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.		050262	1	98
				(2)	WEST OF WINDWOOD DR. - EAST (PASSING LANE) (S)			

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

WEST OF WINDWOOD DR. - EAST (PASSING LANE) (S)

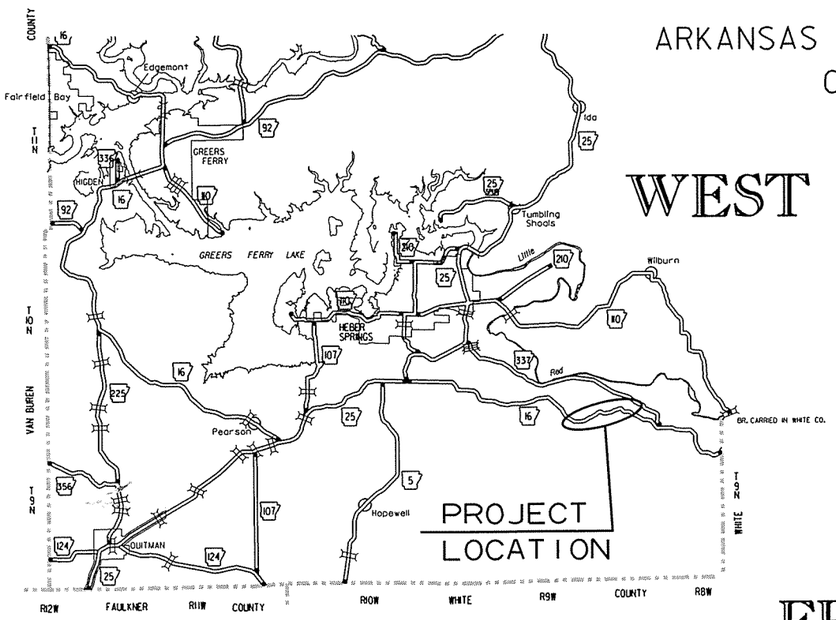
CLEBURNE COUNTY

ROUTE 16 SECTION 12

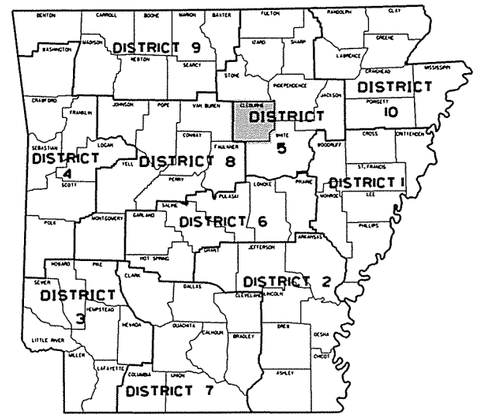
JOB 050262

FED.AID PROJ. STPF-1273(1)

NOT TO SCALE



VICINITY MAP



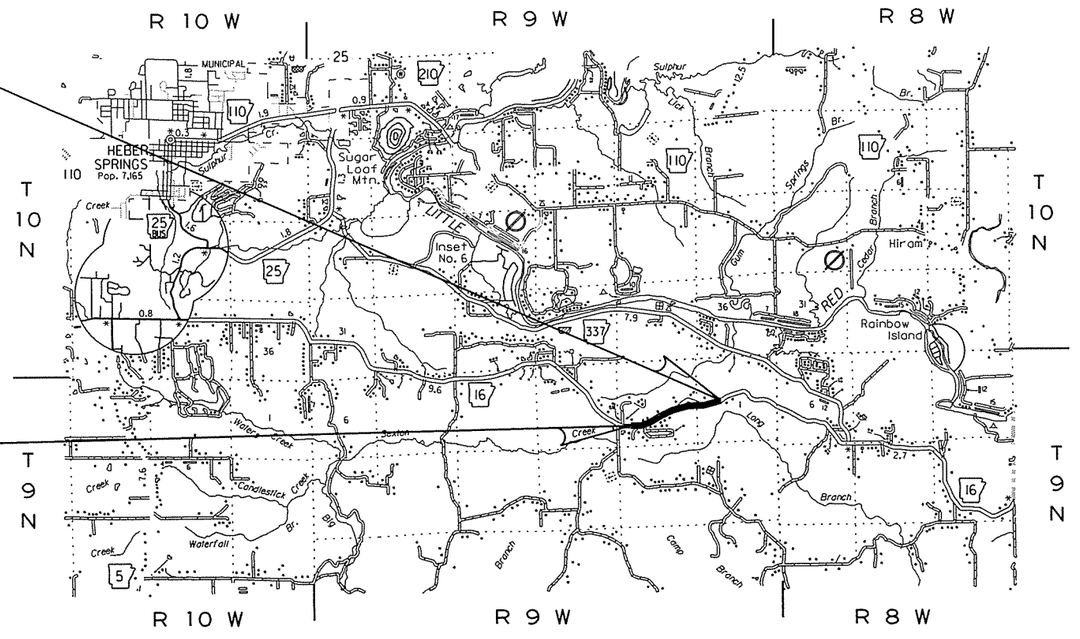
ARK. HWY. DIST. NO. 5

• DESIGN TRAFFIC DATA •

DESIGN YEAR	2036
2016 ADT	2400
2036 ADT	3400
2036 DHV	374
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	20%
AVERAGE RUNNING SPEED	55 MPH

STA. 162+40.00
END JOB 050262

STA. 101+00.00
BEGIN JOB 050262
LOG MILE 6.40



APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7836
M.E. BANKS
6-14-16

DEPUTY DIRECTOR
AND CHIEF ENGINEER

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 35°26'11" LONGITUDE = W 91°56'10"	LATITUDE = N 35°26'21" LONGITUDE = W 91°55'34"	LATITUDE = N 35°26'25" LONGITUDE = W 91°54'59"

GROSS LENGTH OF PROJECT	6140.00	FEET	OR	1.163	MILES
NET " " ROADWAY	6140.00	"	"	1.163	"
NET " " BRIDGES	0.00	"	"	0.000	"
NET " " PROJECT	6140.00	"	"	1.163	"

6/3/2016

R050262.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-27-16				6	ARK.			
				JOB NO.		050262	2	98

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

INDEX OF SHEETS

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

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. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-16

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
100-3	CONTRACTOR'S LICENSE
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
JOB 050262	BIDDING REQUIREMENTS AND CONDITIONS
JOB 050262	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 050262	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 050262	CARGO PREFERENCE ACT REQUIREMENTS
JOB 050262	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 050262	EXTENSION FOR PIPE CULVERTS
JOB 050262	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 050262	ISSUANCE OF PROPOSALS
JOB 050262	MANDATORY ELECTRONIC CONTRACT
JOB 050262	OFF-SITE RESTRAINING CONDITIONS FOR BATS
JOB 050262	PARTNERING REQUIREMENTS
JOB 050262	PLASTIC PIPE
JOB 050262	SHORING FOR CULVERTS
JOB 050262	SOIL STABILIZATION
JOB 050262	STONE RIPRAP FOR SLOPE PLATING
JOB 050262	STORM WATER POLLUTION PREVENTION PLAN
JOB 050262	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 050262	UTILITY ADJUSTMENTS
JOB 050262	VALUE ENGINEERING
JOB 050262	WARM MIX ASPHALT
JOB 050262	WATER GATES

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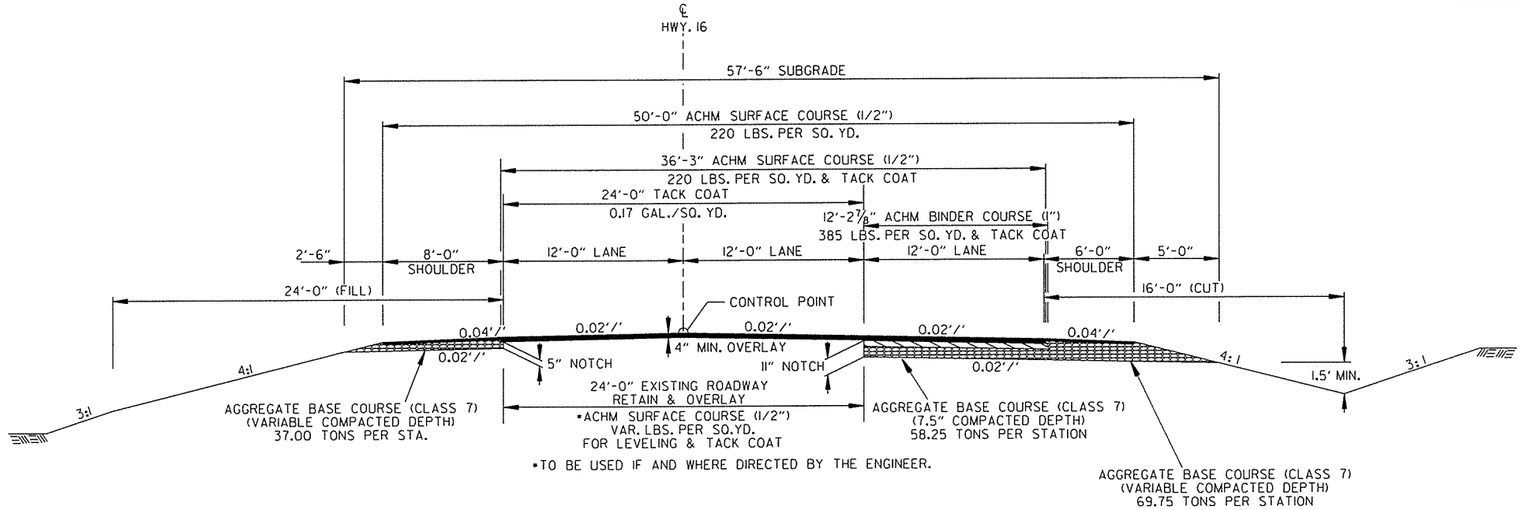
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	3	98

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16



•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
STA. 101+00.00 TO STA. 121+85.00
STA. 122+75.00 TO STA. 136+30.00
STA. 137+40.00 TO STA. 140+31.22
STA. 149+25.00 TO STA. 162+40.00

NOTES:

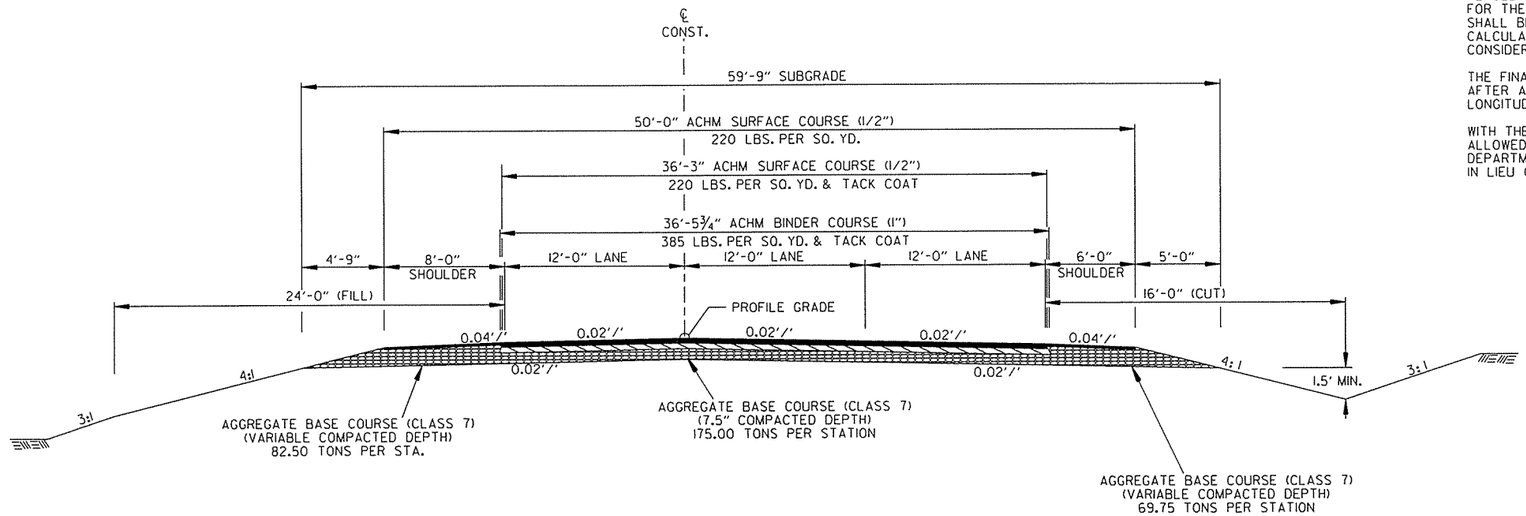
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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

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

WITH THE 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 (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
STA. 121+85.00 TO STA. 122+75.00
STA. 136+30.00 TO STA. 137+40.00
STA. 140+31.22 TO STA. 149+25.00

6/3/2016

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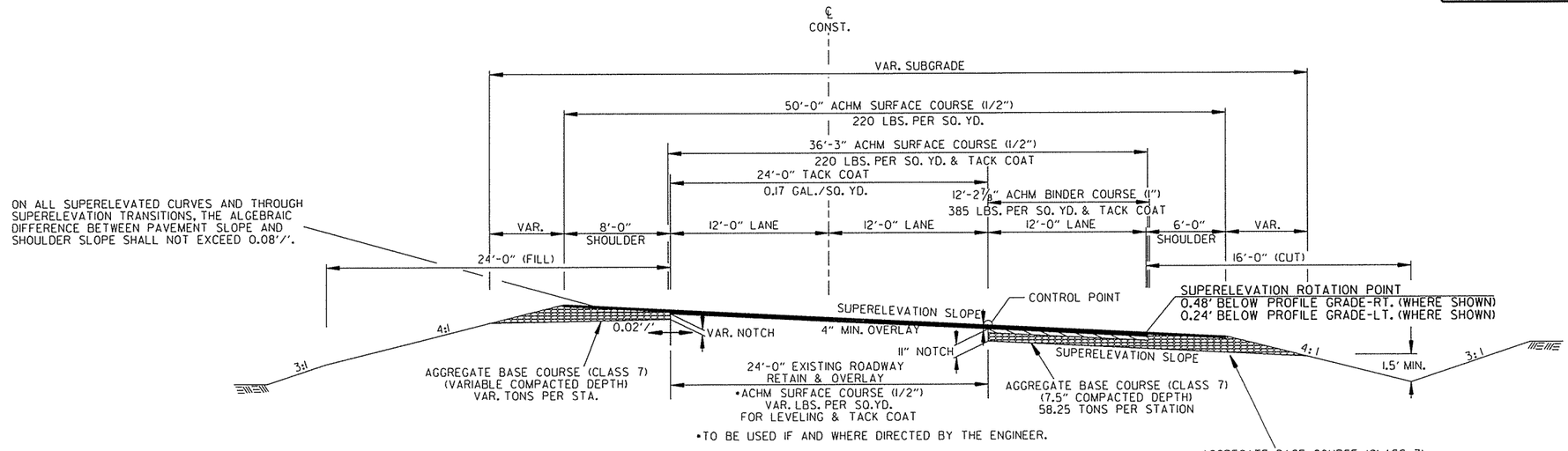
TYPICAL SECTIONS OF IMPROVEMENT

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.		050262	4	98

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16



•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION

NOTES:

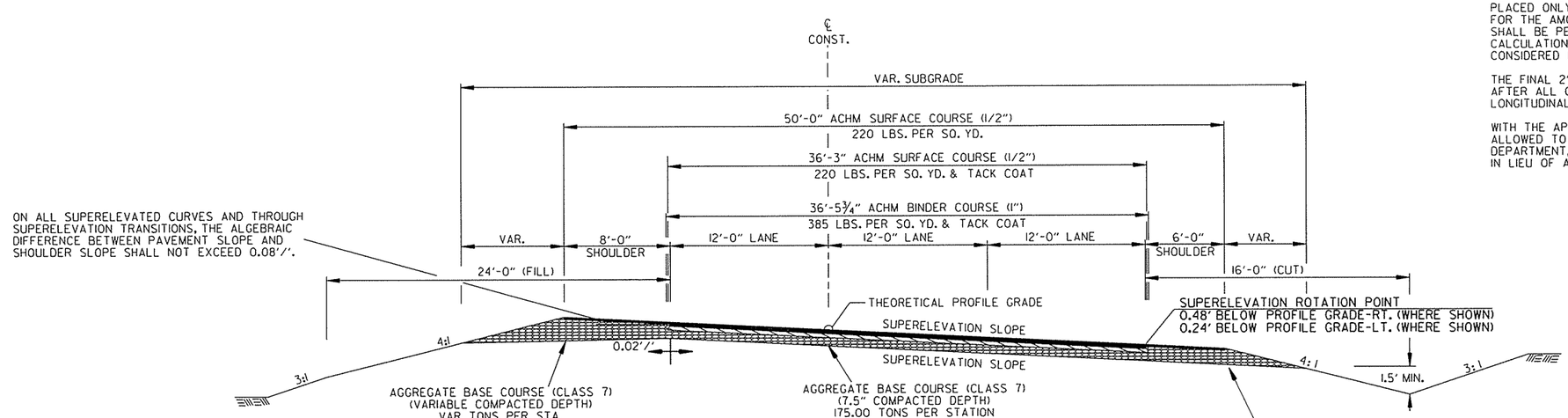
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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

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

WITH THE 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 (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
SUPERELEVATION

6/3/2016

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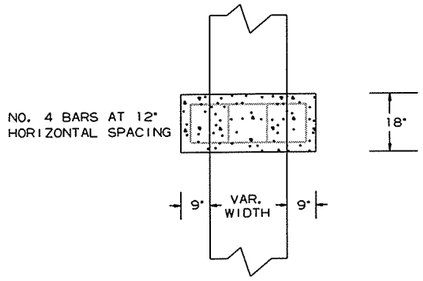
TYPICAL SECTIONS OF IMPROVEMENT

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.		050262	5	98

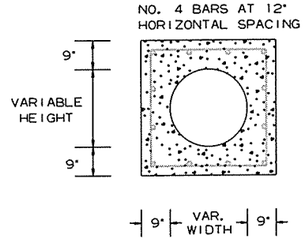
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

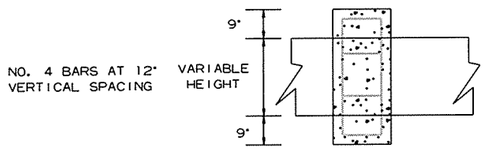


TOP VIEW

MIN. 3" COVER

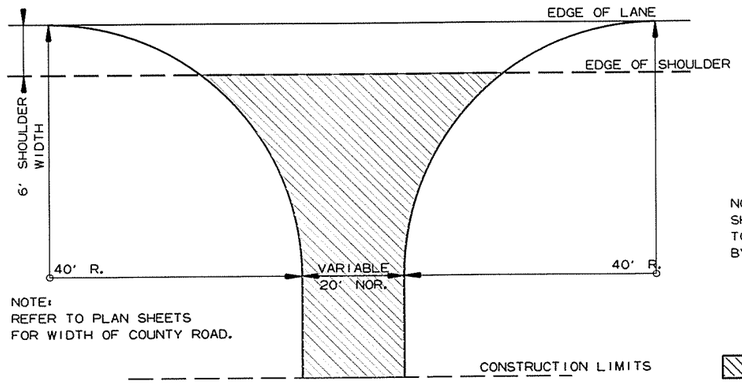


FRONT VIEW



SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL

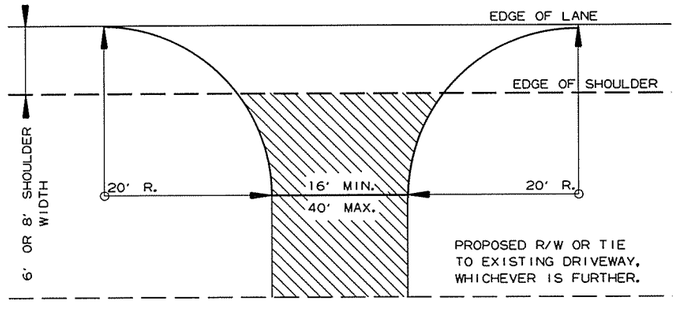


NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

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

ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH

DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



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

DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)

6/8/2016

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				6	ARK.			
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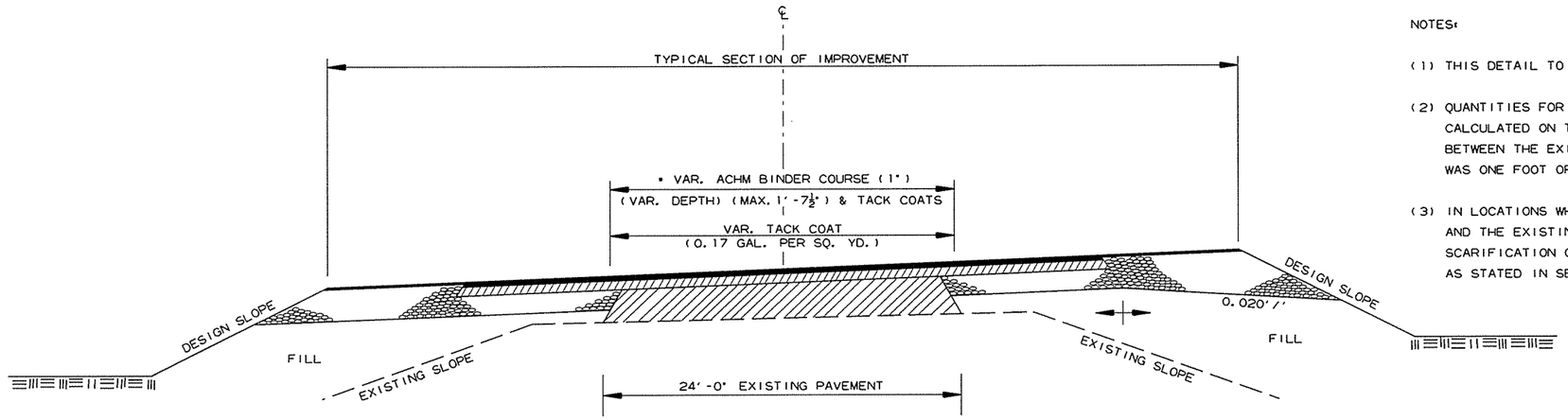
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16



• 7½" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH ACHM BINDER COURSE (1")

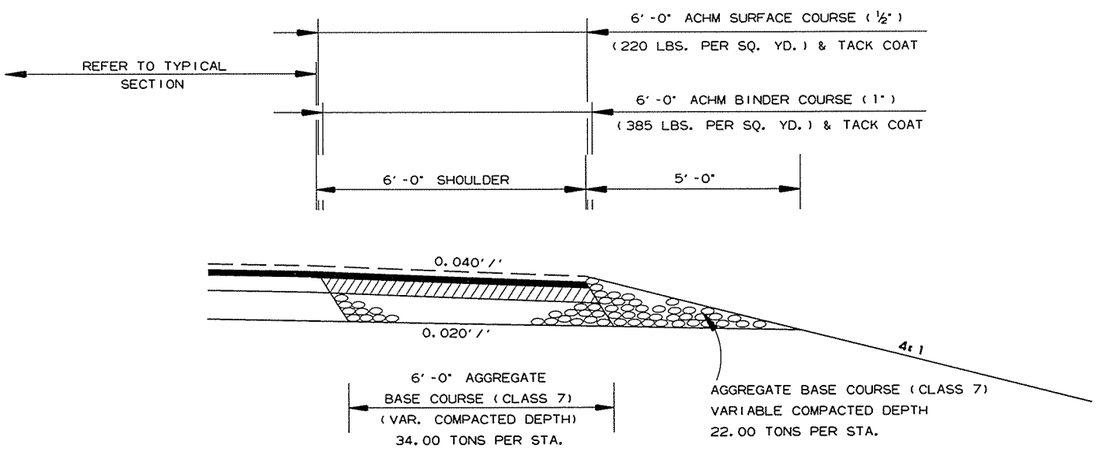
METHOD OF RAISING GRADE

NOTES:

(1) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

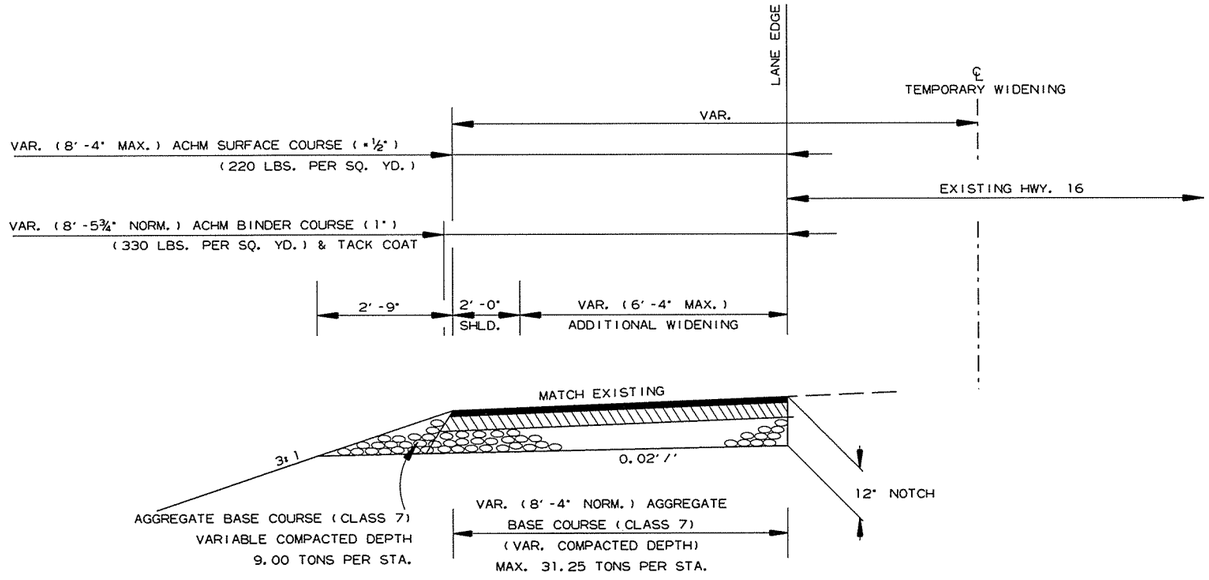
(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS.



FULL DEPTH SHOULDER FOR MAINTENANCE OF TRAFFIC

STA. 144+00.00 TO STA. 152+00.00 ON RT.



ADDITIONAL WIDENING FOR MAINTENANCE OF TRAFFIC

TEMPORARY WIDENING STA. 200+56.54 TO TEMPORARY WIDENDING STA. 204+87.87 ON LT.

6/3/2016

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SPECIAL DETAILS

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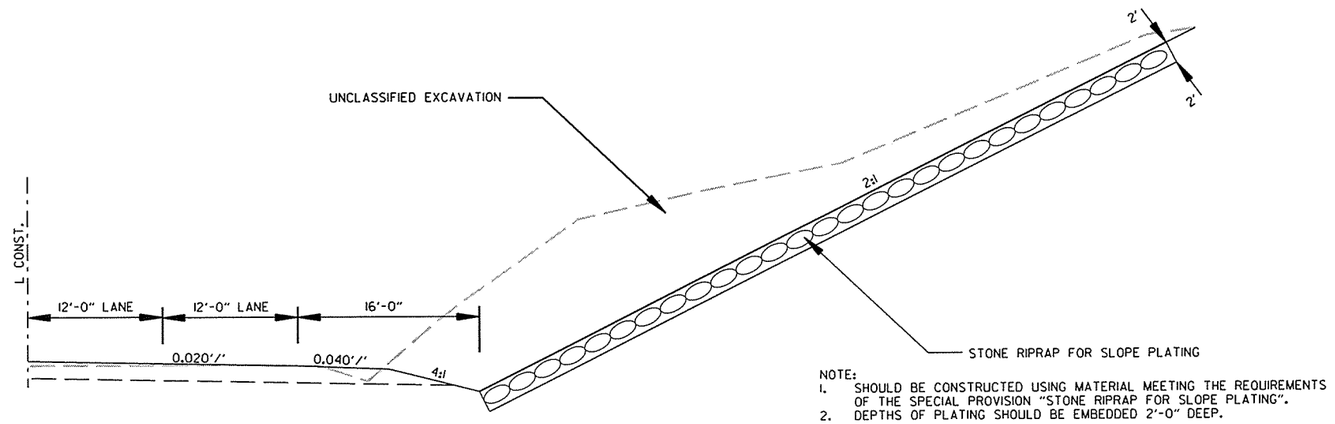
(2) SPECIAL DETAILS

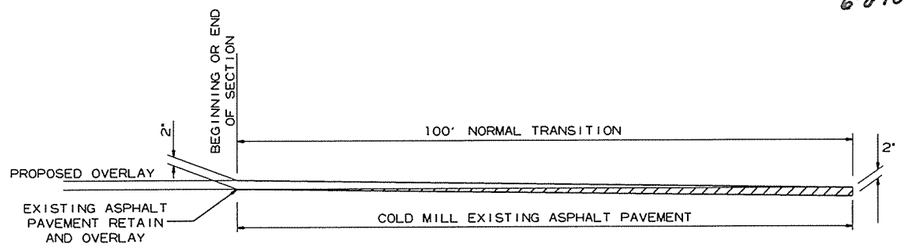
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16



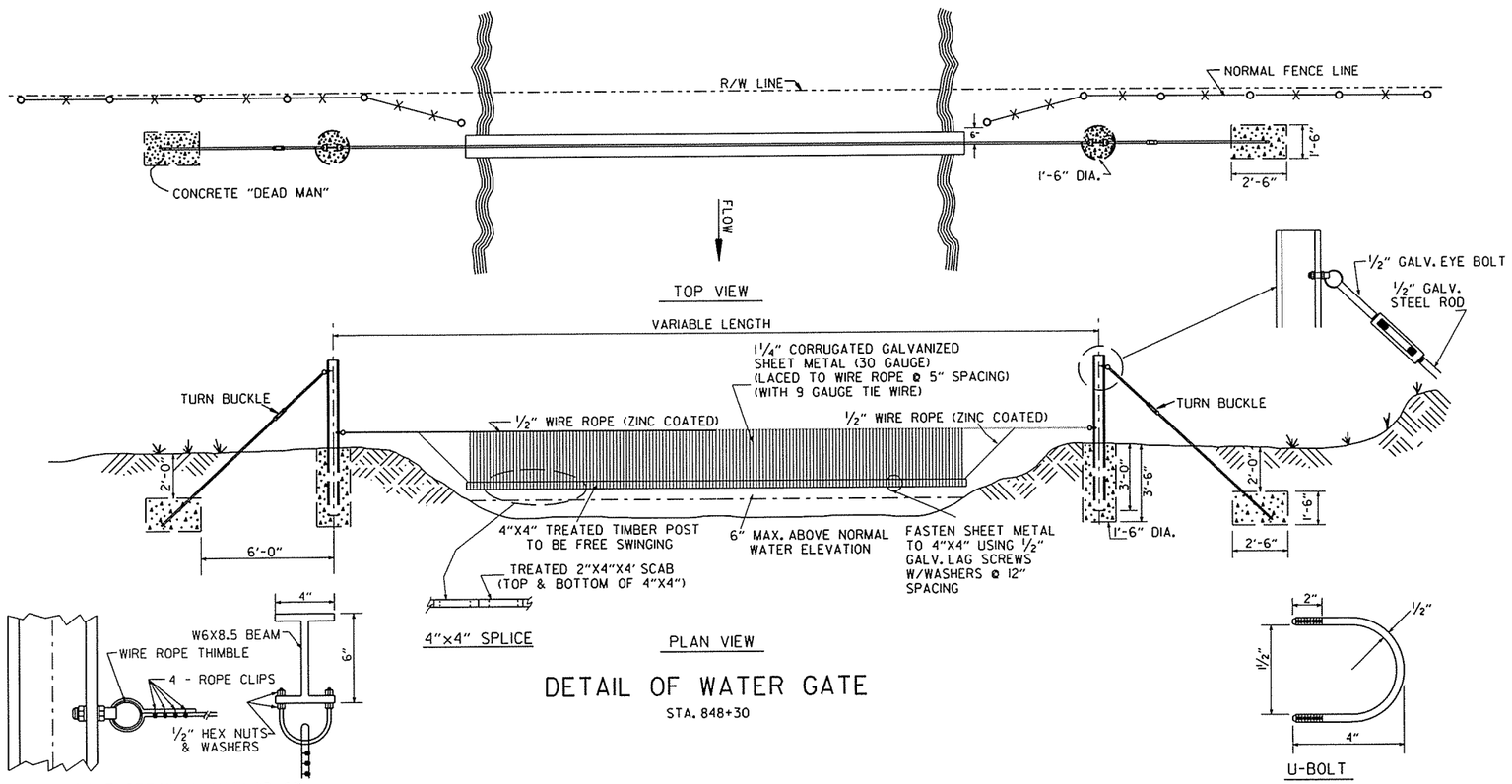
NOTE:
1. SHOULD BE CONSTRUCTED USING MATERIAL MEETING THE REQUIREMENTS OF THE SPECIAL PROVISION "STONE RIPRAP FOR SLOPE PLATING".
2. DEPTHS OF PLATING SHOULD BE EMBEDDED 2'-0" DEEP.

DETAIL SHOWING SLOPE PLATING ON RT.

NOTE: REFER TO CROSS SECTIONS AND QUANTITY SHEETS FOR QUANTITIES.

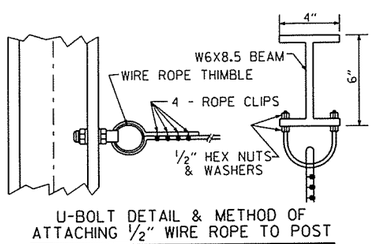


DETAIL FOR TRANSITIONS



DETAIL OF WATER GATE

STA. 848+30



U-BOLT DETAIL & METHOD OF ATTACHING ½" WIRE ROPE TO POST

U-BOLT

6/3/2016

R050262.DGN

SPECIAL DETAILS

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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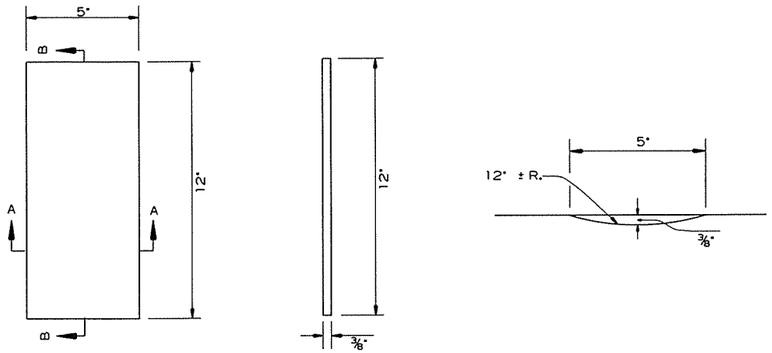
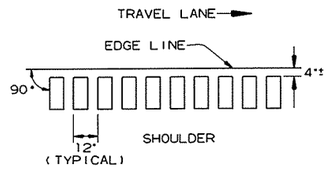
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

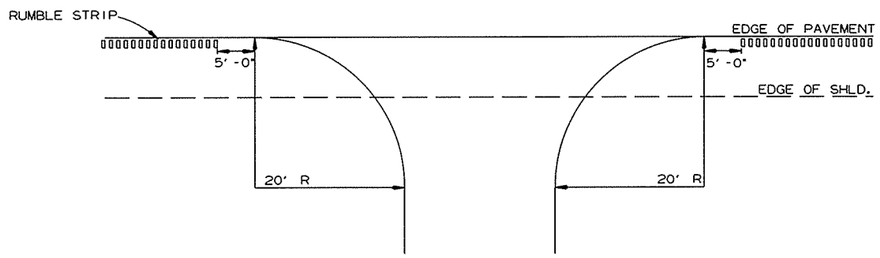


PLAN SECTION B-B SECTION A-A

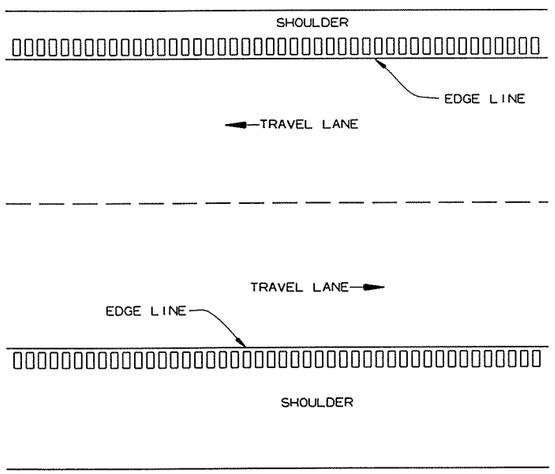
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



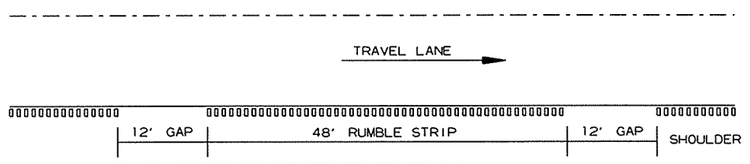
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

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



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

DETAIL FOR GAP PATTERN RUMBLE STRIP

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SPECIAL DETAILS

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				6	ARK.			
				JOB NO.		050262	9	98

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

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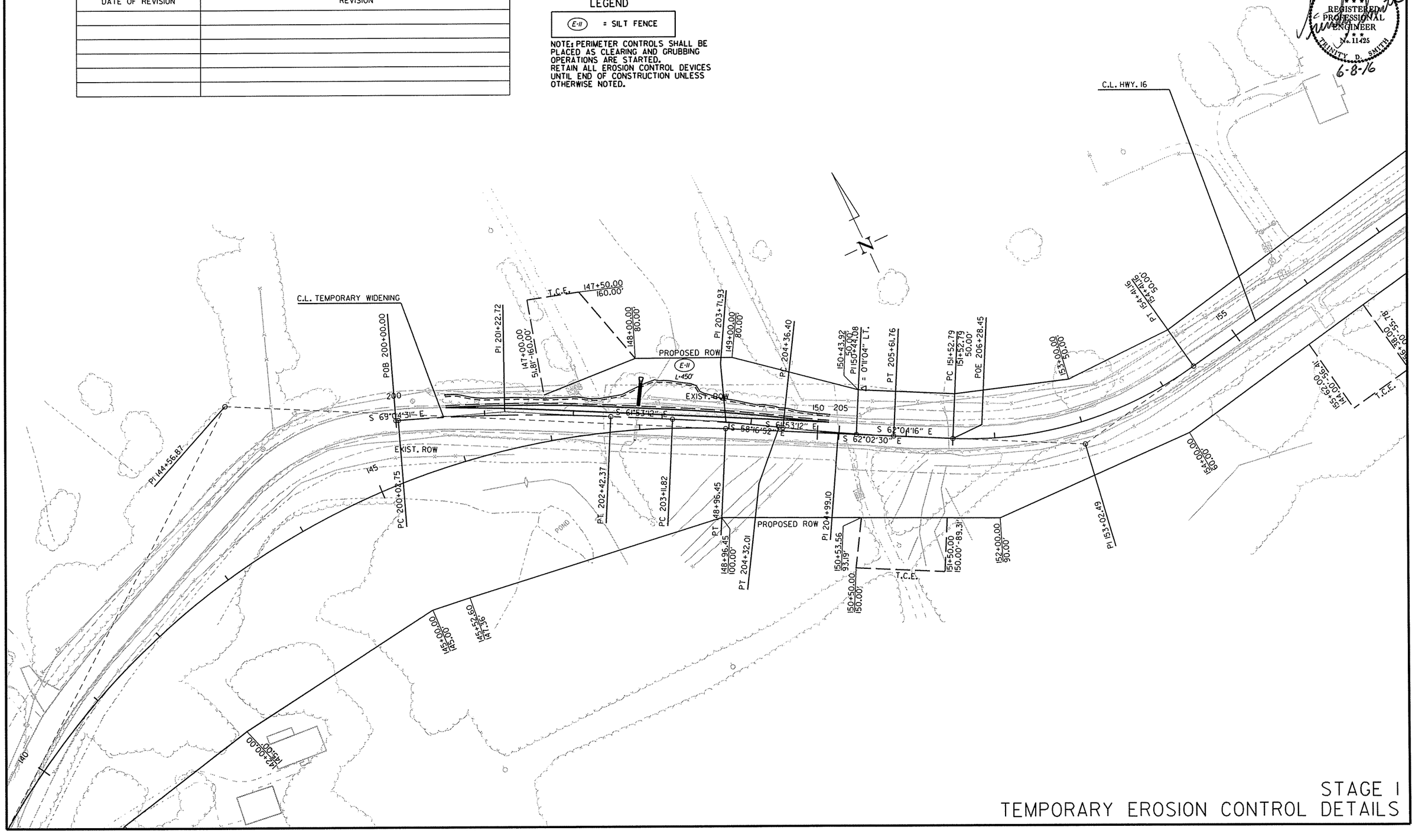

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/3/2016
R050262.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.		050262	10	98

(2) TEMPORARY EROSION CONTROL DETAILS

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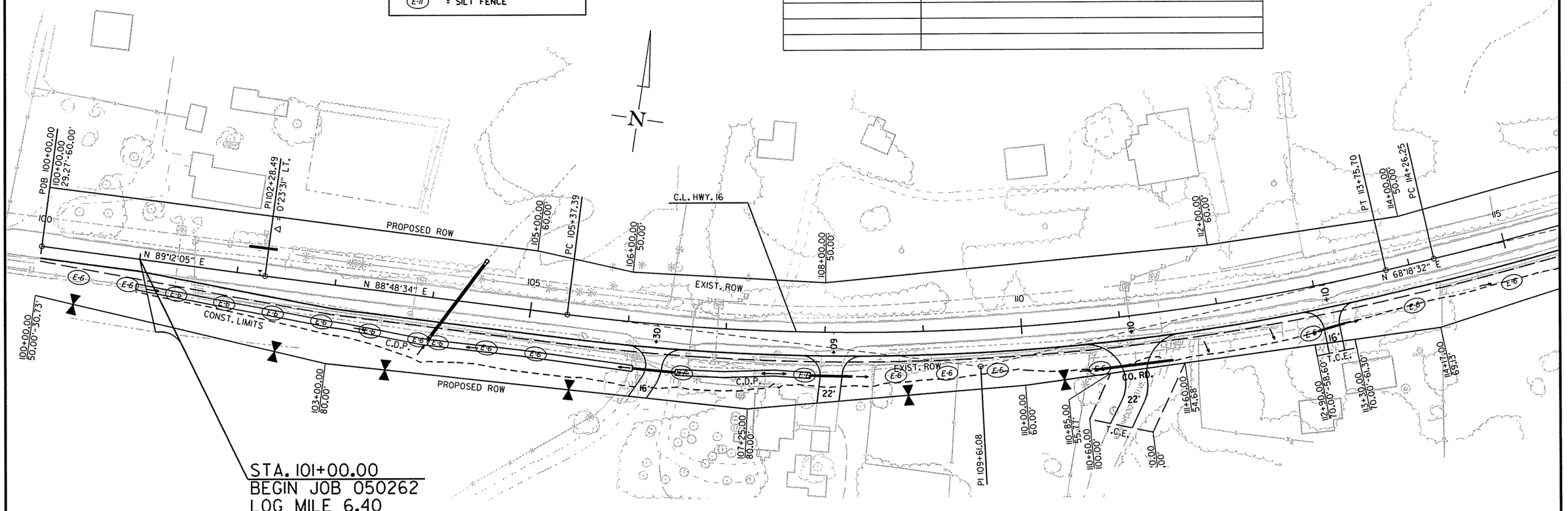
REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE



STA. 101+00.00
BEGIN JOB 050262
LOG MILE 6.40

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

6/3/2016

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	11	98

(2) TEMPORARY EROSION CONTROL DETAILS

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C.L. HWY. 16

116+50.00 50.00'

PT 118+57.17 118+57.17 50.00'

121+85.00 50.00'-115.00'

PI 122+14.39

T.C.E.

123+85.00 43.18'-110.00'

PC 125+92.27 125+92.27 50.00'

PT 128+10.33 128+10.33 50.00'

130+00.42 50.00' PI 130+01.42 Δ = 1°09'29" LT.

N 58°36'47" E

N 71°26'08" E

N 63°36'37" E

N 62

115 120 125 130

+00 +15 +16 +38 +35 +64

E-6 E-11 L=105' E-8 C.D.P. 16' 20'

116+42.23 60.00'

PI 116+42.23

118+57.17 60.00'

PC 121+14.41 121+14.41 60.00'

PT 123+13.54 123+13.54 60.00'

125+23.27 60.00'

PI 127+01.47

128+10.33 80.00'

RET. WALL

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-6) = ROCK DITCH CHECKS
- (E-8) = DIVERSION DITCH
- (E-11) = SILT FENCE
- (E-12) = SLOPE DRAIN

C.L. HWY. 16

130+00.42 50.00' PI 130+01.42 Δ = 1°09'29" LT.

131+00.00 60.00'

PC 131+58.72

132+00.00 60.00'

PT 132+87.86

PC 134+77.65 134+77.65 50.00'

136+80.00 50.00'-70.00'

T.C.E.

