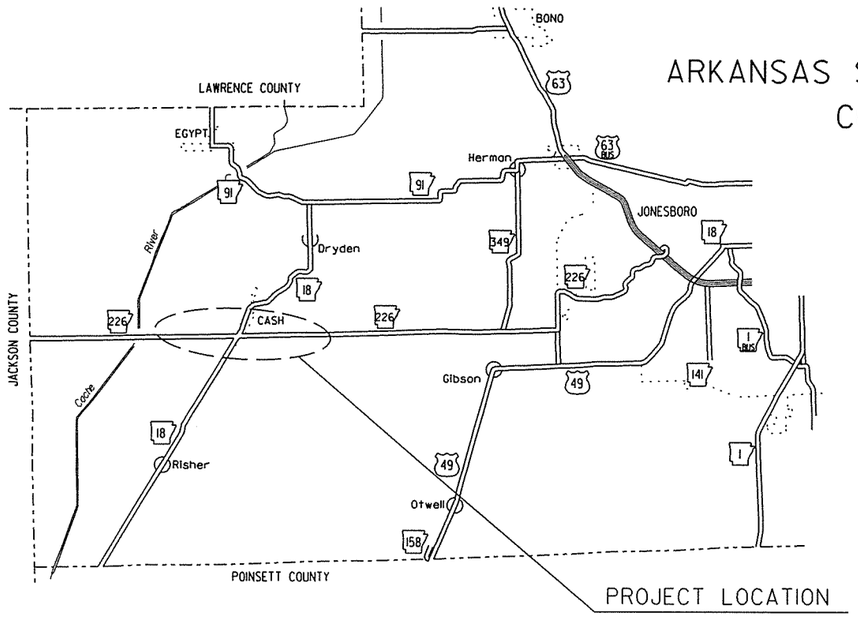
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	1	116
				(2)	CASH BYPASS (BS. & SURF.)(S)			



"A PARTIALLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

CASH BYPASS (BS. & SURF.) (S)

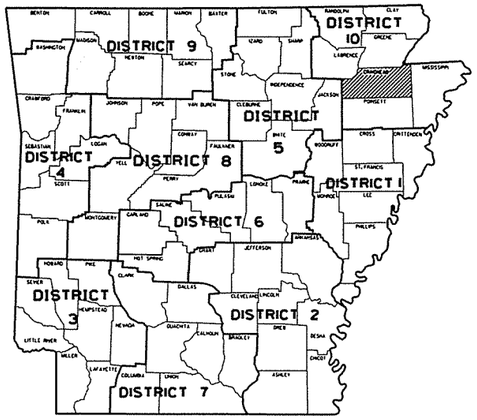
CRAIGHEAD COUNTY

ROUTE 226 SECTION 2

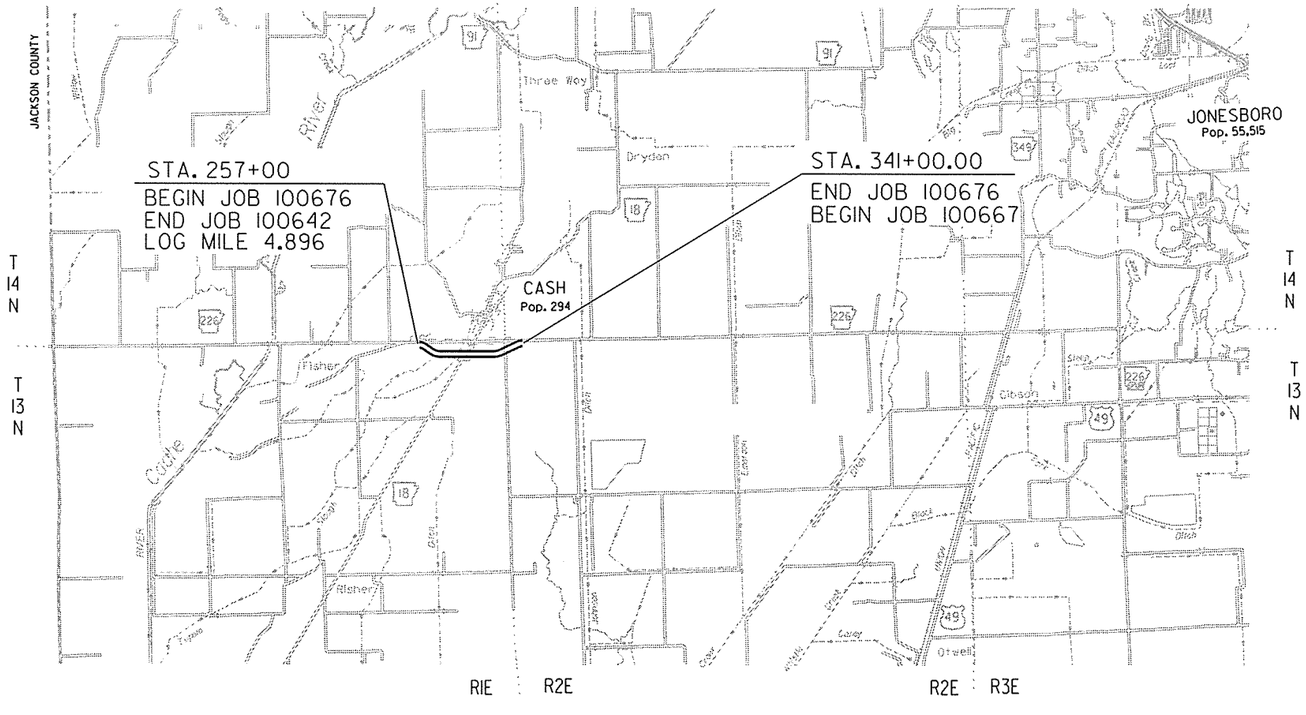
FED. AID PROJECT HPP2-STPR-3735(3)

JOB 100676

NOT TO SCALE



ARK. HWY. DIST. NO. 10



DESIGN TRAFFIC DATA

DESIGN YEAR	2034
2014 ADT	3000
2034 ADT	4000
2034 DHV	440
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	15%
DESIGN SPEED	60 MPH

APPROVED

STATE OF ARKANSAS
3-12-14
REGISTERED PROFESSIONAL ENGINEER
No. 4215
RALPH T. HALL

DEPUTY DIRECTOR
AND CHIEF ENGINEER

BEGIN PROJECT		MID-POINT OF PROJECT		END PROJECT	
LATITUDE	35° 47′ 40″ N	LATITUDE	35° 47′ 35″ N	LATITUDE	35° 47′ 39″ N
LONGITUDE	90° 56′ 54″ W	LONGITUDE	90° 56′ 04″ W	LONGITUDE	90° 55′ 14″ W

LENGTH COMPUTED ALONG HWY. 226 CENTERLINE

GROSS LENGTH OF PROJECT	8400.00	FEET	OR	1.591	MILES
NET	ROADWAY	8400.00			1.591	
NET	BRIDGES	0.00			0.000	
NET	PROJECT	8400.00			1.591	

P.E. 100412

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
05-08-2014				6	ARK.			
				JOB NO.		100676	2	116

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-8-14

INDEX OF SHEETS

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

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
108-1	LIQUIDATED DAMAGES
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
620-1	MULCH COVER
JOB 100676	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 100676	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 100676	COMPACTED EMBANKMENT
JOB 100676	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 100676	COORDINATION OF WORK
JOB 100676	DELAY IN RIGHT-OF-WAY OCCUPANCY
JOB 100676	DELAY OF ENTRY
JOB 100676	ELECTRONIC SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 100676	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 100676	MANDATORY USE OF INTERNET BIDDING
JOB 100676	PARTNERING REQUIREMENTS
JOB 100676	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS
JOB 100676	PLASTIC PIPE
JOB 100676	RESTRAINING CONDITION
JOB 100676	SOIL STABILIZATION
JOB 100676	STORM WATER POLLUTION PREVENTION PLAN
JOB 100676	SUBGRADE PREPARATION
JOB 100676	UTILITY ADJUSTMENTS
JOB 100676	VALUE ENGINEERING
JOB 100676	WARM MIX ASPHALT

GENERAL NOTES

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

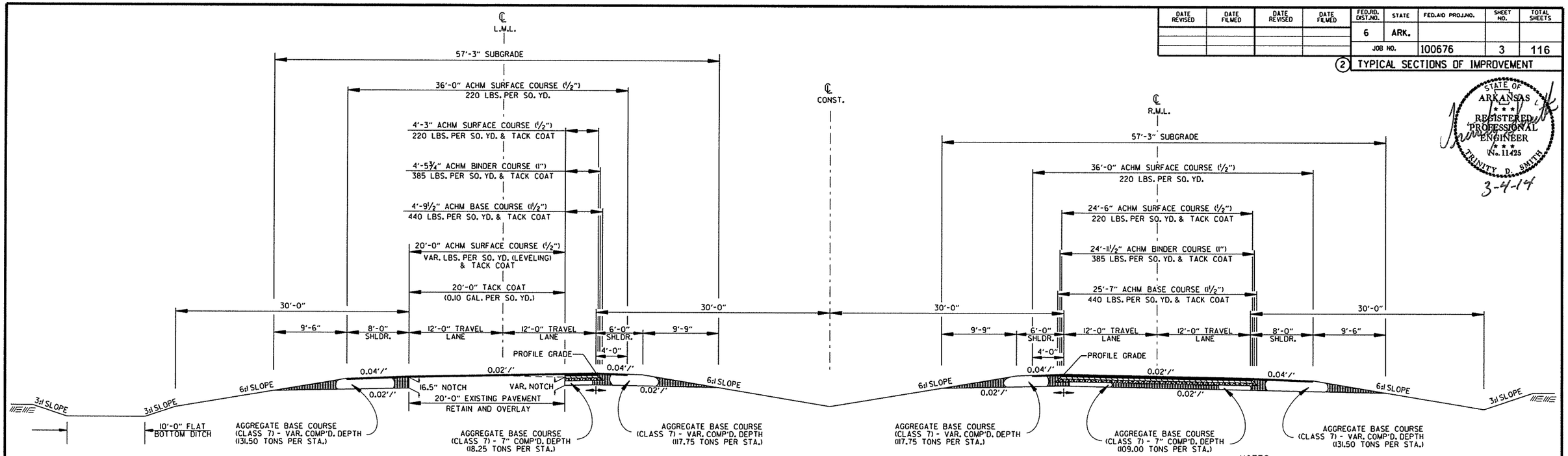
5/8/2014

R100676.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.		100676	3	116

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



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

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

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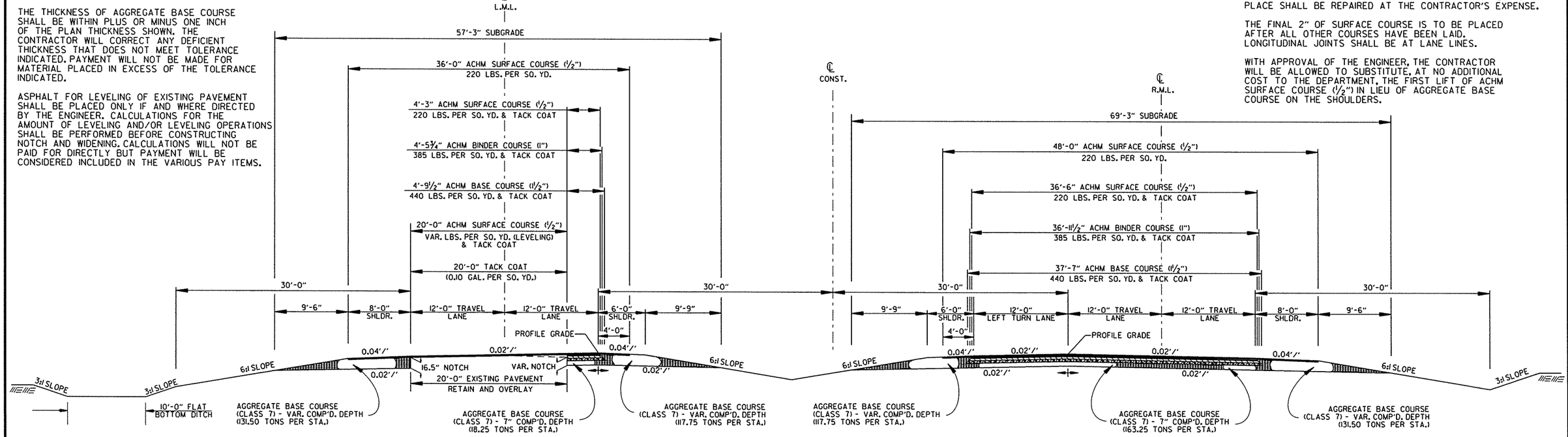
HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES NOTCH AND WIDEN SECTION
STA. 257+00.00 TO STA. 257+46.00

NOTES:
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.

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

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES NOTCH AND WIDEN - RT. MAIN LANES W./ LEFT TURN LANE
STA. 259+46.00 TO STA. 261+56.00

TYPICAL SECTIONS OF IMPROVEMENT

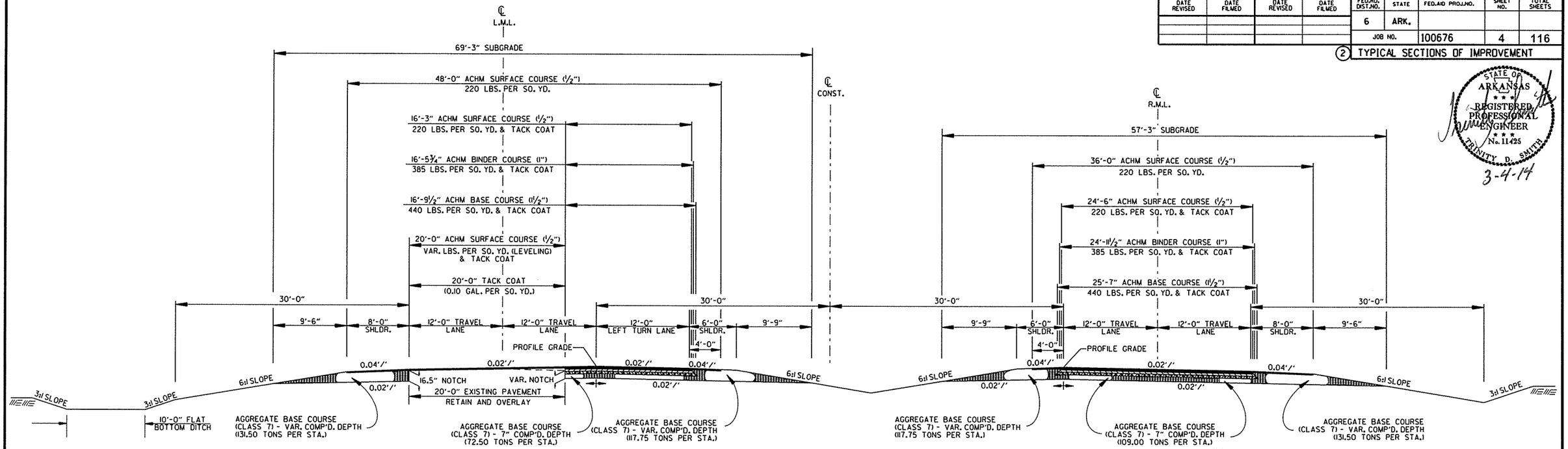
2/28/2014

R100676.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.		100676	4	116

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



NOTES:
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HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES NOTCH AND WIDEN W./ LEFT TURN LANE

STA. 262+44.00 TO STA. 264+00.00

NOTES:
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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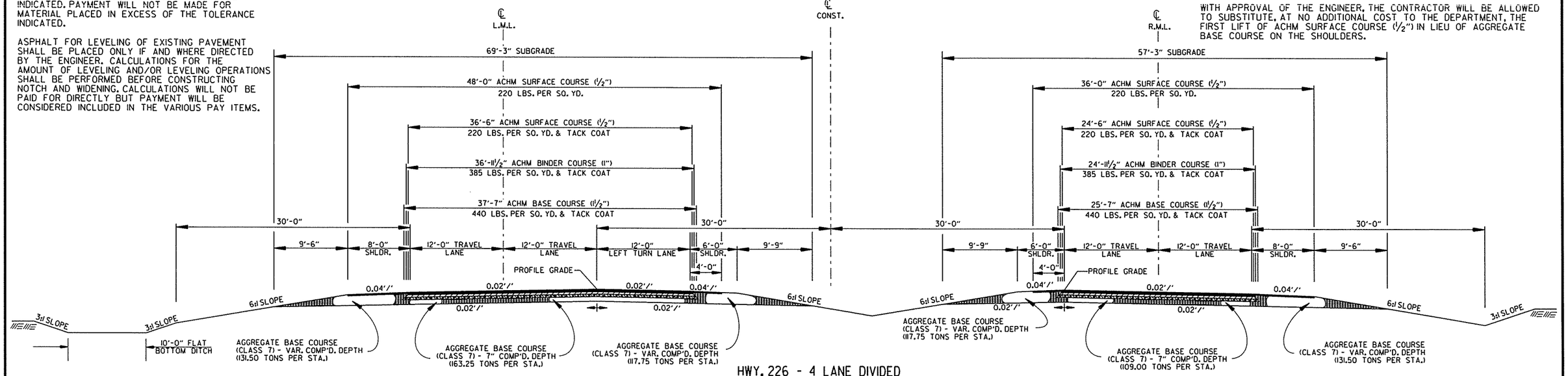


HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES W./ LEFT TURN LANE

STA. 264+00.00 TO STA. 264+54.00
STA. 290+51.79 TO STA. 291+30.00
STA. 314+89.49 TO STA. 315+35.00

TYPICAL SECTIONS OF IMPROVEMENT

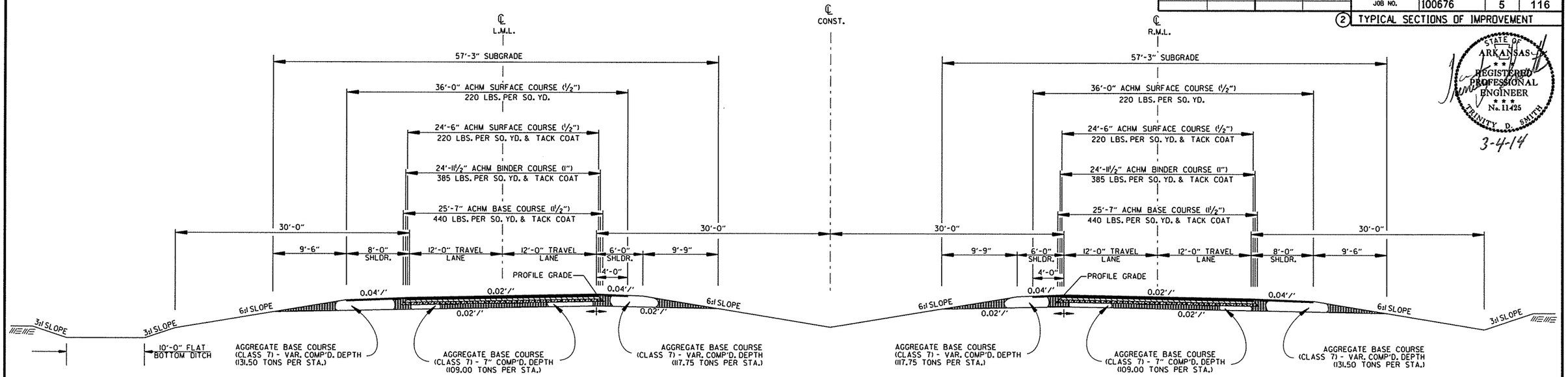
2/28/2014

R100676.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.		100676	5	116

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



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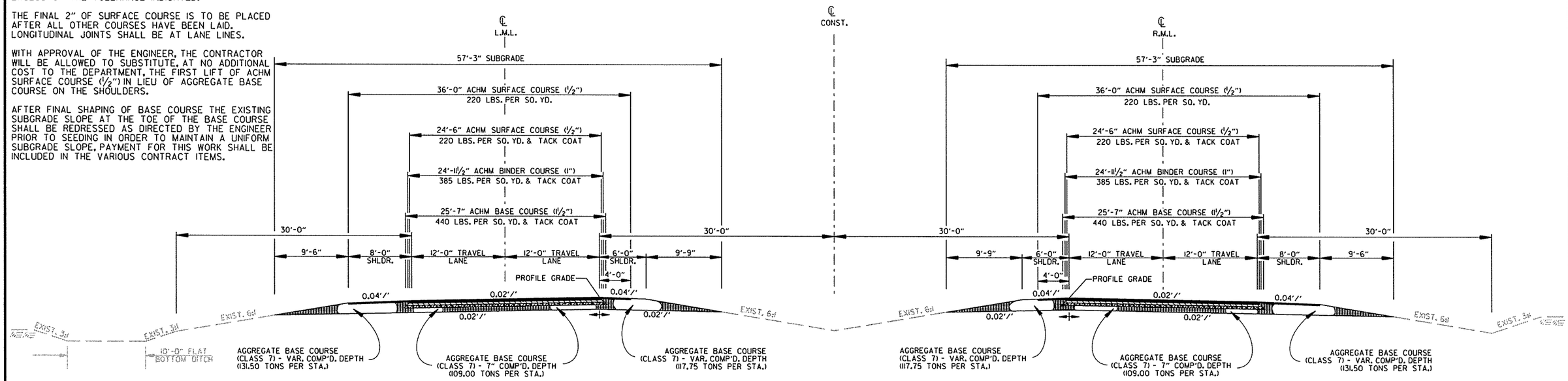
AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.

HWY. 226 - 4 LANE DIVIDED
FULL DEPTH SECTION

STA. 266+54.00 TO STA. 274+75.00
STA. 327+25.00 TO STA. 341+00.00



HWY. 226 - 4 LANE DIVIDED
FULL DEPTH SECTION

STA. 274+75.00 TO STA. 279+70.00
STA. 296+30.00 TO STA. 309+91.49
STA. 319+03.56 TO STA. 327+25.00

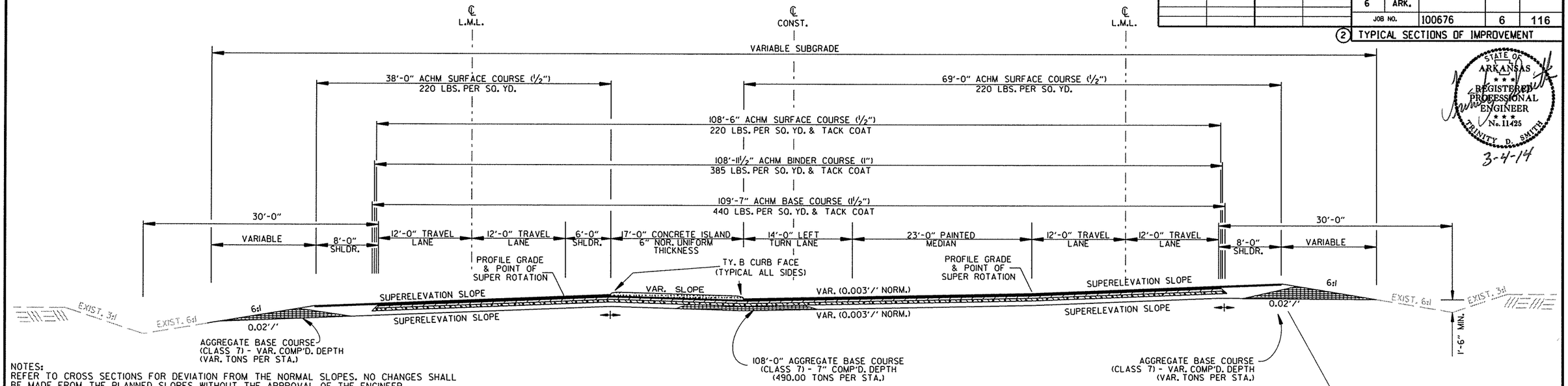
TYPICAL SECTIONS OF IMPROVEMENT

2/28/2014

R100676.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.		100676	6	116

(2) TYPICAL SECTIONS OF IMPROVEMENT



HWY. 226 - 4 LANE DIVIDED
RT. MAIN LANES W./ PARALLEL OFFSET LEFT TURN LANE
SUPERELEVATION SECTION
STA. 285+25 TO STA. 287+35

NOTES:
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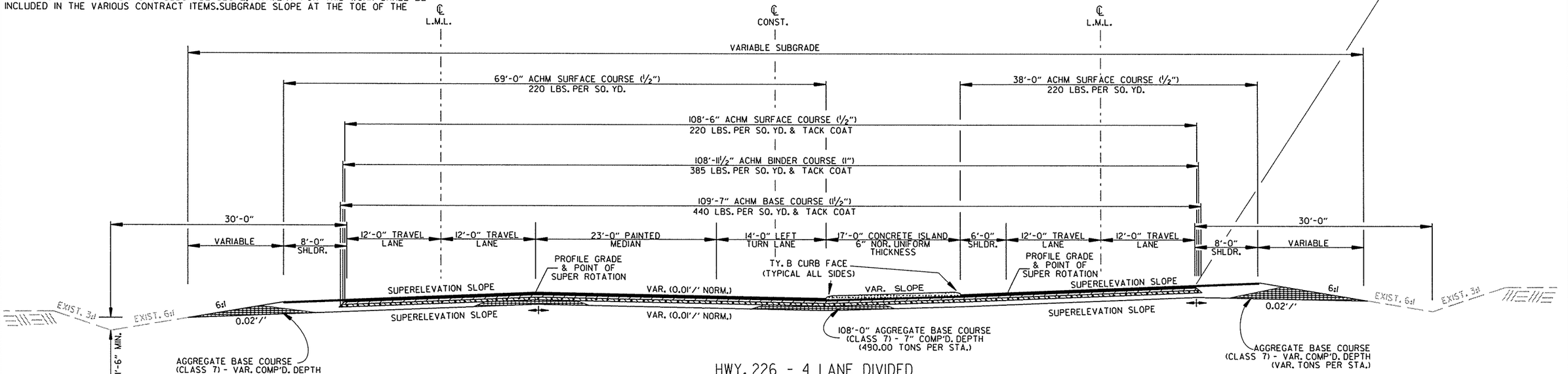
AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS. SUBGRADE SLOPE AT THE TOE OF THE

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



HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES W./ PARALLEL OFFSET LEFT TURN LANE
SUPERELEVATION SECTION
STA. 288+65 TO STA. 290+75

TYPICAL SECTIONS OF IMPROVEMENT

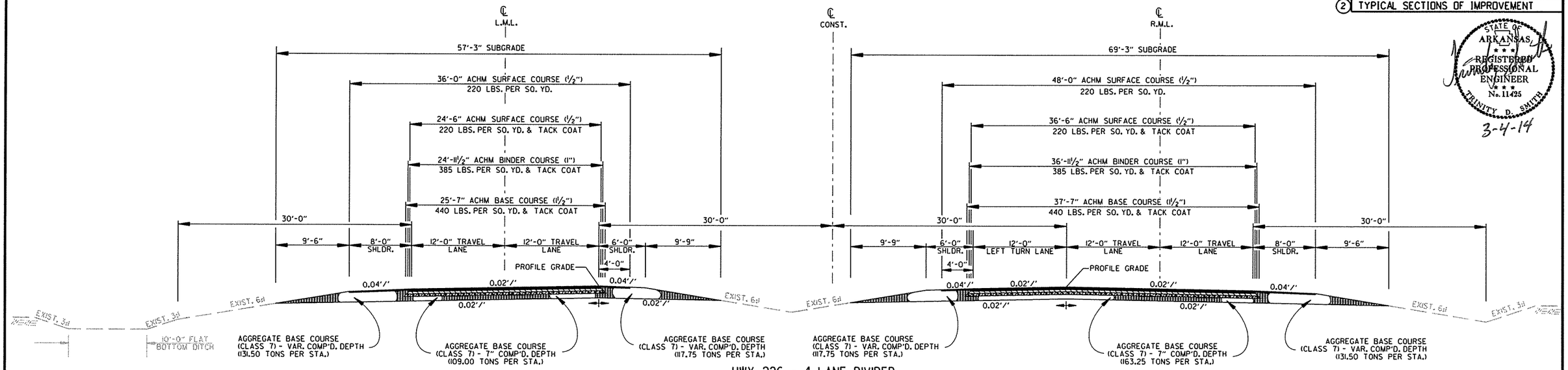
2/28/2014

R100676.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.		100676	7	116

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



HWY. 226 - 4 LANE DIVIDED
RT. MAIN LANES W./ LEFT TURN LANE

STA. 311+91.49 TO STA. 313+60.00

NOTES:
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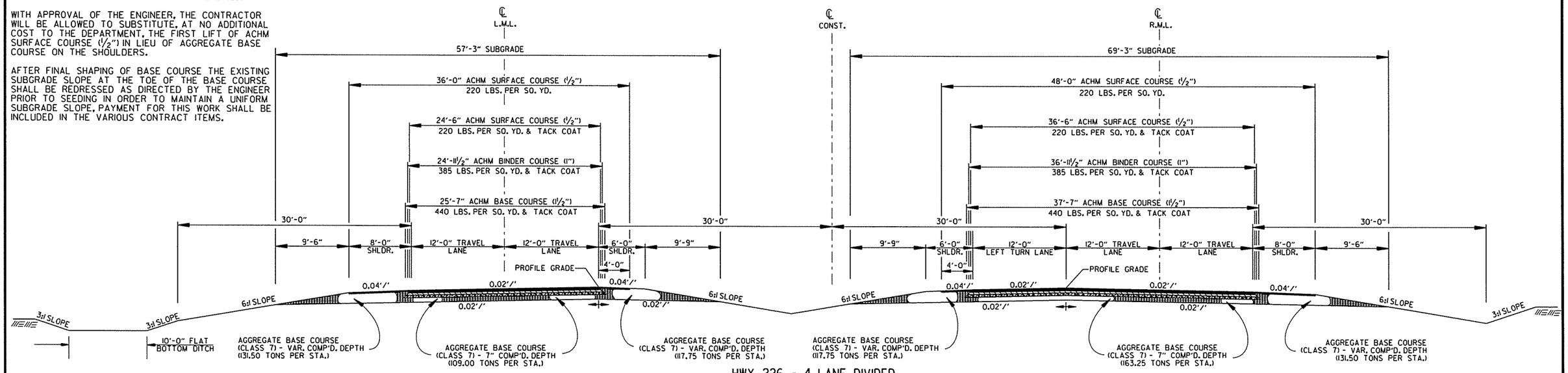

HWY. 226 - 4 LANE DIVIDED
RT. MAIN LANES W./ LEFT TURN LANE

STA. 313+60.00 TO STA. 314+01.49

TYPICAL SECTIONS OF IMPROVEMENT

2/28/2014

R100676.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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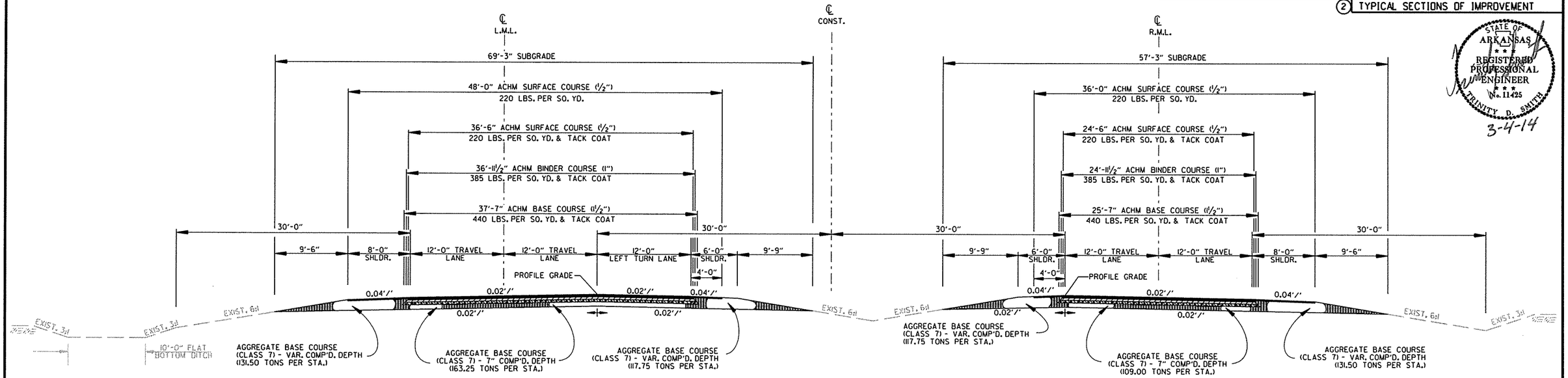
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES W./ LEFT TURN LANE

STA. 315+35.00 TO STA. 316+99.49

NOTES:
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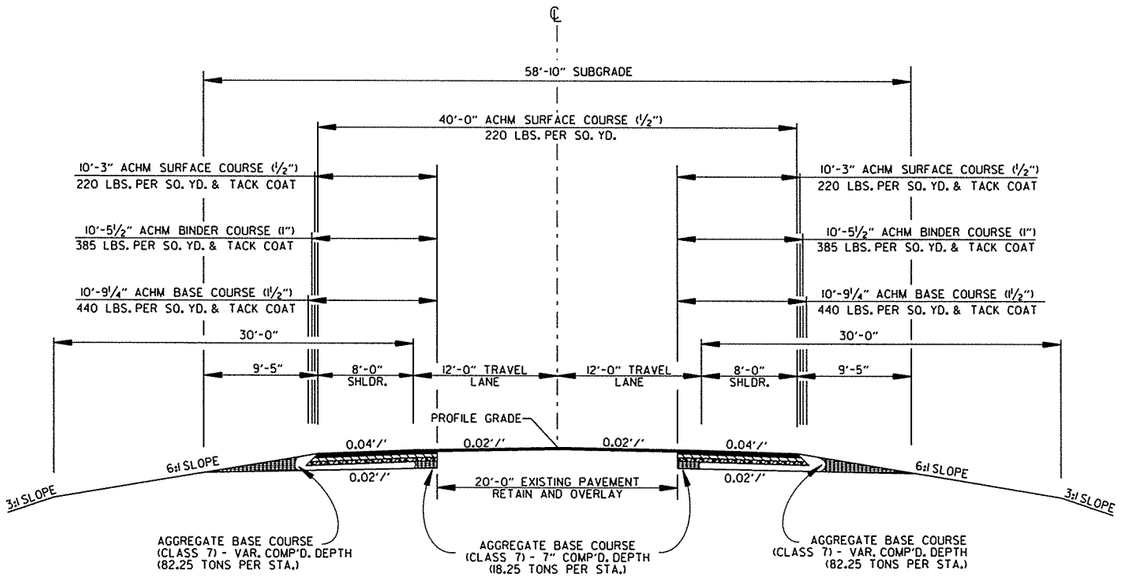
WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.



HWY. 18

STA. 11+00.00 TO STA. 11+07.98

2/28/2014

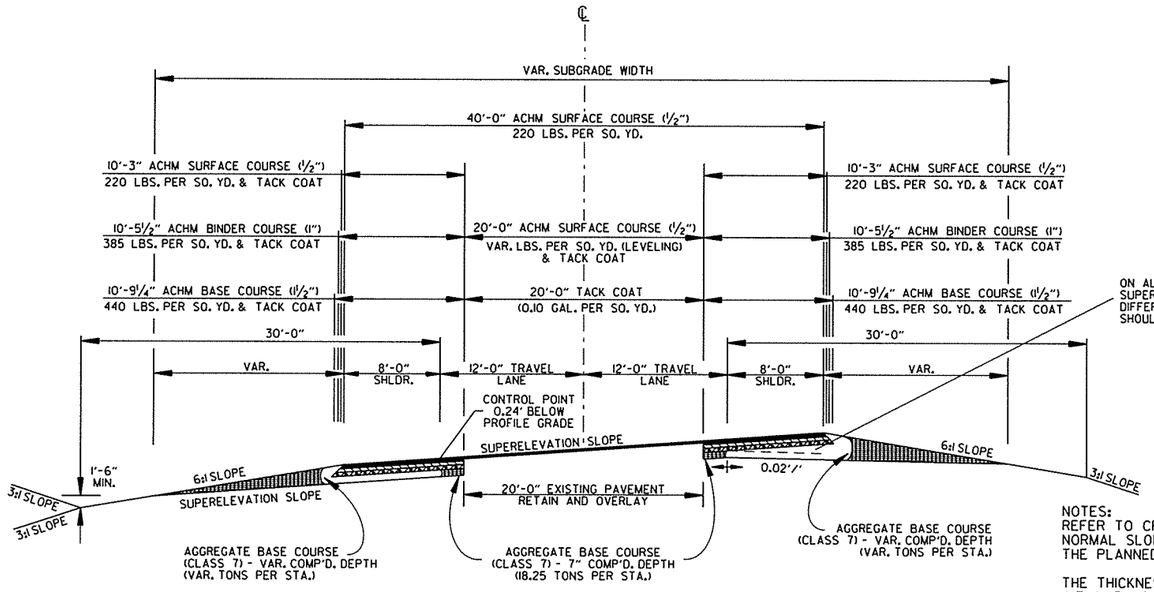
R100676.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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.		100676	9	116

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS. REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH
3-4-14



HWY. 18

STA. 11+07.98 TO STA. 12+50.00
STA. 20+90.00 TO STA. 22+00.00

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

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

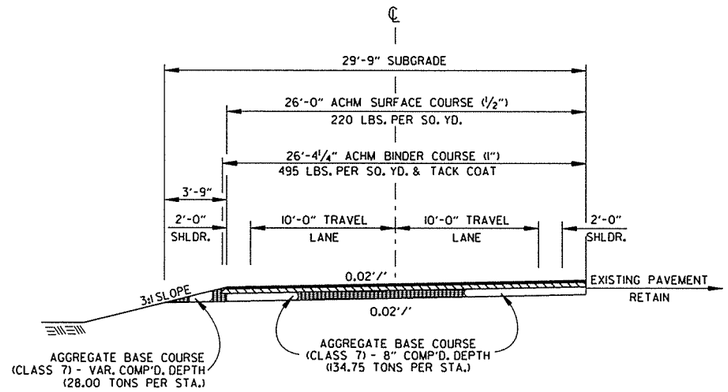
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

THE 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.

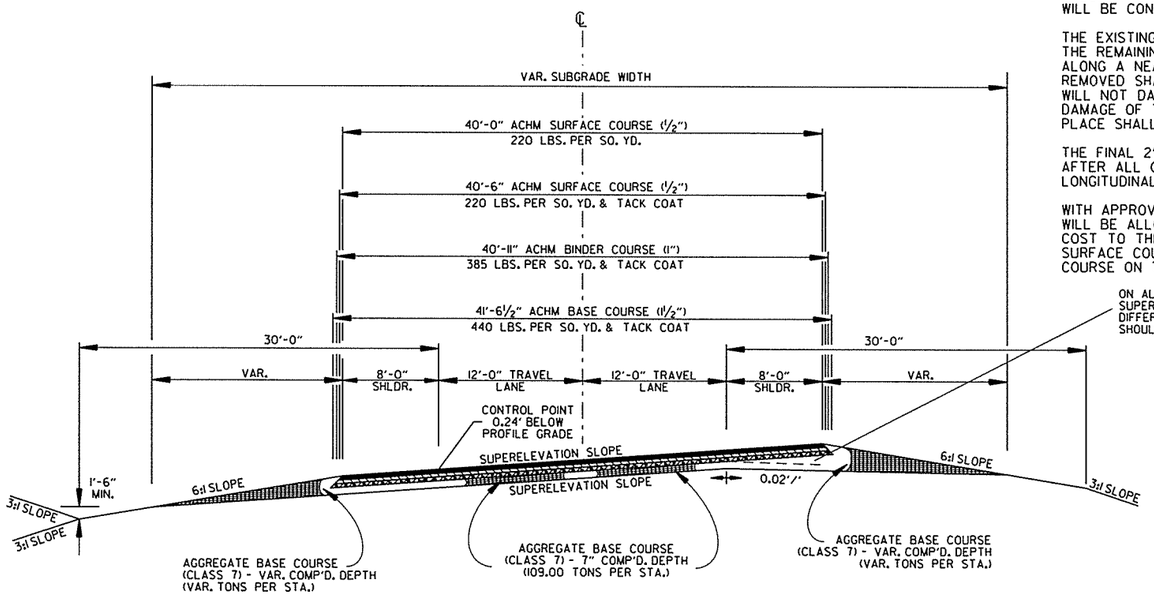
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



TEMPORARY WIDENING

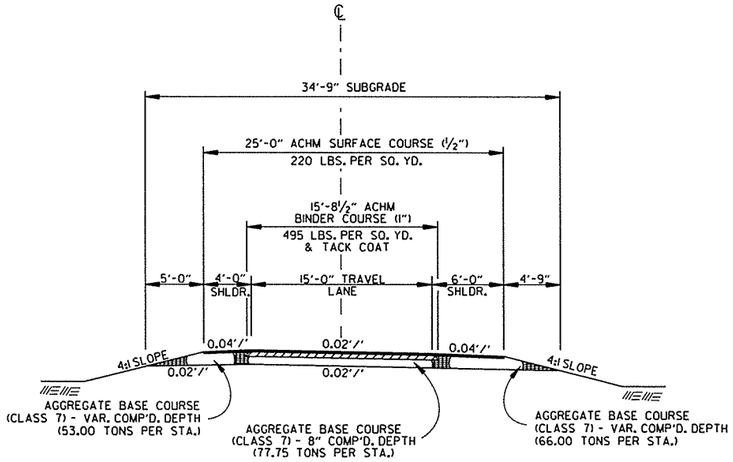
STA. 330+99 TO STA. 341+00



HWY. 18

STA. 12+50.00 TO STA. 14+69.47
STA. 15+77.47 TO STA. 20+90.00

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



TEMPORARY M.O.T. CROSSOVER

STA. 39+60.02 TO STA. 47+16.40

2/28/2014

R100676.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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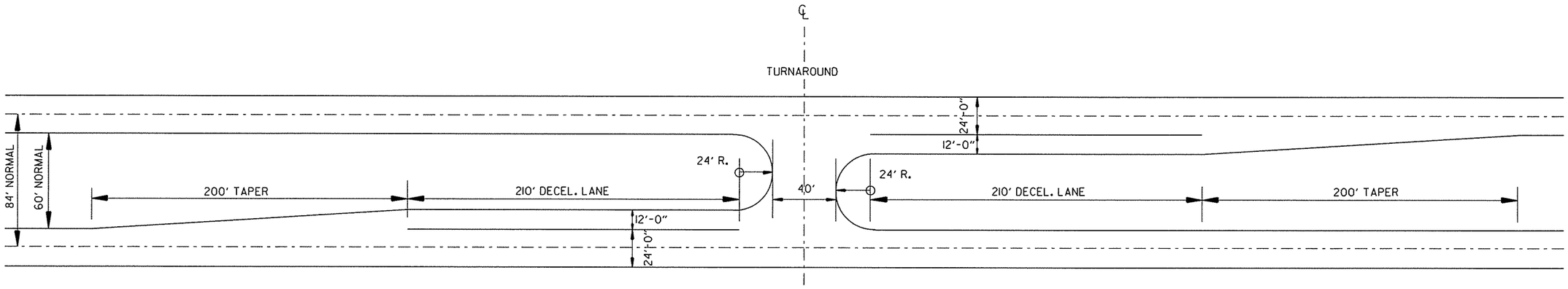
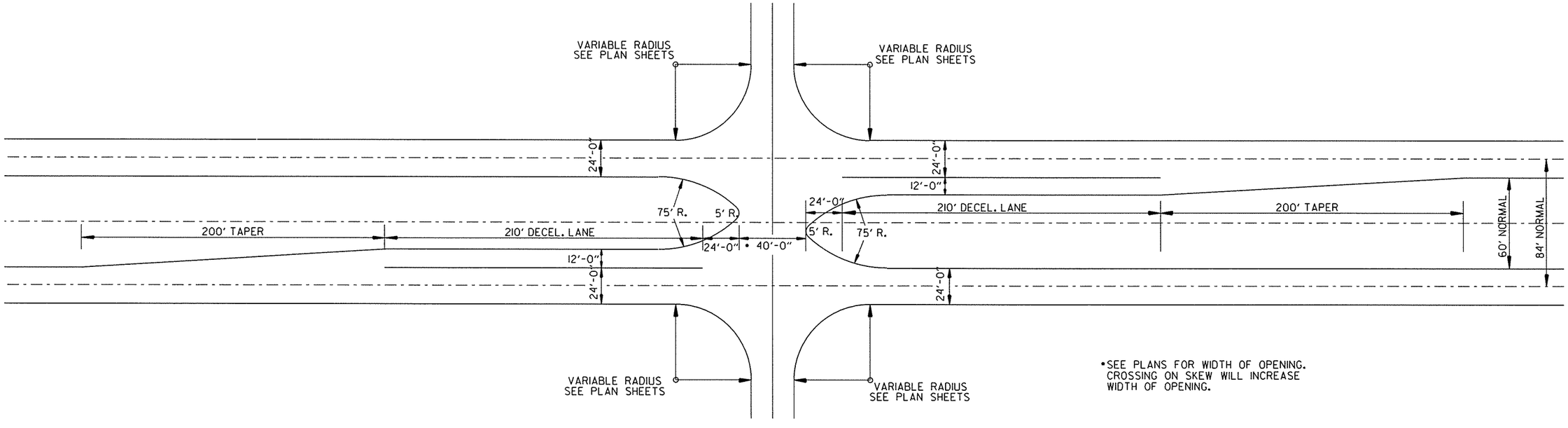
				6	ARK.			
				JOB NO.		100676	10	116

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



PLAN OF MEDIAN TURNAROUND



DETAIL OF HIGHWAY OR COUNTY ROAD CROSSING

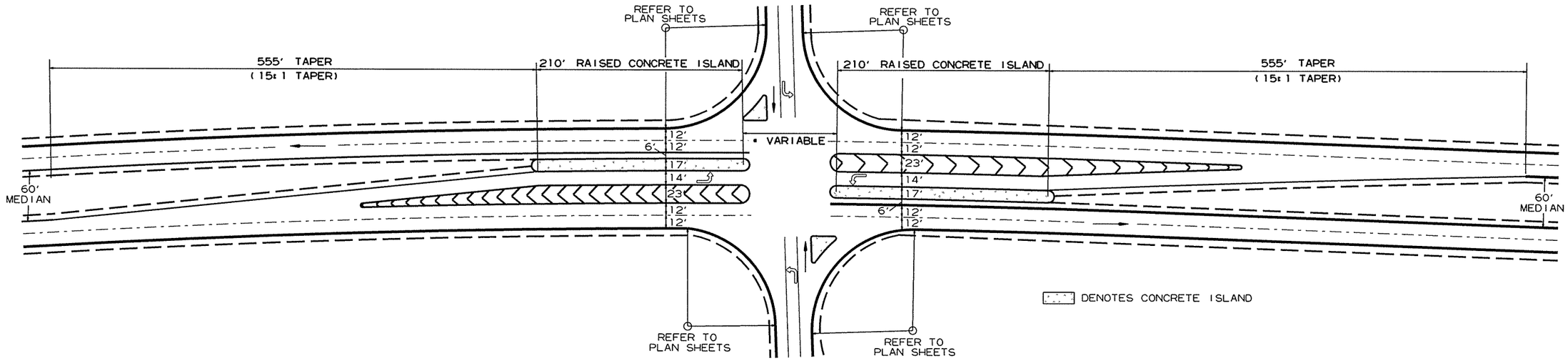
2/28/2014

R100676.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	11	116

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



DETAIL OF PARALLEL OFFSET LEFT-TURN LANES
60' MEDIAN

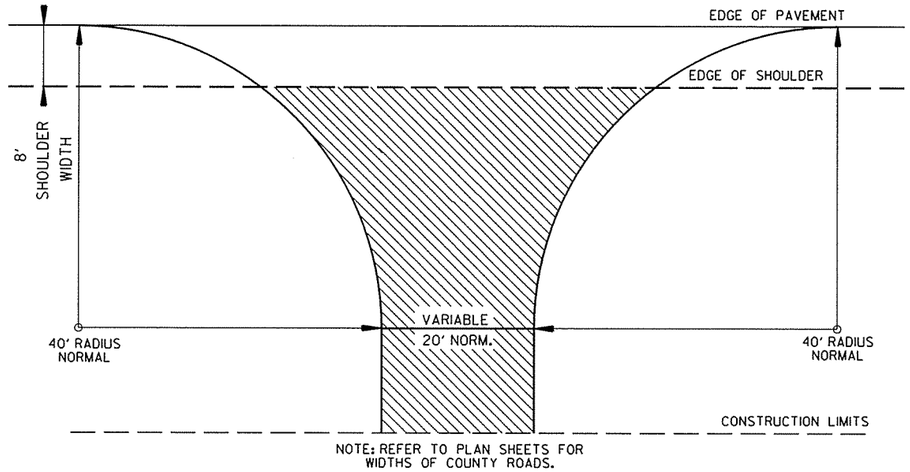
2/28/2014

R100676.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.		100676	12	116

(2) SPECIAL DETAILS

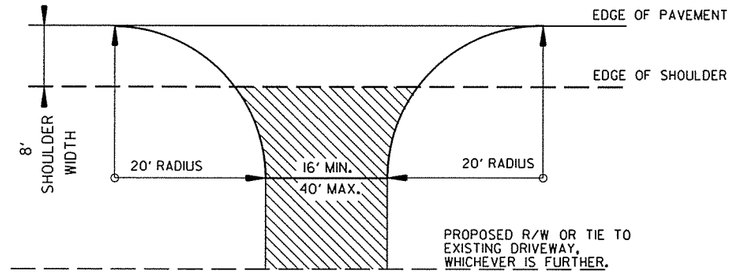
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



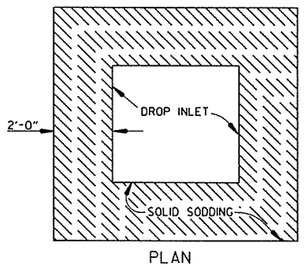
NOTE: REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUTS

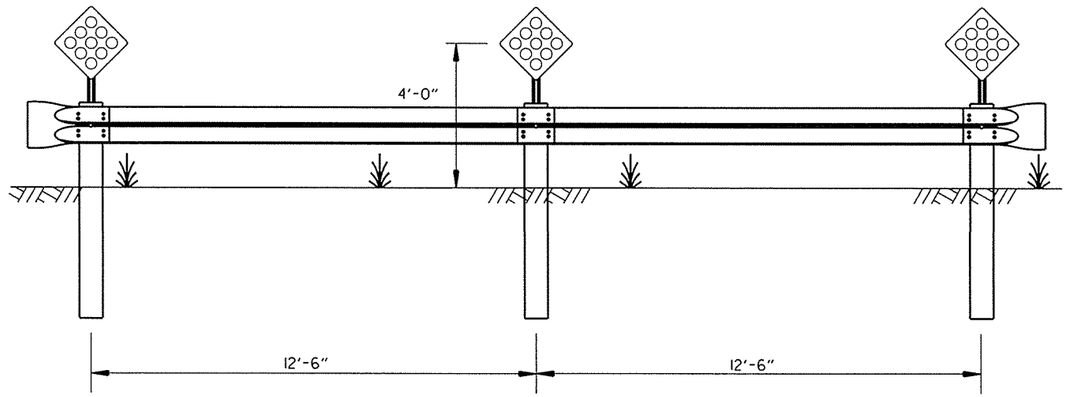
A.C.H.M SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING; OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.



DETAIL FOR DRIVEWAY TURNOUTS



DETAIL OF SOLID SODDING AROUND DROP INLET



CONSTRUCT 25 LIN. FT. TYPE "C" GUARDRAIL WITH 3 RED DIAMOND REFLECTORS MOUNTED ON U-CHANNEL POSTS DIRECTLY BEHIND THE GUARDRAIL AT A HEIGHT OF 4'-0".

ROAD CLOSED DETAIL

TO BE USED WHERE EXISTING ROADS WILL BE PERMANENTLY CLOSED. SEE PLAN SHEETS FOR LOCATIONS. SEE STD. DWG. GR-7 FOR MORE DETAILS.

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SPECIAL DETAILS

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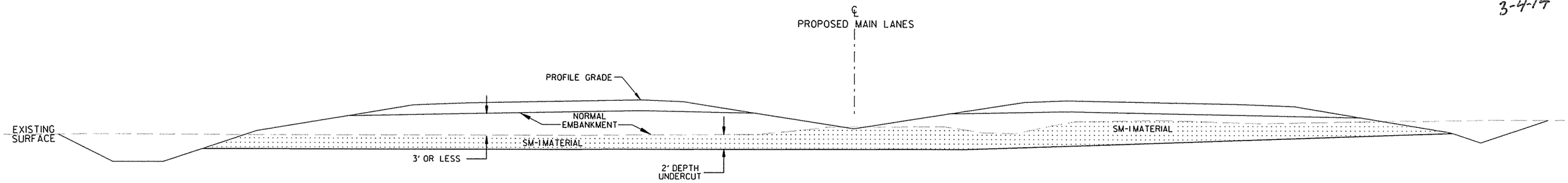
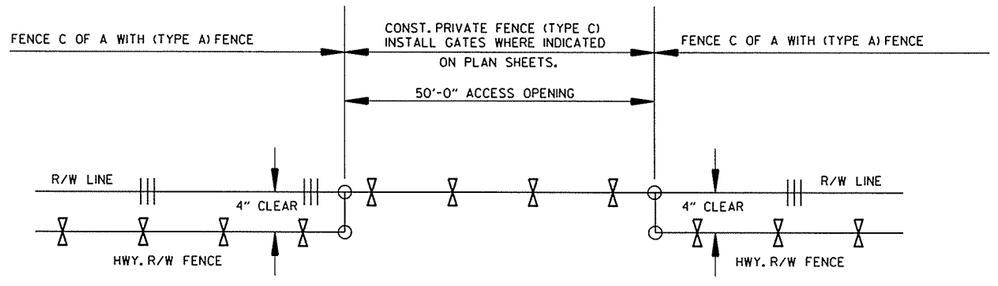
				6	ARK.			
				JOB NO.		100676	13	116

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



DETAIL OF EMBANKMENTS (3 FEET OR LESS)

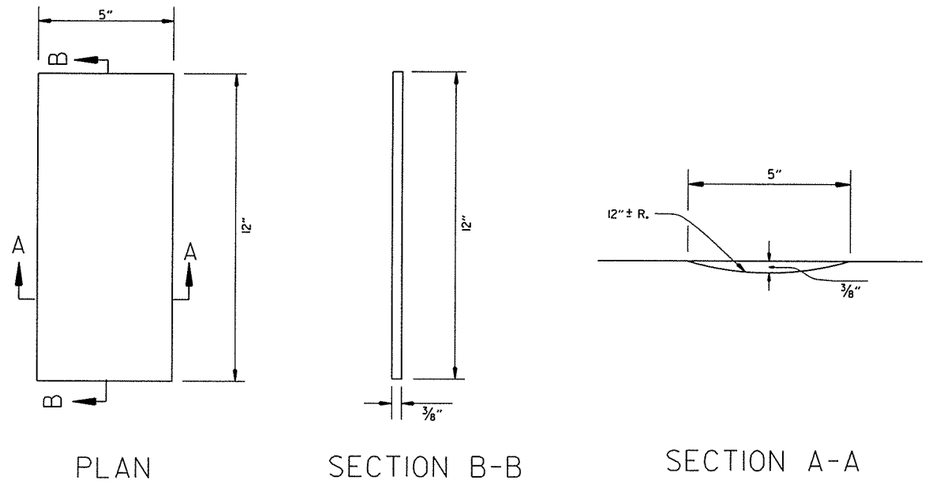


DETAIL OF ACCESS OPENINGS
(NO SCALE)

2/28/2014
R100676.DGN

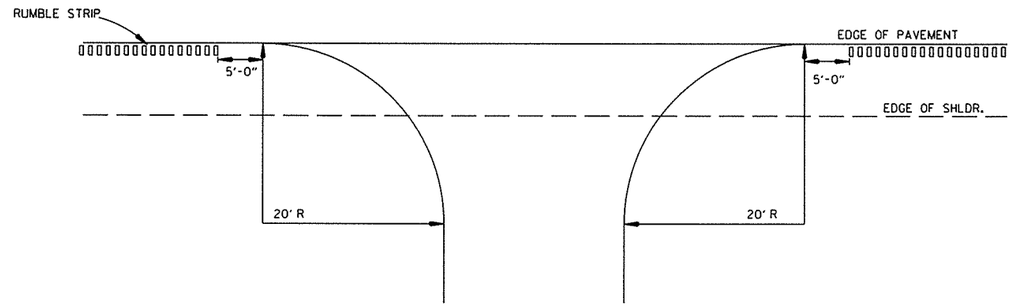
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	14	116

(2) SPECIAL DETAILS

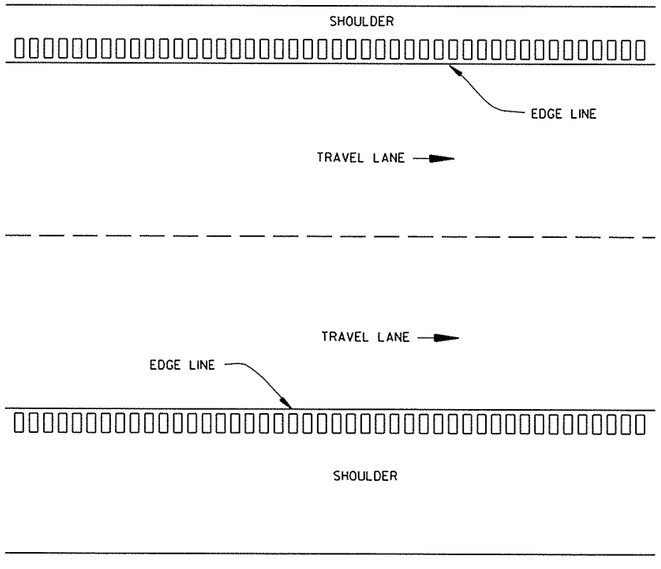


PLAN SECTION B-B SECTION A-A

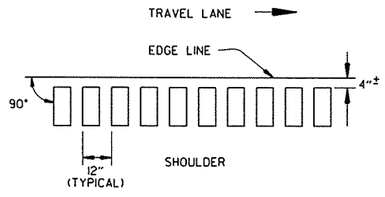
DETAILS OF RUMBLE STRIPS



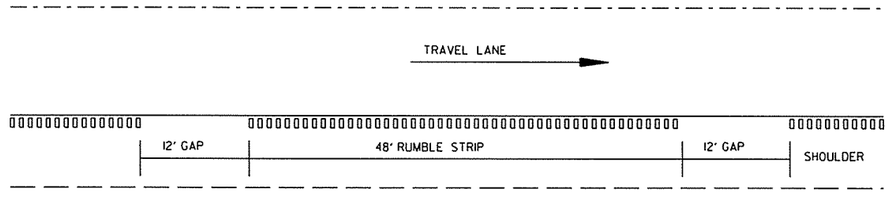
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



DETAIL FOR GAP PATTERN RUMBLE STRIP

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

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

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SPECIAL DETAILS

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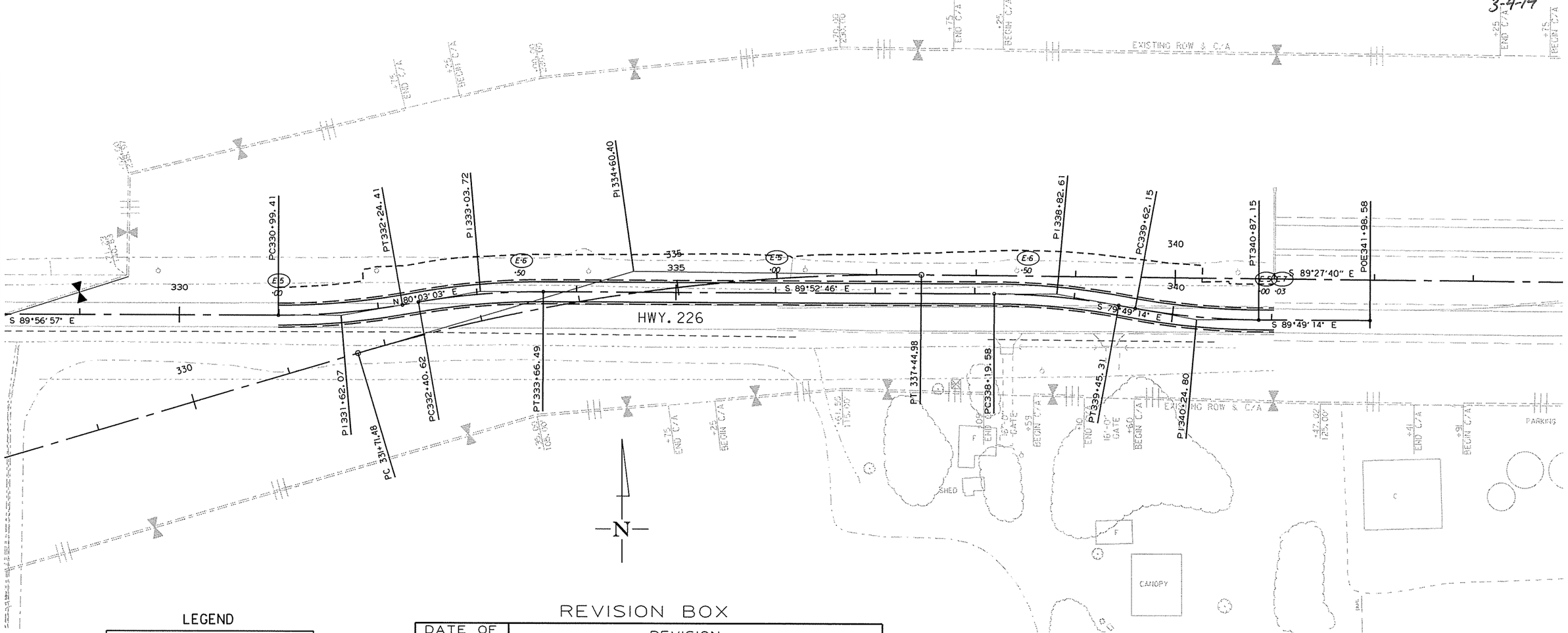
				6	ARK.			
				JOB NO.		100676	15	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE

REVISION BOX

DATE OF REVISION	REVISION

2/28/2014

R100676.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	16	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

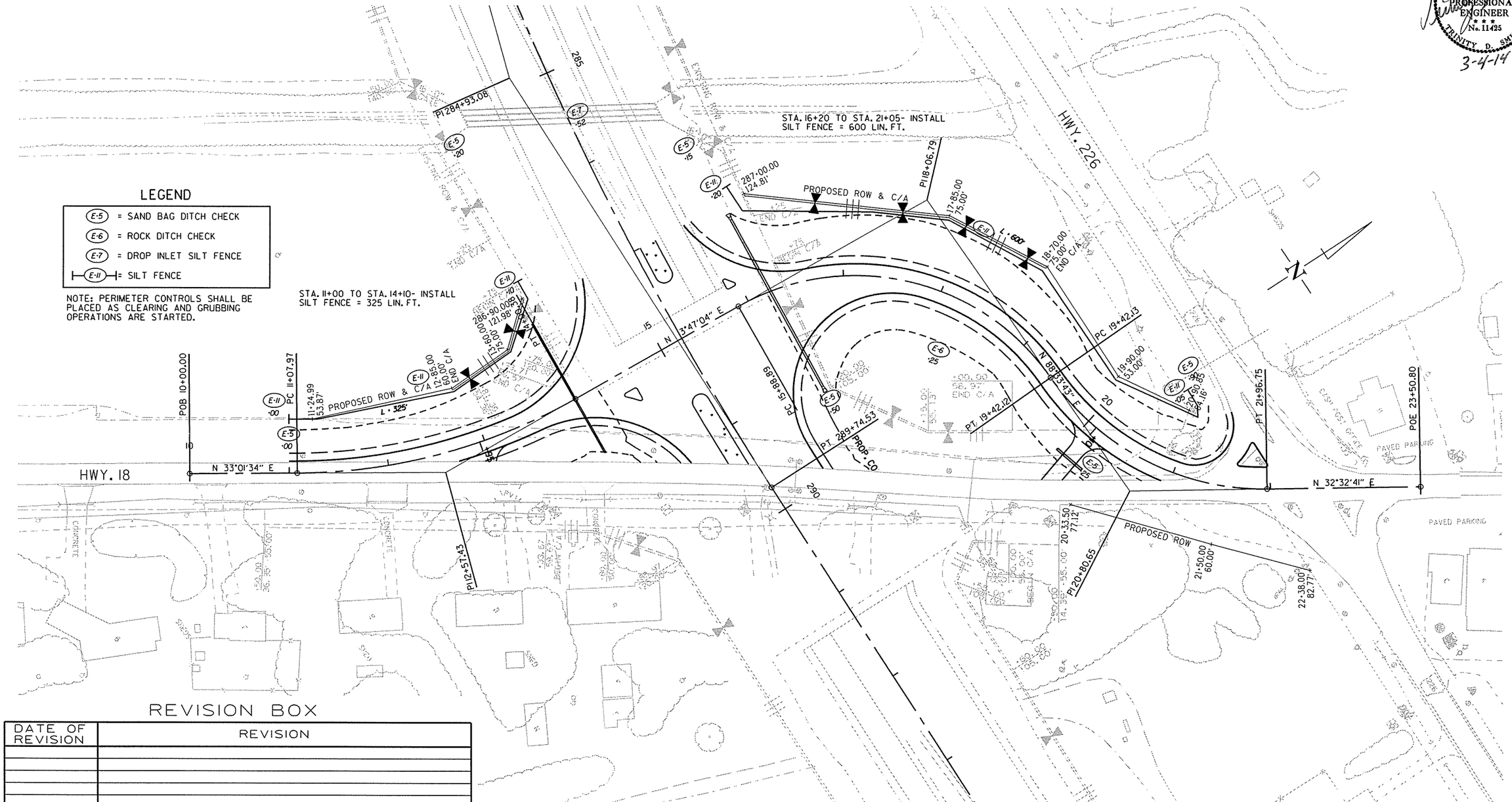
LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

STA. 11+00 TO STA. 14+10- INSTALL SILT FENCE = 325 LIN. FT.

