JOB 061026

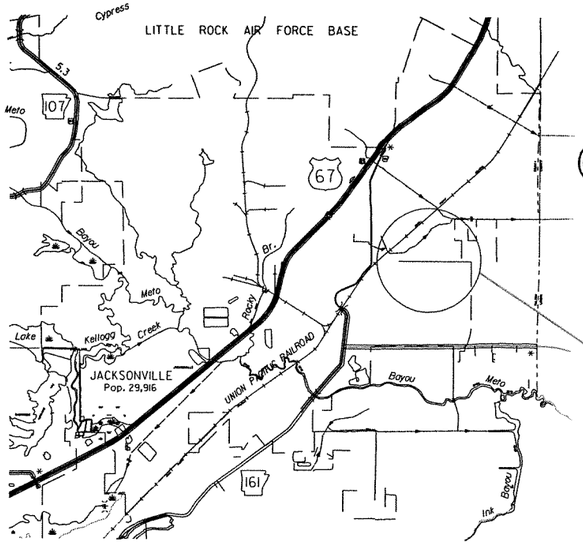
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	1	97
				(2)	OAK ST.-LOOP RD.(GRAHAM RD.)JACKSONVILLE(S)			

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS

OAK ST.- LOOP RD.(GRAHAM RD.)
(JACKSONVILLE) (S)

PULASKI COUNTY
F.A.P. STPU-9222(6)
JOB 061026

NOT TO SCALE

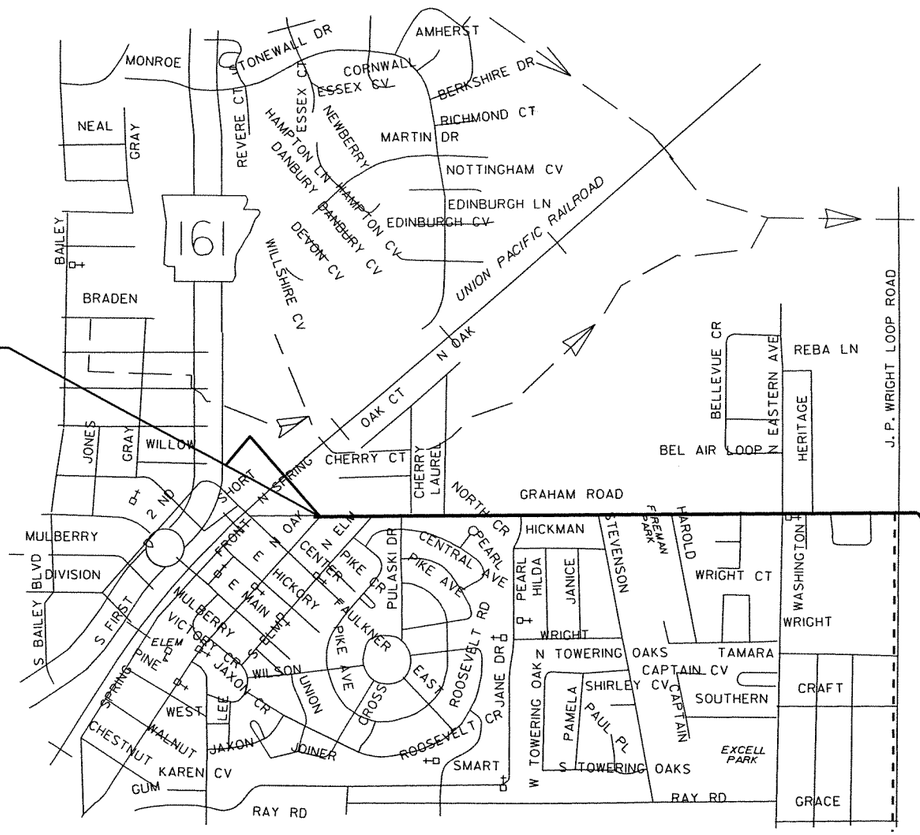


VICINITY MAP

PROJECT LOCATION

N

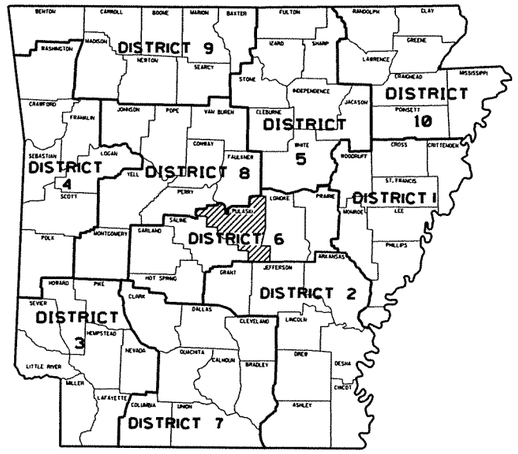
R 11 W



STA. 101+00
BEGIN JOB 061026

T 3 N

STA. 159+50
END JOB 061026



ARKANSAS HIGHWAY DIST. 6

• DESIGN TRAFFIC DATA •

DESIGN YEAR----------2031
2011 ADT---------- 2,600
2031 ADT---------- 3,400
2031 DHV---------- 374
DIRECTIONAL DISTRIBUTION----------60%
TRUCKS---------- 3% DURING DHV
DESIGN SPEED---------- 40 MPH

N

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL

7/31/11

DEPUTY DIRECTOR
AND CHIEF ENGINEER

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N34°52'01"	N34°52'01"	N34°52'01"
LON.	W92°06'25"	W92°05'50"	W92°05'15"

GROSS LENGTH OF PROJECT 5850.00 FEET OR 1.108 MILES
NET LENGTH OF ROADWAY 5850.00 FEET OR 1.108 MILES
NET LENGTH OF BRIDGES 00.00 FEET OR 0.000 MILES
NET LENGTH OF PROJECT 5850.00 FEET OR 1.108 MILES

P.E. JOB 061026
F.A.P. 0230-9222-006

r061026.dgn 7/7/2008

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	2	97

(2) INDEX OF SHEETS, GOV. SPEC. AND GEN. NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
8-2-11

INDEX OF SHEETS

SHEET NO.		TITLE	DRWG.NO.	DATE
1	_____	TITLE SHEET		
2	_____	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES		
3-4	_____	TYPICAL SECTIONS OF IMPROVEMENT AND SPECIAL DETAILS		
5-10	_____	TEMPORARY EROSION CONTROL DETAILS		
11-17	_____	MAINTENANCE OF TRAFFIC DETAILS		
18-19	_____	PERMANENT PAVEMENT MARKING DETAILS		
20-26	_____	QUANTITY SHEETS		
27	_____	SUMMARY OF QUANTITIES AND REVISION BOX		
29-30	_____	SURVEY CONTROL DETAILS		
31-35	_____	PLAN AND PROFILE SHEETS		
36	_____	CURBING DETAILS	CG-1	11-29-07
37	_____	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
38	_____	FLARED END SECTION	FES-1	10-18-96
39	_____	FLARED END SECTION	FES-2	10-18-96
40	_____	DETAILS OF DROP INLETS & JUNCTION BOXES	FPC-9	11-16-01
41	_____	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8-22-02
42	_____	DETAILS OF DROP INLET (TYPE MO)	FPC-9M	8-22-02
43	_____	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	FPC-9S	11-16-01
44	_____	MAILBOX DETAILS	MB-1	11-18-04
45	_____	PRECAST CONCRETE BOX CULVERTS	PBC-1	10-15-09
46	_____	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	5-18-00
47	_____	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	3-30-00
48	_____	PAVEMENT MARKING DETAILS	PM-1	11-17-10
49	_____	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
50	_____	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	5-25-06
51	_____	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	RCB-2	11-20-03
52	_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	11-17-10
53	_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
54	_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
55	_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-4	10-15-09
56	_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-5	10-15-09
57	_____	TEMPORARY EROSION CONTROL DEVICES	TEC-1	11-18-98
58	_____	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-02-94
59	_____	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11-03-94
60	_____	CHAIN LINK FENCE	WF-3	11-17-10
61	_____	WIRE FENCE TYPE C AND D	WF-4	8-22-02
62	_____	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11-10-05
63	_____	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X003-1	5-10-66
64	_____	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-100X-0	2-08-63
65	_____	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-200X-0	2-15-63
66-97	_____	CROSS SECTIONS		

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

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	FHWA-1273 REVISIONS
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
100-2_____	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
103-1_____	DETERMINATION OF DBE PARTICIPATION
105-1_____	CONSTRUCTION CONTROL MARKINGS
105-2_____	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1_____	WORKER VISIBILITY
108-1_____	LIQUIDATED DAMAGES
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
303-1_____	AGGREGATE BASE COURSE
404-1_____	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1_____	MINERAL AGGREGATES
410-3_____	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1_____	ASPHALT CONCRETE COLD PLANT MIX
600-1_____	WATER FOR VEGETATION
603-1_____	MAINTENANCE OF TRAFFIC
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
606-2_____	PIPE CULVERTS
718-2_____	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2_____	THERMOPLASTIC PAVEMENT MARKING MATERIAL
JOB 061026__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061026__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061026__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061026__	INTERNET BIDDING
JOB 061026__	PARTNERING REQUIREMENTS
JOB 061026__	SOIL STABILIZATION
JOB 061026__	STORM WATER POLLUTION PREVENTION PLAN
JOB 061026__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061026__	UTILITY ADJUSTMENTS
JOB 061026__	VALUE ENGINEERING
JOB 061026__	WARM MIX ASPHALT

GENERAL NOTES

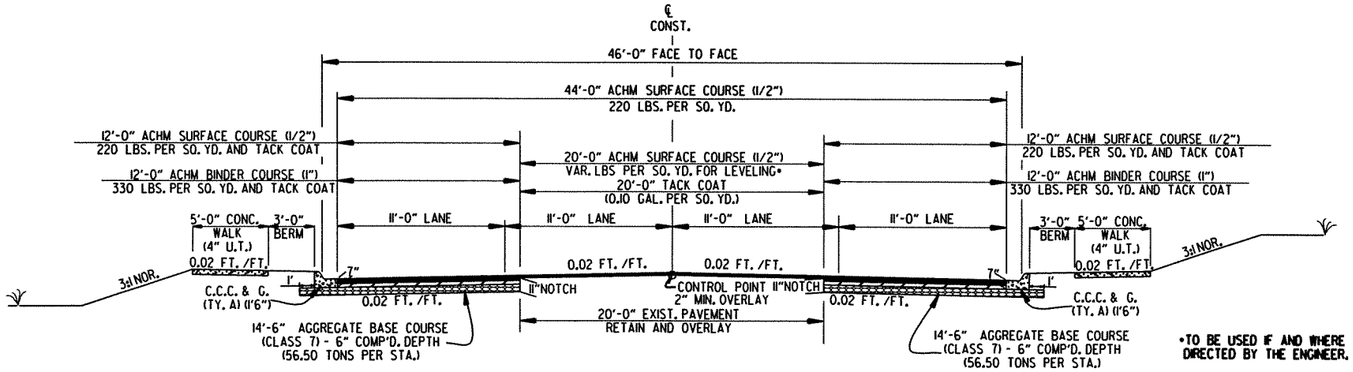
1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY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

ZBORDER.CEL 8/30/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	3	97

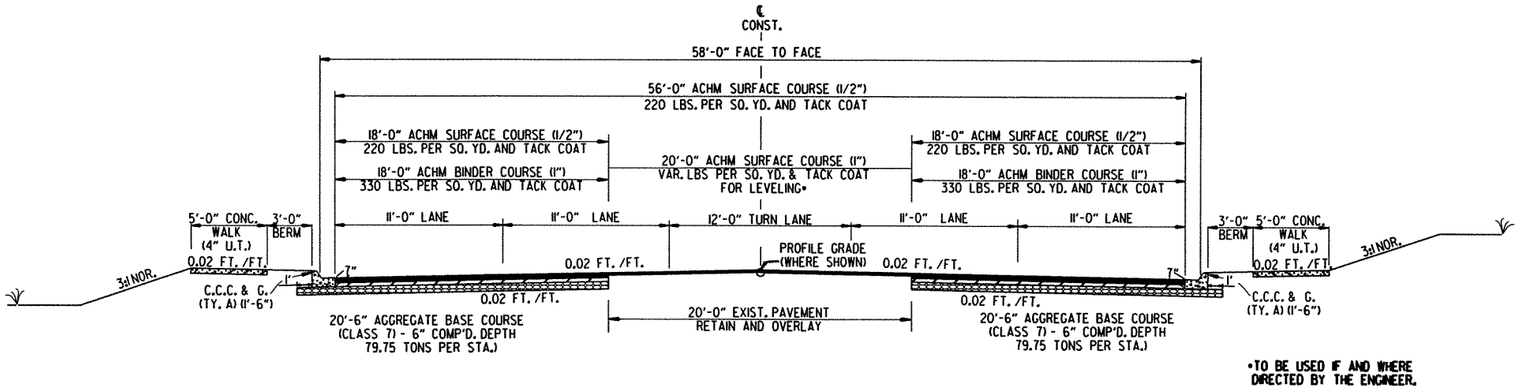
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11



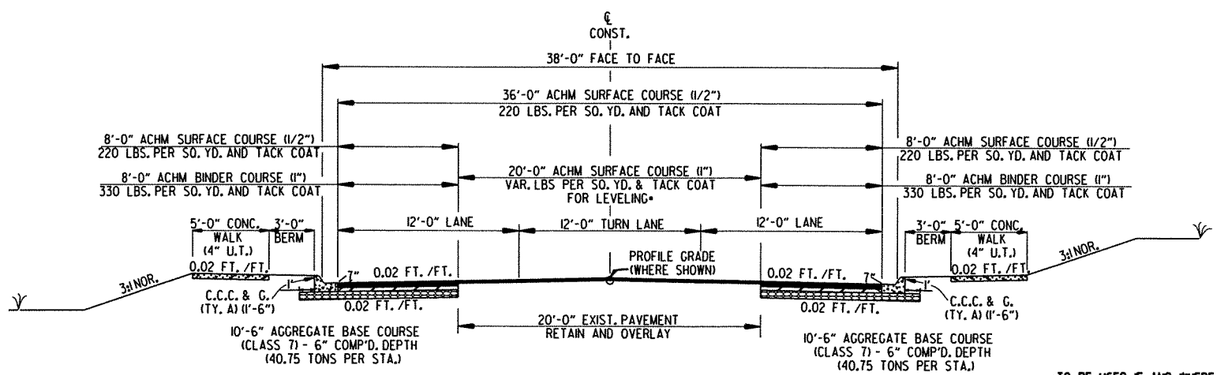
TYPICAL SECTION OF IMPROVEMENT
NOTCH & WIDENING

STA. 108+20 - STA. 153+40



TYPICAL SECTION OF IMPROVEMENT
NOTCH & WIDENING

STA. 153+40 - STA. 156+30



TYPICAL SECTION OF IMPROVEMENT
NOTCH & WIDENING

STA. 101+00 - STA. 108+20
STA. 156+30 - STA. 159+50

NOTES:

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.

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

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

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

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN THE CONCRETE WALKS AT 45' INTERVALS.

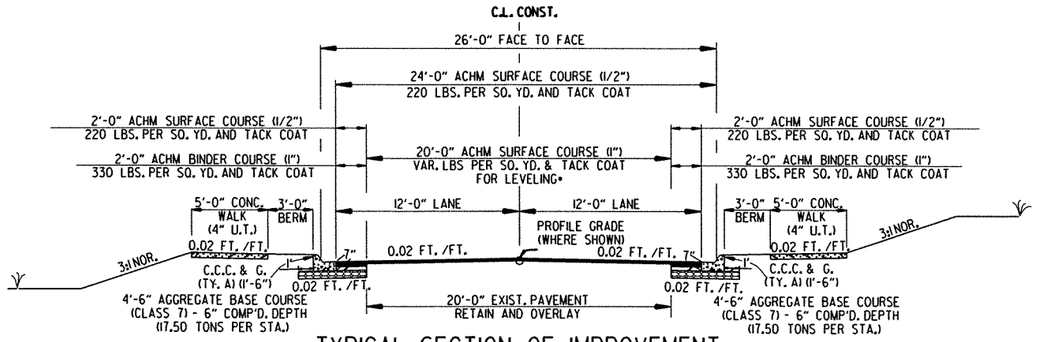
THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

R061026.DGN 6/30/2011

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.		061026	4	97

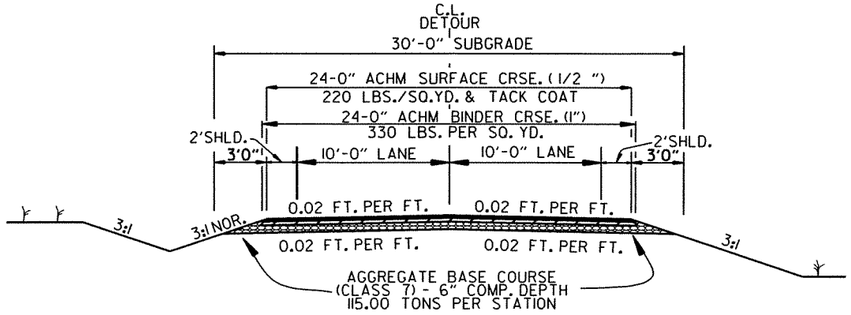
(2) TYPICAL SECT. OF IMPVMT. AND SPEC. DETAILS



TYPICAL SECTION OF IMPROVEMENT NOTCH & WIDENING

OAK STREET & ELM STREET

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



TYPICAL SECTION OF IMPROVEMENT - DETOUR

NOTES:

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.

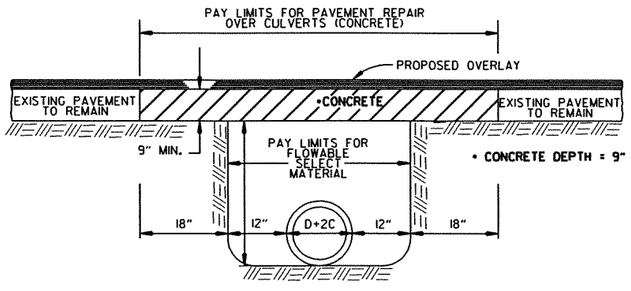
REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

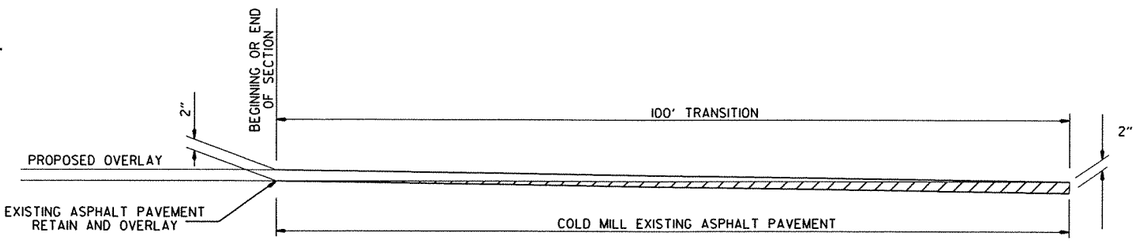
PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN THE CONCRETE WALKS AT 45' INTERVALS.

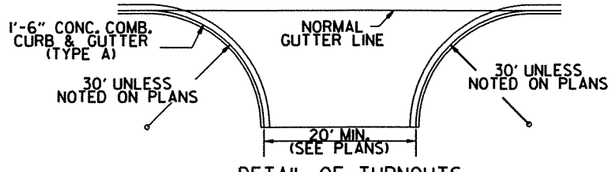
THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.



PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

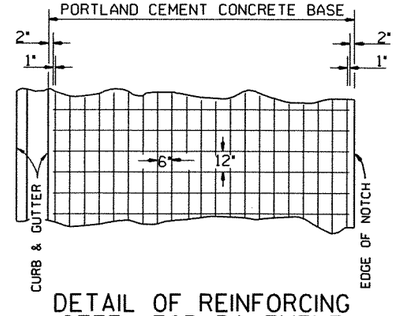


DETAIL FOR TRANSITIONS



DETAIL OF TURNOUTS ASPHALT STREETS

NOTE: THE TYPICAL SECTION FOR THE CITY STREET CONNECTIONS IN THE CURB & GUTTER SECTION SHALL MATCH THE PROPOSED WIDENING SECTION SHOWN FOR THE MAIN LANES. UNLESS OTHERWISE NOTED ON THE PLANS, ALL CITY STREET RADII WILL BE 30'.



DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

NOTES: 6"X 12" MESH FABRIC (TYPE 3) (W5.5 x W2.9) = 4.26 LBS./SQ.YD.

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFOR WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6" U.T. & 11" U.T.)

SPECIAL DETAILS

R061026.DGN 6/30/2011

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) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECKS
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE

LEGEND

EROSION CONTROL GENERAL NOTES:
SAND BAG DITCH CHECKS (TYPE E-5) ARE ESTIMATED AT 25 BAGS PER DITCH CHECK.

DROP INLET SILT FENCE ESTIMATED AT 25 LIN. FT. PER DROP INLET.

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

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

TEMPORARY EROSION CONTROL QUANTITIES - STAGE I:
SAND BAG DITCH CHECK (E 5) = 175 BAG
DROP INLET SILT FENCE (E 7) = 475 LIN. FT.
SILT FENCE (E 11) = 1105 LIN. FT.
SEDIMENT BASIN (E 14) = 300 CU. YD.*
OBLITERATION OF SEDIMENT BASIN = 300 CU. YD.*
SEDIMENT REMOVAL AND DISPOSAL = 350 CU. YDS.*

FOR STAGE CONSTRUCTION SEQUENCE REFER TO MAINTENANCE OF TRAFFIC DETAILS.

* QUANTITY IS ESTIMATED AND IS TO BE USED ANY STAGE, IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11

STA. 101+00 BEGIN
JOB 061026

SILT FENCE (E 11) = 80 LIN. FT.

STA. 13+55 END
OAK STREET

STA. 24+00 END
ELM STREET

STA. 22+25 BEGIN
ELM STREET

STA. 10+50 BEGIN
OAK STREET

SILT FENCE (E 11) = 225 LIN. FT.

SILT FENCE (E 11) = 200 LIN. FT.

