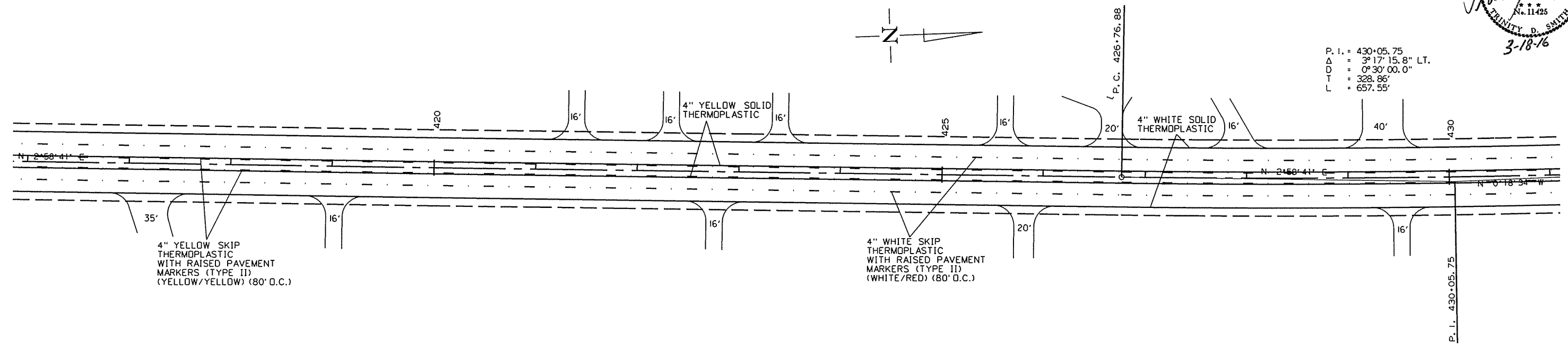
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 70 | 193 |

② PERMANENT PAVEMENT MARKING DETAILS



P. I. = 430+05.75
 Δ = 3° 17' 15.8" LT.
 D = 0° 30' 00.0"
 T = 328.86'
 L = 657.55'



P. I. = 438+24.24
 Δ = 3° 55' 32.0" RT.
 D = 0° 30' 00.0"
 T = 392.71'
 L = 785.11'
 P. C. = 434+31.53
 P. T. = 442+16.65
 NO SUPER

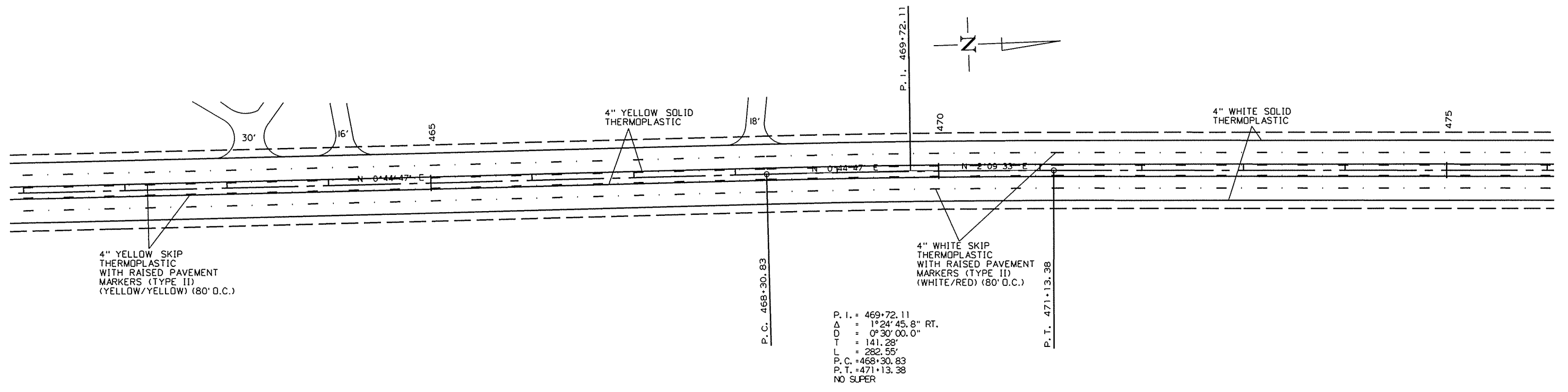
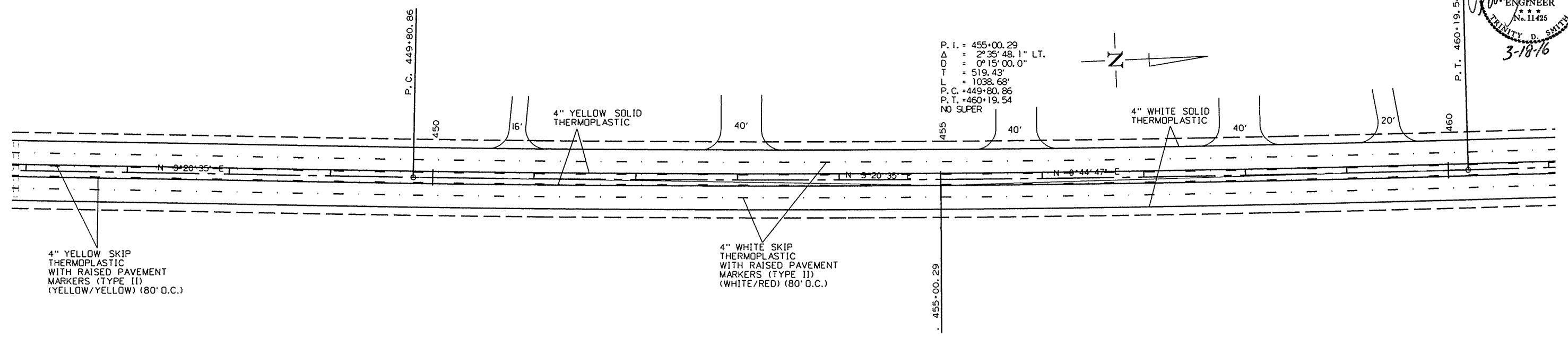
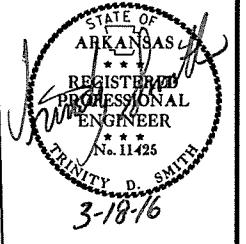
PERMANENT PAVEMENT MARKING DETAILS

2/18/2016

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| 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. | 070284 | | 71 | 193 |

② PERMANENT PAVEMENT MARKING DETAILS



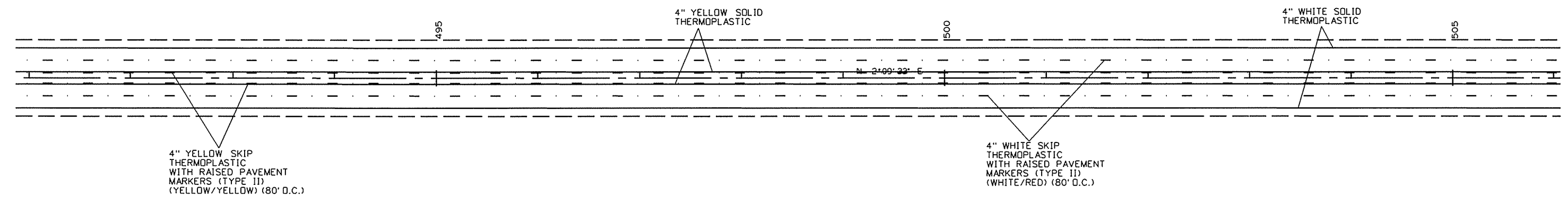
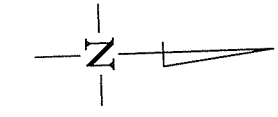
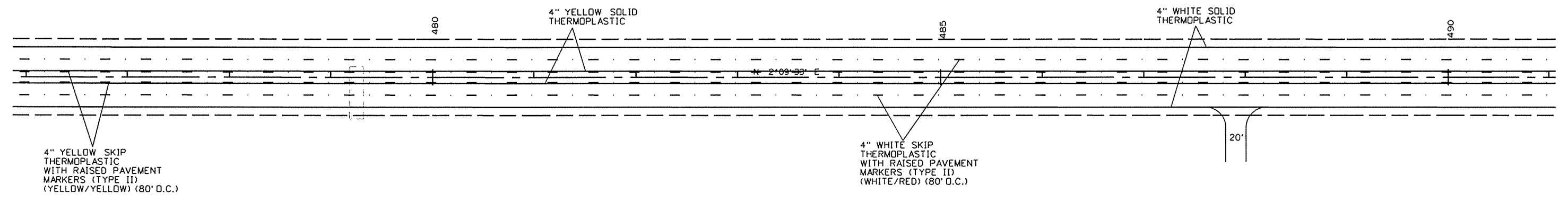
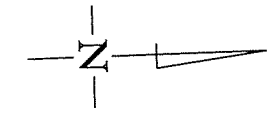
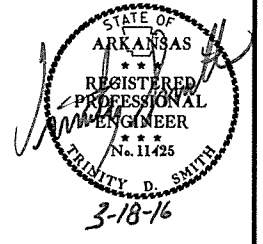
PERMANENT PAVEMENT MARKING DETAILS

2/18/2016

R070284.DGN

| 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. | 070284 | | 72 | 193 |

② PERMANENT PAVEMENT MARKING DETAILS

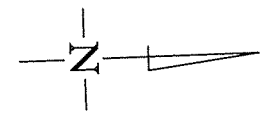


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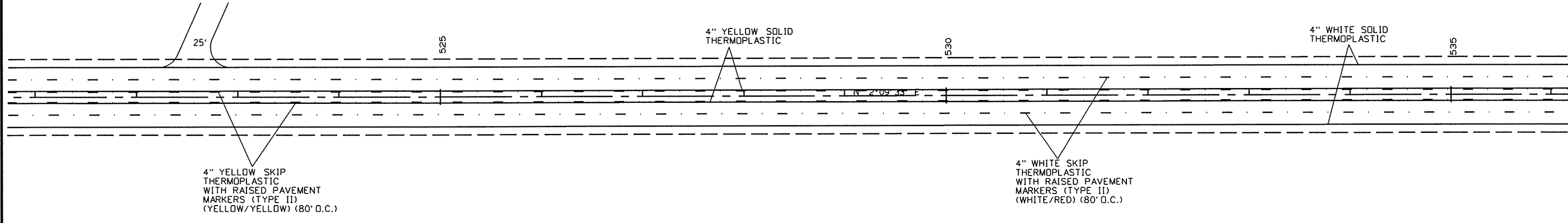
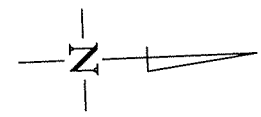
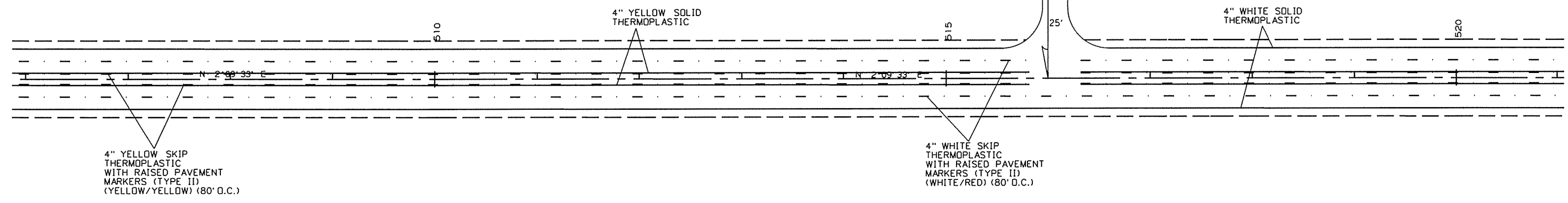
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 73 | 193 |

② PERMANENT PAVEMENT MARKING DETAILS



CENTERLINE
C. R. 23 LT.
STA. 516+00.00
HWY. 167

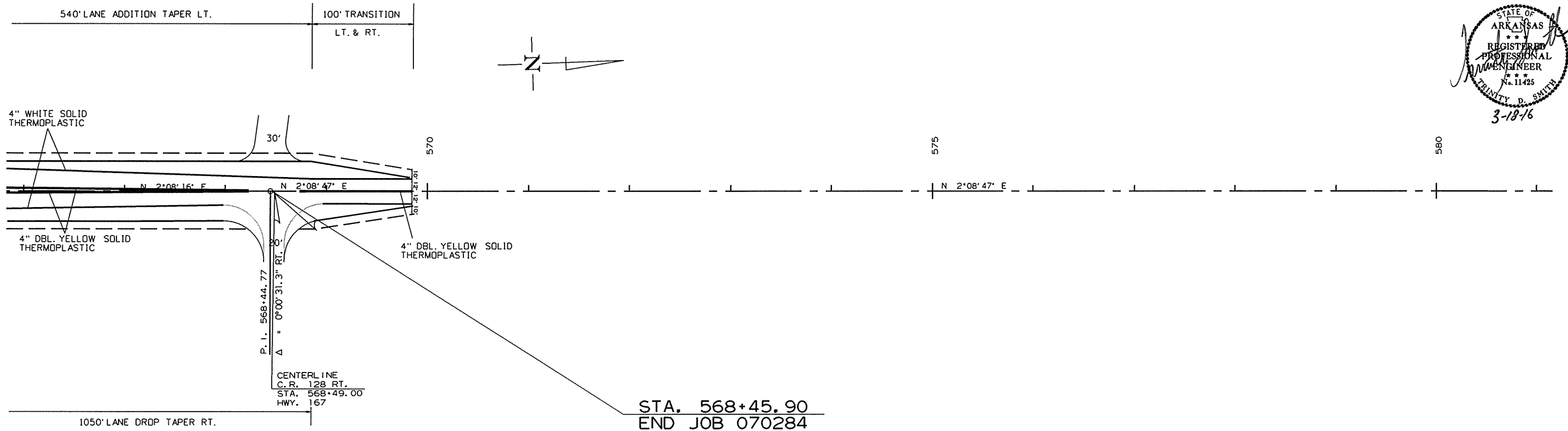
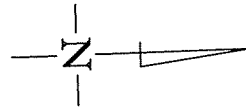


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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 75 | 193 |

② PERMANENT PAVEMENT MARKING DETAILS



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| 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. 070284 | 76 193 |

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

| DESCRIPTION | STAGE 1 | STAGE 2 | END OF JOB | REMOVAL OF PERMANENT PAVEMENT MARKINGS | CONSTRUCTION PAVEMENT MARKINGS | REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS | RAISED PAVEMENT MARKERS | | THERMOPLASTIC PAVEMENT MARKING | | |
|---|---------|---------|------------|--|--------------------------------|---|-------------------------|-------------------|--------------------------------|--------|--|
| | | | | | | | TYPE II (WHITE/RED) | TYPE II (YEL/YEL) | 4" | | |
| | | | | | | | | | WHITE | YELLOW | |
| LIN. FT. - EACH | | | LIN. FT. | | LIN. FT. | | EACH | | LIN. FT. | | |
| REMOVAL OF PERMANENT PAVEMENT MARKINGS | 15521 | 9781 | | 25302 | | | | | | | |
| CONSTRUCTION PAVEMENT MARKINGS | 24158 | 80029 | | | 104187 | | | | | | |
| REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS | | 4326 | | | | 4326 | | | | | |
| RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) | | | 613 | | | | 613 | | | | |
| RAISED PAVEMENT MARKERS TYPE II (YEL/YEL) | 181 | 1302 | 611 | | | | | 2094 | | | |
| THERMOPLASTIC PAVEMENT MARKING WHITE (4") | | 23835 | 39783 | | | | | | 63618 | | |
| THERMOPLASTIC PAVEMENT MARKING YELLOW (4") | | | 65669 | | | | | | | 65669 | |
| TOTALS: | | | | 25302 | 104187 | 4326 | 613 | 2094 | 63618 | 65669 | |

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

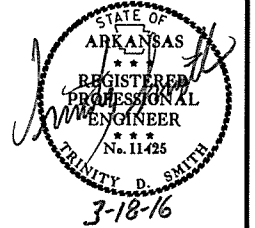
NOTE: THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

QUANTITIES

COLD MILLING ASPHALT PAVEMENT

| STATION | STATION | LOCATION | AVG. WIDTH | COLD MILLING ASPHALT PAVEMENT |
|---------------|-----------|---------------------|------------|-------------------------------|
| | | | FEET | SQ. YD. |
| 568+45.90 | 569+45.90 | MAIN LANES HWY. 167 | 24.00 | 266.67 |
| 00+51.82 | 01+51.82 | MAIN LANES HWY. 172 | 20.00 | 222.22 |
| TOTAL: | | | | 488.89 |

NOTE: AVERAGE MILLING DEPTH 1".



ADVANCE WARNING SIGNS AND DEVICES

| SIGN NUMBER | DESCRIPTION | SIGN SIZE | STAGE 1 | STAGE 2 | MAXIMUM NUMBER REQUIRED | TOTAL SIGNS REQUIRED | | VERTICAL PANELS | TRAFFIC DRUMS | BARRICADES (TYPE III) | | FURNISHING & INSTALLING PRECAST CONC. BARRIER | RELOCATING PRECAST CONCRETE BARRIER | TEMPORARY IMPACT ATTENUATION BARRIER | TEMP. IMPACT ATTEN. BARR. (REPAIR) | |
|----------------|--|-----------|---------|---------|-------------------------|----------------------|---------|-----------------|---------------|-----------------------|-------|---|-------------------------------------|--------------------------------------|------------------------------------|------|
| | | | | | | NO. | SQ. FT. | | | EACH | RIGHT | | | | | LEFT |
| | | | | | | | | | | | | | | | | |
| W20-1 | ROAD WORK 1500 FT. | 48"x48" | 2 | | 2 | 2 | 32.0 | | | | | | | | | |
| W20-1 | ROAD WORK 1000 FT. | 48"x48" | 2 | | 2 | 2 | 32.0 | | | | | | | | | |
| W20-1 | ROAD WORK 500 FT. | 48"x48" | 2 | | 2 | 2 | 32.0 | | | | | | | | | |
| W20-1 | ROAD WORK AHEAD | 48"x48" | 8 | 8 | 8 | 8 | 128.0 | | | | | | | | | |
| W20-4 | ONE LANE ROAD | 48"x48" | 1 | 1 | 1 | 1 | 16.0 | | | | | | | | | |
| G20-2 | END ROAD WORK | 48"x24" | 10 | 10 | 10 | 10 | 80.0 | | | | | | | | | |
| G20-1 | ROAD WORK NEXT xx MILES | 60"x24" | 2 | 2 | 2 | 2 | 20.0 | | | | | | | | | |
| W1-4AR | REVERSE CURVE RT. | 48"x48" | | 6 | 6 | 6 | 96.0 | | | | | | | | | |
| W1-4AL | REVERSE CURVE LT. | 48"x48" | | 6 | 6 | 6 | 96.0 | | | | | | | | | |
| W13-1 | SPEED LIMIT (ADVISORY) | 24"x24" | | 12 | 12 | 12 | 48.0 | | | | | | | | | |
| R11-2 | ROAD CLOSED | 48"x30" | 3 | 4 | 4 | 4 | 40.0 | | | | | | | | | |
| OM-3L | OBJECT MARKER | 12"x36" | 21 | 24 | 24 | 24 | 72.0 | | | | | | | | | |
| OM-3R | OBJECT MARKER | 12"x36" | 28 | 28 | 28 | 28 | 84.0 | | | | | | | | | |
| W1-6 | LARGE ARROW | 48"x24" | | 3 | 3 | 3 | 24.0 | | | | | | | | | |
| R4-1 | DO NOT PASS | 24"x30" | 10 | 10 | 10 | 10 | 50.0 | | | | | | | | | |
| RSP-1 | SHOULDER CLOSED | 48"x30" | 6 | 6 | 6 | 6 | 60.0 | | | | | | | | | |
| | VERTICAL PANELS | | 184 | | 184 | | | 184 | | | | | | | | |
| | TRAFFIC DRUMS | | 364 | 1205 | 1205 | | | | 1205 | | | | | | | |
| | TYPE III BARRICADE-RT. (16') | | 3 | 4 | 4 | | | | | 64 | | | | | | |
| | TYPE III BARRICADE-LT. (16') | | | 1 | 1 | | | | | | 16 | | | | | |
| | FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER | | 1962 | | 1962 | | | | | | 1962 | | | | | |
| | RELOCATING PRECAST CONCRETE BARRIER | | | 1673 | 1673 | | | | | | | 1673 | | | | |
| | TEMPORARY IMPACT ATTENUATION BARRIER | | 2 | 3 | 5 | | | | | | | | 5 | | | |
| | TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) | | 2 | 3 | 5 | | | | | | | | | | 5 | |
| TOTALS: | | | | | | 910.0 | 184 | 1205 | 64 | 16 | 1962 | 1673 | 5 | 5 | | |

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

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

EROSION CONTROL

| STATION | STATION | LOCATION | PERMANENT EROSION CONTROL | | | | | TEMPORARY EROSION CONTROL | | | | | | | | | |
|---|---------|-----------------------|---------------------------|-------|-------------|--------|----------------------------|---------------------------|-------------|-------|-------------------|------------|----------------|--------------------------------|------------------------------|------|-----|
| | | | SEEDING | LIME | MULCH COVER | WATER | SECOND SEEDING APPLICATION | TEMPORARY SEEDING | MULCH COVER | WATER | ROCK DITCH CHECKS | SILT FENCE | SEDIMENT BASIN | OBLITERATION OF SEDIMENT BASIN | *SEDIMENT REMOVAL & DISPOSAL | | |
| | | | | | | | | | | | | | | | | ACRE | TON |
| ENTIRE PROJECT | | CLEARING AND GRUBBING | | | | | | | | | | | | | | | |
| ENTIRE PROJECT | STAGE 1 | | 16.50 | 33.00 | 16.50 | 1683.0 | 16.50 | 16.50 | 336.6 | 81 | 45167 | 6412 | 6412 | 6439 | | | |
| ENTIRE PROJECT | STAGE 2 | | 15.30 | 30.60 | 15.30 | 1560.6 | 15.30 | 15.30 | 312.1 | 60 | | 6637 | 6637 | 6657 | | | |
| *ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. | | | 2.00 | 4.00 | 2.00 | 204.0 | 2.00 | 2.00 | 40.8 | 100 | 1000 | 500 | 500 | 537 | | | |
| TOTALS: | | | 33.80 | 67.60 | 33.80 | 3447.6 | 33.80 | 33.80 | 689.5 | 490 | 46167 | 13549 | 13549 | 15389 | | | |

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
 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.

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

SELECTED PIPE BEDDING

| LOCATION | SELECTED PIPE BEDDING |
|---|-----------------------|
| | CU.YD. |
| ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 200 |
| TOTAL: | 200 |

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

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. PROJ. NO. | STATE | FED. PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------|--------|----------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 77 | 193 |

2 QUANTITIES



| STATION | SIDE | LOCATION | WIDTH FEET | PORTLAND CEMENT CONCRETE DRIVEWAY SQ. YD. | ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22) | | | AGGREGATE BASE COURSE (CLASS 7) TON | SIDE DRAINS LIN. FT. | | | | STANDARD DRAWINGS |
|---------------------------------|------|------------------------|---------------|--|--|---------|--------|--|-------------------------|-----|-----|----------------------------|-------------------|
| | | | | | SQ. YD. | TON | TON | | 18" | 24" | 30" | 36" | |
| 319+30 | RT. | DRIVEWAY | 20 | | 134.51 | 14.80 | 54.92 | | | | 48 | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 330+82 | LT. | DRIVEWAY | 16 | | 81.62 | 8.98 | 33.33 | 32 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 335+85 | LT. | DRIVEWAY | 16 | | 104.73 | 11.52 | 42.76 | 48 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 342+07 | LT. | DRIVEWAY | 16 | | 78.06 | 8.59 | 31.87 | 30 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 343+00 | RT. | DRIVEWAY | 18 | | 101.40 | 11.15 | 41.41 | 30 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 356+44 | LT. | DRIVEWAY | 16 | | 92.29 | 10.15 | 37.69 | | 40 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 359+18 | RT. | DRIVEWAY | 16 | | 99.40 | 10.93 | 40.59 | | 44 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 361+87 | RT. | DRIVEWAY | 16 | | 108.29 | 11.91 | 44.22 | | 52 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 362+32 | LT. | DRIVEWAY | 16 | | 81.62 | 8.98 | 33.33 | | 28 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 370+95 | RT. | DRIVEWAY | 16 | | 79.84 | 8.78 | 32.60 | | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 372+22 | RT. | DRIVEWAY | 16 | | 79.84 | 8.78 | 32.60 | 32 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 376+45 | RT. | DRIVEWAY | 16 | | 86.95 | 9.56 | 35.50 | 32 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 382+84 | RT. | DRIVEWAY | 16 | | 86.95 | 9.56 | 35.50 | | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 388+00 | RT. | DRIVEWAY | 16 | | 104.73 | 11.52 | 42.76 | | 32 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 390+20 | LT. | CALHOUN COUNTY RD. 26 | 25 | | 173.02 | 19.03 | 70.65 | | | | 48 | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 390+50 | RT. | CALHOUN COUNTY RD. 26 | 30 | | 220.78 | 24.29 | 90.15 | | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 404+70 | RT. | DRIVEWAY | 16 | | 78.06 | 8.59 | 31.87 | | 28 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 405+41 | RT. | DRIVEWAY | 18 | | 89.40 | 9.83 | 36.51 | | 30 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 410+75 | LT. | DRIVEWAY | 16 | | 92.29 | 10.15 | 37.69 | 38 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 412+82 | RT. | DRIVEWAY | 16 | | 70.95 | 7.80 | 28.97 | 28 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 413+56 | RT. | DRIVEWAY | 20 | 83.40 | | | | 28 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 414+23 | RT. | DRIVEWAY | 20 | 83.40 | | | | | | | | | |
| 414+65 | LT. | DRIVEWAY | 16 | | 79.84 | 8.78 | 32.60 | | | | | | |
| 417+20 | RT. | DRIVEWAY | 35 | | 143.35 | 15.77 | 58.53 | 42 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 419+00 | RT. | DRIVEWAY | 16 | 81.62 | | | | 32 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 421+40 | LT. | DRIVEWAY | 16 | | 76.29 | 8.39 | 31.15 | 32 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 422+23 | LT. | DRIVEWAY | 16 | | 76.29 | 8.39 | 31.15 | | | | | | |
| 422+79 | RT. | DRIVEWAY | 16 | | 74.51 | 8.20 | 30.42 | | | | | | |
| 423+40 | LT. | DRIVEWAY | 16 | | 79.84 | 8.78 | 32.60 | 32 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 425+62 | LT. | DRIVEWAY | 16 | | 78.06 | 8.59 | 31.87 | 32 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 425+82 | RT. | DRIVEWAY | 20 | | 101.18 | 11.13 | 41.32 | | 38 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 426+88 | LT. | DRIVEWAY | 20 | | 139.74 | 15.37 | 57.06 | 38 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 427+84 | LT. | DRIVEWAY | 16 | | 85.17 | 9.37 | 34.78 | 34 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 429+34 | LT. | DRIVEWAY | 40 | | 181.12 | 19.92 | 73.96 | 54 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 429+53 | RT. | DRIVEWAY | 16 | | 76.29 | 8.39 | 31.15 | | 28 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 433+30 | RT. | CALHOUN COUNTY RD. 24 | 20 | | 123.04 | 13.53 | 50.24 | | | 38 | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 433+31 | LT. | CALHOUN COUNTY RD. 24 | 25 | | 153.58 | 16.89 | 62.71 | | | | 46 | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 439+82 | RT. | DRIVEWAY | 35 | 178.35 | | | | | 50 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 441+73 | RT. | DRIVEWAY | 20 | | 96.74 | 10.64 | 39.50 | | 30 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 450+85 | LT. | DRIVEWAY | 16 | | 81.62 | 8.98 | 33.33 | | 34 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 453+00 | LT. | DRIVEWAY | 40 | | 207.79 | 22.86 | 84.85 | 54 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 455+75 | LT. | DRIVEWAY | 40 | | 145.57 | 16.01 | 59.44 | 54 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 458+00 | LT. | DRIVEWAY | 40 | | 185.57 | 20.41 | 75.77 | 58 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 459+44 | LT. | DRIVEWAY | 20 | | 105.63 | 11.62 | 43.13 | 38 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 463+25 | LT. | DRIVEWAY | 30 | | 215.36 | 23.69 | 87.94 | 62 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 464+15 | LT. | DRIVEWAY | 16 | | 83.40 | 9.17 | 34.06 | 34 | | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 468+20 | LT. | DRIVEWAY | 18 | | 83.40 | 9.17 | 34.06 | | | | | | |
| 488+00 | RT. | DRIVEWAY | 20 | | 87.85 | 9.66 | 35.87 | | | 38 | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 516+00 | LT. | CALHOUN COUNTY RD. 23 | 25 | | 186.91 | 20.56 | 76.32 | | 66 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 522+66 | LT. | DRIVEWAY | 25 | | 175.60 | 19.32 | 71.70 | | 50 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 537+51 | RT. | CALHOUN COUNTY RD. 128 | 20 | | 165.26 | 18.18 | 67.48 | | 50 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 544+39 | LT. | DRIVEWAY | 20 | | 136.37 | 15.00 | 55.68 | | 42 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 557+45 | LT. | DRIVEWAY | 30 | | 133.36 | 14.67 | 54.46 | | 52 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 568+45 | LT. | DRIVEWAY | 30 | | 133.36 | 14.67 | 54.46 | | 40 | | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| 568+49 | RT. | CALHOUN COUNTY RD. 128 | 20 | | 109.70 | 12.07 | 44.79 | | | 76 | | PCC-1, PCM-1, PCP-1, PCP-2 | |
| ENTIRE PROJECT TEMPORARY DRIVES | | | | | | | 200.00 | | | | | | |
| TOTALS: | | | | | 426.77 | 5846.52 | 643.08 | 2587.30 | 894 | 734 | 152 | 142 | |

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
 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.

| EROSION CONTROL MATTING | | | | |
|--|-----------|--------------------|--------------------|--------------------|
| STATION | STATION | LOCATION | LENGTH LIN. FT. | CLASS 3 SQ. YD. |
| 403+00.00 | 413+00.00 | HWY. 167 LT. DITCH | 1000.00 | 888.89 |
| ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER | | | 200.00 | 177.78 |
| TOTAL: | | | | 1066.67 |

NOTE: AVERAGE WIDTH = 8'-0"

| ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC | | |
|---|-----|---------------------|
| LOCATION | TON | TACK COAT GALLON |
| ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 125 | 250 |
| TOTALS: | 125 | 250 |

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

| MAILBOXES | | | |
|----------------|-----------|------------------|----------|
| LOCATION | MAILBOXES | MAILBOX SUPPORTS | |
| | | (SINGLE) | (DOUBLE) |
| ENTIRE PROJECT | 13 | 7 | 3 |
| TOTALS: | 13 | 7 | 3 |

| REMOVAL AND DISPOSAL OF FENCE | | | | |
|-------------------------------|---------|--------------|-------------------|---------------|
| STATION | STATION | LOCATION | FENCE LIN. FT. | GATES EACH |
| 326+49 | 331+00 | HWY. 167 LT. | 425 | 2 |
| 361+81 | 367+00 | HWY. 167 RT. | 360 | |
| 362+29 | | HWY. 167 LT. | | 1 |
| 367+20 | 367+38 | HWY. 167 LT. | | 1 |
| 372+00 | 372+08 | HWY. 167 RT. | 8 | |
| 372+14 | 372+30 | HWY. 167 RT. | | 2 |
| 372+33 | 372+41 | HWY. 167 RT. | 8 | |
| 430+43 | 430+65 | HWY. 167 RT. | 40 | |
| 509+07 | 511+90 | HWY. 167 LT. | 312 | |
| 556+36 | 558+64 | HWY. 167 LT. | 218 | |
| TOTALS: | | | 1371 | 6 |

| RUMBLE STRIPS IN ASPHALT SHOULDERS | | | |
|------------------------------------|---------|--------------|--|
| STATION | STATION | LOCATION | * RUMBLE STRIPS IN ASPHALT SHOULDERS LIN. FT. |
| 309+65 | 568+05 | HWY. 167 LT. | 23548 |
| 310+56 | 567+94 | HWY. 167 RT. | 23990 |
| TOTAL: | | | 47538 |

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

| CLEARING AND GRUBBING | | | | |
|-----------------------|---------|---------------------|---------------------|---------------------|
| STATION | STATION | LOCATION | CLEARING STATION | GRUBBING STATION |
| 309+65 | 420+00 | HWY. 167 MAIN LANES | 111 | 111 |
| 421+00 | 544+00 | HWY. 167 MAIN LANES | 123 | 123 |
| 551+00 | 557+00 | HWY. 167 MAIN LANES | 6 | 6 |
| 559+00 | 569+00 | HWY. 167 MAIN LANES | 10 | 10 |
| TOTALS: | | | 250 | 250 |

| BENCH MARKS | | |
|-------------|----------------------------------|---------------------|
| STATION | LOCATION | BENCH MARKS EACH |
| 310+11 | LT. HEADWALL OF R.C. BOX CULVERT | 1 |
| 349+48 | RT. HEADWALL OF R.C. BOX CULVERT | 1 |
| 388+86 | LT. HEADWALL OF R.C. BOX CULVERT | 1 |
| 390+50 | RT. HEADWALL OF R.C. BOX CULVERT | 1 |
| 434+24 | RT. HEADWALL OF R.C. BOX CULVERT | 1 |
| 445+91 | LT. HEADWALL OF R.C. BOX CULVERT | 1 |
| 479+26 | RT. HEADWALL OF R.C. BOX CULVERT | 1 |
| 555+10 | LT. HEADWALL OF R.C. BOX CULVERT | 1 |
| TOTAL: | | 8 |

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

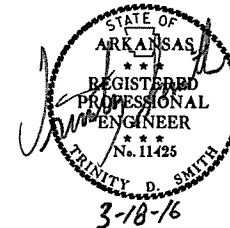
2/18/2016 R070284.DGN

REMOVAL AND DISPOSAL OF ITEMS

| STATION | STATION | LOCATION | CONCRETE DRIVEWAYS | CONCRETE SLABS | CONCRETE PARKING AREA | WALKS | CANOPY | GATE POSTS | BRICK COLUMNS | OVERHEAD SIGN STRUCTURE | SIGNS | SIGN FOUNDATIONS | LUMINAIRE POLE & FOUNDATION |
|---------|---------|--------------|--------------------|----------------|-----------------------|---------|--------|------------|---------------|-------------------------|-------|------------------|-----------------------------|
| | | | SQ. YD. | SQ. YD. | SQ. YD. | SQ. YD. | EACH | EACH | EACH | EACH | EACH | EACH | EACH |
| 310+04 | | HWY. 167 RT. | | | | | | | | | 3 | | |
| 330+70 | 331+00 | HWY. 167 LT. | | | | | | 2 | | | | | |
| 361+81 | 367+00 | HWY. 167 RT. | | | | | | 2 | | | | | |
| 367+20 | 367+38 | HWY. 167 LT. | | | | | | 2 | | | | | |
| 372+08 | 372+30 | HWY. 167 RT. | | | | | | | 2 | 1 | | | |
| 389+80 | | HWY. 167 LT. | | | | | | | | | 1 | 1 | |
| 413+37 | 414+52 | HWY. 167 RT. | 304 | | | | | | | | | | |
| 413+86 | | HWY. 167 RT. | | | | | | | | | 1 | 1 | |
| 417+90 | | HWY. 167 RT. | | | | 6 | | | | | | | |
| 419+02 | | HWY. 167 RT. | 37 | | | | | | | | | | |
| 424+91 | | HWY. 167 RT. | | | | | | | | | 1 | 7 | |
| 439+20 | | HWY. 167 RT. | | | | | | | | | 1 | 2 | |
| 439+84 | | HWY. 167 RT. | 215 | | | | | | | | | | |
| 454+07 | 454+82 | HWY. 167 LT. | | | 27 | | | | | | | | |
| 454+40 | | HWY. 167 LT. | | | | | | | | | 1 | 3 | |
| 454+18 | | HWY. 167 LT. | | | | | 1 | | | | | | |
| 454+38 | | HWY. 167 LT. | | | | | | | | | 1 | | |
| 454+50 | | HWY. 167 LT. | | | | | | | | | 1 | | |
| 457+60 | | HWY. 167 LT. | | | | | | | | | | | 1 |
| 462+00 | | HWY. 167 LT. | | 16 | | | | | | | 1 | 1 | |
| 468+80 | | HWY. 167 LT. | | | | | | | | | 1 | 2 | |
| 516+34 | | HWY. 167 LT. | | | | | | | | | 1 | 1 | |
| 525+78 | | HWY. 167 RT. | | | | | | | | | 1 | 1 | |
| 533+64 | | HWY. 167 RT. | | | | | | | | | 1 | 1 | |
| 543+91 | | HWY. 167 LT. | | | | | | | | | 1 | 2 | |
| 562+68 | | HWY. 167 RT. | | | | | | | | | 1 | 1 | |
| 562+99 | | HWY. 167 RT. | | | | | | | | | 1 | 1 | |
| TOTALS: | | | 556 | 16 | 27 | 6 | 1 | 6 | 2 | 1 | 17 | 23 | 1 |

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. RD. PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|----------------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | | JOB NO. 070284 | 78 193 |

2 QUANTITIES



EARTHWORK

| STATION | STATION | LOCATION / DESCRIPTION | UNCLASSIFIED EXCAVATION | COMPACTED EMBANKMENT | | *GEOTEXTILE FABRIC (TYPE 10) SQ. YD. | *SOIL STABILIZATION TON |
|----------------|---------|--|-------------------------|----------------------|-------|--------------------------------------|-------------------------|
| | | | | NORM. | *SM-1 | | |
| ENTIRE PROJECT | | STAGE 1-MAIN LANES | 32051 | 76773 | | | |
| ENTIRE PROJECT | | STAGE 1-(TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER) | 12671 | | 37859 | 50374 | 1000 |
| ENTIRE PROJECT | | STAGE 2-MAIN LANES | 29108 | 21962 | | | 1000 |
| ENTIRE PROJECT | | STAGE 2-(TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER) | 13182 | | 20731 | 15348 | |
| ENTIRE PROJECT | | APPROACHES | | 4340 | | | |
| 310+11 | | CHANNEL CHANGE | 99 | | | | |
| 349+48 | | CHANNEL CHANGE | 62 | | | | |
| 388+86 | | CHANNEL CHANGE | 89 | | | | |
| 434+24 | | CHANNEL CHANGE | 294 | | | | |
| 445+91 | | CHANNEL CHANGE | 239 | | | | |
| 479+26 | | CHANNEL CHANGE | 92 | | | | |
| 555+10 | | CHANNEL CHANGE | 371 | | | | |
| TOTALS: | | | 88458 | 103075 | 58590 | 65722 | 2000 |

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

STRUCTURES

| STATION | DESCRIPTION | REINFORCED CONCRETE PIPE (CLASS III) | | FLARED END SECTIONS FOR R.C. PIPE CULVERTS | | TEMPORARY CULVERT | SPAN | HEIGHT | LENGTH | CLASS 5 CONCRETE ROADWAY | REINF. STEEL ROADWAY (GRADE 60) | UNCL. EXC. FOR STR. ROADWAY | SOLID SODDING | WATER | STD. DWG. NOS. |
|------------------------------|---|--------------------------------------|---------|--|----------|-------------------|------|--------|--------|--------------------------|---------------------------------|-----------------------------|---------------|-------|---|
| | | 48" | 29"X18" | 48" | 29"X18" | | | | | | | | | | |
| | | LIN. FT. | EACH | LIN. FT. | LIN. FT. | | | | | | | | | | |
| 309+60 | CONSTRUCT DBL. R.C. PIPE CULVERT W/FES LT. & RT. | | | 6 | | | | | | | | | | | FES-1, FES-2, PCC-1 |
| 349+48 | EXTEND R.C. BOX CULVERT 57' LT. & 14' RT. W/3:1 WINGS LT. & RT. | | | | | | 6 | 3 | 72 | 41.91 | 5305 | 26 | 12 | 0.15 | R-100X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| 381+45 | CONSTRUCT R.C. ARCH PIPE CULVERT W/FES LT. & RT. | 234 | | | 4 | | | | | | | | | | FES-1, FES-2, PCC-1 |
| 419+25 | CONSTRUCT ARCH R.C. PIPE CULVERT W/FES LT. & RT. | 114 | | | 2 | | | | | | | | | | FES-1, FES-2, PCC-1 |
| 434+24 | EXTEND R.C. BOX CULVERT 36' LT. & 33' RT. W/3:1 WINGS LT. & RT. | | | | | | 6 | 3 | 73 | 41.02 | 5172 | 26 | 12 | 0.15 | R-100X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| 434+24 | CONSTRUCT R.C. BOX CULVERT W/3:1 WINGS LT. & RT. | | | | | | 6 | 3 | 121 | 56.82 | 8190 | 37 | 12 | 0.15 | R-100X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| 445+91 | EXTEND R.C. BOX CULVERT 31' LT. & 34' RT. W/3:1 WINGS LT. & RT. | | | | | | 4 | 2 | 69 | 25.09 | 3073 | 19 | 9 | 0.11 | R-200X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| 445+91 | CONSTRUCT R.C. BOX CULVERT W/3:1 WINGS LT. & RT. | | | | | | 4 | 2 | 121 | 36.00 | 5123 | 28 | 9 | 0.11 | R-200X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| 479+26 | EXTEND R.C. BOX CULVERT 50' LT. & 20' RT. W/3:1 WINGS LT. & RT. | | | | | | 6 | 3 | 74 | 71.86 | 11500 | 39 | 15 | 0.19 | R-100X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| ENTIRE PROJECT | TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | | | | | 200 | | | | | | | | | |
| SUBTOTALS: | | 201 | 348 | 6 | 6 | 200 | | | | 272.70 | 38363 | 175 | 69 | 0.86 | |
| STRUCTURES OVER 20' -0" SPAN | | | | | | | | | | | | | | | |
| 310+11 | EXTEND TRI R.C. BOX CULVERT 51' LT. & 13' RT. W/3:1 WINGS LT. & RT. | | | | | | 6 | 3 | 64 | 93.59 | 16771 | 46 | 18 | 0.23 | R-300X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| 388+86 | EXTEND TRI R.C. BOX CULVERT 52' LT. & 14' RT. W/3:1 WINGS LT. & RT. | | | | | | 8 | 3 | 71 | 164.59 | 16123 | 69 | 21 | 0.26 | SPECIAL DETAILS |
| 390+50 | CONSTRUCT QUAD. R.C. BOX CULVERT SIDE DRAIN W/3:1 WINGS LT. & RT. | | | | | | 6 | 3 | 55 | 124.69 | 16723 | 49 | 22 | 0.28 | SPECIAL DETAILS |
| 555+10 | EXTEND TRI R.C. BOX CULVERT 29' LT. & 36' RT. W/3:1 WINGS LT. & RT. | | | | | | 8 | 3 | 69 | 160.54 | 16246 | 67 | 21 | 0.26 | SPECIAL DETAILS |
| 555+10 | CONSTRUCT R.C. BOX CULVERT W/3:1 WINGS LT. & RT. | | | | | | 6 | 3 | 121 | 56.82 | 8190 | 37 | 24 | 0.30 | R-100X-0, W-X003-1, RCB-1, RCB-2, RCB-3 |
| SUBTOTALS: | | | | | | | | | | 600.23 | 74053 | 268 | 106 | 1.33 | |
| TOTALS: | | 201 | 348 | 6 | 6 | 200 | | | | 872.93 | 112416 | 443 | 175 | 2.19 | |

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: LENGTHS FOR EXTENDING R.C. BOX CULVERTS INCLUDE BREAKBACK DISTANCE.

FLOWABLE SELECT MATERIAL

| STATION | LOCATION | CU. YD. |
|------------|---------------------------------------|---------|
| ENTIRE JOB | IF AND WHERE DIRECTED BY THE ENGINEER | 6 |
| TOTAL: | | 6 |

BASE AND SURFACING

| STATION | STATION | LOCATION | LENGTH FEET | 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 | AVG. WID. FEET | SQ. YD. | GALLONS / SQ. YD. | GALLON | AVG. WID. FEET | SQ. YD. | POUND / SQ. YD. | PG 64-22 TON | AVG. WID. FEET | SQ. YD. | POUND / SQ. YD. | PG 64-22 TON | AVG. WID. FEET | SQ. YD. | POUND / SQ. YD. | PG 64-22 TON | AVG. WID. FEET | SQ. YD. | POUND / SQ. YD. | PG 64-22 TON | TOTAL PG 64-22 TON |
| | | | | MAIN LANES | | | | | | | | | | | | | | | | | | | | | | |
| 309+65.00 | 568+85.40 | NOTCH AND WIDEN MAIN LANES | 25920.40 | 363.25 | 94155.85 | 141.75 | 408246.30 | 0.05 | 20412.32 | 39.39 | 113444.95 | 495.00 | 28077.63 | 39.23 | 112984.14 | 330.00 | 18642.38 | 39.13 | 112696.14 | 220.00 | 12396.58 | 75.00 | 216003.33 | 220.00 | 23760.37 | 36156.95 |
| 568+85.40 | 569+85.40 | TRANSITION | 100.00 | 181.63 | 181.63 | 73.78 | 819.78 | 0.17 | 139.36 | 19.70 | 218.89 | 495.00 | 54.18 | 19.62 | 218.00 | 330.00 | 35.97 | 19.57 | 217.44 | 220.00 | 23.92 | 59.50 | 661.11 | 220.00 | 72.72 | 96.64 |
| ADDITIONAL FOR LEVELING | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 309+65.00 | 569+85.40 | MAIN LANES | 26020.40 | | | 24.00 | 69387.73 | 0.17 | 11795.91 | | | | | | | | | 24.00 | 69387.73 | VAR. | 9540.81 | | | | | 9540.81 |
| ADDITIONAL STATE HIGHWAY 172 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10+00.00 | 15+06.61 | STATE HIGHWAY 172 | 506.61 | | | 40.00 | 607.23 | 0.17 | 103.23 | | | | | | | | | 40.00 | 607.23 | 220.00 | 66.80 | | | | | 66.80 |
| ADDITIONAL FOR MAINTENANCE OF TRAFFIC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 383+00.00 | 391+50.00 | TEMPORARY ACCESS TO CO. RD. 26 | | | 50.00 | | | | | | | | | | | | | | | | | | | | | |
| 431+96.00 | 436+61.00 | FULL SHOULDER AND WIDENING | 465.00 | 99.79 | 464.02 | 26.57 | 1372.78 | 0.05 | 68.64 | 8.86 | 457.77 | 495.00 | 113.30 | 8.86 | 457.77 | 330.00 | 75.53 | 8.86 | 457.77 | 220.00 | 50.35 | | | | | 50.35 |
| 443+47.00 | 448+44.00 | FULL SHOULDER AND WIDENING | 497.00 | 99.61 | 495.06 | 29.61 | 1635.13 | 0.05 | 81.76 | 9.87 | 545.04 | 495.00 | 134.90 | 9.87 | 545.04 | 330.00 | 89.93 | 9.87 | 545.04 | 220.00 | 59.95 | | | | | 59.95 |
| 552+52.00 | 557+66.00 | FULL SHOULDER AND WIDENING | 514.00 | 100.36 | 515.85 | 31.17 | 1780.15 | 0.05 | 89.01 | 10.39 | 593.38 | 495.00 | 146.86 | 10.39 | 593.38 | 330.00 | 97.91 | 10.39 | 593.38 | 220.00 | 65.27 | | | | | 65.27 |
| 552+52.00 | 557+66.00 | FULL SHOULDER AND WIDENING | 514.00 | 100.36 | 515.85 | 31.17 | 1780.15 | 0.05 | 89.01 | 10.39 | 593.38 | 495.00 | 146.86 | 10.39 | 593.38 | 330.00 | 97.91 | 10.39 | 593.38 | 220.00 | 65.27 | | | | | 65.27 |
| ADDITIONAL FOR SUPERELEVATION | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 317+31.99 | 322+71.99 | SUPER TRANSITION | 540.00 | 26.38 | 142.45 | | | | | | | | | | | | | | | | | | | | | |
| 322+71.99 | 325+86.17 | MAX SUPER | 314.18 | 52.76 | 165.76 | | | | | | | | | | | | | | | | | | | | | |
| 325+86.17 | 331+26.17 | SUPER TRANSITION | 540.00 | 26.38 | 142.45 | | | | | | | | | | | | | | | | | | | | | |
| TOTALS: | | | | | 96828.92 | | 485629.25 | | 32779.24 | | 115853.41 | | 28673.73 | | 115391.71 | | 19039.63 | | 185098.11 | | 22268.95 | | 216664.44 | | 23833.09 | 46102.04 |

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.2% MIN. AGGR.....3.8% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

3/11/2016

RO70284.DGN

QUANTITIES

SOIL LOG

| STATION | LOCATION | DEPTH FEET | LIQUID LIMIT | PLASTICITY INDEX | AASHTO CLASSIFICATION | COLOR |
|---------|----------|------------|--------------|------------------|-----------------------|-------|
| 311+00 | 30RT | 0-5 | ND | NP | A-2-4(0) | BROWN |
| 311+00 | 18RT | 0-5 | 22 | 8 | A-2-6(10) | BROWN |
| 311+00 | 6RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 319+00 | 30LT | 0-5 | ND | NP | A-1-B(0) | BR/GR |
| 319+00 | 18LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 319+00 | 6LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 319+00 | 30LT | 0-5 | ND | NP | A-2-4(0) | GR/BR |
| 327+00 | 18RT | 0-5 | ND | NP | A-4(0) | GRAY |
| 327+00 | 6RT | 0-5 | 19 | 6 | A-4(0) | GRAY |
| 327+00 | 18LT | 0-5 | 27 | 11 | A-6(3) | BR/GR |
| 335+00 | 6LT | 0-5 | 15 | 2 | A-4(0) | BR/GR |
| 335+00 | 30LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 335+00 | 18LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 343+00 | 18RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 343+00 | 6RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 351+00 | 6LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 351+00 | 30LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 351+00 | 18LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 359+00 | 30RT | 0-5 | 17 | 5 | A-2-4(0) | GR/BR |
| 359+00 | 18RT | 0-5 | 14 | 2 | A-4(0) | GR/BR |
| 359+00 | 6RT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 359+00 | 30LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 367+00 | 18LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 367+00 | 6LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 375+00 | 30RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 375+00 | 18RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 375+00 | 6RT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 383+00 | 30LT | 0-5 | ND | NP | A-2-4(0) | BROWN |
| 383+00 | 18LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 383+00 | 6LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 391+00 | 6RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 391+00 | 30RT | 0-5 | 17 | 4 | A-4(0) | BR/GR |
| 391+00 | 18RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 399+00 | 30LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 399+00 | 18LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 399+00 | 6LT | 0-5 | ND | NP | A-2-4(0) | BROWN |
| 399+00 | 6RT | 0-5 | 15 | 3 | A-4(0) | BR/GR |
| 407+00 | 6RT | 0-5 | 17 | 2 | A-4(0) | GR/GR |
| 407+00 | 30RT | 0-5 | 17 | 2 | A-4(0) | GR/GR |
| 407+00 | 18RT | 0-5 | 19 | 6 | A-4(0) | BROWN |
| 415+00 | 30LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 415+00 | 18LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 415+00 | 6LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 423+00 | 6RT | 0-5 | 16 | 4 | A-4(0) | BROWN |
| 423+00 | 30RT | 0-5 | 19 | 4 | A-4(0) | BR/GR |
| 423+00 | 18RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 431+00 | 30LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 431+00 | 18LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 431+00 | 6LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 439+00 | 6RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 439+00 | 30RT | 0-5 | 18 | 3 | A-4(0) | BR/GR |
| 439+00 | 18RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 447+00 | 38LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 447+00 | 21LT | 0-5 | ND | NP | A-4(0) | GR/GR |
| 447+00 | 9LT | 0-5 | ND | NP | A-4(0) | GRAY |
| 455+00 | 9RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 455+00 | 30RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 455+00 | 18RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 455+00 | 6RT | 0-5 | 16 | 4 | A-4(0) | BR/GR |
| 463+00 | 6RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 463+00 | 24LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 463+00 | 15LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 471+00 | 30RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 471+00 | 15RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 478+00 | 36LT | 0-5 | 19 | 4 | A-4(0) | GR/BR |
| 478+00 | 27LT | 0-5 | 23 | 10 | A-4(0) | BR/GR |
| 478+00 | 18LT | 0-5 | 15 | 3 | A-4(0) | BR/GR |
| 487+00 | 15RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 487+00 | 6RT | 0-5 | 19 | 4 | A-4(0) | BROWN |
| 487+00 | 30RT | 0-5 | 19 | 5 | A-4(0) | BROWN |
| 487+00 | 36LT | 0-5 | 16 | 3 | A-4(0) | BR/GR |
| 495+00 | 27LT | 0-5 | 16 | 3 | A-4(0) | BR/GR |
| 495+00 | 18LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 503+00 | 15RT | 0-5 | 18 | 5 | A-4(0) | BROWN |
| 503+00 | 6RT | 0-5 | 17 | 3 | A-4(0) | BROWN |
| 503+00 | 30RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 511+00 | 36LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 511+00 | 27LT | 0-5 | 15 | 2 | A-4(0) | BROWN |
| 511+00 | 18LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 519+00 | 15RT | 0-5 | 16 | 3 | A-2-4(0) | BROWN |
| 519+00 | 6RT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 519+00 | 30RT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 527+00 | 32LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 527+00 | 18LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 527+00 | 27LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 535+00 | 15RT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 535+00 | 6RT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 535+00 | 30RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 543+00 | 32LT | 0-5 | 17 | 3 | A-4(0) | BROWN |
| 543+00 | 27LT | 0-5 | 18 | 5 | A-4(0) | GR/BR |
| 551+00 | 30RT | 0-5 | 19 | 5 | A-2-4(0) | BR/GR |
| 551+00 | 15RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 559+00 | 6LT | 0-5 | 17 | 4 | A-4(0) | GR/BR |
| 559+00 | 30LT | 0-5 | 22 | 9 | A-4(0) | BROWN |
| 559+00 | 18LT | 0-5 | 21 | 9 | A-4(0) | BROWN |
| 567+00 | 30RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 567+00 | 18RT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 567+00 | 39RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 575+00 | 6LT | 0-5 | ND | NP | A-4(0) | BR/GR |
| 575+00 | 6RT | 0-5 | 16 | 2 | A-4(0) | BR/GR |
| 575+00 | 18LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 583+00 | 18RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 583+00 | 6RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 583+00 | 30RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 591+00 | 30LT | 0-5 | ND | NP | A-4(0) | BROWN |
| 591+00 | 18LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 591+00 | 6LT | 0-5 | ND | NP | A-4(0) | GR/BR |
| 599+00 | 18RT | 0-5 | ND | NP | A-4(0) | BROWN |
| 607+00 | 28RT | 0-5 | ND | NP | A-2-4(0) | BROWN |
| 607+00 | 6LT | 0-5 | ND | NP | A-4(0) | GRAY |

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 SAME DIFFERING FROM THE ABOVE TABULATIONS.

NP - NON-PLASTIC
ND - NOT DETERMINABLE

CONCRETE DITCH PAVING

| STATION | STATION | LOCATION | LENGTH | "W" | "B" | CONCRETE DITCH PAVING (TYPE A) | SOLID SODDING | WATER |
|----------------|-----------|-------------------|---------|-------|-------|--------------------------------|---------------|---------|
| 310+00.00 | 310+30.00 | RT. OF MAIN LANES | LN. FT. | FEET | FEET | SO. YD. | SO. YD. | M. GAL. |
| | | | 30.00 | 30.00 | 28.00 | 100.00 | 13.33 | 0.17 |
| TOTALS: | | | | | | 100.00 | 13.33 | 0.17 |

BASIS OF ESTIMATE: WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

REMOVAL AND DISPOSAL OF CULVERTS

| STATION | DESCRIPTION | PIPE CULVERTS EACH |
|---------------|---|--------------------|
| 309+58 | DBL. 48" X 60' C.M. PIPE CULVERT WITH WALLS | 2 |
| 319+30 | 36" X 60' C.M. PIPE CULVERT ON RT. | 1 |
| 330+82 | 18" X 36" C.M. PIPE CULVERT ON LT. | 1 |
| 335+85 | 18" X 30' C.M. PIPE CULVERT ON LT. | 1 |
| 342+07 | 18" X 26" C.M. PIPE CULVERT ON LT. | 1 |
| 343+00 | 18" X 28' C.M. PIPE CULVERT ON RT. | 1 |
| 356+44 | 24" X 25' C.M. PIPE CULVERT ON LT. | 1 |
| 359+18 | 24" X 24' C.M. PIPE CULVERT ON RT. | 1 |
| 361+87 | 24" X 24' C.M. PIPE CULVERT ON RT. | 1 |
| 372+22 | 18" X 31' C.M. PIPE CULVERT ON RT. | 1 |
| 376+45 | 18" X 24' C.M. PIPE CULVERT ON RT. | 1 |
| 388+00 | 24" X 24' C.M. PIPE CULVERT ON RT. | 1 |
| 390+20 | 30" X 42" X 51' C.M. ARCH PIPE CULVERT ON LT. | 2 |
| 404+70 | 24" X 24' C.M. PIPE CULVERT ON RT. | 1 |
| 405+41 | 24" X 24' C.M. PIPE CULVERT ON RT. | 1 |
| 410+75 | 18" X 25' C.M. PIPE CULVERT ON LT. | 1 |
| 412+88 | 18" X 24' C.P. PIPE CULVERT ON RT. | 1 |
| 413+56 | 18" X 25' C.M. PIPE CULVERT ON RT. | 1 |
| 417+20 | 18" X 40' C.M. PIPE CULVERT ON RT. | 1 |
| 419+00 | 18" X 31' C.M. PIPE CULVERT ON RT. | 1 |
| 421+40 | 18" X 35' C.M. PIPE CULVERT ON LT. | 1 |
| 423+40 | 18" X 23' C.M. PIPE CULVERT ON LT. | 1 |
| 425+82 | 24" X 39' C.M. PIPE CULVERT ON RT. | 1 |
| 426+68 | 18" X 24' C.M. PIPE CULVERT ON LT. | 1 |
| 427+84 | 18" X 24' C.M. PIPE CULVERT ON LT. | 1 |
| 429+34 | 18" X 49' C.M. PIPE CULVERT ON LT. | 1 |
| 429+53 | 12" X 24' C.M. PIPE CULVERT ON RT. | 1 |
| 433+31 | 30" X 51' C.M. PIPE CULVERT ON RT. | 1 |
| 439+82 | 24" X 40' C.M. PIPE CULVERT ON RT. | 1 |
| 441+73 | 18" X 30' C.M. PIPE CULVERT ON RT. | 1 |
| 440+85 | 24" X 25' C.P. PIPE CULVERT ON LT. | 1 |
| 453+00 | 18" X 58' C.M. PIPE CULVERT ON LT. | 1 |
| 455+75 | 18" X 53' C.M. PIPE CULVERT ON LT. | 1 |
| 459+00 | 18" X 50' C.M. PIPE CULVERT ON LT. | 1 |
| 459+44 | 18" X 39' C.M. PIPE CULVERT ON LT. | 1 |
| 463+25 | 18" X 37' C.M. PIPE CULVERT ON LT. | 1 |
| 464+15 | 18" X 36' C.M. PIPE CULVERT ON LT. | 1 |
| 488+00 | 24" X 33' C.M. PIPE CULVERT ON RT. | 1 |
| 516+00 | 24" X 51' C.M. PIPE CULVERT ON LT. | 1 |
| 522+66 | 18" X 40' C.M. PIPE CULVERT ON LT. | 1 |
| 537+68 | 18" X 40' C.M. PIPE CULVERT ON RT. | 1 |
| 544+39 | 24" X 40' C.M. PIPE CULVERT ON LT. | 1 |
| 557+45 | 24" X 41' C.M. PIPE CULVERT ON LT. | 1 |
| 568+45 | 24" X 40' C.M. PIPE CULVERT ON LT. | 1 |
| 568+49 | DBL. 24" X 49' C.P. PIPE CULVERT ON RT. | 2 |
| TOTAL: | | 52 |

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

4" PIPE UNDERDRAIN

| STATION | STATION | LOCATIONS | 4" PIPE UNDERDRAINS LIN. FT. | UNDERDRAIN OUTLET PROTECTORS EACH |
|---|---------|-----------|------------------------------|-----------------------------------|
| * ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | | | | |
| TOTALS: | | | 2000 | 10 |

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

FENCING

| STATION | STATION | LOCATION | WIRE FENCE (TYPE C) (TYPE D) | | 8'-0" GATES EACH | 16'-0" GATES EACH |
|----------------|---------|--------------|------------------------------|-------------------|------------------|-------------------|
| | | | LIN. FT. | (TYPE D) LIN. FT. | | |
| 326+49 | 331+00 | HWY. 167 LT. | | 425 | | |
| 361+81 | 367+00 | HWY. 167 RT. | | 360 | 2 | 1 |
| 362+29 | 511+90 | HWY. 167 LT. | | 312 | | 1 |
| TOTALS: | | | | 785 | 2 | 2 |

* DENOTES ALTERNATE BID ITEM.

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

| STATION | LOCATION | WIDTH | | LENGTH | CU. YD. |
|---------------|----------|-------|------|-------------|---------|
| | | FEET | FEET | | |
| 309+58 | HWY. 172 | 19.67 | 22 | 16.0 | |
| 381+45 | HWY. 167 | 12.00 | 24 | 10.7 | |
| 419+25 | HWY. 168 | 5.00 | 24 | 4.4 | |
| 434+24 | HWY. 167 | 13.90 | 24 | 12.4 | |
| 445+91 | HWY. 167 | 13.30 | 24 | 11.8 | |
| 555+10 | HWY. 167 | 14.30 | 24 | 12.7 | |
| TOTAL: | | | | 68.0 | |

AVG. DEPTH = 12"

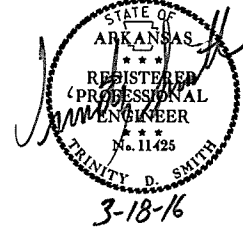
ACHM PATCHING OF EXISTING ROADWAY

| DESCRIPTION | TON |
|---|------------|
| ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 250 |
| TOTAL: | 250 |

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

QUANTITIES

| 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. | 070284 | | 79 | 193 |



SURVEY CONTROL COORDINATES

Project Name: s070284
Date: 1/16/2013
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL
Units: U.S. SURVEY FOOT

Table with columns: Point Name, Northing, Easting, Elev, Feature, Description, CONST, POINT NO., TYPE, STATION, NORTHING, EASTING. Contains detailed survey data for points 20-992.

Note: Rebar and Cap - Standard ** 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 CAP FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAP OF 0.9959579882 HAS BEEN USED TO COMPUTE THE ABOVE LISTED GROUND COORDINATES.
THIS CAP IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE * GROUND DISTANCE X CAF.
GROUND COORDINATES ARE STORED UNDER FILE NAME: s070283 070284g.cti
HORIZONTAL DATUM: NAVD 83 (1997)
VERTICAL DATUM: NAVD 88 ELEVATIONS FOR POINTS 20-84, 103-109, AND 916-960, & 990-992 WERE ESTABLISHED BY 3-WIRE LEVEL TECHNIQUES FROM NSB BENCHMARKS.

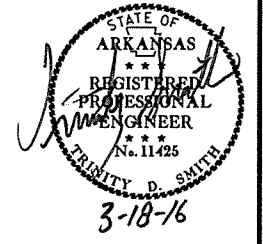
POSITIONAL ACCURACY:
HORIZONTAL-GPS POINTS 103-109: 1.0 CM 10 PPM, PRIMARY CONTROL POINTS 20-84: 2.0 CM 20 PPM
VERTICAL-POSITIONAL ACCURACY IS THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT

BASIS OF BEARING:
BEARINGS ARE IN THE STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DIRECTIONAL BEARINGS ARE IN THE STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
CONVERGENCE ANGLE: 00 15 51 LEFT AT PN 53
GRID AZIMUTH * ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

LT: 33-28-28.6 LG: 092-28-19.5
GRID NORTHING: 1606668.9131 GRID EASTING: 1168373.7819
GROUND NORTHING: 278304.7733 GROUND EASTING: 1298360.8656

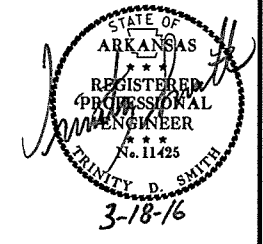
Table with columns: DATE REVISED, DATE FILMED, DATE REVISION, DATE FILMED, FED. PROJ. NO., STATE, FED. PROJ. NO., SHEET NO., TOTAL SHEETS. Values include 6, ARK., 070284, 81, 193.

2 SURVEY CONTROL DETAILS



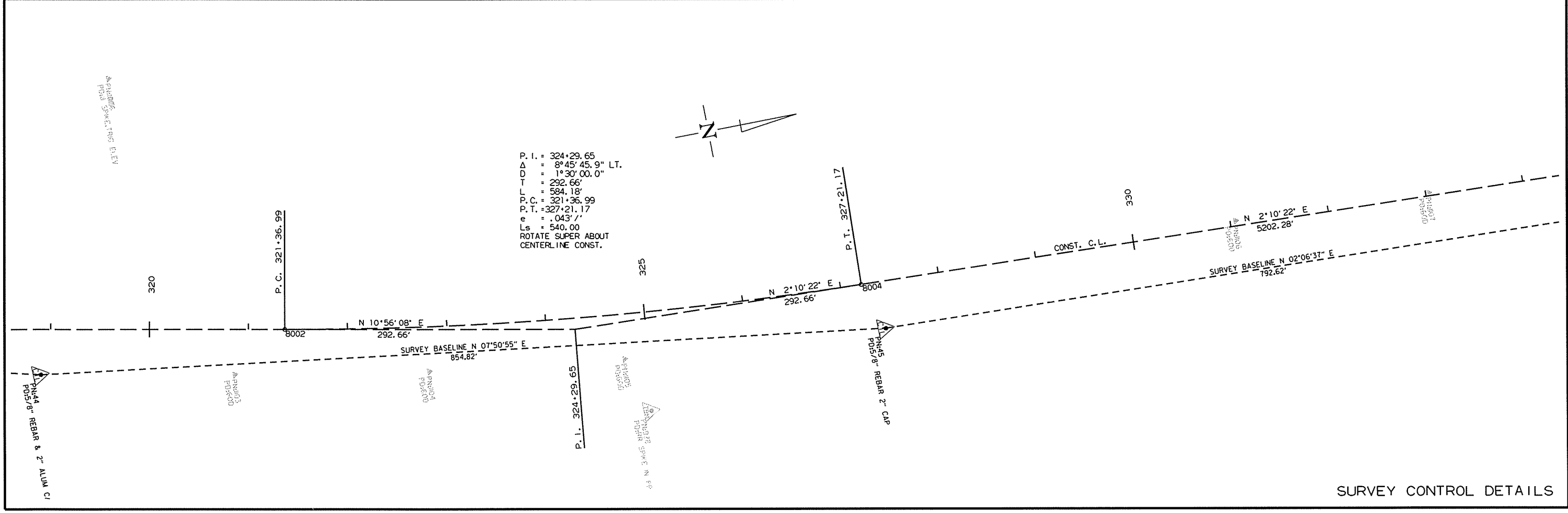
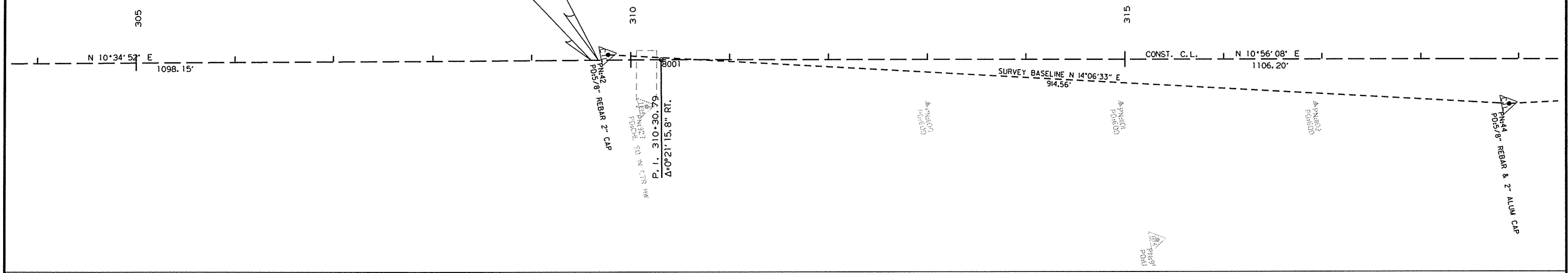
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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 82 | 193 |

2 SURVEY CONTROL DETAILS



STA. 309+65.00
 END JOB 070283
 BEGIN JOB 070284
 LOG MILE 8.69

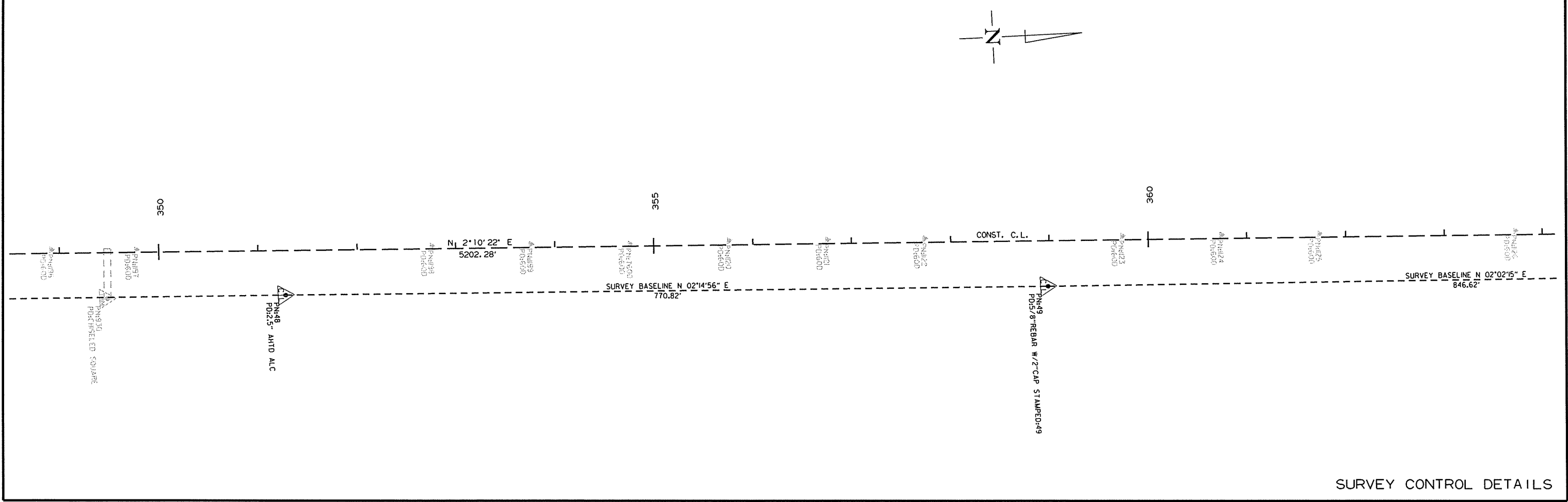
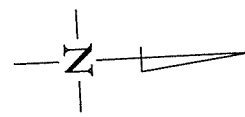
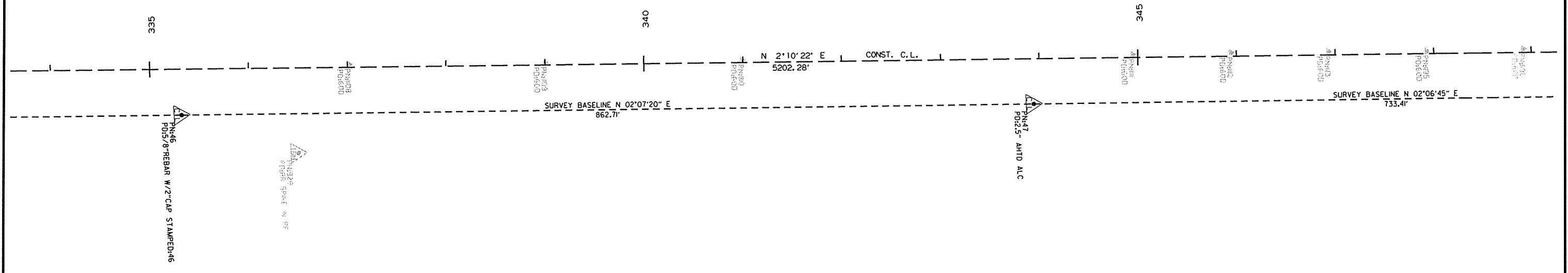
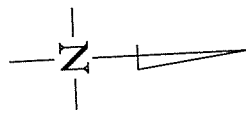
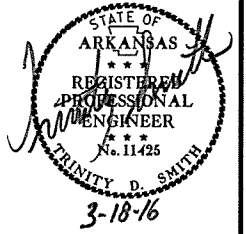
STA. 0+00.00
 HWY. 172
 STA. 309+60.00
 HWY. 167



R070284.DGN 2/18/2016

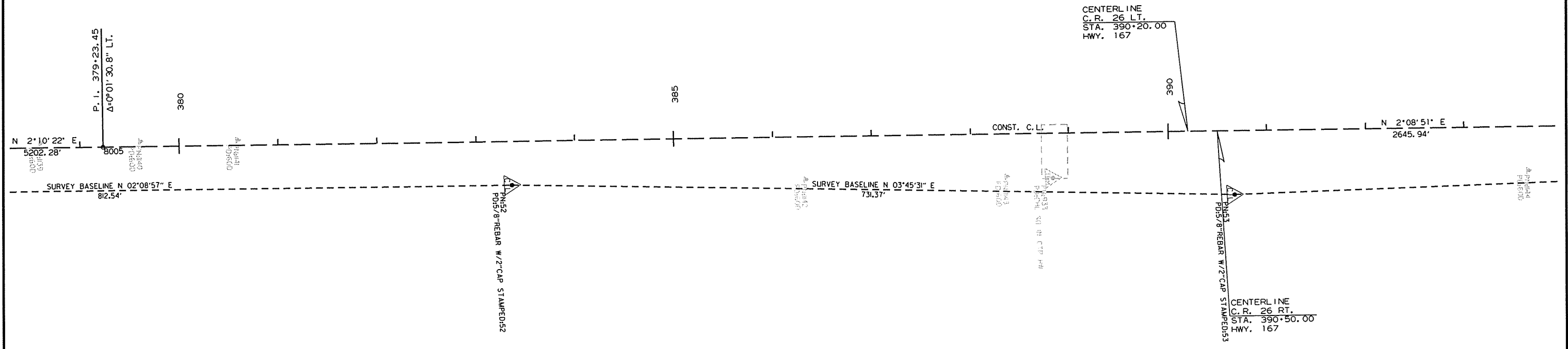
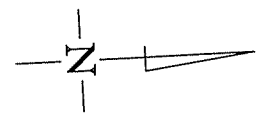
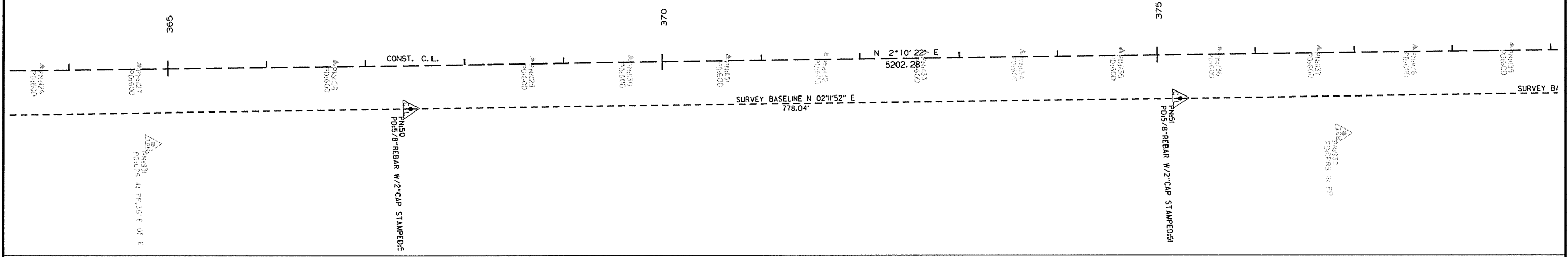
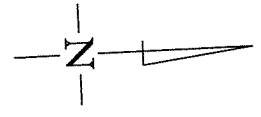
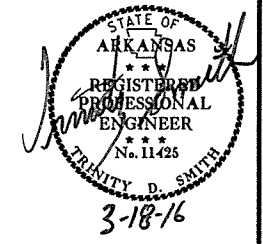
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 83 | 193 |