PI 138+28.28

138+28.56 138+67.67 39.11'-40.00'

142+40.00 47.94'-70.00'

139+00.00 60.00'

139+53.72 52.01'

PI 144+56.87

PROPOSED ROW

EXIST. ROW

CONST. LIMITS

N 62°27'08" E

N 60°30'54" E

N 52°51'51" E

130 135 140 145

+72

E-6 E-8 C.D.P. 16'

132+00.00 80.00'

PI 132+23.30

134+82.67 100.00'

PI 136+53.23

PC 138+92.61

140+00.00 110.00'

142+00.00 145.00'

E-8 L=250'

E-12 L=55'

90.00

EXIST. RO

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

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				6	ARK.			
				JOB NO.		050262	12	98

(2) TEMPORARY EROSION CONTROL DETAILS

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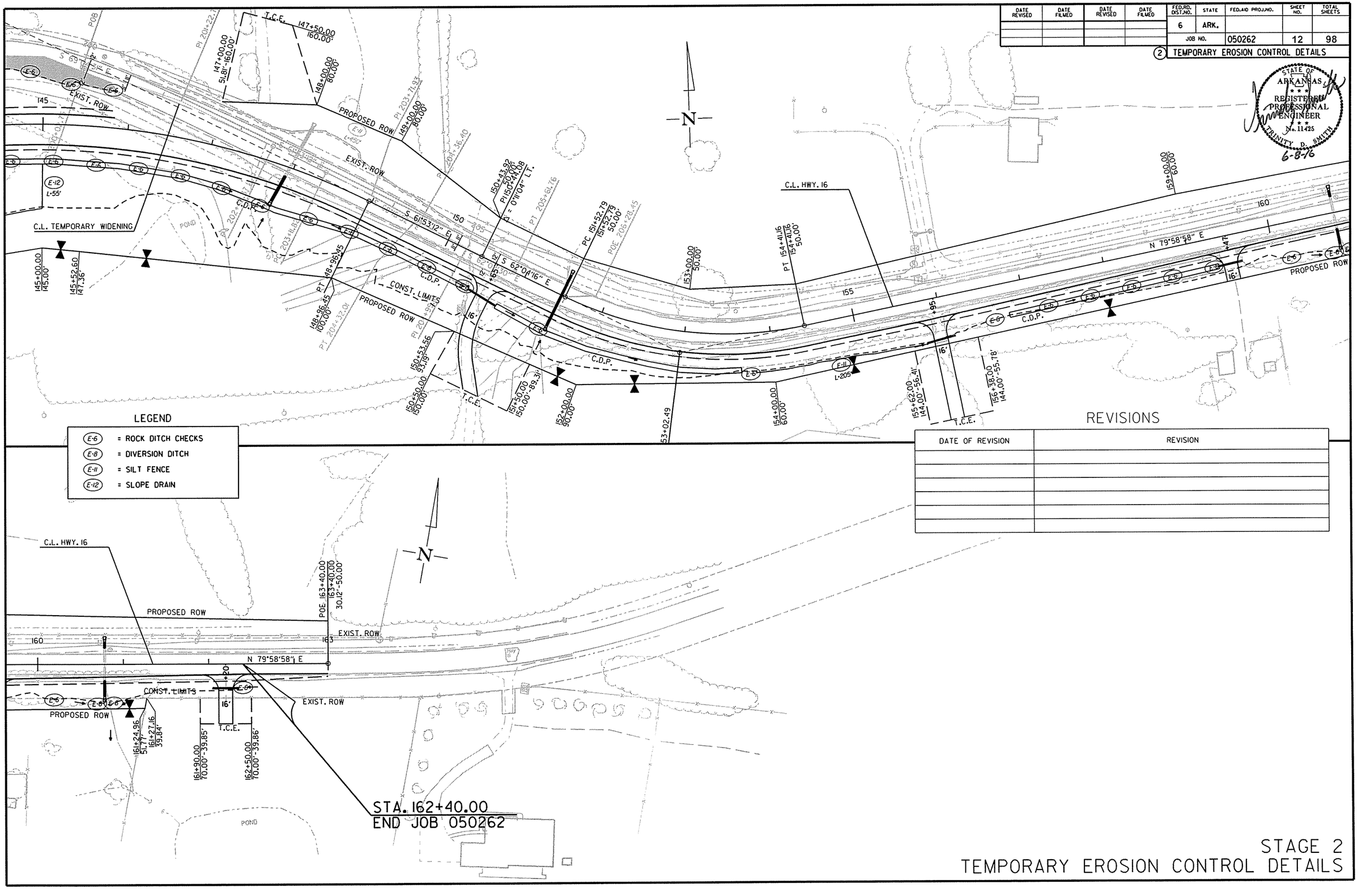

REVISIONS

DATE OF REVISION	REVISION

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STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	13	98

(2) TEMPORARY EROSION CONTROL DETAILS

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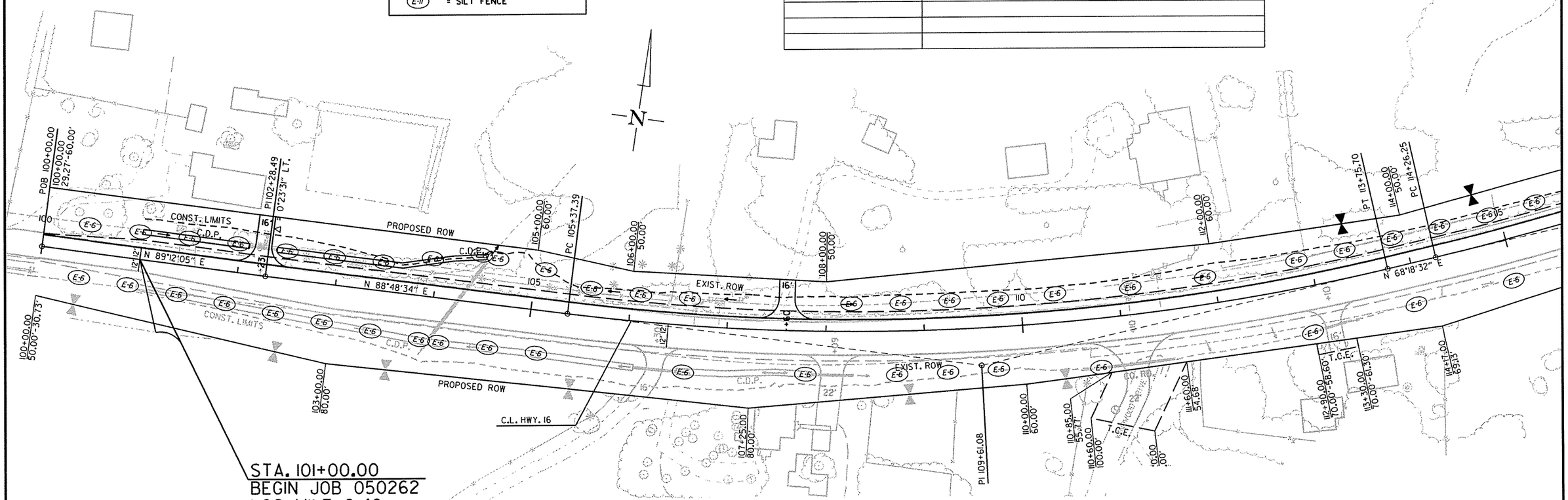
REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE



STAGE 3
TEMPORARY EROSION CONTROL DETAILS

6/3/2016
R050262.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.		050262	14	98

(2) TEMPORARY EROSION CONTROL DETAILS

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REGISTERED PROFESSIONAL ENGINEER
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REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE

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STAGE 3
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	15	98

(2) TEMPORARY EROSION CONTROL DETAILS

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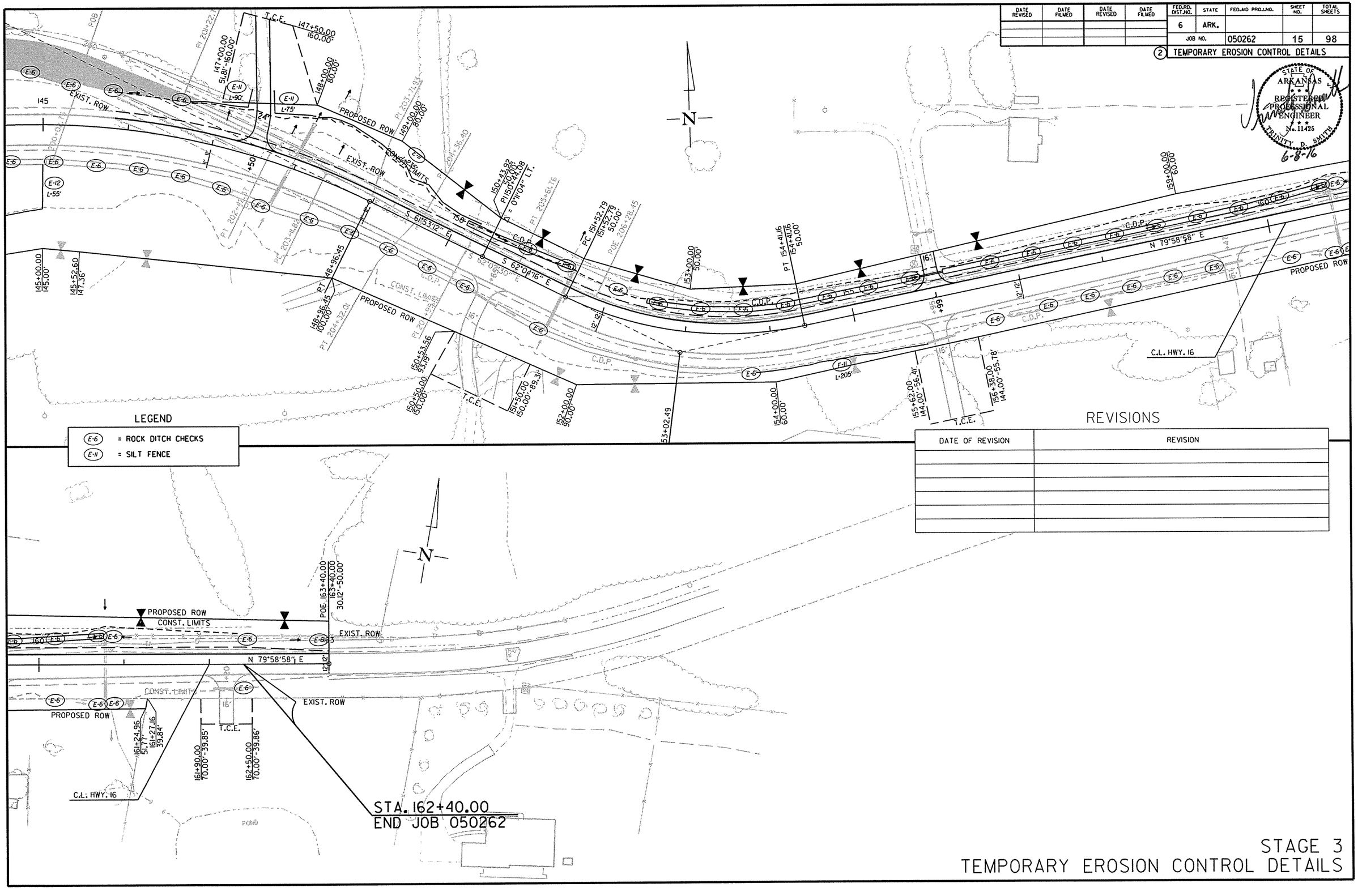

REVISIONS

DATE OF REVISION	REVISION

6/3/2016

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STAGE 3
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	16	98

(2) MAINTENANCE OF TRAFFIC DETAILS

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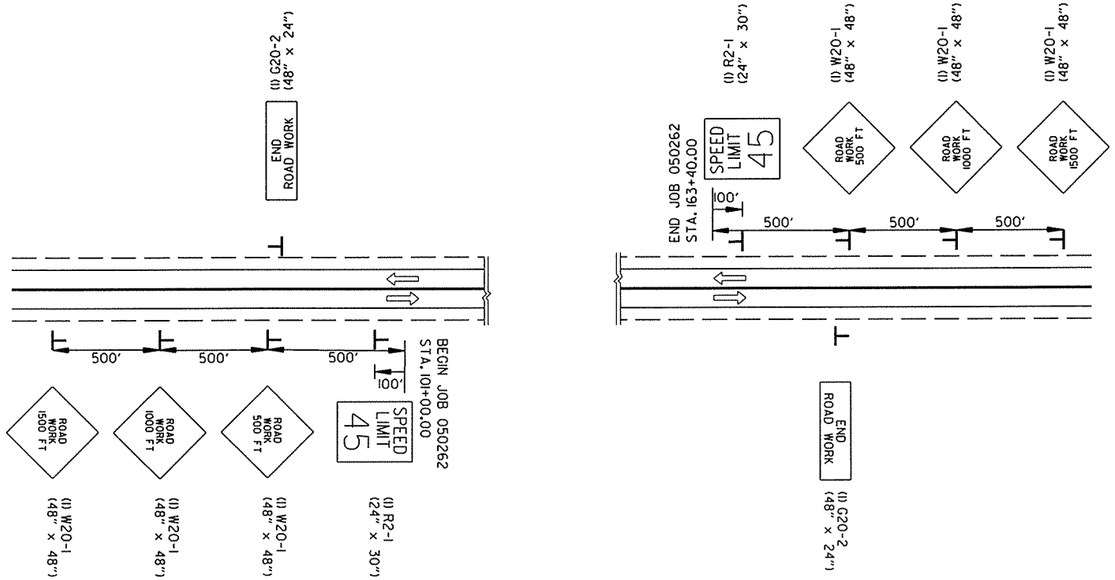
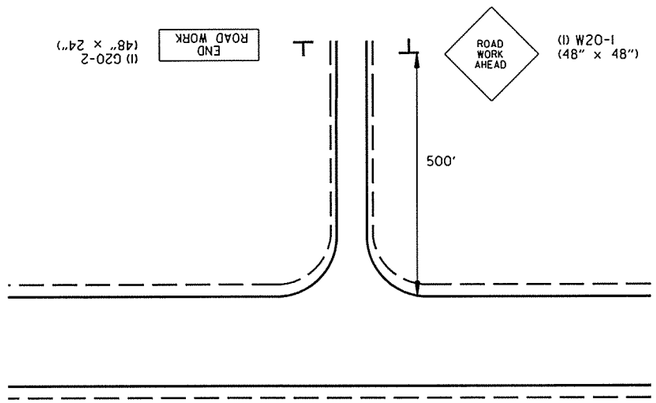


ADVANCE WARNING (ALL STAGES)

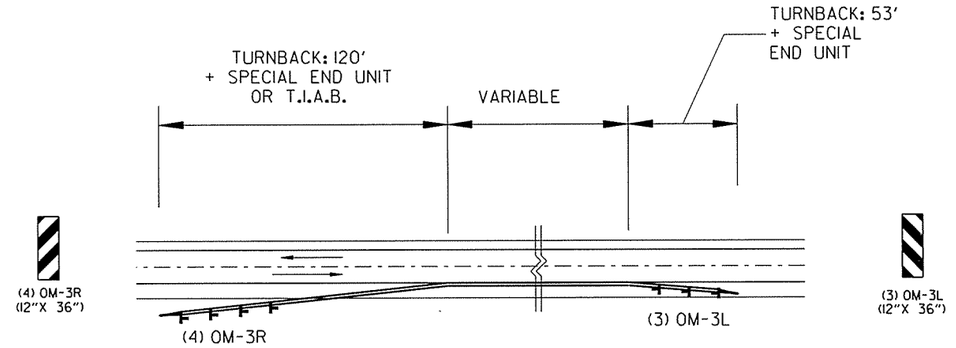
SHOULDER CLOSED	(5) RSP-1 (48" X 30")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
DO NOT PASS	(2) R4-1 (24" X 30")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
BUMP	(2) W8-1 (30" X 30")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



ADVANCE WARNING - SIDE ROADS (ALL STAGES)

STA. 111+25.00, WINDWOOD DRIVE

NOTE: ALL STATIONS BASED OFF HWY. 16.



REFER ALSO TO STANDARD DRAWING TC-5 FOR DETAILS OF PLACEMENT OF PCCB TURNBACKS.

NOTE: OM-3L & OM-3R SIGNS SHALL BE EQUALLY SPACED ALONG P.C.C.B. TURNBACK.

DETAIL OF OBJECT MARKERS AT PRECAST CONCRETE BARRIER TURNBACKS

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ADVANCE WARNING
MAINTENANCE OF TRAFFIC DETAILS

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				6	ARK.			
				JOB NO.		050262	17	98
				(2) MAINTENANCE OF TRAFFIC DETAILS				

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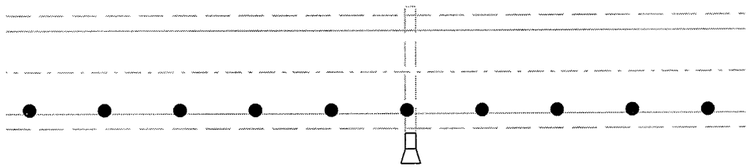
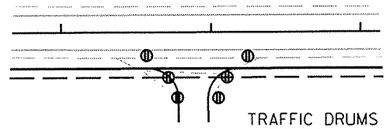
10 TRAFFIC DRUMS
@ 20' O.C.



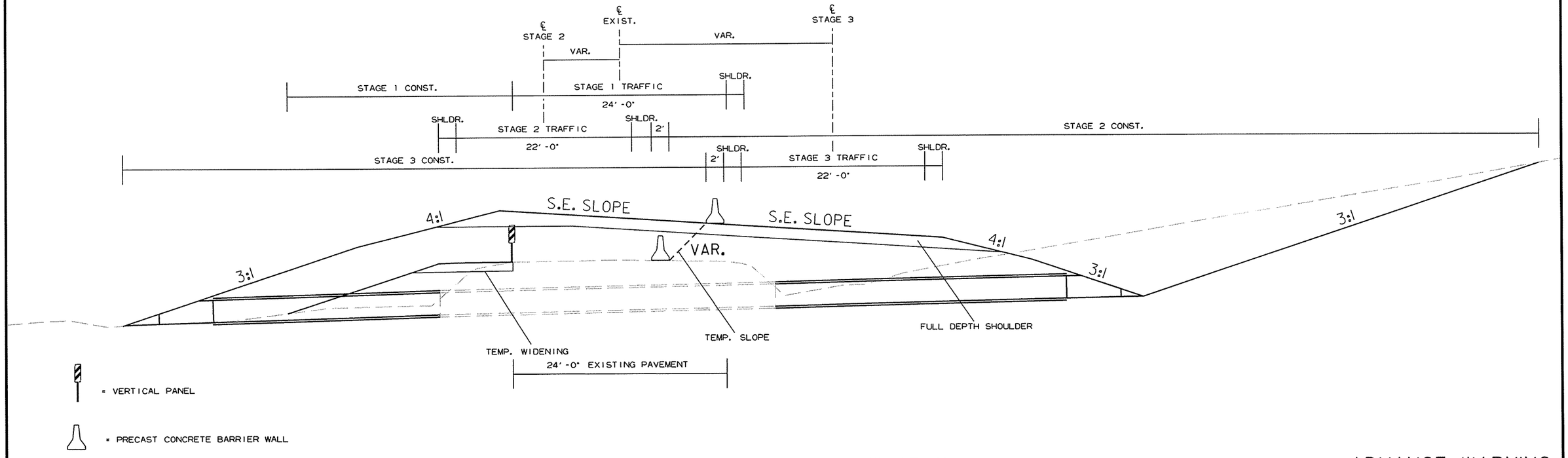
TRAFFIC DRUMS AND SIGNS ON EXISTING SHOULDER
FOR EXTENDING/CONSTRUCTING PIPE CULVERTS LT. AND RT.

STA. 124+29 STA. 182+29
STA. 169+00 STA. 205+33



TRAFFIC DRUMS = 6 EACH
@ 20' O.C.

DRIVEWAY/TRAFFIC DRUM DETAIL



DETAIL FOR STAGE CONSTRUCTION
STA. 145+93.50-150+12.23

ADVANCE WARNING
MAINTENANCE OF TRAFFIC DETAILS

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				6	ARK.			
				JOB NO.		050262	18	98

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE I CONSTRUCTION SEQUENCE:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.

USE VERTICAL PANELS SPACED 45' O.C.

EXTEND CROSS DRAIN AT STA. 147+96 ON LT. AS SHOWN IN THE STAGE I MAINTENACE OF TRAFFIC DETAILS.

NOTCH AND CONSTRUCT TEMPORARY WIDENING ON LT. OF EXISTING HWY. 16 FROM TEMP. WIDENING STA. 200+56.54 TO TEMP. WIDENING STA. 204+87.87.

STAGE I QUANTITIES

SIGNS = 158.5 SQ. FT.
VERTICAL PANELS = 10 EACH

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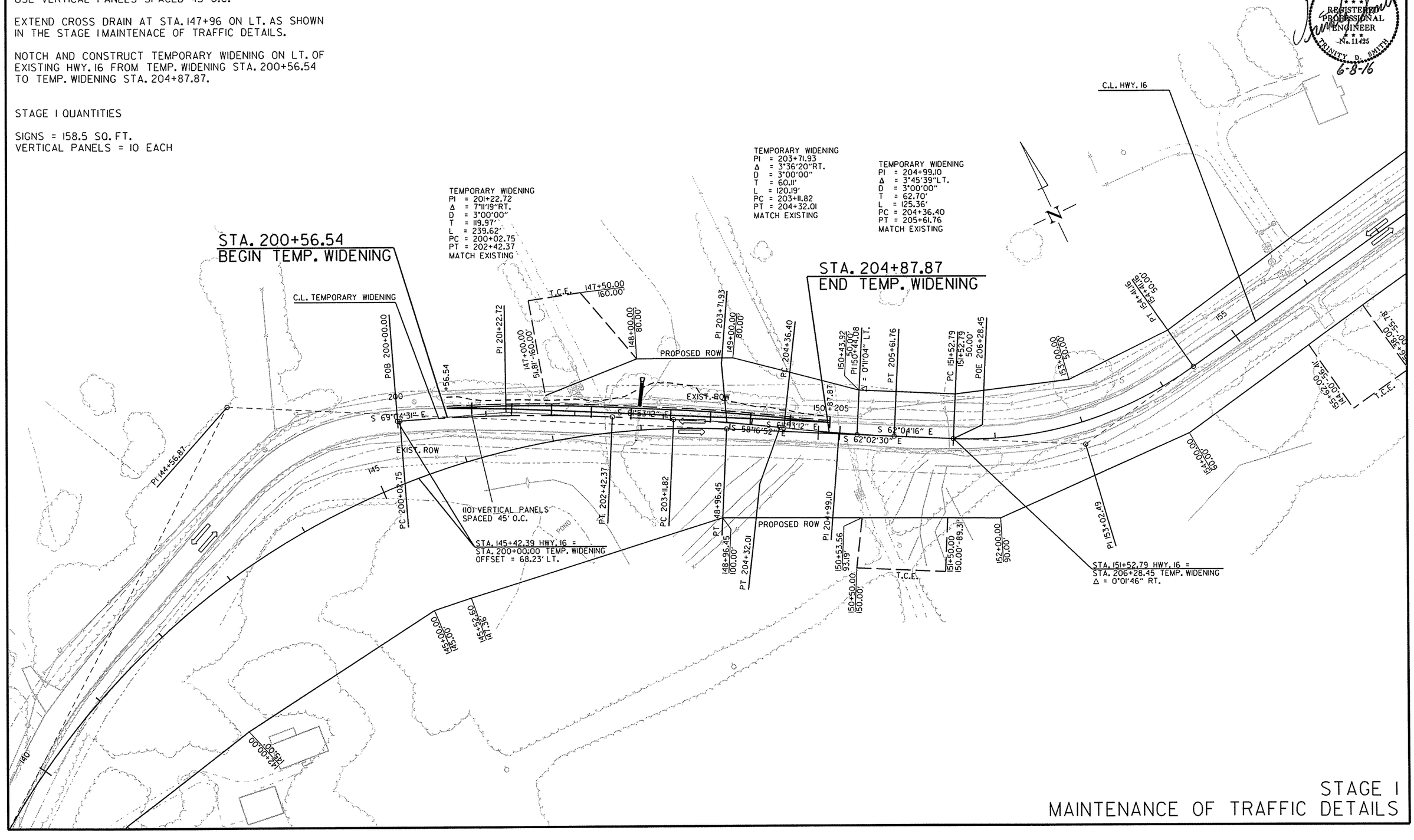

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

6/3/2016

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	19	98

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 2 CONSTRUCTION SEQUENCE:

REMOVE PERMANENT PAVEMENT MARKINGS FROM EXISTING HWY. 16 BETWEEN STA. 200+06.54 AND STA. 205+37.87.

INSTALL CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 45' O.C. TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

FURNISH AND INSTALL P.C.C.B. AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

EXTEND AND CONSTRUCT CROSS DRAINS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

NOTCH AND WIDEN HWY. 16 RT. OF C.L. AND CONST. PORTIONS OF HWY. 16 AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT FULL DEPTH SHOULDER ON RT. FROM STA. 144+00.00 TO STA. 152+00.00.

STAGE 2 QUANTITIES

SIGNS = 265.5 SQ. FT.
TRAFFIC DRUMS = 140 EACH
VERTICAL PANELS = 108 EACH
FURNISHING AND INSTALLING P.C.C.B. = 273 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH
CONSTRUCTION PAVEMENT MARKINGS = 25592 LIN. FT.

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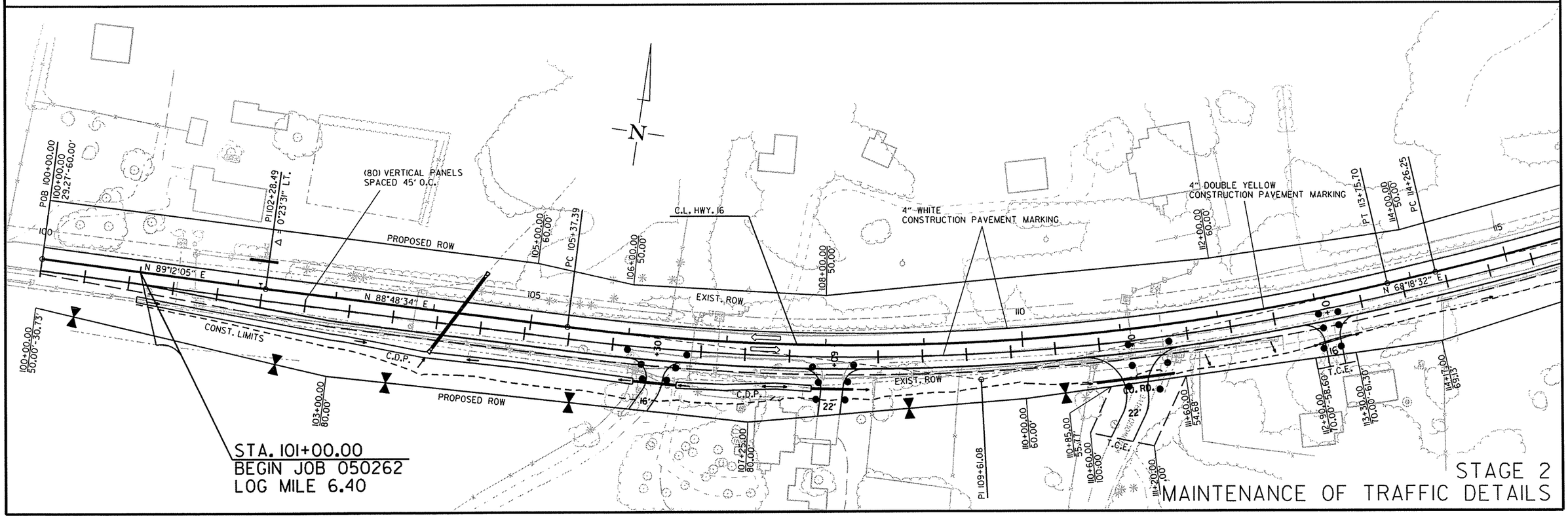

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	20	98

(2) MAINTENANCE OF TRAFFIC DETAILS

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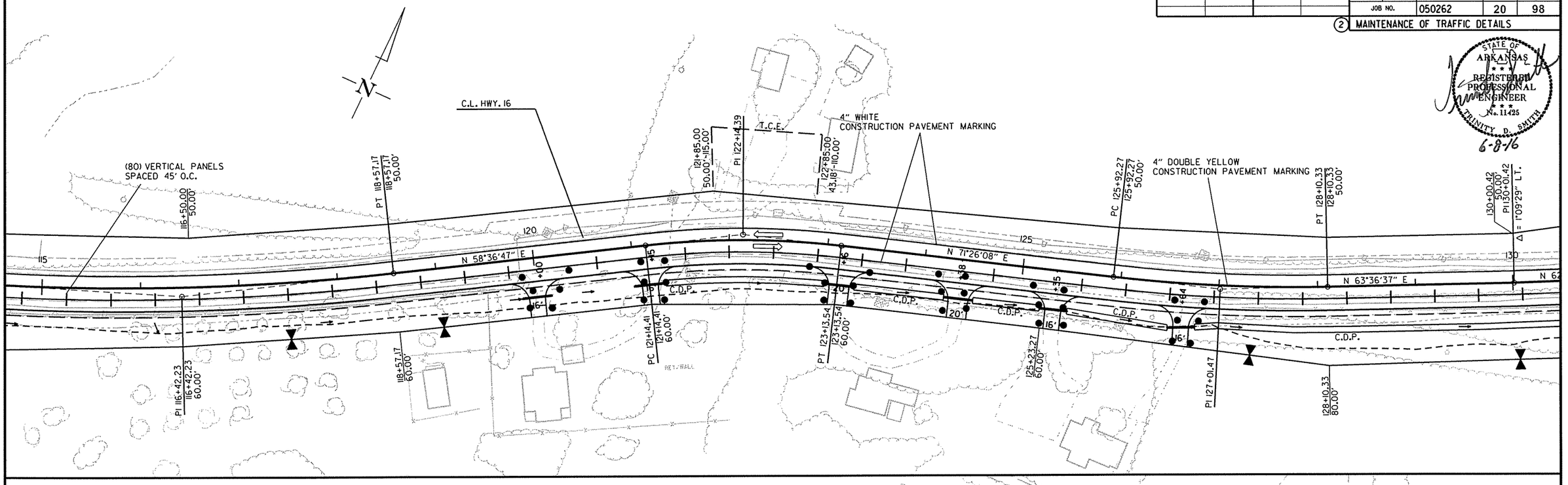

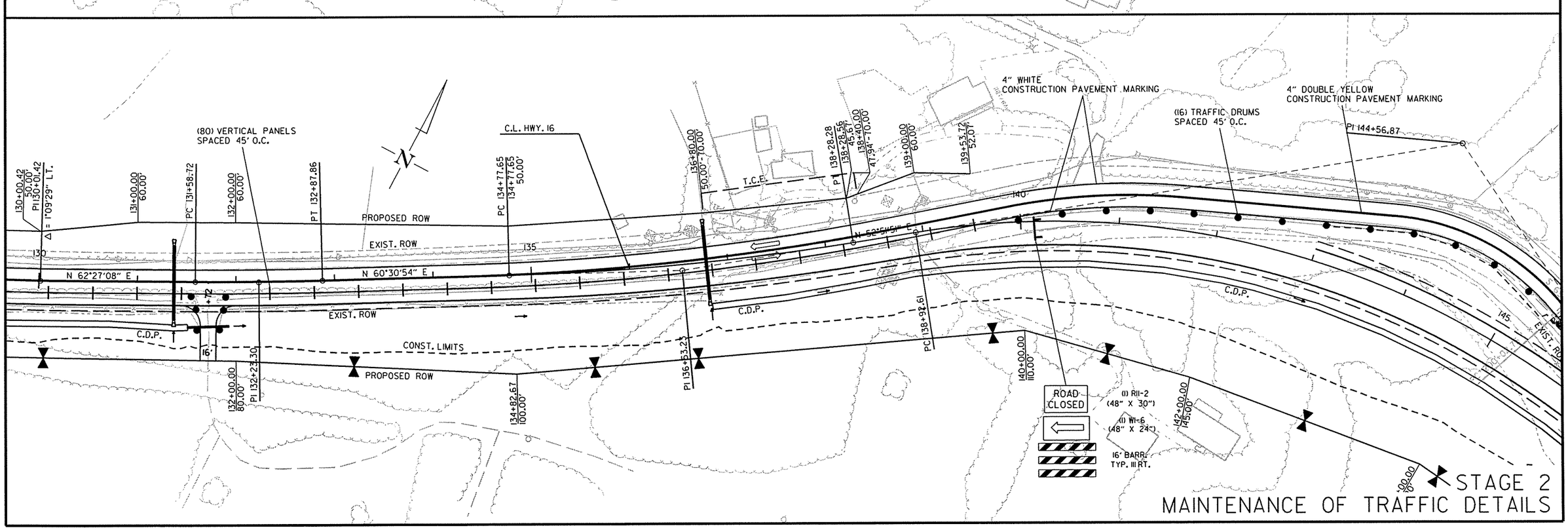

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

6/3/2016

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	21	98

(2) MAINTENANCE OF TRAFFIC DETAILS

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(16) TRAFFIC DRUMS SPACED 45' O.C.
50' LANE TAPER
FURNISH AND INSTALL 260' P.C.C.B.
+ (1) T.I.A.B.
+ (1) SPECIAL END UNIT
(1) RII-2 (48" X 30")
(1) WI-6 (48" X 24")
16' BARR. TYP. III L.T.
ROAD CLOSED
EXIST. ROW
PROPOSED ROW
CONST. LIMITS
C.D.P.
T.C.E.
4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING
(28) VERTICAL PANELS SPACED 45' O.C.
4" WHITE CONSTRUCTION PAVEMENT MARKING
C.L. HWY. 16
N 79°58'58" E
S 61°53'12" E
S 62°04'16" E
POB 200+00.00
PI 201+22.72
PI 203+71.83
PI 150+04.08 Δ = 0°11'04" LT.
PC 151+52.79
PT 154+41.16
POE 203+46.40
POE 205+61.76
POE 206+28.45
145+00.00 145.00'
145+52.60 147.36'
147+00.00 51.81'-160.00'
147+50.00 160.00'
148+00.00 80.00'
148+96.45 100.00'
149+00.00 80.00'
150+43.92 50.00'
150+53.56 93.19'
150+50.00 150.00'
151+50.00 150.00'-89.31'
152+00.00 90.00'
153+00.00 50.00'
153+02.49
154+00.00 60.00'
155+62.00 144.00'-56.41'
156+38.00 144.00'-55.78'
159+00.00
+06.54
+56.54
+87.87
+37.87
+96.45
+32.01
+16.40

C.L. HWY. 16
4" WHITE CONSTRUCTION PAVEMENT MARKING
PROPOSED ROW
EXIST. ROW
N 79°58'58" E
CONST. LIMITS
C.D.P.
T.C.E.
4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING
POND
POE 163+40.00 163+40.00 30.12'-50.00'
161+24.96 51.71'
161+27.16 39.84'
161+90.00 70.00'-39.85'
162+50.00 70.00'-39.86'

STA. 162+40.00
END JOB 050262

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

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				6	ARK.			
				JOB NO.		050262	22	98

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3 CONSTRUCTION SEQUENCE:

INSTALL CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 45' O.C. TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

FURNISH AND INSTALL AND RELOCATE P.C.C.B. AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

NOTCH AND WIDEN AND CONST. PORTIONS OF HWY. 16 LT. OF C.L.

REMOVE THE TEMPORARY WIDENING CONSTRUCTED IN STAGE I AND OBLITERATE THE EXISTING ROADWAY.

APPLY FINAL 2" LIFT OF ACHM SURFACE COURSE AND INSTALL PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKINGS DETAILS.

STAGE 3 QUANTITIES

SIGNS = 215.5 SQ. FT.
TRAFFIC DRUMS = 100 EACH
VERTICAL PANELS = 108 EACH
RELOCATE P.C.C.B. = 273 LIN. FT.
FURNISHING AND INSTALLING P.C.C.B. = 113 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 25359 LIN. FT.

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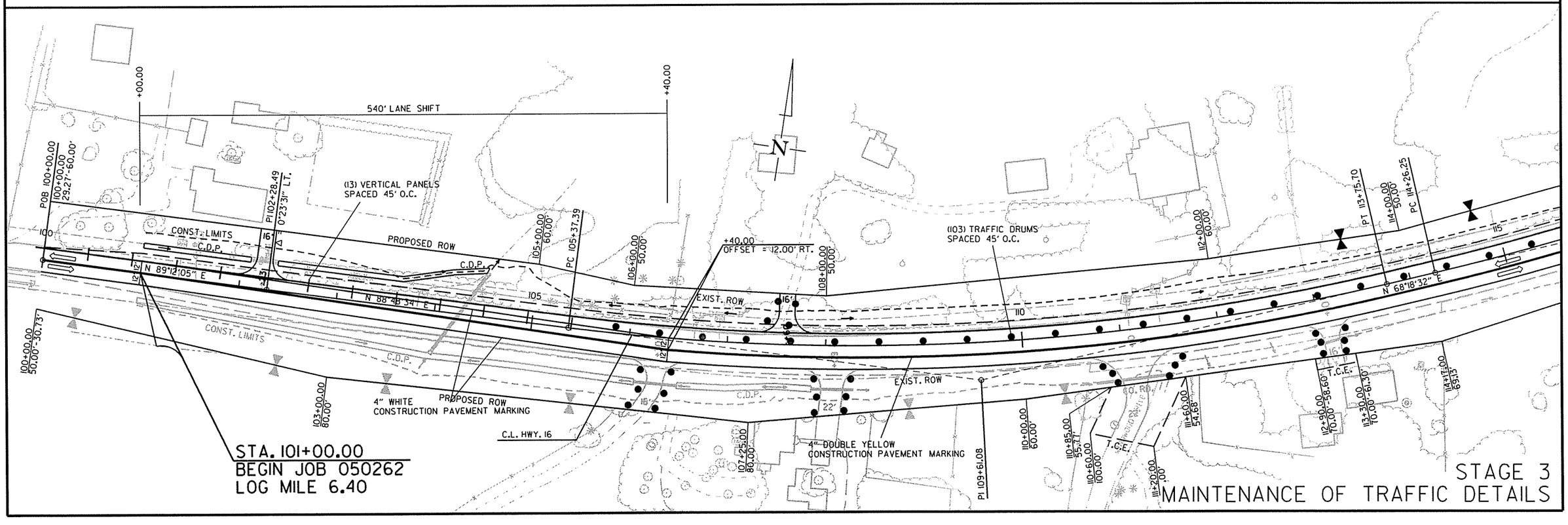


STA. 101+00.00
BEGIN JOB 050262
LOG MILE 6.40

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

6/3/2016

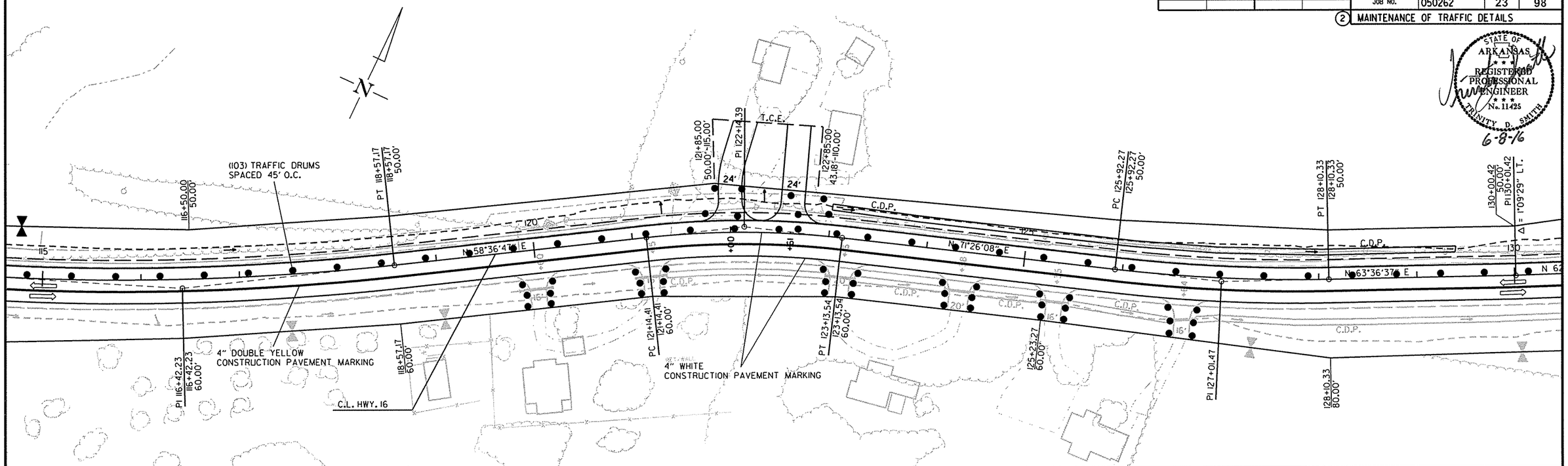
R050262.DGN

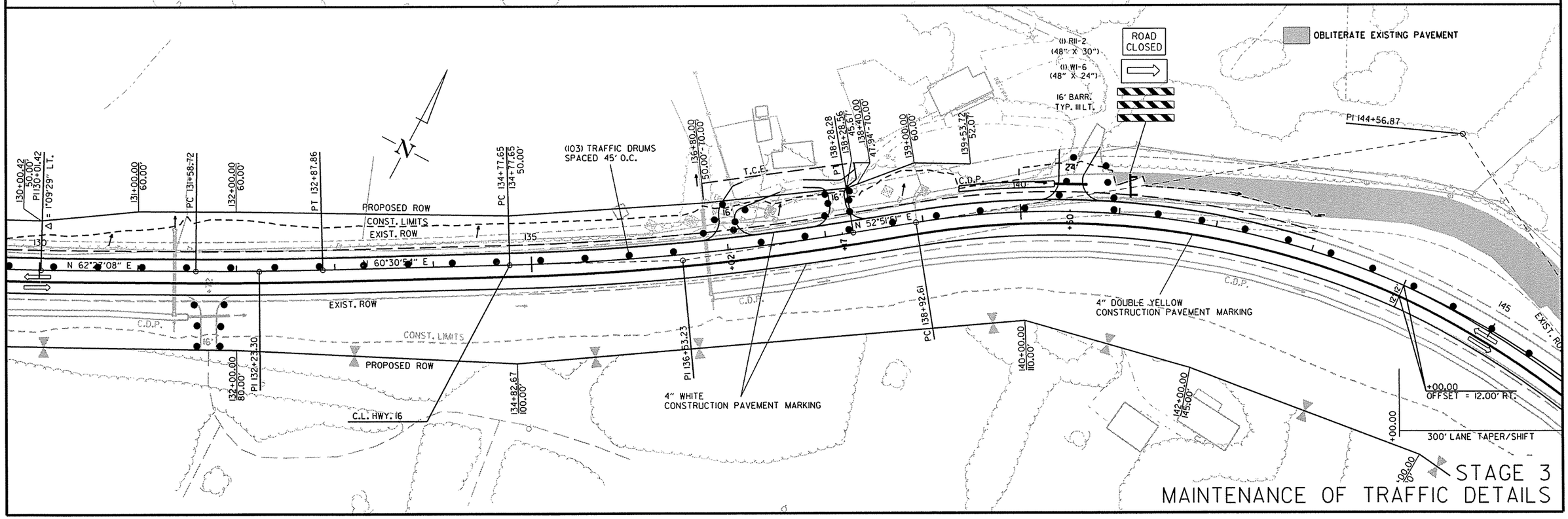
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		050262	23	98

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16





6/3/2016

R050262.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.		050262	24	98

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

OBLITERATE EXISTING PAVEMENT

T.C.E. 147+50.00 160.00'

147+00.00 51.81' 160.00'

148+00.00 80.00'

149+00.00 80.00'

+00.00

300' LANE TAPER/SHIFT

+00.00

EXIST. ROW

PROPOSED ROW

CONST. LIMITS

EXIST. ROW

145

24'

53'

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

C.D.P.

+00.00 OFFSET = 17.00' RT.

150+43.92 PI 150+00.08 Δ = 0°11'04" LT.

S 61°53'12" E

150

C.D.P.

PC 151+52.79 151+52.79 50.00'

+00.00 OFFSET = 12.00' RT.

153+00.00 50.00'

PT 154+41.16 154+41.16 50.00'

(103) TRAFFIC DRUMS SPACED 45' O.C.

C.L. HWY. 16

159+00.00 60.00'

160

C.D.P.

N 79°58'58" E

PROPOSED ROW

145+00.00 145.00'

145+52.60 147.36'

+00.00 OFFSET = 17.00' RT.

148+96.45 PT 148+96.45 100.00'

CONST. LIMITS

C.D.P.

16'

12'

S 62°04'16" E

155

89°

C.D.P.

16'

12'12'

(11) VERTICAL PANELS SPACED 45' O.C.

300' LANE TAPER/SHIFT

+00.00

ROAD CLOSED

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

(1) W1-6 (48" X 24")

16' BARR. TYP. III RT.

RELOCATE 273' P.C.C.B.
INCLUDES (1) SPECIAL END UNIT
FURNISH AND INSTALL 100' P.C.C.B.
+ (1) SPECIAL END UNIT

150+53.56 93.19'

150+50.00 150.00'

T.C.E.

151+50.00 150.00' 89.3°

152+00.00 90.00'

153+02.49

154+00.00 60.00'

155+62.00 144.00' 56.41°

T.C.E.

156+38.00 144.00' 55.78°

+00.00

+00.00 OFFSET = 12.00' RT.

540' LANE SHIFT

4" WHITE CONSTRUCTION PAVEMENT MARKING

(11) VERTICAL PANELS SPACED 45' O.C.

4" WHITE CONSTRUCTION PAVEMENT MARKING

POE 163+40.00 163+40.00 30.12'-50.00'

PROPOSED ROW

CONST. LIMITS

160

163

EXIST. ROW

N 79°58'58" E

12'12'

CONST. LIMITS

16'

EXIST. ROW

PROPOSED ROW

T.C.E.

161+24.96 51.77'

161+27.16 39.84'

4" DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING

161+90.00 70.00'-39.85'

162+50.00 70.00'-39.86'

C.L. HWY. 16

POND

540' LANE SHIFT

+40.00

STA. 162+40.00
END JOB 050262

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STAGE 3
MAINTENANCE OF TRAFFIC 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.		050262	25	98

(2) PERMANENT PAVEMENT MARKING DETAILS

PERMANENT PAVEMENT MARKINGS

THERMOPLASTIC PAVEMENT MARKING WHITE (4") = 13814 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4") = 12680 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) (40' O.C.) = 114 EACH
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW) (40' O.C.) = 159 EACH

STATE OF ARKANSAS
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No. 11425
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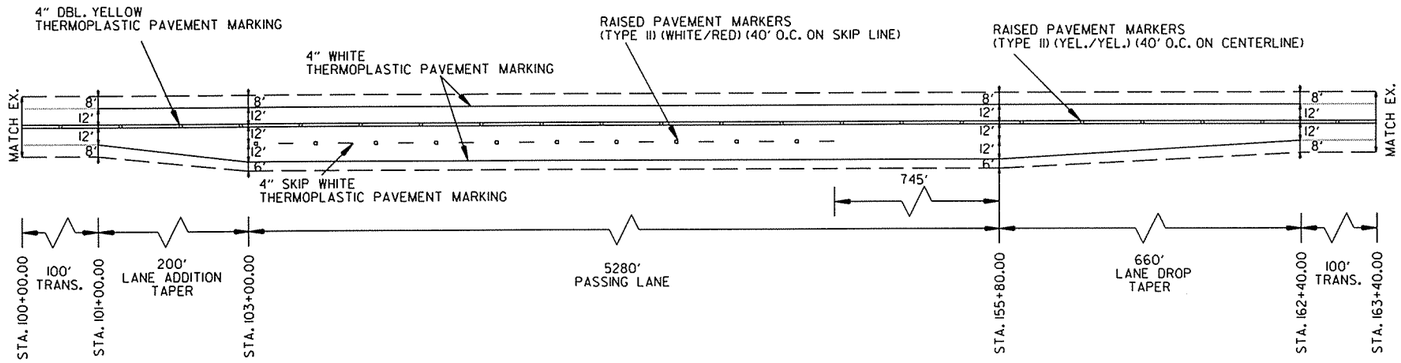

6/3/2016

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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.		050262	26	98

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING	
						TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW
	LIN. FT. - EACH			LIN. FT.		EACH		LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	2152			2152					
CONSTRUCTION PAVEMENT MARKINGS	25592	25359			50951				
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			114			114			
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			159				159		
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			13814					13814	
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			12680						12680
TOTALS:				**2152**	**50951**	**114**	**159**	**13814**	**12680**

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)
							NO.	SQ. FT.			RIGHT	LEFT				
			LIN. FT. - EACH						EACH		LIN. FT.				EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0								
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0								
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0								
W20-1	ROAD WORK AHEAD	48"x48"	1	1	1	1	1	16.0								
G20-2	END ROAD WORK	48"x24"	3	3	3	3	3	24.0								
R11-2	ROAD CLOSED	48"x30"		2	2	2	2	20.0								
OM-3L	OBJECT MARKER	12"x36"		3	3	3	3	9.0								
OM-3R	OBJECT MARKER	12"x36"		4	4	4	4	12.0								
W1-6	LARGE ARROW	48"x24"		2	2	2	2	16.0								
R2-1	SPEED LIMIT 45	24"x30"	2	2	2	2	2	10.0								
R4-1	DO NOT PASS	24"x30"	2	2	2	2	2	10.0								
RSP-1	SHOULDER CLOSED	48"x30"		5		5	5	50.0								
W8-1	BUMP	30"x30"	2	2	2	2	2	12.5								
	VERTICAL PANELS		10	108	24	108			108							
	TRAFFIC DRUMS			143	241	241				241						
	TYPE III BARRICADE-RT. (16')			1	1	1					16					
	TYPE III BARRICADE-LT. (16')			1	1	1						16				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			273	113	386							386			
	RELOCATING PRECAST CONCRETE BARRIER				273	273								273		
	TEMPORARY IMPACT ATTENUATION BARRIER			1		1									1	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			1		1										1
TOTALS:								**275.5**	**108**	**241**	**16**	**16**	**386**	**273**	**1**	**1**

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

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

6/3/2016

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	27	98

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
101+00	105+00	HWY. 16-LT.	4	4
105+00	121+00	HWY. 16-LT. & RT.	16	16
121+00	127+00	HWY. 16-LT.	6	6
127+00	150+00	HWY. 16-LT. & RT.	23	23
150+00	163+00	HWY. 16-RT.	13	13
TOTALS:			62	62

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
100+00	106+10	HWY. 16-RT.	650	
102+55	106+40	HWY. 16-LT.	410	
108+47	110+70	HWY. 16-RT.	282	
111+83	112+63	HWY. 16-RT.	125	
112+08	119+60	HWY. 16-LT.	830	
114+10	119+55	HWY. 16-RT.	610	
122+48	124+15	HWY. 16-RT.	190	
126+92	131+68	HWY. 16-RT.	485	
131+80	136+50	HWY. 16-RT.	532	
133+29	133+33	HWY. 16-LT.	26	
136+55		HWY. 16-RT.		1
140+00	140+80	HWY. 16-RT.	80	
140+80	146+26	HWY. 16-LT.	546	
146+26	146+55	HWY. 16-RT.	29	
147+78	155+85	HWY. 16-LT.	800	
151+28	163+40	HWY. 16-RT.	1330	
155+45	155+80	HWY. 16-LT.	36	
156+20	156+65	HWY. 16-LT.	48	
156+65	163+40	HWY. 16-LT.	675	
TOTALS:			7684	1

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION	* STONE RIPRAP FOR SLOPE PLATING
			CU. YD.		TON	SQ. YD.
ENTIRE	PROJECT	STAGE 1-HWY. 16	48	222		
ENTIRE	PROJECT	STAGE 2-HWY. 16	48797	3936		
ENTIRE	PROJECT	STAGE 3-HWY. 16	2549	5630		
ENTIRE	PROJECT	APPROACHES	130	2340		
ENTIRE	PROJECT	CHANNEL CHANGE	5			
* ENTIRE	PROJECT	TO BE USED IF AND WHERE			100	1088
		DIRECTED BY THE ENGINEER				
TOTALS:			51529	12128	100	1088

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	RETAINING WALLS	WELL	SIGN FOUNDATIONS	BUILDINGS	SIGNS	PLANTERS
			LIN. FT.	EACH	EACH	EACH	EACH	EACH
106+75	107+35	HWY. 16-RT.	60					
107+05	107+80	HWY. 16-RT.	75					
107+25		HWY. 16-RT.		1				
107+45		HWY. 16-RT.				1		
107+78		HWY. 16-LT.			1		1	
122+50		HWY. 16-LT.						1
135+85		HWY. 16-LT.				1		
135+95		HWY. 16-LT.				1		
155+78		HWY. 16-LT.			1		1	
TOTALS:			135	1	2	3	2	1

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
111+25	18" X 32' R.C. PIPE CULVERT	1
113+10	18" X 20' C.M. PIPE CULVERT	1
124+38	18" X 26' R.C. PIPE CULVERT	1
126+64	18" X 24' C.M. PIPE CULVERT	1
131+37	24" X 28' C.M. PIPE CULVERT	1
131+72	18" X 22' PIPE CULVERT	1
136+78	18" X 38' R.C. PIPE CULVERT	1
144+65	12" X 28' STEEL PIPE CULVERT	1
150+47	18" X 24' C.P. PIPE CULVERT	1
151+15	18" X 28' C.P. PIPE CULVERT	1
151+48	24" X 30' R.C. PIPE CULVERT	1
155+95	18" X 18' C.M. PIPE CULVERT	1
155+99	18" X 42' C.P. PIPE CULVERT	1
159+47	18" X 25' C.P. PIPE CULVERT	1
160+20	18" X 30' C.P. PIPE CULVERT	1
TOTAL:		15

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL												
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TOPSOIL FURNISHED AND PLACED	TEMPORARY SEEDING	MULCH COVER	WATER	WATTLE DITCH CHECKS (20")	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	DIVERSION DITCH	SLOPE DRAIN (E-12)		SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
												(E-1)	(E-5)	(E-6)	(E-11)	(E-8)	PIPE FOR SLOPE DRAINS	DUMPED RIPRAP	(E-14)		
			ACRE	TON	ACRE	M.GAL.	ACRE	CU.YD.	ACRE	ACRE	M.GAL.	LIN. FT.	BAG	CU.YD.	LIN. FT.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1							0.38	0.38	7.8				450						17
ENTIRE	PROJECT	STAGE 2	4.29	8.58	4.29	437.6	4.29		7.46	7.46	152.2			273	310	250	55	2			102
ENTIRE	PROJECT	STAGE 3	2.69	5.38	2.69	274.4	2.69		5.29	5.29	107.9			225	1745						140
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			2.00	4.00	2.00	204.0	2.00	4000				450	1100	126	626	63	14	2	1000	1000	1165
TOTALS:			8.98	17.96	8.98	916.0	8.98	4000	13.13	13.13	267.9	450	1100	624	3131	313	69	4	1000	1000	1424

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
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
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.

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

6/3/2016

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	28	98

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
101+00.00	106+08.43	HWY. 16-RT.	508.43	6.00	338.95	225.97	2.85
101+00.00	102+09.00	HWY. 16-LT.	109.00	6.00	72.67	48.44	0.61
102+37.00	104+49.85	HWY. 16-LT.	212.85	6.00	141.90	94.60	1.19
106+51.61	107+86.18	HWY. 16-RT.	134.57	6.00	89.71	59.81	0.75
121+31.75	123+00.41	HWY. 16-RT.	168.66	6.00	112.44	74.96	0.94
123+00.00	129+40.00	HWY. 16-LT.	640.00	6.00	426.67	284.44	3.58
123+31.00	124+23.00	HWY. 16-RT.	92.00	6.00	61.33	40.89	0.52
124+53.00	125+21.00	HWY. 16-RT.	68.00	6.00	45.33	30.22	0.38
125+49.00	126+50.53	HWY. 16-RT.	101.53	6.00	67.69	45.12	0.57
126+77.68	131+51.19	HWY. 16-RT.	473.51	6.00	315.67	210.45	2.65
136+80.00	150+46.00	HWY. 16-RT.	1366.00	6.00	910.67	607.11	7.65
139+40.00	140+34.00	HWY. 16-LT.	94.00	6.00	62.67	41.78	0.53
150+10.00	151+46.00	HWY. 16-LT.	136.00	6.00	90.67	60.44	0.76
150+84.00	153+65.00	HWY. 16-RT.	281.00	6.00	187.33	124.89	1.57
152+48.00	155+85.00	HWY. 16-LT.	337.00	6.00	224.67	149.78	1.89
156+13.00	160+76.00	HWY. 16-LT.	463.00	6.00	308.67	205.78	2.59
156+80.00	159+33.00	HWY. 16-RT.	253.00	6.00	168.67	112.44	1.42
TOTALS:					3625.71	2417.12	30.45

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

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
100+00.00	101+00.00	HWY. 16-RT.	100.00	88.89
100+00.00	101+00.00	HWY. 16-LT.	100.00	88.89
104+50.00	107+40.00	HWY. 16-LT.	290.00	257.78
107+80.00	120+45.00	HWY. 16-LT.	1265.00	1124.44
108+28.00	110+80.00	HWY. 16-RT.	252.00	224.00
113+23.00	115+25.00	HWY. 16-RT.	202.00	179.56
117+25.00	119+85.00	HWY. 16-RT.	260.00	231.11
120+15.00	121+00.00	HWY. 16-RT.	85.00	75.56
131+92.77	136+80.00	HWY. 16-RT.	487.23	433.09
140+65.00	146+83.00	HWY. 16-LT.	618.00	549.33
153+65.00	155+78.00	HWY. 16-RT.	213.00	189.33
156+12.00	156+80.00	HWY. 16-RT.	68.00	60.44
159+61.00	162+05.00	HWY. 16-RT.	244.00	216.89
160+76.00	163+40.00	HWY. 16-LT.	264.00	234.67
162+35.00	163+40.00	HWY. 16-RT.	105.00	93.33
TOTAL:				4047.31

NOTE: AVERAGE WIDTH = 8'-0"

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
		EACH	
ENTIRE PROJECT	16	10	3
TOTALS:	16	10	3

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	(TYPE D)	(TYPE D-1)	(TYPE D-2)	* 16'-0" GATES	WATER GATE
			LIN. FT.				EACH	EACH
100+00	105+93	HWY. 16-RT.				621		
108+47	110+61	HWY. 16-RT.			220			
111+74	112+59	HWY. 16-RT.				87		
112+96	114+99	HWY. 16-LT.	200					
114+19	119+48	HWY. 16-RT.	540					
126+75	136+91	HWY. 16-RT.		1037			1	
139+00	146+55	HWY. 16-RT.	640					
149+63	155+86	HWY. 16-LT.				590		
150+83	161+25	HWY. 16-RT.		1092			2	
156+14	163+40	HWY. 16-LT.				743		1
TOTALS:			1380	2129	220	2041	3	1

* DENOTES ALTERNATE BID ITEM.