STA. 16+20 TO STA. 21+05- INSTALL SILT FENCE = 600 LIN. FT.



REVISION BOX

DATE OF REVISION	REVISION

2/28/2014

R100676.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	17	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
TRINITY D. SMITH
REGISTERED PROFESSIONAL ENGINEER
No. 11425
3-4-14

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE

REVISION BOX

DATE OF REVISION	REVISION

HWY. 226

PROP. CONST. LIMITS

EXISTING ROW & C/A

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

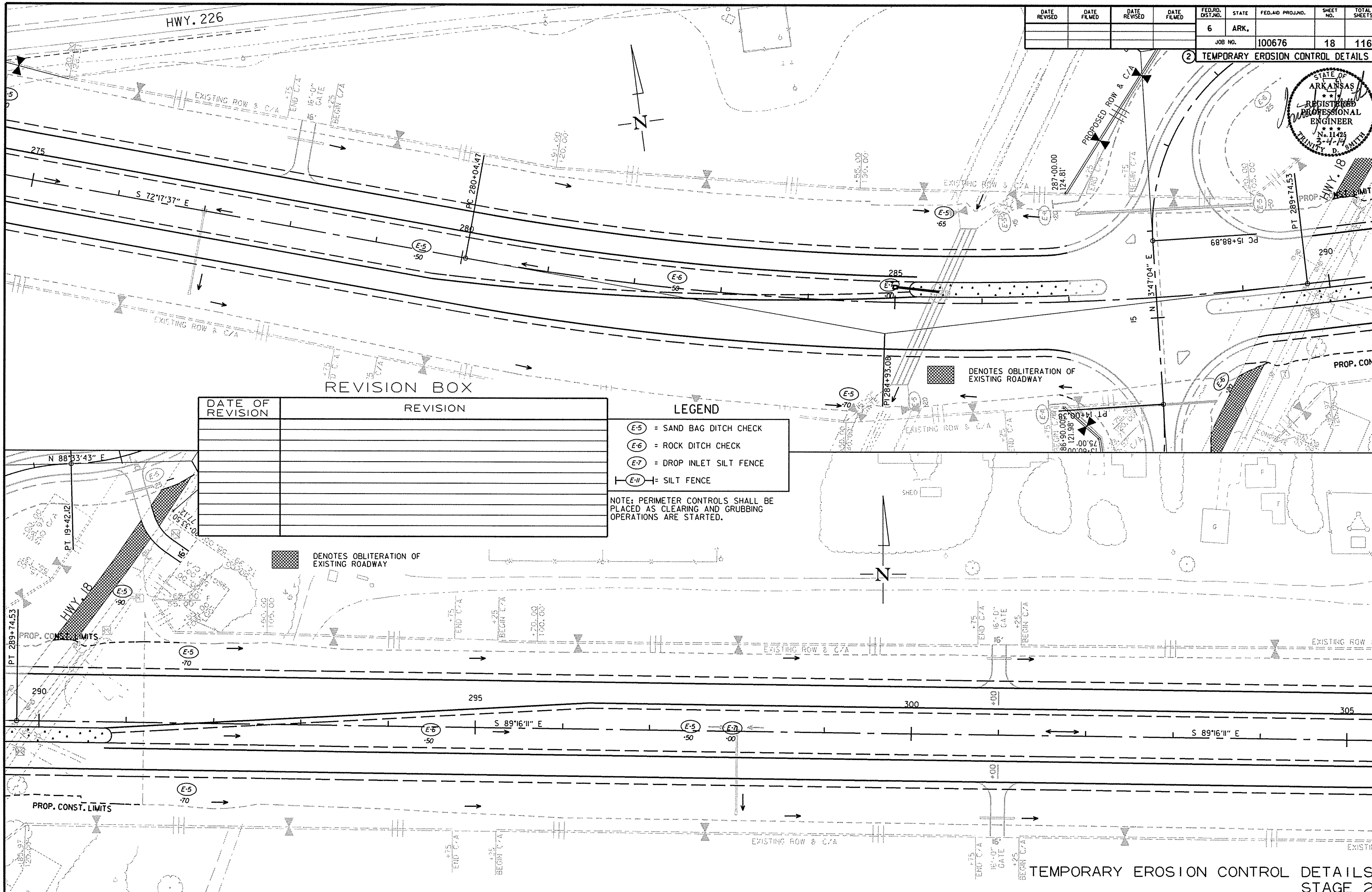
2/28/2014

R100676.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.		100676	18	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 3-4-14



REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

DENOTES OBLITERATION OF EXISTING ROADWAY

DENOTES OBLITERATION OF EXISTING ROADWAY

TEMPORARY EROSION CONTROL DETAILS STAGE 2

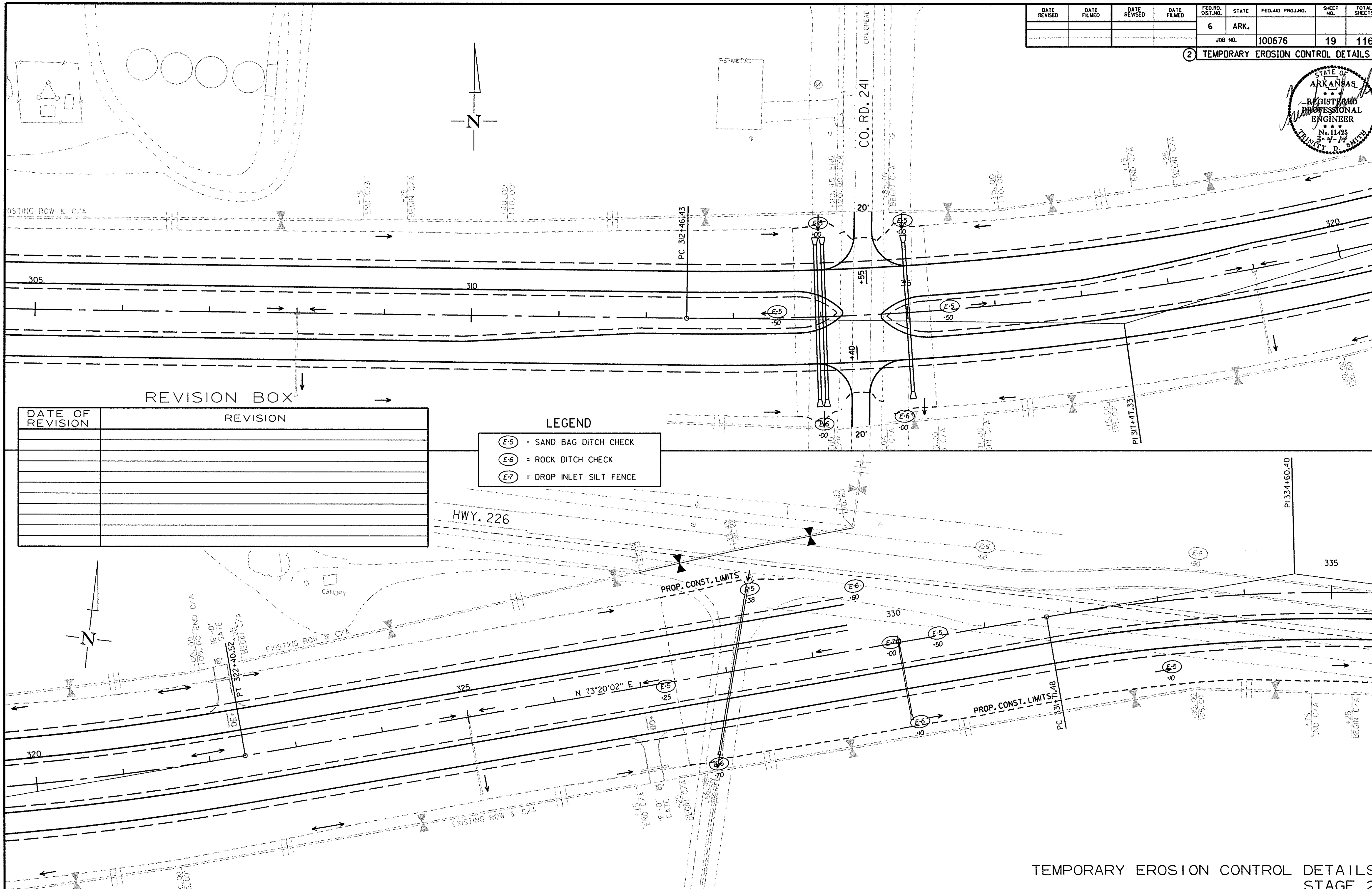
2/28/2014

R100676.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.		100676	19	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 3-4-14 TRINITY D. SMITH



REVISION BOX

DATE OF REVISION	REVISION

LEGEND

E-5	= SAND BAG DITCH CHECK
E-6	= ROCK DITCH CHECK
E-7	= DROP INLET SILT FENCE

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

2/28/2014

R100676.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.		100676	20	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

DENOTES OBLITERATION OF EXISTING ROADWAY

REVISION BOX

DATE OF REVISION	REVISION

HWY. 226 — S 89°27'40" E

HWY. 18 — N 33°01'34" E

N 3°47'04" E

N 88°25'43" E

N 32°32'41" E

PROPOSED ROW & C/A

PROP. CONST. LIMITS

EXISTING ROW & C/A

PARKING

PAVED PARKING

STA. 21+20 TO STA. 22+45- INSTALL SILT FENCE = 145 LIN. FT.

TEMPORARY EROSION CONTROL DETAILS STAGE 2

2/28/2014

R100676.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.		100676	21	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-4-14
TRINITY D. SMITH

N

VACANT

PARKING

HWY. 226

S 89°09'09" E

S 89°16'07" E

S 89°07'12" E

S 89°14'40" E

PI 249+49.14
Δ=0° 6' 59" LT.

PI 255+06.86
Δ=0° 8' 56" RT.

PI 263+11.79
Δ=0° 7' 28" LT.

PI 270+96.16

PC 268+11.57

PT 273+76.60

PROP. CONST. LIMITS

EXISTING ROW & C/A

16'-0" GATE

BEGIN C/A

END C/A

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE

DENOTES OBLITERATION OF EXISTING ROADWAY

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

2/28/2014

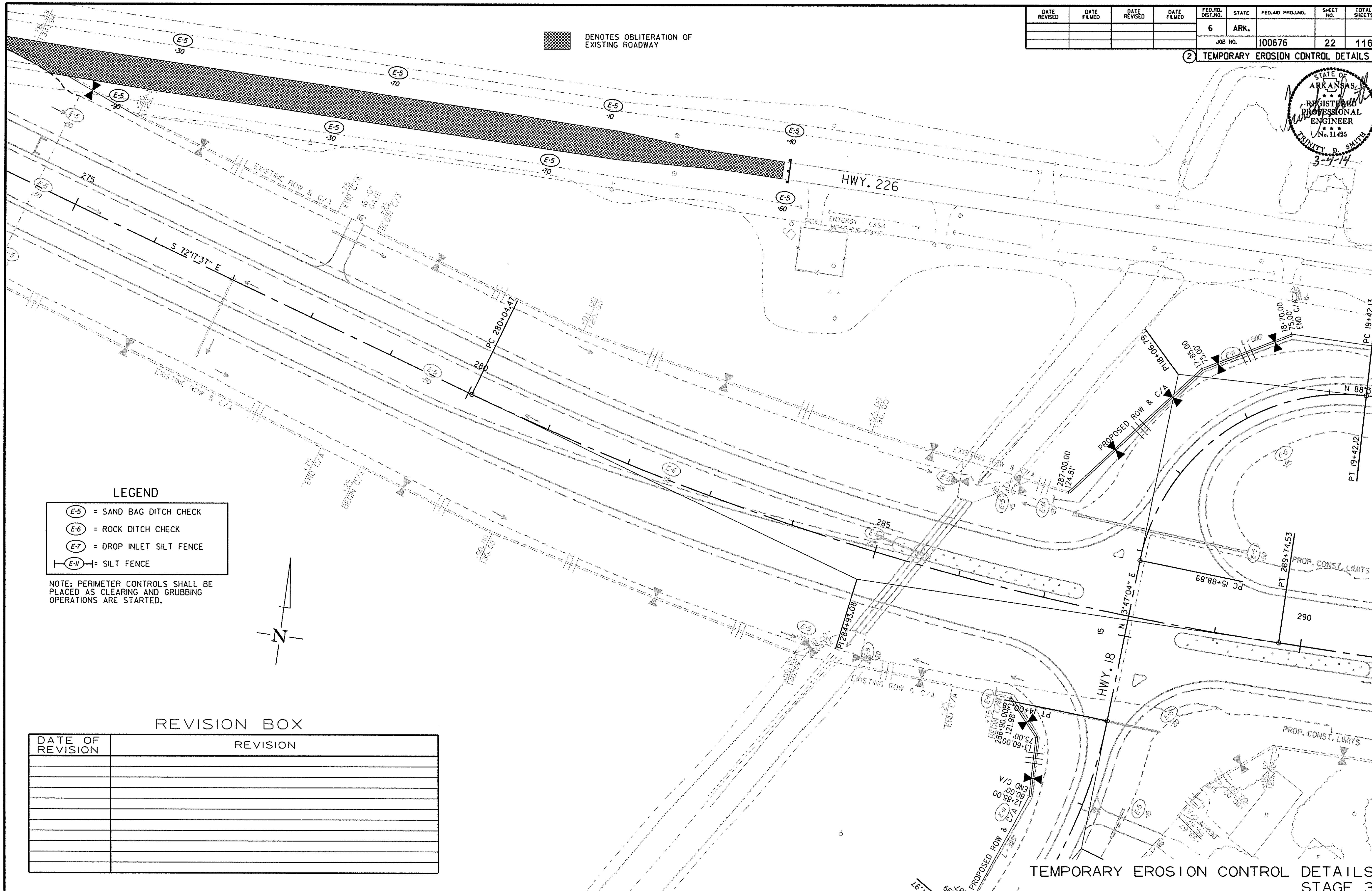
R100676.DGN

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.		100676	22	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 3-4-14

DENOTES OBLITERATION OF EXISTING ROADWAY



LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
(E-11)	= SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

N

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

2/28/2014

R100676.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.		100676	23	116

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

DENOTES OBLITERATION OF EXISTING ROADWAY

HWY. 226

PROP. CONST. LIMITS

PI 334+60.40

PC 331+71.48

PI 337+44.98

S 89°27'40" E

EXISTING ROW & C/A

CANOPY

SHED

POND

LEGEND

E-5	= SAND BAG DITCH CHECK
E-6	= ROCK DITCH CHECK
E-7	= DROP INLET SILT FENCE

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

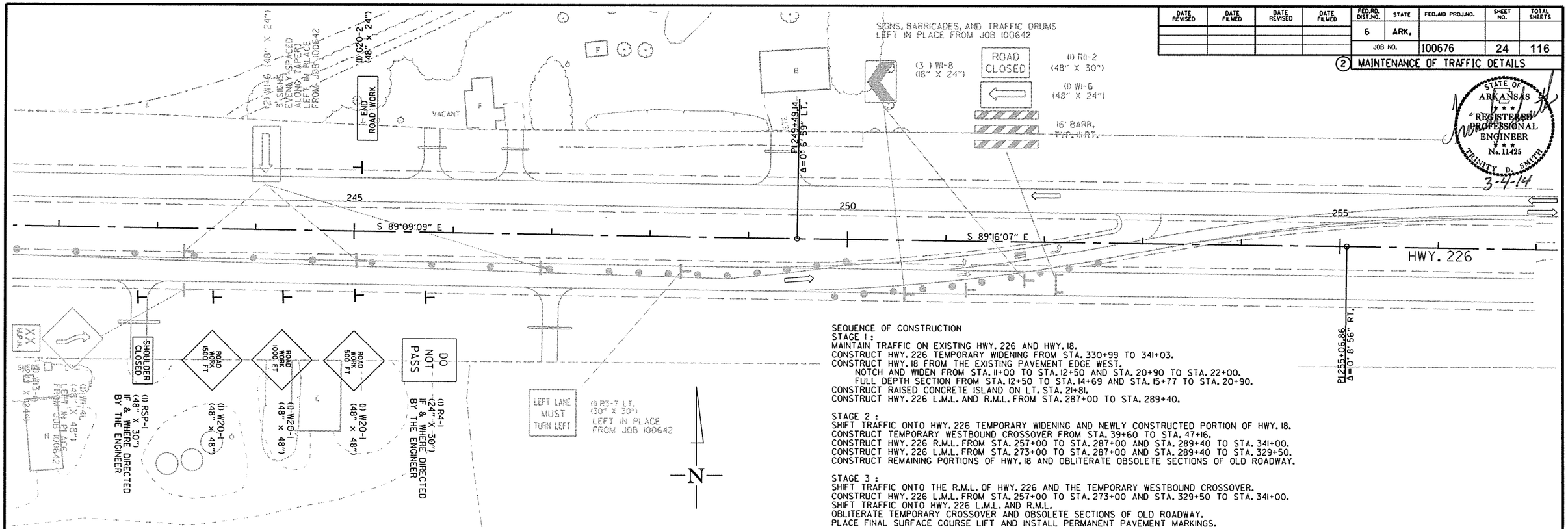
2/28/2014

R100676.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.		100676	24	116

(2) MAINTENANCE OF TRAFFIC DETAILS

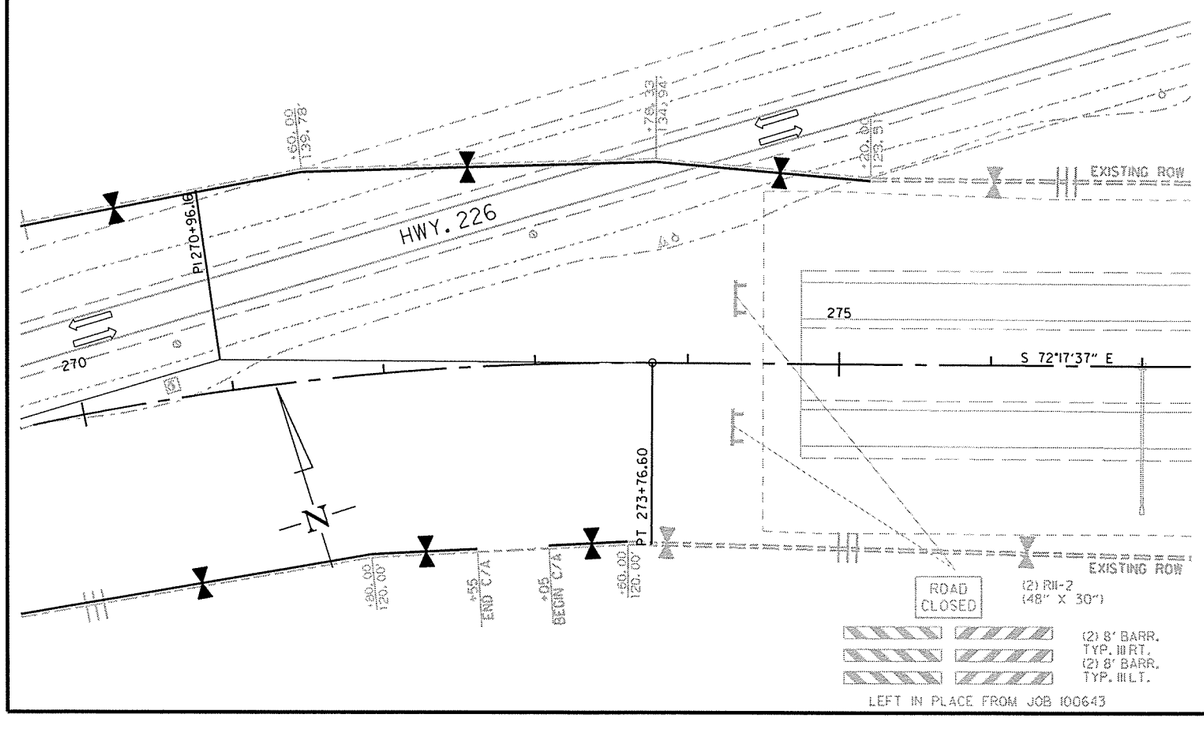
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

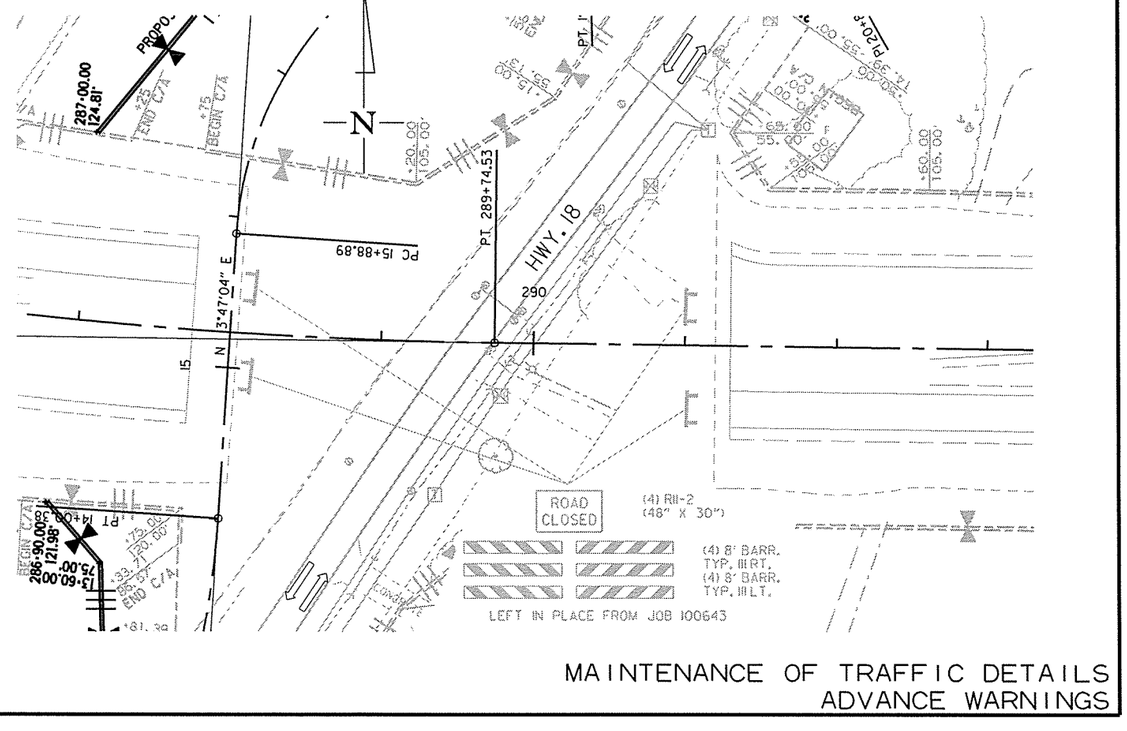


SEQUENCE OF CONSTRUCTION
STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226 AND HWY. 18.
CONSTRUCT HWY. 226 TEMPORARY WIDENING FROM STA. 330+99 TO 341+03.
CONSTRUCT HWY. 18 FROM THE EXISTING PAVEMENT EDGE WEST.
NOTCH AND WIDEN FROM STA. 11+00 TO STA. 12+50 AND STA. 20+90 TO STA. 22+00.
FULL DEPTH SECTION FROM STA. 12+50 TO STA. 14+69 AND STA. 15+77 TO STA. 20+90.
CONSTRUCT RAISED CONCRETE ISLAND ON LT. STA. 21+81.
CONSTRUCT HWY. 226 L.M.L. AND R.M.L. FROM STA. 287+00 TO STA. 289+40.

STAGE 2 :
SHIFT TRAFFIC ONTO HWY. 226 TEMPORARY WIDENING AND NEWLY CONSTRUCTED PORTION OF HWY. 18.
CONSTRUCT TEMPORARY WESTBOUND CROSSOVER FROM STA. 39+60 TO STA. 47+16.
CONSTRUCT HWY. 226 R.M.L. FROM STA. 257+00 TO STA. 287+00 AND STA. 289+40 TO STA. 341+00.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 273+00 TO STA. 287+00 AND STA. 289+40 TO STA. 329+50.
CONSTRUCT REMAINING PORTIONS OF HWY. 18 AND OBLITERATE OBSOLETE SECTIONS OF OLD ROADWAY.

STAGE 3 :
SHIFT TRAFFIC ONTO THE R.M.L. OF HWY. 226 AND THE TEMPORARY WESTBOUND CROSSOVER.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 257+00 TO STA. 273+00 AND STA. 329+50 TO STA. 341+00.
SHIFT TRAFFIC ONTO HWY. 226 L.M.L. AND R.M.L.
OBLITERATE TEMPORARY CROSSOVER AND OBSOLETE SECTIONS OF OLD ROADWAY.
PLACE FINAL SURFACE COURSE LIFT AND INSTALL PERMANENT PAVEMENT MARKINGS.





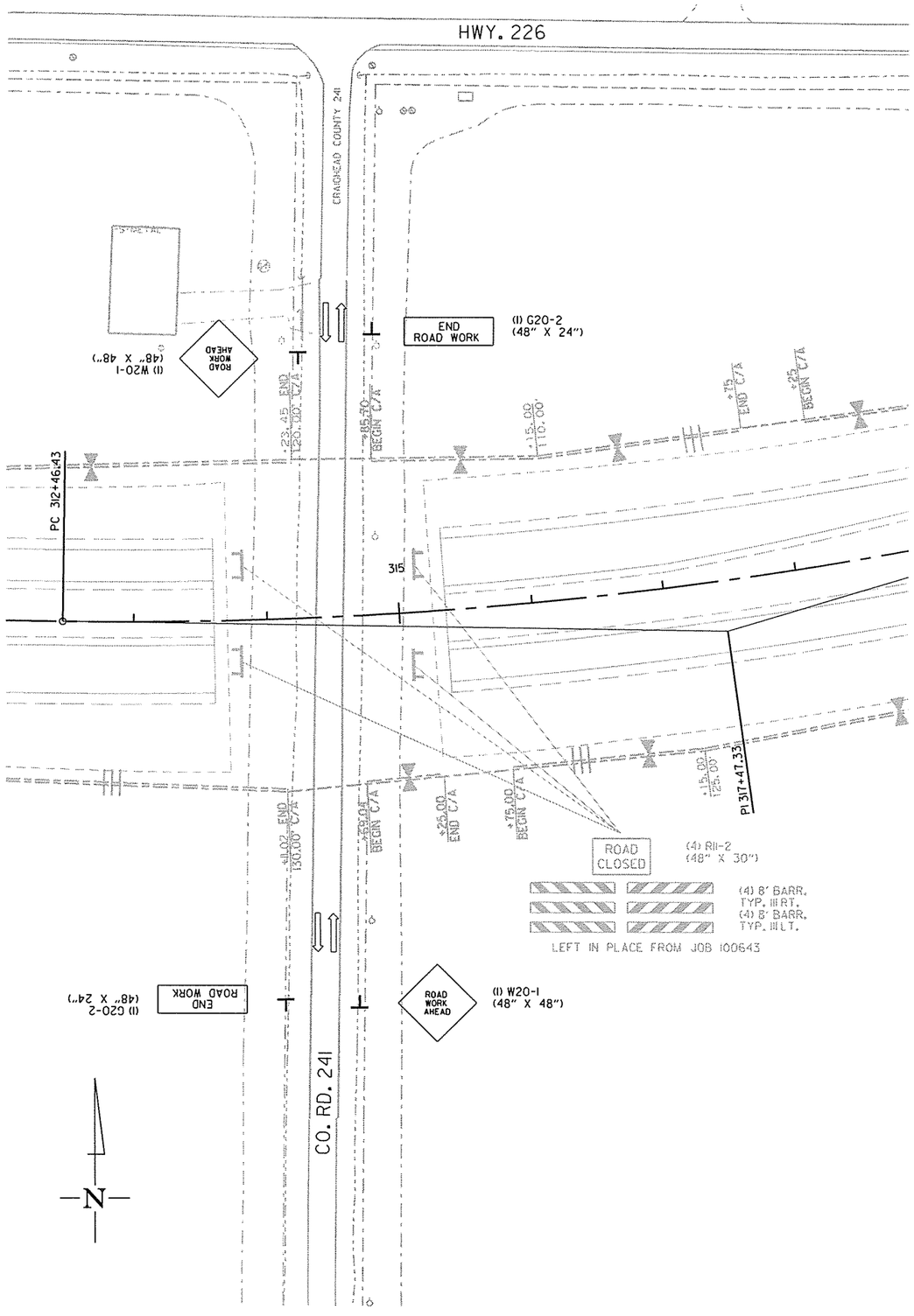
MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

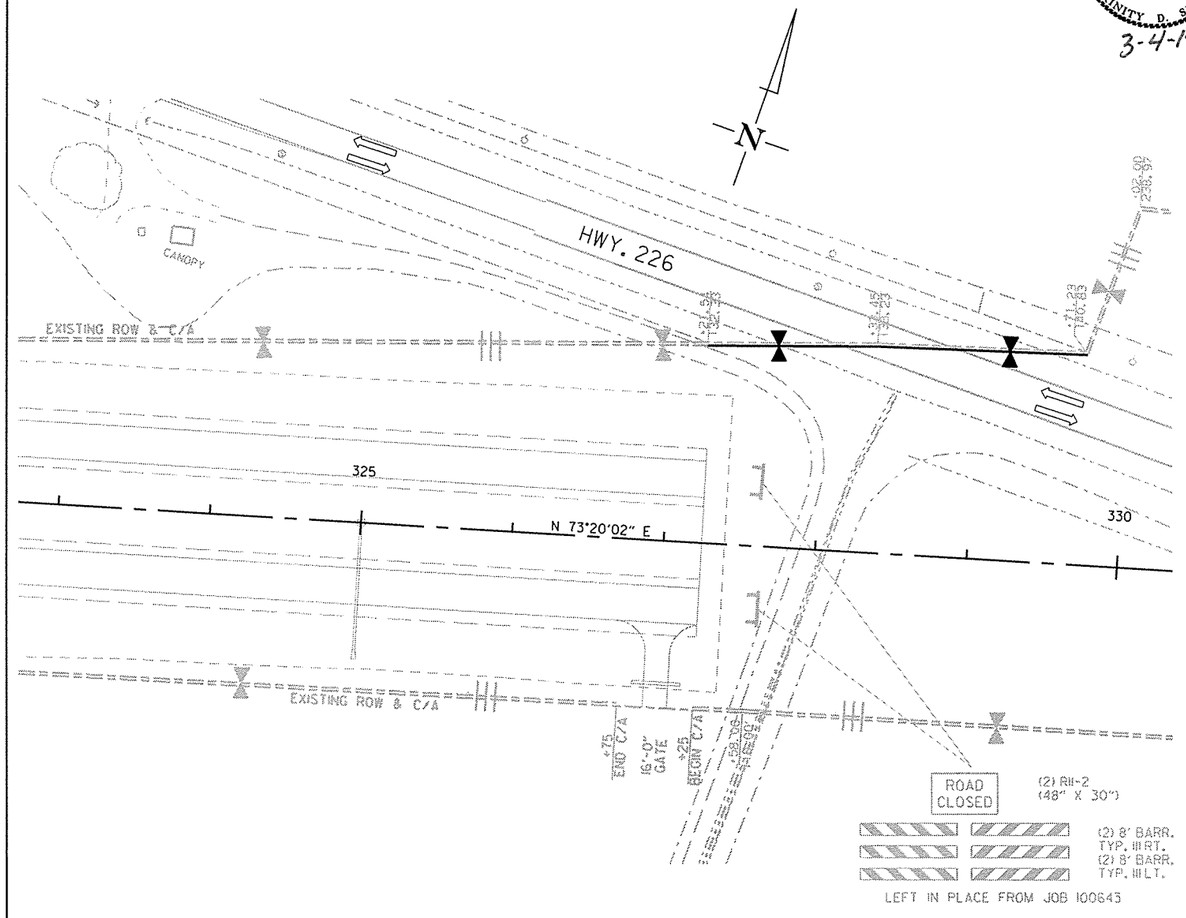
2/27/2014
R100676.DGN

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.		100676	25	116

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14





MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

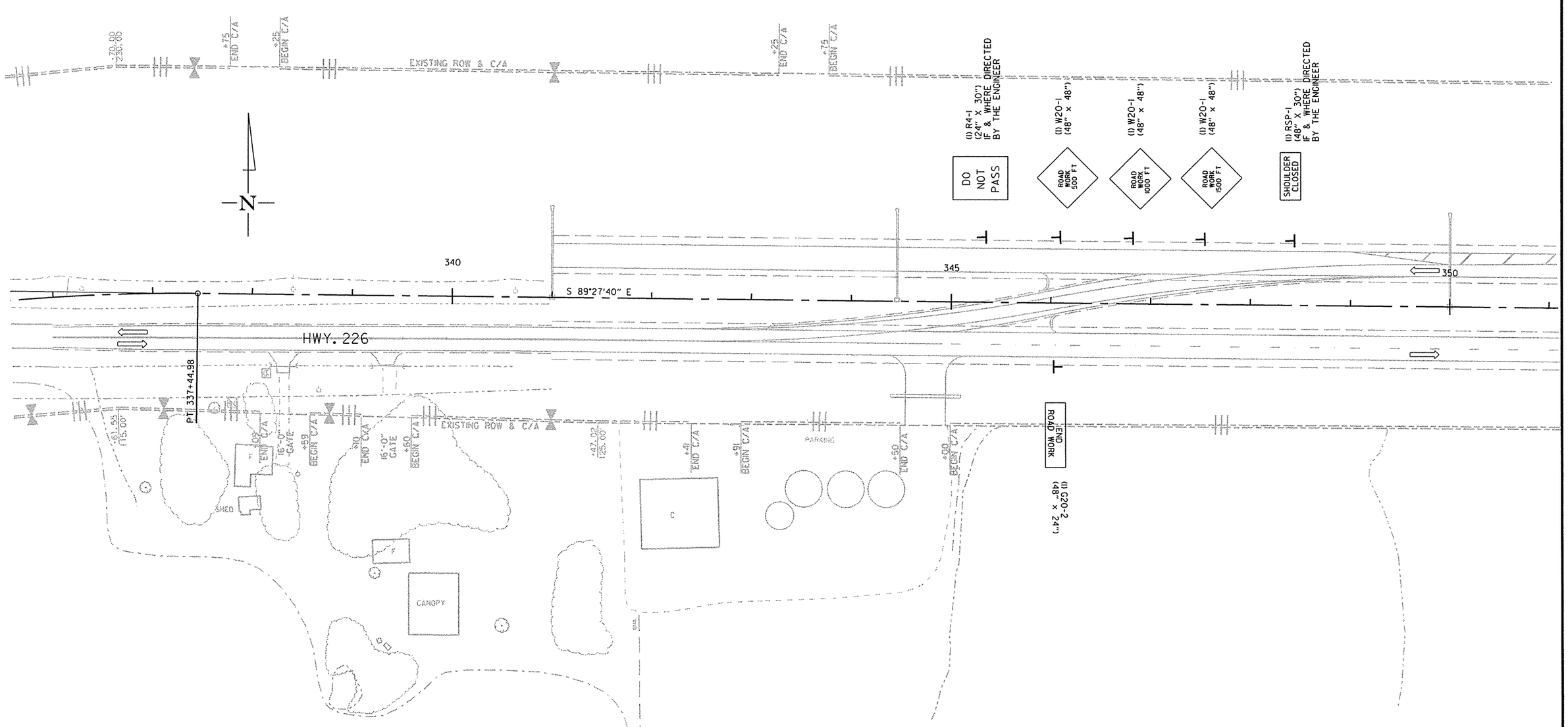
2/27/2014

R100676.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.		100676	26	116

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



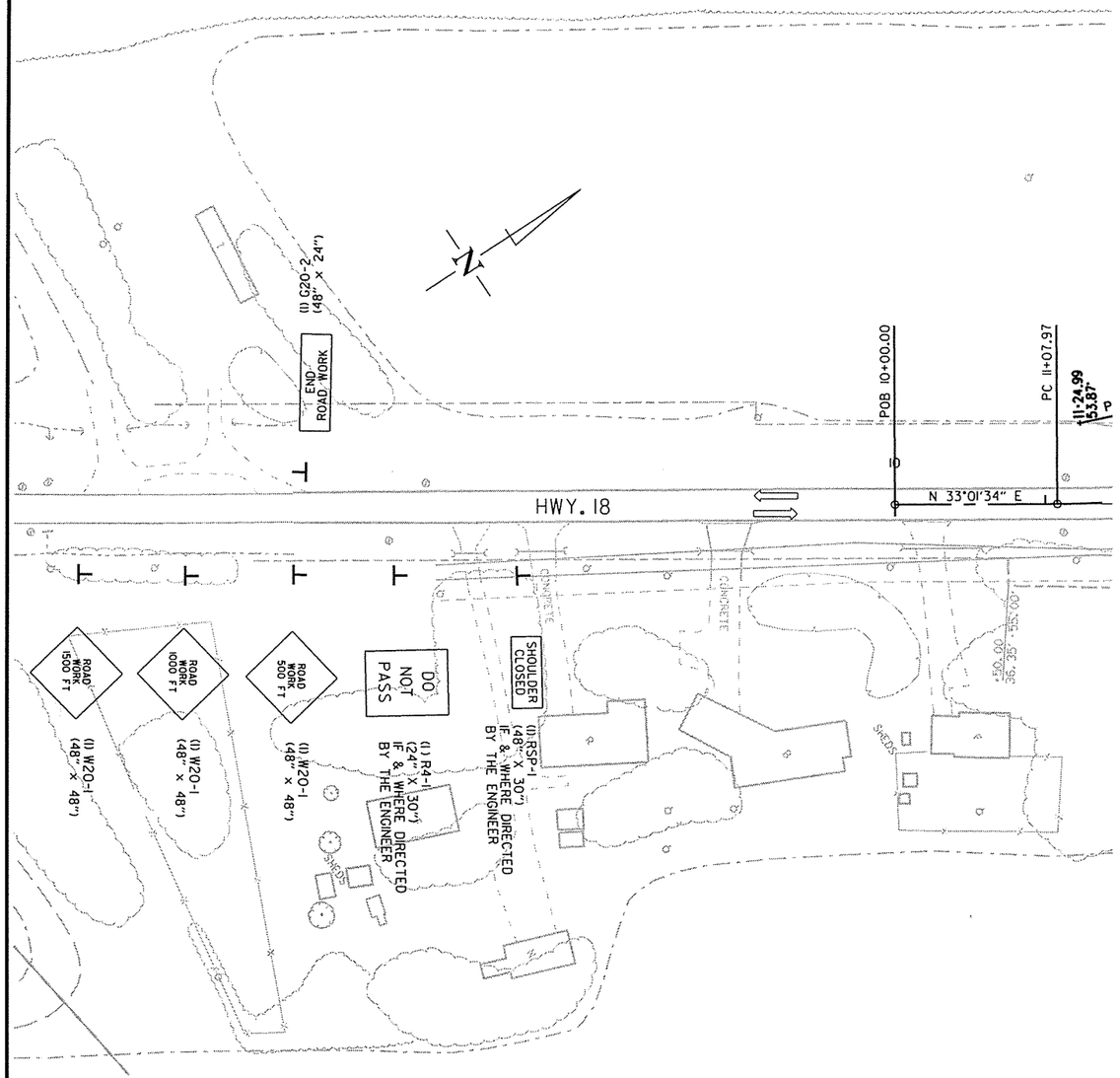
MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

R100676.DGN 2/27/2014

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.		100676	27	116

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

R100676.DGN 2/27/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	28	116

(2) MAINTENANCE OF TRAFFIC DETAILS

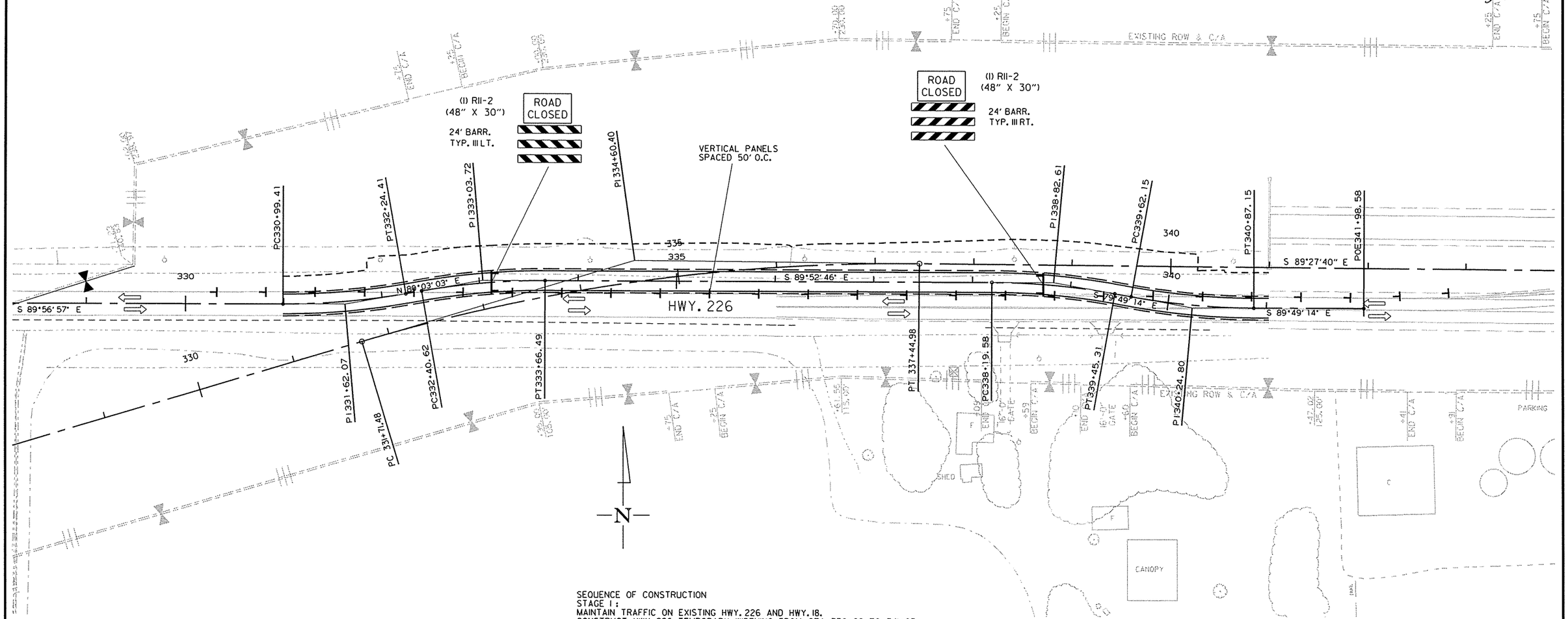
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-7-14

HWY. 226 TEMPORARY WIDENING
PI = 331+62.07
Δ = 10°00'00" LT.
D = 08°00'00"
T = 62.66'
L = 125.00'
PC = 330+99.41
PT = 332+24.41

HWY. 226 TEMPORARY WIDENING
PI = 333+03.72
Δ = 10°04'11" RT.
D = 08°00'00"
T = 63.10'
L = 125.87'
PC = 332+40.62
PT = 333+66.49

HWY. 226 TEMPORARY WIDENING
PI = 338+82.61
Δ = 10°03'32" RT.
D = 08°00'00"
T = 63.03'
L = 125.73'
PC = 338+19.58
PT = 339+45.31

HWY. 226 TEMPORARY WIDENING
PI = 340+24.80
Δ = 10°00'00" LT.
D = 08°00'00"
T = 62.66'
L = 125.00'
PC = 339+62.15
PT = 340+87.15



SEQUENCE OF CONSTRUCTION
STAGE I :
MAINTAIN TRAFFIC ON EXISTING HWY. 226 AND HWY. 18.
CONSTRUCT HWY. 226 TEMPORARY WIDENING FROM STA. 330+99 TO 341+03.
CONSTRUCT HWY. 18 FROM THE EXISTING PAVEMENT EDGE WEST.
NOTCH AND WIDEN FROM STA. 11+00 TO STA. 12+50 AND STA. 20+90 TO STA. 22+00.
FULL DEPTH SECTION FROM STA. 12+50 TO STA. 14+69 AND STA. 15+77 TO STA. 20+90.
CONSTRUCT RAISED CONCRETE ISLAND ON LT. STA. 21+81.
CONSTRUCT HWY. 226 L.M.L. AND R.M.L. FROM STA. 287+00 TO STA. 289+40.

STAGE 2 :
SHIFT TRAFFIC ONTO HWY. 226 TEMPORARY WIDENING AND NEWLY CONSTRUCTED PORTION OF HWY. 18.
CONSTRUCT TEMPORARY WESTBOUND CROSSOVER FROM STA. 39+60 TO STA. 47+16.
CONSTRUCT HWY. 226 R.M.L. FROM STA. 257+00 TO STA. 287+00 AND STA. 289+40 TO STA. 341+00.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 273+00 TO STA. 287+00 AND STA. 289+40 TO STA. 329+50.
CONSTRUCT REMAINING PORTIONS OF HWY. 18 AND OBLITERATE OBSOLETE SECTIONS OF OLD ROADWAY.

STAGE 3 :
SHIFT TRAFFIC ONTO THE R.M.L. OF HWY. 226 AND THE TEMPORARY WESTBOUND CROSSOVER.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 257+00 TO STA. 273+00 AND STA. 329+50 TO STA. 341+00.
SHIFT TRAFFIC ONTO HWY. 226 L.M.L. AND R.M.L.
OBLITERATE TEMPORARY CROSSOVER AND OBSOLETE SECTIONS OF OLD ROADWAY.
PLACE FINAL SURFACE COURSE LIFT AND INSTALL PERMANENT PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC DETAILS STAGE 1

2/28/2014
R100676.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.		100676	29	116

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

STA. 14+00- CONSTRUCT
18" x 148' TEMPORARY PIPE CULV'T.

or

TRAFFIC DRUMS SPACED 35' O.C.

(1) RII-2 (48" X 30")
24' BARR. TYP. III LT.

ROAD CLOSED

HWY. 18

HWY. 226

PROPOSED ROW & C/A

STA. 15+55- IN PLACE
24" X 32' R.C. PIPE CULV'T.
CROSS DRAIN ON EXISTING HWY. 18
MAINTAIN POSITIVE DRAINAGE UNTIL NO LONGER NEEDED

MAINTENANCE OF TRAFFIC DETAILS
STAGE 1

2/28/2014

R100676.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.	100676		30	116

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

WB CROSSOVER
PI = 41+50.99
Δ = 11°25' 12" RT.
D = 03°00' 00"
T = 190.97'
L = 380.67'
PC = 39+60.02
PT = 43+40.69

WB CROSSOVER
PI = 45+29.15
Δ = 11°16' 16" LT.
D = 03°00' 00"
T = 188.46'
L = 375.71'
PC = 43+40.69
PT = 47+16.40

TRAFFIC DRUMS SPACED 50' O.C.

PI 39+15.06
PI 249+49.14
Δ=0° 6' 59" LT.
PI 41+50.99
PC 39+60.02
PC 43+40.69
PT 43+40.69
PT 47+16.40
PI 45+29.15
PI 255+06.86
Δ=0° 8' 56" RT.

ROAD CLOSED
(1) R11-2 (48" X 30")
24" BARR. TYP. III RT.

S 89°09'09" E
S 89°16'08" E
S 89°16'07" E
S 77°50'55" E
S 89°07'12" E

HWY. 226

PROP. CONST. LIMITS

PI 263+11.79
Δ=0° 7' 28" LT.
POE 52+82.56
PC 268+11.57
PI 270+96.16
PT 273+76.60

S 89°14'40" E

EXISTING ROW & C/A

16'-0" GATE

SEQUENCE OF CONSTRUCTION

STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226 AND HWY. 18.
CONSTRUCT HWY. 226 TEMPORARY WIDENING FROM STA. 330+99 TO 341+03.
CONSTRUCT HWY. 18 FROM THE EXISTING PAVEMENT EDGE WEST.
NOTCH AND WIDEN FROM STA. 11+00 TO STA. 12+50 AND STA. 20+90 TO STA. 22+00.
FULL DEPTH SECTION FROM STA. 12+50 TO STA. 14+69 AND STA. 15+77 TO STA. 20+90.
CONSTRUCT RAISED CONCRETE ISLAND ON LT. STA. 21+81.
CONSTRUCT HWY. 226 L.M.L. AND R.M.L. FROM STA. 287+00 TO STA. 289+40.

STAGE 2 :
SHIFT TRAFFIC ONTO HWY. 226 TEMPORARY WIDENING AND NEWLY CONSTRUCTED PORTION OF HWY. 18.
CONSTRUCT TEMPORARY WESTBOUND CROSSOVER FROM STA. 39+60 TO STA. 47+16.
CONSTRUCT HWY. 226 R.M.L. FROM STA. 257+00 TO STA. 287+00 AND STA. 289+40 TO STA. 341+00.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 273+00 TO STA. 287+00 AND STA. 289+40 TO STA. 329+50.
CONSTRUCT REMAINING PORTIONS OF HWY. 18 AND OBLITERATE OBSOLETE SECTIONS OF OLD ROADWAY.

STAGE 3 :
SHIFT TRAFFIC ONTO THE R.M.L. OF HWY. 226 AND THE TEMPORARY WESTBOUND CROSSOVER.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 257+00 TO STA. 273+00 AND STA. 329+50 TO STA. 341+00.
SHIFT TRAFFIC ONTO HWY. 226 L.M.L. AND R.M.L.
OBLITERATE TEMPORARY CROSSOVER AND OBSOLETE SECTIONS OF OLD ROADWAY.
PLACE FINAL SURFACE COURSE LIFT AND INSTALL PERMANENT PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

2/28/2014
R100676.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	31	116

(2) MAINTENANCE OF TRAFFIC DETAILS

HWY. 226

TRAFFIC DRUMS SPACED 50' O.C.

EXISTING ROW & C/A

16'-5" GATE

BEGIN C/A +25

END C/A +75

275

S 72°17'37" E

PC 280+04.47

280

285

EACH LOCATION (4 LOCATIONS)

ROAD CLOSED

(1) R11-2 (48" X 30")

24' BARR. TYP. III RT.

24' BARR. TYP. III LT.

PROPOSED ROW & C/A

287+00.00

124.81'

HWY. 18

PROP. CONST. LIMITS

PT 289+74.53

PC 15+88.89

290

N 13°47'04" E

15

PI 284+93.08

DENOTES OBLITERATION OF EXISTING ROADWAY

PT 14+00.00

121.98'

75.00'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-4-14
TRINITY D. SMITH

N 88°33'43" E

PROPOSED ROW & C/A

PT 19+42.12

20.33'

77.12'

PI 20+80.65

15'

SHED

N

PROP. CONST. LIMITS

PT 289+74.53

290

295

300

305

S 89°16'11" E

EXISTING ROW & C/A

16'-0" GATE

+00

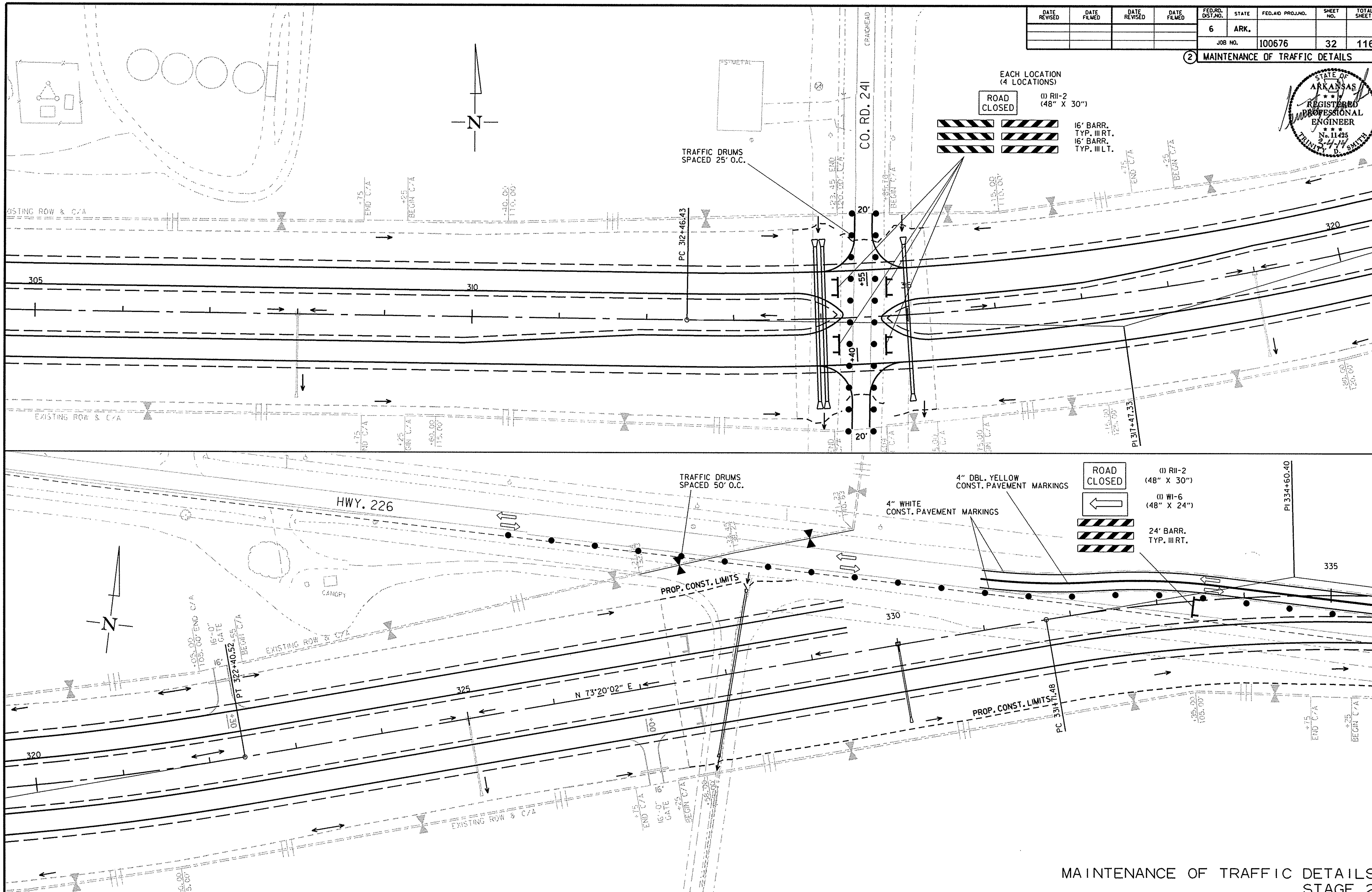
2/28/2014

R100676.DGN

MAINTENANCE OF TRAFFIC DETAILS STAGE 2

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.	100676	32	116

(2) MAINTENANCE OF TRAFFIC DETAILS



EACH LOCATION
(4 LOCATIONS)
ROAD CLOSED
(1) R11-2 (48" X 30")
16' BARR. TYP. III RT.
16' BARR. TYP. III LT.
TRAFFIC DRUMS SPACED 25' O.C.
CO. RD. 241
PC 312+46.43
PI 317+47.33
20'
EXISTING ROW & C/A
TRAFFIC DRUMS SPACED 50' O.C.
HWY. 226
4" DBL. YELLOW CONST. PAVEMENT MARKINGS
4" WHITE CONST. PAVEMENT MARKINGS
ROAD CLOSED
(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
24' BARR. TYP. III RT.
PI 334+60.40
PROP. CONST. LIMITS
PT 322+40.52
N 73°20'02" E
PC 331+71.48
16'-0" GATE
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

2/28/2014

R100676.DGN

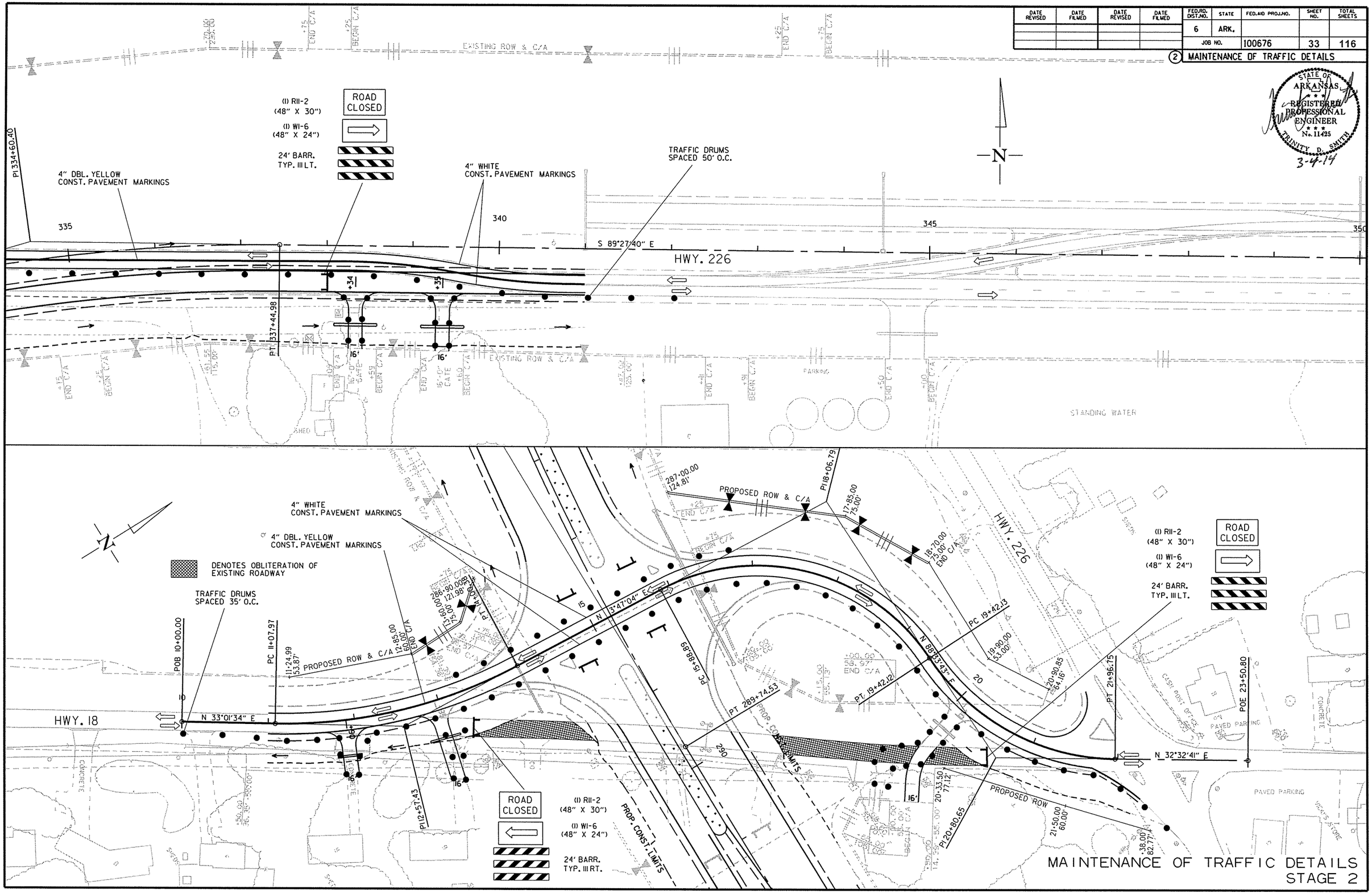
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	33	116

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

2/28/2014

R100676.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.		100676	34	116

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCE OF CONSTRUCTION

STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226 AND HWY. 18.
CONSTRUCT HWY. 226 TEMPORARY WIDENING FROM STA. 330+99 TO 341+03.
CONSTRUCT HWY. 18 FROM THE EXISTING PAVEMENT EDGE WEST.
NOTCH AND WIDEN FROM STA. 11+00 TO STA. 12+50 AND STA. 20+90 TO STA. 22+00.
FULL DEPTH SECTION FROM STA. 12+50 TO STA. 14+69 AND STA. 15+77 TO STA. 20+90.
CONSTRUCT RAISED CONCRETE ISLAND ON LT. STA. 21+81.
CONSTRUCT HWY. 226 L.M.L. AND R.M.L. FROM STA. 287+00 TO STA. 289+40.