② 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. | 070284 | | 84 | 193 |

2 SURVEY CONTROL DETAILS

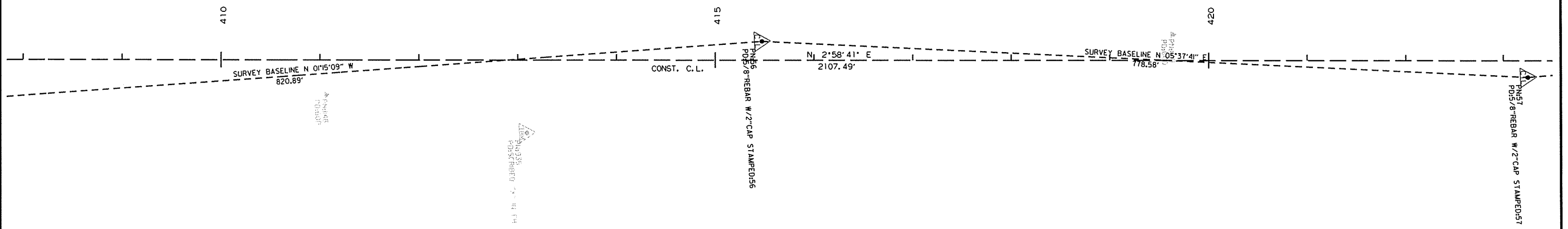
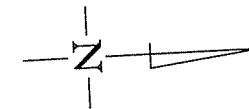
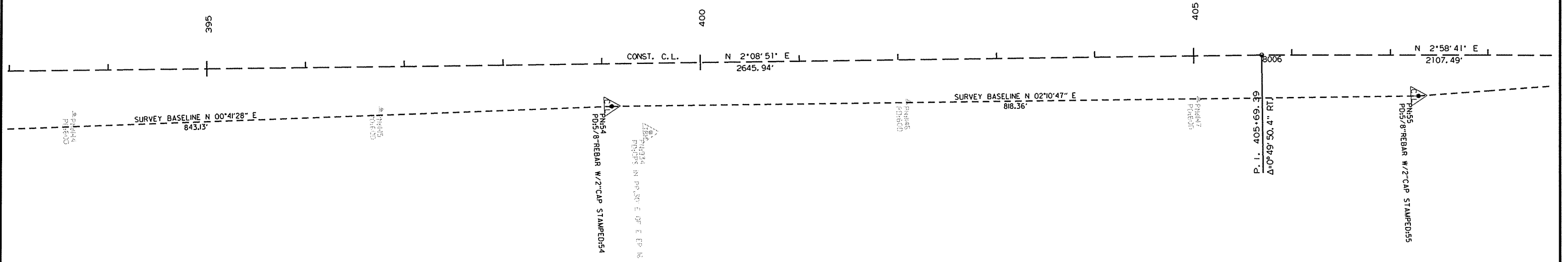
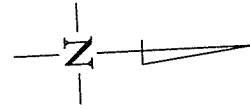
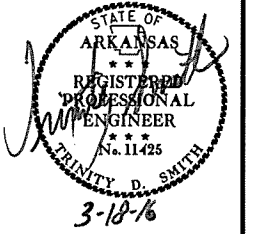


SURVEY CONTROL DETAILS

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 85 | 193 |

② SURVEY CONTROL DETAILS

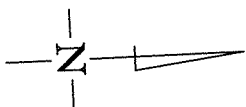
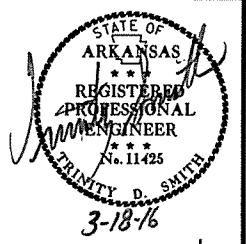


2/18/2016

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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 86 | 193 |

2 SURVEY CONTROL DETAILS



SHIFT 1 MOT 2
 P. I. = 10+99.87
 Δ = 8°32'23.8" LT.
 D = 8°00'00.0"
 T = 53.47'
 L = 106.75'
 P. C. = 10+46.39
 P. T. = 11+53.14
 NO SUPER

SHIFT 1 MOT 2
 P. I. = 14+65.06
 Δ = 7°35'29.4" LT.
 D = 8°00'00.0"
 T = 47.51'
 L = 94.88'
 P. C. = 14+17.55
 P. T. = 15+12.43
 NO SUPER

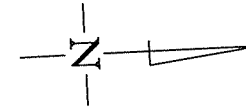
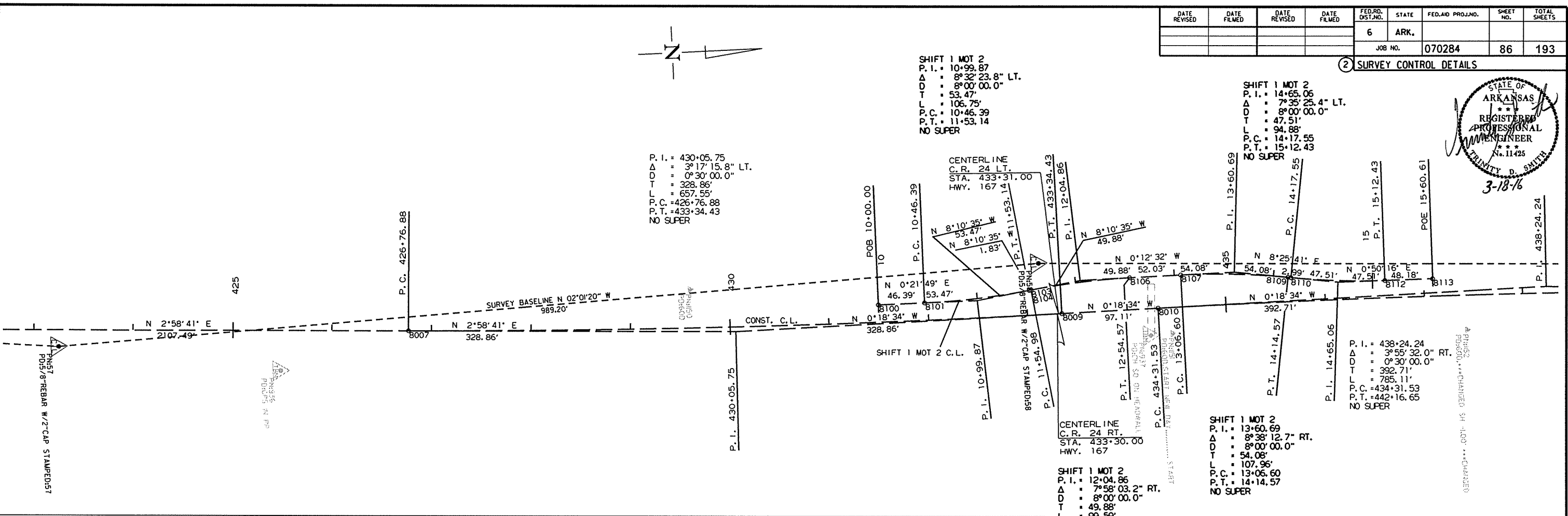
P. I. = 430+05.75
 Δ = 3°17'15.8" LT.
 D = 0°30'00.0"
 T = 328.86'
 L = 657.55'
 P. C. = 426+76.88
 P. T. = 433+34.43
 NO SUPER

CENTERLINE
 C.R. 24 LT.
 STA. 433+31.00
 HWY. 167

SHIFT 1 MOT 2
 P. I. = 12+04.86
 Δ = 7°58'03.2" RT.
 D = 8°00'00.0"
 T = 54.08'
 L = 107.96'
 P. C. = 13+06.60
 P. T. = 14+14.57
 NO SUPER

SHIFT 1 MOT 2
 P. I. = 13+60.69
 Δ = 8°38'12.7" RT.
 D = 8°00'00.0"
 T = 49.88'
 L = 99.59'
 P. C. = 13+06.60
 P. T. = 14+14.57
 NO SUPER

P. I. = 438+24.24
 Δ = 3°55'32.0" RT.
 D = 0°30'00.0"
 T = 392.71'
 L = 785.11'
 P. C. = 434+31.53
 P. T. = 442+16.65
 NO SUPER



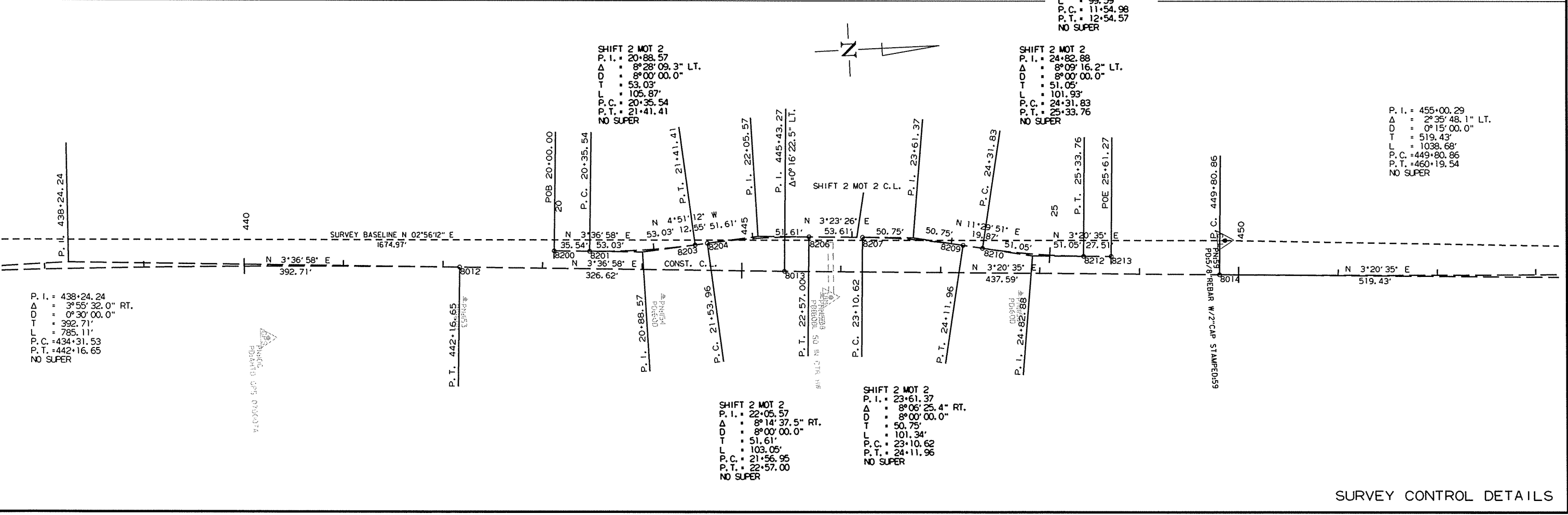
SHIFT 2 MOT 2
 P. I. = 20+88.57
 Δ = 8°28'09.3" LT.
 D = 8°00'00.0"
 T = 53.03'
 L = 105.87'
 P. C. = 20+35.54
 P. T. = 21+41.41
 NO SUPER

SHIFT 2 MOT 2
 P. I. = 24+82.88
 Δ = 8°09'16.2" LT.
 D = 8°00'00.0"
 T = 51.05'
 L = 101.93'
 P. C. = 24+31.83
 P. T. = 25+33.76
 NO SUPER

P. I. = 455+00.29
 Δ = 2°35'48.1" LT.
 D = 0°15'00.0"
 T = 519.43'
 L = 1038.68'
 P. C. = 449+80.86
 P. T. = 460+19.54
 NO SUPER

SHIFT 2 MOT 2
 P. I. = 22+05.57
 Δ = 8°14'37.5" RT.
 D = 8°00'00.0"
 T = 51.61'
 L = 103.05'
 P. C. = 21+56.95
 P. T. = 22+57.00
 NO SUPER

SHIFT 2 MOT 2
 P. I. = 23+61.37
 Δ = 8°06'25.4" RT.
 D = 8°00'00.0"
 T = 50.75'
 L = 101.34'
 P. C. = 23+10.62
 P. T. = 24+11.96
 NO SUPER

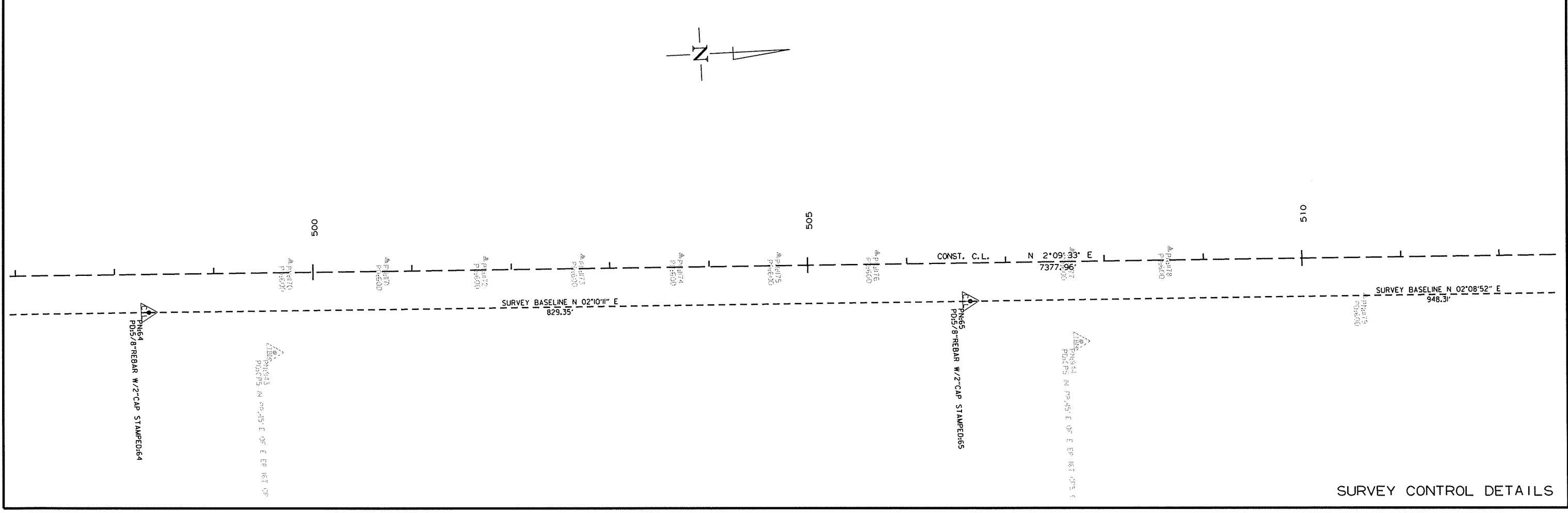
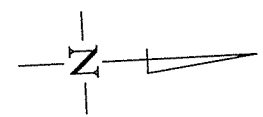
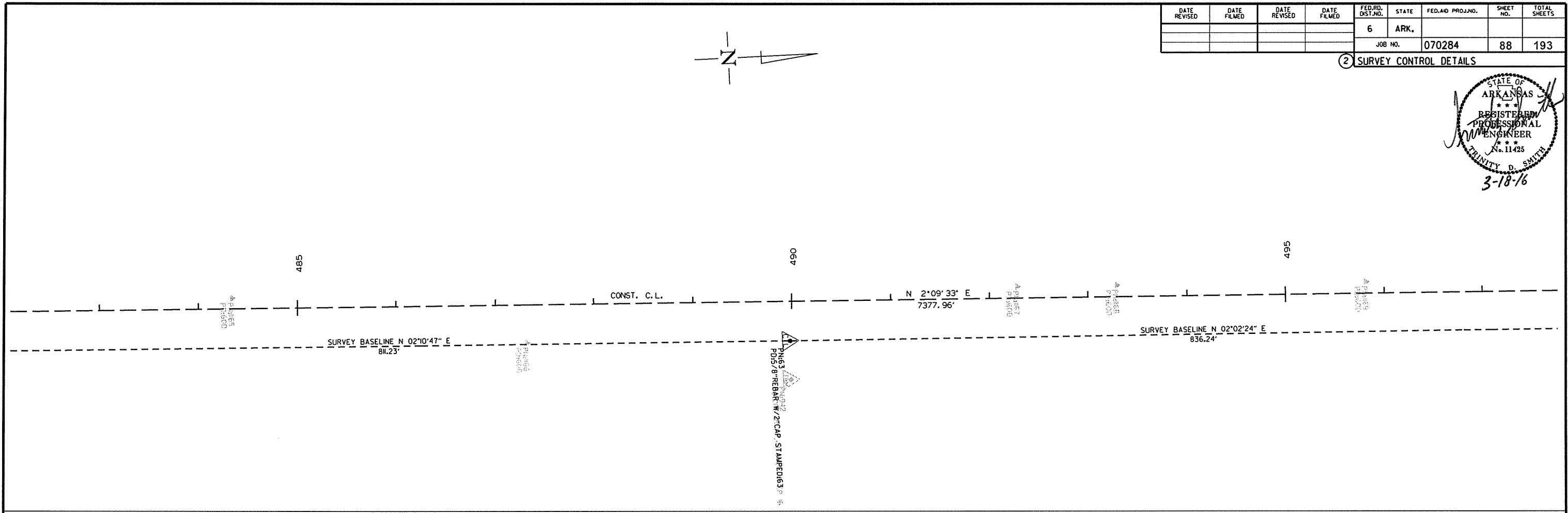
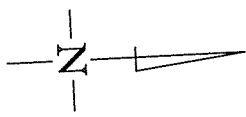
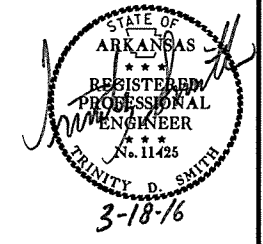


3/11/2016

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 88 | 193 |

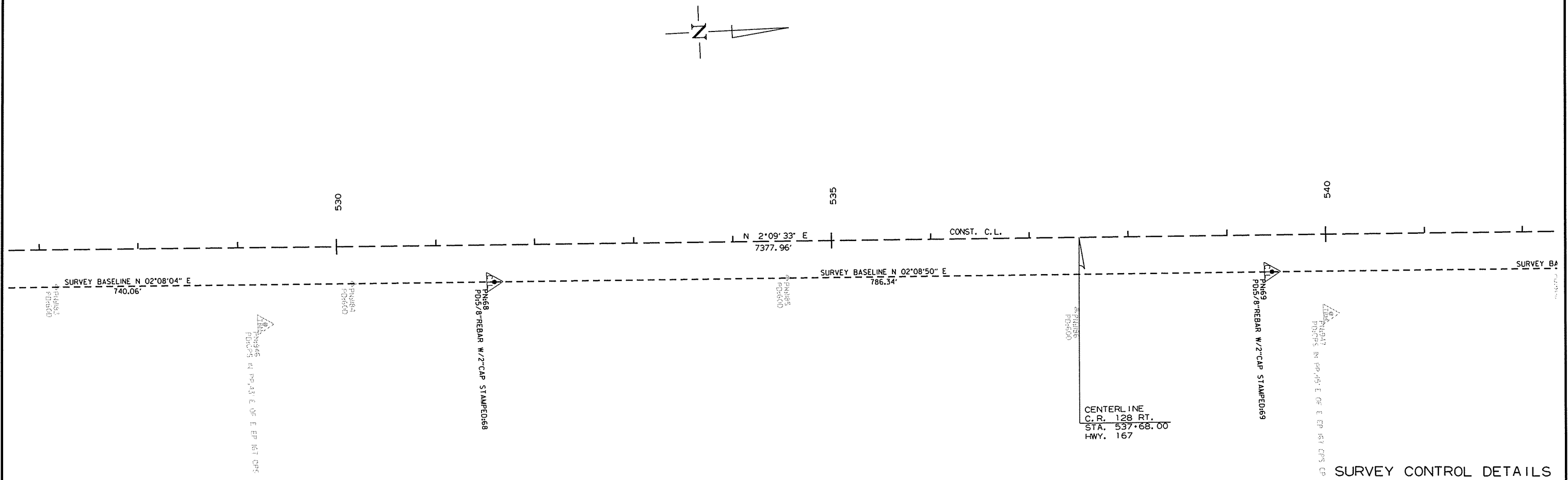
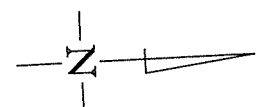
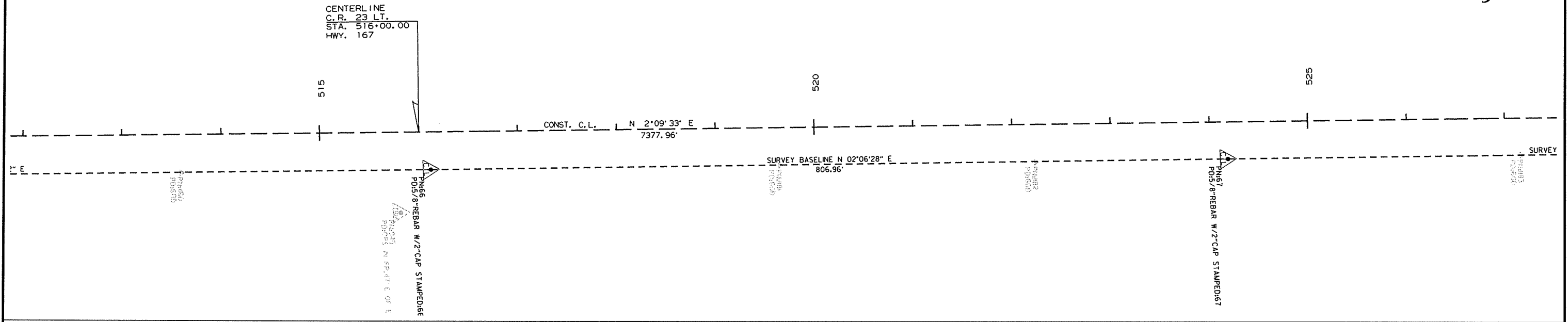
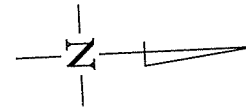
2 SURVEY CONTROL DETAILS



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. | 070284 | | 89 | 193 |

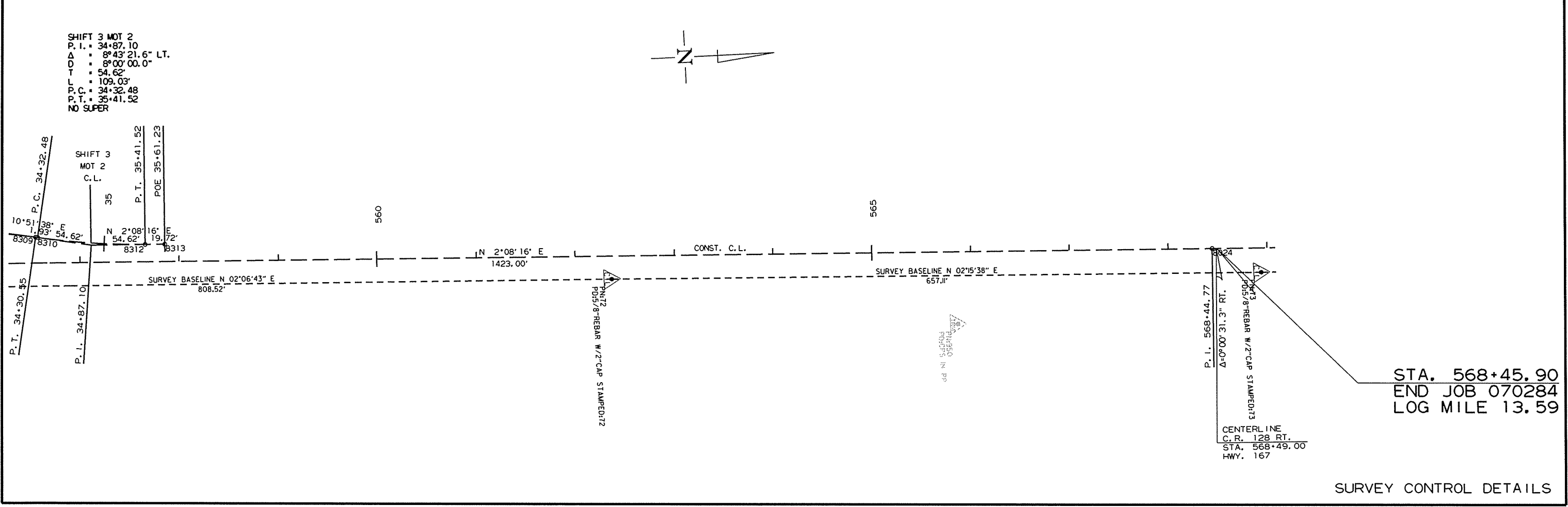
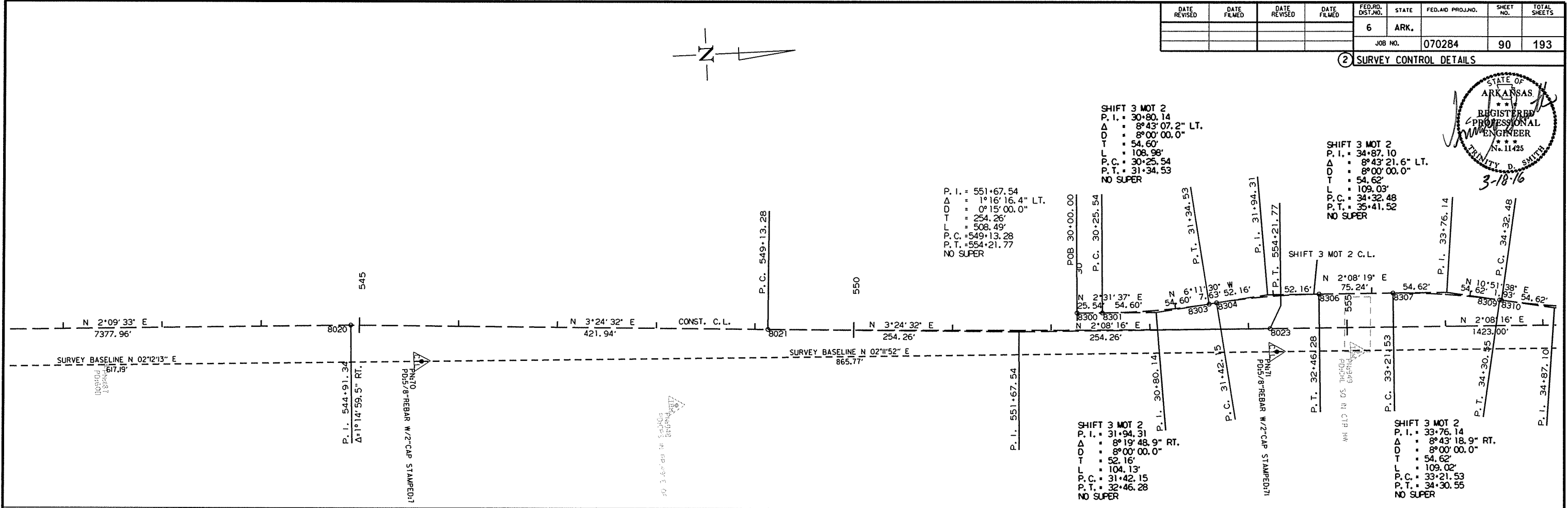
2 SURVEY CONTROL DETAILS



SURVEY CONTROL DETAILS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
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2 SURVEY CONTROL DETAILS



STA. 568+45.90
END JOB 070284
LOG MILE 13.59

CENTERLINE
C.R. 128 RT.
STA. 568+49.00
HWY. 167

SURVEY CONTROL DETAILS

3/10/2016

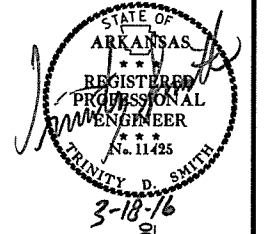
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. RD. PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 91 | 193 |

2 PLAN AND PROFILE SHEETS

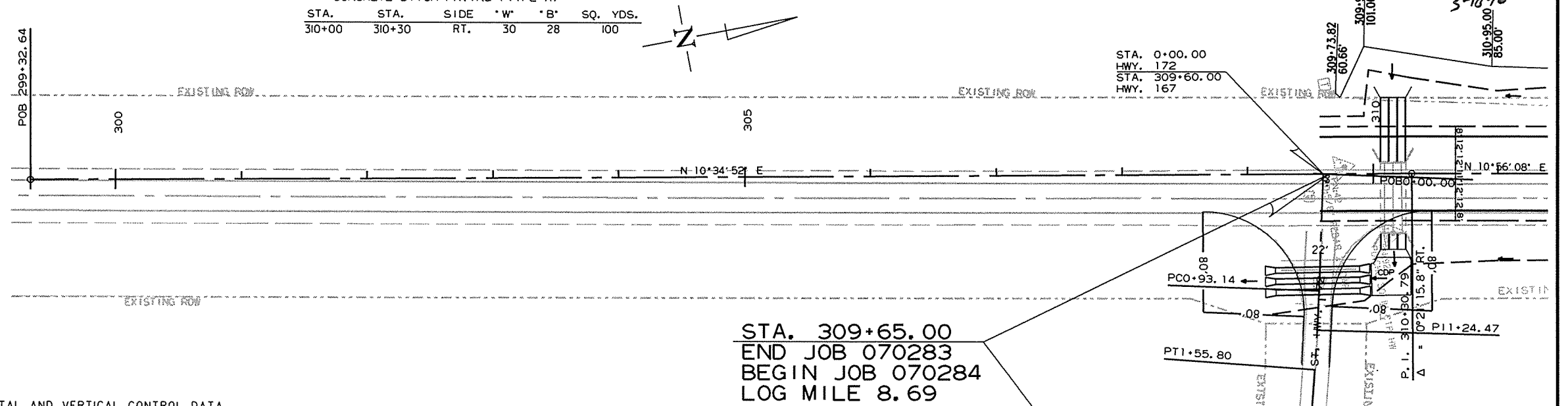
STA. 309+60 IN PLACE
 DBL. 48" X 60" C.M. PIPE CULVERT
 WITH HDWLS LT. & RT.
 REMOVE AND CONSTRUCT
 TRI. 48" X 67" R.C. PIPE
 (CLASS III) (TYPE 3 BEDDING)
 WITH FES LT. & RT.
 Q50 = 220 CFS D.A. = 180 ACRES
 48" R.C. PIPE = 201 LIN. FT.
 48" FES = 6 EA.

STA. 310+11 IN PLACE
 TRI. 6' X 3' X 57" R.C. BOX CULVERT
 WITH 3:1 WINGS LT. & RT.
 RETAIN AND EXTEND 51' LT. AND 13' RT.
 TO A COMPLETED LENGTH OF 121'
 CHANNEL CHANGE = 99 CU. YDS.
 Q50 = 220 CFS D.A. = 180 ACRES
 SPAN = 20' -4"

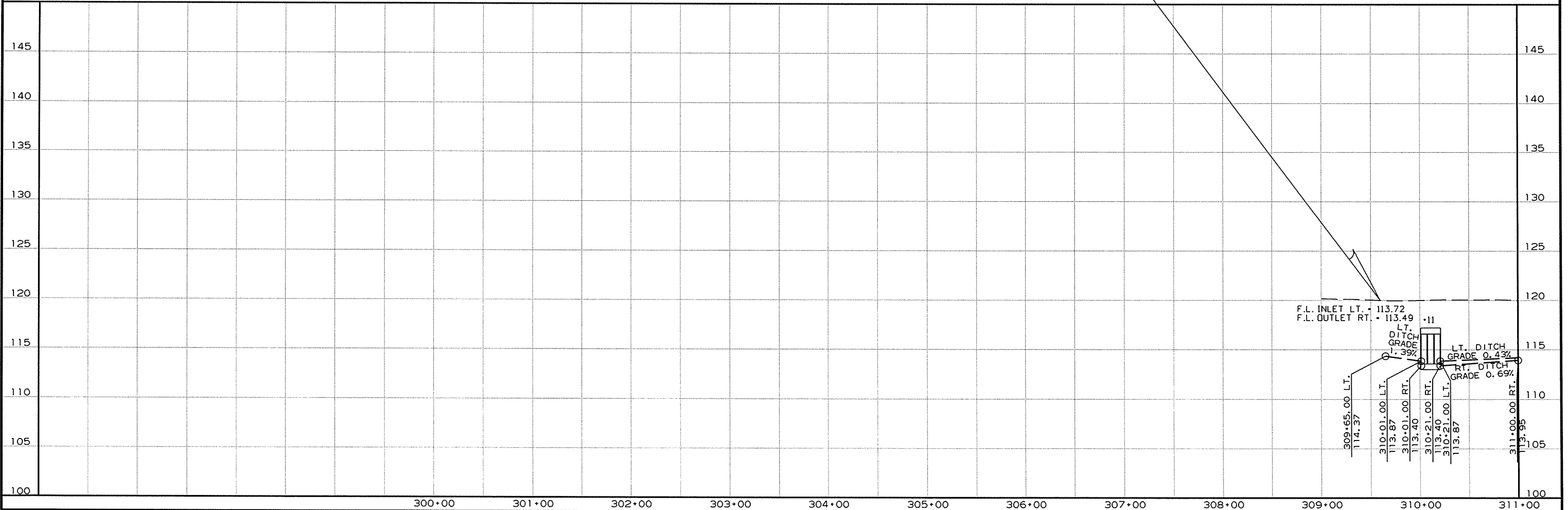


CONCRETE DITCH PAVING (TYPE A)

| STA. | STA. | SIDE | *W* | *B* | SQ. YDS. |
|--------|--------|------|-----|-----|----------|
| 310+00 | 310+30 | RT. | 30 | 28 | 100 |



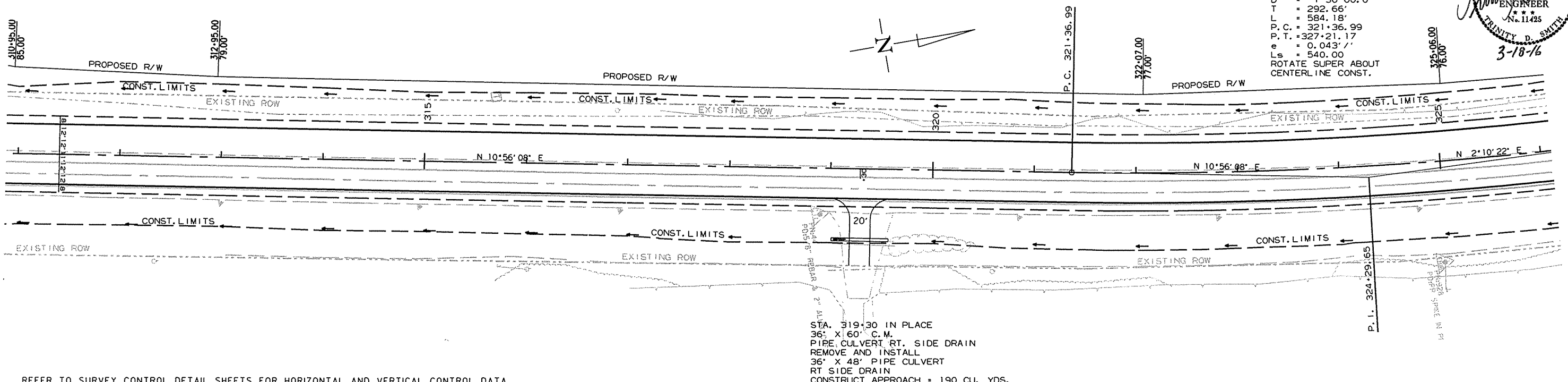
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



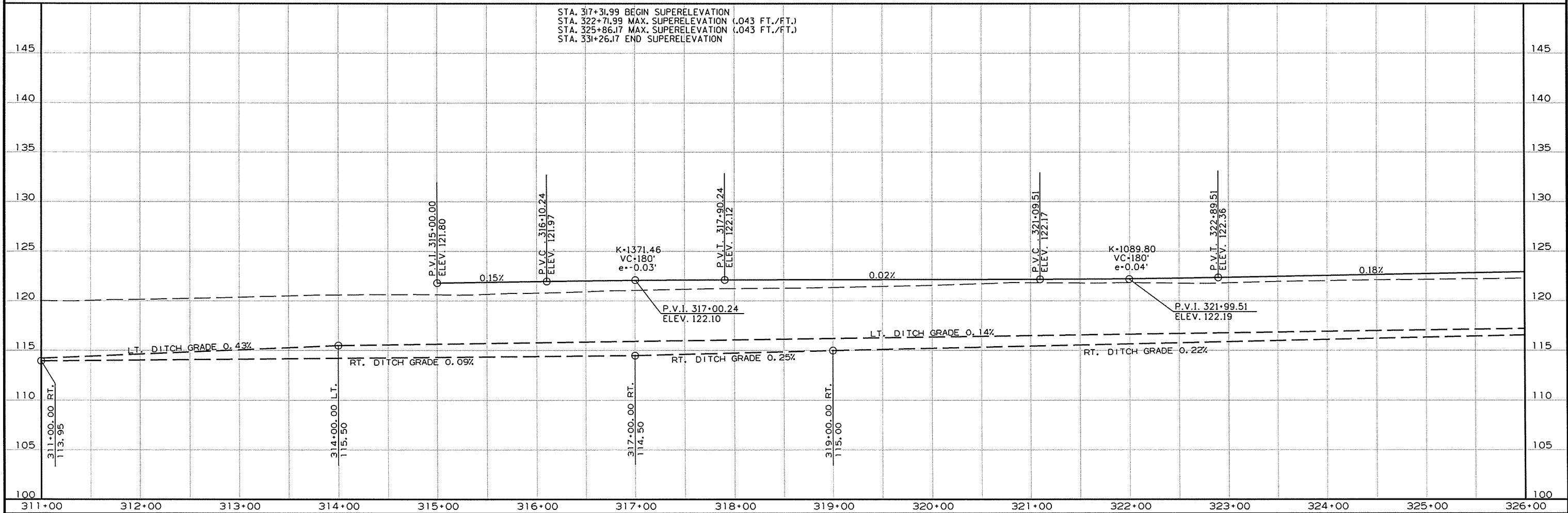
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| | | | | 6 | ARK. | | 92 | 193 |
| | | | | JOB NO. | | 070284 | | |

2 PLAN AND PROFILE SHEETS

P. I. = 324+29.65
 Δ = 8°45'45.9" LT.
D = 1°30'00.0"
T = 292.66'
L = 584.18'
P. C. = 321+36.99
P. T. = 327+21.17
e = 0.043' /'
Ls = 540.00
ROTATE SUPER ABOUT CENTERLINE CONST.



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



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| REMOVAL AND DISPOSAL OF FENCE | | | | | WIRE FENCE | | | | | |
|-------------------------------|--------|------|----------|-------|------------|--------|------|------|----------|-------|
| STA. | STA. | SIDE | LIN. FT. | GATES | STA. | STA. | SIDE | TYPE | LIN. FT. | GATES |
| 326+49 | 331+00 | LT. | 425 | 2 | 326+49 | 331+00 | LT. | D | 425 | 2 |

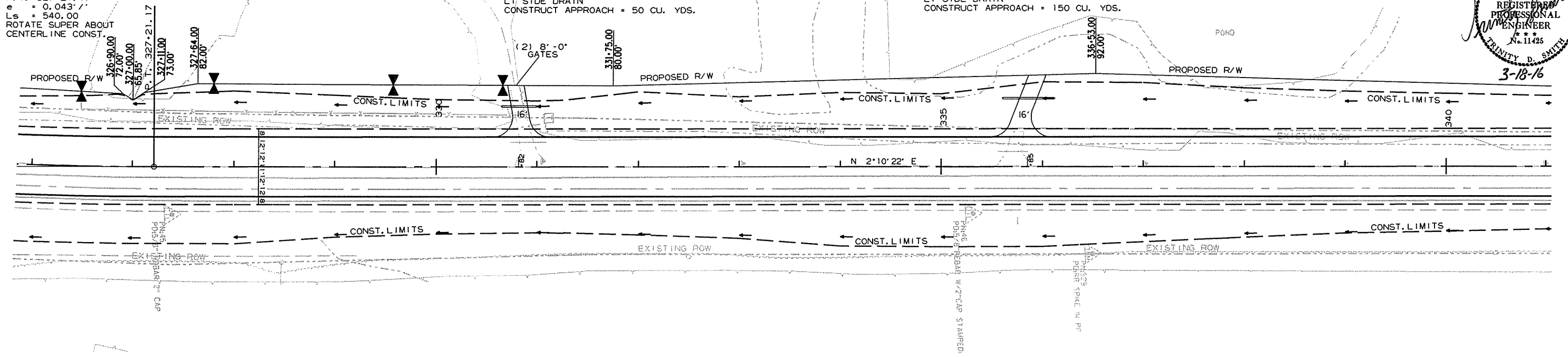
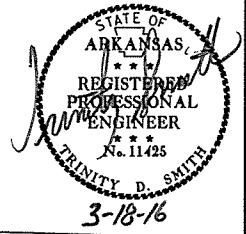
P. I. = 324+29.65
 Δ = 8°45'45.9" LT.
D = 1°30'00.0"
T = 292.66'
L = 584.18'
P.C. = 321+36.99
P.T. = 327+21.17
e = 0.043' /'
Ls = 540.00
ROTATE SUPER ABOUT CENTERLINE CONST.

STA. 330+82 IN PLACE
18" X 36" C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

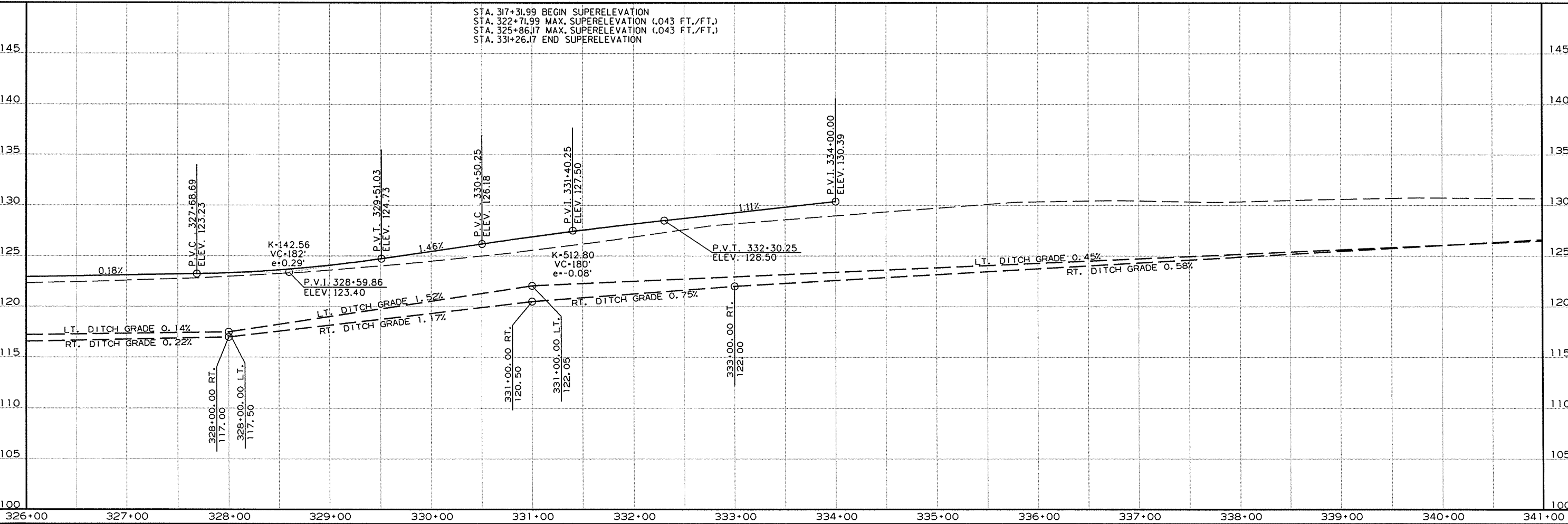
STA. 335+85 IN PLACE
18" X 30" C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 48" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 150 CU. YDS.

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| | | | | 6 | ARK. | | 93 | 193 |

2 PLAN AND PROFILE SHEETS



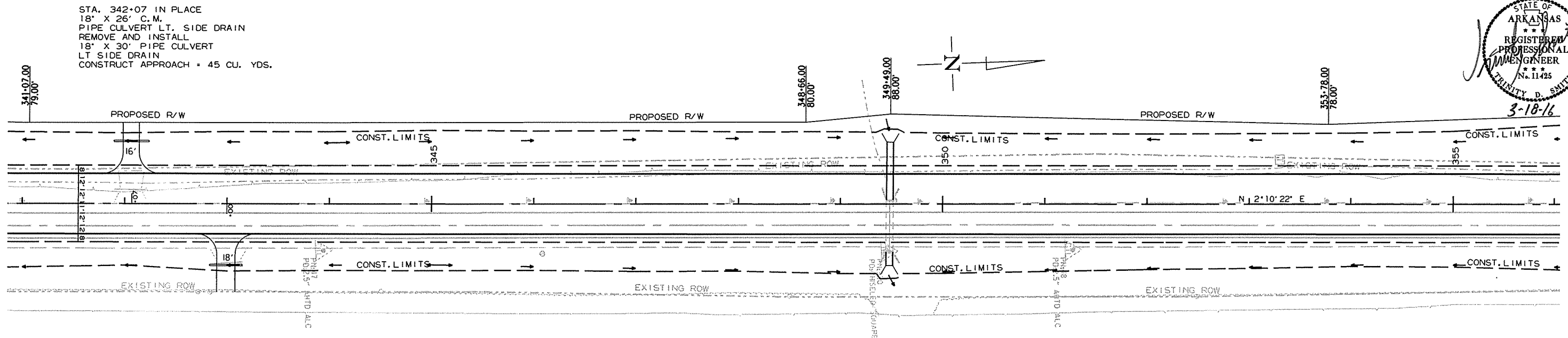
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 94 | 193 |

2 PLAN AND PROFILE SHEETS

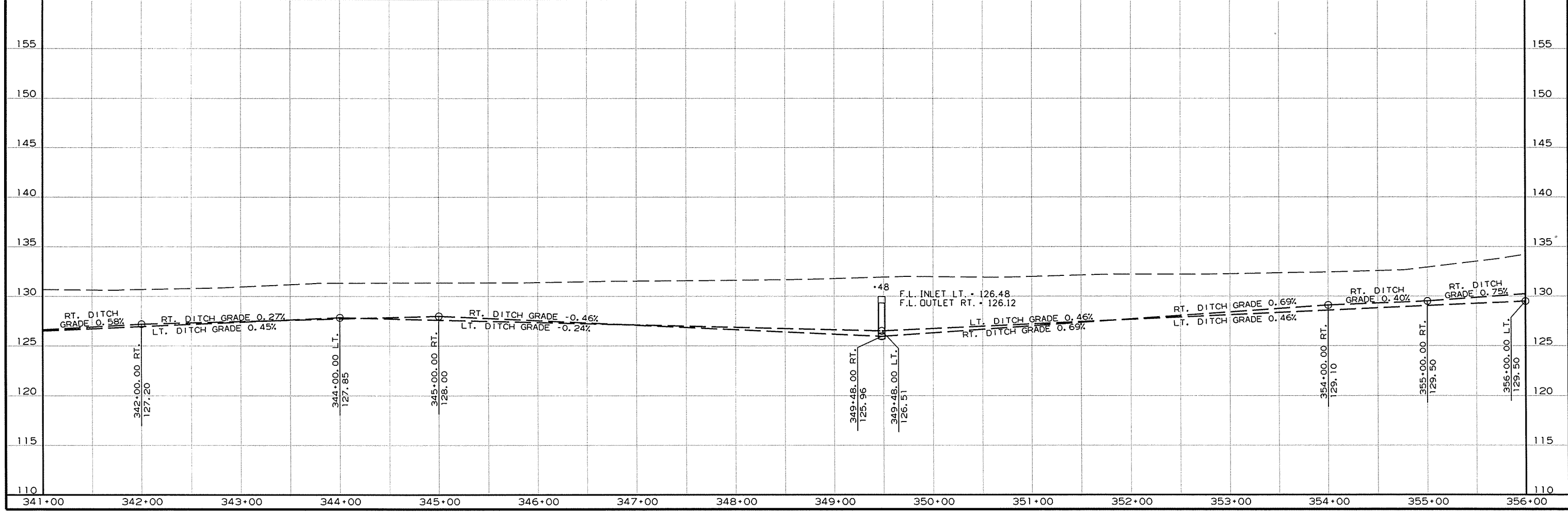


STA. 342+07 IN PLACE
 18" X 26" C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 30" PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 45 CU. YDS.

STA. 343+00 IN PLACE
 18" X 28" C.M.
 PIPE CULVERT RT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 30" PIPE CULVERT
 RT SIDE DRAIN
 CONSTRUCT APPROACH = 35 CU. YDS.

STA. 349+48 IN PLACE
 6' X 3' X 51' R.C. BOX CULVERT
 WITH 3:1 WINGS LT. & RT.
 RETAIN AND EXTEND 57' LT. AND 14' RT.
 TO A COMPLETED LENGTH OF 122'
 CHANNEL CHANGE = 62 CU. YDS.
 Q50 = 16.21 CFS D.A. = 8.86 ACRES

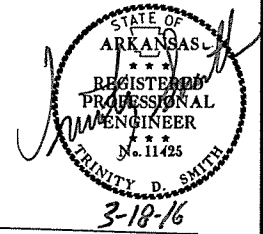
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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| | | | | 6 | ARK. | | 95 | 193 |

2 PLAN AND PROFILE SHEETS



REMOVAL AND DISPOSAL OF FENCE

| STA. | STA. | SIDE | LIN. FT. | GATES |
|--------|--------|------|----------|-------|
| 361+81 | 367+00 | RT. | 360 | |
| 362+29 | | LT. | | |
| 367+20 | 367+38 | LT. | | |

WIRE FENCE

| STA. | STA. | SIDE | TYPE | LIN. FT. | GATES |
|--------|--------|------|------|----------|-------|
| 361+81 | 367+00 | RT. | D | 360 | |
| 362+29 | | LT. | | | |

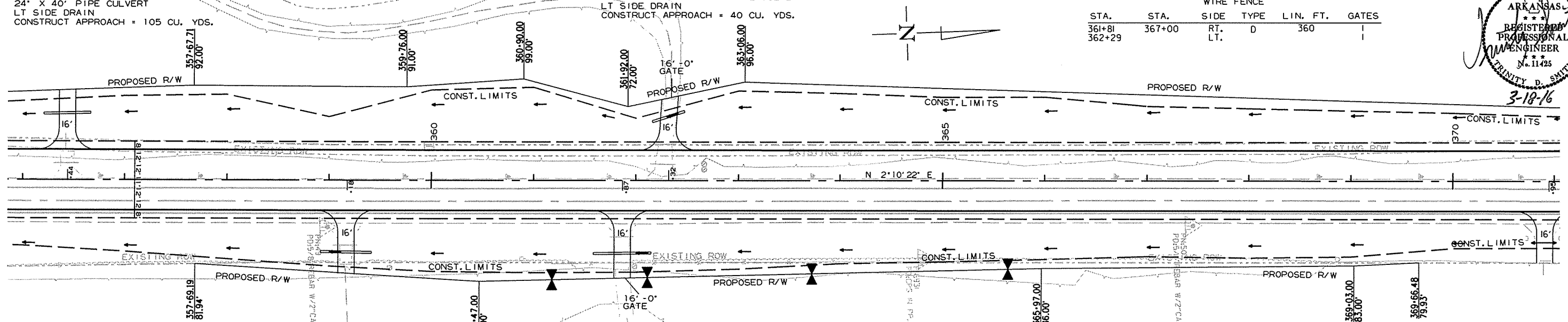
STA. 356+44 IN PLACE
24" X 25' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 40' PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.

STA. 362+32 IN PLACE
24" X 25' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

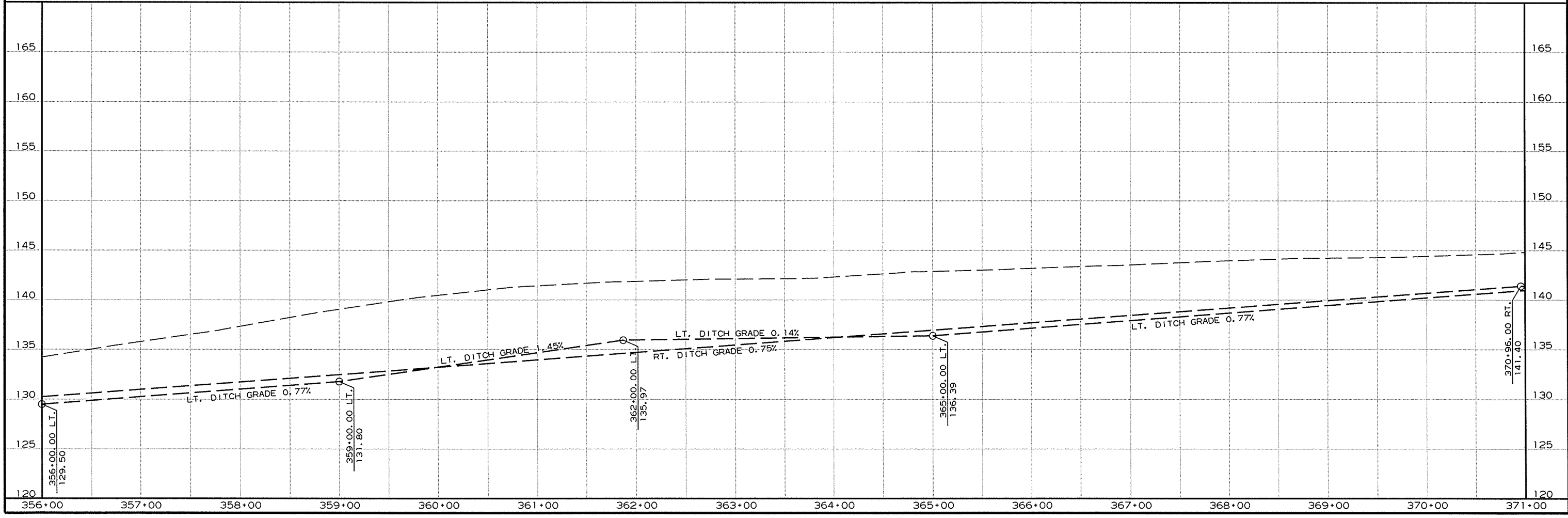
STA. 359+18 IN PLACE
24" X 24' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 44' PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 145 CU. YDS.

STA. 361+87 IN PLACE
24" X 24' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 52' PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 200 CU. YDS.

STA. 370+95 CONSTRUCT
APPROACH ON RT. = 25 CU. YDS.



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



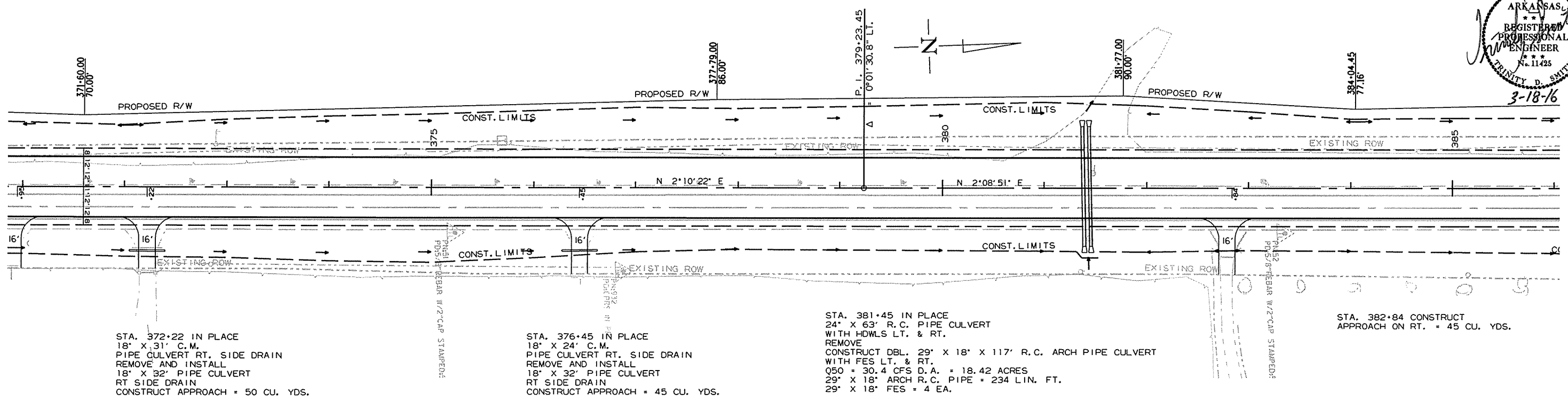
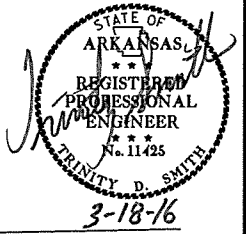
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| | | | | 6 | ARK. | | | |
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REMOVAL AND DISPOSAL OF FENCE

| STA. | STA. | SIDE | LIN. FT. | GATES |
|--------|--------|------|----------|-------|
| 372+00 | 372+08 | RT. | 8 | 2 |
| 372+14 | 372+30 | RT. | | |
| 372+33 | 372+41 | RT. | 8 | |

2 PLAN AND PROFILE SHEETS



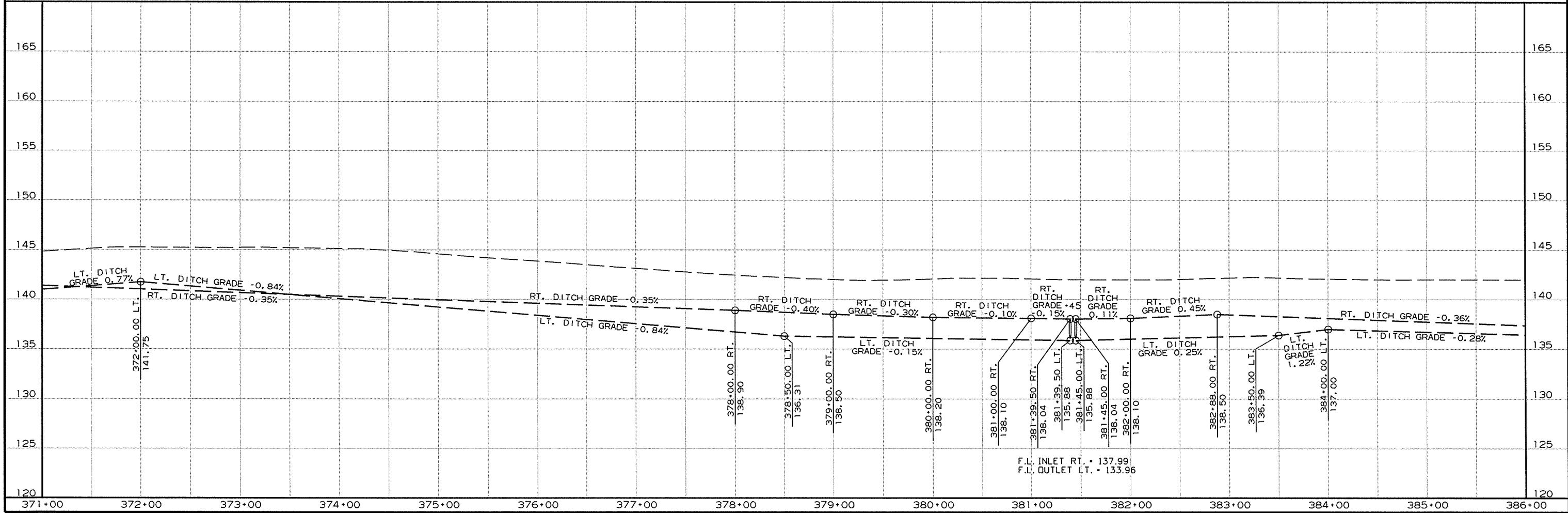
STA. 372+22 IN PLACE
18" X 31" C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32" PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 376+45 IN PLACE
18" X 24" C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32" PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 381+45 IN PLACE
24" X 63" R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE
CONSTRUCT DBL. 29" X 18" X 117' R.C. ARCH PIPE CULVERT
WITH FES LT. & RT.
Q50 = 30.4 CFS D.A. = 18.42 ACRES
29" X 18" ARCH R.C. PIPE = 234 LIN. FT.
29" X 18" FES = 4 EA.

STA. 382+84 CONSTRUCT
APPROACH ON RT. = 45 CU. YDS.

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

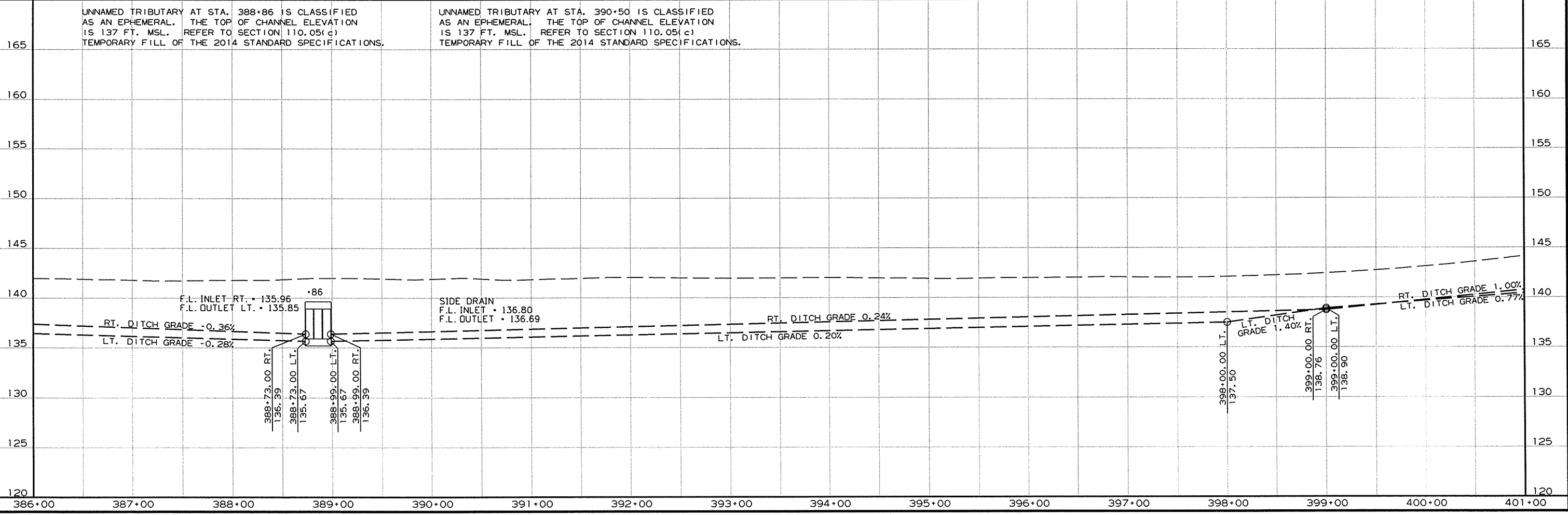
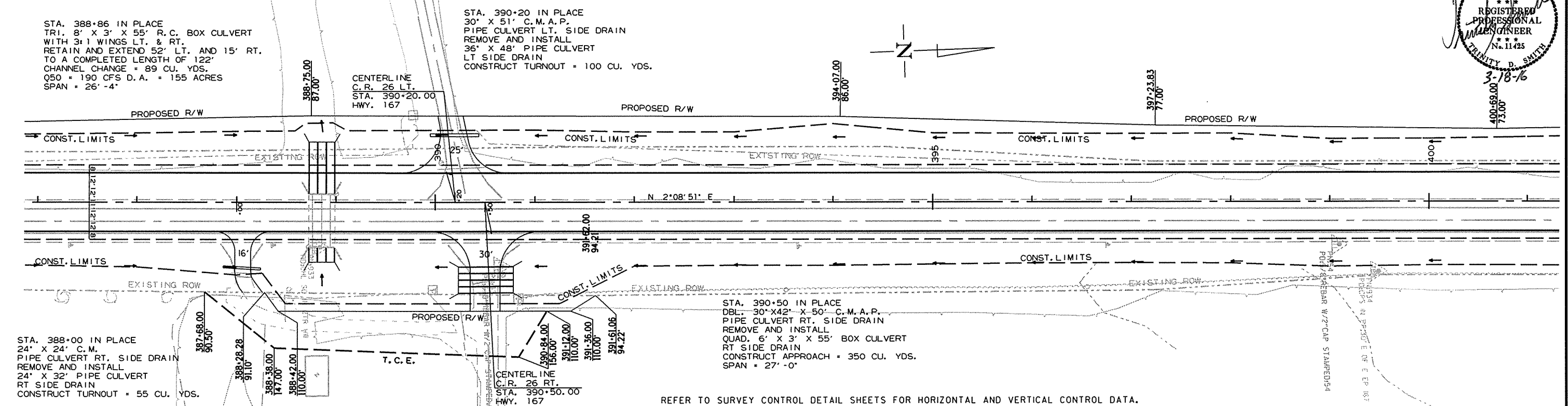
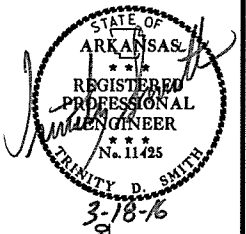


F.L. INLET RT. = 137.99
F.L. OUTLET LT. = 133.96

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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 97 | 193 |

2 PLAN AND PROFILE SHEETS



R070284.DGN 4/11/2014

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

UNNAMED TRIBUTARY AT STA. 388+86 IS CLASSIFIED AS AN EPHEMERAL. THE TOP OF CHANNEL ELEVATION IS 137 FT. MSL. REFER TO SECTION 110.05(c) TEMPORARY FILL OF THE 2014 STANDARD SPECIFICATIONS.

UNNAMED TRIBUTARY AT STA. 390+50 IS CLASSIFIED AS AN EPHEMERAL. THE TOP OF CHANNEL ELEVATION IS 137 FT. MSL. REFER TO SECTION 110.05(c) TEMPORARY FILL OF THE 2014 STANDARD SPECIFICATIONS.

STA. 388+86 IN PLACE
TRI. 8' X 3' X 55' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 52' LT. AND 15' RT.
TO A COMPLETED LENGTH OF 122'
CHANNEL CHANGE = 89 CU. YDS.
Q50 = 190 CFS D.A. = 155 ACRES
SPAN = 26'-4"

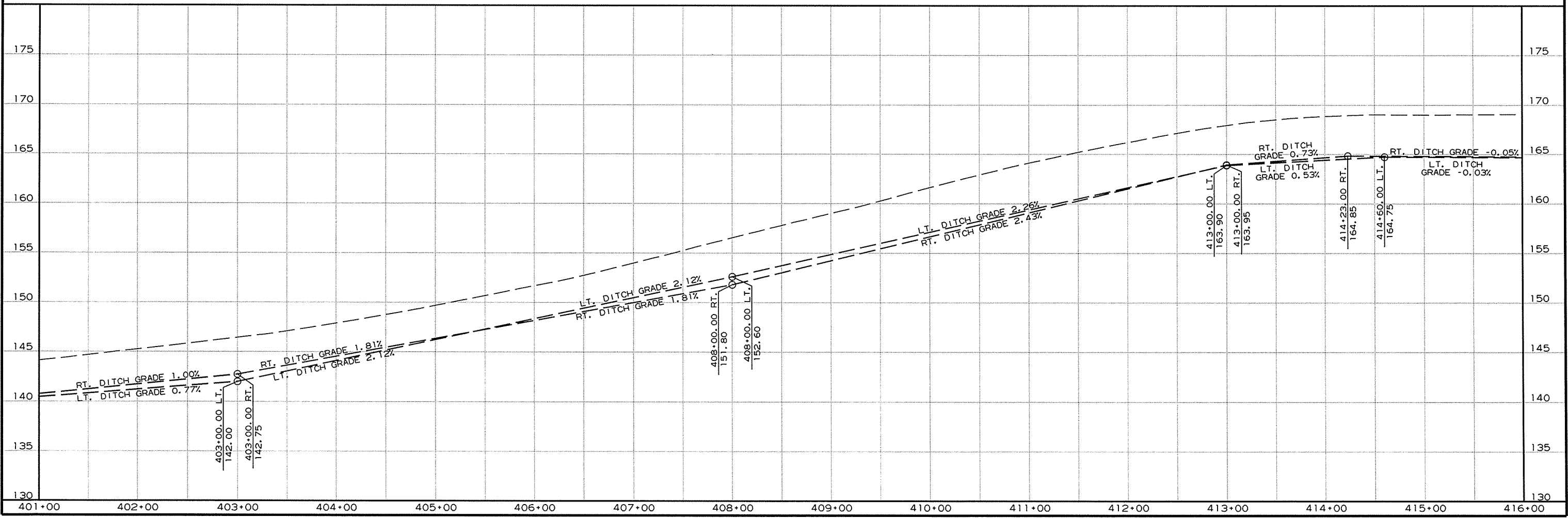
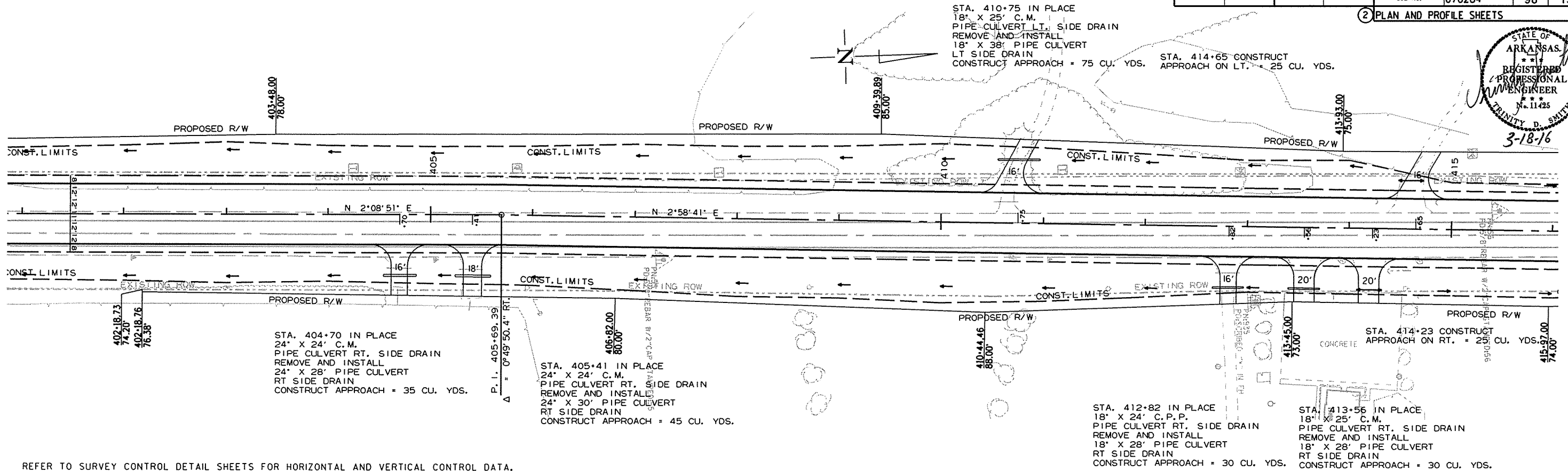
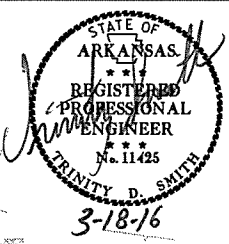
STA. 390+20 IN PLACE
30' X 51' C.M.A.P.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
36' X 48' PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT TURNOUT = 100 CU. YDS.

STA. 388+00 IN PLACE
24' X 24' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24' X 32' PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT TURNOUT = 55 CU. YDS.

STA. 390+50 IN PLACE
DBL. 30' X 42' X 50' C.M.A.P.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
QUAD. 6' X 3' X 55' BOX CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 350 CU. YDS.
SPAN = 27'-0"

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 98 | 193 |

2 PLAN AND PROFILE SHEETS



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STA. 421+40 IN PLACE
18" X 35' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 423+40 IN PLACE
18" X 23' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 425+62 IN PLACE
18" X 24' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

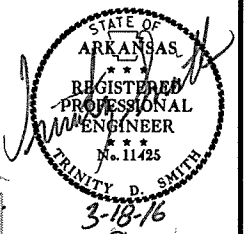
STA. 426+68 IN PLACE
18" X 24' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 427+84 IN PLACE
18" X 24' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 429+34 IN PLACE
18" X 49' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 54' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AD PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | 99 | 193 |

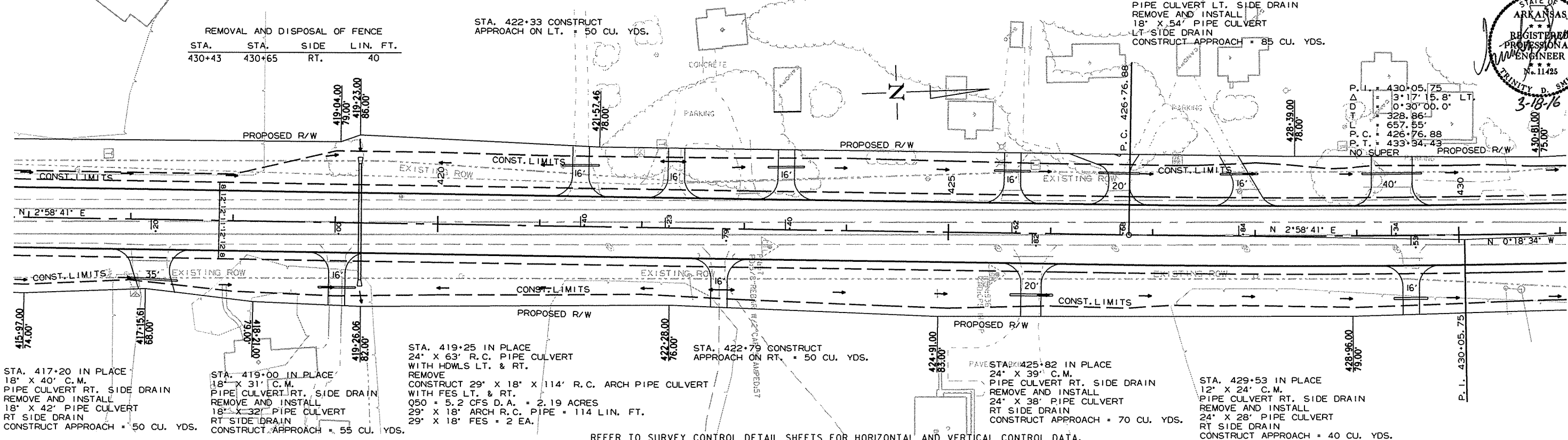
2 PLAN AND PROFILE SHEETS



P.L. = 430+05.75
Δ = 3'17" 15.8' LT.
D = 0'30" 00.0'
T = 328.86'
L = 657.55'
P.C. = 426+76.88
P.T. = 433+94.43
NO SUPER

REMOVAL AND DISPOSAL OF FENCE

| STA. | STA. | SIDE | LIN. FT. |
|--------|--------|------|----------|
| 430+43 | 430+65 | RT. | 40 |



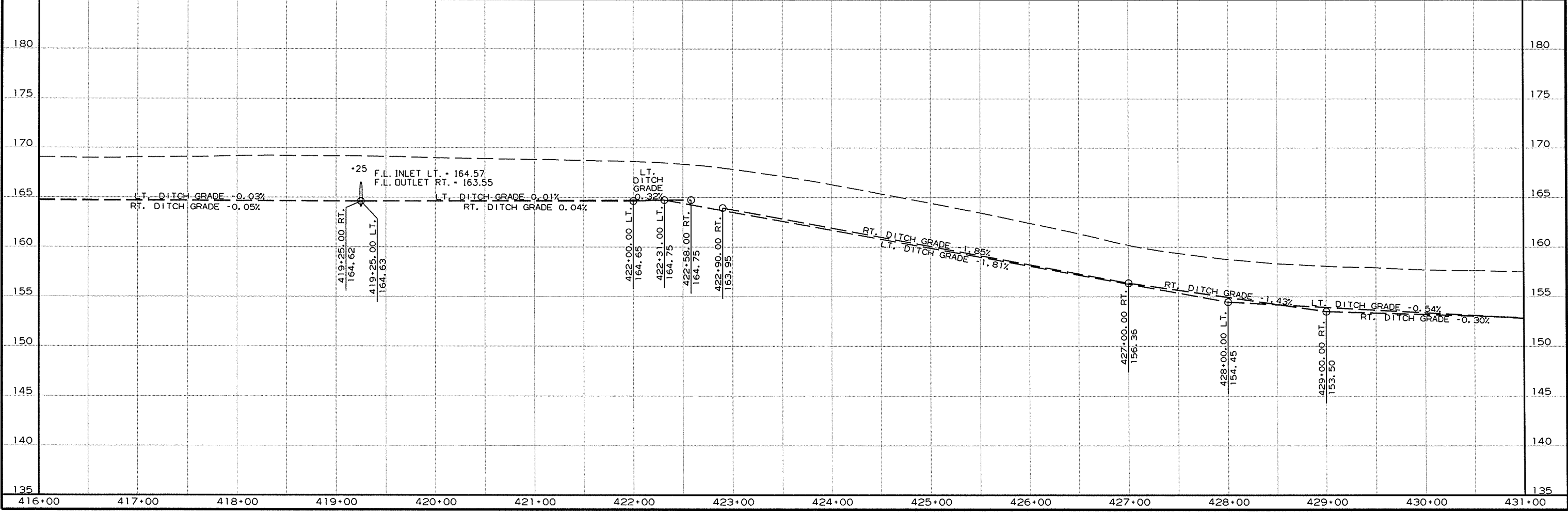
STA. 419+25 IN PLACE
24" X 63' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE
CONSTRUCT 29" X 18" X 114' R.C. ARCH PIPE CULVERT
WITH FES LT. & RT.
Q50 = 5.2 CFS D.A. = 2.19 ACRES
29" X 18" ARCH R.C. PIPE = 114 LIN. FT.
29" X 18" FES = 2 EA.

STA. 422+79 CONSTRUCT
APPROACH ON RT. = 50 CU. YDS.

PAVE STAR 425+82 IN PLACE
24" X 39' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 38' PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.