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24"	30"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 24"	30"	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.		EACH		SQ.YD.	M.GAL	
104+25	CONST. 24" X 90' R.C. PIPE CULVERT, 30° LT. FWD. SKEW	90		2		16	0.20	FES-1, FES-2, PCC-1
131+37	CONST. 24" X 76' R.C. PIPE CULVERT	76		2		16	0.20	FES-1, FES-2, PCC-1
136+78	CONST. 24" X 76' R.C. PIPE CULVERT	76		2		16	0.20	FES-1, FES-2, PCC-1
147+96	EXTEND 30" X 38' R.C. PIPE CULVERT		64		2	26	0.33	FES-1, FES-2, PCC-1
151+48	CONST. 24" X 68' R.C. PIPE CULVERT	68		2		16	0.20	FES-1, FES-2, PCC-1
160+78	EXTEND 30" X 38' R.C. PIPE CULVERT	36		2		16	0.20	FES-1, FES-2, PCC-1
TOTALS:		346	64	10	2	106	1.33	

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.

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			3000	12
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			3000	12

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	80
ENGINEER	
TOTAL:	80

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

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
104+25	HWY. 16	8.50	35	8.7
131+37	HWY. 16	8.50	30	7.5
136+78	HWY. 16	8.50	30	7.5
151+48	HWY. 16	8.50	30	7.5
TOTAL:				31.2

AVG. DEPTH = 9.5"

6/3/2016

R050262.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	29	98

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS 18"	STANDARD DRAWINGS
			FEET	SQ. YD.	TON	TON	LIN. FT.	
102+23	LT.	HWY. 16	16	75.84	8.34	30.97	28	PCC-1, PCM-1, PCP-1, PCP-2
106+30	RT.	HWY. 16	16	94.52	10.40	38.60	44	PCC-1, PCM-1, PCP-1, PCP-2
107+60	LT.	HWY. 16	16	59.17	6.51	24.16	30	PCC-1, PCM-1, PCP-1, PCP-2
108+09	RT.	HWY. 16	22	106.22	11.68	43.37	42	PCC-1, PCM-1, PCP-1, PCP-2
111+10	RT.	HWY. 16-WINDWOOD DRIVE	22	260.58	28.66	106.40	74	PCC-1, PCM-1, PCP-1, PCP-2
113+10	RT.	HWY. 16	16	76.79	8.45	31.36	28	PCC-1, PCM-1, PCP-1, PCP-2
120+00	RT.	HWY. 16	16	58.87	6.48	24.04	30	PCC-1, PCM-1, PCP-1, PCP-2
121+15	RT.	HWY. 16	16	59.75	6.57	24.40	32	PCC-1, PCM-1, PCP-1, PCP-2
122+00	LT.	HWY. 16	24	256.53	28.22	104.75		
122+61	LT.	HWY. 16	24	246.77	27.14	100.76		
123+16	RT.	HWY. 16	16	59.23	6.52	24.19	30	PCC-1, PCM-1, PCP-1, PCP-2
124+38	RT.	HWY. 16	20	72.21	7.94	29.49	30	PCC-1, PCM-1, PCP-1, PCP-2
125+35	RT.	HWY. 16	16	59.18	6.51	24.17	28	PCC-1, PCM-1, PCP-1, PCP-2
126+64	RT.	HWY. 16	16	66.04	7.26	26.97	28	PCC-1, PCM-1, PCP-1, PCP-2
131+72	RT.	HWY. 16	16	93.75	10.31	38.28	42	PCC-1, PCM-1, PCP-1, PCP-2
137+02	LT.	HWY. 16	16	147.49	16.22	60.23		
138+17	LT.	HWY. 16	16	106.32	11.70	43.41		
140+50	LT.	HWY. 16	24	149.76	16.47	61.15	32	PCC-1, PCM-1, PCP-1, PCP-2
147+50	LT.	HWY. 16	24	388.90	42.78	158.80		
150+65	RT.	HWY. 16	16	236.24	25.99	96.46	38	PCC-1, PCM-1, PCP-1, PCP-2
155+95	RT.	HWY. 16	16	208.21	22.90	85.02	34	PCC-1, PCM-1, PCP-1, PCP-2
155+99	LT.	HWY. 16	16	62.85	6.91	25.66	28	PCC-1, PCM-1, PCP-1, PCP-2
159+47	RT.	HWY. 16	16	58.71	6.46	23.97	28	PCC-1, PCM-1, PCP-1, PCP-2
160+20	RT.	HWY. 16	16	92.29	10.15	37.69	28	PCC-1, PCM-1, PCP-1, PCP-2
* ENTIRE PROJECT TEMPORARY DRIVES						230.00		
TOTALS:				3096.22	340.57	1494.30	654	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% 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.

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
100+00	163+40	HWY. 16-LT.	4129
100+00	163+40	HWY. 16-RT.	3709
TOTAL:			7838

* 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.
100+00.00	101+00.00	MAIN LANES	24.00	266.67
162+40.00	163+40.00	MAIN LANES	24.00	266.67
TOTAL:				533.34

NOTE: AVERAGE MILLING DEPTH 1".

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	50
DIRECTED BY THE ENGINEER	
TOTAL:	50

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	30	60
DIRECTED BY THE ENGINEER		
TOTALS:	30	60

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

SOIL LOG

STATION	LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
101+00	35	26	11.20	91	56	9.40	5 RT.	0-5	ND	NP	A-4(0)	BROWN
101+00	35	26	11.10	91	56	9.50	19 RT.	0-5	ND	NP	A-4(0)	BROWN
109+00	35	26	11.80	91	55	59.00	6 LT.	0-5	34	15	A-6(4)	BROWN
109+00	35	26	11.90	91	55	59.00	20 LT.	0-5	ND	NP	A-4(0)	RD/BR
117+00	35	26	14.40	91	55	49.70	6 RT.	0-5	ND	NP	A-2-4(0)	BR/RD
117+00	35	26	14.30	91	55	49.60	20 RT.	0-4Z	ND	NP	A-2-4(0)	RED
125+00	35	26	17.80	91	55	41.50	6 LT.	0-5	20	5	A-4(0)	BROWN
125+00	35	26	18.00	91	55	41.50	19 LT.	0-5	43	22	A-7-6(20)	BR/GR
125+00	35	26	18.00	91	55	41.50	19 LT.	0-5	43	22	A-7-6(18)	BR/GR
133+00	35	26	21.40	91	55	32.00	5 RT.	0-5	28	8	A-4(1)	BROWN
133+00	35	26	21.40	91	55	31.90	17 RT.	0-5	ND	NP	A-4(0)	BROWN
141+00	35	26	25.90	91	55	23.50	10 LT.	0-5	ND	NP	A-2-4(0)	BROWN
149+00	35	26	25.00	91	55	15.30	5 LT.	0-5	22	4	A-4(0)	BROWN
149+00	35	26	25.10	91	55	15.20	18 LT.	0-5	24	5	A-4(1)	BROWN
157+00	35	26	23.70	91	55	6.70	5 RT.	0-5	21	5	A-4(0)	BROWN
157+00	35	26	23.50	91	55	6.70	17 RT.	0-5	24	9	A-4(3)	BROWN
163+00	35	26	24.80	91	54	59.40	5 LT.	0-5	ND	NP	A-4(0)	BROWN
163+00	35	26	24.90	91	54	59.40	18 LT.	0-5	ND	NP	A-4(0)	BROWN

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.
Z- AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE

6/7/2016
R050262.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	30	98

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-3-16

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
						(0.17 GAL. PER SQ. YD.)			(0.05 GAL. PER SQ. YD.)																
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLON	TOTAL WID.	SQ.YD.	GALLON	TOTAL 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	TOTAL PG 64-22
			FEET			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																									
100+00.00	101+00.00	HWY. 16-TRANSITION	100.00																		35.00	388.89	220.00	42.78	42.78
101+00.00	103+00.00	HWY. 16-NOTCH AND WIDEN, TAPER	200.00	142.25	284.50				36.37	808.22	40.41	40.41	6.12	136.00	385.00	26.18	30.25	672.22	220.00	73.94	45.00	1000.00	220.00	110.00	183.94
103+00.00	121+85.00	HWY. 16-NOTCH AND WIDEN	1885.00	165.00	3110.25				48.49	10155.96	507.80	507.80	12.24	2563.60	385.00	493.49	36.25	7592.36	220.00	835.16	50.00	10472.22	220.00	1151.94	1987.10
121+85.00	122+75.00	HWY. 16-GRADE RAISE	90.00	210.50	189.45				72.73	727.30	36.37	36.37	36.48	364.80	385.00	70.22	36.25	362.50	220.00	39.88	50.00	500.00	220.00	55.00	94.88
122+75.00	132+87.86	HWY. 16-NOTCH AND WIDEN	1012.86	165.00	1671.22				48.49	5457.06	272.85	272.85	12.24	1377.49	385.00	265.17	36.25	4079.58	220.00	448.75	50.00	5627.00	220.00	618.97	1067.72
132+87.86	136+30.00	HWY. 16-NOTCH AND WIDEN	342.14	VAR.	659.76				VAR.	2063.09	103.15	103.15	VAR.	685.03	385.00	131.87	36.25	1378.06	220.00	151.59	50.00	1900.78	220.00	209.09	360.68
136+30.00	137+40.00	HWY. 16-GRADE RAISE	110.00	210.50	231.55				72.73	888.92	44.45	44.45	36.48	445.87	385.00	85.83	36.25	443.06	220.00	48.74	50.00	611.11	220.00	67.22	115.96
137+40.00	140+31.22	HWY. 16-NOTCH AND WIDEN	291.22	VAR.	506.41				VAR.	1624.16	81.21	81.21	VAR.	451.19	385.00	86.85	36.25	1172.97	220.00	129.03	50.00	1617.89	220.00	177.97	307.00
140+31.22	148+50.00	HWY. 16-FULL DEPTH	818.78	327.25	2679.46				72.73	6616.65	330.83	330.83	36.48	3318.79	385.00	638.87	36.25	3297.86	220.00	362.76	50.00	4548.78	220.00	500.37	863.13
148+50.00	149+25.00	HWY. 16-GRADE RAISE	75.00	210.50	157.88				72.73	606.08	30.30	30.30	36.48	304.00	385.00	58.52	36.25	302.08	220.00	33.23	50.00	416.67	220.00	45.83	79.06
149+25.00	155+80.00	HWY. 16-NOTCH AND WIDEN	655.00	165.00	1080.75				48.49	3528.99	176.45	176.45	12.24	890.80	385.00	171.48	36.25	2638.19	220.00	290.20	50.00	3638.89	220.00	400.28	690.48
155+80.00	162+40.00	HWY. 16-NOTCH AND WIDEN, TAPER	660.00	142.25	938.85				36.37	2667.13	133.36	133.36	6.12	448.80	385.00	86.39	30.25	2218.33	220.00	244.02	45.00	3300.00	220.00	363.00	607.02
162+40.00	163+40.00	HWY. 16-TRANSITION	100.00																		35.00	388.89	220.00	42.78	42.78
ADDITIONAL FOR LEVELING AND GRADE RAISE																									
101+00.00	121+85.00	LEVELING	2085.00			24.00	5560.00	945.20	24.00	5560.00	278.00	1223.20					24.00	5560.00	VAR.	1628.04					1628.04
121+85.00	122+75.00	GRADE RAISE	90.00			24.00	240.00	40.80	24.00	240.00	12.00	52.80	24.00	240.00	VAR.	289.87									
122+75.00	136+30.00	LEVELING	1355.00			24.00	3613.33	614.27	24.00	3613.33	180.67	794.94					24.00	3613.33	VAR.	732.64					732.64
136+30.00	137+40.00	GRADE RAISE	110.00			24.00	293.33	49.87	24.00	293.33	14.67	64.54	24.00	293.33	VAR.	313.97									
137+40.00	140+31.22	LEVELING	291.22			24.00	776.59	132.02	24.00	776.59	38.83	170.85					24.00	776.59	VAR.	121.87					121.87
148+50.00	149+25.00	GRADE RAISE	75.00			24.00	200.00	34.00	24.00	200.00	10.00	44.00	24.00	200.00	VAR.	226.74									
149+25.00	163+40.00	LEVELING	1415.00			24.00	3773.33	641.47	24.00	3773.33	188.67	830.14					24.00	3773.33	VAR.	700.11					700.11
ADDITIONAL FOR SUPERELEVATION																									
103+12.39	106+12.39	SUPERELEVATION TRANSITION	300.00	38.50	115.50																				
106+12.39	116+85.79	MAXIMUM SUPERELEVATION	1073.40	77.00	826.52																				
116+85.79	119+85.79	SUPERELEVATION TRANSITION	300.00	38.50	115.50																				
119+85.79	122+13.97	SUPERELEVATION TRANSITION	228.18	47.38	108.11																				
122+13.97	122+13.98	MAXIMUM SUPERELEVATION	0.01	94.75	0.01																				
122+13.98	124+42.16	SUPERELEVATION TRANSITION	228.18	47.38	108.11																				
124+42.16	127+01.30	SUPERELEVATION TRANSITION	259.14	54.50	141.23																				
127+01.30	128+81.92	SUPERELEVATION TRANSITION	180.62	70.88	128.02																				
128+81.92	130+85.45	REVERSE CROWN	203.53	32.75	66.66																				
130+85.45	132+23.29	SUPERELEVATION TRANSITION	137.84	37.00	51.00																				
132+23.29	133+61.13	SUPERELEVATION TRANSITION	137.84	37.00	51.00																				
133+61.13	134+94.90	REVERSE CROWN	133.77	32.75	43.81																				
134+94.90	135+90.23	SUPERELEVATION TRANSITION	95.33	37.00	35.27																				
135+90.23	136+52.97	MAXIMUM SUPERELEVATION	62.74	41.25	25.88																				
136+52.97	138+60.44	SUPERELEVATION TRANSITION	207.47	20.63	42.80																				
138+60.45	142+10.45	SUPERELEVATION TRANSITION	350.00	59.38	207.83																				
142+10.45	146+74.62	MAXIMUM SUPERELEVATION	464.17	118.75	551.20																				
146+74.62	150+24.62	SUPERELEVATION TRANSITION	350.00	59.38	207.83																				
150+24.62	152+74.62	SUPERELEVATION TRANSITION	250.00	38.50	96.25																				
152+74.62	153+78.66	MAXIMUM SUPERELEVATION	104.04	77.00	80.11																				
153+78.66	156+28.66	SUPERELEVATION TRANSITION	250.00	38.50	96.25																				
FULL DEPTH SHOULDER																									
144+00.00	152+00.00	HWY. 16-RT.	800.00						6.00	533.33	26.67	26.67	6.00	533.33	385.00	102.67	6.00	533.33	220.00	58.67					58.67
TEMPORARY WIDENING																									
200+56.54	204+87.87	EXIST. HWY. 16-LT.	431.33	VAR.	66.99				VAR.	615.49	30.77	30.77	VAR.	311.25	330.00	51.36	VAR.	304.24	220.00	33.47					33.47
TOTALS:					**14675.96**		**14456.58**	**2457.63**		**50748.96**	**2537.46**	**4995.09**		**12564.28**		**3099.48**		**38718.03**		**5932.10**		**34411.12**		**3785.23**	**9717.33**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

6/3/2016

R050262.DGN

QUANTITIES

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	62	STATION
201	GRUBBING	62	STATION
202	REMOVAL AND DISPOSAL OF FENCE	7684	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES	1	EACH
202	REMOVAL AND DISPOSAL OF RETAINING WALLS	135	LIN. FT.
202	REMOVAL AND DISPOSAL OF WELL	1	EACH
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS	2	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	15	EACH
202	REMOVAL AND DISPOSAL OF BUILDINGS	3	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	2	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS	1	EACH
210	UNCLASSIFIED EXCAVATION	51529	CU. YD.
210	COMPACTED EMBANKMENT	12128	CU. YD.
SP & 210	SOIL STABILIZATION	100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	16170	TON
SS & 401	TACK COAT	5055	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	2963	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	136	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	9515	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	543	TON
412	COLD MILLING ASPHALT PAVEMENT	533	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	30	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY	50	TON
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	276	SQ. FT.
SS & 604	BARRICADES	32	LIN. FT.
SS & 604	TRAFFIC DRUMS	241	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	386	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER	273	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	50951	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	2152	LIN. FT.
SS & 604	VERTICAL PANELS	108	EACH
605	CONCRETE DITCH PAVING (TYPE B)	3626	SQ. YD.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	346	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	64	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN	654	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	10	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	SELECTED PIPE BEDDING	80	CU. YD.
611	UNDERDRAIN OUTLET PROTECTORS	12	EACH
611	4" PIPE UNDERDRAINS	3000	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	31.2	CU. YD.
619	WIRE FENCE (TYPE C)	1380	LIN. FT.
619	WIRE FENCE (TYPE D)	2129	LIN. FT.
619	WIRE FENCE (TYPE D-1)	220	LIN. FT.
619	WIRE FENCE (TYPE D-2)	2041	LIN. FT.
* 619	16' STEEL GATES (ALTERNATE NO. 1)	3	EACH
* 619	16' ALUMINUM GATES (ALTERNATE NO. 2)	3	EACH
620	LIME	18	TON
620	SEEDING	8.98	ACRE
SS & 620	MULCH COVER	22.11	ACRE
620	WATER	1215.7	M.GAL.
621	TEMPORARY SEEDING	13.13	ACRE
621	SILT FENCE	3131	LIN. FT.
621	SAND BAG DITCH CHECKS	1100	BAG
621	DIVERSION DITCH	313	LIN. FT.
621	SEDIMENT BASIN	1000	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	1000	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	1424	CU. YD.
621	PIPE FOR SLOPE DRAINS	69	LIN. FT.
621	ROCK DITCH CHECKS	624	CU. YD.
621	WATTLE (20")	450	LIN. FT.
623	SECOND SEEDING APPLICATION	8.98	ACRE
624	SOLID SODDING	2523	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	4047	SQ. YD.
628	TOPSOIL FURNISHED AND PLACED	4000	CU. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	16	EACH
637	MAILBOX SUPPORTS (SINGLE)	10	EACH
637	MAILBOX SUPPORTS (DOUBLE)	3	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	7838	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	13814	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	12680	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	273	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	1	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	1	EACH
SP & 816	STONE RIPRAP FOR SLOPE PLATING	1088	SQ. YD.
816	DUMPED RIPRAP	4	CU. YD.
SP	WATER GATE	1	EACH

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
7/27/2016	REMOVED THE SPECIAL PROVISION TITLED "SPECIAL CLEARING REQUIREMENTS" FROM THE "CLEARING" PAY ITEM	2, 31

SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 11435 TRINITY D. SMITH

7-27-16

DATE REVISED	DATE PLTD.
7-27-16	

(2) SUMMARY OF QUANTITIES AND REVISIONS

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	050262	31	98

JOB NO.

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.		050262	32	98

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

Project Name: s050262
Date: 3/18/2013
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL.
120018-120018A, 120019-120019A PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	401543.9368	1332141.1764	877.879	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:1
2	401728.4424	1332894.3725	860.274	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:2
3	402142.2409	1333573.7250	848.733	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:3
4	402399.8960	1334309.9422	805.111	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:4
5	402740.8296	1334904.6195	791.062	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:5
6	403042.3196	1335269.0401	772.114	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:6
7	403148.8034	1335633.6574	753.154	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:7
8	402844.1366	1336254.8216	712.637	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:8
9	402894.3126	1336962.6717	681.644	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:9
10	402992.2196	1337703.4157	671.471	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:10
11	403381.0542	1338420.4436	655.628	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:11
12	403560.3675	1339093.1584	675.003	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:12
13	403309.5422	1339559.5996	671.948	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:13
14	402955.5079	1340030.8833	660.499	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:14
15	402961.6752	1340791.5361	675.554	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:15
16	402718.7879	1341171.6445	670.553	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:16
17	402300.4740	1341815.9218	664.209	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:17
18	402017.3961	1342474.0823	664.013	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:18
19	401581.6755	1343073.4866	660.755	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:19
20	401394.5245	1343448.4125	662.441	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:20
21	401459.9616	1343817.2906	671.277	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:21
22	401323.3697	1344307.8722	626.717	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:22
23	401238.7017	1344660.4768	609.404	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:23
24	400805.3209	1345002.1731	565.174	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:24
25	400353.7661	1345268.0791	542.134	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:25
26	399913.5450	1345869.0615	542.905	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:26
27	399894.5088	1346290.9657	546.098	CTL	•5/8" Rebar with 2" Aluminum Cap stamped pn:27
100	401576.1147	1331439.5489	881.561	GPS	•AHTD GPS •120018
101	400709.2555	1330758.8463	877.312	GPS	•AHTD GPS •120018A
102	399832.6649	1346856.0468	548.515	GPS	•AHTD GPS •120019
103	399852.3412	1348226.7428	576.276	GPS	•AHTD GPS •120019A
901	403116.1216	1344493.2120	338.254	TBM	•CHISELED SQ ON 24"RCP 24'n HWY 337
904	401307.9470	1344279.1997	623.945	TBM	•CHISELED SQ TOP 24" RCP 23' N HWY 16
905	401715.0259	1342935.6811	655.475	TBM	•GHISELED SQ ON 24" RCP 20' N HWY 16
906	402917.9167	1337156.8752	672.051	TBM	•CHISELED SQ ON 24" RCP 18.6' N HWY 16
907	402992.7745	1335966.0525	728.946	TBM	•CHISELED SQ ON 30" RCP 20.5' N HWY •16
908	401541.7932	1331848.5909	868.991	TBM	•CHISELED SQ ON 24" RCP 20' S HWY 16
909	401936.4929	1330823.0321	876.949	TBM	•X ON WATER VALVE SLEEVE AT GOOD SPRINGS RD AND HWY 16
910	402494.9594	1329668.3136	864.678	TBM	•CHISELED SQ ON 30" RCP 17' N HWY 16
911	404595.1935	1327980.7480	874.537	TBM	•CHISELED SQ ON 24" RCP 18' S HWY 16
912	405953.8244	1325132.9213	859.737	TBM	•CHISELED SQ ON FLUME 25' N HWY 16 10' SE OF GUARD POST
913	405373.6419	1323146.5295	860.235	TBM	•CHISELED SQ SE COR PARKING 42' N HWY 16 SE COR POWERS STL BU
914	405172.6497	1320722.2362	864.940	TBM	•CHISELED SQ ON 24" RCP 18' N HWY 16
915	405101.2262	1317990.0800	834.767	TBM	•CHISELED SQ ON NW COR CON 75' S HWY 16 NW COR CATTLE GUARD
916	405796.6162	1316201.9132	826.927	TBM	•6"CONC WASHER RIVET USGS BM 824 150' E OF N207
998	405899.5805	1351009.3296	269.864	BM	•Z7 SQ HOLE IN STONE POST USBM PID FF1297 UNDER DEERSTAND 18" OAK
999	405750.4609	1316504.8783	824.900	BM	•2.9' NE OF WITNESS POST 22.2' N HWY 16 PID FF1537

•Note - Rebar and Cap - Standard -•" Rebar with 2" Aluminum Cap stamped
•(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999095183 HAS BEEN USED TO COMPUTE THE ABOVE LISTED GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GROUND COORDINATES ARE PROJECTED FROM AR. STATE PLANE GRID COORDINATES BY SCALING ALL X,Y
COORDINATE VALUES WITH THE INVERSE (1/X) OF THE COMBINED AJUSTMENT FACTOR (CAF) ABOUT X=0,Y=0.

GRID COORDINATES ARE STORED UNDER FILE NAME. s050262gi.ctl
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 ELEVATIONS FOR POINTS 1-27, 100-103, AND 901,904-916,998,& 999 WERE ESTABLISHED BY 3-WIRE LEVEL TECHNIQUES
FROM NGS BENCHMARKS.

POSITIONAL ACCURACY:

HORIZONTAL-GPS(POINTS 100-103): 1.0 CM 10 PPM, PRIMARY CONTROL(POINTS 1-27): 2.0 CM 20 PPM

VERTICAL-POSITIONAL ACCURACY IS THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS:
CONVERGENCE ANGLE: 00 03 11 RIGHT AT PN:13
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

LT: 35-26-28.5 LG: 091-54-32.4

GRID NORTHING: 403273.0501 GRID EASTING: 1339438.3940

GROUND NORTHING: 403309.5422 GROUND EASTING: 1339559.5996

HWY. 16

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	100•00.00	401553.1152	1331475.8132
8001	PI	102•28.49	401556.3002	1331704.2765
8002	PC	105•37.39	401562.7190	1332013.1174
8003	PT	113•75.70	401728.1173	1332830.3887
8004	PC	114•26.25	401746.8011	1332877.3599
8005	PT	118•57.17	401939.1110	1333262.4161
8006	PC	121•14.41	402073.0828	1333482.0095
8007	PT	123•13.54	402156.9909	1333662.1504
8008	PC	125•92.27	402245.7277	1333926.3682
8009	PT	128•10.33	402329.0311	1334127.7080
8010	PI	130•01.42	402413.9650	1334298.8835
8011	PC	131•58.72	402486.7160	1334438.3530
8012	PT	132•87.86	402548.3673	1334551.8234
8013	PC	134•77.65	402641.7815	1334717.0341
8014	PT	138•28.28	402834.1908	1335009.8341
8015	PC	138•92.61	402873.0313	1335061.1238
8016	PT	148•96.45	402947.7896	1336008.6398
8017	PI	150•44.08	402878.2238	1336138.8522
8018	PC	151•52.79	402827.3029	1336234.9083
8019	PT	154•41.16	402783.2285	1336514.5811
8020	POE	163•40.00	402939.5778	1337399.7193

TEMPORARY WIDENING

POINT NO.	TYPE	STATION	NORTHING	EASTING
8037	POB	200•00.00	403116.2556	1335677.6958
8038	PC	200•02.75	403115.2742	1335680.2626
8040	PT	202•42.37	403015.8977	1335898.1332
8041	PC	203•11.82	402983.1727	1335959.3874
8043	PT	204•32.01	402923.2403	1336063.5452
8044	PC	204•36.40	402920.9315	1336067.2808
8046	PT	205•61.76	402858.5700	1336176.0000
8018	POE	206•28.45	402827.3029	1336234.9083

6/3/2016

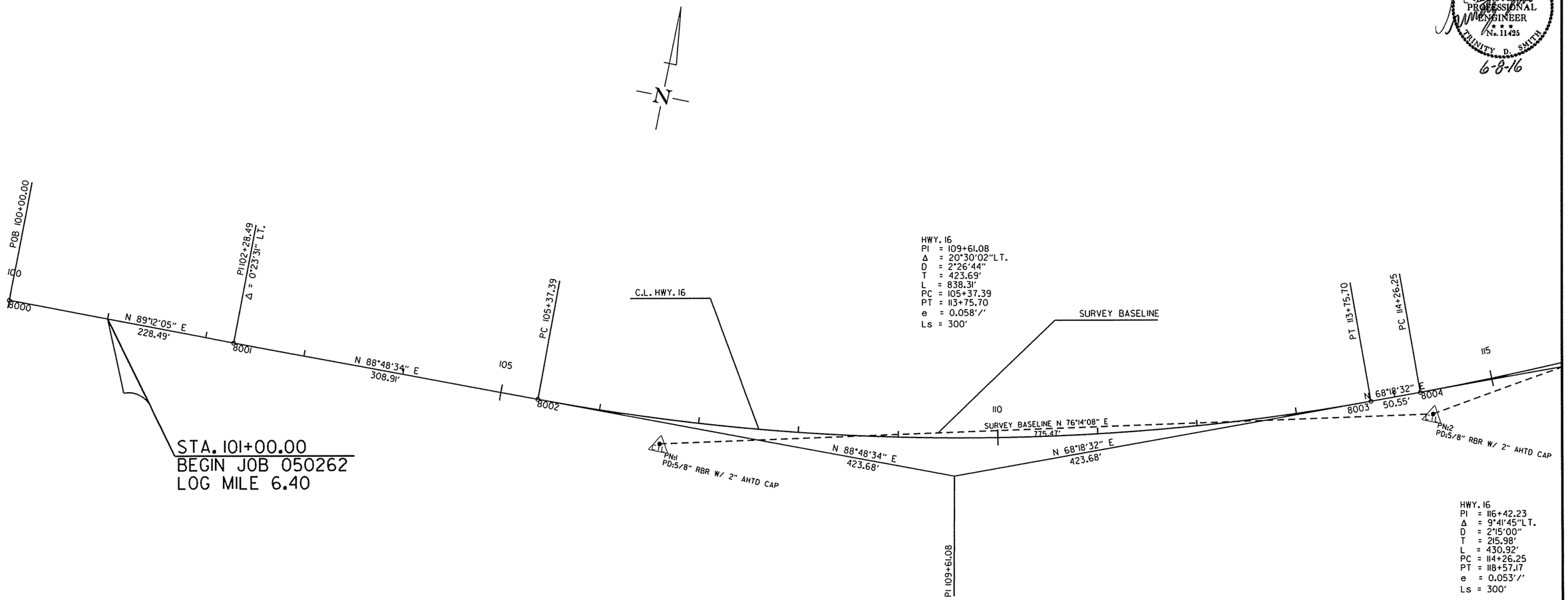
R050262.DGN

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.		050262	33	98

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16



6/3/2016

R050262.DGN

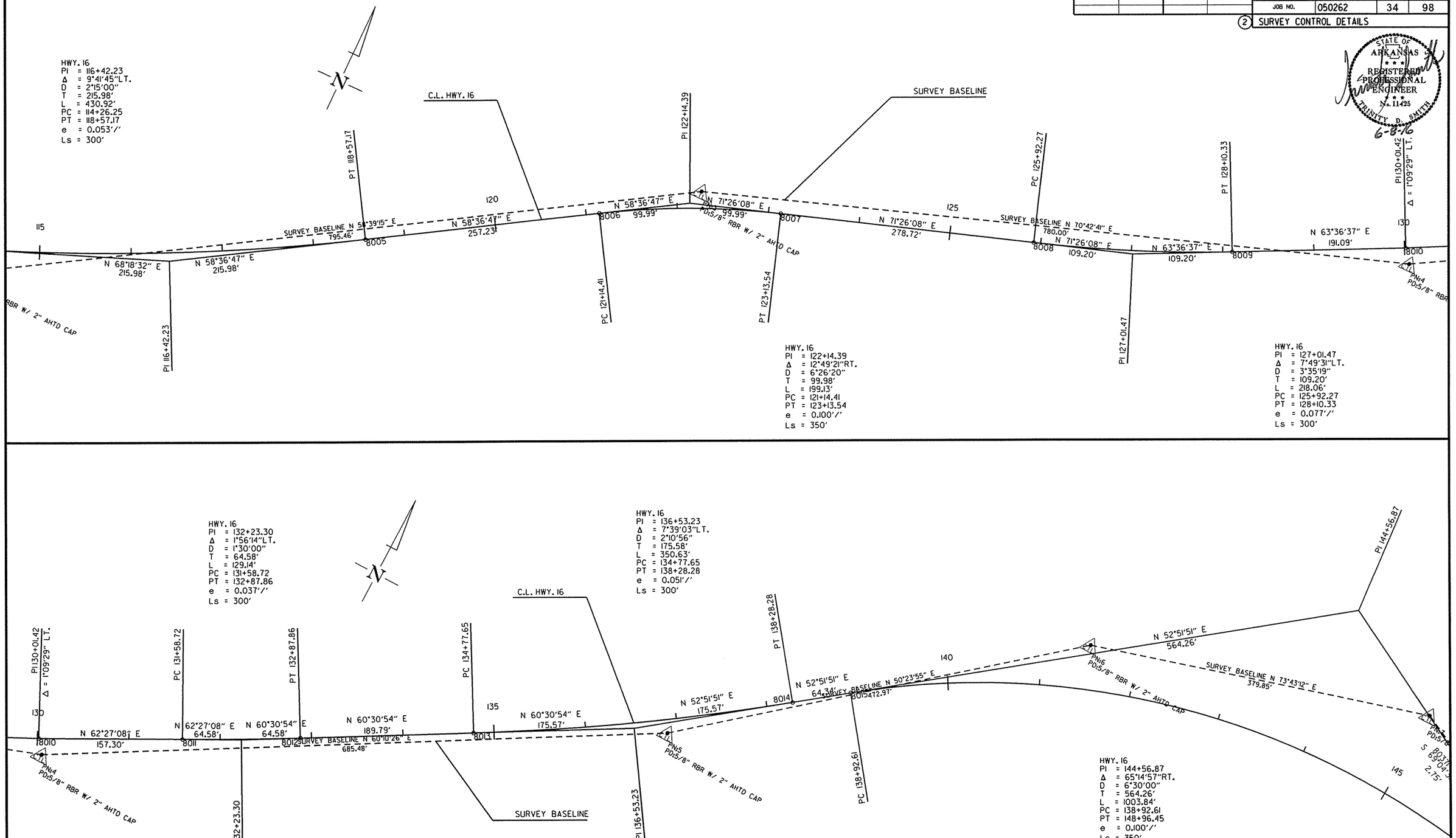
SURVEY CONTROL DETAILS

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.		050262	34	98

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

HWY. 16
PI = 116+42.23
Δ = 9°41'45"LT.
D = 2°15'00"
T = 215.98'
L = 430.92'
PC = 114+26.25
PT = 118+57.17
e = 0.053'/'
Ls = 300'

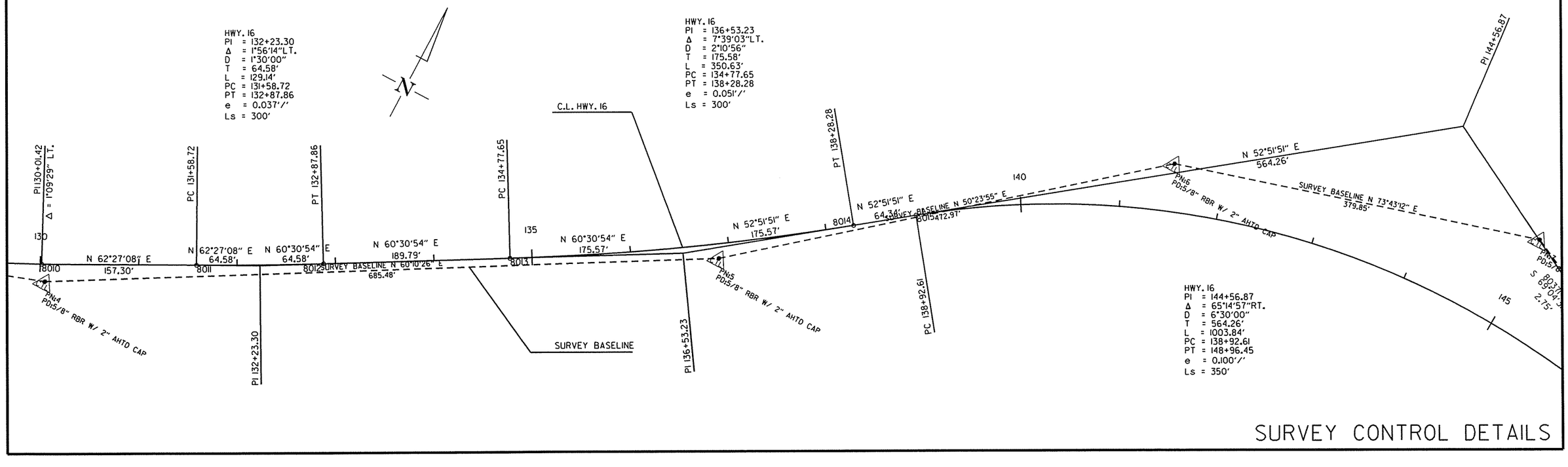


HWY. 16
PI = 122+14.39
Δ = 12°49'21"RT.
D = 6°26'20"
T = 99.98'
L = 199.13'
PC = 121+14.41
PT = 123+13.54
e = 0.100'/'
Ls = 350'

HWY. 16
PI = 127+01.47
Δ = 7°49'31"LT.
D = 3°35'19"
T = 109.20'
L = 218.06'
PC = 125+92.27
PT = 128+10.33
e = 0.077'/'
Ls = 300'

HWY. 16
PI = 132+23.30
Δ = 1°56'14"LT.
D = 1°30'00"
T = 64.58'
L = 129.14'
PC = 131+58.72
PT = 132+87.86
e = 0.037'/'
Ls = 300'

HWY. 16
PI = 136+53.23
Δ = 7°39'03"LT.
D = 2°10'56"
T = 175.58'
L = 350.63'
PC = 134+77.65
PT = 138+28.28
e = 0.051'/'
Ls = 300'



HWY. 16
PI = 144+56.87
Δ = 65°14'57"RT.
D = 6°30'00"
T = 564.26'
L = 1003.84'
PC = 138+92.61
PT = 148+96.45
e = 0.100'/'
Ls = 350'

6/3/2016

R050262.DGN

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.		050262	35	98

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

TEMPORARY WIDENING
PI = 201+22.72
Δ = 7°11'19"RT.
D = 3°00'00"
T = 119.97'
L = 239.62'
PC = 200+02.75
PT = 202+42.37
MATCH EXISTING

TEMPORARY WIDENING
PI = 203+71.93
Δ = 3°36'20"RT.
D = 3°00'00"
T = 60.11'
L = 120.19'
PC = 203+11.82
PT = 204+32.01
MATCH EXISTING

TEMPORARY WIDENING
PI = 204+99.10
Δ = 3°45'38"LT.
D = 3°00'00"
T = 62.70'
L = 125.36'
PC = 204+36.40
PT = 205+61.76
MATCH EXISTING

HWY. 16
PI = 153+02.49
Δ = 37°56'46"LT.
D = 13°09'32"
T = 149.70'
L = 288.37'
PC = 151+52.79
PT = 154+41.16
e = 0.100'/'
Ls = 250'

HWY. 16
PI = 144+56.87
Δ = 65°14'57"RT.
D = 6°30'00"
T = 564.26'
L = 1003.84'
PC = 138+92.61
PT = 148+96.45
e = 0.100'/'
Ls = 350'

POB 200+00.00
PC 200+02.75
PI 201+22.72
C.L. TEMPORARY WIDENING
PN:7
PD:5/8" RBR W/ 2" AHTD CAP
S 69°04'31" E 119.97'
803.8 8038
S 69°04'31" E 2.75'
145
S 61°53'12" E 564.26'
S 61°53'12" E 119.97'
SURVEY BASELINE S 63°52'23" E 69.66'
8040
S 61°53'12" E 69.45'
STA. 145+42.39 HWY. 16 =
STA. 200+00.00 TEMP. WIDENING
OFFSET = 68.23' LT.
PT 202+42.37
PC 203+11.82
PT 148+96.45
PI 203+71.93
S 61°53'12" E 60.11'
S 58°16'52" E 60.11'
8043 8044
8016
S 61°53'12" E 147.63'
S 58°16'52" E 4.19'
PT 204+32.01
PC 204+36.40
S 58°16'52" E 62.70'
150 205
PI 150+44.08
Δ = 0°11'04" LT.
PT 205+61.76
PI 204+99.10
S 62°02'30" E 62.70'
8017 8046
S 62°04'16" E 108.72'
PC 151+52.79
POE 206+28.45
200
PN:8
PD:5/8" RBR W/ 2" AHTD CAP
8018
S 62°04'16" E 149.69'
PT 154+41.16
SURVEY BASELINE N 85°56'43" E 709.63'
155
8019
N 79°58'58" E 149.69'
SURVEY BASELINE
160
PN:9
PD:5/8" RBR W/ 2" AHTD CAP
N 79°58'58" E 898.84'
C.L. HWY. 16
STA. 151+52.79 HWY. 16 =
STA. 206+28.45 TEMP. WIDENING
Δ = 0°01'46" RT.
PI 153+02.49

C.L. HWY. 16
POE 163+40.00
SURVEY BASELINE
160
SURVEY BASELINE N 82°28'14" E 747.19'
2" AHTD CAP
8020
PN:10
PD:5/8" RBR W/ 2" AHTD CAP
STA. 162+40.00
END JOB 050262

6/3/2016
R050262.DGN

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.		050262	36	98

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

STA. 101+00.00 TO STA. 102+09.00 ON LT.
CONC. DITCH PAVING (TYPE B)=72.67 SQ. YD.

STA. 102+37.00 TO STA. 104+49.85 ON LT.
CONC. DITCH PAVING (TYPE B)=141.90 SQ. YD.

STA. 102+23 INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS. COMP. EMB.
= 25 CU. YDS. UNCLASS. EXC.

STA. 103+82 IN PLACE
24" X 36' R.C. PIPE CULVERT
PLUG AND ABANDON

STA. 104+25 CONSTRUCT
24" X 90' R.C. PIPE CULVERT
AT 30° LT. FWD. SKEW
WITH F.E.S. LT. & RT.
050 = 15 CFS, D.A. = 4 ACRES
24" R.C. PIPE (CLASS IIII(TYPE 3 BEDDING)=90 LIN. FT.
24" F.E.S.=2 EACH
CONSTRUCT OUTLET=5 CU. YD.

HWY. 16
PI = 109+61.08
Δ = 20°30'02"LT.
D = 2°26'44"
T = 423.69'
L = 838.31'
PC = 105+37.39
PT = 113+75.70
e = 0.058'/'
Ls = 300'

STA. 107+60 CONSTRUCT
APPROACH ON LT. = 25 CU. YDS.

HWY. 16
PI = 116+42.23
Δ = 9°41'45"LT.
D = 2°15'00"
T = 215.98'
L = 430.92'
PC = 114+26.25
PT = 118+57.17
e = 0.058'/'
Ls = 300'

STA. 101+00.00 TO STA. 106+08.43 ON RT.
CONC. DITCH PAVING (TYPE B)=338.95 SQ. YD.

STA. 106+30 INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 90 CU. YDS.

STA. 108+09 INSTALL
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 106+51.61 TO STA. 107+86.18 ON RT.
CONC. DITCH PAVING (TYPE B)=89.71 SQ. YD.

STA. 111+10 IN PLACE
18" X 32' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 74' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 180 CU. YDS.

STA. 113+10 IN PLACE
18" X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

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

STA. 103+12.39 BEGIN SUPERELEVATION
STA. 106+12.39 MAX SUPERELEVATION (0.058'/')
STA. 116+85.79 MAX SUPERELEVATION (0.058'/')
STA. 119+85.79 END SUPERELEVATION

STA. 101+00.00
BEGIN JOB 050262
LOG MILE 6.40

102+95.43
869.39 (RT.)
RT. DITCH GRADE -2.19%
+82 (EXISTING)
F.L. INLET=866.76 RT.
F.L. OUTLET=866.14 LT.

103+95.43
867.20 (RT.)
RT. DITCH GRADE 2.92%

104+95.43
870.12 (RT.)

105+47.76
871.82 (RT.)
RT. DITCH GRADE 3.25%
+25
F.L. INLET=867.20 RT.
F.L. OUTLET=863.06 LT.

RT. DITCH GRADE 3.09%

107+50.00
878.07 (RT.)

RT. DITCH GRADE -2.94%

109+95.00
870.86 (RT.)

910 900 890 880 870 860 850 840 830 820

100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00

6/3/2016
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	37	98

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

HWY. 16
PI = 116+42.23
Δ = 9°41'45"LT.
D = 2°15'00"
T = 215.98'
L = 430.92'
PC = 114+26.25
PT = 118+57.17
e = 0.058'/'
Ls = 300'

STA. 122+00 CONSTRUCT APPROACH ON LT. = 120 CU. YDS.

STA. 122+61 CONSTRUCT APPROACH ON LT. = 80 CU. YDS.

STA. 123+00.00 TO STA. 129+40.00 ON LT.
CONC. DITCH PAVING (TYPE B)=426.67 SQ. YD.

HWY. 16
PI = 127+01.47
Δ = 7°49'31"LT.
D = 3°35'19"
T = 109.20'
L = 218.06'
PC = 125+92.27
PT = 128+10.33
e = 0.077'/'
Ls = 300'

HWY. 16
PI = 122+14.39
Δ = 12°49'21"RT.
D = 6°26'20"
T = 99.98'
L = 199.13'
PC = 121+14.41
PT = 123+13.54
e = 0.100'/'
Ls = 350'

STA. 120+00 INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 121+15 INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 123+16 INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 124+38 IN PLACE
18" X 26' R.C. PIPE CULVERT
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 125+35 IN PLACE
18" X 24' C.M. PIPE CULVERT
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 126+64 IN PLACE
18" X 24' C.M. PIPE CULVERT
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 126+77.68 TO STA. 131+51.19 ON RT.
CONC. DITCH PAVING (TYPE B)=315.67 SQ. YD.

STA. 121+31.75 TO STA. 123+00.41 ON RT.
CONC. DITCH PAVING (TYPE B)=112.44 SQ. YD.

STA. 123+31.00 TO STA. 124+23.00 ON RT.
CONC. DITCH PAVING (TYPE B)=61.33 SQ. YD.

STA. 124+53.00 TO STA. 125+21.00 ON RT.
CONC. DITCH PAVING (TYPE B)=45.33 SQ. YD.

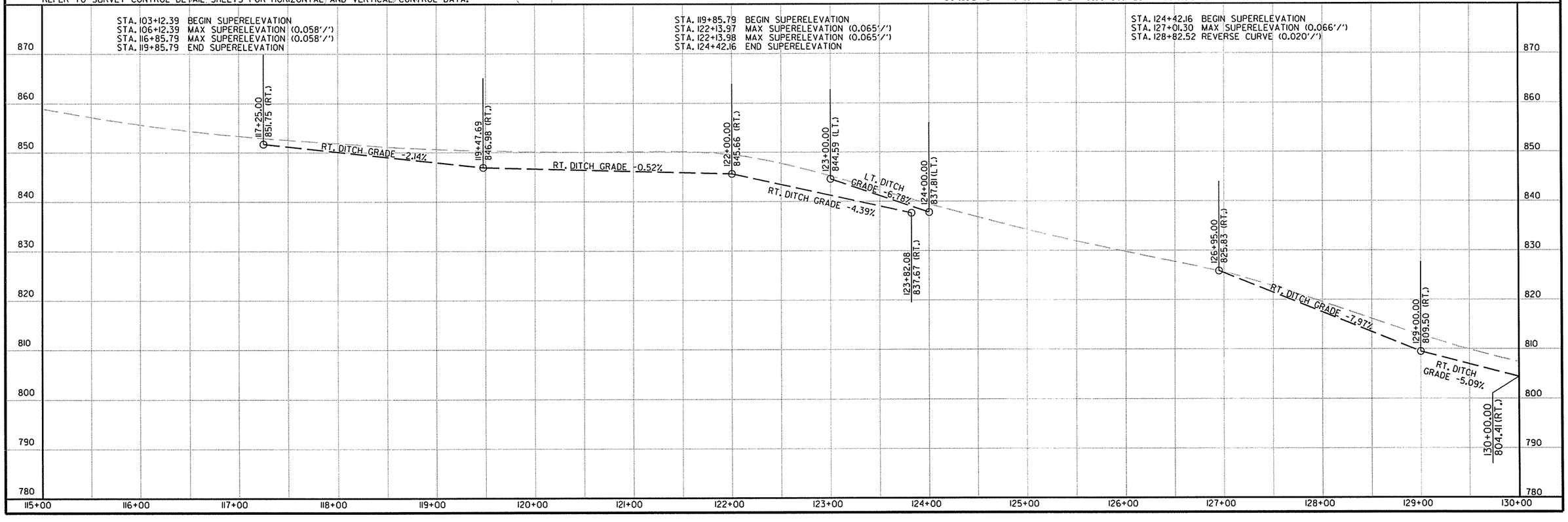
STA. 125+49.00 TO STA. 126+50.53 ON RT.
CONC. DITCH PAVING (TYPE B)=67.69 SQ. YD.

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

STA. 103+12.39 BEGIN SUPERELEVATION
STA. 106+12.39 MAX SUPERELEVATION (0.058'/')
STA. 116+85.79 MAX SUPERELEVATION (0.058'/')
STA. 119+85.79 END SUPERELEVATION

STA. 119+85.79 BEGIN SUPERELEVATION
STA. 122+13.97 MAX SUPERELEVATION (0.065'/')
STA. 122+13.98 MAX SUPERELEVATION (0.065'/')
STA. 124+42.16 END SUPERELEVATION

STA. 124+42.16 BEGIN SUPERELEVATION
STA. 127+01.30 MAX SUPERELEVATION (0.066'/')
STA. 128+82.52 REVERSE CURVE (0.020'/')



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				6	ARK.			
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(2) PLAN AND PROFILE SHEETS

OBLITERATE EXISTING PAVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

STA. 137+02 CONSTRUCT APPROACH ON LT. = 225 CU. YDS.

STA. 139+40.00 TO STA. 140+34.00 ON LT. CONC. DITCH PAVING (TYPE B)=62.67 SQ. YD.

STA. 138+17 CONSTRUCT APPROACH ON LT. = 190 CU. YDS.

STA. 140+50 INSTALL 18" X 32' PIPE CULVERT RT. SIDE DRAIN CONSTRUCT APPROACH = 30 CU. YDS.

HWY. 16
PI = 132+23.30
Δ = 1°56'14"LT.
D = 1°30'00"
T = 64.58'
L = 129.14'
PC = 131+58.72
PT = 132+87.86
e = 0.037'/'
Ls = 300'

HWY. 16
PI = 136+53.23
Δ = 7°39'03"LT.
D = 2°10'56"
T = 175.58'
L = 350.63'
PC = 134+77.65
PT = 138+28.28
e = 0.051'/'
Ls = 300'

HWY. 16
PI = 144+56.87
Δ = 65°14'57"RT.
D = 6°30'00"
T = 564.26'
L = 1003.84'
PC = 138+92.61
PT = 148+96.45
e = 0.100'/'
Ls = 350'

PROPOSED ROW
CONST. LIMITS
EXIST. ROW
T.C.E.
C.D.P.
N 62°27'08" E
N 60°30'54" E
N 52°51'51" E

STA. 131+37 IN PLACE
24" X 28' C.M. PIPE CULVERT
REMOVE AND CONSTRUCT
24" X 76' R.C. PIPE CULVERT
WITH F.E.S. LT. & RT.
Q50 = 10 CFS, D.A. = 3 ACRES
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)=76 LIN. FT.
24" F.E.S.=2 EACH

STA. 131+72 IN PLACE
18" X 22' PIPE CULVERT
REMOVE AND INSTALL
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

STA. 136+78 IN PLACE
18" X 38' R.C. PIPE CULVERT
REMOVE AND CONSTRUCT
24" X 76' R.C. PIPE CULVERT
WITH F.E.S. LT. & RT.
Q50 = 7 CFS, D.A. = 2 ACRES
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)=76 LIN. FT.
24" F.E.S.=2 EACH

STA. 136+80.00 TO STA. 150+46.00 ON RT.
CONC. DITCH PAVING (TYPE B)=910.67 SQ. YD.