STAGE 2 :
SHIFT TRAFFIC ONTO HWY. 226 TEMPORARY WIDENING AND NEWLY CONSTRUCTED PORTION OF HWY. 18.
CONSTRUCT TEMPORARY WESTBOUND CROSSOVER FROM STA. 39+60 TO STA. 47+16.
CONSTRUCT HWY. 226 R.M.L. FROM STA. 257+00 TO STA. 287+00 AND STA. 289+40 TO STA. 341+00.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 273+00 TO STA. 287+00 AND STA. 289+40 TO STA. 329+50.
CONSTRUCT REMAINING PORTIONS OF HWY. 18 AND OBLITERATE OBSOLETE SECTIONS OF OLD ROADWAY.

STAGE 3 :
SHIFT TRAFFIC ONTO THE R.M.L. OF HWY. 226 AND THE TEMPORARY WESTBOUND CROSSOVER.
CONSTRUCT HWY. 226 L.M.L. FROM STA. 257+00 TO STA. 273+00 AND STA. 329+50 TO STA. 341+00.
SHIFT TRAFFIC ONTO HWY. 226 L.M.L. AND R.M.L.
OBLITERATE TEMPORARY CROSSOVER AND OBSOLETE SECTIONS OF OLD ROADWAY.
PLACE FINAL SURFACE COURSE LIFT AND INSTALL PERMANENT PAVEMENT MARKINGS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-4-14
TRINITY D. SMITH

EACH LOCATION
(2 LOCATIONS)

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

REMOVAL OF PERMANENT PAVEMENT MARKINGS
800 LIN. FT.

(3) W1-8
(18" X 24")
45° O.C.

ROAD CLOSED
PARKING
(1) R11-2
(48" X 30")
16' BARR.
TYP. III RT.
16' BARR.
TYP. III LT.

VACANT
PI 249+49.14
Δ=0° 6' 59" LT.
4" WHITE REMOVABLE
CONST. PAVEMENT MARKINGS
245
250
255
260
S 89°09'09" E
HWY. 226
S 89°16'07" E
S 89°07'12" E
PROP. CONST. LIMITS
PI 255+06.86
Δ=0° 8' 56" RT.
TRAFFIC DRUMS
SPACED 50' O.C.
4" WHITE
CONST. PAVEMENT MARKINGS
4" YELLOW REMOVABLE
CONST. PAVEMENT MARKINGS
4" DBL. YELLOW REMOVABLE
CONST. PAVEMENT MARKINGS
4" DBL. YELLOW
CONST. PAVEMENT MARKINGS
4" WHITE
CONST. PAVEMENT MARKINGS
TRAFFIC DRUMS
SPACED 50' O.C.

PI 263+11.79
Δ=0° 1' 28" LT.
16'-0" GATE
EXISTING ROW & C/A
PI 270+96.16
PROP. CONST. LIMITS
HWY. 226
265
270
275
S 89°14'40" E
PC 268+11.57
PT 273+76.60
DENOTES OBLITERATION OF EXISTING ROADWAY
ROAD CLOSED
(1) R11-2
(48" X 30")
16' BARR.
TYP. III RT.
16' BARR.
TYP. III LT.
4" DBL. YELLOW
CONST. PAVEMENT MARKINGS
4" WHITE
CONST. PAVEMENT MARKINGS
TRAFFIC DRUMS
SPACED 45' O.C.

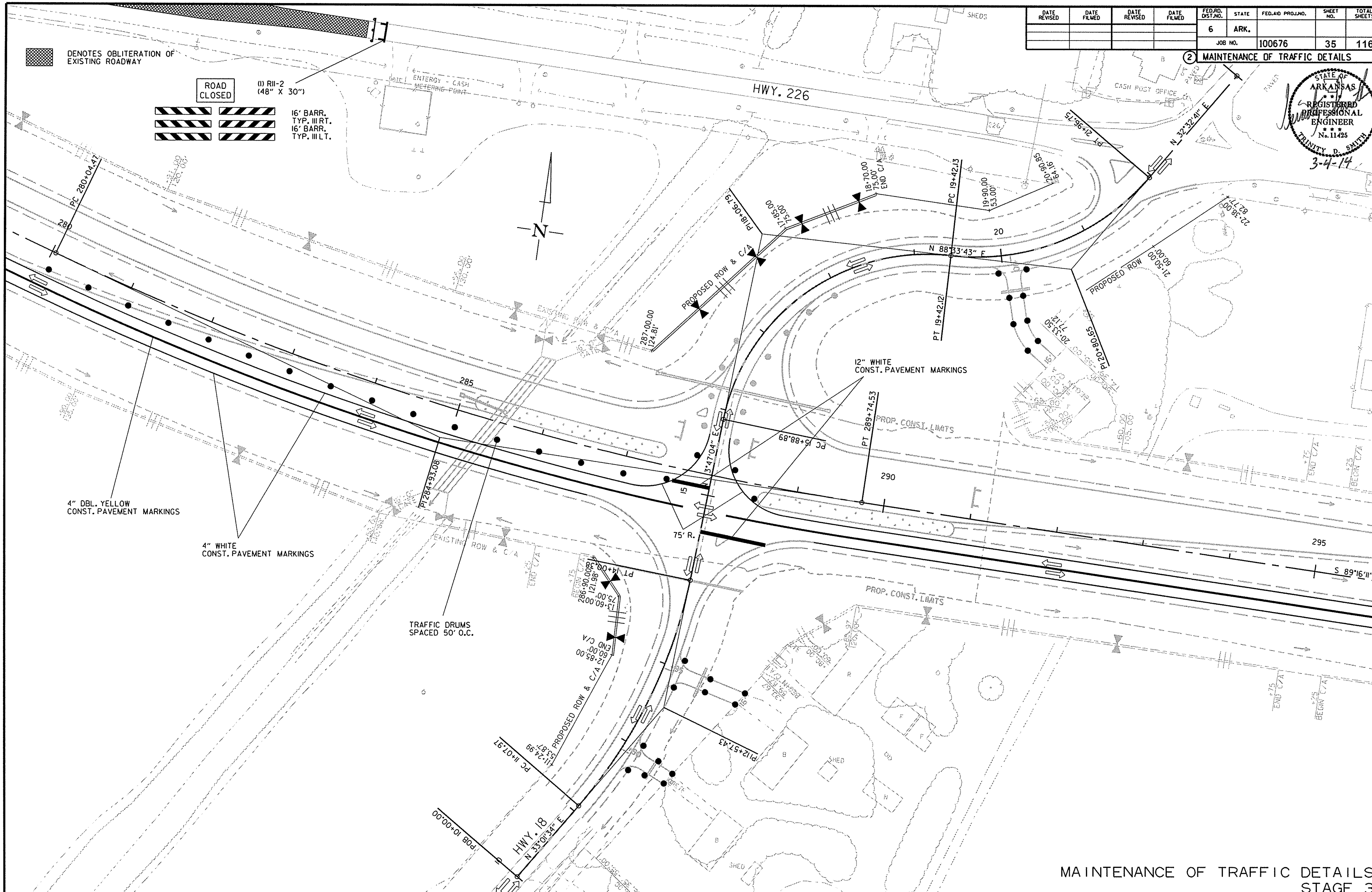
N

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

2/28/2014
R100676.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.		100676	35	116

② MAINTENANCE OF TRAFFIC DETAILS



DENOTES OBLITERATION OF EXISTING ROADWAY
ROAD CLOSED
(1) R11-2 (48" X 30")
16' BARR. TYP. III RT.
16' BARR. TYP. III LT.
HWY. 226
HWY. 18
N
4" DBL. YELLOW CONST. PAVEMENT MARKINGS
4" WHITE CONST. PAVEMENT MARKINGS
TRAFFIC DRUMS SPACED 50' O.C.
12" WHITE CONST. PAVEMENT MARKINGS
PROPOSED ROW & C/A
EXISTING ROW & C/A
PROP. CONST. LIMITS
PC 280+04.47
PI 284+93.08
PT 289+74.53
PC 19+42.13
PT 19+42.12
PI 20+80.65
PT 21+96.75
PI 18+06.79
PC 15+88.89
PT 14+00.38
PI 12+57.43
PC 11+07.97
POB 10+00.00
N 88°33'43" E
N 32°32'41" E
S 89°16'11" E
N 33°01'34" E
3°47'04" E
75' R.
280
285
290
295
20
15

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH
3-4-14

2/28/2014
R100676.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.		100676	36	116

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

4" DBL. YELLOW CONST. PAVEMENT MARKINGS

TRAFFIC DRUMS SPACED 50' O.C.

CO. RD. 241

PC 312+46.43

PI 317+47.33

4" WHITE CONST. PAVEMENT MARKINGS

DENOTES OBLITERATION OF EXISTING ROADWAY

ROAD CLOSED

(1) RII-2 (48" X 30")

16' BARR. TYP. III RT.
16' BARR. TYP. III LT.

PROP. CONST. LIMITS

CANOPY

HWY. 226

PI 334+60.40

PT 337+44.98

S 89°27'40" E

TRAFFIC DRUMS SPACED 45' O.C.

PC 331+71.48

(1) WI-6 (48" X 24")

24' BARR. TYP. III RT.

EXISTING R/W & C/A

4" DBL. YELLOW CONST. PAVEMENT MARKINGS

4" WHITE CONST. PAVEMENT MARKINGS

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

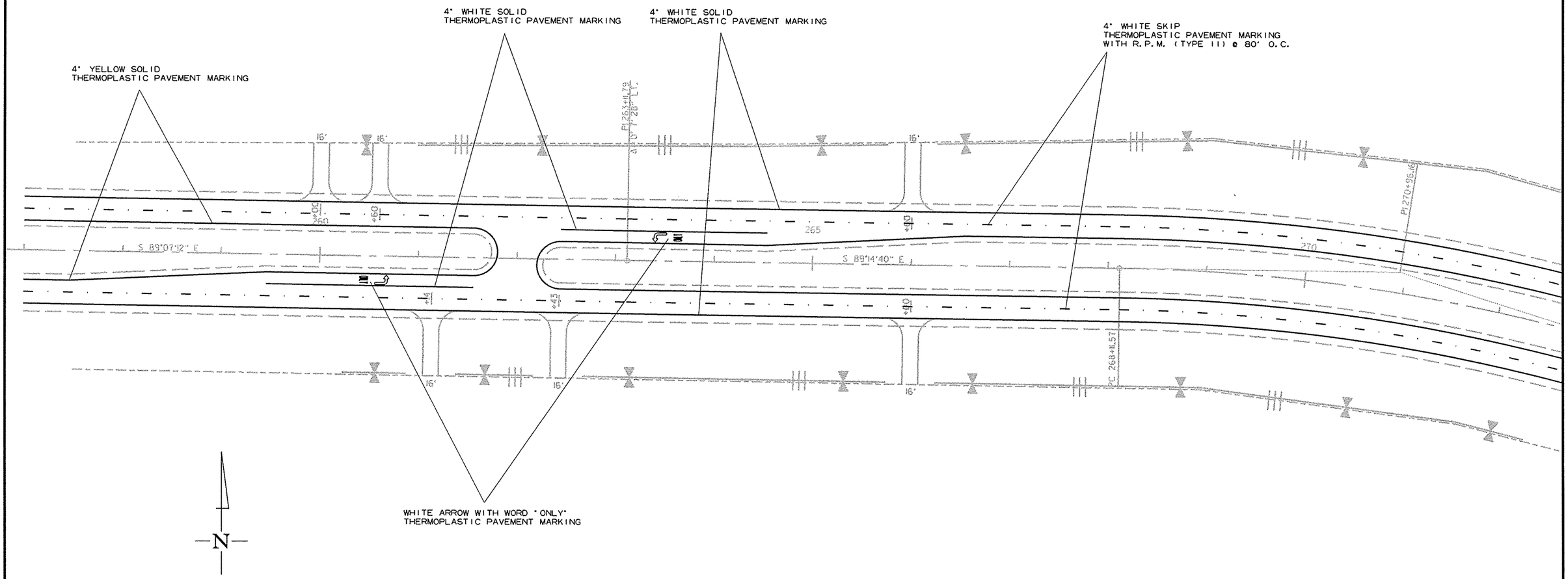
2/28/2014

R100676.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	37	116

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



2/28/2014

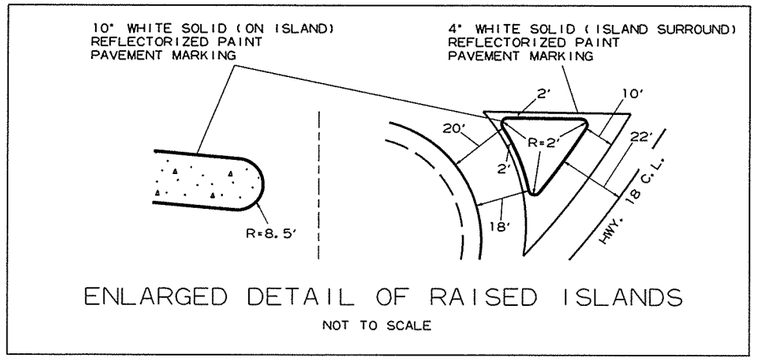
R100676.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	38	116

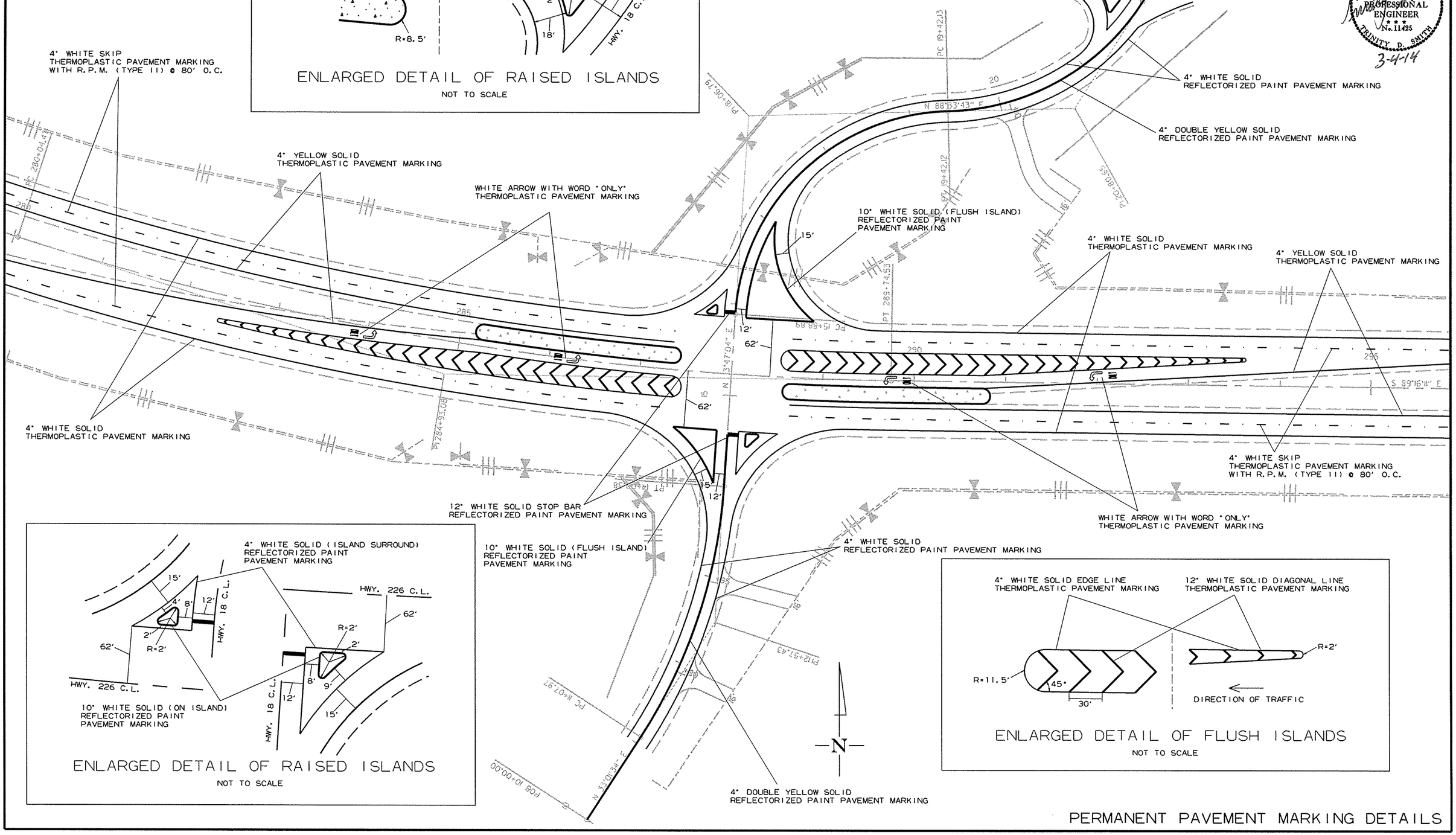
(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



ENLARGED DETAIL OF RAISED ISLANDS

NOT TO SCALE



ENLARGED DETAIL OF RAISED ISLANDS

NOT TO SCALE

ENLARGED DETAIL OF FLUSH ISLANDS

NOT TO SCALE

PERMANENT PAVEMENT MARKING DETAILS

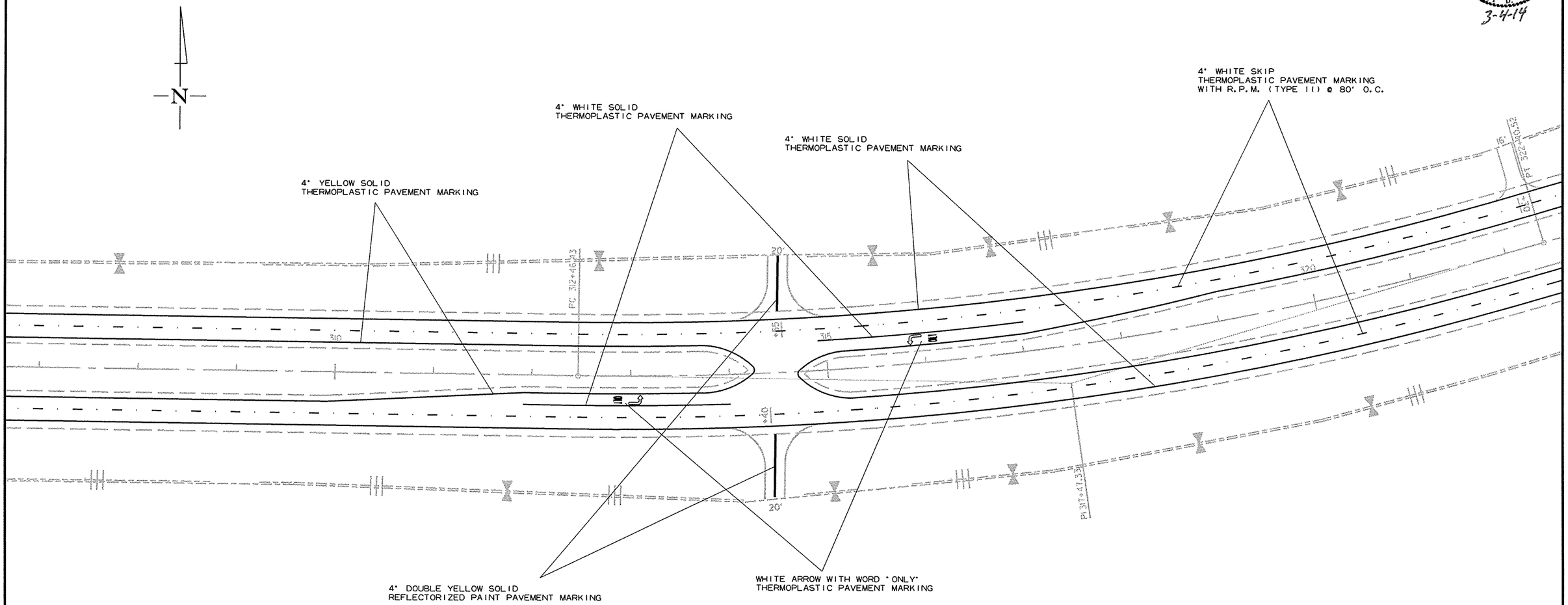
2/28/2014

R100676.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.		100676	39	116

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14



2/28/2014

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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.		100676	40	116

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	ADVANCE WARNING	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)	
												RIGHT	LEFT
			LIN. FT. - EACH					NO.	SQ. FT.	EACH		LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	4	4	64.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	4	4	4	4	4	4	64.0				
W20-1	ROAD WORK 500 FT.	48"x48"	4	4	4	4	4	4	64.0				
W20-1	ROAD WORK AHEAD	48"x48"	2	2	2	2	2	2	32.0				
G20-2	END ROAD WORK	48"x24"	6	6	6	6	6	6	48.0				
R11-2	ROAD CLOSED	48"x30"		6	13	12	13	13	130.0				
W1-6	LARGE ARROW	48"x24"			4	3	4	4	32.0				
W1-8	CHEVRONS	18"x24"				3	3	3	9.0				
R4-1	DO NOT PASS	24"x30"	4	4	4	4	4	4	20.0				
RSP-1	SHOULDER CLOSED	48"x30"	4	4	4	4	4	4	40.0				
	VERTICAL PANELS			26			26			26			
	TRAFFIC DRUMS			42	240	198	240				240		
	TYPE III BARRICADE-RT. (16')				4	7	7					112	
	TYPE III BARRICADE-LT. (16')				4	7	7						112
	TYPE III BARRICADE-RT. (24')			4	7	3	7					168	
	TYPE III BARRICADE-LT. (24')			4	6	4	6						144
TOTALS:									503.0	26	240	280	256

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	REMOVAL OF PERMANENT PAVEMENT MARKINGS		CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKINGS					REFLECTORIZED PAINT PAVEMENT MARKINGS			
						WORDS	ARROWS				TYPE II (WHITE/RED)	4" WHITE	4" YELLOW	12" WHITE	WORDS	ARROWS	4" WHITE	4" YELLOW	10" WHITE	12" WHITE
	LIN. FT. - EACH				LIN. FT.	EACH		LIN. FT.			EACH	LIN. FT.			EACH		LIN. FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS			800	800	1600															
REMOVAL OF PERMANENT PAVEMENT MARKINGS (WORDS)			1			1														
REMOVAL OF PERMANENT PAVEMENT MARKINGS (ARROWS)			4				4													
CONSTRUCTION PAVEMENT MARKINGS	300	8525	33450					42275												
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			860						860											
REMOVABLE CONSTRUCTION PAV'T MARKINGS			2940							2940										
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)				225							225									
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")				20706								20706								
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")				17539									17539							
THERMOPLASTIC PAVEMENT MARKINGS WHITE (12")				1395										1395						
THERMOPLASTIC PAVEMENT MARKINGS WORDS				8											8					
THERMOPLASTIC PAVEMENT MARKINGS ARROWS				8												8				
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (4")				2701													2701			
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (4")				2407														2407		
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (10")				1608															1608	
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (12")				24																24
TOTALS:					1600	1	4	42275	860	2940	225	20706	17539	1395	8	8	2701	2407	1608	24

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

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				6	ARK.			
				JOB NO.		100676	41	116

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-5-14

REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS

STATION	STATION	LOCATION	CONCRETE DRIVEWAYS
			SQ. YD.
11+83	11+97	HWY. 18 ON RT.	24
13+55	13+80	HWY. 18 ON RT.	69
TOTAL:			93

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
287+00	290+57	HWY. 226 - LT.	405
286+90	287+78	HWY. 226 - RT.	110
TOTAL:			515

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
261+15	HWY. 226 EXISTING SIDE DRAIN	1
262+43	HWY. 226 EXISTING SIDE DRAIN	1
266+55	HWY. 226 EXISTING SIDE DRAIN	1
335+15	HWY. 226 EXISTING SIDE DRAIN	1
338+34	HWY. 226 EXISTING SIDE DRAIN	1
339+35	HWY. 226 EXISTING SIDE DRAIN	1
11+90	HWY. 18 EXISTING SIDE DRAIN	1
12+95	HWY. 18 EXISTING SIDE DRAIN	1
13+73	HWY. 18 EXISTING SIDE DRAIN	1
15+06	HWY. 18 EXISTING SIDE DRAIN	1
15+28	HWY. 18 EXISTING SIDE DRAIN	1
15+55	HWY. 18 EXISTING CROSS DRAIN	1
18+95	HWY. 18 EXISTING SIDE DRAIN	1
20+00	HWY. 18 EXISTING SIDE DRAIN	1
TOTAL:		14

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

REMOVAL AND DISPOSAL OF DEVICES LEFT IN PLACE

DESCRIPTION	TRAFFIC DRUMS	BARRICADES (TYPE III)		SIGNS
		RIGHT	LEFT	
	EACH			
TRAFFIC DRUMS	29			
TYPE III BARRICADE - RT. (8')		14		
TYPE III BARRICADE - LT. (8')			12	
R11-2 (ROAD CLOSED 48"X30")				13
W1-6 (LARGE ARROW 48"X24")				4
W1-4L (REVERSE CURVE LT. 48"X48")				1
W13-1 (SPEED LIMIT (ADVISORY) 24"X24")				1
W1-8 (CHEVRONS 18"X24")				3
R3-7 LT. (LT. LANE MUST TURN LT. 30"X30")				1
TOTALS:	29	14	12	23

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
260+00	264+00	HWY. 226	4	4
337+00	340+00	HWY. 226	3	3
11+00	14+00	HWY. 18	3	3
20+00	22+00	HWY. 18	2	2
TOTALS:			12	12

EARTHWORK

	STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SELECTED MATERIAL (CLASS SM-1)	* SOIL STABILIZATION
				CU. YD.			TON
	ENTIRE	PROJECT	HWY. 226	14531	55121		
	330+99	341+00	HWY. 226 - TEMP. WIDENING	1934	1478		
	249+00	257+49	HWY. 226 - OBLITERATION OF TEMP. CROSSOVER	2639			
	273+00	282+45	HWY. 226 - OBLITERATION OF EXISTING ROADWAY	2119			
	323+85	329+60	HWY. 226 - OBLITERATION OF EXISTING ROADWAY	963			
	ENTIRE	PROJECT	HWY. 18	796	12330		
	13+20	14+40	HWY. 18 - OBLITERATION OF EXISTING ROADWAY	163			
	18+00	20+60	HWY. 18 - OBLITERATION OF EXISTING ROADWAY	304			
	ENTIRE	PROJECT	UNDERCUT FOR UNSUITABLE EXISTING MATERIAL. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	21317		21317	
	ENTIRE	PROJECT	APPROACHES		850		
*	ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				500
	TOTALS:			44766	69779	21317	500

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

SUBGRADE PREPARATION

STATION	STATION	LOCATION / DESCRIPTION	STATION
274+75	287+75	HWY. 226	13.0
291+30	313+60	HWY. 226	22.3
315+35	327+25	HWY. 226	11.9
TOTAL:			47.2

NOTES:
1. THE QUANTITIES SHOWN ABOVE INCLUDE BOTH SETS OF LANES FOR A DIVIDED ROADWAY AND INCLUDE ADDITIONAL WIDTH WHERE ROADWAYS ARE WIDENED.
2. THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND/OR OTHER ORGANIC MATERIALS FROM THE SUBGRADE AND SUBSEQUENT REPLACEMENT OF SUBGRADE MATERIAL WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "SUBGRADE PREPARATION".
3. PAYMENT FOR SUBGRADE PREPARATION FOR ACCEL. LANES, TAPER, AND TURNOUTS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "SUBGRADE PREPARATION".
4. PAYMENT FOR TRANSITIONS IN SUBGRADE ON MAIN LANES TO BE INCLUDED IN PAYMENT MADE FOR "SUBGRADE PREPARATION".

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
264+00	TOP OF D.I.	1
330+00	TOP OF D.I.	1
TOTAL:		2

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
	EACH	
ENTIRE PROJECT	6	6
TOTALS:	6	6

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				6	ARK.			
				JOB NO.		100676	42	116

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE A)	WIRE FENCE (TYPE C)	* 16'-0" GATES
			LIN. FT.		EACH
260+43.40	260+98	HWY. 226 - LT.		39	1
260+98	265+75	HWY. 226 - LT.	477		
265+75	266+25	HWY. 226 - LT.		34	1
266+25	275+20	HWY. 226 - LT.	936		
327+21.54	329+71.23	HWY. 226 - LT.	250		
260+24.38	260+89	HWY. 226 - RT.	65		
260+89	261+39	HWY. 226 - RT.		34	1
261+39	262+18	HWY. 226 - RT.	79		
262+18	262+68	HWY. 226 - RT.		34	1
262+68	265+75	HWY. 226 - RT.	307		
265+75	266+25	HWY. 226 - RT.		34	1
266+25	272+55	HWY. 226 - RT.	270		
272+55	273+05	HWY. 226 - RT.		50	
273+05	273+60	HWY. 226 - RT.	52		
12+85	14+03.41	HWY. 18 - LT.	122		
16+31.81	18+70	HWY. 18 - LT.	319		
TOTALS:			2877	225	5

* DENOTES ALTERNATE BID ITEM.

GUARDRAIL

STATION	LOCATION	GUARDRAIL (TYPE C)	STANDARD SIGN OM4-3 RED DIAMOND REFLECTORIZED END OF ROAD MARKER
		LIN. FT.	SQ. FT.
274+25	HWY. 226 - LT. OF L.M.L.	25	6.75
328+00	HWY. 226 - LT. OF L.M.L.	25	6.75
TOTALS:		50	13.50

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND SQ.YD.
286+30	HWY. 226 - LT. OF C.L.	B	420
289+70	HWY. 226 - RT. OF C.L.	B	423
14+55	HWY. 18 - RT. OF C.L.	B	15
15+90	HWY. 18 - LT. OF C.L.	B	9
21+81	HWY. 18 - LT. OF C.L.	B	46
TOTAL:			913

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			2000	9
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			2000	9

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

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
ENTIRE PROJECT		L.M.L. OUTSIDE SHOULDER	6034
ENTIRE PROJECT		L.M.L. INSIDE SHOULDER	7700
ENTIRE PROJECT		R.M.L. OUTSIDE SHOULDER	5991
ENTIRE PROJECT		R.M.L. INSIDE SHOULDER	7700
TOTAL:			27425

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
257+00	258+00	HWY. 226 - L.M.L.	30	333.33
339+00	341+00	HWY. 226 - R.M.L.	28	622.22
10+00	11+00	HWY. 18	20	222.22
21+15	22+15	HWY. 18	VAR.	600.00
TOTAL:				1777.77

NOTE: AVERAGE MILLING DEPTH 1".

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	50	100
DIRECTED BY THE ENGINEER		
TOTALS:	50	100

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

2/28/2014

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				6	ARK.			
				JOB NO.		100676	43	116

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS		STANDARD DRAWINGS
								24"	36"	
			FEET	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.		
260+00	LT.	HWY. 226	16		94.9	10.4	38.8	34		PCC-1, PCM-1, PCP-1, PCP-2
260+60	LT.	HWY. 226	16		96.7	10.6	39.5	36		PCC-1, PCM-1, PCP-1, PCP-2
261+14	RT.	HWY. 226	16		107.6	11.8	43.9	40		PCC-1, PCM-1, PCP-1, PCP-2
262+43	RT.	HWY. 226	16	108.10				40		PCC-1, PCM-1, PCP-1, PCP-2
266+00	LT.	HWY. 226	16		114.0	12.5	46.6	44		PCC-1, PCM-1, PCP-1, PCP-2
266+00	RT.	HWY. 226	16		108.4	11.9	44.3	42		PCC-1, PCM-1, PCP-1, PCP-2
278+00	LT.	HWY. 226	16		110.6	12.2	45.2			
301+00	LT.	HWY. 226	16		77.3	8.5	31.6			
301+00	RT.	HWY. 226	16		98.9	10.9	40.4			
314+40	RT.	HWY. 226 - CO.RD. 241	20		180.3	19.8	73.6			
314+55	LT.	HWY. 226 - CO.RD. 241	20		159.4	17.5	65.1			
322+30	LT.	HWY. 226	16		81.9	9.0	33.4			
327+00	RT.	HWY. 226	16		89.2	9.8	36.4			
338+34	RT.	HWY. 226	16		106.9	11.8	43.7		50	PCC-1, PCM-1, PCP-1, PCP-2
339+35	RT.	HWY. 226	16		108.9	12.0	44.5		50	PCC-1, PCM-1, PCP-1, PCP-2
11+90	RT.	HWY. 18	16	82.20				28		PCC-1, PCM-1, PCP-1, PCP-2
12+95	RT.	HWY. 18	16		137.9	15.2	56.3	36		PCC-1, PCM-1, PCP-1, PCP-2
20+10	RT.	HWY. 18	16		216.1	23.8	88.2	32		PCC-1, PCM-1, PCP-1, PCP-2
* ENTIRE PROJECT TEMPORARY DRIVES							950.0			
TOTALS:				190.30	1889.0	207.7	1721.5	332	100	

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

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

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.

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE (CLASS III)				FLARED END SECTIONS FOR R.C. PIPE CULVERTS				TEMPORARY PIPE CULVERTS	DROP INLETS TYPE	MODIFYING DROP INLETS	SOLID SODDING	WATER	STD. DWG. NOS.
		18"	24"	36"	42"	18"	24"	36"	42"	18"	RM				
		LIN. FT.				EACH				LIN. FT.	EACH		SQ.YD.	M.GAL	
257+46	HWY. 226 - DROP INLET IN MEDIAN	78				1					1		10	0.13	FES-1, FES-2, FPC-9D, PCC-1
264+00	HWY. 226 - DROP INLET IN MEDIAN	76				1					1		10	0.13	FES-1, FES-2, FPC-9D, PCC-1
285+00	HWY. 226 - DROP INLET IN MEDIAN	50									1		5	0.06	FPC-9D, PCC-1
285+47	HWY. 226 - RETAIN AND MODIFY DROP INLET IN MEDIAN											1			FPC-9
314+00	HWY. 226 - DBL. CROSS DRAIN				352				4				50	0.63	FES-1, FES-2, PCC-1
315+00	HWY. 226 - CROSS DRAIN			170				2					34	0.43	FES-1, FES-2, PCC-1
328+18	HWY. 226 - CROSS DRAIN		198				2						16	0.20	FES-1, FES-2, PCC-1
330+00	HWY. 226 - DROP INLET IN MEDIAN	84				1					1		10	0.13	FES-1, FES-2, FPC-9D, PCC-1
14+00	HWY. 18 - TEMP. CROSS DRAIN									148					PCC-1, PCM-1
16+25	HWY. 18 - CROSS DRAIN		192				2						16	0.20	FES-1, FES-2, PCC-1
TOTALS:		288	390	170	352	3	4	2	4	148	4	1	151	1.91	

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	150
ENGINEER	
TOTAL:	150

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

2/28/2014

R100676.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.		100676	44	116

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1	1.15	2.30	1.15	117.3	1.15	3.00	3.00	61.2	198	9	36	925			48
ENTIRE	PROJECT	STAGE 2	4.73	9.46	4.73	482.5	4.73	8.00	8.00	163.2	704	48	90	145			57
ENTIRE	PROJECT	STAGE 3	6.86	13.72	6.86	699.7	6.86	10.00	10.00	204.0	638	24					37
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			3.00	6.00	3.00	306.0	3.00	5.00	5.00	102.0	385	20	32	268	100	100	111
TOTALS:			**15.74**	**31.48**	**15.74**	**1605.5**	**15.74**	**26.00**	**26.00**	**530.4**	**1925**	**101**	**158**	**1338**	**100**	**100**	**253**

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

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

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

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
240+00	35	47	41.30	90	57	14.80	35' LT.	0-5	27	13	A-6 (5)	BR/GR
244+00	35	47	40.70	90	57	10.00	C.L.	0-5	25	7	A-4 (3)	BROWN
244+00	34	47	40.50	90	57	10.00	18' RT.	0-5	24	8	A-4 (5)	BR/GR
248+00	35	47	41.00	90	57	5.10	45' LT.	0-5	35	19	A-6 (10)	BROWN
252+00	35	47	40.50	90	57	0.30	C.L.	0-5	21	6	A-4 (0)	BROWN
256+00	35	47	40.70	90	56	55.40	35' LT.	0-5	22	7	A-4 (3)	BR/GR
260+00	35	47	40.30	90	56	50.60	C.L.	0-5	25	8	A-4 (5)	BROWN
264+00	35	47	40.60	90	57	45.70	45' LT.	0-5	21	8	A-4 (2)	BR/GR
268+00	35	47	40.10	90	56	40.80	C.L.	0-5	31	16	A-6 (10)	BROWN
276+00	35	47	38.30	90	56	31.40	C.L.	0-5	24	8	A-4 (4)	BROWN
284+00	35	47	35.90	90	56	22.20	C.L.	0-5	35	19	A-6 (15)	BROWN
289+75	35	47	35.50	90	56	15.20	C.L.	0-5	24	8	A-4 (4)	BROWN
298+00	35	47	35.30	90	56	5.20	C.L.	0-5	46	30	A-7-6 (29)	BROWN
306+00	35	47	35.10	90	55	55.50	C.L.	0-5	37	20	A-6 (18)	RD/GR
314+30	35	47	34.90	90	55	45.10	C.L.	0-5	37	20	A-6 (19)	BR/GR
322+00	35	47	36.20	90	55	36.30	C.L.	0-5	52	34	A-7-6 (33)	RD/BR
330+00	35	47	38.40	90	55	27.00	C.L.	0-5	36	21	A-6 (20)	BR/GR

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.

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
ENTIRE PROJECT TO BE USED IF AND			250.0	222.2
WHERE DIRECTED BY THE ENGINEER				
TOTAL:				**222.2**

NOTE: AVERAGE WIDTH = 8'-0"

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

2/28/2014
R100676.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.		100676	45	116

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	AVG. WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	FEET			TON	TON
HWY. 226																										
257+00	257+46	HWY. 226 - 4 LN. DIV. - NOTCH AND WIDEN L.M.L.	46.0	625.76	287.8	88.6	452.8	0.03	13.6	30.4	155.4	440.0	34.2	29.4	150.3	385.0	28.9	28.8	147.2	220.0	16.2	72.0	368.0	220.0	40.5	56.7
257+46	259+46	HWY. 226 - 4 LN. DIV. - N. AND W. L.M.L. / LT. TURN LANE TAPER R.M.L.	200.0	652.89	1305.8	106.6	2368.9	0.03	71.1	36.4	808.9	440.0	178.0	35.4	786.7	385.0	151.4	34.8	773.3	220.0	85.1	78.0	1733.3	220.0	190.7	275.8
259+46	261+80	HWY. 226 - 4 LN. DIV. - N. AND W. L.M.L. / LT. TURN LANE R.M.L.	234.0	680.01	1591.2	124.6	3239.6	0.03	97.2	42.4	1102.4	440.0	242.5	41.4	1076.4	385.0	207.2	40.8	1060.8	220.0	116.7	84.0	2184.0	220.0	240.2	356.9
261+80	262+20	HWY. 226 - MEDIAN TURN AROUND	40.0	753.00	301.2	322.5	1433.3	0.03	43.0	109.6	487.1	440.0	107.2	109.0	484.4	385.0	93.2	108.5	482.2	220.0	53.0	124.0	551.1	220.0	60.6	113.6
262+20	264+54	HWY. 226 - 4 LN. DIV. - N. AND W. L.M.L. / LT. TURN LANE L.M.L.	234.0	680.01	1591.2	124.6	3239.6	0.03	97.2	42.4	1102.4	440.0	242.5	41.4	1076.4	385.0	207.2	40.8	1060.8	220.0	116.7	84.0	2184.0	220.0	240.2	356.9
264+54	266+54	HWY. 226 - 4 LN. DIV. - FULL DEPTH / LT. TURN LANE TAPER L.M.L.	200.0	743.63	1487.3	168.1	3735.6	0.03	112.1	57.2	1271.1	440.0	279.6	55.9	1242.2	385.0	239.1	55.0	1222.2	220.0	134.4	78.0	1733.3	220.0	190.7	325.1
266+54	279+70	HWY. 226 - 4 LN. DIV. - FULL DEPTH	1316.0	716.50	9429.1	150.1	21948.0	0.03	658.4	51.2	7486.6	440.0	1647.1	49.9	7296.5	385.0	1404.6	49.0	7164.9	220.0	788.1	72.0	10528.0	220.0	1158.1	1946.2
279+70	285+25	HWY. 226 - 4 LN. DIV. - FULL DEPTH / OFFSET LT. TURN LANE TAPER R.M.L.	555.0	800.44	4442.4	205.6	12678.7	0.03	380.4	69.7	4298.2	440.0	945.6	68.4	4218.0	385.0	812.0	67.5	4162.5	220.0	457.9	90.5	5580.8	220.0	613.9	1071.8
285+25	287+35	HWY. 226 - 4 LN. DIV. - FULL DEPTH / OFFSET LT. TURN LANE R.M.L.	210.0	753.00	1581.3	305.5	7128.3	0.03	213.8	109.6	2557.3	440.0	562.6	109.0	2543.3	385.0	489.6	108.5	2531.7	220.0	278.5	107.0	2496.7	220.0	274.6	553.1
287+35	288+65	HWY. 226 - HWY. 18 INTERSECTION	130.0	490.00	637.0	322.5	4658.3	0.03	139.7	109.6	1583.1	440.0	348.3	109.0	1574.4	385.0	303.1	108.5	1567.2	220.0	172.4	108.0	1560.0	220.0	171.6	344.0
288+65	290+75	HWY. 226 - 4 LN. DIV. - FULL DEPTH / OFFSET LT. TURN LANE L.M.L.	210.0	753.00	1581.3	305.5	7128.3	0.03	213.8	109.6	2557.3	440.0	562.6	109.0	2543.3	385.0	489.6	108.5	2531.7	220.0	278.5	107.0	2496.7	220.0	274.6	553.1
290+75	296+30	HWY. 226 - 4 LN. DIV. - FULL DEPTH / OFFSET LT. TURN LANE TAPER L.M.L.	555.0	800.44	4442.4	205.6	12678.7	0.03	380.4	69.7	4298.2	440.0	945.6	68.4	4218.0	385.0	812.0	67.5	4162.5	220.0	457.9	90.5	5580.8	220.0	613.9	1071.8
296+30	309+91	HWY. 226 - 4 LN. DIV. - FULL DEPTH	1361.0	716.50	9751.6	150.1	22698.5	0.03	681.0	51.2	7742.6	440.0	1703.4	49.9	7546.0	385.0	1452.6	49.0	7409.9	220.0	815.1	72.0	10888.0	220.0	1197.7	2012.8
309+91	311+91	HWY. 226 - 4 LN. DIV. - FULL DEPTH / LT. TURN LANE TAPER R.M.L.	200.0	743.63	1487.3	168.1	3735.6	0.03	112.1	57.2	1271.1	440.0	279.6	55.9	1242.2	385.0	239.1	55.0	1222.2	220.0	134.4	78.0	1733.3	220.0	190.7	325.1
311+91	314+26	HWY. 226 - 4 LN. DIV. - FULL DEPTH / LT. TURN LANE R.M.L.	235.0	770.75	1811.3	186.1	4859.3	0.03	145.8	63.2	1650.2	440.0	363.0	61.9	1616.3	385.0	311.1	61.0	1592.8	220.0	175.2	84.0	2193.3	220.0	241.3	416.5
314+26	314+70	HWY. 226 - MEDIAN TURN AROUND	44.0	753.00	331.3	322.5	1576.7	0.03	47.3	109.6	535.8	440.0	117.9	109.0	532.9	385.0	102.6	108.5	530.4	220.0	58.3	124.0	606.2	220.0	66.7	125.0
314+70	317+04	HWY. 226 - 4 LN. DIV. - FULL DEPTH / LT. TURN LANE L.M.L.	234.0	770.75	1803.6	186.1	4838.6	0.03	145.2	63.2	1643.2	440.0	361.5	61.9	1609.4	385.0	309.8	61.0	1586.0	220.0	174.5	84.0	2184.0	220.0	240.2	414.7
317+04	319+04	HWY. 226 - 4 LN. DIV. - FULL DEPTH / LT. TURN LANE TAPER L.M.L.	200.0	743.63	1487.3	168.1	3735.6	0.03	112.1	57.2	1271.1	440.0	279.6	55.9	1242.2	385.0	239.1	55.0	1222.2	220.0	134.4	78.0	1733.3	220.0	190.7	325.1
319+04	338+00	HWY. 226 - 4 LN. DIV. - FULL DEPTH	1896.0	716.50	13584.8	150.1	31621.1	0.03	948.6	51.2	10786.1	440.0	2372.9	49.9	10512.3	385.0	2023.6	49.0	10322.7	220.0	1135.5	72.0	15168.0	220.0	1668.5	2804.0
338+00	341+00	HWY. 226 - 4 LN. DIV. - NOTCH AND WIDEN R.M.L.	300.0	625.76	1877.3	88.6	2953.3	0.03	88.6	30.4	1013.3	440.0	222.9	29.4	980.0	385.0	188.7	28.8	960.0	220.0	105.6	72.0	2400.0	220.0	264.0	369.6
330+99	333+66	EXISTING HWY. 226 - TEMPORARY WIDENING	267.0	95.38	254.7	26.2	777.3	0.03	23.3					13.2	391.6	495.0	96.9					13.0	385.7	220.0	42.4	42.4
333+66	338+20	EXISTING HWY. 226 - TEMPORARY WIDENING	454.0	162.75	738.9	52.4	2643.3	0.03	79.3					26.4	1331.7	495.0	329.6					26.0	1311.6	220.0	144.3	144.3
338+20	341+00	EXISTING HWY. 226 - TEMPORARY WIDENING	280.0	95.38	267.1	26.2	815.1	0.03	24.5					13.2	410.7	495.0	101.6					13.0	404.4	220.0	44.5	44.5
39+60	47+16	HWY. 226 - TEMPORARY M.O.T. CROSSOVER	756.0	VAR.	652.92	VAR.	1270.5	0.03	38.1					VAR.	645.3	495.0	159.7					VAR.	603.1	220.0	66.3	66.3
HWY. 18																										
10+00	11+00	HWY. 18 - TRANSITION	100.0	91.38	91.4	51.0	566.7	0.03	17.0	10.8	120.0	440.0	26.4	10.5	116.7	385.0	22.5	10.3	114.4	220.0	12.6	30.0	333.3	220.0	36.7	49.3
11+00	12+50	HWY. 18 - NOTCH AND WIDEN	150.0	182.75	274.1	81.9	1365.0	0.03	41.0	21.5	358.3	440.0	78.8	20.9	348.3	385.0	67.0	20.5	341.7	220.0	37.6	40.0	666.7	220.0	73.3	110.9
12+50	13+32	HWY. 18 - FULL DEPTH	82.0	273.50	224.3	121.9	1110.6	0.03	33.3	41.5	378.1	440.0	83.2	40.9	372.6	385.0	71.7	40.5	369.0	220.0	40.6	40.0	364.4	220.0	40.1	80.7
13+32	14+69	HWY. 18 - FULL DEPTH TURNOUT	137.0	VAR.	920.9	VAR.	4378.4	0.03	131.4	VAR.	1471.7	440.0	323.8	VAR.	1458.3	385.0	280.7	VAR.	1448.4	220.0	159.3	VAR.	1437.7	220.0	158.1	317.4
15+77	17+82	HWY. 18 - FULL DEPTH TURNOUT	205.0	VAR.	1212.8	VAR.	5961.8	0.03	178.9	VAR.	2003.1	440.0	440.7	VAR.	1985.7	385.0	382.2	VAR.	1973.0	220.0	217.0	VAR.	1959.1	220.0	215.5	432.5
17+82	20+90	HWY. 18 - FULL DEPTH	308.0	273.50	842.4	121.9	4171.7	0.03	125.2	41.5	1420.2	440.0	312.4	40.9	1399.7	385.0	269.4	40.5	1386.0	220.0	152.5	40.0	1368.9	220.0	150.6	303.1
20+90	22+00	HWY. 18 - NOTCH AND WIDEN TURNOUT	110.0	VAR.	264.3	VAR.	853.9	0.03	25.6	VAR.	292.2	440.0	64.3	VAR.	283.9	385.0	54.7	VAR.	277.8	220.0	30.6	VAR.	820.0	220.0	90.2	120.8
ADDITIONAL FOR LEVELING																										
257+00	264+54	HWY. 226 - NOTCH AND WIDEN	754.0			20.0	1675.6	0.10	167.6													20.0	1675.6	VAR.	473.2	473.2
338+00	341+00	HWY. 226 - NOTCH AND WIDEN	300.0			20.0	666.7	0.10	66.7													20.0	666.7	VAR.	198.0	198.0
11+00	12+50	HWY. 18 - NOTCH AND WIDEN	150.0			20.0	333.3	0.10	33.3													20.0	333.3	VAR.	148.5	148.5
20+90	22+00	HWY. 18 - NOTCH AND WIDEN	110.0			20.0	244.4	0.10	24.4													20.0	244.4	VAR.	61.4	61.4
ADDITIONAL FOR SUPERELEVATION																										
265+49	268+99	HWY. 226 - TRANSITION	350.0	156.25	546.9																					
268+99	272+89	HWY. 226 - FULL SUPER	390.0	312.50	1218.8																					
272+89	276+39	HWY. 226 - TRANSITION	350.0	156.25	546.9																					
277+42	280+92	HWY. 226 - TRANSITION	350.0	102.88	360.1																					
280+92	288+87	HWY. 226 - FULL SUPER	795.0	205.75	1635.7																					
288+87	292+37	HWY. 226 - TRANSITION	350.0	102.88	360.1																					
309+84	313+34	HWY. 226 - TRANSITION	350.0	102.88	360.1																					
313+34	321+53	HWY. 226 - FULL SUPER	819.0	205.75	1685.1																					
321+53	325+03	HWY. 226 - TRANSITION	350.0	102.88	360.1																					
329+09	332+59	HWY. 226 - TRANSITION	350.0	156.25	546.9																					
332+59	336+57	HWY. 226 - FULL SUPER	398.0	312.50	1243.8																					
336+57	340+07	HWY. 226 - TRANSITION	350.0	156.25	546.9																					
11+08	12+54	HWY. 18 - TRANSITION	146.0	52.25	76.3																					
12+54	14+00	HWY. 18 - TRANSITION	146.0	52.25	76.3																					
15+89	17+66	HWY. 18 - TRANSITION	177.0	81.75	144.7																					
17+66	19+42	HWY. 18 - TRANSITION	176.0	81.75	143.9																					
19+42	20+69	HWY. 18 - TRANSITION	127.0	60.75	77.2																					
20+69	21+97	HWY. 18 - TRANSITION	128.0	60.75	77.8																					
TOTALS:					76563.9		183543.1		5711.0		59665.0		13126.2		61235.7		11940.5		57623.5		6338.6		86477.7		10072.5	16411.1

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....96.0% MIN. AGGR.....4.0% 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

2/28/2014

R100676.DGN

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	12	STATION
201	GRUBBING	12	STATION
202	REMOVAL AND DISPOSAL OF FENCE	515	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS	93	SQ. YD.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	14	EACH
202	REMOVAL AND DISPOSAL OF TRAFFIC DRUMS LEFT IN PLACE	29	EACH
202	REMOVAL AND DISPOSAL OF BARRICADES LEFT IN PLACE	26	EACH
202	REMOVAL AND DISPOSAL OF SIGNS LEFT IN PLACE	23	EACH
210	UNCLASSIFIED EXCAVATION	44766	CU. YD.
SP & 210	COMPACTED EMBANKMENT	69779	CU. YD.
SP & 210	SOIL STABILIZATION	500	TON
SP & 214	SUBGRADE PREPARATION	47	STATION
SP & 302	SELECTED MATERIAL (CLASS SM-1)	21317	CU. YD.
303	AGGREGATE BASE COURSE (CLASS 7)	78285	TON
401	TACK COAT	5811	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	12627	TON
SP & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")	499	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	11463	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	478	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	15738	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	881	TON
412	COLD MILLING ASPHALT PAVEMENT	1778	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	50	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY	190.30	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	18" TEMPORARY CULVERT	148	LIN. FT.
604	SIGNS	503	SQ. FT.
604	BARRICADES	536	LIN. FT.
604	TRAFFIC DRUMS	240	EACH
604	CONSTRUCTION PAVEMENT MARKINGS	42275	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	2940	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	860	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	1600	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS (WORDS)	1	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS (ARROWS)	4	EACH
604	VERTICAL PANELS	26	EACH
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	288	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	390	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	170	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	352	LIN. FT.
SP & 606	24" SIDE DRAIN	332	LIN. FT.
SP & 606	36" SIDE DRAIN	100	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	3	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
606	SELECTED PIPE BEDDING	150	CU. YD.
609	DROP INLETS (TYPE RM)	4	EACH
611	UNDERDRAIN OUTLET PROTECTORS	9	EACH
611	4" PIPE UNDERDRAINS	2000	LIN. FT.
617	GUARDRAIL (TYPE C)	50	LIN. FT.
619	WIRE FENCE (TYPE A)	2877	LIN. FT.
619	WIRE FENCE (TYPE C)	225	LIN. FT.
* 619	16' STEEL GATES (ALTERNATE NO. 1)	5	EACH
* 619	16' ALUMINUM GATES (ALTERNATE NO. 2)	5	EACH
620	LIME	31	TON
620	SEEDING	15.74	ACRE
SS & 620	MULCH COVER	41.74	ACRE
620	WATER	2137.8	M.GAL.
621	TEMPORARY SEEDING	26.00	ACRE
621	SILT FENCE	1338	LIN. FT.
621	SAND BAG DITCH CHECKS	1925	BAG
621	DROP INLET SILT FENCE	158	LIN. FT.
621	SEDIMENT BASIN	100	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	100	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	253	CU. YD.
621	ROCK DITCH CHECKS	101	CU. YD.
623	SECOND SEEDING APPLICATION	15.74	ACRE
624	SOLID SODDING	151	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	222	SQ. YD.
632	CONCRETE ISLAND	913	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	6	EACH
637	MAILBOX SUPPORTS (SINGLE)	6	EACH
640	MODIFYING DROP INLETS	1	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	27425	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")	2701	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	1608	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12")	24	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	2407	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	20706	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	1395	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	17539	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	8	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	8	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	225	EACH
726	STANDARD SIGN	14	SQ. FT.