REVISIONS

DATE	REVISION

R061026.DGN 6/14/2011

TEMPORARY EROSION CONTROL DETAILS
(STAGE I)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	6	97

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECKS
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE

LEGEND

STATE OF ARKANSAS
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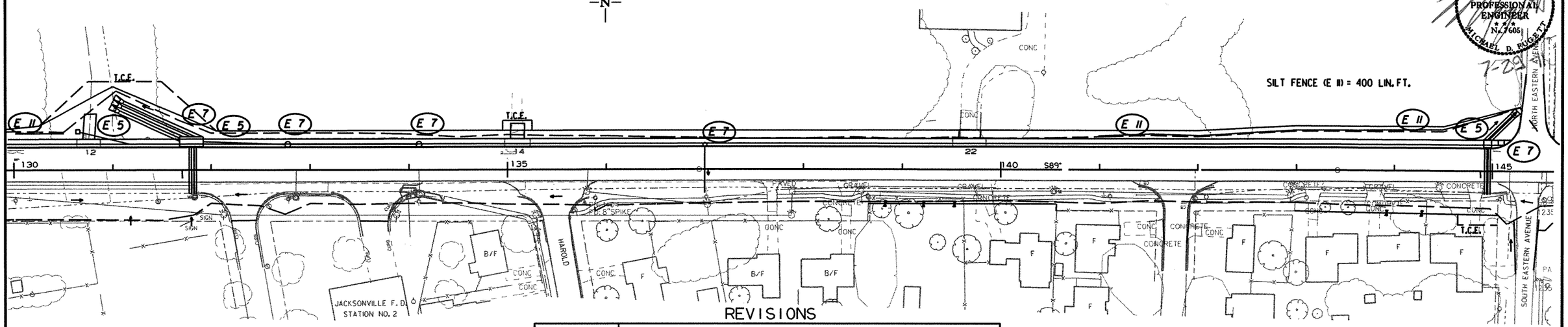
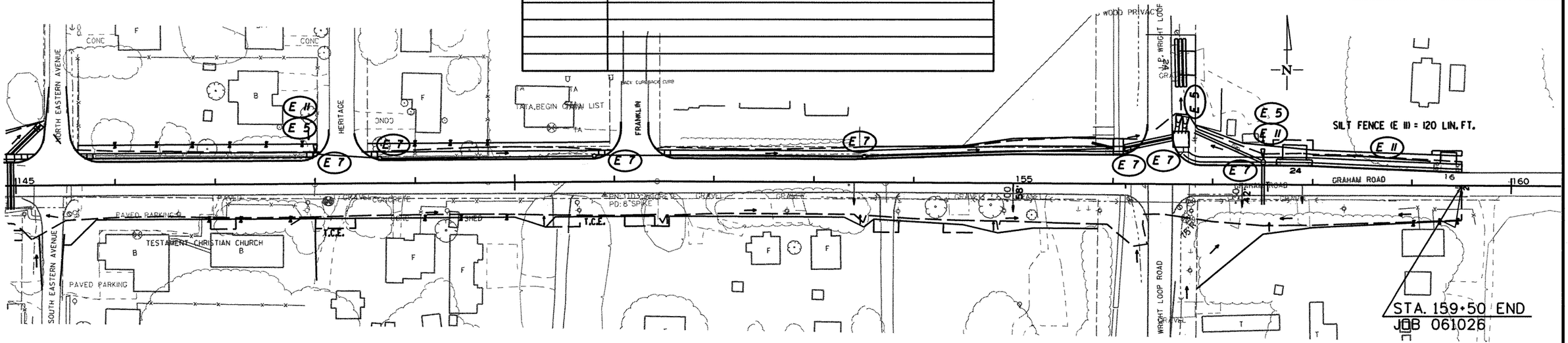
No. 7605
MICHAEL D. RUGGETT
7-29-11

SILT FENCE (E 11) = 400 LIN. FT.



REVISIONS

DATE	REVISION



TEMPORARY EROSION CONTROL DETAILS
(STAGE I)

R061026.DGN 6/14/2011

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				6	ARK.			
				JOB NO.		061026	7	97

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2:
SAND BAG DITCH CHECK (E 5) = 525 BAG
DROP INLET SILT FENCE (E 7) = 925 LIN. FT.
SILT FENCE (E 11) = 600 LIN. FT.
SEDIMENT REMOVAL AND DISPOSAL = 50 CU. YDS.*

EROSION CONTROL DEVICES FROM STAGE I TO BE LEFT IN PLACE

FOR STAGE CONSTRUCTION SEQUENCE REFER TO MAINTENANCE OF TRAFFIC DETAILS.

* QUANTITY IS ESTIMATED AND IS TO BE USED ANY STAGE, IF AND WHERE DIRECTED BY THE ENGINEER.

(E-5) SAND BAG DITCH CHECKS
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE

LEGEND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7-29-11

STA. 101+00 BEGIN
JOB 061026

SILT FENCE (E 11) = 180 LIN. FT.

STA. 13+55 END
OAK STREET

STA. 24+00 END
ELM STREET

STA. 22+25 BEGIN
ELM STREET

STA. 10+50 BEGIN
OAK STREET

REVISIONS

DATE	REVISION

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TEMPORARY EROSION CONTROL DETAILS
(STAGE 2)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	8	97

(2) TEMPORARY EROSION CONTROL DETAILS

E-5 SAND BAG DITCH CHECKS
E-7 DROP INLET SILT FENCE
E-11 SILT FENCE

LEGEND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUCKETT
7-29-11

N

T.C.E.

CONC

JACKSONVILLE F.D. STATION NO. 2

B/F

HAROLD

NORTH EASTERN AVENUE

SOUTH EASTERN AVENUE

130 135 140 S89° 145

REVISIONS

DATE	REVISION

TESTAMENT CHRISTIAN CHURCH

PAVED PARKING

HERITAGE

TATA BEGIN CHAIN LIST

FRANKLIN

L.P. WRIGHT LOOP

WRIGHT LOOP ROAD

GRAHAM ROAD

145 150 155 160

STA. 159+50 END
JOB 061026

TEMPORARY EROSION CONTROL DETAILS
(STAGE 2)

R061026.DGN 6/14/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	9	97

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 3:
SAND BAG DITCH CHECK(E 5) = 75 BAG
DROP INLET SILT FENCE(E 7) = 100 LIN. FT.
SILT FENCE (E 11) = 700 LIN. FT.
SEDIMENT REMOVAL AND DISPOSAL = 25 CU. YDS.*

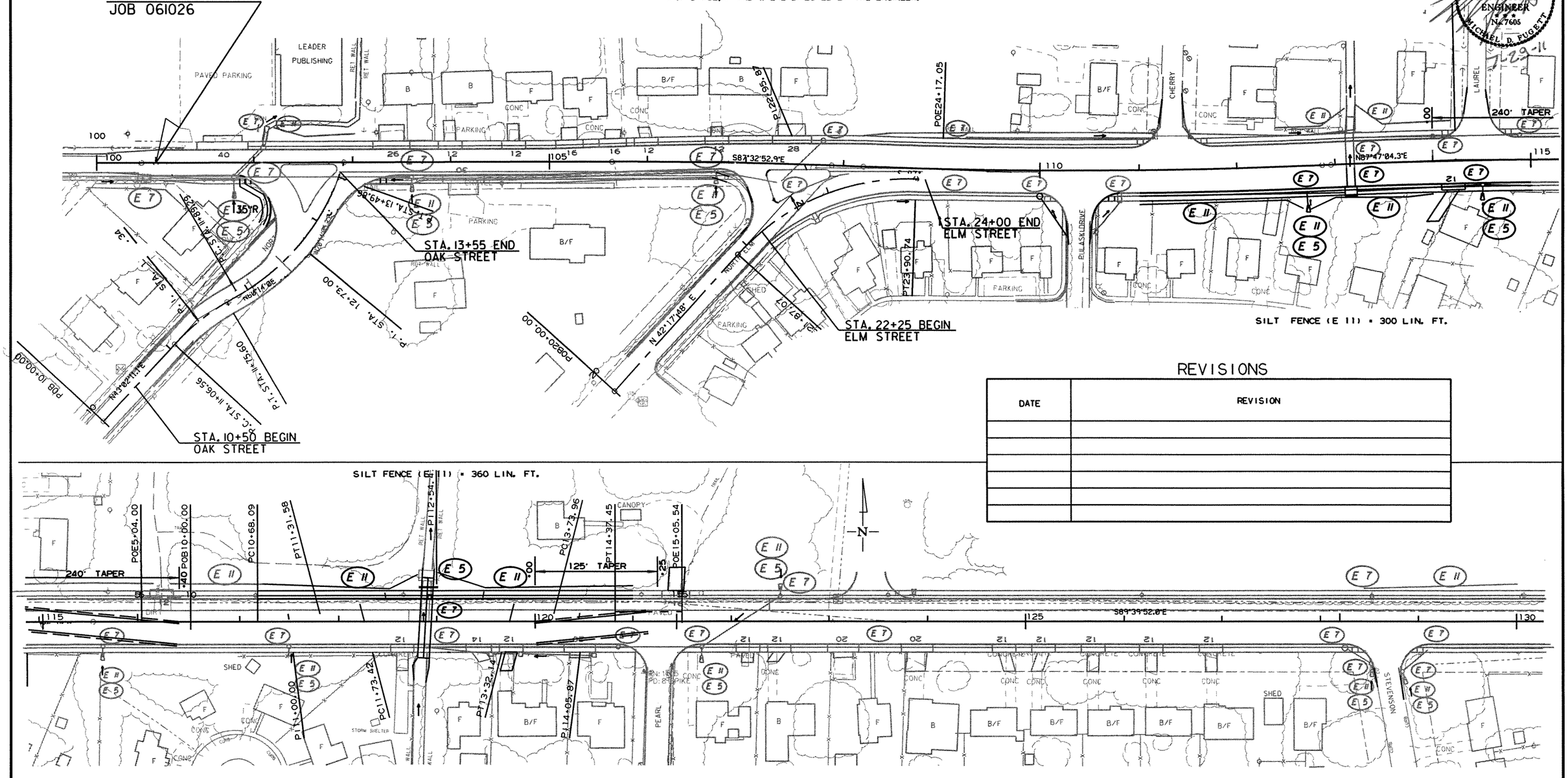
FOR STAGE CONSTRUCTION SEQUENCE REFER TO MAINTENANCE OF TRAFFIC DETAILS.

* QUANTITY IS ESTIMATED AND IS TO BE USED ANY STAGE, IF AND WHERE DIRECTED BY THE ENGINEER.

(E-5) SAND BAG DITCH CHECKS
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE

LEGEND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. PUGETT
7-29-11



REVISIONS

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS
(STAGE 3)

R061026.DGN 6/14/2011

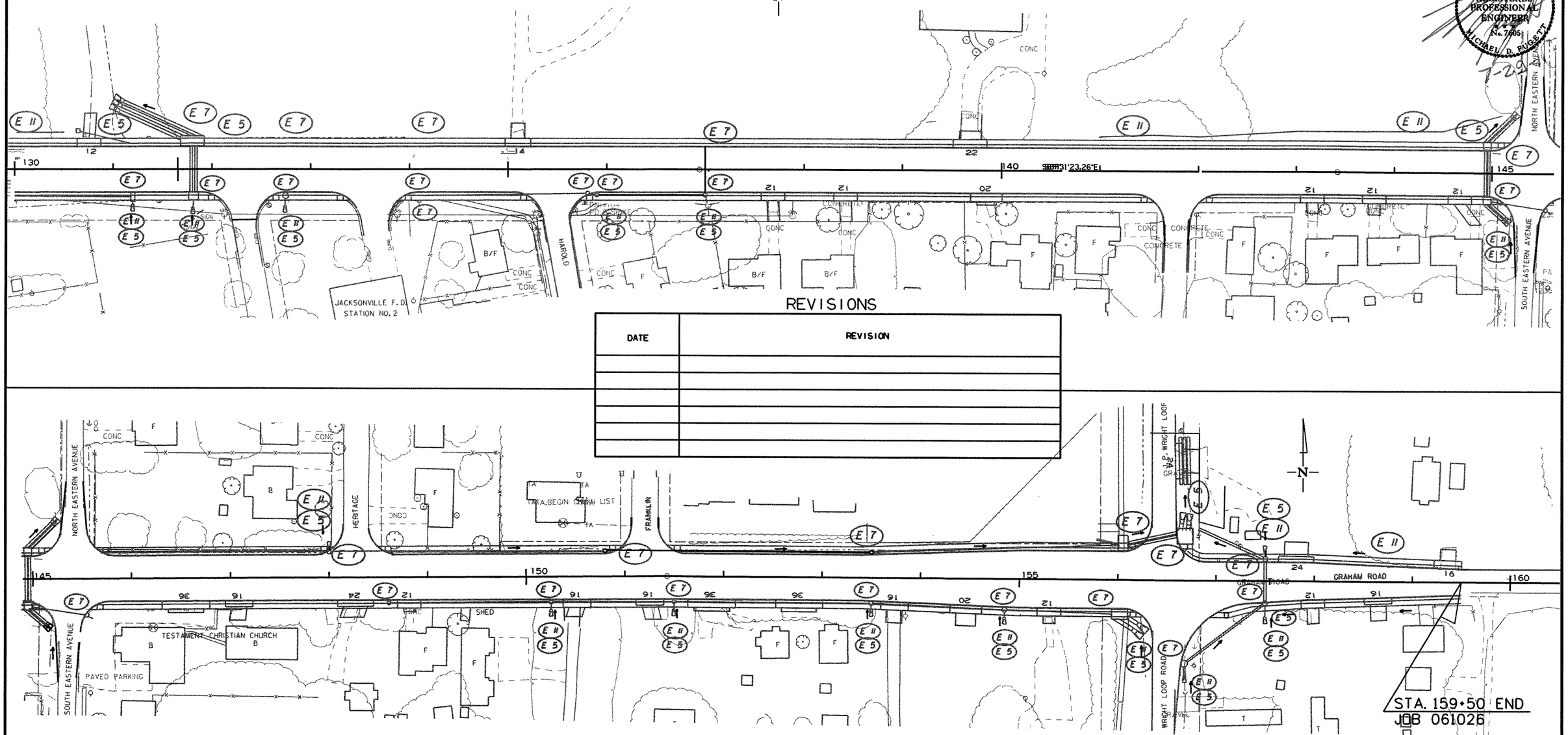
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	10	97

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECKS
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE

LEGEND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGSLEY
1-29-12



REVISIONS

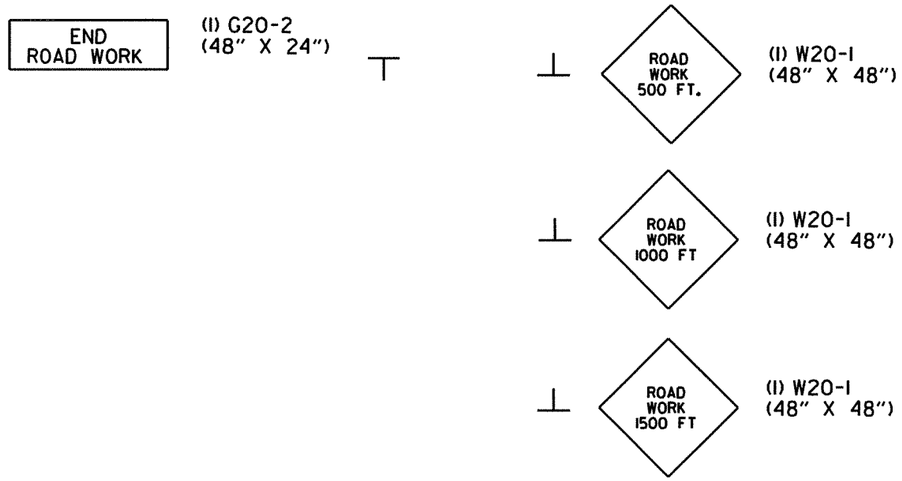
DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

R061026.DGN 6/14/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	11	97

(2) MAINTENANCE OF TRAFFIC DETAILS



DETAIL OF SIGN PLACEMENT AT BEGINNING AND END OF EACH SECTION & END OF HWY. 128

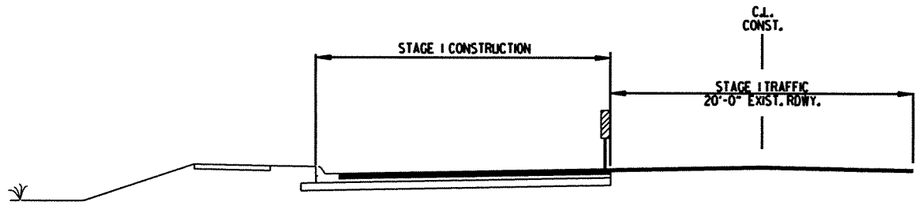
MAINTENANCE OF TRAFFIC:

CONSTRUCTION PAVEMENT MARKING QUANTITIES BASED ON RT. AND LT. EDGE LINES AND DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.

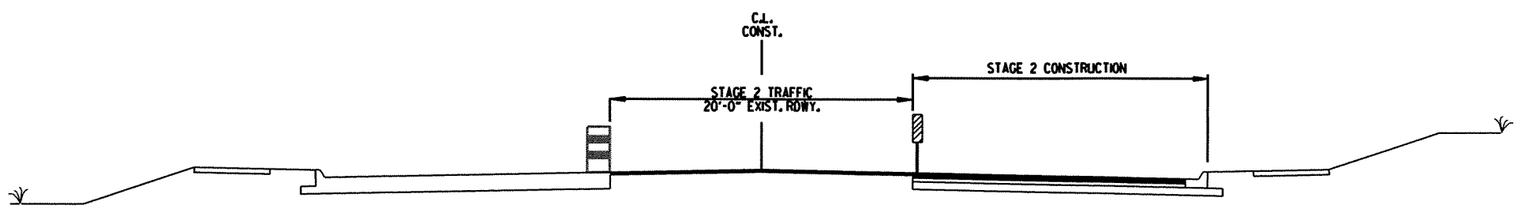
ALL COUNTY ROADS, CITY STREET INTERSECTIONS AND DRIVEWAYS ON THE SIDE BEING WIDENED ARE TO BE DELINEATED USING TRAFFIC DRUMS (6 EACH).

R4-1 SIGNS ARE TO BE PLACED THROUGH THE WORK ZONES AT 1/2 MI. INTERVALS.

W20-1 (AHEAD) SIGNS ARE TO BE PLACED AT ALL COUNTY ROAD AND CITY STREET INTERSECTIONS THROUGH THE WORK ZONE.



STAGE 1



STAGE 2

R061026.DGN 6/14/2011

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.		061026	12	97

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 1:

TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES THROUGHOUT THE PROJECT.
CONSTRUCT NOTCH AND WIDENING ON LEFT, GRAHAM ROAD
STA. 101+00 - STA. 111+00, STA. 115+00 - STA. 117+25 AND STA. 121+00
CONSTRUCT TEMPORARY WIDENING ON RIGHT, GRAHAM RD. STA. 111+00 - STA. 115+00.
CONSTRUCT TEMPORARY WIDENING ON LEFT, GRAHAM RD. STA. 117+25 - STA. 121+00.
CONSTRUCT NOTCH AND WIDENING ON RT. OAK STREET.
CONSTRUCT NOTCH AND WIDENING ON RT. ELM STREET.

PLACE VERTICAL PANELS ON THE LEFT (40' ON CENTER) GRAHAM RD.
PLACE VERTICAL PANELS ON THE RIGHT (30' ON CENTER) OAK STREET.
PLACE TRAFFIC DRUMS ON THE RIGHT (30' ON CENTER) ELM STREET.

MAINTENANCE OF TRAFFIC QUANTITIES - STAGE 1:
SIGNS = 561 LIN. FT.
TRAFFIC DRUMS = 145 EACH
VERTICAL PANELS= 112 EACH
FURN. AND INSTALLING PRECAST CONC. BARR. = 120 LIN. FT.
CONSTRUCTION PVMT. MRK. = 23400 L.F.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7-29-11

STA. 101+00 BEGIN
JOB 061026

TRAFFIC DRUMS (6) EACH PER DRIVEWAY OR TURNOUT

VERTICAL PANELS (40' SPACING)

STA. 13+55 END OAK STREET

VERTICAL PANEL 30' SPACING

TRAFFIC DRUMS 30' SPACING

STA. 24+00 END ELM STREET

STA. 22+25 BEGIN ELM STREET

STA. 10+50 BEGIN OAK STREET

END ROAD WORK (I) G20-2 (48" X 24")

ROAD WORK AHEAD (I) W20-1 (48" X 48")

P.I.= 2+31.18
Q = 29°53'11.7" LT.
D = 18°00'00.0"
T = 84.95'
L = 166.04'
NO SUPER.

P.I.= 0+99.87
Q = 15°04'51.0" RT.
D = 22°30'00.0"
T = 33.71'
L = 67.03'
NO SUPER.

P.I.= 3+54.39
Q = 15°00'00.0" RT.
D = 22°30'00.0"
T = 33.53'
L = 66.67'
NO SUPER.

TEMPORARY PRECAST BARRIER WALL = 120 LIN. FT.

P.I.= 14+05.87
Q = 14°17'09.5" LT.
D = 22°30'00.0"
T = 31.91'
L = 63.49'
NO SUPER.

(4) OM-3R (12" X 36")

P.I.= 11+00.00
Q = 14°7'01.8" LT.
D = 22°30'00.0"
T = 31.91'
L = 63.48'
NO SUPER.

P.I.= 12+54.47
Q = 28°34'11.3" RT.
D = 18°00'00.0"
T = 81.05'
L = 158.72'
NO SUPER.

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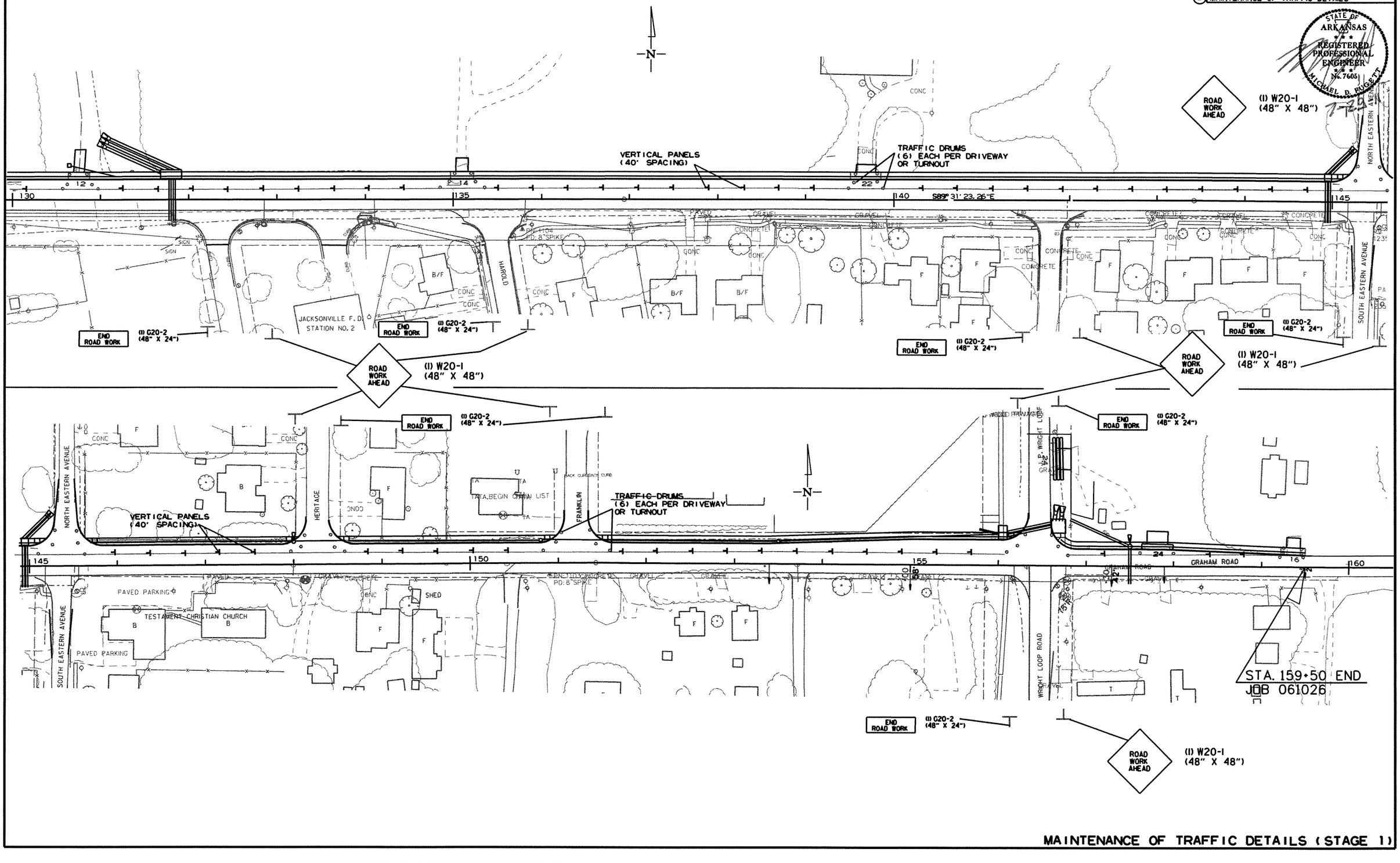
MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	13	97

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N.C. 7605
MICHAEL D. RUGGETT



MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

R061026.DGN 6/14/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	14	97

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 2:

TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES AND TEMPORARY WIDEING AS SHOWN ON THE PLANS..
CONSTRUCT NOTCH AND WIDENING ON RIGHT, GRAHAM ROAD.
STA. 101+00 - STA. 111+00 AND STA. 115+.00 - STA. 159+50.
CONSTRUCT NOTCH AND WIDENING ON LEFT, GRAHAM RD.
STA. 111+00 - STA. 115+00
CONSTRUCT NOTCH AND WIDENING ON LT. OAK STREET.
CONSTRUCT NOTCH AND WIDENING ON LT. ELM STREET.