STA. 429+53 IN PLACE
12" X 24' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 28' PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

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



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|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 100 | 193 |

② PLAN AND PROFILE SHEETS

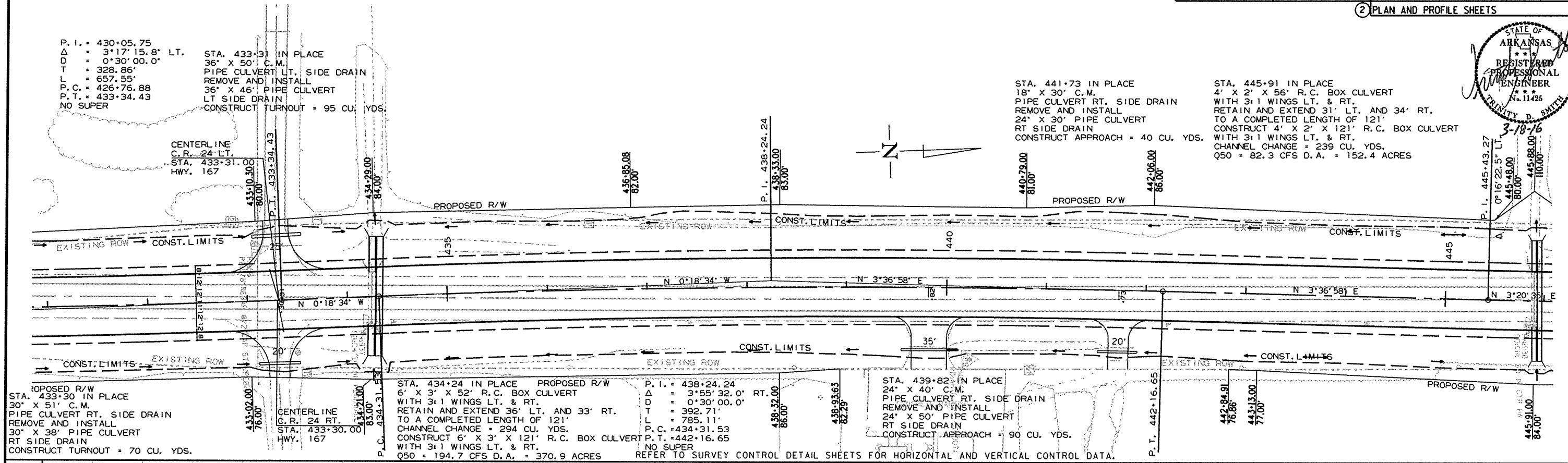


P. I. = 430+05.75
 Δ = 3°17'15.8" LT.
D = 0°30'00.0"
T = 328.86'
L = 657.55'
P. C. = 426+76.88
P. T. = 433+34.43
NO SUPER

STA. 433+31 IN PLACE
36" X 50" C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
36" X 46" PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT TURNOUT = 95 CU. YDS.

STA. 441+73 IN PLACE
18" X 30" C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30" PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 445+91 IN PLACE
4" X 2' X 56' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 31' LT. AND 34' RT.
TO A COMPLETED LENGTH OF 121'
CONSTRUCT 4" X 2' X 121' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
CHANNEL CHANGE = 239 CU. YDS.
Q50 = 82.3 CFS D.A. = 152.4 ACRES



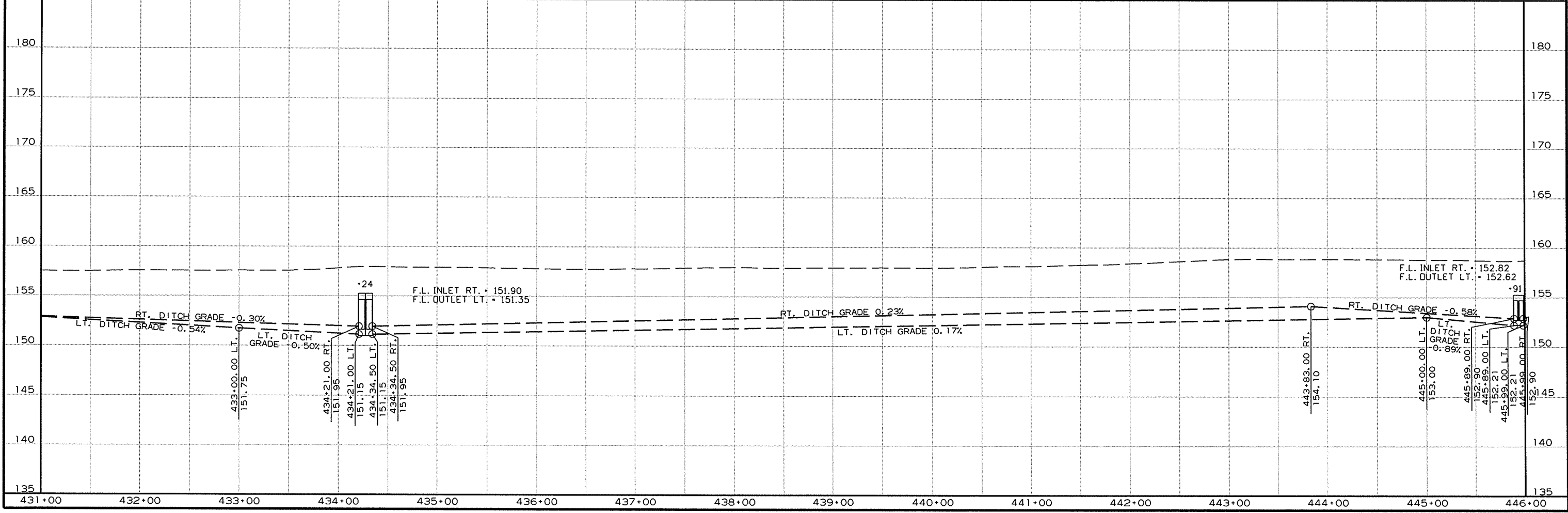
PROPOSED R/W
STA. 433+30 IN PLACE
30" X 51" C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
30" X 38" PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT TURNOUT = 70 CU. YDS.

CENTERLINE
C.R. 24' RT.
STA. 433+30.00
HWY. 167

STA. 434+24 IN PLACE PROPOSED R/W
6' X 3' X 52' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 36' LT. AND 33' RT.
TO A COMPLETED LENGTH OF 121'
CHANNEL CHANGE = 294 CU. YDS.
CONSTRUCT 6' X 3' X 121' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 194.7 CFS D.A. = 370.9 ACRES

P. I. = 438+24.24
 Δ = 3°55'32.0" RT.
D = 0°30'00.0"
T = 392.71'
L = 785.11'
P. C. = 434+31.53
P. T. = 442+16.65
NO SUPER

STA. 439+82 IN PLACE
24" X 40" C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 50" PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 90 CU. YDS.



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STA. 450+85 IN PLACE
 24" X 25' C.P.P.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 24" X 34' PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 65 CU. YDS.

STA. 453+00 IN PLACE
 18" X 58' C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 54' PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 85 CU. YDS.

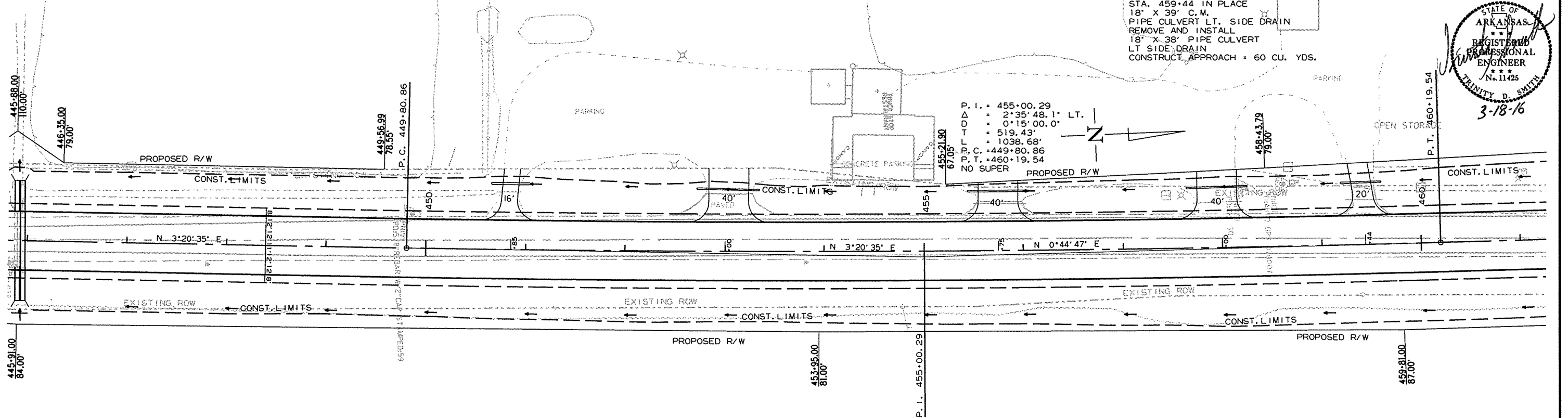
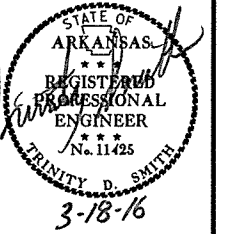
STA. 455+75 IN PLACE
 18" X 53' C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 54' PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 75 CU. YDS.

STA. 458+00 IN PLACE
 18" X 50' C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 58' PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 110 CU. YDS.

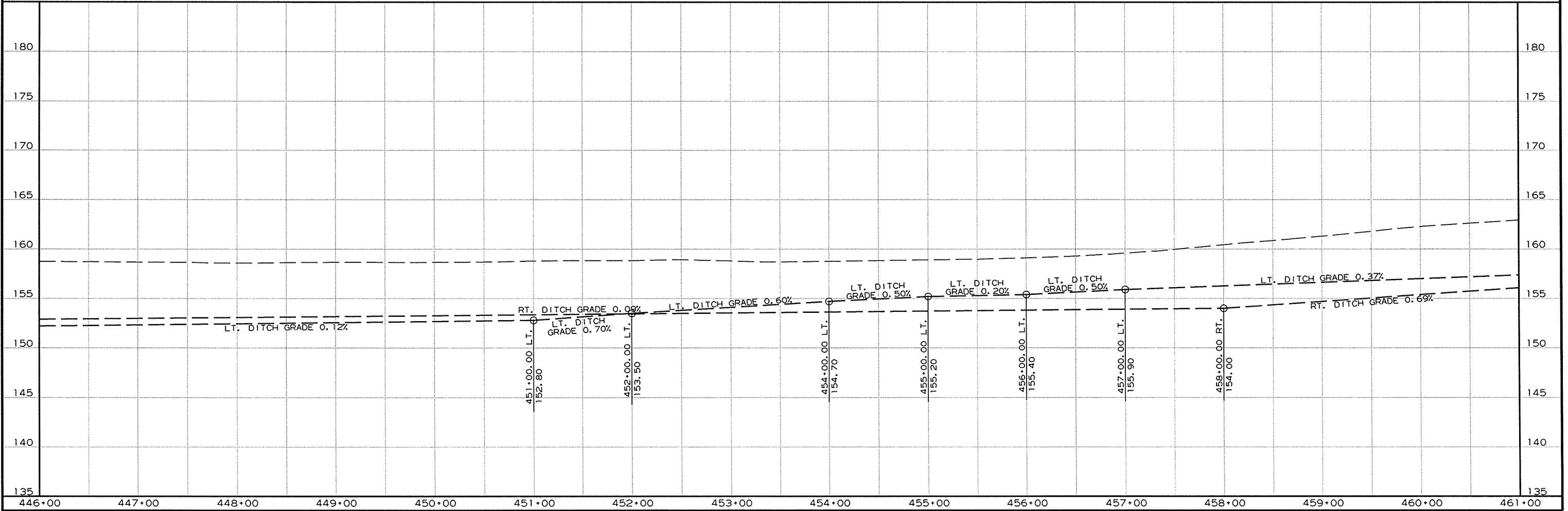
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | 101 | 193 |

② PLAN AND PROFILE SHEETS

STA. 459+44 IN PLACE
 18" X 39' C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 38' PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 60 CU. YDS.



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

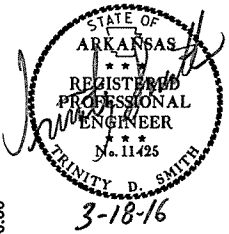


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| | | | | 6 | ARK. | | 102 | 193 |

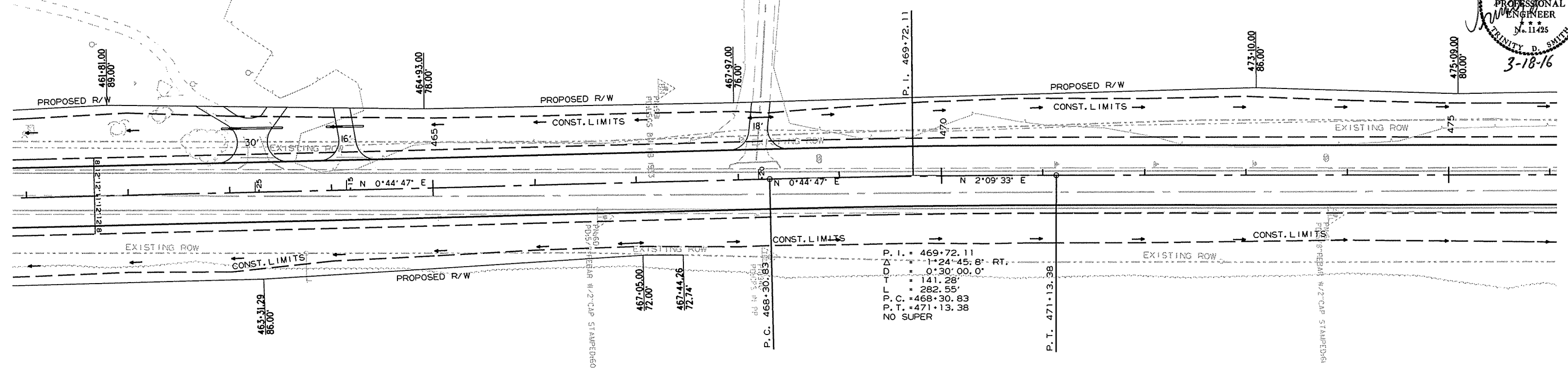
2 PLAN AND PROFILE SHEETS



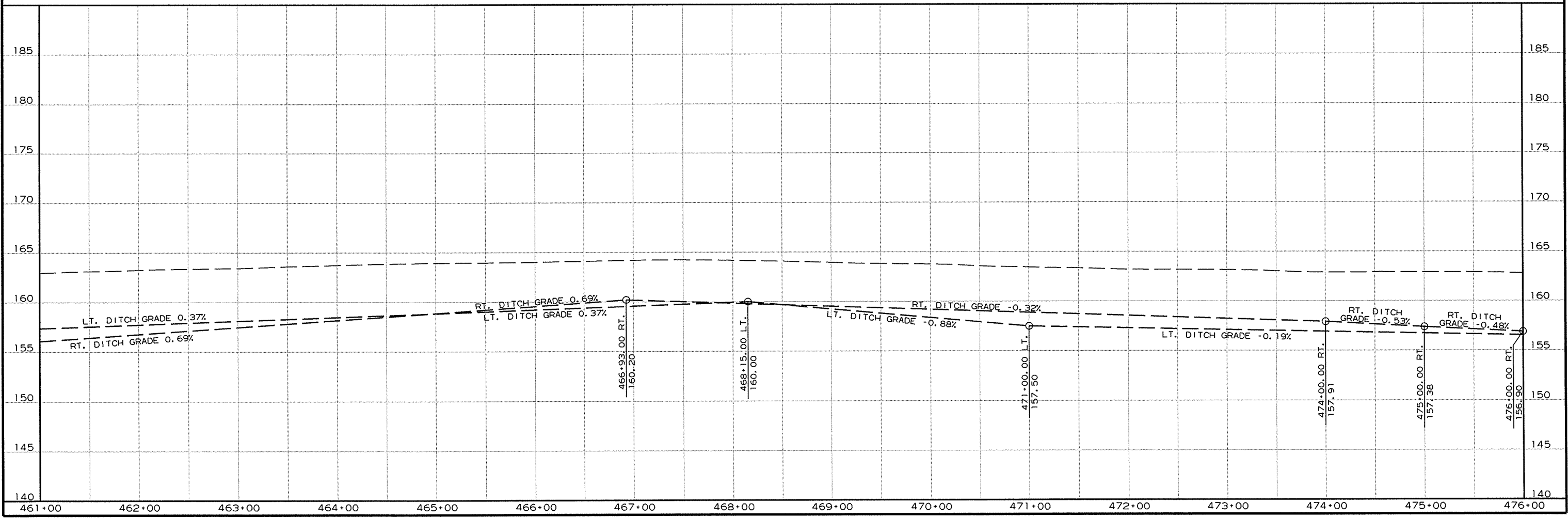
STA. 463+25 IN PLACE
18" X 37' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 62' PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT APPROACH = 110 CU. YDS.

STA. 464+15 IN PLACE
18" X 36' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 468+20 CONSTRUCT
APPROACH ON LT. = 35 CU. YDS.



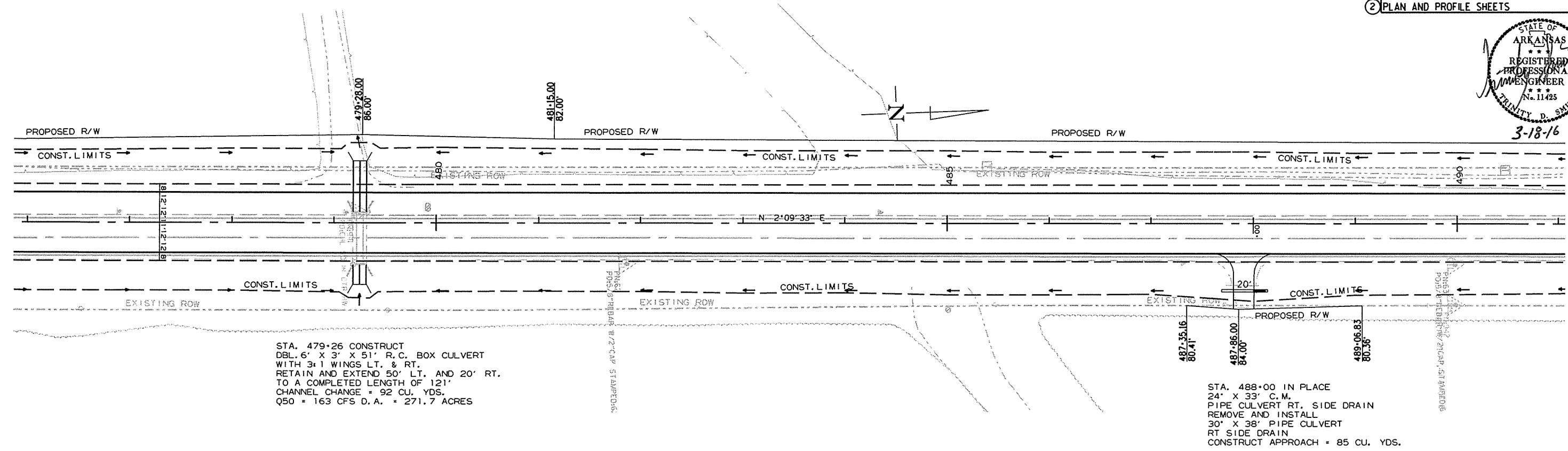
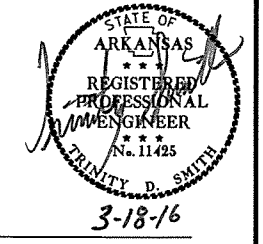
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | 103 | 193 | |

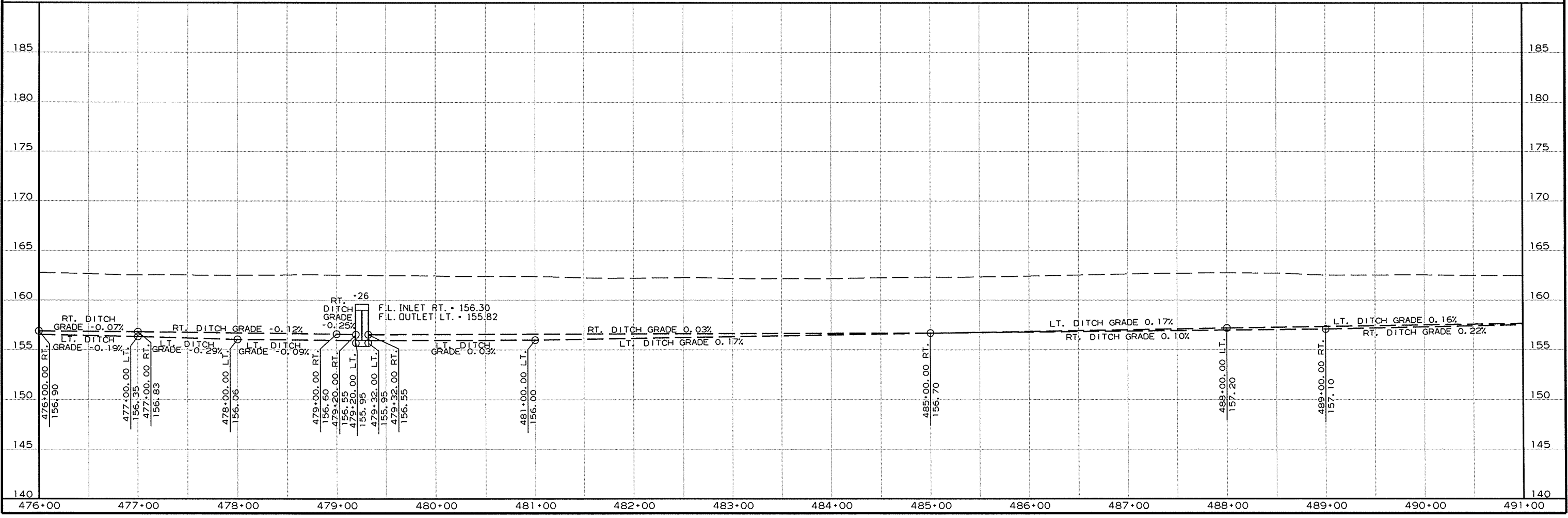
2 PLAN AND PROFILE SHEETS



STA. 479+26 CONSTRUCT
DBL. 6' X 3' X 51' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 50' LT. AND 20' RT.
TO A COMPLETED LENGTH OF 121'
CHANNEL CHANGE = 92 CU. YDS.
Q50 = 163 CFS D. A. = 271.7 ACRES

STA. 488+00 IN PLACE
24" X 33" C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
30" X 36" PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

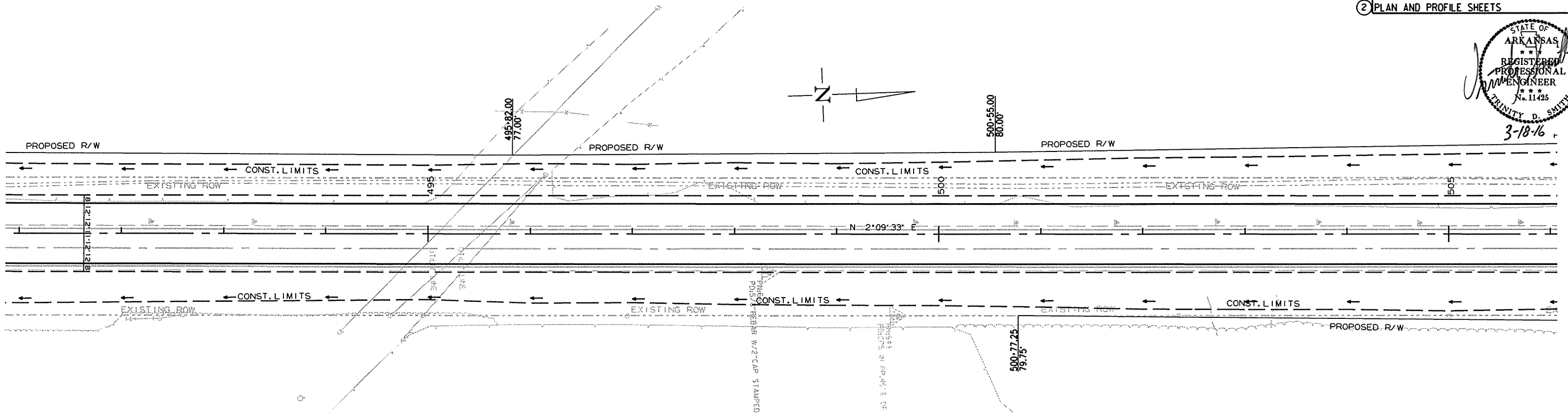
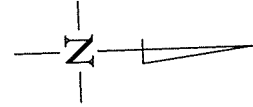
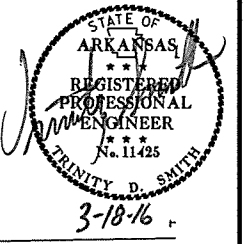
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



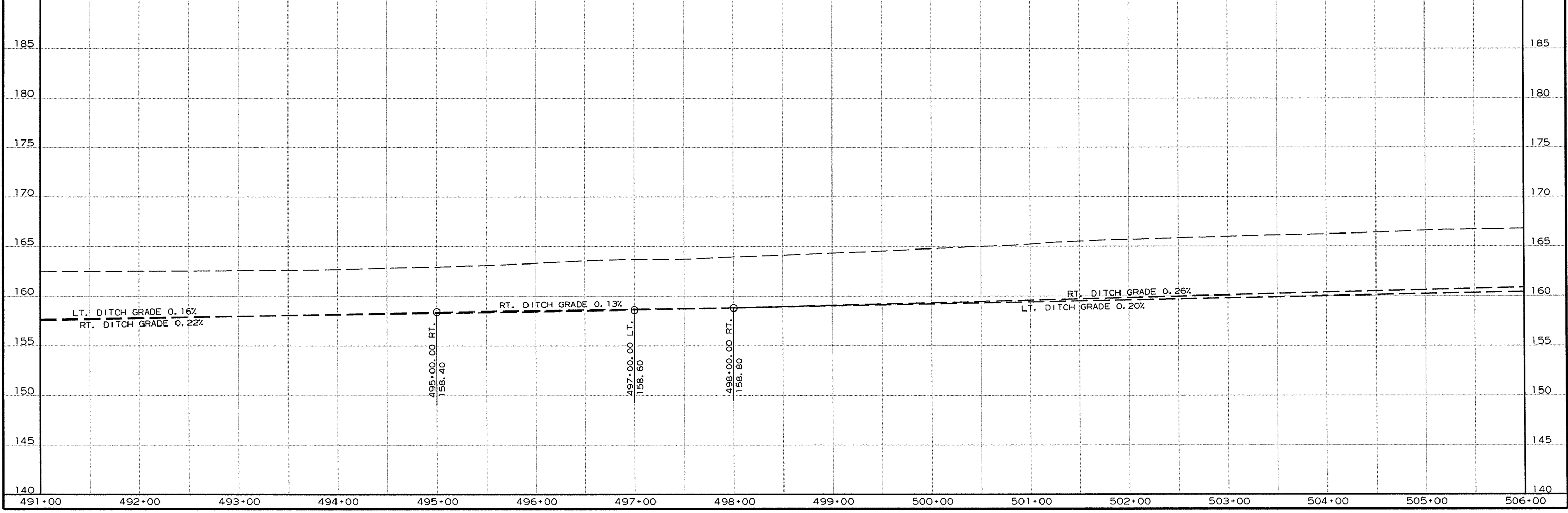
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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 104 | 193 |

2 PLAN AND PROFILE SHEETS



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



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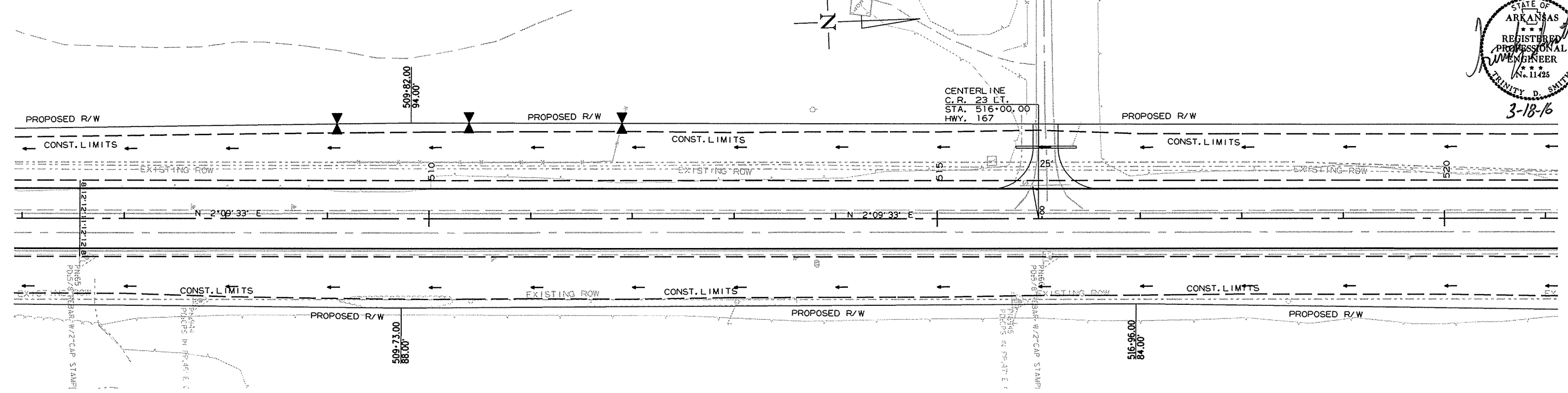
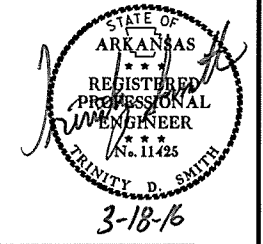
| REMOVAL AND DISPOSAL OF FENCE | | | |
|-------------------------------|--------|------|----------|
| STA. | STA. | SIDE | LIN. FT. |
| 509+07 | 511+90 | LT. | 312 |

| WIRE FENCE | | | | |
|------------|--------|------|------|----------|
| STA. | STA. | SIDE | TYPE | LIN. FT. |
| 509+07 | 511+90 | LT. | C | 312 |

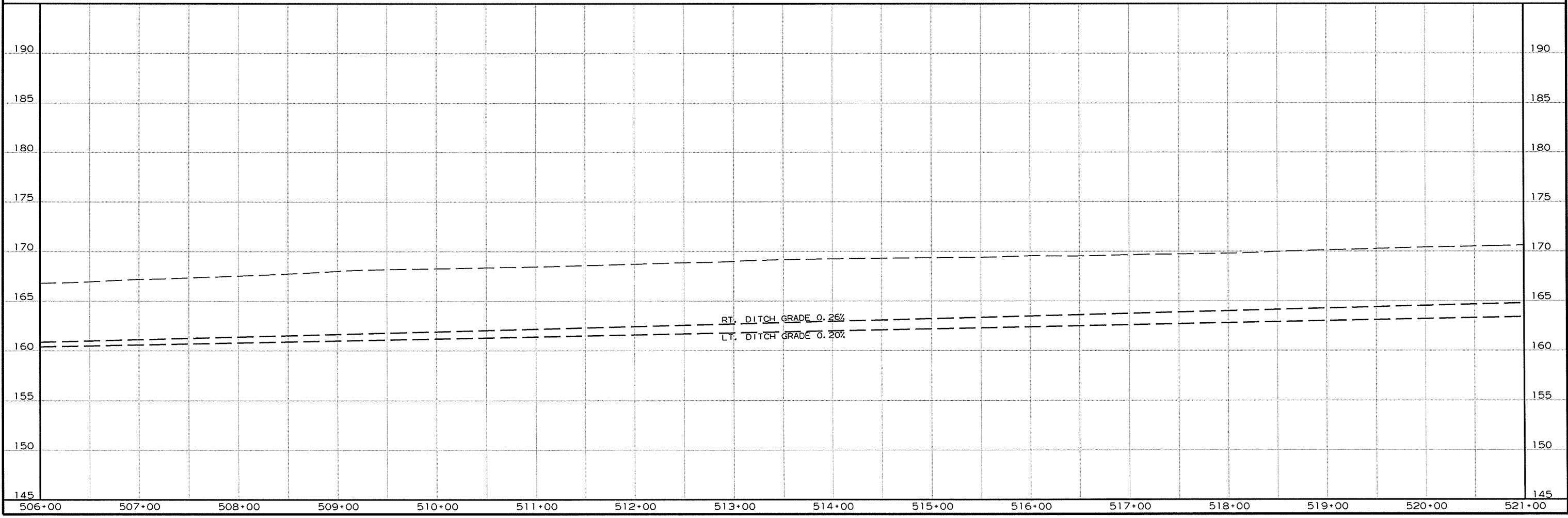
STA. 516+00 IN PLACE
 24" X 51" C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 24" X 66" PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT TURNOUT = 235 CU. YDS.

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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 105 | 193 |
| | | | | JOB NO. 070284 | | | | |

2 PLAN AND PROFILE SHEETS



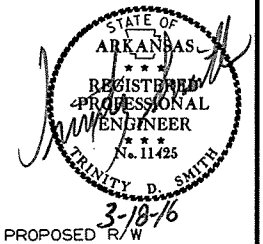
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



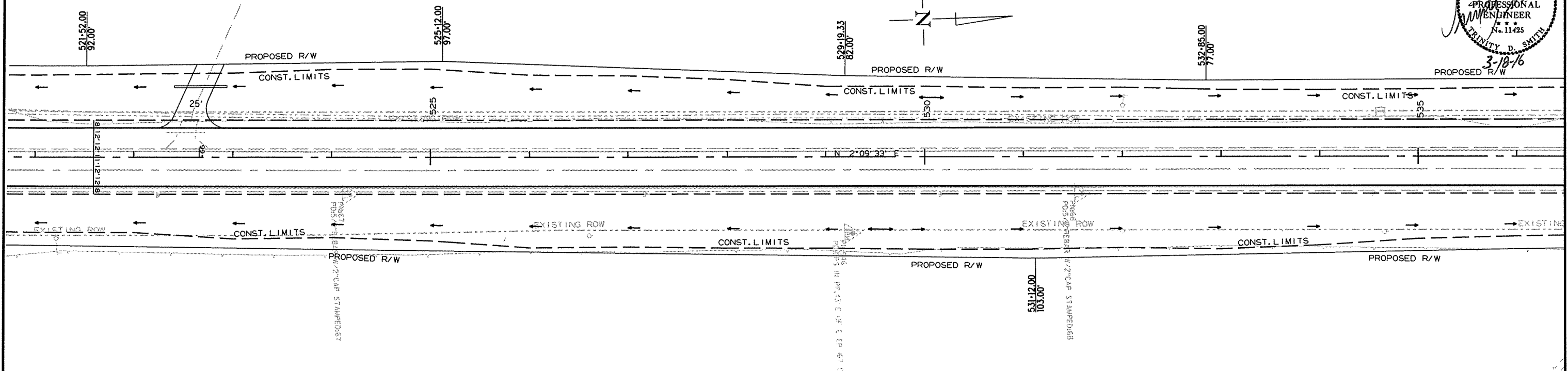
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 106 | 193 |

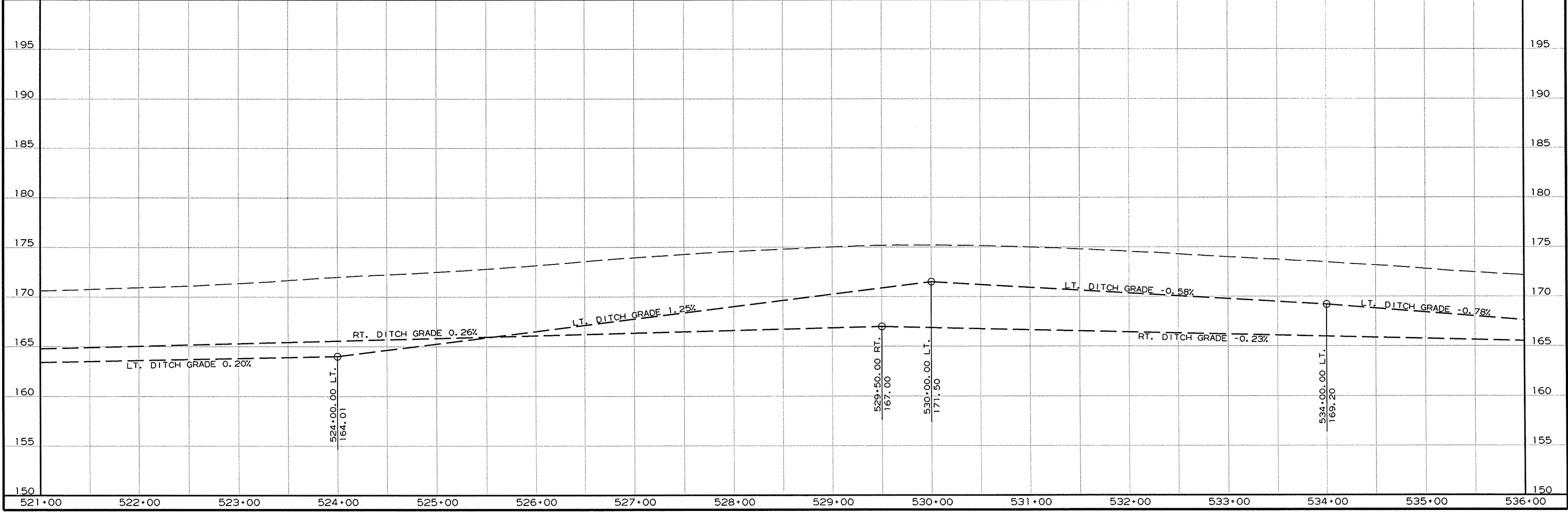
2 PLAN AND PROFILE SHEETS



STA. 522+66 IN PLACE
 18" X 40" C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 24" X 50" PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 145 CU. YDS.



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



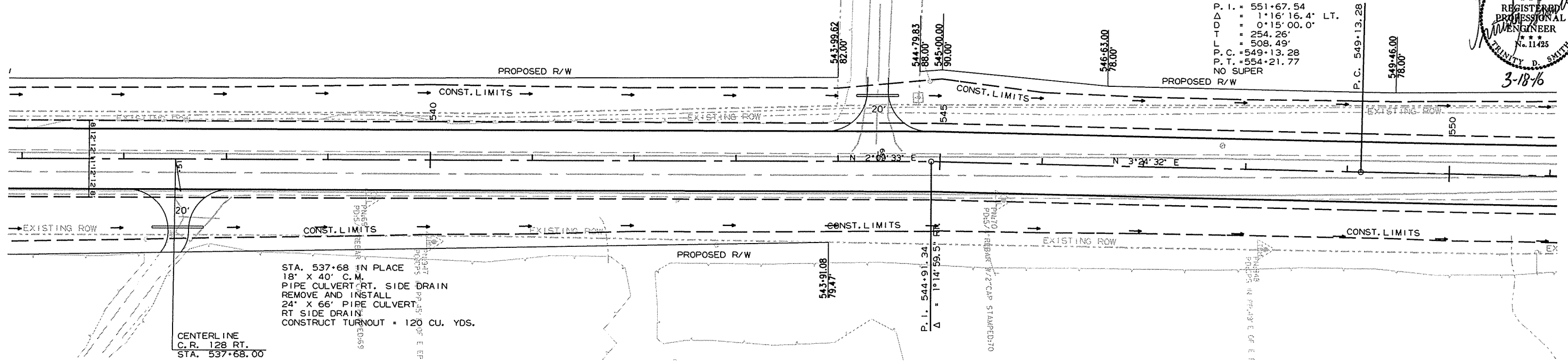
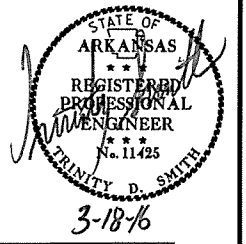
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STA. 544+39 IN PLACE
 24" X 40" C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 24" X 42" PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 70 CU. YDS.

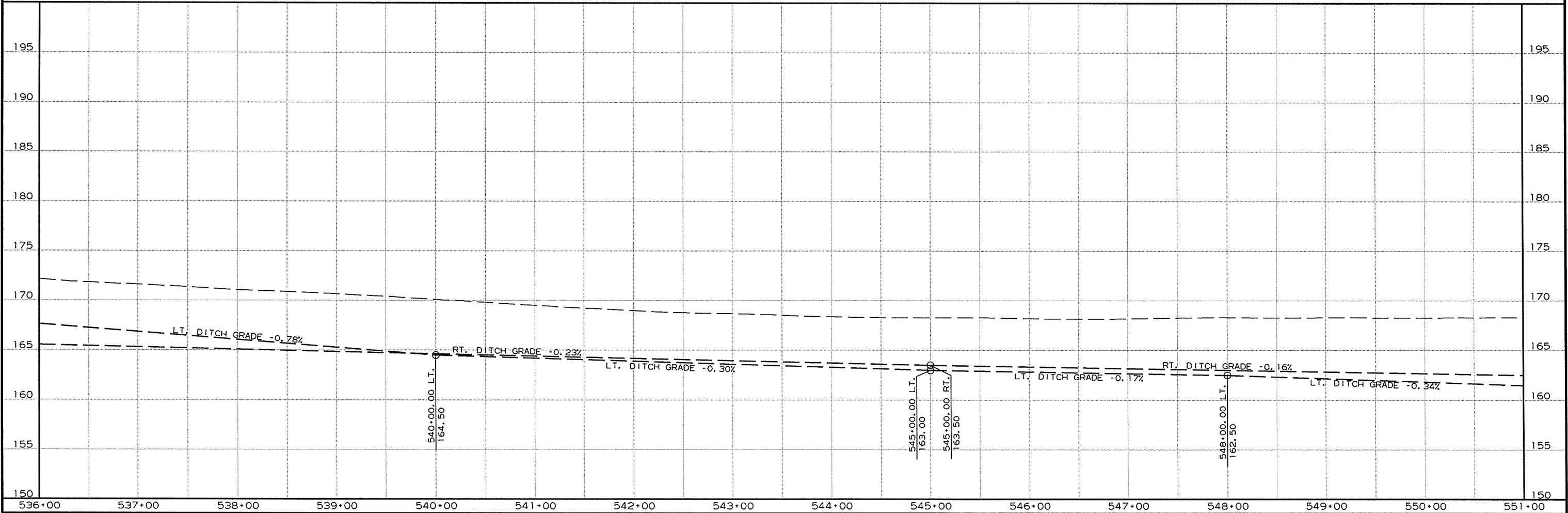
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 107 | 193 |
| | | | | JOB NO. 070284 | | | | |

2 PLAN AND PROFILE SHEETS

P. I. = 551+67.54
 Δ = 1°16'16.4" LT.
 D = 0°15'00.0"
 T = 254.26'
 L = 508.49'
 P. C. = 549+13.28
 P. T. = 554+21.77
 NO SUPER



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



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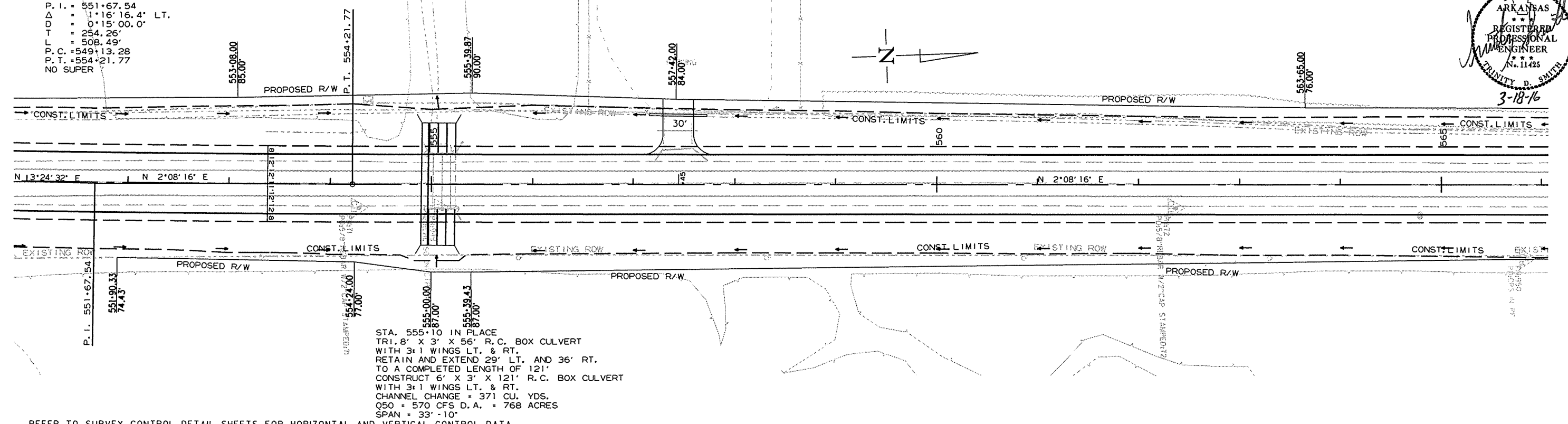
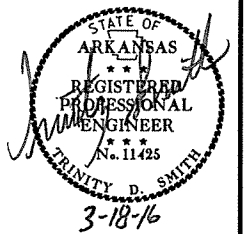
| REMOVAL AND DISPOSAL OF FENCE | | | |
|-------------------------------|--------|------|----------|
| STA. | STA. | SIDE | LIN. FT. |
| 556+36 | 558+64 | LT. | 218 |

STA. 557+45 IN PLACE
 24" X 41" C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 24" X 52" PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 130 CU. YDS.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 108 | 193 |

2 PLAN AND PROFILE SHEETS

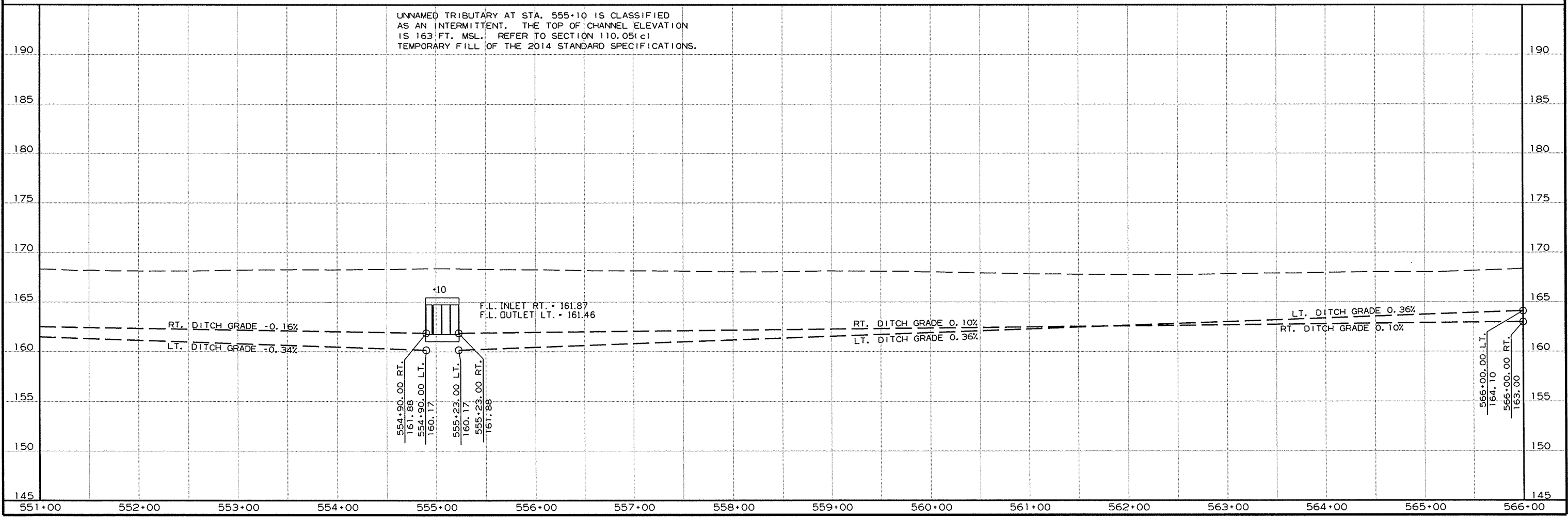
P. I. = 551+67.54
 Δ = 1° 16' 16.4" LT.
 D = 0° 15' 00.0"
 T = 254.26'
 L = 508.49'
 P. C. = 549+13.28
 P. T. = 554+21.77
 NO SUPER



STA. 555+10 IN PLACE
 TRI. 8' X 3' X 56' R.C. BOX CULVERT
 WITH 3:1 WINGS LT. & RT.
 RETAIN AND EXTEND 29' LT. AND 36' RT.
 TO A COMPLETED LENGTH OF 121'
 CONSTRUCT 6' X 3' X 121' R.C. BOX CULVERT
 WITH 3:1 WINGS LT. & RT.
 CHANNEL CHANGE = 371 CU. YDS.
 Q50 = 570 CFS D.A. = 768 ACRES
 SPAN = 33'-10"

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

UNNAMED TRIBUTARY AT STA. 555+10 IS CLASSIFIED AS AN INTERMITTENT. THE TOP OF CHANNEL ELEVATION IS 163 FT. MSL. REFER TO SECTION 110.05(c) TEMPORARY FILL OF THE 2014 STANDARD SPECIFICATIONS.

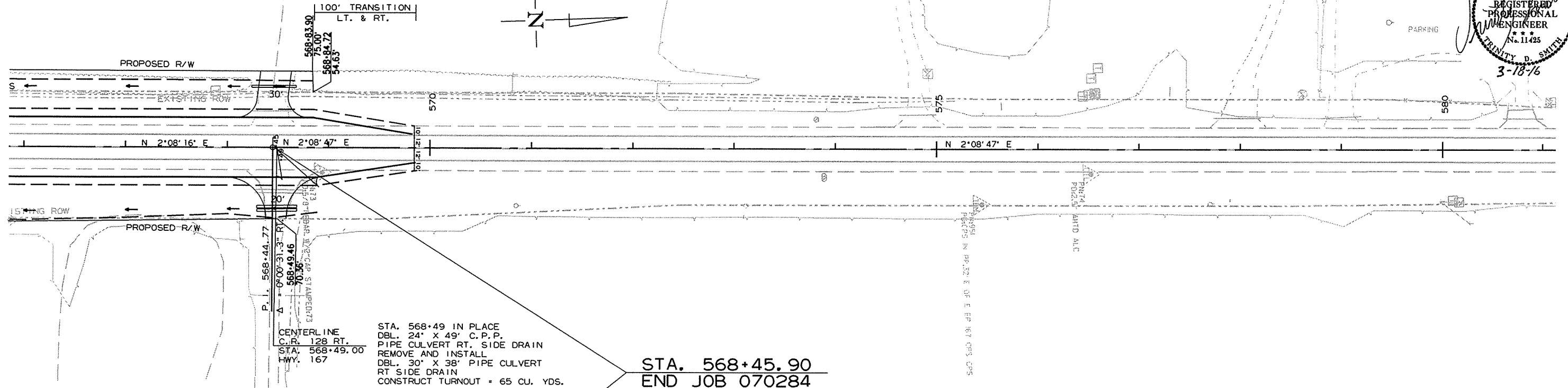
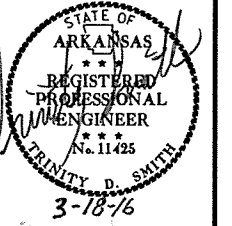


R070284.DGN 4/11/2014

STA. 568+45 IN PLACE
 24" X 40' C.M.
 PIPE CULVERT LT. SIDE DRAIN
 REMOVE AND INSTALL
 24" X 40' PIPE CULVERT
 LT SIDE DRAIN
 CONSTRUCT APPROACH = 50 CU. YDS.

| 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. | 070284 | | 109 | 193 |

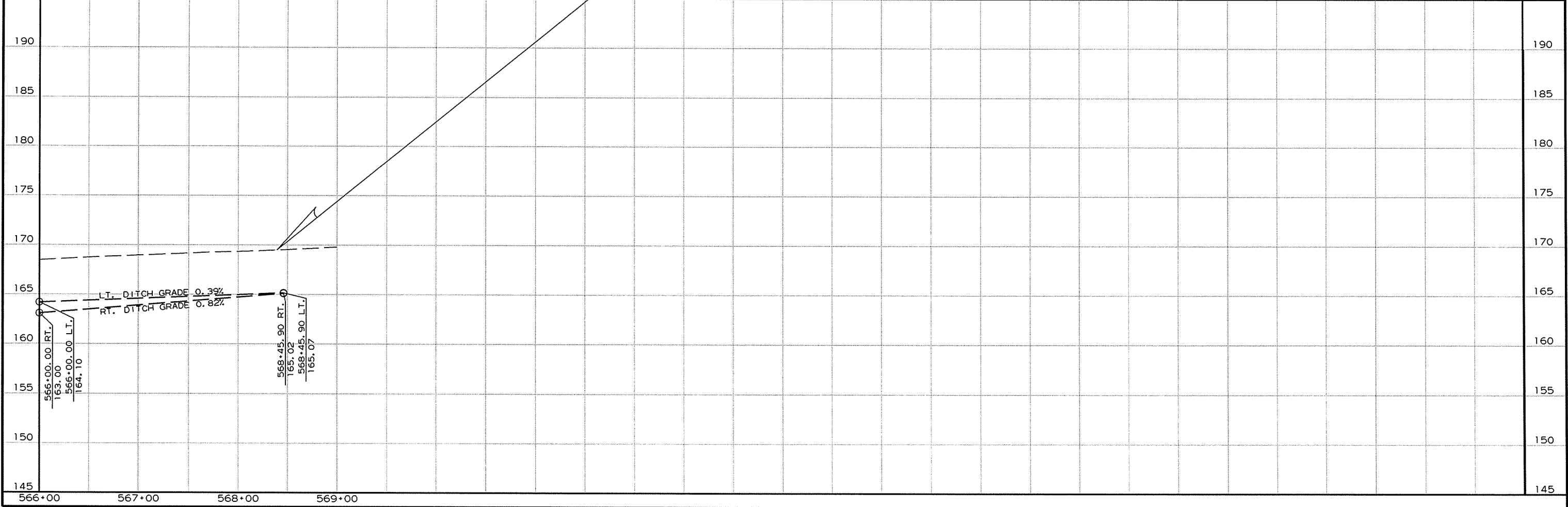
2 PLAN AND PROFILE SHEETS



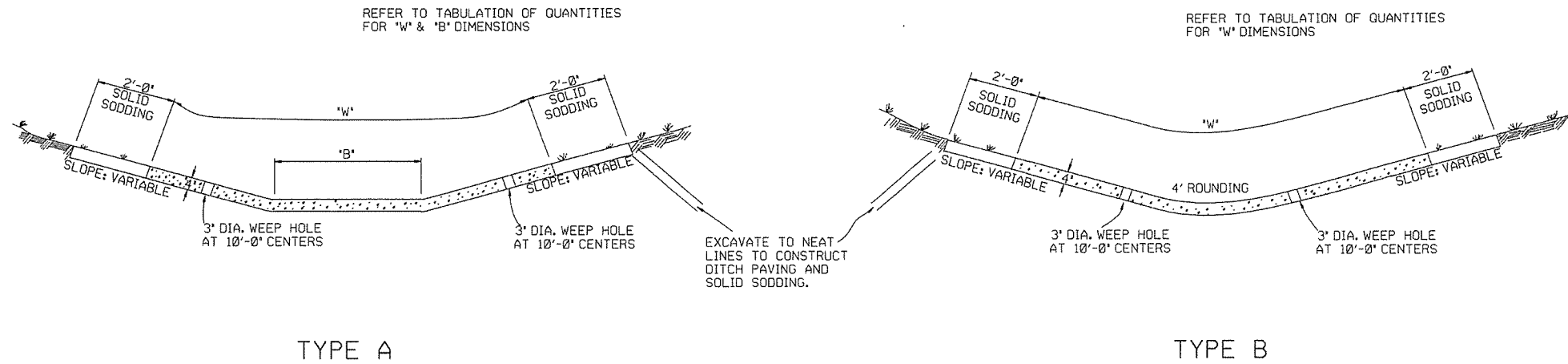
STA. 568+49 IN PLACE
 DBL. 24" X 49" C.P.P.
 PIPE CULVERT RT. SIDE DRAIN
 REMOVE AND INSTALL
 DBL. 30" X 38" PIPE CULVERT
 RT SIDE DRAIN
 CONSTRUCT TURNOUT = 65 CU. YDS.

STA. 568+45.90
 END JOB 070284

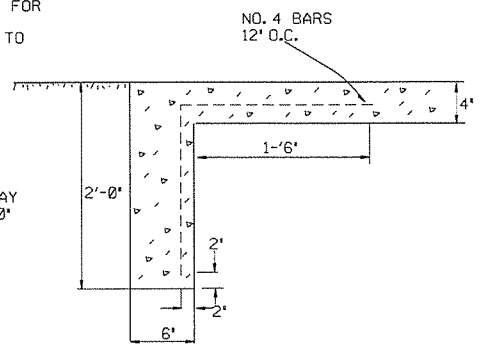
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



R070284.DGN 4/11/2014

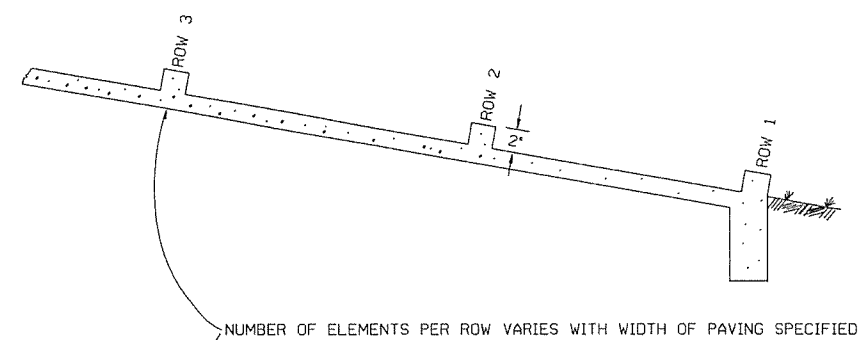


THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR 'CONCRETE DITCH PAVING.'

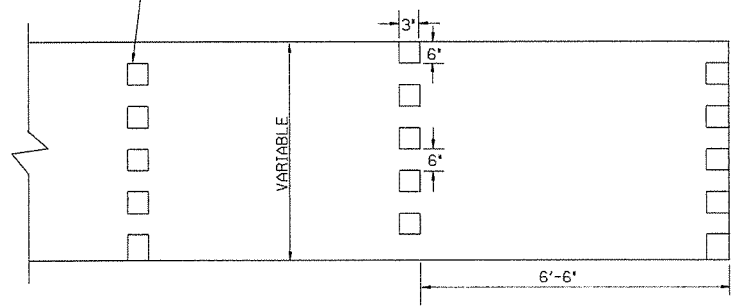


TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

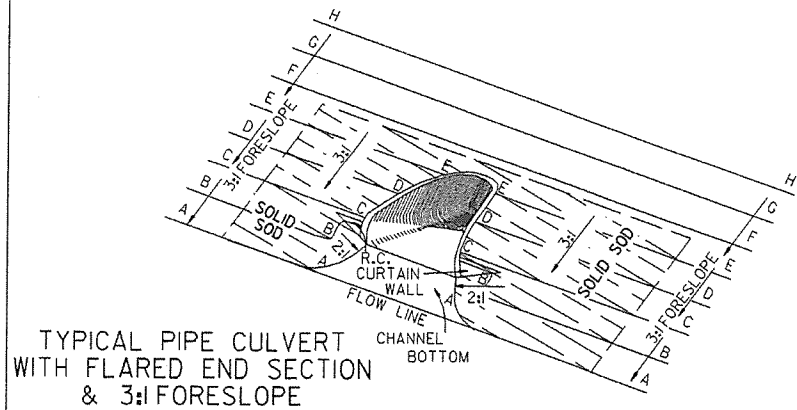
- THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.
- TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.
- SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.
- 1' WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

| | | |
|----------|--|-------------|
| 11-17-10 | ADDED GENERAL NOTE | |
| 6-2-94 | ADDED GENERAL NOTE ABOUT SOLID SODDING | |
| 11-30-8 | ELIMINATED MIN. ROWS OF ELEMENTS | 111-30-89 |
| 7-15-88 | REVISED DISSIPATOR NOTE | 653-7-15-88 |
| 4-3-87 | REVISED ENERGY DISSIPATOR | 671-4-3-87 |
| 1-9-87 | MODIFIED NOTE ON ENERGY DISS. | 532-1-9-87 |
| 11-3-86 | ADDED NOTE TO ENERGY DISS. | 599-12-1-86 |
| 11-1-84 | ENERGY DISSIPATOR DETAILS | 508-11-1-84 |
| | ADDED | |
| 11-1-84 | EXCAVATION DETAILS ADDED | |
| | TYPED A & B | |
| 10-2-72 | REVISED AND REDRAWN | 508-10-2-72 |
| DATE | REVISION | DATE FILM'D |

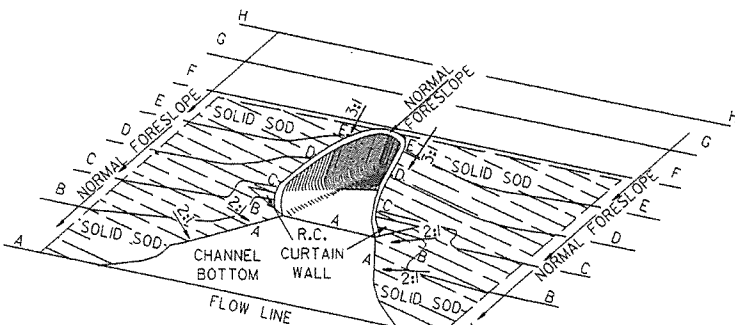
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

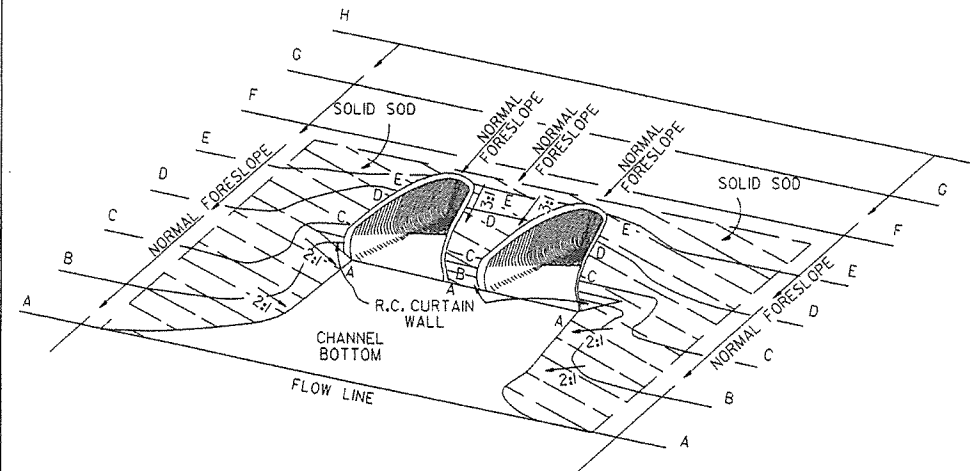
STANDARD DRAWING CDP-1



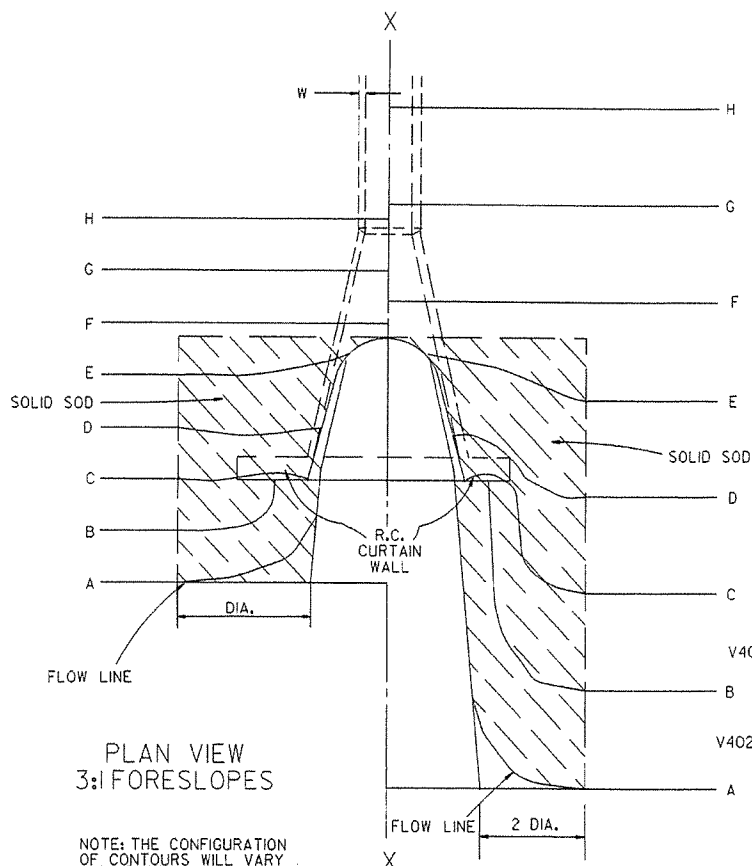
TYPICAL PIPE CULVERT WITH FLARED END SECTION & 3:1 FORESLOPE



TYPICAL PIPE CULVERT WITH FLARED END SECTION & FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT WITH FLARED END SECTIONS & FLATTENED ADJACENT SLOPES



PLAN VIEW 3:1 FORESLOPES

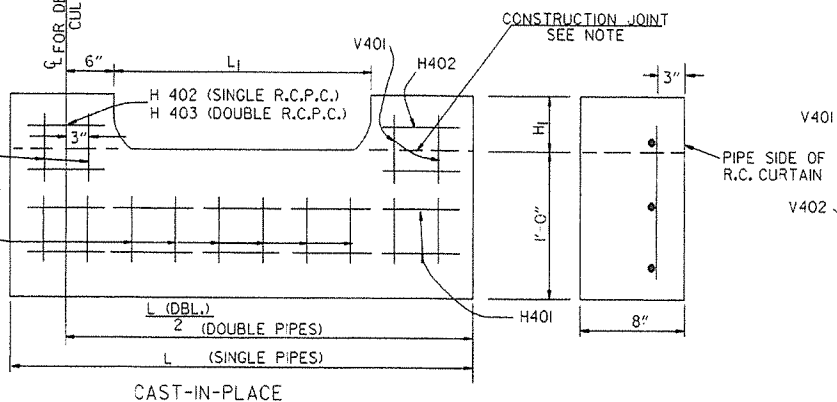
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

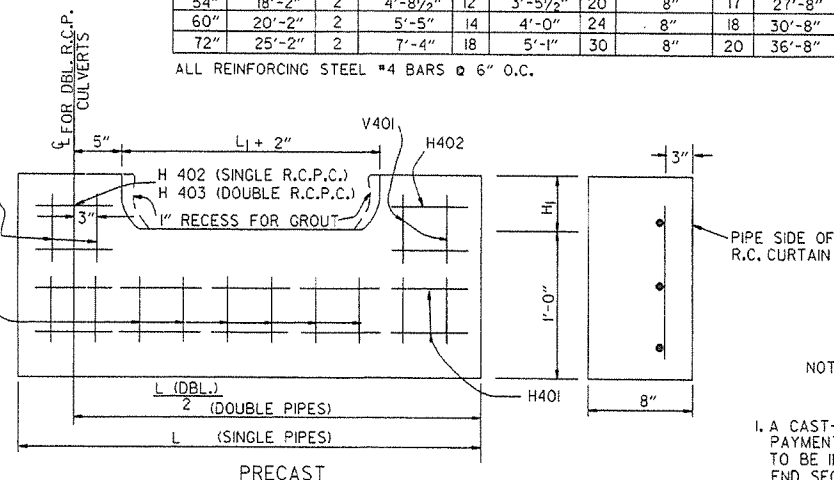
| PIPE DIA. | H ₁ | L ₁ | L | L (DBL.) 2 | SINGLE R.C.P.C. | | DOUBLE R.C.P.C. | |
|-----------|----------------|----------------|--------|---------------|-----------------|--------------|-----------------|--------------|
| | | | | | CONC. | REINF. STEEL | CONC. | REINF. STEEL |
| | | | | | CU. YDS. | LBS. | CU. YDS. | LBS. |
| 18" | 11 1/2" | 3'-5" | 8'-0" | 6'-3" | 0.31 | 27.7 | 0.45 | 39.5 |
| 24" | 1'-0 1/2" | 4'-6" | 9'-6" | 7'-6" | 0.37 | 33.4 | 0.53 | 48.0 |
| 30" | 1'-3 1/2" | 5'-7" | 11'-0" | 9'-0" | 0.45 | 39.0 | 0.67 | 59.0 |
| 36" | 1'-7" | 6'-8" | 13'-0" | 10'-6" | 0.58 | 52.6 | 0.83 | 73.9 |
| 42" | 2'-1 1/2" | 7'-3" | 15'-6" | 12'-0" | 0.82 | 77.1 | 1.10 | 100.7 |
| 48" | 2'-5" | 7'-10" | 17'-0" | 13'-0" | 0.98 | 94.9 | 1.27 | 120.4 |
| 54" | 2'-9 1/2" | 8'-5" | 18'-6" | 14'-0" | 1.16 | 115.8 | 1.47 | 143.7 |
| 60" | 3'-4" | 9'-0" | 20'-6" | 15'-6" | 1.47 | 149.7 | 1.84 | 180.3 |
| 72" | 4'-5" | 10'-2" | 25'-6" | 18'-6" | 2.31 | 232.6 | 2.73 | 271.0 |

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



R.C. CURTAIN WALL DETAILS

NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

REINFORCING STEEL SCHEDULE

| PIPE DIA. | SINGLE R.C. PIPE CULVERT | | | | | | | | DOUBLE R.C. PIPE CULVERT | | | | | | | | | |
|-----------|--------------------------|-----|------------|-----|------------|-----|------|-----|--------------------------|-----|------------|-----|------|-----|------------|-----|------|-----|
| | H401 | | H402 | | V401 | | V402 | | H401 | | H402 | | H403 | | V401 | | V402 | |
| | L | NO. | L | NO. | L | NO. | L | NO. | L | NO. | L | NO. | L | NO. | L | NO. | L | NO. |
| 18" | 7'-8" | 2 | 1'-11 1/2" | 4 | 1'-7 1/2" | 8 | 8" | 8 | 12'-2" | 2 | 1'-11 1/2" | 4 | 8" | 2 | 1'-7 1/2" | 10 | 8" | 14 |
| 24" | 9'-2" | 2 | 2'-2" | 4 | 1'-8 1/2" | 10 | 8" | 9 | 14'-8" | 2 | 2'-2" | 4 | 8" | 2 | 1'-8 1/2" | 12 | 8" | 18 |
| 30" | 10'-8" | 2 | 2'-4 1/2" | 4 | 1'-11 1/2" | 10 | 8" | 12 | 17'-8" | 2 | 2'-4 1/2" | 4 | 8" | 2 | 1'-11 1/2" | 14 | 8" | 22 |
| 36" | 12'-8" | 2 | 2'-10" | 6 | 2'-3" | 12 | 8" | 14 | 20'-8" | 2 | 2'-10" | 6 | 8" | 3 | 2'-3" | 14 | 8" | 28 |
| 42" | 15'-2" | 2 | 3'-9 1/2" | 8 | 2'-9 1/2" | 16 | 8" | 15 | 23'-8" | 2 | 3'-9 1/2" | 8 | 8" | 4 | 2'-9 1/2" | 18 | 8" | 30 |
| 48" | 16'-8" | 2 | 4'-3" | 10 | 3'-1" | 18 | 8" | 16 | 25'-8" | 2 | 4'-3" | 10 | 8" | 5 | 3'-1" | 20 | 8" | 32 |
| 54" | 18'-2" | 2 | 4'-8 1/2" | 12 | 3'-5 1/2" | 20 | 8" | 17 | 27'-8" | 2 | 4'-8 1/2" | 12 | 8" | 6 | 3'-5 1/2" | 22 | 8" | 34 |
| 60" | 20'-2" | 2 | 5'-5" | 14 | 4'-0" | 24 | 8" | 18 | 30'-8" | 2 | 5'-5" | 14 | 8" | 7 | 4'-0" | 26 | 8" | 36 |
| 72" | 25'-2" | 2 | 7'-4" | 18 | 5'-1" | 30 | 8" | 20 | 36'-8" | 2 | 7'-4" | 18 | 8" | 9 | 5'-1" | 33 | 8" | 40 |

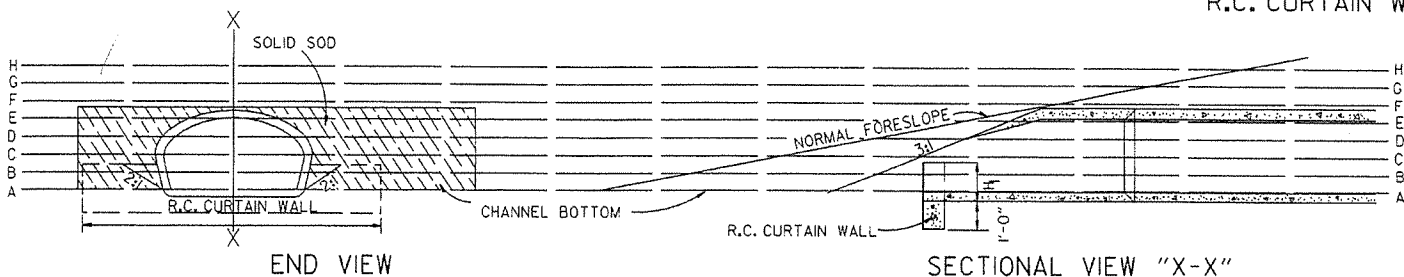
ALL REINFORCING STEEL #4 BARS @ 6" O.C.