* DENOTES ALTERNATE BID ITEMS

REVISIONS

DATE	REVISION	SHEET NUMBER
5/8/2014	ADDED SPECIAL PROVISION "RESTRAINING CONDITION"	2, 46

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TIMOTHY D. SMITH 5-8-14

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIV.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
05-08-2014				6	ARK.	I00676	46	116

(2) SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	47	116

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL. PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
10	533885.8777	1604006.5166	241.763	CTL	5/8" Rebar with 2" Aluminum Cap
11	533869.9076	1605071.6633	240.587	CTL	5/8" Rebar with 2" Aluminum Cap
12	533852.3119	1606212.5228	240.711	CTL	5/8" Rebar with 2" Aluminum Cap
13	533835.5791	1607227.0847	241.265	CTL	5/8" Rebar with 2" Aluminum Cap
14	533818.3021	1608232.5536	241.097	CTL	5/8" Rebar with 2" Aluminum Cap
15	533806.2408	1609393.0025	241.063	CTL	5/8" Rebar with 2" Aluminum Cap
16	533790.7684	1610515.0489	239.944	CTL	5/8" Rebar with 2" Aluminum Cap
17	533790.1233	1611573.9150	241.374	CTL	5/8" Rebar with 2" Aluminum Cap
18	533782.3552	1612762.7185	241.147	CTL	5/8" Rebar with 2" Aluminum Cap
19	533768.8600	1613540.6041	240.136	CTL	5/8" Rebar with 2" Aluminum Cap
20	533765.5354	1614630.9721	240.742	CTL	5/8" Rebar with 2" Aluminum Cap
21	533736.9524	1615864.4039	239.974	CTL	5/8" Rebar with 2" Aluminum Cap
22	533723.4737	1616957.4919	239.898	CTL	5/8" Rebar with 2" Aluminum Cap
23	533702.1519	1617967.3834	239.328	CTL	5/8" Rebar with 2" Aluminum Cap
24	533679.3654	1619113.4602	241.023	CTL	5/8" Rebar with 2" Aluminum Cap
25	533651.5401	1620240.7353	242.260	CTL	5/8" Rebar with 2" Aluminum Cap
26	533627.4120	1621227.3049	242.211	CTL	5/8" Rebar with 2" Aluminum Cap
27	533615.9590	1621952.9022	242.268	CTL	5/8" Rebar with 2" Aluminum Cap
28	533601.5295	1622944.5000	242.711	CTL	5/8" Rebar with 2" Aluminum Cap
29	533581.6282	1624200.7396	242.985	CTL	5/8" Rebar with 2" Aluminum Cap
30	533560.1504	1625253.8630	243.585	CTL	5/8" Rebar with 2" Aluminum Cap
31	533548.8989	1626378.1614	242.998	CTL	5/8" Rebar with 2" Aluminum Cap
32	533514.9561	1627731.0375	247.911	CTL	5/8" Rebar with 2" Aluminum Cap
33	533523.6605	1628434.8243	248.794	CTL	5/8" Rebar with 2" Aluminum Cap
34	533509.1540	1629690.2926	249.353	CTL	5/8" Rebar with 2" Aluminum Cap
35	533499.1057	1630556.1290	249.518	CTL	5/8" Rebar with 2" Aluminum Cap
36	533500.2008	1631705.0818	249.454	CTL	5/8" Rebar with 2" Aluminum Cap
37	533490.7148	1632688.7760	248.513	CTL	5/8" Rebar with 2" Aluminum Cap
38	533489.1572	1633993.3326	247.320	CTL	5/8" Rebar with 2" Aluminum Cap
39	533459.1358	1635103.2571	245.352	CTL	5/8" Rebar with 2" Aluminum Cap
40	533467.8993	1636072.6029	245.367	CTL	5/8" Rebar with 2" Aluminum Cap
41	533446.9016	1636922.2134	245.213	CTL	5/8" Rebar with 2" Aluminum Cap
42	533425.7968	1638094.0713	246.003	CTL	5/8" Rebar with 2" Aluminum Cap
43	533408.8224	1639161.4861	245.906	CTL	5/8" Rebar with 2" Aluminum Cap
44	533381.1719	1640087.4799	246.656	CTL	5/8" Rebar with 2" Aluminum Cap
45	533412.8164	1643392.4657	246.426	CTL	5/8" Rebar with 2" Aluminum Cap
46	533407.6484	1644172.4141	248.243	CTL	5/8" Rebar with 2" Aluminum Cap
47	533410.9345	1645134.4474	247.940	CTL	5/8" Rebar with 2" Aluminum Cap
48	533366.9545	1645962.1648	250.061	CTL	5/8" Rebar with 2" Aluminum Cap
49	533405.4661	1647284.3494	250.366	CTL	5/8" Rebar with 2" Aluminum Cap
50	533409.4232	1648185.2243	250.241	CTL	5/8" Rebar with 2" Aluminum Cap
51	533411.8986	1649352.8260	250.736	CTL	5/8" Rebar with 2" Aluminum Cap
52	533418.0921	1650380.9714	250.337	CTL	5/8" Rebar with 2" Aluminum Cap
53	533379.5835	1653609.1588	253.834	CTL	5/8" Rebar with 2" Aluminum Cap
54	533382.1967	1654543.5737	251.723	CTL	5/8" Rebar with 2" Aluminum Cap
55	533422.2184	1655659.5637	252.896	CTL	5/8" Rebar with 2" Aluminum Cap
56	533408.7531	1656393.1439	258.129	CTL	5/8" Rebar with 2" Aluminum Cap
57	533328.4701	1657324.6234	256.731	CTL	5/8" Rebar with 2" Aluminum Cap
58	533294.0742	1658181.9484	253.708	CTL	5/8" Rebar with 2" Aluminum Cap
59	533230.6512	1659356.0443	254.550	CTL	5/8" Rebar with 2" Aluminum Cap
60	533234.4297	1660122.9707	254.918	CTL	5/8" Rebar with 2" Aluminum Cap
61	533138.0361	1661150.8527	253.394	CTL	5/8" Rebar with 2" Aluminum Cap
62	533156.2961	1662266.4828	256.539	CTL	5/8" Rebar with 2" Aluminum Cap
63	533164.2577	1663312.3536	256.809	CTL	5/8" Rebar with 2" Aluminum Cap
64	533140.8642	1664502.4744	257.656	CTL	5/8" Rebar with 2" Aluminum Cap
65	533184.1396	1665062.0045	260.294	CTL	5/8" Rebar with 2" Aluminum Cap
66	533102.0852	1666128.4078	257.659	CTL	5/8" Rebar with 2" Aluminum Cap
67	533102.8386	1667306.4401	261.594	CTL	5/8" Rebar with 2" Aluminum Cap
68	533109.0512	1668388.2136	260.822	CTL	5/8" Rebar with 2" Aluminum Cap
69	533135.4301	1669664.1468	261.658	CTL	5/8" Rebar with 2" Aluminum Cap
70	533134.2824	1670729.9592	264.428	CTL	5/8" Rebar with 2" Aluminum Cap
71	533153.2239	1672084.7771	273.500	CTL	5/8" Rebar with 2" Aluminum Cap
74	534237.4036	1598581.6389	254.802	CTL	5/8" Rebar with 2" Aluminum Cap
75	534876.8438	1598636.8475	244.456	CTL	5/8" Rebar with 2" Aluminum Cap
76	535475.6242	1598640.3721	242.282	CTL	5/8" Rebar with 2" Aluminum Cap
77	534057.9882	1611247.8694	238.372	CTL	5/8" Rebar with 2" Aluminum Cap
78	534745.7090	1611228.6605	238.003	CTL	5/8" Rebar with 2" Aluminum Cap
79	535400.8150	1611237.2881	237.892	CTL	5/8" Rebar with 2" Aluminum Cap
80	533602.8371	1614421.3900	236.092	CTL	5/8" Rebar with 2" Aluminum Cap
81	532992.9764	1614380.8071	235.621	CTL	5/8" Rebar with 2" Aluminum Cap
82	532355.9605	1614337.3860	236.103	CTL	5/8" Rebar with 2" Aluminum Cap
83	533866.0162	1619280.7712	238.827	CTL	5/8" Rebar with 2" Aluminum Cap
84	534471.5118	1619270.3061	238.927	CTL	5/8" Rebar with 2" Aluminum Cap
85	535120.1781	1619306.1267	238.924	CTL	5/8" Rebar with 2" Aluminum Cap
86	533296.6897	1635253.3796	246.512	CTL	5/8" Rebar with 2" Aluminum Cap
87	532657.0384	1635256.9269	244.924	CTL	5/8" Rebar with 2" Aluminum Cap
88	532026.6693	1635257.0908	244.738	CTL	5/8" Rebar with 2" Aluminum Cap
89	533667.3609	1640718.8090	245.292	CTL	5/8" Rebar with 2" Aluminum Cap
90	534331.6212	1640730.2701	246.336	CTL	5/8" Rebar with 2" Aluminum Cap
91	534943.3225	1640738.3673	247.483	CTL	5/8" Rebar with 2" Aluminum Cap
92	533200.3133	1645942.2895	247.226	CTL	5/8" Rebar with 2" Aluminum Cap
93	532601.5948	1645935.5342	248.323	CTL	5/8" Rebar with 2" Aluminum Cap
94	531913.3022	1645932.8911	248.882	CTL	5/8" Rebar with 2" Aluminum Cap
95	533729.0599	1651256.1029	249.950	CTL	5/8" Rebar with 2" Aluminum Cap
96	534100.7570	1651274.5768	250.361	CTL	5/8" Rebar with 2" Aluminum Cap
97	534736.3363	1651306.7902	250.292	CTL	5/8" Rebar with 2" Aluminum Cap
98	533462.1349	1665059.5417	263.146	CTL	5/8" Rebar with 2" Aluminum Cap
99	534050.6309	1665239.0715	263.484	CTL	5/8" Rebar with 2" Aluminum Cap
100	533445.9101	1640662.6166	246.637	GPS	160008 GPS
101	533359.9462	1642423.0597	247.568	GPS	160008A GPS
102	533457.7251	1651276.0473	252.669	GPS	160009A GPS
103	533450.0375	1652642.1920	252.126	GPS	160009 GPS
104	529775.0133	1663864.7028	251.983	GPS	160026 GPS
105	527888.0917	1663344.4477	251.590	BM	K-183 STD DSK
106	533377.4211	1622165.2816	242.411	GPS	160028 GPS
107	532889.2092	1620466.0898	243.486	GPS	160028A GPS
108	533964.2848	1603989.6098	245.244	GPS	160030 GPS
109	535811.9650	1603284.2999	253.002	GPS	160004A GPS
110	528280.9266	1624321.1650	247.623	GPS	160029 GPS
111	533623.4614	1672624.6200	280.913	GPS	160010 GPS

Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL. PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
120	534551.6487	1665394.2032	263.699	CTL	5/8" Rebar with 2" Aluminum Cap
121	532912.8298	1668700.9149	261.010	CTL	5/8" Rebar with 2" Aluminum Cap
122	531597.2424	1668702.9780	254.747	CTL	5/8" Rebar with 2" Aluminum Cap
123	530591.1820	1668654.2225	254.983	CTL	5/8" Rebar with 2" Aluminum Cap
124	534204.7984	1672683.9568	288.057	CTL	5/8" Rebar with 2" Aluminum Cap
125	530733.6091	1671726.8798	262.210	CTL	5/8" Rebar with 2" Aluminum Cap
126	529583.6601	1672580.0339	263.642	CTL	5/8" Rebar with 2" Aluminum Cap
127	530665.1898	1672589.5177	266.553	CTL	5/8" Rebar with 2" Aluminum Cap
130	528059.8720	1663728.3793	251.156	CTL	5/8" Rebar with 2" Aluminum Cap
131	528018.5869	1664868.5859	251.287	CTL	5/8" Rebar with 2" Aluminum Cap
132	527976.8328	1665979.3225	251.357	CTL	5/8" Rebar with 2" Aluminum Cap
133	527990.0274	1666875.5379	251.415	CTL	5/8" Rebar with 2" Aluminum Cap
134	527952.8224	1667696.3918	250.894	CTL	5/8" Rebar with 2" Aluminum Cap
135	527955.9775	1668340.3240	251.374	CTL	5/8" Rebar with 2" Aluminum Cap
900	528669.8801	1624642.4947	247.410	BM	M246 USGS GOV BENCH
901	529868.9741	1625422.1050	244.639	BM	CH SQ IN HW
902	530907.7553	1626097.7598	244.963	BM	CH SQ IN HW
903	532139.0143	1626898.4489	246.657	BM	CH SQ IN HW
904	533472.6065	1627727.8152	251.376	BM	CH SQ IN TB PEDESTAL
905	533520.2875	1626948.6151	243.562	BM	CPS IN PP
906	533544.8077	1624630.6167	243.575	BM	CPS IN CP
907	533567.7778	1622901.9453	242.233	BM	CPS IN A CP
908	533608.6072	1622010.2771	240.465	BM	CH SQ IN HW
909	533680.1246	1620595.5126	240.724	BM	CH SQ IN HW
910	533671.6239	1618607.5509	241.008	BM	CH SQ IN BR OF FIELD ENT.
911	533719.8511	1616601.3916	238.472	BM	CHSLD SQR IN
912	533780.2910	1613620.3985	242.857	BM	CH SQ SW COR BR
913	533753.9026	1611241.3070	237.770	BM	CH SQ IN
914	533781.0953	1609032.5927	239.694	BM	CPS IN A PP
915	533854.5848	1607719.2158	241.980	BM	CH SQ IN NW
916	533888.0347	1605805.8539	242.066	BM	CH SQ IN NW
917	533929.7472	1603851.4782	241.541	BM	CH SQ W END OF HW
918	533500.1299	1629075.3156	248.219	BM	CH SQ IN TB PED.
919	533546.2370	1630312.6124	247.109	BM	TBM-919
920	533486.3795	1632334.2668	247.077	BM	CH SQ IN RCP
921	533474.1080	1634022.8001	246.104	BM	CH SQ IN RCP
923	533355.1205	1636321.9005	247.982	BM	CH SQ IN
924	533405.1077	1638069.3293	246.403	BM	CH SQ NE COR
926	533370.6017	1640081.4056	246.669	BM	CH SQ IN NW
927	533357.5275	1641608.9113	246.479	BM	CPS IN A PP
928	533411.4022	1643115.2124	244.960	BM	ON A CMP
929	533362.4278	1644091.2203	249.319	BM	CPS PP
930	533376.9641	1645967.4418	251.673	BM	TBM-930
931	533365.2610	1647110.0059	250.603	BM	CH SQ IN DW
932	533366.7648	1651175.3250	250.851	BM	TBM-932
933	533376.9794	1652410.0381	254.309	BM	CPS PP
934	533379.8320	1653642.0363	254.734	BM	CPS PP
935	533374.6226	1655129.6835	252.368	BM	CPS PP
936	533377.6557	1656473.3506	258.817	BM	CH SQ SW COR BR
937	533344.0044	1657313.0664	258.447	BM	CH SQ SE COR BR
938	533221.3071	1659393.4562	254.690	BM	CPS PP
939	533149.4943	1660796.1227	253.165	BM	CPS PP
940	533083.2207	1661796.2688	255.719	BM	CPS PP
941	533110.6057	1663429.9415	255.438	BM	CPS PP
942	533285.7903	1665050.8624	267.269	BM	CH SQ IN PED. 3FT
943	533106.3222	1667328.2947	261.863	BM	CHSLD SQ BR HW
944	533113.4028	1669295.7109	260.466	BM	CPS CP
951	528034.6853	1666051.5211	251.053	TBM	CHISLED SQR

•Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped •(standard markings common to all caps), or as indicated (other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999306892 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME: S100412GI.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 111
CONVERGENCE ANGLE: 0-42-24.220508 RT AT LT: 35-47-37.05963 RT LG: 90-54-28.38572
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 226

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	231+03.76	533591.8508	1621710.7603
8001	PI	240+34.08	533579.2633	1622640.9931
8002	PI	249+49.14	533565.7270	1623555.9523
8003	PI	255+06.86	533558.6091	1624113.6309
8004	PI	263+11.79	533546.2463	1624918.4639
8005	PC	268+11.57	533539.6556	1625418.2052
8007	PT	273+76.60	533449.3470	1625973.8828
8008	PC	280+04.47	533258.3882	1626572.0057
8010	PT	289+74.53	533103.5548	1627526.0417
8011	PC	312+46.43	533074.5981	1629797.7623
8013	PT	322+40.52	533211.8689	1630778.4734
8014	PC	331+71.48	533478.8642	1631670.3256
8016	PT	337+44.98	533559.0095	1632236.0238
8017	PI	388+69.15	533510.8255	1637359.9712
8018	PI	406+03.17	533481.3862	1639093.7373
8019	PI	423+51.77	533444.7578	1640841.9597
8020	PI	453+82.03	533431.6946	1643872.1876
8021	PI	498+68.09	533432.4793	1648358.2470
8022	PI	537+25.96	533449.4821	1652216.0775
8023	PC	583+08.64	533444.4660	1656798.7517
8025	PT	617+78.23	532422.0882	1660059.0324
8026	PC	689+03.72	528337.2959	1665945.3369
8028	PT	700+75.56	527996.5478	1667047.4007
8029	PI	703+94.96	527998.7576	1667366.7932
8030	POE	704+50.04	527999.1386	1667421.8719

HWY. 18

POINT NO.	TYPE	STATION	NORTHING	EASTING
8031	POB	10+00.00	532622.6274	1627193.3725
8032	PC	11+07.97	532713.1495	1627252.2170
8034	PT	14+00.38	532987.6063	1627343.5451
8035	PC	15+88.89	533175.6974	1627355.9871
8037	PT	19+42.12	533398.5972	1627588.2073
8038	PC	19+42.13	533398.5972	1627588.2083
8040	PT	21+96.75	533518.8479	1627801.2120
8041	POE	23+50.80	533648.7049	1627884.0822

TEMPORARY WIDENING HWY. 226

POINT NO.	TYPE	STATION	NORTHING	EASTING
8042	POB	325+77.86	533517.1118	1631069.0157
8043	PC	330+99.41	533516.6485	1631590.5651
8045	PT	332+24.41	533527.4186	1631714.9410
8046	PC	332+40.62	533530.2188	1631730.9049
8048	PT	333+66.49	533540.9877	1631856.1524
8049	PC	338+19.58	533540.0338	1632309.2412
8051	PT	339+45.31	533528.7619	1632434.3073
8052	PC	339+62.15	533525.7872	1632450.8743
8054	PT	340+87.15	533514.5173	1632575.2060
8055	POE	341+98.58	533514.1684	1632686.6426

TEMPORARY WESTBOUND CROSSOVER

POINT NO.	TYPE	STATION	NORTHING	EASTING
8056	POB	30+00.00	533616.7574	1622641.5483
8057	PI	39+15.06	533603.2211	1623556.5074
8058	PC	39+60.02	533602.6473	1623601.4661
8060	PT	43+40.69	533560.0130	1623979.1048
8061	PC	43+40.69	533560.0129	1623979.1053
8063	PT	47+16.40	533517.4483	1624351.7846
8064	POE	52+82.56	533508.7526	1624917.8846

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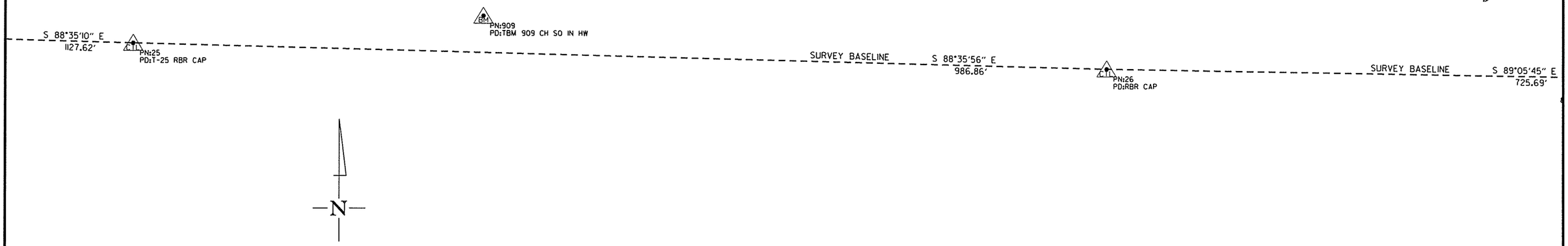
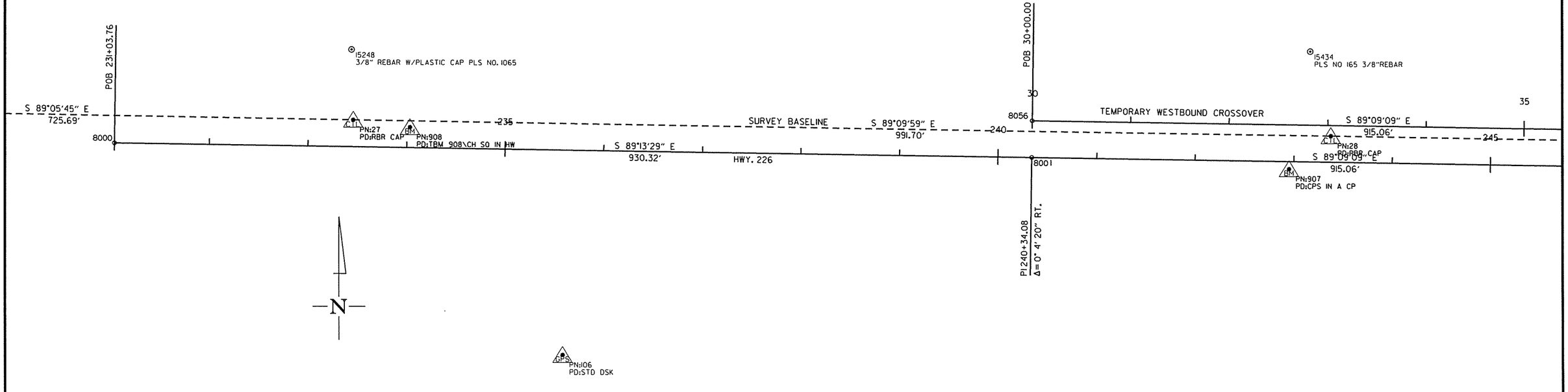
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	48	116

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14





2/28/2014

R100676.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	49	116

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

STA. 257+00.00
BEGIN JOB 100676

35 — S 89°09'09" E 915.06' — TEMPORARY WESTBOUND CROSSOVER — S 89°16'08" E — 40

245 — 915.06' — SURVEY BASELINE — S 89°05'33" E 1256.40' — 8057 — 44.96' — 8058 — 250

S 89°09'09" E 915.06' — HWY. 226 — 8002

PI 249+49.14
Δ=0° 6' 59" LT.

PI 39+15.06
Δ=0° 6' 59" LT.

PC 39+60.02

PI 41+50.99

WB CROSSOVER
PI = 41+50.99
Δ = 11°25' 12" RT.
D = 03°00' 00"
T = 190.97'
L = 380.67'
PC = 39+60.02
PT = 43+40.69

S 89°16'07" E 557.72' — 8060

PC 43+40.69

PT 43+40.69

8061 — S 77°50'55" E 0.00'

WB CROSSOVER
PI = 45+29.15
Δ = 11°16' 16" LT.
D = 03°00' 00"
T = 188.46'
L = 375.71'
PC = 43+40.69
PT = 47+16.40

PT 47+16.40

CTL PN:29 PD:RBR CAP

255 — 45 — 8003 — S 89°07'12" E 804.93' — 260 — SURV

8063 — S 89°07'12" E 566.17'

PI 255+06.86
Δ= 0° 8' 56" RT.

PI 45+29.15

BM PN:9 50PD:C

260 — SURVEY BASELINE — S 88°49'54" E 1053.34' — POE 52+82.56 — PI 263+11.79 Δ=0° 7' 28" LT. — 265

S 89°07'12" E 804.93' — BM PN:906 50PD:CPS IN CP — 8004

S 89°07'12" E 566.17' — TEMPORARY WESTBOUND CROSSOVER — 8064

S 89°14'40" E 499.78' — CTL PN:30 PD:RBR CAP HWY. 226 — 8005

SURVEY BASELINE — S 89°25'36" E 1124.35' — 270

PI 270+96.16

PC 268+11.57

HYW. 226
PI = 270+96.16
Δ = 16°57' 03" RT.
D = 03°00' 00"
T = 284.59'
L = 565.03'
PC = 268+11.57
PT = 273+76.60
e = 0.077'/'
Ls = 350'

8007 — S 72°17'37" E 627.87' — 275

PT 273+76.60

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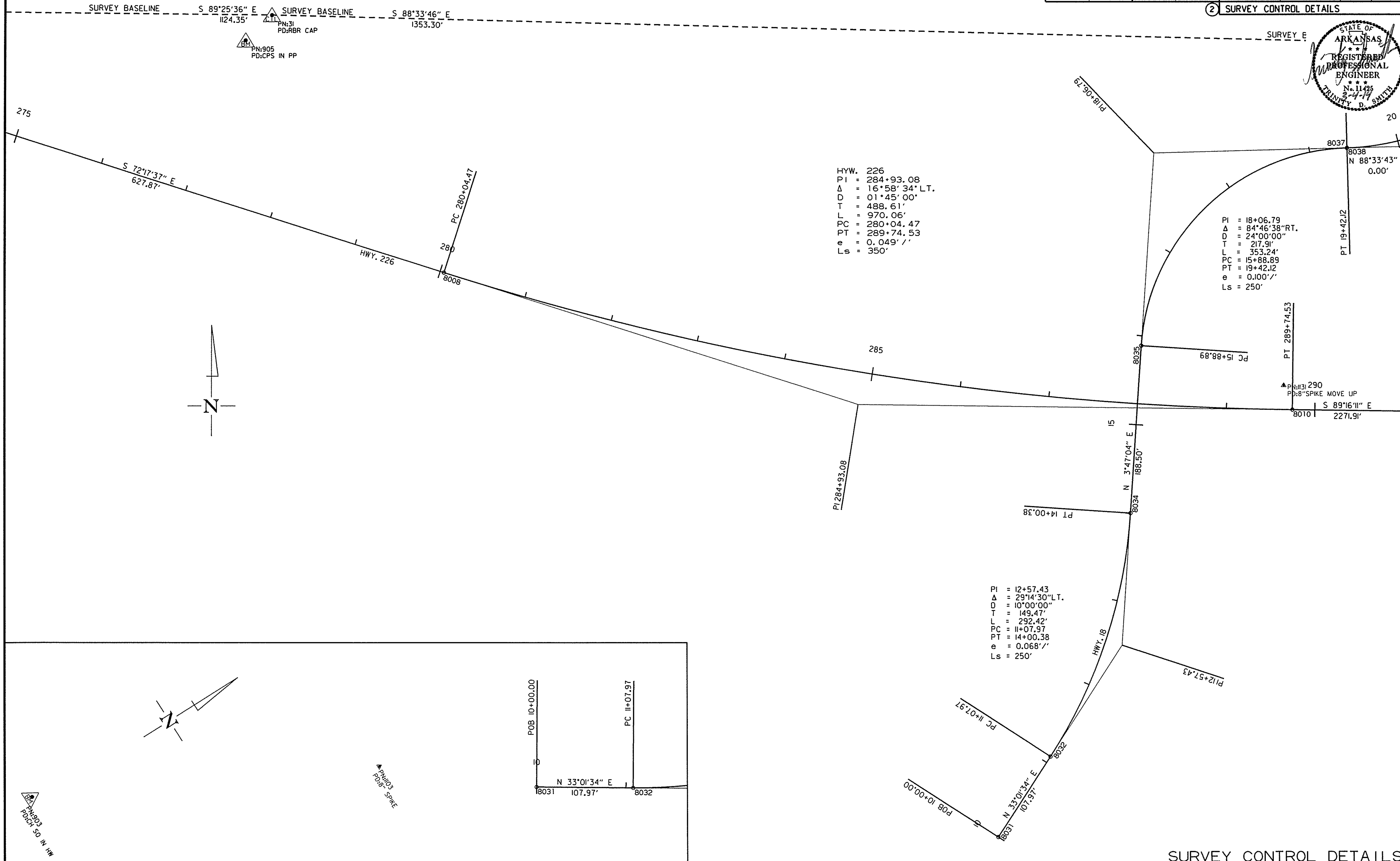
SURVEY CONTROL DETAILS

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.		100676	50	116

(2) SURVEY CONTROL DETAILS



SURVEY BASELINE
S 89°25'36" E
1124.35'
SURVEY BASELINE
S 88°33'46" E
1353.30'
PN:31
PD:RBR CAP
BM
PN:905
PD:CPS IN PP
SURVEY E
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11495
TRINITY D. SMITH
275
S 72°17'37" E
627.87'
PC 280+04.47
280
HWY. 226
8008
HYW. 226
PI = 284+93.08
Δ = 16°58'34" LT.
D = 01°45'00"
T = 488.61'
L = 970.06'
PC = 280+04.47
PT = 289+74.53
e = 0.049'/'
Ls = 350'
285
PI 284+93.08
PI 18+06.79
8037
8038
N 88°33'43" E
0.00'
20
PI = 18+06.79
Δ = 84°46'38"RT.
D = 24°00'00"
T = 217.91'
L = 353.24'
PC = 15+88.89
PT = 19+42.12
e = 0.100'/'
Ls = 250'
PT 19+42.12
PT 289+74.53
8035
PC 15+88.89
PN:1131 290
PD:8"SPIKE MOVE UP
8010
S 89°16'11" E
2271.91'
15
N 3°47'04" E
188.50'
8034
PT 14+00.38
N
PI = 12+57.43
Δ = 29°14'30"LT.
D = 10°00'00"
T = 149.47'
L = 292.42'
PC = 11+07.97
PT = 14+00.38
e = 0.068'/'
Ls = 250'
HWY. 18
PI 12+57.43
PC 11+07.97
8032
POB 10+00.00
N 33°01'34" E
107.97'
8031
10
N
POB 10+00.00
PC 11+07.97
N 33°01'34" E
107.97'
8031
8032
PN:1103
PD:8" SPIKE
BM
PN:903
PD:CH SQ IN HW

SURVEY CONTROL DETAILS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	51	116

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

PI = 20+80.65
Δ = 56°01'02"LT.
D = 22°00'00"
T = 138.53'
L = 254.62'
PC = 19+42.13
PT = 21+96.75
e = 0.099'/'
Ls = 250'

POE 23+50.80

8041

PT 21+96.75

N 32°32'41" E
154.05'

8040

SURVEY BASELINE S 88°33'46" E 1353.30'

PC 19+42.13

CTL PN:32 PD:RBR CAP

BM PN:984 PD:CH SO IN TB PEDISTAL

20 HWY. 18

8037

8038
N 88°33'43" E
0.00'

PI = 18+06.79
Δ = 84°46'38"RT.
D = 24°00'00"
T = 217.91'
L = 353.24'
PC = 15+88.89
PT = 19+42.12
e = 0.100'/'
Ls = 250'

PT 19+42.12

POE 20+80.65

SURVEY BASELINE N 89°17'29" E 703.84'

CTL PN:33 PD:T-33 RBR CAP

SURVEY BASELINE S 89°20'17" E 1255.55'

N

PT 289+74.53

PN:1131 PD:8"SPIKE MOVE UP

8010

290 S 89°16'11" E 2271.91'

295

HWY. 226

300 S 89°16'11" E 2271.91'

305

HYW. 226
PI = 284+93.08
Δ = 16°58'34"LT.
D = 01°45'00"
T = 488.61'
L = 970.06'
PC = 280+04.47
PT = 289+74.53
e = 0.049'/'
Ls = 350'

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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.		100676	52	116

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

PN:919
PD:TBM-919

PN:35
PD:T-35 RBR CAP

SURVEY BASELINE S 89°20'06" E 865.89'

SURVEY BASELINE S 89°20'17" E 1255.55'

PN:34
PD:T-34 RBR CAP

PN:918
PD:TBM-918 CH SO IN TB PED.

HYW. 226
PI = 317+47.33
Δ = 17°23'47" LT.
D = 01°45'00"
T = 500.90'
L = 994.08'
PC = 312+46.43
PT = 322+40.52
e = 0.049'/'
Ls = 350'

320

N 73°20'02" E 930.96'

PC 312+46.43

315

PI 317+47.33

8011

310

HWY. 226

PN:1130
PD:8"SPIKE MOVE UP

S 89°16'11" E 2271.91'

305

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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.		100676	53	116

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

N

POB 325+77.86
8042
HWY. 226 TEMPORARY WIDENING
SURVEY BASELINE
N 89°56'43" E
1148.95'
330
S 89°56'57" E
521.55'
PC 330+99.41
8043
HWY. 226 TEMPORARY WIDENING
PI = 331+62.07
Δ = 10°00'00" LT.
D = 08°00'00"
T = 62.66'
L = 125.00'
PC = 330+99.41
PT = 332+24.41
PT 332+24.41
8045
N 80°03'03" E
16.21'
8046
PI 333+03.72
8048
PI 334+60.40
335
335
S 89°27'40" E
5124.17'
S 89°52'46" E
453.09'
SURVEY BASELINE
PN:35
PD:T-35 RBR CAP
N 73°20'02" E
930.96'
8014
PN:36
PD:T-36 RBR CAP
PI 331+62.07
PC 331+71.48
PC 332+40.62
PT 333+66.49
HWY. 226 TEMPORARY WIDENING
PI = 333+03.72
Δ = 10°04'11" RT.
D = 08°00'00"
T = 63.10'
L = 125.87'
PC = 332+40.62
PT = 333+66.49
HYW. 226
PI = 334+60.40
Δ = 17°12'18" RT.
D = 03°00'00"
T = 288.92'
L = 573.50'
PC = 331+71.48
PT = 337+44.98
e = 0.077'/'
Ls = 350'
HYW. 226
PI = 317+47.33
Δ = 17°23'47" LT.
D = 01°45'00"
T = 500.90'
L = 994.08'
PC = 312+46.43
PT = 322+40.52
e = 0.049'/'
Ls = 350'
PT 322+40.52
8013
HWY. 226
325
320

HWY. 226 TEMPORARY WIDENING
PI = 331+62.07
Δ = 10°00'00" LT.
D = 08°00'00"
T = 62.66'
L = 125.00'
PC = 330+99.41
PT = 332+24.41
PC 330+99.41
PT 332+24.41
PI 333+03.72
PI 334+60.40
S 89°56'57" E
521.55'
N 80°03'03" E
16.21'
8043
8045
8046
8048
335
335
S 89°27'40" E
5124.17'
HYW. 226
PI = 334+60.40
Δ = 17°12'18" RT.
D = 03°00'00"
T = 288.92'
L = 573.50'
PC = 331+71.48
PT = 337+44.98
e = 0.077'/'
Ls = 350'
HWY. 226 TEMPORARY WIDENING
PI = 338+82.61
Δ = 10°03'32" RT.
D = 08°00'00"
T = 63.03'
L = 125.73'
PC = 338+19.58
PT = 339+45.31
PI 338+82.61
PC 339+62.15
PT 340+87.15
POE 341+98.58
340
340
S 89°27'40" E
5124.17'
HWY. 226
345
STA. 341+00.00
END JOB 100676
BEGIN JOB 100667
N
S 89°52'46" E
453.09'
HWY. 226 TEMPORARY WIDENING
SURVEY BASELINE
S 89°26'51" E
983.74'
8016
8049
S 79°49'14" E
16.83'
8051
8052
S 89°49'14" E
111.44'
8054
8055
SURVEY BASELINE
S 89°55'54" E
1304.56'
PN:36
PD:T-36 RBR CAP
N 73°20'02" E
930.96'
8014
PI 331+62.07
PC 331+71.48
PC 332+40.62
PT 333+66.49
HWY. 226 TEMPORARY WIDENING
PI = 333+03.72
Δ = 10°04'11" RT.
D = 08°00'00"
T = 63.10'
L = 125.87'
PC = 332+40.62
PT = 333+66.49
PT 337+44.98
PC 338+19.58
PT 339+45.31
PI 340+24.80
PN:920
PD:TBM-920 CH SQ IN RCP
PN:37
PD:T-37 RBR CAP
HWY. 226 TEMPORARY WIDENING
PI = 340+24.80
Δ = 10°00'00" LT.
D = 08°00'00"
T = 62.66'
L = 125.00'
PC = 339+62.15
PT = 340+87.15

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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.		100676	54	116

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

WIRE FENCE STA.	STA.	SIDE	(TYPE A) LIN.FT.	(TYPE C) LIN.FT.	16'-0" GATE EACH
260+43	260+98	LT.		39	1
260+98	265+75	LT.	477		
265+75	266+25	LT.		34	1
266+25	275+20	LT.	936		

WIRE FENCE STA.	STA.	SIDE	(TYPE A) LIN.FT.	(TYPE C) LIN.FT.	16'-0" GATE EACH
260+24	260+89	RT.	65		
260+89	261+39	RT.		34	1
261+39	262+18	RT.	79		
262+18	262+68	RT.		34	1
262+68	265+75	RT.	307		
265+75	266+25	RT.		34	1
266+25	272+55	RT.	270		

STA. 257+00.00
BEGIN JOB 100676
BEGIN EMBANKMENT CONST.
LOG MILE 4.896

STA. 260+00 - INSTALL
24" x 34' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 40 CU. YD.

STA. 260+60 - INSTALL
24" x 36' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 35 CU. YD.

STA. 264+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 76' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

STA. 266+00- INSTALL
24" x 44' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 90 CU. YD.

HYW. 226
PI = 270+96.16
Δ = 16°57' 03" RT.
D = 03°00' 00"
T = 284.59'
L = 565.03'
PC = 268+11.57
PT = 273+76.60
e = 0.077'/'
Ls = 350'

PROP. CONST. LIMITS
EXISTING ROW & C/A
100' TRANSITION
S 89°07'12" E
S 89°14'40" E
PI 255+06.86
Δ = 0°8'56" RT.
PI 263+11.79
Δ = 0°7'28" LT.
PC 268+11.57
PN:30
PD:RRR CAP
PD:CPS IN CP

STA. 257+46 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 78' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 2'-6")

STA. 261+14 - IN PLACE
18" x 24' C.M. PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
24" x 40' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 40 CU. YD.

STA. 262+43 - IN PLACE
24" x 24' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
24" x 40' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 55 CU. YD.

STA. 266+55 - IN PLACE
18" x 27' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
24" x 42' PIPE CULV'T.
@ STA. 266+00
RT. SIDE DRAIN
CONSTR. APPR. = 95 CU. YD.

HWY. 226

FLOODPLAIN LIMITS

STA. 257+00.00
BEGIN JOB 100676
BEGIN EMBANKMENT CONST.

P.V.I. 257+00.00
ELEV. 244.90
LT. LANES

P.V.I. 258+10.79
ELEV. 245.05
LT. LANES
K=1784.77
VC=150'
e=-0.02'

P.V.I. 262+00.00
ELEV. 245.24
LT. LANES
K=1372.84
VC=550'
e=0.28'

ELEV. 246.59

STA. 265+49.07 BEGIN SUPERELEVATION
STA. 268+99.07 MAX. SUPERELEVATION (0.077'/')
STA. 272+89.10 MAX. SUPERELEVATION (0.077'/')
STA. 276+39.10 END SUPERELEVATION

P.V.I. 257+00.00
ELEV. 244.51
RT. LANES

+46 TOP D.I. 240.75

P.V.I. 260+00.00
ELEV. 244.34
RT. LANES
K=984.23
VC=500'
e=0.32'

BEGIN LT. & RT. PROFILE GRADE
ELEV. 246.59

+00 TOP D.I. 242.98

P.V.I. 267+82.31
ELEV. 247.86
K=1111.10
VC=500'
e=-0.28'

-0.06%
0.45%
-0.07% MED. DT. GR.
0.23% MED. DT. GR.
-0.07% LT. DT. GR.
0.16% RT. DT. GR.
-0.10% MED. DT. GR.
0.10% MED. DT. GR.
0.23% MED. DT. GR.
0.13% MED. DT. GR.
-0.05% RT. DT. GR.

+00.00 MED. DT. GR.
+00.00 LT. DT. GR.
+00.00 RT. DT. GR.
RT. ELEV. 237.99
LT. ELEV. 240.05
MED. ELEV. 240.78

+46.00 MED. DT. GR.
MED. ELEV. 240.75

F.L. D.I. 238.26
F.L. OUTLET 238.06 (RT.)

+46.00 MED. DT. GR.
MED. ELEV. 241.21

+00.00 MED. DT. GR.
MED. ELEV. 243.08

+00.00 MED. DT. GR.
RT. DT. GR.
ELEV. 239.98
MED. ELEV. 242.98

F.L. D.I. 239.98
F.L. OUTLET 239.12 (RT.)

+00.00 MED. DT. GR.
MED. ELEV. 243.19

+00.00 MED. DT. GR.
MED. ELEV. 243.65

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

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WIRE FENCE STA.	STA.	SIDE	(TYPE A) LIN.FT.	(TYPE C) LIN.FT.	16'-0" GATE EACH
266+25	275+20	LT.	936		
266+25	272+55	RT.	270		
272+55	273+05	RT.	50		
273+05	273+60	RT.	52		

DENOTES OBLITERATION OF EXISTING ROADWAY

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.	100676		55	116

(2) PLAN AND PLOTS SHEETS

HYW. 226
PI = 284+93.08
Δ = 16°58' 34" LT.
D = 01°45' 00"
T = 488.61'
L = 970.06'
PC = 280+04.47
PT = 289+74.53
e = 0.049'/'
Ls = 350'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

GUARDRAIL (TYPE C)
STA. 282+50 LT. OF CONST. C.L. = 25' LIN. FT.

ENTERGY - CASH SALE METERING POINT

PN:31
PD:RBR CAP

PN:905
PD:CPS IN PP

PROP. CONST. LIMITS

PI 270+96.16

8'
24'
6'

270

S 89°14'40" E

275

S 72°17'37" E

280

285

PC 280+04.47

PT 273+76.60

EXISTING ROW & C/A

+75 END C/A

+25 BEGIN C/A

16'-0" GATE

STA. 278+00- IN PLACE
24" x 42' PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 285+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 50' R.C. PIPE CULV'T. (CL. III)
CONNECT TO DROP INLET IN MEDIAN STA. 285+47
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

HYW. 226
PI = 270+96.16
Δ = 16°57' 03" RT.
D = 03°00' 00"
T = 284.59'
L = 565.03'
PC = 268+11.57
PT = 273+76.60
e = 0.077'/'
Ls = 350'

STA. 274+75.00
END EMBANKMENT CONST.

STA. 279+70.00
BEG. MEDIAN MODIFICATION

STA. 277+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 90' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
RETAIN

HWY. 226

FLOODPLAIN LIMITS

STA. 265+49.07 BEGIN SUPERELEVATION
STA. 268+99.07 MAX. SUPERELEVATION (0.077'/')
STA. 272+89.10 MAX. SUPERELEVATION (0.077'/')
STA. 276+39.10 END SUPERELEVATION

STA. 277+41.97 BEGIN SUPERELEVATION
STA. 280+91.97 MAX. SUPERELEVATION (0.049'/')
STA. 288+87.03 MAX. SUPERELEVATION (0.049'/')
STA. 292+37.03 END SUPERELEVATION

K=1111.10
VC=500'
e=-0.28'

0.13% MED. DT. GR.

-0.17% MED. DT. GR.

0.00%

EXIST. D.I.

(EXISTING) -0.17% MED. DT. GR. 243.62

(EXISTING) +00 TOP D.I.

-0.07% LT. DT. GR.

-0.05% RT. DT. GR.

(EXISTING) -0.05% RT. DT. GR.

(EXISTING) F.L. D.I. 239.45
F.L. OUTLET 238.50 (RT.)

+00.00 MED. DT. GR. MED. ELEV. 244.30

+00.00 MED. DT. GR. MED. ELEV. 243.62

(EXISTING) -0.07% LT. DT. GR.

K=1111.10
VC=500'
e=0.28'

P.V.I. 279+71.66
ELEV. 247.86

0.45%

+00 TOP D.I. 249.13

F.L. D.I. 246.13

+00.00 RT. DT. GR. RT. ELEV. 237.97

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

270+00 271+00 272+00 273+00 274+00 275+00 276+00 277+00 278+00 279+00 280+00 281+00 282+00 283+00 284+00 285+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.		100676	56	116

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-7-14

HYW. 226
PI = 284+93.08
Δ = 16°58'34" LT.
D = 01°45'00"
T = 488.61'
L = 970.06'
PC = 280+04.47
PT = 289+74.53
e = 0.049'/'
Ls = 350'

STA. 285+16.50 TO STA. 287+43.50 - CONSTRUCT RAISED CONCRETE ISLAND WITH TYPE B CURB FACE = 420 SQ. YD.

STA. 287+75.00
BEGIN EMBANKMENT CONST.
END MEDIAN MODIFICATION

STA. 288+00.00 HWY. 226 C.L.
= STA. 115+23.47 HWY. 18 C.L.
Δ = 90°00'00"

STA. 285+47 - IN PLACE
TRP. 5' x 6' x 197' R.C. BOX CULV'T.
(23° LT. FWD. SKEW)
WITH 3:1 WINGS
AND DROP INLET IN MEDIAN
ON TOP OF R.C. BOX CULV'T
12'-8" LT. OF C.L.
TYPE TM = 3'-0" x 2'-6"
(H = 4'-2")
Q50 = 233 cfs; DA = 175 ac
RETAIN AND MODIFY DROP INLET
TO TYPE E JUNCTION BOX

STA. 288+56.50 TO STA. 290+83.50 - CONSTRUCT RAISED CONCRETE ISLAND WITH TYPE B CURB FACE = 423 SQ. YD.

STA. 291+30.00
END EMBANKMENT CONST.
BEG. MEDIAN MODIFICATION

STA. 298+16.00
END MEDIAN MODIFICATION

STA. 298+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 84' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
RETAIN

HWY. 226

FLOODPLAIN LIMITS

STA. 277+41.97 BEGIN SUPERELEVATION
STA. 280+91.97 MAX. SUPERELEVATION (0.049'/')
STA. 288+87.03 MAX. SUPERELEVATION (0.049'/')
STA. 292+37.03 END SUPERELEVATION

P.V.I. 289+65.09
ELEV. 252.33

(EXISTING) +47 TOP D.I. 248.85
0.45%
+00 TOP D.I. 249.13
18" X 50' @ 2.85%
(EXISTING) F.L. INLET 238.07 (LT.) F.L. OUTLET 237.98 (RT.)
F.L. D.I. 246.13
(EXISTING) 1.94% RT. DT. GR.
(EXISTING) 1.92% LT. DT. GR.
(EXISTING) 0.07% LT. DT. GR.
+00.00 RT. DT. GR. RT. ELEV. 237.97
+93.43 LT. DT. GR. LT. ELEV. 236.08
+00.00 RT. DT. GR. RT. ELEV. 241.85
+24.40 LT. DT. GR. LT. ELEV. 242.52
K=1120.02
VC=500'
e=-0.28'
-0.14% LT. DT. GR.
-0.58% RT. DT. GR.
+50.00 LT. DT. GR. RT. ELEV. 247.84
+50.00 RT. DT. GR. LT. ELEV. 247.75
0.00%
(EXISTING) -0.14% LT. DT. GR.
(EXISTING) -0.58% RT. DT. GR.
(EXISTING) -0.09% RT. DT. GR.
+00.06 RT. DT. GR. RT. ELEV. 244.65
(EXISTING) +00 TOP D.I. 248.37
(EXISTING) 0.07% MED. DT. GR.
+00.00 MED. DT. GR. MED. ELEV. 248.37
(EXISTING) F.L. D.I. 244.95 F.L. OUTLET 244.51 (RT.)

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

285+00 286+00 287+00 288+00 289+00 290+00 291+00 292+00 293+00 294+00 295+00 296+00 297+00 298+00 299+00 300+00

270 265 260 255 250 245 240 235 230 225 220

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				6	ARK.			
				JOB NO.	100676		57	116

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-7-14

SHED

STA. 301+00- IN PLACE
24" x 28' PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

HYW. 226
PI = 317+47.33
Δ = 17°23'47" LT.
D = 01°45'00"
T = 500.90'
L = 994.08'
PC = 312+46.43
PT = 322+40.52
e = 0.049'/'
Ls = 350'

STA. 314+00 - CONSTRUCT
DBL. 42" x 176' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 73 cfs; DA = 175 ac

STA. 315+00 - CONSTRUCT
36" x 170' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 27 cfs; DA = 20 ac

STA. 313+60.00
BEGIN EMBANKMENT CONST.

STA. 314+55- CONSTRUCT
APPR. ON LT. = 65 CU. YD.

+75 END C/A
16'-0" GATE
+25 BEGIN C/A
EXISTING ROW & C/A
+40.00 115.00'
PC 312+46.43
+25 END C/A
+25 BEGIN C/A
+75 END C/A

8' 24' 6' 6' 24' 8'
+00
300
305
310
S 89°16'11" E
36'
20'
+25.5
+69.5
+55
+47.5
+40
44'
36'
6' 24' 8'
+00 END C/A
+25 BEGIN C/A
+25.00 END C/A

STA. 301+00- IN PLACE
24" x 40' PIPE CULV'T.
RT. SIDE DRAIN
RETAIN

STA. 308+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 88' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
RETAIN

STA. 314+40- CONSTRUCT
APPR. ON RT. = 95 CU. YD.

270 HWY. 226 270

+00 FLOODPLAIN LIMITS

STA. 309+83.93 BEGIN SUPERELEVATION
STA. 313+33.93 MAX. SUPERELEVATION (0.049'/')
STA. 321+53.02 MAX. SUPERELEVATION (0.049'/')
STA. 325+03.02 END SUPERELEVATION

+75.00 MED. DT. GR. ELEV. 248.64
+86.28 MED. DT. GR. ELEV. 249.40
+00.00 MED. DT. GR. ELEV. 249.69

0.00%

(EXISTING) 0.07% MED. DT. GR.
(EXISTING) -0.08% MED. DT. GR.
(EXISTING) -0.14% LT. DT. GR.
(EXISTING) -0.09% RT. DT. GR.
(EXISTING) +00 TOP D.I. 248.16
+00.00 MED. DT. GR. ELEV. 248.16
(EXISTING) F.L. D.I. 245.16
F.L. OUTLET 243.88 (RT.)
+00.00 LT. DT. GR. ELEV. 245.00
(EXISTING) 0.25% MED. DT. GR.
(EXISTING) 0.25% LT. DT. GR.
F.L. INLET 244.55 (LT.)
F.L. OUTLET 244.03 (RT.)
0.25% LT. DT. GR.
0.11% RT. DT. GR.
F.L. INLET 243.00 (LT.)
F.L. OUTLET 242.60 (RT.)
+21.69 RT. DT. GR. ELEV. 243.54
+21.69 LT. DT. GR. ELEV. 243.02
+73.72 RT. DT. GR. ELEV. 244.48
+73.72 LT. DT. GR. ELEV. 244.00

265 260 255 250 245 240 235 230 225 220

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

300+00 301+00 302+00 303+00 304+00 305+00 306+00 307+00 308+00 309+00 310+00 311+00 312+00 313+00 314+00 315+00

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				6	ARK.			
				JOB NO.		100676	58	116

(2) PLAN AND PROFILE SHEETS

HYW. 226
PI = 317+47.33
Δ = 17°23'47" LT.
D = 01°45'00"
T = 500.90'
L = 994.08'
PC = 312+46.43
PT = 322+40.52
e = 0.049'/'
Ls = 350'

DENOTES OBLITERATION OF EXISTING ROADWAY

GUARDRAIL (TYPE C)
STA. 323+80 LT. OF CONST. C.L. = 25 LIN. FT.

STA. 328+18 - CONSTRUCT
24" x 198' R.C. PIPE CULV'T. (CL. III)
19° 16' 44" LT. FWD. SKEW
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 11cfs; DA = 4 ac

WIRE FENCE (TYPE A)

STA.	STA.	SIDE	LIN.FT.
327+22	329+71	LT.	250

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-7-14

STA. 322+30 - IN PLACE
24" x 30' PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 325+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 82' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
RETAIN

STA. 319+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 90' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
RETAIN

STA. 327+00 - IN PLACE
24" x 28' PIPE CULV'T.
RT. SIDE DRAIN
RETAIN

STA. 315+35.00
END EMBANKMENT CONST.

STA. 327+25.00
BEGIN EMBANKMENT CONST.

PROP. CONST. LIMITS

EXISTING ROW & C/A

N 73°20'02" E

HWY. 226

FLOODPLAIN LIMITS

STA. 309+83.93 BEGIN SUPERELEVATION
STA. 313+33.93 MAX. SUPERELEVATION (0.049'/')
STA. 321+53.02 MAX. SUPERELEVATION (0.049'/')
STA. 325+03.02 END SUPERELEVATION

STA. 329+08.98 BEGIN SUPERELEVATION
STA. 332+58.98 MAX. SUPERELEVATION (0.077'/')
STA. 336+57.48 MAX. SUPERELEVATION (0.077'/')
STA. 340+07.48 END SUPERELEVATION

K=2771.70
VC=400'
e=0.07'

0.00%

0.15%

(EXISTING) -0.31% MED. DT. GR.

(EXISTING) 0.25% LT. DT. GR.

(EXISTING) 0.11% RT. DT. GR.

(EXISTING) 0.7% MED. DT. GR.

(EXISTING) 0.28% RT. DT. GR.

(EXISTING) -0.08% MED. DT. GR.

(EXISTING) -0.11% LT. DT. GR.

(EXISTING) -0.02% RT. DT. GR.

0.03% MED. DT. GR.

-0.08% RT. DT. GR.

-0.39% LT. DT. GR.

F.L. INLET 244.55 (LT.)
F.L. OUTLET 244.03 (RT.)

(EXISTING) +00 TOP D.I. 248.44
(EXISTING) F.L. D.I. 245.44
F.L. OUTLET 244.54 (RT.)

(EXISTING) +00 TOP D.I. 248.70
(EXISTING) F.L. D.I. 245.70
F.L. OUTLET 245.61 (RT.)

F.L. INLET 245.42 (LT.)
F.L. OUTLET 245.40 (RT.)

+00 TOP D.I. 248.89

F.L. D.I. 245.89
F.L. OUTLET 245.28 (RT.)

+00.00 MED. DT. GR. ELEV. 249.69
+00.00 RT. DT. GR. ELEV. 244.46
+00.00 MED. DT. GR. ELEV. 248.44
+70.00 LT. DT. GR. ELEV. 246.19
+00.00 MED. DT. GR. ELEV. 248.95
+20.00 RT. DT. GR. ELEV. 245.63
+00.00 MED. DT. GR. ELEV. 248.70
P.V.I. 327+00.00 ELEV. 252.46
+80.00 RT. DT. GR. ELEV. 245.56
+79.31 LT. DT. GR. ELEV. 245.38
+81.00 MED. DT. GR. ELEV. 248.86

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

315+00 316+00 317+00 318+00 319+00 320+00 321+00 322+00 323+00 324+00 325+00 326+00 327+00 328+00 329+00 330+00

270 265 260 255 250 245 240 235 230 225 220

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				6	ARK.			
				JOB NO.		100676	59	116

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

HYW. 226
PI = 334+60.40
Δ = 17°12' 18" RT.
D = 03°00' 00"
T = 288.92'
L = 573.50'
PC = 331+71.48
PT = 337+44.98
e = 0.077'/'
Ls = 350'

STA. 330+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 84' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON RT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

STA. 336+15 - IN PLACE
18" x 25' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE

STA. 341+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 84' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON LT.
RETAIN

+00 100' TRANSITION +00

STA. 341+00.00
END EMBANKMENT CONST.
END JOB 100676
BEGIN JOB 100667

STA. 338+34 - IN PLACE
36" x 25' R.C. PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
36" x 50' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 55 CU. YD.

STA. 339+35 - IN PLACE
36" x 32' R.C. PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
36" x 50' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 70 CU. YD.

PI 334+60.40
PT 337+44.98
PC 331+71.48
S 89°27'40" E
N:36
PD:T-36 RBR CAP
BM N:920 PD:TBM-920 CH SQ IN RCB
PROP. CONST. LIMITS
EXISTING ROW & C/A
PARKING
SHED
HWY. 226

FLOODPLAIN LIMITS

STA. 329+08.98 BEGIN SUPERELEVATION
STA. 332+58.98 MAX. SUPERELEVATION (0.077'/')
STA. 336+57.48 MAX. SUPERELEVATION (0.077'/')
STA. 340+07.48 END SUPERELEVATION

P.V.I. 334+00.00
ELEV. 253.50
K=1068.95
VC=450'
e=-0.24'

+00 TOP D.I. 248.89
0.15%
-0.27%
K=1647.89
VC=450'
e=0.15'
(EXISTING)
+00 TOP D.I. 247.55

-0.08% RT. DT. GR.
-0.55% RT. DT. GR.
-0.04% RT. DT. GR.
-0.08% RT. DT. GR.
-0.39% LT. DT. GR.
-0.05% LT. DT. GR.
-0.13% LT. DT. GR.

F.L. D.I. 245.89
F.L. OUTLET 245.38 (RT.)
F.L. D.I. 244.35
F.L. OUTLET 243.71(LT.)

+15.68 LT. DT. GR.
LT. ELEV. 244.45
+43.00 RT. DT. GR.
RT. ELEV. 245.09
+00.00 RT. DT. GR.
RT. ELEV. 243.11
+00.00 LT. DT. GR.
+00.00 RT. DT. GR.
RT. ELEV. 243.07
LT. ELEV. 244.09
+00.00 LT. DT. GR.
+00.00 RT. DT. GR.
RT. ELEV. 242.83
LT. ELEV. 243.71

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

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				6	ARK.			
				JOB NO.		100676	60	116

(2) PLAN AND PROFILE SHEETS

STA. 14+55- CONSTRUCT
RAISED CONCRETE ISLAND
WITH TYPE B CURB FACE = 15 SQ. YD.

STA. 15+90- CONSTRUCT
RAISED CONCRETE ISLAND
WITH TYPE B CURB FACE = 9 SQ. YD.

DENOTES OBLITERATION OF EXISTING ROADWAY

WIRE FENCE (TYPE A)			
STA.	STA.	SIDE	LIN.FT.
12+85	14+03	LT.	122
16+32	18+70	LT.	319

HWY. 18
PI = 12+57.43
Δ = 29°14'30"LT.
D = 10°00'00"
T = 149.47'
L = 292.42'
PC = 11+07.97
PT = 14+00.38
e = 0.068'/'
Ls = 250'

STA. 288+00.00 HWY. 226 C.L.
= STA. 115+23.47 HWY. 18 C.L.
Δ = 90°00'00"

STA. 16+25- CONSTRUCT
24" x 192' R.C. PIPE CULV'T. (CL. III)
(7° 48' RT. FWD. SKEW)
F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q25 = 6 cfs; D.A. = 4 ac.

HWY. 18
PI = 18+06.79
Δ = 84°46'38"RT.
D = 24°00'00"
T = 217.91'
L = 353.24'
PC = 15+88.89
PT = 19+42.12
e = 0.100'/'
Ls = 250'

HWY. 18
PI = 20+80.65
Δ = 56°01'02"LT.
D = 22°00'00"
T = 138.53'
L = 254.62'
PC = 19+42.13
PT = 21+96.75
e = 0.099'/'
Ls = 250'

STA. 21+81- CONSTRUCT
RAISED CONCRETE ISLAND
WITH TYPE B CURB FACE = 46 SQ. YD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-4-14

STA. 11+90- IN PLACE
18" x 42' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 20 CU. YD.

STA. 12+95- IN PLACE
18" x 25' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 36' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 130 CU. YD.

STA. 20+10- INSTALL
24" x 32' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 60 CU. YD.

HWY. 18

STA. 11+07.98 BEGIN SUPERELEVATION
STA. 12+54.18 MAX. SUPERELEVATION (0.040'/')
STA. 14+00.38 END SUPERELEVATION

STA. 13+73- IN PLACE
18" x 29' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

STA. 15+55- IN PLACE
24" x 32' R.C. PIPE CULV'T.
CROSS DRAIN
REMOVE

STA. 18+95- IN PLACE
18" x 29' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

STA. 20+00- IN PLACE
18" x 25' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

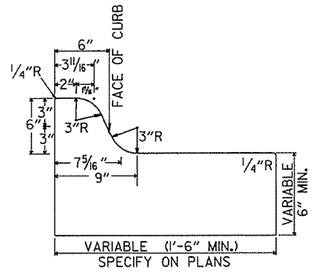
STA. 15+88.90 BEGIN SUPERELEVATION
STA. 17+65.51 MAX. SUPERELEVATION (0.071'/')
STA. 19+42.12 END SUPERELEVATION

STA. 19+42.13 BEGIN SUPERELEVATION
STA. 20+69.44 MAX. SUPERELEVATION (0.050'/')
STA. 21+96.75 END SUPERELEVATION

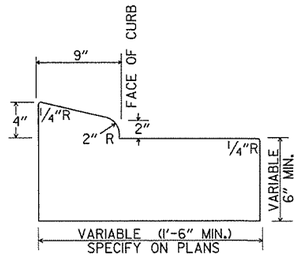
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

2/28/2014

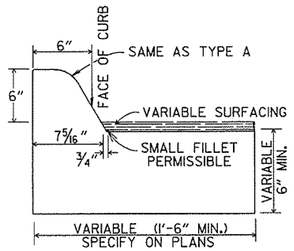
R100676.DGN



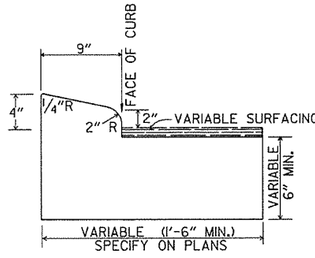
TYPE A



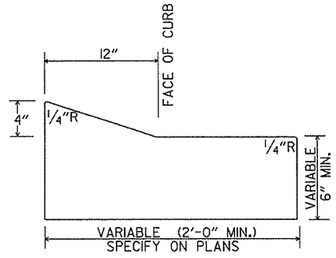
TYPE B-1



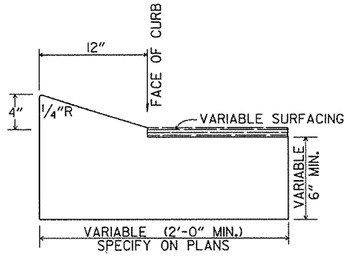
TYPE C



TYPE B-2

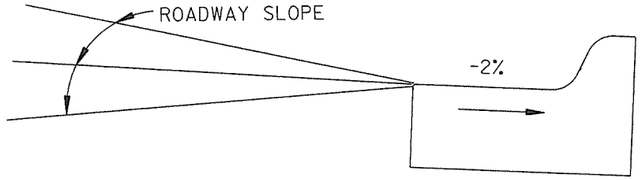


TYPE E-1



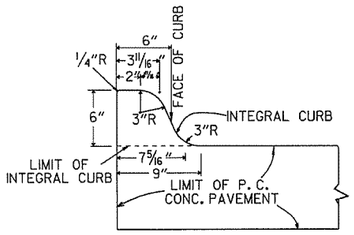
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

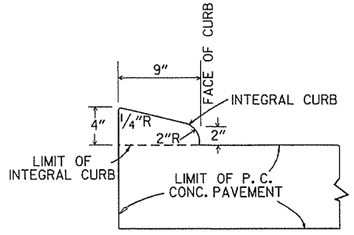


DETAIL OF GUTTER SLOPE

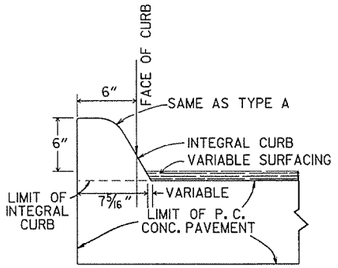
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

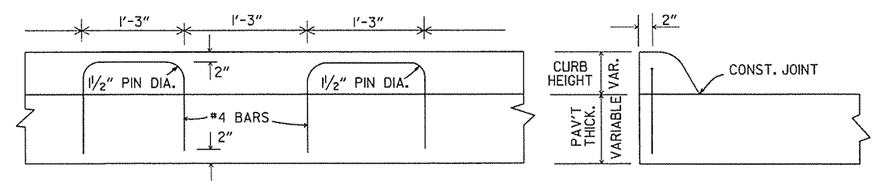


TYPE B

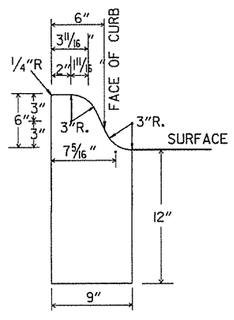


TYPE C

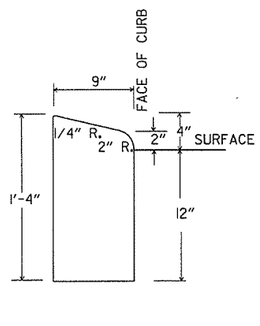
INTEGRAL CURB



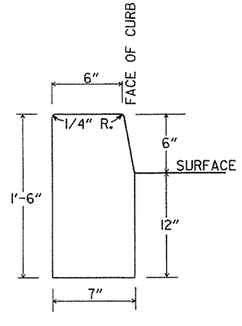
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



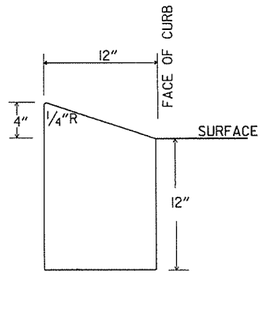
TYPE A



TYPE B

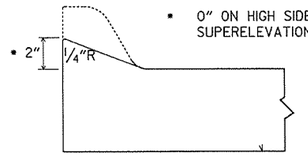


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

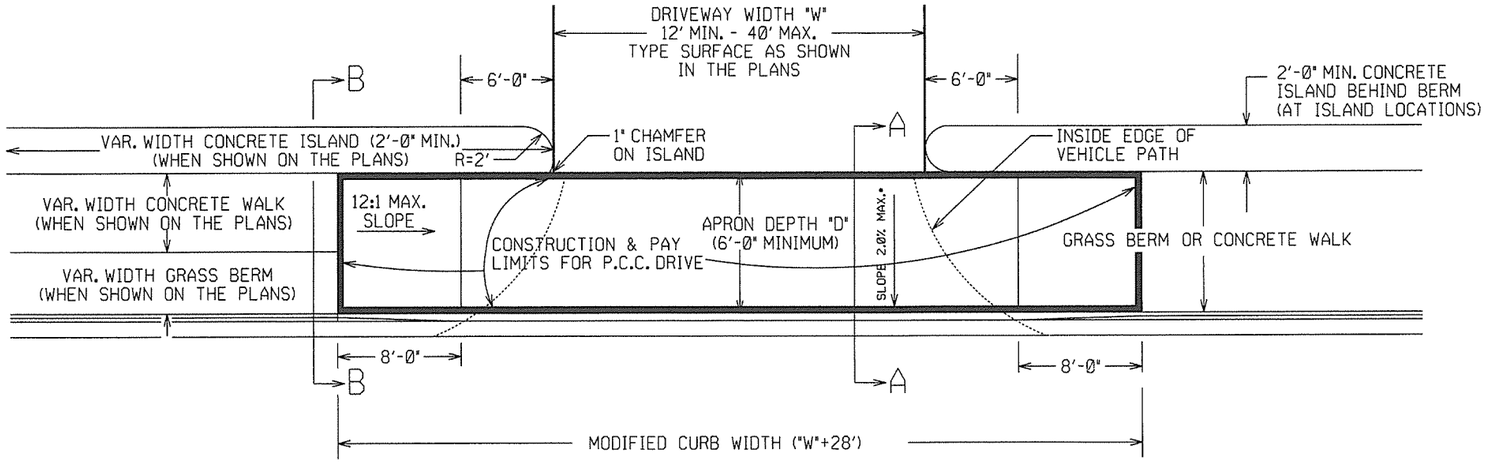
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B 1	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

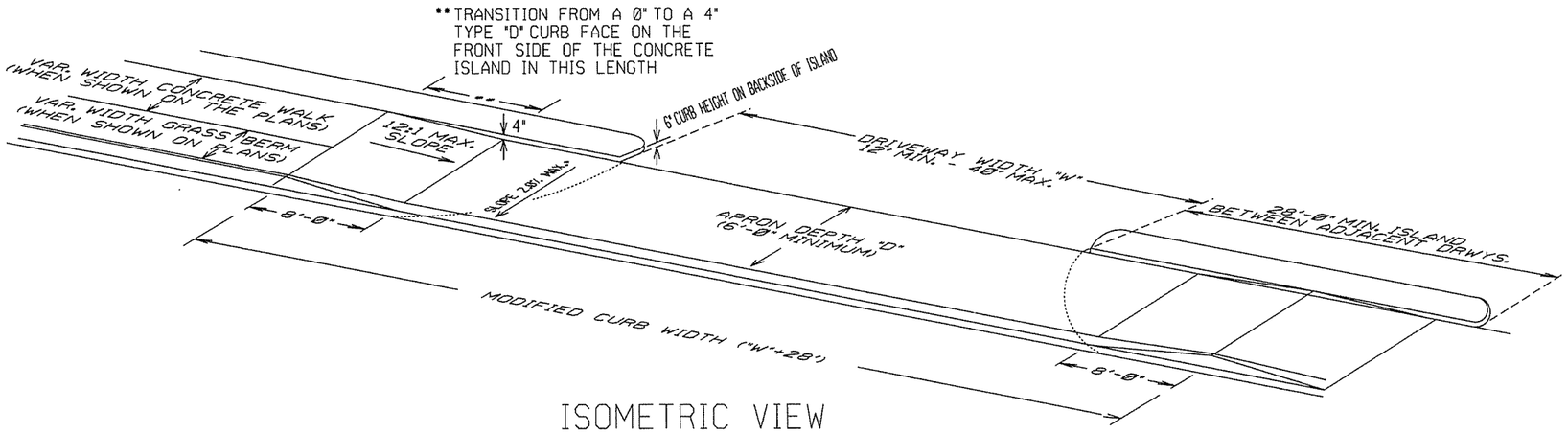
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

STANDARD DRAWING CG-1

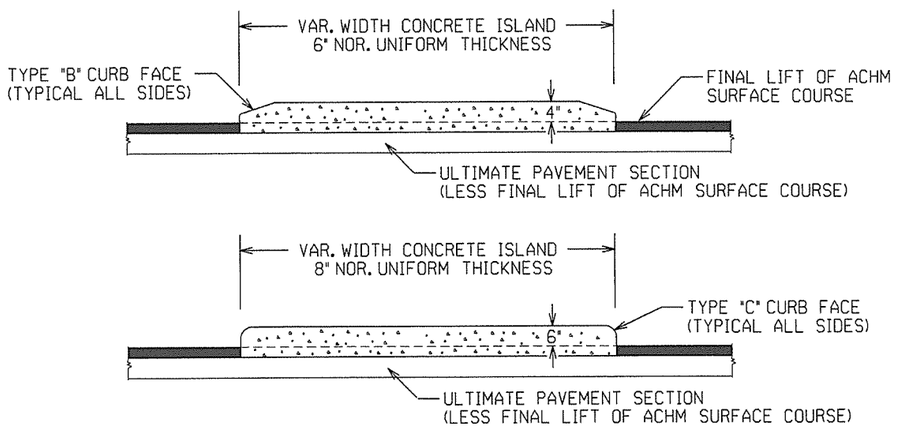


PLAN VIEW

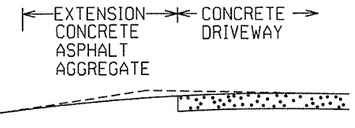


ISOMETRIC VIEW

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



CURBED ISLANDS FOR CHANNELIZATION



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

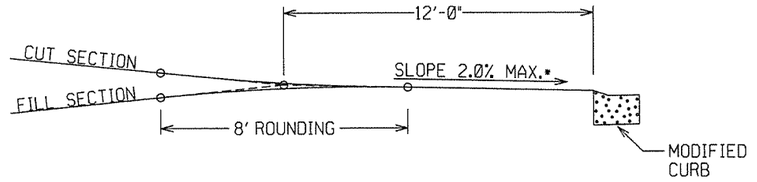
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

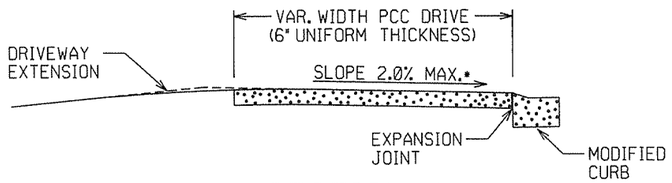
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

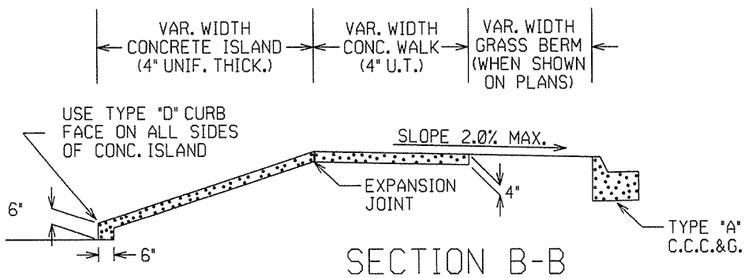


DRIVEWAY VERTICAL ALIGNMENT DETAILS

* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



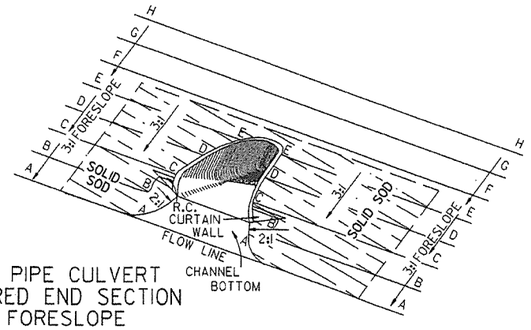
SECTION A-A



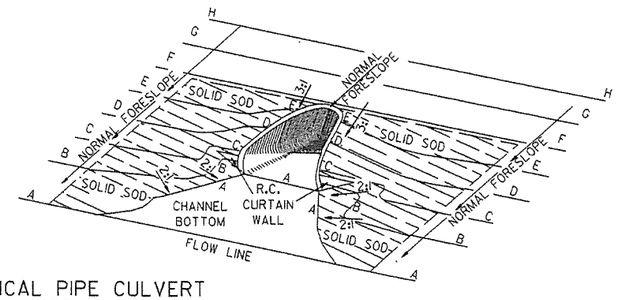
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV.	DATE FILMED	DESCRIPTION
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

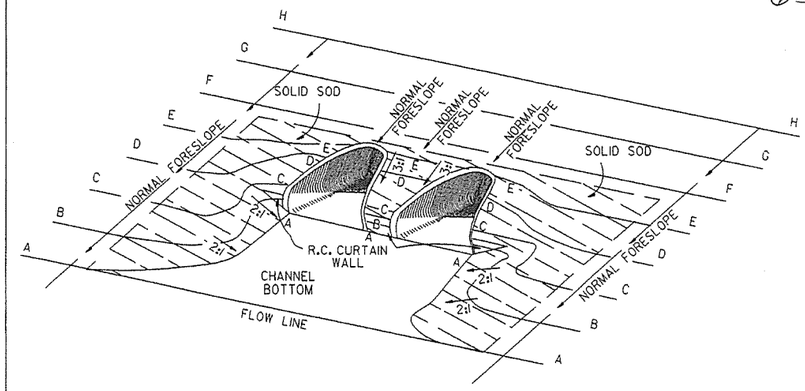
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

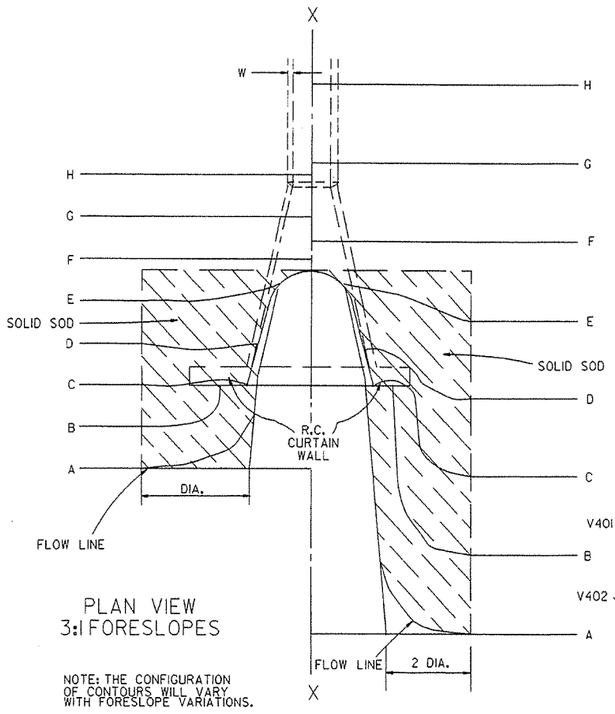
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC. CU. YDS.	SINGLE R.C.P.C. REINF. STEEL LBS.	DOUBLE R.C.P.C. CONC. CU. YDS.	DOUBLE R.C.P.C. REINF. STEEL LBS.
18"	1 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	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.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	V401 L	NO.	V402 L	NO.	DOUBLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	H403 L	NO.	V401 L	NO.	V402 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'-9"	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

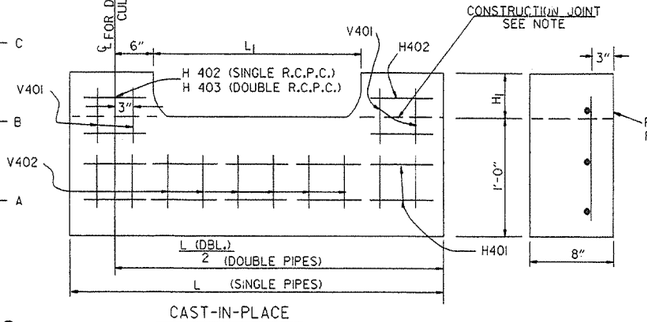
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

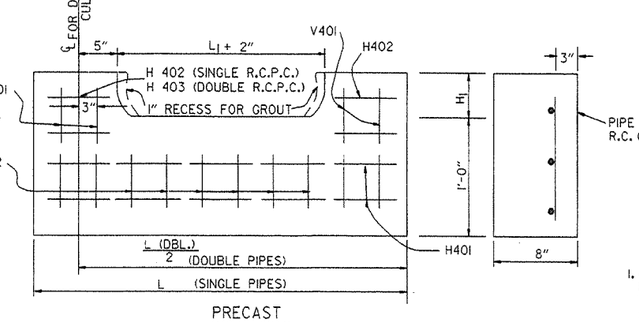
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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.