PLACE VERTICAL PANELS ON THE LEFT (40' ON CENTER) GRAHAM RD.
PLACE TRAFFIC DRUMS ON THE RIGHT (40' ON CENTER) GRAHAM RD.
PLACE TRAFFIC DRUMS ON THE RIGHT (30' ON CENTER) OAK STREET.
PLACE TRAFFIC DRUMS ON THE RIGHT (30' ON CENTER) ELM STREET.

MAINTENANCE OF TRAFFIC QUANTITIES - STAGE 2:
SIGNS = 619 LIN. FT.
TRAFFIC DRUMS = 479 EACH
VERTICAL PANELS= 66 EACH
BARRICADES (TYPE III) = 16 LIN. FT.
FURN. AND INSTALLING PRECAST CONC. BARR. = 240 LIN. FT.
RELOCATION PRECAST CONCRETE BARRIER = 120 LIN. FT.
REMOVAL OF CONST. PAVEMENT MARKINGS = 1600 LIN. FT.
CONSTRUCTION PVMT. MRK. = 23400 L.F.
CONSTRUCTION PVMT. MRK. (WORDS) = 1 EACH
CONSTRUCTION PVMT. MRK. (ARROWS) = 2 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-11

STA. 101+00 BEGIN
JOB 061026

ROAD CLOSED THRU TRAFFIC (1) R11-4 (60" X 30")
8' BARR. TYP. WIT.
LEADER PUBLISHING
PAVED PARKING
TRAFFIC DRUMS (6) EACH PER DRIVEWAY OR TURNOUT
RET. WALL
CONC
PARKING
SIGN
B/F
F
PATIO
POB0+00.00
POE24+17.05
S87°32'52.9"E
S89°34'52.8"E
N87°47'04.3"E
CHERRY
LAUREL
PC1+46.23
P.I.= 2+31.18
Δ = 29°53'11.7" LT.
D = 18°00'00.0"
T = 184.95'
L = 166.04'
NO SUPER.
P10+99.87
P13+12.27
PT3+54.39
TEMPORARY PRECAST BARRIER WALL = 180 LIN. FT.
(3) OM-3L (12"X 36")
(1) W20-1 (48" X 48")
ROAD WORK AHEAD
END ROAD WORK
(1) G20-2 (48" X 24")
RIGHT LANE MUST TURN RIGHT
(183.7 RT. (150" X 50")
35"R
STA. 13+55 END OAK STREET
P.T. STA. 13+49.56
P.C. STA. 12+73.00
P.T. STA. 11+06.56
P.C. STA. 7+50.60
POB0+00.00
(1) R4-2 (48" X 30")
(1) W1-6 (48" X 24")
36" BARR. TYP. WIT.
ROAD CLOSED
STA. 24+00 END ELM STREET
STA. 22+25 BEGIN ELM STREET
N 42°17'48" E
EOM 18.47'
PULASKI DRIVE
PCO+66.16
PT1+33.19
PT3+87.53
P.I.= 0+99.87
Δ = 15°04'51.0" RT.
D = 22 °30'00.0"
T = 33.71'
L = 67.03'
NO SUPER.
P.I.= 3+54.39
Δ = 15°00'00.0" RT.
D = 22°30'00.0"
T = 33.53'
L = 66.67'
NO SUPER.
STA. 10+50 BEGIN OAK STREET

POE5+04.00
POB10+00.00
PC10+68.09
PT11+31.58
PT12+54.47
P.I.= 14+05.87
Δ = 14°17'09.5" LT.
D = 22 °30'00.0"
T = 31.91'
L = 63.49'
NO SUPER.
TEMPORARY PRECAST BARRIER WALL = 180 LIN. FT.
(3) OM-3L (12"X 36")
PC13+73.96
PT14+37.45
POE15+05.54
TRAFFIC DRUMS (6) EACH PER DRIVEWAY OR TURNOUT
TRAFFIC DRUMS (40' SPACING)
VERTICAL PANELS (40' SPACING)
76°03'08"
104°37'18"
90°20'08"
PC11+73.42
P11+00.00
PT13+32.14
P14+05.87
STORM SHELTER
PEARL
STEVENSON
P.I.= 11+00.00
Δ = 14°7'01.8" LT.
D = 22°30'00.0"
T = 31.91'
L = 63.48'
NO SUPER.
P.I.= 12+54.47
Δ = 28°34'11.3" RT.
D = 18°00'00.0"
T = 81.05'
L = 158.72'
NO SUPER.

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MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	15	97

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGGETT

ROAD WORK AHEAD — (1) W20-1 (48" X 48")

TRAFFIC DRUMS (40' SPACING)

TRAFFIC DRUMS (6) EACH PER DRIVEWAY OR TURNOUT

VERTICAL PANELS (40' SPACING)

END ROAD WORK — (1) G20-2 (48" X 24")

NORTH EASTERN AVENUE

SOUTH EASTERN AVENUE

HAROLD

JACKSONVILLE F.D. STATION NO. 2

HERITAGE

FRANKLIN

WRIGHT LOOP ROAD

GRAHAM ROAD

TESTAMENT CHRISTIAN CHURCH

PAVED PARKING

S89° 31' 23.26"E

STA. 159+50 END
JOB 061026

MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	16	97

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3:

MAINTAIN TRAFFIC AS SHOWN ON THE PLANS..
CONSTRUCT NOTCH AND WIDENING ON RIGHT, GRAHAM ROAD,
STA. 111+00 -STA. 115+.00 .
CONSTRUCT NOTCH AND WIDENING ON LEFT, GRAHAM
STA. 117+25 - STA. 121+00

PLACE TRAFFIC DRUMS (40' ON CENTER) GRAHAM RD.
PLACE TRAFFIC DRUMS (30' ON CENTER) OAK STREET.
PLACE TRAFFIC DRUMS (30' ON CENTER) ELM STREET.

MAINTENANCE OF TRAFFIC QUANTITIES - STAGE 3:
SIGNS = 598 LIN. FT.
TRAFFIC DRUMS = 486 EACH
BARRICADES (TYPE III) = 16 LIN. FT.
RELOCATION PRECAST CONCRETE BARRIER = 180 LIN. FT.
REMOVAL OF CONST. PAVEMENT MARKINGS = 1460 LIN. FT.
CONSTRUCTION PVMT. MRK. = 3700L.F.

STATE OF ARKANSAS
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No. 7605
MICHAEL D. PUGETT
5-29-11

STA. 101+00 BEGIN
JOB 061026

STA. 10+50 BEGIN
OAK STREET

STA. 13+55 END
OAK STREET

STA. 22+25 BEGIN
ELM STREET

STA. 24+00 END
ELM STREET

TRAFFIC DRUMS
(6) EACH PER DRIVEWAY
OR TURNOUT

TRAFFIC DRUMS
(40' SPACING)

240' TAPER

125' TAPER

TEMPORARY PRECAST
BARRIER WALL = 180 LIN. FT.

ROAD WORK AHEAD
(1) W20-1
(48" X 48")

END ROAD WORK
(1) G20-2
(48" X 24")

RIGHT LANE MUST TURN RIGHT
(1)R3-7 RT.
(30" X 30")

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

(1) W1-6
(48" X 24")
24" BARR. TYP. ALL

(3) OM-3L
(12" X 48")

(4) OM-3R
(12" X 48")

ROAD CLOSED TO THRU TRAFFIC
(1) R11-4
(48" X 30")

S87°32'52.9"E

N87°47'04.3"E

N 42°17'48" E

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MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

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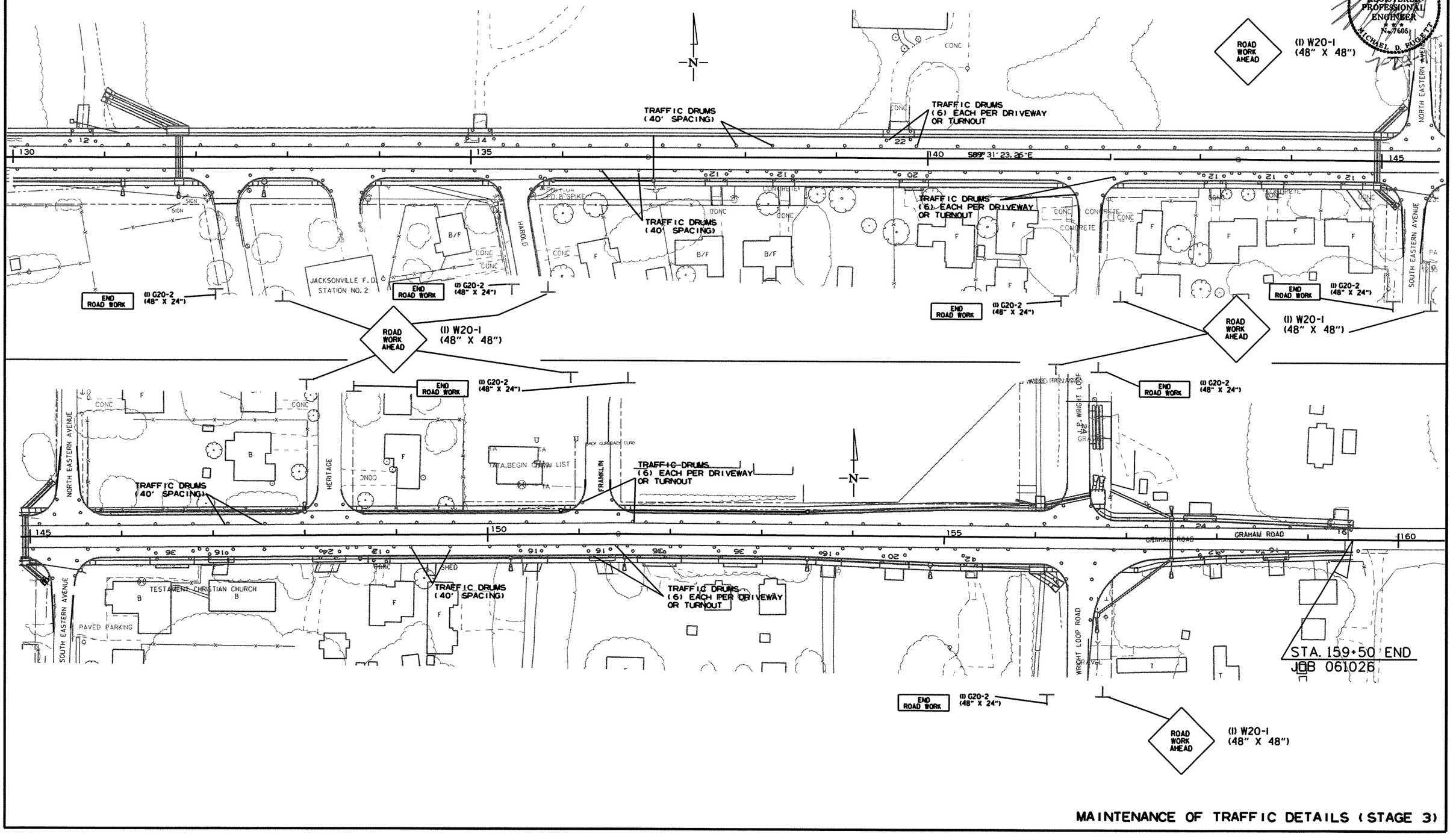
				6	ARK.			
				JOB NO.		061026	17	97

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGGETT



MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

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PERMANENT PAVEMENT MARKING QUANTITIES:
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4") = 2265 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8") = 615 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4") = 9200 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING (WORDS) = 4 EACH
THERMOPLASTIC PAVEMENT MARKING (ARROWS) = 7 EACH
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (10") = 335 LIN. FT.

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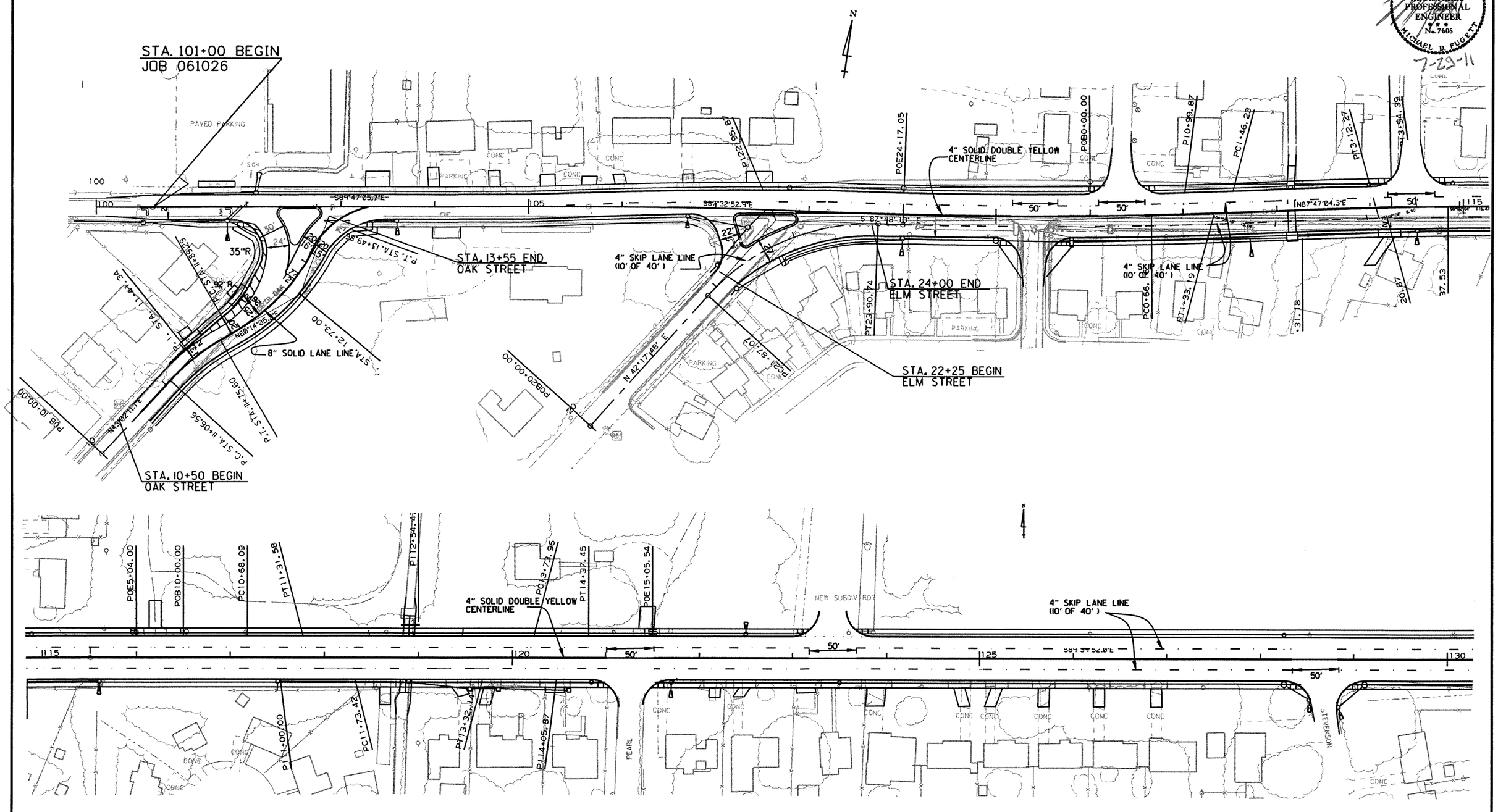
				6	ARK.			
				JOB NO.		061026	18	97

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11



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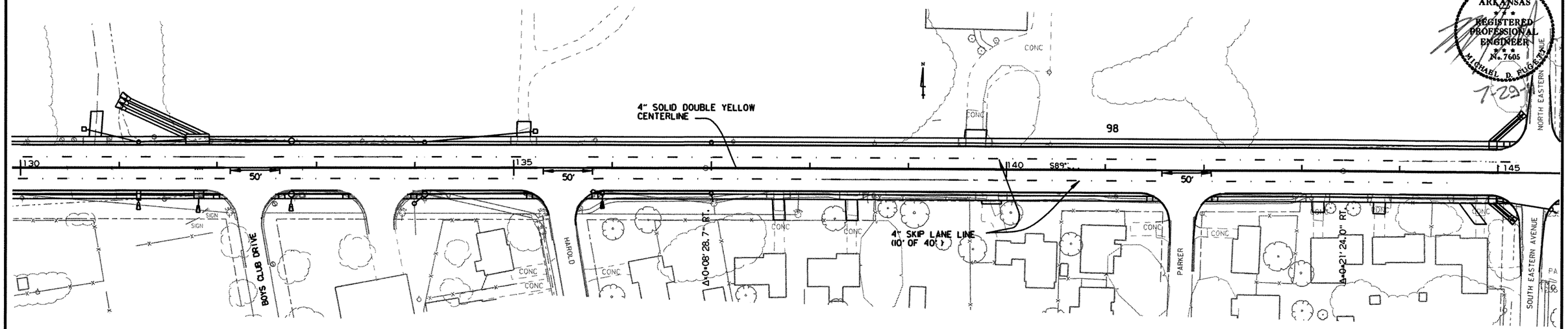
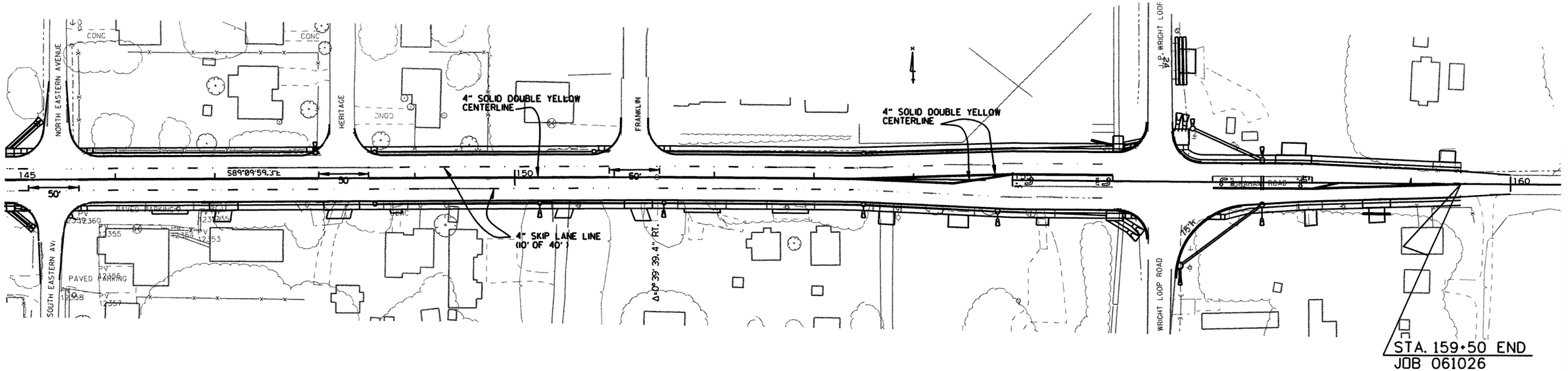
PERMANENT PAVEMENT MARKING DETAILS

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.		061026	19	97

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETTE
7-29-11





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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.		061026	20	97

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. PUGETT
7-29-11

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER
												RIGHT	LEFT		
			LIN.FT. - EACH					NO.	SQ. FT.	EACH				LIN.FT.	
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"	17	17	17		17	17	272.0						
G20-2	END ROAD WORK	48"x24"	19	19	19		19	19	152.0						
R11-2	ROAD CLOSED	48"x30"		1	1		1	1	10.0						
OM-3L	OBJECT MARKER	12"x36"	3	6	3		6	6	18.0						
OM-3R	OBJECT MARKER	12"x36"	4	8	4		8	8	24.0						
W1-6	LARGE ARROW	48"x24"		1	1		1	1	8.0						
R4-1	DO NOT PASS	24"x30"	4	4	4		4	4	20.0						
R3-7	RT. LANE MUST TURN RT.	30"X30"		1	1		1	1	6.3						
R11-4	ROAD CLOSED TO THRU TRAFFIC	60"X30"		1	1		1	1	12.5						
	VERTICAL PANELS		112	66			112			112					
	TRAFFIC DRUMS		145	479	486		486				486				
	TYPE III BARRICADE-LT. (8')			1	1		1						8		
	TYPE III BARRICADE-RT. (8')			1	1		1					8			
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		120	240			360							360	
	RELOCATING PRECAST CONCRETE BARRIER			120	180		300								300
TOTALS:									618.8	112	486	8	8	360	300

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS		REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	THERMOPLASTIC PAVEMENT MARKINGS					REFLECTORIZED PAINT PVMT. MRK.
						WORDS	ARROWS		4" WHITE	4" YELLOW	8" WHITE	WORDS	ARROWS	10" YELLOW
	LIN.FT. - EACH				LIN. FT.	EACH		LIN.FT.	LIN.FT.			EACH		LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	23400	23400	3700		50500									
CONSTRUCTION PAVEMENT MARKINGS (WORDS)		1				1								
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)		2					2							
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		1600	1460					3060						
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")				2265					2265					
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")				9200						9200				
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8")				615							615			
THERMOPLASTIC PAVEMENT MARKINGS WORDS				4								4		
THERMOPLASTIC PAVEMENT MARKINGS ARROWS				7									7	
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (10")				335										335
TOTALS:					50500	1	2	3060	2265	9200	615	4	7	335

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

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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.		061026	21	97