SOLID SODDING

| PIPE DIA. | SINGLE R.C.P.C. | | | | | | DOUBLE R.C.P.C. | | | | | |
|-----------|-----------------|----|-----|----|-----|-----|-----------------|----|-----|----|-----|-----|
| | 3:1 | | 4:1 | | 6:1 | | 3:1 | | 4:1 | | 6:1 | |
| | SO. YDS. | | | | | | SO. YDS. | | | | | |
| 18" | 5 | 7 | 12 | 6 | 8 | 13 | 5 | 7 | 12 | 6 | 8 | 13 |
| 24" | 8 | 12 | 19 | 9 | 13 | 20 | 8 | 12 | 19 | 9 | 13 | 20 |
| 30" | 13 | 18 | 29 | 14 | 19 | 30 | 13 | 18 | 29 | 14 | 19 | 30 |
| 36" | 17 | 26 | 41 | 18 | 28 | 43 | 17 | 26 | 41 | 18 | 28 | 43 |
| 42" | 23 | 35 | 55 | 25 | 37 | 57 | 23 | 35 | 55 | 25 | 37 | 57 |
| 48" | 29 | 46 | 68 | 31 | 48 | 70 | 29 | 46 | 68 | 31 | 48 | 70 |
| 54" | 35 | 57 | 85 | 37 | 59 | 87 | 35 | 57 | 85 | 37 | 59 | 87 |
| 60" | 45 | 62 | 104 | 48 | 65 | 107 | 45 | 62 | 104 | 48 | 65 | 107 |
| 72" | 64 | 92 | 156 | 67 | 95 | 159 | 64 | 92 | 156 | 67 | 95 | 159 |

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

- GENERAL NOTES
- A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
 - ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
 - CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
 - WELDED WIRE MESH 3 x 3 W/10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

| | | | |
|----------|--|----------|-----------------------------------|
| 10-18-96 | ADDED NOTE TO SOLID SODDING | 10-18-96 | ARKANSAS STATE HIGHWAY COMMISSION |
| 10-12-95 | CORRECTED SPELLING | | |
| 11-3-94 | ADDED GENERAL NOTE NO. 4 | | |
| 8-15-91 | REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT. | | |
| 3-2-81 | ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES | | |
| 5-15-80 | ADDED PRECAST WALL & GENERAL NOTES | | |
| 10-2-72 | REVISED AND REDRAWN | | |
| DATE | REVISION | FILMED | STANDARD DRAWING FES-1 |

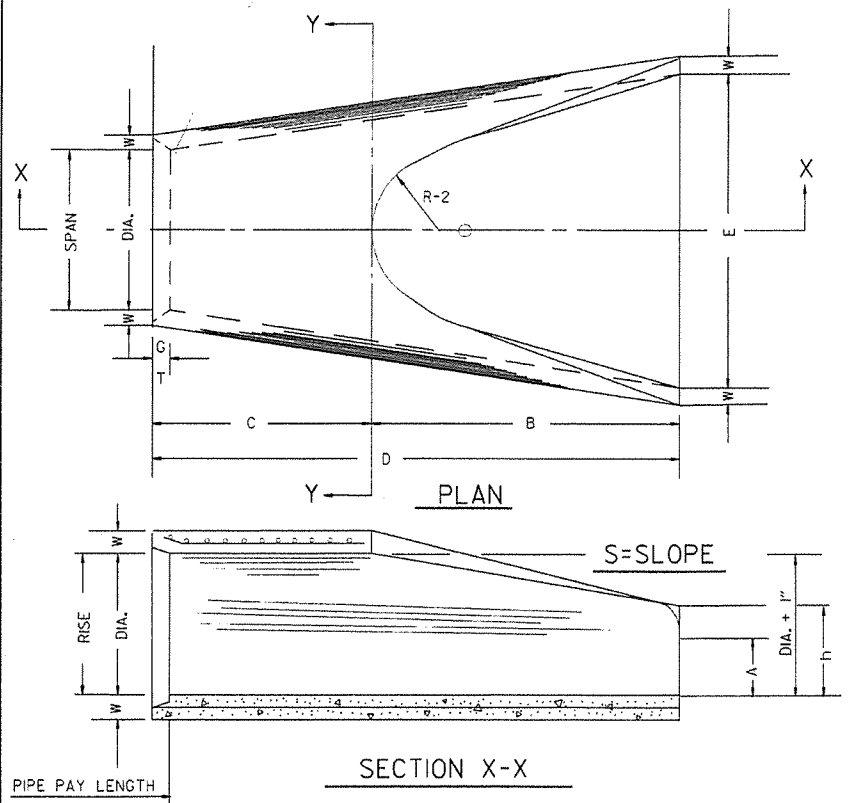
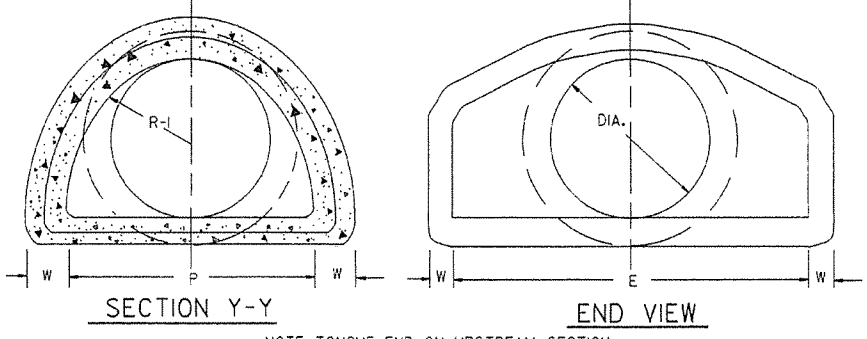


TABLE OF DIMENSIONS

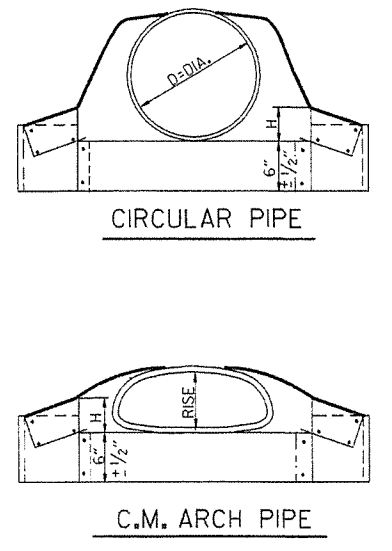
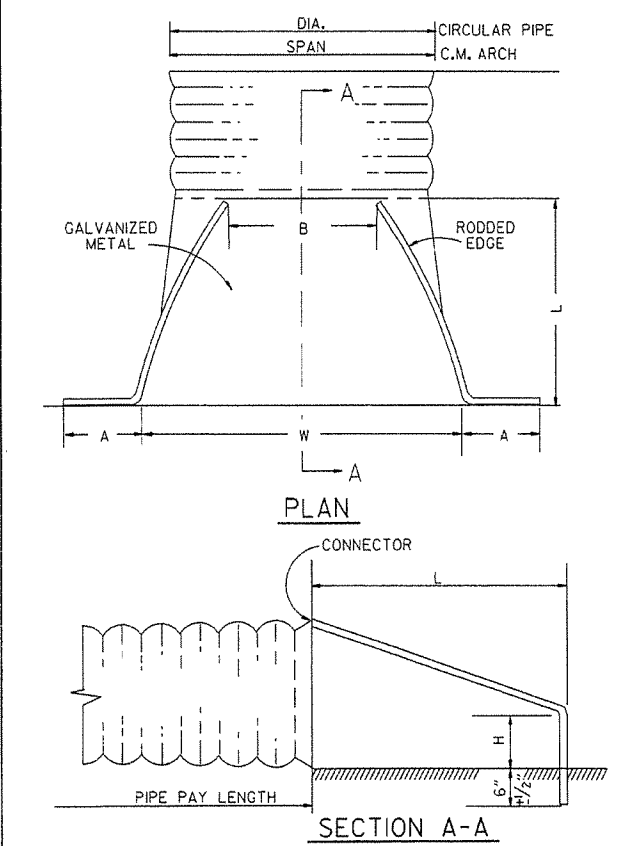
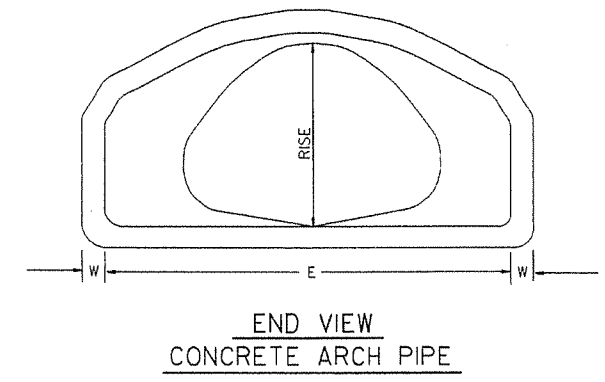
| DIA. | WALL | A | B | C | D | E | S | DIA. - 1" | P | R-1 | R-2 | G-T | WT. | h |
|------|--------|--------|-----------|------------|-----------|-------|-----|-----------|---------|---------|-----|--------|-------|------------|
| 18" | 2 1/2" | 9" | 2'-3" | 3'-10" | 6'-1" | 3'-0" | 3:1 | 19" | 29" | 15 1/2" | 12" | 2" | 1000 | 1'-0 1/2" |
| 24" | 3" | 9 1/2" | 3'-7 1/2" | 2'-6" | 6'-1 1/2" | 4'-0" | 3:1 | 25" | 33 3/8" | 16 1/8" | 14" | 2 1/2" | 1600 | 1'-1 1/2" |
| 30" | 3 1/2" | 1'-0" | 4'-6" | 1'-7 3/4" | 6'-1 3/4" | 5'-0" | 3:1 | 31" | 37" | 18 1/2" | 15" | 3 1/4" | 1940 | 1'-4 5/8" |
| 36" | 4" | 1'-3" | 5'-3" | 2'-10 3/4" | 8'-1 3/4" | 6'-0" | 3:1 | 37" | 47 1/8" | 24 3/8" | 20" | 3 1/2" | 4100 | 1'-8" |
| 42" | 4 1/2" | 1'-9" | 5'-3" | 2'-11" | 8'-2" | 6'-6" | 3:1 | 43" | 53 1/8" | 27 1/2" | 22" | 3 1/2" | 5380 | 2'-2 1/2" |
| 48" | 5" | 2'-0" | 6'-0" | 2'-2" | 8'-2" | 7'-0" | 3:1 | 49" | 56 1/2" | 28 1/2" | 22" | 3 1/2" | 6550 | 2'-6" |
| 54" | 5 1/2" | 2'-4" | 6'-6" | 1'-10" | 8'-4" | 7'-6" | 3:1 | 55" | 65 1/2" | 33 1/4" | 24" | 4" | 8750 | 2'-10 1/2" |
| 60" | 6" | 2'-10" | 6'-6" | 1'-10" | 8'-4" | 8'-0" | 3:1 | 61" | 72 1/2" | 36 1/8" | 24" | 4" | 9270 | 3'-5" |
| 72" | 7" | 3'-10" | 6'-6" | 1'-10" | 8'-4" | 9'-0" | 3:1 | 73" | 77 1/8" | 38 1/8" | 24" | 5" | 13250 | 4'-6" |



ARCH PIPE

| EQUIV. DIA. | • SPAN | | • RISE | | W | A | B | C | D | E | P | R2 | G-T | S |
|-------------|--------------|-------------|--------------|-------------|--------|---------|-------|------------|-----------|--------|----------|-----|--------|---------|
| | AASHTO M 206 | AHD NOMINAL | AASHTO M 206 | AHD NOMINAL | | | | | | | | | | |
| INCHES | | | | | | | | | | | | | | |
| 15 | 18 | 18 | 11 | 11 | 2" | 4" | 2'-0" | 4'-0" | 6'-0" | 3'-0" | 29" | 12" | 1 1/2" | 2 1/2:1 |
| 18 | 22 | 22 | 13 1/2 | 14 | 2 1/2" | 5" | 2'-0" | 4'-1" | 6'-1" | 3'-6" | 32 1/8" | 13" | 2 1/2" | 2 1/2:1 |
| 21 | 26 | 26 | 15 1/2 | 16 | 2 3/4" | 7" | 2'-3" | 3'-10" | 6'-1" | 4'-0" | 34 1/8" | 14" | 2 1/2" | 2 1/2:1 |
| 24 | 28 1/2 | 29 | 18 | 18 | 3" | 9" | 2'-3" | 3'-10" | 6'-1" | 5'-0" | 36 3/8" | 15" | 2 1/2" | 2 1/2:1 |
| 30 | 36 1/4 | 36 | 22 1/2 | 23 | 3 1/2" | 10" | 3'-1" | 3'-0 1/2" | 6'-1 1/2" | 6'-0" | 47 1/8" | 20" | 3" | 2 1/2:1 |
| 36 | 43 3/4 | 44 | 26 3/8 | 27 | 4" | 10 1/2" | 4'-0" | 2'-1 1/2" | 6'-1 1/2" | 6'-6" | 54 3/8" | 22" | 3 1/2" | 2 1/2:1 |
| 42 | 51 1/8 | 51 | 31 5/8 | 31 | 4 1/2" | 11 1/2" | 4'-7" | 1'-10 1/4" | 6'-5 1/4" | 7'-2" | 59 1/2" | 23" | 3 3/4" | 2 1/2:1 |
| 48 | 58 1/2 | 59 | 36 | 36 | 5" | 1'-3" | 5'-3" | 2'-10 3/4" | 8'-1 3/4" | 7'-10" | 70 5/8" | 24" | 4 1/4" | 2 1/2:1 |
| 54 | 65 | 65 | 40 | 40 | 5 1/2" | 1'-7" | 5'-3" | 2'-11" | 8'-2" | 8'-6" | 72 1/16" | 24" | 4 3/4" | 2 1/2:1 |
| 60 | 73 | 73 | 45 | 45 | 6" | 1'-10" | 5'-6" | 2'-8" | 8'-2" | 9'-0" | 77 1/16" | 24" | 5" | 2 1/2:1 |

• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

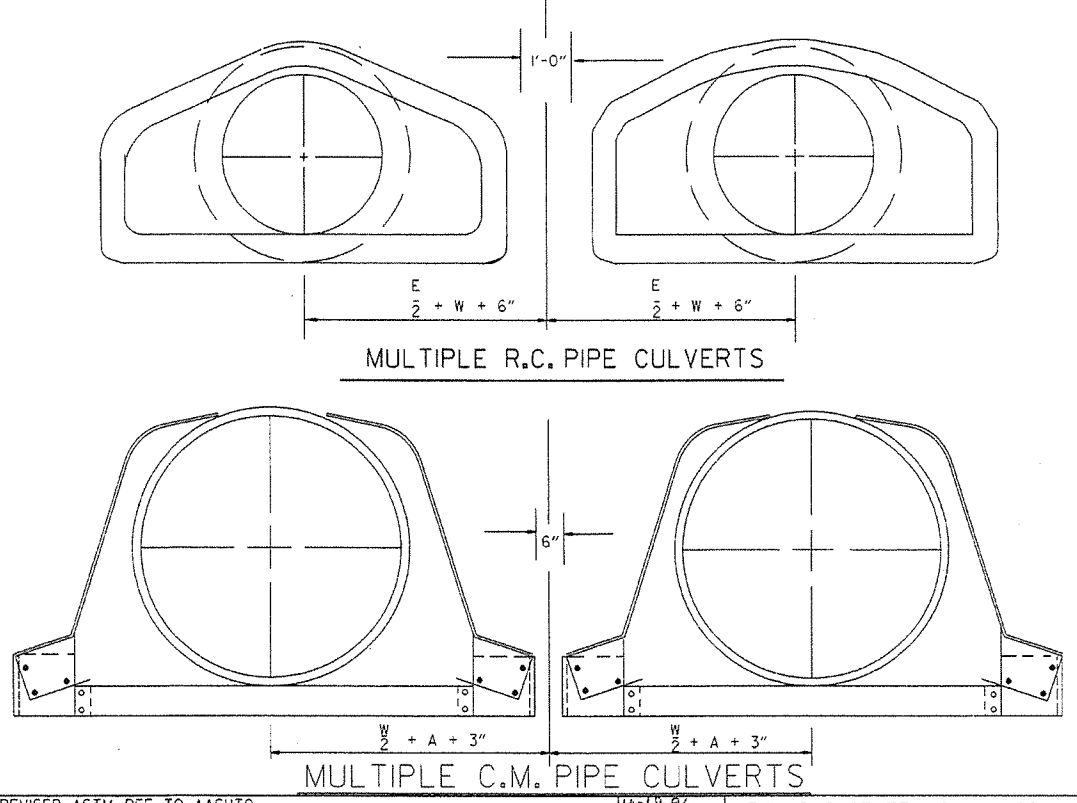


CIRCULAR PIPE

| D. DIA. | GAUGE | A 1" ± | B. MAX. | H 1" ± | L 1 1/2" ± | W 2" ± | S |
|---------|-------|--------|---------|--------|------------|--------|---------|
| 12 | 16 | 6 | 6 | 6 | 21 | 24 | 2 1/2:1 |
| 15 | 6 | 7 | 8 | 6 | 26 | 30 | 2 1/2:1 |
| 18 | 6 | 8 | 10 | 6 | 31 | 36 | 2 1/2:1 |
| 21 | 16 | 9 | 12 | 6 | 36 | 42 | 2 1/2:1 |
| 24 | 16 | 10 | 13 | 6 | 41 | 48 | 2 1/2:1 |
| 30 | 14 | 12 | 16 | 8 | 51 | 60 | 2 1/2:1 |
| 36 | 14 | 14 | 19 | 9 | 60 | 72 | 2 1/2:1 |
| 42 | 12 | 16 | 22 | 11 | 69 | 84 | 2 1/2:1 |
| 48 | 12 | 18 | 27 | 12 | 78 | 90 | 2 1/2:1 |
| 54 | 12 | 18 | 30 | 12 | 84 | 102 | 2:1 |
| 60 | 12 | 18 | 33 | 12 | 87 | 114 | 1 3/4:1 |
| 66 | 12 | 18 | 36 | 12 | 87 | 120 | 1 1/2:1 |
| 72 | 12 | 18 | 39 | 12 | 87 | 126 | 1 1/3:1 |

C.M. ARCH PIPE

| EQUIV. DIA. | SPAN | RISE | A 1" ± | B. MAX. | H 1" ± | L 1 1/2" ± | W 2" ± | S | GAUGE |
|-------------|------|------|--------|---------|--------|------------|--------|---------|-------|
| 15" | 17 | 13 | 7 | 9 | 6 | 19 | 30 | 2 1/2:1 | 16 |
| 18" | 21 | 15 | 7 | 10 | 6 | 23 | 36 | 2 1/2:1 | 16 |
| 21" | 24 | 18 | 8 | 12 | 6 | 28 | 42 | 2 1/2:1 | 16 |
| 24" | 28 | 20 | 9 | 14 | 6 | 32 | 48 | 2 1/2:1 | 16 |
| 30" | 35 | 24 | 10 | 16 | 6 | 39 | 60 | 2 1/2:1 | 14 |
| 36" | 42 | 29 | 12 | 18 | 8 | 46 | 75 | 2 1/2:1 | 14 |
| 42" | 49 | 33 | 13 | 21 | 9 | 53 | 85 | 2 1/2:1 | 12 |
| 48" | 57 | 38 | 18 | 26 | 12 | 63 | 90 | 2 1/2:1 | 12 |
| 54" | 64 | 43 | 18 | 30 | 12 | 70 | 102 | 2 1/4:1 | 12 |
| 60" | 71 | 47 | 18 | 33 | 12 | 77 | 114 | 2 1/4:1 | 12 |



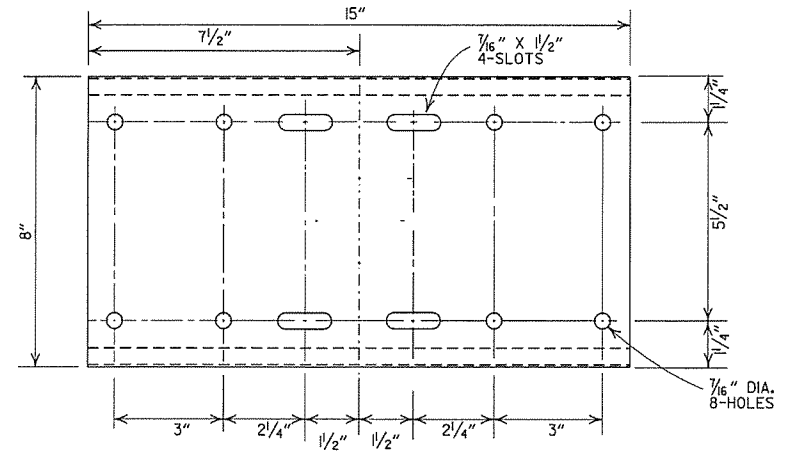
NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

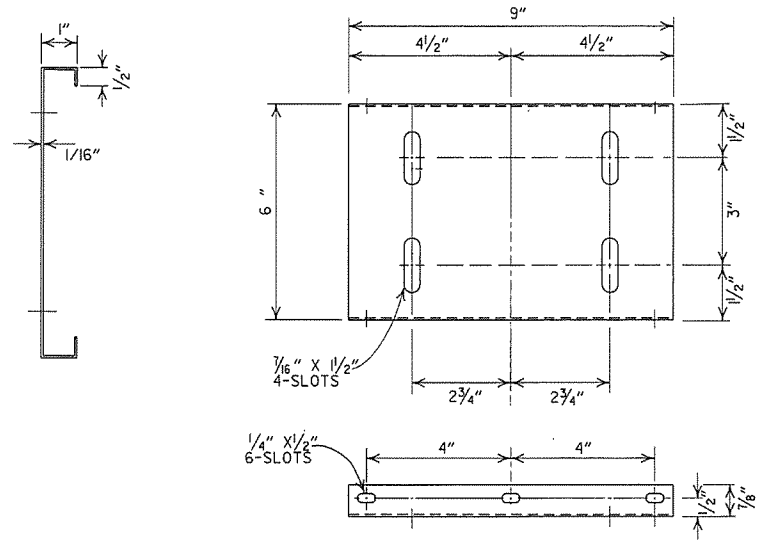
| | | | |
|----------|---|-------------|-----------------------------------|
| 10-18-96 | REVISED ASTM REF. TO AASHTO | 10-18-96 | ARKANSAS STATE HIGHWAY COMMISSION |
| 5-15-80 | REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S. | 664-5-15-80 | |
| 7-14-78 | C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES | 752-7-14-78 | |
| 8-22-75 | ADDED MULTIPLE PIPE CULVERTS | 517-8-22-75 | |
| 12-5-74 | REMOVED NOTE RE REINF. FOR R.C. F.E.S. | 500-12-5-74 | |
| 5-24-73 | CMP END SECTION, SHOW PIPE PAY LENGTH | 627-5-24-73 | |
| 10-2-72 | REVISED AND REDRAWN | 760-10-2-72 | |
| DATE | REVISION | FILMED | |

FLARED END SECTION

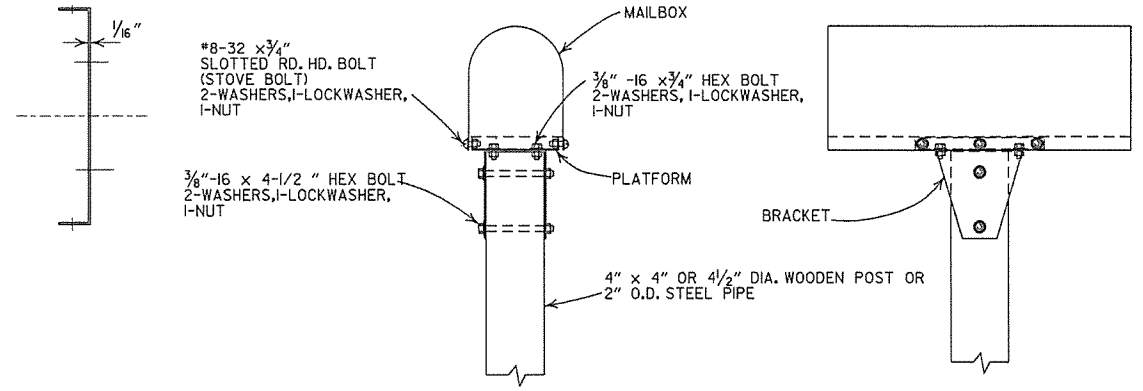
STANDARD DRAWING FES-2



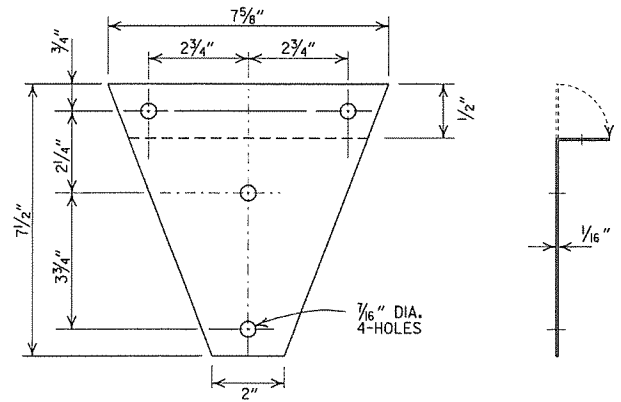
SHELF



PLATFORM



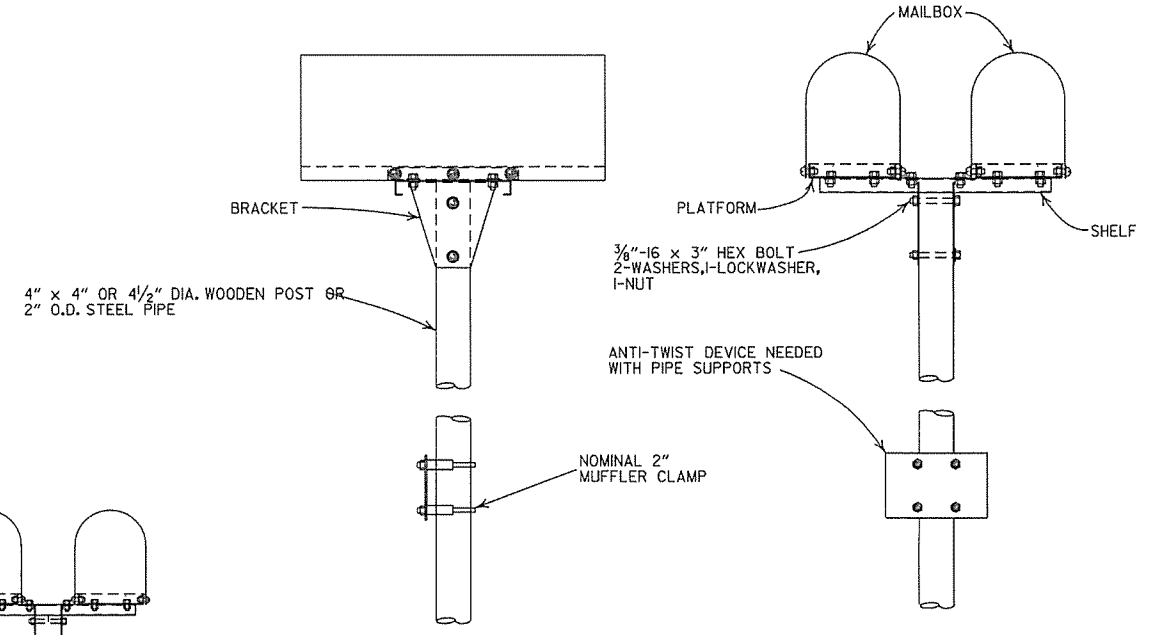
SINGLE INSTALLATION



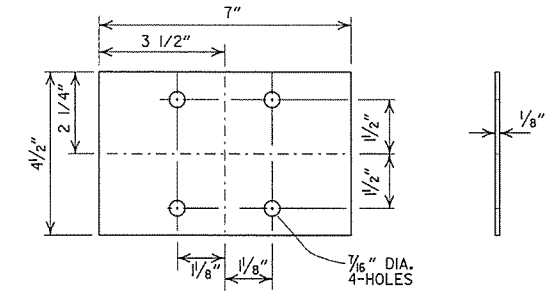
BRACKET

GENERAL NOTES

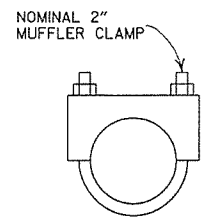
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF 3/4" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X 3/4" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



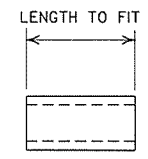
DOUBLE INSTALLATION



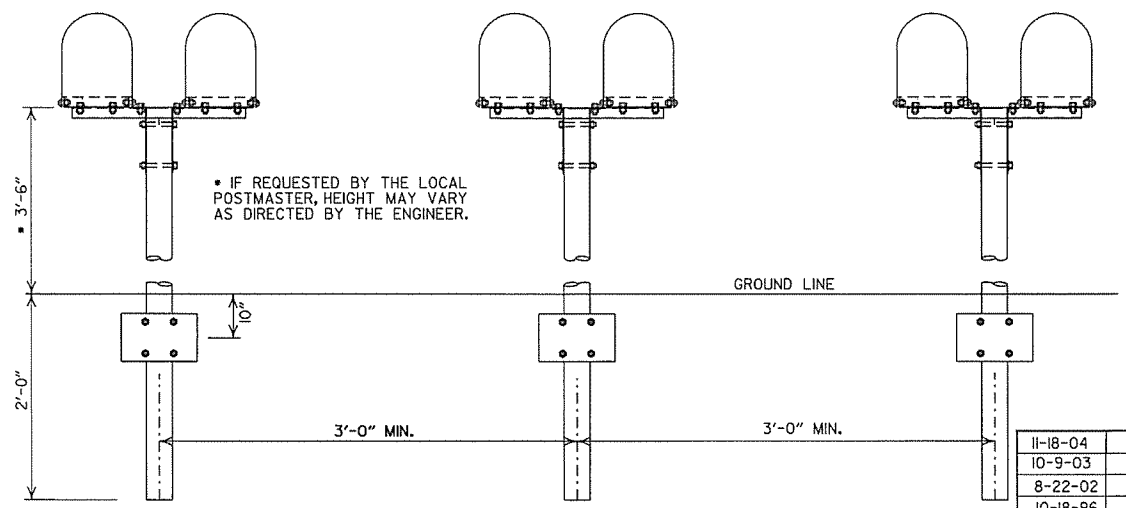
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

| DATE | FILMED | REVISION |
|----------|-------------|------------------------------------|
| 11-18-04 | | REVISED NOTES |
| 10-9-03 | | REVISED NOTE 6 |
| 8-22-02 | | REVISED NOTE 6 |
| 10-18-96 | | CORRECTED AASHTO |
| 10-1-92 | | CORRECTED SPELLING |
| 9-26-91 | | NEW PHONE NUMBER |
| 8-15-91 | | ADDED NOTE |
| 11-30-89 | | ADJUSTED HEIGHT & ADDED NOTE |
| 2-16-89 | | DELETED SLOTS FROM SHELF & PLTF |
| 11-17-88 | 10-1-92 | ADJUSTED DIMENSIONS OF STEEL POSTS |
| 7-15-88 | 120-7-15-88 | ISSUED |
| | | |

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

| EQUIV. DIA. | SPAN | | RISE | |
|-------------|--------------|--------------|--------------|--------------|
| | AASHTO M 206 | AHTD NOMINAL | AASHTO M 206 | AHTD NOMINAL |
| INCHES | INCHES | | | |
| 15 | 18 | 18 | 11 | 11 |
| 18 | 22 | 22 | 13 1/2 | 14 |
| 21 | 26 | 26 | 15 1/2 | 16 |
| 24 | 28 1/2 | 29 | 18 | 18 |
| 30 | 36 1/4 | 36 | 22 1/2 | 23 |
| 36 | 43 3/8 | 44 | 26 3/8 | 27 |
| 42 | 51 1/8 | 51 | 31 3/8 | 31 |
| 48 | 58 1/2 | 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 | 77 1/2 | 77 |
| 108 | 138 | 138 | 87 1/2 | 87 |
| 120 | 154 | 154 | 96 3/8 | 97 |
| 132 | 168 3/4 | 169 | 106 1/2 | 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.

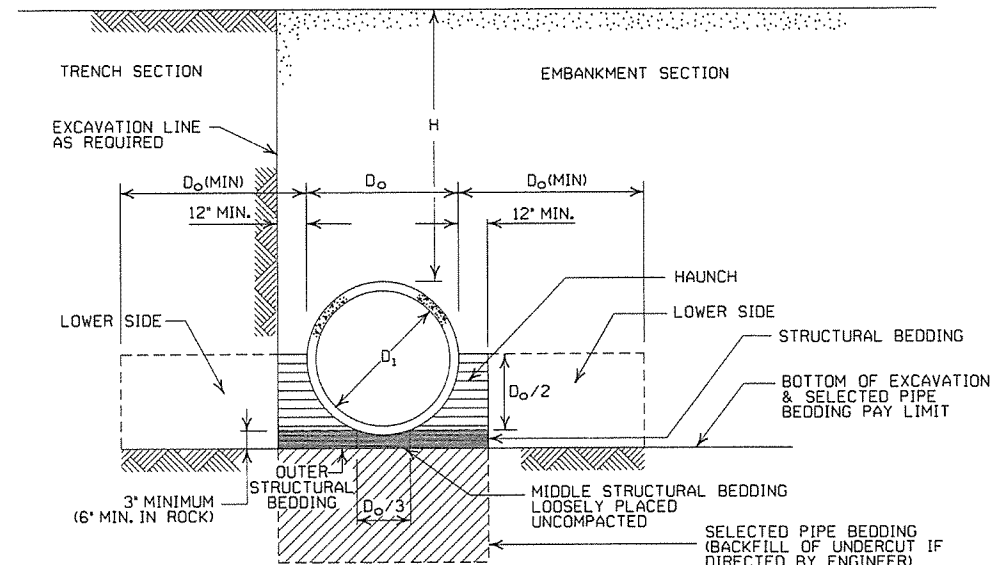
- LEGEND -

- D₁ = NORMAL INSIDE DIAMETER OF PIPE
- D_o = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- [Symbol] = 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 STATE HIGHWAY AND TRANSPORTATION DEPARTMENT 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 M10, 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

| INSTALLATION TYPE | CLASS OF PIPE | | | |
|-------------------|---------------|--------|-----|-----|
| | 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.

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 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.

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 MINIMUM 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 |
| 2 3/8 INCH BY 1/2 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 | 36 | 36 | 47 | | |
| 36 | 2 | 34 | 30 | 39 | 41 | 73 |
| 42 | 2 | | 43 | 67 | 70 | |
| 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 |

CONSTRUCTION SEQUENCE

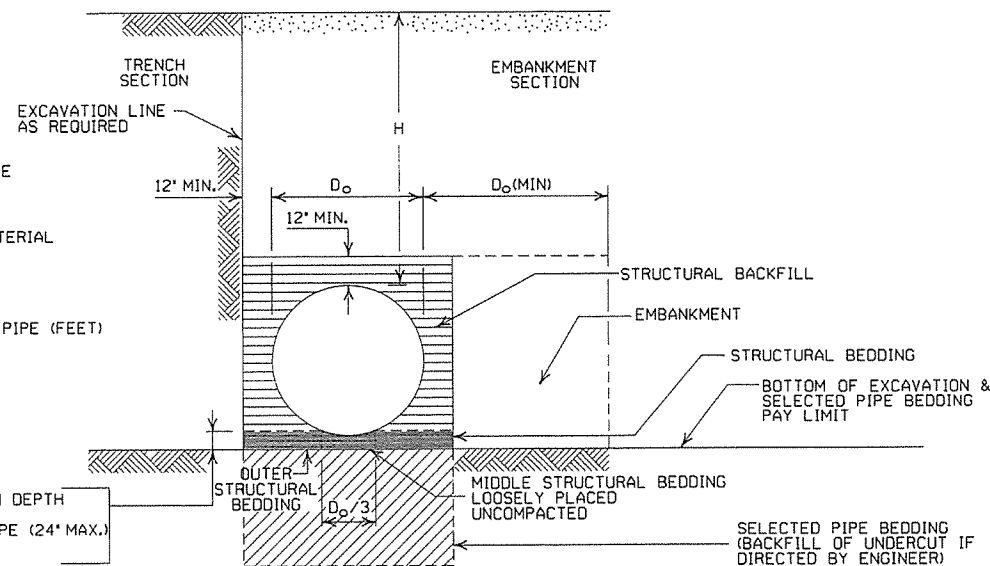
1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT 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.

- LEGEND -
- D_o = OUTSIDE DIAMETER OF PIPE
 - MAX. = MAXIMUM
 - MIN. = MINIMUM
 - [Hatched Pattern] = STRUCTURAL BACKFILL MATERIAL
 - [Dotted Pattern] = UNDISTURBED SOIL
 - [Diagonal Lines] = EQUIV. DIA. = EQUIVALENT DIAMETER
 - H = FILL COVER HEIGHT OVER PIPE (FEET)
- IN SOIL - MIN. EQUALS TWICE CORRUGATION DEPTH
IN ROCK - MIN. EQUALS GREATER OF:
1/2" PER FOOT OF FILL OVER PIPE (24" MAX.)
TWICE CORRUGATION DEPTH



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. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/8" X 1/2" 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 STATE HIGHWAY AND TRANSPORTATION DEPARTMENT 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."

CORRUGATED ALUMINUM PIPE (ROUND)

| PIPE DIAMETER (INCHES) | ① MINIMUM 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 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM | | | | | | |
| 12 | 1 | 45 | 45 | 52 | | |
| 18 | 2 | 30 | 30 | 31 | 32 | 34 |
| 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 |

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) | MINIMUM CORNER RADIUS (INCHES) | MIN. THICKNESS REQUIRED INCHES | STEEL | | ALUMINUM | | |
|--|-------------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------|
| | | | | 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 | INSTALLATION |
| | | | | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 |
| 2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, 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 | 3 1/2 | 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 1/2" 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.

| 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 1/2 INCH. 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.

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" |

NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

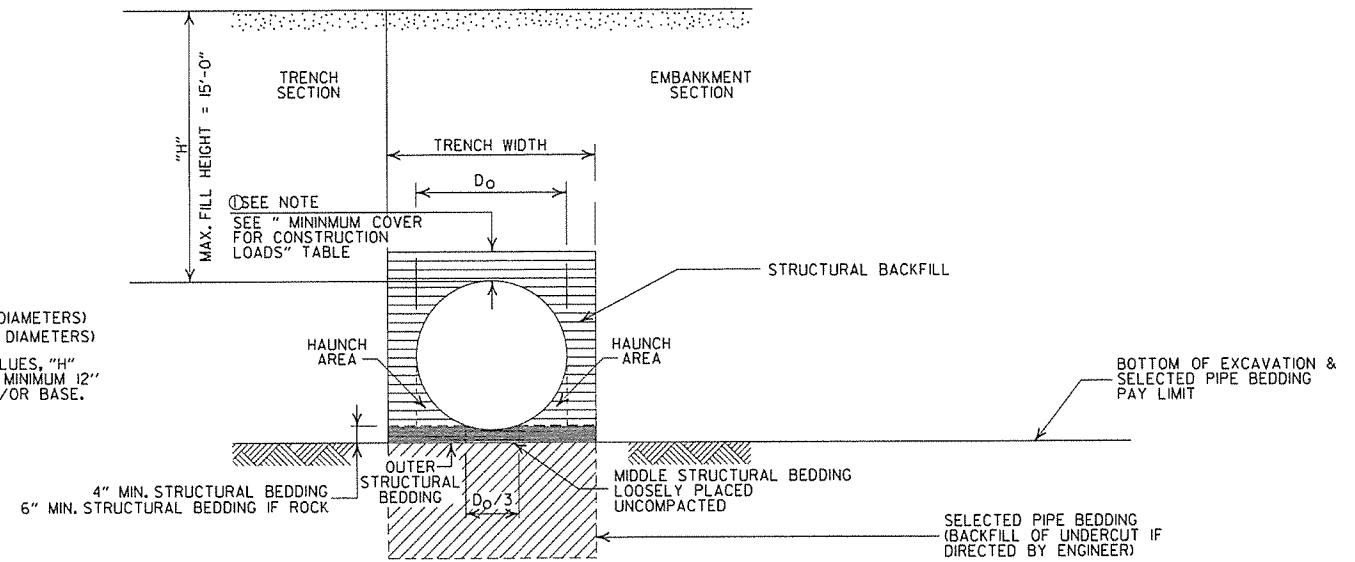
MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

| 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 COVER FOR CONSTRUCTION LOADS

| PIPE DIAMETER | 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" |

MINIMUM 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.

- LEGEND -


H = FILL HEIGHT (FT.)
D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

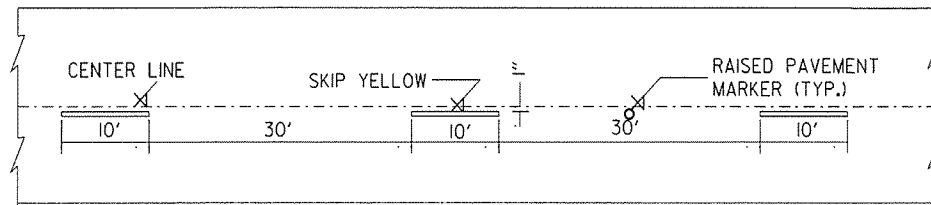
==== = STRUCTURAL BACKFILL MATERIAL
===== = UNDISTURBED SOIL

GENERAL NOTES

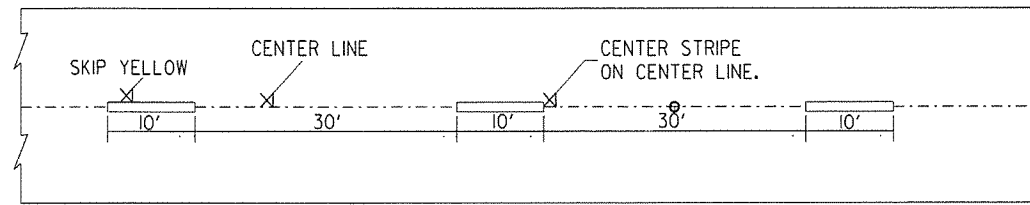
1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (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. 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.

| 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  |

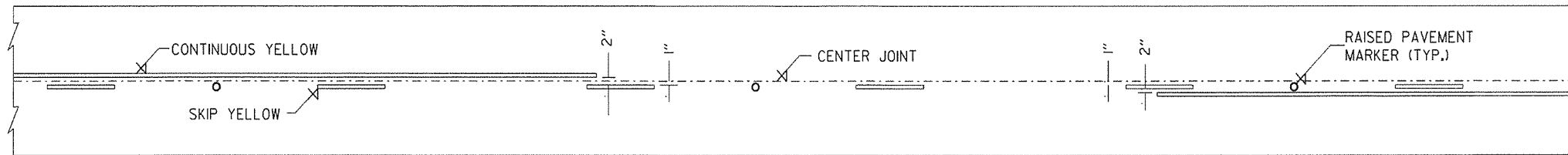


CONCRETE PAVEMENT

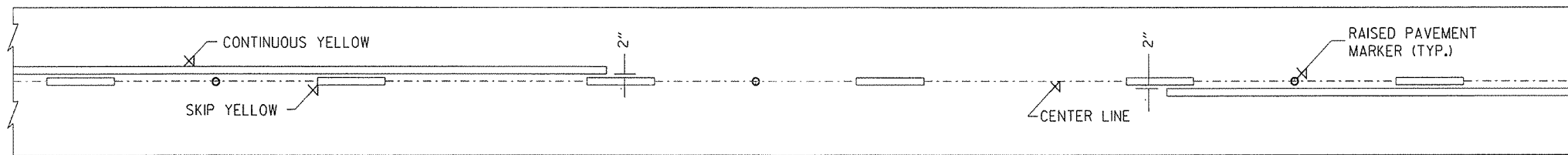


ASPHALT PAVEMENT

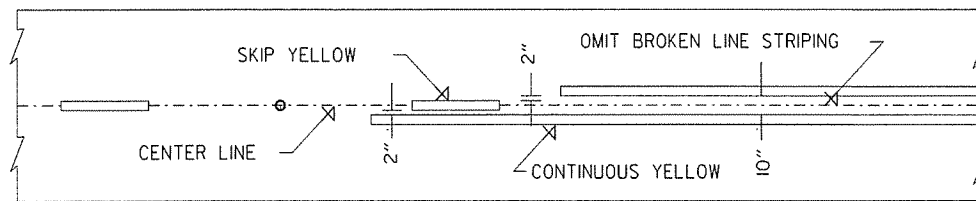
BROKEN LINE STRIPING



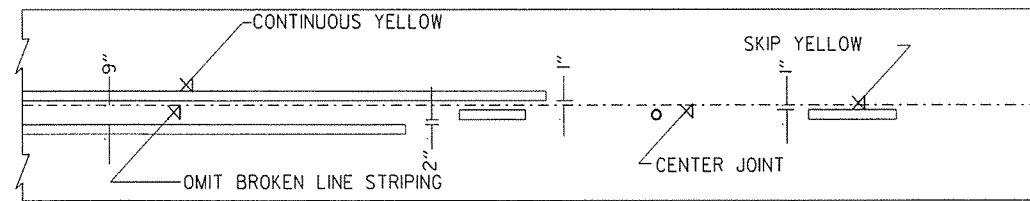
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

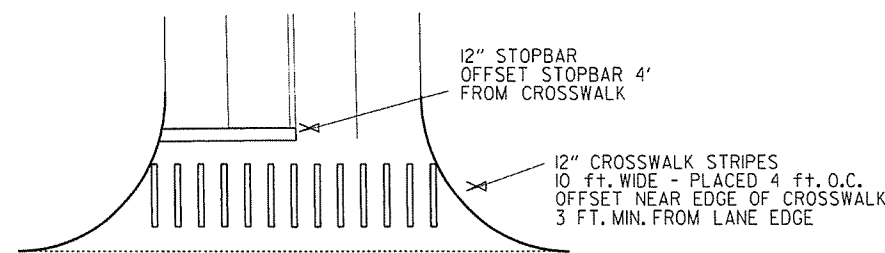


ASPHALT PAVEMENT



CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

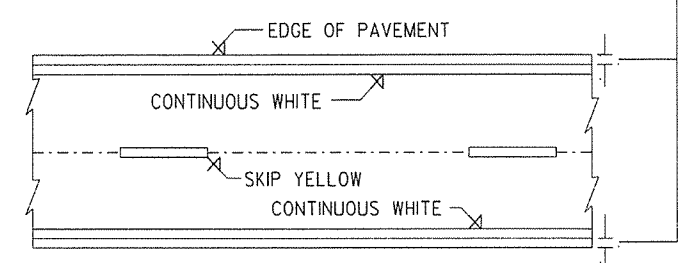


CROSSWALK AND STOPBAR DETAILS

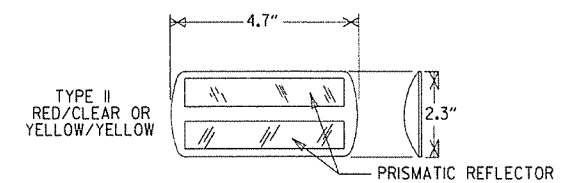
NOTES:

1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST 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.

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



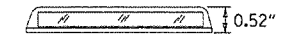
PAVEMENT EDGE LINE MARKING



TYPE II
RED/CLEAR OR
YELLOW/YELLOW

PRISMATIC REFLECTOR

NOTE:
THE RED LENS OF THE
TYPE II R.P.M. SHALL
FACE THE INCORRECT
TRAFFIC MOVEMENT.



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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

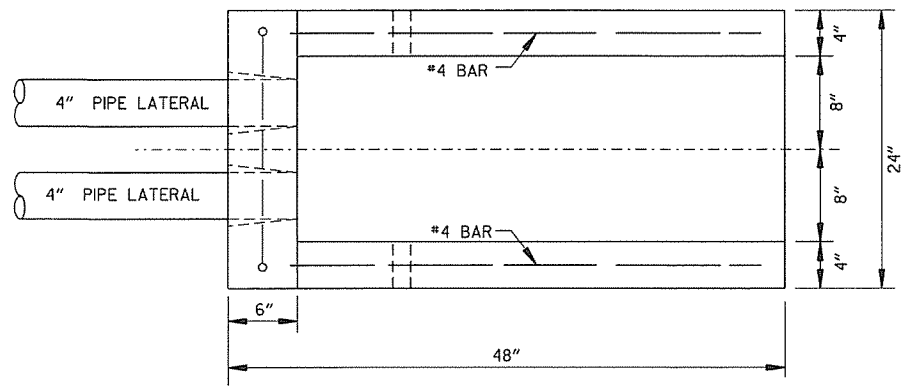
| DATE | REVISION | FILMED |
|----------|---|-----------|
| 5-12-16 | REVISED LINE WIDTHS, SPACING, & NOTES | |
| 9-12-13 | REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS | |
| 11-17-10 | REVISED GENERAL NOTES & REMOVED PLOWABLE PAV'T. MRKRS | |
| 11-18-04 | REVISED NOTE 2 & GENERAL NOTES | |
| 8-22-02 | 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

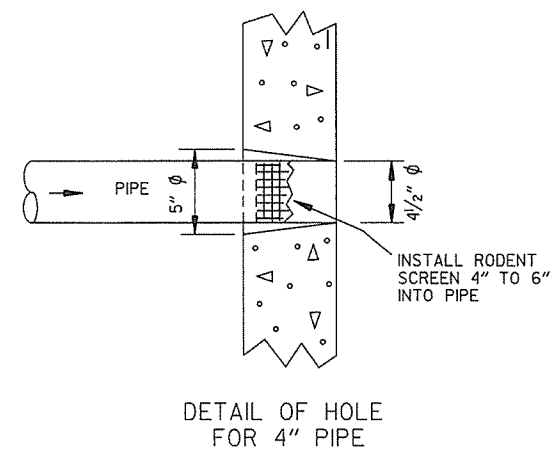
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

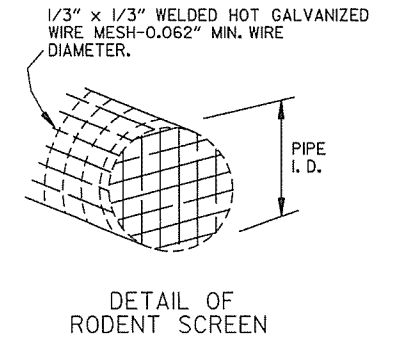
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



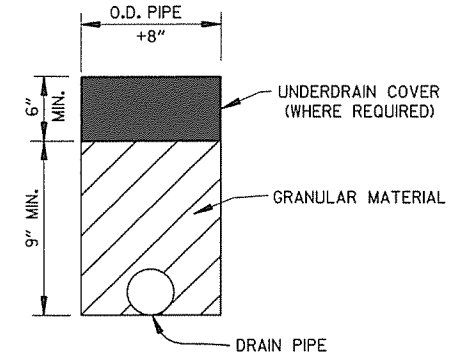
PLAN VIEW



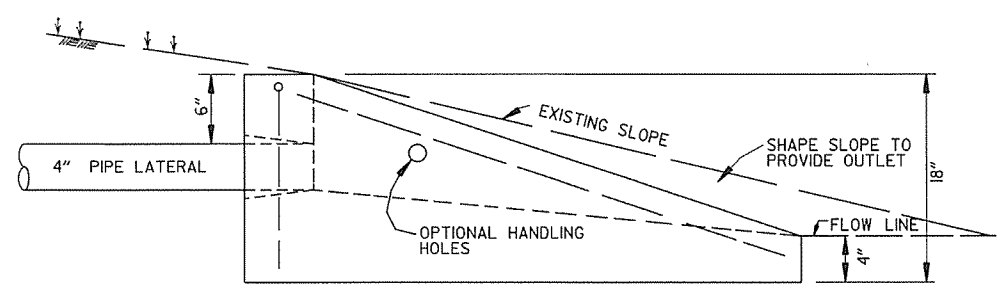
DETAIL OF HOLE FOR 4" PIPE



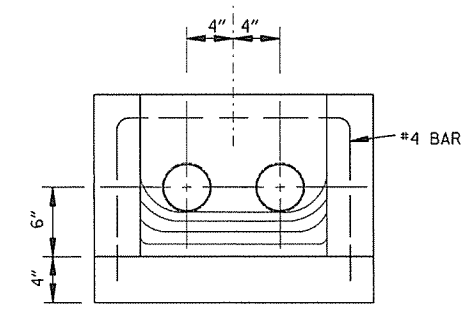
DETAIL OF RODENT SCREEN



DETAILS OF PIPE UNDERDRAIN



SIDE VIEW

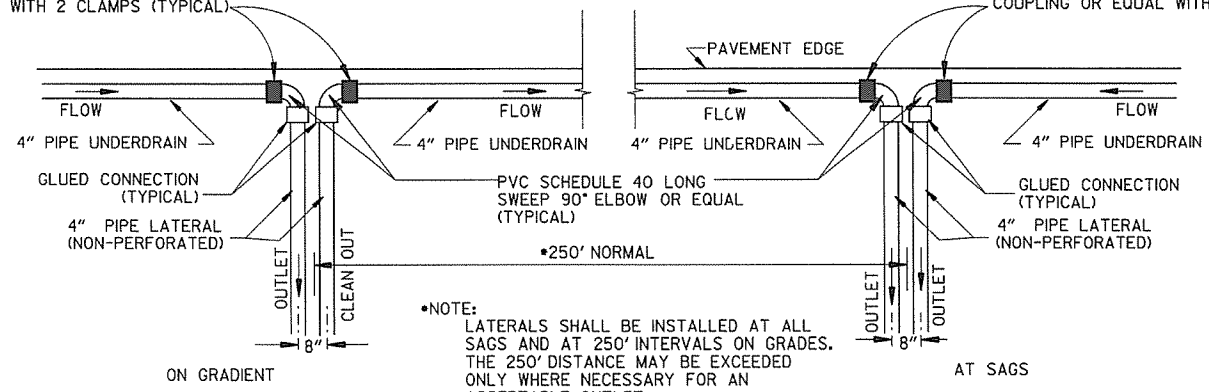


FRONT VIEW

FERNCO 1056-44 (4" CI/PLASTIC) OR
 FERNCO 1051-44 (4" AC/DI OR 4" CI/PLASTIC)
 COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

UNDERDRAIN OUTLET PROTECTORS

FERNCO 1056-44 (4" CI/PLASTIC) OR
 FERNCO 1051-44 (4" AC/DI OR 4" CI/PLASTIC)
 COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)



NOTE:
 LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250' INTERVALS ON GRADES. THE 250' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

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.

| | | |
|----------|---|-------------|
| 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; 5 1/2" 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 POLYETHYLENE 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 |
| DATE | REVISION | DATE FILMED |

ARKANSAS STATE HIGHWAY COMMISSION

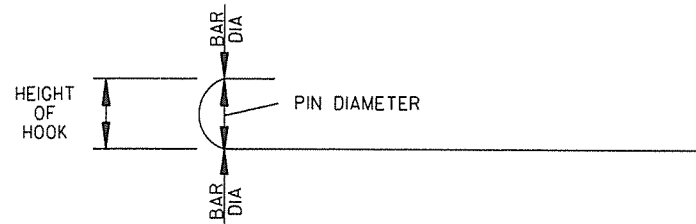
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

| BAR SIZE | PIN DIAMETER | HOOK EXTENSION "K" |
|----------|--------------|--------------------|
| 3 | 2 1/4" | 4" |
| 4 | 3 " | 4 1/2" |
| 5 | 3 3/4" | 5" |
| 6 | 4 1/2" | 6" |
| 7 | 5 1/4" | 7" |
| 8 | 6" | 8" |

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2 3/4 INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

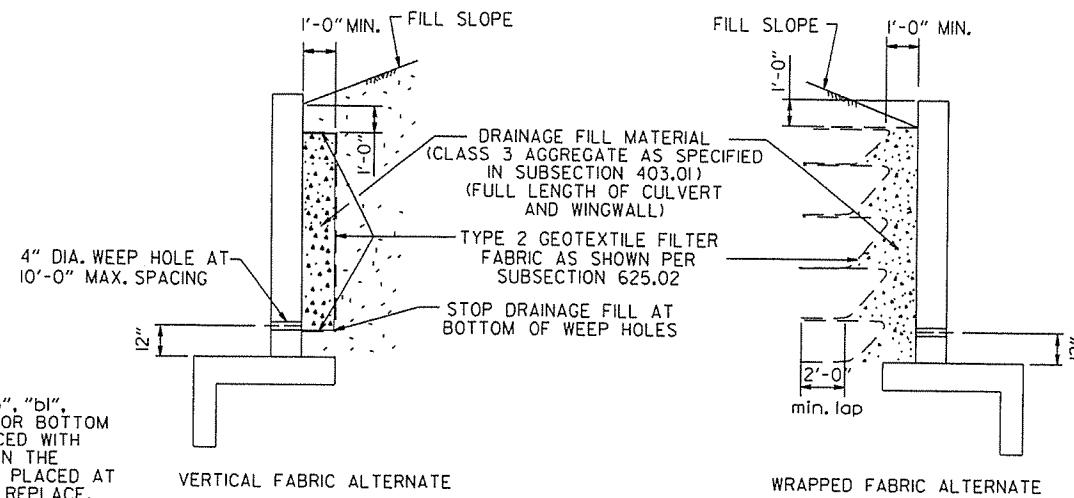
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

| BAR SIZE: "b", "b1", "b2" OR "b3" | LENGTH OF HOOKED BAR | LENGTH OF STRAIGHT BAR |
|-----------------------------------|----------------------|------------------------|
| #4 | L + 1' - 0" | SEE "c" BAR LENGTH |
| #5 | L + 1' - 2" | SEE "c" BAR LENGTH |
| #6 | L + 1' - 4" | SEE "c" BAR LENGTH |
| #7 | L + 1' - 8" | SEE "c" BAR LENGTH |
| #8 | L + 1' - 10" | SEE "c" BAR LENGTH |
| #9 | L + 2' - 6" | SEE "c" BAR LENGTH |

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE AASHTO M 31OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

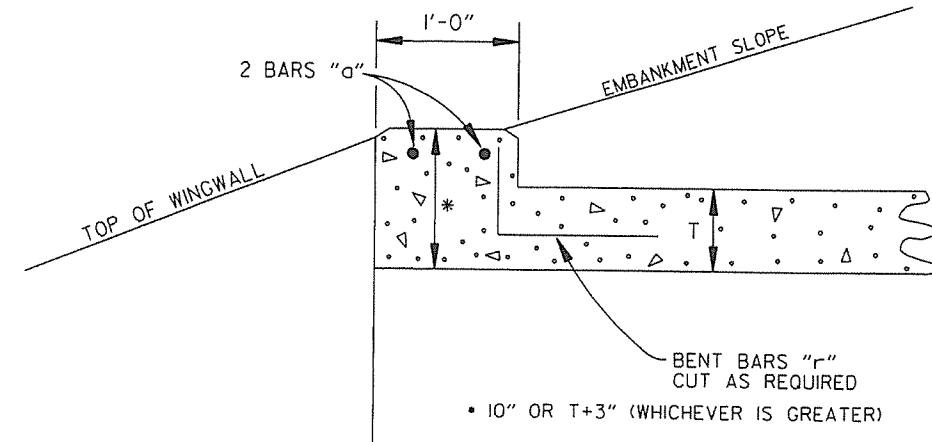
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSIMANUAL SHALL BE MINUS ZERO TO PLUS 1/2 INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

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



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

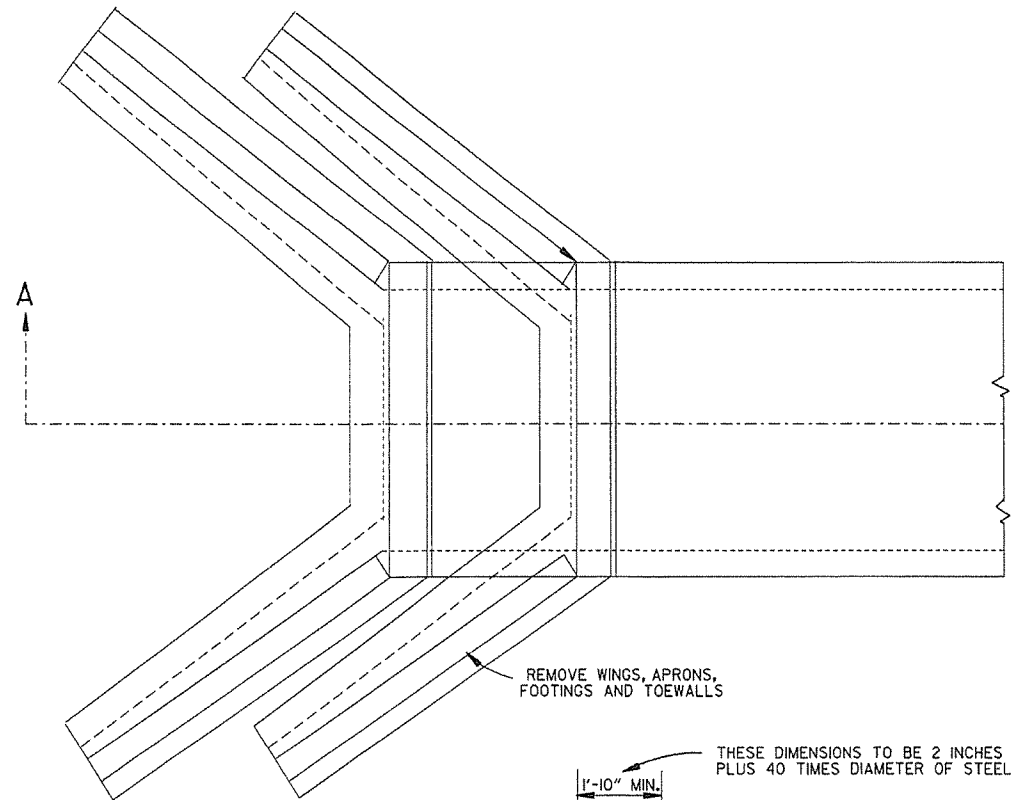
R.C. BOX CULVERT HEADWALL MODIFICATIONS

| DATE | REVISION | DATE FILMED |
|----------|---|-------------|
| 7/26/12 | REV. DRAINAGE FILL MATERIAL & DETAIL | |
| 12/15/11 | REQUIRE WEEP HOLES IN BOX CULVERT WALLS | |
| 5-25-06 | REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM | |
| 11-16-01 | ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES | |
| 10-18-96 | REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM | |
| 10-12-95 | MOVED SOLID SODDING DETAIL TO RCB-2 | |
| 6-2-94 | ADDED SOLID SODDING PLAN DETAIL | |
| 8-5-93 | REVISED PIN DIAMETER TO SPECS. | |
| 8-15-91 | DRAWN AND ISSUED | |

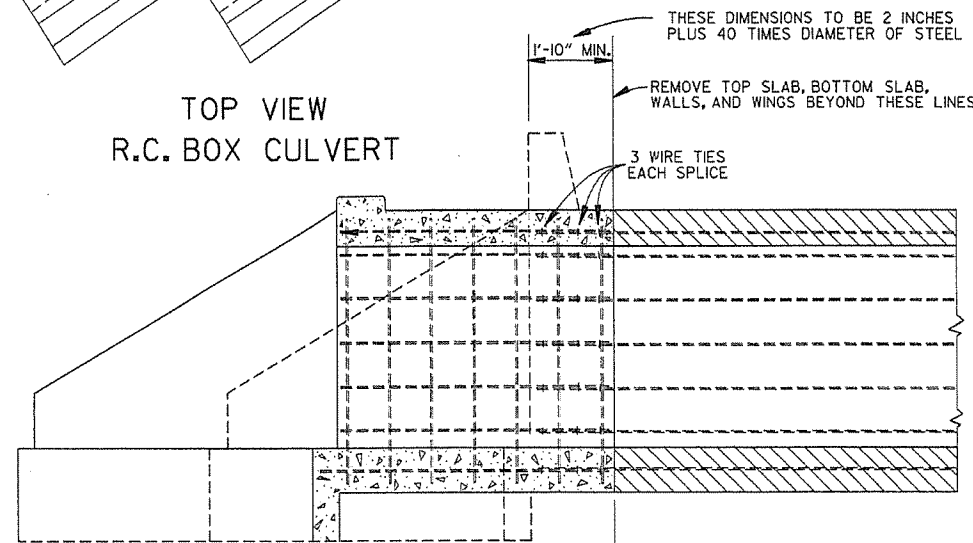
ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1

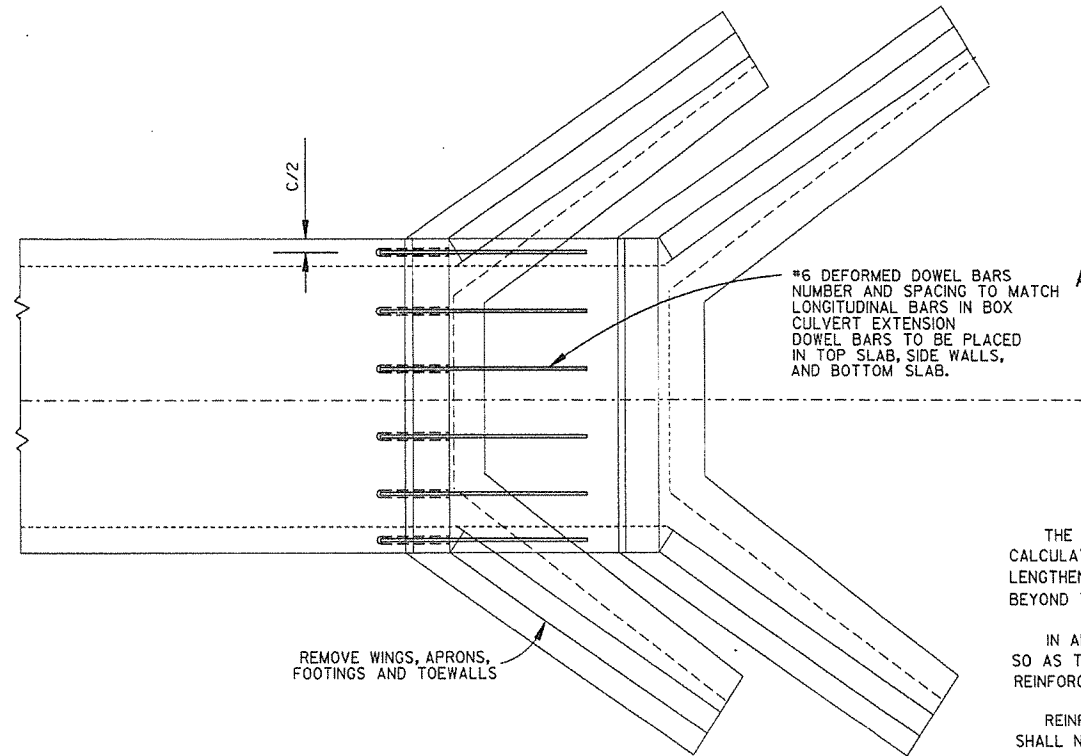


TOP VIEW
R.C. BOX CULVERT

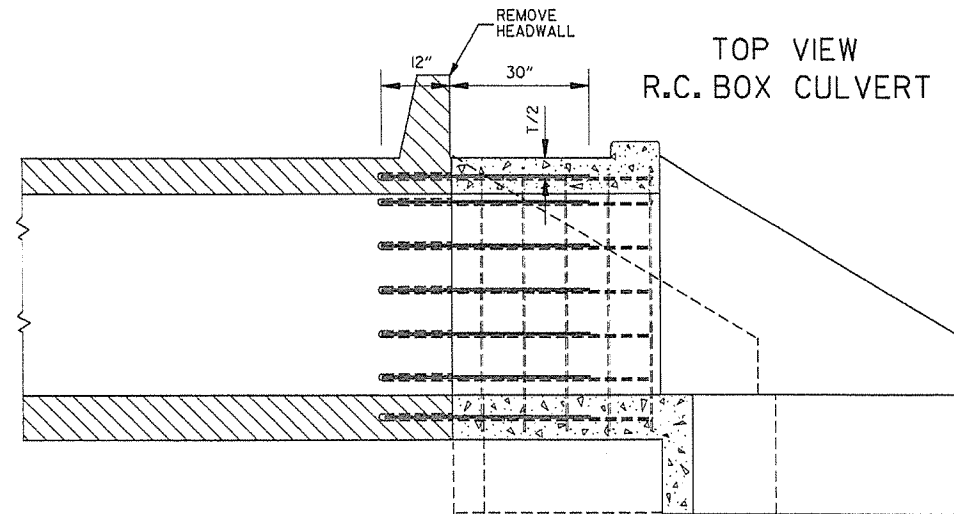


REINFORCING DETAILS AND CULVERT DIMENSIONS
SAME AS STANDARD CULVERT DRAWINGS

SECTION A-A
METHOD 1



TOP VIEW
R.C. BOX CULVERT



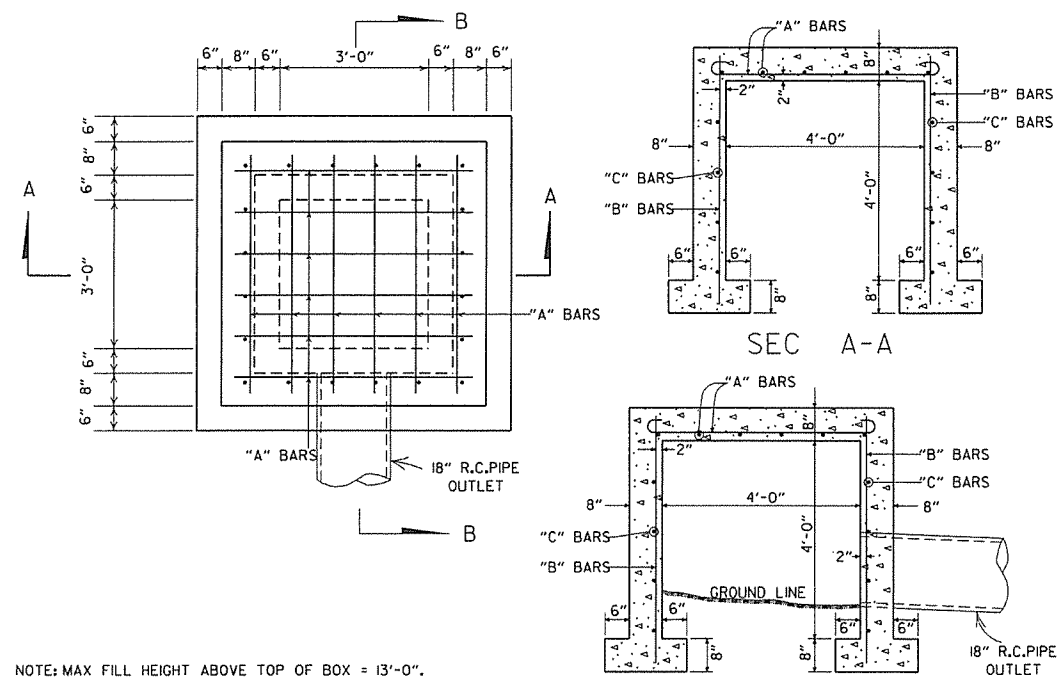
REINFORCING DETAILS AND CULVERT DIMENSIONS
SAME AS STANDARD CULVERT DRAWINGS

SECTION A-A
METHOD 2

- GENERAL NOTES
- 1 THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.
 - 1 IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.
 - 1&2 REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.
 - 1&2 ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
 - 2 MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.
 - 2 DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.
 - 1&2 THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2, REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.
SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

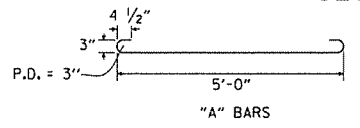
| | | |
|--|--------------------------------|------------|
| ARKANSAS STATE HIGHWAY COMMISSION | | |
| METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS | | |
| STANDARD DRAWING RCB-3 | | |
| 10-12-95 | CHANGED DRAWING FROM 144-A | |
| 4-1-93 | ADDED GENERAL NOTE | |
| 10-1-92 | ADDED ALT. METHOD OF EXTENSION | |
| 11-30-89 | REDRAWN | |
| 1-4-83 | ELIMINATED CONCRETE CLASS | |
| 12-20-56 | RETRACED | |
| DATE | REVISION | DATE FILED |



NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

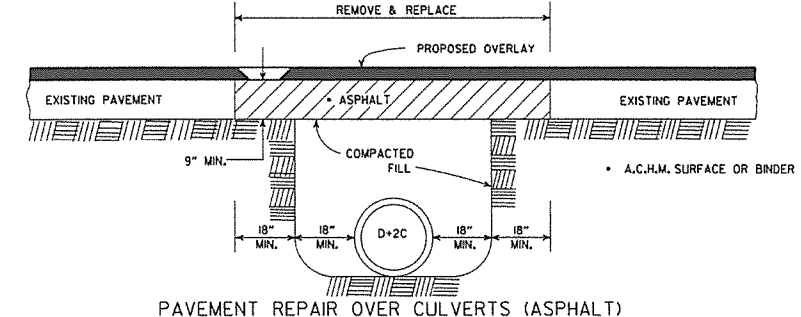
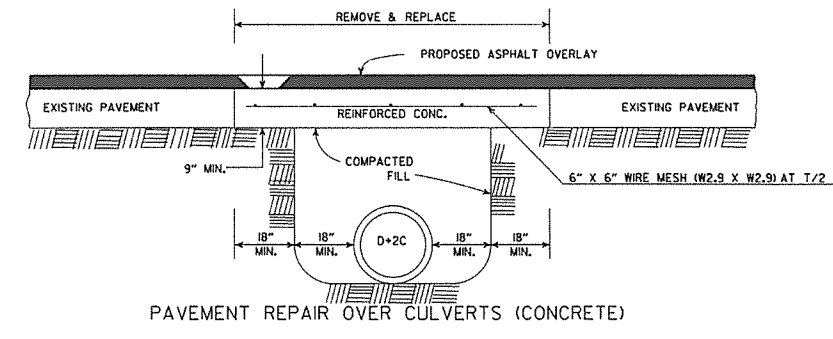
| BAR | NUMBER | LENGTH | SPACING |
|-----|--------|--------|---------|
| "A" | 12 | 6'-0" | 10" |
| "B" | 20 | 5'-0" | 10 1/2" |
| "C" | 16 | 5'-0" | 12" |



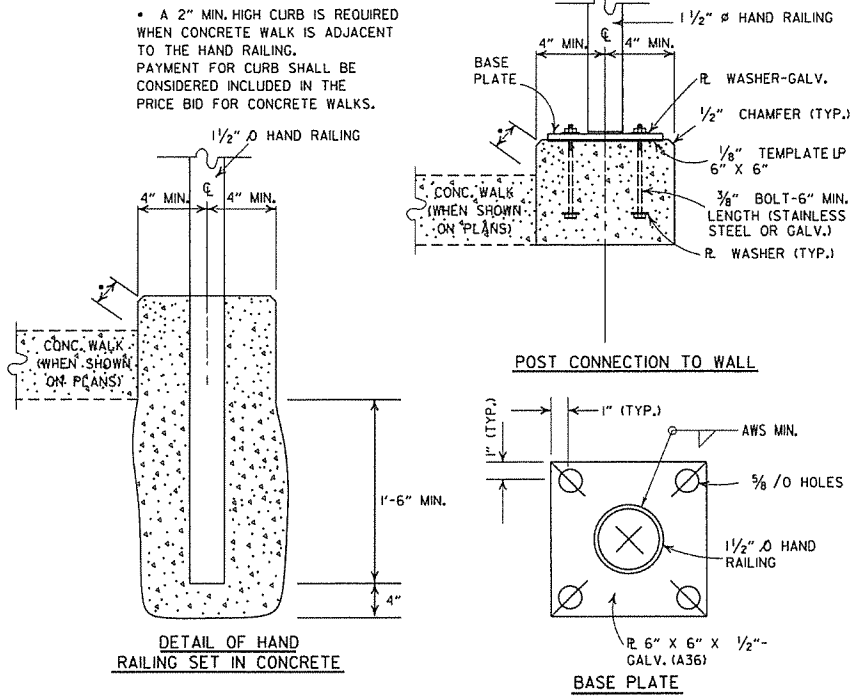
QUANTITIES
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

GENERAL NOTE:
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

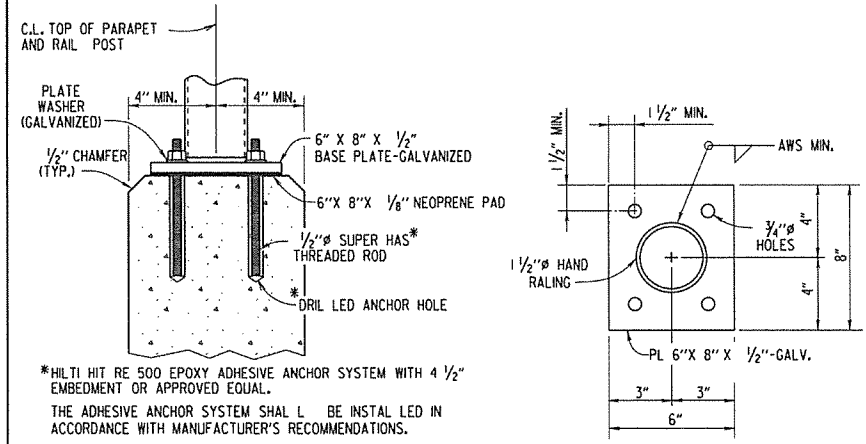
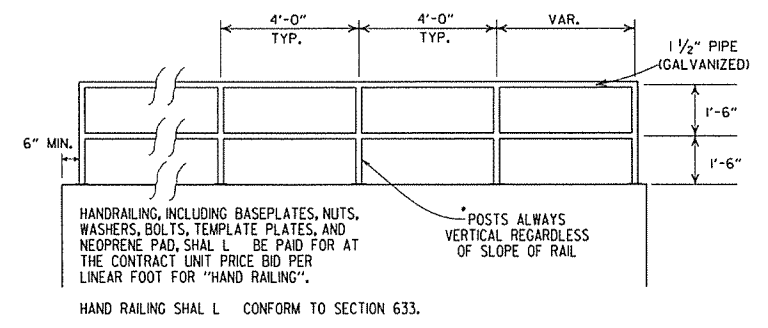
REINFORCED CONCRETE SPRING BOX



DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS



POST CONNECTION DETAILS

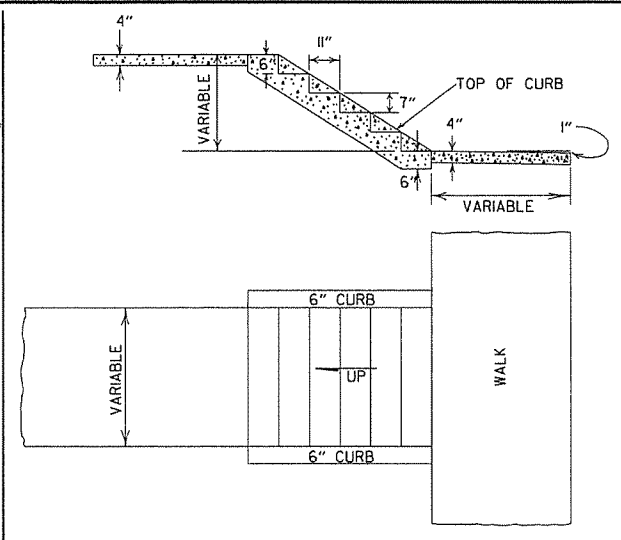


POST CONNECTION TO WALL

BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS




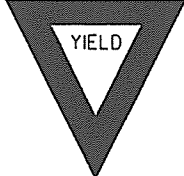







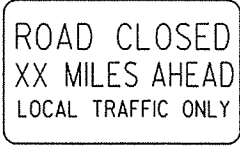
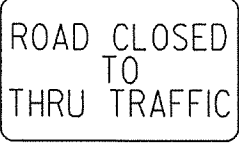
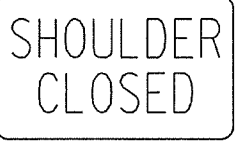
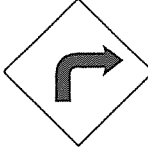

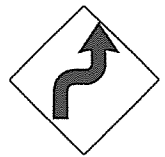

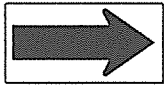
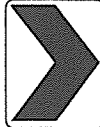
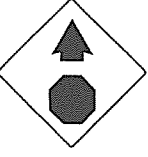
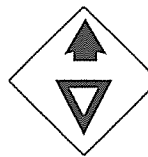
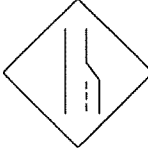