PRECAST

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.

R.C. CURTAIN WALL DETAILS

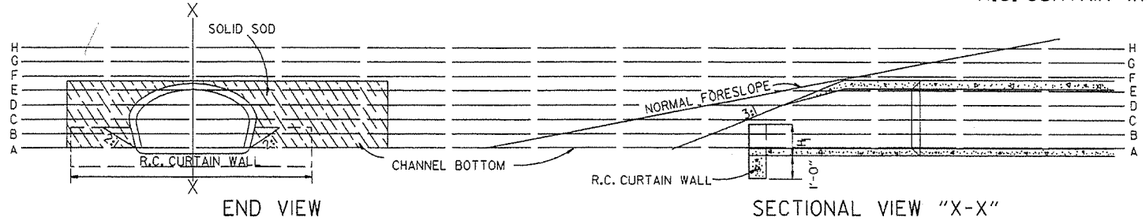
SOLID SODDING

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

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

GENERAL NOTES

1. 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.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. 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.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	10-18-96
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	

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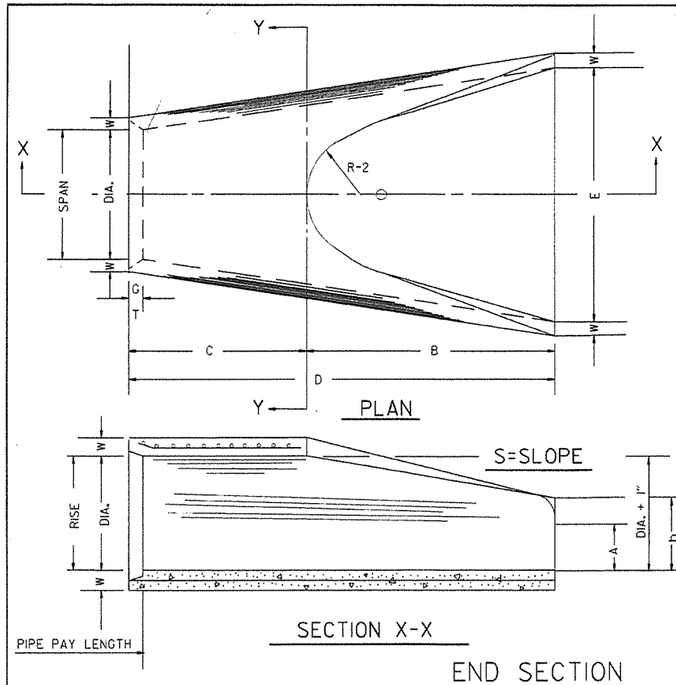
FLARED END SECTION

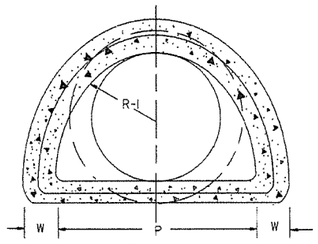
STANDARD DRAWING FES-1



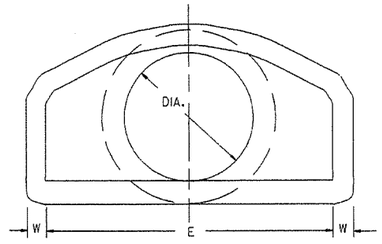
END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7 3/4"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47 11/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 11/16"	38 15/16"	24"	5"	13250	4'-6"



SECTION Y-Y



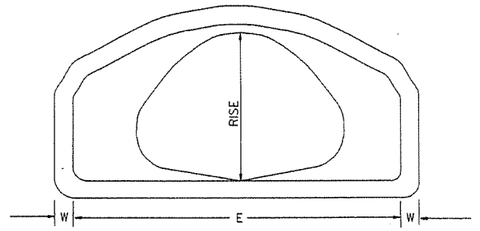
END VIEW

NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

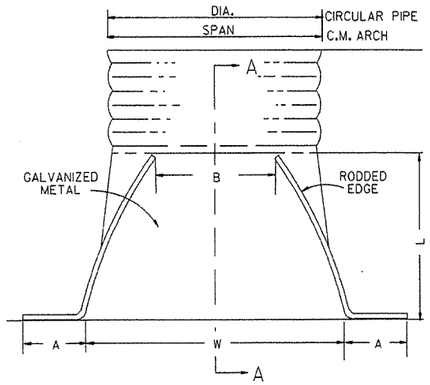
ARCH PIPE

EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 13/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 11/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½:1
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2¼:1

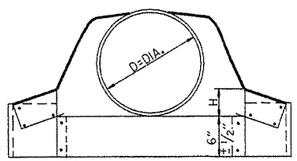
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



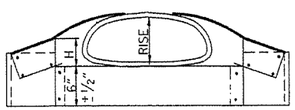
END VIEW
CONCRETE ARCH PIPE



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



CIRCULAR PIPE



C.M. ARCH PIPE

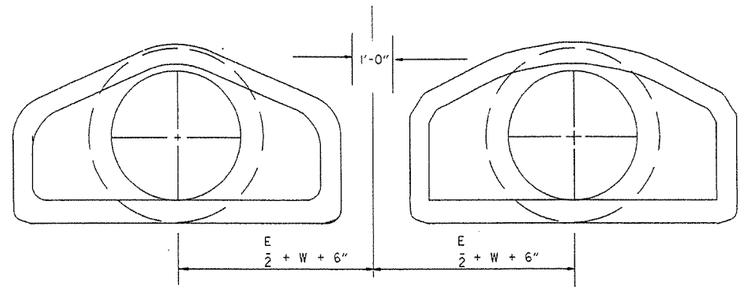
CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

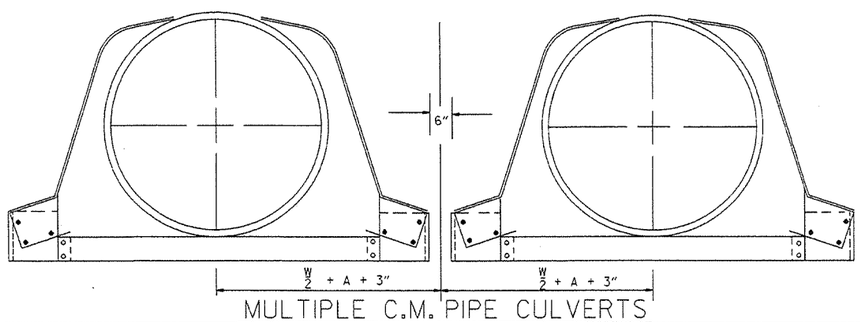
C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

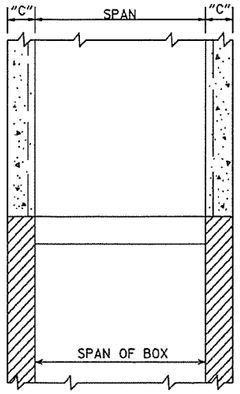
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-78-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74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

ARKANSAS STATE HIGHWAY COMMISION

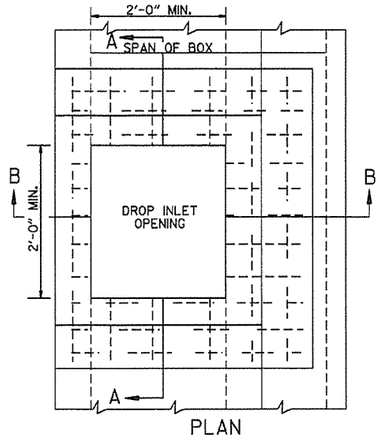
FLARED END SECTION

STANDARD DRAWING FES-2

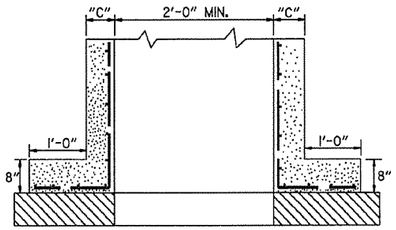
stdfes2.dgn



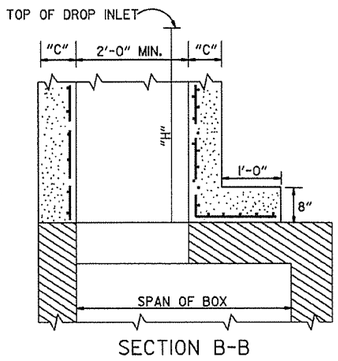
SECTION B-B



PLAN

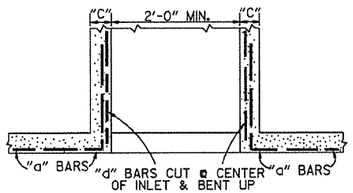


SECTION A-A

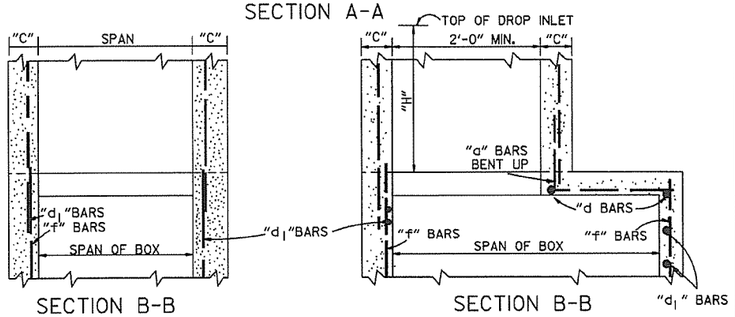


SECTION B-B

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



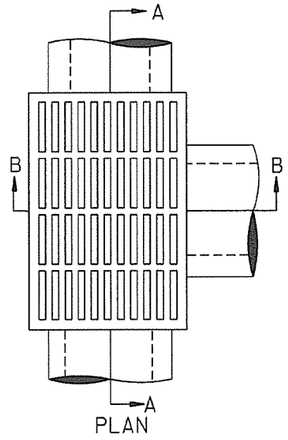
SECTION A-A



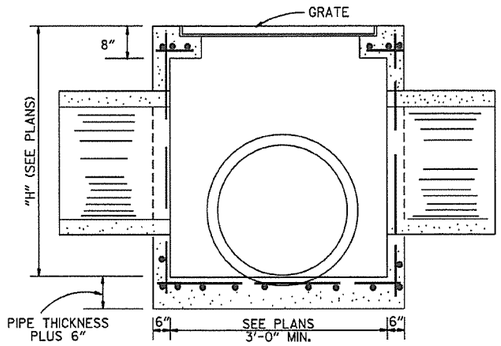
SECTION B-B SECTION B-B

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

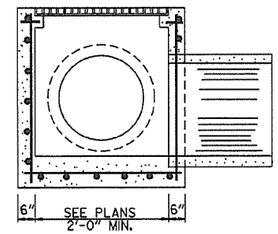
NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



PLAN



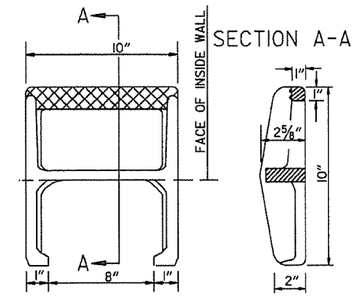
SECTION A-A



NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

SECTION B-B

DROP INLET (TYPE E)

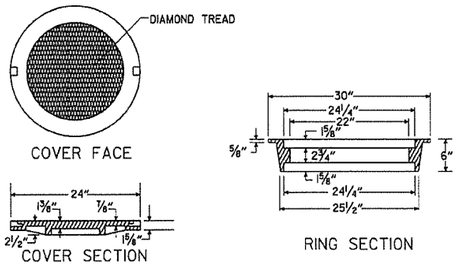


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

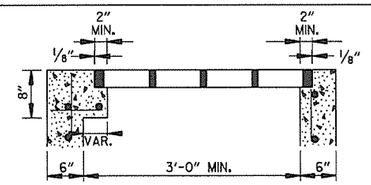
DETAIL OF STEP FOR DROP INLET



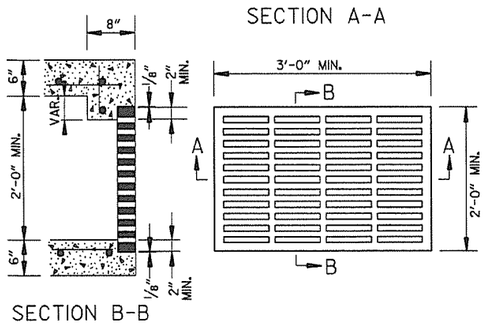
COVER SECTION RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



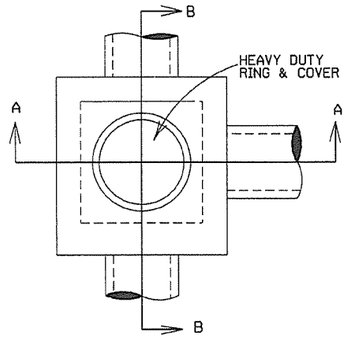
SECTION A-A



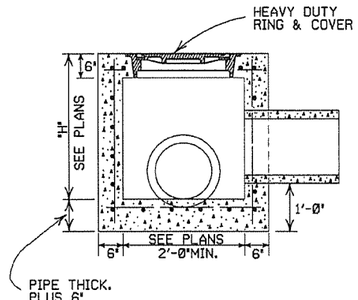
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

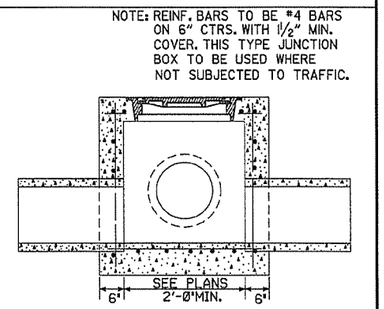
GRATE FOR TYPE E DROP INLET



PLAN

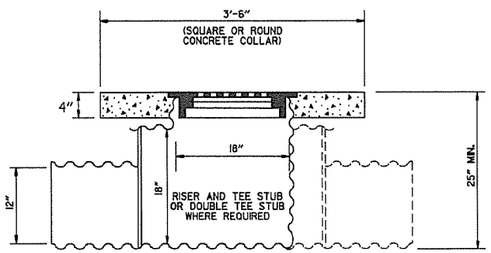


SECTION A-A

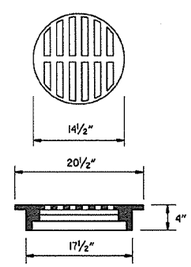


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

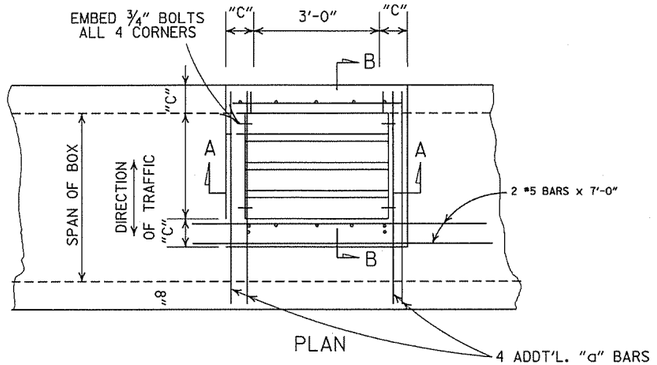
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

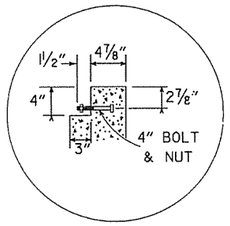
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

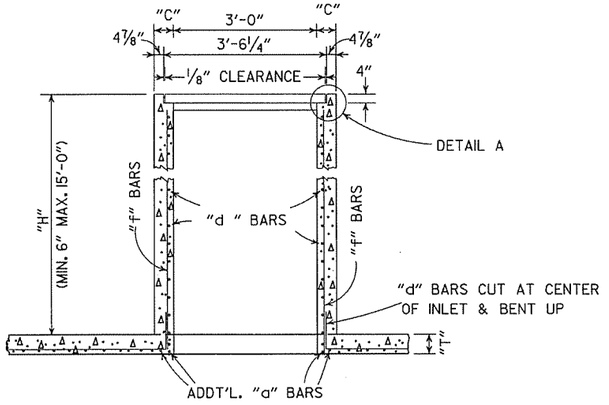
STANDARD DRAWING FPC-9



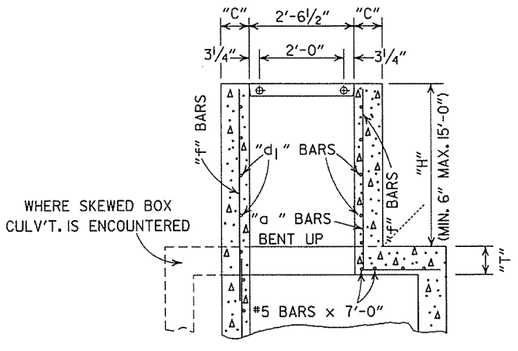
PLAN



DETAIL A



SECTION A-A

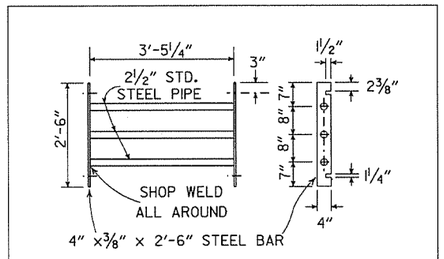


SECTION B-B

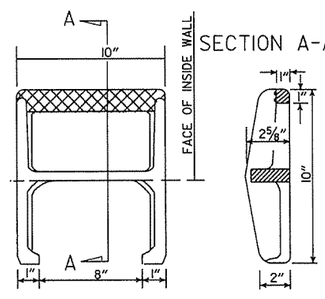
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM" FOR REINFORCED CONC. BOX CULVERTS



GRATE DETAIL



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

GENERAL NOTES:

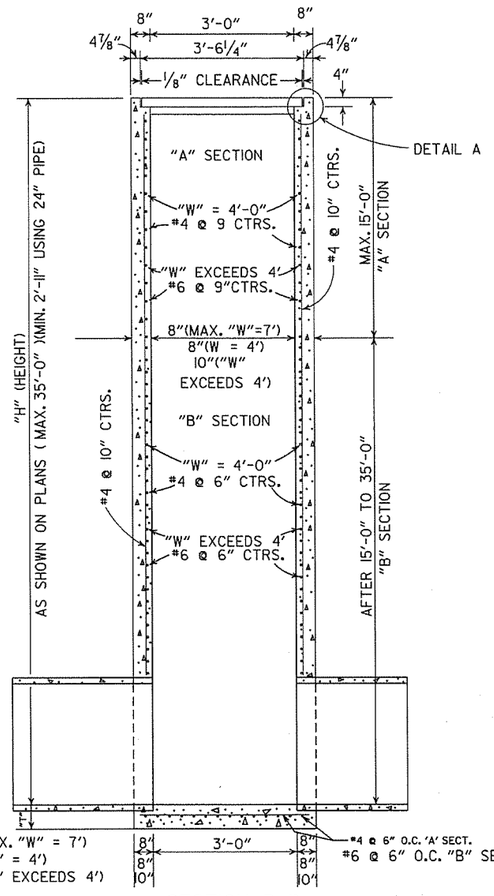
1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TABLE OF "W" DIMENSIONS

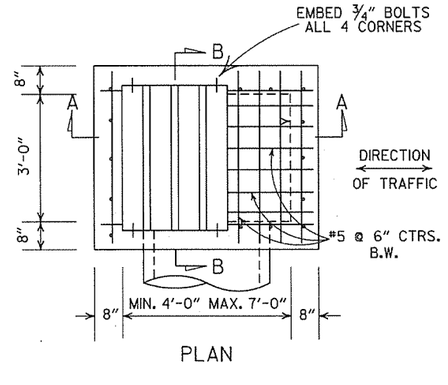
66

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

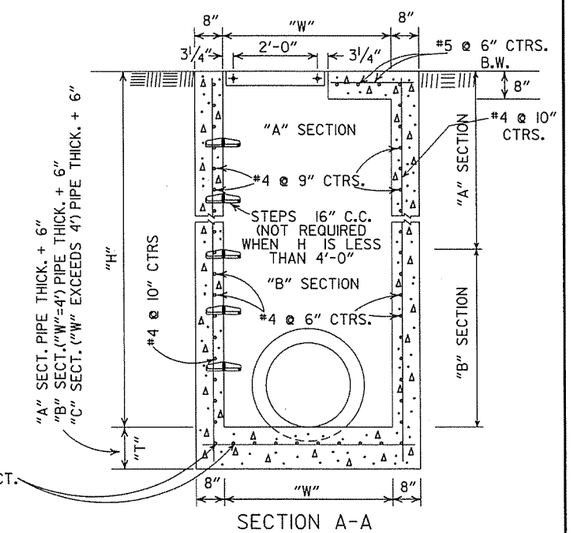
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



SECTION B-B



PLAN



SECTION A-A

DROP INLET(TYPE RM)

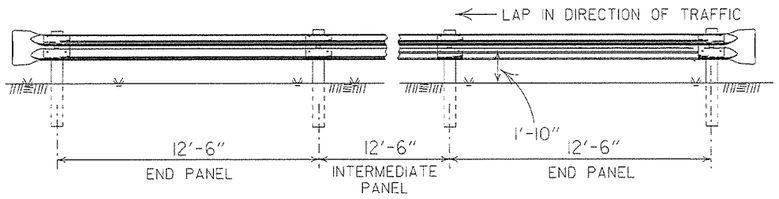
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72
REVISED		DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

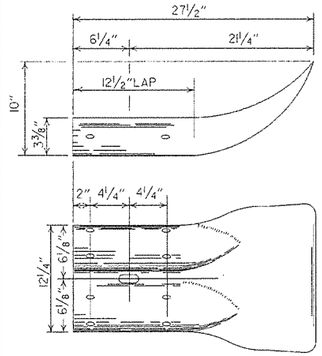
DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D

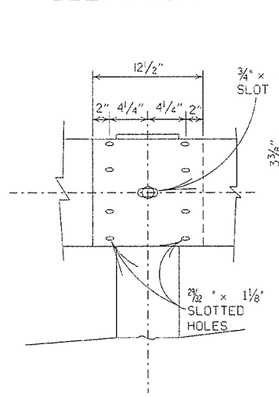
PLAN



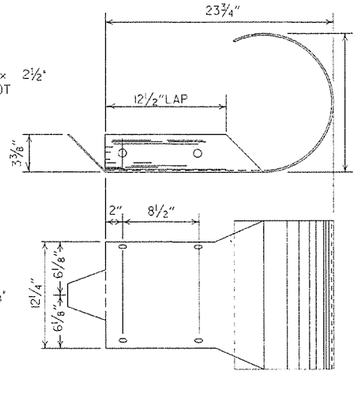
ELEVATION



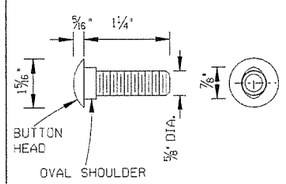
TERMINAL SECTION



RAIL SPLICE

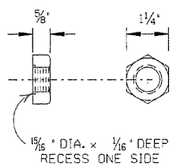


TERMINAL SECTION

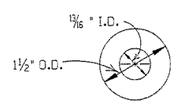


SPLICE BOLT

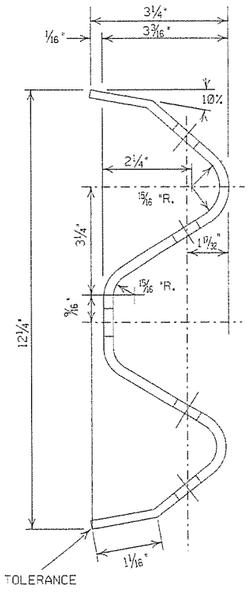
NOTE: POST BOLT SAME EXCEPT LENGTH.



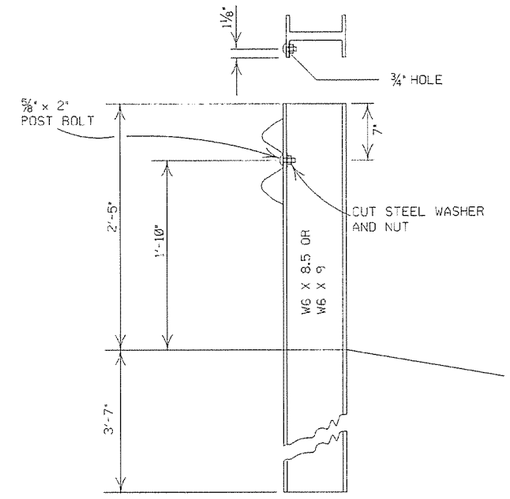
NUT



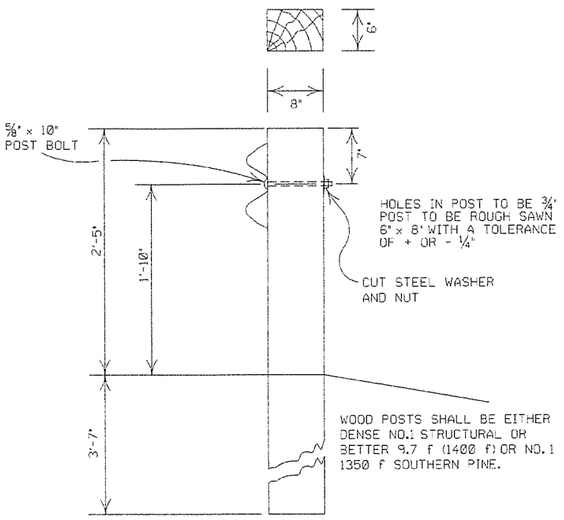
CUT STEEL WASHER



SECTION THRU RAIL



STEEL POST



WOOD POST

DETAILS OF POST CONNECTIONS

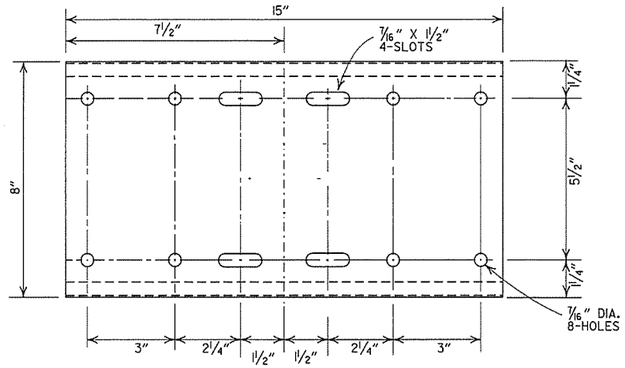
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
8-22-22	REVISED DIMENSION ON STEEL POST	
11-16-01	REVISED STEEL AND WOOD POST	
8-12-98	REMOVED CONCRETE POST	
10-18-96	CHANGED WOOD POST NOTE	10-18-96
6-2-94	ADDED ALTERNATE STEEL POST SIZE	
8- 5-93	REVISED STEEL POSTS SIZE	8-5-93
8-15-91	DELETE STEEL PLATE WASHER & ADDED	8-15-91
	TYPE C TO TITLE	
10-30-87	REMOVED DET. PLCMNT. ON HWY.	555-11-20-87
1-4-83	GRADE FOR WOOD POSTS	679-1-4-83
10-1-77	HARDENED WASHER	922-10-1-72
10-2-72	REVISED & REDRAWN	521-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

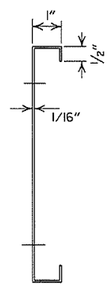
GUARD RAIL DETAILS (TYPE C)

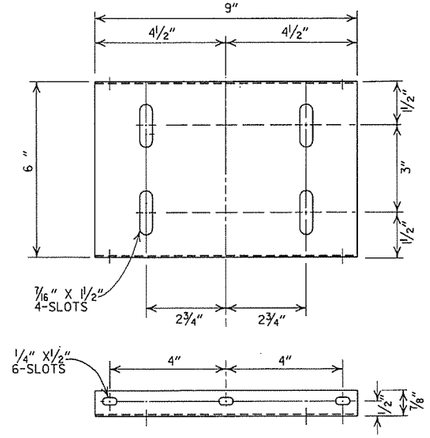
STREET / ROAD BARRICADE OR TEMPORARY INSTALLATION

STANDARD DRAWING GR-7

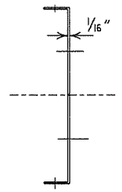


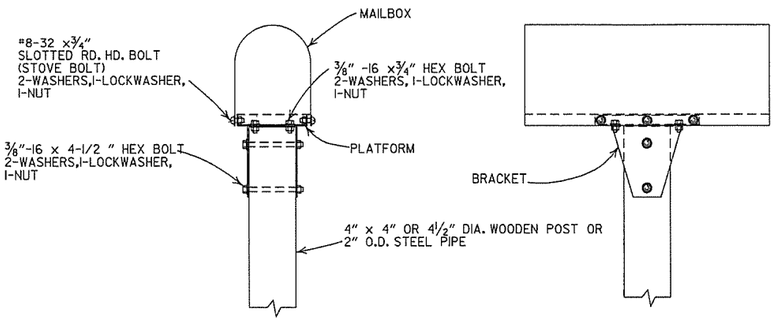
SHELF



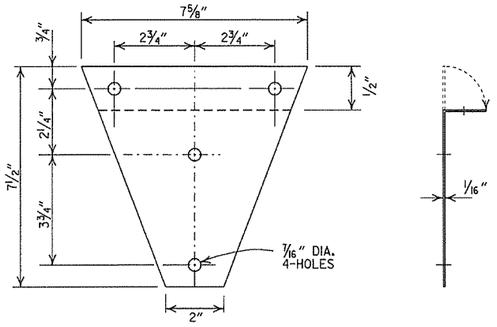


PLATFORM

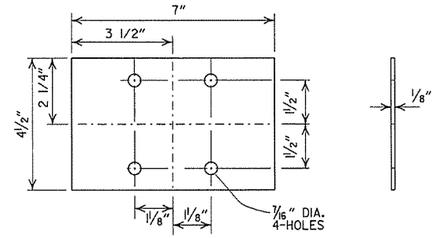




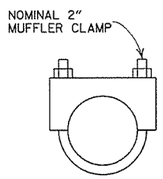
SINGLE INSTALLATION



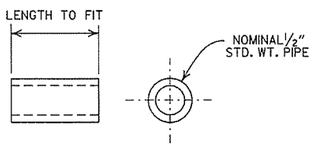
BRACKET



ANTI-TWIST PLATE



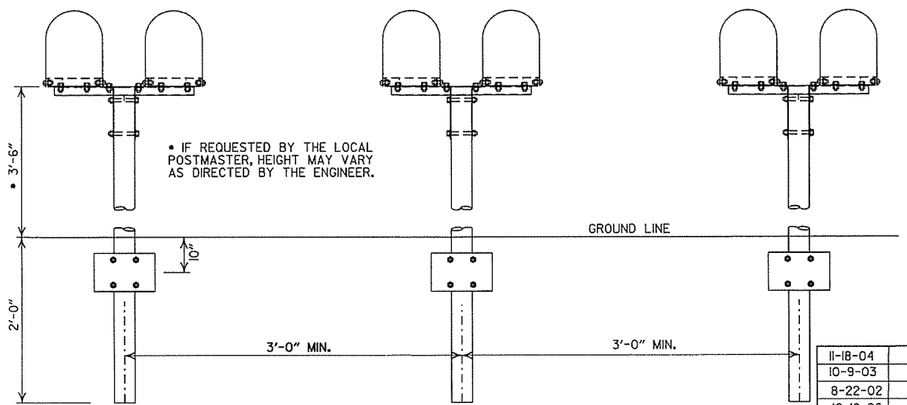
CLAMP



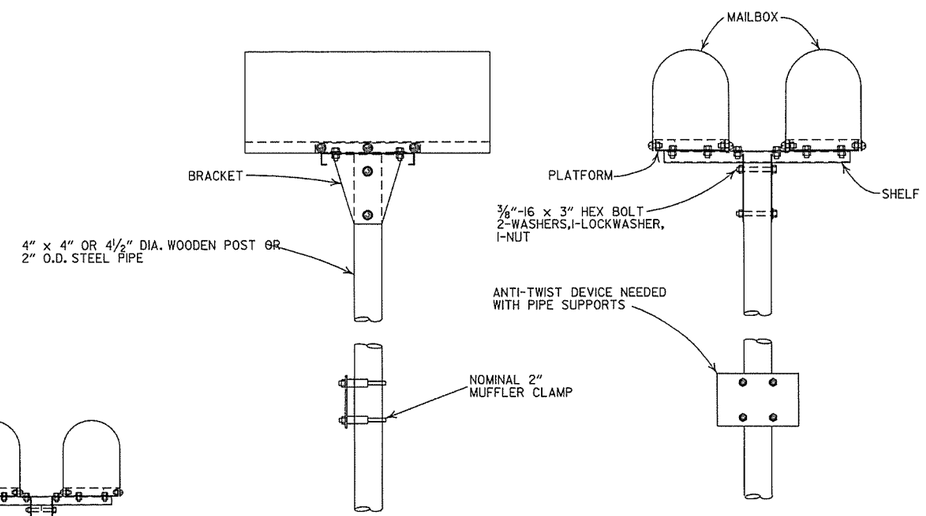
SPACER

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 OF¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X½" 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.



SPACING FOR MULTIPLE POST INSTALLATION



DOUBLE 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	20-7-15-88	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	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31 11/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	98⅝	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(ii).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

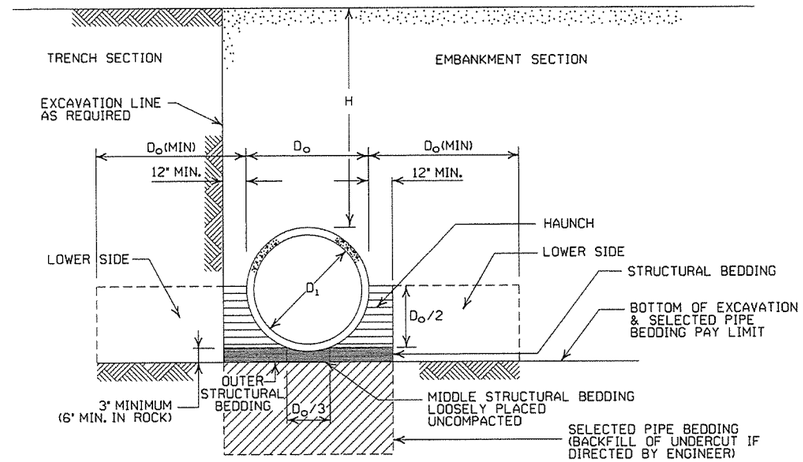
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

*SM-3 WILL NOT BE ALLOWED.

**MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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 M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	①MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION		INSTALLATION		INSTALLATION		INSTALLATION
				TYPE 1		TYPE 1		TYPE 1		TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2		15	0.060	2		15
18	21x15	3	0.064	2		15	0.060	2		15
21	24x18	3	0.064	2.25		15	0.060	2.25		15
24	28x20	3	0.064	2.5		15	0.075	2.5		15
30	35x24	3	0.079	3		12	0.075	3		12
36	42x29	3½	0.079	3		12	0.105	3		12
42	49x33	4	0.079	3		12	0.105	3		12
48	57x38	5	0.109	3		13	0.135	3		13
54	64x43	6	0.109	3		14	0.135	3		14
60	71x47	7	0.138	3		15	0.164	3		15
66	77x52	8	0.168	3		15				
72	83x57	9	0.168	3		15				
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

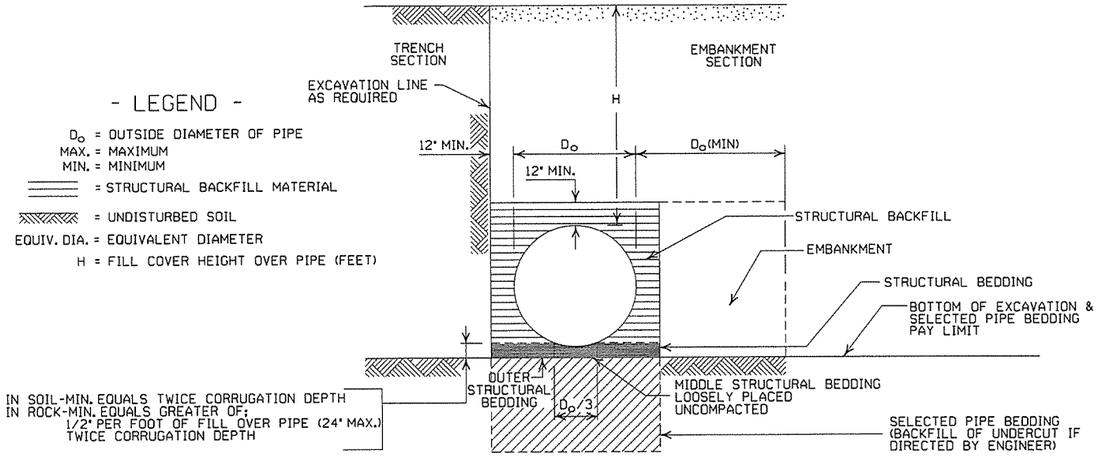
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

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 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.

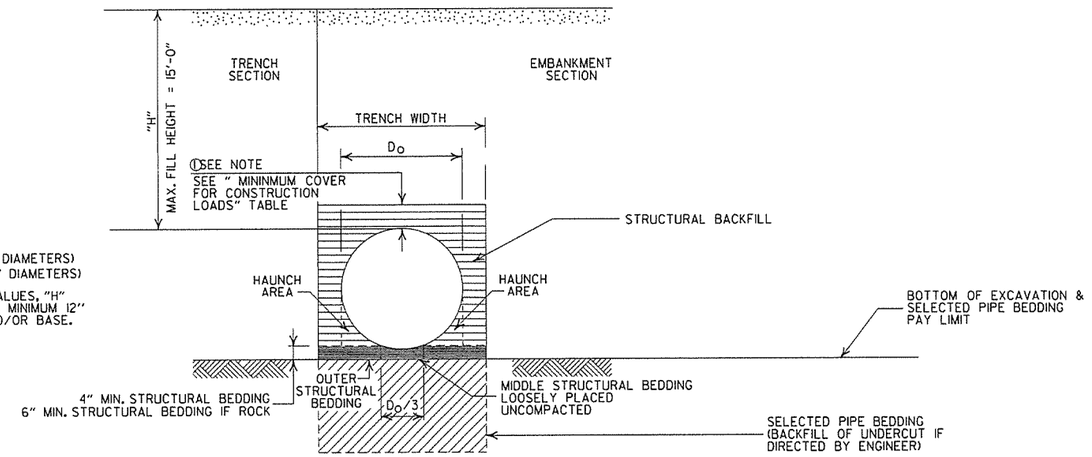
MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



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.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 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 PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

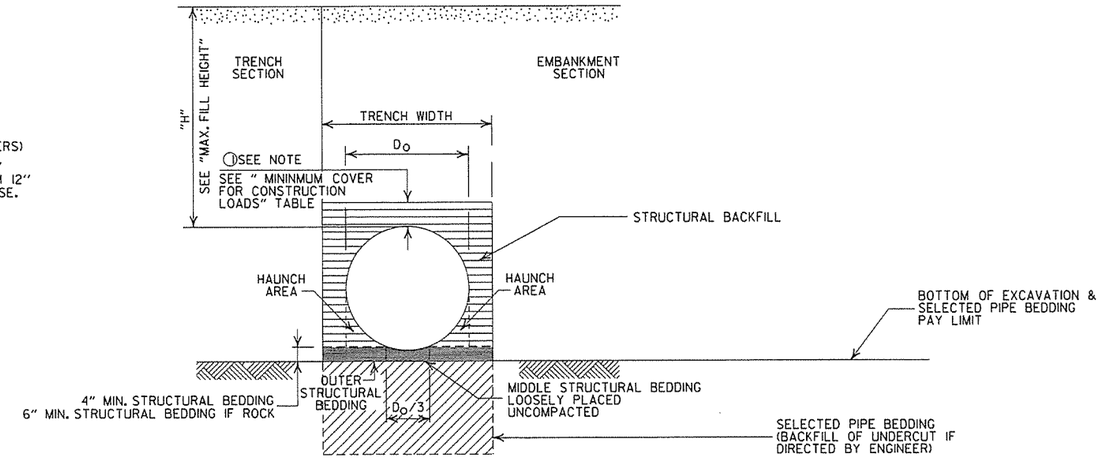
MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



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.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS 18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

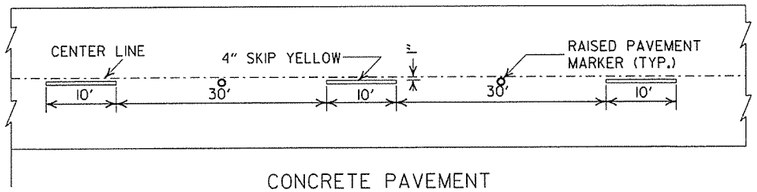
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

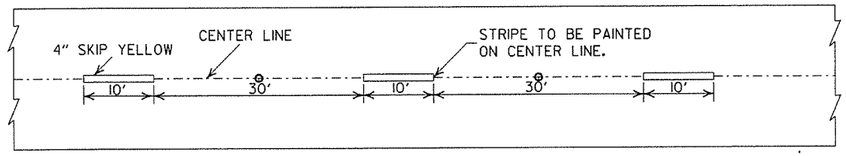
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

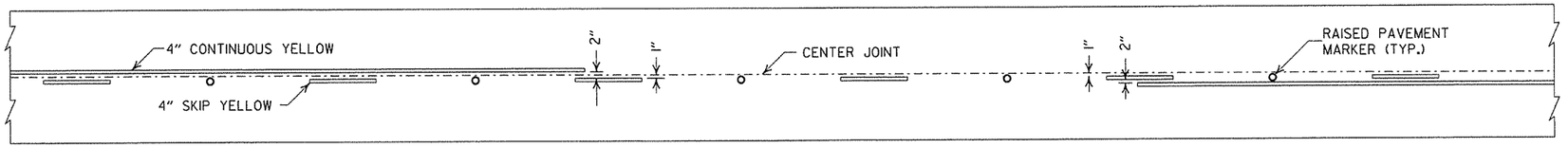


CONCRETE PAVEMENT

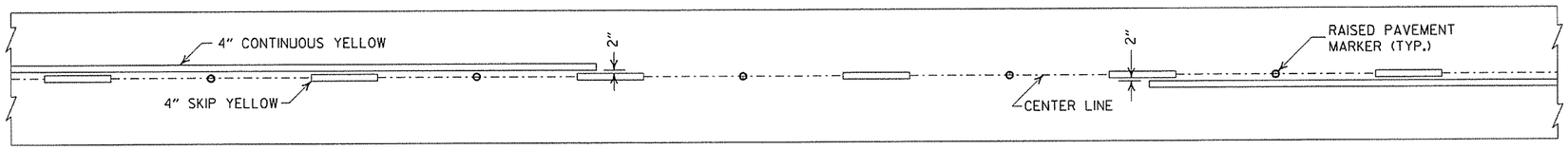


ASPHALT PAVEMENT

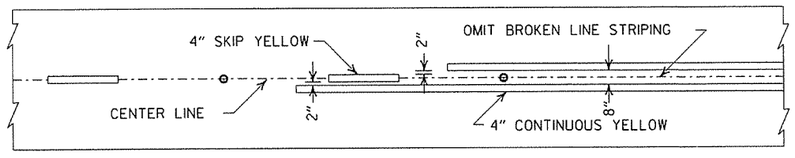
BROKEN LINE STRIPING



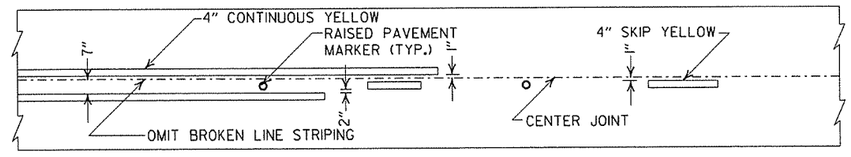
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



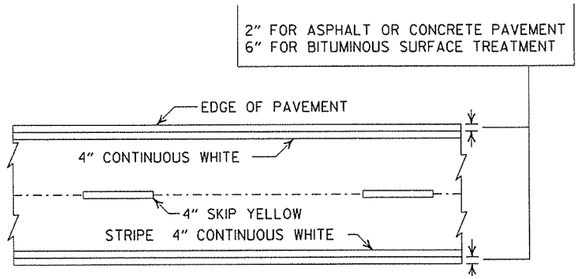
ASPHALT PAVEMENT



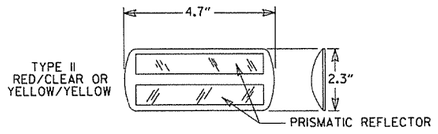
CONCRETE PAVEMENT

NOTES:

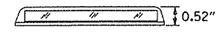
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

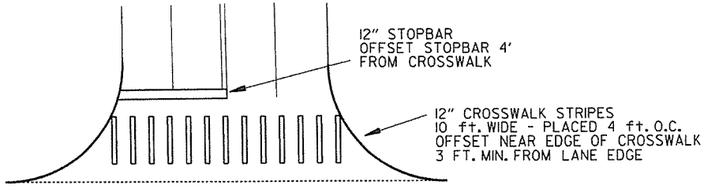
GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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.

STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS

DATE	REVISION	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

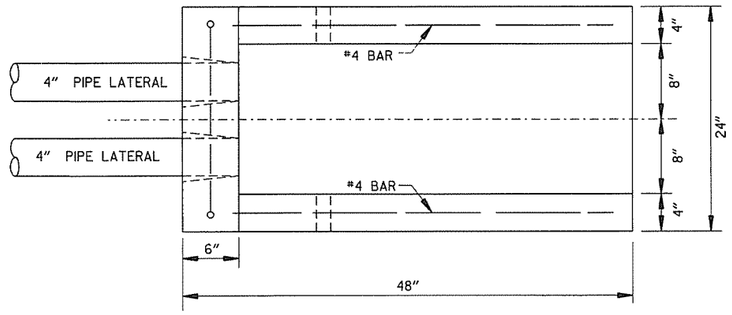
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

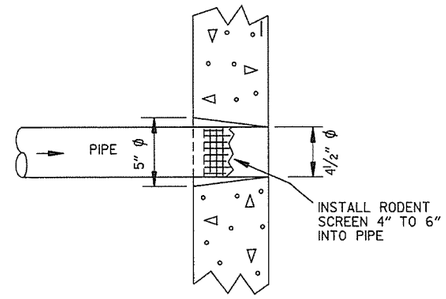
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

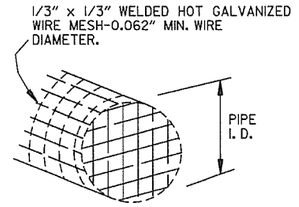
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



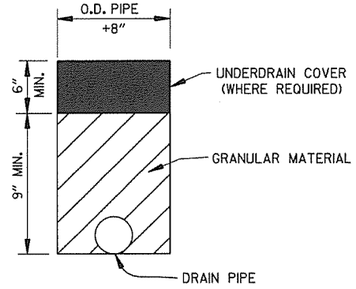
PLAN VIEW

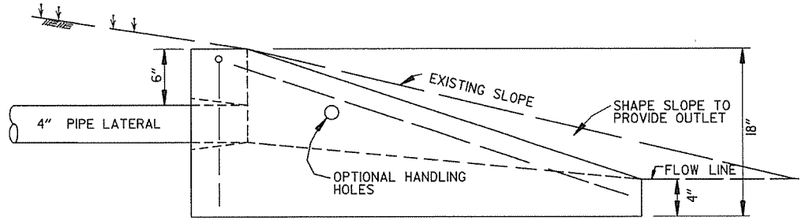


DETAIL OF HOLE FOR 4" PIPE

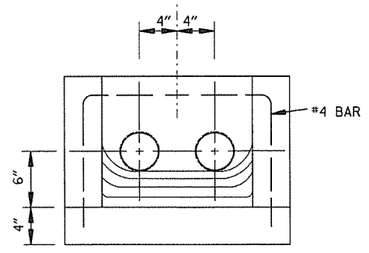


DETAIL OF RODENT SCREEN

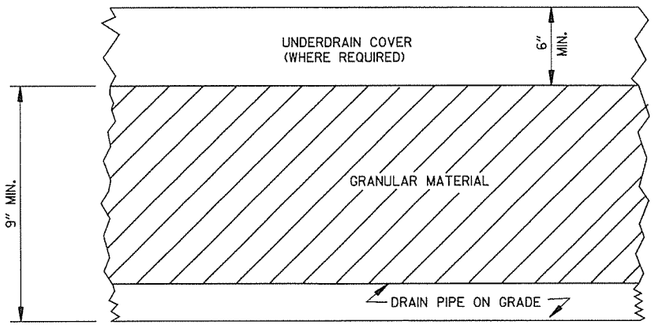




SIDE VIEW

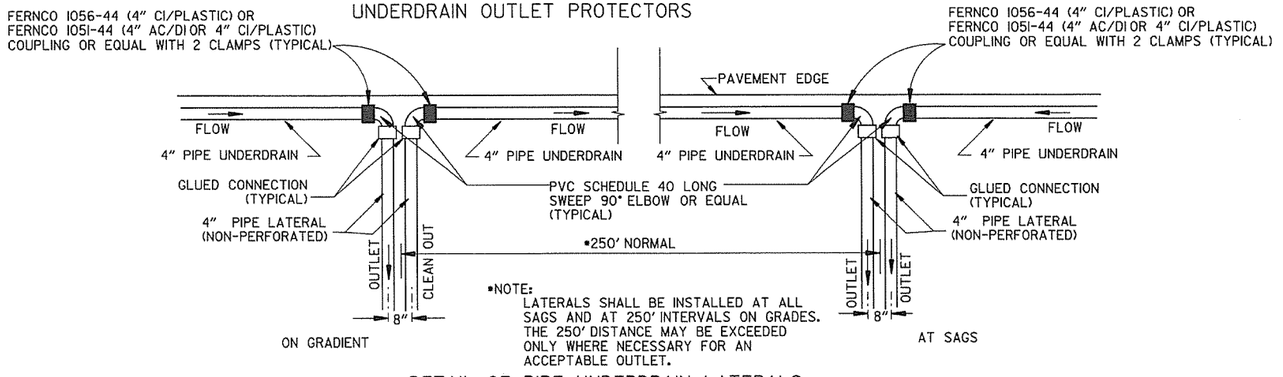


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

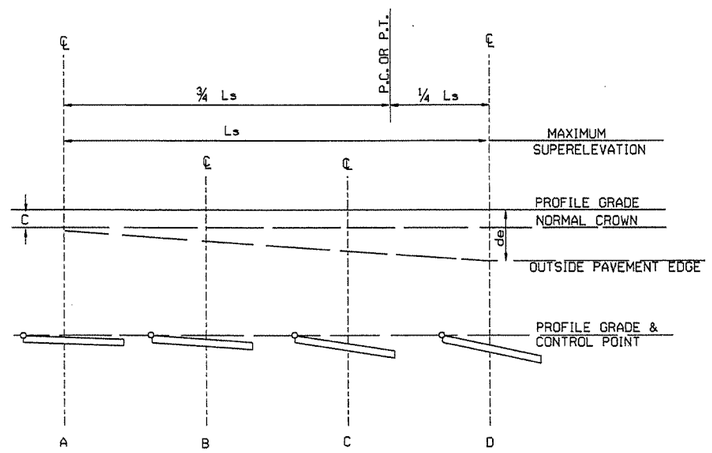
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.025			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.033	250		0.037	275	350
1° 15′	N.C.			R.C.			0.026			0.032			0.037	250		0.041			0.046		
1° 30′	N.C.			0.021			0.031	200		0.037	225		0.043			0.048			0.054		
1° 45′	N.C.			0.025			0.036			0.043			0.049			0.055			0.062		
2° 00′	R.C.			0.028	175		0.040			0.048			0.055			0.062			0.070		
2° 15′	R.C.			0.031			0.045			0.053			0.061			0.069	265		0.078	300	
2° 30′	0.021			0.034			0.049		300	0.058			0.067			0.075	280		0.085	315	400
2° 45′	0.023			0.037			0.053			0.063			0.072			0.081	300		0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.087	315		0.096	350	
3° 15′	0.027	150		0.043		250	0.061			0.072	245		0.082	275		0.090	325	400	0.098	360	450
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.095	340		0.100	360	
3° 45′	0.031			0.049			0.069	215		0.080	265		0.090	295	400	0.097	345				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305		0.099	350				
4° 30′	0.037			0.056			0.078	240		0.087	280	400	0.096	315							
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320							
5° 30′	0.043			0.066	185		0.088	260		0.094	300										
6° 00′	0.046			0.070	190		0.092	270		0.096	305										
6° 30′	0.050			0.074	200		0.095	280	350	0.100	315										
7° 00′	0.053			0.078	210		0.098	285													
7° 30′	0.056			0.081	215		0.099	290													
8° 00′	0.058			0.084	220		0.100	290													
8° 30′	0.061			0.087	225	300															
9° 00′	0.063			0.089	230																
10° 00′	0.068	160		0.094	235																
11° 00′	0.072	170		0.097	250																
12° 00′	0.076	175		0.099	250																
13° 00′	0.080	180		0.100	250																
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200	250																		
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215																			
21° 00′	0.098	215																			
22° 00′	0.099	215																			
23° 00′	0.099	215																			
24° 00′	0.100	220																			
			300																		

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 4° 15′ | D MAX = 3° 30′



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

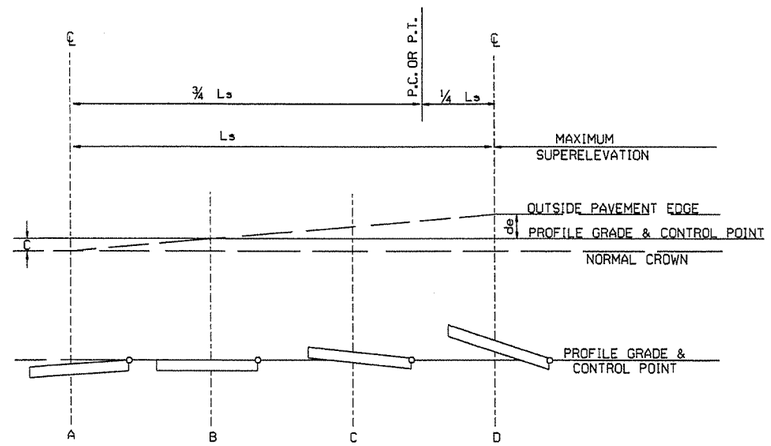
ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
S - SUPERELEVATION
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT
e - MAXIMUM RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
C - NORMAL CROWN (FT.)

GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

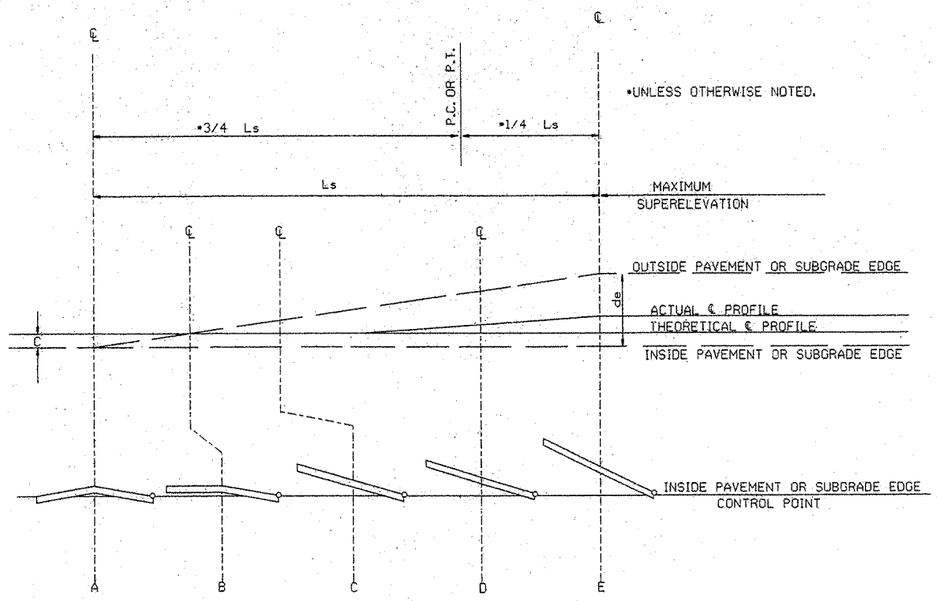
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30′	N.C.			0.021			0.031	200		0.037	225		0.043	250		0.054		
1° 45′	N.C.			0.025	175		0.036			0.043		300	0.049		300	0.062		
2° 00′	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15′	R.C.			0.031			0.045		250	0.053			0.061			0.078	300	350
2° 30′	0.021			0.034			0.049			0.058			0.067			0.085	315	
2° 45′	0.023			0.037		200	0.053			0.063			0.072			0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.096	350	400
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.098	360	
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031		200	0.049			0.069	215		0.080	265		0.090	295				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305	350			
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.061			0.083	250		0.091	295	350	0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300							
6° 00′	0.046			0.070	190		0.092	270		0.096	305							
6° 30′	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00′	0.053			0.078	210		0.098	285										
7° 30′	0.056			0.081	215		0.099	290										
8° 00′	0.058			0.084	220	250	0.100	290										
8° 30′	0.061			0.087	225													
9° 00′	0.063			0.089	230													
10° 00′	0.068	160		0.094	235													
11° 00′	0.072	170		0.097	250													
12° 00′	0.076	175		0.099	250													
13° 00′	0.080	180		0.100	250													
14° 00′	0.083	190																
15° 00′	0.086	195																
16° 00′	0.089	200																
17° 00′	0.091	200																
18° 00′	0.093	205																
19° 00′	0.095	210																
20° 00′	0.097	215	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

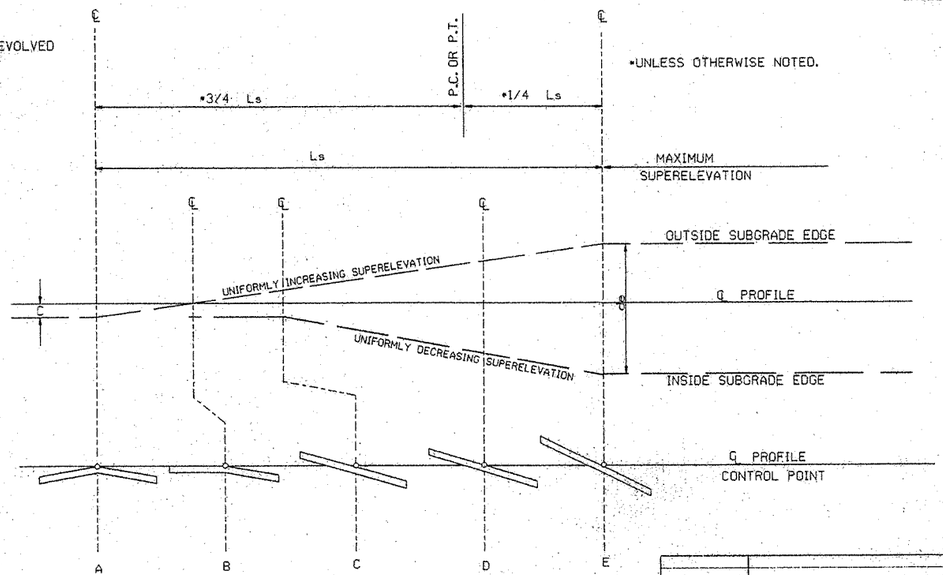
GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-28-96
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

FILE STDSE2.DGN

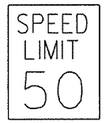
RI-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

RI-2

STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5A

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5C

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

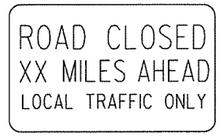
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2

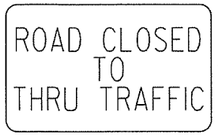
48"X30"

RII-3A



60"X30"

RII-4

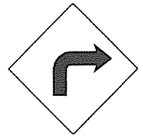


60"X30"

RSP-1

48"X30"

WI-1



STD. 36"X36"
FWY. 48"X48"

WI-2

STD. 36"X36"
FWY. 48"X48"

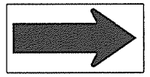
WI-3

STD. 48"X48"

WI-4

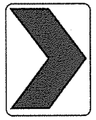
STD. 48"X48"

WI-6



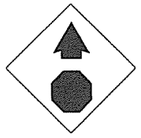
STD. 48"X24"
SPECIAL 60"X30"

WI-8



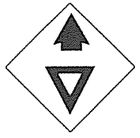
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



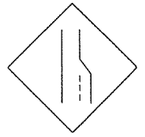
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

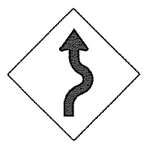
W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

WI-4b

STD. 48"X48"

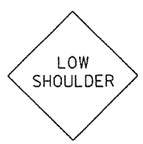
R56-1

STD. 18"X18"

W8-11

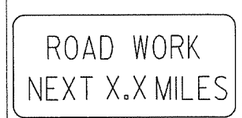
STD. 36"X36"
FWY. 48"X48"

W8-9



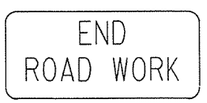
STD. 36"X36"
FWY. 48"X48"

G20-1



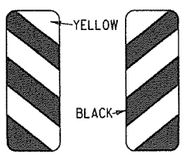
60"X24"

G20-2



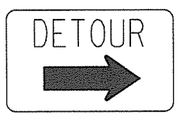
48"X24"

OM-3L OM-3R



12"X36"

M4-9



STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

FINES DOUBLE
IN WORK ZONES *

WHEN WORKERS
ARE PRESENT **

36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

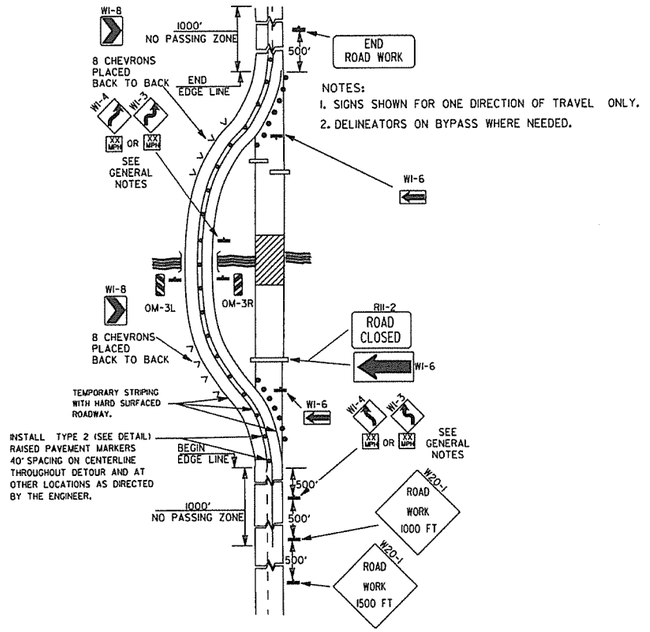
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

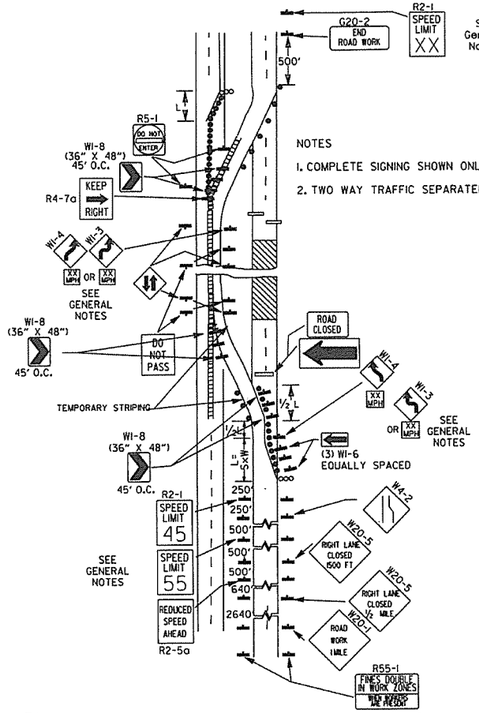
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



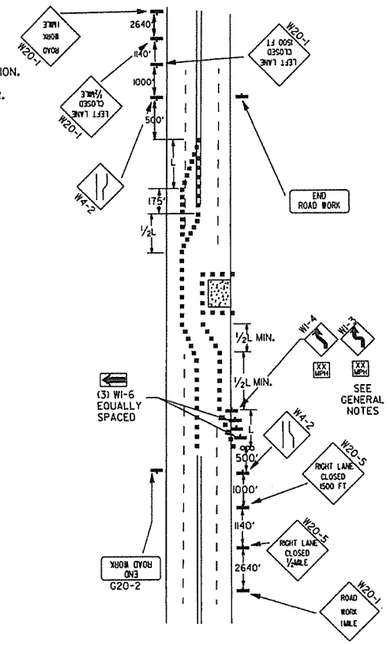
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

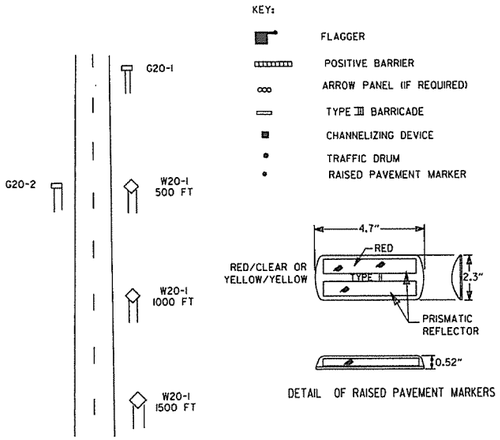


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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

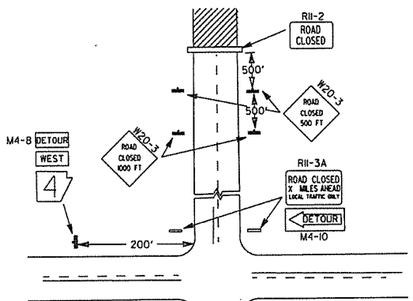


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



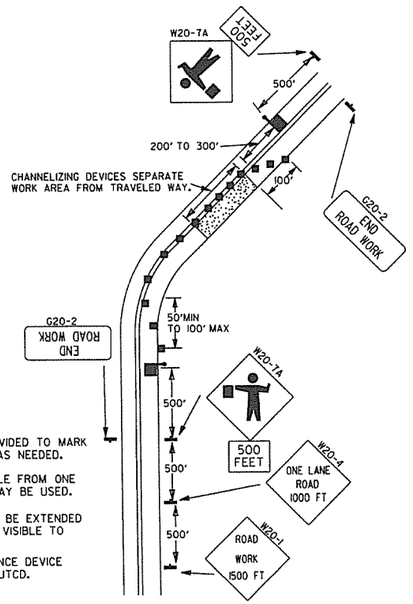
DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT



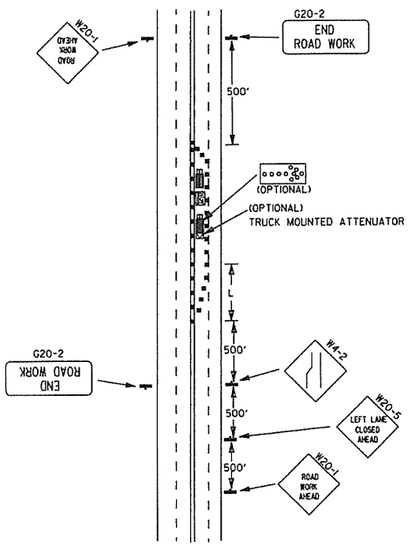
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

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



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

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:

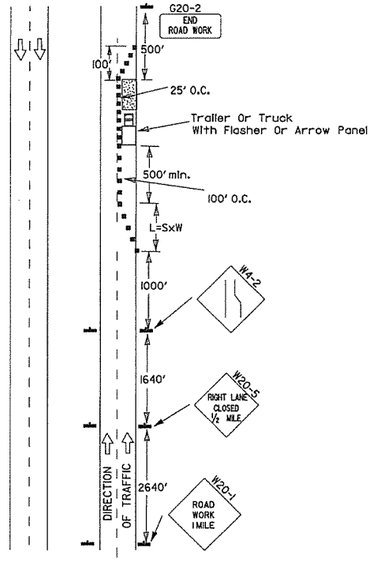
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. 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.

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (G) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

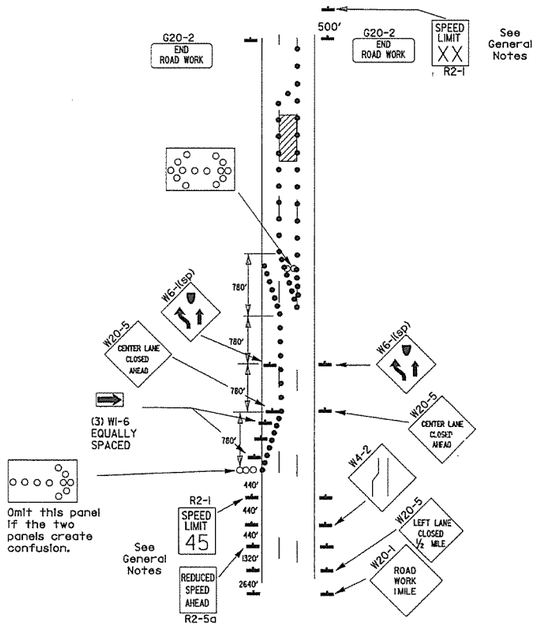
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



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



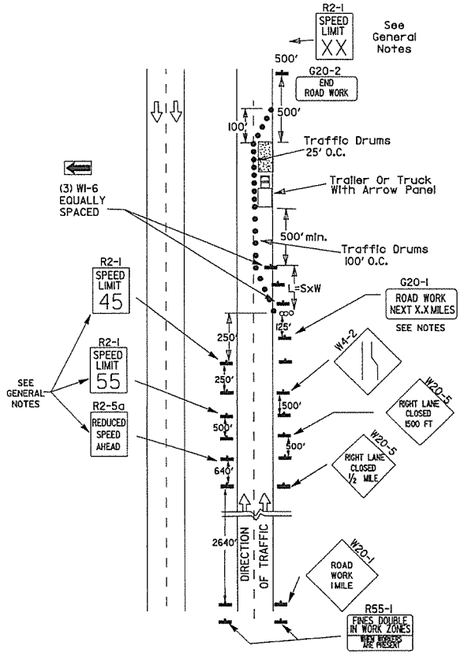
(B) Typical application - 3-lane oneway roadway where center lane is closed.

KEY:

- Arrow Panel (If Required)
- Channelizing Device
- Traffic drum

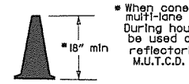
GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of 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.



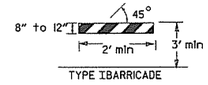
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

Channelizing devices



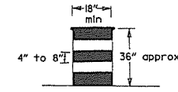
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

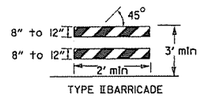
CONES



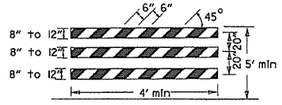
TYPE I BARRICADE

PLASTIC DRUM



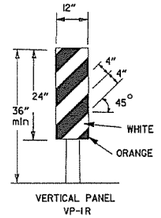


TYPE II BARRICADE



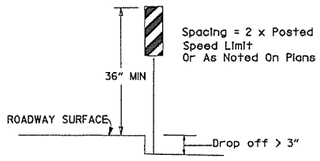
TYPE III BARRICADE

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



VERTICAL PANEL
VP-1R

VERTICAL PANEL PLACEMENT



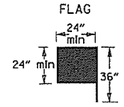
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

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-1 and 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.

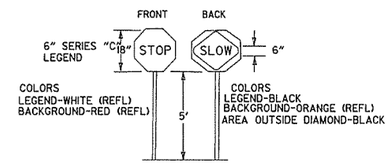
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

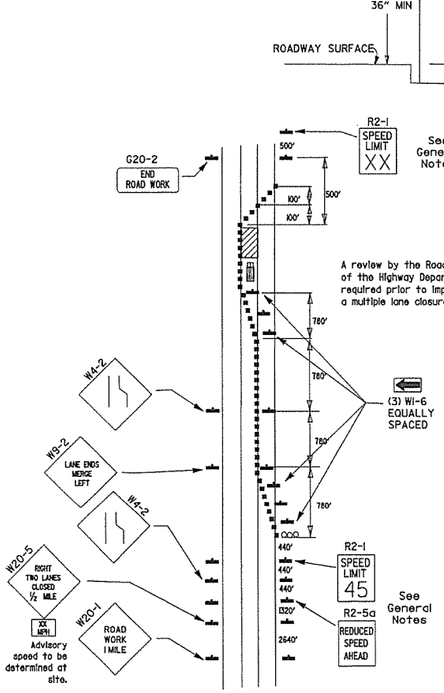
FLAG



Flag shall be of good grade red material

STOP SLOW PADDLE





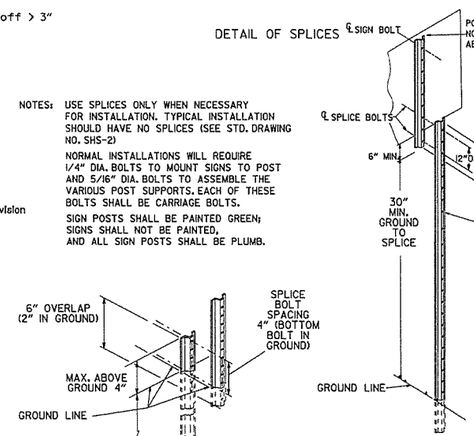
(D) Typical application - closing multiple lanes of a multilane highway.

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.



DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

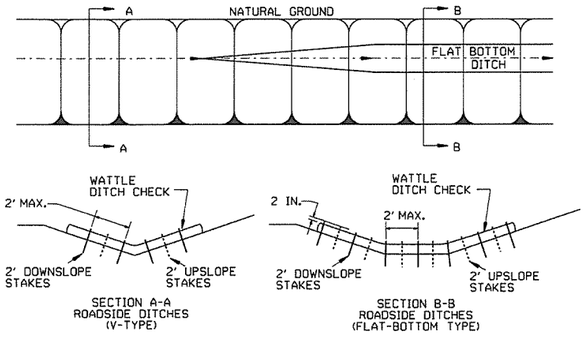
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

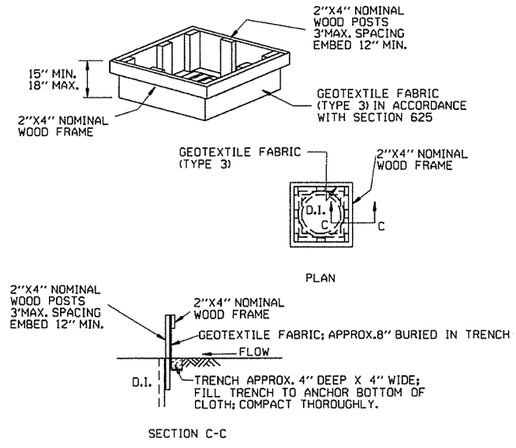
STANDARD DRAWING TC-3

GENERAL NOTES

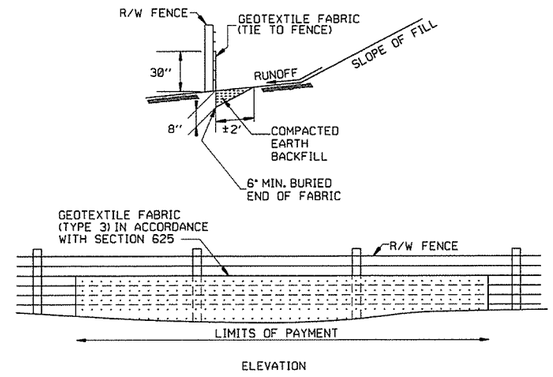
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

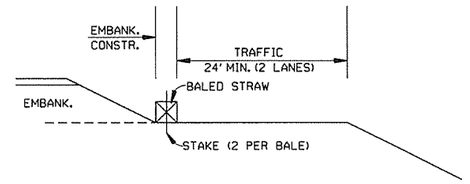
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

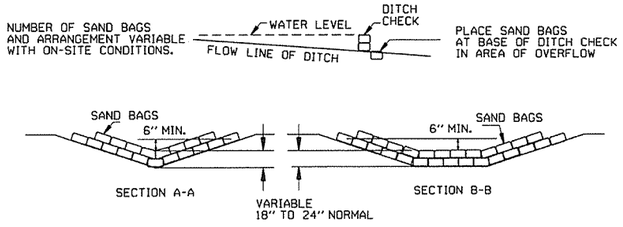
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

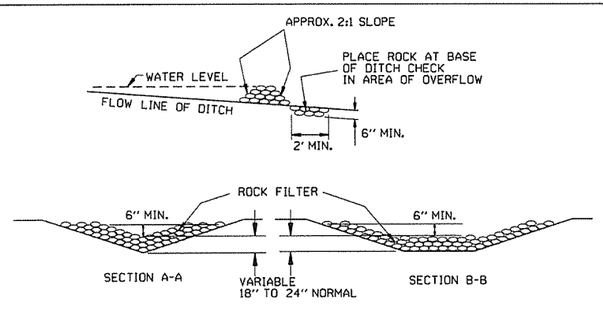
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



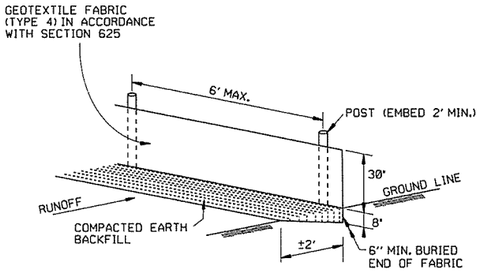
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

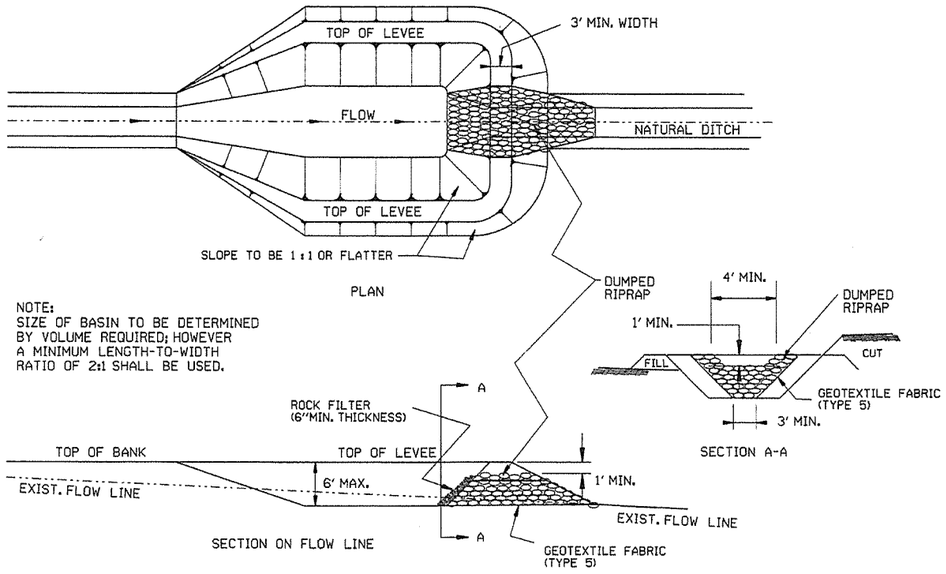
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
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

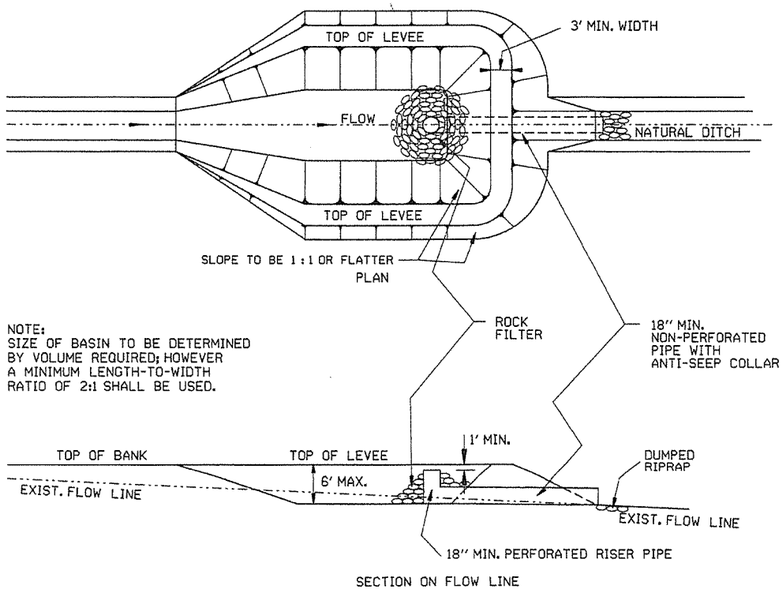
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

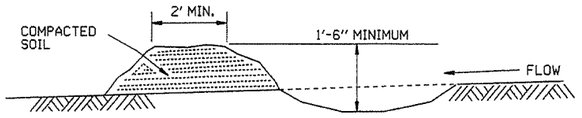
STANDARD DRAWING TEC-1



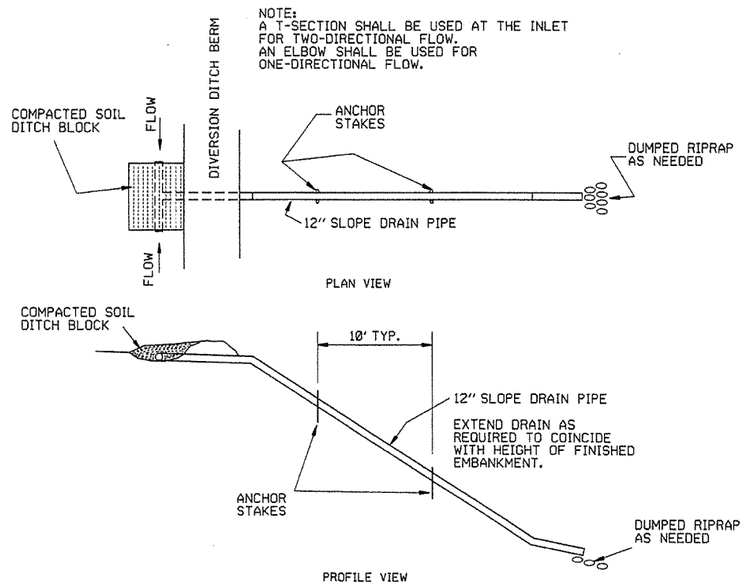
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



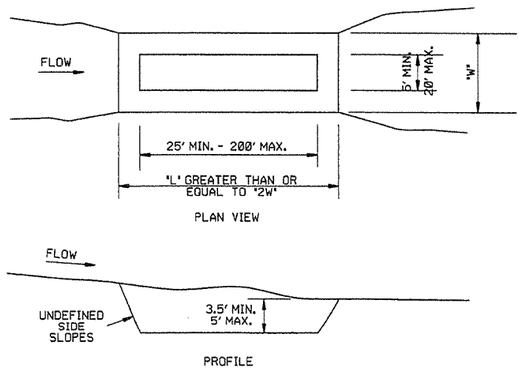
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

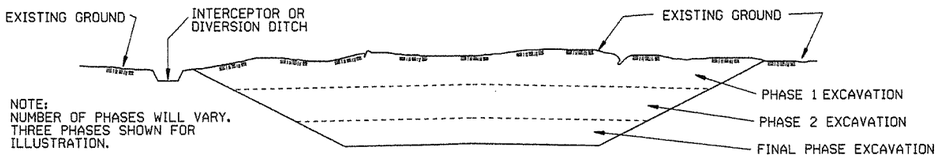
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



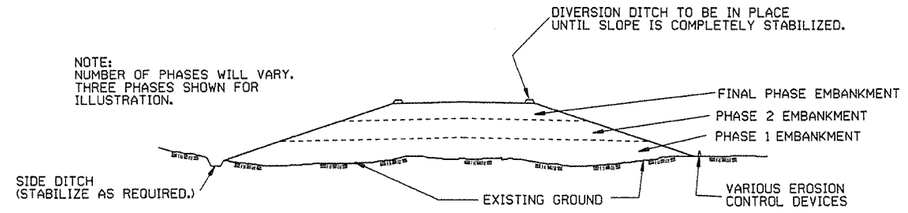
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

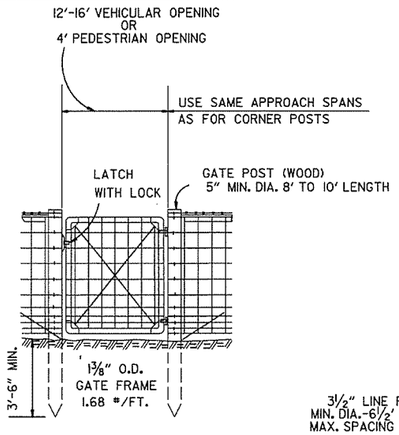
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

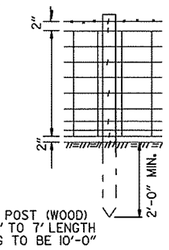
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

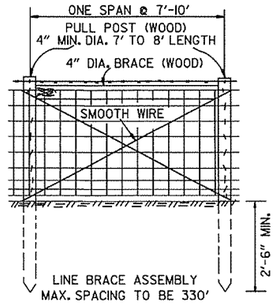
ARKANSAS STATE HIGHWAY COMMISSION

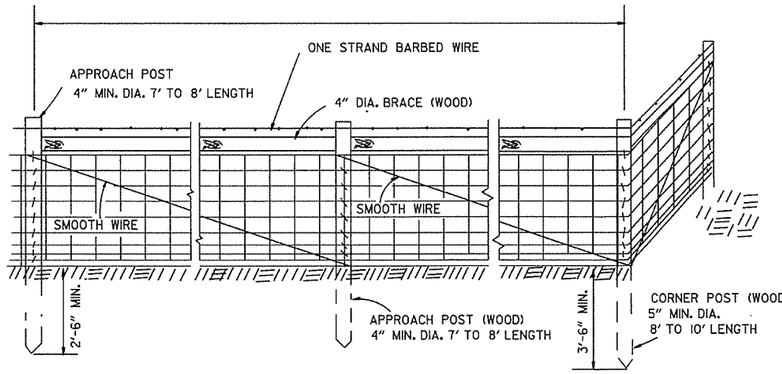
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



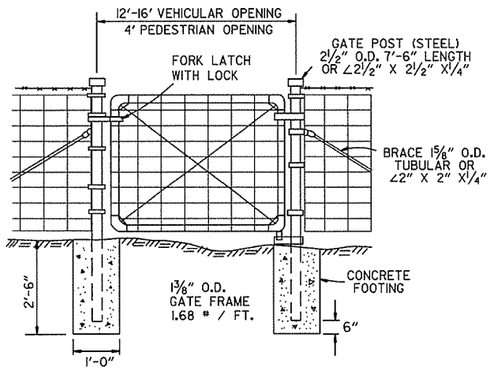


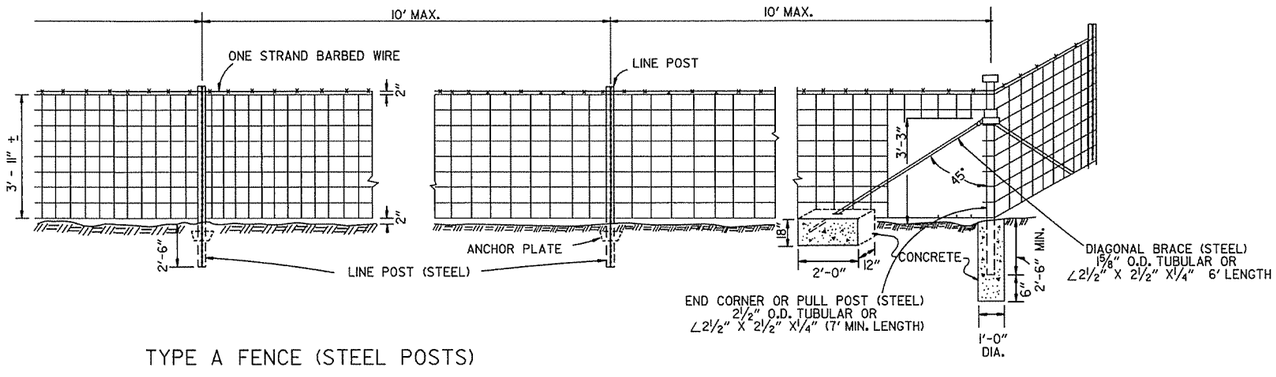




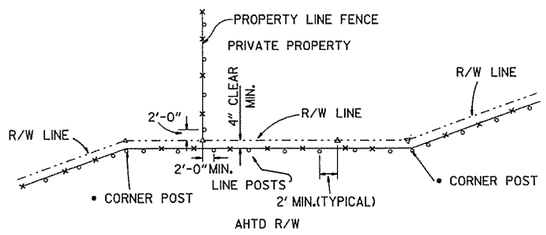
NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)





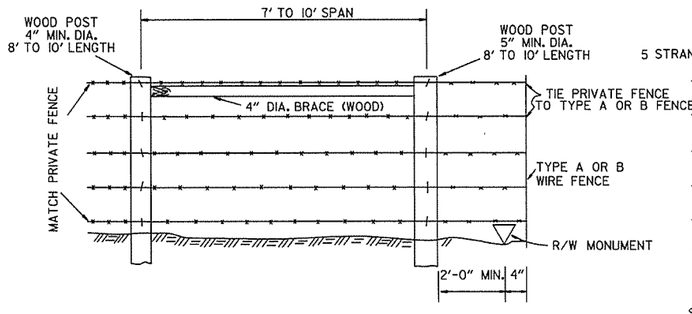
TYPE A FENCE (STEEL POSTS)



•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.

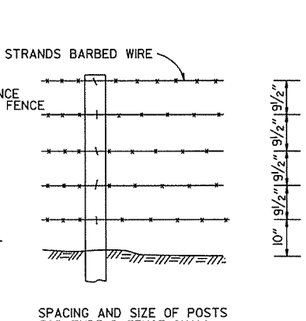
△ - R/W MONUMENTS
○ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



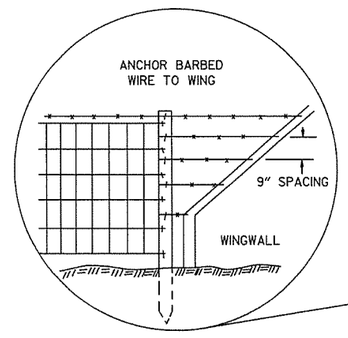
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

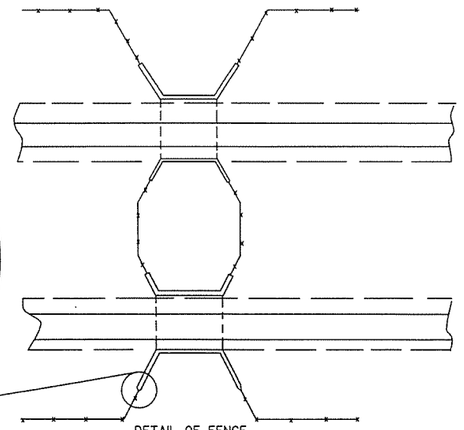
PRIVATE FENCE TERMINAL INSTALLATION



SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

TYPE B FENCE





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

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.

TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

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

GATE HINGES AND LATCHES WITH LOCKS TO BE OF A TYPE APPROVED BY THE ENGINEER. DRIVEWAY GATES, EITHER SINGLE 12' OR 16' OR DOUBLE 6' TO 8' OPENINGS 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 BY MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON THE 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 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 SUFFIEICNT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO THE BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

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.

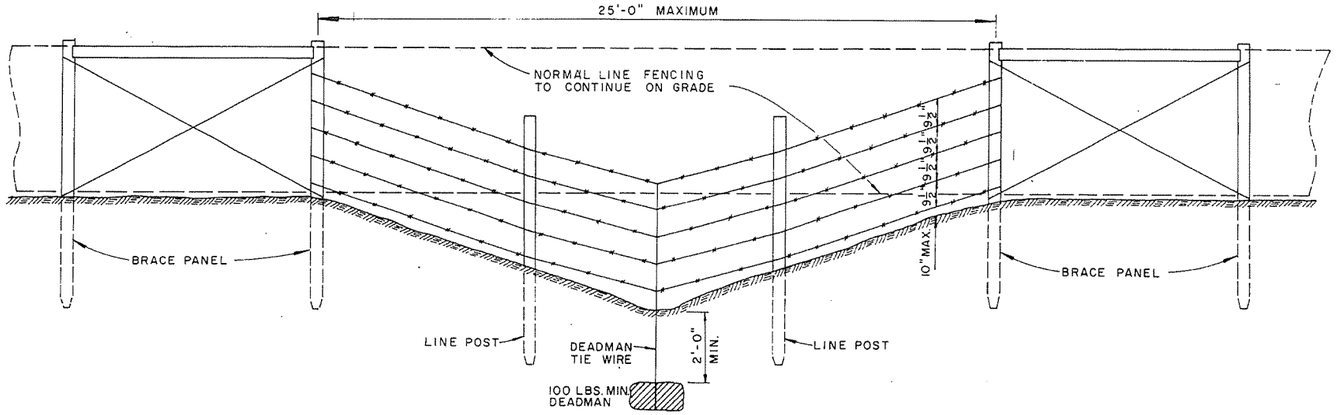
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD"; AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF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

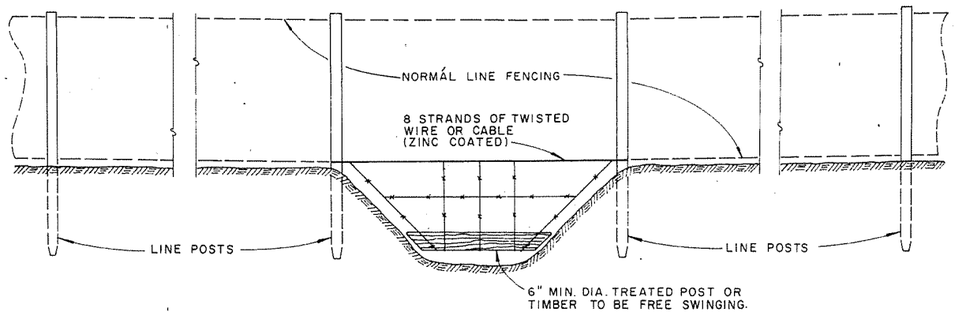
DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES	
	AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

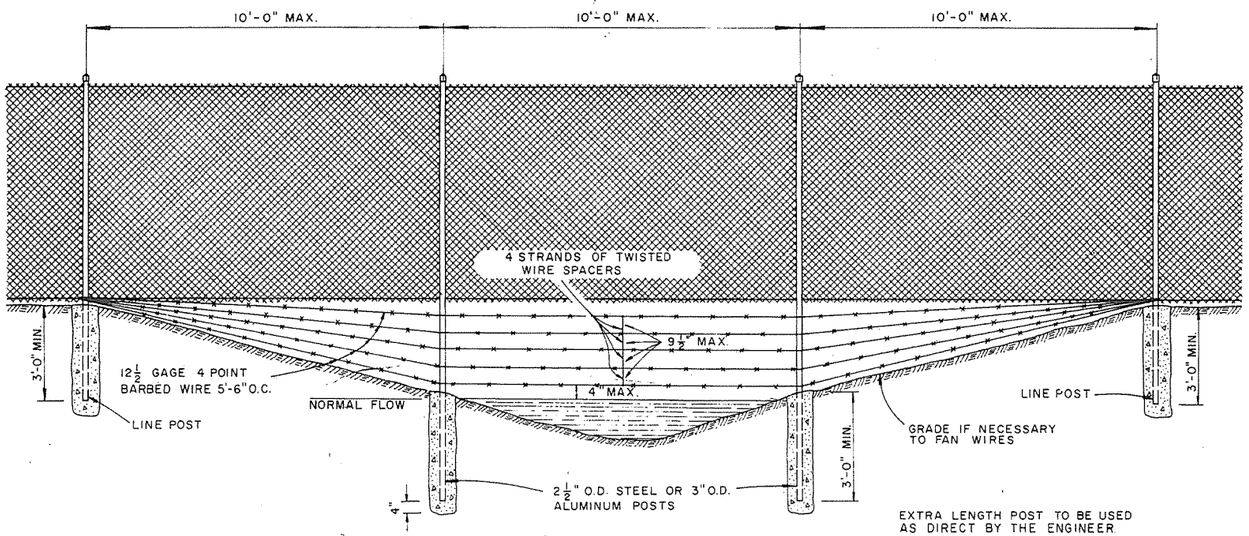
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1







GENERAL NOTES:

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

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

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

PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

DATE	REVISION	DATE FILM'D.
4-20-79	REVISED TOP RAIL & TENSION WIRE	676-4-20-79
10-2-72	REVISED & REDRAWN	529-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

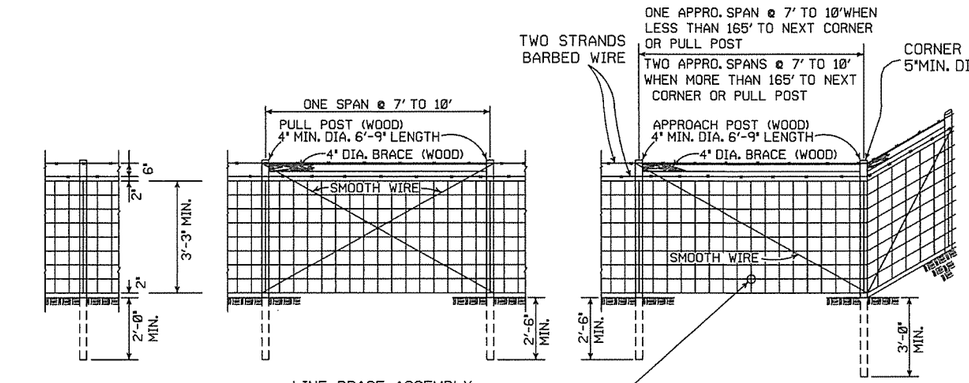
WIRE FENCE WATER GAPS

STANDARD DRAWING

WF-2

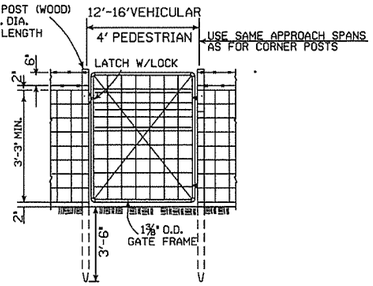
1M—11-71—47001—PP&SCo

TYPE C FENCE (WOOD POSTS)

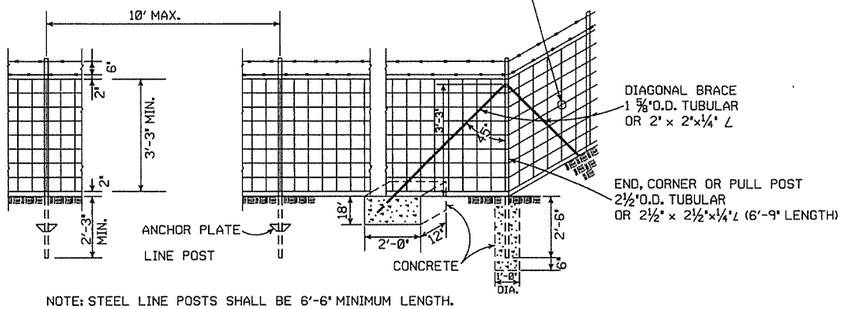


LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"

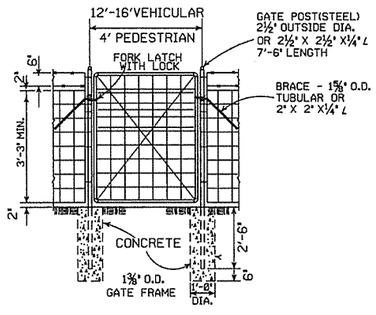
LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'

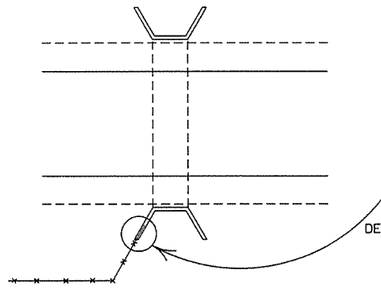


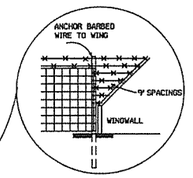
OTHER APPROVED TIES WILL BE PERMITTED



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







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

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.

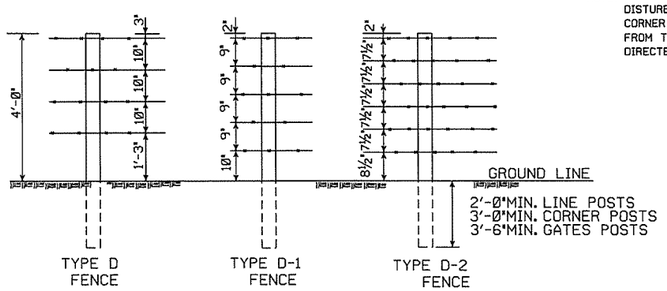
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS:
THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

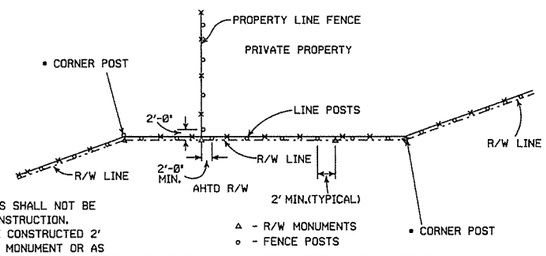
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

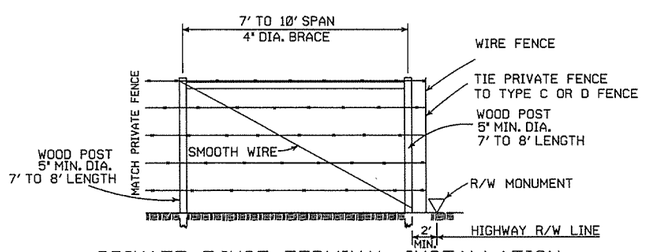


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



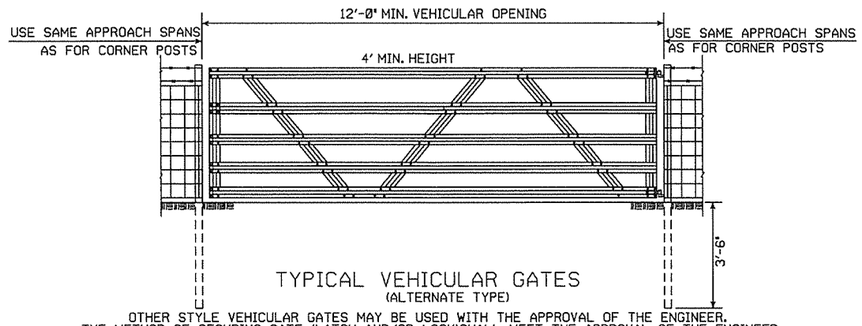
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

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.



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

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.

DATE	REVISION	FILMED
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

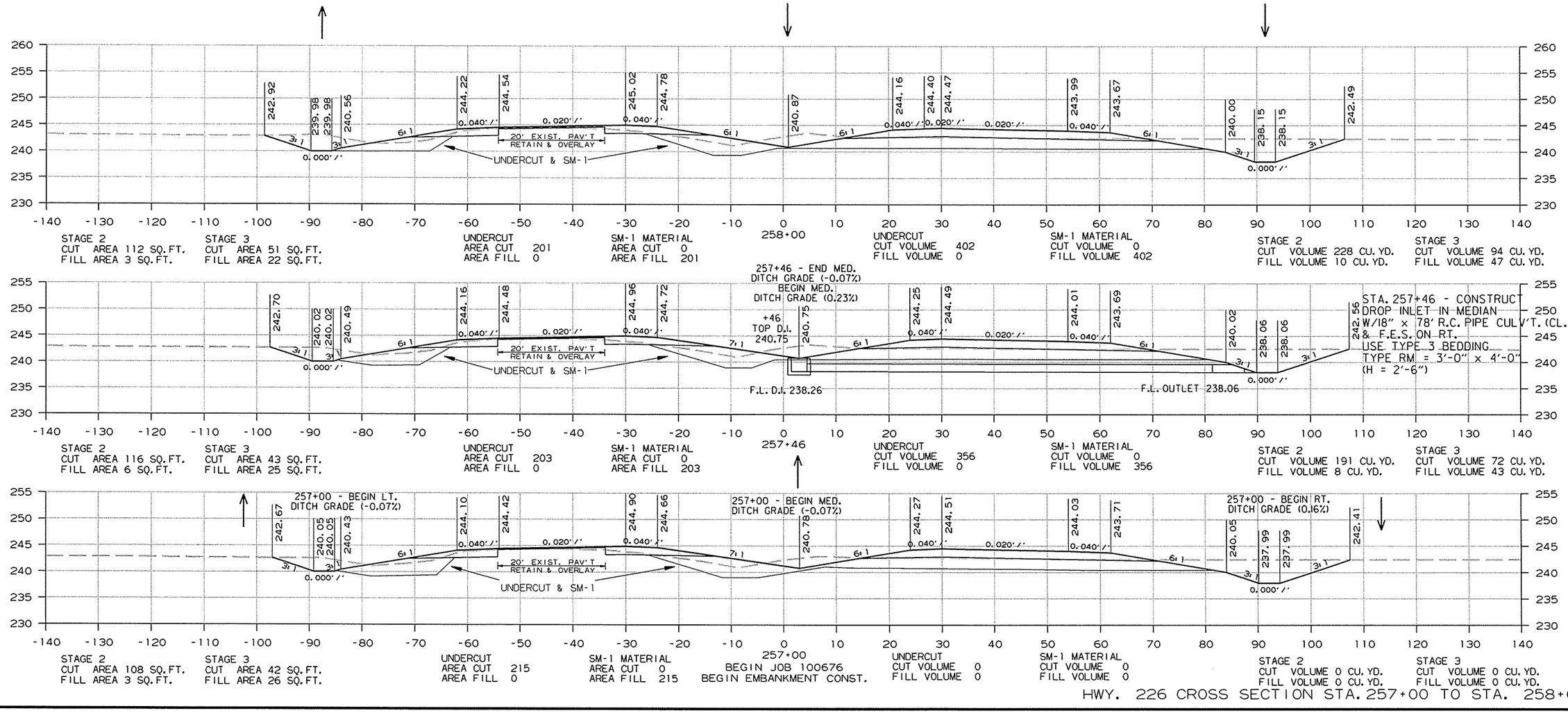
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4

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.		100676	86	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 112 SQ.FT.
FILL AREA 3 SQ.FT.

STAGE 3
CUT AREA 51 SQ.FT.
FILL AREA 22 SQ.FT.

UNDERCUT
AREA CUT 201
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 201

UNDERCUT
CUT VOLUME 402
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 402

STAGE 2
CUT VOLUME 228 CU. YD.
FILL VOLUME 10 CU. YD.

STAGE 3
CUT VOLUME 94 CU. YD.
FILL VOLUME 47 CU. YD.

STAGE 2
CUT AREA 116 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 3
CUT AREA 43 SQ.FT.
FILL AREA 25 SQ.FT.

UNDERCUT
AREA CUT 203
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 203

UNDERCUT
CUT VOLUME 356
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 356

STAGE 2
CUT VOLUME 191 CU. YD.
FILL VOLUME 8 CU. YD.

STAGE 3
CUT VOLUME 72 CU. YD.
FILL VOLUME 43 CU. YD.

STAGE 2
CUT AREA 108 SQ.FT.
FILL AREA 3 SQ.FT.

STAGE 3
CUT AREA 42 SQ.FT.
FILL AREA 26 SQ.FT.

UNDERCUT
AREA CUT 215
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 215

UNDERCUT
CUT VOLUME 0
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 0

STAGE 2
CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

STAGE 3
CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

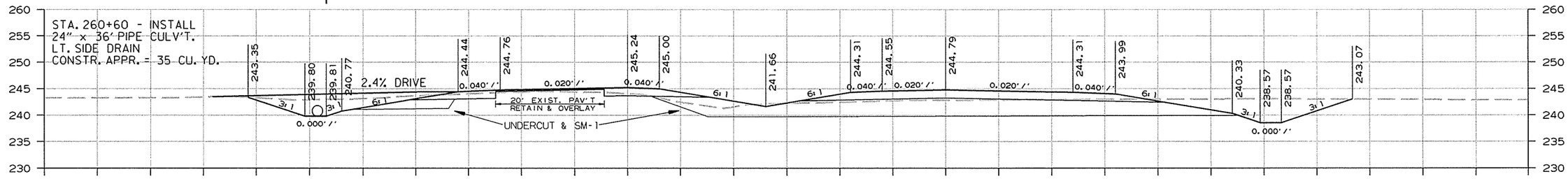
HWY. 226 CROSS SECTION STA. 257+00 TO STA. 258+00

2/28/2014

R100676.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.		100676	87	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 97 SQ.FT.
FILL AREA 14 SQ.FT.

STAGE 3
CUT AREA 73 SQ.FT.
FILL AREA 19 SQ.FT.

UNDERCUT
AREA CUT 277
AREA FILL 0

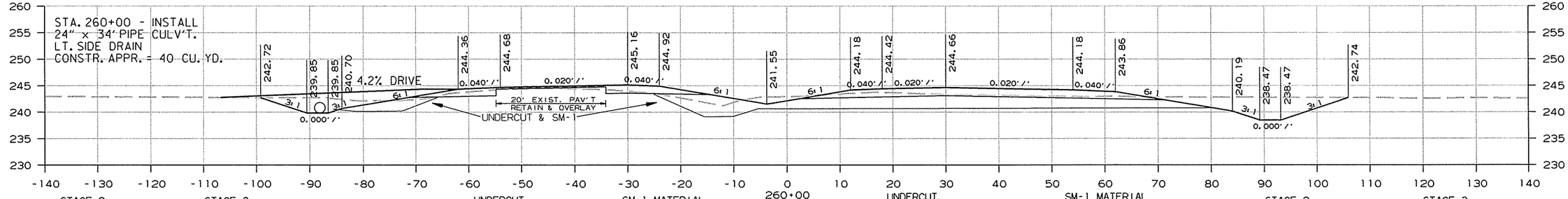
SM-1 MATERIAL
AREA CUT 0
AREA FILL 277

UNDERCUT
CUT VOLUME 538
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 538

STAGE 2
CUT VOLUME 245 CU. YD.
FILL VOLUME 16 CU. YD.

STAGE 3
CUT VOLUME 135 CU. YD.
FILL VOLUME 41 CU. YD.



STAGE 2
CUT AREA 123 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 49 SQ.FT.
FILL AREA 18 SQ.FT.

UNDERCUT
AREA CUT 207
AREA FILL 0

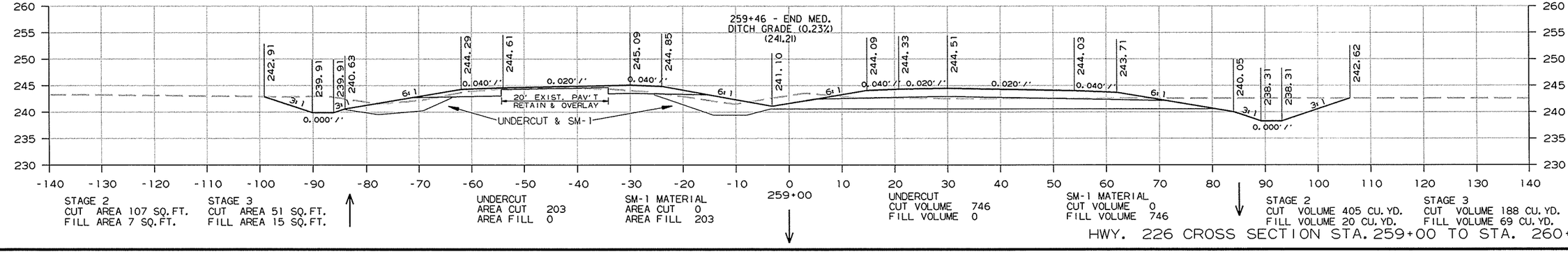
SM-1 MATERIAL
AREA CUT 0
AREA FILL 207

UNDERCUT
CUT VOLUME 760
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 760

STAGE 2
CUT VOLUME 426 CU. YD.
FILL VOLUME 13 CU. YD.

STAGE 3
CUT VOLUME 184 CU. YD.
FILL VOLUME 61 CU. YD.



STAGE 2
CUT AREA 107 SQ.FT.
FILL AREA 7 SQ.FT.

STAGE 3
CUT AREA 51 SQ.FT.
FILL AREA 15 SQ.FT.

UNDERCUT
AREA CUT 203
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 203

UNDERCUT
CUT VOLUME 746
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 746

STAGE 2
CUT VOLUME 405 CU. YD.
FILL VOLUME 20 CU. YD.

STAGE 3
CUT VOLUME 188 CU. YD.
FILL VOLUME 69 CU. YD.

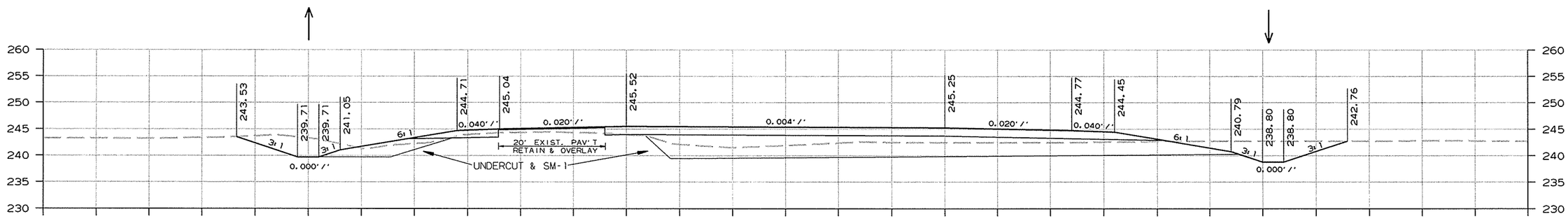
HWY. 226 CROSS SECTION STA. 259+00 TO STA. 260+60

2/28/2014

R100676.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.		100676	88	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 69 SQ.FT.
FILL AREA 74 SQ.FT.

STAGE 3
CUT AREA 55 SQ.FT.
FILL AREA 62 SQ.FT.

UNDERCUT
AREA CUT 291
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 291

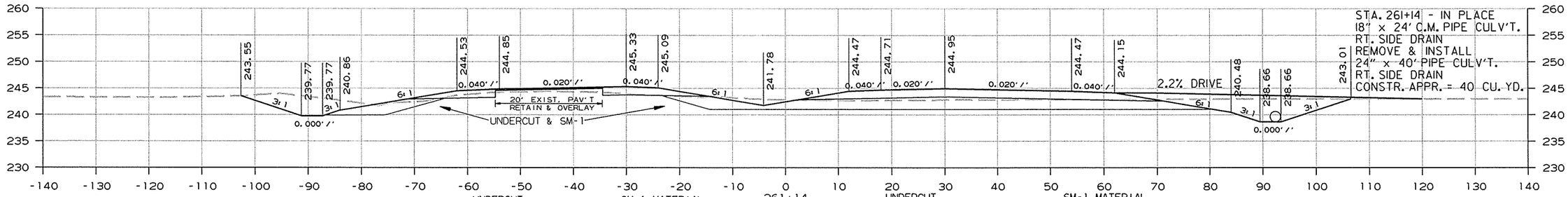
262+00

UNDERCUT
CUT VOLUME 459
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 459

STAGE 2
CUT VOLUME 260 CU. YD.
FILL VOLUME 148 CU. YD.

STAGE 3
CUT VOLUME 186 CU. YD.
FILL VOLUME 106 CU. YD.



STAGE 2
CUT AREA 95 SQ.FT.
FILL AREA 19 SQ.FT.

STAGE 3
CUT AREA 61 SQ.FT.
FILL AREA 5 SQ.FT.