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB AND GUTTER	CONCRETE SLABS	CONCRETE DRAIN	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	WALKS	GUARDRAIL	SIGNS	SIGN FOUNDATIONS	LUMINAIRE POLE & FDN.	WOODEN BRIDGE	BUILDINGS	POSTS	PLANTERS
			LIN. FT.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	LIN. FT.	EACH						
102+40	102+64	CONCRETE ISLAND ON RT.				36										
102+13		CONCRETE DITCH WALL ON LT.			25											
102+03		SIGN ON LT.								1						
104+74		LUMINAIRE ON LT.										1				
104+71	105+67	PLANTER ON RT.														1
105+20		CONCRETE DRIVE ON LT.					43									
105+63		CONCRETE DRIVE ON LT.					42									
105+97		CONCRETE DRIVE ON LT.					26									
106+70		CONCRETE DRIVE ON LT.					38									
108+50		WOODEN POST ON RT.													1	
107+80	111+15	CONCRETE DITCH WALL ON LT.			403											
111+53	113+22	CONCRETE DITCH WALL ON LT.			228											
112+32		BUILDING ON RT.												1		
111+55	113+07	GUARDRAIL ON LT.							152							
101+00	102+13	SIDEWALK ON RT.						38								
102+96	106+83	SIDEWALK ON RT.						129								
107+95	110+19	SIDEWALK ON RT.						75								
110+62	121+05	SIDEWALK ON RT.						348								
112+11	112+19	CONCRETE PAVEMENT ON LT.		3												
118+86		CONCRETE DITCH WALL ON RT.			36											
121+46	128+39	SIDEWALK ON RT.						231								
128+80	131+82	SIDEWALK ON RT.						101								
117+12		METAL SHED AND CONC SLAB ON RT.		15										1		
118+64		CONCRETE DRIVE ON RT.					44									
118+90		WOOD BRIDGE ON LT.											1			
119+60		LUMINAIRE ON RT.										1				
106+77	106+94	CURB ON RT.	80													
107+16	107+78	CURB ON RT.	110													
101+99	101+35	CURB ON RT.	222													
100+90	102+95	CURB ON RT.	242													
110+28		CURB ON RT.	39													
110+51		CURB ON RT.	42													
121+14		CURB ON RT.	22													
121+41		CURB ON RT.	30													
122+42		CONCRETE DRIVE ON RT.					23									
123+44		WALK ON RT.						2								
123+88		CONCRETE DRIVE ON RT.					78									
124+84		CONCRETE DRIVE ON RT.					41									
125+11		CONCRETE DRIVE ON RT.					41									
125+68		CONCRETE DRIVE ON RT.					40									
126+27		CONCRETE DRIVE ON RT.					41									
126+89		CONCRETE DRIVE ON RT.					43									
128+53		CURB ON RT.	38													
128+82		CURB ON RT.	56													
131+82		SIGN AND SIGN FOUNDATION ON RT.								1	1					
131+91		SIGN AND SIGN FOUNDATION ON RT.								1	1					
131+91		BRICK COLUMN ON RT.													1	
131+85	131+21	CURB ON RT.	49													
132+47	133+52	CURB ON RT.	190													
133+81	135+36	CURB ON RT.	194													
134+02	135+21	SIDEWALK ON RT.						44								
135+62	135+83	CURB ON RT.	30													
135+63	141+57	SIDEWALK ON RT.						264								
137+69		CONCRETE DRIVE ON RT.					22									
138+43		CONCRETE DRIVE ON RT.					26									
139+69		CONCRETE DRIVE ON LT.					74									
141+39	141+66	CURB ON RT.	52													
141+91	142+17	CURB ON RT.	46													
142+00	145+25	SIDEWALK ON RT.						144								
143+17		CONCRETE DRIVE ON RT.	21													
143+79		CONCRETE DRIVE ON RT.	20													
144+83		CONCRETE DRIVE ON RT.	28													
135+20		SIGN ON LT.								1	1					
137+00		SIGN FOUNDATION ON LT									1					
145+54	148+16	SIDEWALK ON LT.						116								
148+16		CURB ON LT.	30													
148+40		CURB ON LT.	40													
148+40	151+03	SIDEWALK ON LT.						117								
148+84		CONCRETE DRIVE ON LT.					25									
149+35		STORAGE BUILDING ON RT.												1		
151+08		CURB ON LT.	47													
151+34		CURB ON LT.	43													
151+38	156+19	SIDEWALK ON LT.						214								
156+09		SIDEWALK ON RT.						21								
156+85		SIGN ON RT.								1						
157+87		2 PVC POSTS ON RT.													2	
TOTALS:			1671	18	692	36	647	1844	152	5	4	2	1	3	4	1

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				6	ARK.			
				JOB NO.		061026	22	97

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7405
MICHAEL D. PUGETT
7-29-11

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
101+00	102+00	MAIN LANES	1	1
103+00	107+00	MAIN LANES	4	4
108+00	110+00	MAIN LANES	2	2
113+00	114+00	MAIN LANES	1	1
115+00	130+00	MAIN LANES	15	15
132+00	140+00	MAIN LANES	8	8
142+00	145+00	MAIN LANES	3	3
146+00	155+00	MAIN LANES	9	9
157+00	159+50	MAIN LANES	3	3
TOTALS:			46	46

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	DESCRIPTION	FENCE
			LIN. FT.
103+60	103+75	4' CHAIN LINK ON LT.	35
104+00		X-TIE DRIVEWAY MARKER ON RT	40
104+56		PRIVACY FENCE ON RT.	200
106+97	108+31	4' CHAIN LINK ON RT.	190
109+06	110+14	6' WOOD PRIVACY ON RT.	130
109+69	111+08	4' CHAIN LINK ON LT.	139
110+59	111+13	6' WOOD PRIVACY ON RT.	108
111+13	111+79	6' WOOD PRIVACY ON RT.	98
111+80	112+70	WOVEN WIRE ON RT.	176
112+39	113+08	5' CHAIN LINK ON LT.	97
114+40		X-TIE DRIVEWAY MARKER ON RT	20
114+69	115+70	WHITE PICKET ON LT.	102
114+74	115+36	6' WOOD PRIVACY ON RT.	65
115+24	115+68	PICKET FENCE ON LT	44
115+35	115+56	6' WOOD PRIVACY ON RT.	35
115+56	116+98	WOVEN WIRE ON RT.	140
116+98	118+38	4' CHAIN LINK ON RT.	156
118+38	118+75	4' CHAIN LINK ON RT.	40
119+78	120+34	6' WOOD PRIVACY ON RT.	76
120+57	121+02	4' CHAIN LINK ON RT.	60
122+27		4' CHAIN LINK ON RT.	10
123+02	123+78	4' CHAIN LINK ON RT.	80
123+79	124+37	WHITE PICKET ON RT.	60
126+77		4' CHAIN LINK ON RT.	30
127+37		4' CHAIN LINK ON RT.	28
138+65	139+63	4' CHAIN LINK ON RT.	108
140+66	141+20	PRIVACY FENCE ON RT.	65
143+30		X-TIE DRIVEWAY MARKER ON RT	25
143+69	144+33	4' CHAIN LINK ON RT.	90
145+63	148+02	4' CHAIN LINK ON LT.	260
146+86	147+90	4' CHAIN LINK ON RT.	120
149+00	149+73	4' CHAIN LINK ON LT.	100
149+05	150+31	4' CHAIN LINK ON RT.	143
156+84	157+85	4' CHAIN LINK ON RT.	189
158+87	159+50	ROCK FENCE ON RT.	82
TOTALS:			3341

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS (1 OF 2)

STATION	DESCRIPTION	PIPE CULVERTS	BOX CULVERTS	DROP INLETS
		EACH	EACH	EACH
101+50	24" X 118' R.C. PIPE	1		
101+56	12" X49' R.C.PIPE - L.S.D.	1		
101+70	18" X 76' C.M.PIPE ON LT.	1		
102+05	DROP INLET ON RT.			1
102+09	30" X 32' PLASTIC PIPE	1		
102+13	30" R.C.PIPE ON LT.	1		
103+52	15" X 55' R.C. PIPE - L.S.D.	1		
103+99	15" X 21' PLASTIC PIPE - L.S.D.	1		
104+54	12" PLASTIC PIPE ON LT.	1		
105+28	18" X345' R.C. PIPE ON RT.	1		
107+31	DROP INLET ON RT.			1
107+35	18" R.C. PIPE ON RT.	1		
107+36	18" R.C. PIPE ON RT. (TO LEFT)	1		
107+59	30" X 45' R.C.PIPE	1		
107+89	DROP INLET ON RT.			1
107+90	24" R.C.PIPE ON RT.	1		
109+14	DROP INLET ON RT.			1
109+19	36" X 43' PLASTIC PIPE	1		
109+69	36" X 99' C.M.PIPE ON RT.	1		
110+18	DROP INLET ON RT.			1
110+27	DROP INLET ON RT.			1
110+32	30" X 16' R.C. PIPE ON RT.	1		
110+40	3'X2'X35' R.C. BOX CULVERT ON RT.		1	
110+49	30' X 16' R.C. PIPE ON RT.	1		
110+52	DROP INLET ON RT.			1
110+55	DROP INLET ON RT.			1
110+90	DBL. 30" X 61' R.C. PIPE ON RT.	2		
111+19	DROP INLET ON RT.			1
111+34	5'X4'X37' R.C. BOX CULVERT ON LT.		1	
111+96	DBL 30" X 148' R.C.PIPE ON RT.	2		
112+68	DROP INLET ON RT.			1
112+73	48" X 45' R.C. PIPE	1		
113+40	48"X32"X137' C.M. ARCH PIPE ON RT.	1		
114+10	DROP INLET ON RT.			1
114+42	30" X 62' C.M. PIPE ON RT.	1		
114+71	DROP INLET ON RT.			1
115+18	30" X 85' C.M. PIPE ON RT.	1		
115+59	DROP INLET ON RT.			1
115+61	24" X4' C.M. PIPE INLET ON RT.	1		
115+62	30" C.M. PIPE ON RT.	1		
116+21	18' R.C. PIPE - L.S.D.	1		
118+88	7' X 3' X 50' R.C.BOX CULVERT		1	
118+91	24" R.C.PIPE ON RT.	1		
121+04	DROP INLET ON RT.			1
121+27	18" X 39' R.C. PIPE - R.S.D.	1		
121+44	12" X 18" R.C. PIPE - L.S.D.	1		
128+64	18" X 31' R.C. PIPE - R.S.D.	1		
131+80	DROP INLET ON RT.			1
131+82	24'X18"X41' C.M. ARCH PIPE	1		
132+83	DROP INLET ON RT.			1
132+86	18" X 43' C.M. PIPE	1		
133+91	DROP INLET ON RT.			1
134+01	DROP INLET ON RT.			1
134+05	24" R.C.PIPE ON LT.	1		
134+10	24" X 40' C.M.PIPE	1		
134+11	18" C.M. PIPE ON RT.	1		
SUBTOTAL (1 OF 2)		37	3	18

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

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS (2 OF 2)

STATION	DESCRIPTION	PIPE CULVERTS	BOX CULVERTS	DROP INLETS
		EACH	EACH	EACH
134+97	36" X 169' C.M. PIPE ON LT.	1		
135+78	DROP INLET ON RT.			1
135+79	18" X 2' C.M. PIPE ON RT.	1		
135+81	36" X 36' C.M. PIPE	1		
135+82	DROP INLET ON LT.			1
136+41	36" X 121' C.M. PIPE ON RT.	1		
137+03	11' INLET PIPE ON RT.	1		
137+03	DROP INLET ON RT.			1
137+39	74' PIPE ON RT.	1		
137+76	DROP INLET ON RT.			1
138+21	15" X 88' C.M. PIPE ON RT.	1		
138+65	DROP INLET ON RT.			1
139+16	15" X 100' C.M. PIPE ON RT.	1		
139+67	DROP INLET ON RT.			1
139+68	12" X 30' C.M. PIPE - L.S.D.	1		
139+82	15" X 27' R.C. PIPE - R.S.D.	1		
141+78	15" X 81' R.C. PIPE - R.S.D.	1		
143+16	6" X 20' P.V.C. PIPE - R.S.D.	1		
143+80	6" X 20' P.V.C. PIPE - R.S.D.	1		
144+96	18" X 42' R.C. PIPE - R.S.D.	1		
145+17	DROP INLET ON RT.			1
145+18	18" X 39' R.C. PIPE	1		
145+19	12" X 13' PLASTIC PIPE ON RT.	1		
145+55	DROP INLET ON RT.			1
145+56	18" X 34' R.C. PIPE	1		
145+59	6" X 5' P.V.C. ON LT.	1		
148+28	18" X 52' CLAY/ C.M. PIPE - L.S.D.	1		
148+53	DROP INLET ON LT.			1
149+61	18" X 207' C.M. PIPE ON LT.	1		
150+50	12" X 41' R.C. PIPE	1		
150+66	DROP INLET ON LT.			1
151+57	18" X 181' C.M. PIPE ON LT.	1		
152+48	DROP INLET ON LT.			1
152+83	6" X 13' CONCRETE PIPE - R.S.D.	1		
153+74	12" X 20' R.C.PIPE - R.S.D.	1		
154+28	18" X 358' C.M. PIPE ON LT.	1		
154+47	15" X 25' R.C. PIPE - R.S.D.	1		
155+28	15" X 19' R.C. PIPE - R.S.D.	1		
155+94	12" X 40' PLASTIC PIPE ON LT.	1		
156+09	DROP INLET ON LT.			1
156+10	18" X 13' C.M. PIPE - R.S.D.	1		
156+43	18" X 63' R.C.PIPE - L.S.D.	1		
156+46	18" X 56' R.C. PIPE - R.S.D.	1		
156+66	18" X 16' C.M. PIPE ON LT. (LOOP RD.)	1		
156+77	24" X 28' R.C. PIPE	1		
157+22	18" X 19' R.C. PIPE - R.S.D.	1		
159+36	15" X 21' R.C.PIPE - L.S.D.	1		
SUBTOTALS (2 OF 2)		35		12
TOTALS:		72	3	30

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

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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.		061026	23	97

(2) QUANTITIES

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	MAIN LANES	3134	6526	
10+50	13+55	OAK STREET	112	234	
22+25	24+00	ELM STREET	56	98	
ENTIRE	PROJECT	APPROACHES	15	120	
ENTIRE	PROJECT	TO BE USED IF AND WHERE			50
		DIRECTED BY THE ENGINEER			
0+00	4+00	DETOUR 1 REMOVAL	25		
10+68	14+35	DETOUR 2 REMOVAL	50		
TOTALS:			**3392**	**6978**	**50**

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

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

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
		FEET				
106+00	5'RT	0-5	22	7	A-4 (2)	BROWN
106+00	12'RT	0-5	35	14	A-6 (7)	RED
114+00	5'LT	0-5	19	5	A-4 (0)	BROWN
122+00	5'RT	0-5	27	12	A-6 (8)	BR/GR
130+00	5'LT	0-5	24	9	A-4 (3)	RD/BR
138+00	5'RT	0-5	22	7	A-4 (1)	RED
146+00	5'LT	0-5	19	5	A-4 (0)	RD/BR
154+00	5'RT	0-5	19	2	A-4 (0)	RED
162+00	5'LT	0-5	27	10	A-4 (5)	RED

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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
113+16	ON HDWL OF R.C. BOX CULVERT ON LT.	1
131+80	ON TOP OF DROP INLET ON RT.	1

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

FENCING

STATION	STATION	SIDE	WIRE FENCE (TYPE C)	* 4' CHAIN LINK FENCE	* 5' CHAIN LINK FENCE
				LIN.FT.	
107+90	108+31	RT.		50	
109+69	111+08	LT.		140	
111+79	112+54	RT.	75		
112+39	113+08	LT.			75
115+56	116+98	RT.	142		
116+98	118+38	RT.		134	
118+38	118+75	RT.		28	
120+57	121+02	RT.		45	
123+02	123+78	RT.		58	
138+65	139+63	RT.		98	
143+69	144+33	RT.		65	
145+63	148+02	LT.		238	
146+86	147+90	RT.		104	
149+00	149+73	LT.		75	
149+05	150+31	RT.		128	
156+84	157+85	RT.		122	
TOTALS:			**217**	**1285**	**75**

* DENOTES ALTERNATE BID ITEM.

4" PIPE UNDERDRAIN

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

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

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
	EACH		
ENTIRE PROJECT	34	28	3
TOTALS:	**34**	**28**	**3**

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	BAG	LIN.FT.	LIN.FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1										175	1105	475	300	300	350
ENTIRE	PROJECT	STAGE 2										525	925	600			50
ENTIRE	PROJECT	STAGE 3										75	100	700			25
ENTIRE	PROJECT	MAIN LANES, OAK ST. & ELM ST.	1.41	2.82	1.41	181.1	1.41	2956	8.68	8.68	177.1						
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.												100					
TOTALS:			**1.41**	**2.82**	**1.41**	**181.1**	**1.41**	**2956**	**8.68**	**8.68**	**177.1**	**875**	**2130**	**1775**	**300**	**300**	**425**

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.
BALED STRAW DITCH CHECKS....4 BALES / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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.

R061026.DGN 7/7/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	24	97

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11

CONCRETE ITEMS

STATION	STATION	SIDE	CONC. COMB. CURB & GUTTER (TYPE A) (1' 6")	CONCRETE WALKS	CONCRETE ISLANDS	WHEELCHAIR RAMPS (TYPE 3)	WHEELCHAIR RAMPS (TYPE 4)
			LIN. FT.	SQ. YD.			
101+00	101+86	RT.	86	48			
101+00	111+21	LT.	1033	402			
101+86		RT.				6.2	
102+27	102+84	RT.			157		
102+48		RT.					10.0
102+61		RT.					10.0
103+34	106+83	RT.	349	171			
103+34		RT.				7.5	
106+93		RT.					15.7
107+21	107+87	RT.			149		
107+77		RT.					6.7
108+83	110+27	RT.	160	89			
110+05		RT.				5.7	
110+53	121+14	RT.	1091	493			
110+75		RT.				5.7	
110+99		LT.				5.7	
111+47	114+32	LT.	314	133			
111+70		LT.				5.7	
114+10		LT.				5.7	
114+58	123+29	LT.	898	429			
114+80		LT.				5.7	
120+92		RT.				5.7	
121+39	128+55	RT.	741	243			
121+62		RT.				5.7	
123+05		LT.				5.7	
123+57	145+29	LT.	2201	1134			
123+80		LT.				5.7	
128+32		RT.				5.7	
128+82	132+16	RT.	360	162			
129+05		RT.				5.7	
131+96		RT.				5.7	
132+45	133+46	RT.	124	32			
132+68		RT.				5.7	
133+27		RT.				5.7	
133+79	135+36	RT.	188	62			
134+02		RT.				5.7	
135+13		RT.				5.7	
135+62	141+65	RT.	641	265			
135+85		RT.				5.7	
141+42		RT.				5.7	
141+91	145+23	RT.	359	119			
142+14		RT.				5.7	
145+00		RT.				5.7	
145+06		LT.				5.7	
145+49	156+36	RT.	1117	372			
145+55	148+15	LT.	290	119			
145+71		RT.				5.7	
145+78		LT.				5.7	
147+92		LT.				5.7	
148+40	151+07	LT.	300	124			
148+62		LT.				5.7	
150+85		LT.				5.7	
151+34	156+34	LT.	534	253			
151+56		LT.				5.7	
156+11		LT.				5.7	
156+59	159+50	LT.	304	119			
156+63	159+50	RT.	360	103			
156+75		LT.				8	
157+13		RT.				8.3	
10+50	13+55	RT.	337	183			
10+50	12+98	LT.	282	146			
22+05	24+00	LT.	92				
22+05	24+00	RT.	171				
22+83	24+00	RT.		61			
107+52		RT.					6.7
107+34		RT.					6.7
TOTALS:			**12332**	**5262**	**306**	**195.3**	**55.8**

DRIVEWAYS & TURNOUTS

STATION	SIDE	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS 18"	SIDE DRAINS 36"X23"
		FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.	
101+68	LT	40	101+34	102+02	46.20	28.4	3.1	11.6		
103+39	LT	26	103+12	103+66	33.80	48.0	5.3	19.6		
104+13	RT.	30	103+84	104+42	37.30	40.0	4.4	16.3		
103+98	LT	12	103+78	104+18	21.30	28.0	3.1	11.4		
104+63	LT	12	104+43	104+83	21.30	23.2	2.6	9.5		
105+20	LT	16	104+98	105+42	47.70					
105+65	LT	16	105+43	105+87	41.80					
105+96	LT	12	105+76	106+16	35.70					
106+70	LT	12	106+50	106+90	34.10					
107+45	LT	28	107+17	107+73	35.60	37.3	4.1	15.2		
116+20	LT	12	116+00	116+40	21.30	39.3	4.3	16.0		
118+64	RT.	12	118+44	118+84	46.20					
119+43	RT.	14	119+22	119+64	23.10	19.0	2.1	7.8		
119+71	RT.	12	119+51	119+91	21.30	26.4	2.9	10.8		
120+46	RT.	20	120+22	120+70						
121+45	LT	16	121+23	121+67						
122+16	RT.	12	121+96	122+36						
122+49	RT.	12	122+29	122+69						
123+15	RT.	20	122+91	123+39						
123+88	RT.	20	123+64	124+12						
124+84	RT.	12	124+64	125+04						
125+11	RT.	12	124+91	125+31						
125+68	RT.	12	125+48	125+88						
126+27	RT.	12	126+07	126+47						
126+89	RT.	12	126+69	127+09						
130+77	LT	12	130+57	130+97						
135+10	LT	14	134+89	135+31	23.10	24.0	2.6	9.8		
137+69	RT.	12	137+49	137+89	49.70					
138+43	RT.	12	138+23	138+63	49.60					
139+69	LT	22	139+44	139+94	51.70					
139+85	RT.	20	139+61	140+09	36.20					
143+17	RT.	12	142+97	143+37	35.20					
143+79	RT.	12	143+59	143+99	36.50					
144+67	RT.	12	144+47	144+87	56.80					
146+55	RT.	36	146+23	146+87	42.70	14.0	1.5	5.7		
147+07	RT.	16	146+85	147+29	24.90	20.1	2.2	8.2		
148+23	RT.	24	147+97	148+49	32.00	24.8	2.7	10.1		
148+81	RT.	12	148+61	149+01	26.20					
150+48	RT.	16	150+26	150+70	24.90	17.4	1.9	7.1		
151+29	RT.	16	151+07	151+51	48.40					
151+88	RT.	36	151+56	152+20	42.70	14.4	1.6	5.9		
152+77	RT.	36	152+45	153+09	42.70	14.4	1.6	5.9		
153+73	RT.	16	153+51	153+95	24.90	23.1	2.5	9.4		
154+46	RT.	20	154+22	154+70	28.40	28.0	3.1	11.4		
155+30	RT.	12	155+10	155+50	21.30	9.9	1.1	4.0		
157+82	LT	24	157+56	158+08	32.00	32.8	3.6	13.4		
157+99	RT.	12	157+79	158+19	21.30	21.9	2.4	8.9		
158+66	RT.	16	158+44	158+88	24.90	27.2	3.0	11.1	28	
159+37	LT	16	159+15	159+59	24.90	20.3	2.2	8.3		
156+82	LT	24	156+56	157+08	32.00	44.0	4.8	18.0		144
* ENTIRE PROJECT TEMPORARY DRIVES								750.0		
TOTALS:					**1299.70**		**68.7**	**1005.4**	**28**	**144**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