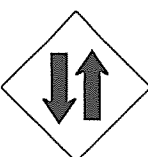











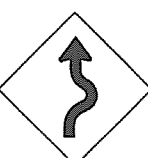




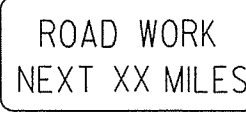
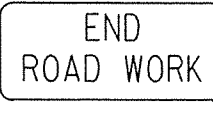
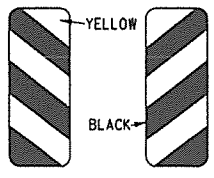
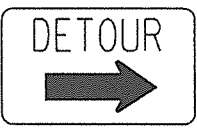

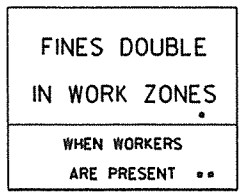
DETAILS OF CONCRETE STEPS & WALKS

| DATE | REVISION | DATE FILMED |
|----------|---|-----------------|
| 9-12-13 | REVISED REINFORCED CONCRETE SPRING BOX | |
| 7-26-12 | REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS | |
| 4-17-08 | REV. JOINT & FOOTING STEP DETAILS | |
| 11-29-07 | REVISED RETAINING WALL DRAINAGE | |
| 5-25-06 | REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX | |
| 10-9-03 | REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS | |
| 4-10-03 | REVISED RETAINING WALL DRAWING | |
| 8-22-02 | ADDED HAND RAILING DETAIL | |
| 11-16-01 | REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES | |
| 11-18-98 | ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS | |
| 7-02-98 | ENLARGED PIPE | |
| 4-03-97 | ADDED NOTE TO STEEL BAR SCHED. | |
| 10-18-96 | CORRECTED SPELLING | |
| 4-26-96 | ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL | |
| 6-2-94 | CHANGED CONST. TO CONTRACTION JOINT | 10-1-92 |
| 10-1-92 | CHANGED MESH FABRIC TO WIRE MESH | 8-15-91 |
| 8-15-91 | DELETED HDWL MODIFICATION DETAIL | 11-8-90 |
| 11-8-90 | DELETED COLD MIX FROM CULV'T. REPAIR | 11-30-89 |
| 11-30-89 | REV. RETAINING WALL STEEL SCHEDULE | 665-11-17-88 |
| 11-17-88 | V. BARS BEHIND ARROW | 649-7-15-88 |
| 7-15-88 | REV. PAVEMENT REPAIR | |
| 11-1-84 | ADDED HDWL. MODS. DEL. PIPE UNDERDRAINS | 510-11-1-84 |
| 1-4-83 | REV. TRENCH FOR PIPE UNDERDRAIN | 682-1-4-83 |
| 3-2-81 | ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE | 721-3-2-81 |
| 4-20-79 | SPELLING OF "UNDERDRAIN" | 674-4-20-79 |
| 2-2-76 | REV. UNDERDRAIN DET & PAVEMENT REPAIR | 919-2-2-76 |
| 4-10-75 | 12" MIN. GRAN. MAT'L. OVER PIPE | 568-4-10-75-853 |
| 5-22-74 | REM. SPECS. FOR GRAN. MAT'L. | 567-5-22-74-740 |
| 10-2-72 | GRANULAR MAT'L. TO BE SB-3 | 564-10-16-72 |
| | REVISED AND REDRAWN | |

ARKANSAS STATE HIGHWAY COMMISSION

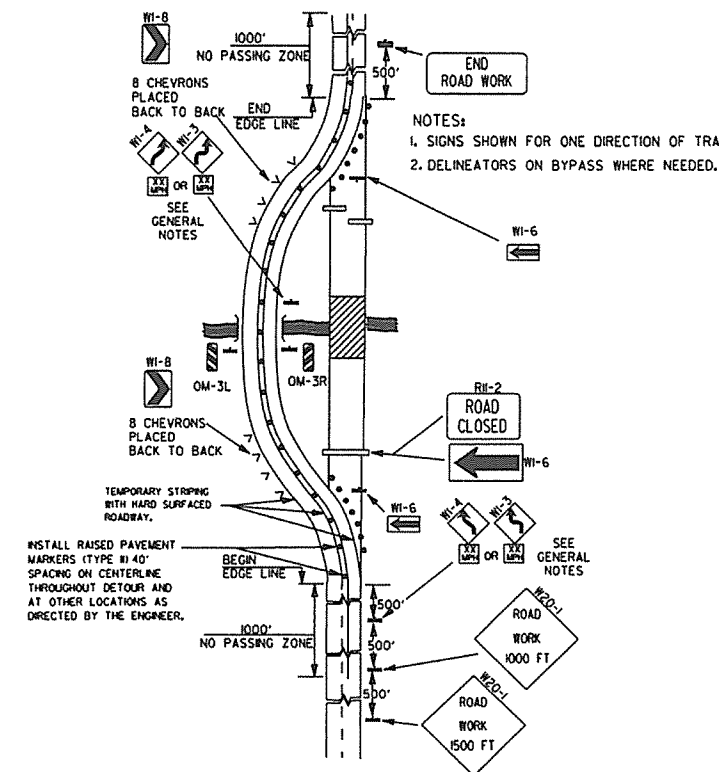
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1

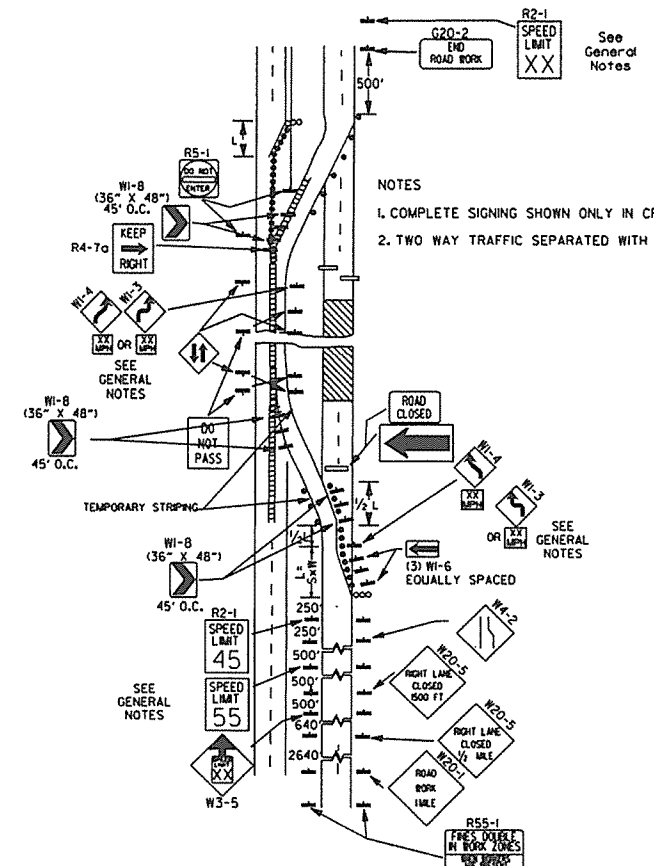
| | | | | | | | ADVANCE DISTANCES (XXXX) | 126 |
|--|---|---|--|--|---|---|--|--|
| <p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p> | <p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p> | <p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p> | <p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p> | <p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</p> | |
| <p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p> | <p>R11-2</p>  <p>48"x30"</p> | <p>R11-3A</p>  <p>60"x30"</p> | <p>R11-4</p>  <p>60"x30"</p> | <p>RSP-1</p>  <p>48"x30"</p> | <p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>GENERAL NOTES:</p> <ol style="list-style-type: none"> 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. 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. 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, DEFACTED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 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. 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. 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. 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. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 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. 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. <p>* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.</p> | |
| <p>W1-3</p>  <p>STD. 48"x48"</p> | <p>W1-4</p>  <p>STD. 48"x48"</p> | <p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p> | <p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p> | <p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | | |
| <p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p> | <p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p> | <p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W13-1</p>  <p>STD. 24"x24"</p> | <p>W20-1</p>  <p>STD. 48"x48"</p> | <p>W20-2</p>  <p>STD. 48"x48"</p> | | <p>W20-3</p>  <p>STD. 48"x48"</p> |
| <p>W20-4</p>  <p>STD. 48"x48"</p> | <p>W20-5</p>  <p>STD. 48"x48"</p> | <p>W20-7a</p>  <p>500 FEET 24" W6-2</p> <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p> | <p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p> | <p>W24-1</p>  <p>STD. 36"x36"</p> | <p>W1-4b</p>  <p>STD. 48"x48"</p> | | <p>R56-1</p>  <p>STD. 18"x18"</p> |
| <p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>G20-1</p>  <p>60"x24"</p> | <p>G20-2</p>  <p>48"x24"</p> | <p>OM-3L OM-3R</p>  <p>12"x36"</p> | <p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p> | <p>M4-10</p>  <p>48"x18"</p> | | <p>R55-1</p>  <p>36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS</p> |

| | | |
|----------|--|--------|
| 9-2-15 | REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES | |
| 12-15-8 | REVISED W24-1 | |
| 1-17-10 | DELETED W8-9a & ADDED W8-9 | |
| 10-15-09 | ADDED REFERENCE TO MASH & ADDED SIGN W24-1 | |
| 4-17-08 | REVISED SIGN DESIGNATIONS | |
| 8-18-04 | REVISED NOTES | |
| 10-9-03 | REVISED NOTE 1 | |
| 1-16-01 | REVISED NOTE 7 | |
| 9-28-00 | REVISED NOTE | |
| 1-18-98 | 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 | |
| DATE | REVISION | FILMED |

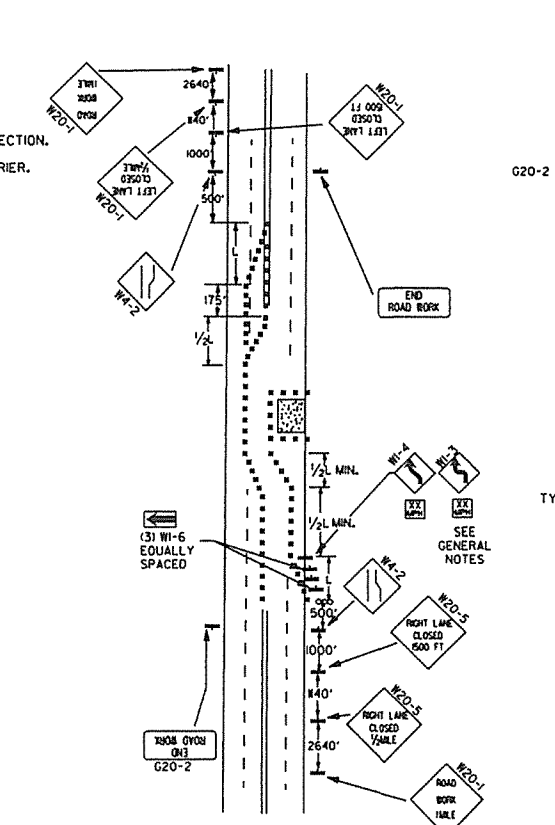
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



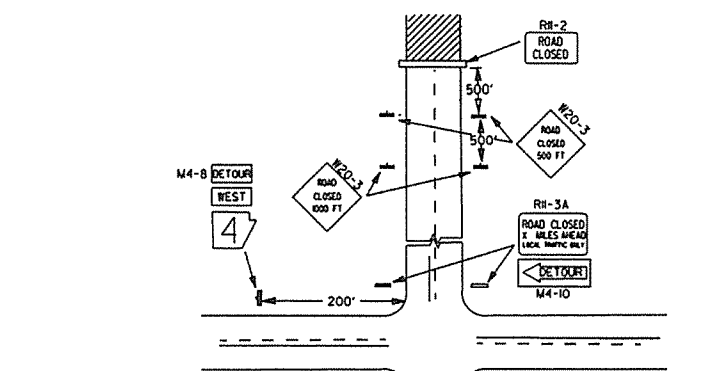
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



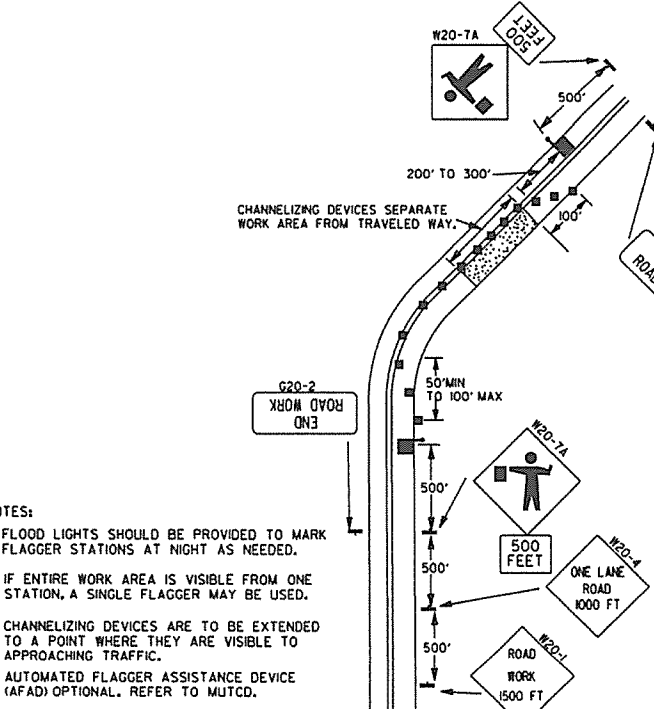
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



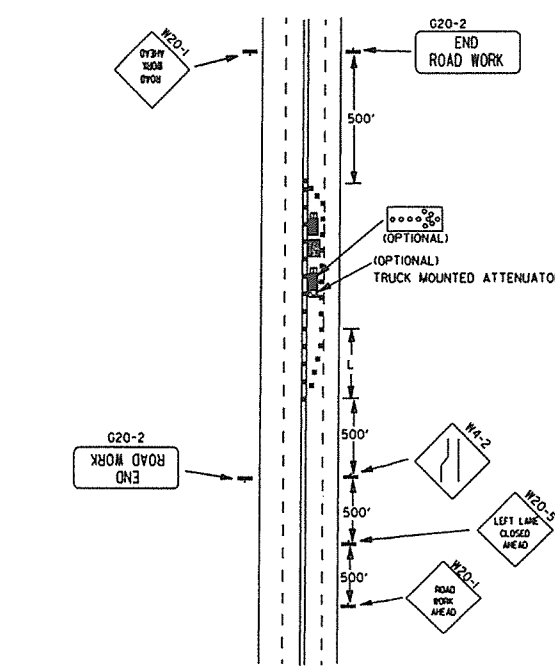
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.

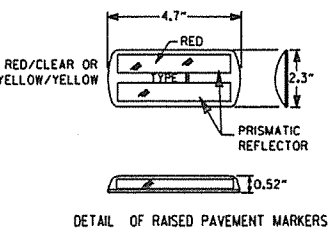


(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

- KEY:
- FLAGGER
 - POSITIVE BARRIER
 - ARROW PANEL (IF REQUIRED)
 - TYPE III BARRICADE
 - CHANNELIZING DEVICE
 - TRAFFIC DRUM
 - RAISED PAVEMENT MARKER



TYPICAL ADVANCE WARNING SIGN PLACEMENT

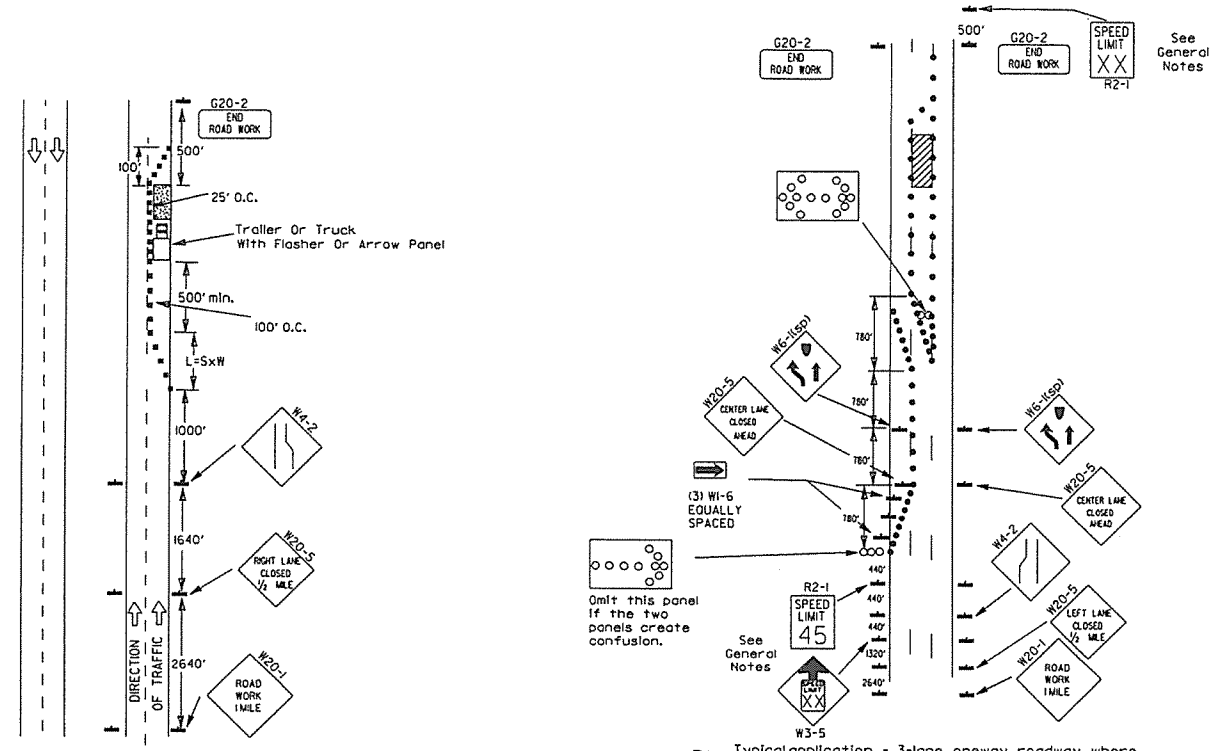
TAPER FORMULAE:
 $L = SXW$ FOR SPEEDS OF 45MPH OR MORE.
 $L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

- GENERAL NOTES:
 1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 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 R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE 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(65) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE 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.
 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 AHTD QUALIFIED PRODUCTS LIST.

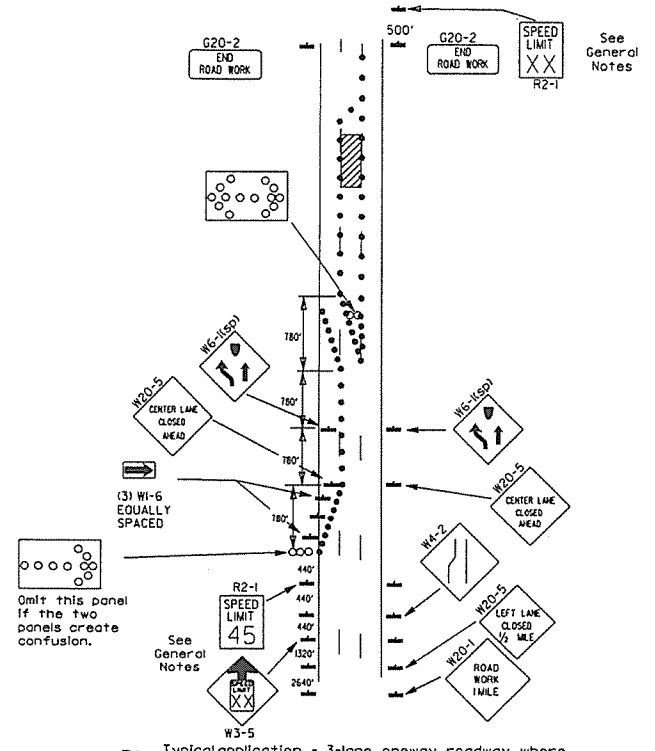
| | | |
|----------|--|--------|
| 9-2-15 | REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5 | |
| 9-12-13 | REVISED DETAIL OF RAISED PAVEMENT MARKERS | |
| 3-1-10 | ADDED (AFAD) | |
| 11-20-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | ADDED GENERAL NOTE | |
| 10-18-96 | 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 | |
| DATE | REVISION | FILED |

ARKANSAS STATE HIGHWAY COMMISSION
 STANDARD TRAFFIC CONTROLS
 FOR HIGHWAY CONSTRUCTION
 STANDARD DRAWING TC-2

Channelizing devices



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.

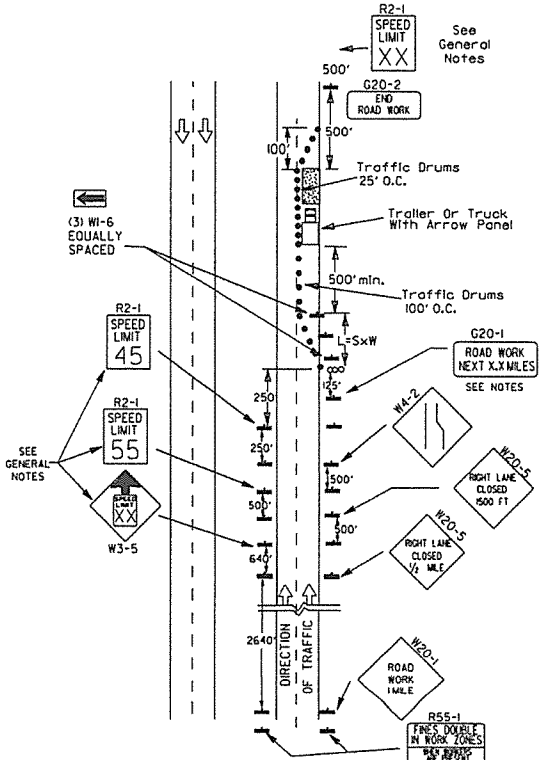


(B) Typical application - 3-lane one-way roadway where center lane is closed.

- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

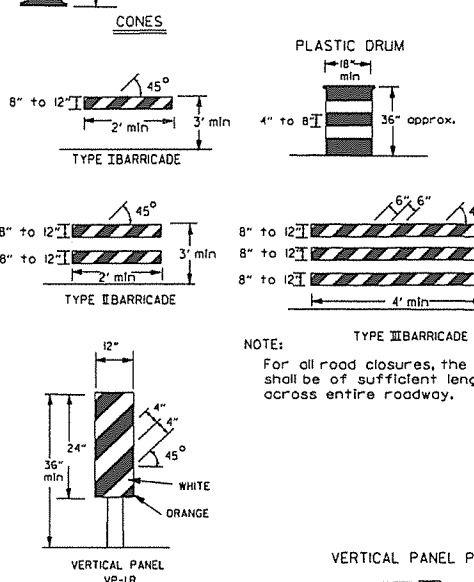
GENERAL NOTES:

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(45) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1(45) speed limit signs shall be installed at a maximum of 1/2 mile 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(55) speed limit signs shall be installed at a maximum of 1/2 mile 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 1/2 mile in advance of the job limit. Additional W20-1(1/2 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 NCHRP-350 or 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.

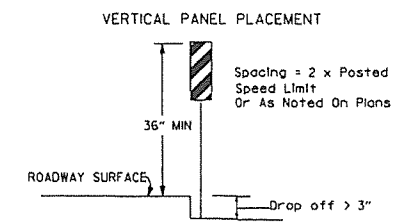


(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

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.



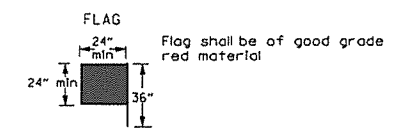
NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



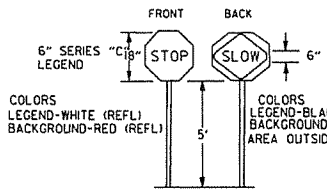
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

| VERTICAL DIFFERENTIAL | LOCATIONS | TRAFFIC CONTROL |
|-----------------------|------------------------|--|
| 1" to 3" | Centerline, lane lines | W8-11 |
| 1" to 3" | Edge of shoulder | W8-9 |
| Greater than 3" | Lane lines | Standard lane closure required |
| Greater than 3" | Edge of traveled lane | *RSP-land vertical panels, drums or concrete barrier |
| Greater than 3" | Edge of shoulder | *Vertical panels, drums or concrete barrier |

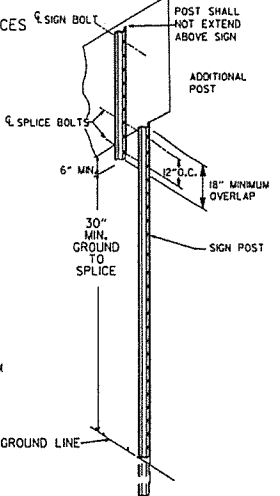
* When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



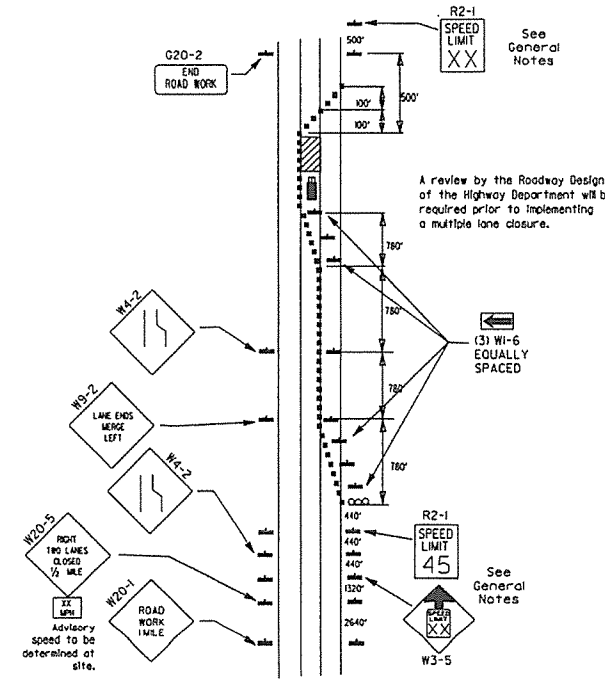
STOP SLOW PADDLE



DETAIL OF SPLICES



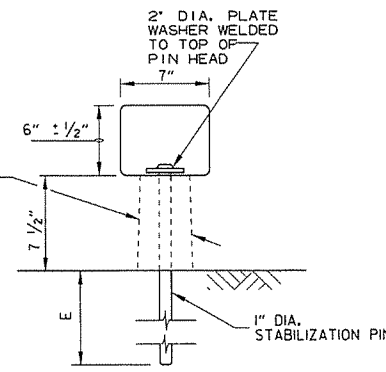
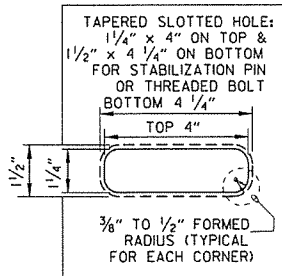
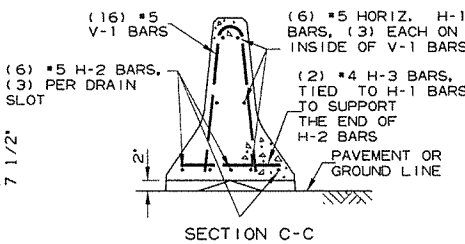
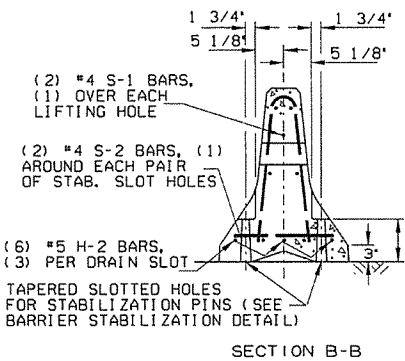
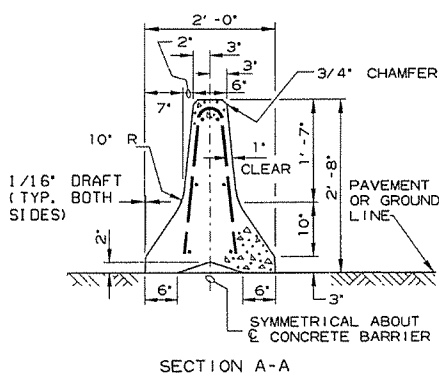
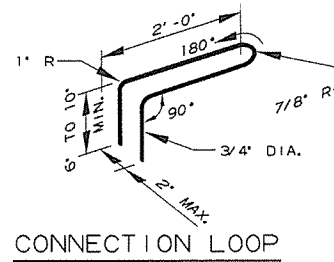
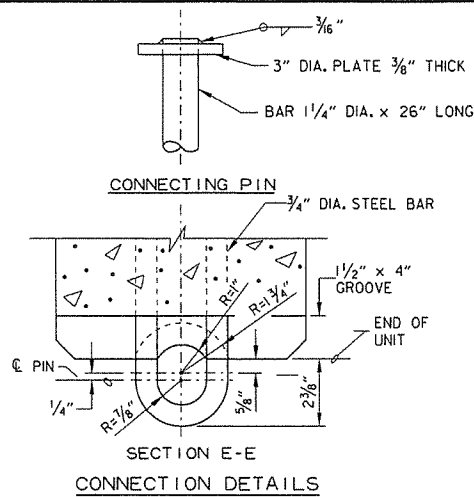
- NOTES:
- USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)
 - NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.
 - SIGN POSTS SHALL BE PAINTED GREEN. SIGNS SHALL NOT BE PAINTED. AND ALL SIGN POSTS SHALL BE PLUMB.



(D) Typical application - closing multiple lanes of a multi-lane highway.

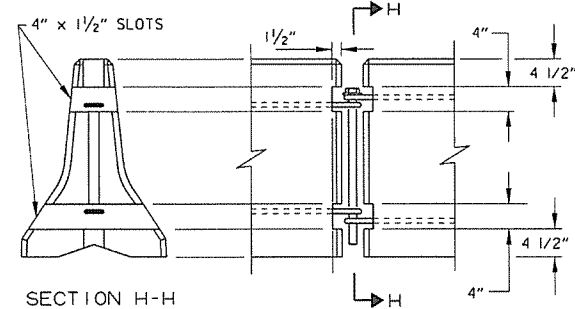
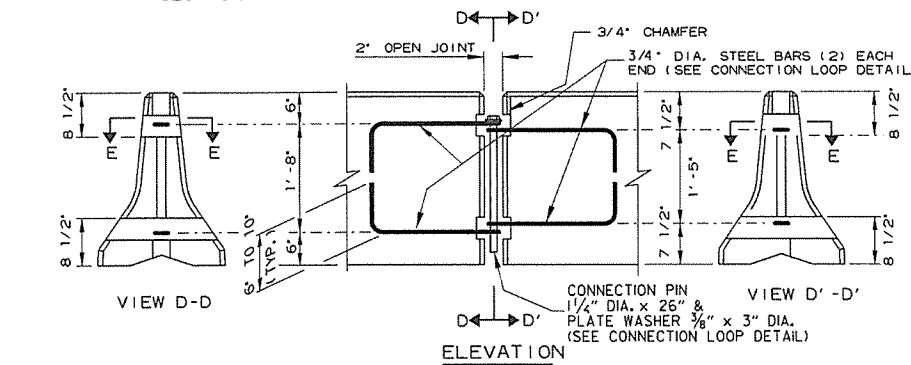
| DATE | REVISION | FILED |
|----------|---|--------|
| 9-2-15 | REVISED NOTE 2 & REPLACED R2-5A WITH W3-5 | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 11-20-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | ADDED NOTE | |
| 10-1-98 | ADDED NOTE | |
| 4-03-97 | ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL 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 | |

| REINFORCING BAR TABLE PER BARRIER UNIT | | | |
|--|--|----------|------------|
| MARK | LOCATION | BAR SIZE | (NO. BARS) |
| H-1 | HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS | #5 | (6) |
| H-2 | CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY | #5 | (6) |
| H-3 | TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1 | #4 | (2) |
| S-1 | OVER LIFT HOLES | #4 | (2) |
| S-2 | HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS | #4 | (2) |
| V-1 | VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS | #5 | (16) |

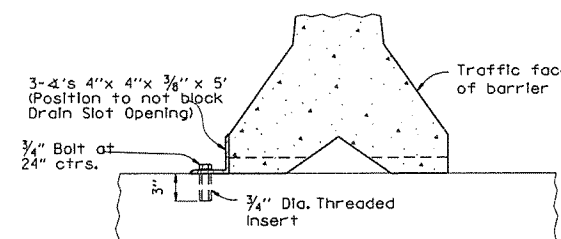


BARRIER STABILIZATION DETAIL
ROADWAY SECTION

- (E) 4" - Concrete Pavement
- 8" - Asphalt Pavement
- 12" - Shoulder Areas

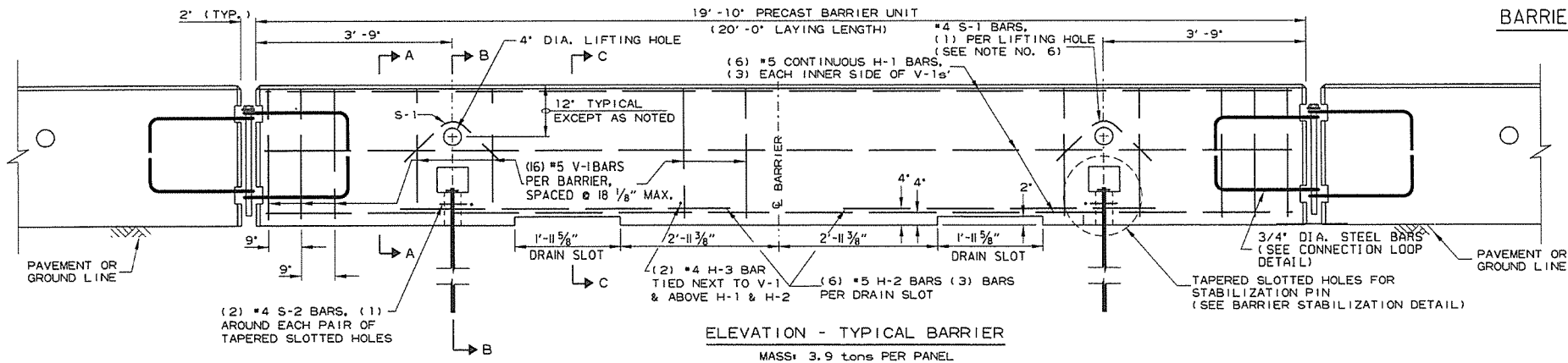


BARRIER REMOVAL SLOT DETAILS



NOTE: 3/4" 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



| DATE | REVISION | FILMED |
|----------|---|--------|
| 2-27-14 | REVISED BARRIER STABILIZATION DETAIL | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 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 | |

- General Notes**
- 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.

- 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. Delimiters: Delimiters shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier walls within 6 feet of a traffic lane, additional delimiters shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delimiters shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers. Delimiter color shall be in accordance with the Manual on Uniform Traffic Control Devices. Payment for delimiters 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.

- Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or 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 NCHRP Report 350 or 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 NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

- 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.

- Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

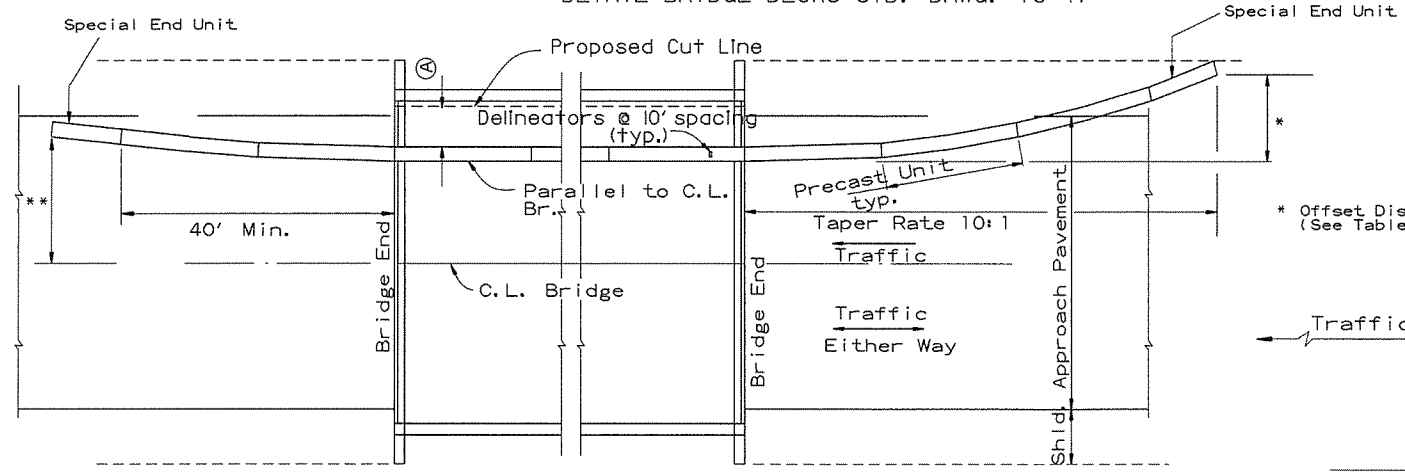
- A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION -
TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

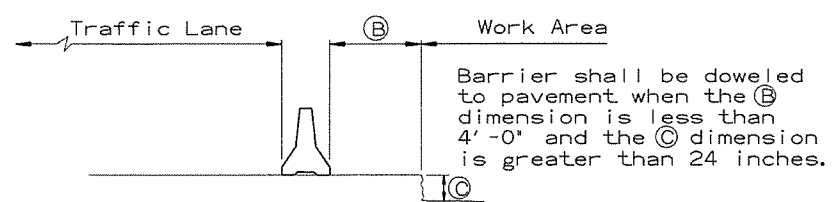
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

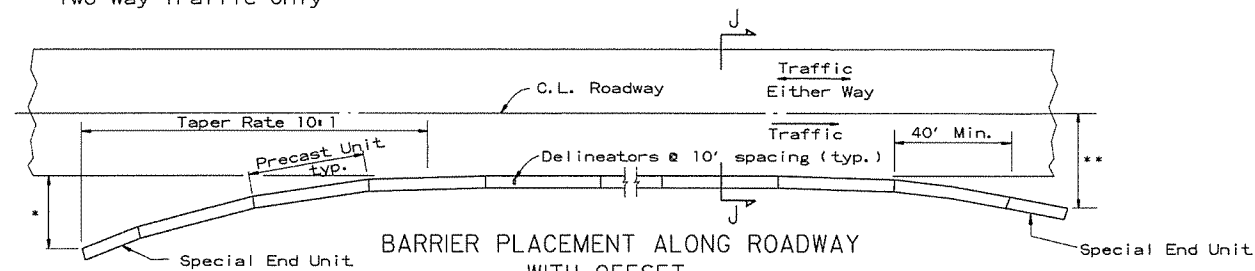
No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

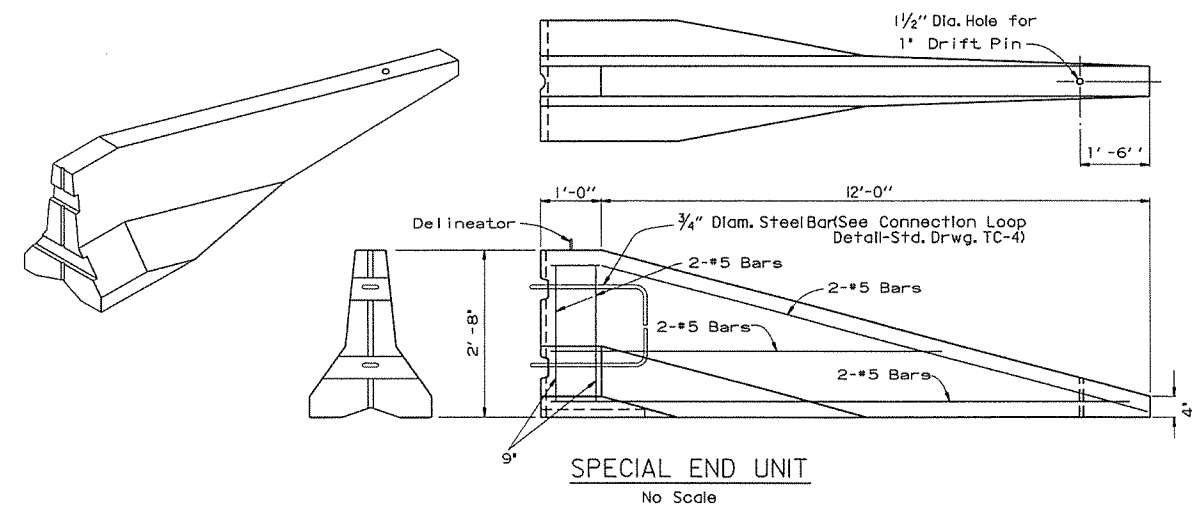
No Scale

** Offset Distance for Two Way Traffic Only

* Offset Distance (See 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.

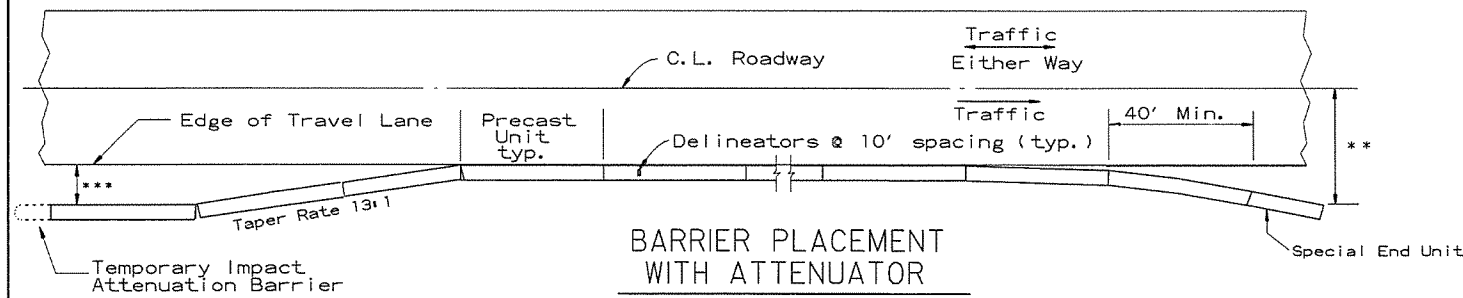


SPECIAL END UNIT

No Scale

General Notes

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



BARRIER PLACEMENT WITH ATTENUATOR

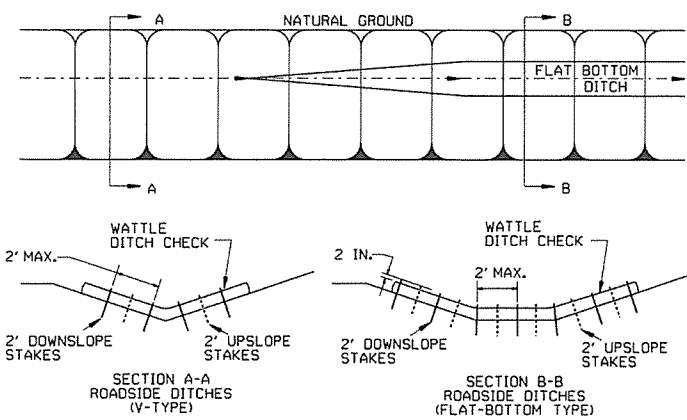
No Scale

** Offset Distance for Two Way Traffic Only

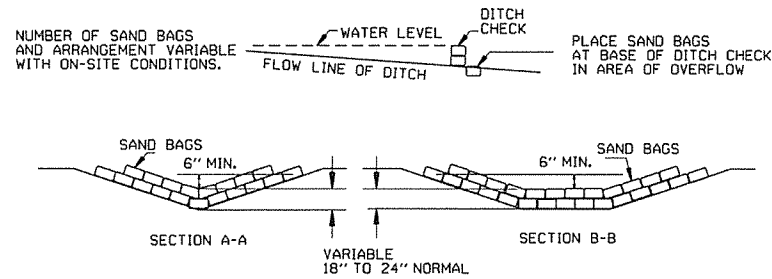
***Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

| | | | |
|----------|---------------------------|--------|--|
| | | | ARKANSAS STATE HIGHWAY COMMISSION |
| | | | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER |
| | | | STANDARD DRAWING TC-5 |
| 10-15-09 | ADDED REFERENCE TO MASH | | |
| 5-25-06 | REVISED BARRIER PLACEMENT | | |
| 8-22-02 | ISSUED NEW DRAWING | | |
| DATE | REVISION | FILMED | |

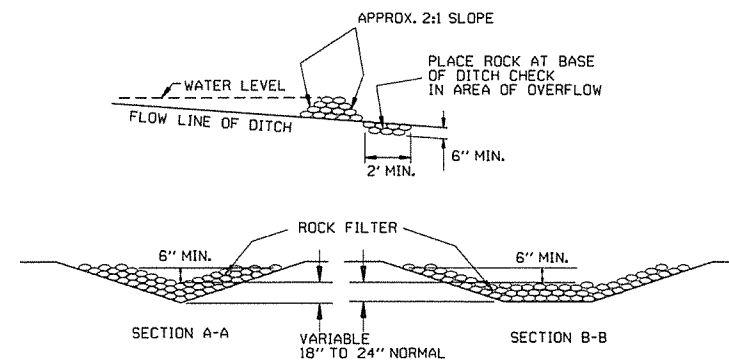
GENERAL NOTES
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



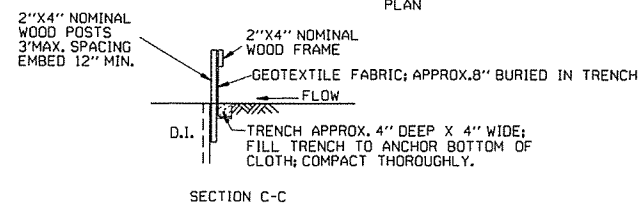
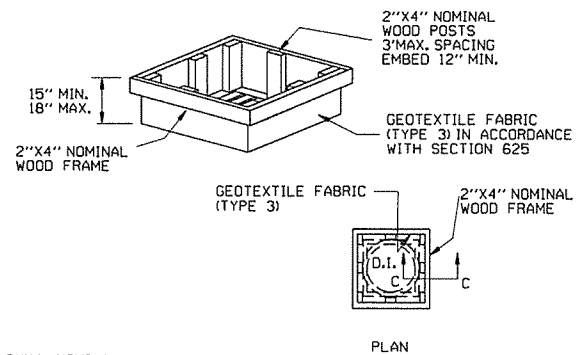
WATTLE DITCH CHECK (E-1)



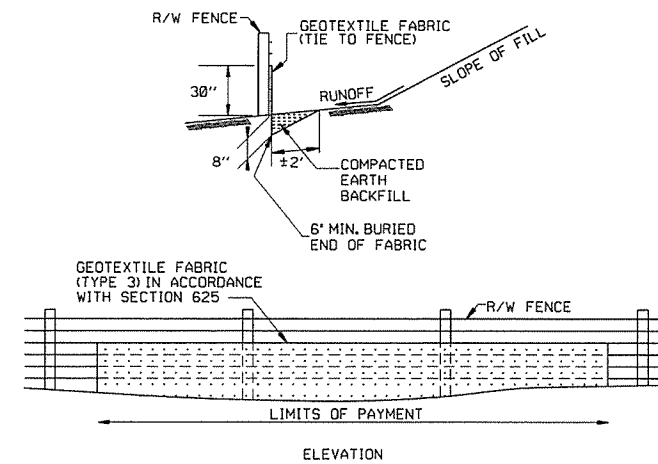
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



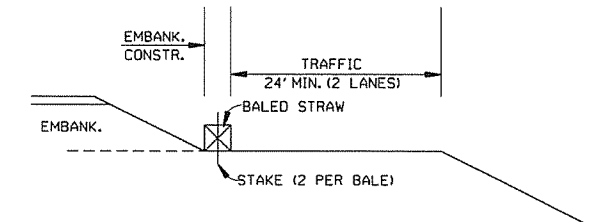
DROP INLET SILT FENCE (E-7)



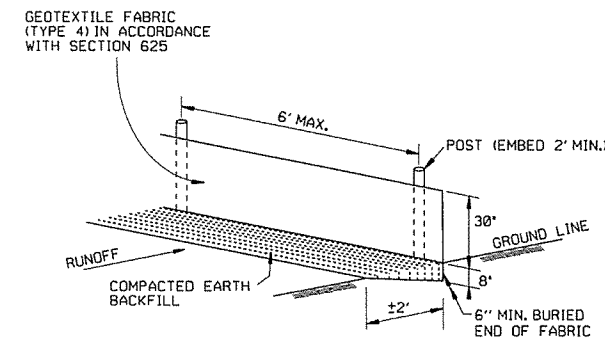
SILT FENCE ON R/W FENCE (E-4)

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.

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.



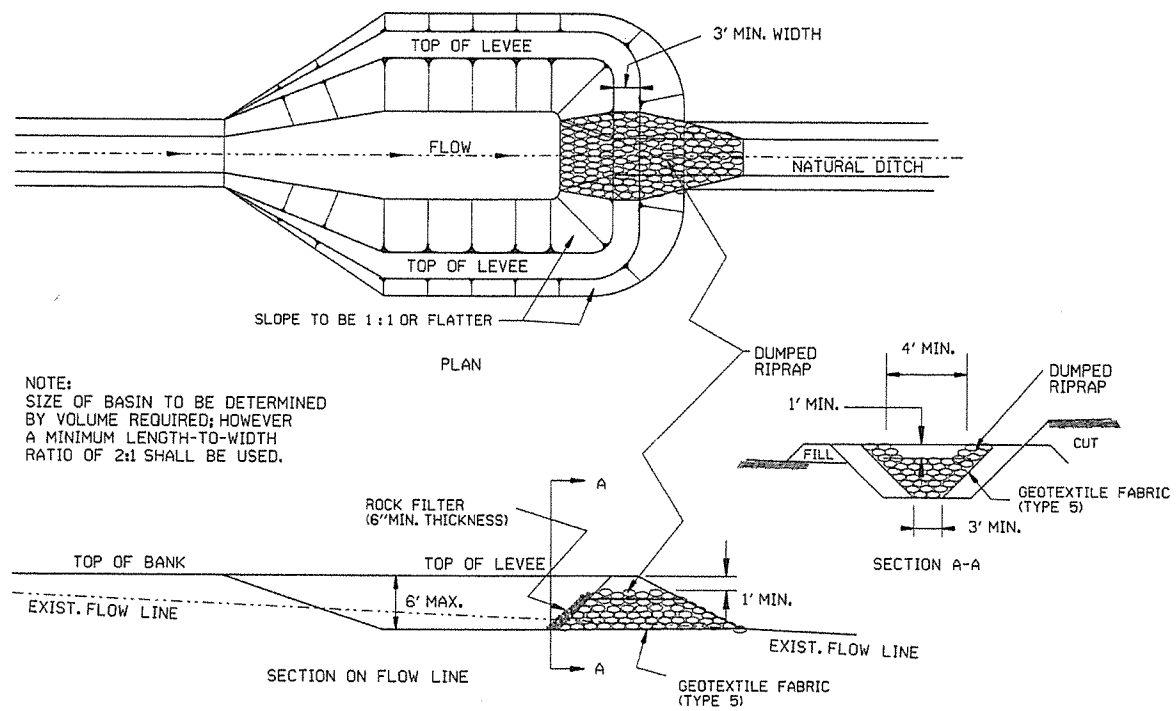
BALED STRAW FILTER BARRIER (E-2)



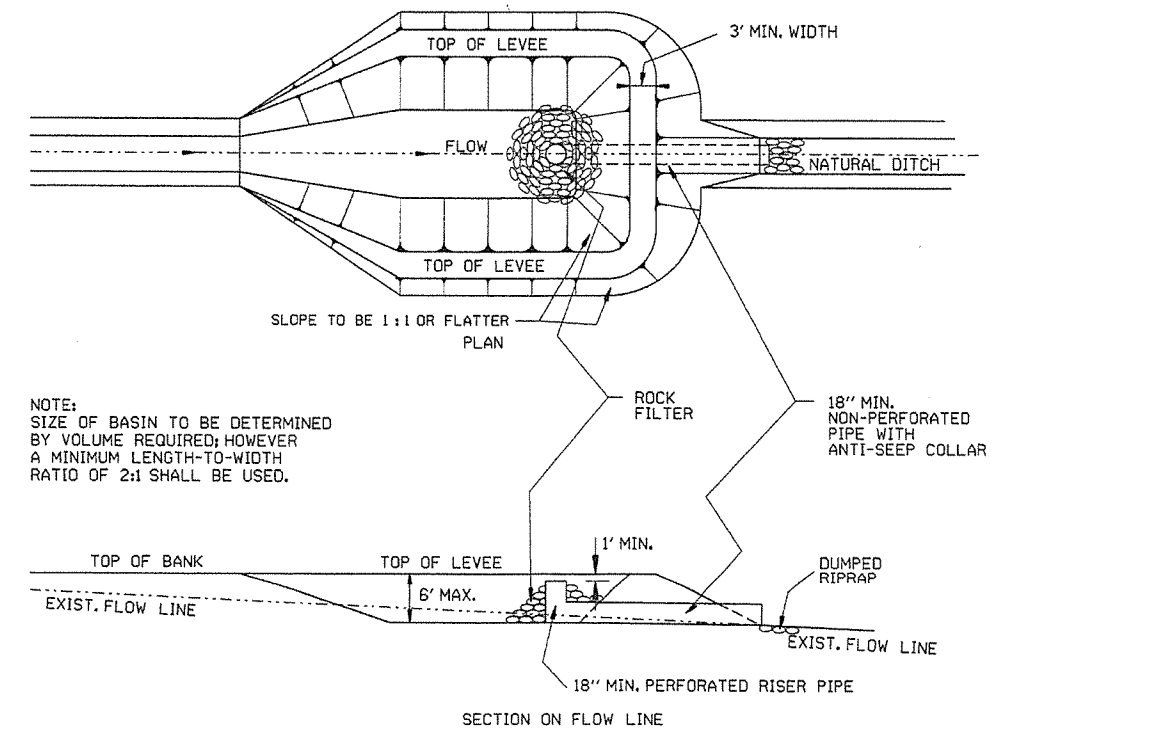
SILT FENCE (E-11)

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.

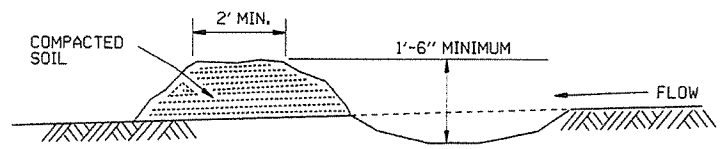
| | | | |
|----------|--|-------------|-----------------------------------|
| 12-15-11 | DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK | | ARKANSAS STATE HIGHWAY COMMISSION |
| 11-18-98 | ADDED NOTES | | |
| 7-02-98 | ADDED BALED STRAW FILTER BARRIER (E-2) | | |
| 7-20-95 | REVISED SILT FENCE E-4 AND E-11 | 7-20-95 | |
| 7-15-94 | REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC | | |
| 6-2-94 | REVISED E-1, 4, 7 & 11; DELETED E-2 & 3 | 6-2-94 | |
| 4-1-93 | REDRAWN | | |
| 10-1-92 | REDRAWN | | |
| 8-2-76 | ISSUED R.D.M. | 298-7-28-76 | |
| DATE | REVISION | FILMED | STANDARD DRAWING TEC-1 |



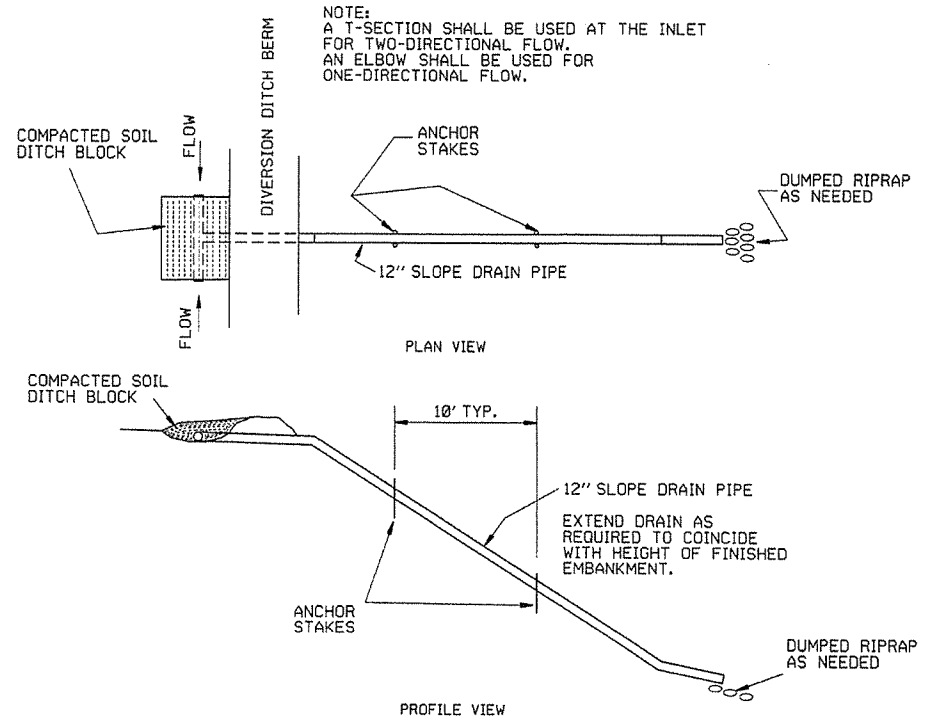
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



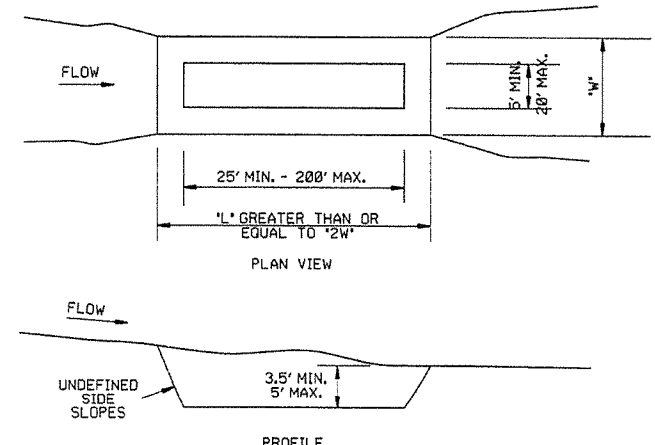
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

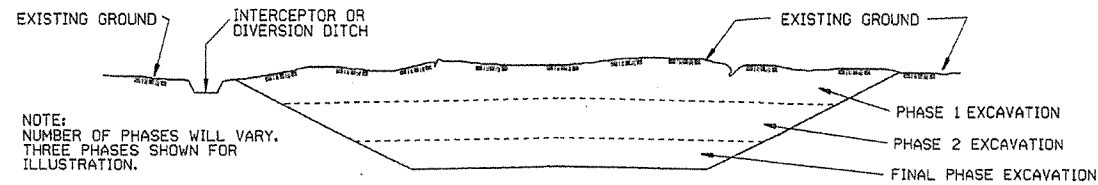
| | | | |
|--------|---|-----------------------------------|--------|
| | | ARKANSAS STATE HIGHWAY COMMISSION | |
| | | TEMPORARY EROSION CONTROL DEVICES | |
| 6-2-94 | Revised E-8 & E-12; Added E-14 & Deleted E-13 | | |
| 4-1-93 | ISSUED | | |
| DATE | REVISION | | FILMED |
| | | STANDARD DRAWING TEC-2 | |

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



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

GENERAL NOTE

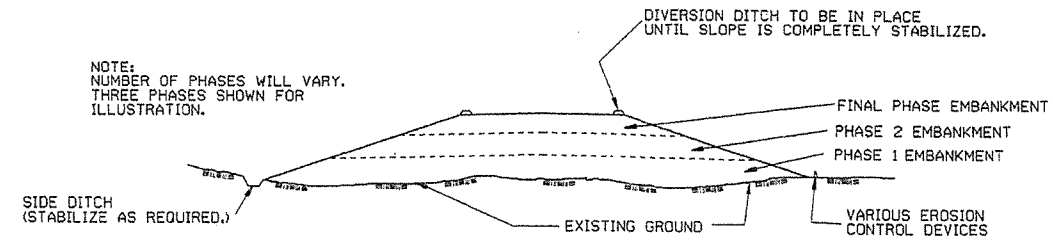
ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

133



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

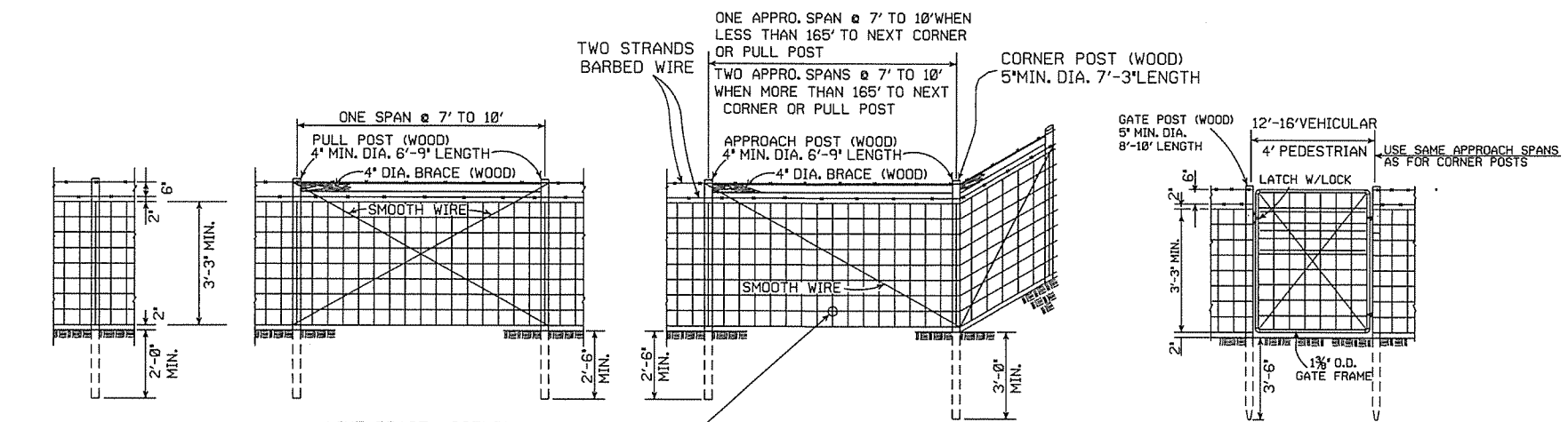
GENERAL NOTE

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.

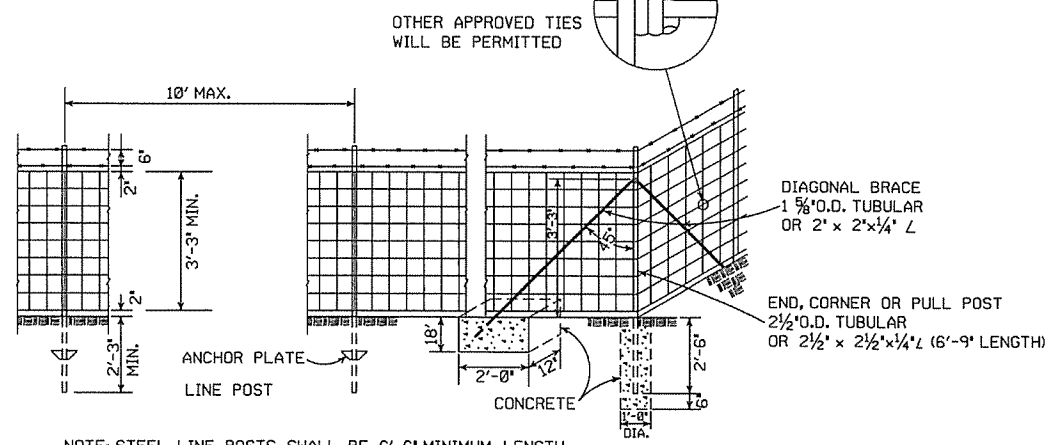
| | | | |
|----------|--------------------|--------|-----------------------------------|
| | | | ARKANSAS STATE HIGHWAY COMMISSION |
| | | | TEMPORARY EROSION CONTROL DEVICES |
| 11-03-94 | CORRECTED SPELLING | | |
| 6-2-94 | Drawn & Issued | 6-2-94 | |
| DATE | REVISION | FILMED | STANDARD DRAWING TEC-3 |



LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"

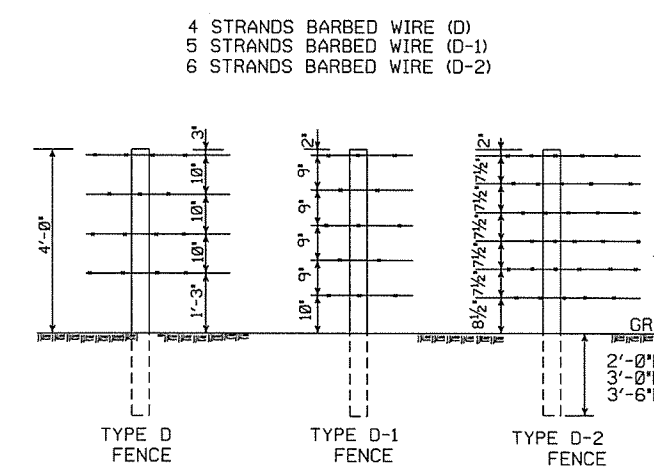
LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330"

TYPE C FENCE (WOOD POSTS)

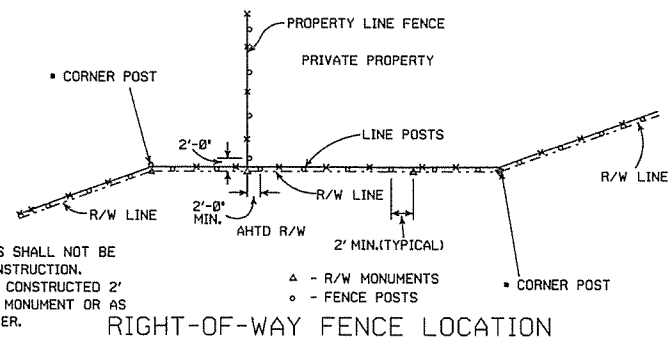
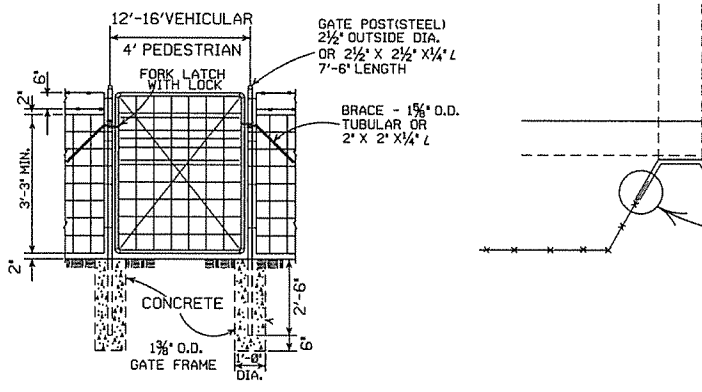


NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

TYPE C FENCE (STEEL POSTS)

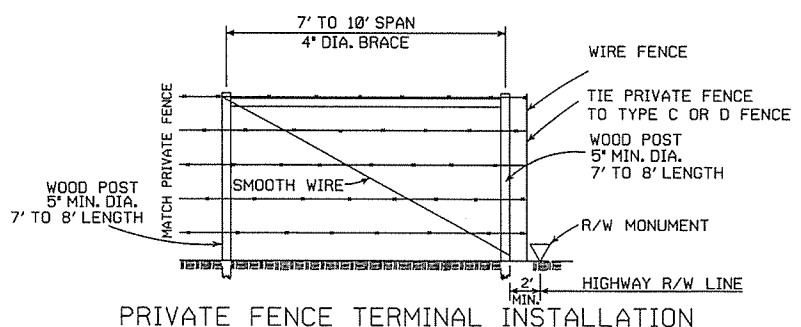


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION
WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

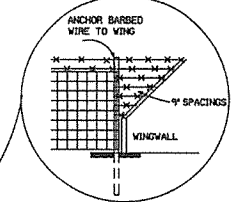
GENERAL NOTES:
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE -1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

NOTE: USE 3/8" x 1 1/2" LAG BOLT & SHIELD OR AS APPROVED BY THE ENGINEER.

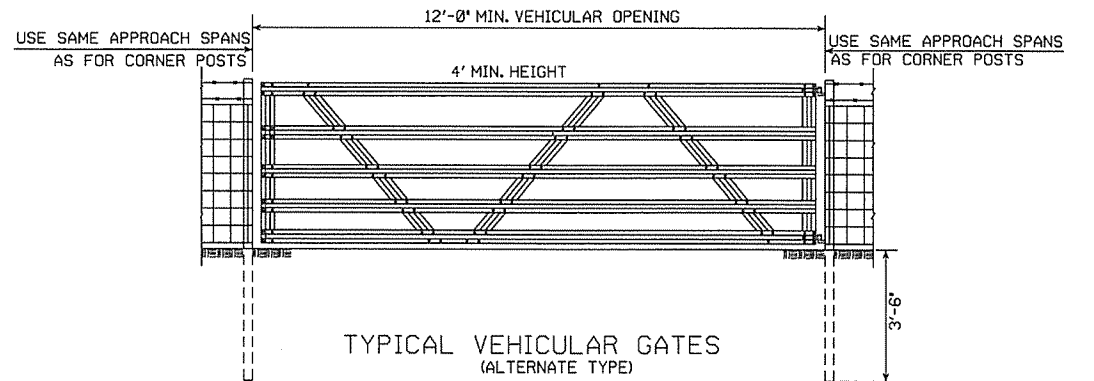


DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE 'WESTERN UNION METHOD' AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.



OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

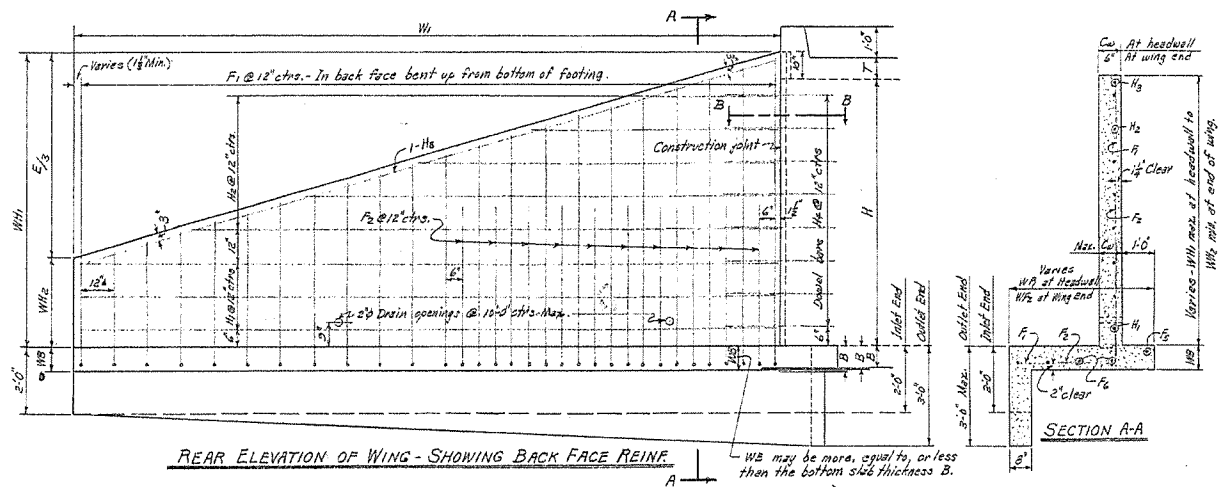
| | | |
|----------|---|--------------|
| 8-22-02 | REVISED GENERAL NOTES | |
| 10-18-96 | REVISED AASHTO | |
| 11-22-95 | REVISED R-O-W LOCATION DETAIL | |
| 6-2-94 | REVISED BARB WIRE AND ADDED CORNER POST NOTES | 6-2-94 |
| 8-5-93 | REVISED R/W INSTALLATION FENCE | 8-5-93 |
| 10-1-92 | ADDED STAPLE NOTE | 10-1-92 |
| 8-15-91 | ADDED TYPE D-2 FENCE | 8-15-91 |
| 11-30-89 | DELETED CLASS CONCRETE | 11-30-89 |
| 7-15-88 | ADDED SPLICE NOTE | 700-7-15-88 |
| 10-30-87 | GENERAL REVISIONS | 549-10-30-87 |
| 11-1-84 | MAX. POST SPACING MIN. WIRE GAUGE | 507-11-1-84 |
| 1-4-83 | MIN. DIA. LINE POST | 648-1-4-83 |
| 3-2-81 | TOLERANCE FOR POST LENGTH | 722-3-2-81 |
| 12-1-72 | ADDED D-1 & FENCE INSTALLATION | 564-12-1-72 |
| 10-2-72 | REVISED AND REDRAWN | 540-10-2-72 |
| DATE | REVISION | FILMED |

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4

| | | | | | |
|---------|----|------|-------|-----|------|
| DATE | BY | CHKD | APP'D | NO. | REV. |
| | | | | | |
| JOB NO. | | | | 135 | |



REAR ELEVATION OF WING - SHOWING BACK FACE REIN. W3 may be more, equal to, or less than the bottom slab thickness B.

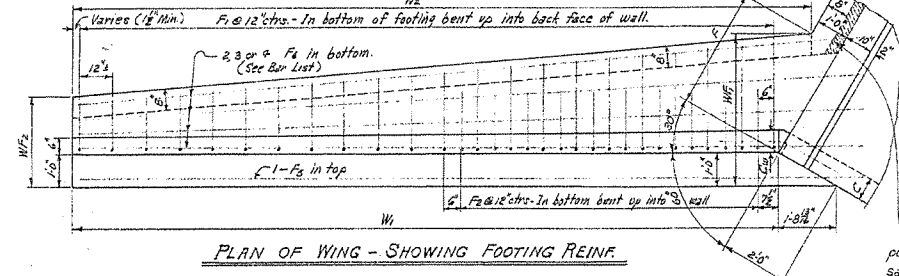
WING DIMENSIONS

| CLEAR HEIGHT OF BOX OF WING FOOTING | THICKNESS OF WING AT HEADWALL = C | | WINGWALL HEIGHTS | | WIDTHS OF WING FOOTINGS | | PERPENDICULAR FOOTING DIMENSION | | PERPENDICULAR DIST. FROM HEAD TO END OF WING | | LENGTH OF WING WALLS | | INSIDE FOOTING DIMENSION | | * QUANTITY PER WING CLASS S CONCRETE | |
|-------------------------------------|-----------------------------------|----|------------------|-------|-------------------------|-------|---------------------------------|--------|--|------------|----------------------|-------|--------------------------|----|--------------------------------------|----|
| | H | WB | WH | WH | WF | WF | F | E | W1 | W2 | W3 | W4 | W5 | W6 | W7 | W8 |
| 4' | 7" | 6" | 2'-0" | 0'-8" | 2'-0" | 2'-0" | 0'-10 1/2" | 6'-6" | 7'-6" | 7'-1 1/2" | 0.889 | 0.986 | | | | |
| 5' | 7" | 6" | 3'-0" | 1'-0" | 2'-8" | 2'-8" | 0'-11 1/2" | 6'-6" | 7'-6" | 7'-1 1/2" | 1.338 | 1.464 | | | | |
| 6' | 7" | 6" | 4'-0" | 1'-4" | 3'-0" | 2'-8" | 1'-5" | 10'-6" | 12'-1 1/2" | 12'-1 1/2" | 1.868 | 2.027 | | | | |
| 7' | 7" | 6" | 5'-0" | 1'-8" | 3'-4" | 2'-8" | 2'-7 1/2" | 12'-6" | 14'-5 1/2" | 14'-7 1/2" | 2.478 | 2.668 | | | | |
| 8' | 7" | 6" | 6'-0" | 2'-2" | 3'-8" | 2'-8" | 2'-7 1/2" | 12'-6" | 16'-5 1/2" | 16'-7 1/2" | 3.111 | 3.332 | | | | |
| 9' | 7" | 6" | 7'-0" | 2'-6" | 4'-2" | 2'-8" | 2'-7 1/2" | 12'-6" | 18'-5 1/2" | 18'-7 1/2" | 3.582 | 3.803 | | | | |
| 10' | 7" | 6" | 8'-0" | 3'-0" | 4'-6" | 2'-8" | 2'-7 1/2" | 12'-6" | 20'-5 1/2" | 20'-7 1/2" | 4.505 | 4.728 | | | | |
| 11' | 7" | 6" | 9'-0" | 3'-4" | 5'-0" | 2'-8" | 2'-7 1/2" | 12'-6" | 22'-5 1/2" | 22'-7 1/2" | 4.977 | 5.200 | | | | |
| 12' | 7" | 6" | 10'-0" | 3'-8" | 5'-4" | 2'-8" | 2'-7 1/2" | 12'-6" | 24'-5 1/2" | 24'-7 1/2" | 5.761 | 6.097 | | | | |

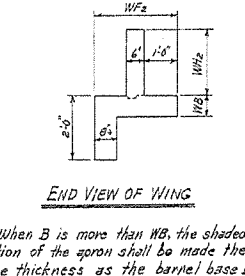
* Quantity per wing does not include headwall or that portion of apron or footwall for the length W3.