STA. 144+65 IN PLACE
12" X 28' STEEL PIPE CULVERT
RT. SIDE DRAIN
REMOVE

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

STA. 130+85.45 REVERSE CROWN (0.020'/')
STA. 132+23.29 MAX SUPERELEVATION (0.037'/')
STA. 133+61.13 REVERSE CROWN (0.020'/')

STA. 135+01.32 REVERSE CROWN (0.020'/')
STA. 135+90.23 MAX SUPERELEVATION (0.035'/')
STA. 136+52.97 MAX SUPERELEVATION (0.035'/')
STA. 138+60.44 END SUPERELEVATION

STA. 138+60.45 BEGIN SUPERELEVATION
STA. 142+10.45 MAX SUPERELEVATION (0.100'/')
STA. 146+74.62 MAX SUPERELEVATION (0.100'/')
STA. 150+24.62 END SUPERELEVATION

BEGIN PROFILE GRADE
ELEV.=799.32

RT. DITCH GRADE -2.84%
RT. DITCH GRADE -3.87%
RT. DITCH GRADE -0.24%
RT. DITCH GRADE -2.42%
RT. DITCH GRADE -1.97%
-2.03%
RT. DITCH GRADE -2.41%
RT. DITCH GRADE -3.01%
RT. DITCH GRADE -4.90%
-6.00%
RT. DITCH GRADE -6.12%
L.T. BENCH -7.55%

+37 (EXISTING)
F.L. INLET=800.69 RT.
F.L. OUTLET=798.53 LT.

+37
F.L. INLET=799.49 RT.
F.L. OUTLET=795.39 LT.

+78
F.L. INLET=789.50 RT.
F.L. OUTLET=784.38 LT.

+78 (EXISTING)
F.L. INLET=788.63 RT.
F.L. OUTLET=787.86 LT.

VC= 460'
e= -2.28'
K= 115.92

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				6	ARK.			
				JOB NO.		050262	39	98

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

OBLITERATE EXISTING PAVEMENT

STA. 147+50 CONSTRUCT APPROACH
ON LT. = 615 CU. YDS.

STA. 147+96 IN PLACE
30" X 38' R.C. PIPE CULVERT
RETAIN AND EXTEND
26' LT. AND 34' RT.
WITH FES LT. & RT.
050 = 19 CFS, D.A. = 7 ACRES
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 68 LIN. FT.
30" FES = 2 EACH

STA. 151+48 IN PLACE
24" X 30' R.C. PIPE CULVERT
REMOVE AND CONSTRUCT
24" X 68' R.C. PIPE CULVERT
WITH FES LT. & RT.
050 = 15 CFS, D.A. = 4 ACRES
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 68 LIN. FT.
24" FES = 2 EACH

STA. 152+48.00 TO STA. 155+85.00 ON LT.
CONC. DITCH PAVING (TYPE B)=224.67 SQ. YD.

STA. 150+10.00 TO STA. 151+46.00 ON LT.
CONC. DITCH PAVING (TYPE B)=90.67 SQ. YD.

STA. 155+99 IN PLACE
18" X 42' C.P. PIPE CULVERT
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 156+13.00 TO STA. 160+76.00 ON LT.
CONC. DITCH PAVING (TYPE B)=308.67 SQ. YD.

HWY. 16
PI = 144+56.87
Δ = 65°14'57"RT.
D = 6°30'00"
T = 564.26'
L = 1003.84'
PC = 138+92.61
PT = 148+96.45
e = 0.100'/'
Ls = 350'

HWY. 16
PI = 153+02.49
Δ = 37°56'46"LT.
D = 13°09'32"
T = 149.70'
L = 288.37'
PC = 151+52.79
PT = 154+41.16
e = 0.100'/'
Ls = 250'

STA. 150+47 IN PLACE
18" X 24' C.P. PIPE CULVERT
REMOVE AND INSTALL
@ STA. 150+65
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 75 CU. YDS. COMP. EMB.
= 105 CU. YDS. UNCLASS. EXC.

STA. 151+15 IN PLACE
18" X 28' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 150+84.00 TO STA. 153+65.00 ON RT.
CONC. DITCH PAVING (TYPE B)=187.33 SQ. YD.

STA. 159+47 IN PLACE
18" X 25' C.P. PIPE CULVERT
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 155+95 IN PLACE
18" X 18' C.M. PIPE CULVERT
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 205 CU. YDS.

STA. 156+80 TO STA. 159+33.00 ON RT.
CONC. DITCH PAVING (TYPE B)=168.67 SQ. YD.

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

STA. 138+60.45 BEGIN SUPERELEVATION
STA. 142+10.45 MAX SUPERELEVATION (0.100'/')
STA. 146+74.62 MAX SUPERELEVATION (0.100'/')
STA. 150+24.62 END SUPERELEVATION

STA. 150+24.62 BEGIN SUPERELEVATION
STA. 152+74.62 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 153+78.66 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 156+28.66 END SUPERELEVATION

END PROFILE GRADE
ELEV.=721.20

VC= 200'
e= 0.39'
K= 129.68

+96
F.L. INLET=727.89 RT.
EXIST. F.L. INLET=726.96 RT.
EXIST. F.L. OUTLET=726.19 LT.
F.L. OUTLET=725.06 LT.

+48 (EXISTING)
F.L. INLET = 714.03 RT.
F.L. OUTLET = 712.48 LT.

+48
F.L. INLET = 713.71 RT.
F.L. OUTLET = 712.30 LT.

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				6	ARK.			
				JOB NO.		050262	40	98

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-8-16

660' TAPER — 100' TRANS.

162+40.00

POE. 163+40.00
30.12'-50.00'

PROPOSED ROW
CONST. LIMITS
EXIST. ROW
160
163
N 79°58'58" E
212.82'
20'
12'
CONST. LIMITS
EXIST. ROW
PROPOSED ROW
16'
T.C.E.

161+24.96
51.71'
161+27.16
39.84'

161+90.00
70.00'-39.85'

162+50.00
70.00'-39.86'

STA. 160+20 IN PLACE
18" X 30' C.P. PIPE CULVERT
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 160+78 IN PLACE
24" X 38' R.C. PIPE CULVERT
RETAIN AND EXTEND
8' LT. AND 20' RT.
WITH FES LT. & RT.
050 = 9 CFS, D.A. = 3 ACRES
24" R.C. PIPE (CLASS III(TYPE 3 BEDDING) = 36 LIN. FT.
24" FES = 2 EACH

STA. 162+40.00
END JOB 050262

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

160+78.00
669.95 (LT.)

161+78.00
670.70 (LT.)

LT. DITCH
GRADE -4.27%

LT. DITCH
GRADE 0.75%

+78
F.L. INLET=669.95 LT.
EXIST. F.L. INLET=669.73 LT.
EXIST. F.L. OUTLET=669.16 RT.
F.L. OUTLET=667.29 RT.

720
710
700
690
680
670
660
650
640
630

160+00 161+00 162+00 163+00 163+40

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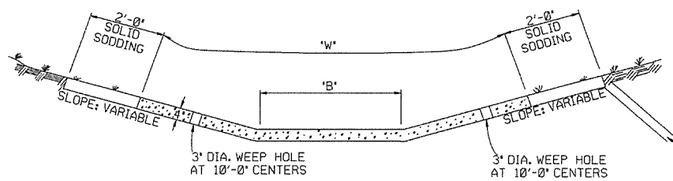
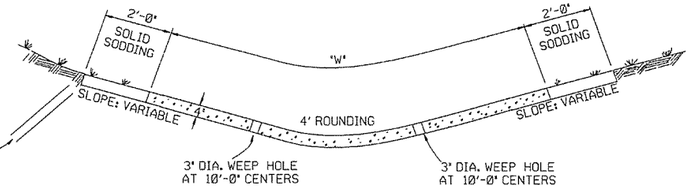
REFER TO TABULATION OF QUANTITIES FOR 'W' & 'B' DIMENSIONS



TYPE A

EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

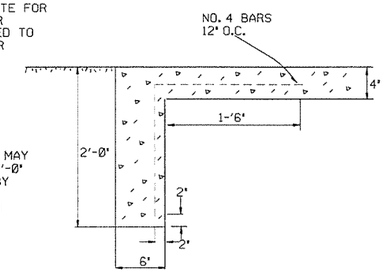
REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



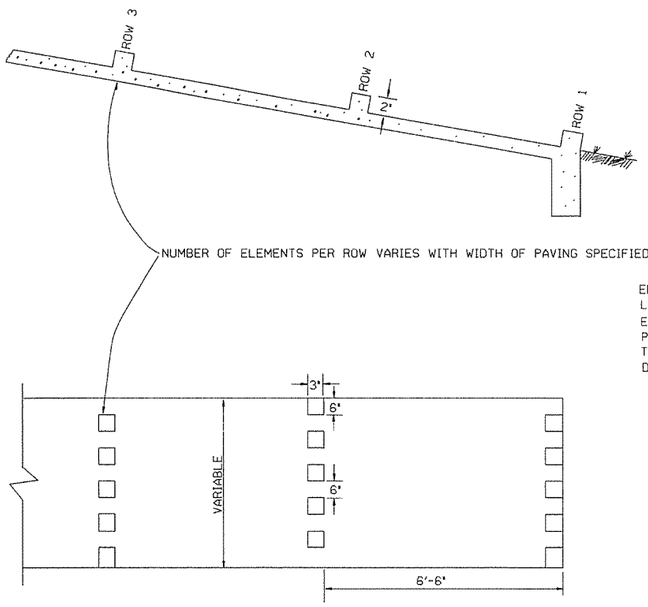
TYPE B

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

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



TOE WALL DETAIL FOR CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

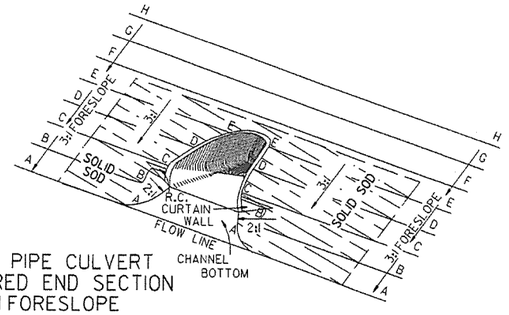
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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

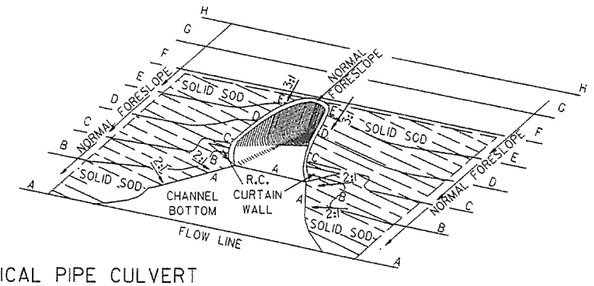
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

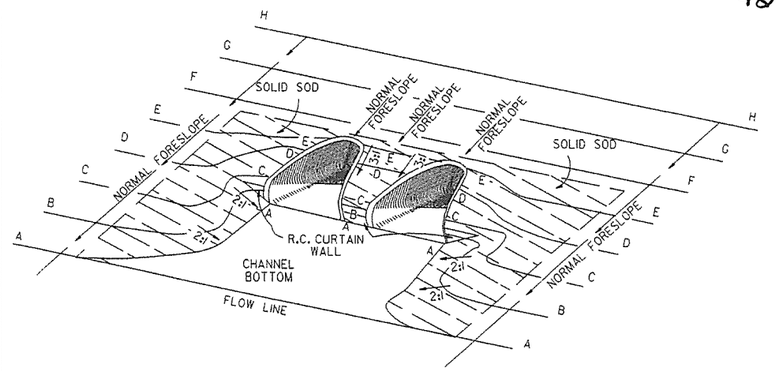
STANDARD DRAWING CDP-1



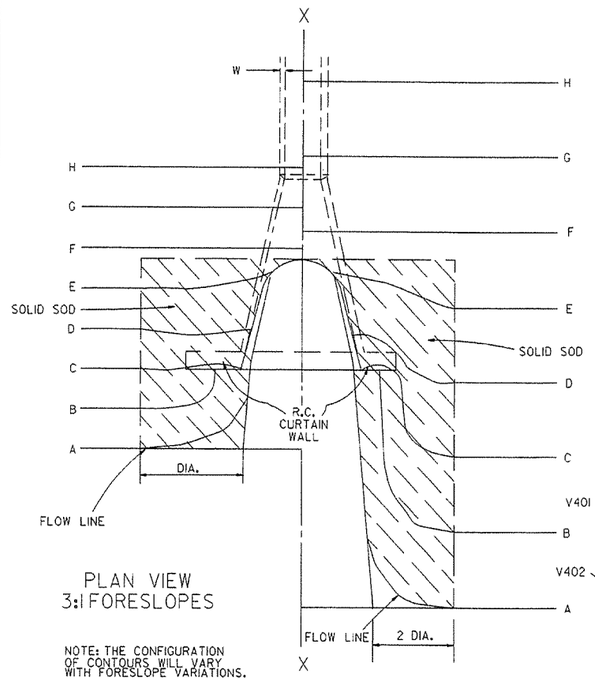
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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



PLAN VIEW
3:1 FORESLOPES

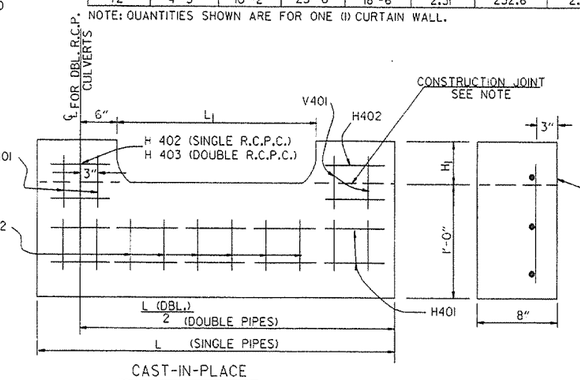
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

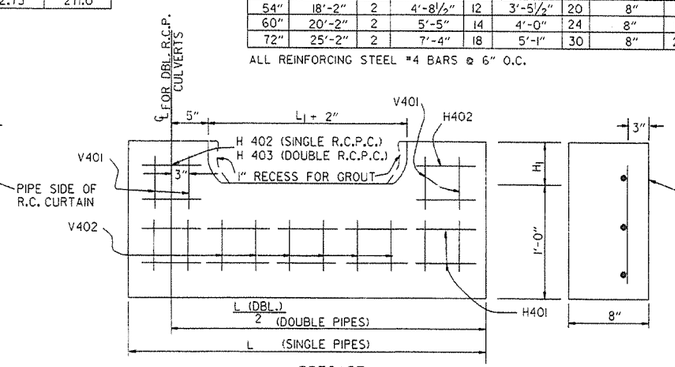
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	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'-9½"	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.



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.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT											
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	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'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	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'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

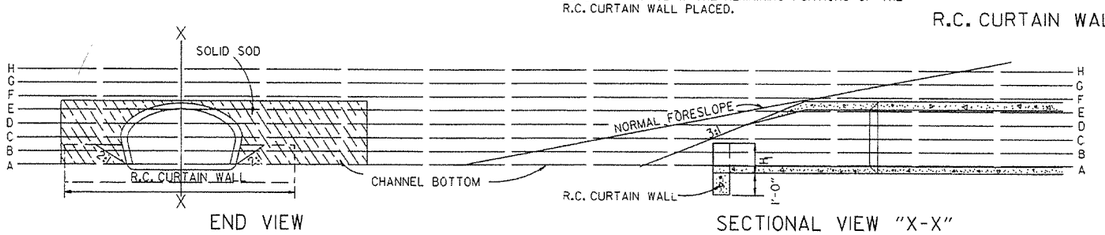
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	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"	38	57	85	37	59	81
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"

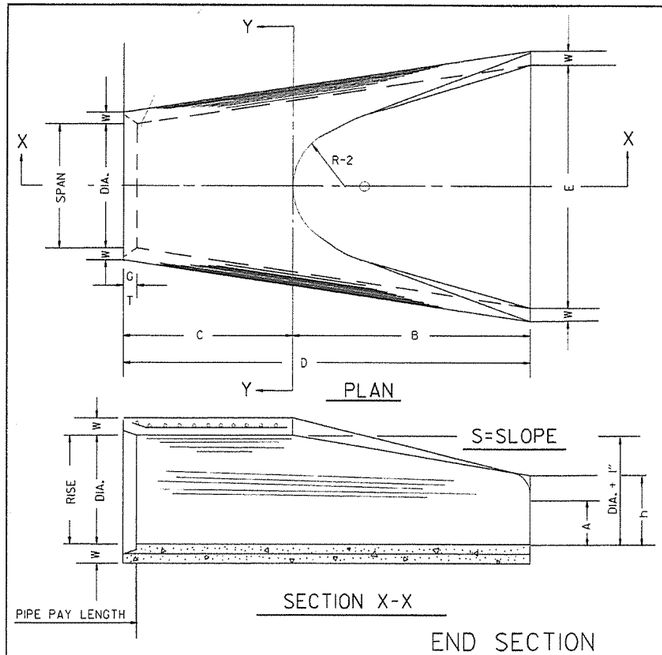
R.C. CURTAIN WALL DETAILS

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.	
3-2-91	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

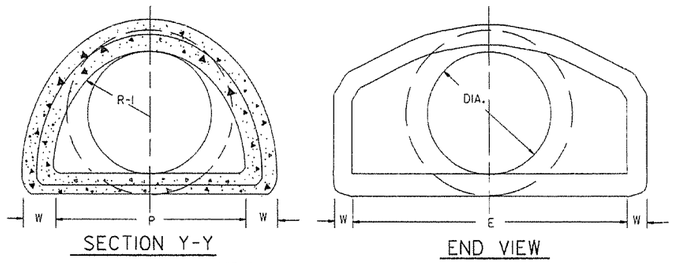
STANDARD DRAWING FES-1



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'-11½"	4'-0"	3:1	25"	33⅜"	16¹³⁄₁₆"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	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"	47¹³⁄₁₆"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3¼"	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"	36¹⁵⁄₁₆"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77¹³⁄₁₆"	38¹⁵⁄₁₆"	24"	5"	13250	4'-6"

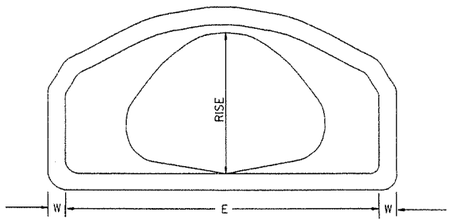


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

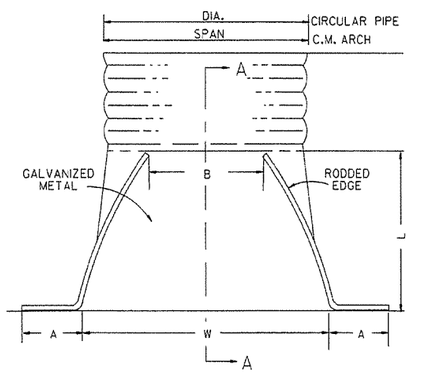
ARCH PIPE

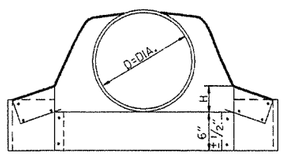
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36¹³⁄₁₆"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47¹³⁄₁₆"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	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"	72¹³⁄₁₆"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77¹³⁄₁₆"	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.

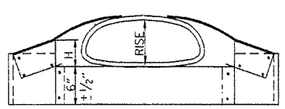


END VIEW
CONCRETE ARCH PIPE





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

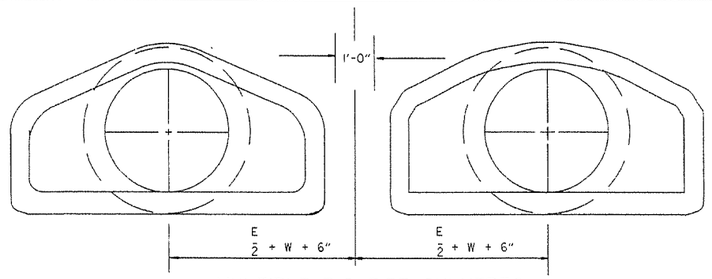
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12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

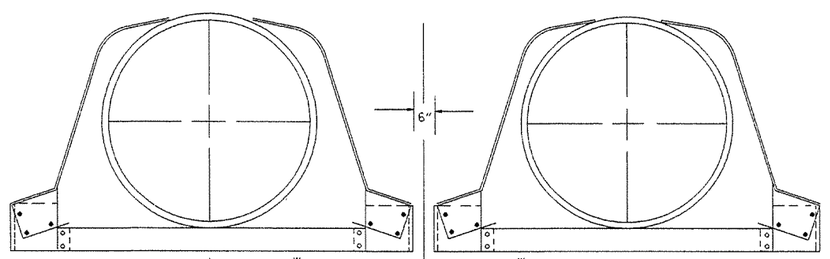
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

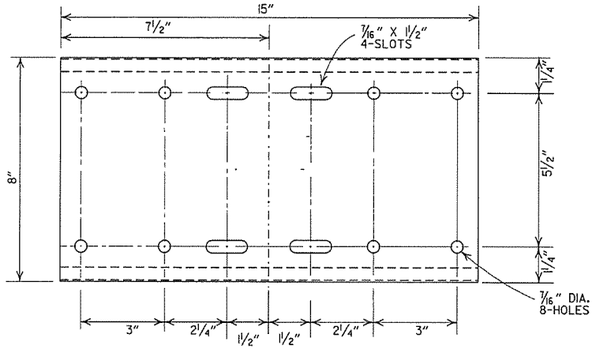
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
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

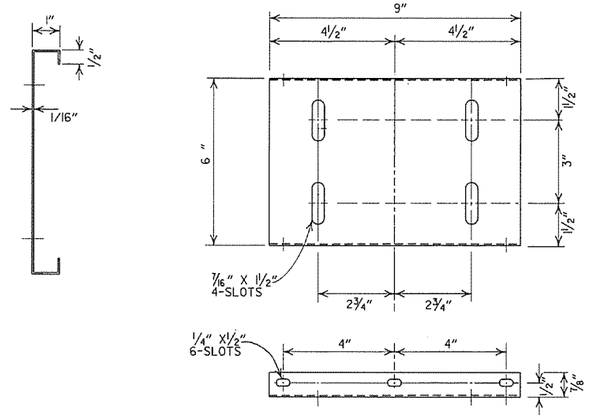
FLARED END SECTION

STANDARD DRAWING FES-2

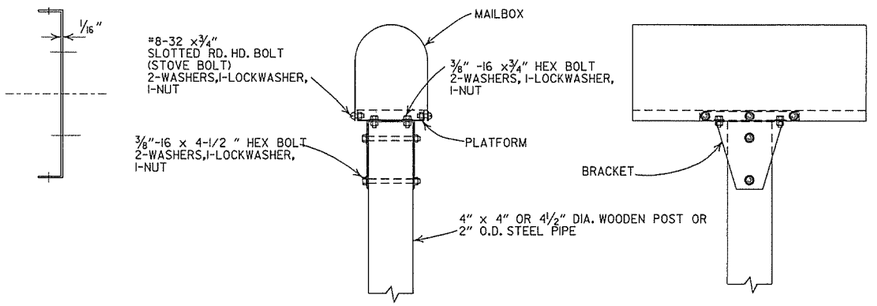
stdfes2.cdr



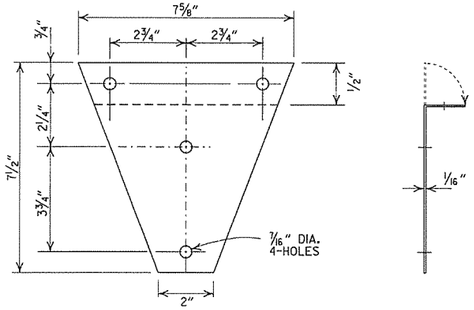
SHELF



PLATFORM



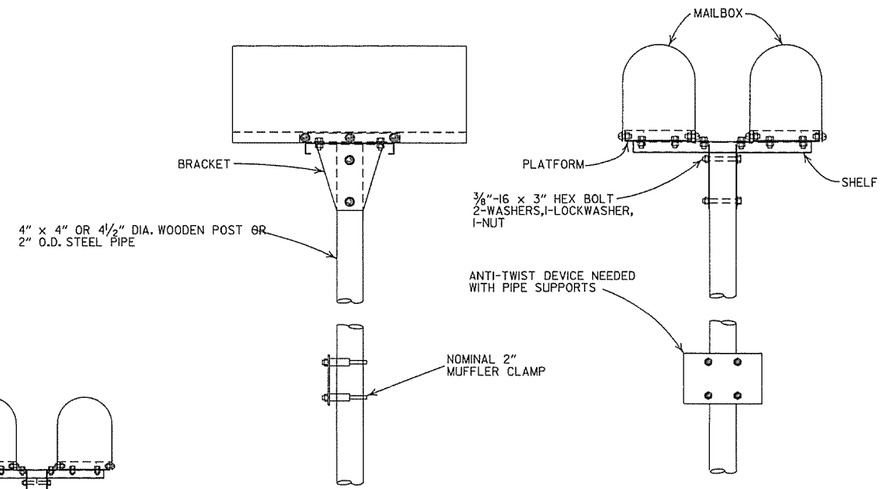
SINGLE INSTALLATION



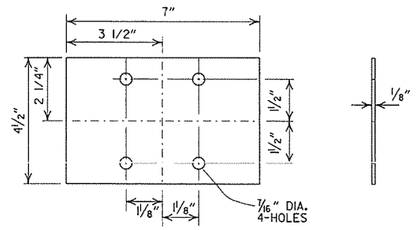
BRACKET

GENERAL NOTES

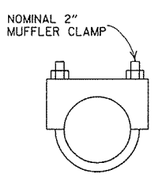
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X ¾" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



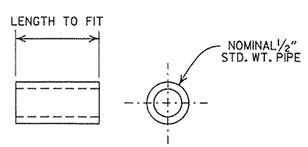
DOUBLE INSTALLATION



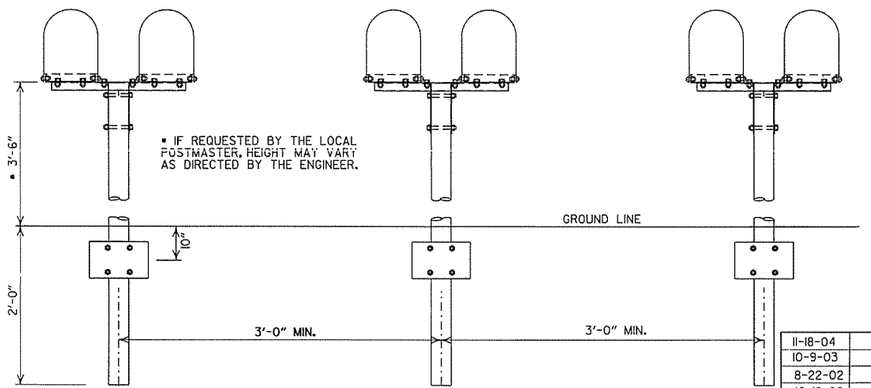
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	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	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

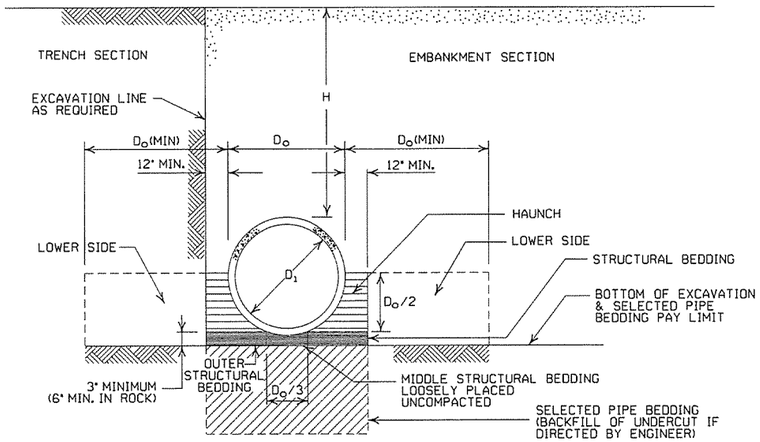
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION 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 TYPE 2	INSTALLATION TYPE 1	INSTALLATION TYPE 2	INSTALLATION 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.

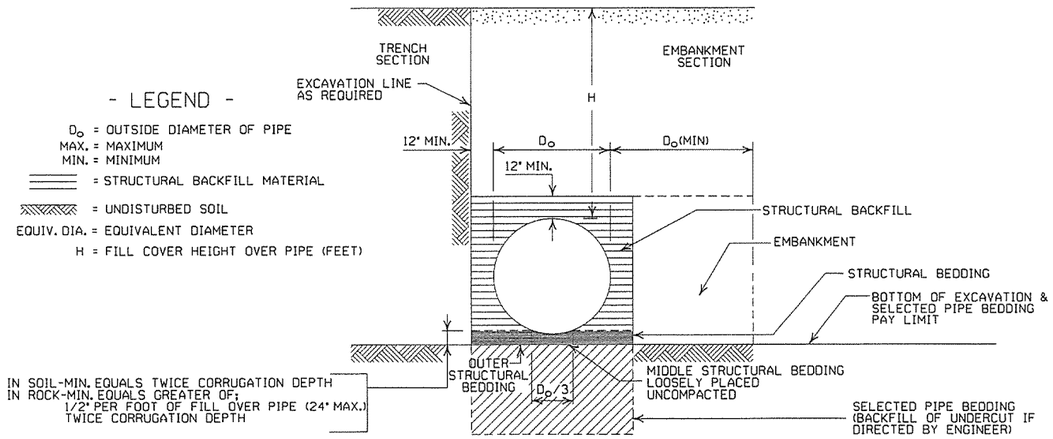
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

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

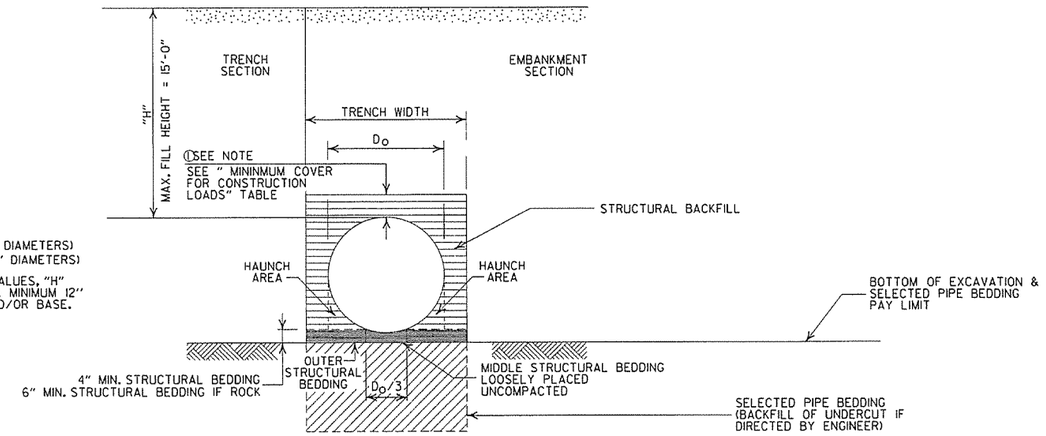
①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL 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 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

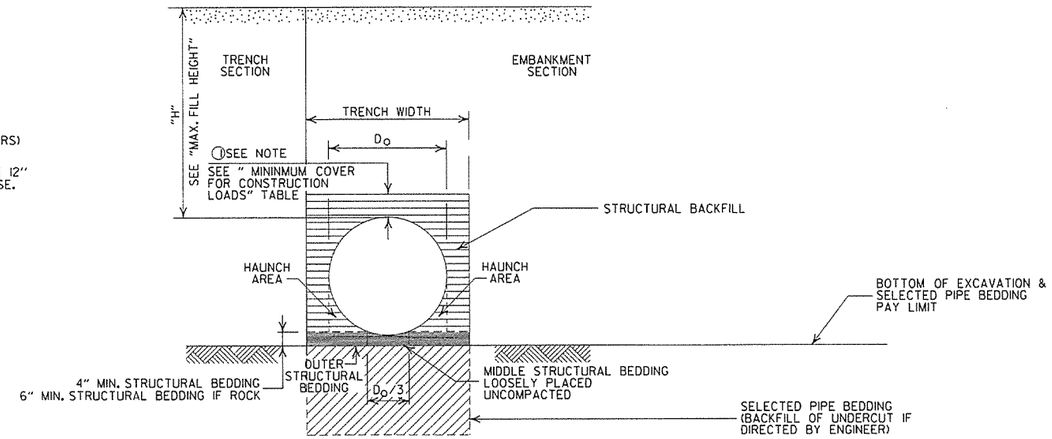
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL 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

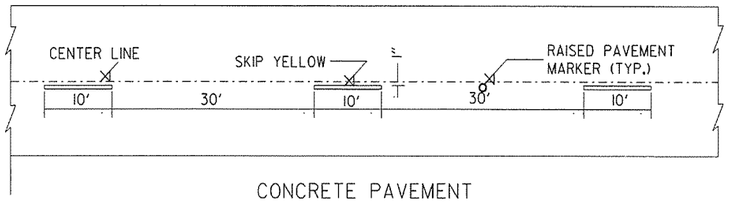
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

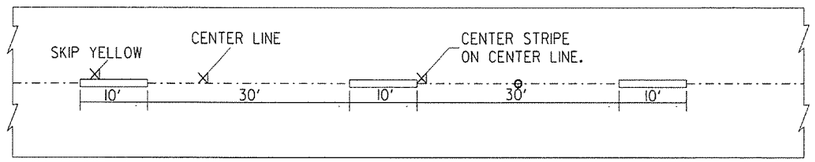
PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

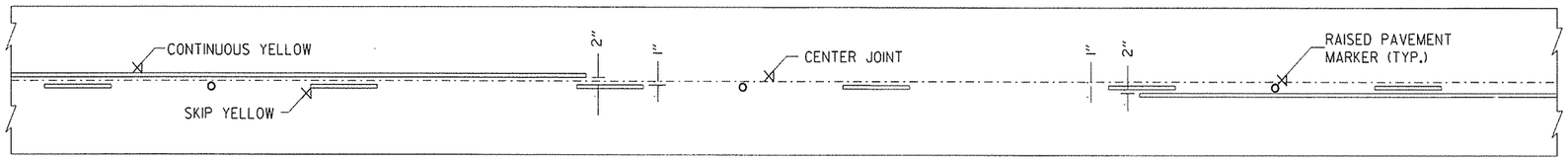


CONCRETE PAVEMENT

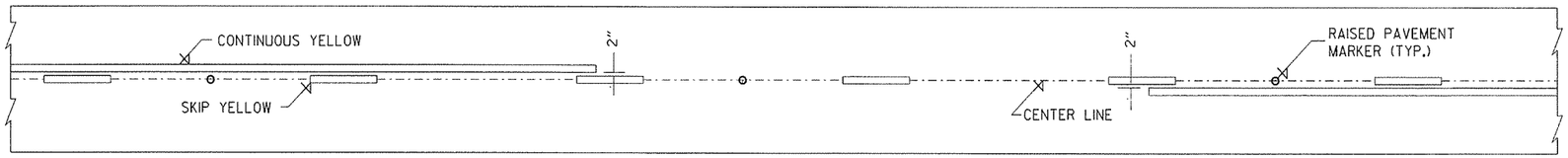


ASPHALT PAVEMENT

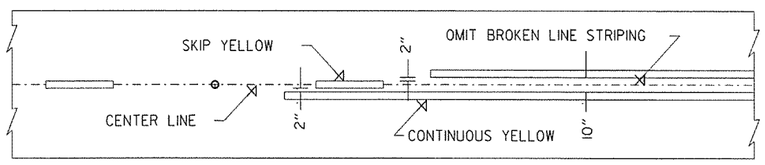
BROKEN LINE STRIPING



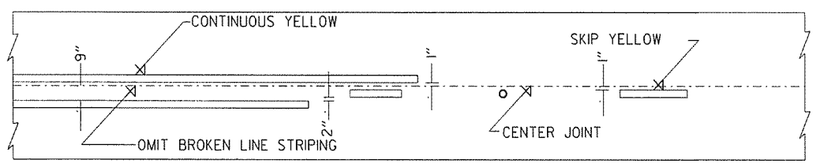
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

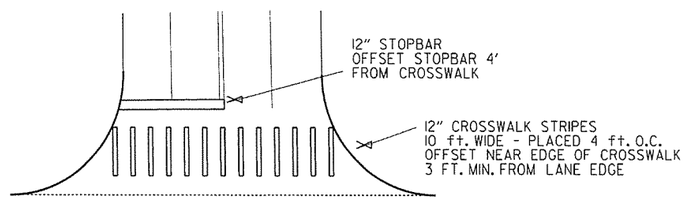


ASPHALT PAVEMENT

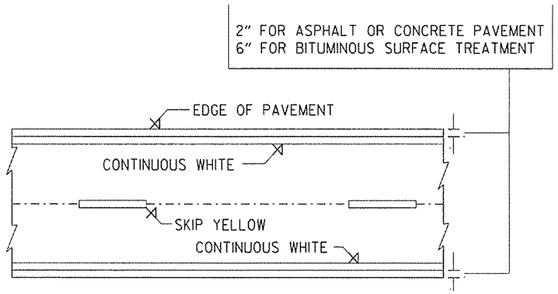


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

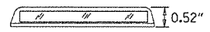


CROSSWALK AND STOPBAR DETAILS



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

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

DATE	REVISION	FILMED
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

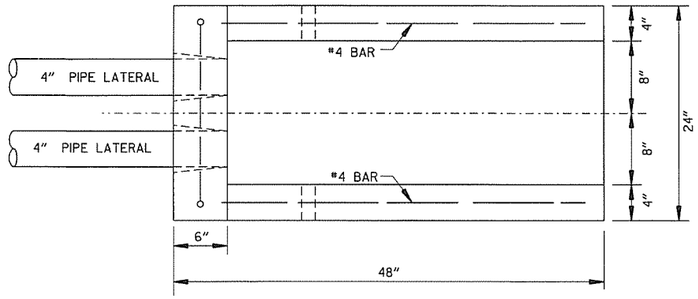
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

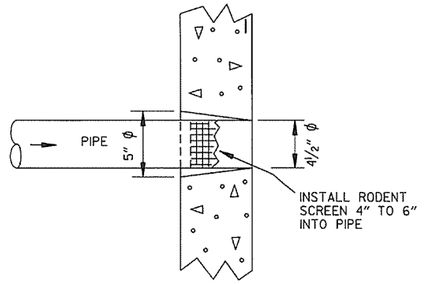
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

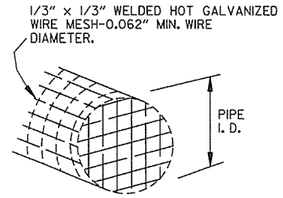
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



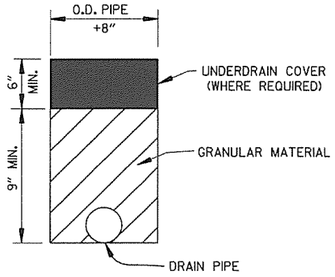
PLAN VIEW

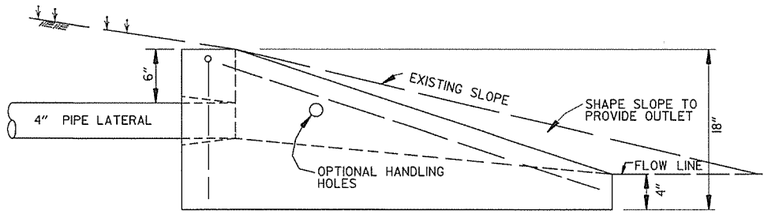


DETAIL OF HOLE FOR 4" PIPE

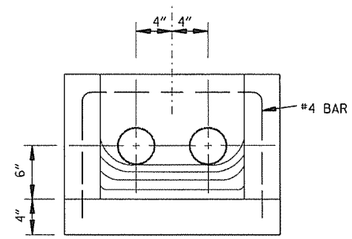


DETAIL OF RODENT SCREEN

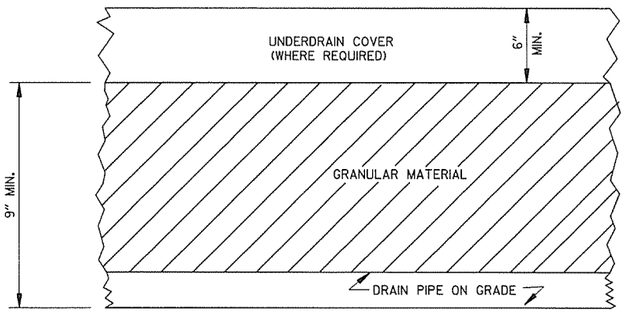




SIDE VIEW

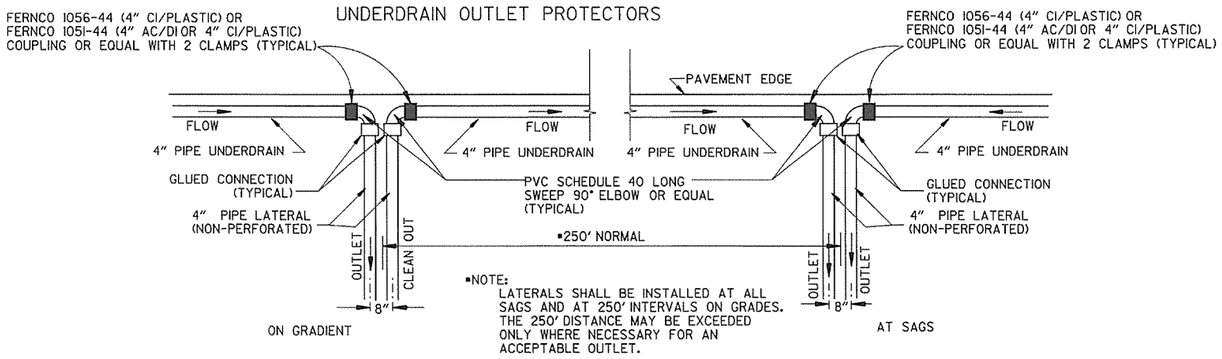


FRONT VIEW



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

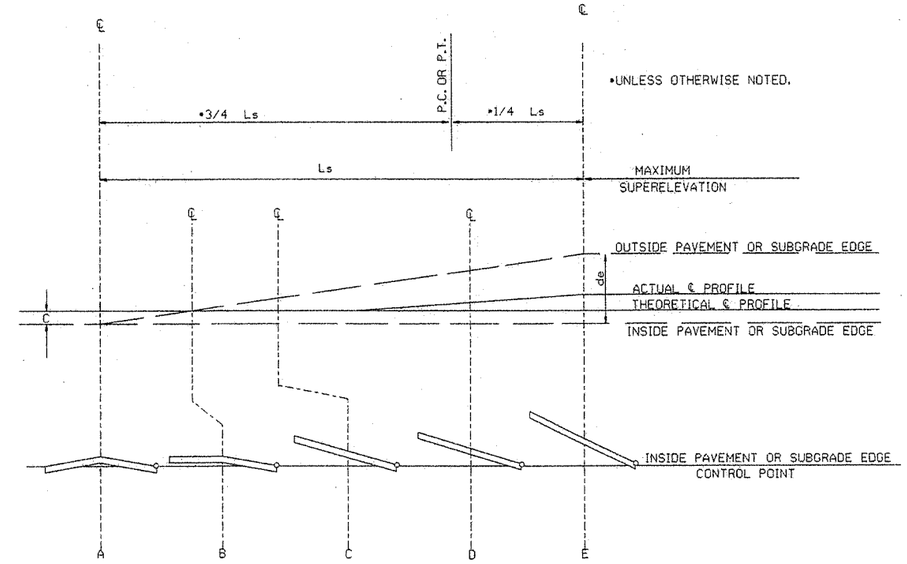
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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	250	300	0.046		
1° 30′	N.C.			0.021			0.031	200		0.037	225		0.043			0.054		
1° 45′	N.C.			0.028	175		0.036			0.043		300	0.049			0.062		
2° 00′	R.C.			0.031			0.040			0.048			0.055			0.070		
2° 15′	R.C.			0.034			0.045		250	0.053			0.061			0.078	300	350
2° 30′	0.021			0.037			0.049			0.058			0.067			0.085	315	
2° 45′	0.023			0.040		200	0.053			0.063			0.072			0.091	335	
3° 00′	0.025	150		0.043			0.057			0.067	230		0.077	260		0.096	350	400
3° 15′	0.027			0.046			0.061			0.072	245		0.082	275		0.098	360	
3° 30′	0.029			0.049			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031		200	0.051			0.069	215		0.080	265		0.090	295	350			
4° 00′	0.033			0.056			0.072	225		0.083	270		0.093	305				
4° 30′	0.037			0.061			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.066	185		0.083	250		0.091	295	350	0.098	320				
5° 30′	0.043			0.070	190		0.088	260		0.094	300							
6° 00′	0.046			0.074	200		0.092	270		0.096	305							
6° 30′	0.050			0.078	210		0.095	280	300	0.100	315							
7° 00′	0.053			0.081	215		0.098	285										
7° 30′	0.056			0.084	220		0.099	290										
8° 00′	0.059			0.087	225	250	0.100	290										
8° 30′	0.061			0.089	230													
9° 00′	0.063			0.094	235													
10° 00′	0.068	160		0.097	250													
11° 00′	0.072	170		0.099	250													
12° 00′	0.076	175		0.100	250													
13° 00′	0.080	180																
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 = $\frac{Lde}{Ls}$

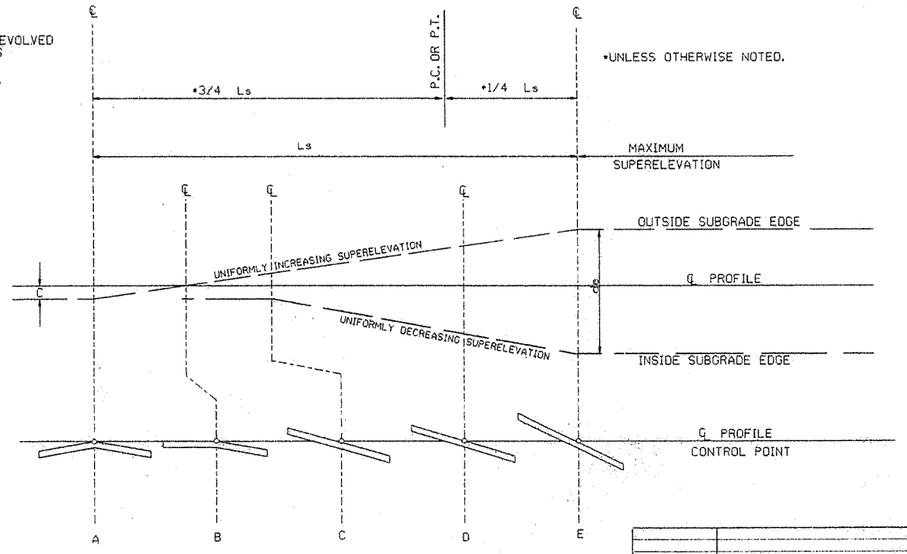
GENERAL NOTES

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.