** FOR INFORMATION ONLY

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

R061026.DGN 7/7/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	25	97

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11

STRUCTURES

STATION	DESCRIPTION	SPAN	HEIGHT	LENGTH	DROP INLETS TYPE C	DROP INLETS TYPE MO	DROP INLETS EXT. 4'	DROP INLETS EXT. 8'	JUNCTION BOX (TYPE ST)	YARD DRAIN	SIDE DRAIN	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 12"	18"	24"	30"	36"	42"	54"	22"X14"	29"X18"	36"X23"	44"X27"	51"X31"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	30"	22"X14"	29"X18"	44"X27"	CLASS S CONCRETE-ROADWAY	REINF. STEEL RDWY. (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.			EACH						LIN. FT.													EACH						CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
102+10	CONST D I LT. W/ PIPE INLET & OUTLET W/F.E.S.					1						79		6																		13	0.16	FPC-9M, FES-1, FES-2, PCC-1
102+17	CONST. JCT BOX W/ PIPE OUTLET								1				38																					
107+79	CONST D I LT. W/ PIPE OUTLET					1																116												FPC-9M, PCC-1
109+00	CONST D I LT. W/ PIPE OUTLET					1																406												FPC-9M, PCC-1
113+16	CONST D I LT W/ R.C.BOX CULVERT OUTLET	8	4	15	1																									14.74	1653	11	7	0.09	FPC-9E, PCC-1, R-100X-0, PBC-1
114+00	CONST D I LT. W/ PIPE OUTLET					1						78																						FPC-9M, PCC-1
101+80	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						3		37										1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
103+60	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						3	176											1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
106+70	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						69												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
107+35	CONST JCT BOX W/ PIPE OUTLET								1													57												FPC-9S, PCC-1
107+25	CONST D I RT. W/ PIPE INLET & OUTLET					1							185				180																	FPC-9M, PCC-1
109+00	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						2					95							1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
110+00	CONST D I RT. W/ PIPE INLET & OUTLET					1										44		76																FPC-9M, PCC-1
110+40	CONST JCT BOX W/ PIPE OUTLET								1				38																					FPC-9M, PCC-1
110+80	CONST D I RT. W/ PIPE INLET & R.C. BOX CULVERT OUTLET	7	4	184	1									42																130.64	18878	66			FPC-9E, PCC-1, R-100X-0, PBC-1
112+70	CONST PIPE INLET W/F.E.S.											2												1								5	0.06	FES-1, FES-2, PCC-1
113+16	CONST D I RT. W/ R.C. BOX CULVERT OUTLET	8	4	47	1																									31.77	4477	17			FPC-9E, PCC-1, R-100X-0, PBC-1
114+51	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						176												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
114+90	CONST D I LT. W/ PIPE OUTLET					1						86																						FPC-9M, PCC-1
118+90	CONST D I LT. ON TOP OF R.C.BOX CULVERT				1																													FPC-9E
122+50	CONST D I LT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						93												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
128+25	CONST D I LT. W/ PIPE OUTLET					1						48																						FPC-9M, PCC-1
115+60	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						115												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
117+50	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						135												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
118+90	CONST DBL. R.C. BOX CULVERT W/ 3:1 WINGS	6	3	82																										75.14	12631	42	15	0.19	R-200X-0, W-X003-1, PBC-1
118+90	CONST D I RT. ON TOP OF R.C.BOX CULVERT				1																													FPC-9E
119+55	INSTALL YARD DRAIN ON RT. W/ SIDE DRAIN OUTLET									1	64																							FPC-9, PCC,1
119+85	INSTALL YARD DRAIN ON RT. W/ SIDE DRAIN OUTLET									1	26																							FPC-9, PCC,1
120+60	INSTALL YARD DRAIN ON RT. W/ SIDE DRAIN OUTLET									1	71																							FPC-9, PCC,1
120+85	CONST D I RT. W/ PIPE OUTLET					1						194																						FPC-9M, PCC-1
121+70	CONST D I RT W/ EXT. , PIPE INLET W/F.E.S. & PIPE OUTLET					1	1					84												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
123+50	CONST D I RT W/ EXT. & PIPE OUTLET					1	1					176																						FPC-9M, PCC-1
128+25	CONST D I RT W/ EXT. & PIPE OUTLET					1	1															81												FPC-9M, PCC-1
128+52	CONST D I RT W/ EXT., F.E.S. INLET & PIPE OUTLET					1		1						26											1								8	0.10	FPC-9M, FES-1, FES-2, PCC-1
128+84	CONST D I RT W/ EXT., F.E.S. INLET & PIPE OUTLET					1	1					32												1								6	0.08	FPC-9M, FES-1, FES-2, PCC-1
129+12	CONST D I RT. W/ PIPE OUTLET					1																	203											FPC-9M, PCC-1
130+65	INSTALL YARD DRAIN ON LT. W/ SIDE DRAIN OUTLET									1	53																							FPC-9, PCC,1
131+20	CONST D I RT. W/ PIPE OUTLET					1						53																						FPC-9M, PCC-1
131+80	CONST D I LT. W/ TPL. PIPE OUTLET				1																	240				3						15	0.19	FPC-9E, FES-1, FES-2, PCC-1
132+75	CONST D I LT. W/ PIPE OUTLET					1						87																						FPC-9M, PCC-1
134+10	CONST D I LT. W/ PIPE OUTLET					1						130																						FPC-9M, PCC-1
135+22	INSTALL YARD DRAIN ON RT. W/ SIDE DRAIN OUTLET									1	109																							FPC-9, PCC,1
137+00	CONST D I LT W/ EXT. & PIPE OUTLET					1	1					48																						FPC-9M, PCC-1
144+95	CONST D I LT. & PIPE OUTLET W/ F.E.S.				1																146						2					16	0.20	FPC-9E, FES-1, FES-2, PCC-1
131+20	CONST D I RT W/ F.E.S. INLET & PIPE OUTLET				1															106				1								5	0.06	FPC-9E, FES-1, FES-2, PCC-1
131+80	CONST D I RT W/ F.E.S. INLET & PIPE OUTLET				1																	96		1								5	0.06	FPC-9E, FES-1, FES-2, PCC-1
132+75	CONST D I RT, PIPE INLET W/ F.E.S. & PIPE OUTLET				1							3										174		1								5	0.06	FPC-9E, FES-1, FES-2, PCC-1
134+00	CONST D I RT. W/ PIPE OUTLET					1															9												FPC-9M, PCC-1
134+10	CONST D I RT. W/ PIPE OUTLET					1															129												FPC-9M, PCC-1
135+81	CONST D I RT. W/ PIPE OUTLET					1								166																				FPC-9M, PCC-1
135+90	CONST D I RT W/ F.E.S. INLET & PIPE OUTLET					1						9												1										FPC-9M, FES-1, FES-2, PCC-1
137+00	CONST D I RT W/ EXT., PIPE INLET & OUTLET					1						108																						FPC-9M, PCC-1
144+95	CONST D I RT W/ PIPE INLET & OUTLET				1																112												FPC-9E, PCC-1
148+00	CONST D I LT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						58												1										FPC-9M, FES-1, FES-2, PCC-1
148+60	CONST D I LT. W/ PIPE OUTLET					1						216																						FPC-9M, PCC-1
150+80	CONST D I LT W/ EXT. & PIPE OUTLET					1	1					266																						FPC-9M, PCC-1
153+30	CONST D I LT. W/ PIPE OUTLET					1						248																						FPC-9M, PCC-1
156+05	CONST D I LT W/ DBL. PIPE OUTLET				1																	102												FPC-9E, PCC-1
156+65	CONST D I LT & DBL. PIPE OUTLET W/ F.E.S.				1																	10						2				34	0.43	FPC-9E, FES-1, FES-2, PCC-1
156+80	CONST JCT BOX LT W/ F.E.S. OUTLET								1																		1					8	0.10	FPC-9E, FES-1, FES-2
157+50	CONST D I LT W/ F.E.S. INLET & PIPE OUTLET					1															72				1							5	0.06	FPC-9M, FES-1, FES-2, PCC-1
145+55	CONST D I RT W/ PIPE INLET & OUTLET					1						55												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
148+60	CONST D I RT W/ EXT. & PIPE OUTLET					1	1					161																						FPC-9M, PCC-1
150+25	CONST D I RT W/ EXT. , PIPE INLET W/F.E.S. & PIPE OUTLET					1	1					123												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
151+50	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						198												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
153+50	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						133												1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
154+85	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1						2								113				1								5	0.06	FPC-9M, FES-1, FES-2, PCC-1
156+05	CONST D I RT. , DBL. PIPE INLET W/ F.E.S. & DBL. PIPE OUTLET				1																	154						2				34	0.43	FPC-9E, FES-1, FES-2, PCC-1
156+68	CONST D I RT. , PIPE INLET W/ F.E.S. & PIPE OUTLET					1													111							1						5	0.06	FPC-9M, FES-1, FES-2, PCC-1
157+50	CONST D I RT W/ PIPE INLET & OUTLET					1						3									40						1					8	0.10	FPC-9M, FES-1, FES-2, PCC-1
TOTALS:					**14**	**45**	**8**	**1**	**4**	**5**	**323**	**3276**	**629**	**85**	**44**	**275**	**76**	**111**	**508**	**219**	**1436**	**203**	**22**	**1**	**1**	**4**	**4**	**4**	**252.29**	**37639**	**136**	**264**	**3.27**	

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.

R061026.DGN 7/7/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	26	97

(2) QUANTITIES

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
100+00	101+00	MAIN LANES	20	222.22
159+50	160+50	MAIN LANES	20	222.22
9+50	10+50	OAK ST.	20	222.22
21+25	22+25	ELM ST.	20	222.22
TOTAL:				888.88

NOTE: AVERAGE MILLING DEPTH 1".

SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU.YD.	
ENTIRE PROJECT TO BE USED IF		
AND WHERE DIRECTED BY THE	300	600
ENGINEER		
TOTALS:	300	600

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

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	DEPTH	*PAVEMENT REPAIR	FLOWABLE SELECT MATERIAL
	FEET	CU. YD	
101+95	4.50	4.5	9.9
107+54	3.50	5.2	7.1
113+16	6.50	7.8	15.8
118+90	5.10	10.9	16.8
128+25	3.50	5.2	7.1
131+80	4.50	8.2	20.2
137+00	4.20	3.8	9.5
144+95	3.10	6.6	10.2
156+65	3.20	8.2	8.9
157+50	2.90	6.6	8.9
102+09	4.00	4.2	8.7
109+18	4.50	4.4	10.0
112+73	5.50	5.5	10.6
132+86	3.80	3.8	8.3
134+10	3.30	4.2	6.4
135+81	5.60	4.8	13.5
145+18	2.90	3.8	5.7
145+56	2.00	3.8	3.1
150+50	2.60	3.5	5.1
156+77	3.20	4.2	6.0
TOTALS:		109.2	191.8

*PAVEMENT REPAIR DEPTH = 9"

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	28	56
DIRECTED BY THE ENGINEER		
TOTALS:	28	56

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	28
DIRECTED BY THE ENGINEER	
TOTAL:	28

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
8-2-11

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				PORTLAND CEMENT CONCRETE BASE (6" U.T.)		PORTLAND CEMENT CONCRETE BASE (11" U.T.)		ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	AVG. WID.	SQ.YD.	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22
			FEET			FEET				FEET		FEET		FEET			TON	FEET			TON
100+00	101+00	MAIN LANES - TRANSITION	100.0			20.0	222.22	0.10	22.2									20.0	222.22	220.0	24.4
101+00	105+75	MAIN LANES - 2 LANE SECTION	475.0			24.0	1266.67	0.03	38.0	5.00	263.89	4.00	211.11					24.0	1266.67	220.0	139.3
105+75	108+20	MAIN LANES - 2 LANE SECTION	245.0			24.0	653.33	0.03	19.6	5.00	136.11	6.00	163.33					24.0	653.33	220.0	71.9
108+20	112+50	MAIN LANES - 4 LANE SECTION	430.0	87.50	376.3	64.0	3057.78	0.03	91.7	2.50	119.44	4.00	191.11	20.00	955.56	330.0	157.7	64.0	3057.78	220.0	336.4
112+50	153+40	MAIN LANES - 4 LANE SECTION	4090.0	113.00	4621.7	68.0	30902.22	0.03	927.1					24.00	10906.67	330.0	1799.6	68.0	30902.22	220.0	3399.2
153+40	155+00	MAIN LANES - 4 LANES TO 5 LANES	160.0	136.00	217.6	80.0	1422.22	0.03	42.7					30.00	533.33	330.0	88.0	80.0	1422.22	220.0	156.4
155+00	156+05	MAIN LANES - 5 LANES	105.0	159.50	167.5	92.0	1073.33	0.03	32.2					36.00	420.00	330.0	69.3	92.0	1073.33	220.0	118.1
156+06	157+30	MAIN LANES & LOOP RD. - INTERSECTION	124.0	VAR.	398.4	VAR.	1832.40	0.03	55.0					VAR.	1054.00	330.0	173.9	VAR.	1054.00	220.0	115.9
157+30	157+90	MAIN LANES - TAPER	60.0	167.25	100.4	56.0	373.33	0.03	11.2					18.00	120.00	330.0	19.8	38.0	253.33	220.0	27.9
157+90	159+50	MAIN LANES - TAPER	160.0	58.33	93.3	40.0	711.11	0.03	21.3					10.00	177.78	330.0	29.3	30.0	533.33	220.0	58.7
10+50	12+30	OAK STREET	180.0	66.00	118.8	36.0	720.00	0.03	21.6					12.00	240.00	330.0	39.6	36.0	720.00	220.0	79.2
12+30	13+55	OAK STREET	125.0	VAR.	151.5	VAR.	1059.00	0.03	31.8					VAR.	366.67	330.0	60.5	VAR.	1059.00	220.0	116.5
22+25	24+00	ELM STREET	175.0	VAR.	83.0	VAR.	801.33	0.03	24.0					VAR.	181.89	330.0	30.0	VAR.	801.33	220.0	88.1
0+00	4+00	DETOUR 1	400.0	VAR.	270.3	VAR.	407.8	0.03	12.2					VAR.	433.6	330.0	71.5	VAR.	407.80	220.0	44.9
10+68	14+35	DETOUR 2	367.0	VAR.	386.4	VAR.	665.1	0.03	20.0					VAR.	688.8	330.0	113.7	VAR.	665.10	220.0	73.2
		PULASKI DRIVE		VAR.	43.5	VAR.	247.78	0.03	7.4					VAR.	123.89	330.0	20.4	VAR.	247.78	220.0	27.3
		CHERRY		VAR.	43.6	VAR.	248.88	0.03	7.5					VAR.	124.44	330.0	20.5	VAR.	248.88	220.0	27.4
		LAUREL		VAR.	39.2	VAR.	224.22	0.03	6.7					VAR.	112.11	330.0	18.5	VAR.	224.22	220.0	24.7
		PEARL		VAR.	42.5	VAR.	243.12	0.03	7.3					VAR.	121.56	330.0	20.1	VAR.	243.12	220.0	26.7
	123+42	STREET ON LT.		VAR.	44.3	VAR.	252.88	0.03	7.6					VAR.	126.44	330.0	20.9	VAR.	252.88	220.0	27.8
		STEVENSON		VAR.	44.2	VAR.	252.66	0.03	7.6					VAR.	126.3	330.0	20.8	VAR.	252.66	220.0	27.8
		BOY'S CLUB DRIVE		VAR.	43.8	VAR.	250.22	0.03	7.5					VAR.	125.11	330.0	20.6	VAR.	250.22	220.0	27.5
		HAROLD		VAR.	45.5	VAR.	260.22	0.03	7.8					VAR.	130.11	330.0	21.5	VAR.	260.22	220.0	28.6
		PARKER		VAR.	43.6	VAR.	249.34	0.03	7.5					VAR.	124.7	330.0	20.6	VAR.	249.34	220.0	27.4
		SOUTHEASTERN		VAR.	41.0	VAR.	234.22	0.03	7.0					VAR.	117.11	330.0	19.3	VAR.	234.22	220.0	25.8
		NORTHEASTERN		VAR.	42.8	VAR.	244.44	0.03	7.3					VAR.	122.22	330.0	20.2	VAR.	244.44	220.0	26.9
		HERITAGE		VAR.	41.1	VAR.	234.66	0.03	7.0					VAR.	117.33	330.0	19.4	VAR.	234.66	220.0	25.8
		FRANKLIN		VAR.	53.4	VAR.	304.880	0.03	9.1					VAR.	152.4	330.0	25.1	VAR.	304.88	220.0	33.5
		ADDITIONAL FOR LEVELING																			
101+00	159+50	MAIN LANES - LEVELING*	5850.0			20.0	13000.0	0.10	1300.0									VAR.	VAR.	VAR.	1853.3
10+50	13+55	OAK STREET - LEVELING	305.0			20.0	677.8	0.10	67.8									VAR.	VAR.	VAR.	133.8
22+25	24+00	ELM STREET - LEVELING	175.0			20.0	388.9	0.10	38.9									VAR.	VAR.	VAR.	89.7
TOTALS:					7553.7				2874.6		519.44		565.55				2920.8				7284.1

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22

*INCLUDES QUANTITY NEEDED FOR CROWN SHIFT.

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

R061026.DGN 7/7/2011

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	46	STATION
201	GRUBBING	46	STATION
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER	1671	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE	3341	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE DRAIN	692	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS	36	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS	647	SQ. YD.
202	REMOVAL AND DISPOSAL OF WALKS	1844	SQ. YD.
202	REMOVAL AND DISPOSAL OF POSTS	4	EACH
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS	4	EACH
202	REMOVAL AND DISPOSAL OF WOODEN BRIDGES	1	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS	30	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	72	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS	3	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE SLABS	18	SQ. YD.
202	REMOVAL AND DISPOSAL OF GUARDRAIL	152	LIN. FT.
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION	2	EACH
202	REMOVAL AND DISPOSAL OF BUILDINGS	3	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	5	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS	1	EACH
206	FLOWABLE SELECT MATERIAL	192	CU. YD.
210	UNCLASSIFIED EXCAVATION	3392	CU. YD.
210	COMPACTED EMBANKMENT	6978	CU. YD.
SP & 210	SOIL STABILIZATION	50	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	8559	TON
309	PORTLAND CEMENT CONCRETE BASE (6" UNIFORM THICKNESS)	519	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (11" UNIFORM THICKNESS)	566	SQ. YD.
401	TACK COAT	2931	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	2792	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	129	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	6970	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	4	TON
SP, SS, & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	379	TON
412	COLD MILLING ASPHALT PAVEMENT	889	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	28	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	28	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY	1299.70	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	619	SQ. FT.
SS & 604	BARRICADES	16	LIN. FT.
SS & 604	TRAFFIC DRUMS	486	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	360	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER	300	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS	50500	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)	1	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	2	EACH
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	3060	LIN. FT.
SS & 604	VERTICAL PANELS	112	EACH
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	3276	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	629	LIN. FT.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	85	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	44	LIN. FT.
SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	275	LIN. FT.
SS & 606	54" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	76	LIN. FT.
SS & 606	22" X 14" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	111	LIN. FT.
SS & 606	29" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	508	LIN. FT.
SS & 606	36" X 23" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	219	LIN. FT.
SS & 606	44" X 27" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	1436	LIN. FT.
SS & 606	51" X 31" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	203	LIN. FT.
SS & 606	12" SIDE DRAIN	323	LIN. FT.
SS & 606	18" SIDE DRAIN	28	LIN. FT.
SS & 606	36" X 23" SIDE DRAIN	144	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	22	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	1	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	1	EACH
606	29" X 18" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	4	EACH
606	22" X 14" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	4	EACH
606	44" X 27" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	4	EACH
606	SELECTED PIPE BEDDING	300	CU. YD.
606	SELECTED PIPE BACKFILL	600	CU. YD.
609	DROP INLETS (TYPE C)	14	EACH
609	DROP INLETS (TYPE MO)	45	EACH
609	JUNCTION BOXES (TYPE ST)	4	EACH
609	DROP INLET EXTENSIONS (4')	8	EACH
609	DROP INLET EXTENSIONS (8')	1	EACH
609	YARD DRAINS	5	EACH
611	4" PIPE UNDERDRAINS	3000	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	109.2	CU. YD.
619	WIRE FENCE (TYPE C)	217	LIN. FT.
* 619	4' STEEL CHAIN LINK FENCE (ALTERNATE NO. 1)	1285	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE (ALTERNATE NO. 2)	1285	LIN. FT.
* 619	5' STEEL CHAIN LINK FENCE (ALTERNATE NO. 1)	75	LIN. FT.
* 619	5' ALUMINUM CHAIN LINK FENCE (ALTERNATE NO. 2)	75	LIN. FT.
620	LIME	3	TON
620	SEEDING	1.41	ACRE
620	MULCH COVER	10.09	ACRE
SS & 620	WATER	361.5	M.GAL.
621	TEMPORARY SEEDING	8.68	ACRE
621	SILT FENCE	1775	LIN. FT.
621	SAND BAG DITCH CHECKS	875	BAG
621	DROP INLET SILT FENCE	2130	LIN. FT.
621	SEDIMENT BASIN	300	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	300	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	425	CU. YD.
623	SECOND SEEDING APPLICATION	1.41	ACRE
624	SOLID SODDING	3220	SQ. YD.
632	CONCRETE ISLAND	306	SQ. YD.
633	CONCRETE WALKS	5262	SQ. YD.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	12332	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	34	EACH
637	MAILBOX SUPPORTS (SINGLE)	28	EACH
637	MAILBOX SUPPORTS (DOUBLE)	3	EACH
641	WHEELCHAIR RAMPS (TYPE 3)	195	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 4)	56	SQ. YD.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")	335	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	2265	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	615	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	9200	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	4	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	7	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	136	CU. YD.
802	CLASS S CONCRETE-ROADWAY	252.29	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)	37639	POUND

*ALTERNATE BID ITEMS

REVISION BOX

DATE	REVISION	SHEET NUMBER

STATE OF ARKANSAS * * * REGISTERED PROFESSIONAL ENGINEER * * * 14705 ROBERT D. FLOBETT 8-2-11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		27	97
				JOB NO.		061026		

(2) SUMMARY OF QUANTITIES AND REVISION BOX

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	28	97

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7-29-11

COORINATES

ARKANSAS STATE PLANE; BASED ON CPS CONTROL, PROJECTED TO GROUND.