UNDERCUT
AREA CUT 181
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 180

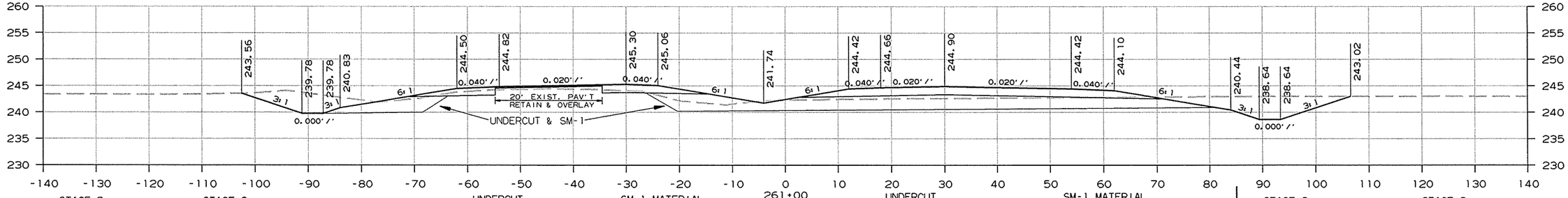
261+14

UNDERCUT
CUT VOLUME 105
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 105

STAGE 2
CUT VOLUME 47 CU. YD.
FILL VOLUME 12 CU. YD.

STAGE 3
CUT VOLUME 33 CU. YD.
FILL VOLUME 8 CU. YD.



STAGE 2
CUT AREA 87 SQ.FT.
FILL AREA 27 SQ.FT.

STAGE 3
CUT AREA 66 SQ.FT.
FILL AREA 25 SQ.FT.

UNDERCUT
AREA CUT 224
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 224

261+00

UNDERCUT
CUT VOLUME 371
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 371

STAGE 2
CUT VOLUME 137 CU. YD.
FILL VOLUME 30 CU. YD.

STAGE 3
CUT VOLUME 102 CU. YD.
FILL VOLUME 33 CU. YD.

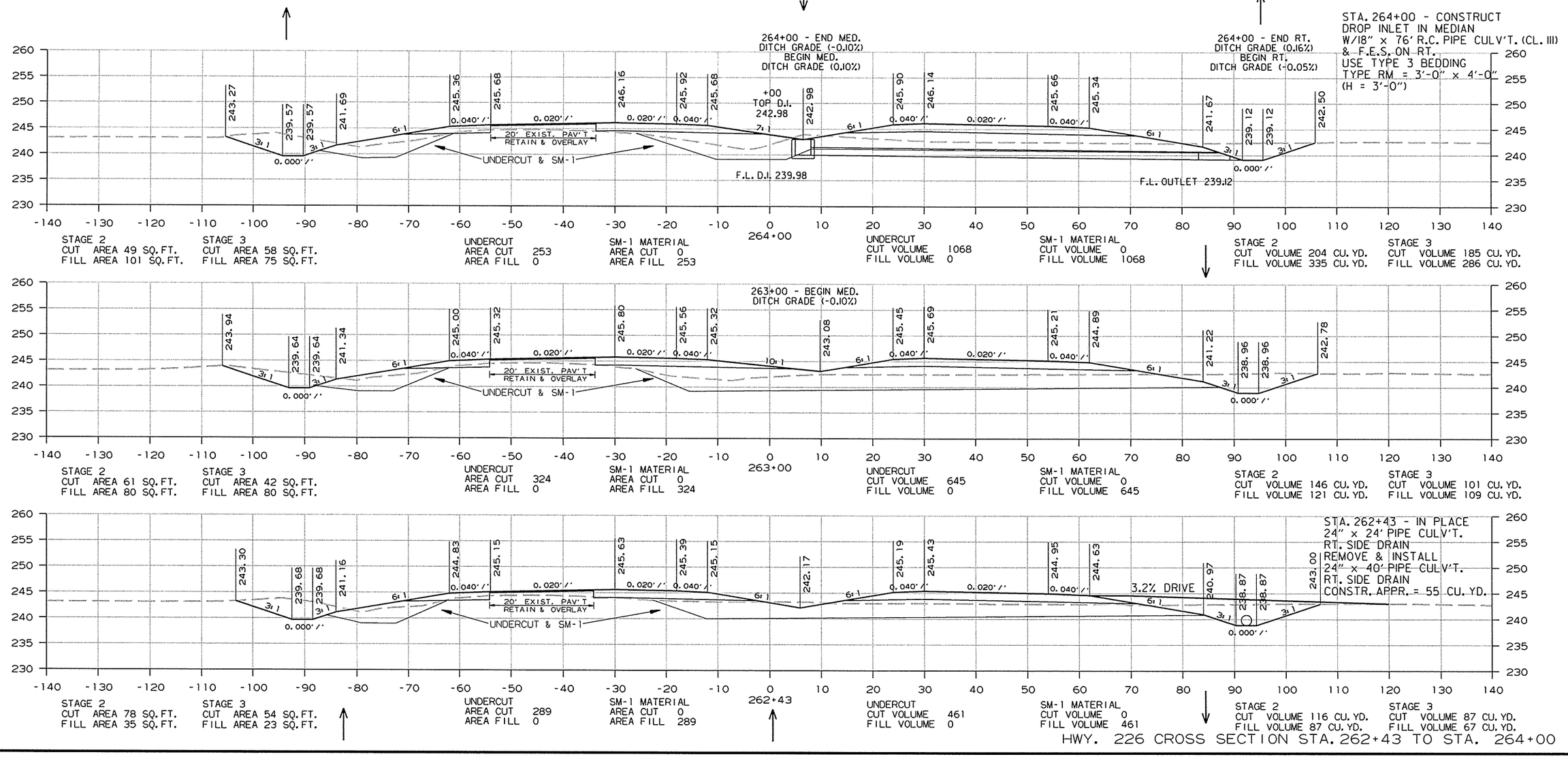
HWY. 226 CROSS SECTION STA. 261+00 TO STA. 262+00

2/28/2014

R100676.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.		100676	89	116

(2) CROSS SECTIONS



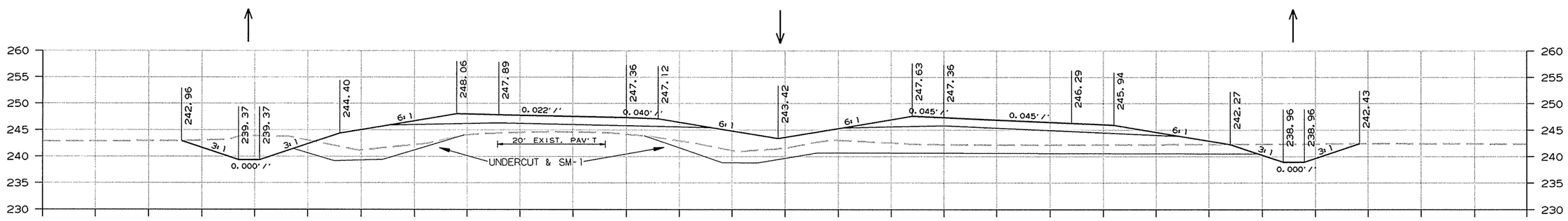
HWY. 226 CROSS SECTION STA. 262+43 TO STA. 264+00

2/28/2014

R100676.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.		100676	90	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 49 SQ.FT.
FILL AREA 206 SQ.FT.

STAGE 3
CUT AREA 65 SQ.FT.
FILL AREA 217 SQ.FT.

UNDERCUT
AREA CUT 66
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 66

267+00

UNDERCUT
CUT VOLUME 772
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 772

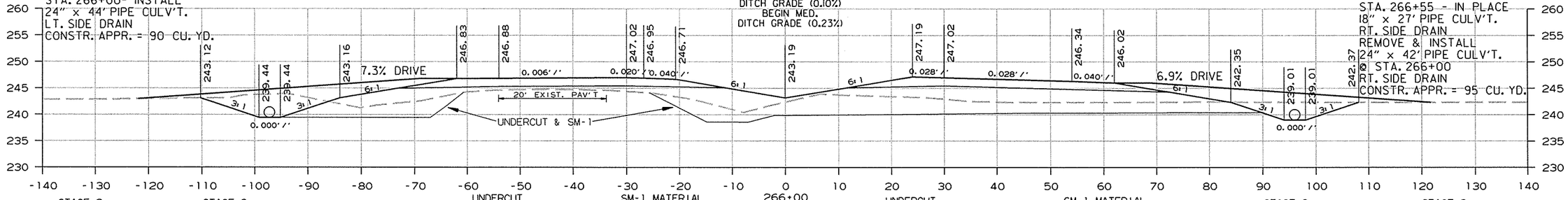
STAGE 2
CUT VOLUME 178 CU.YD.
FILL VOLUME 676 CU.YD.

STAGE 3
CUT VOLUME 236 CU.YD.
FILL VOLUME 669 CU.YD.

STA. 266+00- INSTALL
24" x 44' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 90 CU. YD.

266+00 - END MED.
DITCH GRADE (0.10%)
BEGIN MED.
DITCH GRADE (0.23%)

STA. 266+55 - IN PLACE
18" x 27' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
24" x 42' PIPE CULV'T.
@ STA. 266+00
RT. SIDE DRAIN
CONSTR. APPR. = 95 CU. YD.



STAGE 2
CUT AREA 48 SQ.FT.
FILL AREA 159 SQ.FT.

STAGE 3
CUT AREA 62 SQ.FT.
FILL AREA 144 SQ.FT.

UNDERCUT
AREA CUT 351
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 351

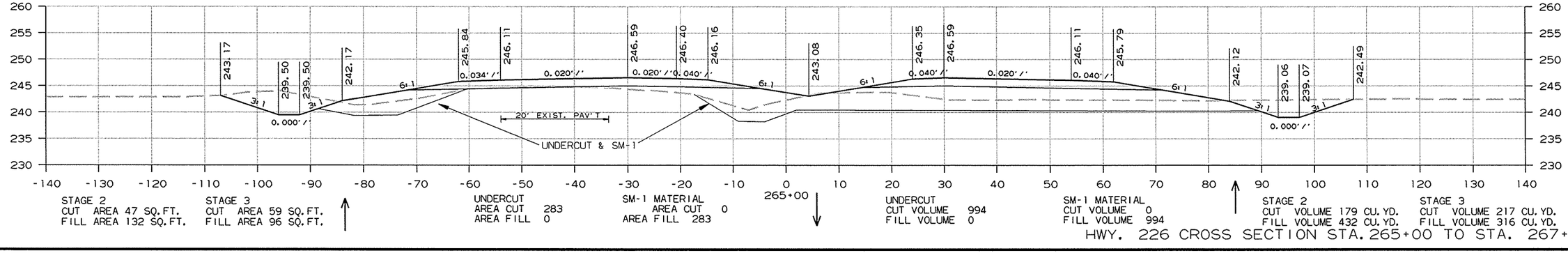
266+00

UNDERCUT
CUT VOLUME 1175
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 1175

STAGE 2
CUT VOLUME 175 CU.YD.
FILL VOLUME 539 CU.YD.

STAGE 3
CUT VOLUME 225 CU.YD.
FILL VOLUME 444 CU.YD.



STAGE 2
CUT AREA 47 SQ.FT.
FILL AREA 132 SQ.FT.

STAGE 3
CUT AREA 59 SQ.FT.
FILL AREA 96 SQ.FT.

UNDERCUT
AREA CUT 283
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 283

265+00

UNDERCUT
CUT VOLUME 994
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 994

STAGE 2
CUT VOLUME 179 CU.YD.
FILL VOLUME 432 CU.YD.

STAGE 3
CUT VOLUME 217 CU.YD.
FILL VOLUME 316 CU.YD.

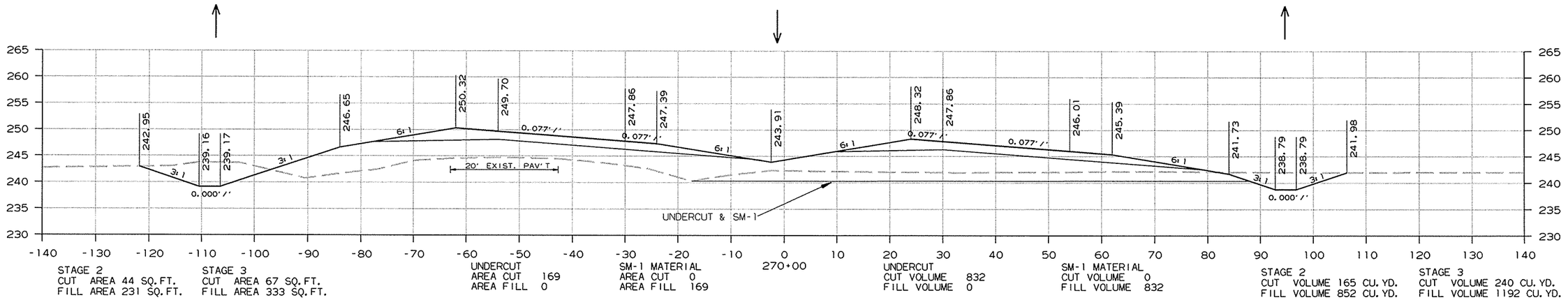
HWY. 226 CROSS SECTION STA. 265+00 TO STA. 267+00

2/28/2014

R100676.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.		100676	91	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 44 SQ.FT.
FILL AREA 231 SQ.FT.

STAGE 3
CUT AREA 67 SQ.FT.
FILL AREA 333 SQ.FT.

UNDERCUT
AREA CUT 169
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 169

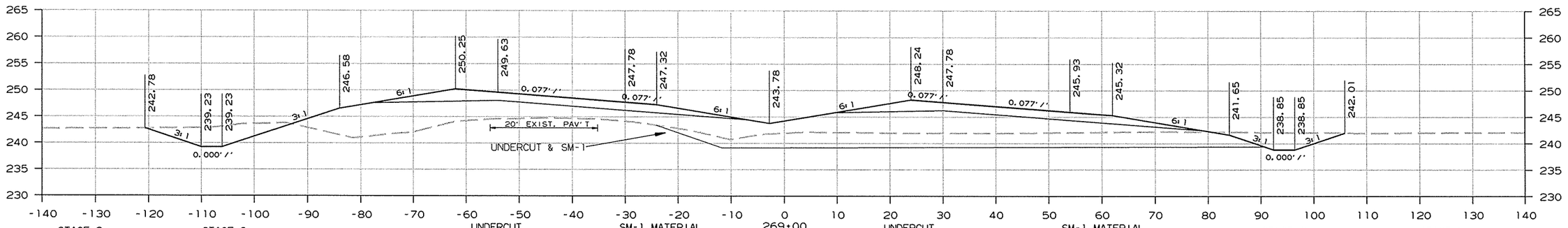
270+00

UNDERCUT
CUT VOLUME 832
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 832

STAGE 2
CUT VOLUME 165 CU. YD.
FILL VOLUME 852 CU. YD.

STAGE 3
CUT VOLUME 240 CU. YD.
FILL VOLUME 1192 CU. YD.



STAGE 2
CUT AREA 45 SQ.FT.
FILL AREA 229 SQ.FT.

STAGE 3
CUT AREA 63 SQ.FT.
FILL AREA 311 SQ.FT.

UNDERCUT
AREA CUT 280
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 280

269+00

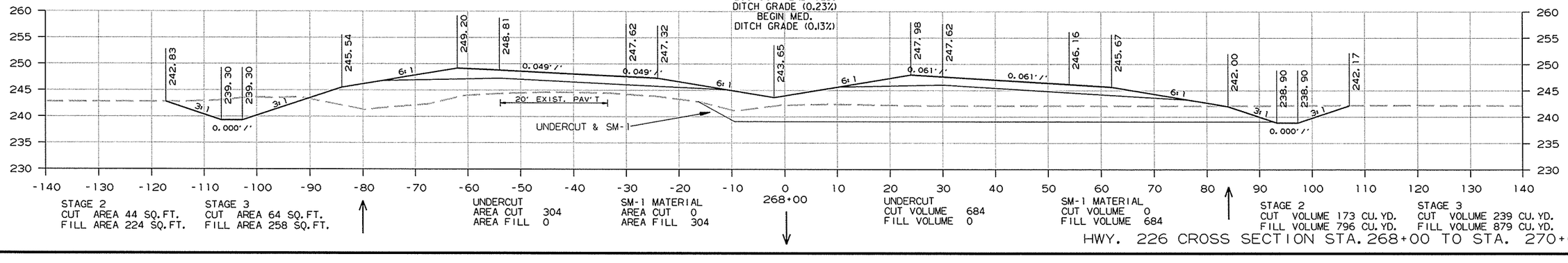
UNDERCUT
CUT VOLUME 1081
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 1081

STAGE 2
CUT VOLUME 166 CU. YD.
FILL VOLUME 839 CU. YD.

STAGE 3
CUT VOLUME 234 CU. YD.
FILL VOLUME 1052 CU. YD.

268+00 - END MED.
DITCH GRADE (0.23%)
BEGIN MED.
DITCH GRADE (0.13%)



STAGE 2
CUT AREA 44 SQ.FT.
FILL AREA 224 SQ.FT.

STAGE 3
CUT AREA 64 SQ.FT.
FILL AREA 258 SQ.FT.

UNDERCUT
AREA CUT 304
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 304

268+00

UNDERCUT
CUT VOLUME 684
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 684

STAGE 2
CUT VOLUME 173 CU. YD.
FILL VOLUME 796 CU. YD.

STAGE 3
CUT VOLUME 239 CU. YD.
FILL VOLUME 879 CU. YD.

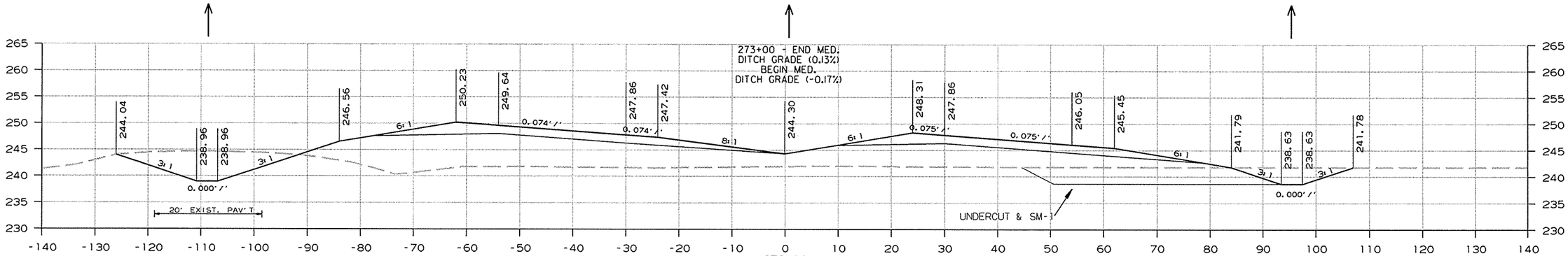
HWY. 226 CROSS SECTION STA. 268+00 TO STA. 270+00

2/28/2014

R100676.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.		100676	92	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 42 SQ.FT.
FILL AREA 250 SQ.FT.

STAGE 3
CUT AREA 112 SQ.FT.
FILL AREA 438 SQ.FT.

UNDERCUT
AREA CUT 130
AREA FILL 0

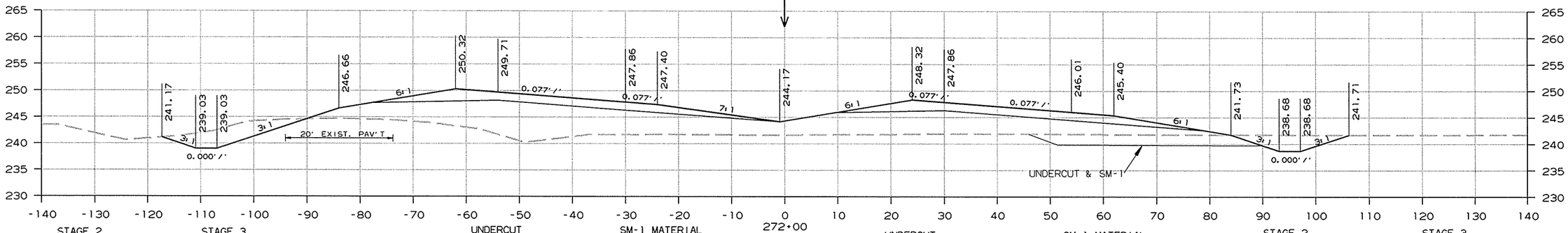
SM-1 MATERIAL
AREA CUT 0
AREA FILL 130

UNDERCUT
CUT VOLUME 380
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 380

STAGE 2
CUT VOLUME 153 CU.YD.
FILL VOLUME 930 CU.YD.

STAGE 3
CUT VOLUME 317 CU.YD.
FILL VOLUME 1499 CU.YD.



STAGE 2
CUT AREA 40 SQ.FT.
FILL AREA 252 SQ.FT.

STAGE 3
CUT AREA 59 SQ.FT.
FILL AREA 372 SQ.FT.

UNDERCUT
AREA CUT 76
AREA FILL 0

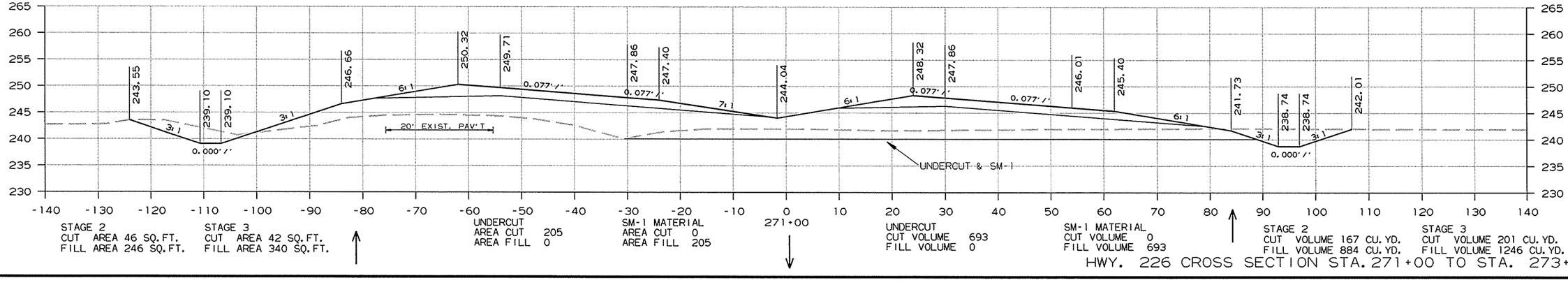
SM-1 MATERIAL
AREA CUT 0
AREA FILL 76

UNDERCUT
CUT VOLUME 519
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 519

STAGE 2
CUT VOLUME 159 CU.YD.
FILL VOLUME 922 CU.YD.

STAGE 3
CUT VOLUME 187 CU.YD.
FILL VOLUME 1318 CU.YD.



STAGE 2
CUT AREA 46 SQ.FT.
FILL AREA 246 SQ.FT.

STAGE 3
CUT AREA 42 SQ.FT.
FILL AREA 340 SQ.FT.

UNDERCUT
AREA CUT 205
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 205

UNDERCUT
CUT VOLUME 693
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 693

STAGE 2
CUT VOLUME 167 CU.YD.
FILL VOLUME 884 CU.YD.

STAGE 3
CUT VOLUME 201 CU.YD.
FILL VOLUME 1246 CU.YD.

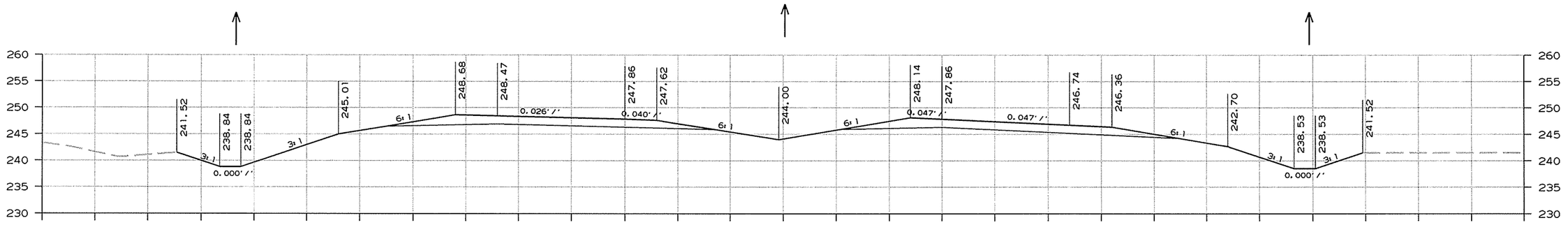
HWY. 226 CROSS SECTION STA. 271+00 TO STA. 273+00

2/28/2014

R100676.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.		100676	93	116

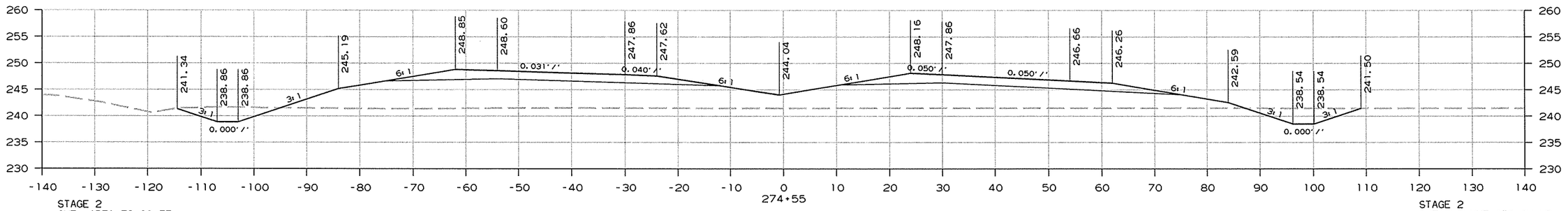
(2) CROSS SECTIONS



STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

274+75
END EMBANKMENT CONST.

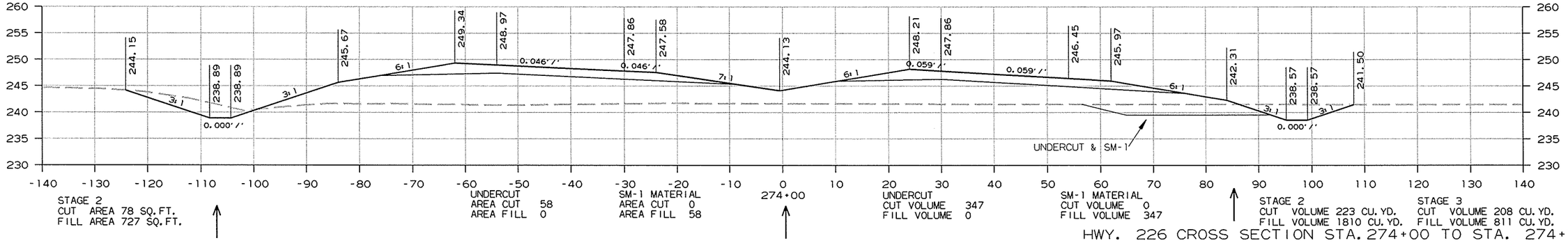
STAGE 2
CUT VOLUME 27 CU.YD.
FILL VOLUME 270 CU.YD.



STAGE 2
CUT AREA 72 SQ.FT.
FILL AREA 730 SQ.FT.

274+55

STAGE 2
CUT VOLUME 153 CU.YD.
FILL VOLUME 1484 CU.YD.



STAGE 2
CUT AREA 78 SQ.FT.
FILL AREA 727 SQ.FT.

UNDERCUT
AREA CUT 58
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 58

274+00

UNDERCUT
CUT VOLUME 347
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 347

STAGE 2
CUT VOLUME 223 CU.YD.
FILL VOLUME 1810 CU.YD.

STAGE 3
CUT VOLUME 208 CU.YD.
FILL VOLUME 811 CU.YD.

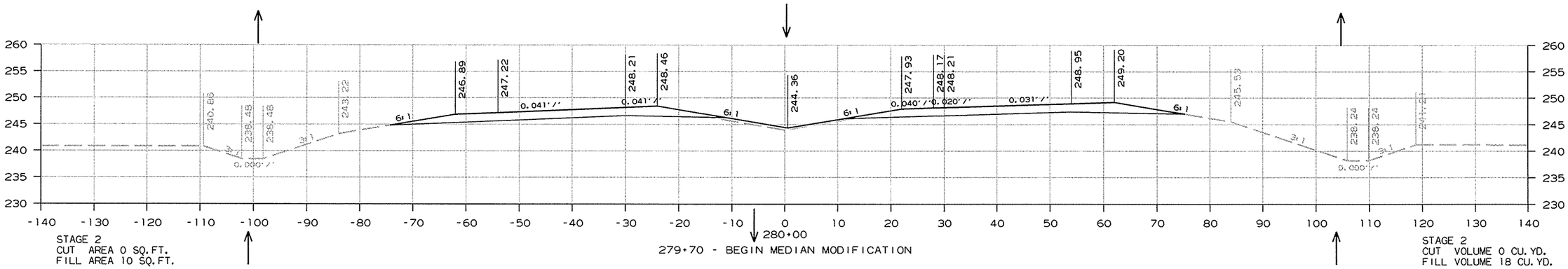
HWY. 226 CROSS SECTION STA. 274+00 TO STA. 274+75

2/28/2014

R100676.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	94	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 10 SQ.FT.

280+00
279+70 - BEGIN MEDIAN MODIFICATION

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 18 CU.YD.

STAGE 2

STAGE 2

2/28/2014

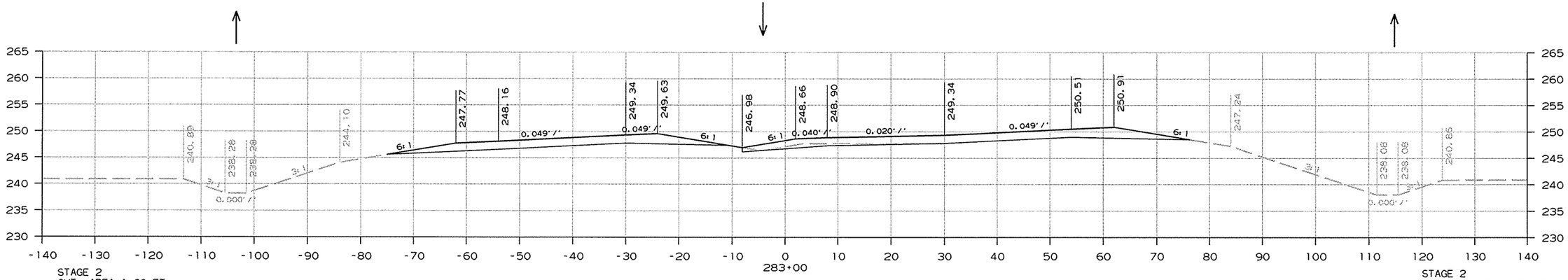
R100676.DGN

HWY. 226

CROSS SECTION STA. 280+00

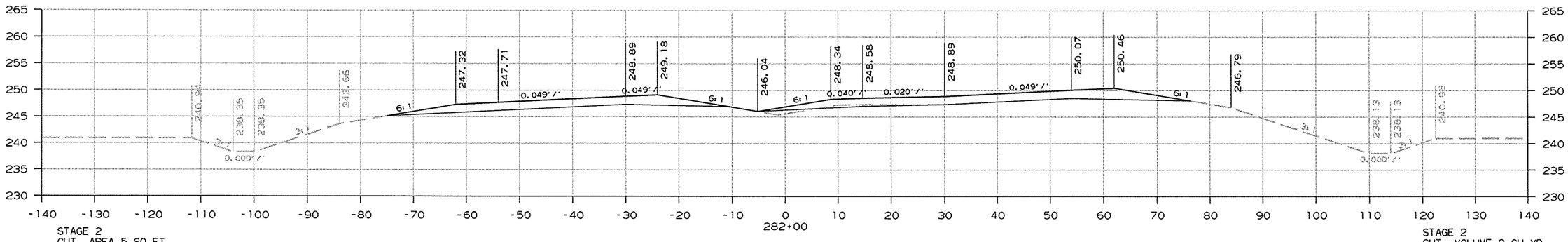
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	95	116

(2) CROSS SECTIONS



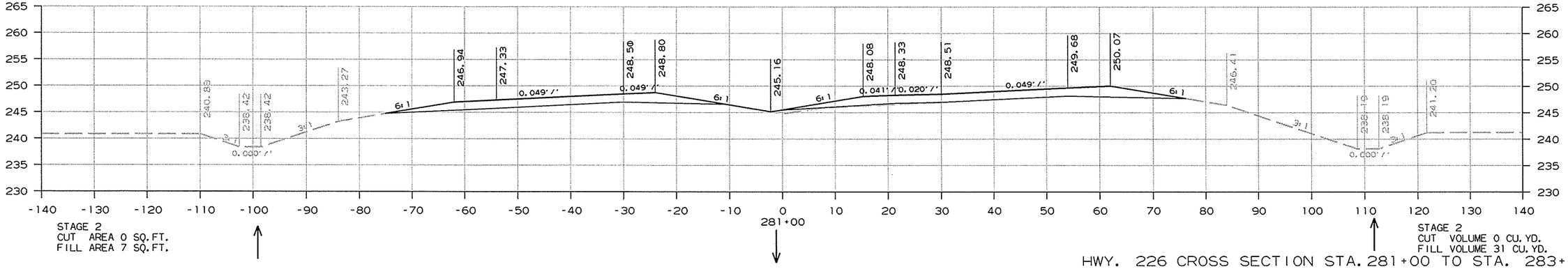
STAGE 2
CUT AREA 1 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT VOLUME 29 CU.YD.
FILL VOLUME 9 CU.YD.



STAGE 2
CUT AREA 5 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 2
CUT VOLUME 9 CU.YD.
FILL VOLUME 22 CU.YD.



STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 7 SQ.FT.

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 31 CU.YD.

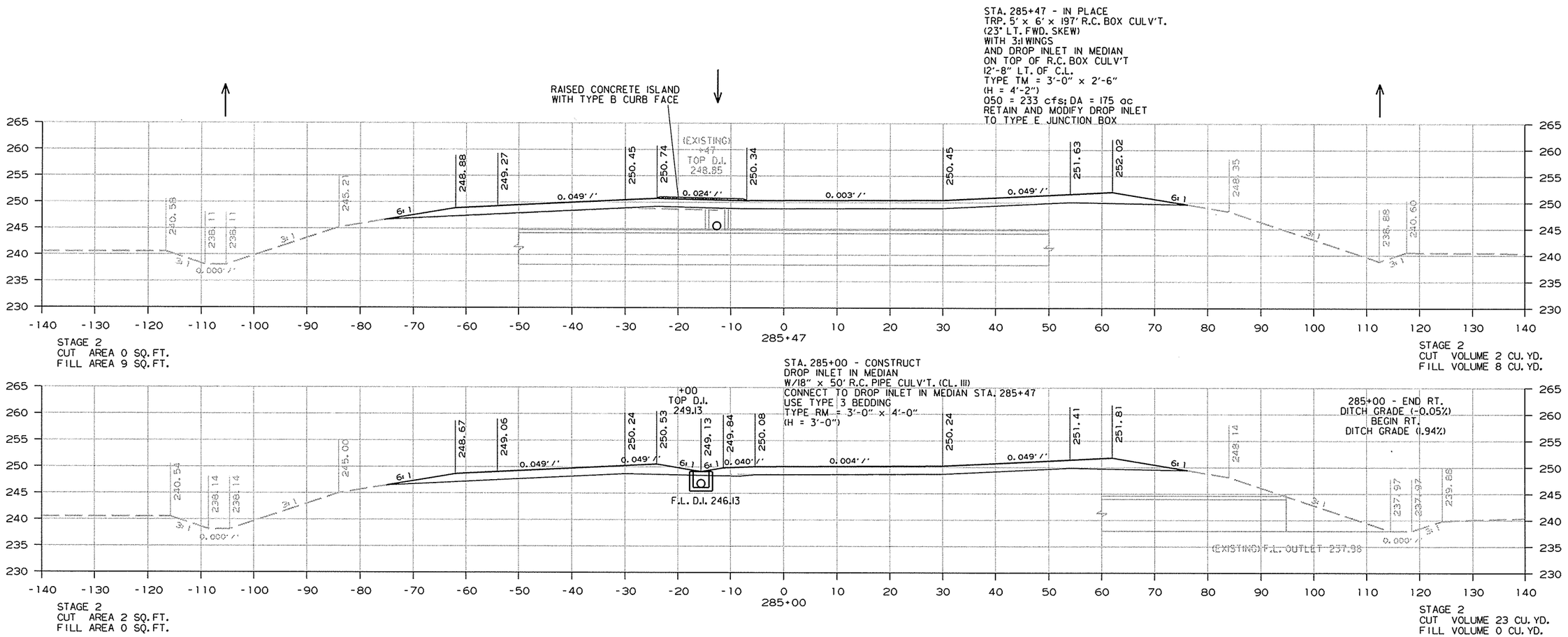
HWY. 226 CROSS SECTION STA. 281+00 TO STA. 283+00

2/28/2014

R100676.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.		100676	96	116

(2) CROSS SECTIONS



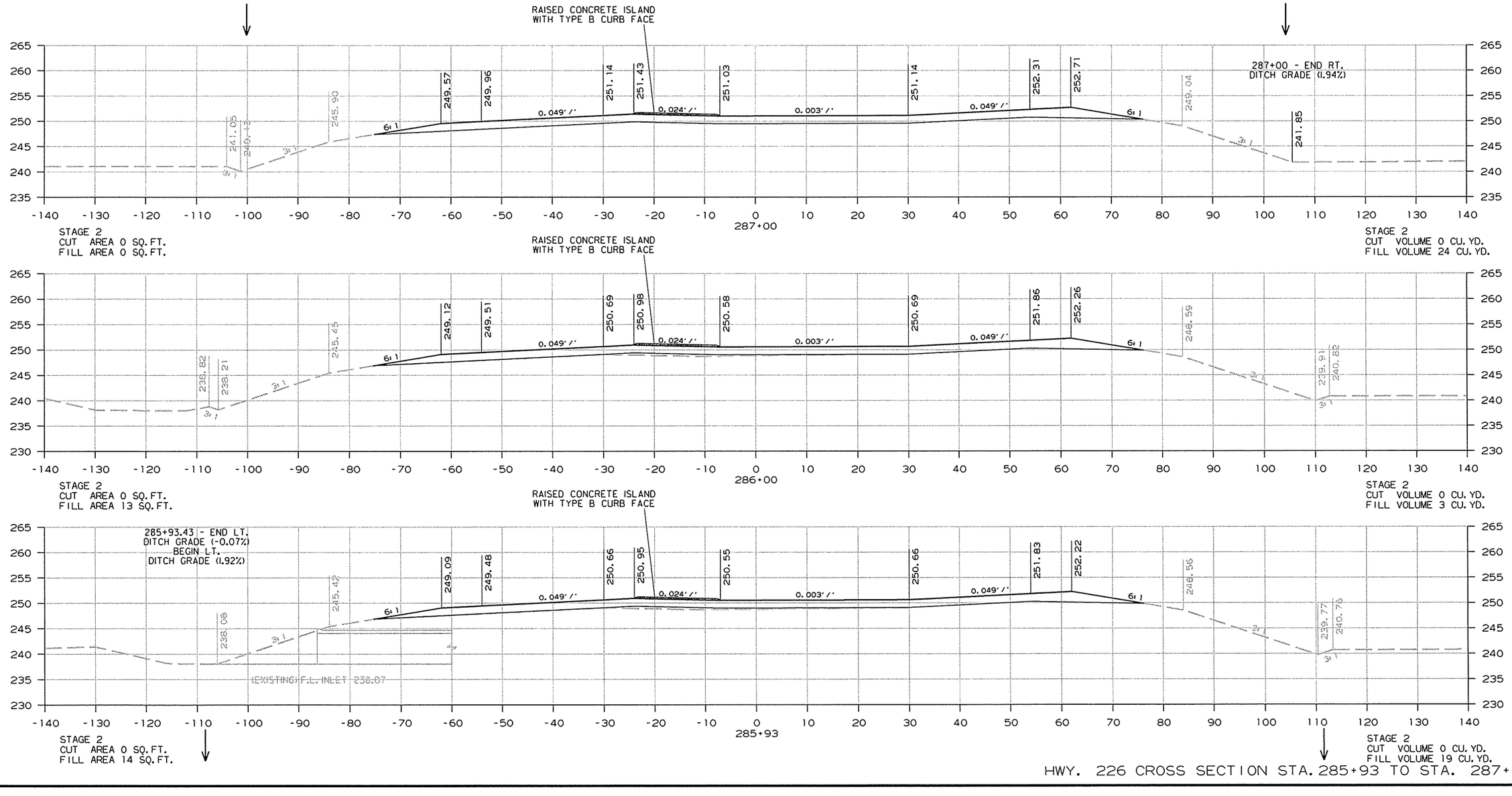
HWY. 226 CROSS SECTION STA. 284+00 TO STA. 285+47

2/28/2014

RI00676.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.		100676	97	116

(2) CROSS SECTIONS



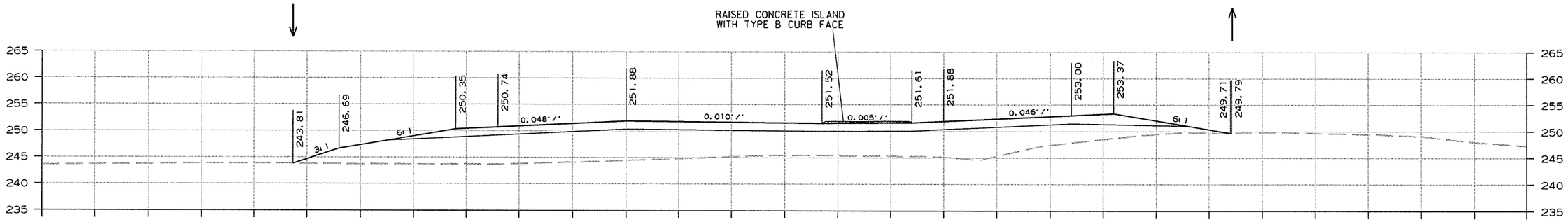
HWY. 226 CROSS SECTION STA. 285+93 TO STA. 287+00

2/28/2014

R100676.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.		100676	98	116

(2) CROSS SECTIONS



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 757 SQ.FT.

UNDERCUT
AREA CUT 0
AREA FILL 0

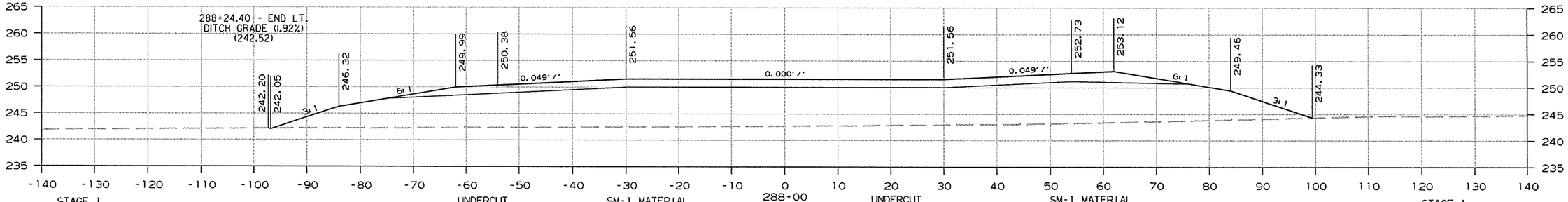
SM-1 MATERIAL
AREA CUT 0
AREA FILL 0

289+00

UNDERCUT
CUT VOLUME 0
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 0

STAGE 1
CUT VOLUME 0 CU. YD.
FILL VOLUME 3690 CU. YD.



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 1236 SQ.FT.

UNDERCUT
AREA CUT 0
AREA FILL 0

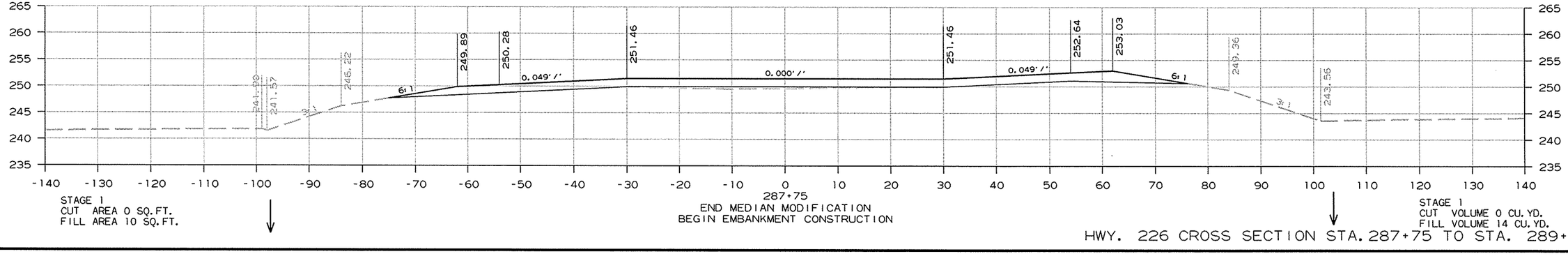
SM-1 MATERIAL
AREA CUT 0
AREA FILL 0

288+00

UNDERCUT
CUT VOLUME 0
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 0

STAGE 1
CUT VOLUME 0 CU. YD.
FILL VOLUME 577 CU. YD.



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 10 SQ.FT.

287+75
END MEDIAN MODIFICATION
BEGIN EMBANKMENT CONSTRUCTION

STAGE 1
CUT VOLUME 0 CU. YD.
FILL VOLUME 14 CU. YD.

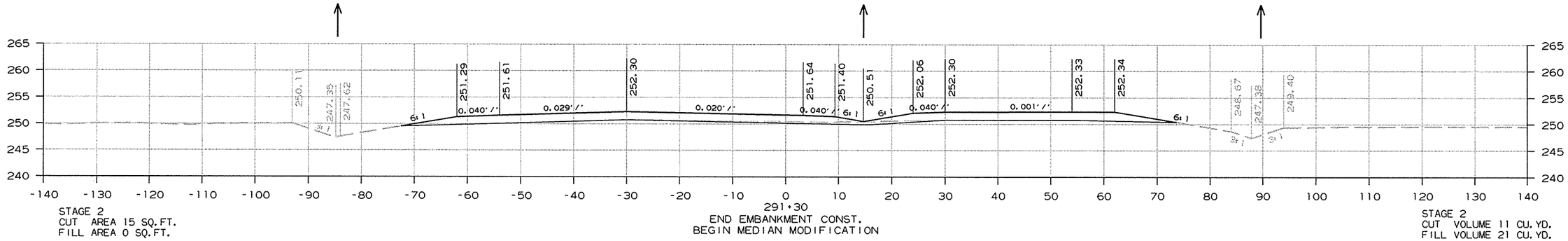
HWY. 226 CROSS SECTION STA. 287+75 TO STA. 289+00

2/28/2014

R100676.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.		100676	99	116

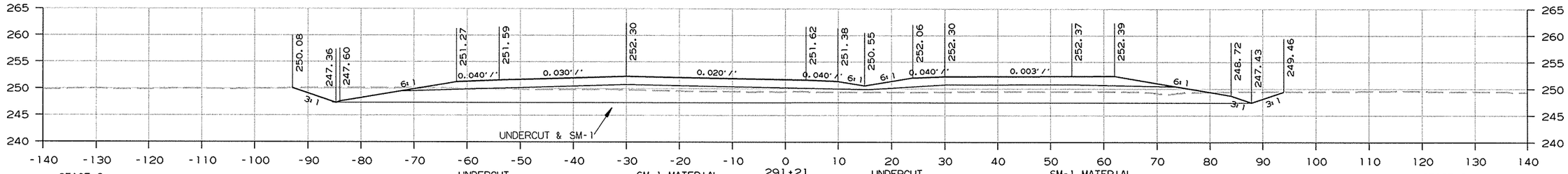
(2) CROSS SECTIONS



STAGE 2
CUT AREA 15 SQ.FT.
FILL AREA 0 SQ.FT.

291+30
END EMBANKMENT CONST.
BEGIN MEDIAN MODIFICATION

STAGE 2
CUT VOLUME 11 CU.YD.
FILL VOLUME 21 CU.YD.



STAGE 2
CUT AREA 51 SQ.FT.
FILL AREA 125 SQ.FT.

UNDERCUT
AREA CUT 352
AREA FILL 0

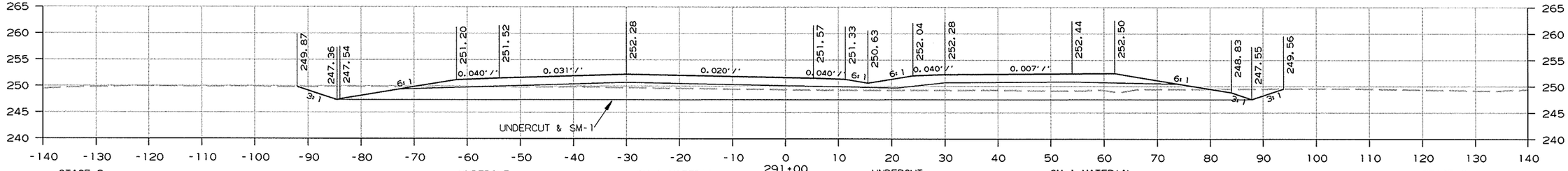
SM-1 MATERIAL
AREA CUT 0
AREA FILL 352

291+21

UNDERCUT
CUT VOLUME 266
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 266

STAGE 2
CUT VOLUME 36 CU.YD.
FILL VOLUME 100 CU.YD.



STAGE 2
CUT AREA 43 SQ.FT.
FILL AREA 132 SQ.FT.

UNDERCUT
AREA CUT 331
AREA FILL 0

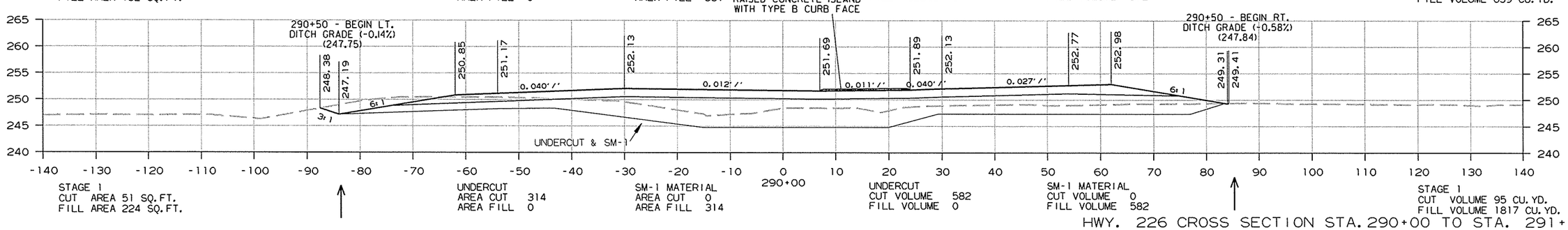
SM-1 MATERIAL
AREA CUT 0
AREA FILL 331

291+00

UNDERCUT
CUT VOLUME 572
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 572

STAGE 2
CUT VOLUME 175 CU.YD.
FILL VOLUME 659 CU.YD.



STAGE 1
CUT AREA 51 SQ.FT.
FILL AREA 224 SQ.FT.

UNDERCUT
AREA CUT 314
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 314

290+00

UNDERCUT
CUT VOLUME 582
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 582

STAGE 1
CUT VOLUME 95 CU.YD.
FILL VOLUME 1817 CU.YD.

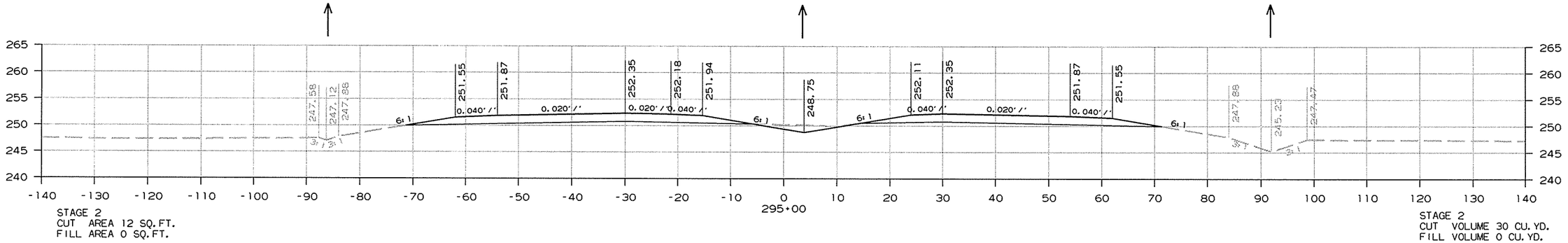
HWY. 226 CROSS SECTION STA. 290+00 TO STA. 291+30

2/28/2014

R100676.DGN

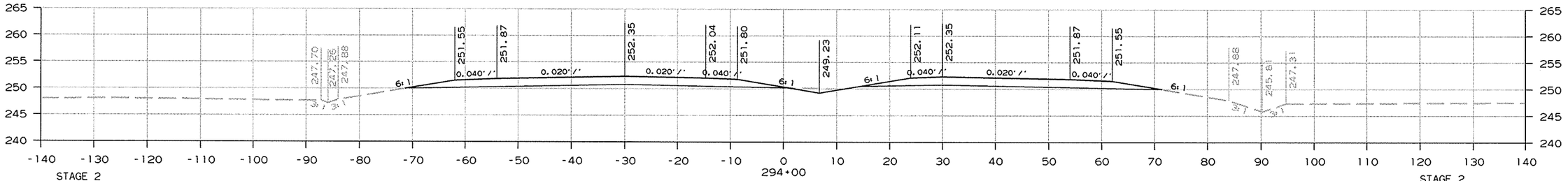
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	100	116

(2) CROSS SECTIONS



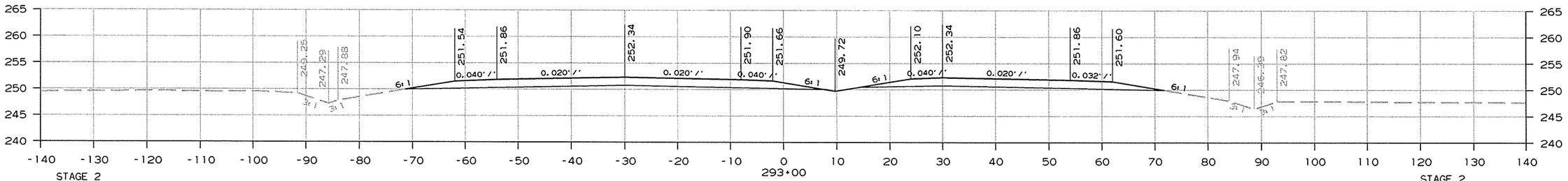
STAGE 2
CUT AREA 12 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT VOLUME 30 CU.YD.
FILL VOLUME 0 CU.YD.



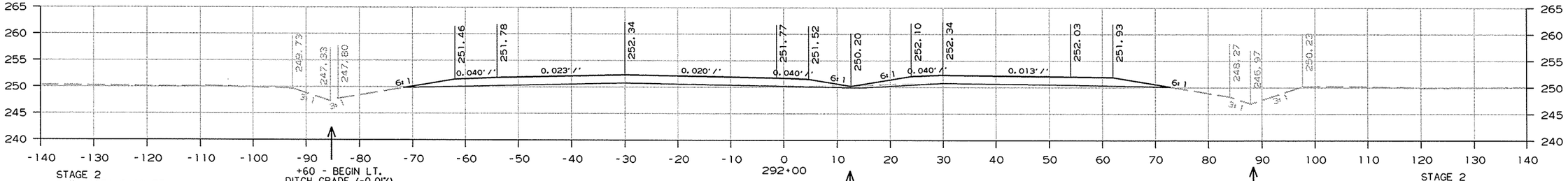
STAGE 2
CUT AREA 4 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT VOLUME 9 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 2
CUT AREA 1 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT VOLUME 15 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 2
CUT AREA 8 SQ.FT.
FILL AREA 0 SQ.FT.

+60 - BEGIN LT.
DITCH GRADE (-0.01%)
(247.15)

STAGE 2
CUT VOLUME 29 CU.YD.
FILL VOLUME 0 CU.YD.

HWY. 226 CROSS SECTION STA. 292+00 TO STA. 295+00

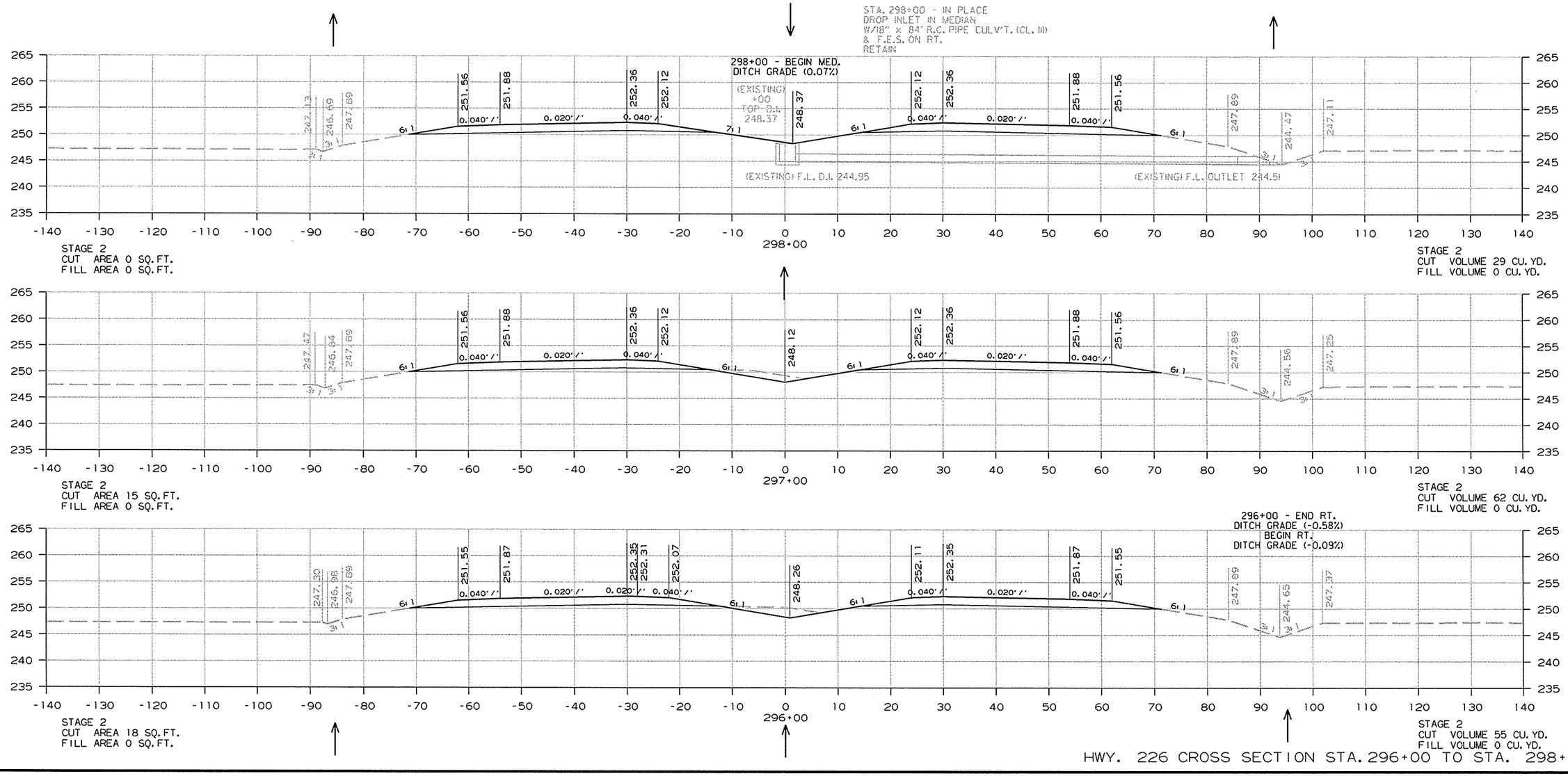
2/28/2014

R100676.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.		100676	101	116

(2) CROSS SECTIONS

298+16 - END MEDIAN MODIFICATION



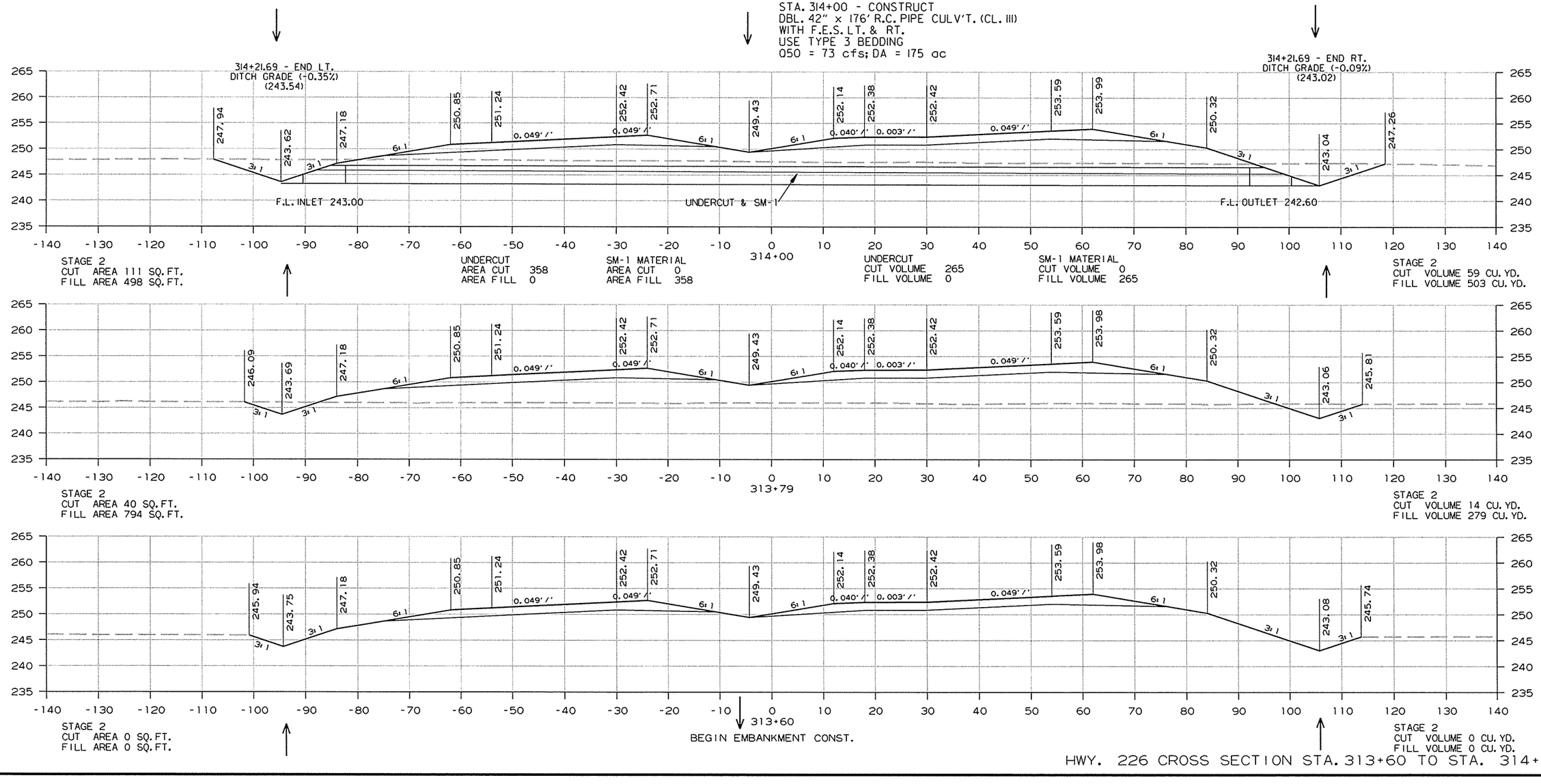
HWY. 226 CROSS SECTION STA. 296+00 TO STA. 298+00

2/28/2014

R100676.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.		100676	102	116

(2) CROSS SECTIONS



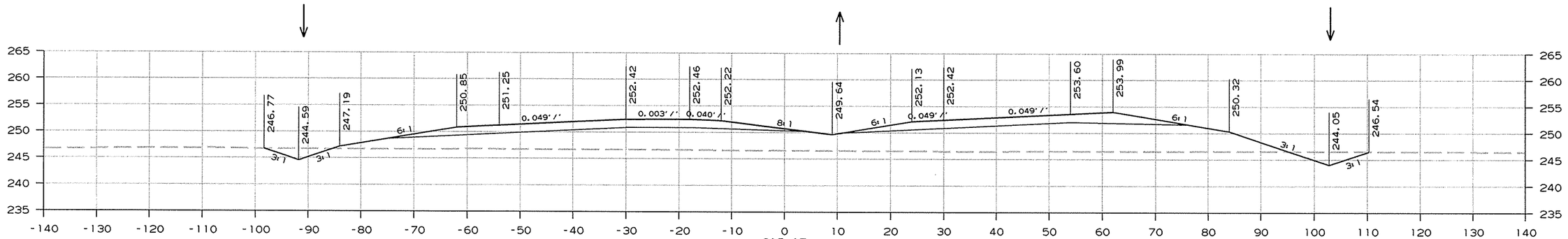
HWY. 226 CROSS SECTION STA. 313+60 TO STA. 314+00

2/28/2014

R100676.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.		100676	103	116

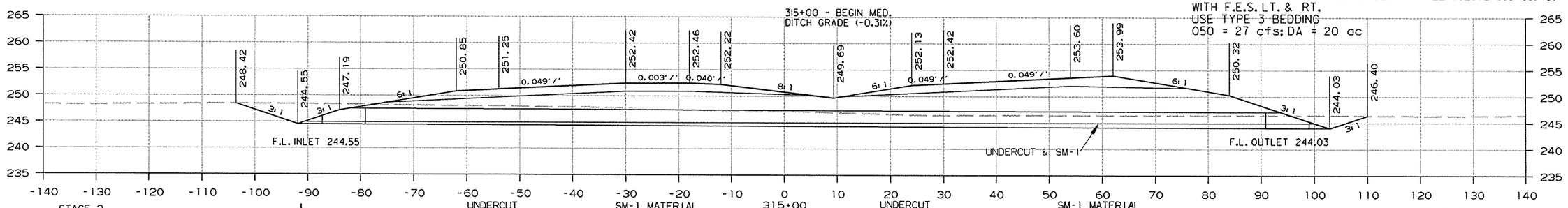
(2) CROSS SECTIONS



STAGE 2
CUT AREA 33 SQ.FT.
FILL AREA 676 SQ.FT.