APRON DIMENSION W3 = (OW - 2F)

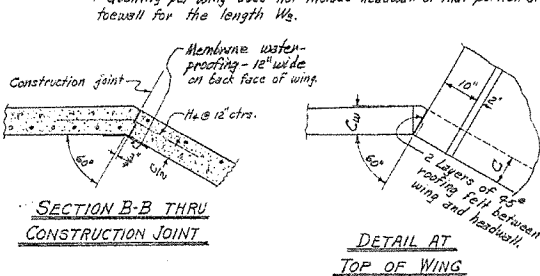
| CLEAR SPAN | CLEAR HEIGHT | SINGLE BARREL CULVERT | | DOUBLE BARREL CULVERT | | TRIPLE BARREL CULVERT | | QUADRUPLE BARREL CULVERT | | QUINTUPLE BARREL CULVERT | |
|------------|--------------|-----------------------|-------|-----------------------|-------|-----------------------|-------|--------------------------|-------|--------------------------|-------|
| | | OW | W3 | OW | W3 | OW | W3 | OW | W3 | OW | W3 |
| 4' | 7' | 1'-11 1/2" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 5' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 6' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 7' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 8' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 9' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 10' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 11' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 12' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |



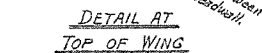
PLAN OF WING - SHOWING FOOTING REIN.



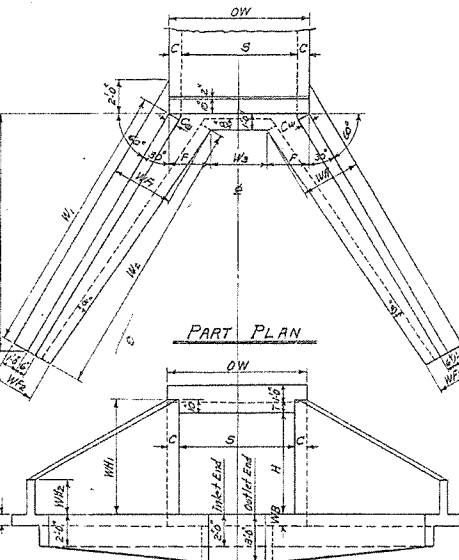
END VIEW OF WING



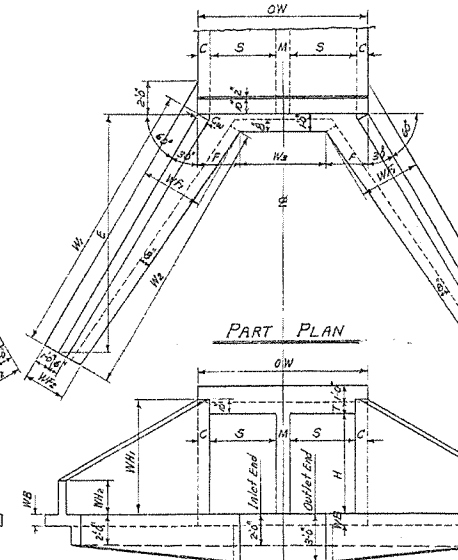
SECTION B-B THRU CONSTRUCTION JOINT



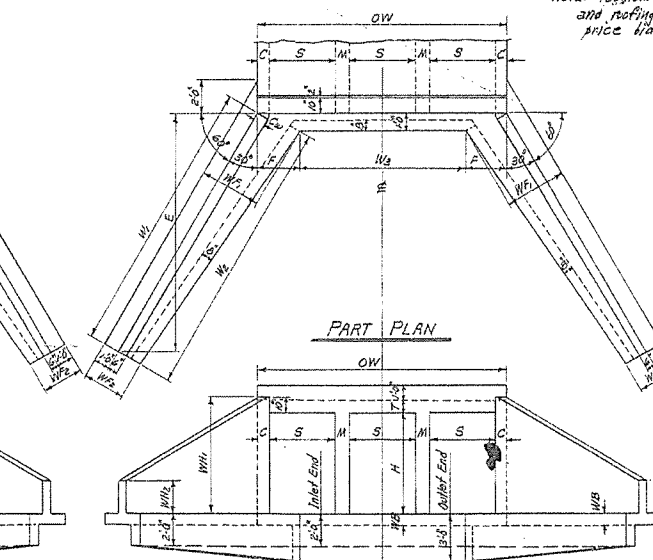
DETAIL AT TOP OF WING



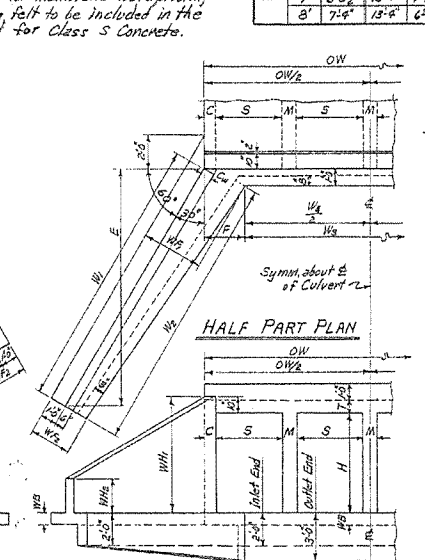
SINGLE BARREL CULVERT



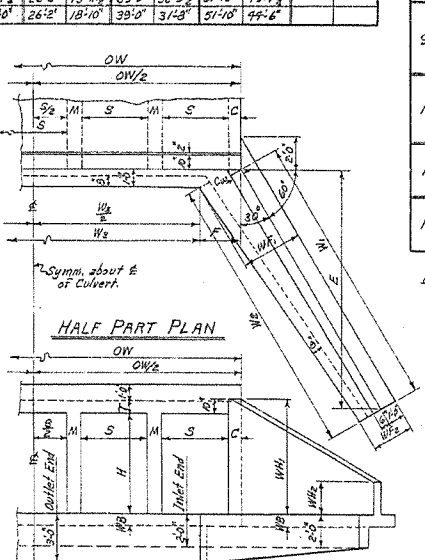
DOUBLE BARREL CULVERT



TRIPLE BARREL CULVERT



QUADRUPLE BARREL CULVERT



QUINTUPLE BARREL CULVERT

BAR LIST FOR ONE WING - 4 REQUIRED

| CLEAR HEIGHT | F1 BENT | | F2 BENT | | F3 STRAIGHT | | F4 STRAIGHT | | H1 STRAIGHT | | H2 BENT | | QUANTITY PER WING | BAR BENDING DIAGRAMS |
|--------------|---------|--------|---------|--------|-------------|--------|-------------|--------|-------------|--------|---------|--------|-------------------|----------------------|
| | SIZE | LENGTH | SIZE | LENGTH | SIZE | LENGTH | SIZE | LENGTH | SIZE | LENGTH | SIZE | LENGTH | | |
| 4' | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | 27.0 | |
| 5' | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | 41.1 | |
| 6' | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | 63.7 | |
| 7' | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | 89.5 | |
| 8' | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | 145.8 | |
| 9' | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | 283.7 | |
| 10' | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | #3 | 1'-6" | 356.4 | |

MEMBRANE: A membrane waterproofing 12" wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

REVISIONS - Membrane added. 5-10-66 W.C.H.

QUANTITIES

| CLEAR SPAN | CLEAR HEIGHT | CLASS S CONCRETE - 4 WINGS | | | | | | | | | | | |
|------------|--------------|----------------------------|-------|-----------|-------|----------|-------|----------|-------|------------|-------|-------------------------------|-------|
| | | HEADWALLS | | WINGWALLS | | FOOTINGS | | TIEWELLS | | AND APRONS | | REINFORCING STEEL FOR 4 WINGS | |
| S | H | WB | WH | WF | WF | F | E | W1 | W2 | W3 | W4 | W5 | W6 |
| 4' | 7' | 1'-11 1/2" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 5' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 6' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 7' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 8' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 9' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 10' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 11' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |
| 12' | 7' | 2'-0" | 2'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" | 3'-0" |

* For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts For the desired Span and Height.

GENERAL NOTES:
 CONCRETE: All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/8" chamfers.
 REINFORCING STEEL: Reinforcing steel to be deformed bars of intermediate or hard grade.
 CONSTRUCTION JOINTS: Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.
 SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.
 UNIT STRESSES:
 Class S Concrete (n=10) 12000 psi
 Reinforcing Steel 20000 psi

NOTE: This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

| SINGLES | DOUBLES | TRIPLES | QUADRUPLES | QUINTUPLES |
|----------|----------|----------|------------|------------|
| R-100X-0 | R-200X-0 | R-300X-0 | R-400X-0 | R-500X-0 |
| R-100X-1 | R-200X-1 | R-300X-1 | R-400X-1 | R-500X-1 |
| R-100X-2 | R-200X-2 | R-300X-2 | R-400X-2 | R-500X-2 |
| | R-200X-3 | R-300X-3 | | |

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD WINGS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS
 3:1 SLOPES
 SINGLES, DOUBLES, TRIPLES, ALL DEPTHS OF COVER
 QUADRUPLES & QUINTUPLES. FOR H = 8'-0" OR LESS
 STANDARD DRAWING NO. W-X003-1

Designed By: W.C.H. 8-20-62. Checked By: R.M.S. 1-9-63
 Drawn By: W.C.H. 12-9-62. Checked

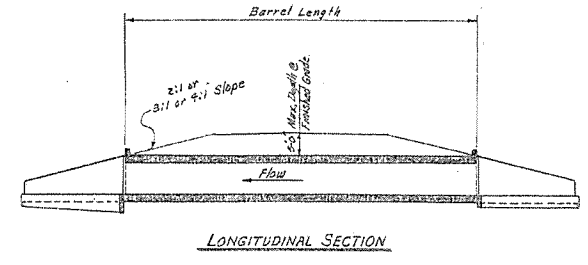
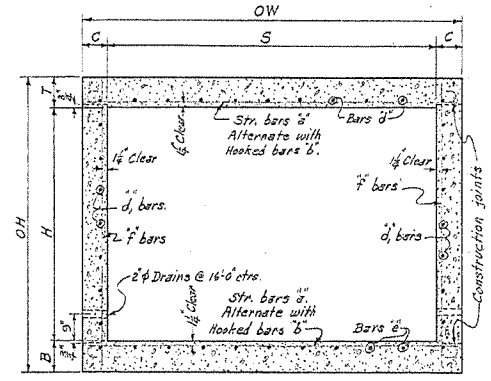
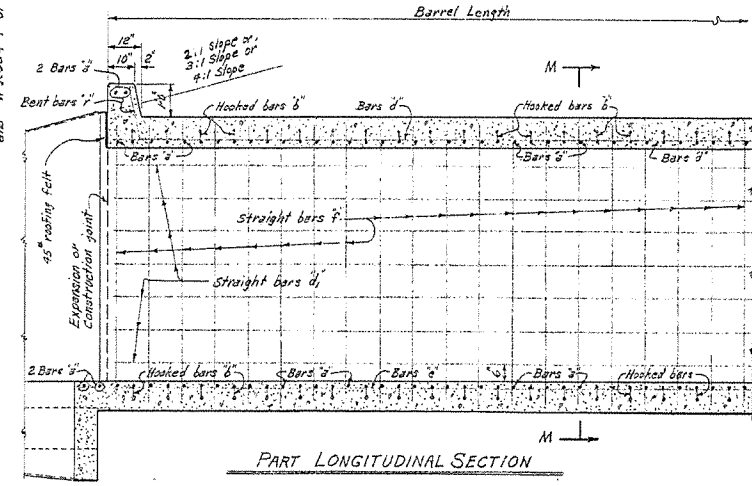
| FED. ROAD No. | STATE | FED. AID PROJECT | FISCAL YEAR | SHEET No. | TOTAL SHEETS |
|---------------|-------|------------------|-------------|-----------|--------------|
| 6 | ARK. | | | 136 | |
| JOB No. | | | | | |

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

| DEPTH OF COVER | CLEAR SPAN | CLEAR HEIGHT | a bars | | b bars | | c bars | | d bars | | e bars | | f bars | |
|------------------------|------------|--------------|---|---------|---|---------|------------------------------------|---------|---------------------------|---------|---------------------------------------|---------|-------------------------|---------|
| | | | STRAIGHT | | BENT - See Diagram below | | STRAIGHT | | STRAIGHT | | STRAIGHT | | STRAIGHT | |
| | | | In Top and Bottom Slabs of Barrel. & add in Apron and Headwall. Each. | | In Top and Bottom Slabs of Barrel. Alternate with "a" bars. | | Longitudinal in Top Slab of Barrel | | Longitudinal in Sidewalls | | Longitudinal in Bottom Slab of Barrel | | Verticals in Side walls | |
| D | S | H | SIZE | SPACING | SIZE | SPACING | SIZE | SPACING | SIZE | SPACING | SIZE | SPACING | SIZE | SPACING |
| 0'-0" TO 5'-0" MAXIMUM | 1 @ 10' | 10' | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | | | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | | | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | 1 @ 11' | 11' | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | | | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | | | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | 1 @ 12' | 12' | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | | | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |
| | | | 120 | 120 | 4'-9" | 110 | 110 | 5'-10" | 4'-9" | 6 | 6 | 120 | 120 | 2'-11" |

| DIMENSIONS | | | | | | | | | | QUANTITIES | | | |
|----------------------------|------------|--------------|-------------------|---------------|-----------------------|------------------------|--------------------------|-----------------|--------------------------------------|------------------------|---------|------------|--|
| MIN. DESIGN DEPTH OF COVER | CLEAR SPAN | CLEAR HEIGHT | BARREL DIMENSIONS | | | | | UNIT QUANTITIES | | | | | |
| | | | SO. FT. OPENING | OVERALL WIDTH | THICKNESS OF TOP SLAB | THICKNESS OF SIDEWALLS | THICKNESS OF BOTTOM SLAB | OVERALL HEIGHT | CLASS S CONC. PER LIN. FT. OF BARREL | PER LIN. FT. OF BARREL | PER LAP | ADDITIONAL | |
| D | S | H | A | OW | T | C | B | OH | CUYD | LB. | LB. | LB. | |
| 5'-0" | 1 @ 10' | 10' | 2' | 8 | 5'-0" | 6" | 3'-1 1/2" | 0.282 | 41.99 | 17.95 | 66.35 | | |
| | | | 3' | 12 | 5'-0" | 6" | 4'-4 1/2" | 0.319 | 44.16 | 19.62 | 66.35 | | |
| | | | 4' | 16 | 5'-0" | 6" | 3'-5 1/2" | 0.354 | 46.83 | 21.29 | 66.35 | | |
| | 1 @ 11' | 11' | 2' | 8 | 5'-0" | 6" | 3'-1 1/2" | 0.282 | 41.99 | 17.95 | 66.35 | | |
| | | | 3' | 12 | 5'-0" | 6" | 4'-4 1/2" | 0.319 | 44.16 | 19.62 | 66.35 | | |
| | | | 4' | 16 | 5'-0" | 6" | 3'-5 1/2" | 0.354 | 46.83 | 21.29 | 66.35 | | |
| | 1 @ 12' | 12' | 2' | 8 | 5'-0" | 6" | 3'-1 1/2" | 0.282 | 41.99 | 17.95 | 66.35 | | |
| | | | 3' | 12 | 5'-0" | 6" | 4'-4 1/2" | 0.319 | 44.16 | 19.62 | 66.35 | | |
| | | | 4' | 16 | 5'-0" | 6" | 3'-5 1/2" | 0.354 | 46.83 | 21.29 | 66.35 | | |

Note: For details of wings and bar laps, see Drawing Nos. W-X002-1, W-X003-1 or W-X004-1 and W-X002-2, W-X003-2 or W-X004-2.



GENERAL NOTES:-
 CONCRETE- All concrete to be Class S, and shall be poured in the dry.
 All exposed corners to have 3/8" chamfers.
 REINFORCING STEEL- Reinforcing to be deformed bars of intermediate or hard grade.
 BAR LAP- In computing the quantities of steel from the tables add one lap for each additional 30'-0" length of barrel over 30'-0". Lap longitudinal bars 30 diameters.
 CONSTRUCTION JOINTS- Construction joints between wingwalls, side walls and slabs shall be only where shown on plans.
 SPECIFICATIONS- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

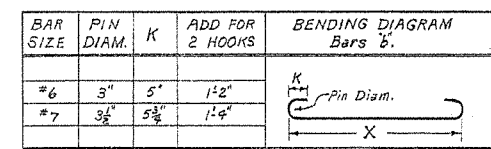
DESIGN LIVE LOAD
 H20-S16 LOADING A.A.S.H.O. 1961
 AND
 SPECIAL MILITARY LOADING
 Two 25,000 Lb. Axles @ 4'-0" cts.

UNIT STRESSES:-
 Class S Concrete (n=10) 1800 psi
 Reinforcing Steel 20,000 psi

Note: This drawing to be used in conjunction with Standard Drawing Nos. W-X002-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing No. W-X002-1 or W-X002-2.

ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD BARREL SECTIONS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 4.5, 6, 7.8, 9, 10, 11, 12 SPANS 3:1 OR 4:1 SLOPES
 SINGLES UNDER 5'-0" COVER
 STANDARD DRAWING NO. R-100X-0

Designed By: M.C.H. 1-28-63
 Drawn By: M.C.H. 2-8-63
 Checked By: M.C.H. 2-12-63
 Checked By: R.B.S. 5-5-63
 Checked By: R.B.S. 5-8-63
 Checked By: R.B.S. 5-24-63



| DOWEL BARS FOR TWO HEADWALLS | | | | |
|------------------------------|------|---------|--------|--------|
| SPAN | SIZE | SPACING | LENGTH | X |
| 4' | #2 | 11" | 12 | 2'-6" |
| 5' | #2 | 11" | 14 | 2'-7" |
| 6' | #2 | 11" | 16 | 2'-8" |
| 7' | #2 | 11" | 18 | 2'-9" |
| 8' | #2 | 11 1/2" | 20 | 2'-11" |
| 9' | #2 | 11 1/2" | 22 | 3'-0" |
| 10' | #2 | 11 1/2" | 24 | 3'-1" |
| 11' | #2 | 12" | 26 | 3'-2" |
| 12' | #2 | 12" | 28 | 3'-3" |

Dowel bars in Headwalls.

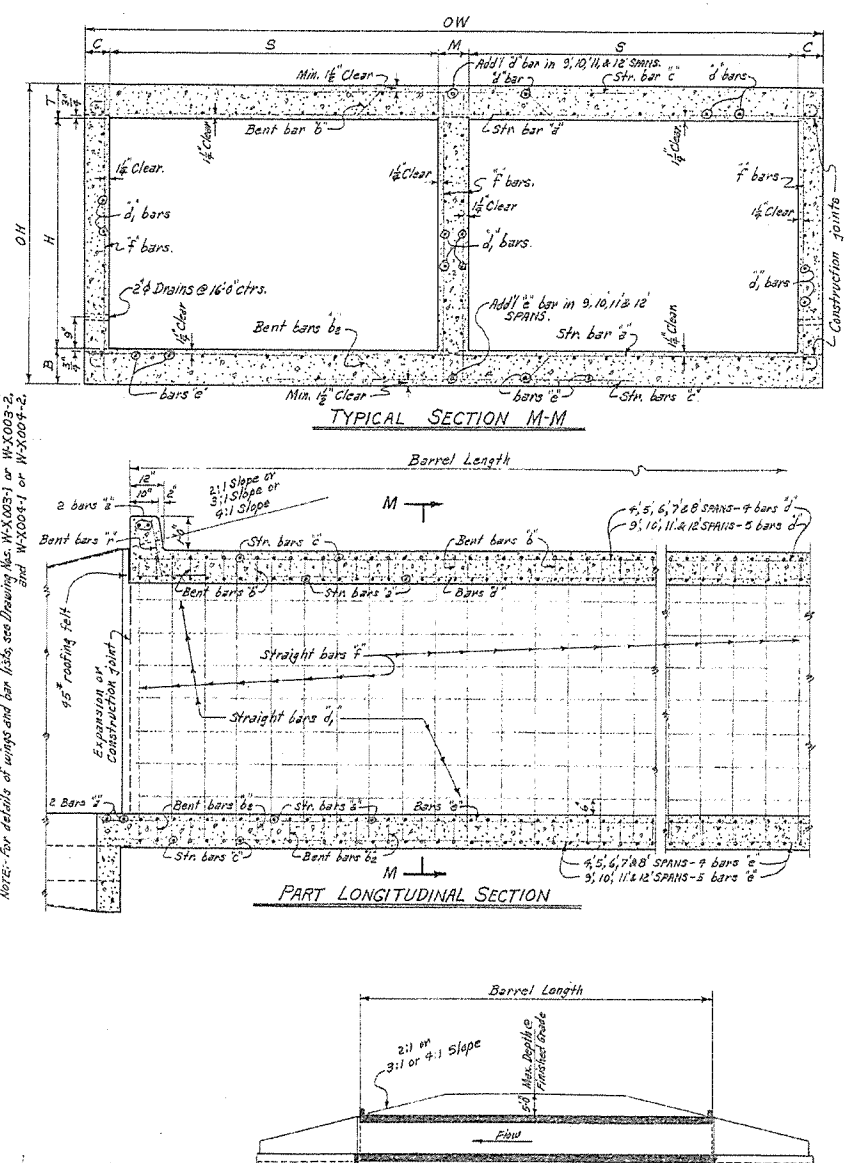
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|---------------|-------|------------------|-------------|-----------|--------------|
| FED. ROAD No. | STATE | FED. AID PROJECT | FISCAL YEAR | SHEET No. | TOTAL SHEETS |
| 6 | ARK. | | | 137 | |
| JOB No. | | | | | |

BAR LIST FOR BARREL SECTION 60'0" IN LENGTH

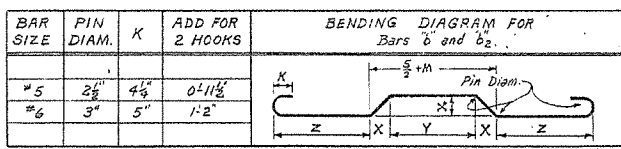
| DEPTH OF COVER | CLEAR SPAN | CLEAR HEIGHT | a bars | | | | | | | | | | | | b bars | | | | | | | | | | | | c bars | | | | | | | | | | | | d bars | | | | | | | | | | | | e bars | | | | | | | | | | | | f bars | | | | | | | | | | | |
|-----------------------|------------|--------------|----------|---------|--------------|--------|---------------------------|---------|--------------|--------|---------------------------|----------|-------|------|----------|--------------|--------|----------|----------|-----|------|---------|--------------|--------|------|---------|--------------|--------|-------|---------|--------------|--------|------|---------|--------------|--------|------|---------|--------------|--------|-------|----|--|--|--|--|--|--|--|--|--------|--|--|--|--|--|--|--|--|--|--|--|--------|--|--|--|--|--|--|--|--|--|--|--|
| | | | STRAIGHT | | | | BENT - See Diagram below. | | | | BENT - See Diagram below. | | | | STRAIGHT | | | | STRAIGHT | | | | STRAIGHT | | | | STRAIGHT | | | | STRAIGHT | | | | STRAIGHT | | | | STRAIGHT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | SIZE | SPACING | NUMBER REQ'D | LENGTH | SIZE | SPACING | NUMBER REQ'D | LENGTH | X | Y | Z | SIZE | SPACING | NUMBER REQ'D | LENGTH | X | Y | Z | SIZE | SPACING | NUMBER REQ'D | LENGTH | SIZE | SPACING | NUMBER REQ'D | LENGTH | SIZE | SPACING | NUMBER REQ'D | LENGTH | SIZE | SPACING | NUMBER REQ'D | LENGTH | SIZE | SPACING | NUMBER REQ'D | LENGTH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-0' TO 5-0' MAXIMUM. | 4-0'0" | 2' | #5 | 12 | 128 | 128 | 9'5" | 59 | 59 | 10'4" | 0'-3" | 2'2 1/2" | 3'-4" | 59 | 59 | 10'6" | 0'-2" | 2'3 1/2" | 3'-4" | 120 | 120 | 4'-0" | 14 | #4 | 12 | 12 | 120 | 120 | 4'-0" | 14 | #4 | 12 | 120 | 120 | 4'-0" | 14 | #4 | 12 | 120 | 120 | 4'-0" | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DIMENSIONS QUANTITIES

| MAX. DESIGN DEPTH OF COVER | CLEAR SPAN | CLEAR HEIGHT | BARREL DIMENSIONS | | | | | | | | | | UNIT QUANTITIES | | |
|----------------------------|------------|--------------|-------------------|-----------------|---------------|-----------------------|-------------------------|----------------------------|--------------------------|----------------|--------------------------------------|------------------------|-------------------|-------------|--|
| | | | CLEAR HEIGHT | SP. FT. OPENING | OVERALL WIDTH | THICKNESS OF TOP SLAB | THICKNESS OF SIDE WALLS | THICKNESS OF DIVISION WALL | THICKNESS OF BOTTOM SLAB | OVERALL HEIGHT | CLASS S CONC. PER LIN. FT. OF BARREL | PER LIN. FT. OF BARREL | REINFORCING STEEL | | |
| | | | | | | | | | | | | | PER LAP | 7/16 INCHES | |
| 4-0'0" | 12' | 12' | 2' | 16 | 3'-8" | 6" | 8" | 3'-0" | 0.496 | 88.15 | 42.71 | 129.56 | | | |



Notes: For details of wings and bar lugs, see Drawing Nos. W-X002-1 or W-X002-2, W-X003-1 or W-X003-2, and W-X004-1 or W-X004-2.



Note: Dimensions are to centers of bars. (Bars b and b2)

DOWEL BARS FOR TWO HEADWALLS

| SPANS @ | SIZE | SPACING | NO. REQ'D | LENGTH | X |
|---------|------|---------|-----------|--------|-----------|
| 4' | #4 | 12" | 20 | 2'-5" | 1'-2 1/2" |
| 5' | #4 | 12" | 24 | 2'-6" | 1'-3" |
| 6' | #4 | 12" | 28 | 2'-7" | 1'-3 1/2" |
| 7' | #4 | 12" | 32 | 2'-8" | 1'-4" |
| 8' | #4 | 12" | 36 | 2'-9" | 1'-4 1/2" |
| 9' | #4 | 12" | 40 | 2'-10" | 1'-5" |
| 10' | #4 | 12" | 46 | 2'-11" | 1'-5 1/2" |
| 11' | #4 | 12" | 50 | 3'-0" | 1'-6" |
| 12' | #4 | 12" | 54 | 3'-1" | 1'-6 1/2" |

GENERAL NOTES:
 CONCRETE: All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/4 chamfers.
 REINFORCING STEEL: Reinforcing to be deformed bars of intermediate or hard grade.
 BAR LAP: In computing the quantities of steel from this table add one lap for each additional 33-0 length of barrel over 22-0. Lap longitudinal bars 30 diameters.
 CONSTRUCTION JOINTS: Construction joints between wingwalls, side walls, division walls and slabs shall be only where shown on plans.
 SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

Note: This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing No. W-X002-1 or W-X002-2.

DESIGN LIVE LOAD
 H20-S16 LOADING A.A.S.H.O. 1961
 AND
 SPECIAL MILITARY LOADING
 T20 24,000 LB. AXLES @ 4'-0" CTRS.

CLASS S CONCRETE
 ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD BARREL SECTIONS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 4,5,6,7,8,9,10,11 & 12 SPANS 3:1 OR 4:1 SLOPES
 DOUBLES UNDER 5'-0" COVER
 STANDARD DRAWING NO. R-200X-0.

Checked by: W.C.H. 1-17-63.
 Checked by: W.C.H. 2-15-63.
 Checked by: W.C.H. 2-19-63.

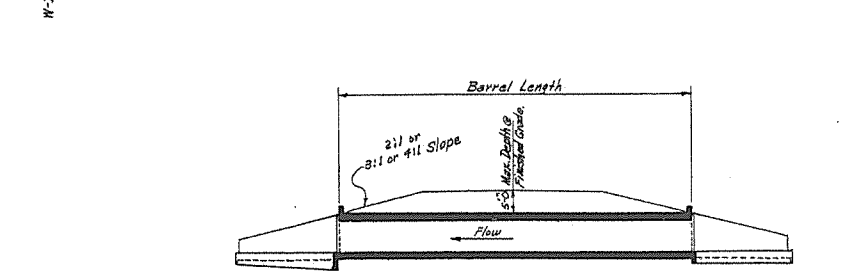
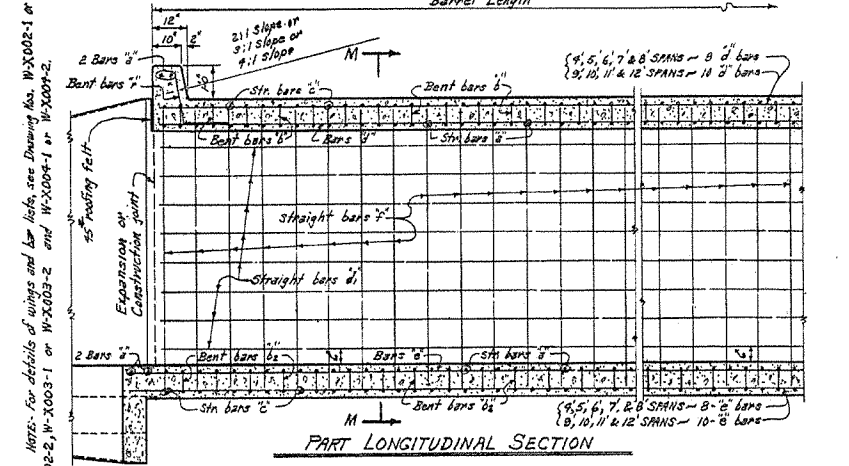
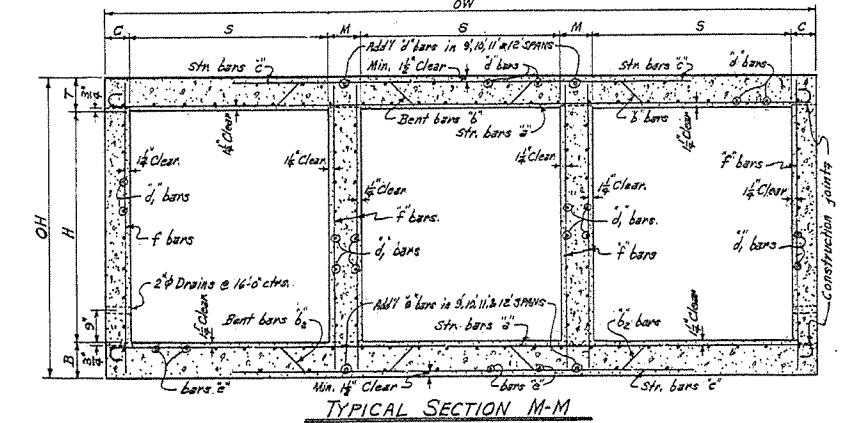
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|---------------|-------|------------------|-------------|-----------|--------------|
| FED. ROAD No. | STATE | FED. AID PROJECT | FISCAL YEAR | SHEET No. | TOTAL SHEETS |
| 6 | ARK. | | | 132 | |
| JOB No. | | | | | |

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

| DEPTH OF COVER | CLEAR SPAN | CLEAR HEIGHT | BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH | | | | | | | | | | | | | | |
|----------------|------------|--------------|--|---------|-----------|---|---------|-----------|--|---------|-----------|------------------------------------|---------|-----------|---|---------|-----------|
| | | | 3" bars | | | 4" bars | | | 5" bars | | | 6" bars | | | 7" bars | | |
| D | S | H | STRAIGHT | | | BENT - See Diagram below. | | | BENT - See Diagram below. | | | STRAIGHT | | | STRAIGHT | | |
| | | | In Top and Bottom Slab of Barrel | | | In Bottom of Top Slab bent up over Division Walls - hooked. | | | In Top of Bottom Slab bent down under Division Walls - hooked. | | | Longitudinal in Top Slab of Barrel | | | Longitudinal in Sidelwalls and Division Walls | | |
| | | | SIZE | SPACING | NO. REQ'D | SIZE | SPACING | NO. REQ'D | SIZE | SPACING | NO. REQ'D | SIZE | SPACING | NO. REQ'D | SIZE | SPACING | NO. REQ'D |
| 4'-0" | 3' | 4'-0" | 12B | 12B | 14-1/2" | 59 | 59 | 15-3/4" | 0-3" | 2-2" | 3-4/8" | 59 | 59 | 15-3/4" | 0-3" | 2-2" | 3-4/8" |

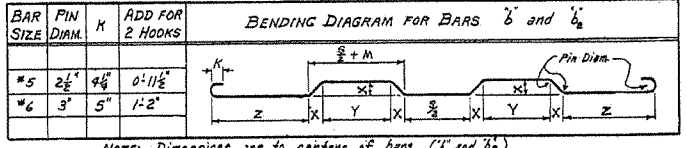
DIMENSIONS QUANTITIES

| MAX. DESIGN DEPTH OF COVER | BARREL DIMENSIONS | | | | | | | | | | UNIT QUANTITIES | | | |
|----------------------------|-------------------|----|-------|--------|----|----|----|----|----|----|-----------------|--------|-------|--------|
| | D | S | H | A | OW | T | C | M | B | OH | CU YD. | LB. | LB. | LB. |
| 3' | 3' | 3' | 2'-4" | 14'-4" | 6" | 6" | 6" | 6" | 6" | 6" | 0.726 | 137.76 | 66.63 | 195.33 |



GENERAL NOTES:
 CONCRETE: All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/4" chamfers.
 REINFORCING STEEL: Reinforcing to be deformed bars of intermediate or hard grade.
 BAR LAP: In computing the quantities of steel from the tables add one lap for each additional 33-0 length of barrel over 33-0. Lap longitudinal bars 30 diameters.
 CONSTRUCTION JOINTS: Construction joints between wingwalls, sidewalls, division walls and slabs shall be only where shown on plans.
 SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD
 H20-S16 LOADING A.A.S.H.O. 1961
 AND
 SPECIAL MILITARY LOADING
 Two 29,000 Lb. Axles @ 4'-0" cts.
 UNIT STRESSES:-
 Class S Concrete (n=10) 1200%
 Reinforcing Steel 29000%
 ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD BARREL SECTIONS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 4,5,6,7,8,9,10,11&12 SPANS 3:1 OR 4:1 SLOPES
 TRIPLES UNDER 5'-0" COVER
 STANDARD DRAWING NO. R-300X-O



DOWEL BARS FOR TWO HEADWALLS

| SPANS @ | SIZE | SPACING | NO. REQ'D | LENGTH | X |
|---------|------|---------|-----------|--------|-----------|
| 4' | #4 | 12" | 30 | 2'-5" | 1'-2 1/2" |
| 5' | #4 | 12" | 36 | 2'-6" | 1'-3" |
| 6' | #4 | 12" | 42 | 2'-7" | 1'-3 1/2" |
| 7' | #4 | 12" | 48 | 2'-8" | 1'-4" |
| 8' | #4 | 12" | 54 | 2'-9" | 1'-4 1/2" |
| 9' | #4 | 12" | 60 | 2'-10" | 1'-5" |
| 10' | #4 | 12" | 66 | 2'-11" | 1'-5 1/2" |
| 11' | #4 | 12" | 72 | 3'-0" | 1'-6" |
| 12' | #4 | 12" | 78 | 3'-1" | 1'-6 1/2" |

Designed By: W.C.H. 1-22-63
 Drawn By: W.C.H. 2-28-63
 Checked By: B.H.S. 5-24-63
 Quantities By: W.C.H. 3-4-63

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | 070284 | 139 | 193 |

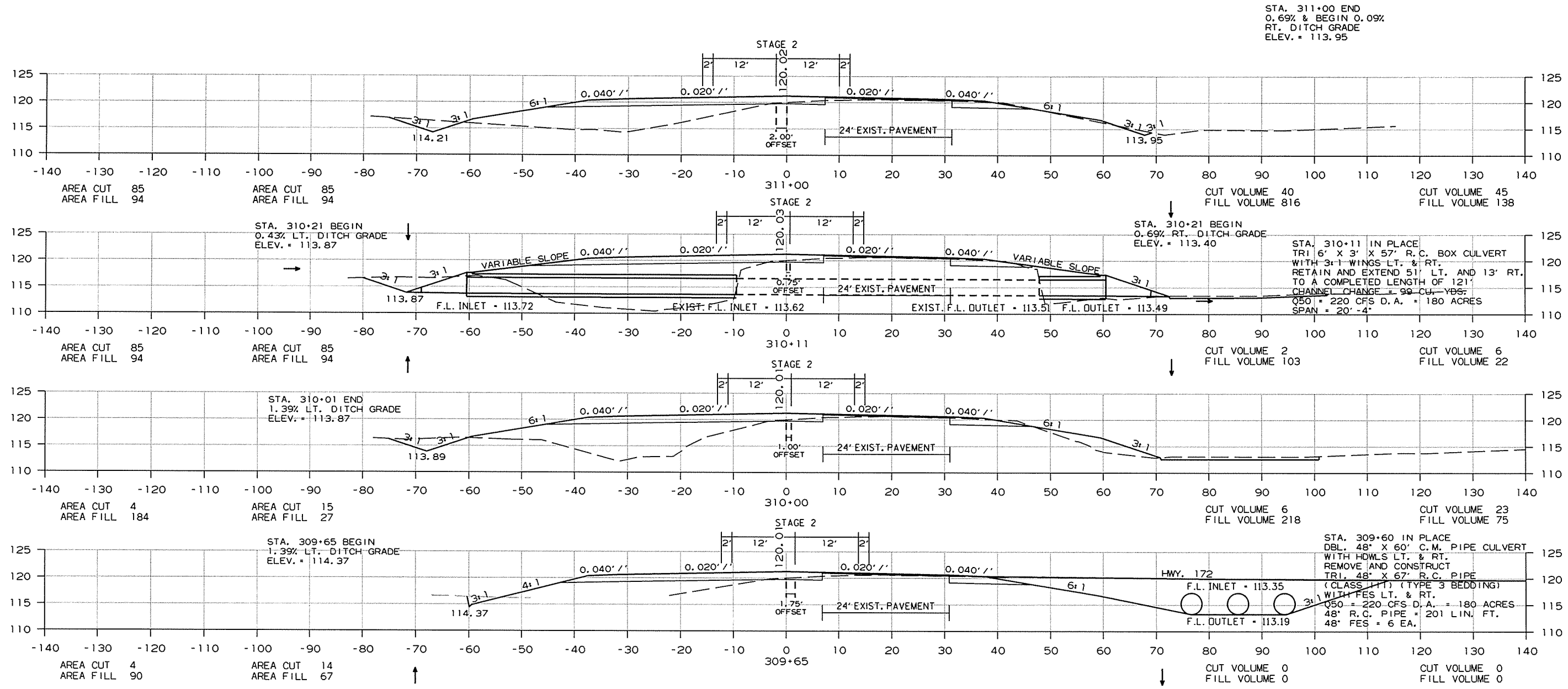
2 CROSS SECTIONS

STAGE 1

STAGE 2

STAGE 1

STAGE 2



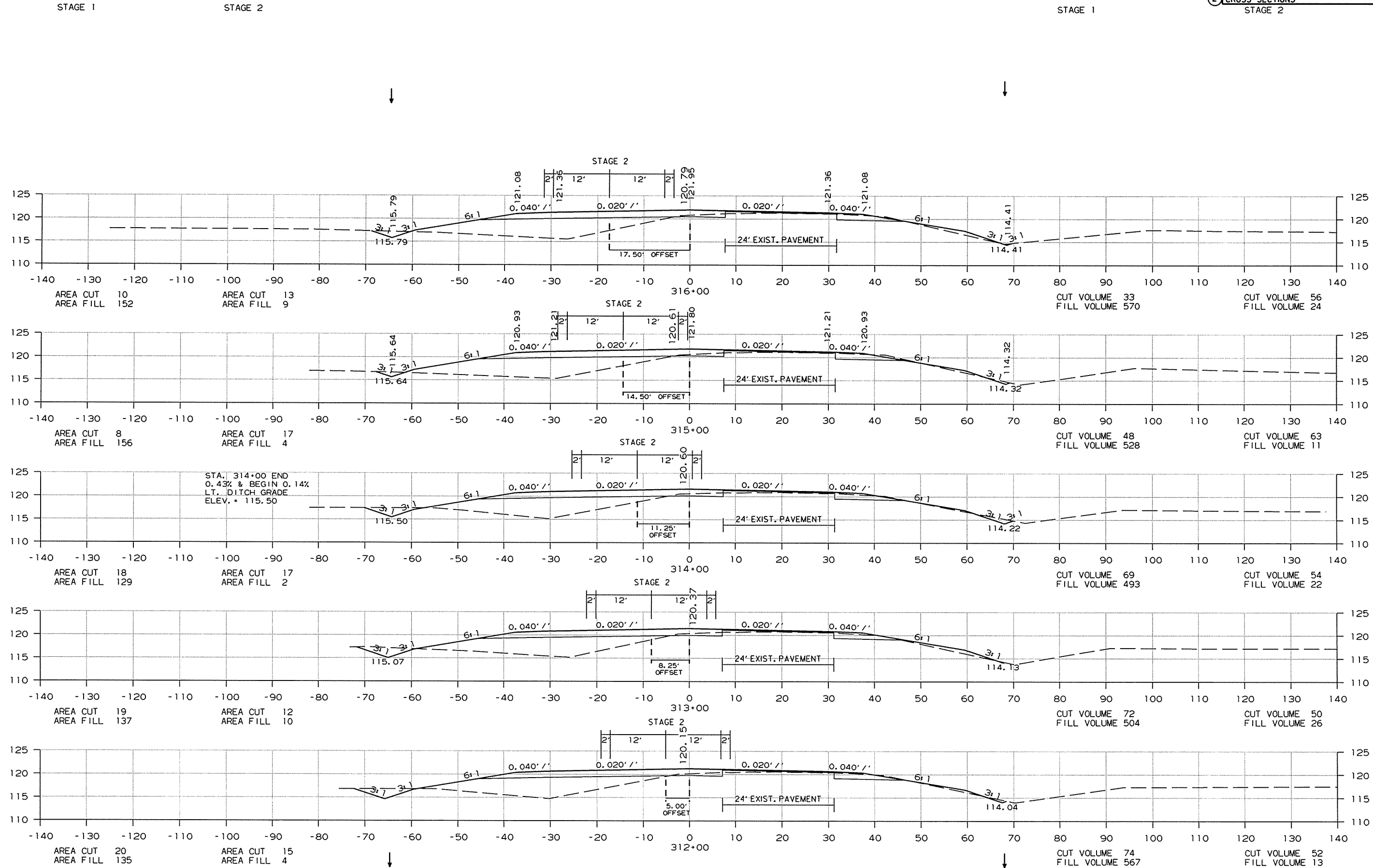
END JOB 070283
BEGIN JOB 070284
LOG MILE 8.69

3/11/2016

R070284.DGN

| 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. 070284 | | | | | | | 140 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2



STA. 314+00 END
0.43% & BEGIN 0.14%
L.T. DITCH GRADE
ELEV. = 115.50

CROSS SECTION STA. 312+00 TO STA. 316+00

3/11/2016 R070284.DGN

| 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. | 070284 | | 141 | 193 |

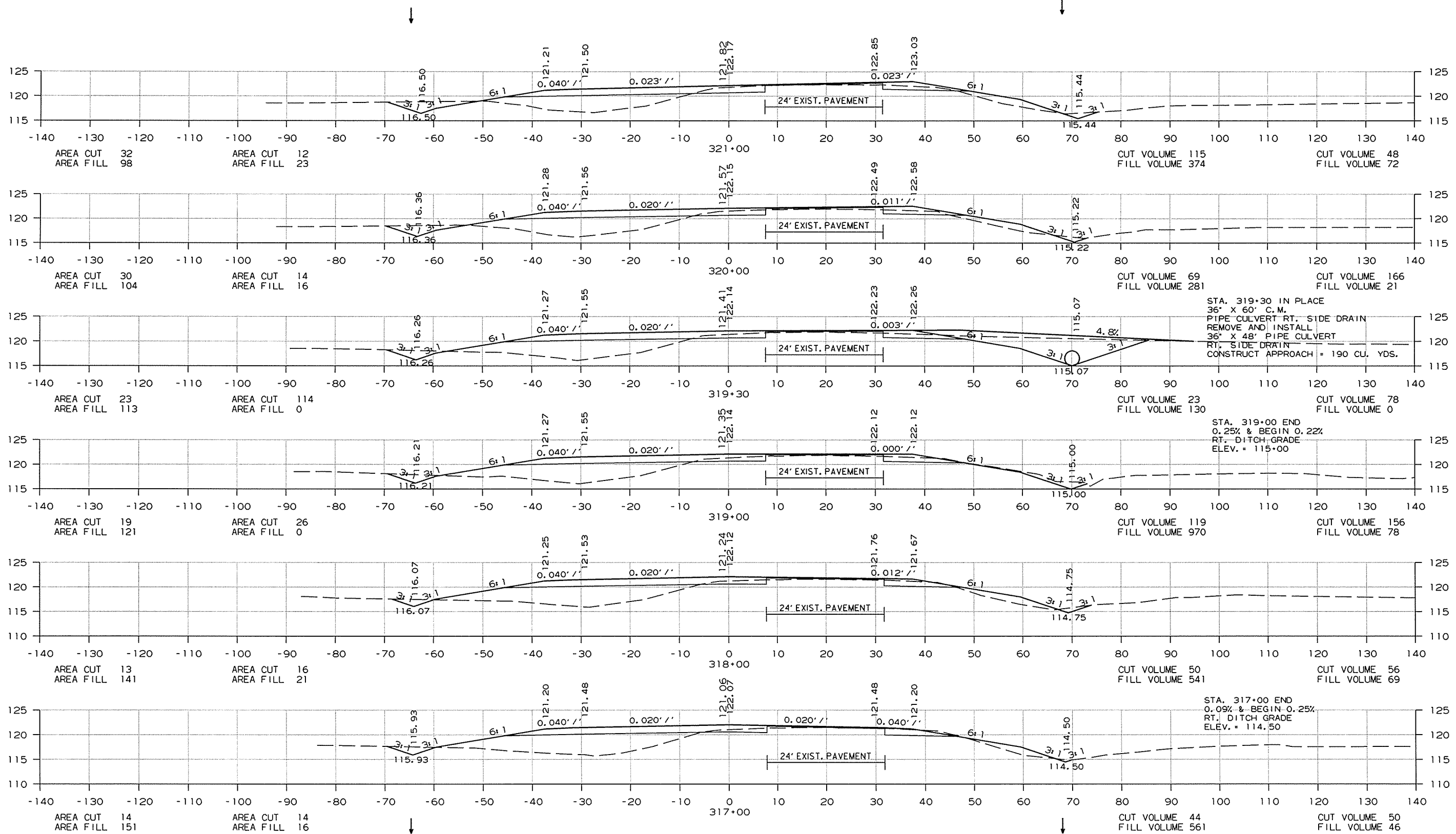
2 CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 317+00 TO STA. 321+00

2/18/2016 R070284.DGN

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 142 | 193 |

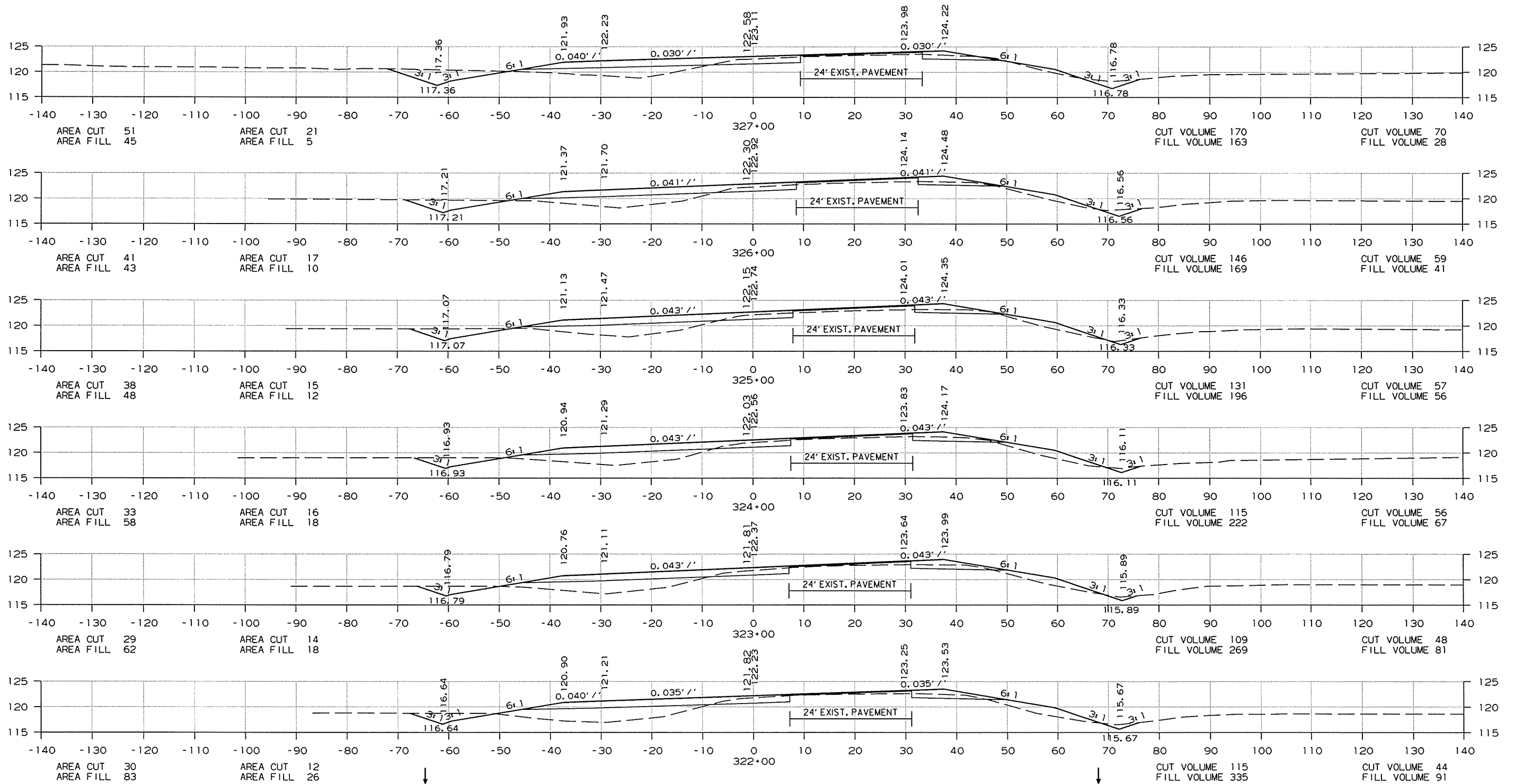
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 322+00 TO STA. 327+00

2/18/2016

R070284.DGN

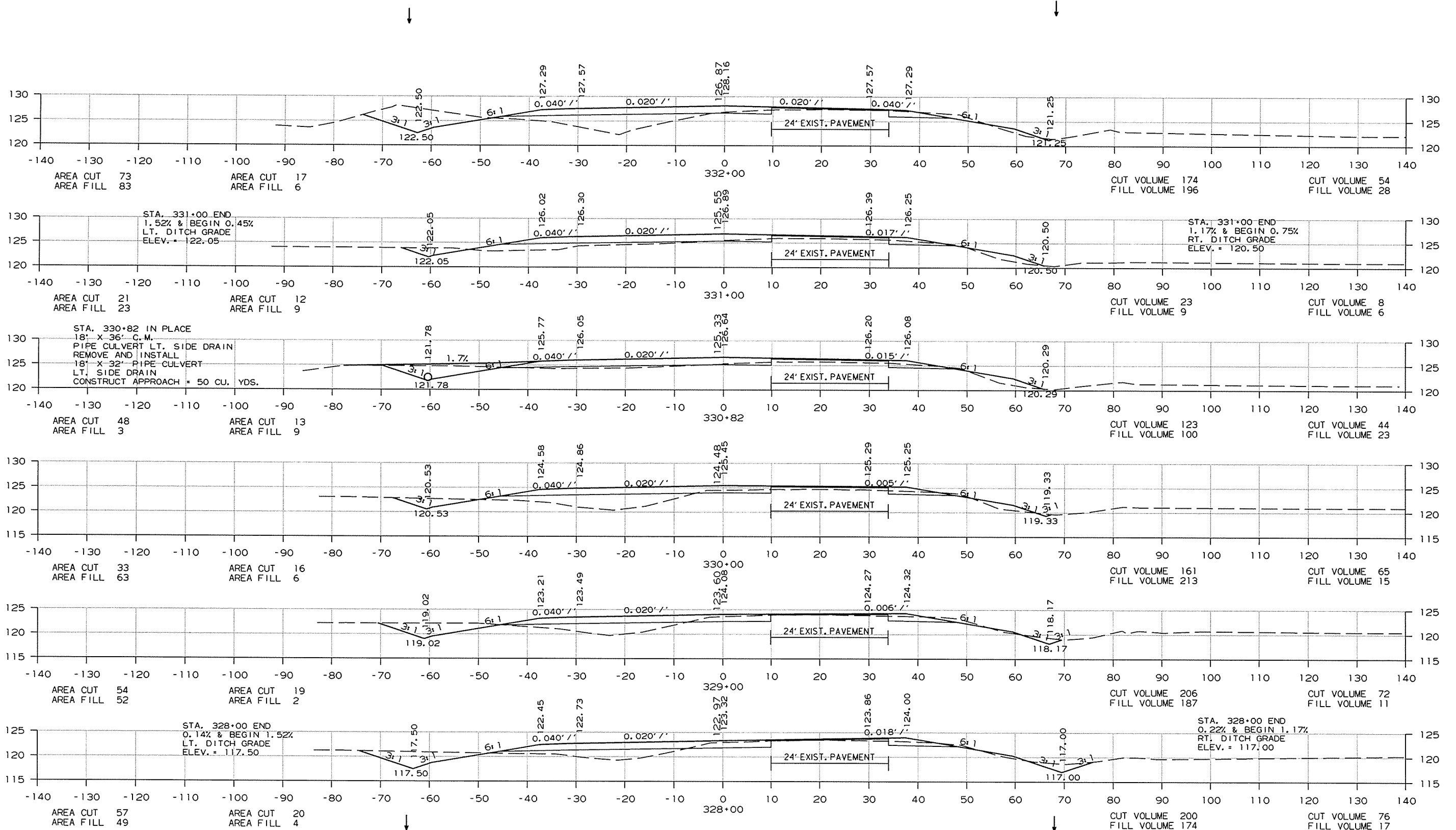
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 143 | 193 |

2 CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1



CROSS SECTION STA. 328+00 TO STA. 332+00

2/18/2016 R070284.DGN

| 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. 070284 | | | | | | | 144 | 193 |

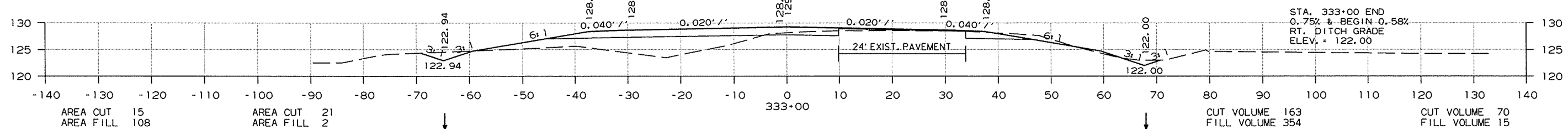
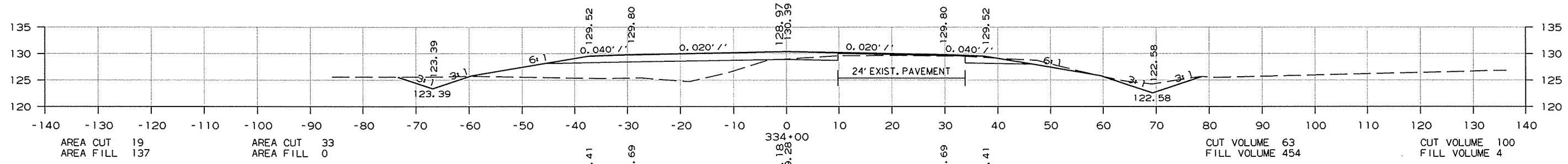
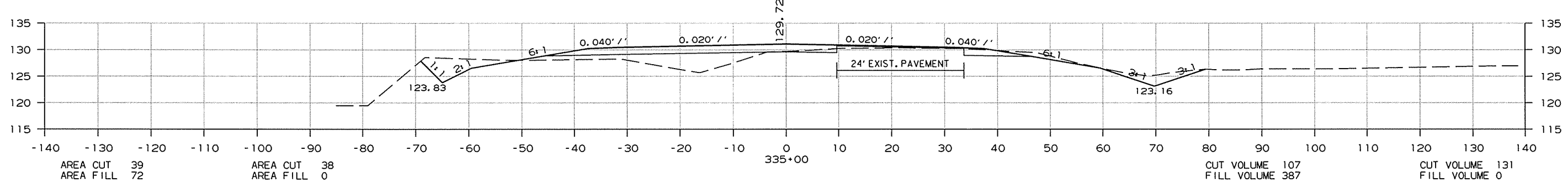
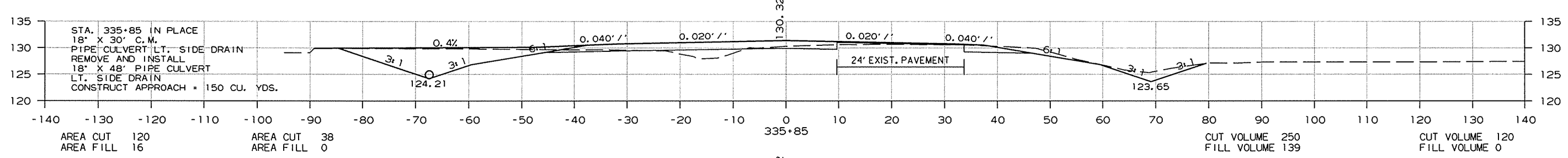
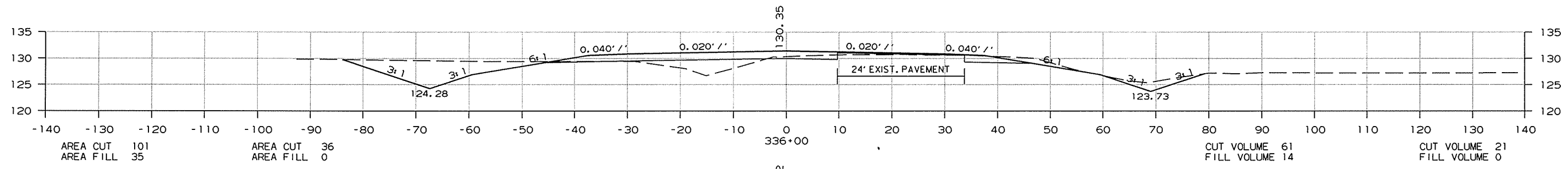
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 333+00 TO STA. 336+00

2/18/2016 R070284.DGN

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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | JOB NO. 070284 | 145 | 193 |

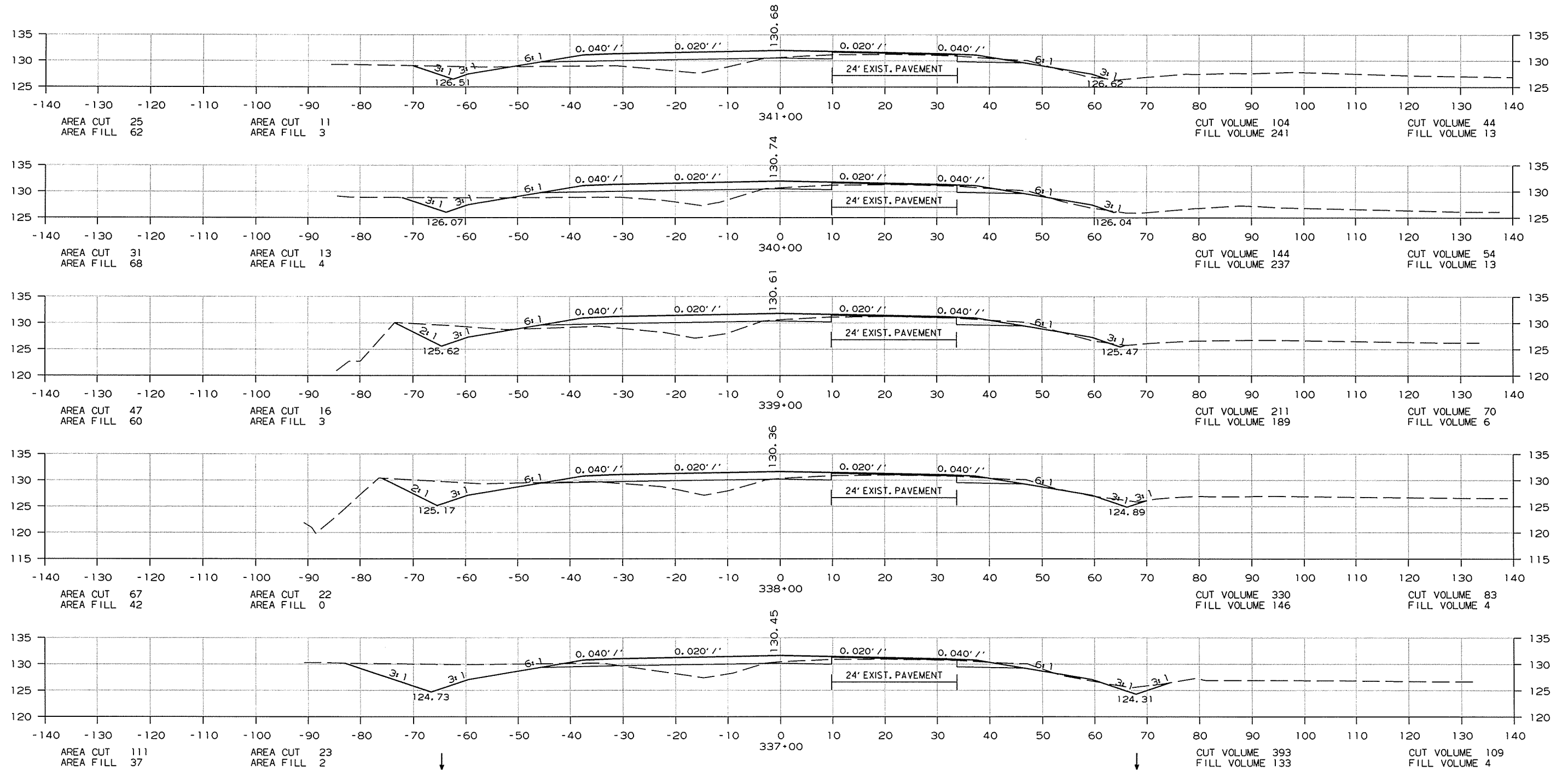
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 337+00 TO STA. 341+00

| 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. | |
| | | | | | | | 070284 | |
| | | | | | | | 146 | 193 |

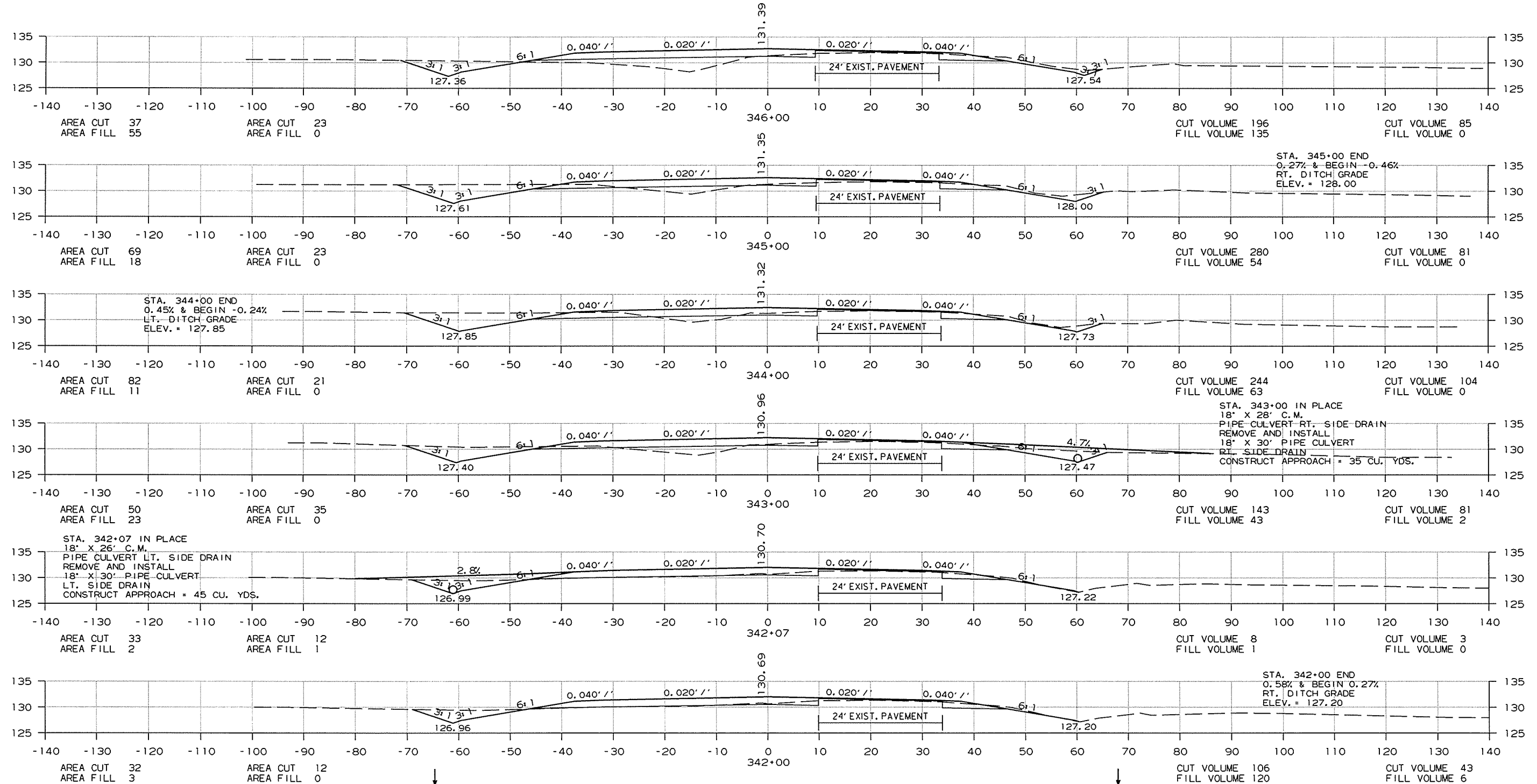
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 342+00 TO STA. 346+00

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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| | | | | | | JOB NO. 070284 | 147 | 193 |

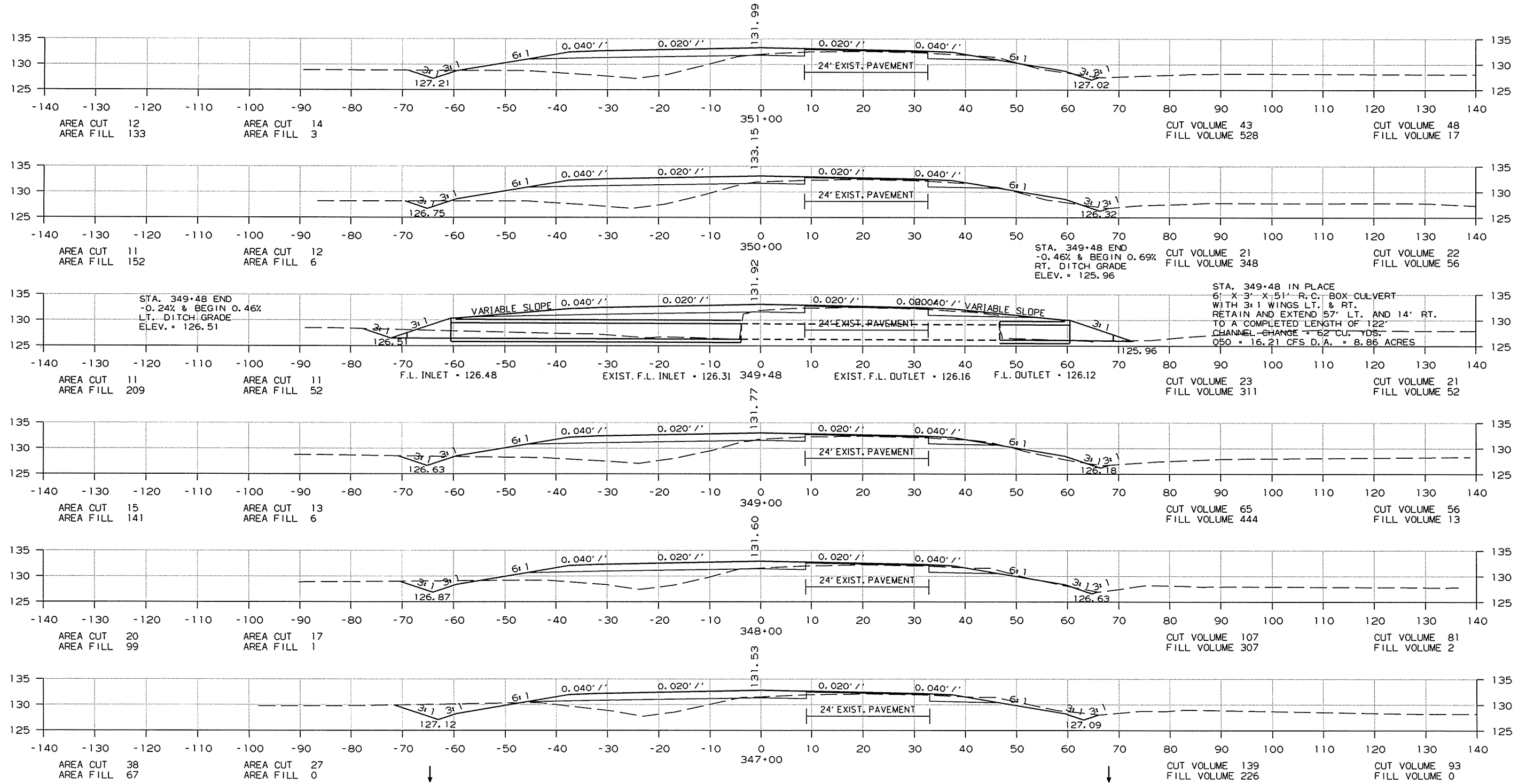
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 347+00 TO STA. 351+00

2/18/2016
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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | JOB NO. 070284 | 148 | 193 |

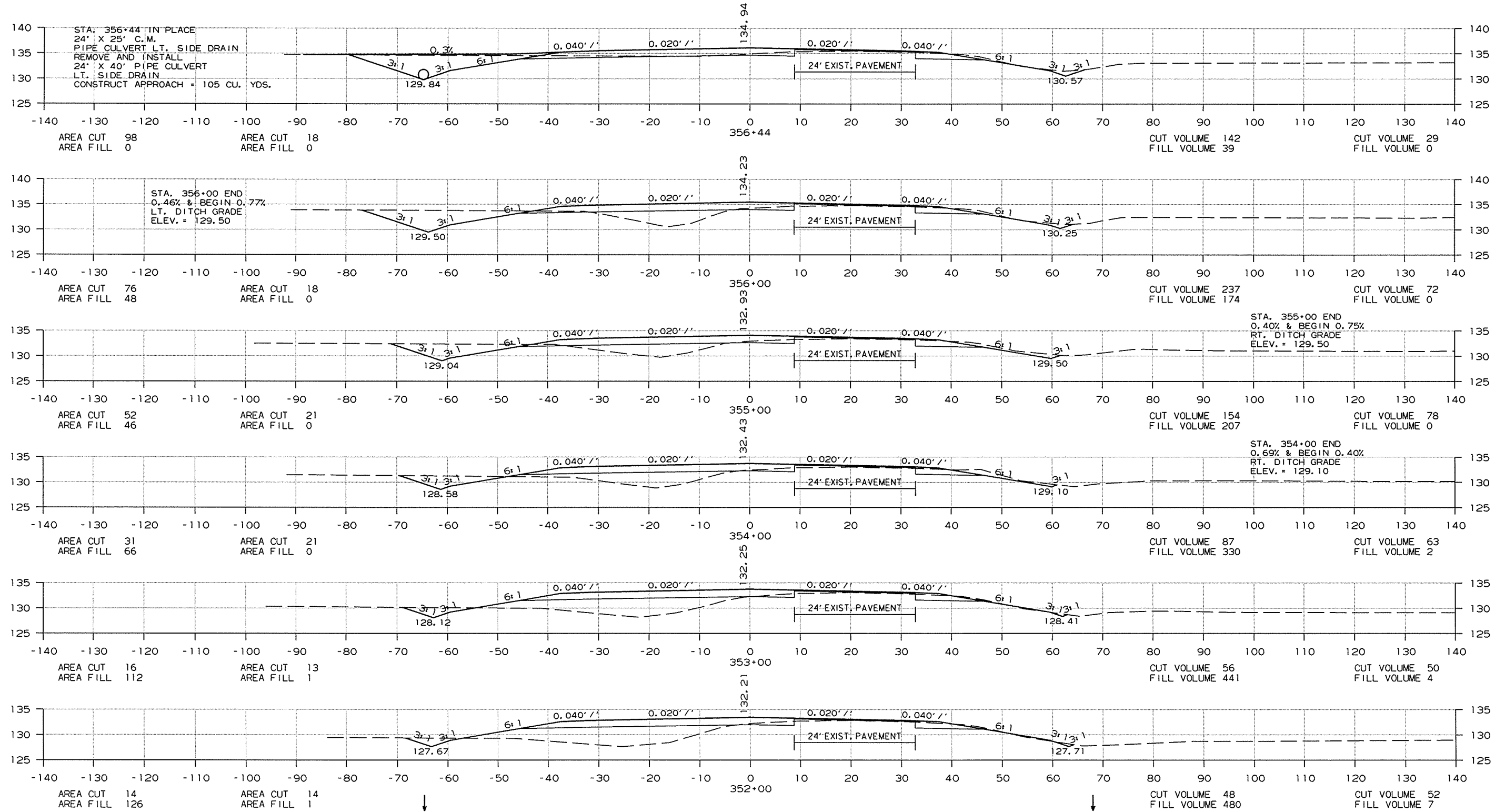
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 352+00 TO STA. 356+44

2/18/2016 R070284.DGN

| 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. 070284 | 149 | 193 |

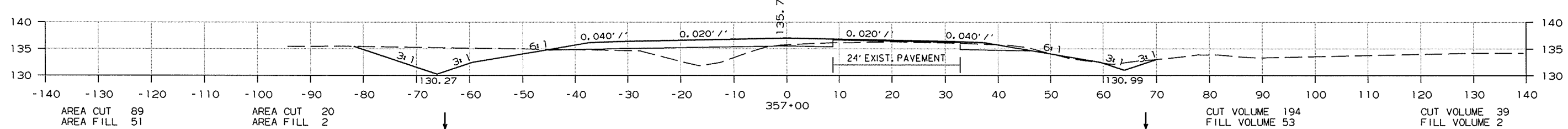
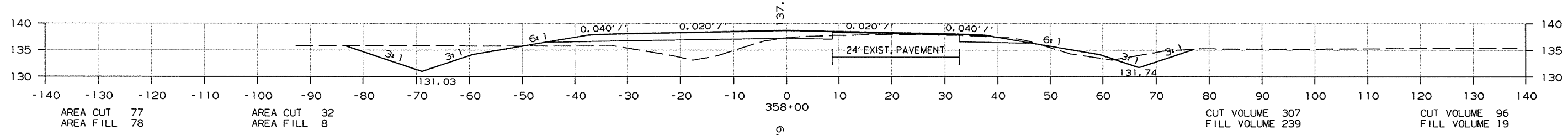
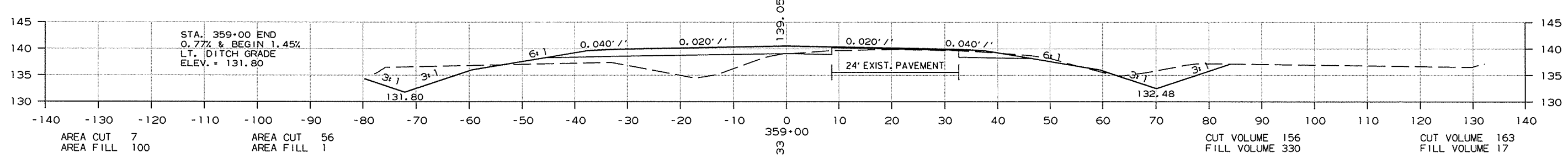
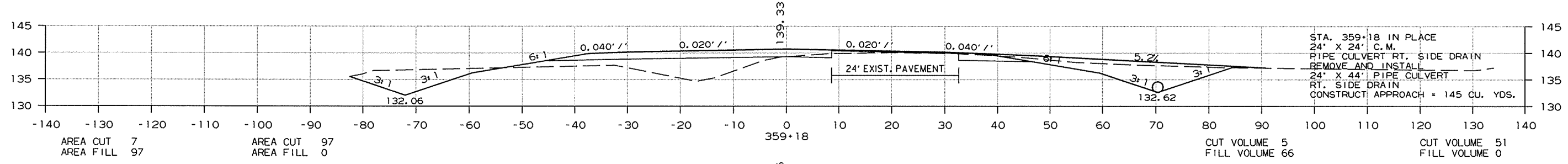
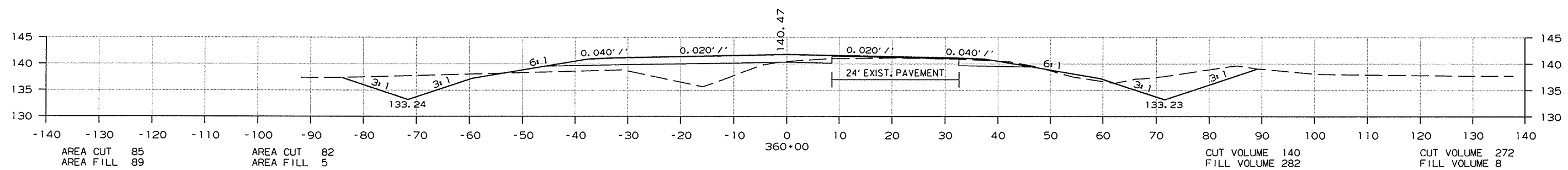
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 357+00 TO STA. 360+00

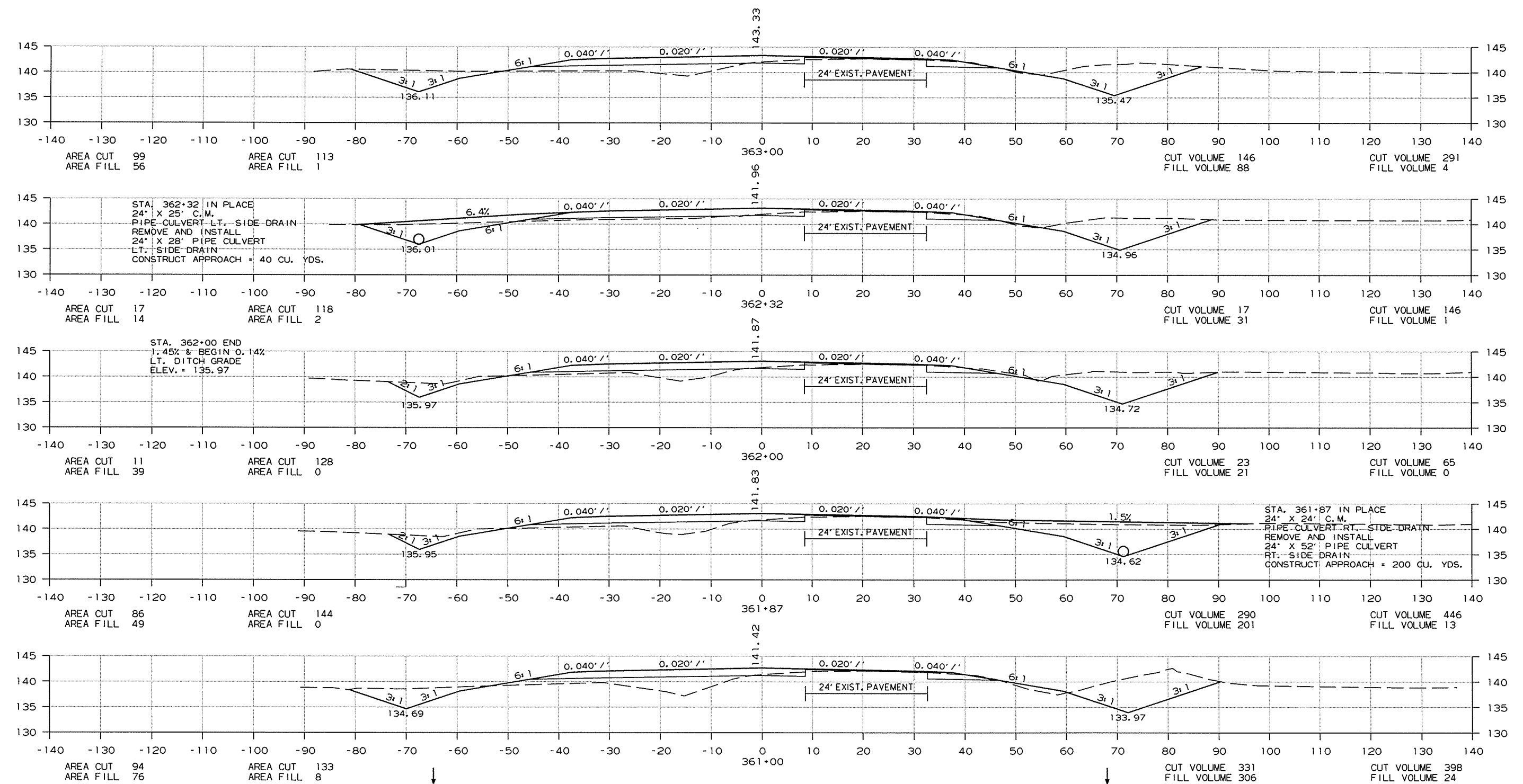
2/18/2016
R070284.DGN

| 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. | 070284 | | 150 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1 STAGE 2

STAGE 1 STAGE 2



STA. 362+32 IN PLACE
24" X 25" C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 28" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 362+00 END
1.45% & BEGIN 0.14%
LT. DITCH GRADE
ELEV. = 135.97

STA. 361+87 IN PLACE
24" X 24" C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 52" PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 200 CU. YDS.