Point	Northing	Easting	Elevation
1	194232.63043	1285740.08111	263.69080
2	194243.41817	1285213.16862	269.55330
3	194210.95214	1284707.86742	276.76790
4	194253.27532	1284278.23894	279.35160
5	194217.11531	1283474.87207	271.41140
6	194225.66776	1282933.68616	272.96970
7	194230.01394	1282497.35960	273.65140
8	194266.93355	1281966.86903	266.96800
9	194267.51085	1281538.74834	265.55330
10	194277.48649	1280918.47893	266.09320
11	194236.82891	1280380.15450	269.49440
12	194119.35681	1279420.49744	283.96480
100	194264.20506	1279634.97834	278.76900
101	193563.91467	1278930.44896	281.32800
110	204995.60883	1269974.12906	382.87300
111	209261.58687	1270862.05249	381.56100
601	192903.12657	1285597.98364	278.92300
602	195198.99525	1285793.38164	258.94280
603	193763.27164	1283402.89244	277.08320
604	194804.07359	1284261.18302	276.29700
605	193350.55827	1281099.18100	270.06400
606	195091.80530	1281619.09232	262.15000
607	193317.69814	1278685.69142	277.18900
608	195115.09348	1278710.96629	287.92800
701	194187.93446	1285805.07228	264.09830
702	194256.52710	1283724.74428	273.84430
703	194228.35475	1281413.60918	265.67060
704	194472.17429	1278969.22796	297.60180
901	194227.68575	1285755.51533	263.17600
902	194204.12237	1284700.83976	278.83400
903	194213.67382	1283430.39680	271.22700
904	194278.14399	1282251.72837	269.83330
905	194278.54699	1280932.10066	264.49420
906	194240.24019	1280354.30213	269.90240
950	194849.10205	1280495.19491	270.44200
951	193637.14029	1279327.24492	284.17900
952	193637.14029	1279327.24492	281.60000
953	197575.49102	1283830.95674	263.06700
954	188778.77330	1284572.57792	264.91400
955	188788.29025	1275821.31997	261.18700
956	199292.23818	1285998.82158	256.70200
957	187879.92993	1274569.97841	252.08900
958	200302.18499	1287249.41514	259.97300
959	201514.72974	1288083.53985	259.35000
960	201817.90318	1288250.40599	258.62800
961	186063.93827	1271650.29743	242.64400
962	202727.36450	1288834.28898	256.09900
963	185962.83479	1271650.15844	242.65000
964	206171.35977	1281756.84141	284.48800
965	185054.65047	1270398.56888	246.98100
966	184549.84707	1269897.70746	244.70100
967	204647.48662	1289918.72440	252.40400
968	195779.00427	1265497.56610	251.84700
969	187861.65102	1293739.99173	257.61100
970	208689.71681	1292587.04667	256.21300
971	212043.74055	1274517.57868	296.45000
972	180612.95433	1265806.99551	245.99700
973	202156.27944	1260842.44007	325.73100
974	213136.64892	1295171.59536	255.93800
975	199078.99328	1305911.22608	272.37500
976	219928.83796	1275276.99577	302.01100
977	185531.25002	1305324.80110	258.55900
978	217078.32963	1297671.85149	260.77400
979	217078.32963	1297671.85149	260.85900

USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
TO CONVERT TO GRID USE CAF = 1.000051473
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME 061026GI.CTL
HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88

BASIS OF BEARINGS
GRID NORTH, BASED ON GPS CONTROL AT POINT NUMBER 100
ARKANSAS STATE PLANE GRID COORDINATES NORTH ZONE
NORTHING 194,265.205 EASTING 1,279,641.565
CONVERGENCE ANGLE 0°03'48.288" LEFT
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

CENTERLINE CONSTRUCTION

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	100+40.00	194258.2418	1280182.6221
8001	PC	105+64.17	194256.2741	1280706.7839
8003	PT	107+87.86	194251.0686	1280930.3981
8004	PC	108+20.16	194249.6867	1280962.6709
8006	PT	112+86.90	194248.7236	1281429.2849
8007	PC	112+95.75	194249.0654	1281438.1188
8009	PT	115+50.85	194253.2499	1281693.1667
8010	PI	136+94.14	194240.6972	1283836.4224
8011	PI	143+41.96	194235.3055	1284484.2157
8012	PI	151+42.75	194223.6562	1285284.9269
8013	POE	162+09.47	194195.8356	1286351.2817

CENTERLINE OAK STREET

POINT NO.	TYPE	STATION	NORTHING	EASTING
8015	POB	10+00.00	193994.7737	1280187.9343
8016	PC	11+06.56	194072.6613	1280260.6582
8018	PT	11+75.60	194115.3502	1280314.5870
8019	PC	11+89.29	194122.1456	1280326.4691
8021	PT	13+49.86	194242.2514	1280428.0914
8022	POE	13+65.90	194257.2995	1280433.6384

CENTERLINE ELM STREET

POINT NO.	TYPE	STATION	NORTHING	EASTING
8025	POB	20+00.00	194022.1629	1280708.0196
8026	PC	21+87.07	194160.5322	1280833.9117
8028	PT	23+90.74	194236.8396	1281015.8535
8029	POE	24+17.05	194235.8314	1281042.1409

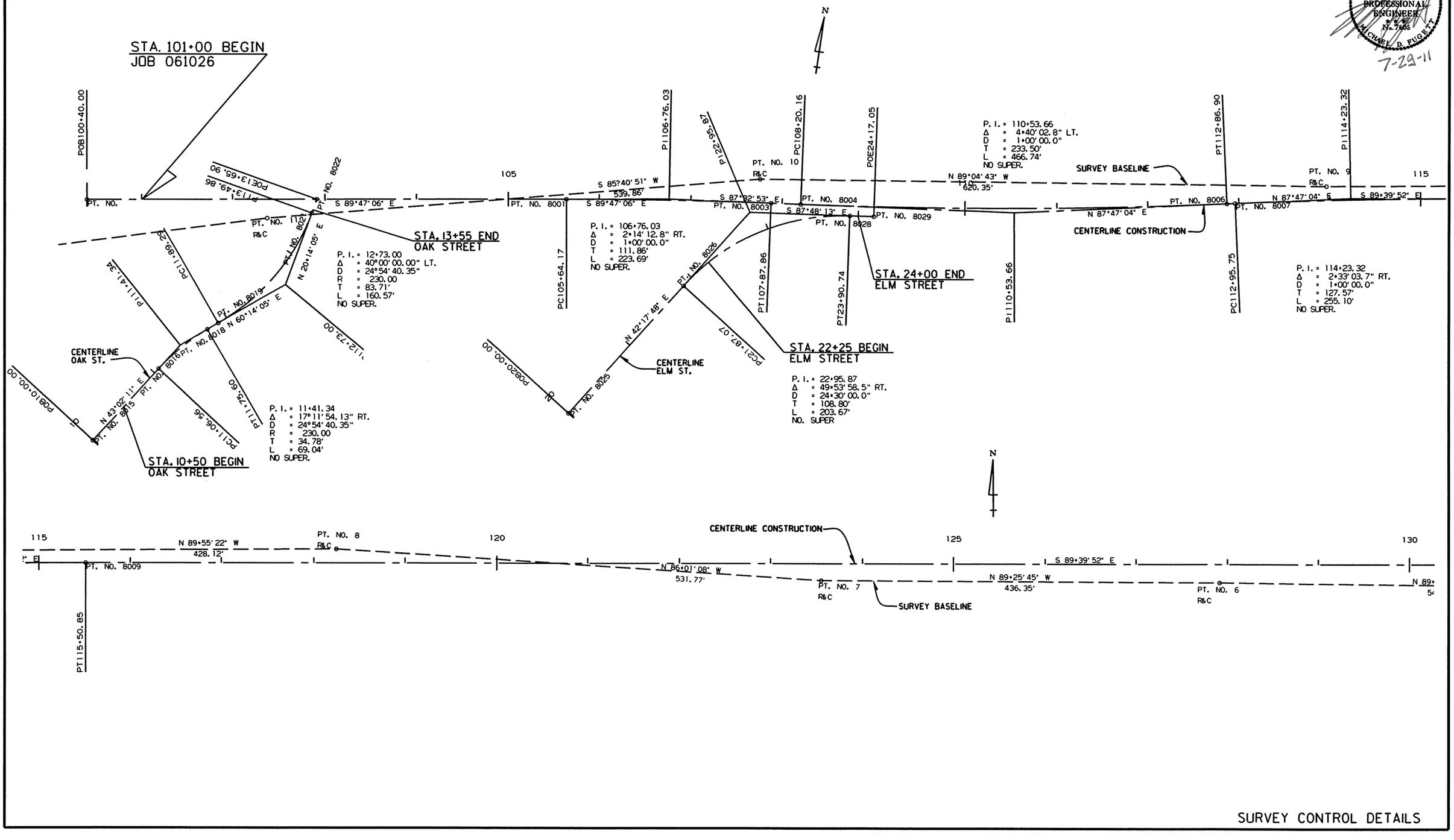
R061026.DGN 6/6/2011

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.		061026	29	97

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11



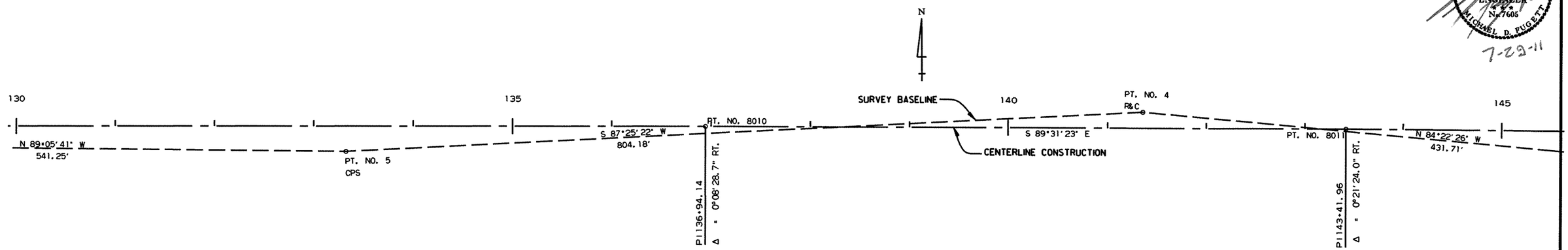
R061026.DGN 6/6/2011

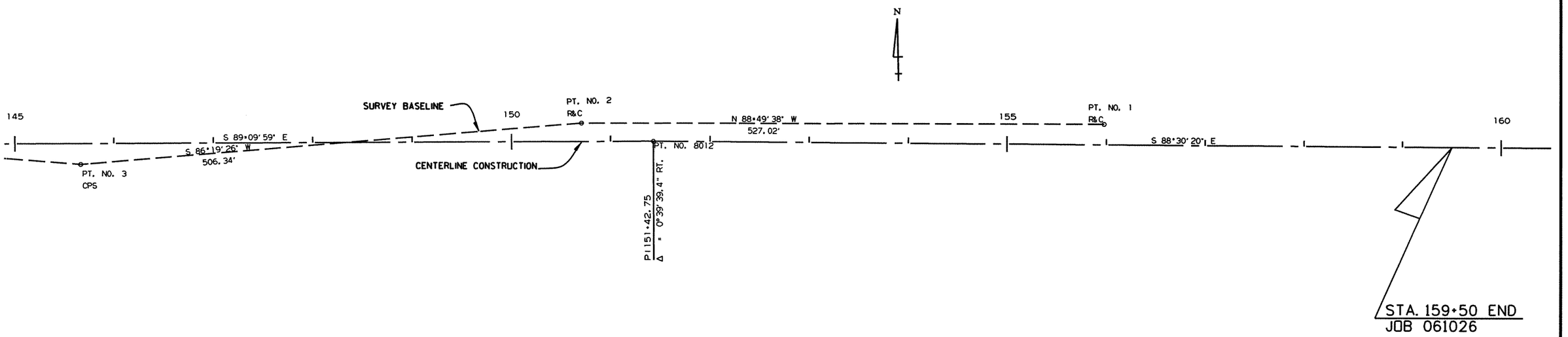
SURVEY CONTROL DETAILS

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.		061026	30	97

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7-29-11





R061026.DGN 6/6/2011

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.	061026		31	97

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11

STA. 102+10 LT-CONST.
DI H=4.28' W/
18" X 79' R.C. PIPE INLET
30" X 6' R.C. PIPE OUTLET W/ FES
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 5' X 4'

FENCING

STA.	TO STA.	SIDE	TYPE
107+90 -	108+31	RT.	4' CHAIN LINK = 50 L.F.
109+69 -	111+08	LT.	4' CHAIN LINK = 140 L.F.
111+79 -	112+54	RT.	TYPE C = 75 L.F.
112+39 -	113+08	LT.	5' CHAIN LINK = 75 L.F.

STA. 107+79 LT-CONST.
DROP INLET H=3.68 W/'
44" X 27" X 116' R.C ARCH PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4' X5"

STA. 109+00 LT-CONST.I
DROP INLET H=3.67'
44" X 27" X 406' R.C. ARCH PIPE OUTLET
CONNECT TO R.C. BOX CULVERT STA. 113+16 LT.
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4'X5'

STA. 113+16 LT-CONST. DI
TYPE C=4' X 4' H=6.87' ON TOP
8' X 4 X 15' R.C. BOX CULVERT
OUTLET W/ 3:1 WINGS
D.A. = 74 Ac. Q50 = 173 c.f.s.

STA. 114+90 LT-CONST.
DROP INLET H=3.29'
18" X 86' R.C. PIPE OUTLET
TYPE MO = 4' DIA.
TYPE C = 4'X4'

STA. 101+56 IN PLACE
12" X 49' R.C. PIPE
LT. SIDE DRAIN
REMOVE

STA. 101+70 IN PLACE
18" X 76' C.M. PIPE ON LT.
REMOVE

STA. 102+09 IN PLACE
30" X 32' PLASTIC PIPE.
REMOVE

STA. 102+13 IN PLACE
30" R.C. PIPE ON LT.
REMOVE

STA. 103+52 IN PLACE
15" X 55' R.C. PIPE
LT SIDE DRAIN
REMOVE

STA. 103+99 IN PLACE
15" X 21' PLASTIC PIPE
LT SIDE DRAIN
REMOVE

STA. 104+54 IN PLACE
12" LASTIC PIPE ON LT.
REMOVE

P. I. = 106+76.03
Δ = 2°14' 12.8" RT.
D = 1°00' 00.0"
T = 111.86'
L = 223.69'
NO SUPER.

STA. 107+59 IN PLACE
30" X 45' R.C. PIPE ON RT.
REMOVE

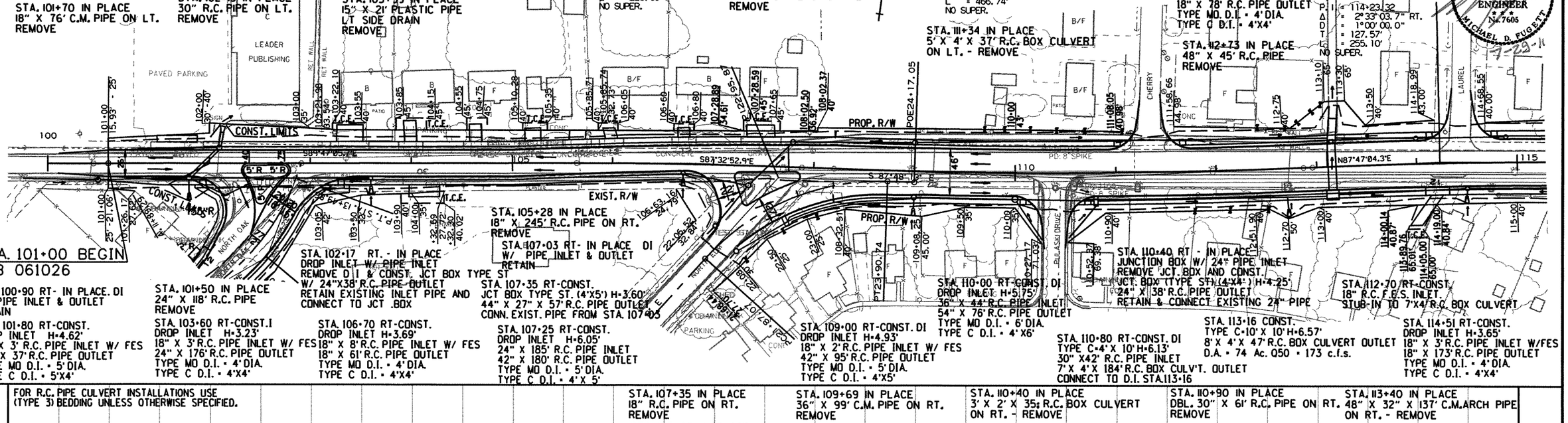
STA. 109+19 IN PLACE
36" X 43" PLASTIC PIPE
REMOVE

P. I. = 110+53.66
Δ = 4°40' 02.8" LT.
D = 1°00' 00.0"
T = 233.50'
L = 466.74'
NO SUPER.

STA. 111+34 IN PLACE
5' X 4' X 37' R.C. BOX CULVERT
ON LT. - REMOVE

STA. 112+73 IN PLACE
48" X 45' R.C. PIPE
REMOVE

P. I. = 114+23.32
Δ = 2°33' 03.7" RT.
D = 1°00' 00.0"
T = 127.57'
L = 255.10'
NO SUPER.



STA. 101+00 BEGIN
JOB 061026

STA. 100+90 RT- IN PLACE. DI
W/ PIPE INLET & OUTLET
RETAIN

STA. 101+80 RT-CONST.
DROP INLET H=4.62'
18" X 3' R.C. PIPE INLET W/ FES
30" X 37' R.C. PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 5'X4'

STA. 101+50 IN PLACE
24" X 118' R.C. PIPE
REMOVE

STA. 103+60 RT-CONST.I
DROP INLET H=3.23'
18" X 3' R.C. PIPE INLET W/ FES
24" X 176' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 102+17 RT. - IN PLACE
DROP INLET W/ PIPE INLET
REMOVE D.I & CONST. JCT BOX TYPE ST
W/ 24"X38' R.C. PIPE OUTLET
RETAIN EXISTING INLET PIPE AND
CONNECT TO JCT .BOX

STA. 106+70 RT-CONST.
DROP INLET H=3.69'
18" X 8' R.C. PIPE INLET W/ FES
18" X 61' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 105+28 IN PLACE
18" X 245' R.C. PIPE ON RT.
REMOVE

STA. 107+03 RT- IN PLACE DI
W/ PIPE INLET & OUTLET
RETAIN

STA. 107+35 RT-CONST.
JCT BOX TYPE ST. (4'X5') H=3.60'
44" X 27" X 57' R.C. PIPE OUTLET
CONN. EXIST. PIPE FROM STA. 107+03

STA. 107+25 RT-CONST.
DROP INLET H=6.05'
24" X 185' R.C. PIPE INLET
42" X 180' R.C. PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4' X 5'

STA. 109+00 RT-CONST. DI
DROP INLET H=4.93'
18" X 2' R.C. PIPE INLET W/ FES
42" X 95' R.C. PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4'X5'

STA. 110+00 RT-CONST DI
DROP INLET H=5.75'
36" X 44' R.C. PIPE INLET
54" X 76' R.C. PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4' X6'

STA. 110+40 RT - IN PLACE
JUNCTION BOX W/ 24" PIPE INLET
REMOVE JCT. BOX AND CONST.
JCT. BOX (TYPE ST) (4'X4') H=4.25'
24" X 38' R.C. PIPE OUTLET
RETAIN & CONNECT EXISTING 24" PIPE

STA. 110+80 RT-CONST. DI
TYPE C=4' X 10' H=6.13'
30" X42' R.C. PIPE INLET
7' X 4' X 184' R.C. BOX CULV'T. OUTLET
CONNECT TO D.I. STA.113+16

STA. 113+16 CONST.
TYPE C=10' X 10' H=6.57'
8' X 4' X 47' R.C. BOX CULVERT OUTLET
D.A. = 74 Ac. Q50 = 173 c.f.s.

STA. 112+70 RT-CONST.
18" R.C. F.E.S. INLET.
STUB-IN TO 7'X4' R.C. BOX CULVERT

STA. 114+51 RT-CONST.
DROP INLET H=3.65'
18" X 3' R.C. PIPE INLET W/FES
18" X 173' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

FOR R.C. PIPE CULVERT INSTALLATIONS USE
(TYPE 3) BEDDING UNLESS OTHERWISE SPECIFIED.

STA. 107+35 IN PLACE
18" R.C. PIPE ON RT.
REMOVE

STA. 107+90 IN PLACE
24" R.C. PIPE ON RT.
REMOVE

STA. 109+69 IN PLACE
36" X 99' C.M. PIPE ON RT.
REMOVE

STA. 110+32 IN PLACE
30" X 16' R.C. PIPE ON RT.
REMOVE

STA. 110+40 IN PLACE
3' X 2' X 35; R.C. BOX CULVERT
ON RT. - REMOVE

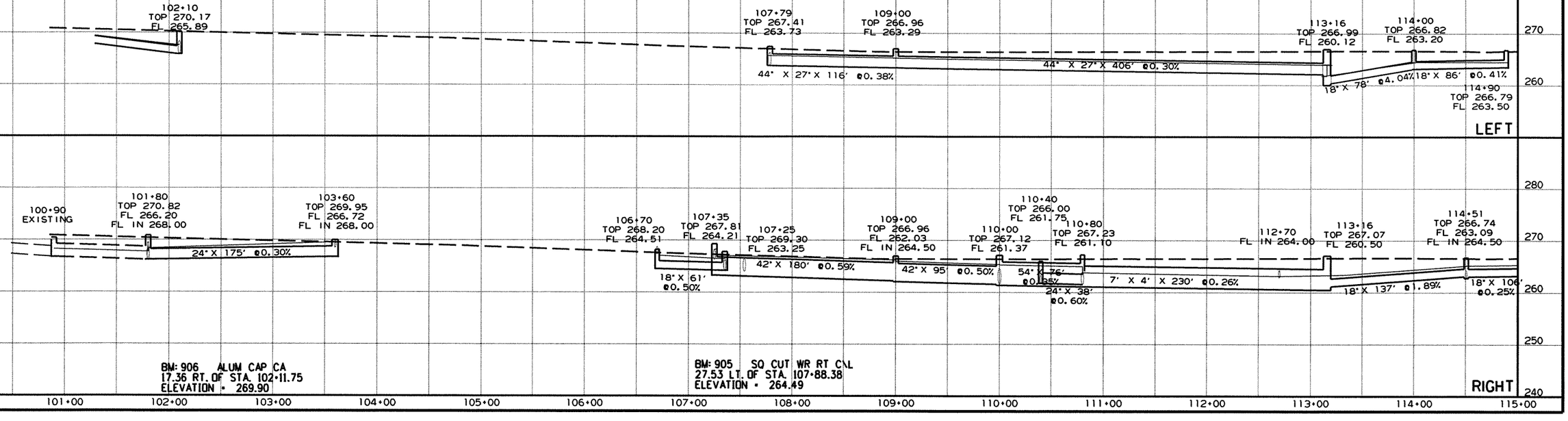
STA. 110+49 IN PLACE
30" X 16' R.C. PIPE ON RT.
REMOVE

STA. 110+90 IN PLACE
DBL. 30" X 61' R.C. PIPE ON RT.
REMOVE

STA. 111+96 IN PLACE
DBL. 36" X 148' R.C. PIPE
ON RT. - REMOVE

STA. 113+40 IN PLACE
48" X 32" X 137' C.M.ARCH PIPE
ON RT. - REMOVE

STA. 114+42 IN PLACE
30" X 62' C.M PIPE ON RT.
REMOVE



BM: 906 ALUM CAP CA
17.36 RT. OF STA. 102+11.75
ELEVATION = 269.90

BM: 905 SQ CUT WR RT CNL
27.53 LT. OF STA. 107+88.38
ELEVATION = 264.49

R061026.DGN 7/25/2011

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				6	ARK.			
				JOB NO.		061026	32	97

(2) PLAN AND PROFILE SHEETS

STA. 116+21 IN PLACE
18" R.C. PIPE
LT SIDE DRAIN
REMOVE

STA. 118+90 LT-CONST. DI
TYPE C- 4'X4'
ON TOP OF R.C.B. AT STA. 118+90

STA. 118+88 IN PLACE
7' X 3' X 50' R.C. BOX CULVERT
REMOVE

STA. 121+44 IN PLACE
12" X 18' R.C. PIPE
LT. SIDE DRAIN
REMOVE

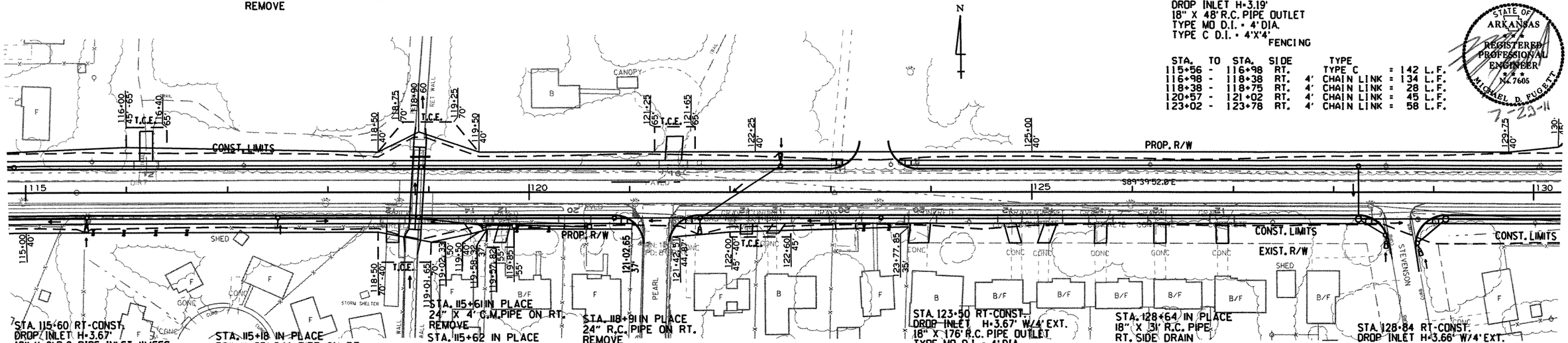
STA. 122+50 LT-CONST.
DROP INLET H=3.66'
18" X 2' R.C. PIPE INLET W/FES
18" X 91' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 128+25 LT-CONST.
DROP INLET H=3.19'
18" X 48' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

FENCING

STA.	TO	STA.	SIDE	TYPE	
115+56	-	116+98	RT.	TYPE C	= 142 L.F.
116+98	-	118+38	RT. 4'	CHAIN LINK	= 134 L.F.
118+38	-	118+75	RT. 4'	CHAIN LINK	= 28 L.F.
120+57	-	121+02	RT. 4'	CHAIN LINK	= 45 L.F.
123+02	-	123+78	RT. 4'	CHAIN LINK	= 58 L.F.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14,7605
MICHAEL D. FUGETT
7-29-11



STA. 115+60 RT-CONST.
DROP INLET H=3.67'
18" X 9' R.C. PIPE INLET W/FES
18" X 106' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 117+50 RT-CONST.
DROP INLET H=3.14'
18" X 2' R.C. PIPE INLET W/FES
18" X 133' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 115+18 IN PLACE
30" X 85' C.M PIPE ON RT.
REMOVE

STA. 118+90 RT-CONST.
DBL. 6' X 3' X 82' R.C BOX CULVERT
w/ 3:1 WINGS
D.A. 105 AC 050 - 197 C.F.S.