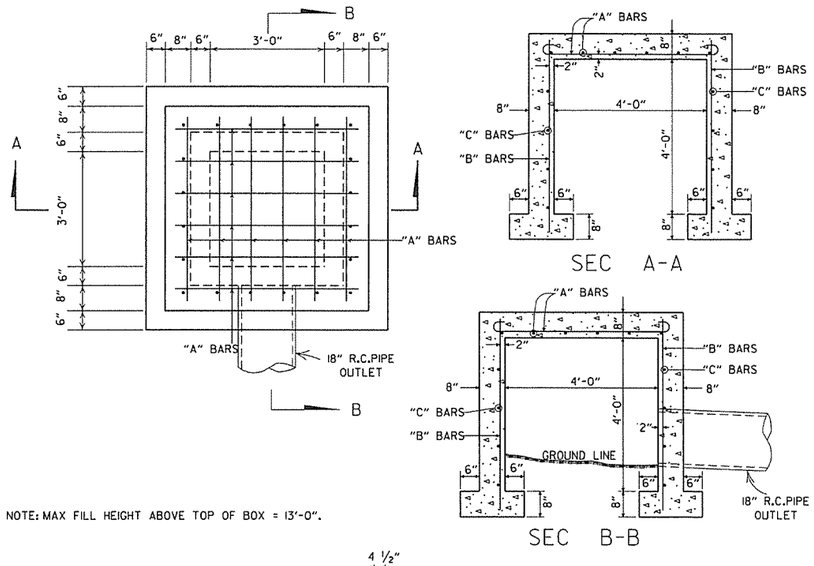
STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
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

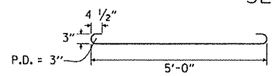


NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS

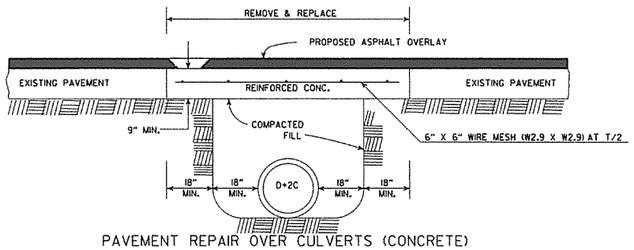


QUANTITIES

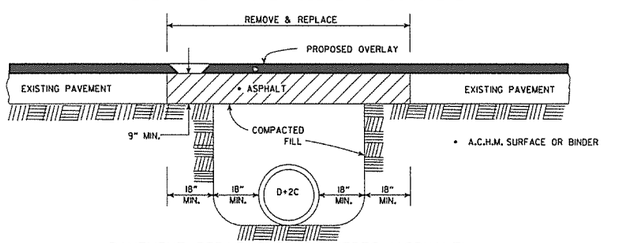
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

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

REINFORCED CONCRETE SPRING BOX



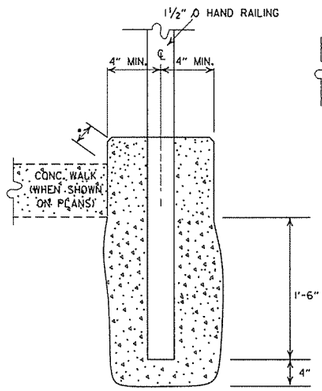
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



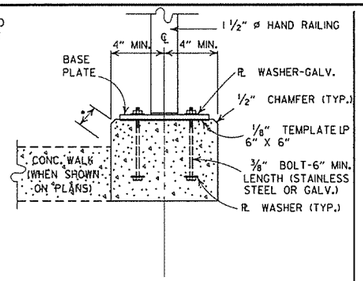
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

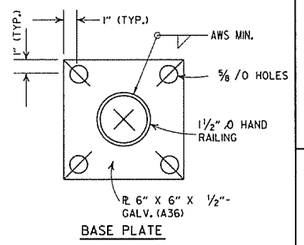
• A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

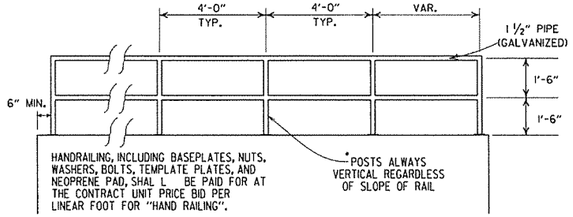


POST CONNECTION TO WALL

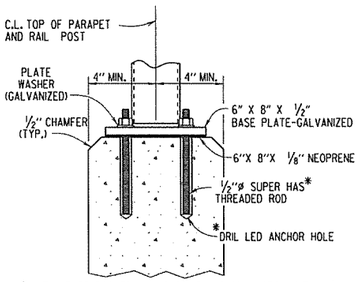


BASE PLATE

POST CONNECTION DETAILS

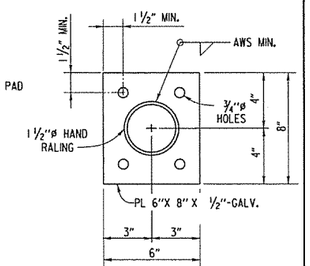


HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.
THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

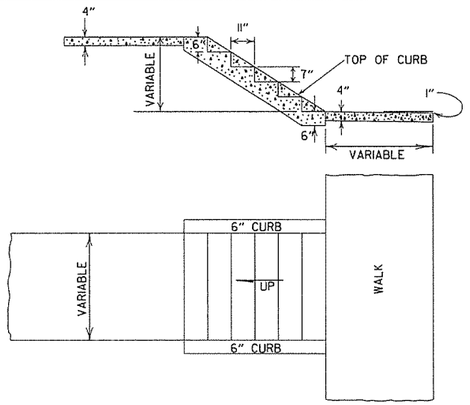
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DETAILS OF CONCRETE STEPS & WALKS

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

ARKANSAS STATE HIGHWAY COMMISSION

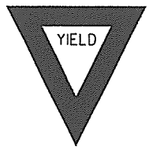
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

R1-1

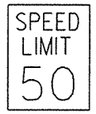
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



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

R2-1



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

W3-5

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

W3-5a

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

R4-1

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

R4-2

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

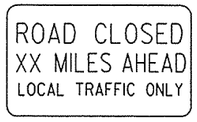
R5-1

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

R11-2

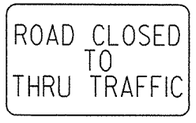
48"X30"

R11-3A



60"X30"

R11-4

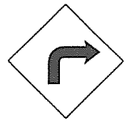


60"X30"

RSP-1

48"X30"

W1-1



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

W1-2

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

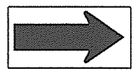
W1-3

STD. 48"X48"

W1-4

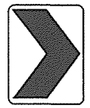
STD. 48"X48"

W1-6



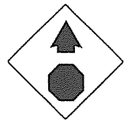
STD. 48"X24"
SPECIAL 60"X30"

W1-8



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

W3-1

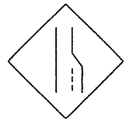


STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2

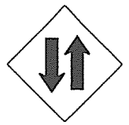


STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

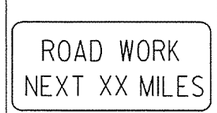
W8-11

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

W8-9

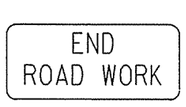
STD. 36"X36"
FWY. 48"X48"

G20-1



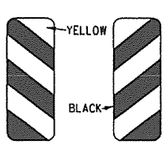
60"X24"

G20-2



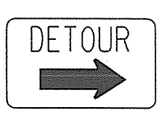
48"X24"

OM-3L OM-3R



12"X36"

M4-9

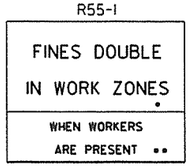


STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"
• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

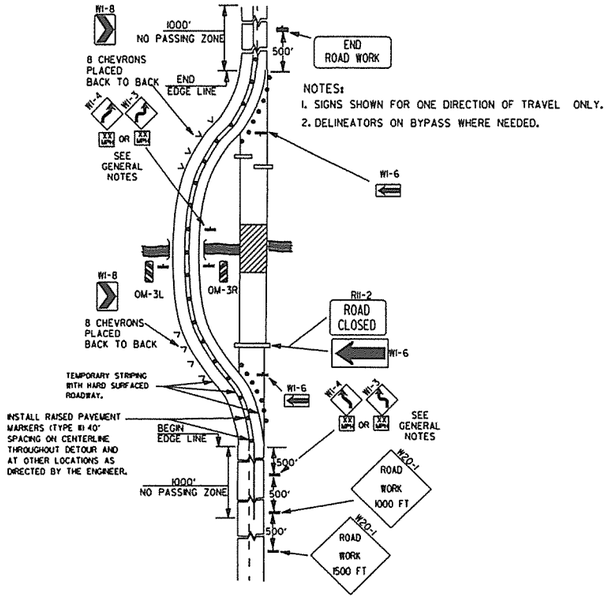
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
1-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
8-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
8-18-98	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	

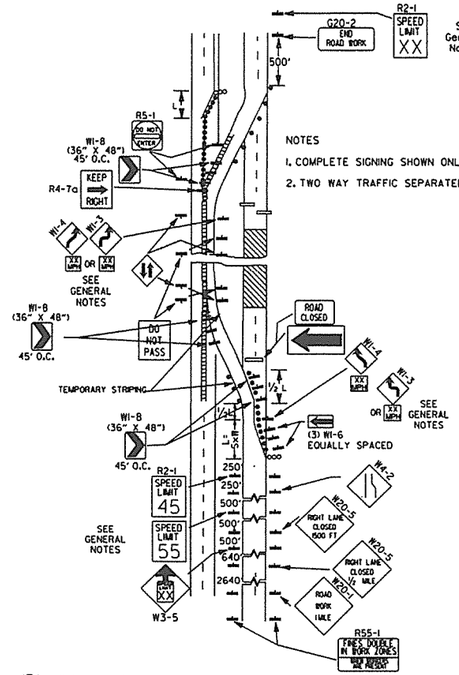
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

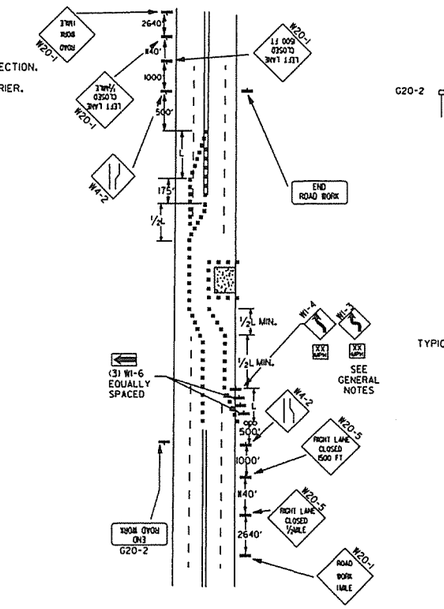
STANDARD DRAWING TC-1



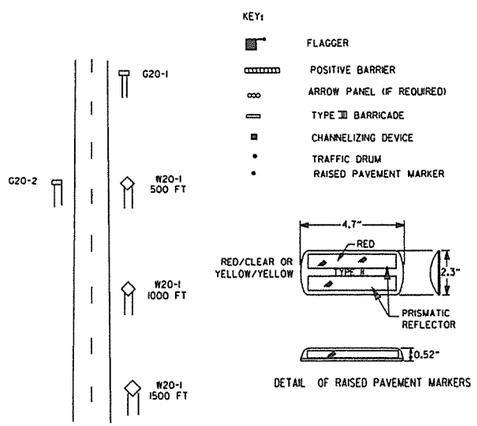
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



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



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



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

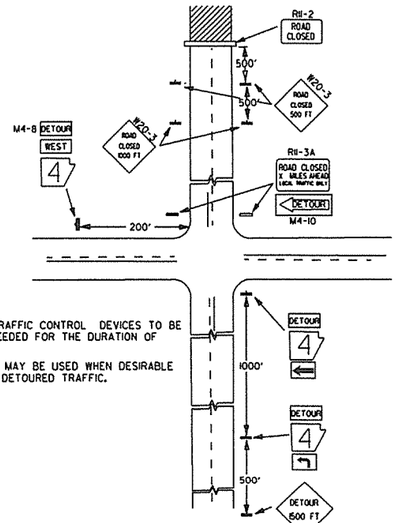
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

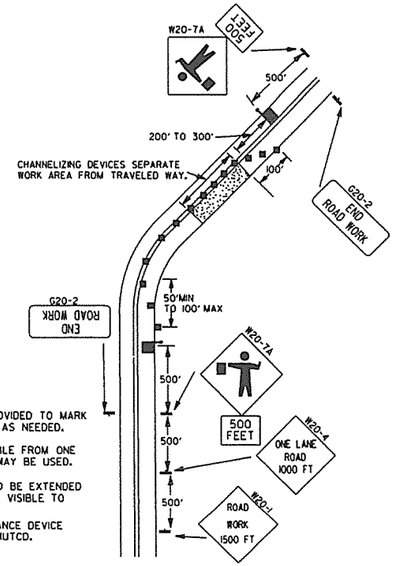
GENERAL NOTES:

1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 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.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



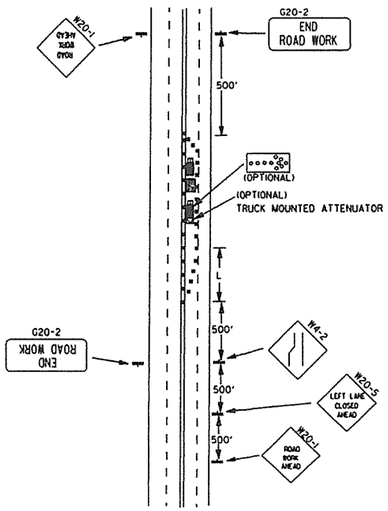
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



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

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



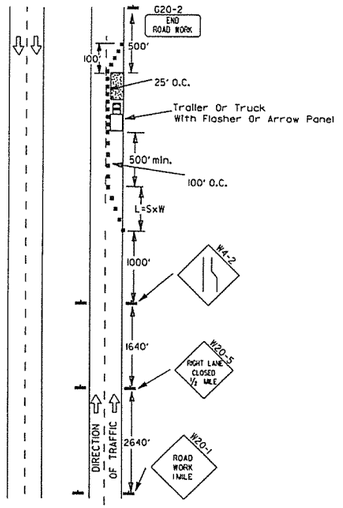
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH R3-5	
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 (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

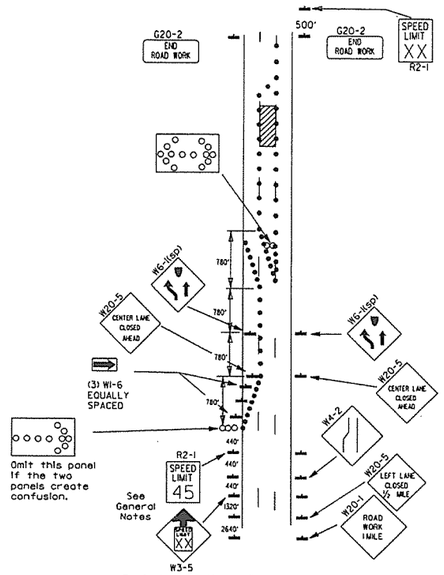
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



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



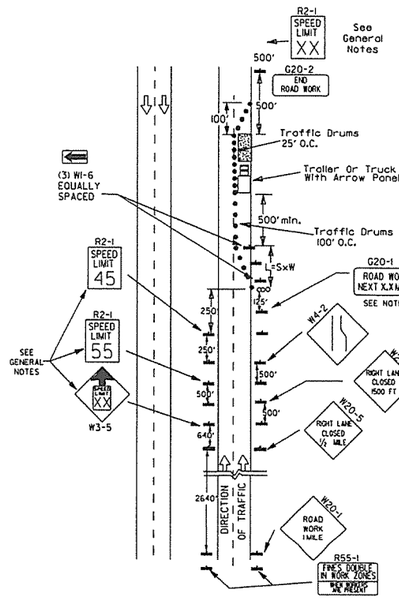
(B) Typical application - 3-lane oneway roadway where center lane is closed.

KEY:

- ○○○ Arrow Panel (if Required)
- ■ Channelizing Device
- ● Traffic drum

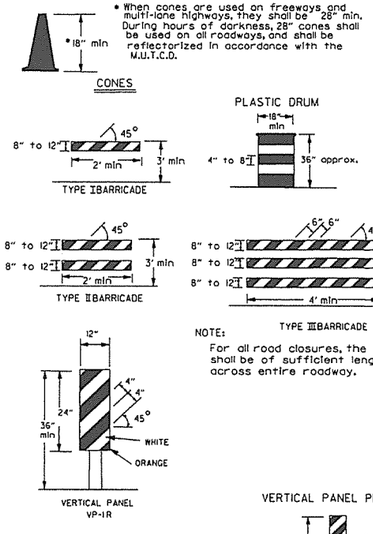
GENERAL NOTES:

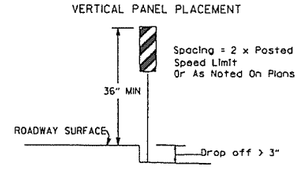
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 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.

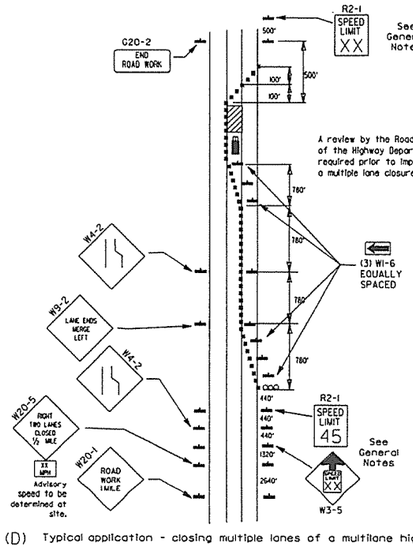


(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

Channelizing devices







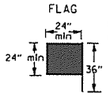
(D) Typical application - closing multiple lanes of a multilane highway.

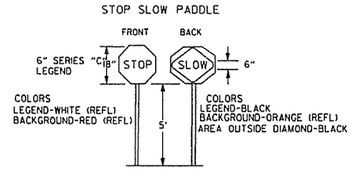
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

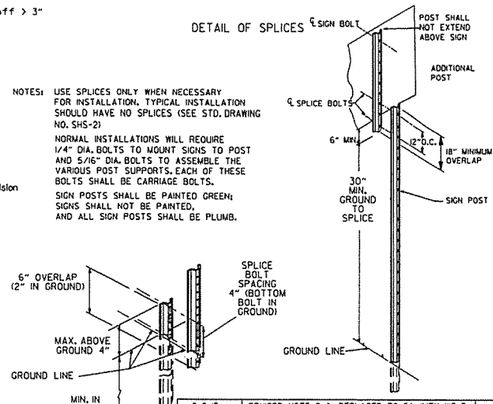
VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical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







DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

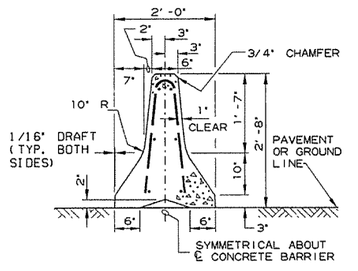
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

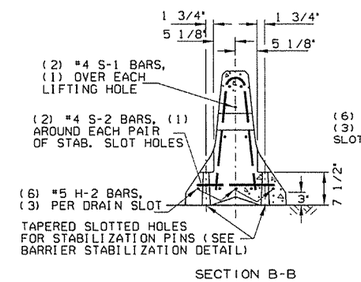
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

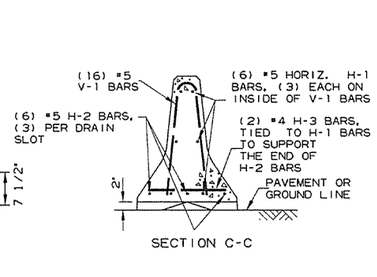
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1" MIN. CLEAR TO BAR, 1'-6", 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 4 3/8", 2'-1 3/8"



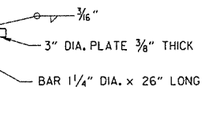
SECTION A-A



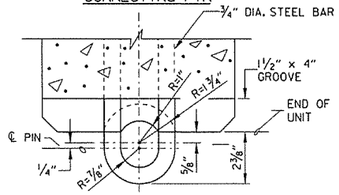
SECTION B-B



SECTION C-C

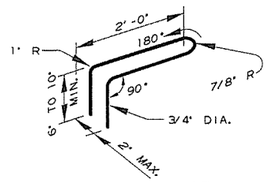


CONNECTING PIN

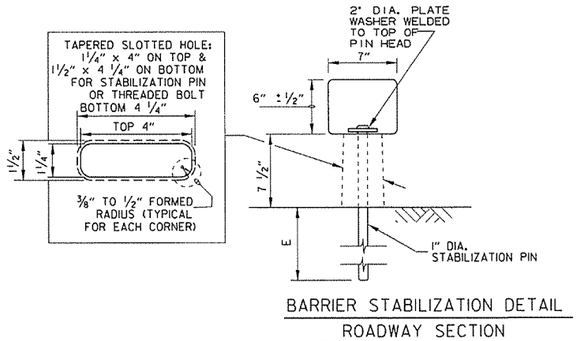


SECTION E-E

CONNECTION DETAILS



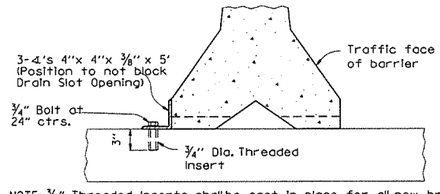
CONNECTION LOOP



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

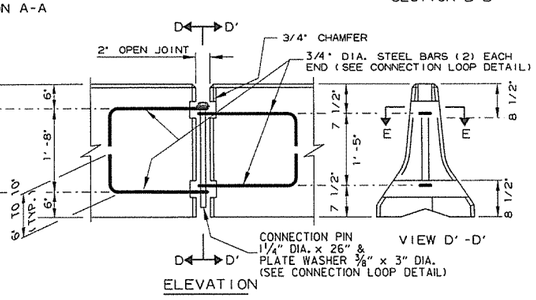
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

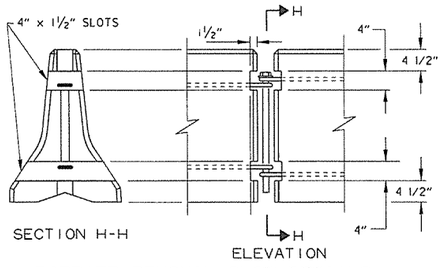
BRIDGE DECKS



VIEW D-D

VIEW D'-D'

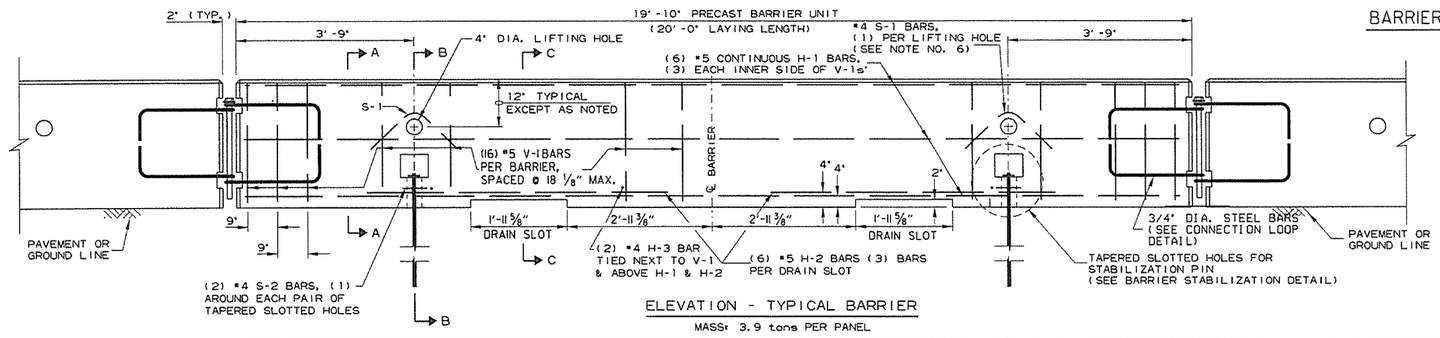
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

1. The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

2. Materials shall meet the following minimum requirements:
   Concrete: 2500 psi compressive strength at 28 days.
   Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
   Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
   Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

   In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
   Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
   Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

3. Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

4. Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

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

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

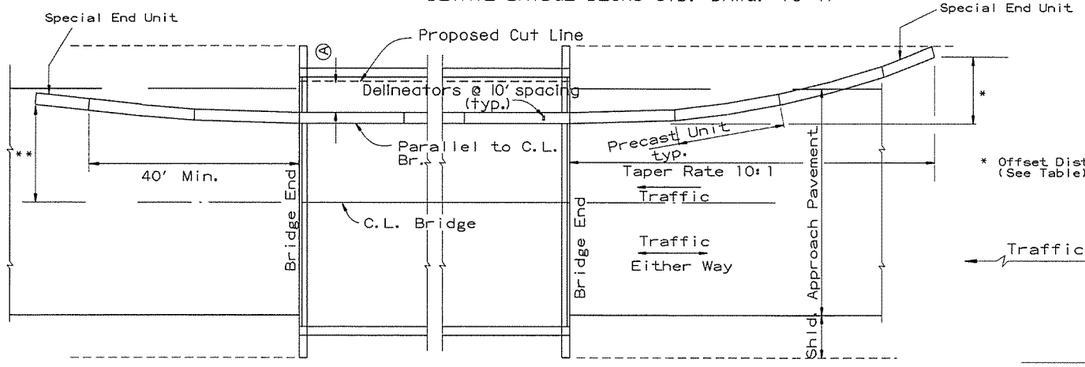
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

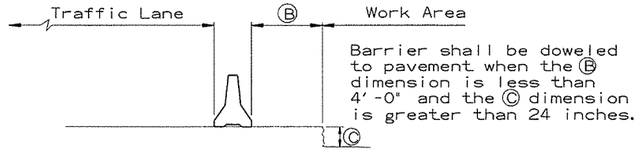
STANDARD DRAWING TC-4

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



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

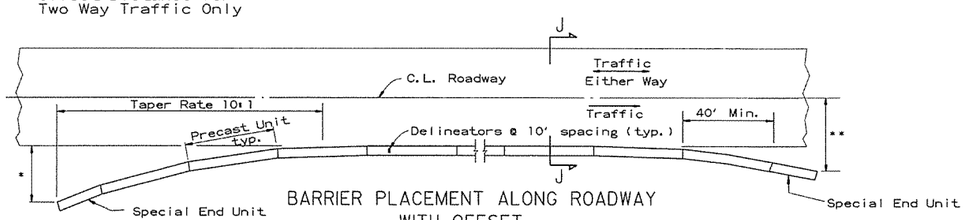


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

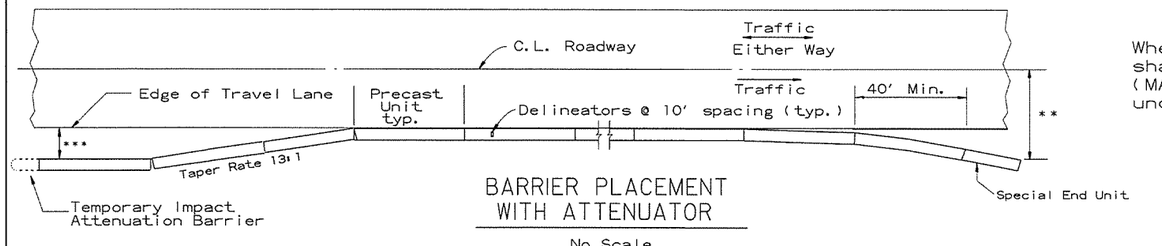
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

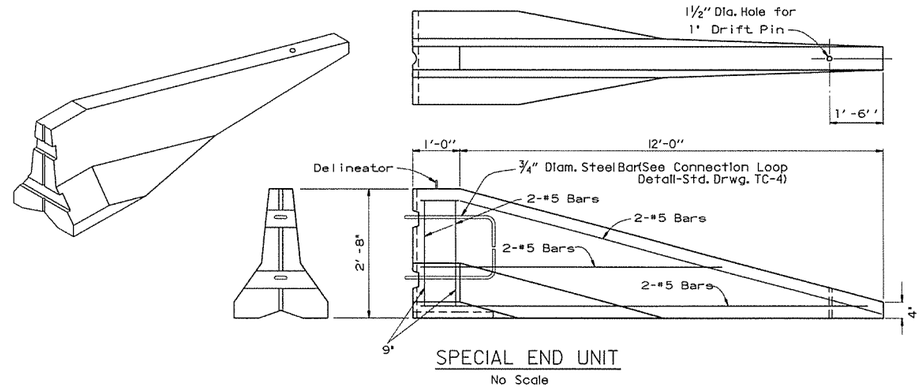


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

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

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

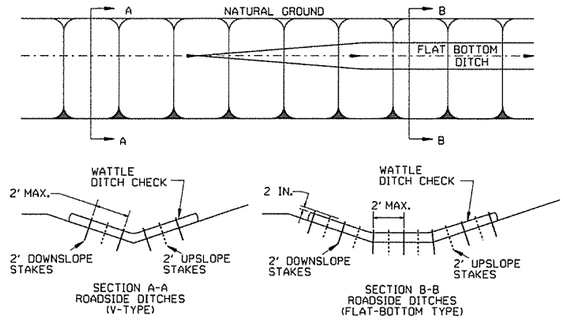
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

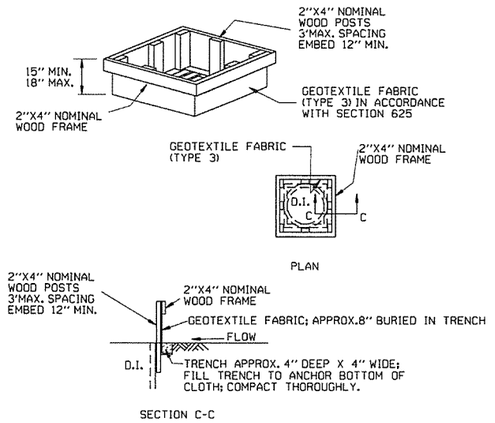
STANDARD DRAWING TC-5

GENERAL NOTES

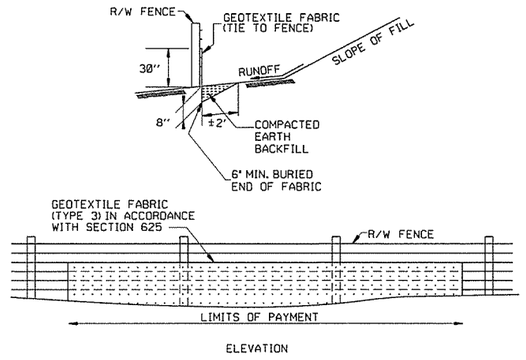
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

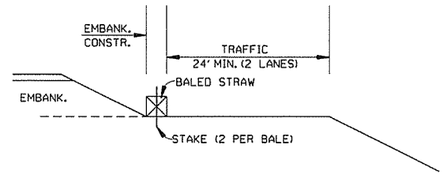
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

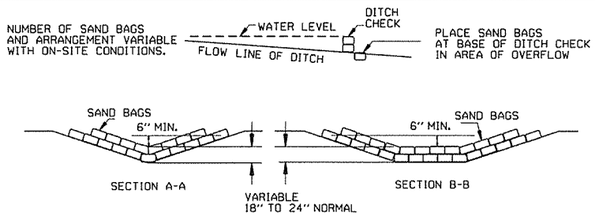
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

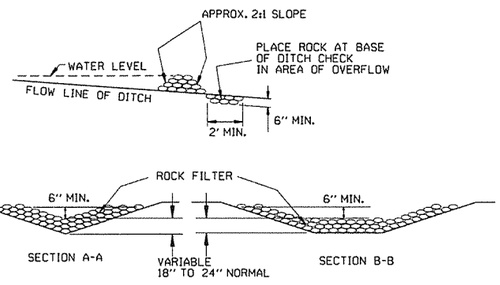
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



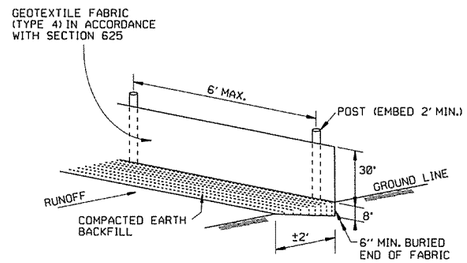
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

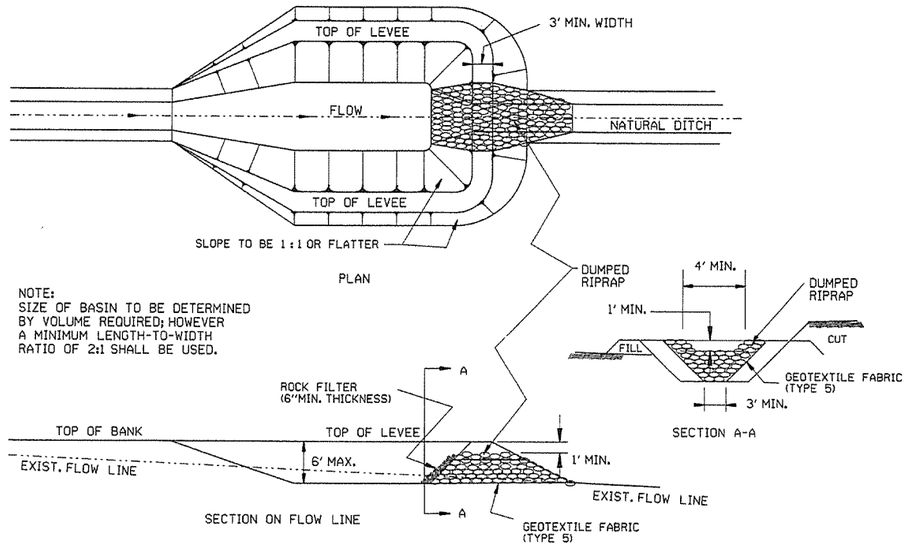
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

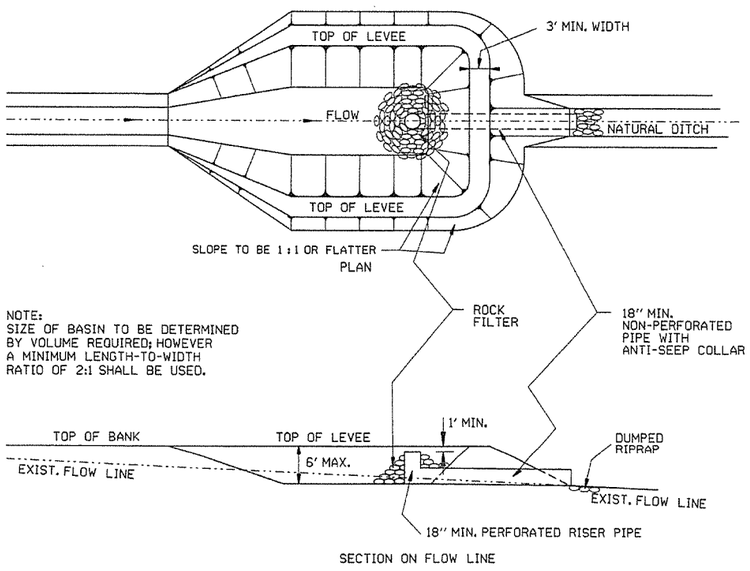
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

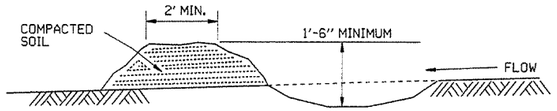
STANDARD DRAWING TEC-1



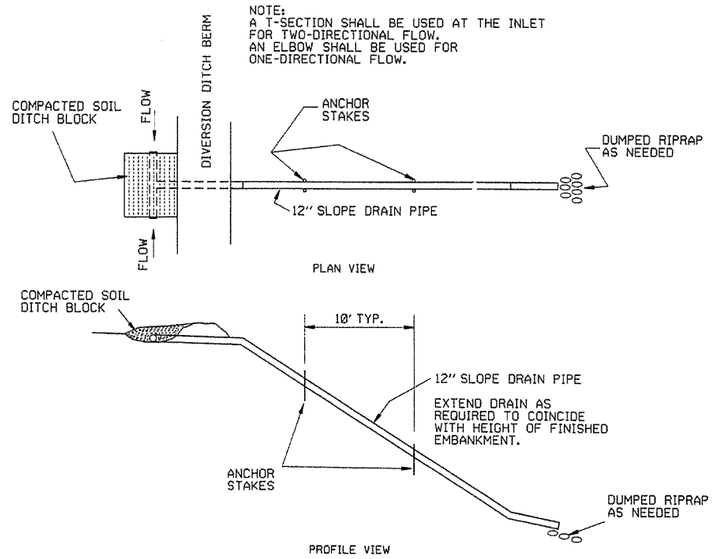
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



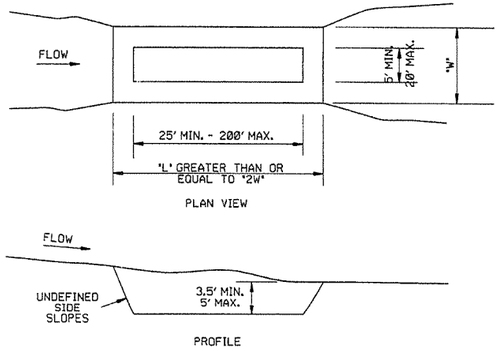
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

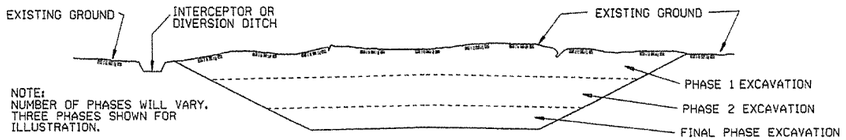
STANDARD DRAWING TEC-2

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



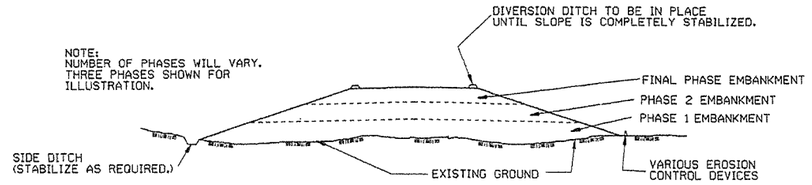
GENERAL NOTE

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

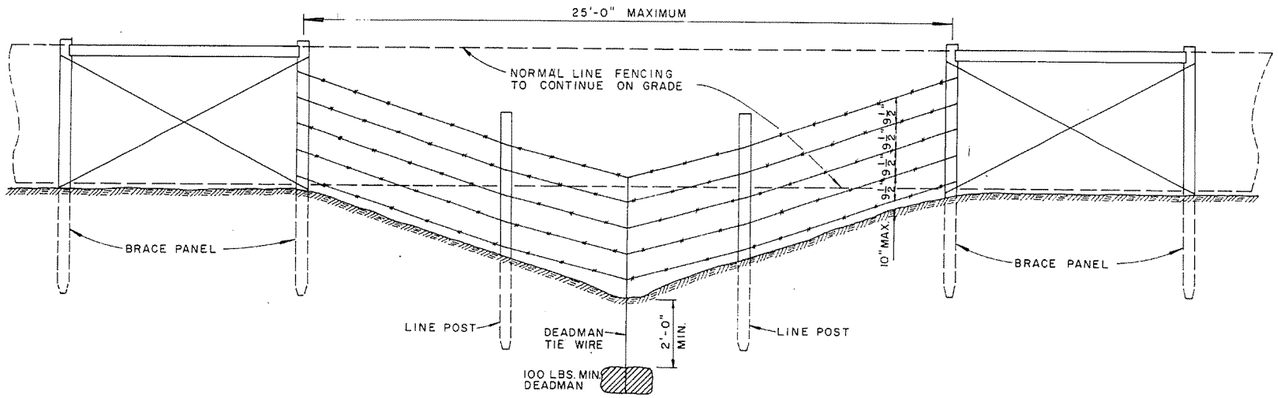
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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.

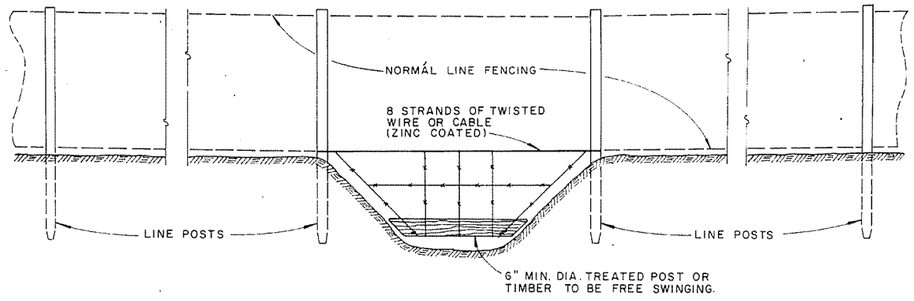
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

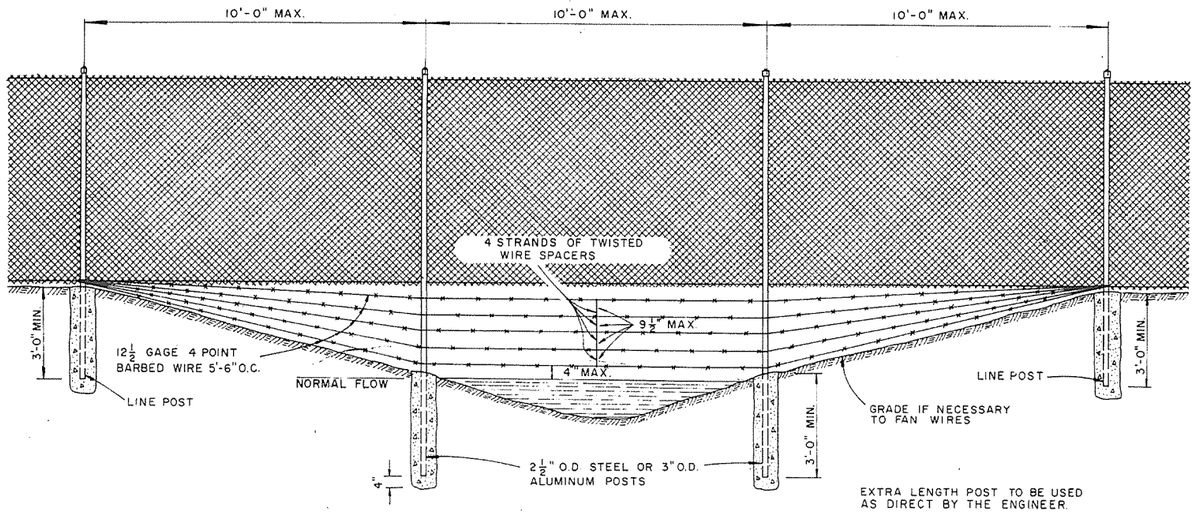
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3







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.

4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72
DATE	REVISION	DATE FILM'D.

ARKANSAS STATE HIGHWAY COMMISSION

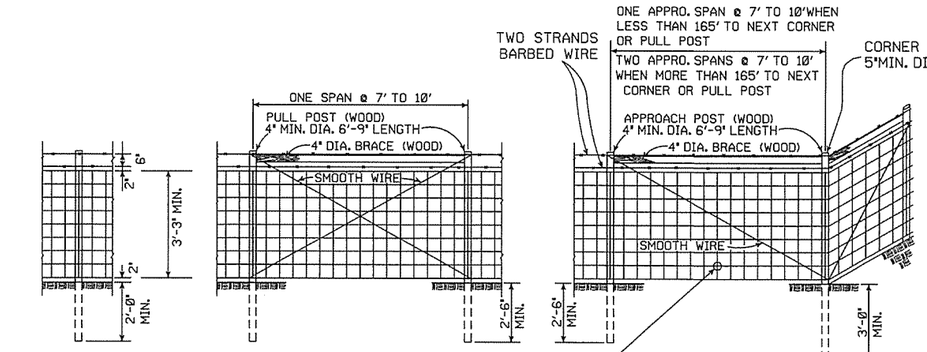
WIRE FENCE WATER GAPS

STANDARD DRAWING

WF-2

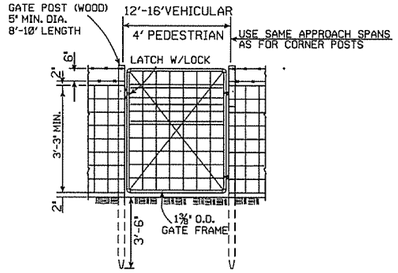
1M—11-71—67901—PP&SC

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'



GENERAL NOTES:

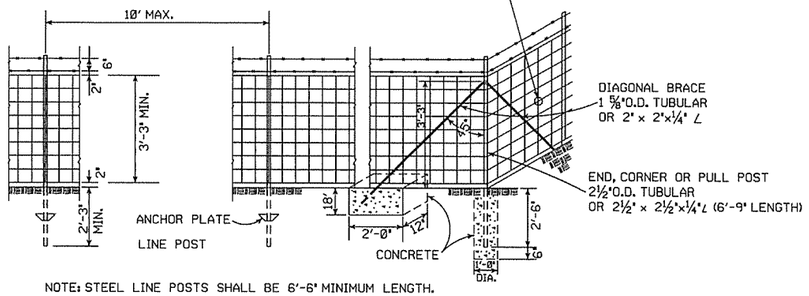
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO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

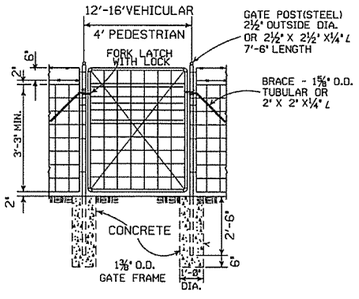
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED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

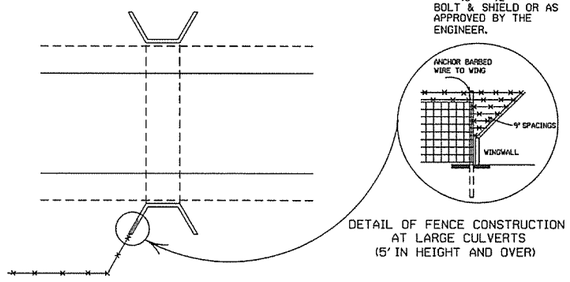
AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED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

OTHER APPROVED TIES WILL BE PERMITTED



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





NOTE: USE ⅜" X 1½" LAG BOLT & SHIELD OR AS APPROVED BY THE ENGINEER.

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

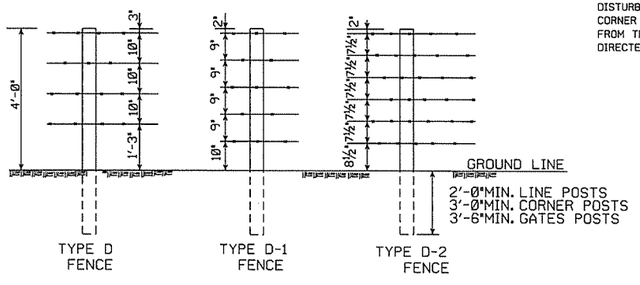
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

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

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

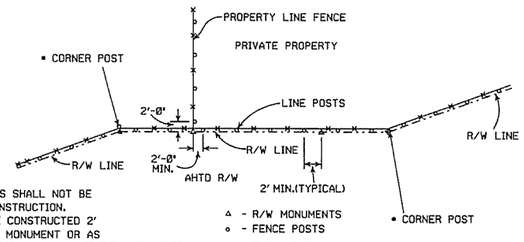
TYPE C FENCE (STEEL POSTS)

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



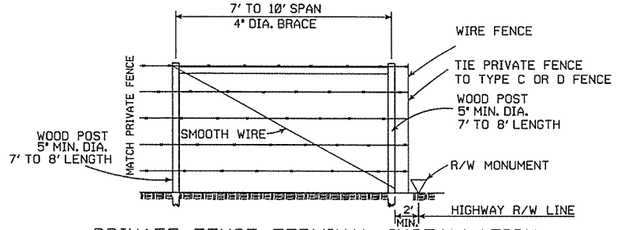
TYPE D FENCE | TYPE D-1 FENCE | TYPE D-2 FENCE

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.



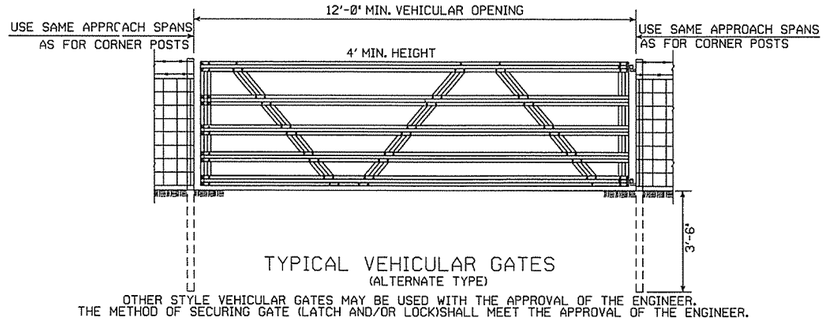
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

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

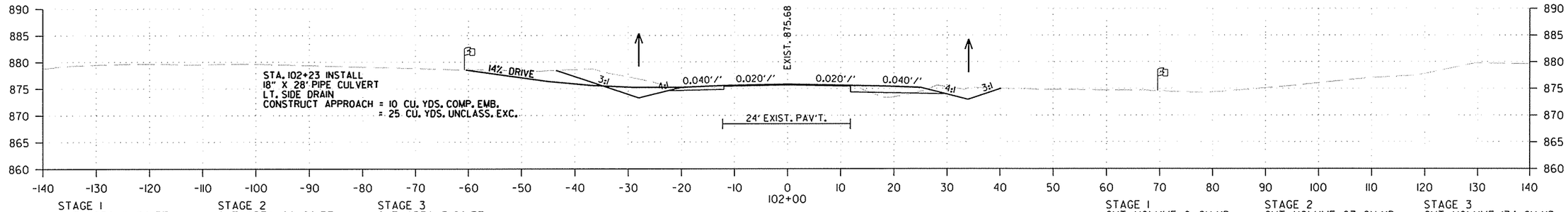
ARKANSAS STATE HIGHWAY COMMISSION

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.		050262	63	98

(2) CROSS SECTIONS



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

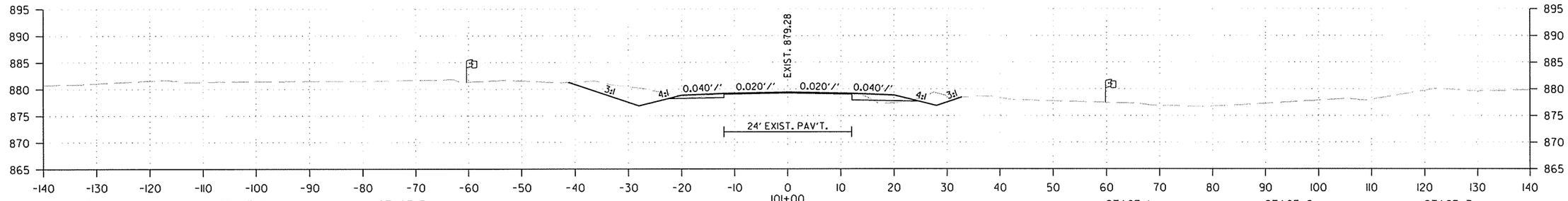
STAGE 2
CUT AREA 22 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 3
CUT AREA 51 SQ.FT.
FILL AREA 0 SQ.FT.

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

STAGE 2
CUT VOLUME 67 CU.YD.
FILL VOLUME 11 CU.YD.

STAGE 3
CUT VOLUME 174 CU.YD.
FILL VOLUME 0 CU.YD.



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

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

STAGE 3
CUT AREA 43 SQ.FT.
FILL AREA 0 SQ.FT.

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

STAGE 2
CUT VOLUME 26 CU.YD.
FILL VOLUME 4 CU.YD.

STAGE 3
CUT VOLUME 81 CU.YD.
FILL VOLUME 0 CU.YD.