CROSS SECTION STA. 361+00 TO STA. 363+00

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| 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. | 070284 | | 151 | 193 |

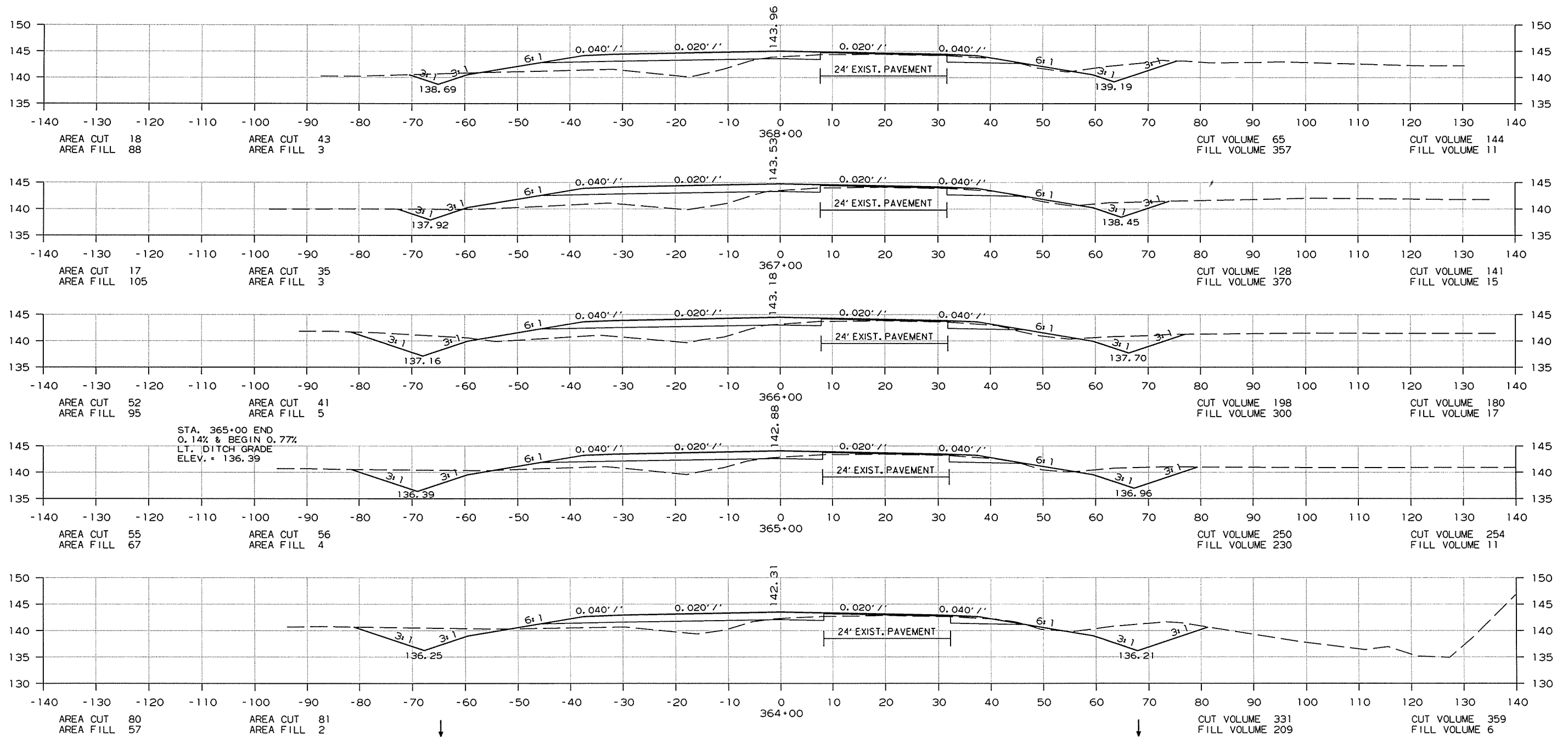
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



STA. 365+00 END
0.14% & BEGIN 0.77%
LT. DITCH GRADE
ELEV. = 136.39

CROSS SECTION STA. 364+00 TO STA. 368+00

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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 152 | 193 |

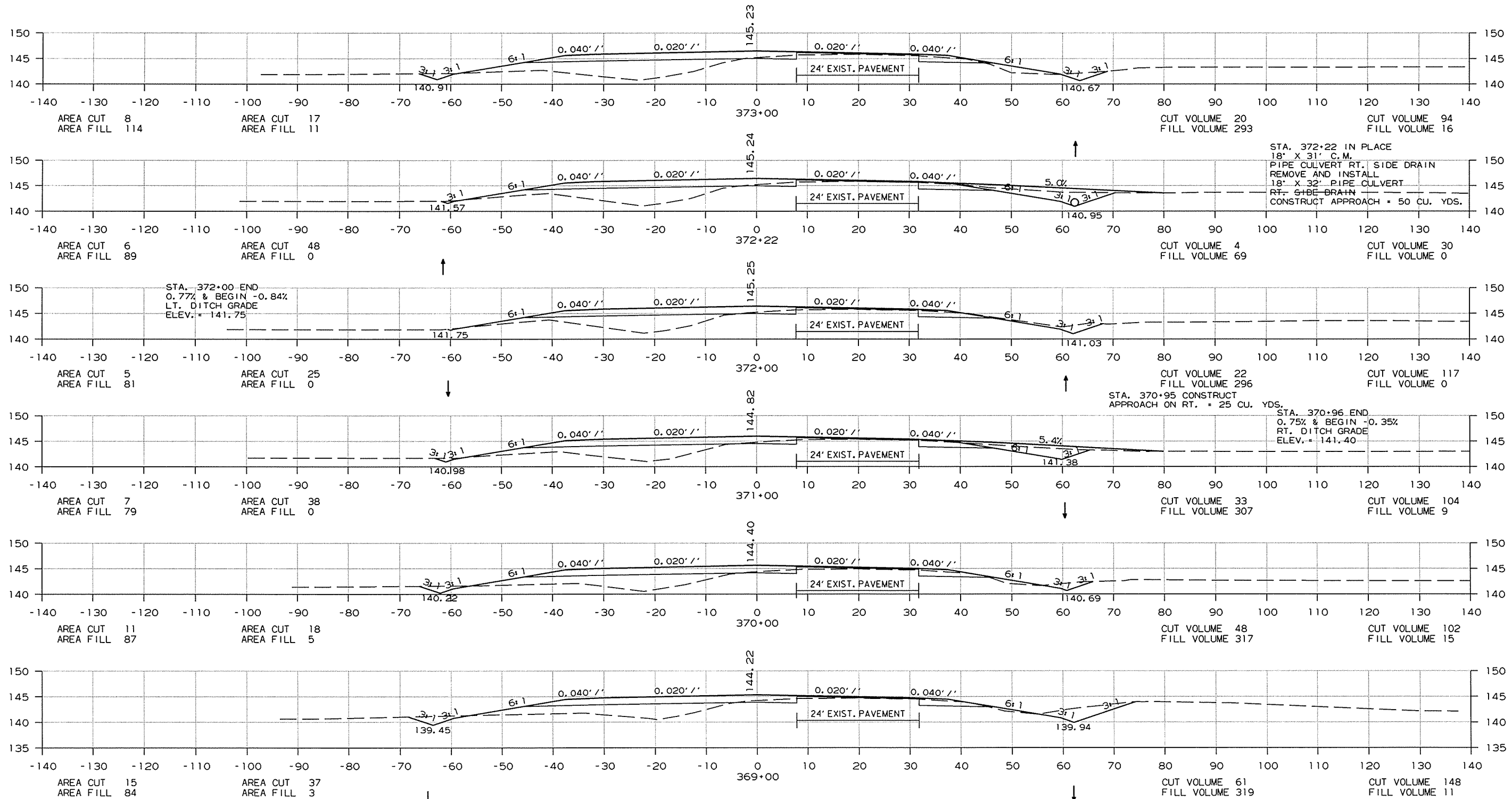
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 369+00 TO STA. 373+00

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| 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. 070284 | | | | | | | 153 | 193 |

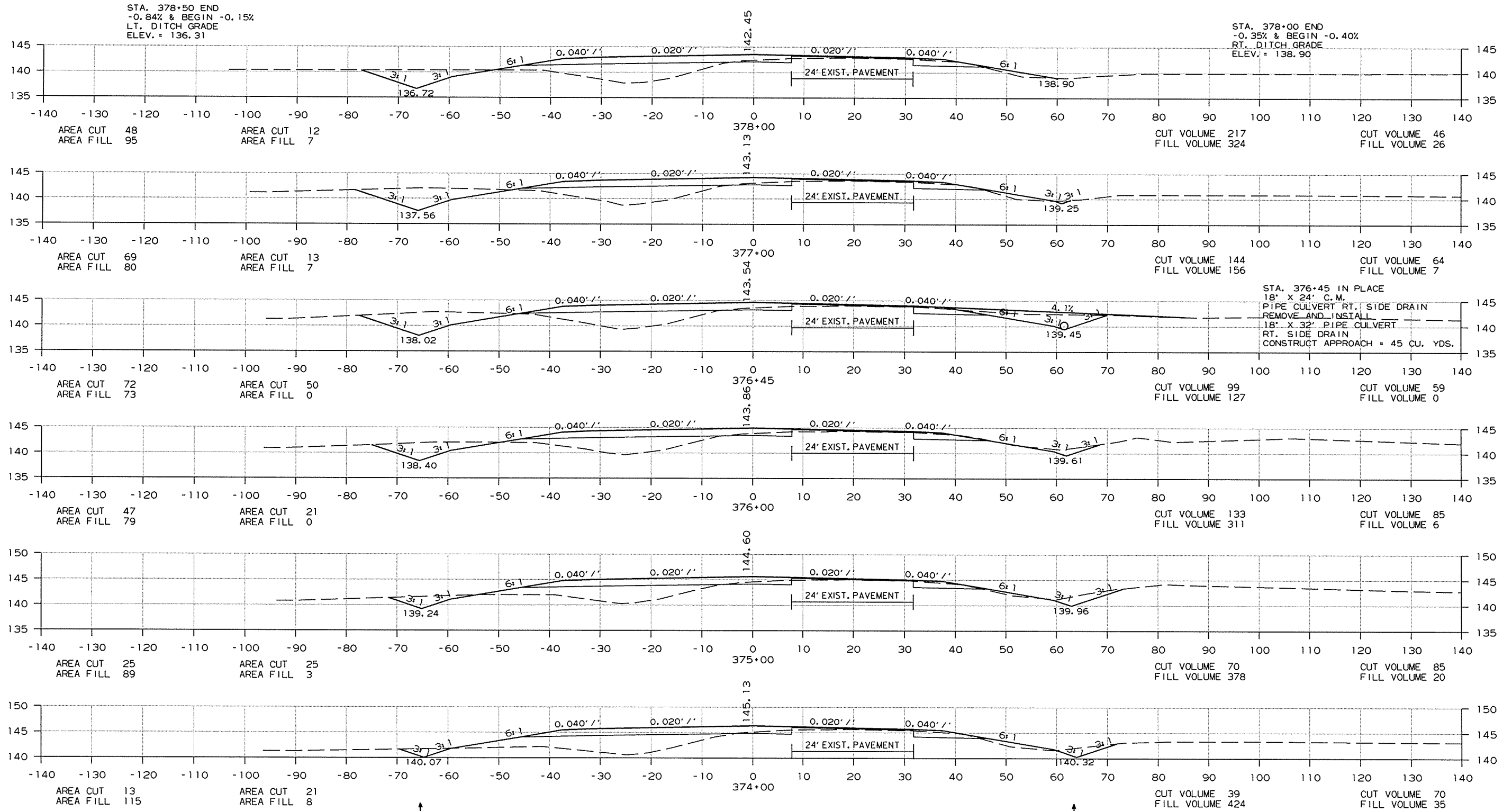
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 374+00 TO STA. 378+00

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R070284.DGN

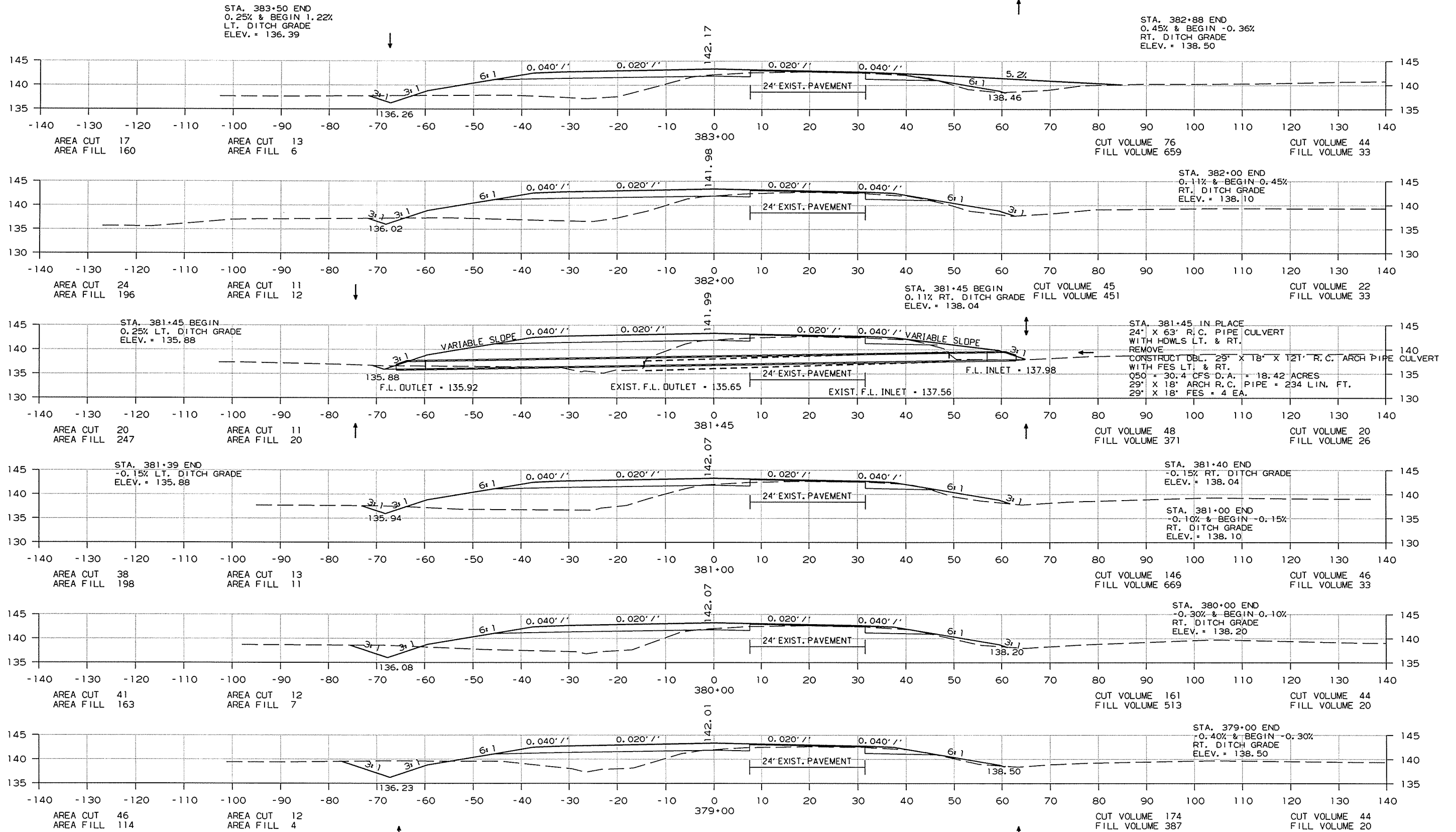
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 154 | 193 |

2 CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1
STA. 382+84 CONSTRUCT
APPROACH ON RT. = 45 CU. YDS.



CROSS SECTION STA. 379+00 TO STA. 383+00

2/18/2016

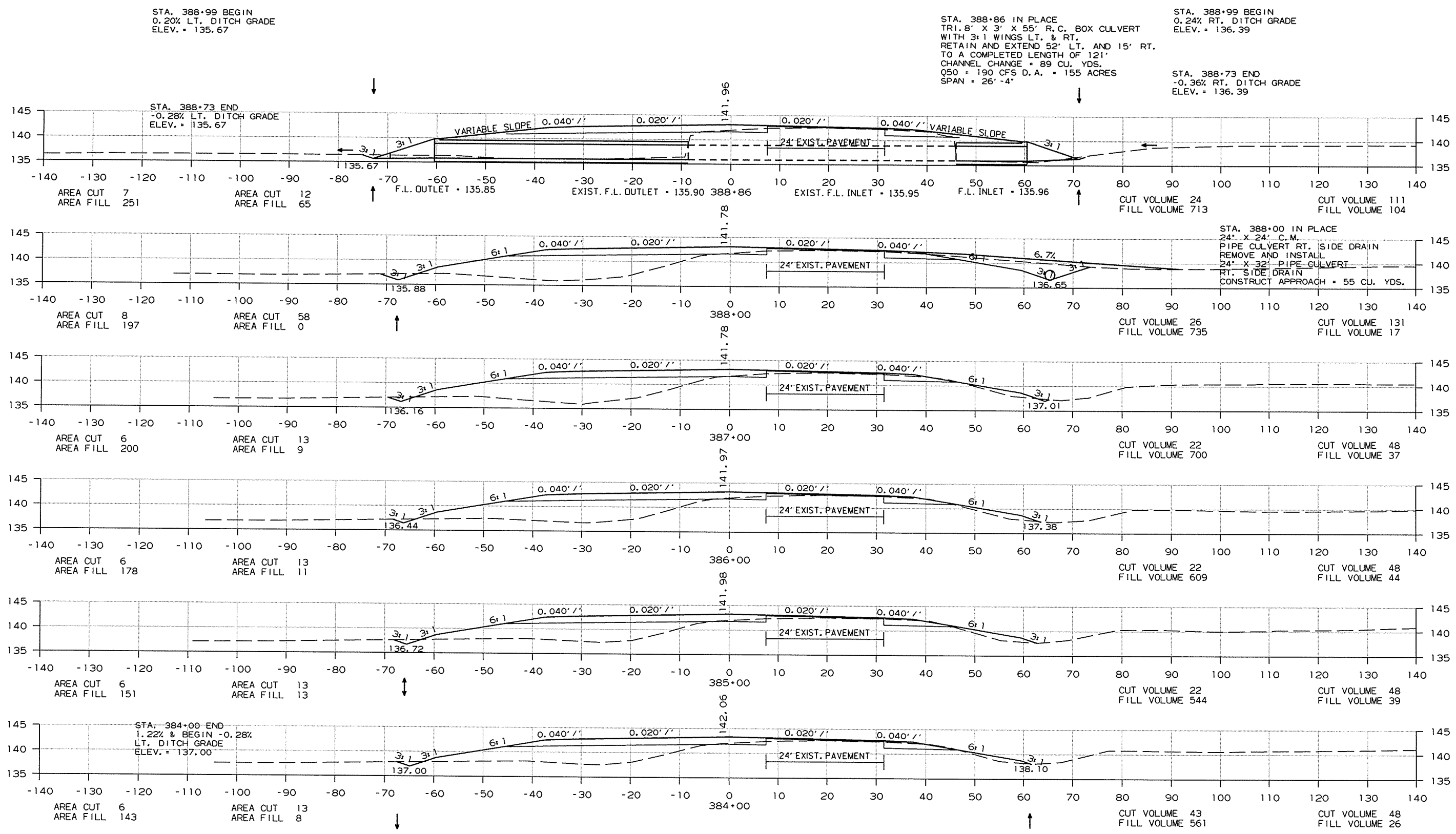
R070284.DGN

| 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. 070284 | | | | | | | 155 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1 STAGE 2

STAGE 1



CROSS SECTION STA. 384+00 TO STA. 388+86

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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | 070284 | 156 | 193 |

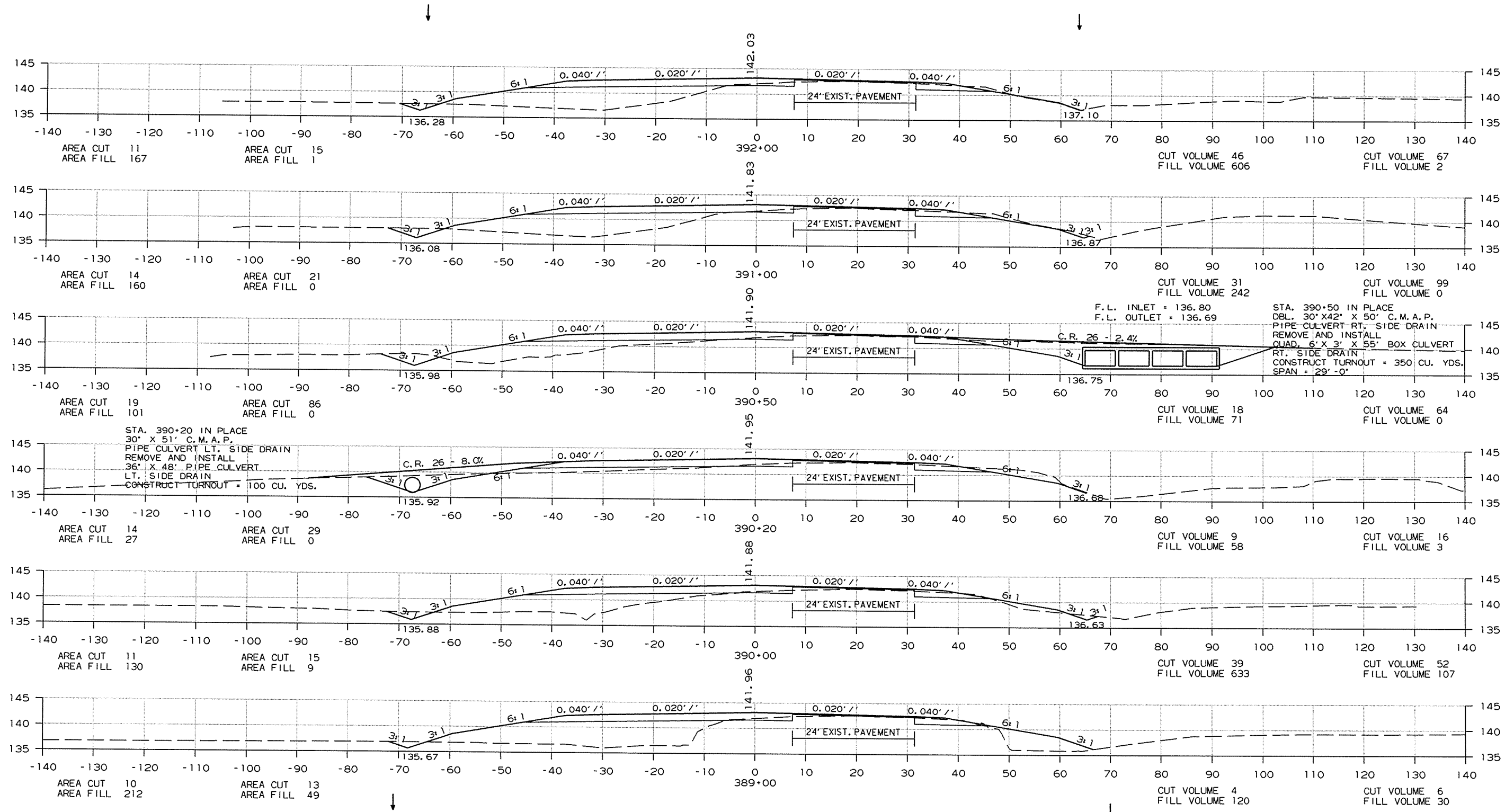
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 389+00 TO STA. 392+00

3/15/2016 R070284.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| | | | | | | JOB NO. 070284 | 157 | 193 |

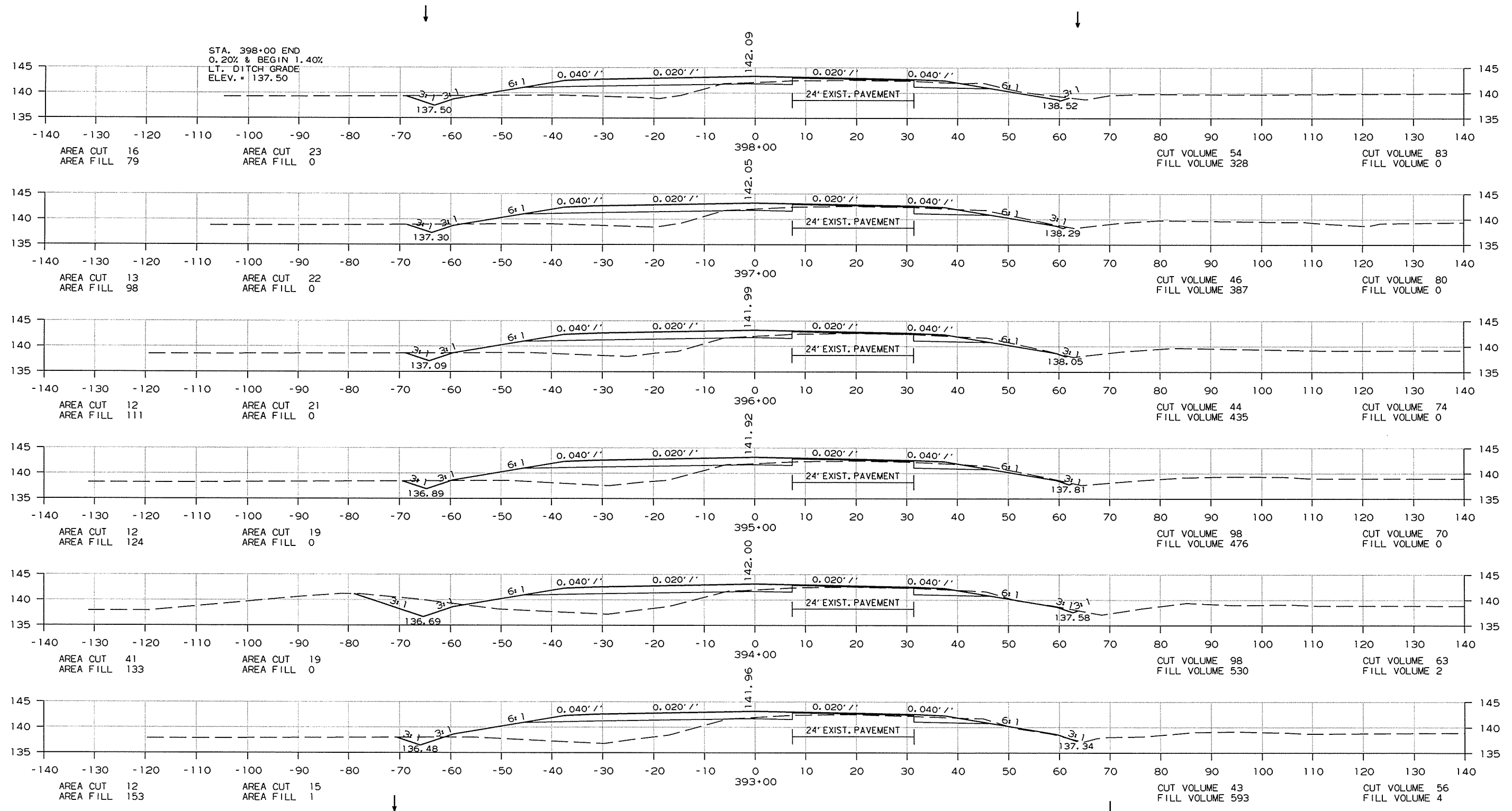
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 393+00 TO STA. 398+00

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|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 158 | 193 |

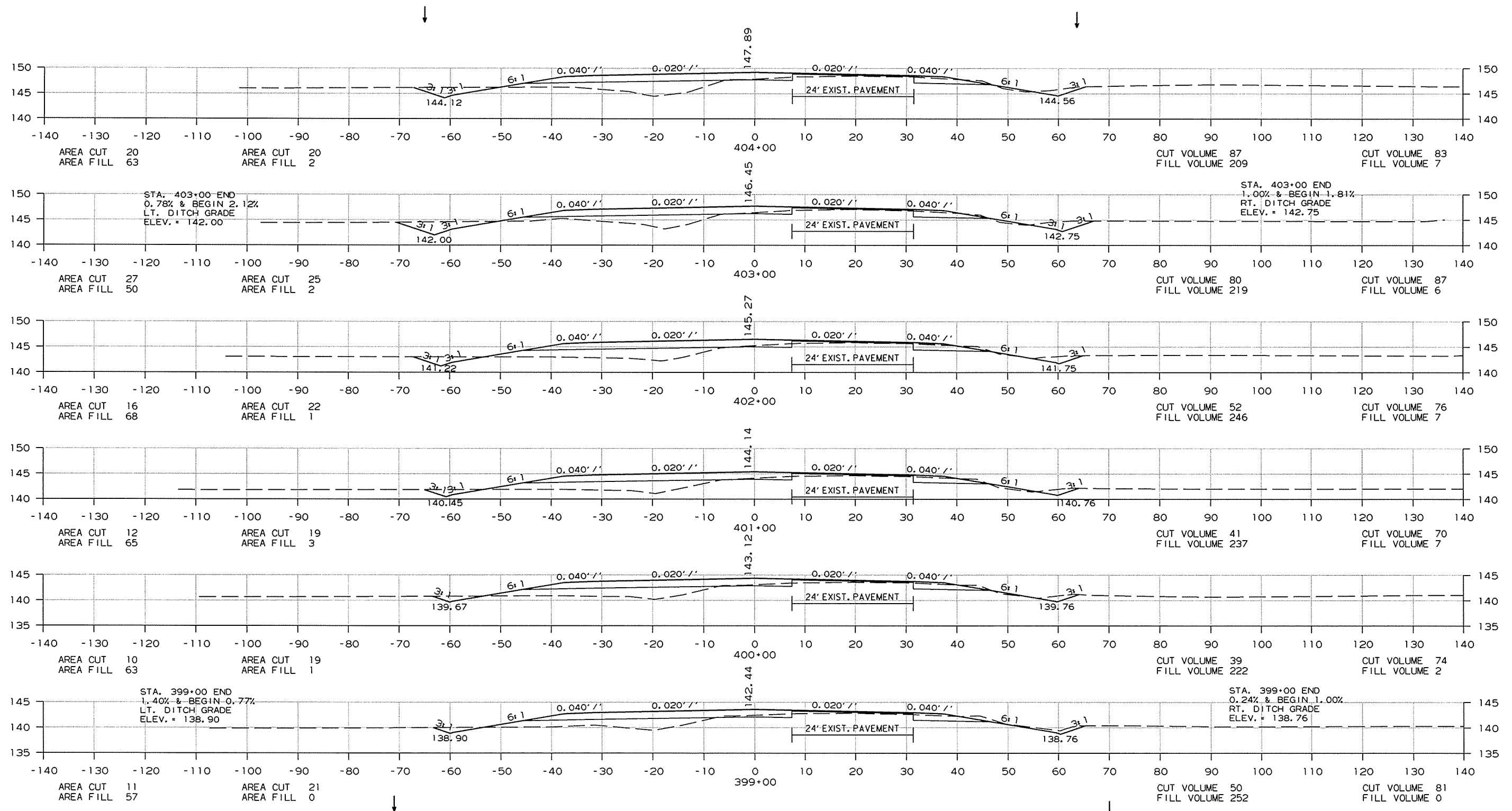
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 399+00 TO STA. 404+00

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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | JOB NO. 070284 | 159 | 193 |

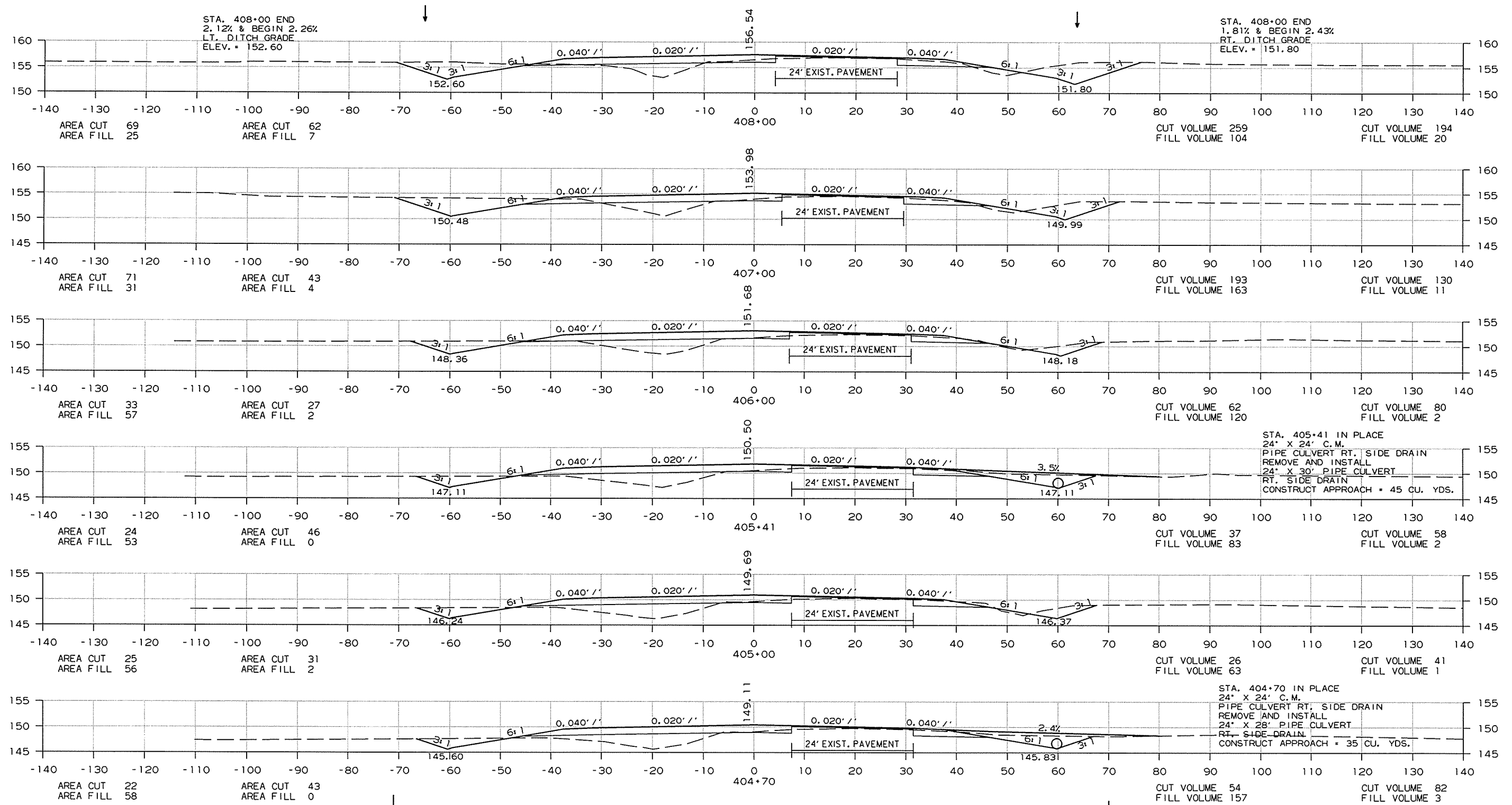
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 404+70 TO STA. 408+00

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|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 160 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2

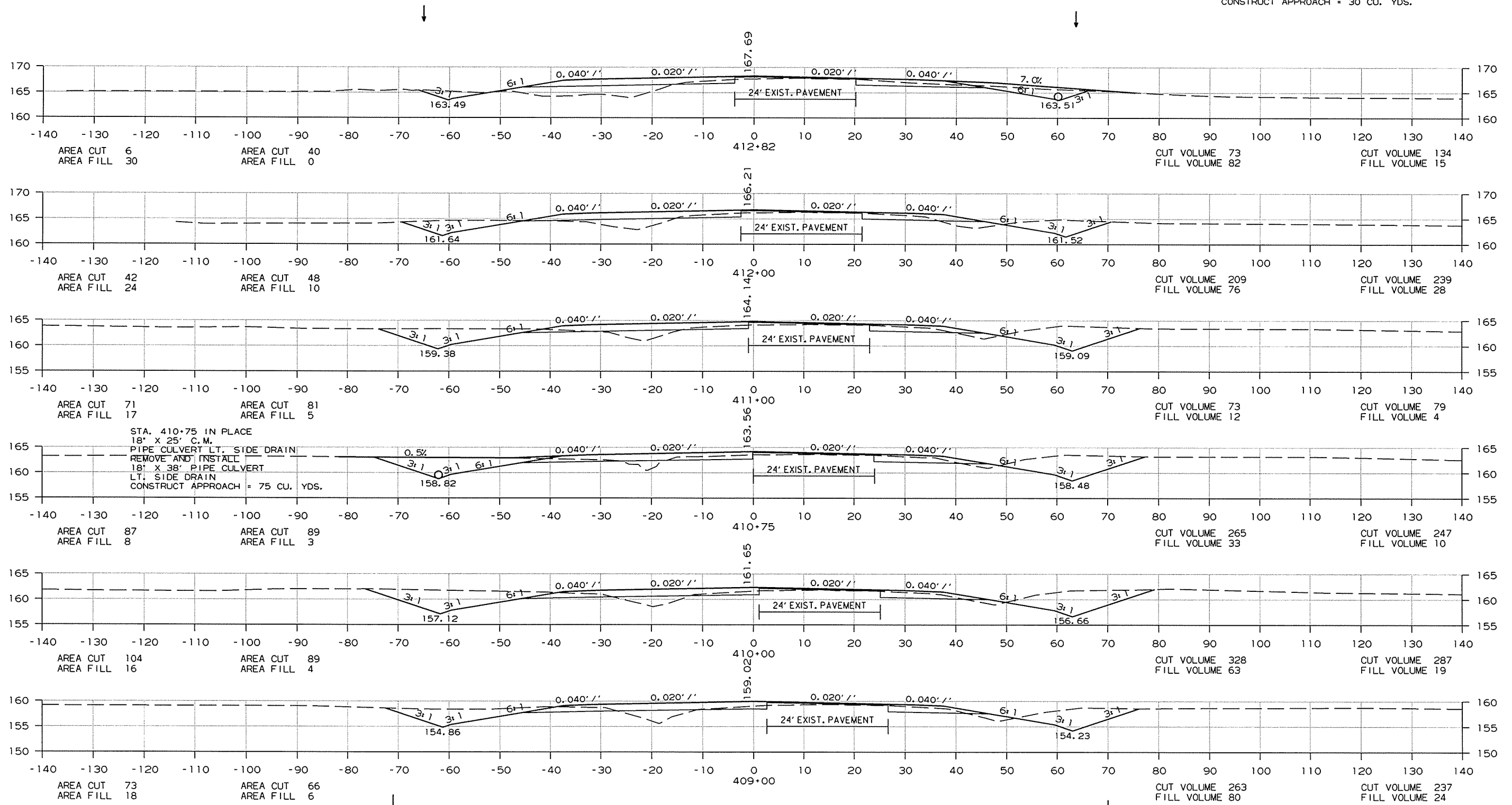
STAGE 1

STAGE 2

STAGE 1

STAGE 2

STA. 412+82 IN PLACE
18" X 24' C.P.P.
PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.



CROSS SECTION STA. 409+00 TO STA. 412+82

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| 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. | | | | | | 070284 | 161 | 193 |

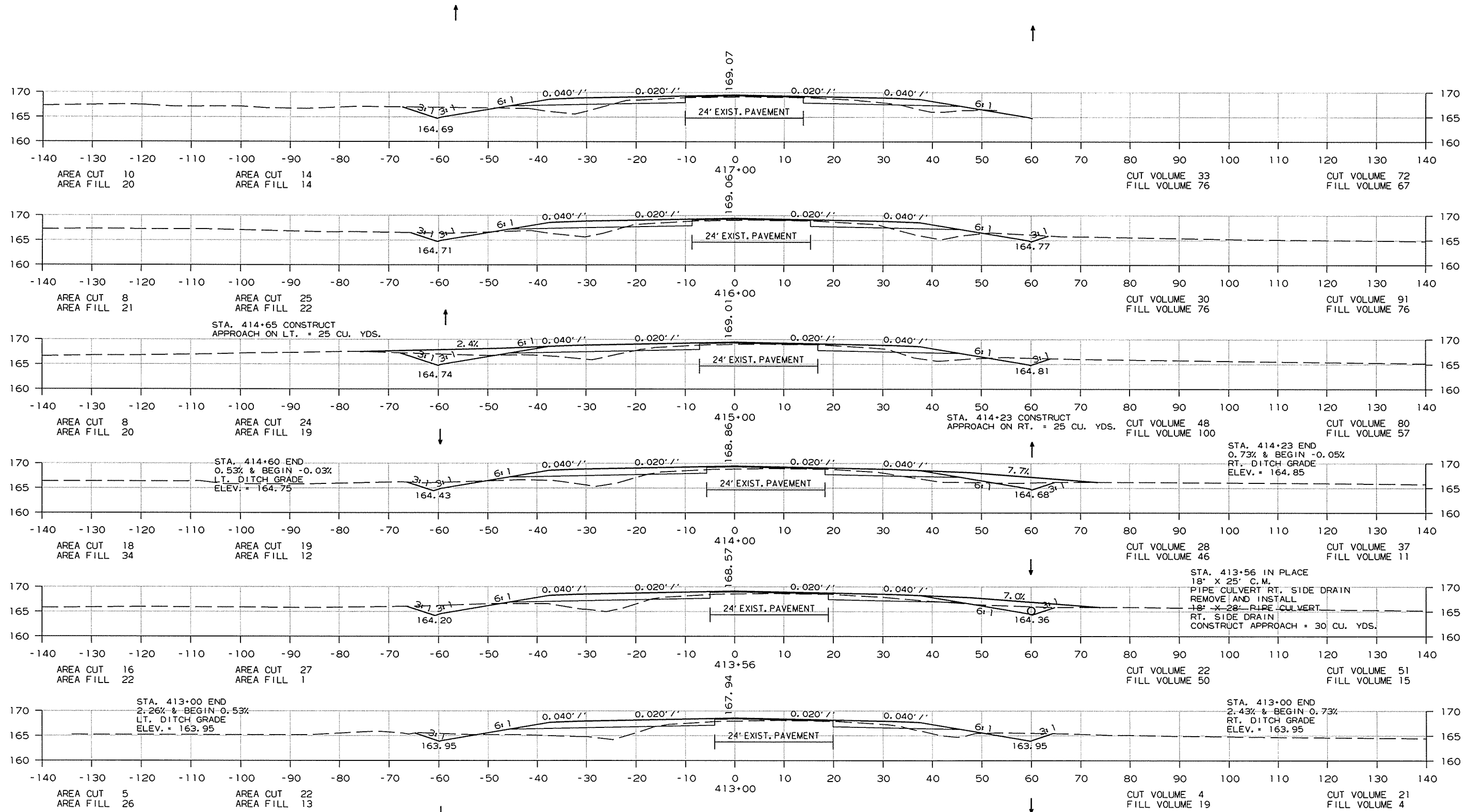
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 413+00 TO STA. 417+00

2/18/2016 R070284.DGN

| 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. | 070284 | | 162 | 193 |

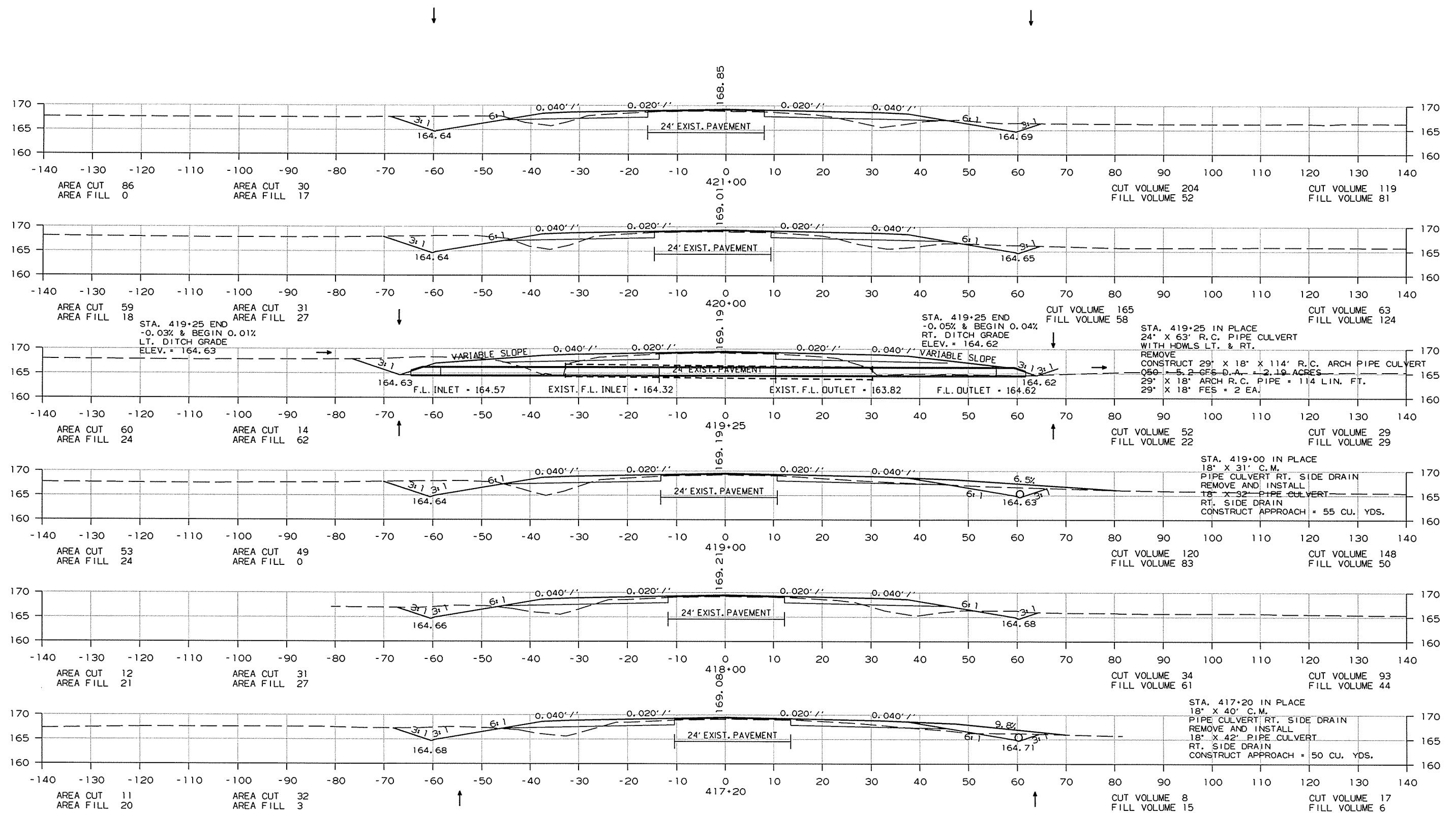
2 CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 417+20 TO STA. 421+00

2/18/2016

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| 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. | 070284 | | 163 | 193 |

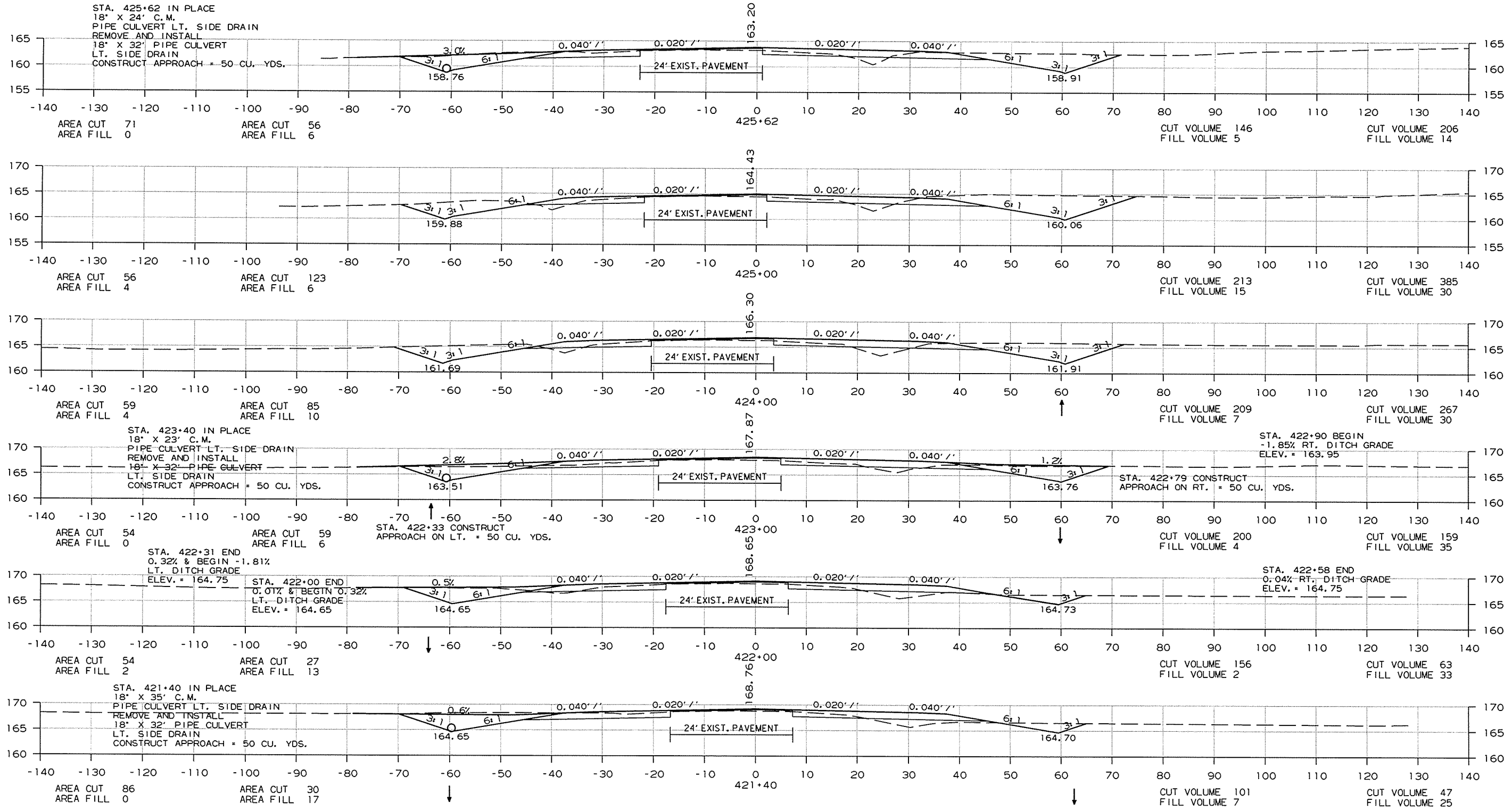
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 421+40 TO STA. 425+62

| 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. | 070284 | | 164 | 193 |

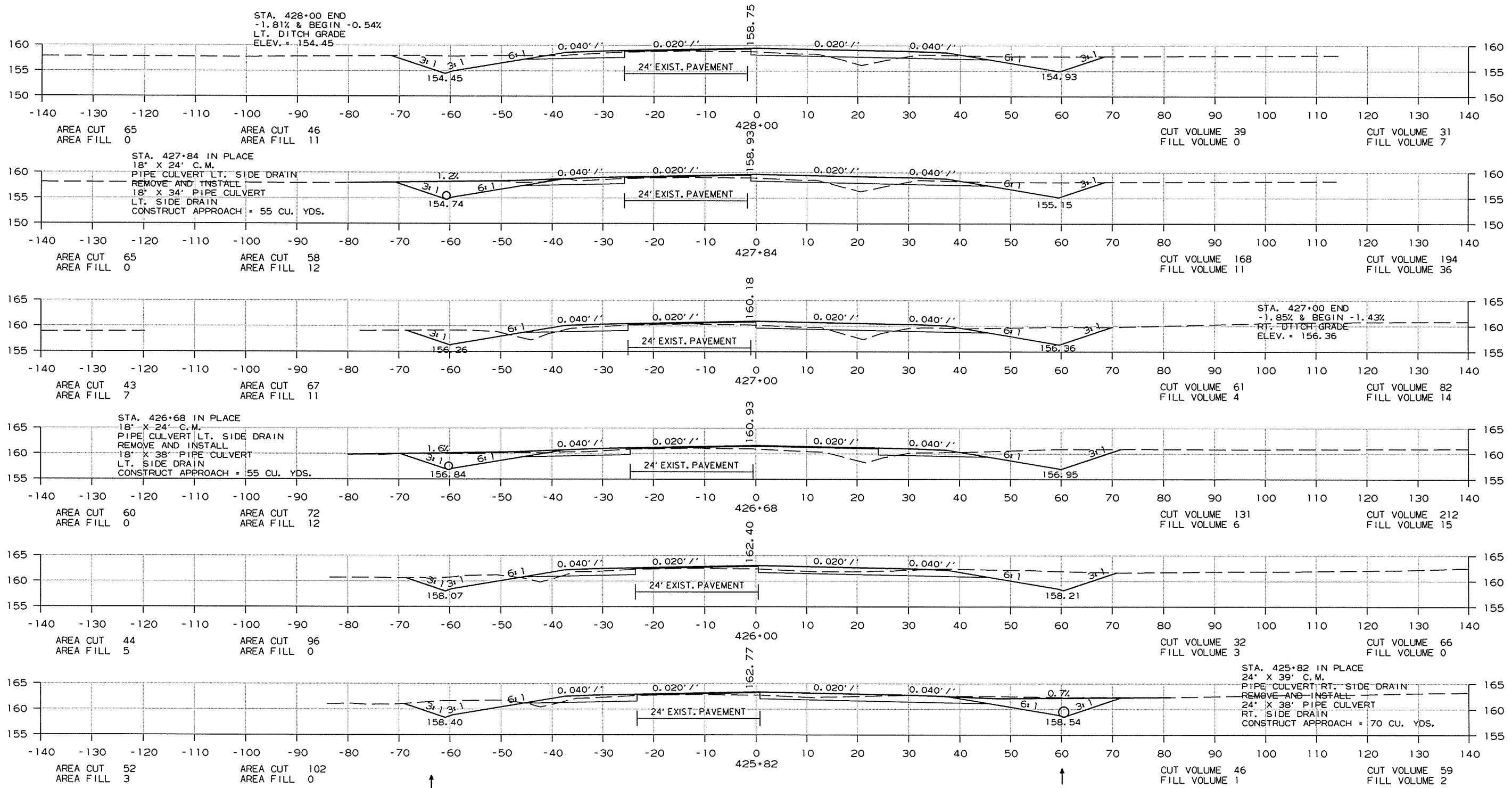
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 425+82 TO STA. 428+00

2/18/2016

R070284.DGN

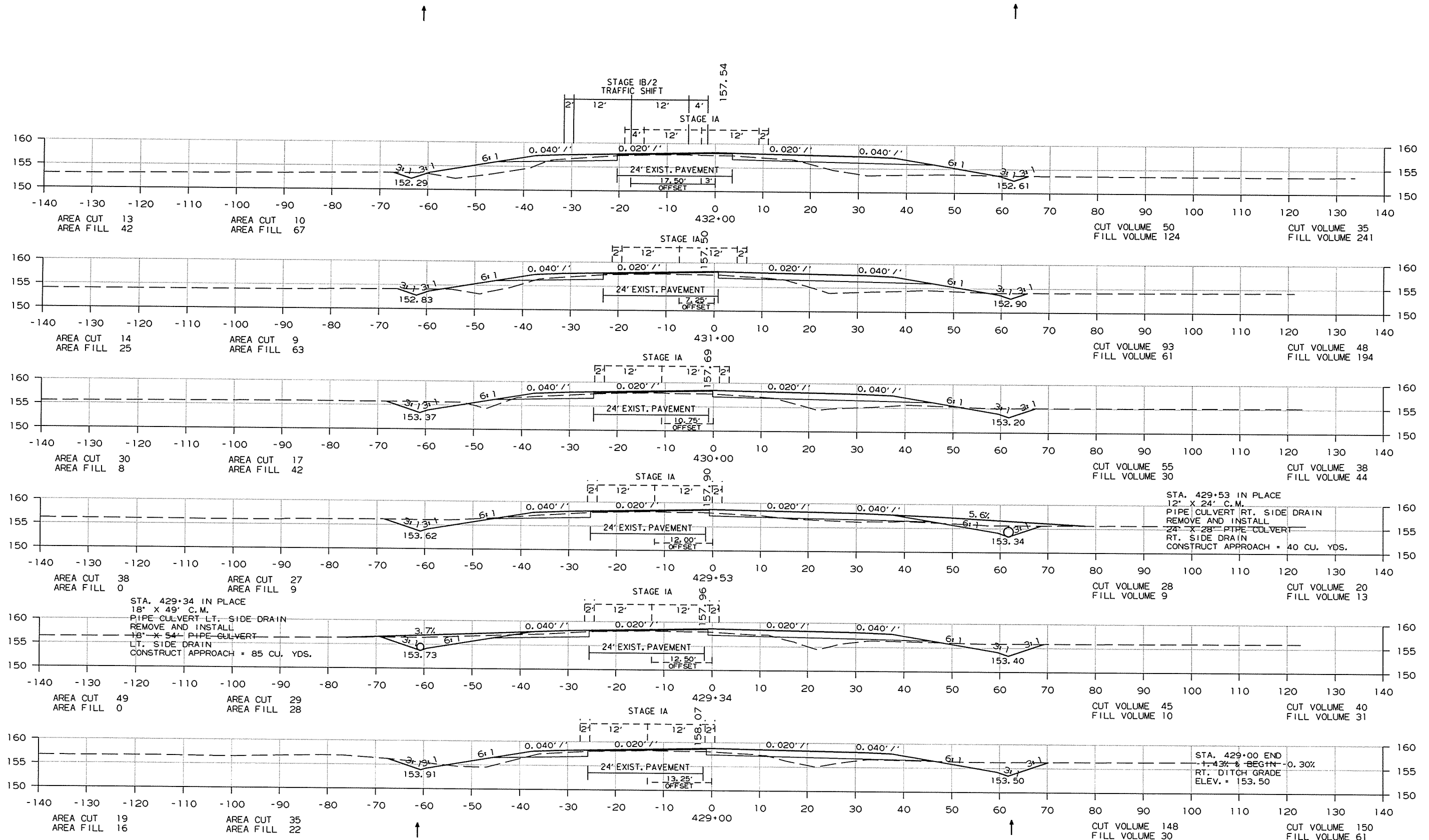
| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS | |
|--------------|------------|--------------|------------|--------------------|-------|--------------------|----------------|--------------|-----|
| | | | | 6 | ARK. | | | | |
| | | | | | | | JOB NO. 070284 | 165 | 193 |

STAGE 1

STAGE 2

STAGE 1

2 CROSS SECTIONS
STAGE 2

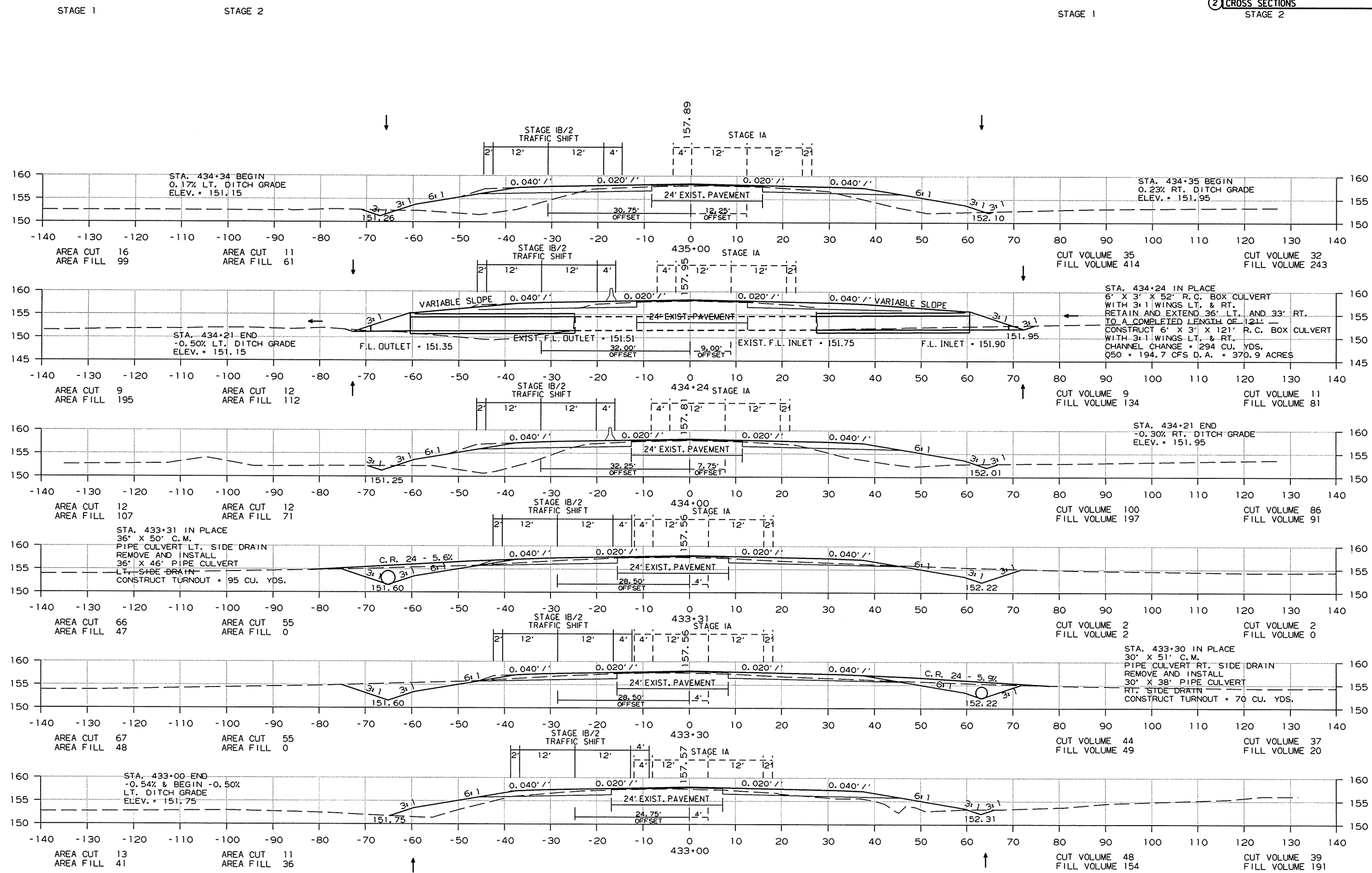


CROSS SECTION STA. 429+00 TO STA. 432+00

3/11/2016 R070284.DGN

| 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. 070284 | 166 | 193 |

2 CROSS SECTIONS
STAGE 1 STAGE 2

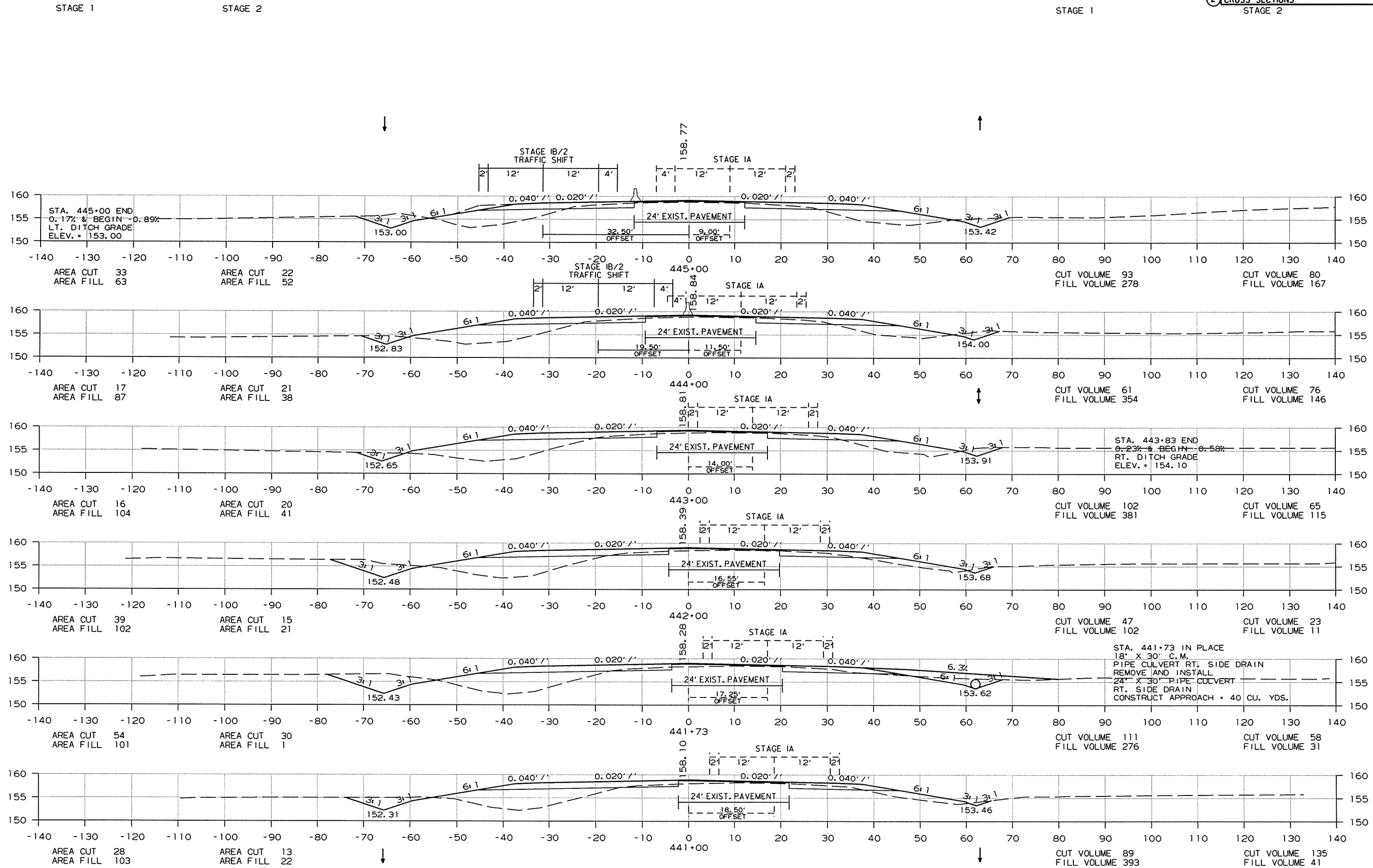


CROSS SECTION STA. 433+00 TO STA. 435+00

3/11/2016 R070284.DGN

| 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. 070284 | | | | | | | 168 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2

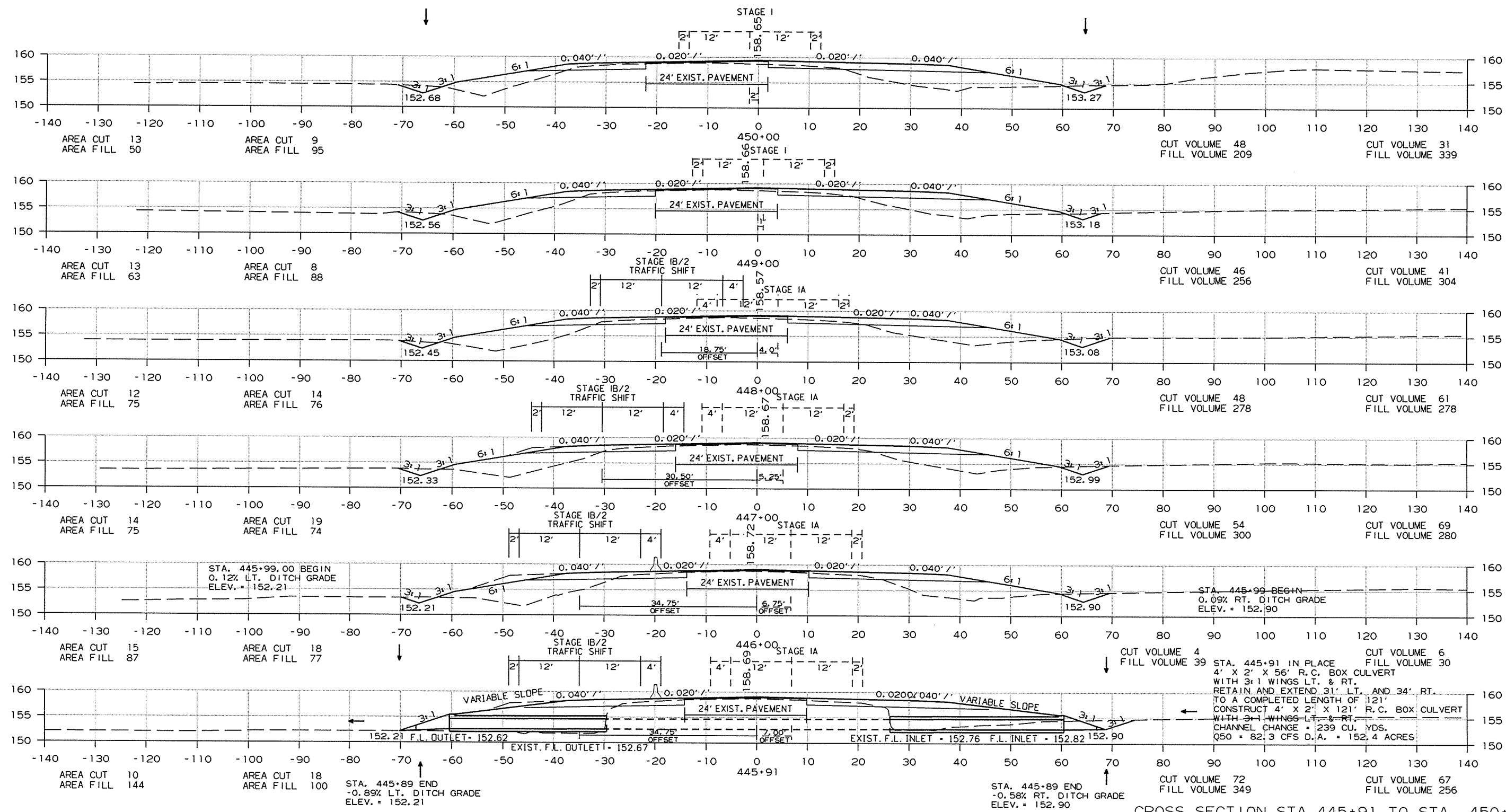


CROSS SECTION STA. 441+00 TO STA. 445+00

3/11/2016
R070284.DGN

| 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. 070284 | | | | | | 169 | 193 | |

2 CROSS SECTIONS
STAGE 1 STAGE 2



3/11/2016
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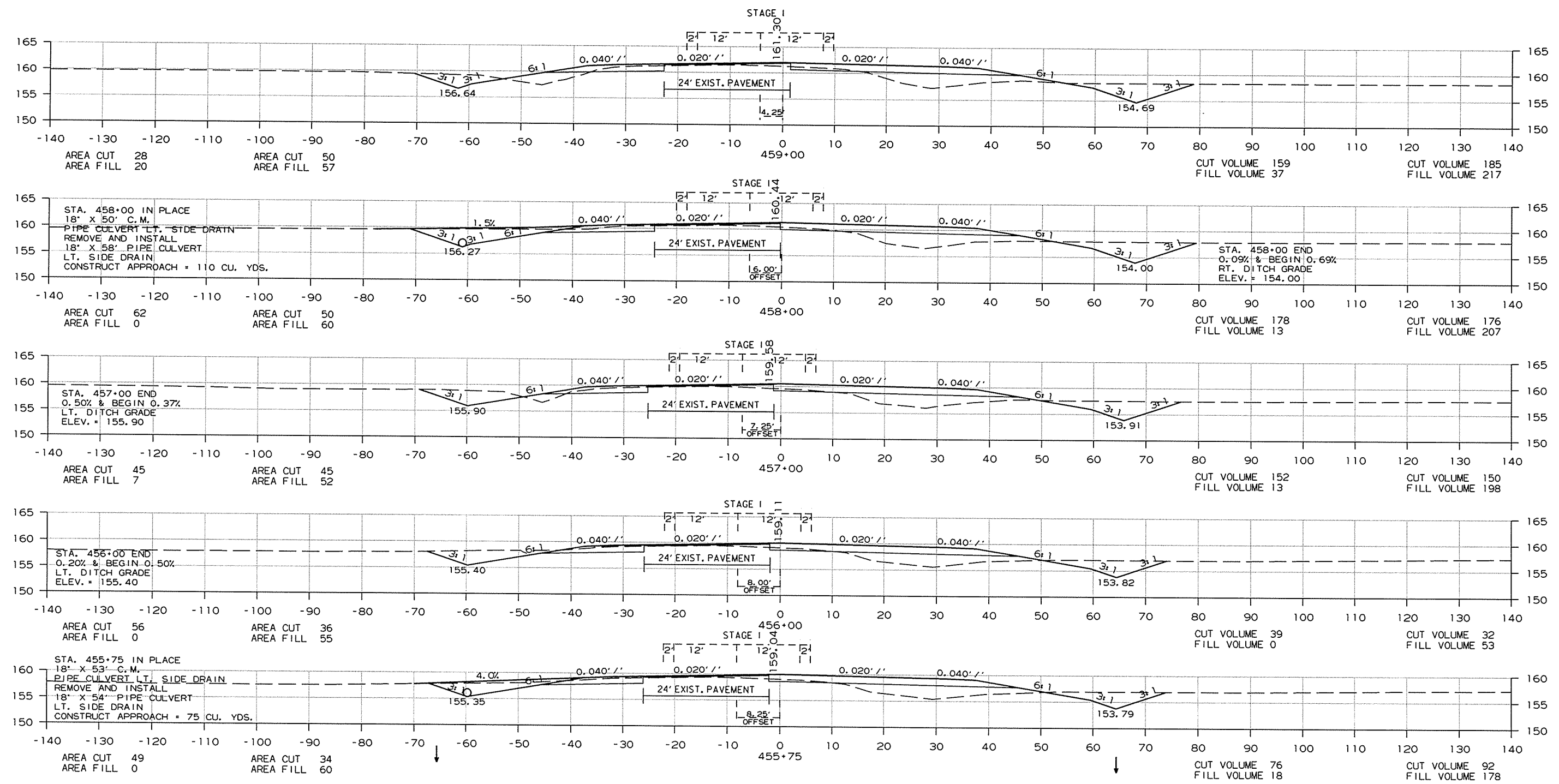
CROSS SECTION STA. 445+91 TO STA. 450+00

| 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. 070284 | | | | | | | 171 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1 STAGE 2

STAGE 1



CROSS SECTION STA. 455+75 TO STA. 459+00

3/11/2016
R070284.DGN

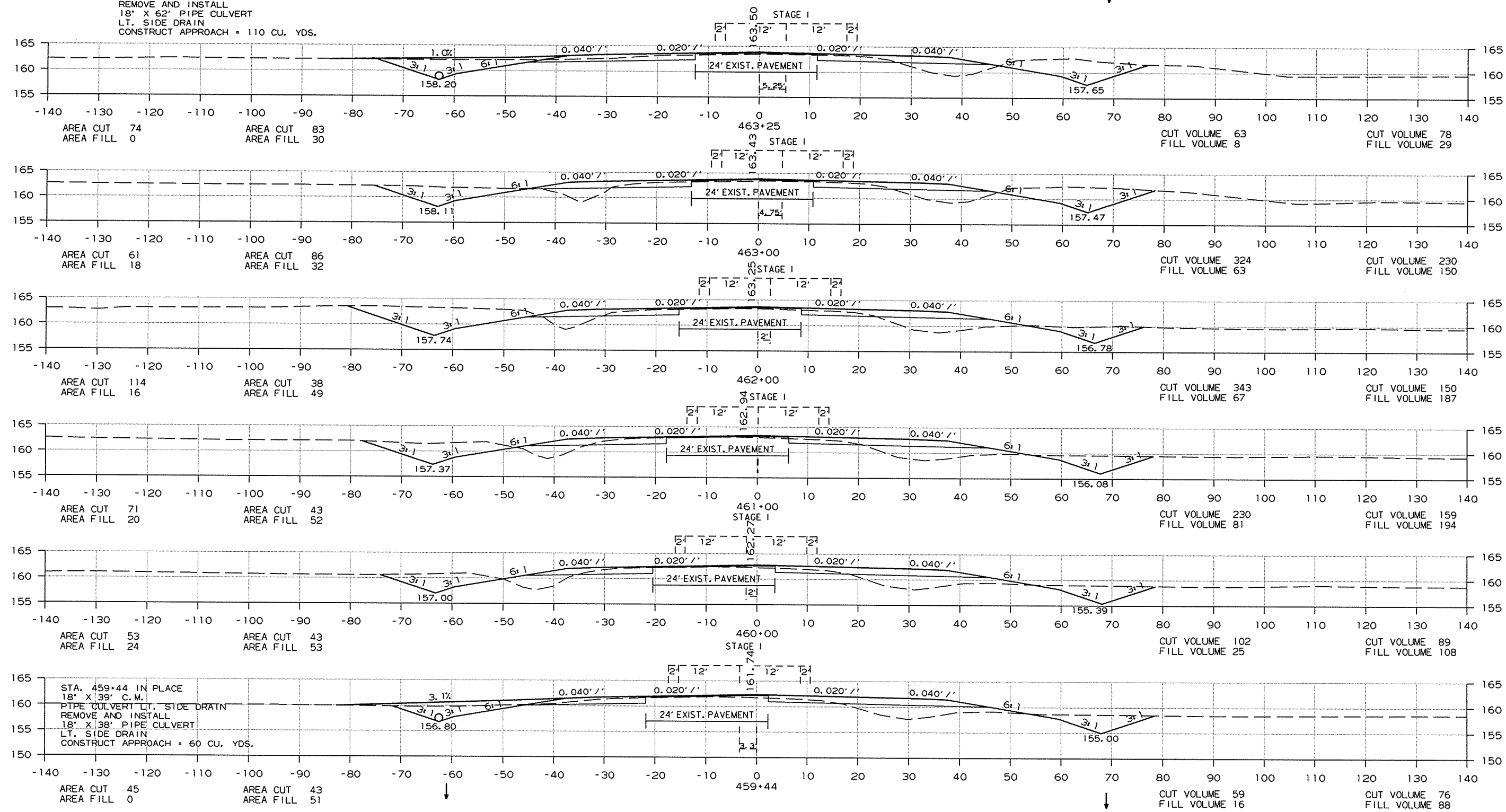
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 172 | 193 |

2 CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1 STAGE 2

STAGE 1

STA. 463+25 IN PLACE
18" X 37" C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 62" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 110 CU. YDS.