STA. 118+90 RT-CONST. DI
TYPE C- 4'X4'
ON TOP OF R.C.B. AT STA. 118+90

STA. 115+61 IN PLACE
24" X 4' C.M.PIPE ON RT.
REMOVE

STA. 115+62 IN PLACE
30" C.M.PIPE ON RT.
REMOVE

STA. 119+55 RT- INSTALL Y.D.
12" X 64' SIDE DRAIN OUTLET

STA. 119+85 RT- INSTALL Y.D.
12" X 26' SIDE DRAIN OUTLET

STA. 120+60 RT- INSTALL Y.D.
12" X 71' SIDE DRAIN OUTLET

STA. 118+91 IN PLACE
24" R.C. PIPE ON RT.
REMOVE

STA. 121+27 IN PLACE
18" X 39' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 120+85 RT-CONST.
DROP INLET H=3.69'
18" X 194' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 121+70 RT-CONST.
DROP INLET H=3.67' W/4' EXT.
18" X 3' R.C. PIPE INLET W/FES
18" X 81' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 123+50 RT-CONST.
DROP INLET H=3.67' W/4' EXT.
18" X 176' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 128+25 RT-CONST.
DROP INLET H=3.67' W/4' EXT.
27" X 44" X 81' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4'X6'

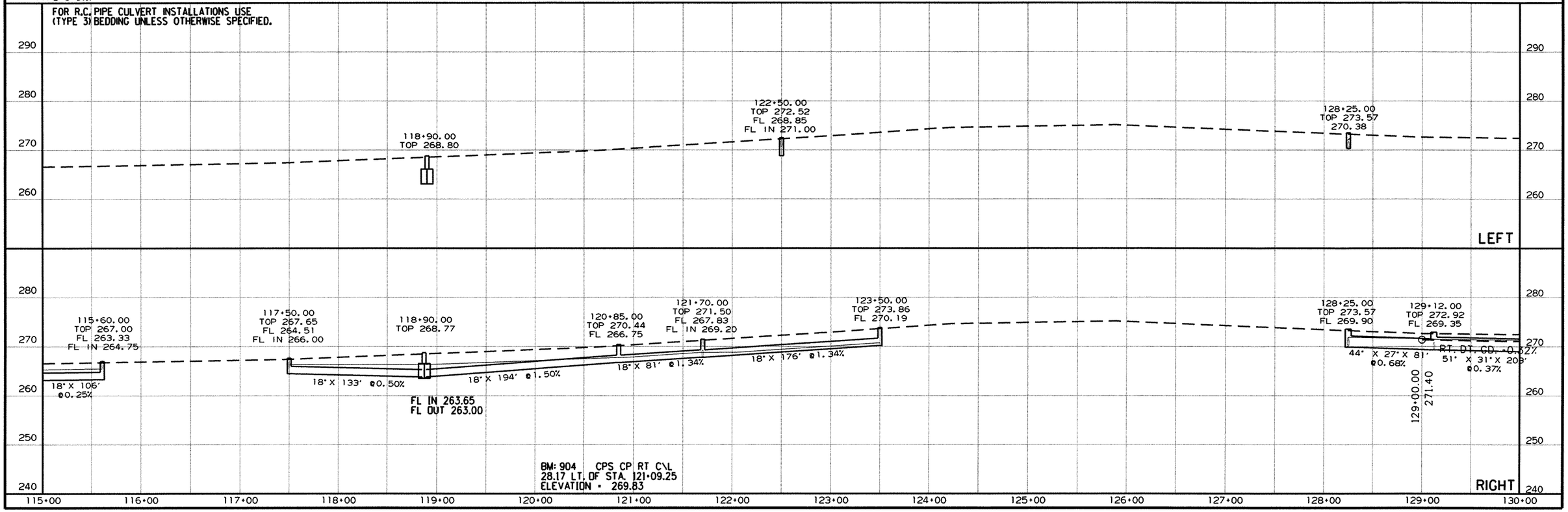
STA. 128+64 IN PLACE
18" X 31' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 128+52 RT-CONST.
DROP INLET H=3.07' W/8' EXT.
24" R.C. F.E.S. INLET
24" X 26' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 128+84 RT-CONST.
DROP INLET H=3.66' W/4' EXT.
18" R.C. F.E.S. INLET
18" X 32' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 129+12 RT-CONST.
DROP INLET H=3.57'
51" X 31" X 203' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4'X6'

FOR R.C. PIPE CULVERT INSTALLATIONS USE
(TYPE 3) BEDDING UNLESS OTHERWISE SPECIFIED.



BM: 904 CPS CP RT C\L
28.17 LT. OF STA. 121+09.25
ELEVATION = 269.83

R061026.DGN 7/25/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	33	97

(2) PLAN AND PROFILE SHEETS

STA. 130+65 LT-INSTALL Y.D.
12" X 53' SIDE DRAIN OUTLET

STA. 131+20 LT-CONST.
DROP INLET H=4.69'
18" X 53' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 131+80 LT-CONST. DI
TYPE C=24' X 10' H=4.85'
TPL. 44" X 27" X 80' R.C. ARCH PIPE OUTLET
WITH F.E.S.

STA. 132+75 LT-CONST.
DROP INLET H=4.00'
18" X 87' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 131+82 IN PLACE
24" X 18" X 41' C.M. ARCH PIPE
REMOVE

STA. 132+86 IN PLACE
18" X 43' C.M. PIPE
REMOVE

STA. 134+10 LT-CONST.
DROP INLET H=4.05'
18" X 130' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 135+22 LT- INSTALL Y.D.
12" X 109' SIDE DRAIN OUTLET

STA. 134+05 IN PLACE
24" R. C. PIPE ON LT.
REMOVE

STA. 137+00 LT-CONST.
DROP INLET H=4.07' W/4' EXT.
18" X 48' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 134+10 IN PLACE
24" X 40' C.M. PIPE
REMOVE

STA. 135+81 IN PLACE
36" X 36' C.M. PIPE
REMOVE

FENCING

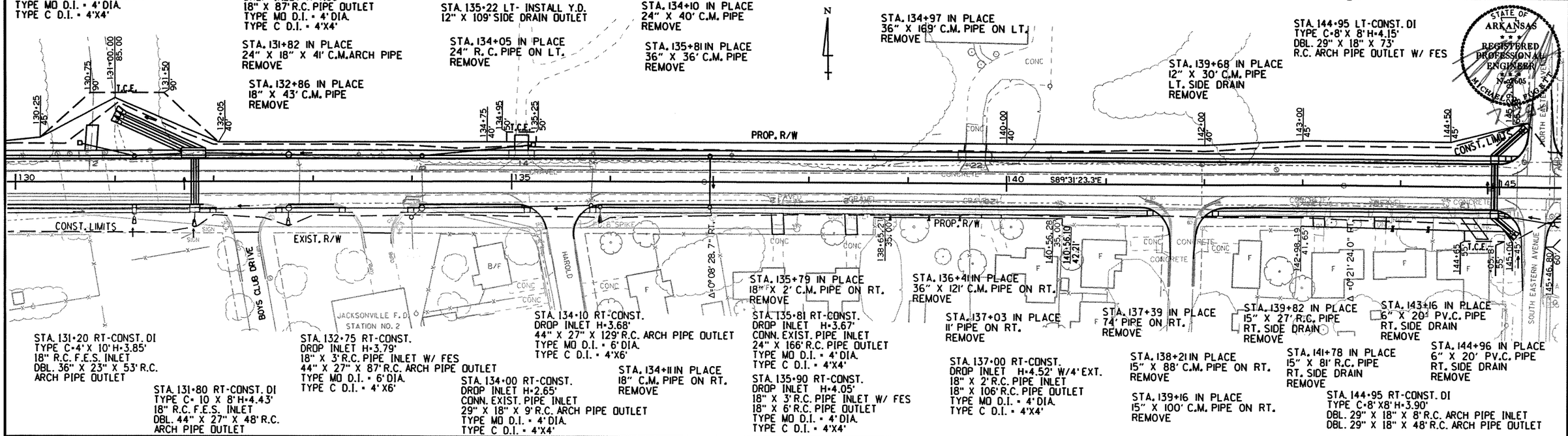
STA.	TO	STA.	SIDE	TYPE	
138+65	-	139+63	RT.	4' CHAIN LINK =	98 L.F.
143+69	-	144+33	RT.	4' CHAIN LINK =	65 L.F.
145+63	-	148+02	LT.	4' CHAIN LINK =	238 L.F.

STA. 134+97 IN PLACE
36" X 169' C.M. PIPE ON LT.
REMOVE

STA. 139+68 IN PLACE
12" X 30' C.M. PIPE
LT. SIDE DRAIN
REMOVE

STA. 144+95 LT-CONST. DI
TYPE C-8' X 8' H=4.15'
DBL. 29" X 18" X 73'
R.C. ARCH PIPE OUTLET W/ FES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL E. FOGLEMAN
17-07605



STA. 131+20 RT-CONST. DI
TYPE C-4' X 10' H=3.85'
18" R.C. F.E.S. INLET
DBL. 36" X 23" X 53' R.C.
ARCH PIPE OUTLET

STA. 131+80 RT-CONST. DI
TYPE C-10 X 8' H=4.43'
18" R.C. F.E.S. INLET
DBL. 44" X 27" X 48' R.C.
ARCH PIPE OUTLET

STA. 132+75 RT-CONST.
DROP INLET H=3.79'
18" X 3' R.C. PIPE INLET W/ FES
44" X 27" X 87' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4' X6'

STA. 134+00 RT-CONST.
DROP INLET H=2.65'
CONN. EXIST. PIPE INLET
29" X 18" X 9' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 134+10 RT-CONST.
DROP INLET H=3.68'
44" X 27" X 129' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4'X6'

STA. 134+11 IN PLACE
18" C.M. PIPE ON RT.
REMOVE

STA. 135+79 IN PLACE
18" FX 2' C.M. PIPE ON RT.
REMOVE

STA. 135+81 RT-CONST.
DROP INLET H=3.67'
CONN. EXIST. PIPE INLET
24" X 166' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 135+90 RT-CONST.
DROP INLET H=4.05'
18" X 3' R.C. PIPE INLET W/ FES
18" X 6' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 136+41 IN PLACE
36" X 121' C.M. PIPE ON RT.
REMOVE

STA. 137+03 IN PLACE
11' PIPE ON RT.
REMOVE

STA. 137+00 RT-CONST.
DROP INLET H=4.52' W/4' EXT.
18" X 2' R.C. PIPE INLET
18" X 106' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 137+39 IN PLACE
74' PIPE ON RT.
REMOVE

STA. 138+21 IN PLACE
15" X 88' C.M. PIPE ON RT.
REMOVE

STA. 139+16 IN PLACE
15" X 100' C.M. PIPE ON RT.
REMOVE

STA. 139+82 IN PLACE
15" X 27' R.C. PIPE
RT. SIDE DRAIN
REMOVE

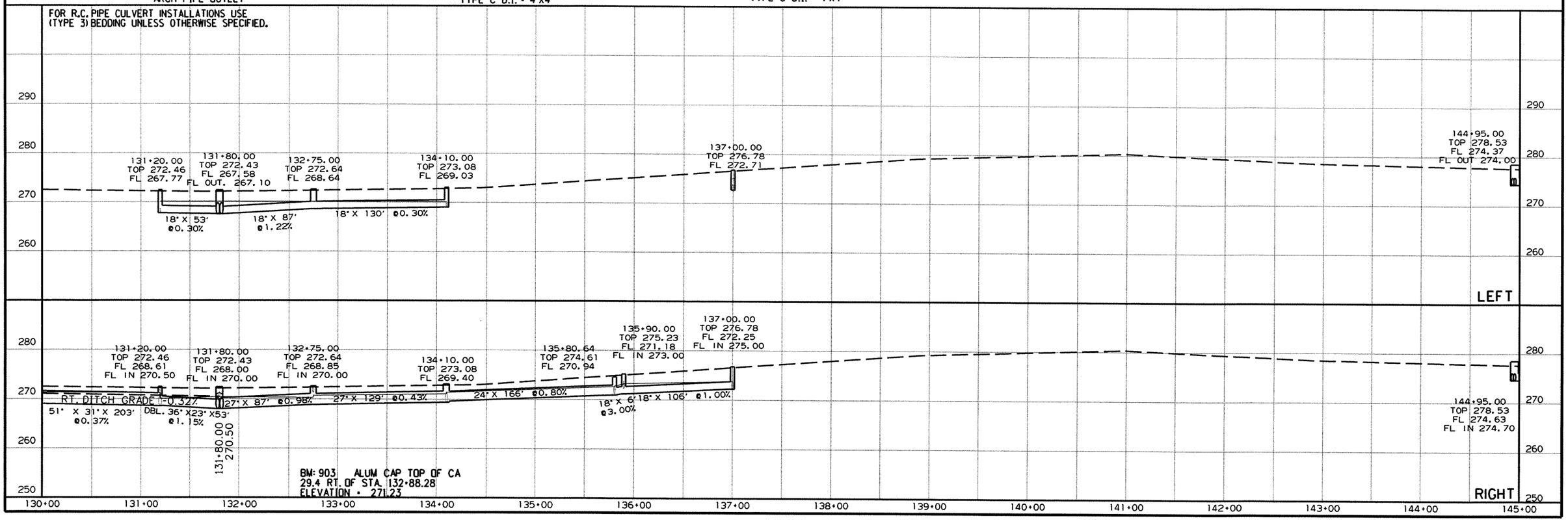
STA. 141+78 IN PLACE
15" X 81' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 143+16 IN PLACE
6" X 29' PV.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 144+96 IN PLACE
6" X 20' PV.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 144+95 RT-CONST. DI
TYPE C-8' X 8' H=3.90'
DBL. 29" X 18" X 8' R.C. ARCH PIPE INLET
DBL. 29" X 18" X 48' R.C. ARCH PIPE OUTLET

FOR R.C. PIPE CULVERT INSTALLATIONS USE
(TYPE 3) BEDDING UNLESS OTHERWISE SPECIFIED.



R061026.DGN 7/25/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	34	97

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7-29-11

STA. 145+18 IN PLACE
18" X 39' R.C. PIPE
REMOVE

STA. 145+19 IN PLACE
12" X 13' PLASTIC. PIPE
REMOVE

STA. 145+59 IN PLACE
6" X 5' P.V.C. PIPE ON LT
REMOVE

STA. 148+00 LT-CONST.
DROP INLET H=3.67'
18" X 2' R.C. PIPE INLET W/ FES
18" X 56' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 148+28 IN PLACE
18" X 52' CLAY/C.M. PIPE
LT. SIDE DRAIN
REMOVE

STA. 148+60 LT-CONST.
DROP INLET H=3.67'
18" X 216' R.C PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 149+61 IN PLACE
18" X 207' C.M. PIPE ON LT.
REMOVE

STA. 150+80 LT-CONST.
DROP INLET H=3.67' W/4' EXT.
18" X 266' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

FENCING

STA. TO	STA.	SIDE		TYPE
146+86 -	147+90	RT.	4'	CHAIN LINK = 104 L.F.
149+00 -	149+73	LT.	4'	CHAIN LINK = 75 L.F.
149+05 -	150+31	RT.	4'	CHAIN LINK = 128 L.F.
156+84 -	157+85	RT.	4'	CHAIN LINK = 122 L.F.

STA. 151+57 IN PLACE
18" X 181' C.M. PIPE ON LT.
REMOVE

STA. 153+50 LT-CONST.
DROP INLET H=3.67'
18" X 248' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 154+28 IN PLACE
18" X 358' C.M. PIPE ON LT.
REMOVE

STA. 156+05 LT-CONST. DI
TYPE C-10' H-4.16'
DBL. 44" X 27" X 51' R.C.
ARCH PIPE OUTLET

STA. 156+66 IN PLACE
18" X 16' C.M.PIPE
ON LT. (LOOP RT.)
REMOVE

STA. 156+65 LT-CONST. DI
TYPE C-10' H-3.85'
DBL. 44" X 27" X 5' R.C.
ARCH PIPE OUTLET W/ FES

STA. 156+82 INSTALL (LOOP RD)
TPL. 36" X 23" X 48' PIPE CULVERT
RT. SIDE DRAIN

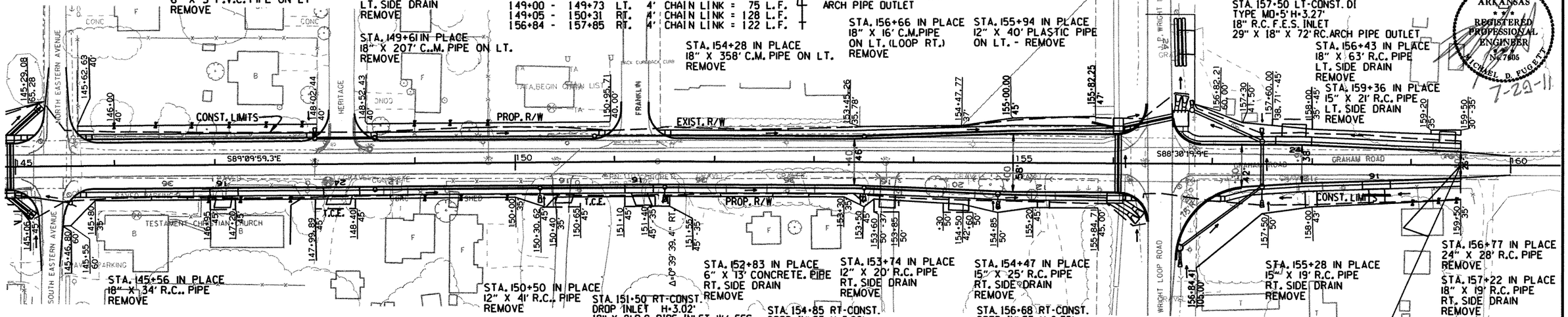
STA. 155+94 IN PLACE
12" X 40' PLASTIC PIPE
ON LT. - REMOVE

STA. 156+80 LT-CONST. DI
TYPE ST JCT BOX (4' X 5') H=2.65'
29" X 18" R.C. ARCH F.E.S. OUTLET

STA. 157+50 LT-CONST. DI
TYPE MO-5' H-3.27'
18" R.C. F.E.S. INLET
29" X 18" X 72' RC. ARCH PIPE OUTLET

STA. 156+43 IN PLACE
18" X 63' R.C. PIPE
LT. SIDE DRAIN
REMOVE

STA. 159+36 IN PLACE
15" X 21' R.C. PIPE
LT. SIDE DRAIN
REMOVE



STA. 145+56 IN PLACE
18" X 34' R.C.. PIPE
REMOVE

STA. 150+50 IN PLACE
12" X 41' R.C.. PIPE
REMOVE

STA. 152+83 IN PLACE
6" X 13' CONCRETE. PIPE
RT. SIDE DRAIN
REMOVE

STA. 153+74 IN PLACE
12" X 20' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 154+47 IN PLACE
15" X 25' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 155+28 IN PLACE
15" X 19' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 156+77 IN PLACE
24" X 28' R.C. PIPE
REMOVE

STA. 157+22 IN PLACE
18" X 19' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 159+50 END
JOB 061026

STA. 145+55 RT-CONST.
DROP INLET H=2.86'
18" R.C. F.E.S. INLET
18" X 55' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 148+60 RT-CONST.
DROP INLET H=3.02' W/4' EXT.
18" X 161' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 150+25 RT-CONST.
DROP INLET H=3.00' W/4' EXT.
18" X 2' R.C PIPE INLET W/ FES
18" X 121' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 151+50 RT-CONST.
DROP INLET H=3.02'
18" X 2' R.C. PIPE INLET W/ FES
18" X 196' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 153+50 RT-CONST.
DROP INLET H=3.03'
18" X 2' R.C. PIPE INLET W/ FES
24" X 131' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 154+85 RT-CONST.
DROP INLET H=3.00'
18" X 2' R.C. PIPE INLET W/ FES
36" X 23" X 113' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4'X5'

STA. 156+05 RT-CONST. DI
TYPE C-10' H-3.77'
DBL. 44" X 27" X 17' ARCH R.C. PIPE INLET W/ FES
DBL. 44" X 27" X 60' ARCH R.C. PIPE OUTLET

STA. 156+68 RT-CONST.
DROP INLET H=2.75'
22" X 14" X 14' R.C. ARCH PIPE INLET W/ FES
22" X 14" X 97' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

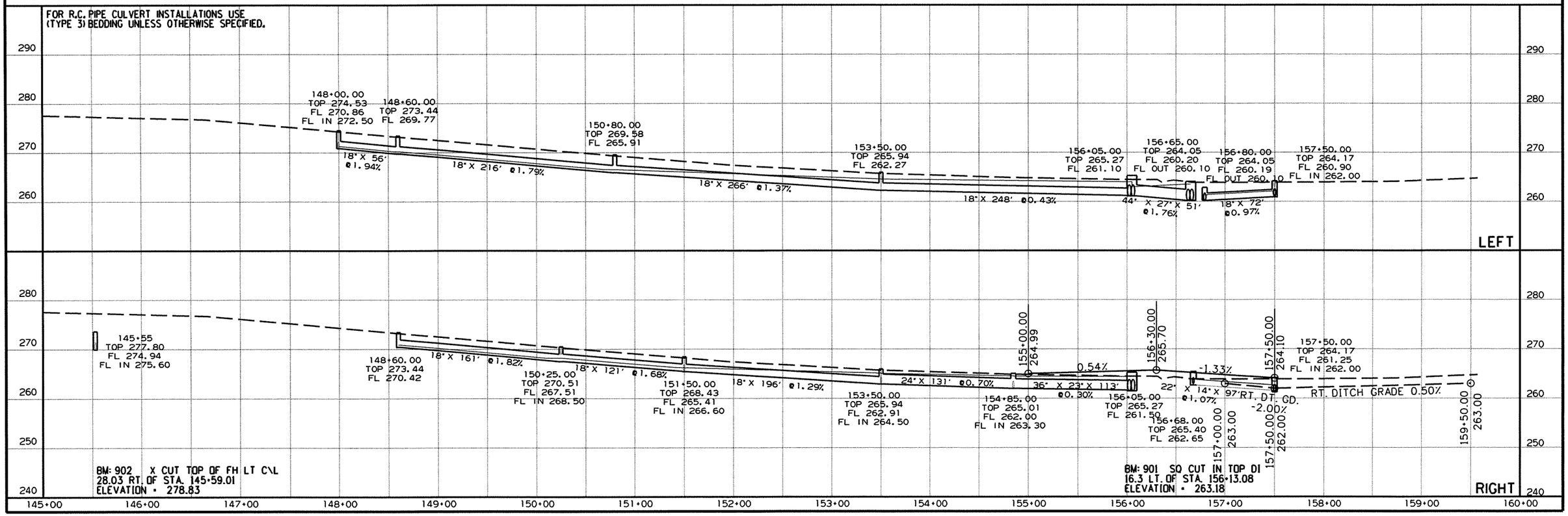
STA. 158+65 INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN

STA. 156+10 IN PLACE
18" X 13' C.M. PIPE
RT. SIDE DRAIN

STA. 156+46 IN PLACE
18" X 56' R.C. PIPE
RT. SIDE DRAIN
REMOVE

STA. 157+50 RT-CONST.
DROP INLET H=2.92'
18" X 3' R.C. PIPE INLET
29" X 18" X 40' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 5'X4'

FOR R.C. PIPE CULVERT INSTALLATIONS USE
(TYPE 3) BEDDING UNLESS OTHERWISE SPECIFIED.