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

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

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

100+00
BEGIN 100' TRANSITION

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

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

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

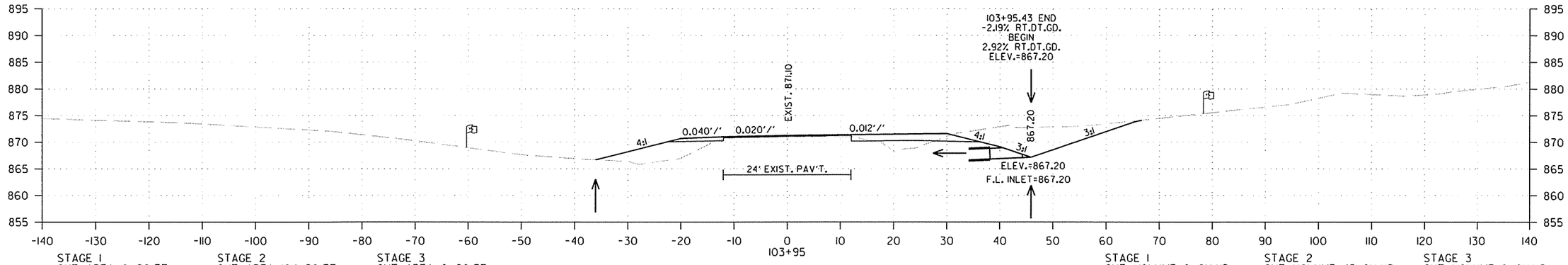
CROSS SECTION STA. 100+00 TO STA. 102+00

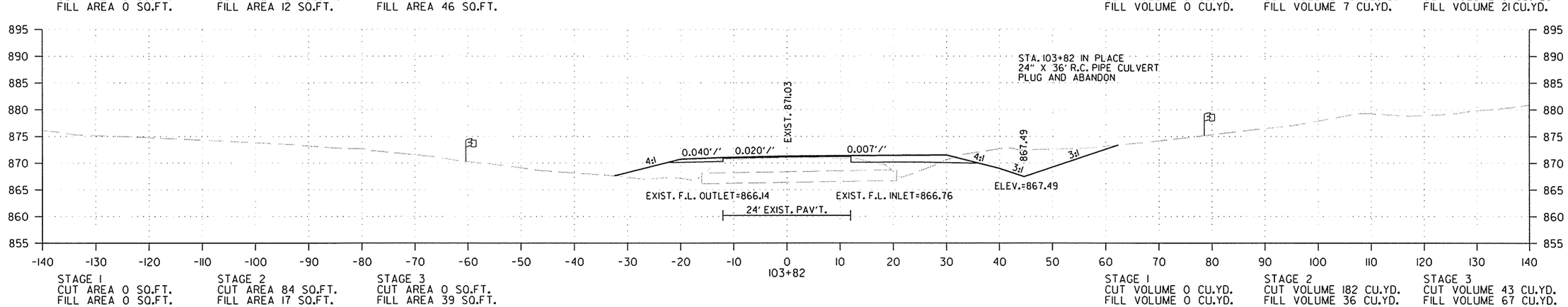
6/3/2016

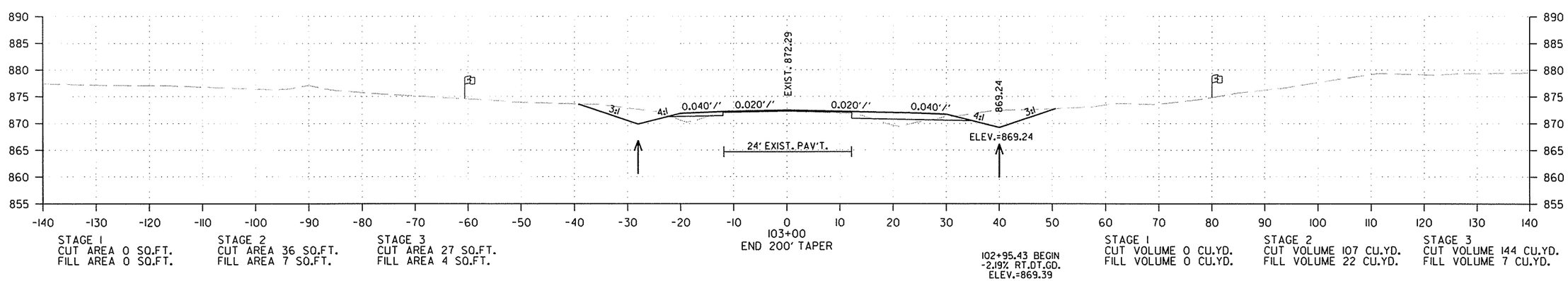
R050262.DGN

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.		050262	64	98

(2) CROSS SECTIONS







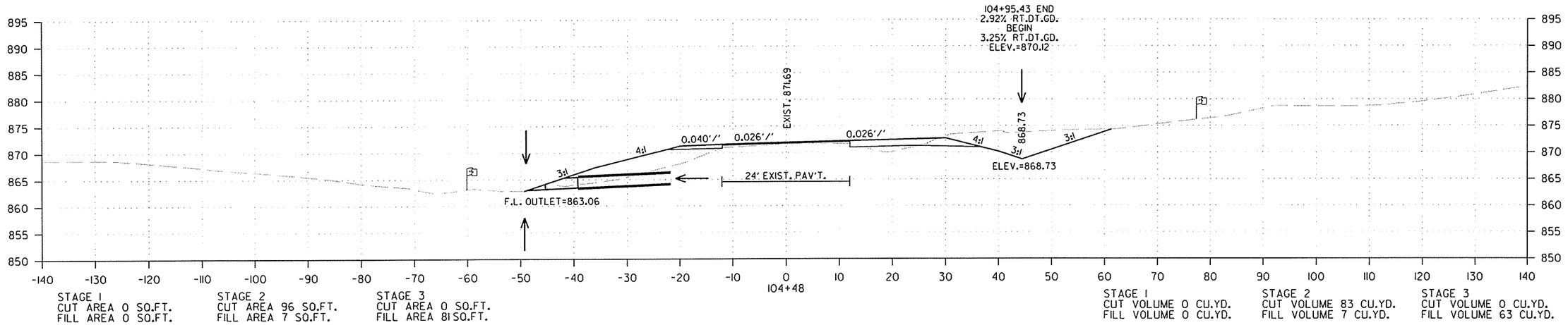
CROSS SECTION STA. 103+00 TO STA. 103+95

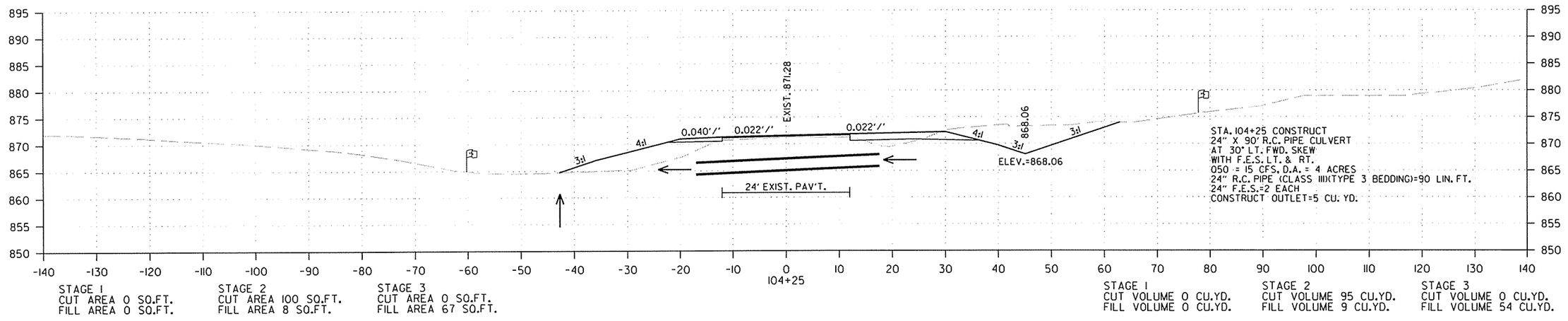
6/3/2016

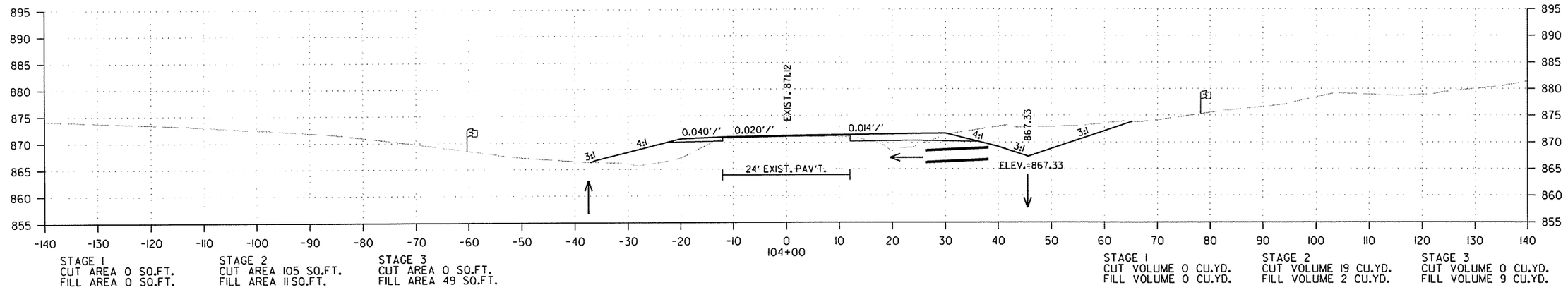
R050262.DGN

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.		050262	65	98

(2) CROSS SECTIONS







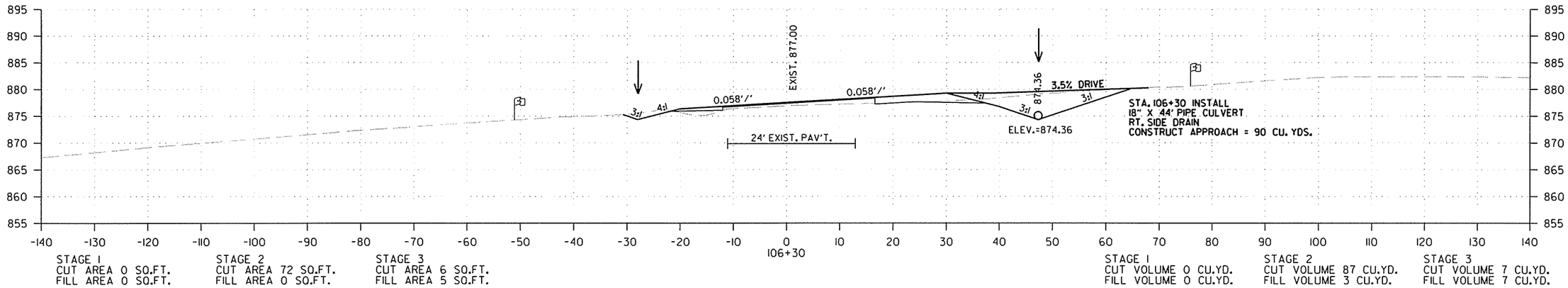
CROSS SECTION STA. 104+00 TO STA. 104+48

6/3/2016

R050262.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.		050262	66	98

(2) CROSS SECTIONS



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

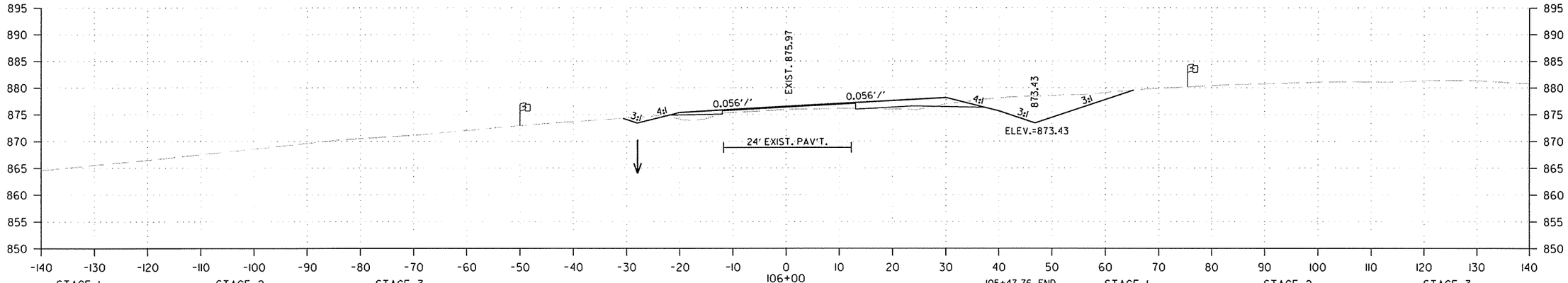
STAGE 2
CUT AREA 72 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 6 SQ.FT.
FILL AREA 5 SQ.FT.

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

STAGE 2
CUT VOLUME 87 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 3
CUT VOLUME 7 CU.YD.
FILL VOLUME 7 CU.YD.



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

STAGE 2
CUT AREA 83 SQ.FT.
FILL AREA 5 SQ.FT.

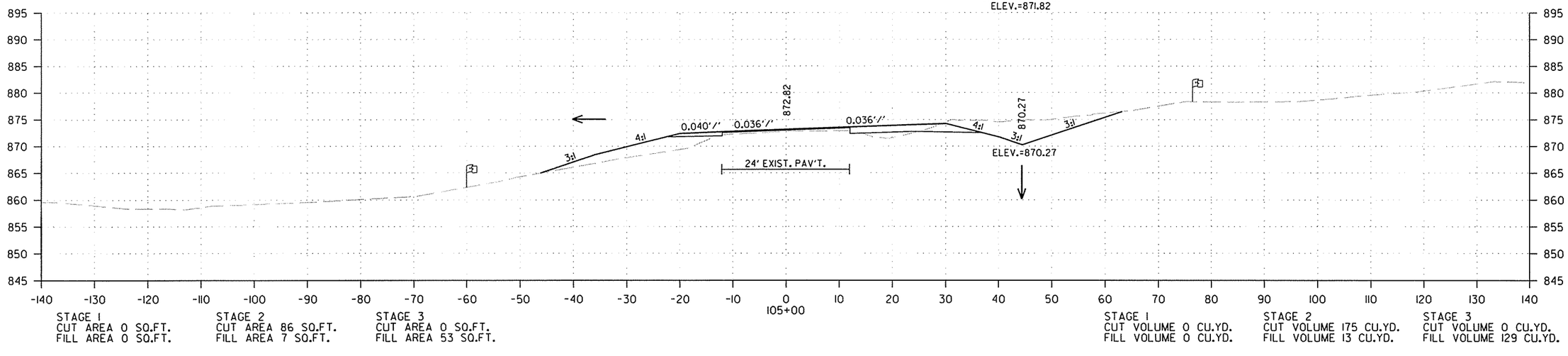
STAGE 3
CUT AREA 5 SQ.FT.
FILL AREA 7 SQ.FT.

105+47.76 END
3.25% RT.DT.GD
BEGIN
3.09% RT.DT.GD.
ELEV.=871.82

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

STAGE 2
CUT VOLUME 315 CU.YD.
FILL VOLUME 22 CU.YD.

STAGE 3
CUT VOLUME 11 CU.YD.
FILL VOLUME 111 CU.YD.



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

STAGE 2
CUT AREA 86 SQ.FT.
FILL AREA 7 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 53 SQ.FT.

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

STAGE 2
CUT VOLUME 175 CU.YD.
FILL VOLUME 13 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 129 CU.YD.

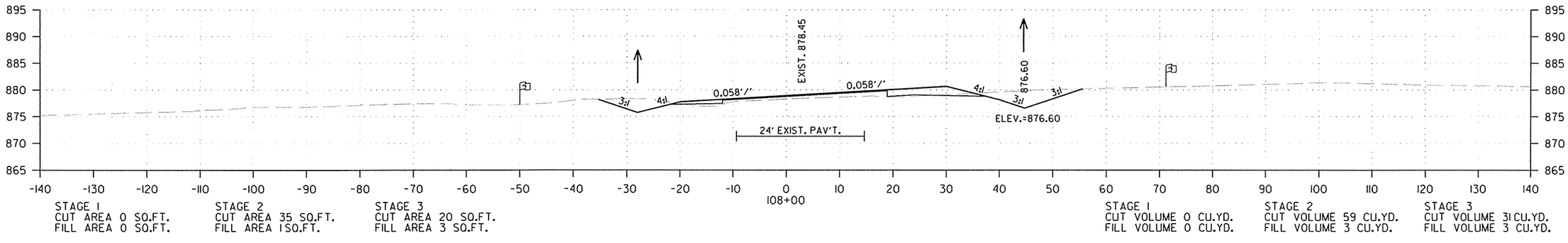
CROSS SECTION STA. 105+00 TO STA. 106+30

6/3/2016

R050262.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.		050262	67	98

(2) CROSS SECTIONS



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

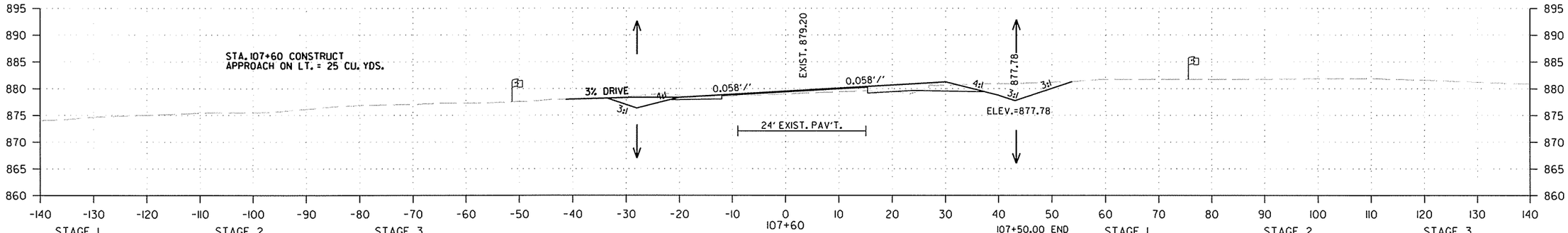
STAGE 2
CUT AREA 35 SQ.FT.
FILL AREA 1SQ.FT.

STAGE 3
CUT AREA 20 SQ.FT.
FILL AREA 3 SQ.FT.

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

STAGE 2
CUT VOLUME 59 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 3
CUT VOLUME 31 CU.YD.
FILL VOLUME 3 CU.YD.



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

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

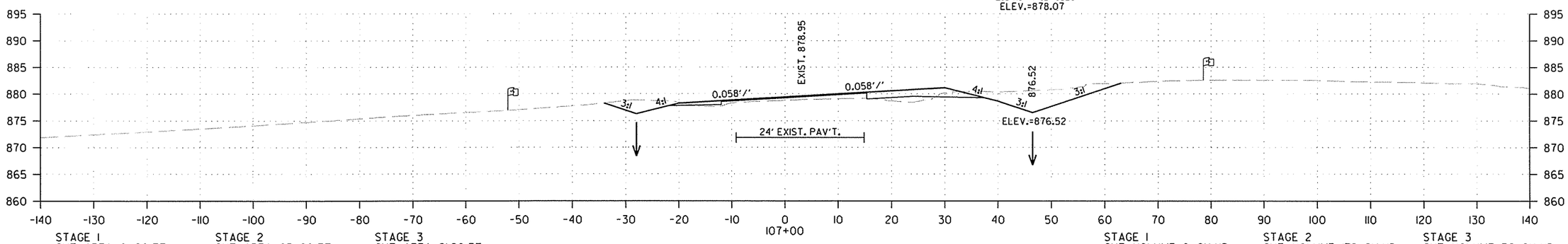
STAGE 3
CUT AREA 22 SQ.FT.
FILL AREA 0 SQ.FT.

107+50.00 END
3.09% RT.DT.GD.
BEGIN
-2.94% RT.DT.GD.
ELEV.=878.07

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

STAGE 2
CUT VOLUME 122 CU.YD.
FILL VOLUME 11 CU.YD.

STAGE 3
CUT VOLUME 49 CU.YD.
FILL VOLUME 2 CU.YD.



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

STAGE 2
CUT AREA 65 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 3
CUT AREA 21 SQ.FT.
FILL AREA 1 SQ.FT.

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

STAGE 2
CUT VOLUME 179 CU.YD.
FILL VOLUME 10 CU.YD.

STAGE 3
CUT VOLUME 36 CU.YD.
FILL VOLUME 8 CU.YD.

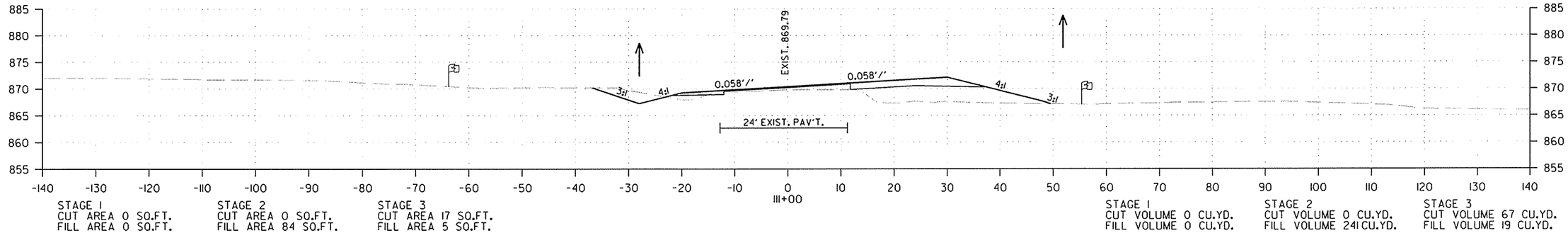
CROSS SECTION STA. 107+00 TO STA. 108+00

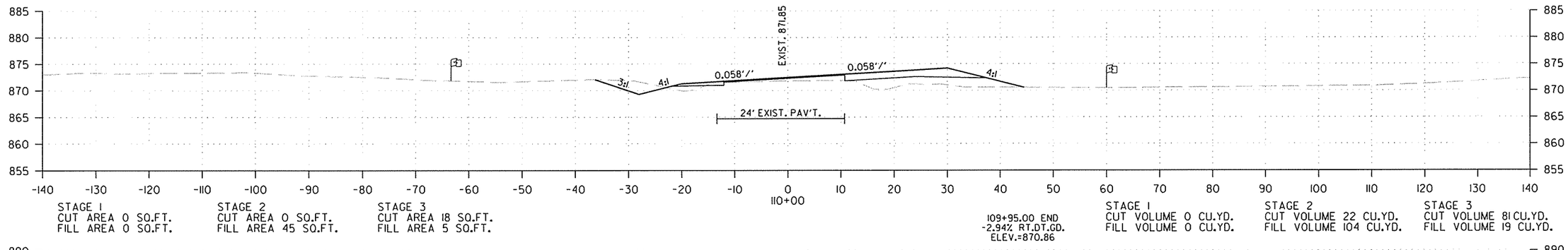
6/3/2016

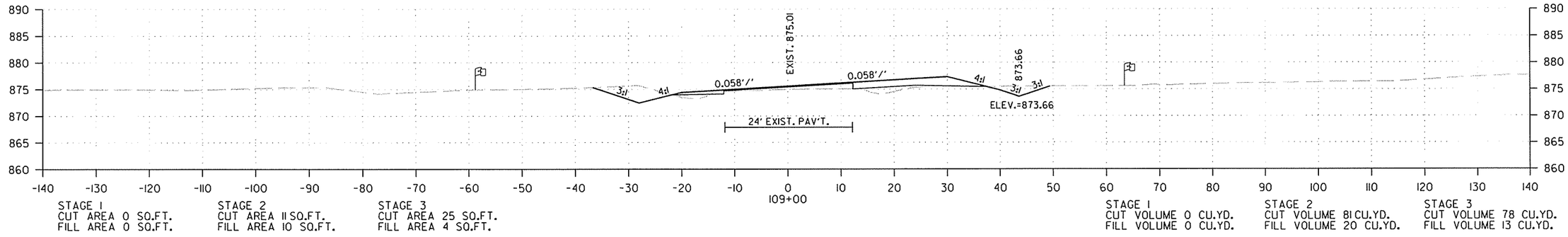
R050262.DGN

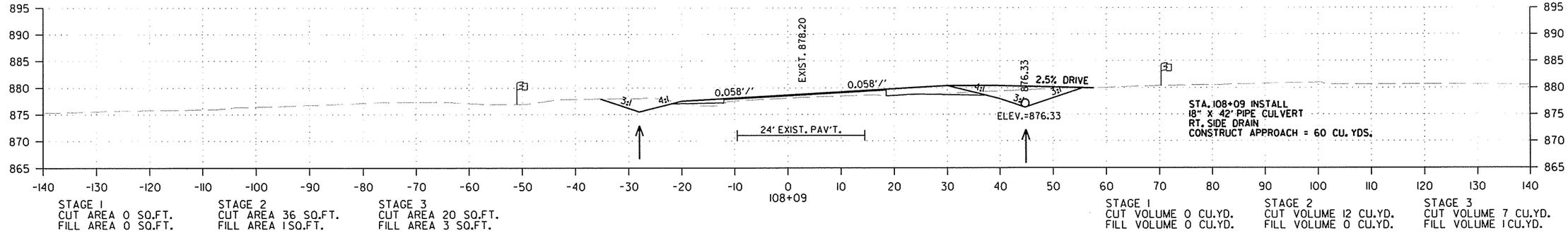
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050262	68	98

(2) CROSS SECTIONS









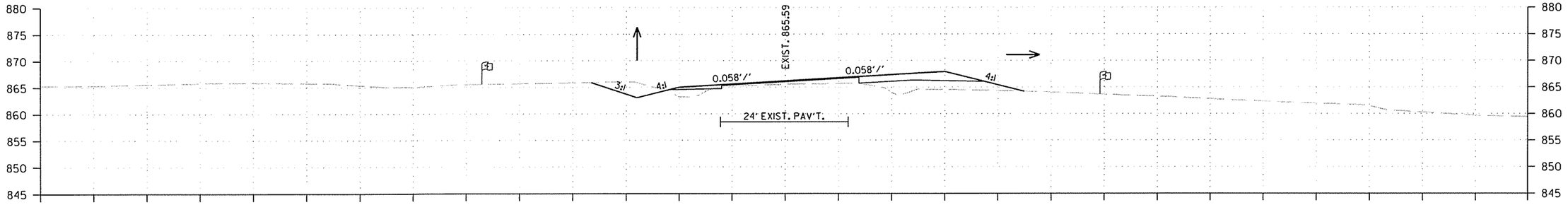
CROSS SECTION STA. 108+09 TO STA. 111+00

6/3/2016

R050262.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.		050262	69	98

(2) CROSS SECTIONS



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

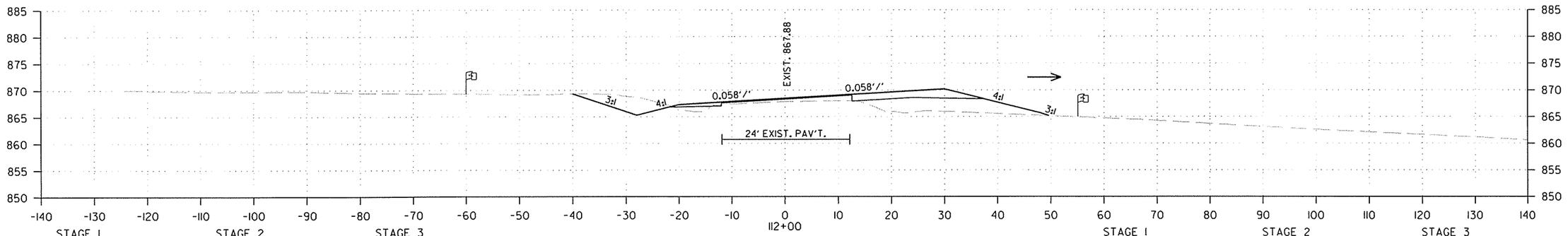
STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 44 SQ.FT.

STAGE 3
CUT AREA 21 SQ.FT.
FILL AREA 8 SQ.FT.

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 215 CU.YD.

STAGE 3
CUT VOLUME 104 CU.YD.
FILL VOLUME 26 CU.YD.



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

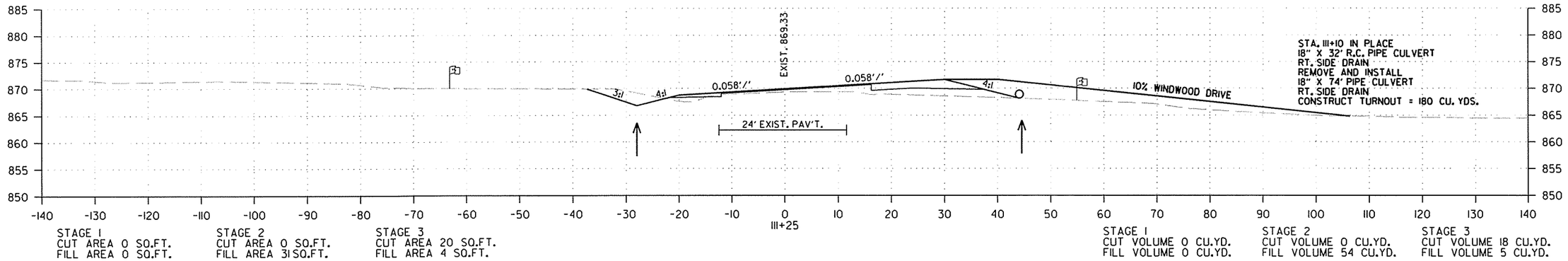
STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 71 SQ.FT.

STAGE 3
CUT AREA 34 SQ.FT.
FILL AREA 5 SQ.FT.

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 142 CU.YD.

STAGE 3
CUT VOLUME 75 CU.YD.
FILL VOLUME 14 CU.YD.



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

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 31 SQ.FT.

STAGE 3
CUT AREA 20 SQ.FT.
FILL AREA 4 SQ.FT.

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 54 CU.YD.

STAGE 3
CUT VOLUME 18 CU.YD.
FILL VOLUME 5 CU.YD.

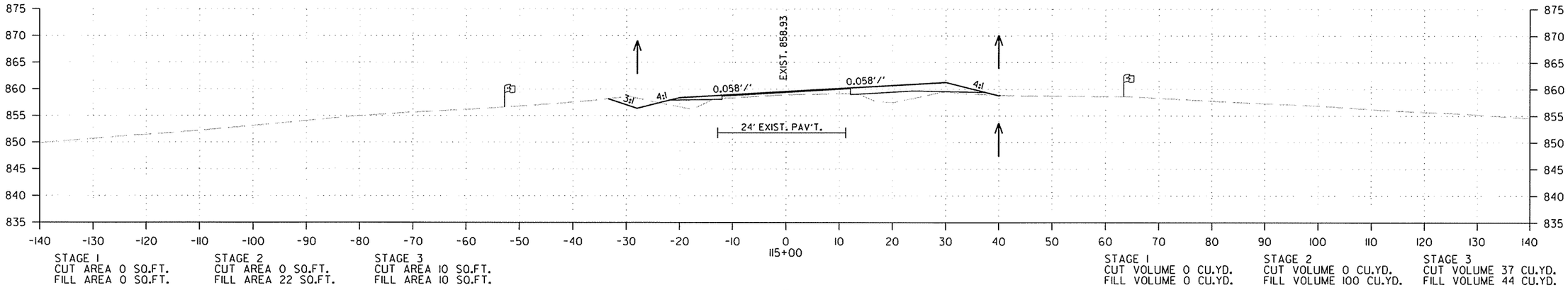
CROSS SECTION STA. 111+25 TO STA. 113+00

6/3/2016

R050262.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.		050262	70	98

(2) CROSS SECTIONS



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

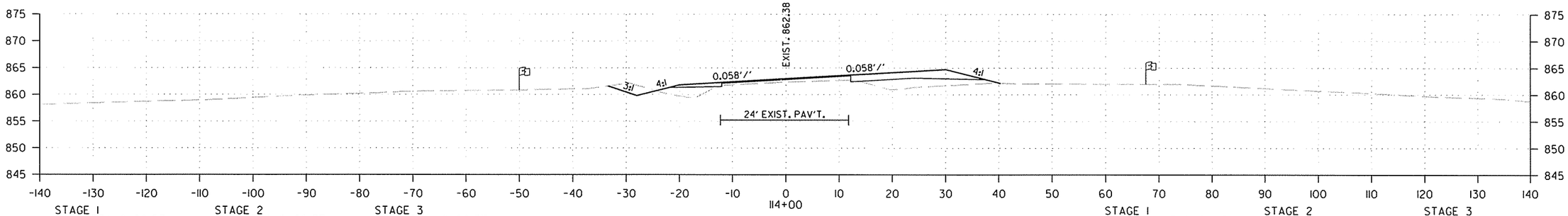
STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 22 SQ.FT.

STAGE 3
CUT AREA 10 SQ.FT.
FILL AREA 10 SQ.FT.

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 100 CU.YD.

STAGE 3
CUT VOLUME 37 CU.YD.
FILL VOLUME 44 CU.YD.



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

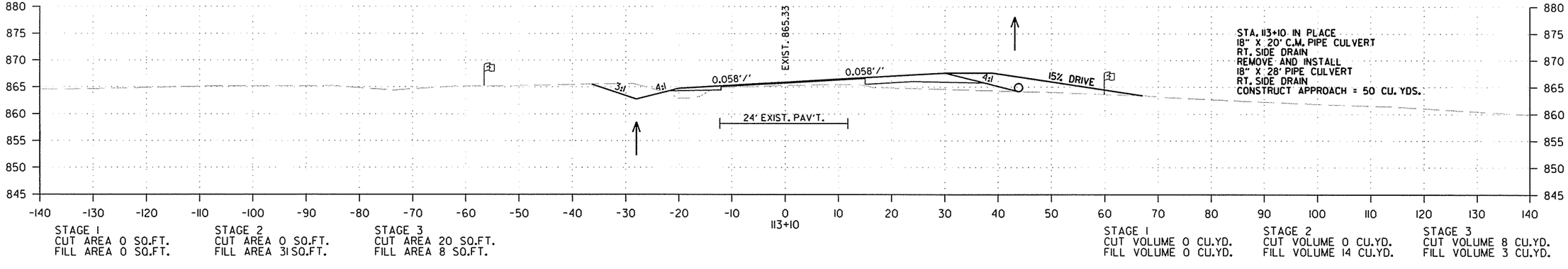
STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 32 SQ.FT.

STAGE 3
CUT AREA 10 SQ.FT.
FILL AREA 14 SQ.FT.

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 107 CU.YD.

STAGE 3
CUT VOLUME 50 CU.YD.
FILL VOLUME 37 CU.YD.



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

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 31 SQ.FT.

STAGE 3
CUT AREA 20 SQ.FT.
FILL AREA 8 SQ.FT.

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 14 CU.YD.

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

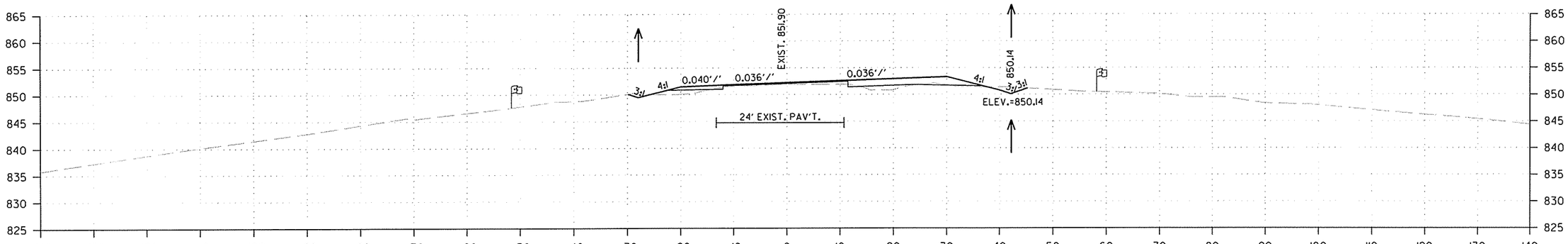
CROSS SECTION STA. 113+10 TO STA. 115+00

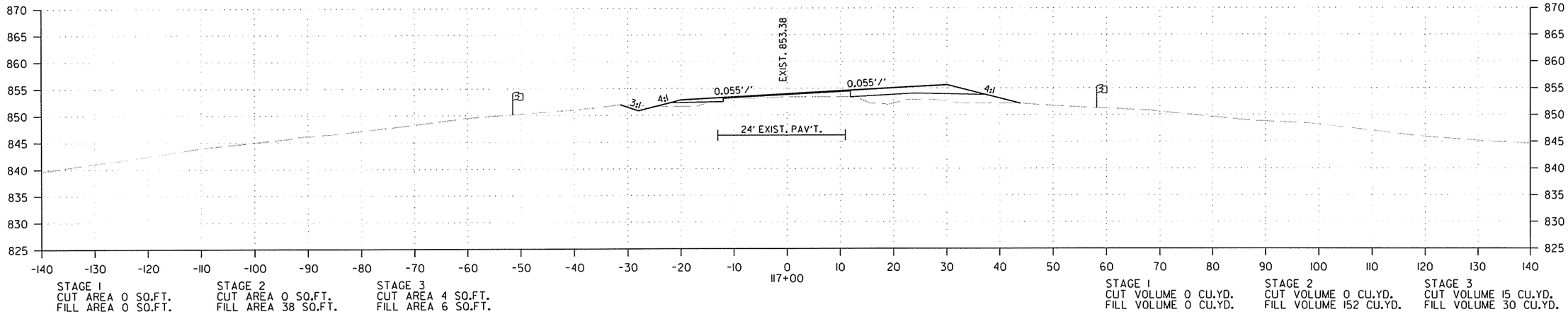
6/3/2016

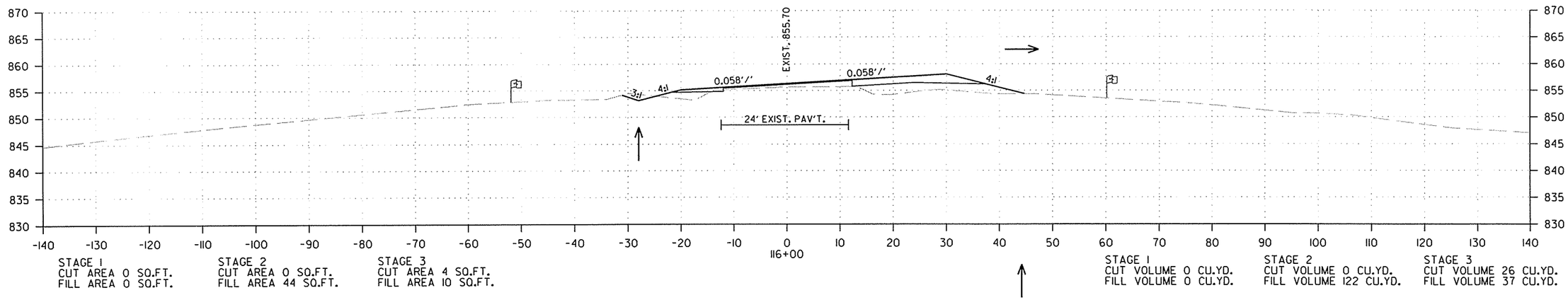
R050262.DGN

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.		050262	71	98

(2) CROSS SECTIONS







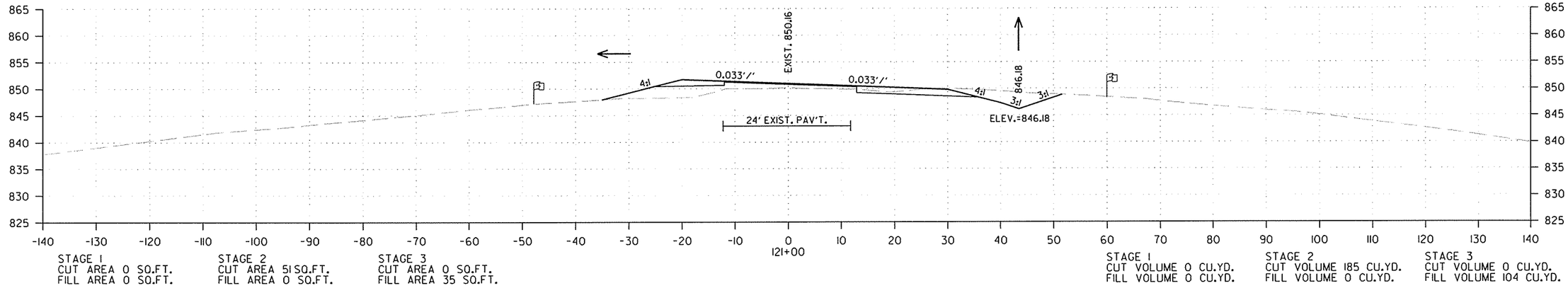
CROSS SECTION STA. 116+00 TO STA. 118+00

6/3/2016

R050262.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.		050262	72	98

(2) CROSS SECTIONS



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

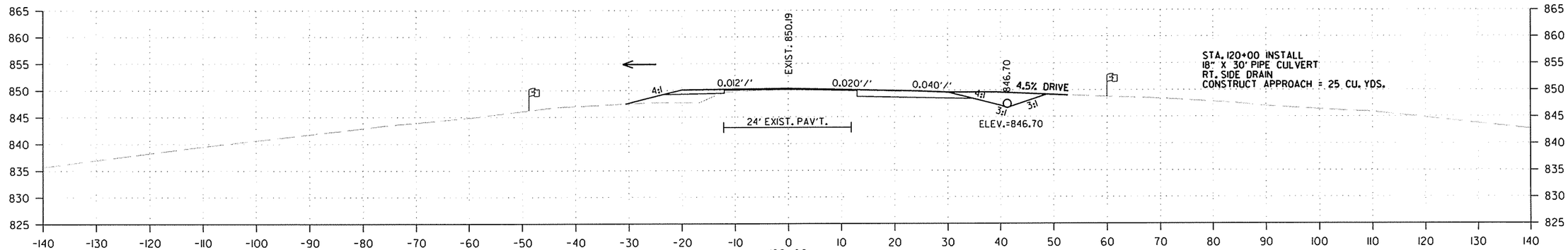
STAGE 2
CUT AREA 51 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 35 SQ.FT.

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

STAGE 2
CUT VOLUME 185 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 104 CU.YD.



STA. 120+00 INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

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

STAGE 2
CUT AREA 48 SQ.FT.
FILL AREA 0 SQ.FT.

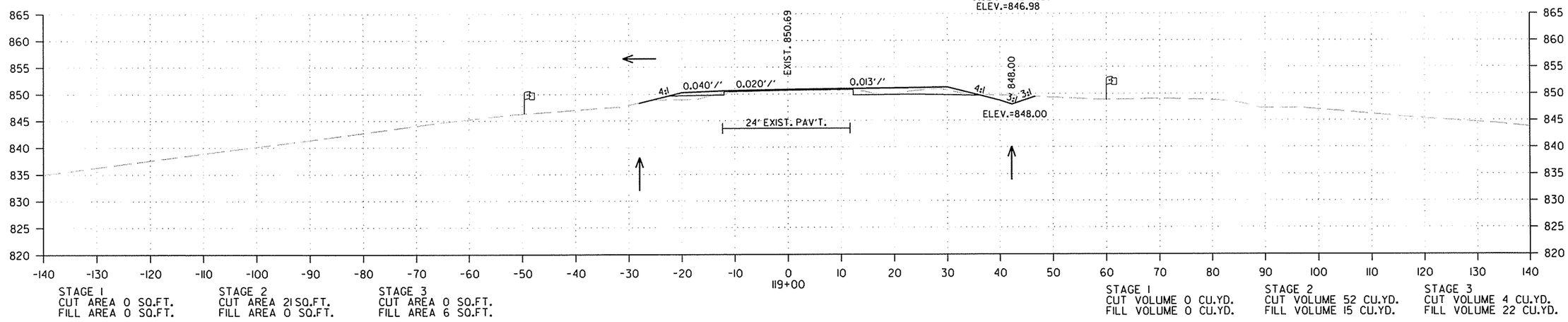
STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 20 SQ.FT.

119+47.69 END
-2.14% RT.DT.GD.
BEGIN
-0.52% RT.DT.GD.
ELEV.=846.98

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

STAGE 2
CUT VOLUME 130 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 48 CU.YD.



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

STAGE 2
CUT AREA 21 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 6 SQ.FT.

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

STAGE 2
CUT VOLUME 52 CU.YD.
FILL VOLUME 15 CU.YD.

STAGE 3
CUT VOLUME 4 CU.YD.
FILL VOLUME 22 CU.YD.

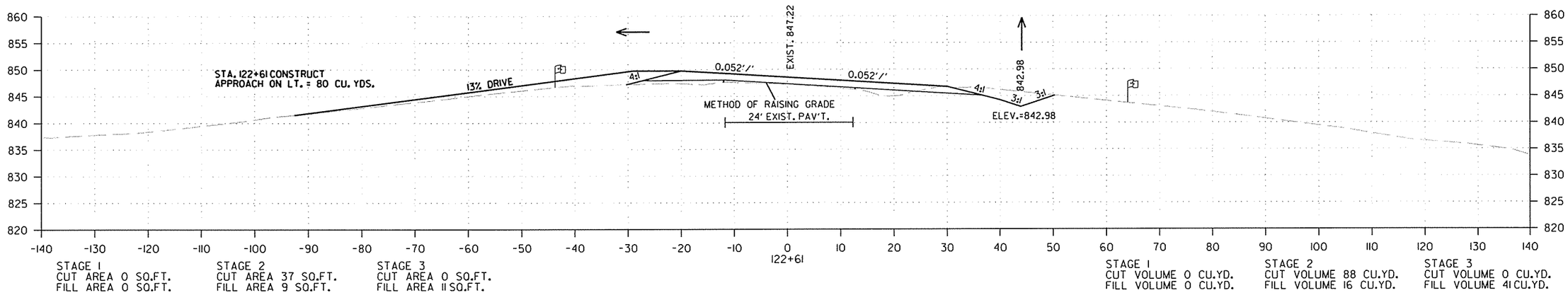
CROSS SECTION STA. 119+00 TO STA. 121+00

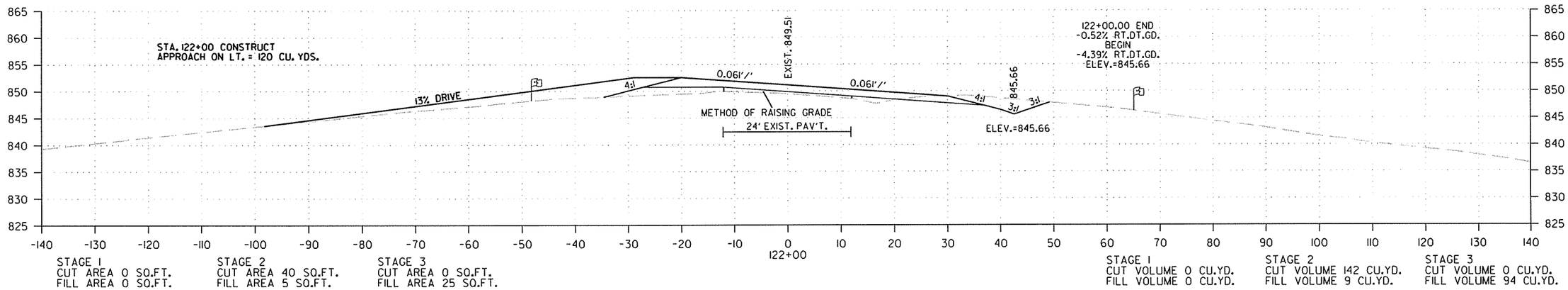
6/3/2016

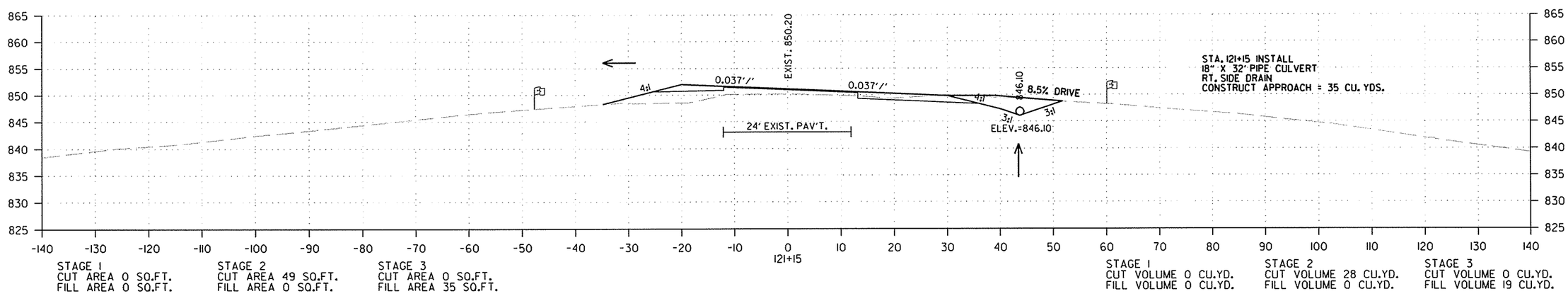
R050262.DGN

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.		050262	73	98

(2) CROSS SECTIONS







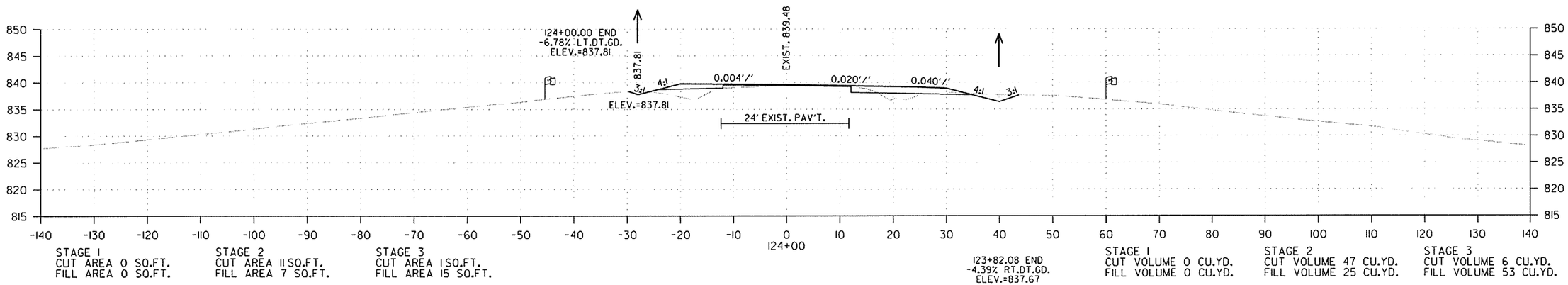
CROSS SECTION STA. 121+15 TO STA. 122+61

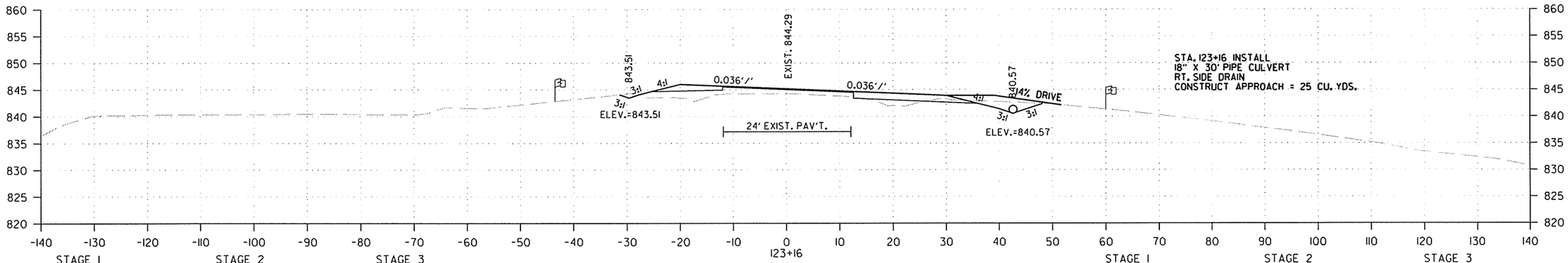
6/3/2016

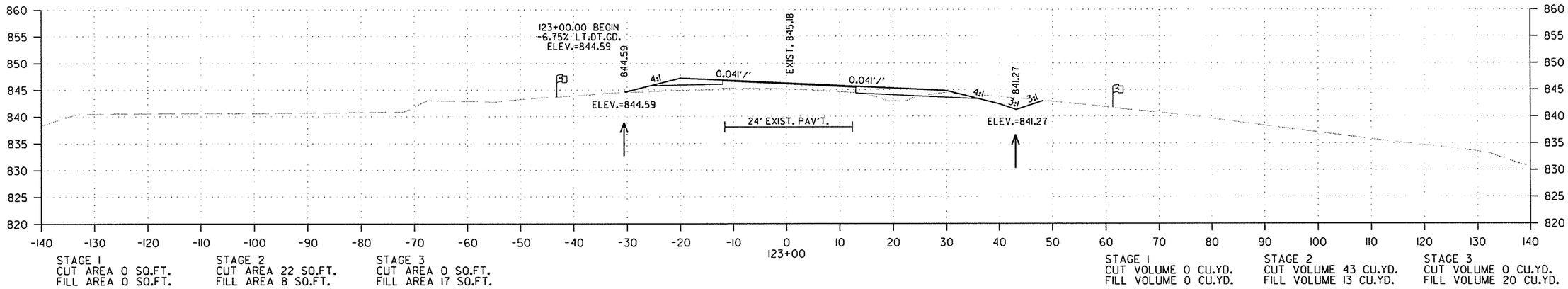
R050262.DGN

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.		050262	74	98

(2) CROSS SECTIONS







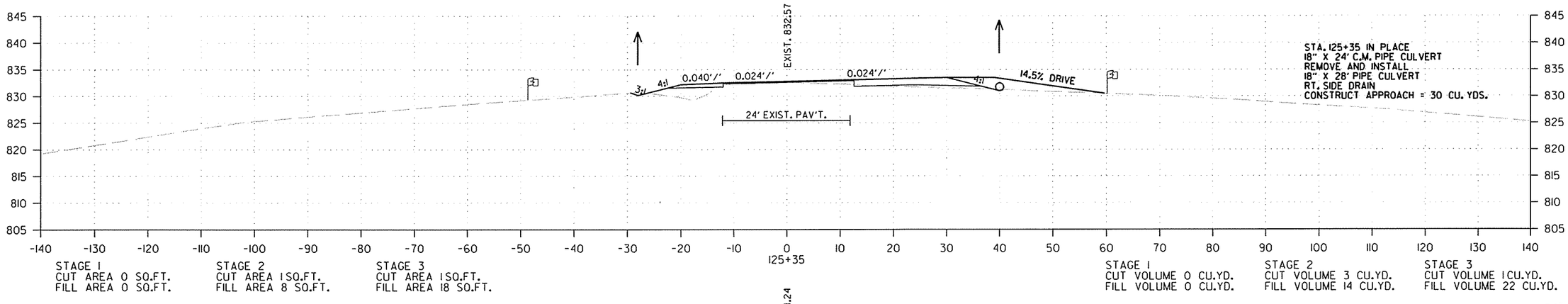
CROSS SECTION STA. 123+00 TO STA. 124+00

6/3/2016

R050262.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.		050262	75	98

(2) CROSS SECTIONS



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

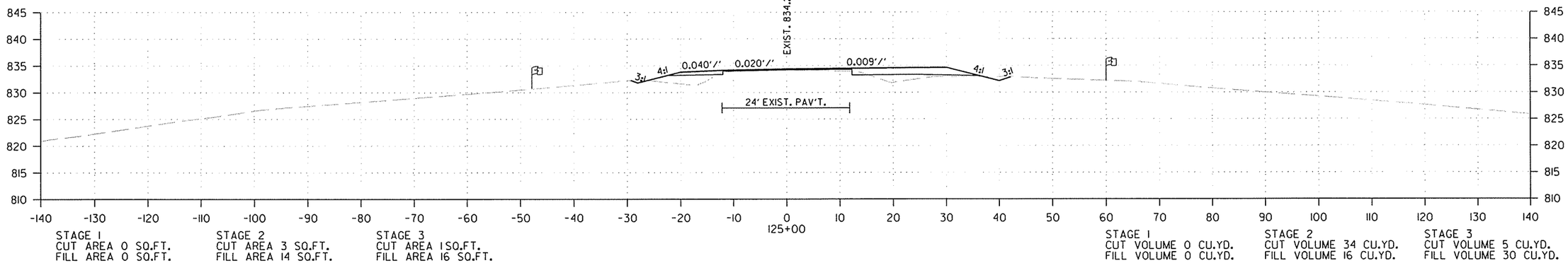
STAGE 2
CUT AREA 1SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 3
CUT AREA 1SQ.FT.
FILL AREA 18 SQ.FT.