STA. 315+00 - CONSTRUCT
36" x 170' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 27 cfs; DA = 20 ac

STAGE 2
CUT VOLUME 30 CU. YD.
FILL VOLUME 399 CU. YD.



STAGE 2
CUT AREA 63 SQ.FT.
FILL AREA 592 SQ.FT.

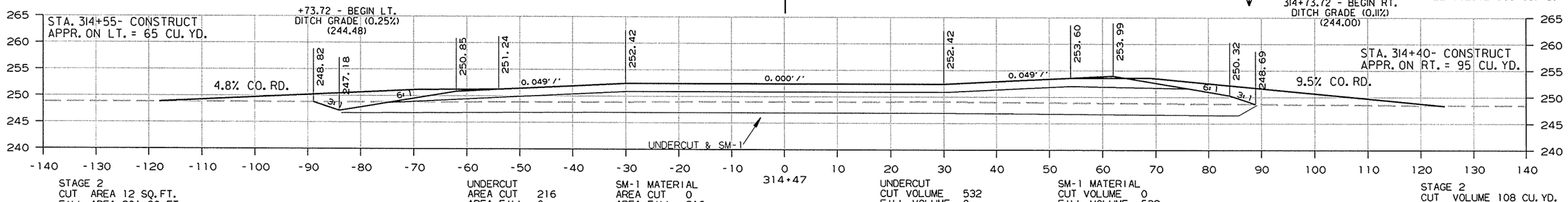
UNDERCUT
AREA CUT 396
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 396

UNDERCUT
CUT VOLUME 567
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 567

STAGE 2
CUT VOLUME 73 CU. YD.
FILL VOLUME 868 CU. YD.



STAGE 2
CUT AREA 12 SQ.FT.
FILL AREA 301 SQ.FT.

UNDERCUT
AREA CUT 216
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 216

UNDERCUT
CUT VOLUME 532
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 532

STAGE 2
CUT VOLUME 108 CU. YD.
FILL VOLUME 703 CU. YD.

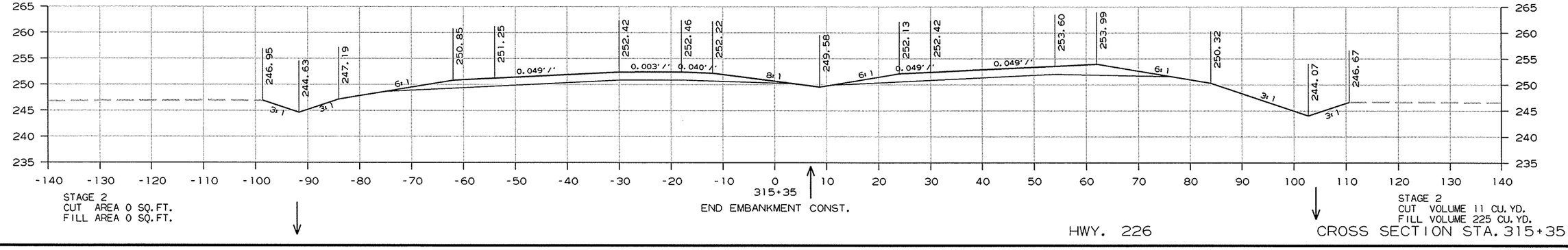
HWY. 226 CROSS SECTION STA. 314+47 TO STA. 315+17

2/28/2014

R100676.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.		100676	104	116

(2) CROSS SECTIONS



HWY. 226

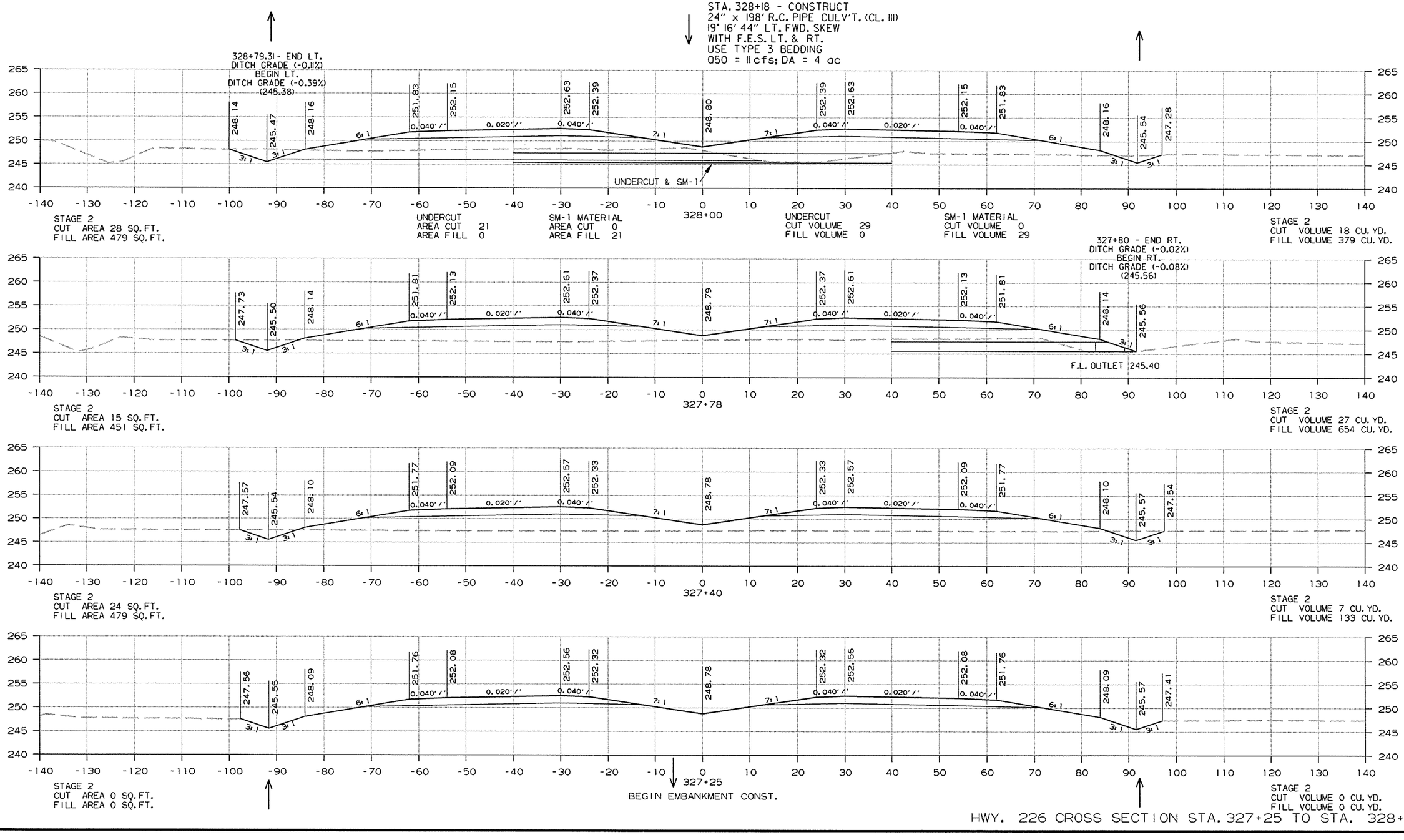
CROSS SECTION STA. 315+35

2/28/2014

R100676.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.		100676	105	116

(2) CROSS SECTIONS

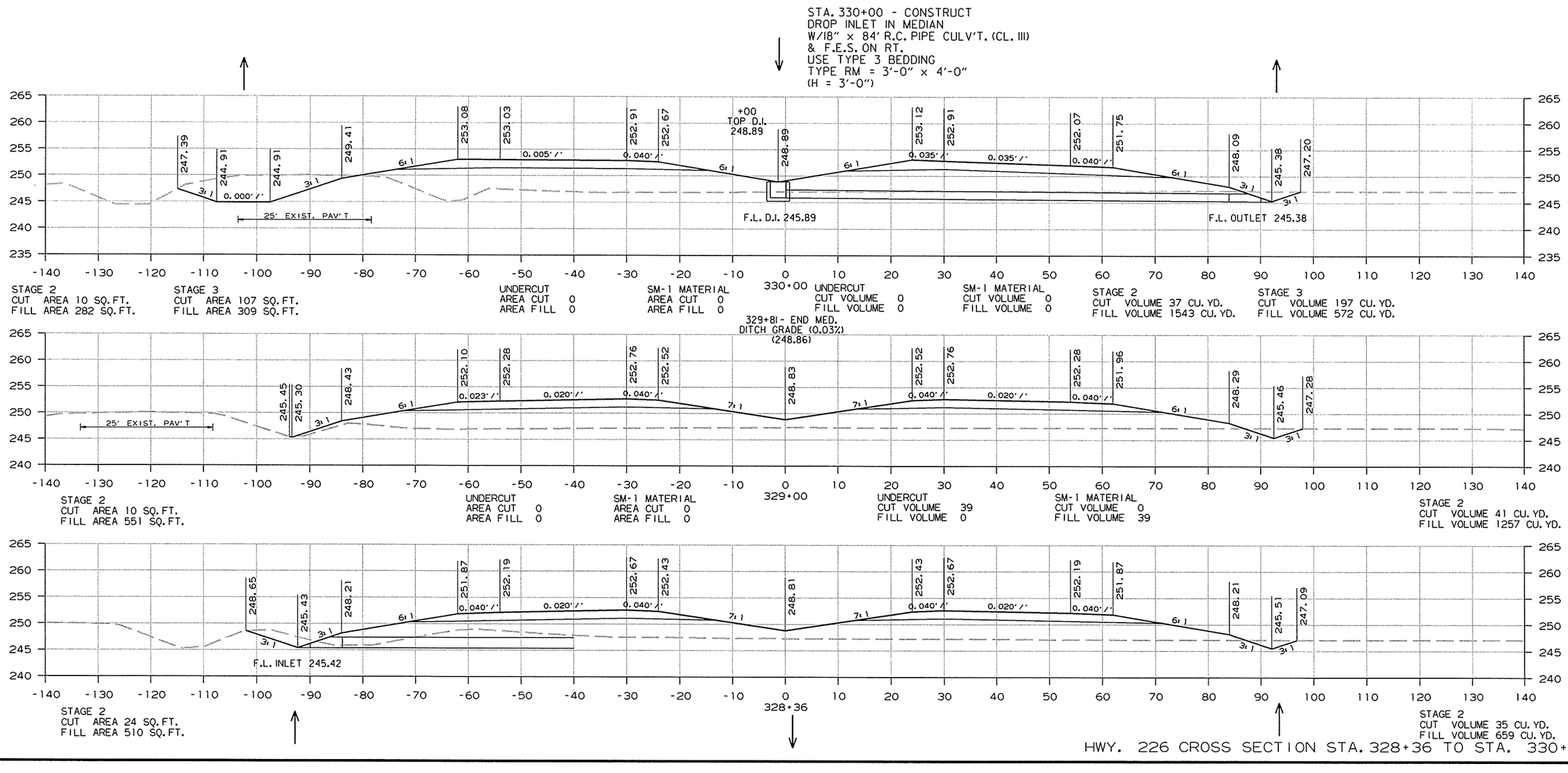


2/28/2014

R100676.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.		100676	106	116

(2) CROSS SECTIONS

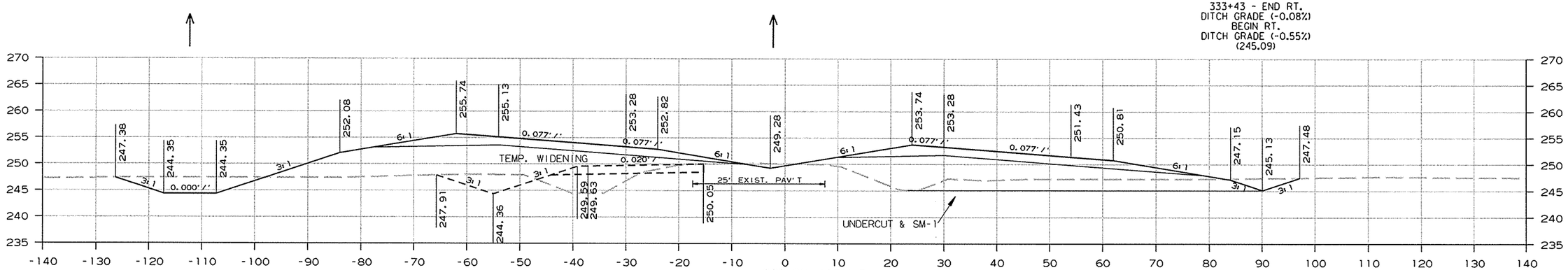


2/28/2014

R100676.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.		100676	107	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 15 SQ.FT.
FILL AREA 234 SQ.FT.

STAGE 3
CUT AREA 64 SQ.FT.
FILL AREA 348 SQ.FT.

TEMP. WIDENING
CUT AREA 50 SQ.FT.
FILL AREA 47 SQ.FT.

UNDERCUT
AREA CUT 124
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 124

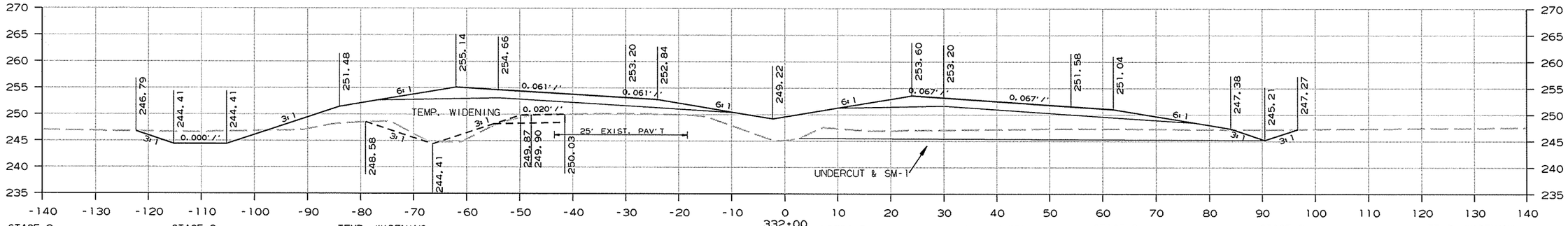
333+00 UNDERCUT
CUT VOLUME 513
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 513

STAGE 2
CUT VOLUME 51 CU.YD.
FILL VOLUME 942 CU.YD.

STAGE 3
CUT VOLUME 192 CU.YD.
FILL VOLUME 1226 CU.YD.

TEMP. WIDENING
CUT VOLUME 141 CU.YD.
FILL VOLUME 103 CU.YD.



STAGE 2
CUT AREA 12 SQ.FT.
FILL AREA 274 SQ.FT.

STAGE 3
CUT AREA 40 SQ.FT.
FILL AREA 314 SQ.FT.

TEMP. WIDENING
CUT AREA 26 SQ.FT.
FILL AREA 8 SQ.FT.

UNDERCUT
AREA CUT 153
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 153

332+00 UNDERCUT
CUT VOLUME 472
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 472

STAGE 2
CUT VOLUME 49 CU.YD.
FILL VOLUME 1028 CU.YD.

STAGE 3
CUT VOLUME 174 CU.YD.
FILL VOLUME 1156 CU.YD.

TEMP. WIDENING
CUT VOLUME 48 CU.YD.
FILL VOLUME 15 CU.YD.

STAGE 2
CUT AREA 14 SQ.FT.
FILL AREA 280 SQ.FT.

STAGE 3
CUT AREA 54 SQ.FT.
FILL AREA 310 SQ.FT.

UNDERCUT
AREA CUT 102
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 102

331+00 UNDERCUT
CUT VOLUME 188
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 188

STAGE 2
CUT VOLUME 45 CU.YD.
FILL VOLUME 1042 CU.YD.

STAGE 3
CUT VOLUME 297 CU.YD.
FILL VOLUME 1146 CU.YD.

HWY. 226 CROSS SECTION STA. 331+00 TO STA. 333+00

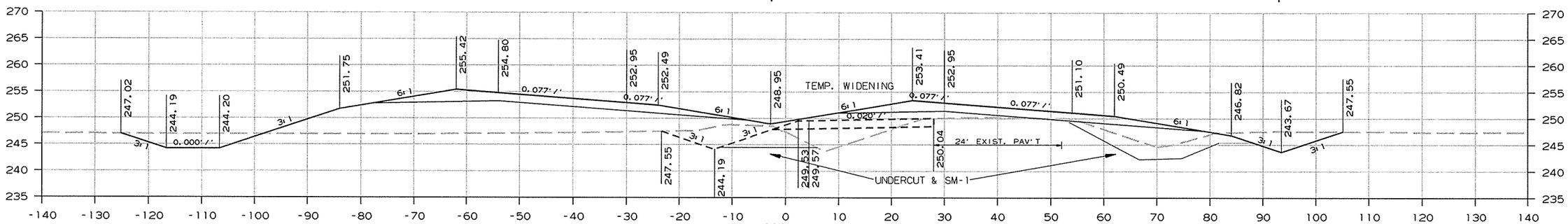
2/28/2014

R100676.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.		100676	108	116

(2) CROSS SECTIONS

STA. 336+15 - IN PLACE
18" x 25' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE



STAGE 2
CUT AREA 45 SQ.FT.
FILL AREA 50 SQ.FT.

STAGE 3
CUT AREA 51 SQ.FT.
FILL AREA 489 SQ.FT.

TEMP. WIDENING
CUT AREA 55 SQ.FT.
FILL AREA 48 SQ.FT.

UNDERCUT
AREA CUT 170
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 170

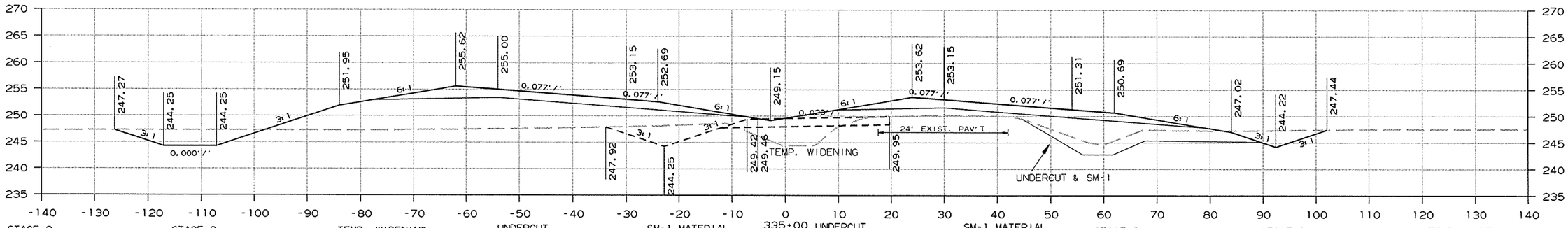
336+00 UNDERCUT
CUT VOLUME 460
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 460

STAGE 2
CUT VOLUME 139 CU.YD.
FILL VOLUME 339 CU.YD.

STAGE 3
CUT VOLUME 202 CU.YD.
FILL VOLUME 1594 CU.YD.

TEMP. WIDENING
CUT VOLUME 208 CU.YD.
FILL VOLUME 174 CU.YD.



STAGE 2
CUT AREA 29 SQ.FT.
FILL AREA 133 SQ.FT.

STAGE 3
CUT AREA 58 SQ.FT.
FILL AREA 372 SQ.FT.

TEMP. WIDENING
CUT AREA 58 SQ.FT.
FILL AREA 46 SQ.FT.

UNDERCUT
AREA CUT 79
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 79

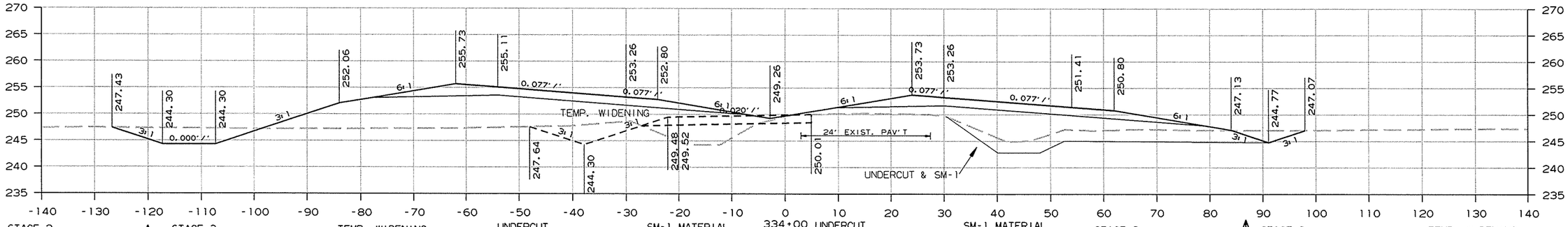
335+00 UNDERCUT
CUT VOLUME 367
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 367

STAGE 2
CUT VOLUME 84 CU.YD.
FILL VOLUME 583 CU.YD.

STAGE 3
CUT VOLUME 215 CU.YD.
FILL VOLUME 1435 CU.YD.

TEMP. WIDENING
CUT VOLUME 206 CU.YD.
FILL VOLUME 184 CU.YD.



STAGE 2
CUT AREA 16 SQ.FT.
FILL AREA 182 SQ.FT.

STAGE 3
CUT AREA 58 SQ.FT.
FILL AREA 403 SQ.FT.

TEMP. WIDENING
CUT AREA 54 SQ.FT.
FILL AREA 53 SQ.FT.

UNDERCUT
AREA CUT 119
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 119

334+00 UNDERCUT
CUT VOLUME 451
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 451

STAGE 2
CUT VOLUME 58 CU.YD.
FILL VOLUME 770 CU.YD.

STAGE 3
CUT VOLUME 225 CU.YD.
FILL VOLUME 1390 CU.YD.

TEMP. WIDENING
CUT VOLUME 192 CU.YD.
FILL VOLUME 187 CU.YD.

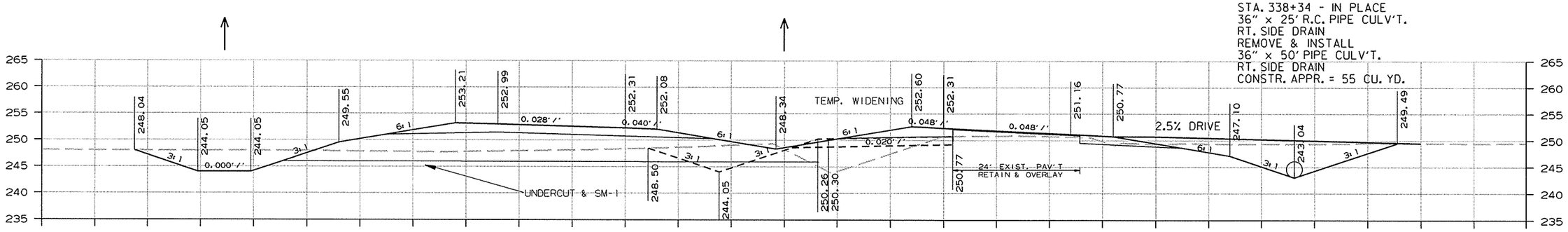
HWY. 226 CROSS SECTION STA. 334+00 TO STA. 336+00

2/28/2014

R100676.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.		100676	109	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 134 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 87 SQ.FT.
FILL AREA 273 SQ.FT.

TEMP. WIDENING
CUT AREA 76 SQ.FT.
FILL AREA 63 SQ.FT.

UNDERCUT
AREA CUT 219
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 219

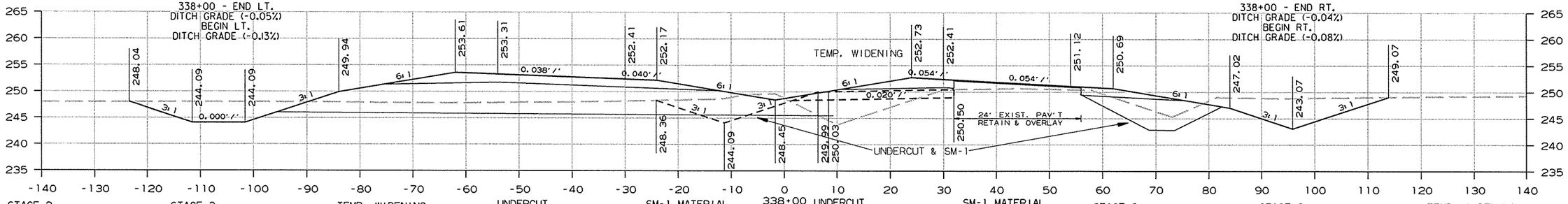
338+34 UNDERCUT
CUT VOLUME 323
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 323

STAGE 2
CUT VOLUME 150 CU. YD.
FILL VOLUME 18 CU. YD.

STAGE 3
CUT VOLUME 109 CU. YD.
FILL VOLUME 355 CU. YD.

TEMP. WIDENING
CUT VOLUME 95 CU. YD.
FILL VOLUME 76 CU. YD.



STAGE 2
CUT AREA 104 SQ.FT.
FILL AREA 28 SQ.FT.

STAGE 3
CUT AREA 86 SQ.FT.
FILL AREA 291 SQ.FT.

TEMP. WIDENING
CUT AREA 74 SQ.FT.
FILL AREA 58 SQ.FT.

UNDERCUT
AREA CUT 294
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 294

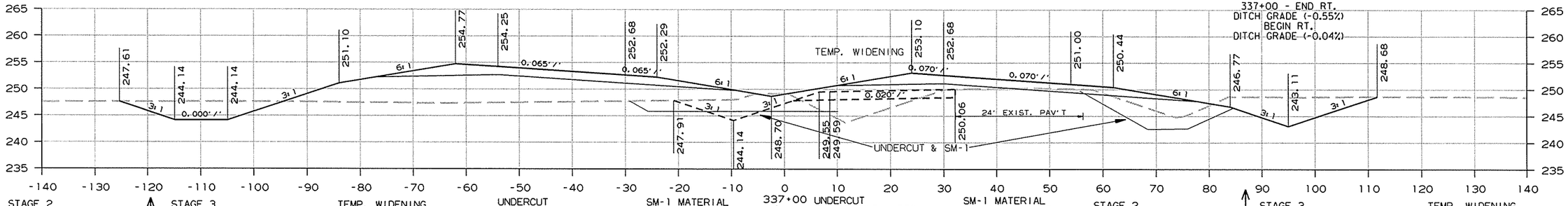
338+00 UNDERCUT
CUT VOLUME 809
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 809

STAGE 2
CUT VOLUME 359 CU. YD.
FILL VOLUME 115 CU. YD.

STAGE 3
CUT VOLUME 296 CU. YD.
FILL VOLUME 1308 CU. YD.

TEMP. WIDENING
CUT VOLUME 252 CU. YD.
FILL VOLUME 195 CU. YD.



STAGE 2
CUT AREA 90 SQ.FT.
FILL AREA 34 SQ.FT.

STAGE 3
CUT AREA 73 SQ.FT.
FILL AREA 415 SQ.FT.

TEMP. WIDENING
CUT AREA 62 SQ.FT.
FILL AREA 48 SQ.FT.

UNDERCUT
AREA CUT 143
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 143

337+00 UNDERCUT
CUT VOLUME 579
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 579

STAGE 2
CUT VOLUME 250 CU. YD.
FILL VOLUME 154 CU. YD.

STAGE 3
CUT VOLUME 229 CU. YD.
FILL VOLUME 1674 CU. YD.

TEMP. WIDENING
CUT VOLUME 216 CU. YD.
FILL VOLUME 178 CU. YD.

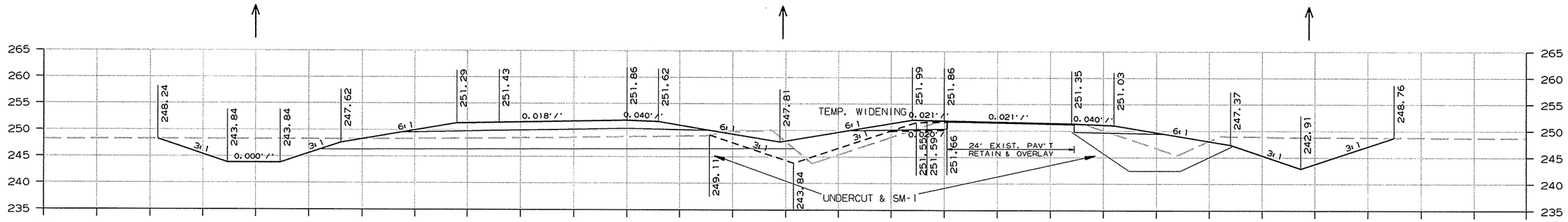
HWY. 226 CROSS SECTION STA. 337+00 TO STA. 338+34

2/28/2014

R100676.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.		100676	110	116

(2) CROSS SECTIONS



STAGE 2
CUT AREA 106 SQ.FT.
FILL AREA 35 SQ.FT.

STAGE 3
CUT AREA 103 SQ.FT.
FILL AREA 171 SQ.FT.

TEMP. WIDENING
CUT AREA 56 SQ.FT.
FILL AREA 21 SQ.FT.

UNDERCUT
AREA CUT 246
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 246

340+00

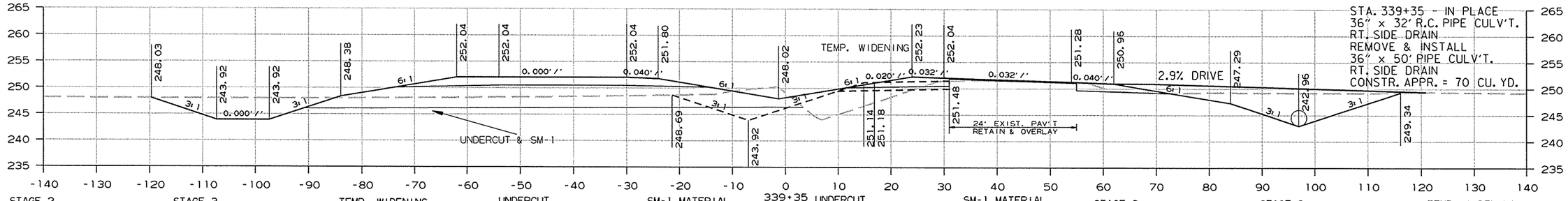
UNDERCUT
CUT VOLUME 530
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 530

STAGE 2
CUT VOLUME 278 CU. YD.
FILL VOLUME 43 CU. YD.

STAGE 3
CUT VOLUME 234 CU. YD.
FILL VOLUME 456 CU. YD.

TEMP. WIDENING
CUT VOLUME 168 CU. YD.
FILL VOLUME 93 CU. YD.



STAGE 2
CUT AREA 125 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 91 SQ.FT.
FILL AREA 208 SQ.FT.

TEMP. WIDENING
CUT AREA 84 SQ.FT.
FILL AREA 56 SQ.FT.

UNDERCUT
AREA CUT 194
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 194

339+35

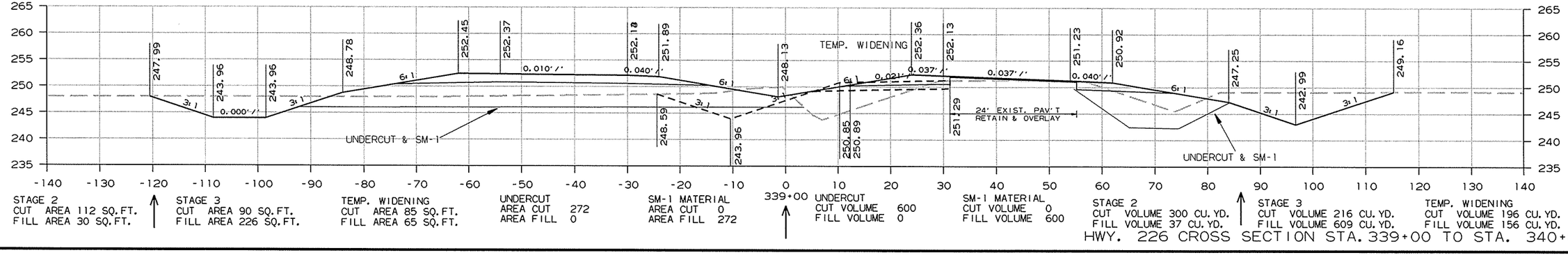
UNDERCUT
CUT VOLUME 302
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 302

STAGE 2
CUT VOLUME 153 CU. YD.
FILL VOLUME 20 CU. YD.

STAGE 3
CUT VOLUME 117 CU. YD.
FILL VOLUME 281 CU. YD.

TEMP. WIDENING
CUT VOLUME 109 CU. YD.
FILL VOLUME 78 CU. YD.



STAGE 2
CUT AREA 112 SQ.FT.
FILL AREA 30 SQ.FT.

STAGE 3
CUT AREA 90 SQ.FT.
FILL AREA 226 SQ.FT.

TEMP. WIDENING
CUT AREA 85 SQ.FT.
FILL AREA 65 SQ.FT.

UNDERCUT
AREA CUT 272
AREA FILL 0

SM-1 MATERIAL
AREA CUT 0
AREA FILL 272

339+00

UNDERCUT
CUT VOLUME 600
FILL VOLUME 0

SM-1 MATERIAL
CUT VOLUME 0
FILL VOLUME 600

STAGE 2
CUT VOLUME 300 CU. YD.
FILL VOLUME 37 CU. YD.

STAGE 3
CUT VOLUME 216 CU. YD.
FILL VOLUME 609 CU. YD.

TEMP. WIDENING
CUT VOLUME 196 CU. YD.
FILL VOLUME 156 CU. YD.

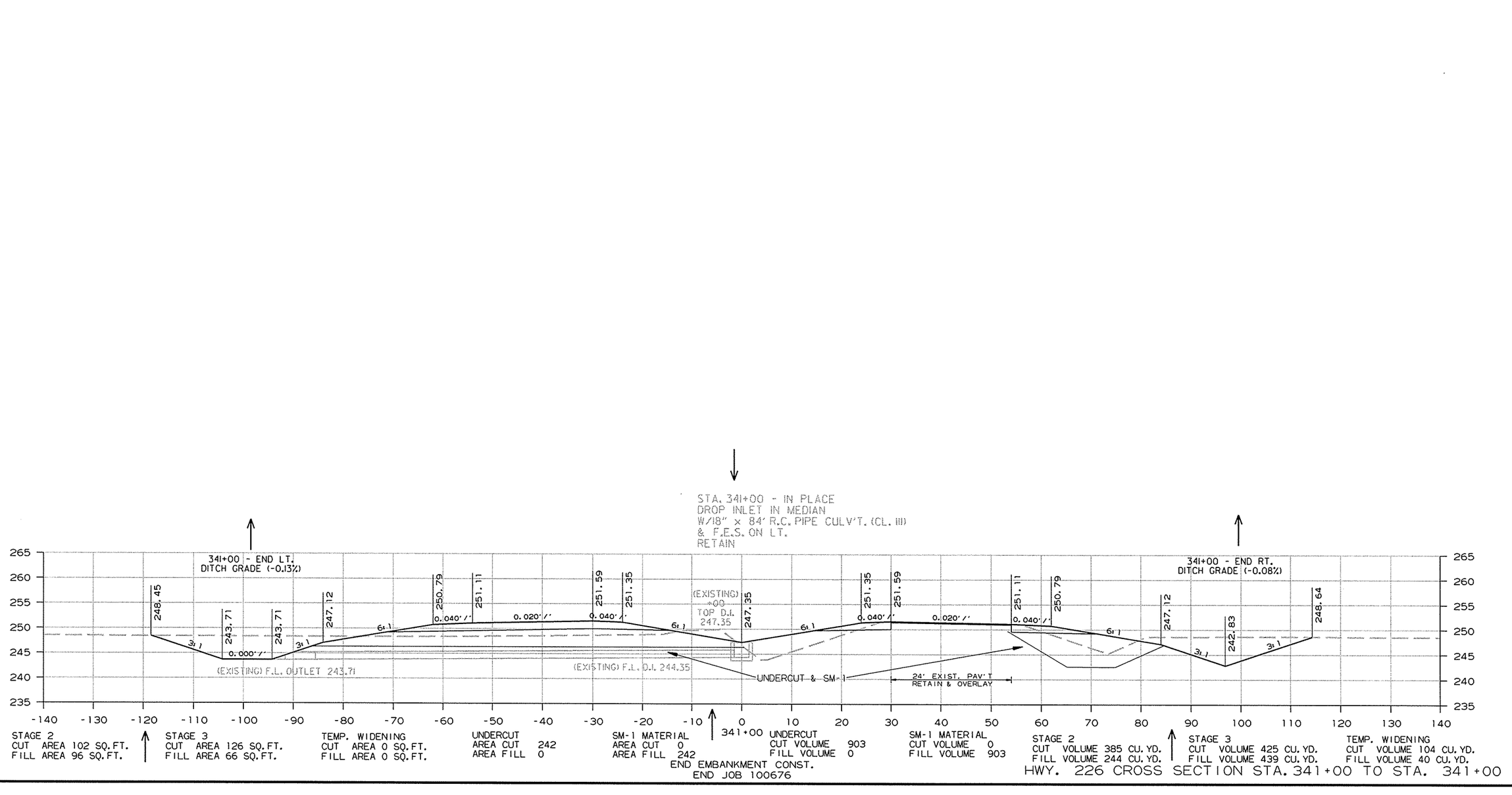
HWY. 226 CROSS SECTION STA. 339+00 TO STA. 340+00

2/28/2014

R100676.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.		100676	111	116

(2) CROSS SECTIONS



HWY. 226 CROSS SECTION STA. 341+00 TO STA. 341+00

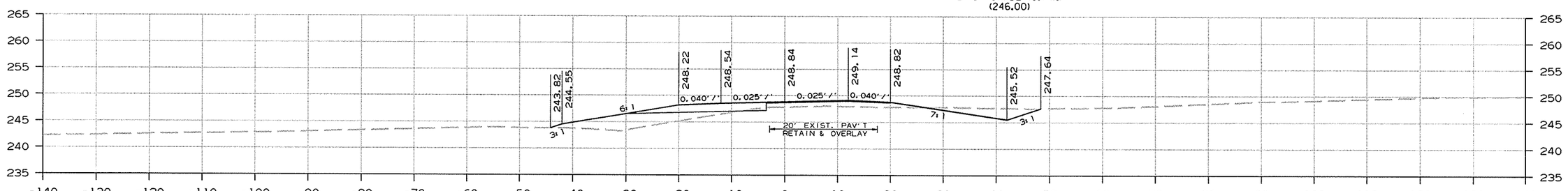
2/28/2014

R100676.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.		100676	112	116

(2) CROSS SECTIONS

12+60 - BEGIN RT.
DITCH GRADE (0.74%)
(246.00)



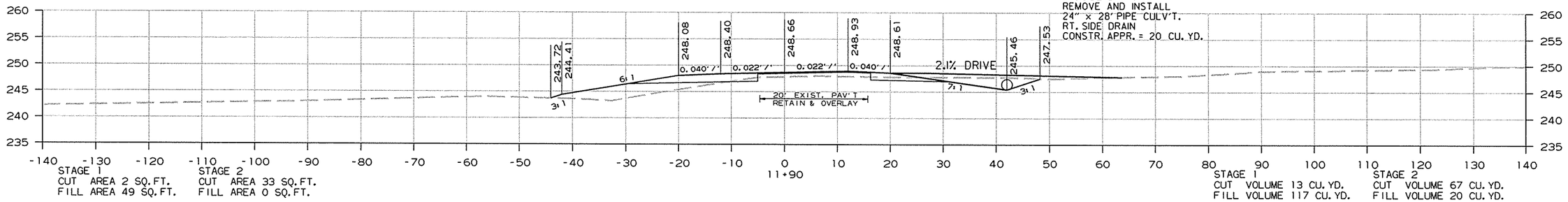
STAGE 1
CUT AREA 1 SQ.FT.
FILL AREA 57 SQ.FT.

STAGE 2
CUT AREA 23 SQ.FT.
FILL AREA 0 SQ.FT.

STA. 11+90- IN PLACE
18" x 42' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 20 CU. YD.

STAGE 1
CUT VOLUME 1 CU. YD.
FILL VOLUME 20 CU. YD.

STAGE 2
CUT VOLUME 10 CU. YD.
FILL VOLUME 0 CU. YD.

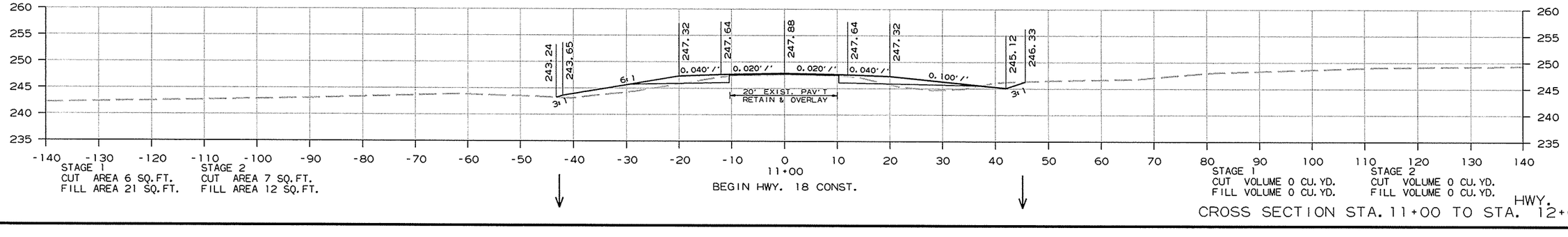


STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 49 SQ.FT.

STAGE 2
CUT AREA 33 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 13 CU. YD.
FILL VOLUME 117 CU. YD.

STAGE 2
CUT VOLUME 67 CU. YD.
FILL VOLUME 20 CU. YD.



STAGE 1
CUT AREA 6 SQ.FT.
FILL AREA 21 SQ.FT.

STAGE 2
CUT AREA 7 SQ.FT.
FILL AREA 12 SQ.FT.

BEGIN HWY. 18 CONST.

STAGE 1
CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

STAGE 2
CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

HWY. 18
CROSS SECTION STA. 11+00 TO STA. 12+00

2/28/2014

R100676.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.		100676	113	116

(2) CROSS SECTIONS

STA. 15+55- IN PLACE
24" x 32' R.C. PIPE CULV'T.
CROSS DRAIN
REMOVE

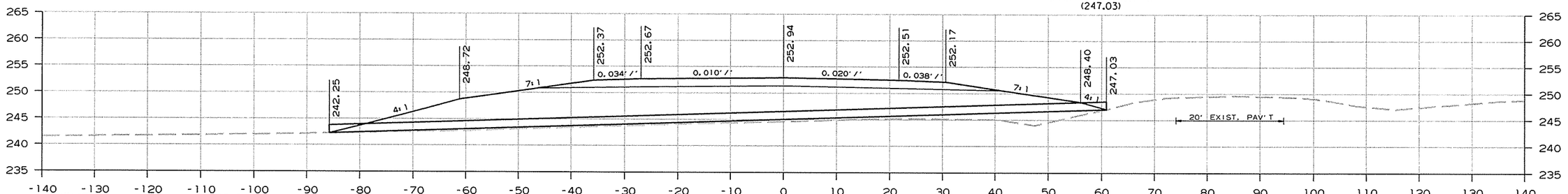
14+69.47 - END CONST.

STAGE 1
CUT VOLUME 0 CU. YD.
FILL VOLUME 2123 CU. YD.

STAGE 2
CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

STA. 14+00- CONSTRUCT
18" x 148' TEMPORARY PIPE CULV'T.

14+00 - END RT.
DITCH GRADE (0.74%)
(247.03)

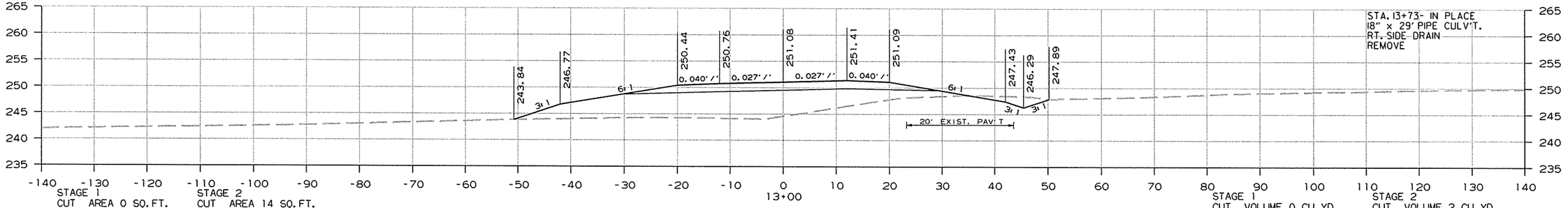


STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 825 SQ.FT.

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 0 CU. YD.
FILL VOLUME 2039 CU. YD.

STAGE 2
CUT VOLUME 26 CU. YD.
FILL VOLUME 28 CU. YD.



STA. 13+73- IN PLACE
18" x 29' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

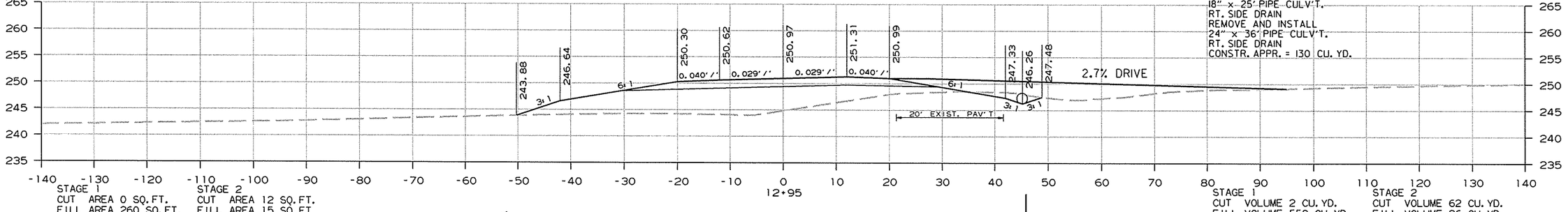
STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 276 SQ.FT.

STAGE 2
CUT AREA 14 SQ.FT.
FILL AREA 15 SQ.FT.

STAGE 1
CUT VOLUME 0 CU. YD.
FILL VOLUME 50 CU. YD.

STAGE 2
CUT VOLUME 2 CU. YD.
FILL VOLUME 3 CU. YD.

STA. 12+95- IN PLACE
18" x 25' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 36' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 130 CU. YD.



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 260 SQ.FT.

STAGE 2
CUT AREA 12 SQ.FT.
FILL AREA 15 SQ.FT.

STAGE 1
CUT VOLUME 2 CU. YD.
FILL VOLUME 558 CU. YD.

STAGE 2
CUT VOLUME 62 CU. YD.
FILL VOLUME 26 CU. YD.

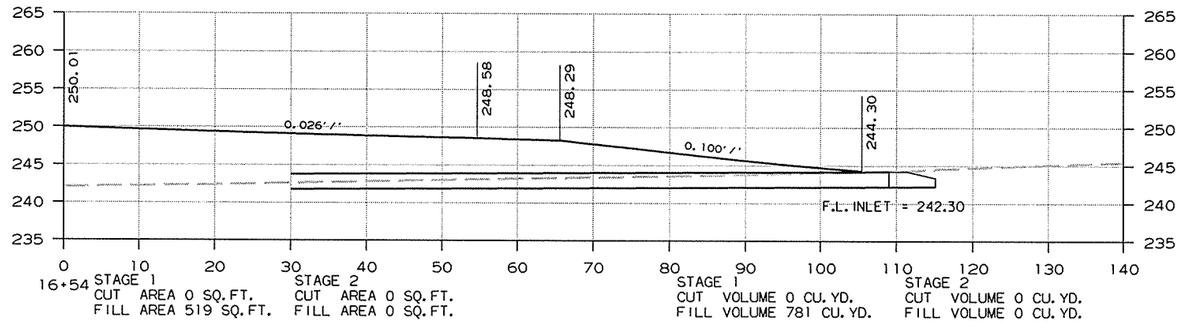
HWY. 18
CROSS SECTION STA. 12+95 TO STA. 14+00

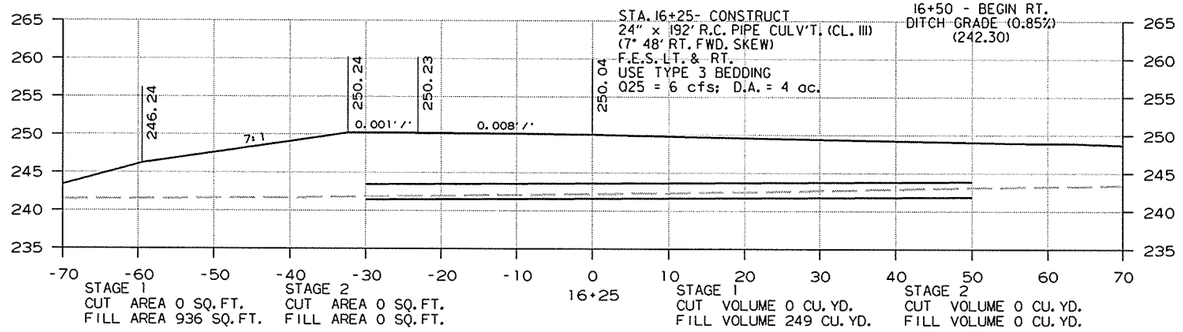
2/28/2014

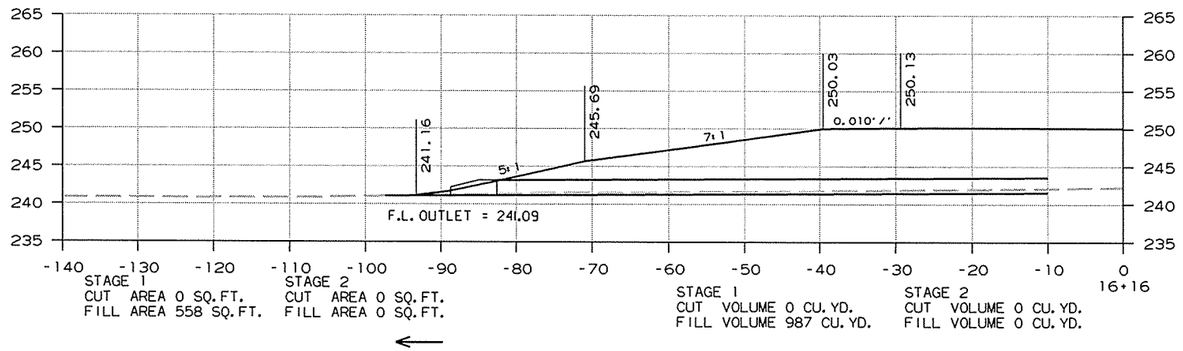
R100676.DGN

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.		100676	114	116

(2) CROSS SECTIONS







15+77.47 - BEG. CONST.
STAGE 1
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.
STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.

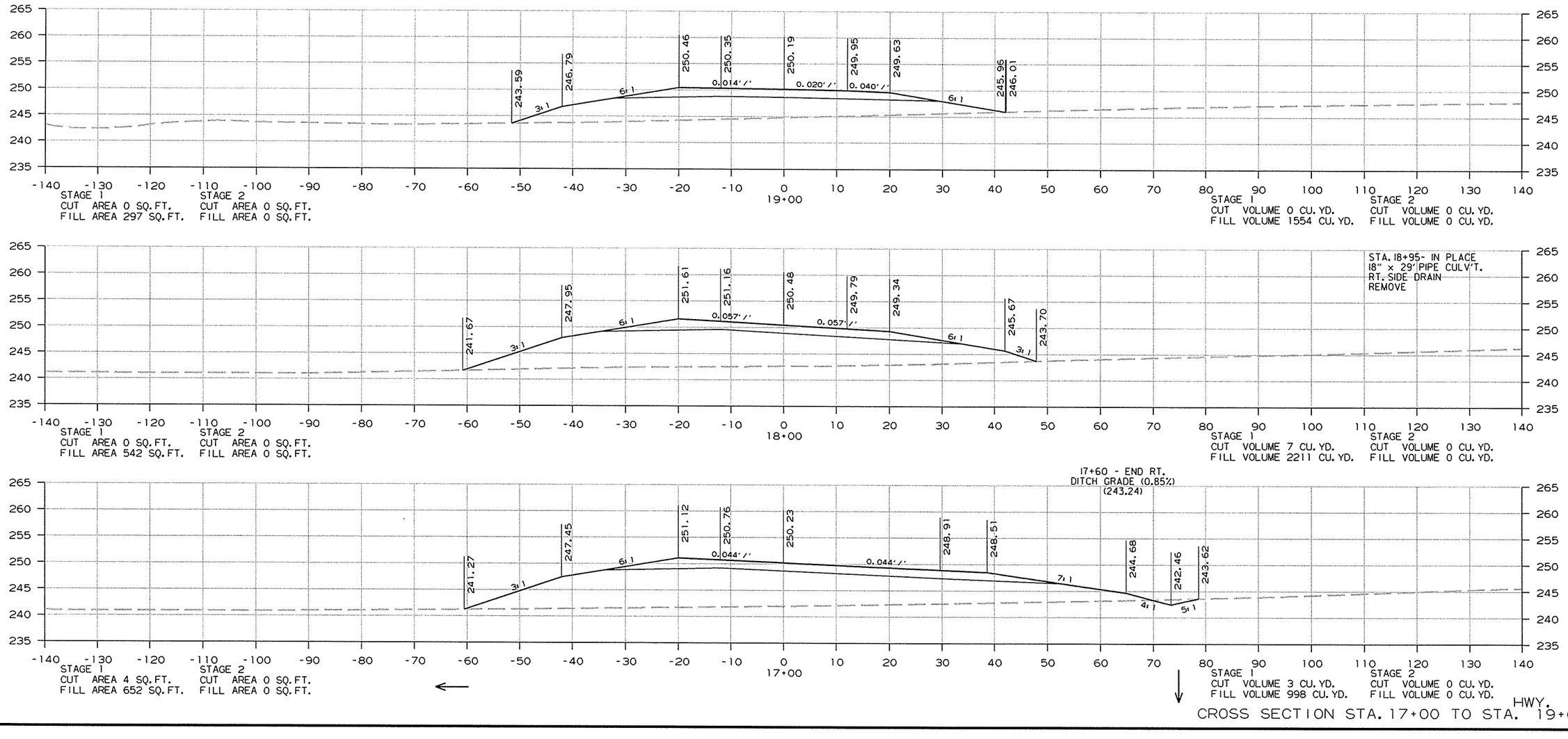
2/28/2014

R100676.DGN

HWY. 18
CROSS SECTION STA. 16+16 TO STA. 16+54

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.		100676	115	116

(2) CROSS SECTIONS



HWY. 18
CROSS SECTION STA. 17+00 TO STA. 19+00

2/28/2014

R100676.DGN

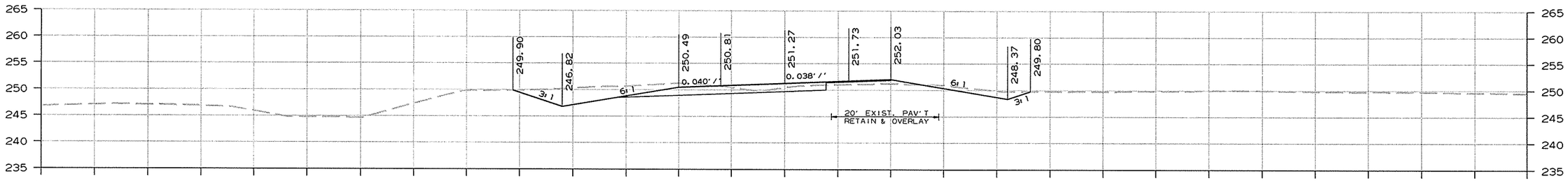
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100676	116	116

(2) CROSS SECTIONS

22+00 - END CONST.

STAGE 1
CUT VOLUME 187 CU. YD.
FILL VOLUME 0 CU. YD.

STAGE 2
CUT VOLUME 28 CU. YD.
FILL VOLUME 0 CU. YD.



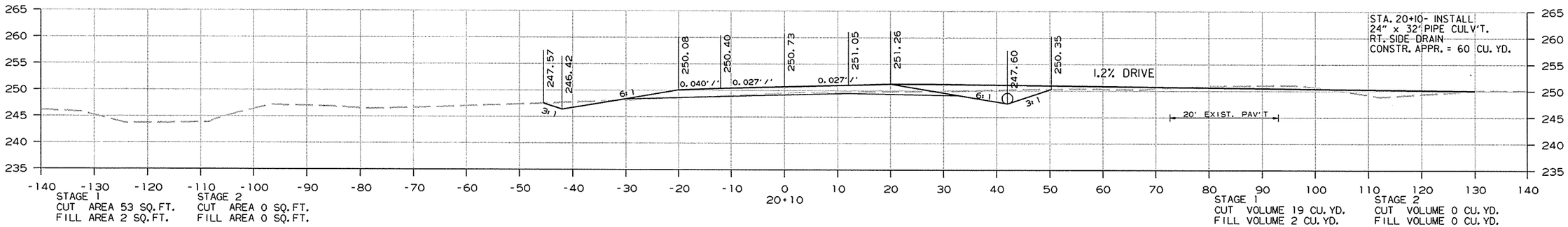
STAGE 1
CUT AREA 101 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 15 SQ.FT.
FILL AREA 0 SQ.FT.

21+00

STAGE 1
CUT VOLUME 257 CU. YD.
FILL VOLUME 3 CU. YD.

STAGE 2
CUT VOLUME 25 CU. YD.
FILL VOLUME 0 CU. YD.



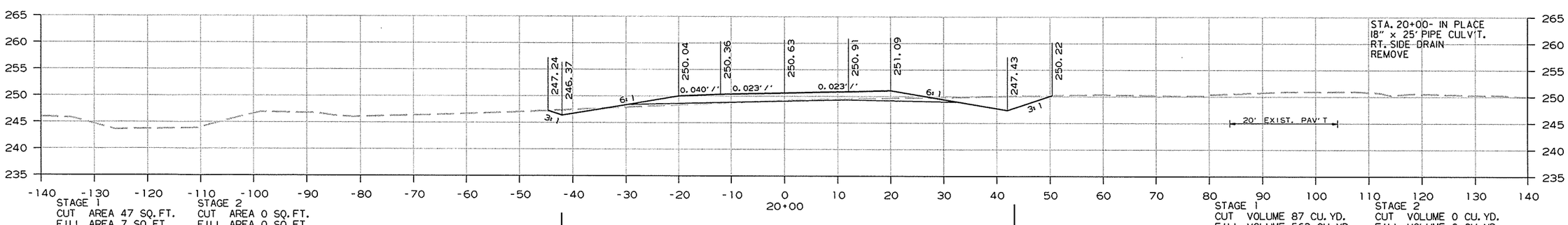
STAGE 1
CUT AREA 53 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

20+10

STAGE 1
CUT VOLUME 19 CU. YD.
FILL VOLUME 2 CU. YD.

STAGE 2
CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.



STAGE 1
CUT AREA 47 SQ.FT.
FILL AREA 7 SQ.FT.

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

20+00

STAGE 1
CUT VOLUME 87 CU. YD.
FILL VOLUME 563 CU. YD.

STAGE 2
CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

HWY. 18
CROSS SECTION STA. 20+00 TO STA. 21+00

2/28/2014

R100676.DGN