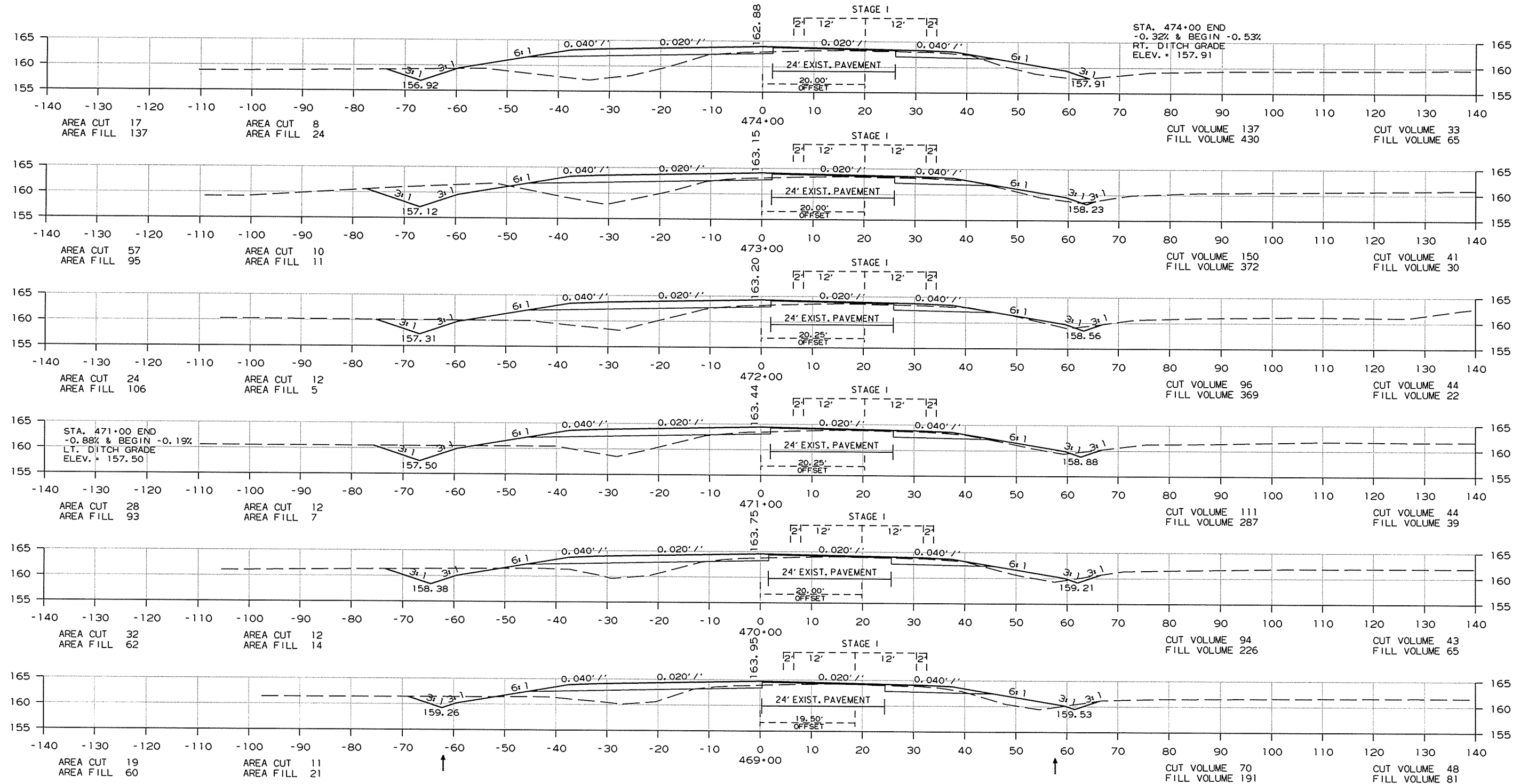
STA. 459+44 IN PLACE
18" X 39" C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

CROSS SECTION STA. 459+44 TO STA. 463+25

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| 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. 070284 | | | | | | | 174 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2



CROSS SECTION STA. 469+00 TO STA. 474+00

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| 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. 070284 | | | | | | | 175 | 193 |

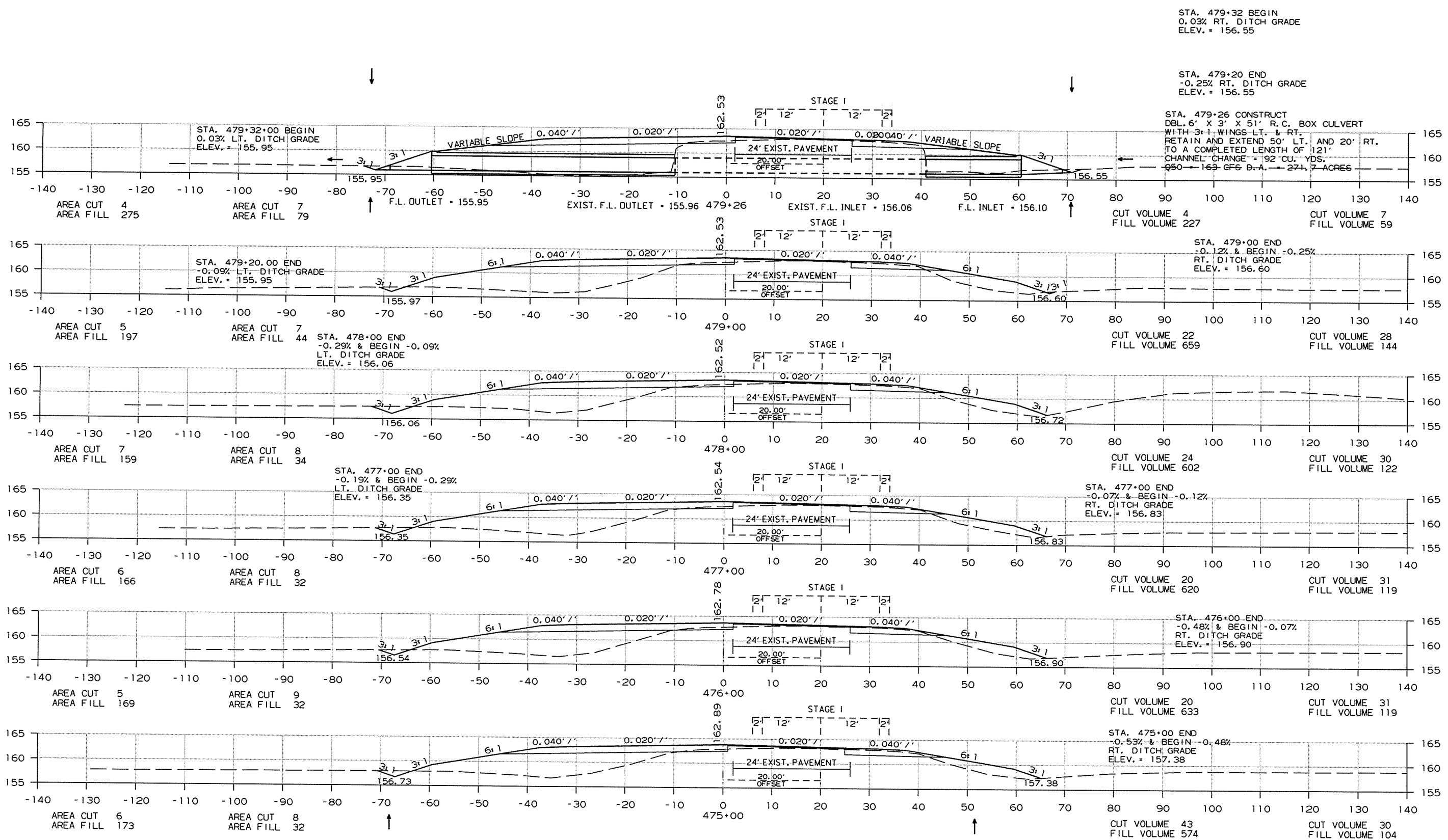
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 475+00 TO STA. 479+26

3/11/2016

R070284.DGN

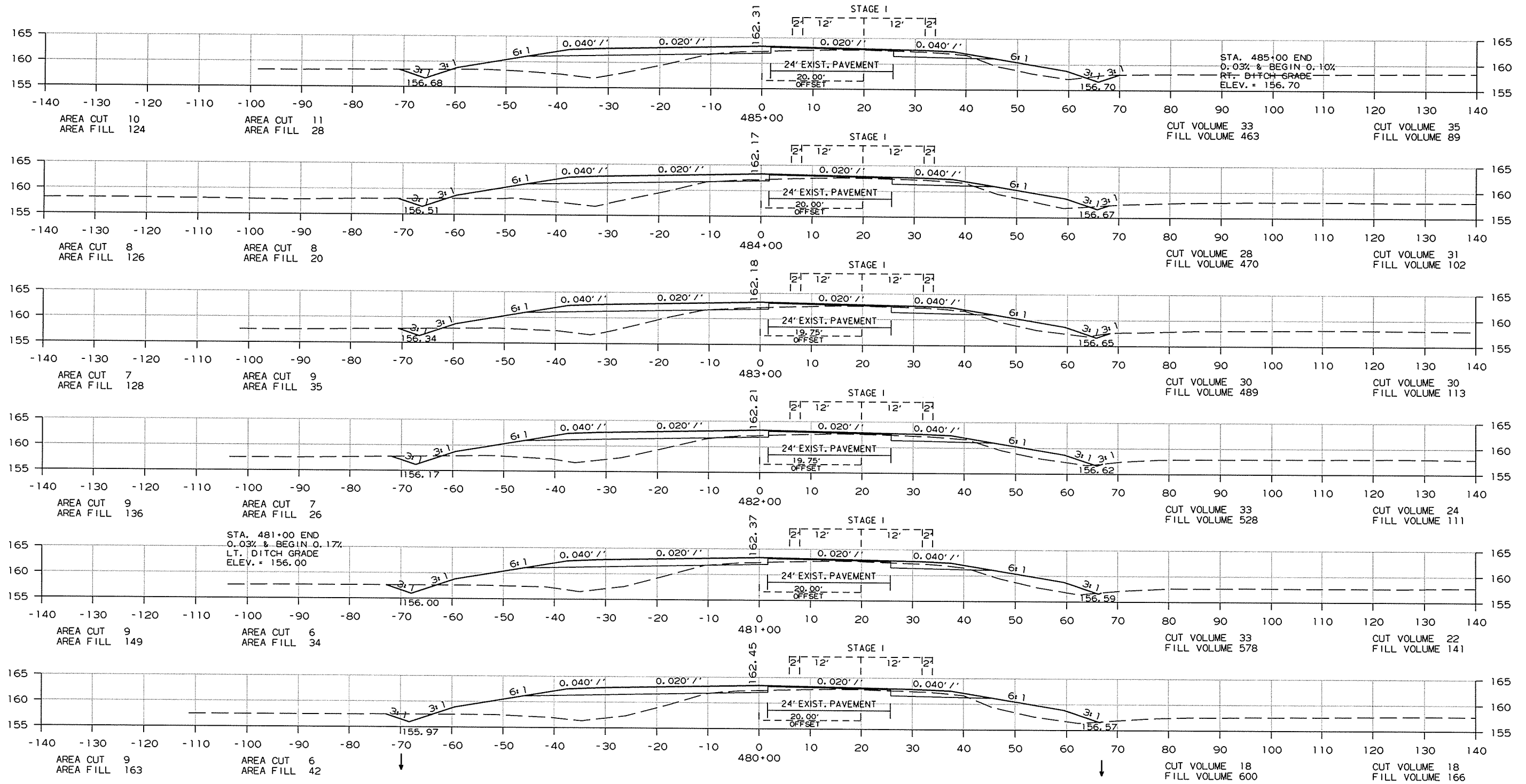
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | 070284 | | 176 | 193 |

STAGE 1

STAGE 2

STAGE 1

② CROSS SECTIONS
STAGE 2



CROSS SECTION STA. 480+00 TO STA. 485+00

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| 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. 070284 | | | | | | | 178 | 193 |

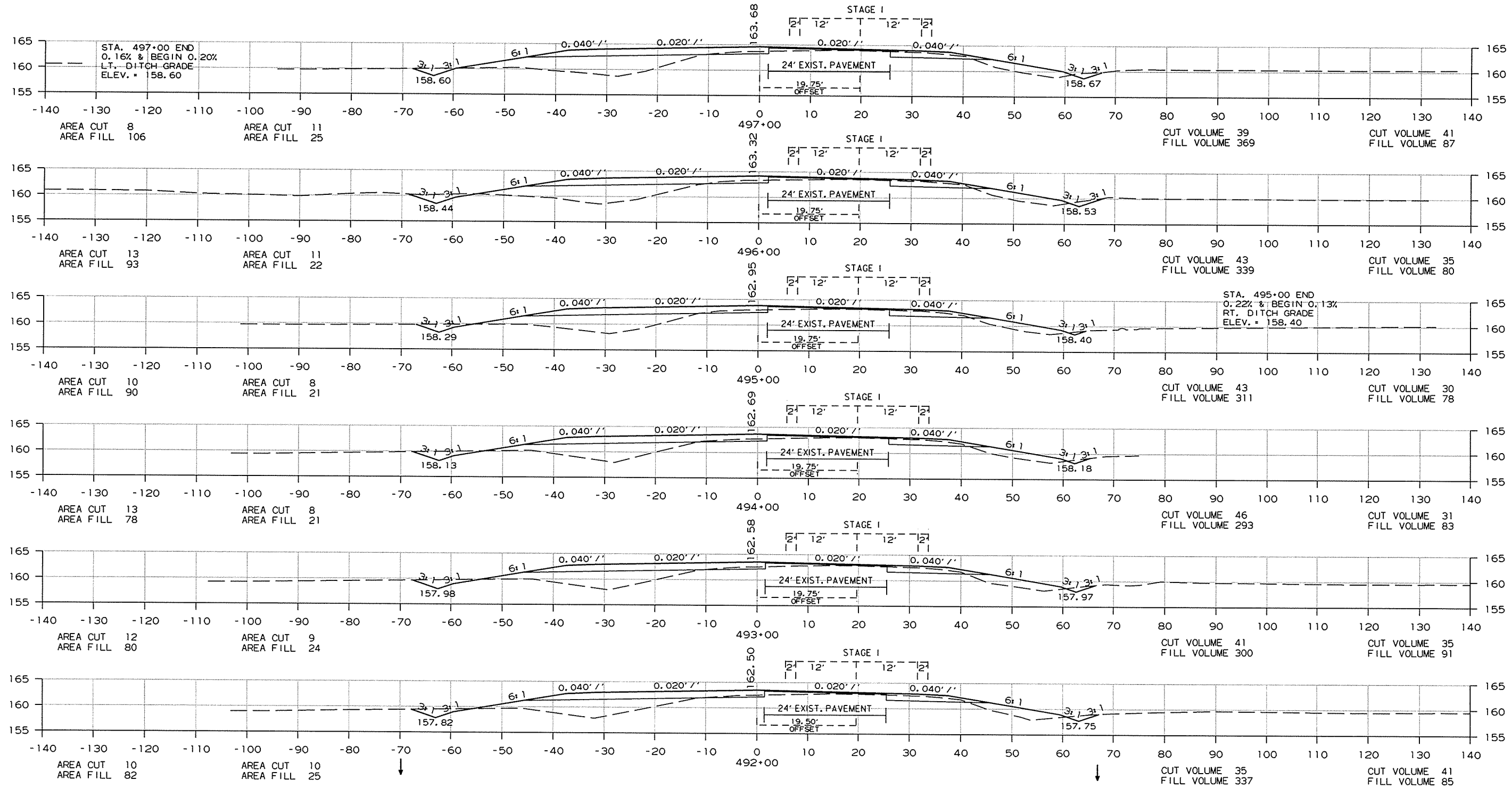
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 492+00 TO STA. 497+00

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| 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. | 070284 | | 179 | 193 |

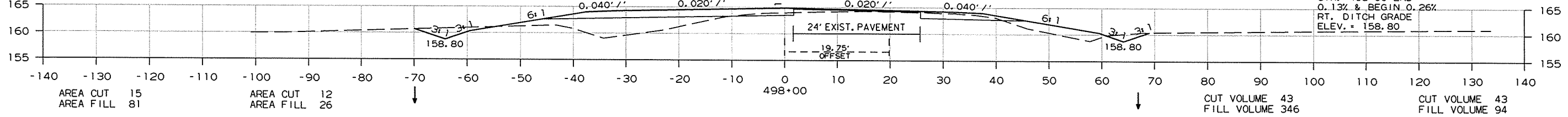
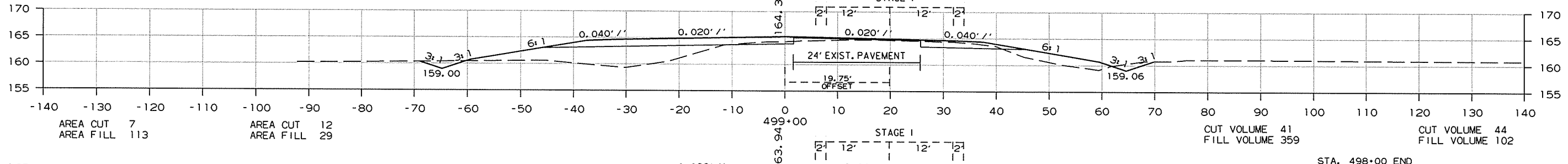
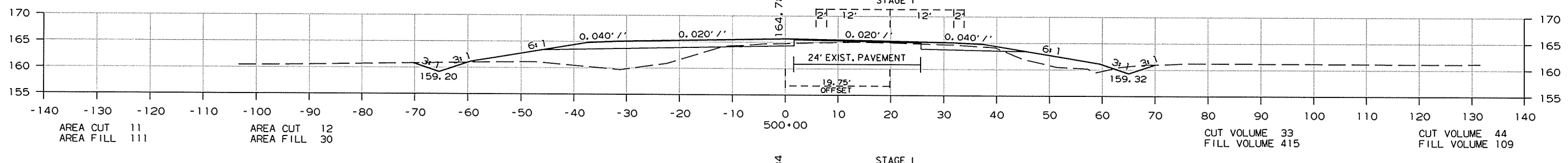
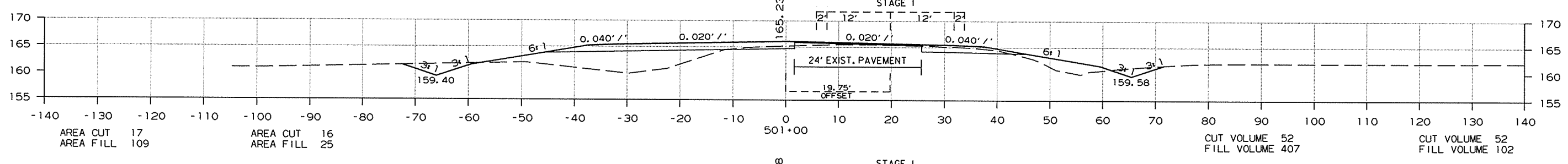
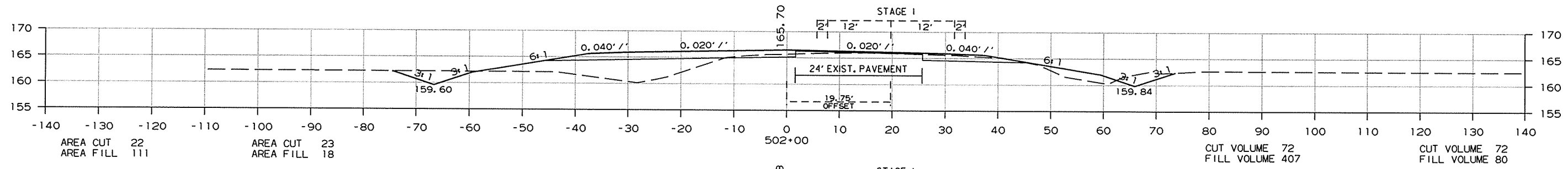
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 498+00 TO STA. 502+00

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STA. 498+00 END
0.13% & BEGIN 0.26%
RT. DITCH GRADE
ELEV. = 158.80

| 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. 070284 | | | | | | | 180 | 193 |

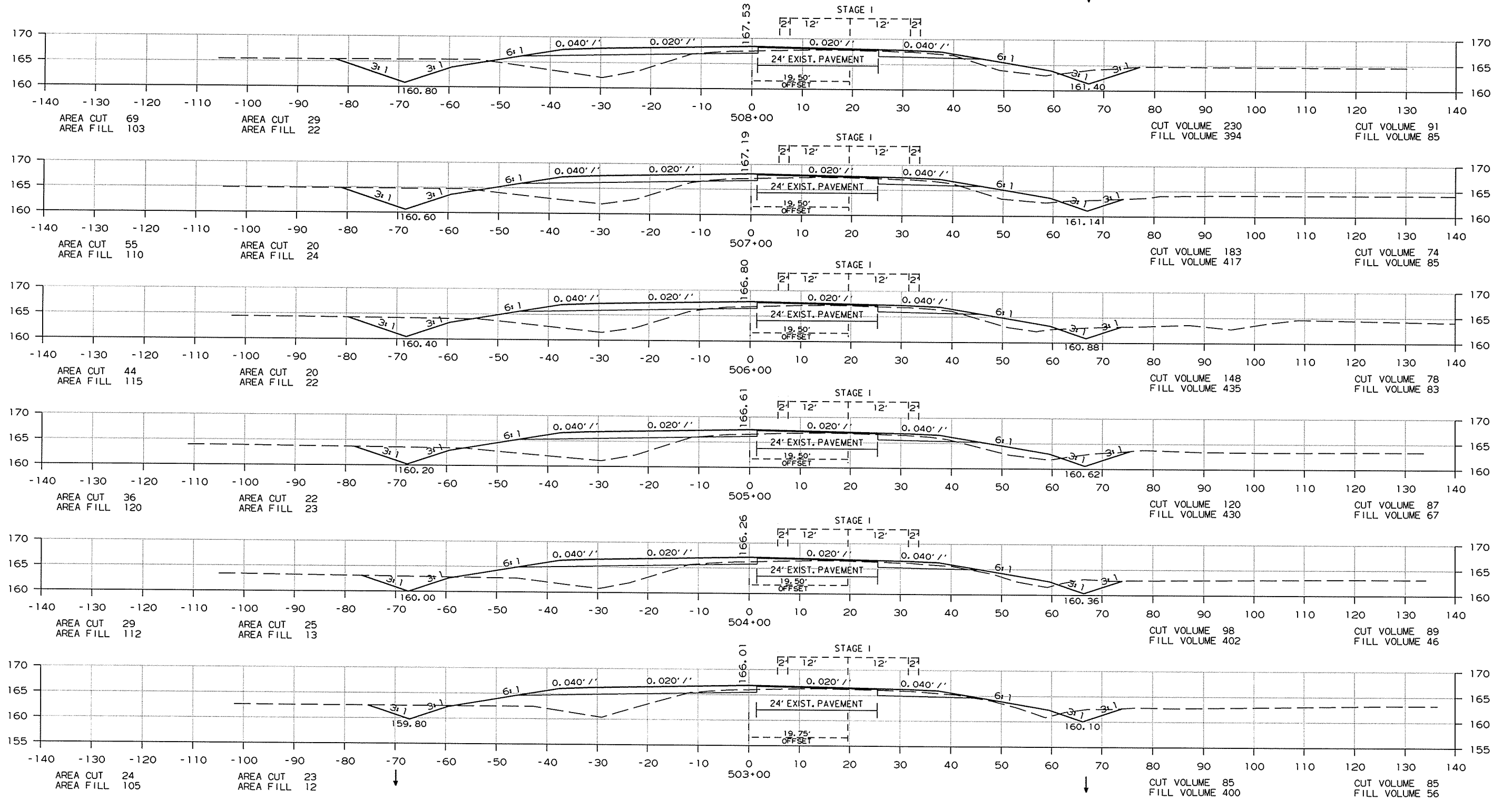
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



CROSS SECTION STA. 503+00 TO STA. 508+00

3/11/2016

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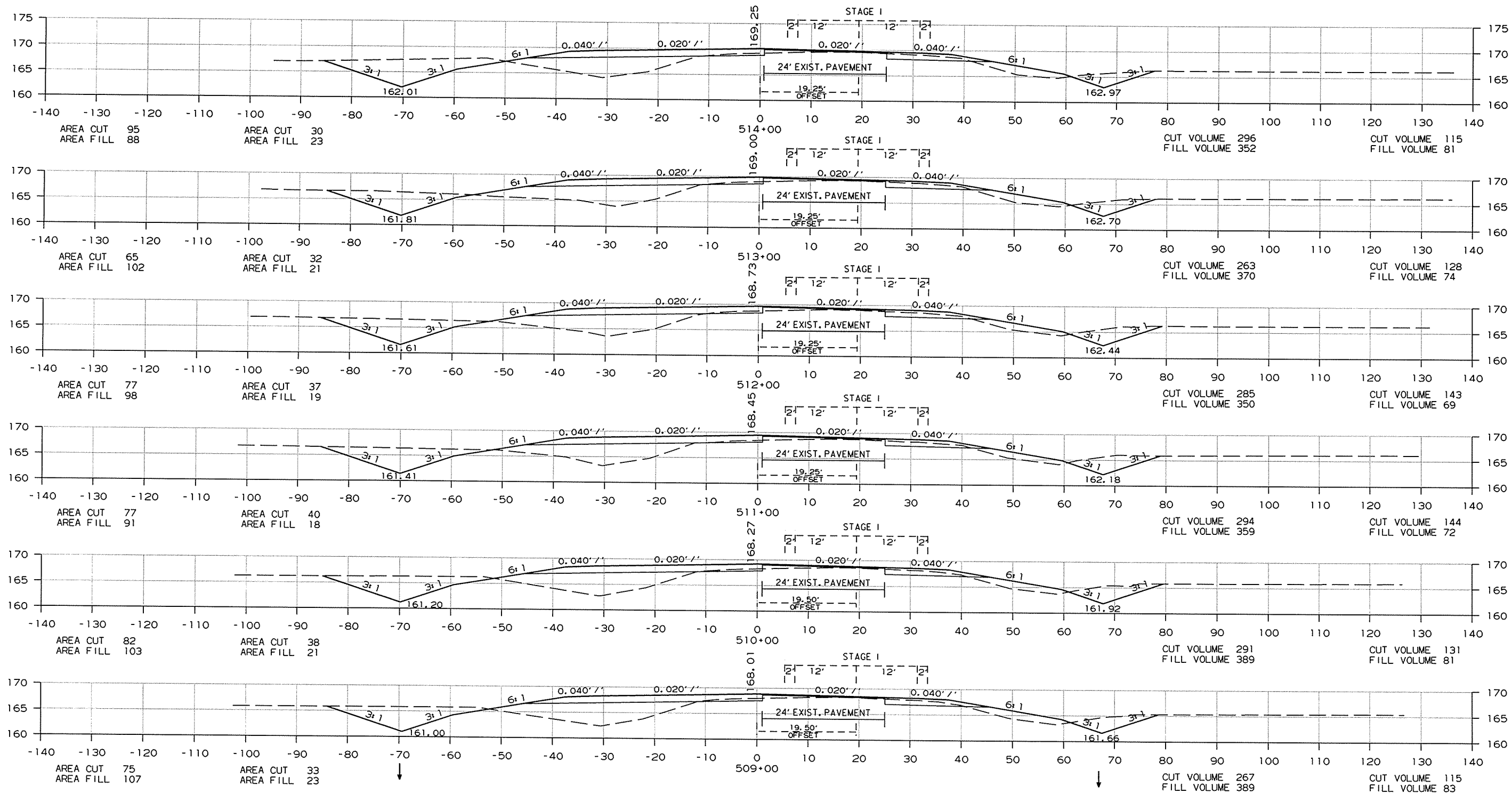
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 181 | 193 |

STAGE 1

STAGE 2

STAGE 1

② CROSS SECTIONS
STAGE 2



CROSS SECTION STA. 509+00 TO STA. 514+00

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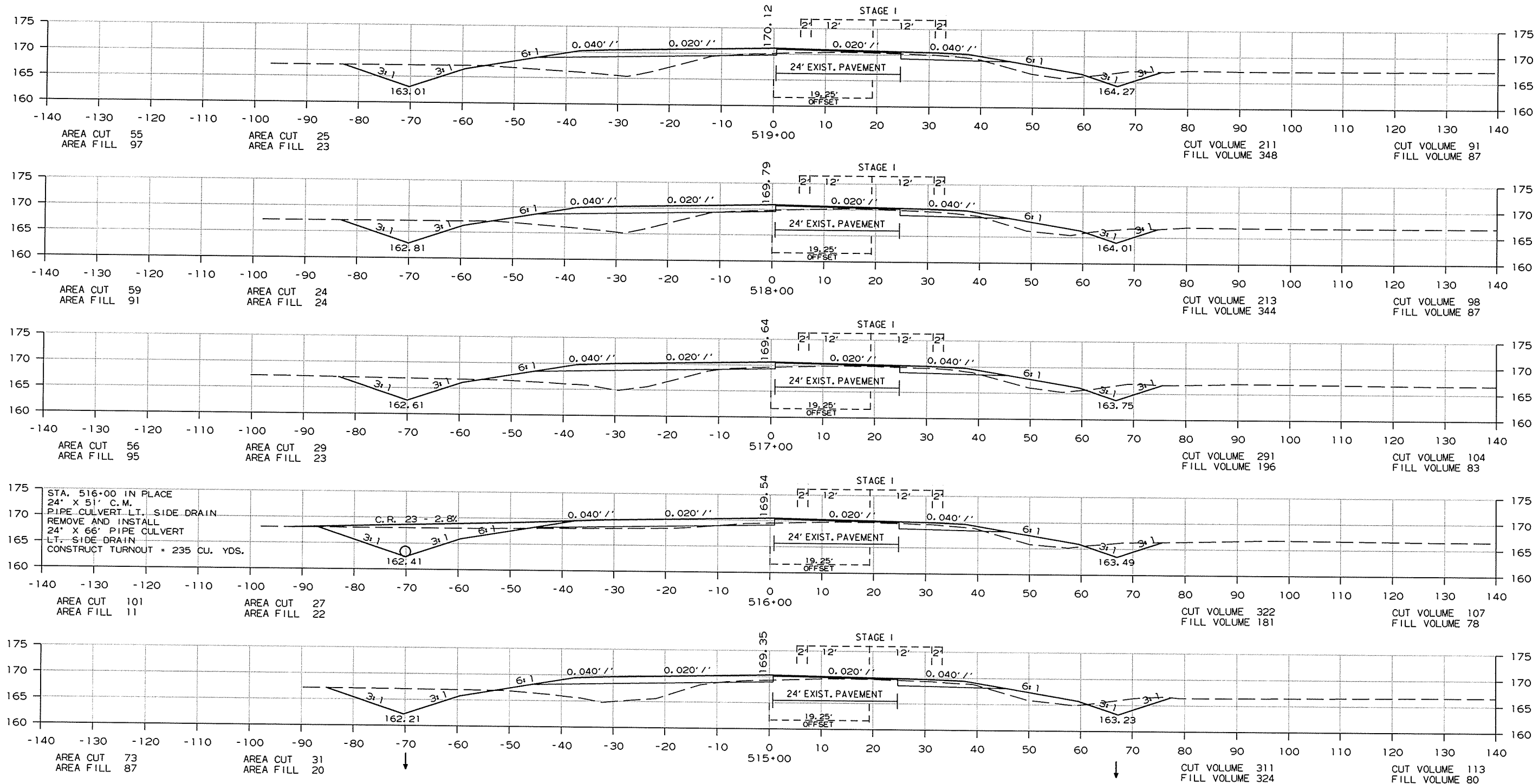
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 182 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1



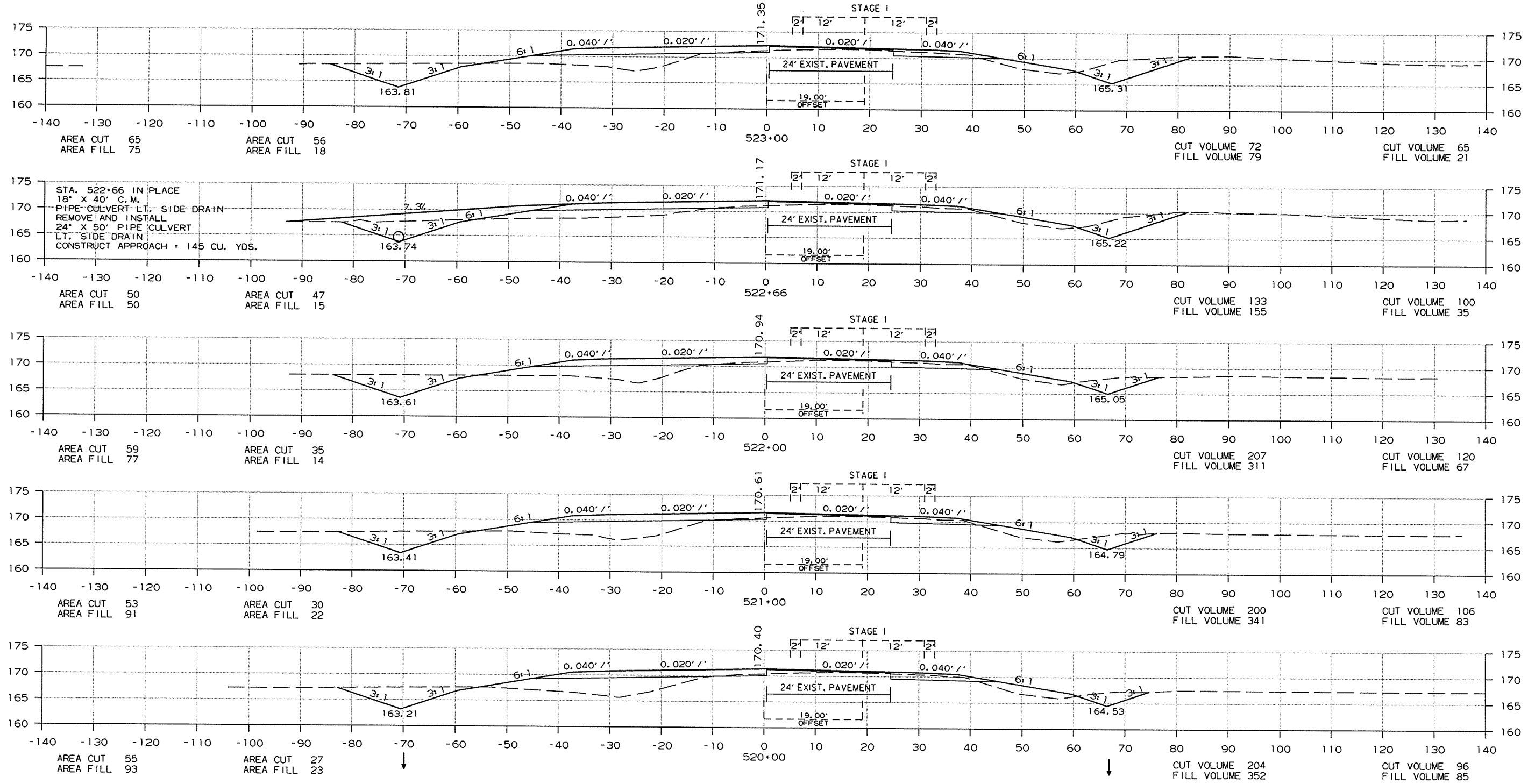
CROSS SECTION STA. 515+00 TO STA. 519+00

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R070284.DGN

| 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. 070284 | 183 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1 STAGE 2 STAGE 1 STAGE 2



STA. 522+66 IN PLACE
18" X 40' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 145 CU. YDS.

CROSS SECTION STA. 520+00 TO STA. 523+00

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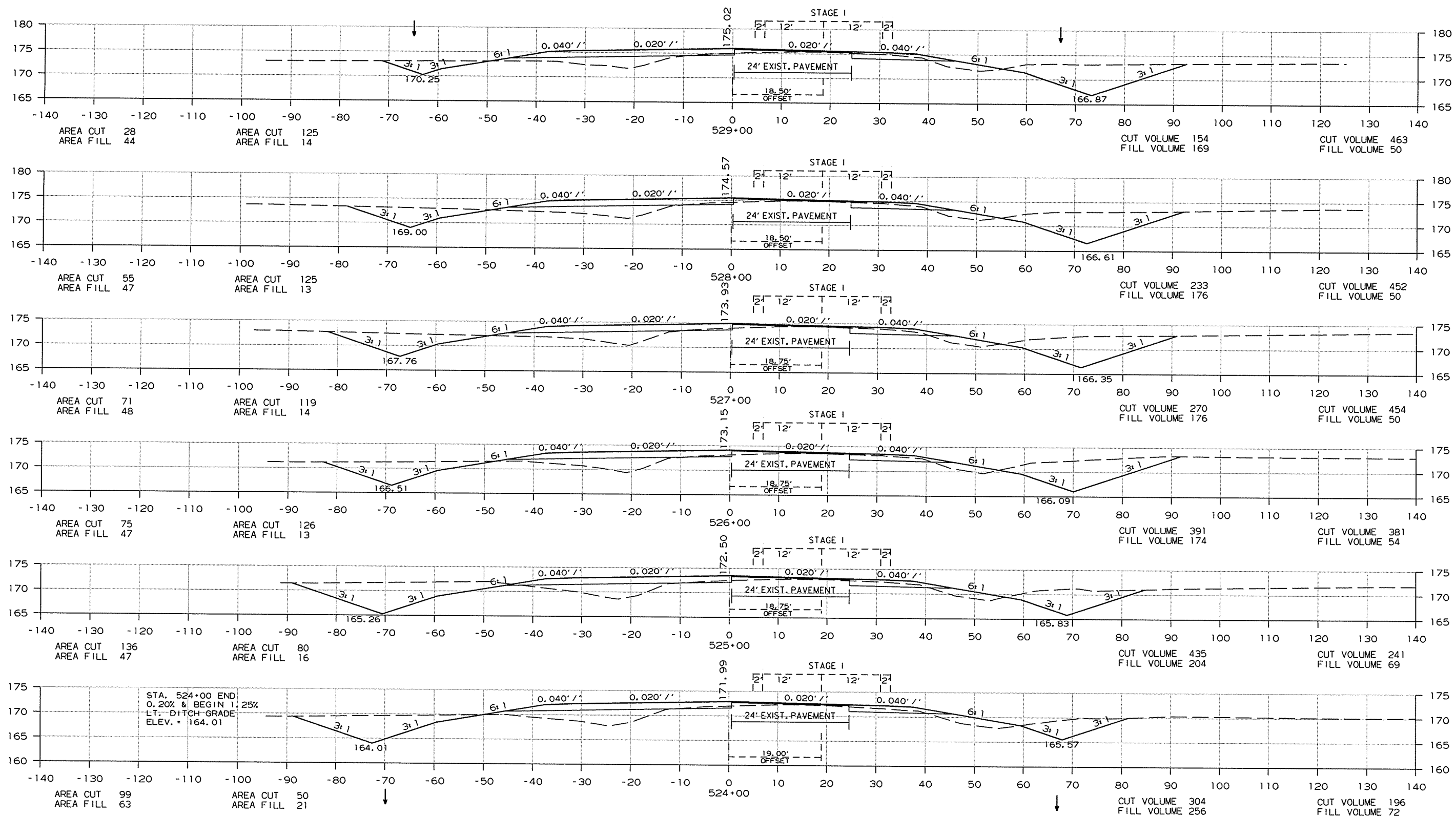
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. 070284 | | | | | | | 184 | 193 |

② CROSS SECTIONS
STAGE 2

STAGE 1 STAGE 2

STAGE 1

STA. 529+50 END
0.26% & BEGIN -0.23%
RT. DITCH GRADE
ELEV. = 167.00



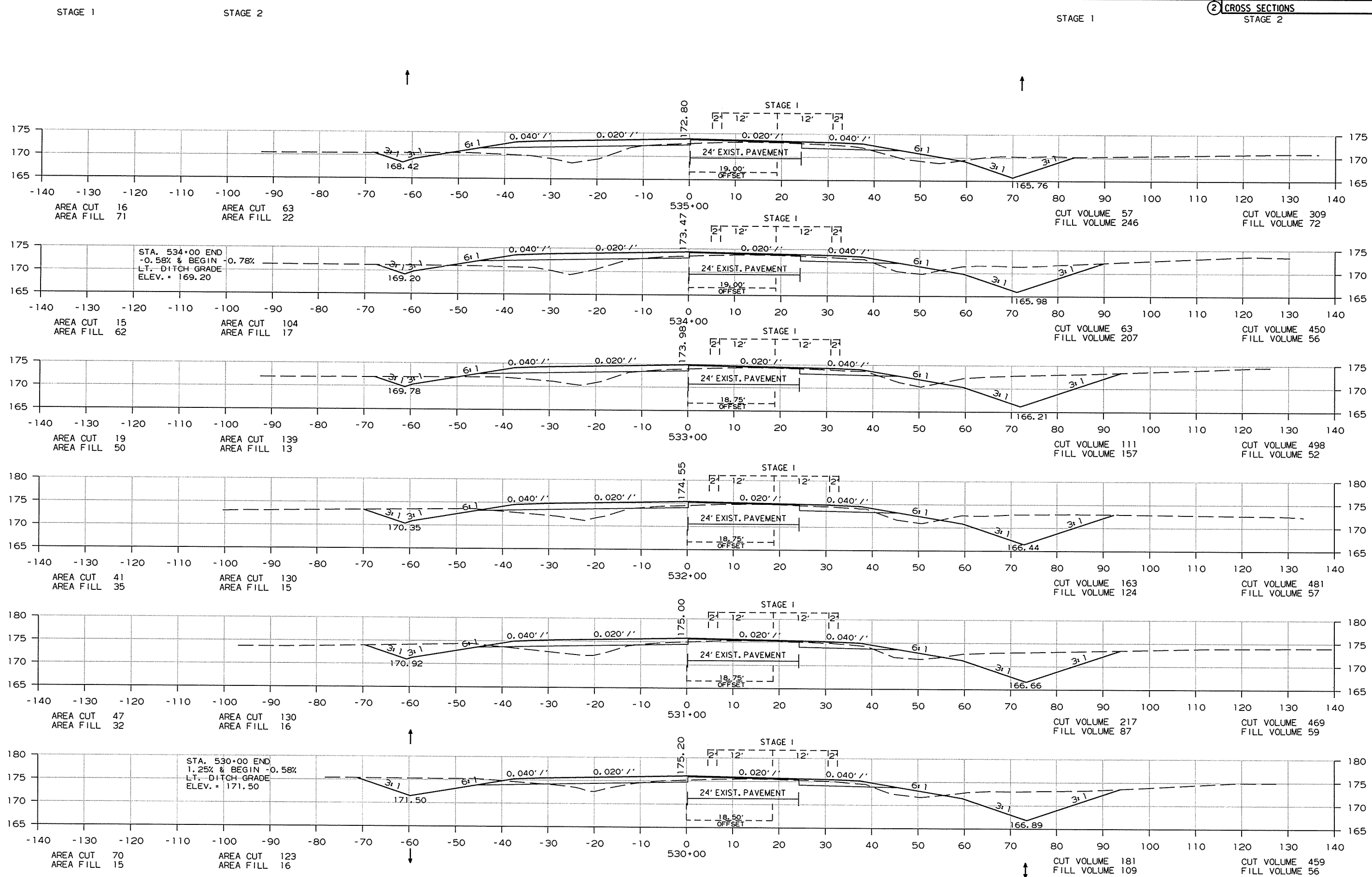
STA. 524+00 END
0.20% & BEGIN 1.25%
LT. DITCH GRADE
ELEV. = 164.01

CROSS SECTION STA. 524+00 TO STA. 529+00

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| 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. 070284 | 185 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2



CROSS SECTION STA. 530+00 TO STA. 535+00

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| 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. 070284 | | | | | | | 186 | 193 |

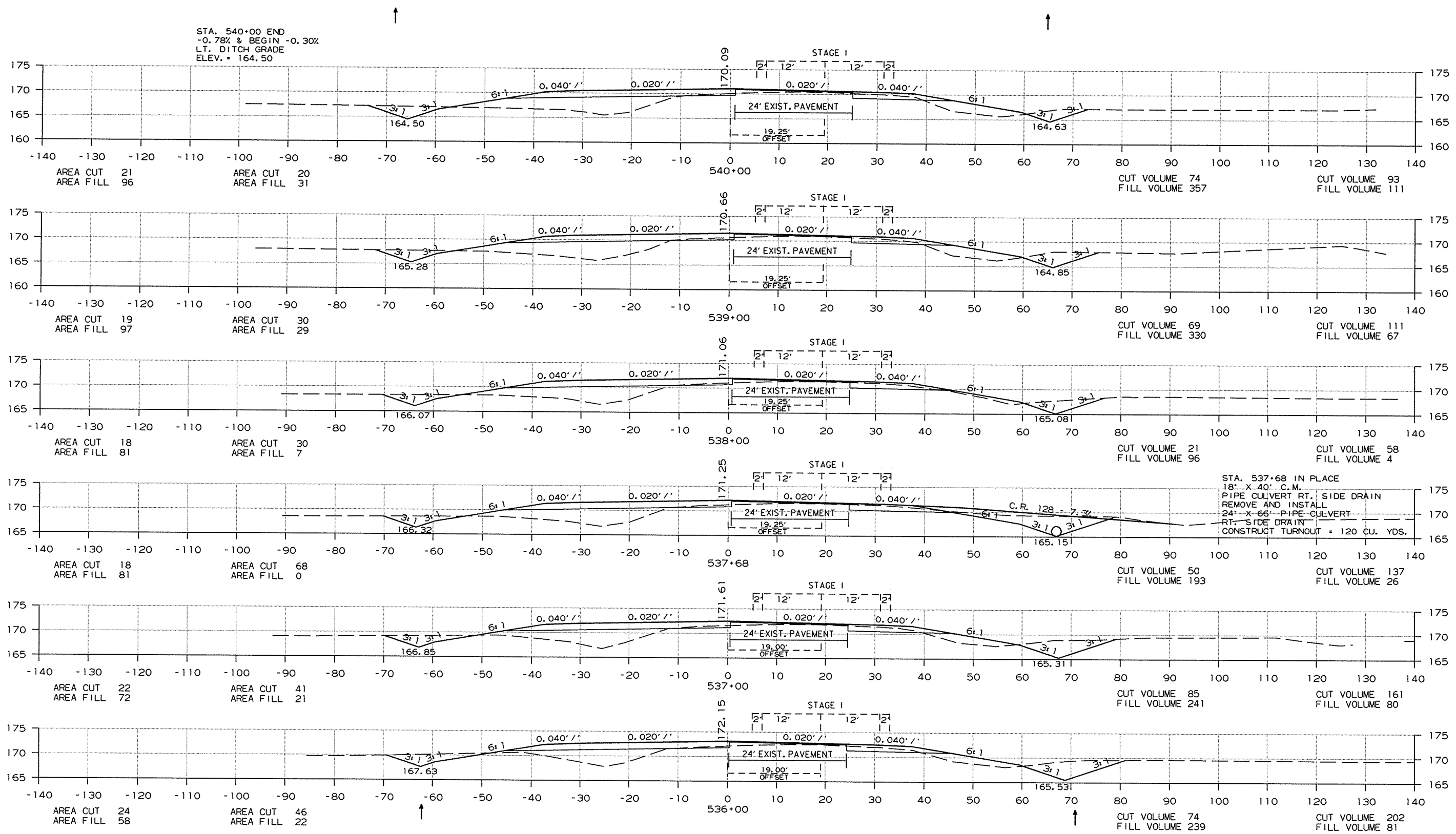
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



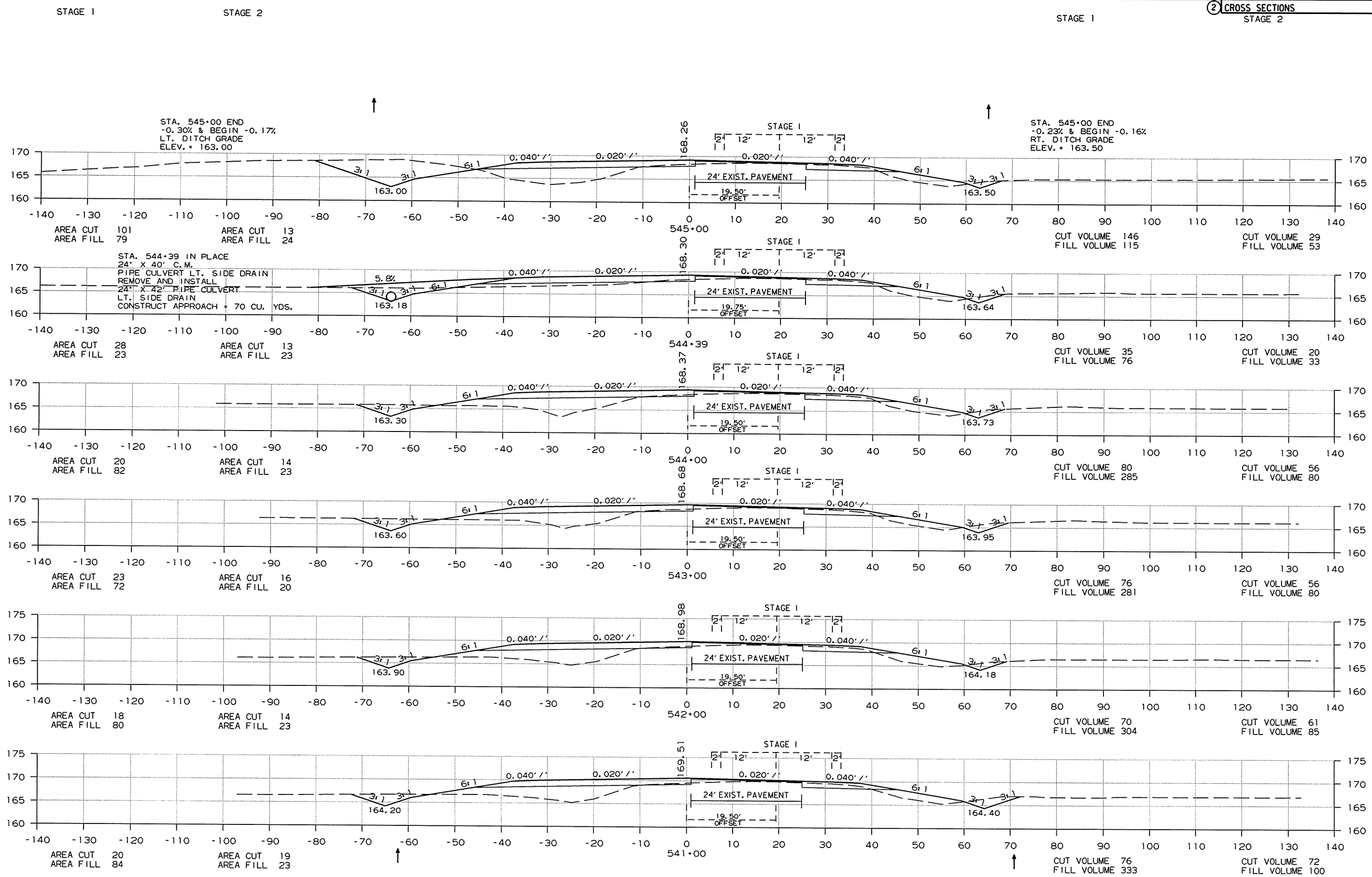
CROSS SECTION STA. 536+00 TO STA. 540+00

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| 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. 070284 | | 187 | 193 | |

② CROSS SECTIONS
STAGE 1 STAGE 2



CROSS SECTION STA. 541+00 TO STA. 545+00

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| 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. | 070284 | | 188 | 193 |

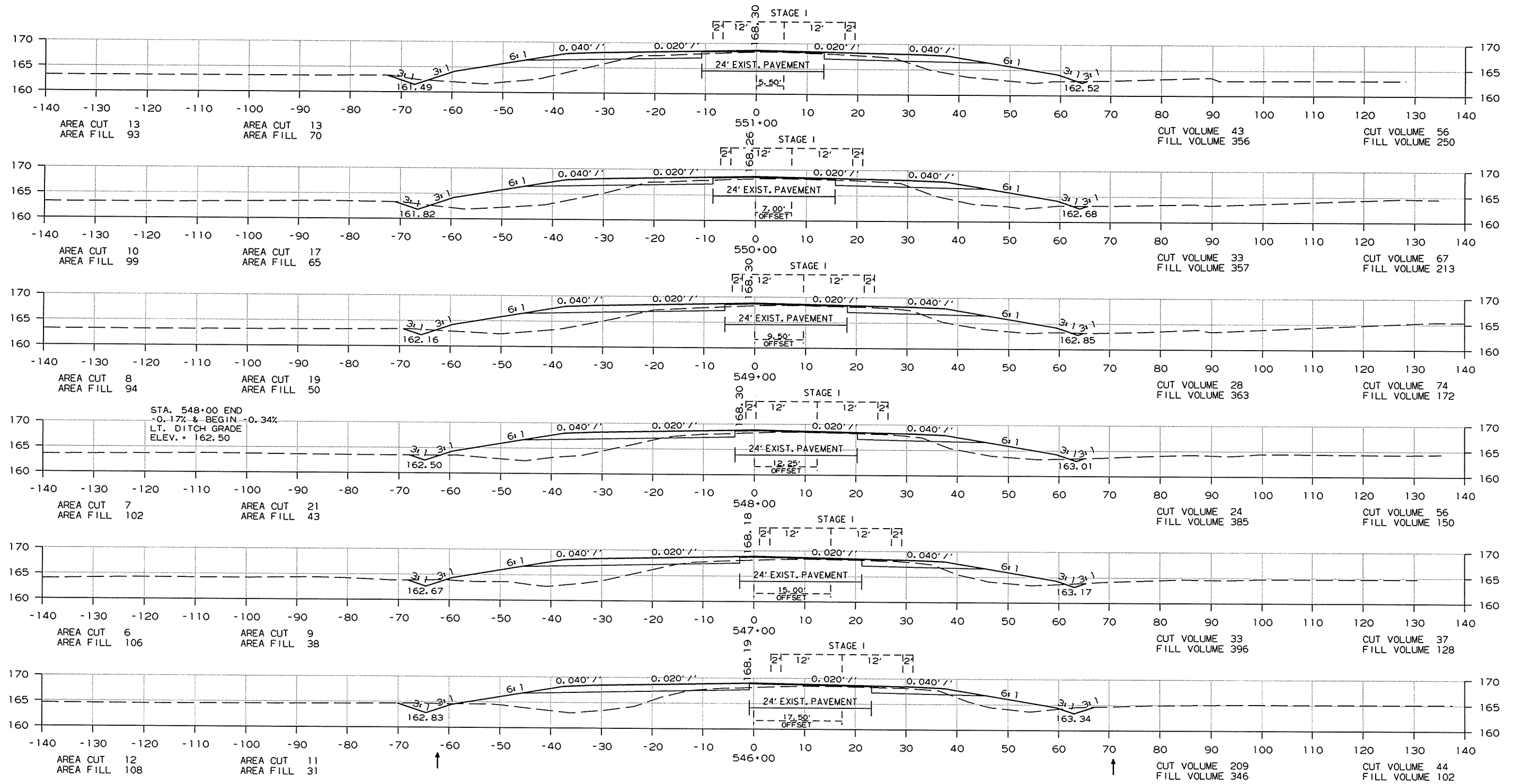
② CROSS SECTIONS
STAGE 1 STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



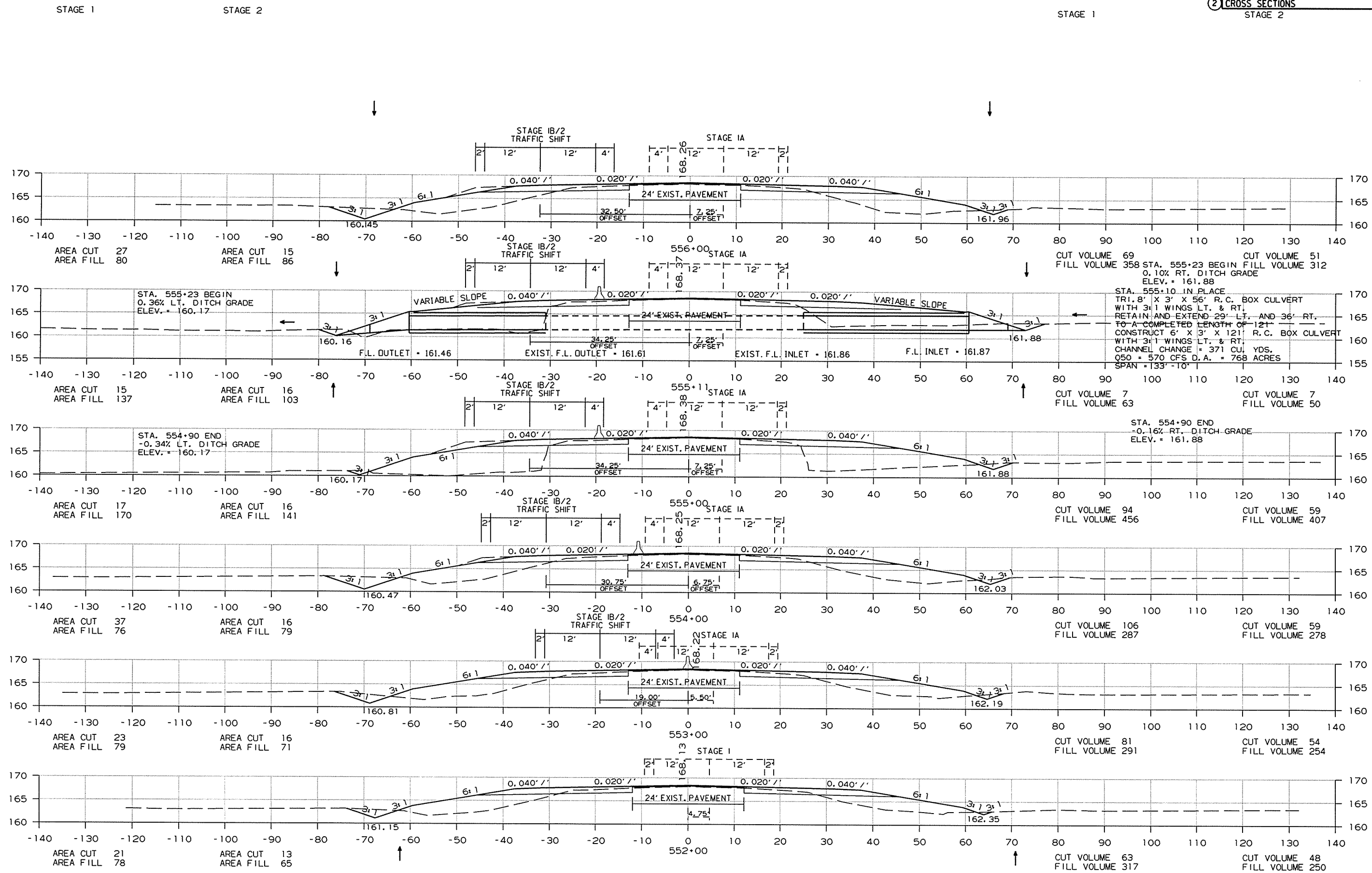
STA. 548+00 END
-0.17% & BEGIN -0.34%
LT. DITCH GRADE
ELEV. = 162.50

CROSS SECTION STA. 546+00 TO STA. 551+00

3/11/2016 R070284.DGN

| 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. 070284 | 189 | 193 |

2 CROSS SECTIONS
STAGE 1 STAGE 2

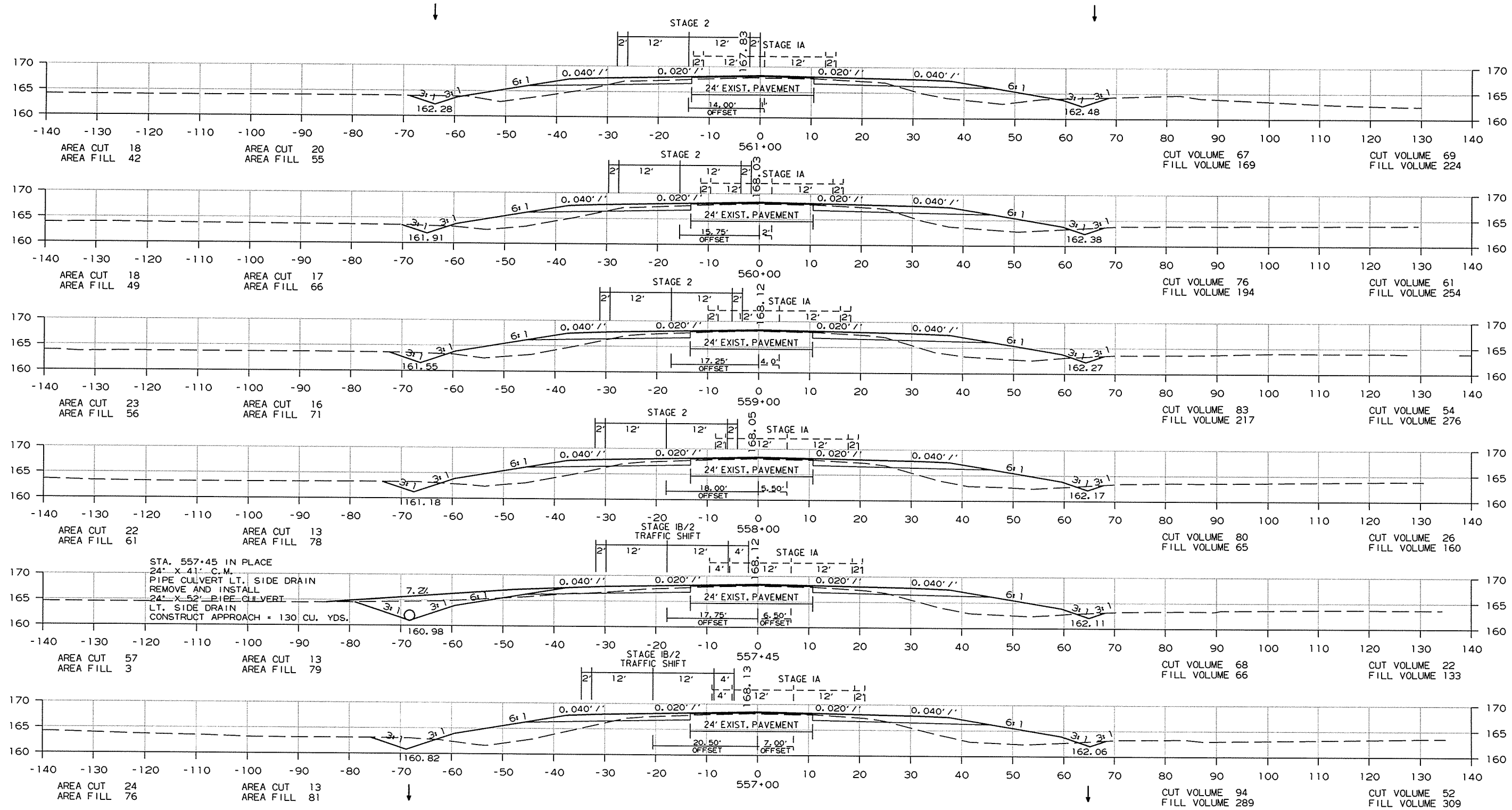


CROSS SECTION STA. 552+00 TO STA. 556+00

3/11/2016 R070284.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | 070284 | 190 | 193 |

2 CROSS SECTIONS
STAGE 1 STAGE 2



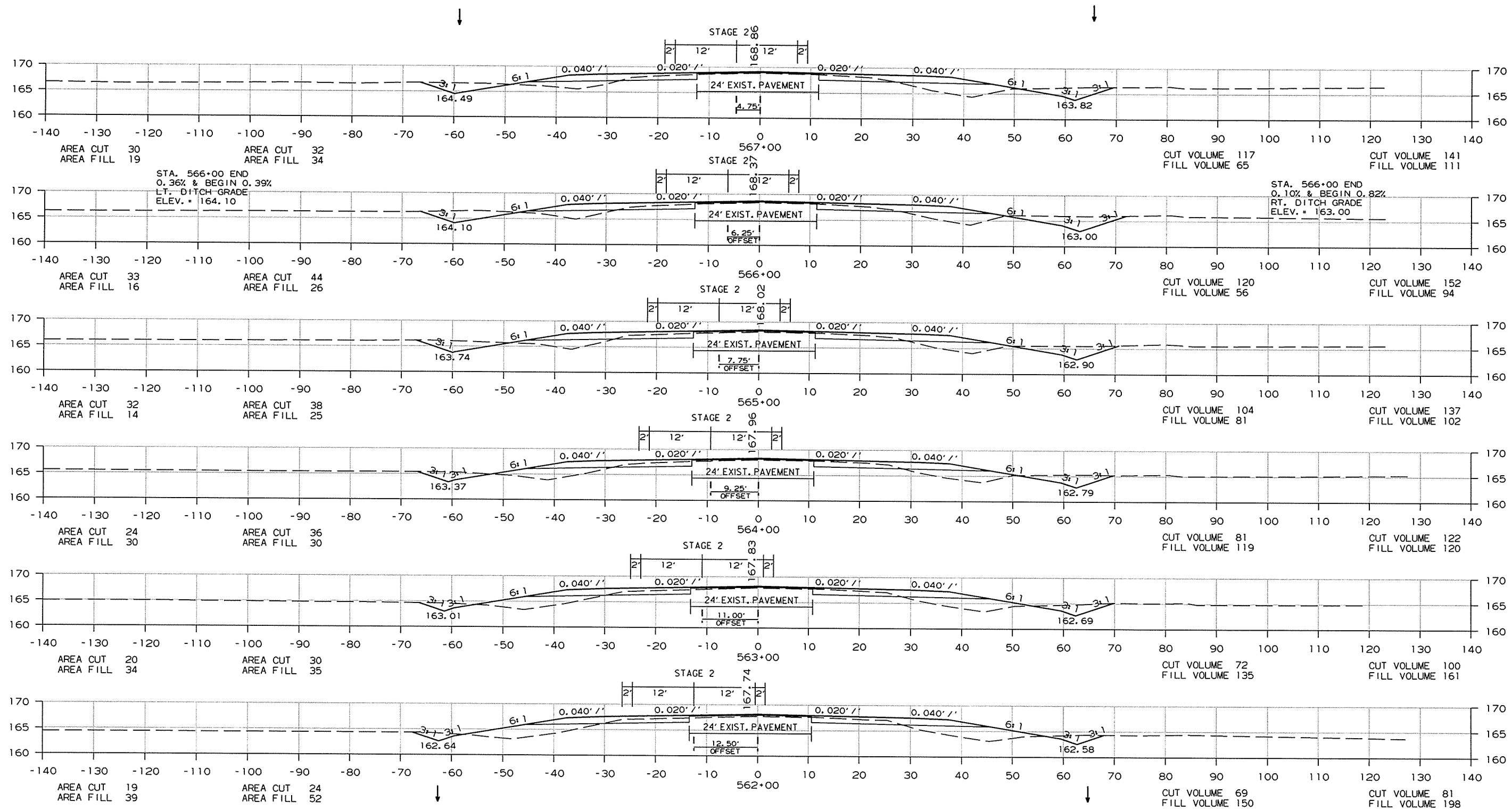
STA. 557+45 IN PLACE
24" X 41" C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 52" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 130 CU. YDS.

CROSS SECTION STA. 557+00 TO STA. 561+00

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| 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. 070284 | | | | | | | 191 | 193 |

② CROSS SECTIONS
STAGE 1 STAGE 2



CROSS SECTION STA. 562+00 TO STA. 567+00

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| 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. 070284 | 192 | 193 |

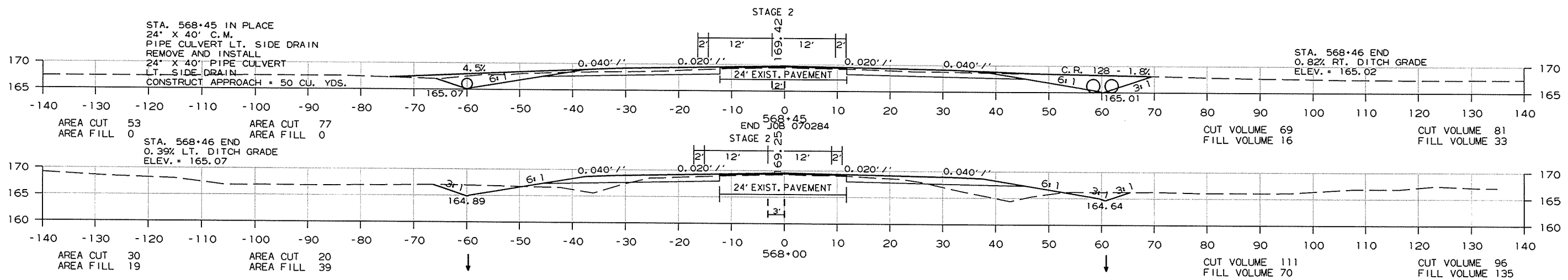
② CROSS SECTIONS
STAGE 2

STAGE 1

STAGE 2

STAGE 1

STAGE 2



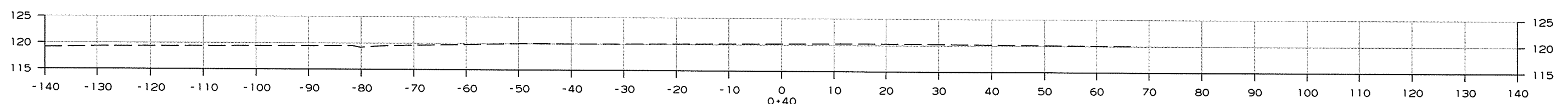
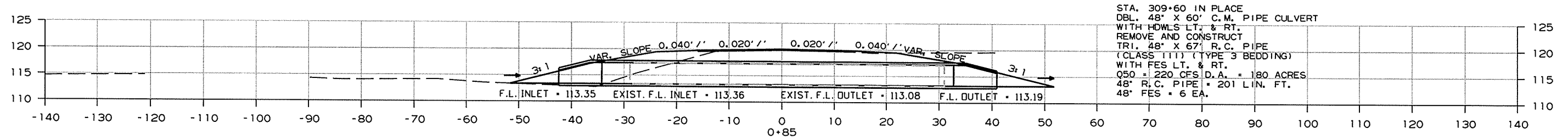
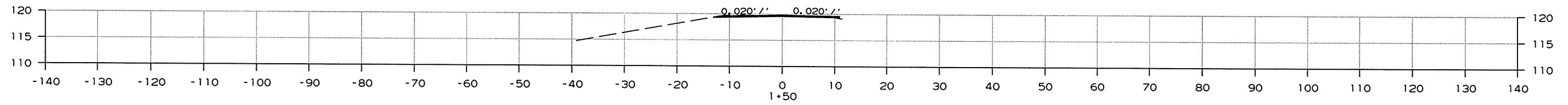
CROSS SECTION STA. 568+00 TO STA. 568+45

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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | | | 070284 | 193 | 193 |

② CROSS SECTIONS



STA. 0+00.00
BEGIN HWY. 172

CROSS SECTION STA. 0+40 TO STA. 1+50

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