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

STAGE 2
CUT VOLUME 3 CU.YD.
FILL VOLUME 14 CU.YD.

STAGE 3
CUT VOLUME 1CU.YD.
FILL VOLUME 22 CU.YD.



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

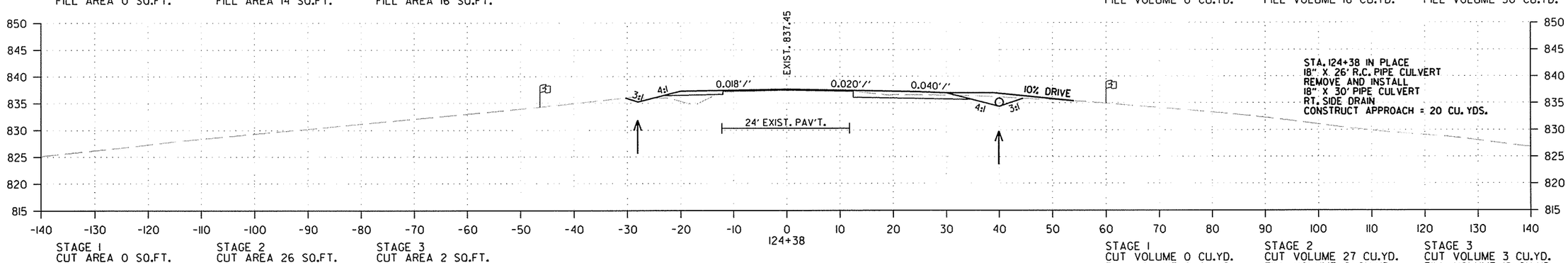
STAGE 2
CUT AREA 3 SQ.FT.
FILL AREA 14 SQ.FT.

STAGE 3
CUT AREA 1SQ.FT.
FILL AREA 16 SQ.FT.

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

STAGE 2
CUT VOLUME 34 CU.YD.
FILL VOLUME 16 CU.YD.

STAGE 3
CUT VOLUME 5 CU.YD.
FILL VOLUME 30 CU.YD.



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

STAGE 2
CUT AREA 26 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 2 SQ.FT.
FILL AREA 10 SQ.FT.

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

STAGE 2
CUT VOLUME 27 CU.YD.
FILL VOLUME 6 CU.YD.

STAGE 3
CUT VOLUME 3 CU.YD.
FILL VOLUME 18 CU.YD.

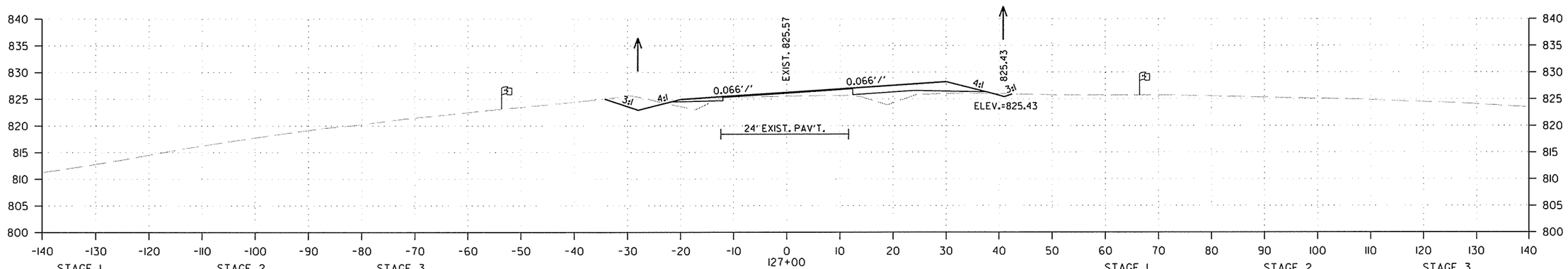
CROSS SECTION STA. 124+38 TO STA. 125+35

6/3/2016

R050262.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.		050262	76	98

(2) CROSS SECTIONS



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

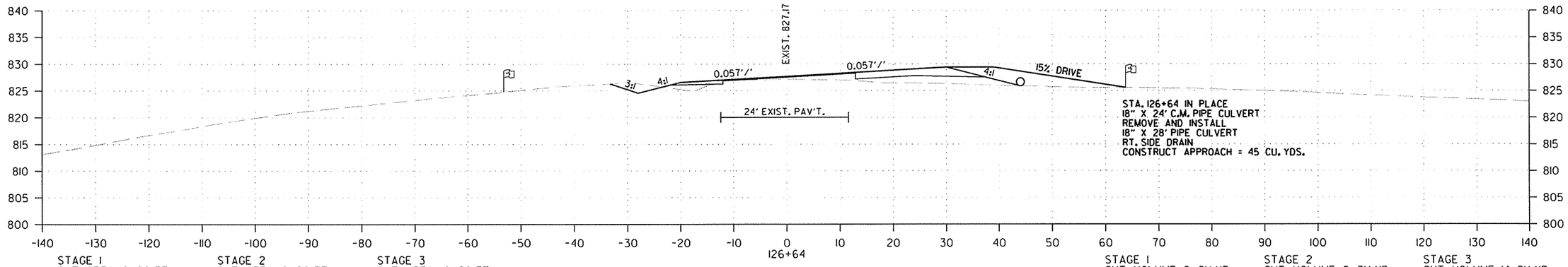
STAGE 2
CUT AREA 1SQ.FT.
FILL AREA 22 SQ.FT.

STAGE 3
CUT AREA 16 SQ.FT.
FILL AREA 8 SQ.FT.

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

STAGE 2
CUT VOLUME 1CU.YD.
FILL VOLUME 37 CU.YD.

STAGE 3
CUT VOLUME 17 CU.YD.
FILL VOLUME 9 CU.YD.



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

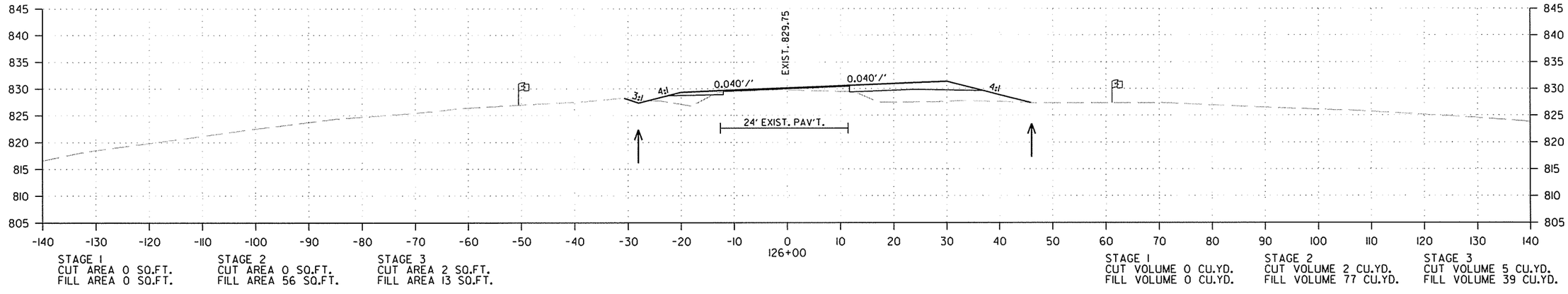
STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 34 SQ.FT.

STAGE 3
CUT AREA 10 SQ.FT.
FILL AREA 6 SQ.FT.

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 107 CU.YD.

STAGE 3
CUT VOLUME 14 CU.YD.
FILL VOLUME 24 CU.YD.



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

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 56 SQ.FT.

STAGE 3
CUT AREA 2 SQ.FT.
FILL AREA 13 SQ.FT.

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

STAGE 2
CUT VOLUME 2 CU.YD.
FILL VOLUME 77 CU.YD.

STAGE 3
CUT VOLUME 5 CU.YD.
FILL VOLUME 39 CU.YD.

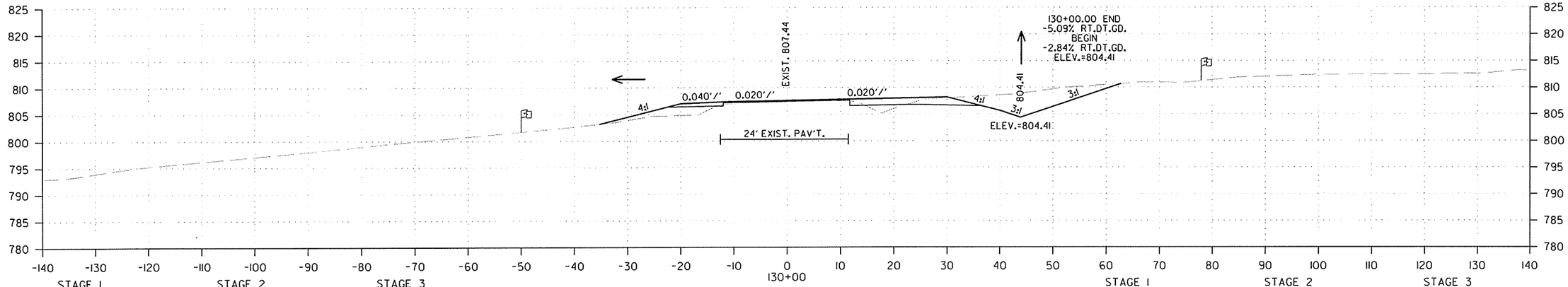
CROSS SECTION STA. 126+00 TO STA. 127+00

6/3/2016

R050262.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.		050262	77	98

(2) CROSS SECTIONS



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

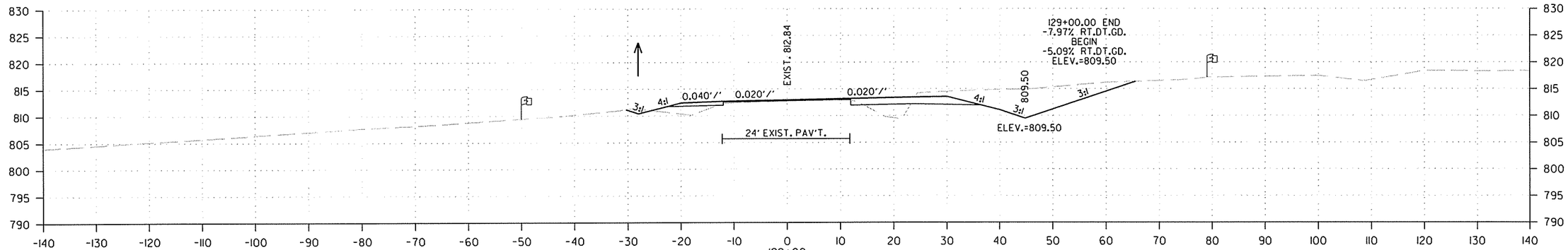
STAGE 2
CUT AREA 86 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 22 SQ.FT.

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

STAGE 2
CUT VOLUME 389 CU.YD.
FILL VOLUME 41 CU.YD.

STAGE 3
CUT VOLUME 4 CU.YD.
FILL VOLUME 63 CU.YD.



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

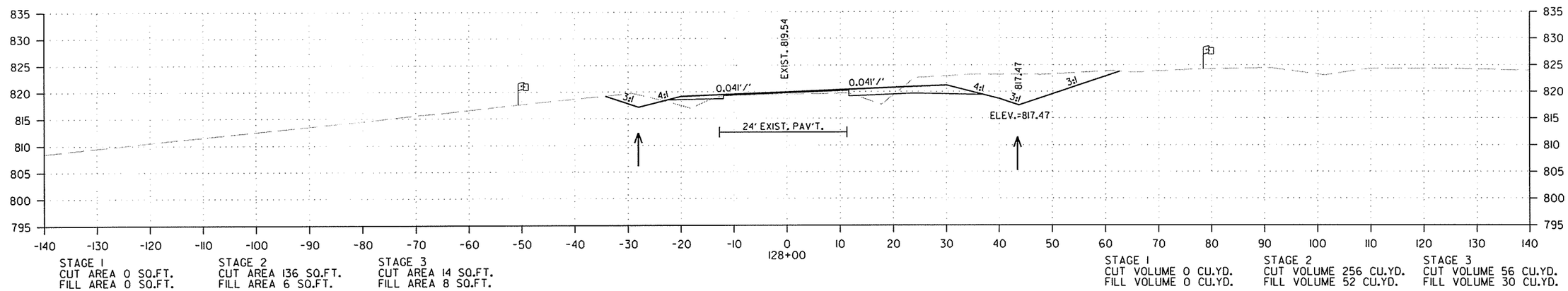
STAGE 2
CUT AREA 124 SQ.FT.
FILL AREA 15 SQ.FT.

STAGE 3
CUT AREA 2 SQ.FT.
FILL AREA 12 SQ.FT.

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

STAGE 2
CUT VOLUME 481 CU.YD.
FILL VOLUME 41 CU.YD.

STAGE 3
CUT VOLUME 30 CU.YD.
FILL VOLUME 37 CU.YD.



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

STAGE 2
CUT AREA 136 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 3
CUT AREA 14 SQ.FT.
FILL AREA 8 SQ.FT.

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

STAGE 2
CUT VOLUME 256 CU.YD.
FILL VOLUME 52 CU.YD.

STAGE 3
CUT VOLUME 56 CU.YD.
FILL VOLUME 30 CU.YD.

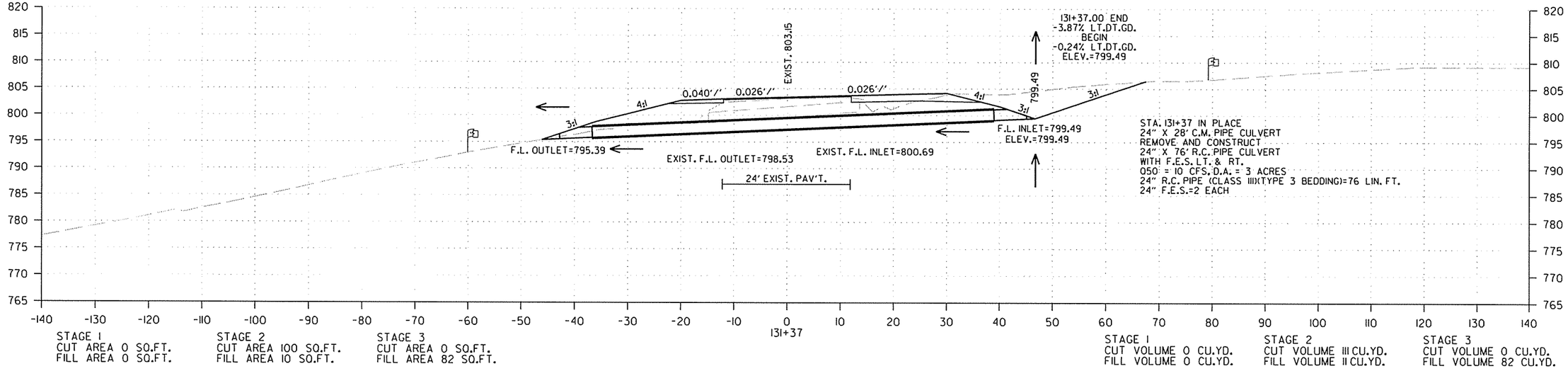
CROSS SECTION STA. 128+00 TO STA. 130+00

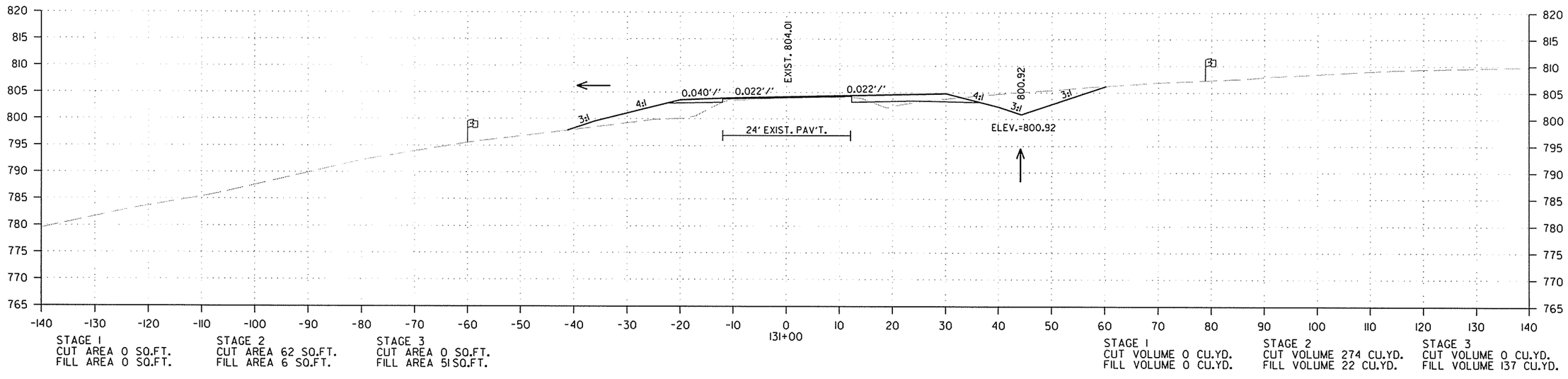
6/3/2016

R050262.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.		050262	78	98

(2) CROSS SECTIONS





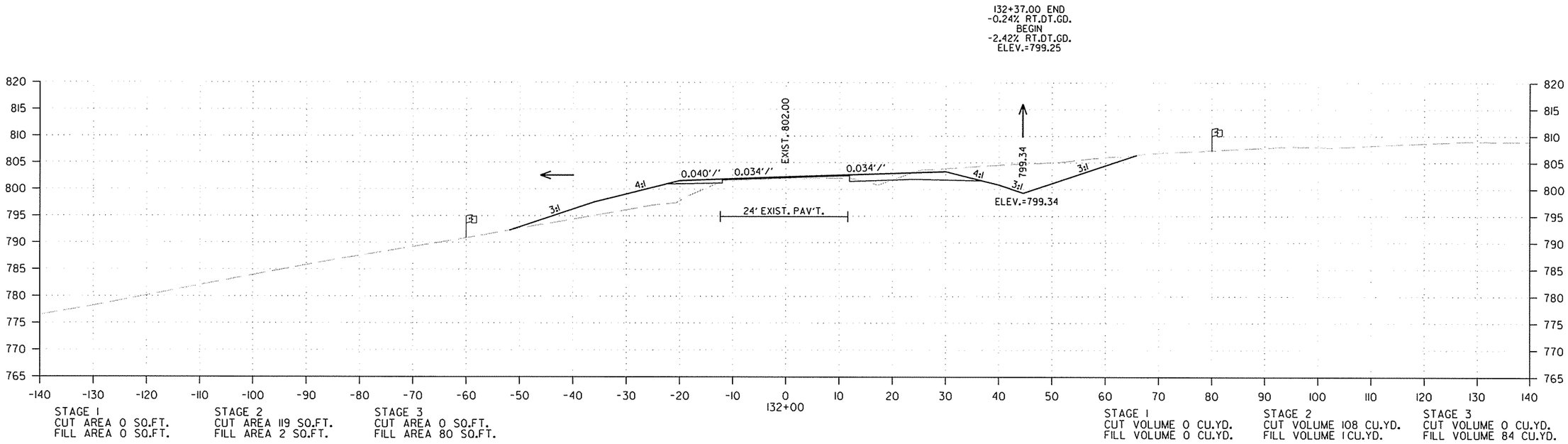
CROSS SECTION STA. 131+00 TO STA. 131+37

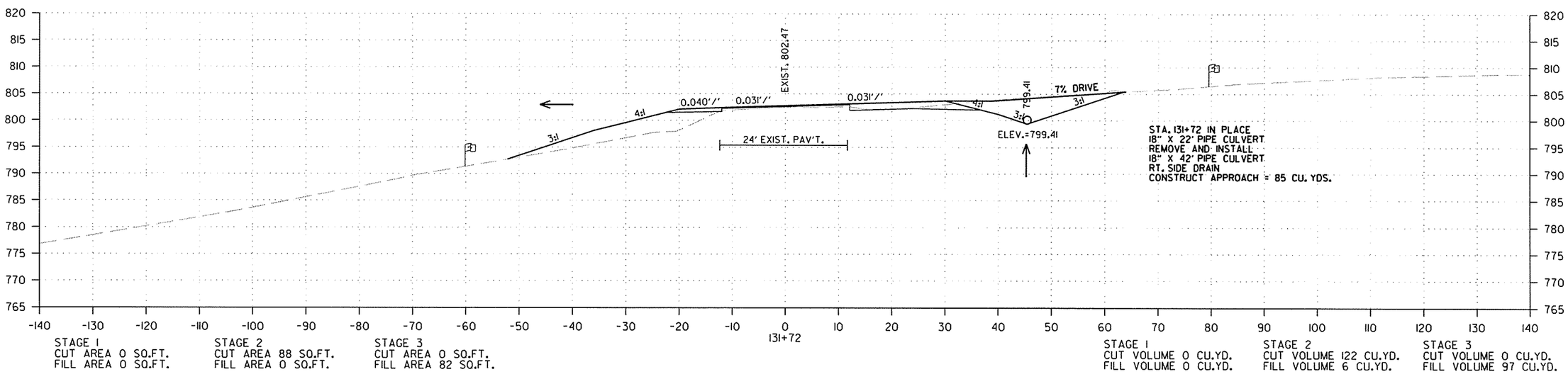
6/3/2016

R050262.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.		050262	79	98

(2) CROSS SECTIONS





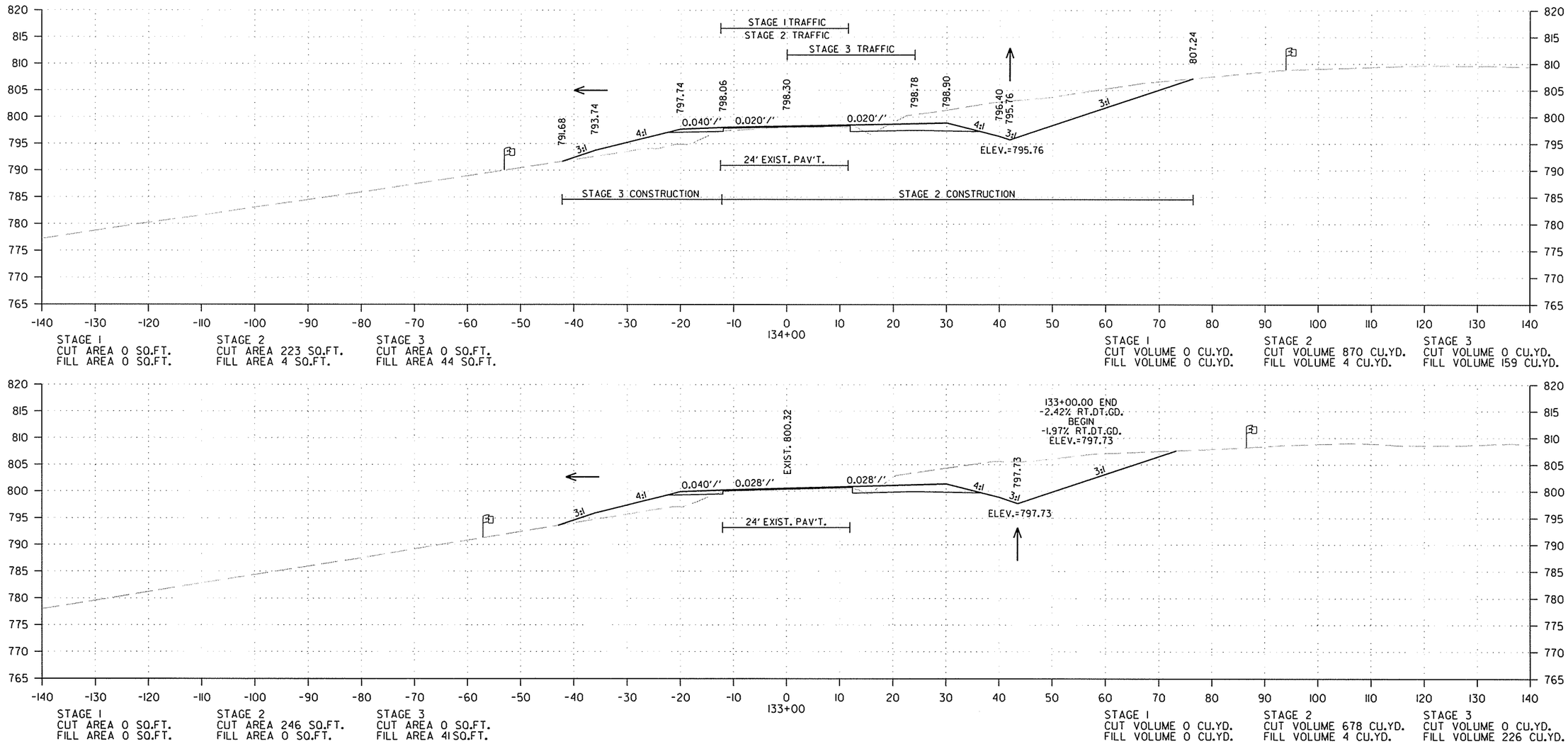
CROSS SECTION STA. 131+72 TO STA. 132+00

6/3/2016

R050262.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.		050262	80	98

(2) CROSS SECTIONS



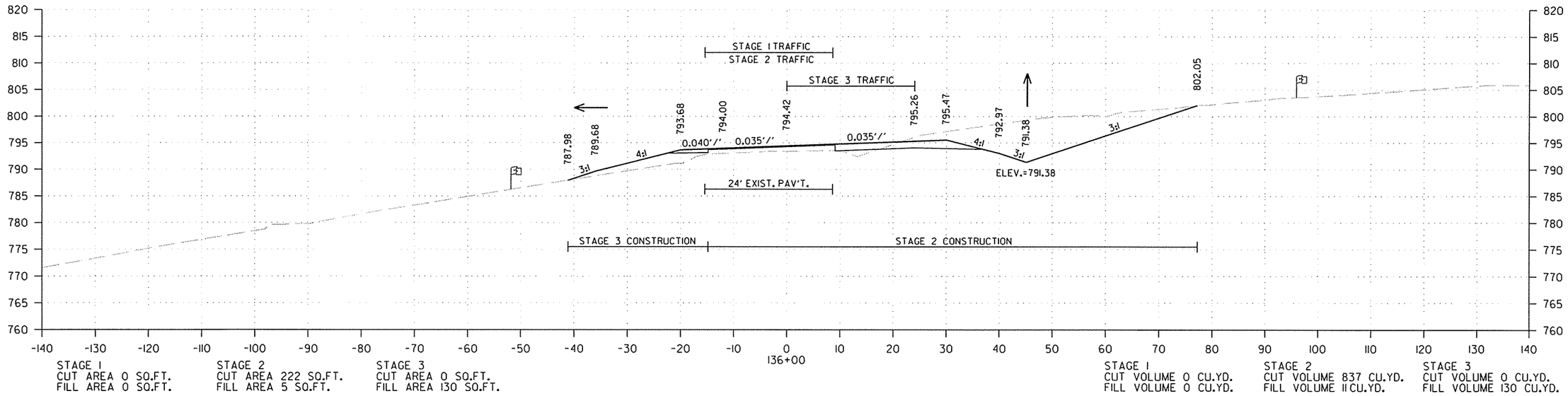
CROSS SECTION STA. 133+00 TO STA. 134+00

6/3/2016

R050262.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.		050262	81	98

(2) CROSS SECTIONS



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

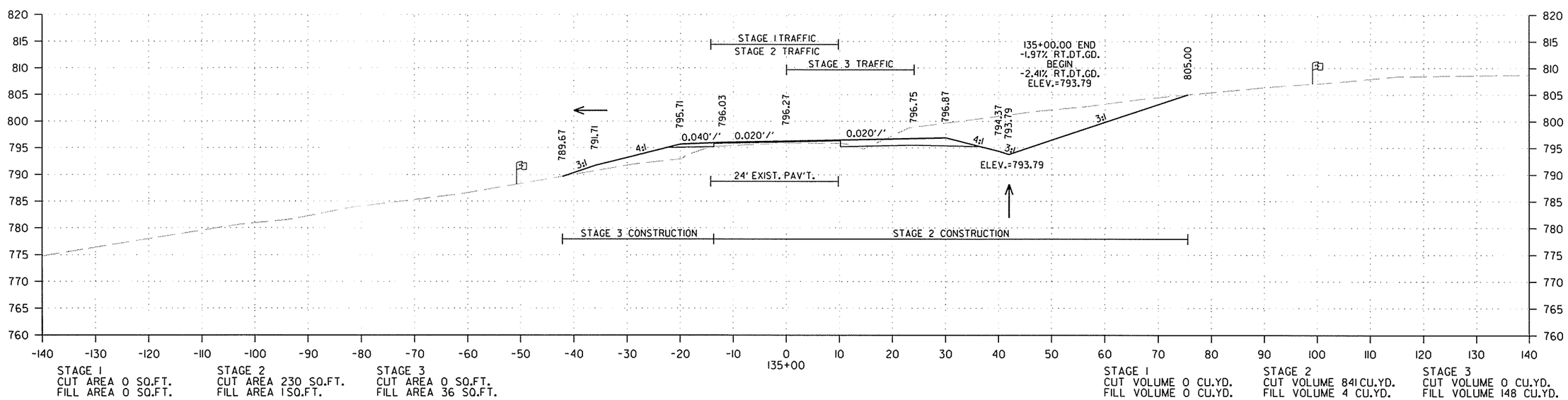
STAGE 2
CUT AREA 222 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 130 SQ.FT.

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

STAGE 2
CUT VOLUME 837 CU.YD.
FILL VOLUME 11 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 130 CU.YD.



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

STAGE 2
CUT AREA 230 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 36 SQ.FT.

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

STAGE 2
CUT VOLUME 841 CU.YD.
FILL VOLUME 4 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 148 CU.YD.

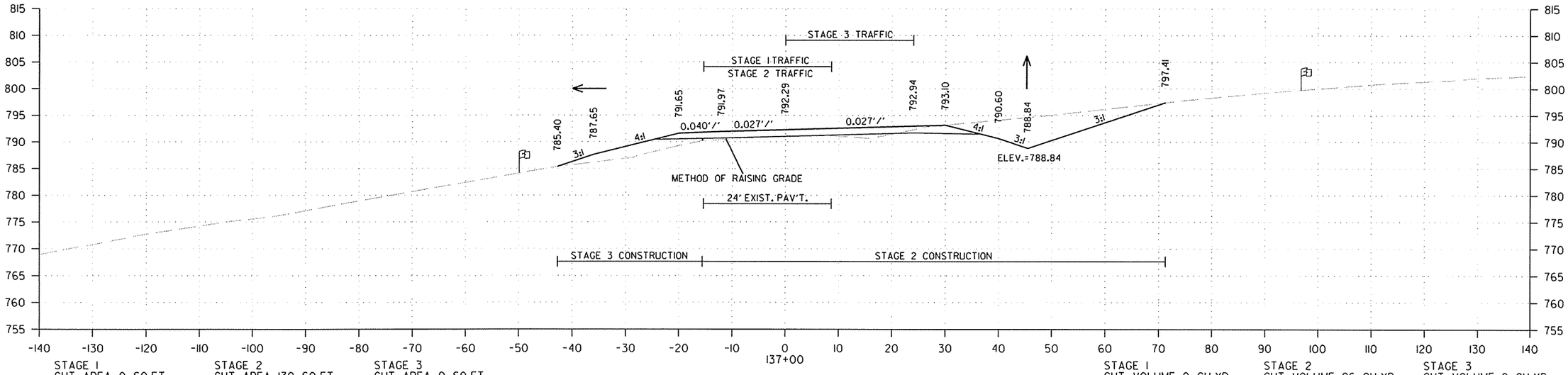
CROSS SECTION STA. 135+00 TO STA. 136+00

6/3/2016

R050262.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.		050262	82	98

(2) CROSS SECTIONS



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

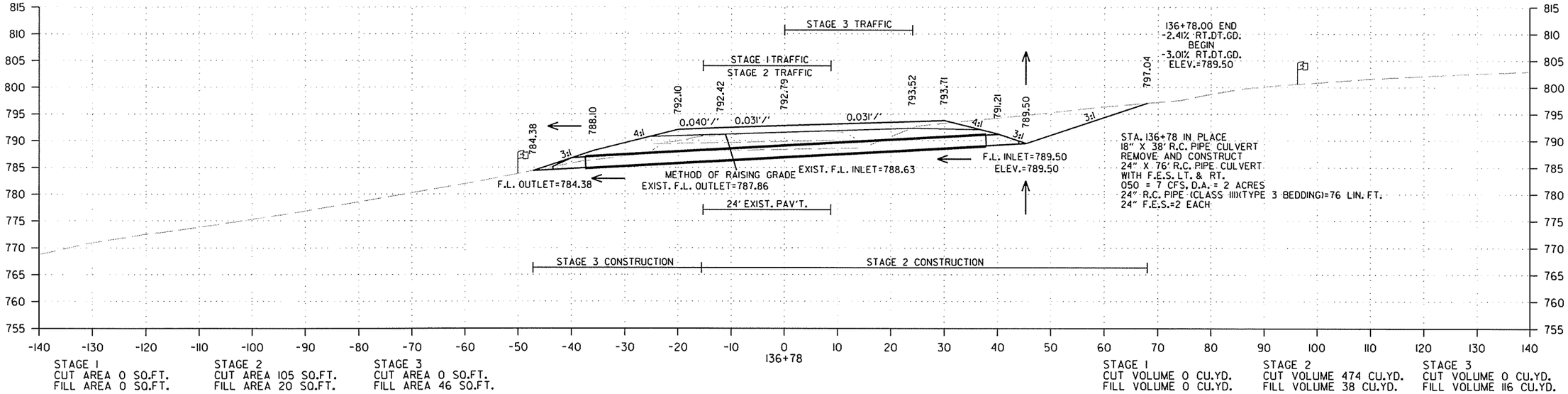
STAGE 2
CUT AREA 130 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 40 SQ.FT.

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

STAGE 2
CUT VOLUME 96 CU.YD.
FILL VOLUME 11 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 35 CU.YD.



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

STAGE 2
CUT AREA 105 SQ.FT.
FILL AREA 20 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 46 SQ.FT.

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

STAGE 2
CUT VOLUME 474 CU.YD.
FILL VOLUME 38 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 116 CU.YD.

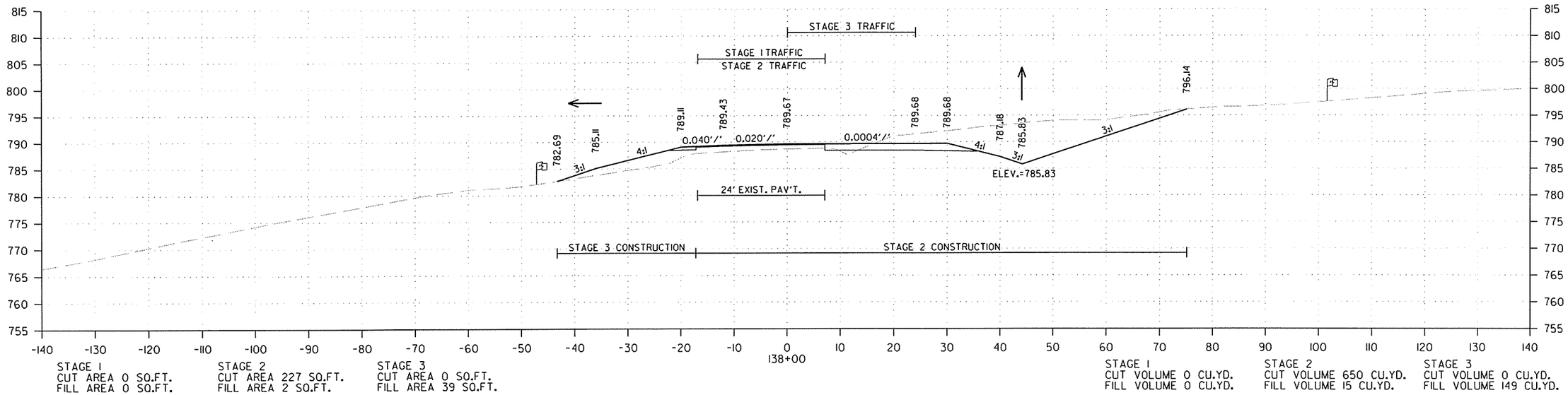
CROSS SECTION STA. 136+78 TO STA. 137+00

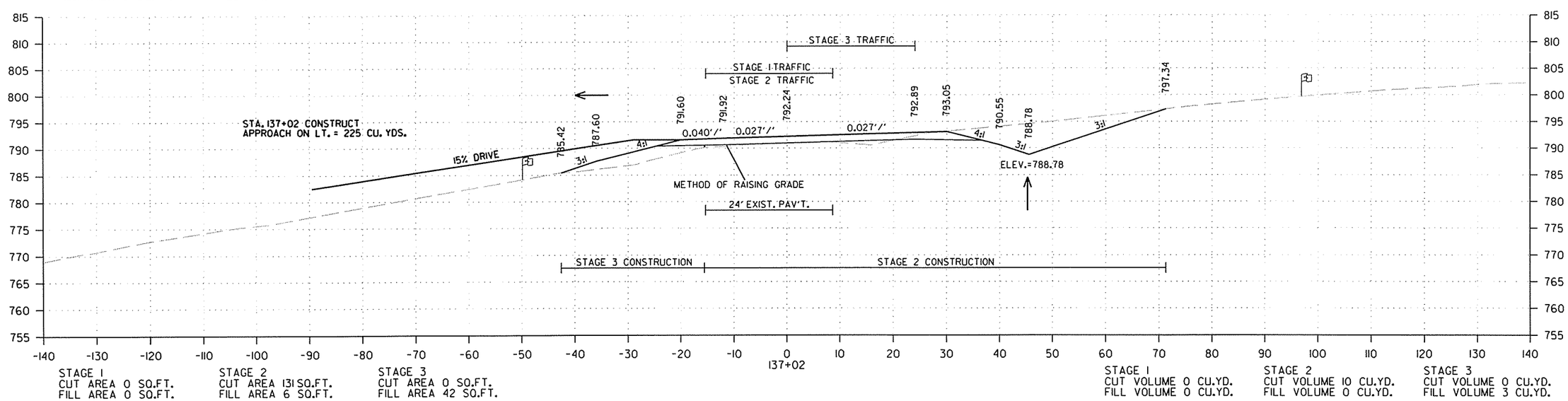
6/3/2016

R050262.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.		050262	83	98

(2) CROSS SECTIONS





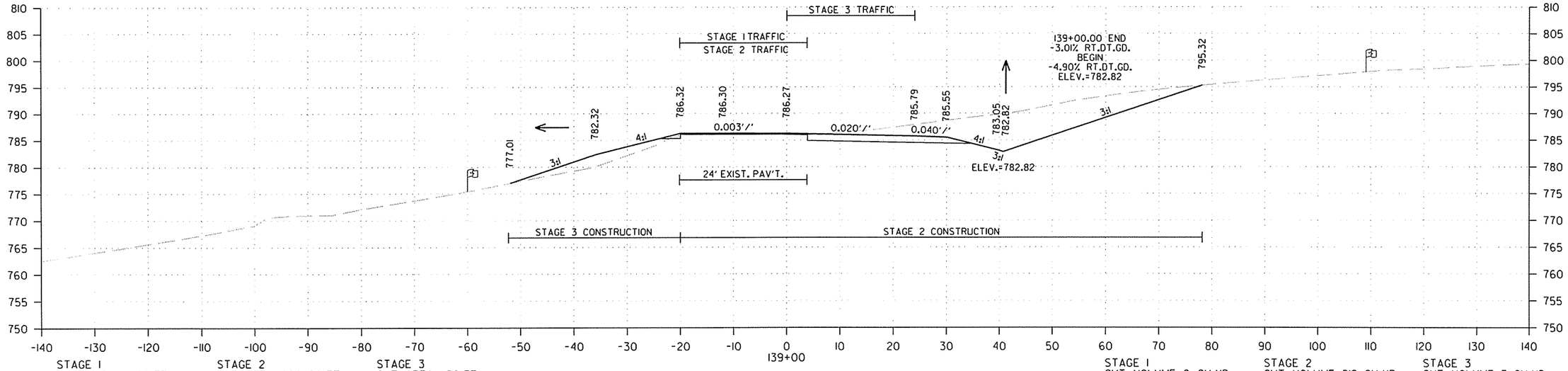
CROSS SECTION STA. 137+02 TO STA. 138+00

6/3/2016

R050262.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.		050262	84	98

(2) CROSS SECTIONS



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

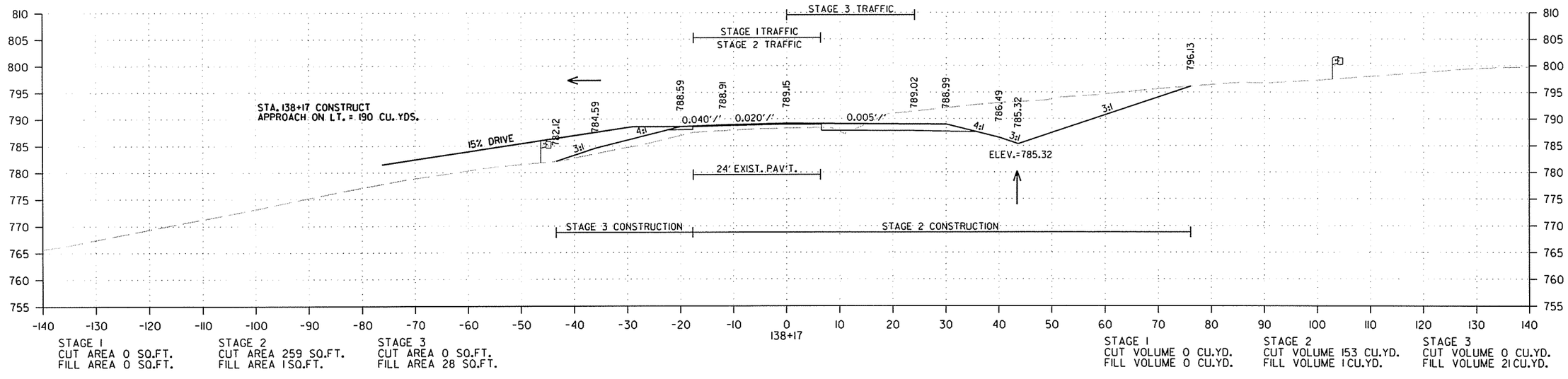
STAGE 2
CUT AREA 269 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 1 SQ.FT.
FILL AREA 39 SQ.FT.

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

STAGE 2
CUT VOLUME 812 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 3
CUT VOLUME 3 CU.YD.
FILL VOLUME 105 CU.YD.



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

STAGE 2
CUT AREA 259 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 28 SQ.FT.

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

STAGE 2
CUT VOLUME 153 CU.YD.
FILL VOLUME 1 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 21 CU.YD.

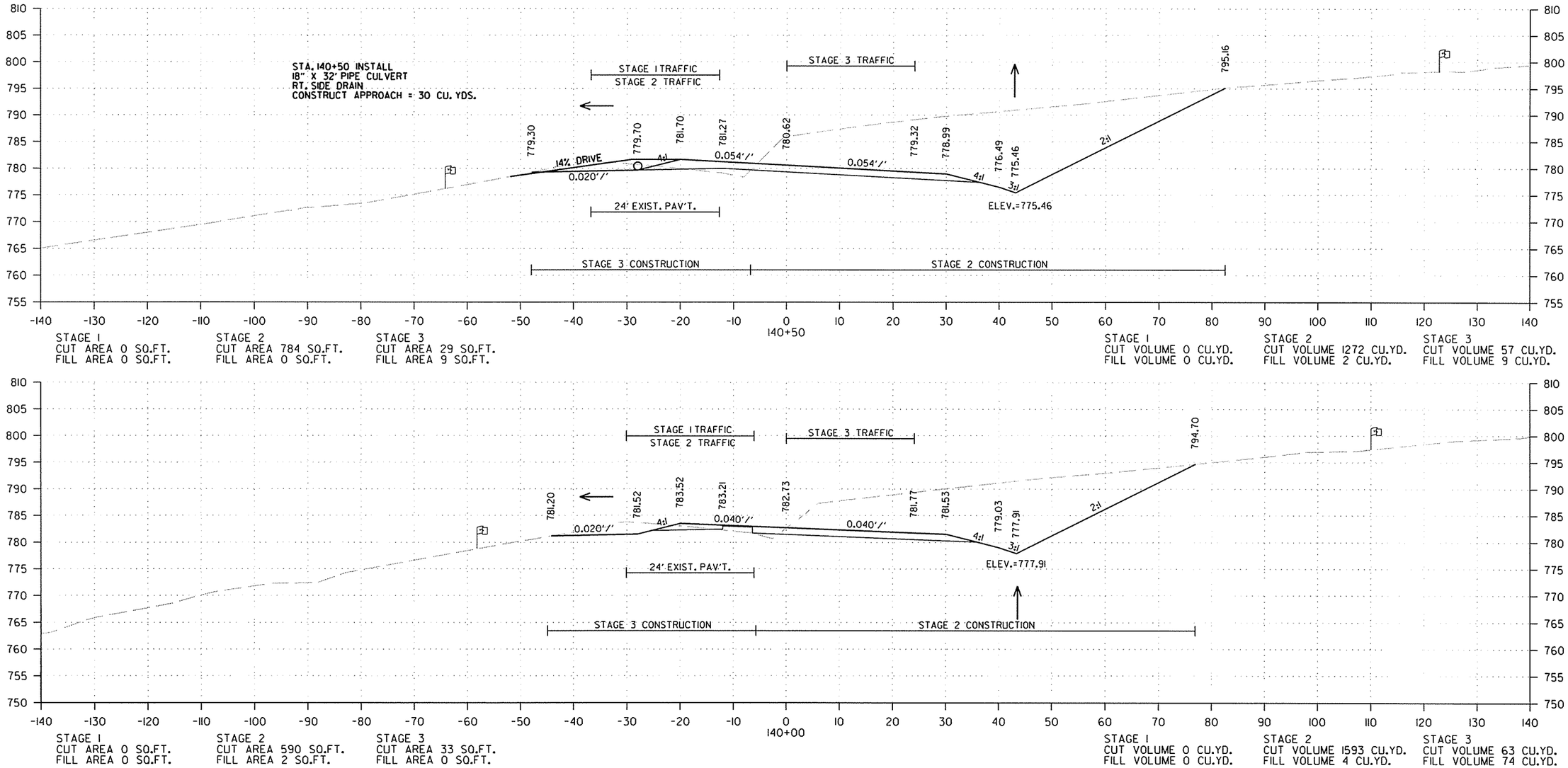
CROSS SECTION STA. 138+17 TO STA. 139+00

6/3/2016

R050262.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.		050262	85	98

(2) CROSS SECTIONS



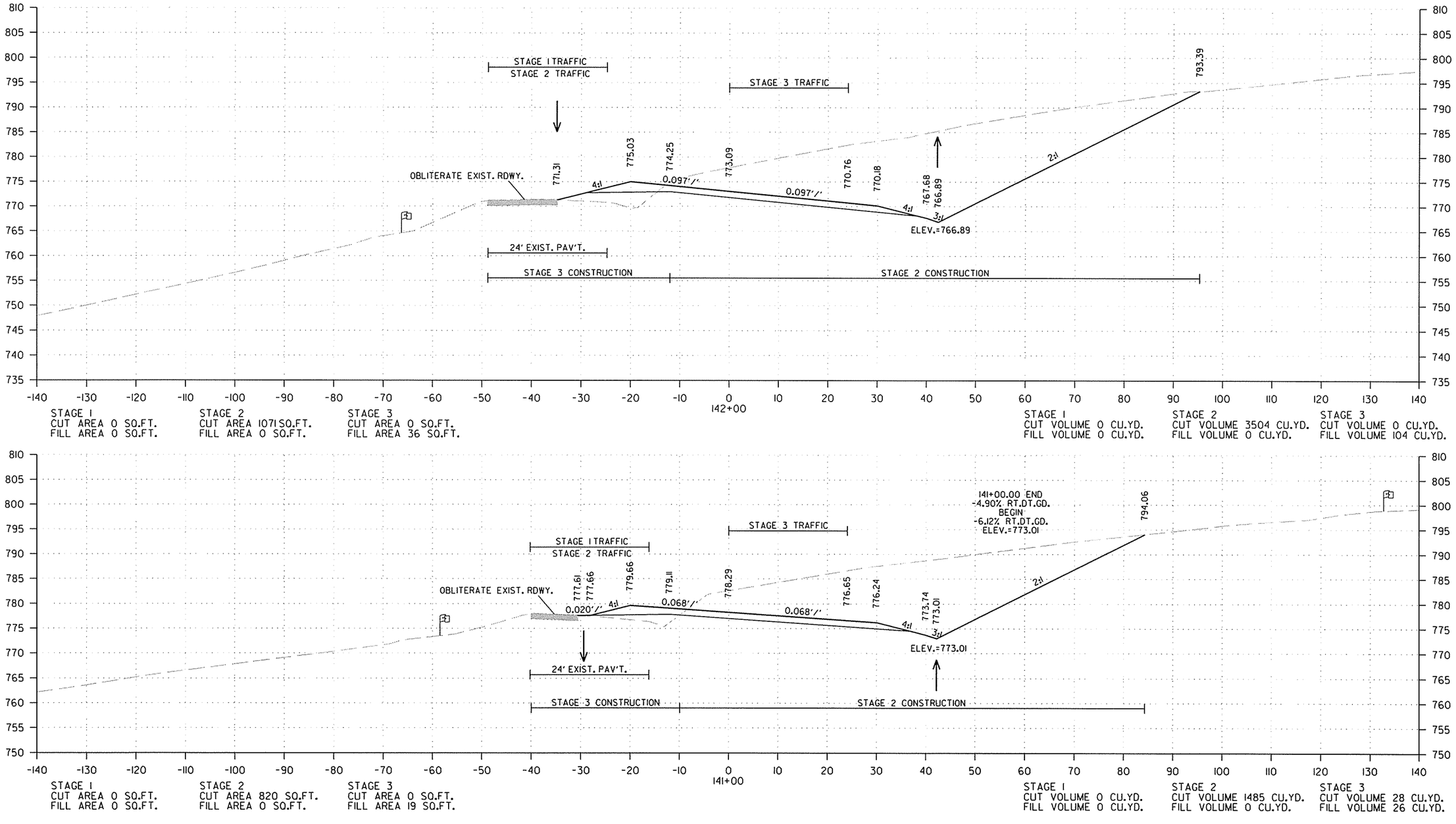
CROSS SECTION STA. 140+00 TO STA. 140+50

6/3/2016

R050262.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.		050262	86	98

(2) CROSS SECTIONS



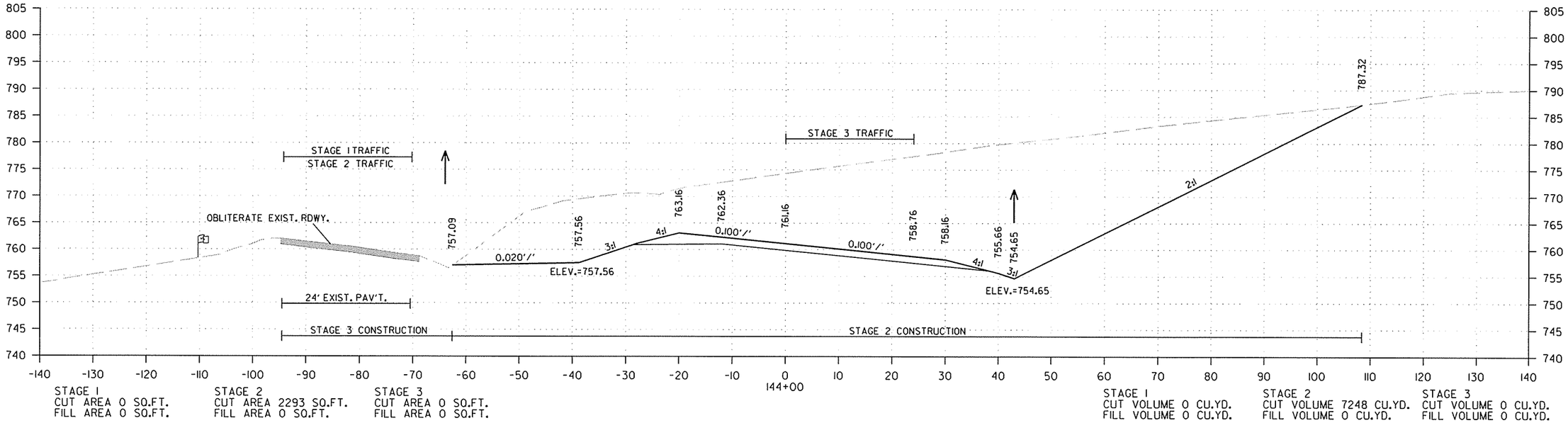
CROSS SECTION STA. 141+00 TO STA. 142+00

6/3/2016

R050262.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.		050262	87	98

(2) CROSS SECTIONS



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

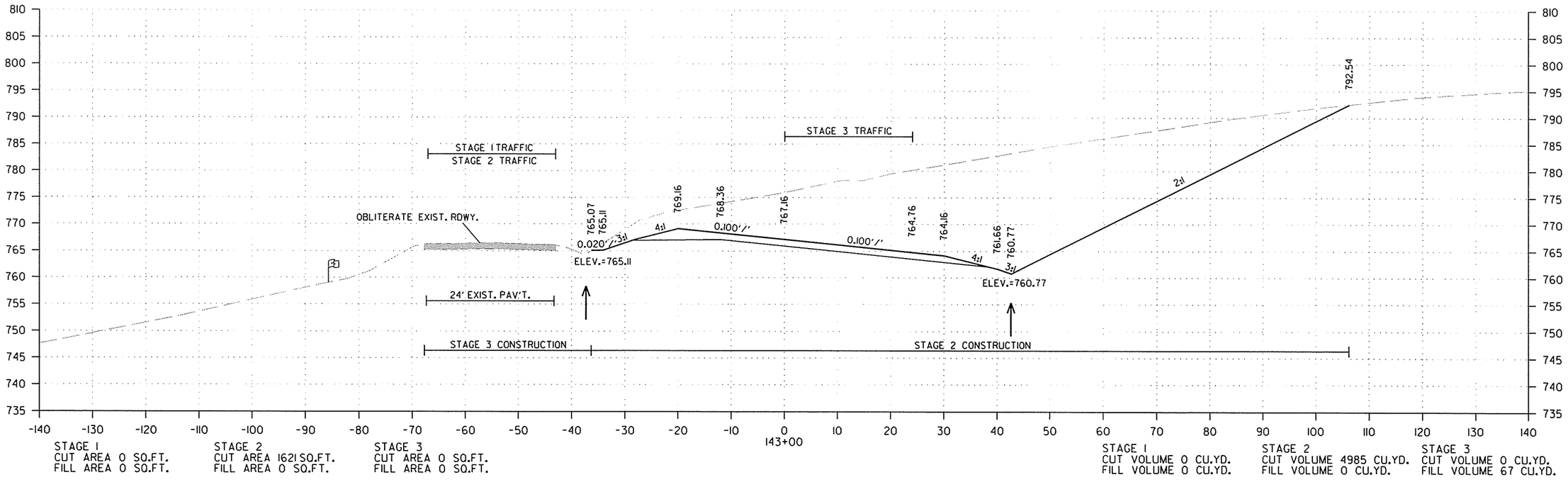
STAGE 2
CUT AREA 2293 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

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

STAGE 2
CUT VOLUME 7248 CU.YD.
FILL VOLUME 0 CU.YD.

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



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

STAGE 2
CUT AREA 1621 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

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

STAGE 2
CUT VOLUME 4985 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 3
CUT VOLUME 0 CU.YD.
FILL VOLUME 67 CU.YD.

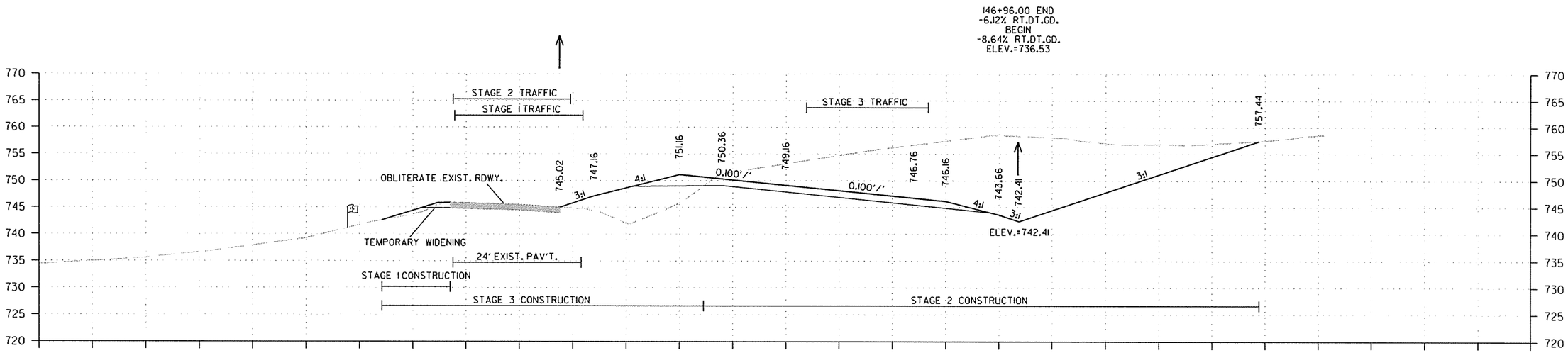
CROSS SECTION STA. 143+00 TO STA. 144+00

6/3/2016

R050262.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.		050262	88	98

(2) CROSS SECTIONS



STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 4 SQ.FT.

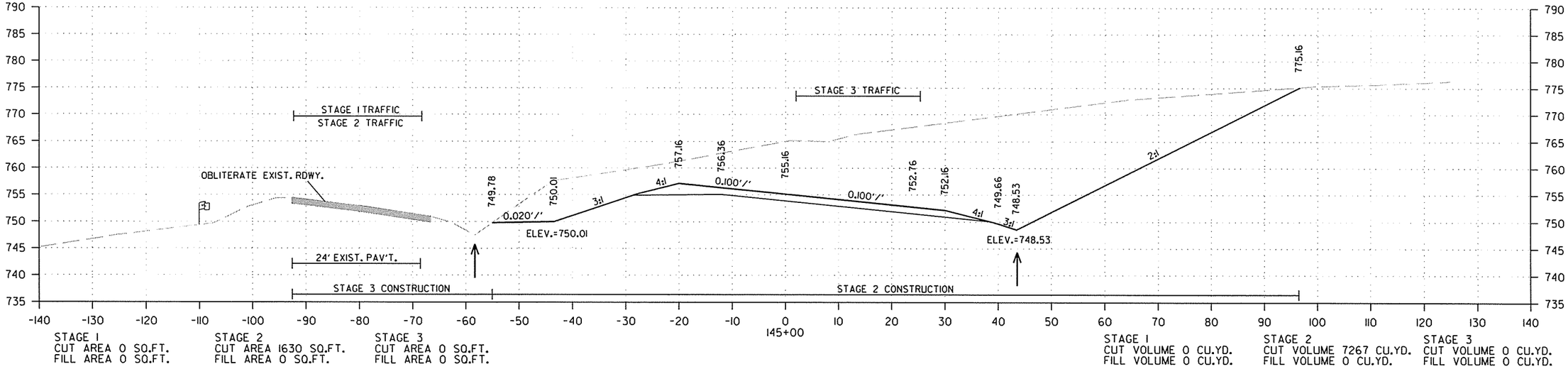
STAGE 2
CUT AREA 846 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 5 SQ.FT.
FILL AREA 96 SQ.FT.

STAGE 1
CUT VOLUME 4 CU.YD.
FILL VOLUME 7 CU.YD.

STAGE 2
CUT VOLUME 4585 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 3
CUT VOLUME 11 CU.YD.
FILL VOLUME 178 CU.YD.



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

STAGE 2
CUT AREA 1630 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

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

STAGE 2
CUT VOLUME 7267 CU.YD.
FILL VOLUME 0 CU.YD.

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

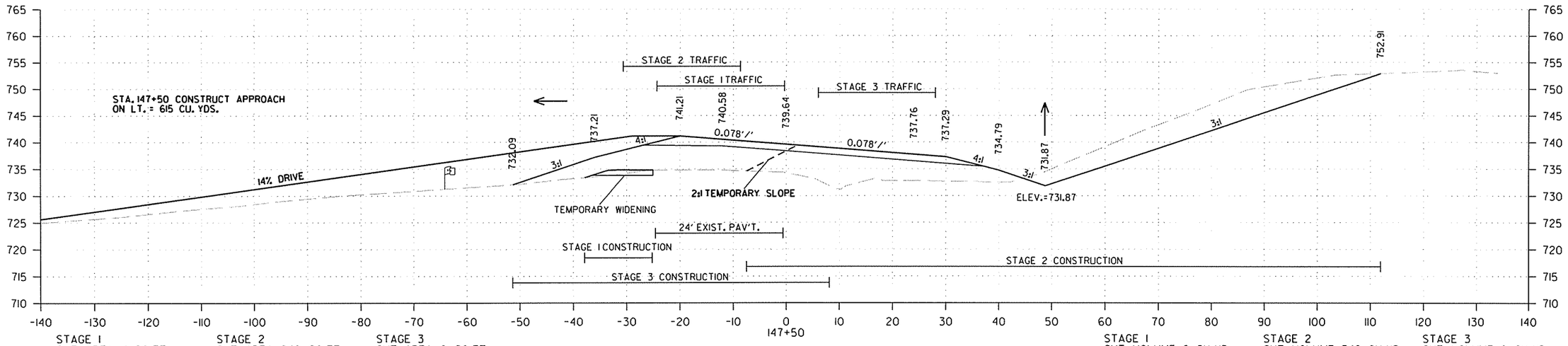
CROSS SECTION STA. 145+00 TO STA. 146+00

6/3/2016

R050262.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.		050262	89	98

(2) CROSS SECTIONS



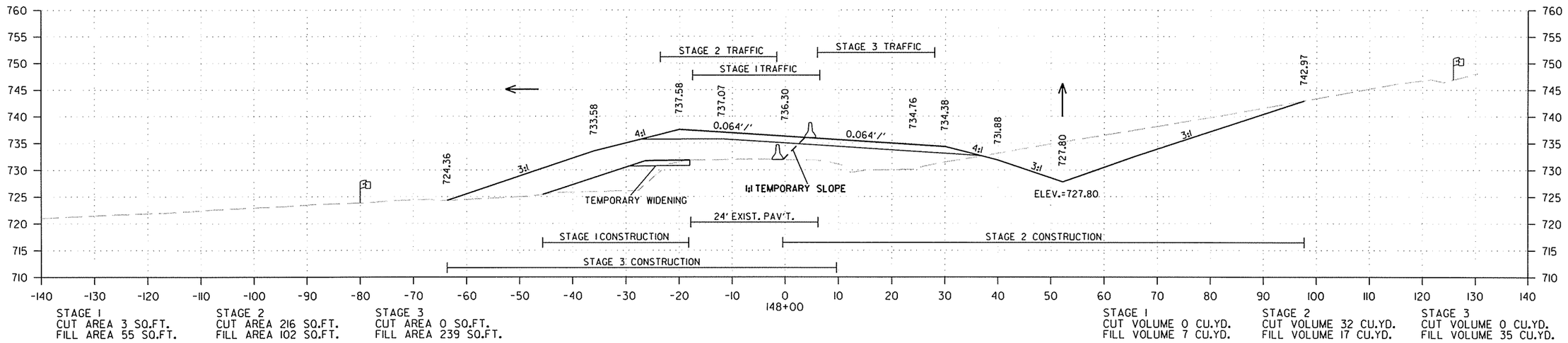
CROSS SECTION STA. 147+00 TO STA. 147+50

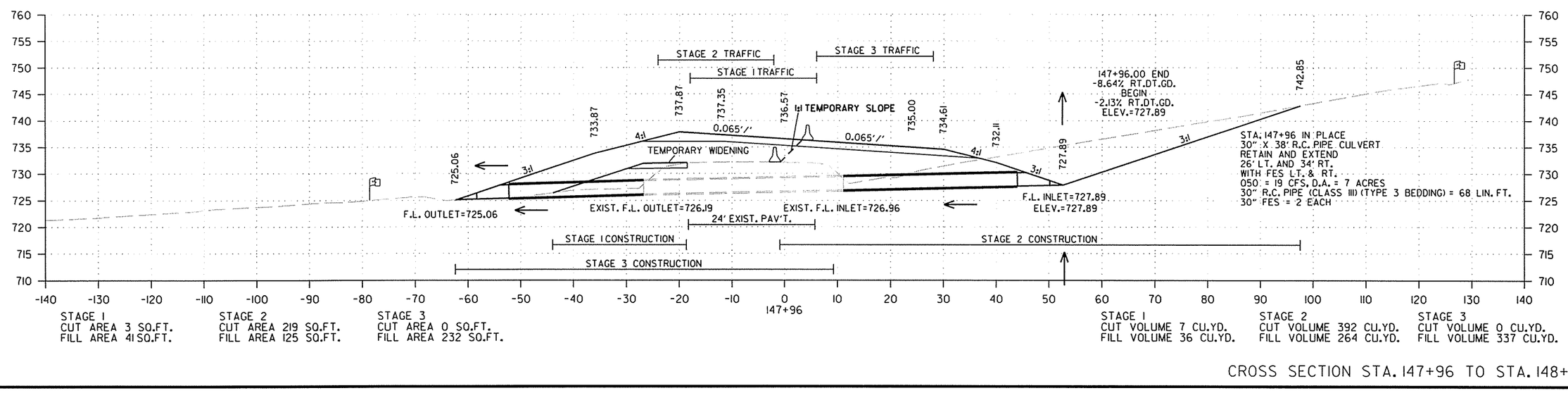
6/3/2016

R050262.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.		050262	90	98

(2) CROSS SECTIONS





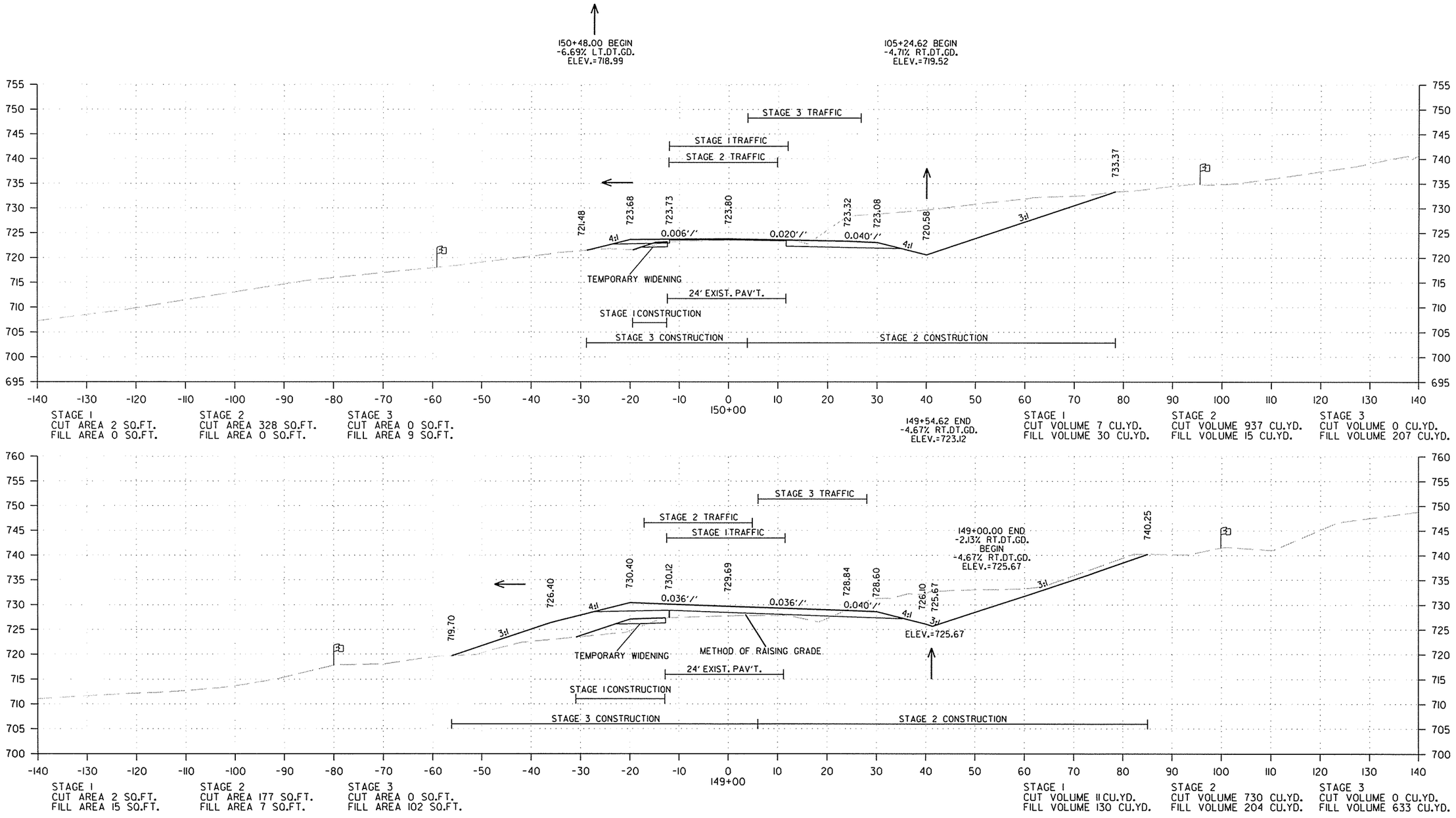
CROSS SECTION STA. 147+96 TO STA. 148+00

6/3/2016

R050262.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.		050262	91	98

(2) CROSS SECTIONS



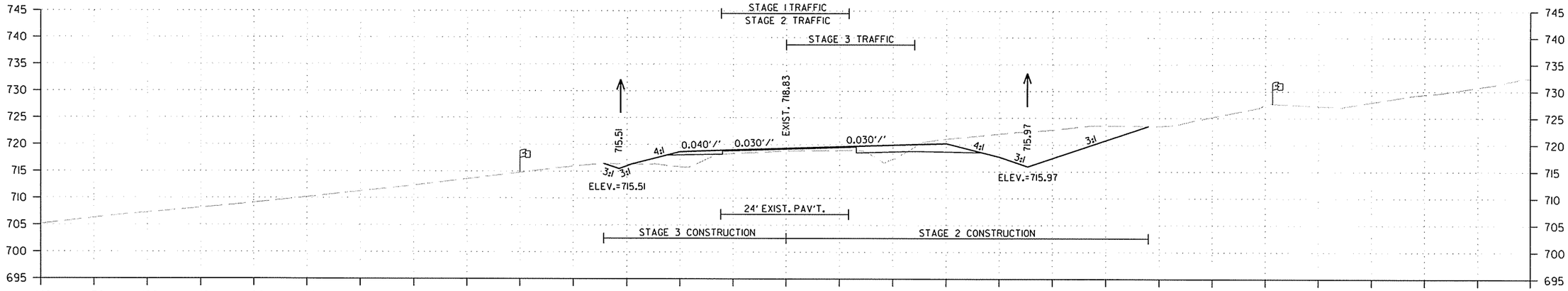
CROSS SECTION STA. 149+00 TO STA. 150+00

6/3/2016

R050262.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.		050262	92	98

(2) CROSS SECTIONS



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

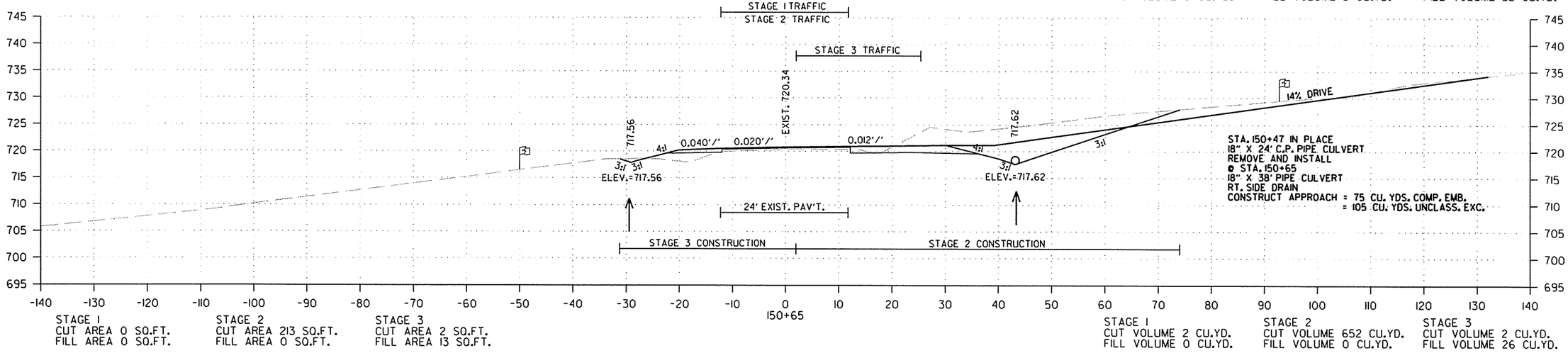
STAGE 2
CUT AREA 151 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 3
CUT AREA 2 SQ.FT.
FILL AREA 21 SQ.FT.

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

STAGE 2
CUT VOLUME 236 CU.YD.
FILL VOLUME 5 CU.YD.

STAGE 3
CUT VOLUME 3 CU.YD.
FILL VOLUME 22 CU.YD.



STA. 150+47 IN PLACE
18" X 24' C.P. PIPE CULVERT
REMOVE AND INSTALL
@ STA. 150+65
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 75 CU. YDS. COMP. EMB.
= 105 CU. YDS. UNCLASS. EXC.

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

STAGE 2
CUT AREA 213 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 2 SQ.FT.
FILL AREA 13 SQ.FT.

STAGE 1
CUT VOLUME 2 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 652 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 3
CUT VOLUME 2 CU.YD.
FILL VOLUME 26 CU.YD.

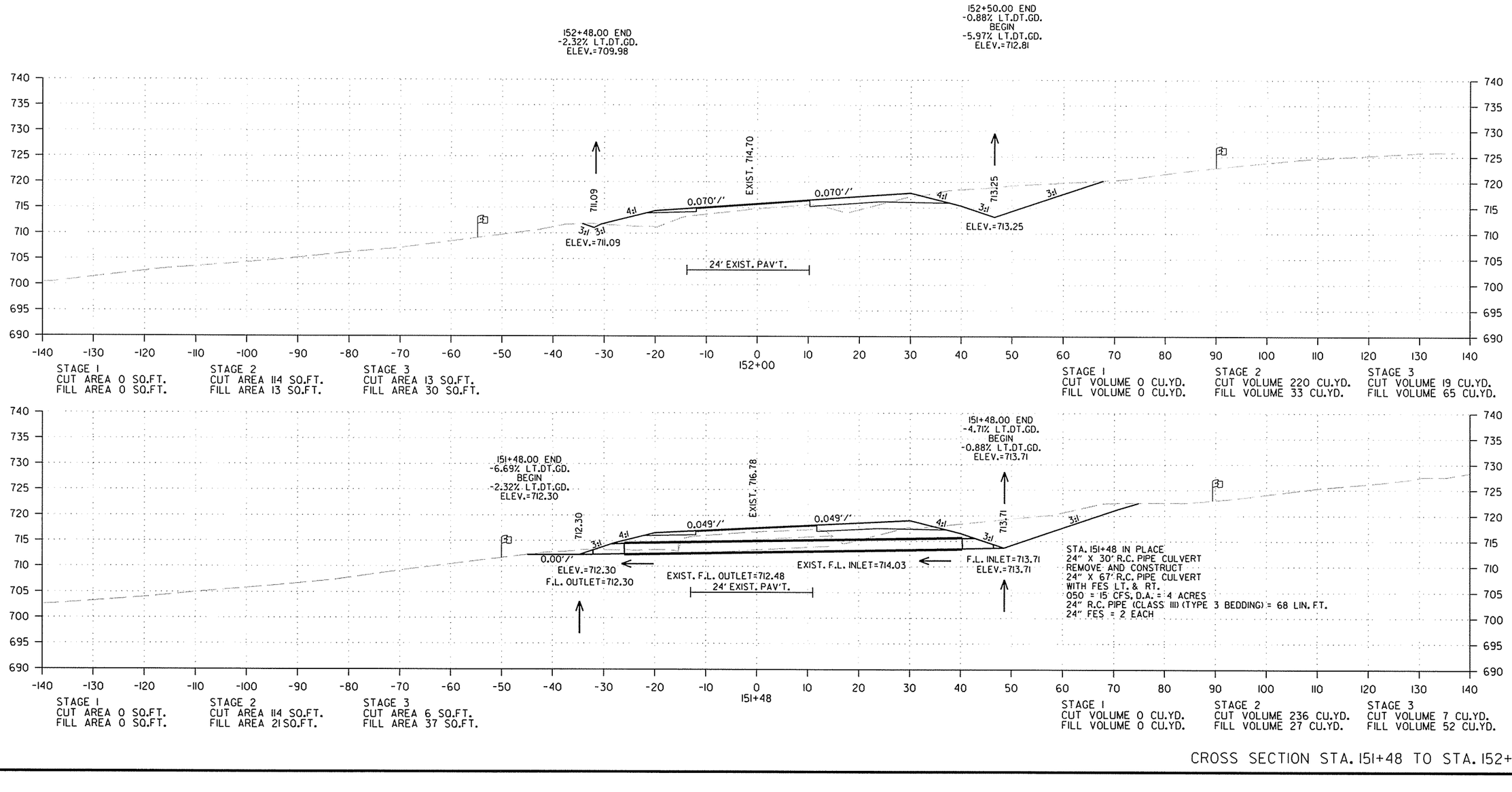
CROSS SECTION STA. 150+65 TO STA. 151+00

6/3/2016

R050262.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.		050262	93	98

(2) CROSS SECTIONS



6/3/2016

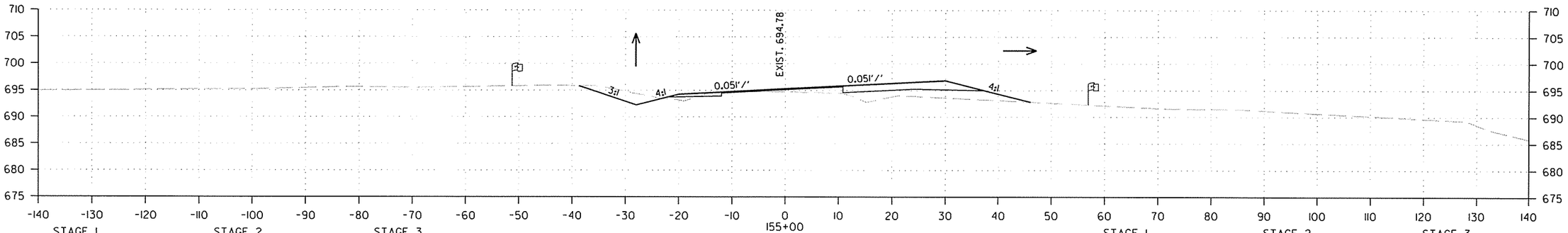
R050262.DGN

CROSS SECTION STA. 151+48 TO STA. 152+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.		050262	94	98

(2) CROSS SECTIONS

155+80
BEGIN 660' TAPER



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

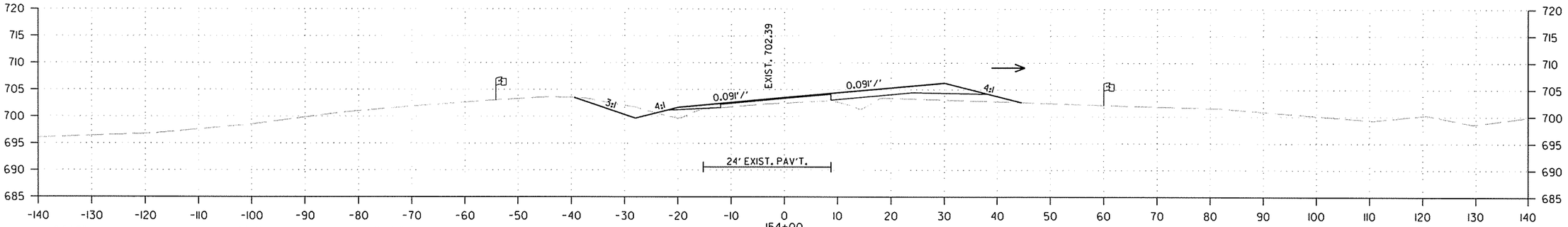
STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 46 SQ.FT.

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

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

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 156 CU.YD.

STAGE 3
CUT VOLUME 74 CU.YD.
FILL VOLUME 22 CU.YD.



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

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 38 SQ.FT.

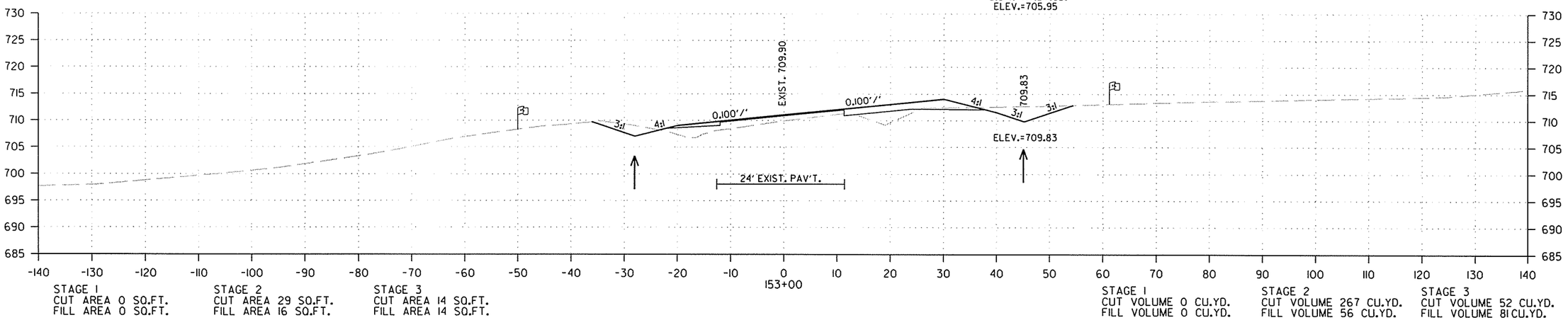
STAGE 3
CUT AREA 17 SQ.FT.
FILL AREA 8 SQ.FT.

153+65.00 END
-5.97% RT.DT.GD.
ELEV.=705.95

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

STAGE 2
CUT VOLUME 56 CU.YD.
FILL VOLUME 100 CU.YD.

STAGE 3
CUT VOLUME 59 CU.YD.
FILL VOLUME 41 CU.YD.



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

STAGE 2
CUT AREA 29 SQ.FT.
FILL AREA 16 SQ.FT.

STAGE 3
CUT AREA 14 SQ.FT.
FILL AREA 14 SQ.FT.

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

STAGE 2
CUT VOLUME 267 CU.YD.
FILL VOLUME 56 CU.YD.

STAGE 3
CUT VOLUME 52 CU.YD.
FILL VOLUME 81 CU.YD.

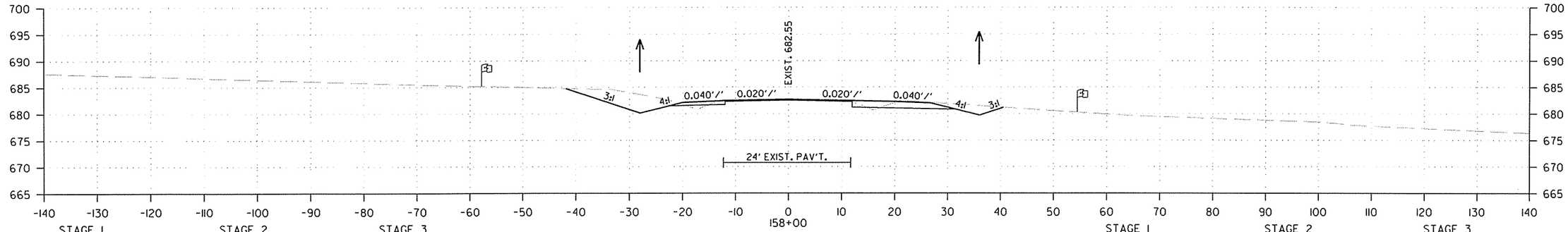
CROSS SECTION STA. 153+00 TO STA. 155+00

6/3/2016

R050262.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.		050262	95	98

(2) CROSS SECTIONS



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

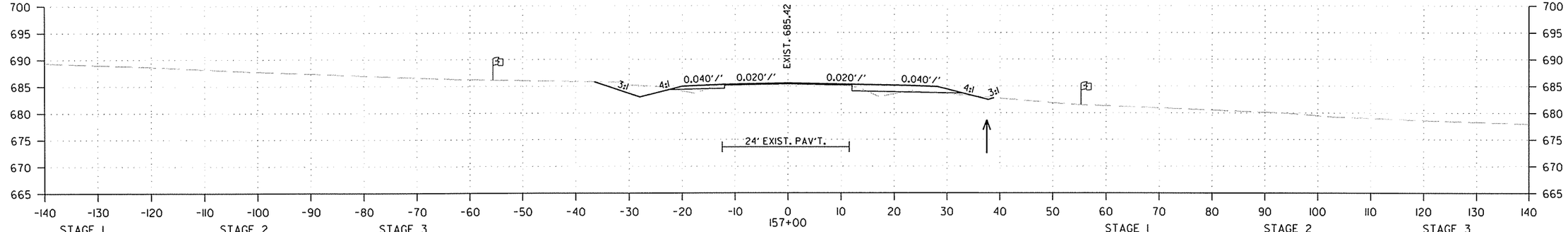
STAGE 2
CUT AREA 27 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 3
CUT AREA 46 SQ.FT.
FILL AREA 2 SQ.FT.

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

STAGE 2
CUT VOLUME 56 CU.YD.
FILL VOLUME 11 CU.YD.

STAGE 3
CUT VOLUME 122 CU.YD.
FILL VOLUME 7 CU.YD.



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

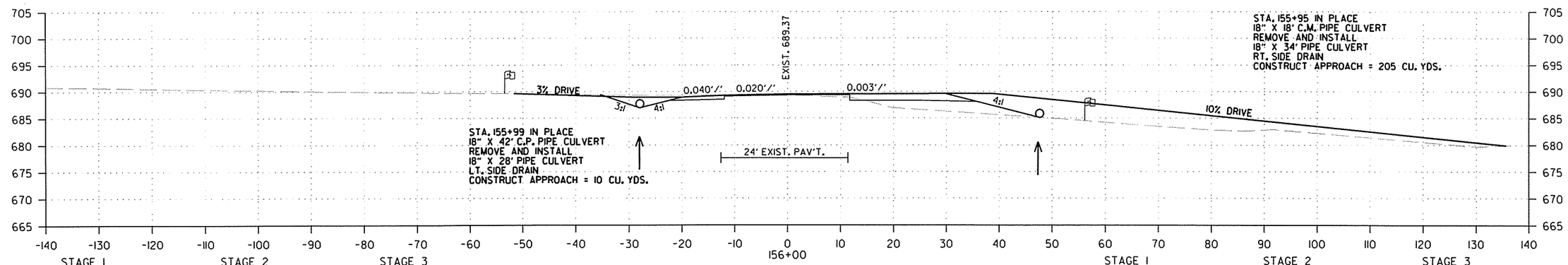
STAGE 2
CUT AREA 3 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 3
CUT AREA 20 SQ.FT.
FILL AREA 2 SQ.FT.

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

STAGE 2
CUT VOLUME 7 CU.YD.
FILL VOLUME 93 CU.YD.

STAGE 3
CUT VOLUME 89 CU.YD.
FILL VOLUME 4 CU.YD.



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

STAGE 2
CUT AREA 1 SQ.FT.
FILL AREA 45 SQ.FT.

STAGE 3
CUT AREA 28 SQ.FT.
FILL AREA 0 SQ.FT.

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

STAGE 2
CUT VOLUME 4 CU.YD.
FILL VOLUME 170 CU.YD.

STAGE 3
CUT VOLUME 93 CU.YD.
FILL VOLUME 7 CU.YD.

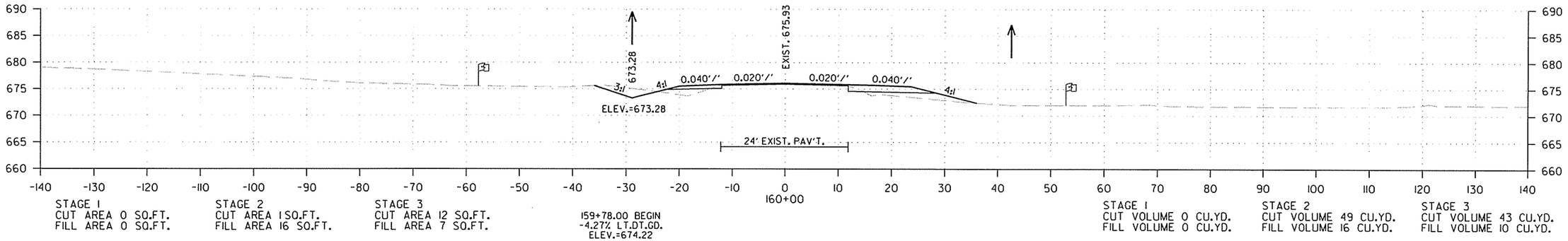
CROSS SECTION STA. 156+00 TO STA. 158+00

6/3/2016

R050262.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.		050262	96	98

(2) CROSS SECTIONS



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

STAGE 2
CUT AREA 1 SQ.FT.
FILL AREA 16 SQ.FT.

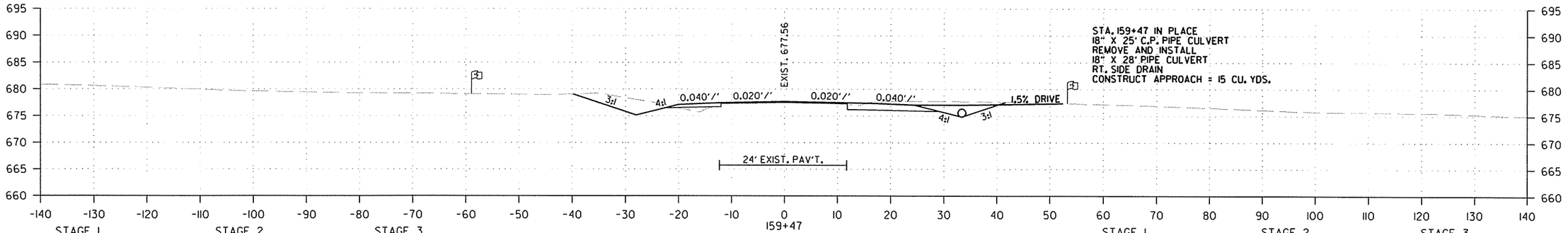
STAGE 3
CUT AREA 12 SQ.FT.
FILL AREA 7 SQ.FT.

159+78.00 BEGIN
-4.27% LT.DT.GD.
ELEV.=674.22

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

STAGE 2
CUT VOLUME 49 CU.YD.
FILL VOLUME 16 CU.YD.

STAGE 3
CUT VOLUME 43 CU.YD.
FILL VOLUME 10 CU.YD.



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

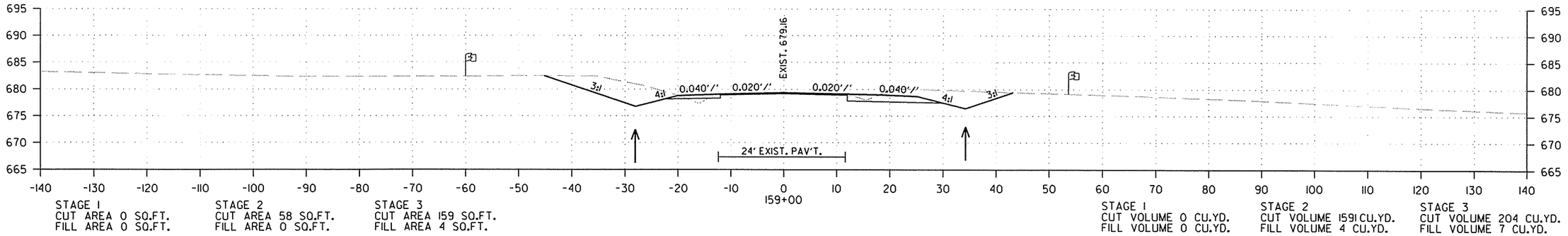
STAGE 2
CUT AREA 49 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 32 SQ.FT.
FILL AREA 3 SQ.FT.

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

STAGE 2
CUT VOLUME 94 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 3
CUT VOLUME 84 CU.YD.
FILL VOLUME 5 CU.YD.



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

STAGE 2
CUT AREA 58 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 159 SQ.FT.
FILL AREA 4 SQ.FT.

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

STAGE 2
CUT VOLUME 1591 CU.YD.
FILL VOLUME 4 CU.YD.

STAGE 3
CUT VOLUME 204 CU.YD.
FILL VOLUME 7 CU.YD.

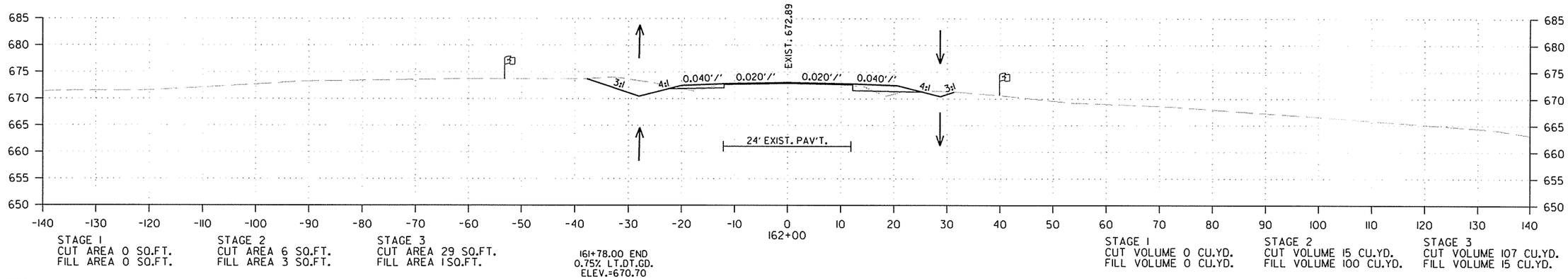
CROSS SECTION STA. 159+00 TO STA. 160+00

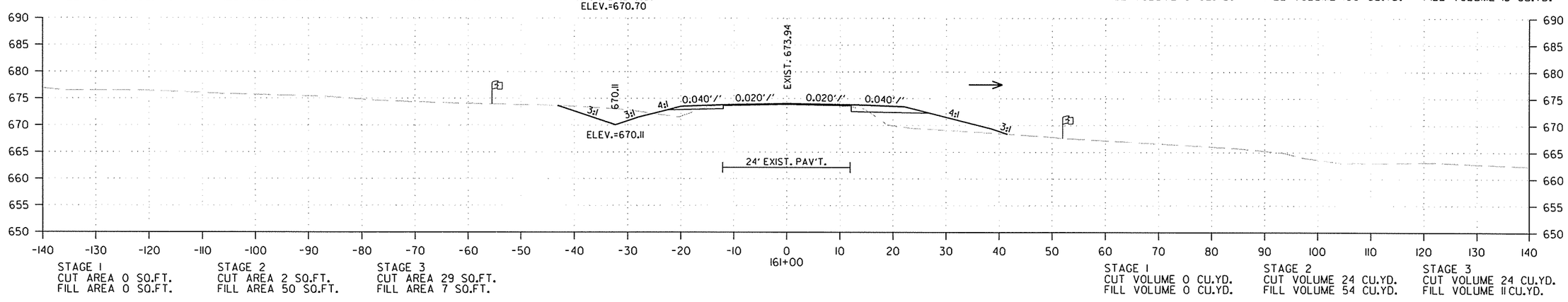
6/3/2016

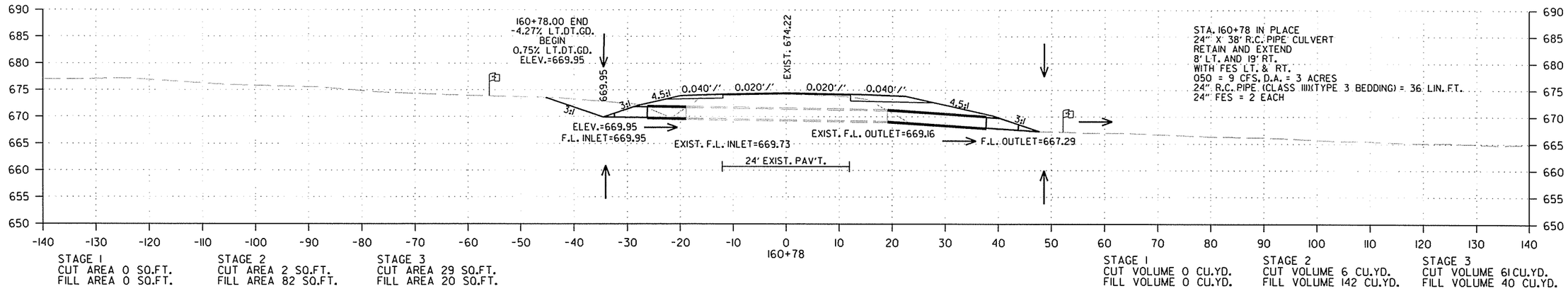
R050262.DGN

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.		050262	97	98

(2) CROSS SECTIONS







CROSS SECTION STA. 160+78 TO STA. 162+00

6/3/2016

R050262.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.		050262	98	98

(2) CROSS SECTIONS

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

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

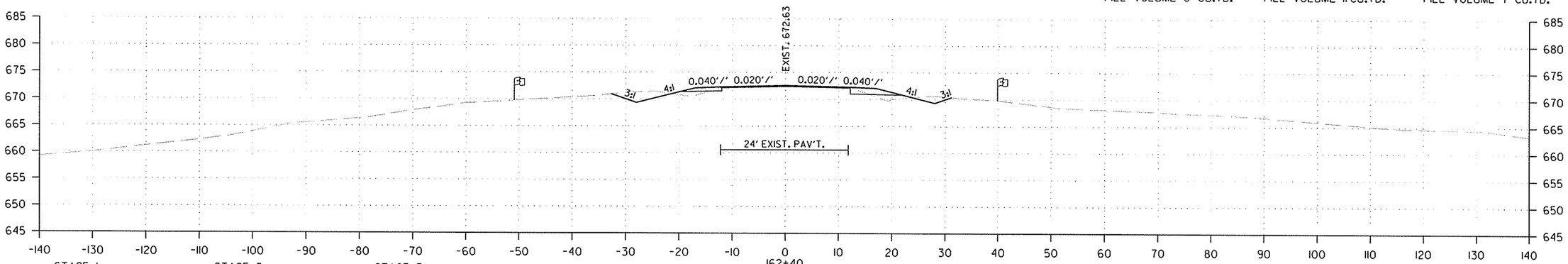
STAGE 3
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

163+40
END 100' TRANSITION

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

STAGE 2
CUT VOLUME 15 CU.YD.
FILL VOLUME 11 CU.YD.

STAGE 3
CUT VOLUME 26 CU.YD.
FILL VOLUME 7 CU.YD.



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

STAGE 2
CUT AREA 7 SQ.FT.
FILL AREA 5 SQ.FT.

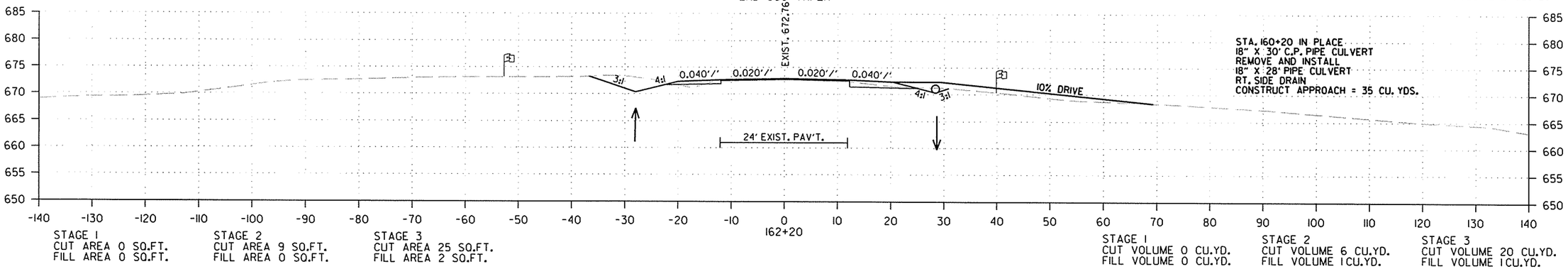
STAGE 3
CUT AREA 13 SQ.FT.
FILL AREA 4 SQ.FT.

162+40
END JOB 050262
BEGIN 100' TRANSITION
END 660' TAPER

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

STAGE 2
CUT VOLUME 6 CU.YD.
FILL VOLUME 2 CU.YD.

STAGE 3
CUT VOLUME 14 CU.YD.
FILL VOLUME 2 CU.YD.



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

STAGE 2
CUT AREA 9 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 3
CUT AREA 25 SQ.FT.
FILL AREA 2 SQ.FT.

162+20

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

STAGE 2
CUT VOLUME 6 CU.YD.
FILL VOLUME 1 CU.YD.

STAGE 3
CUT VOLUME 20 CU.YD.
FILL VOLUME 1 CU.YD.

CROSS SECTION STA. 162+20 TO STA. 163+40

6/3/2016

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