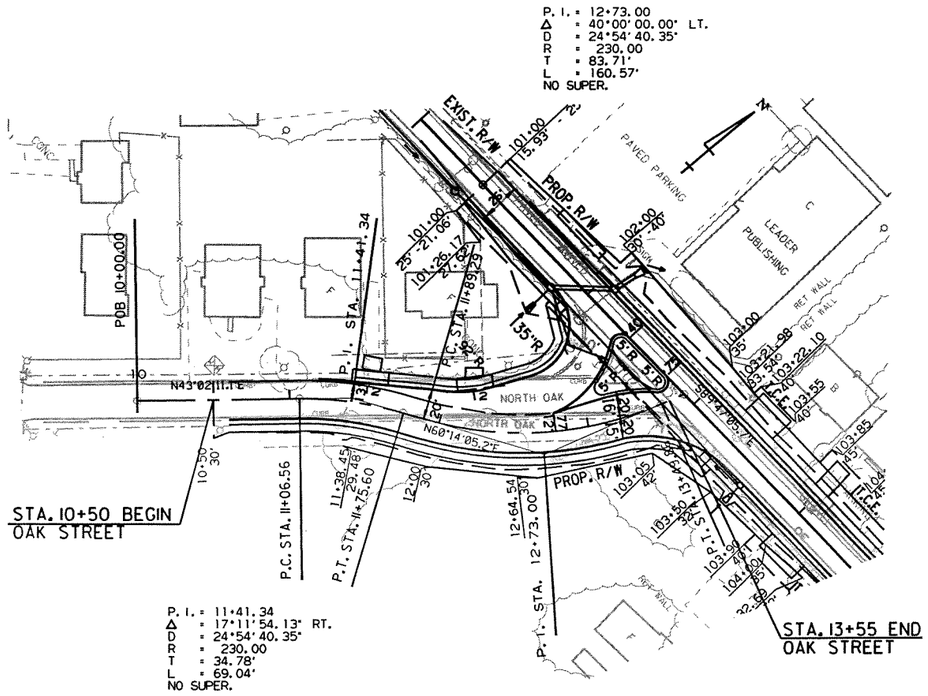
BM: 902 X CUT TOP OF FH LT C\L
28.03 RT OF STA. 145+59.01
ELEVATION = 278.83

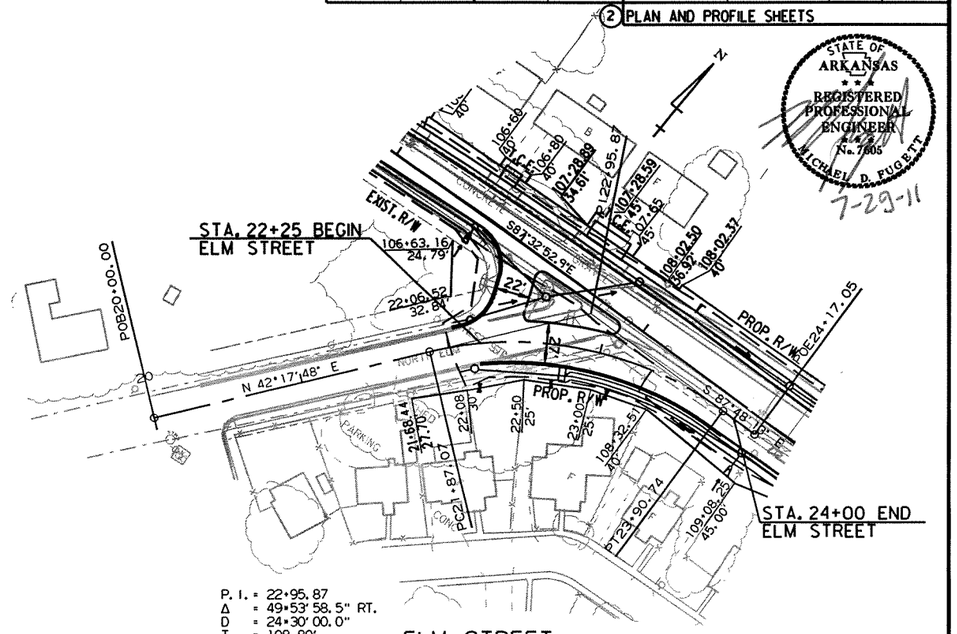
BM: 901 SQ CUT IN TOP DI
16.3 LT. OF STA. 156+13.08
ELEVATION = 263.18

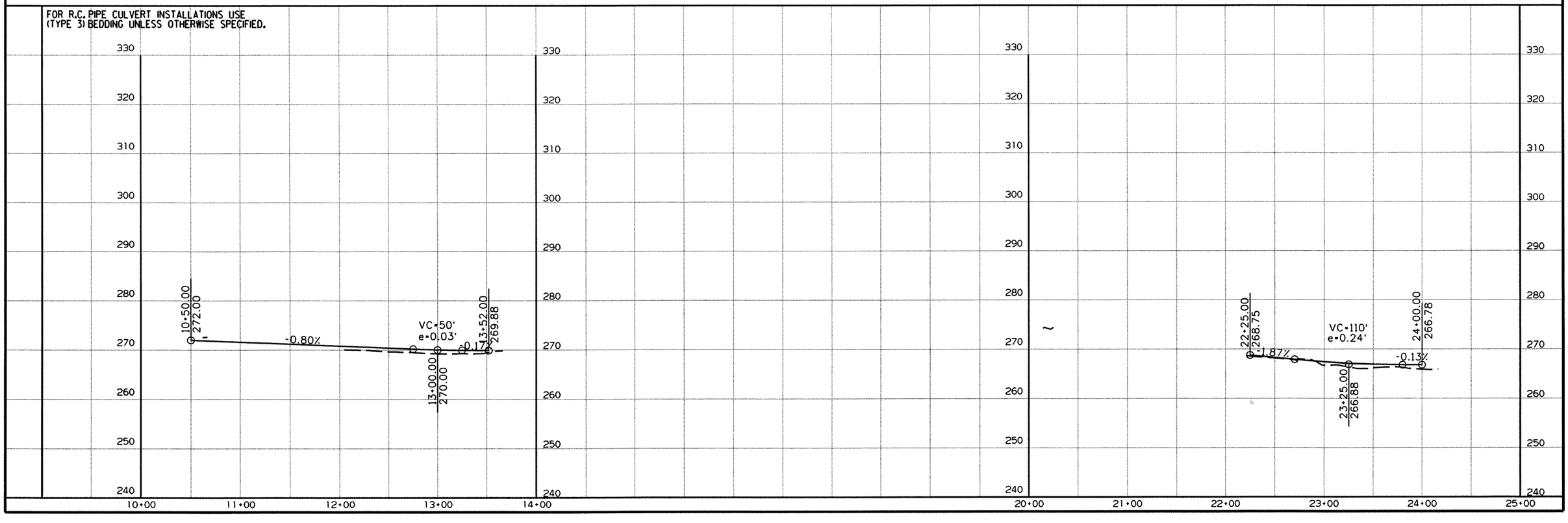
R061026.DGN 7/25/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	35	97

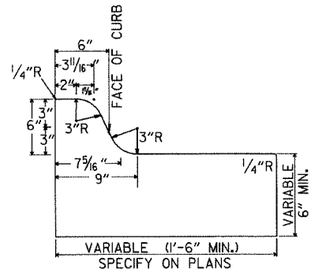
(2) PLAN AND PLOT SHEETS



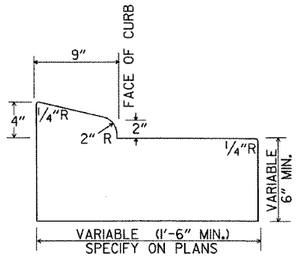




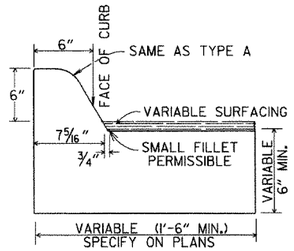
R061026.DGN 7/25/2011



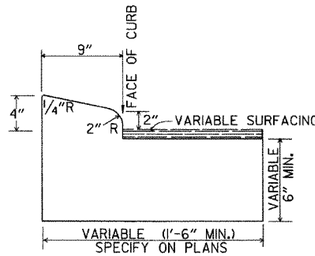
TYPE A



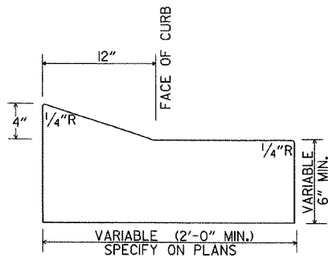
TYPE B-1



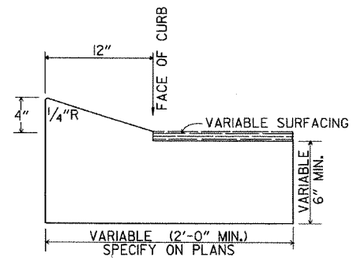
TYPE C



TYPE B-2

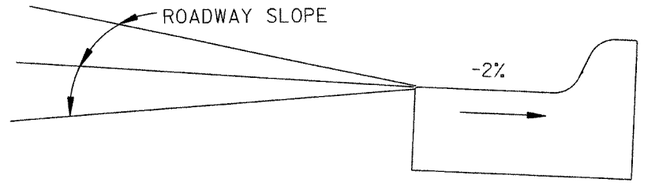


TYPE E-1



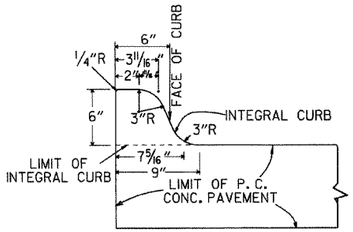
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

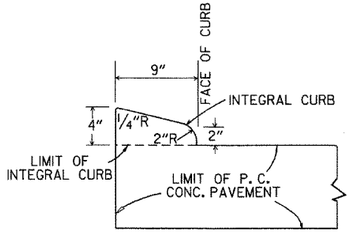


DETAIL OF GUTTER SLOPE

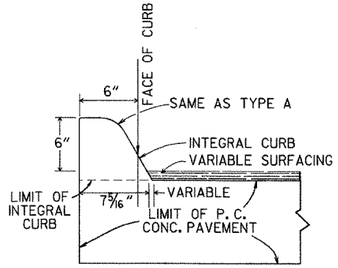
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

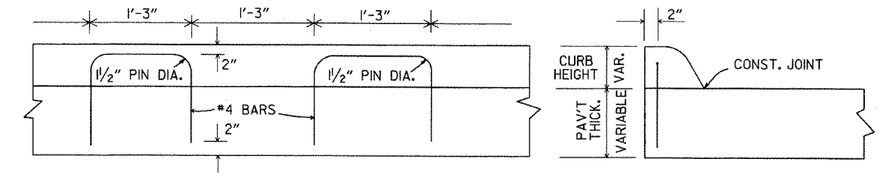


TYPE B



TYPE C

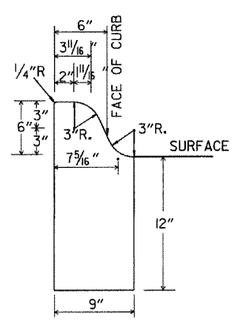
INTEGRAL CURB



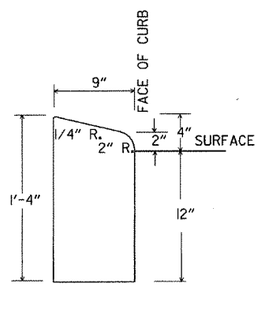
LONGITUDINAL SECTION

ELEVATION

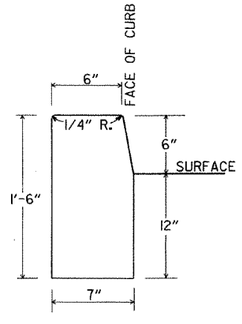
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



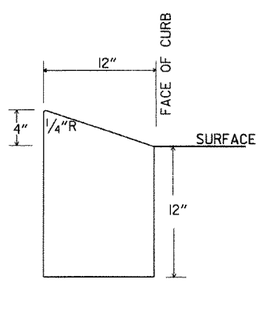
TYPE A



TYPE B

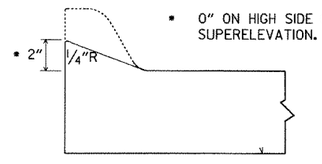


TYPE D



TYPE E

CONCRETE CURB



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

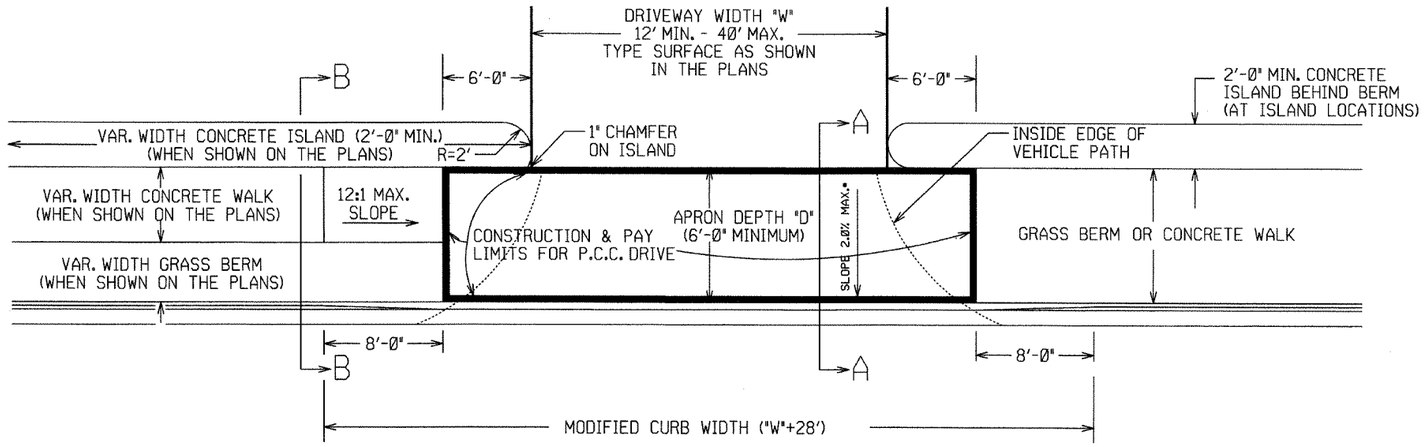
DETAILS OF MODIFIED CURB

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

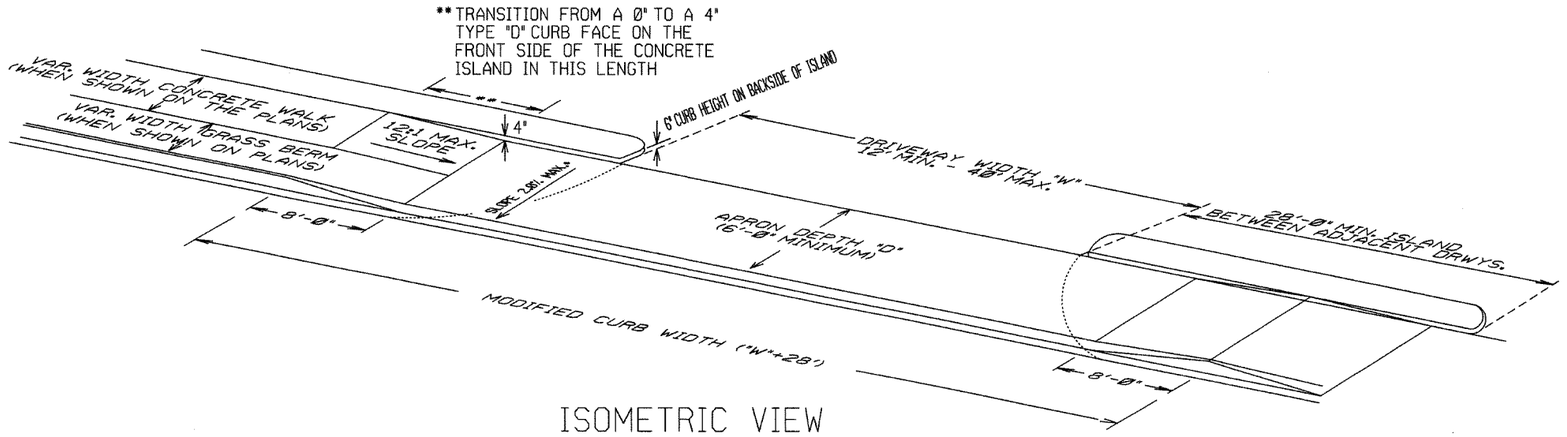
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

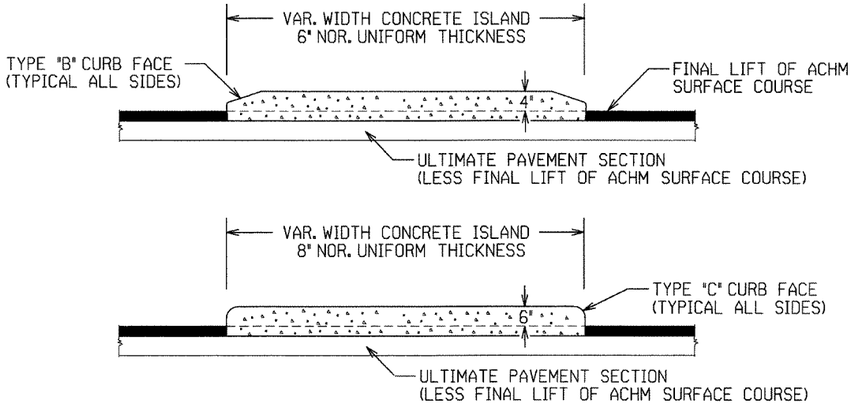
STANDARD DRAWING CG-1



PLAN VIEW

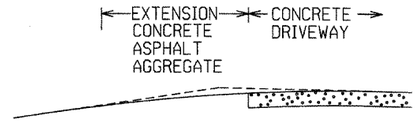


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

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



EXTENSION TYPICAL SECTIONS

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

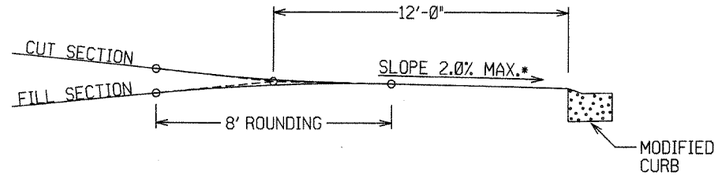
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

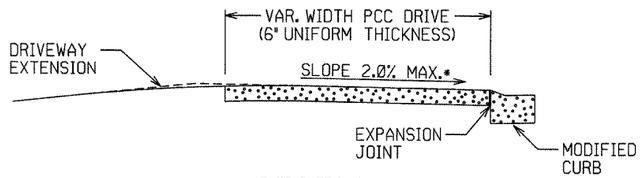
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

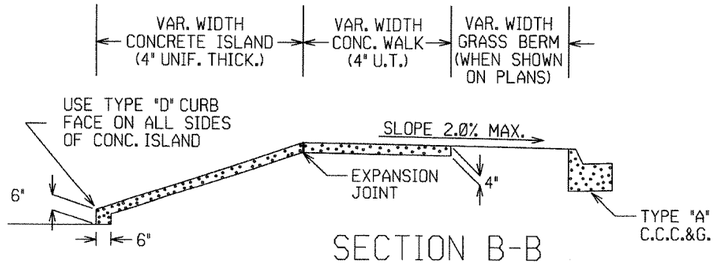


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



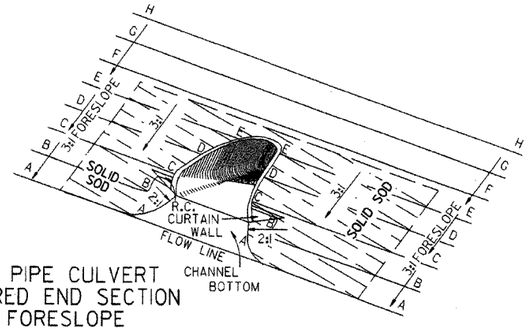
SECTION A-A



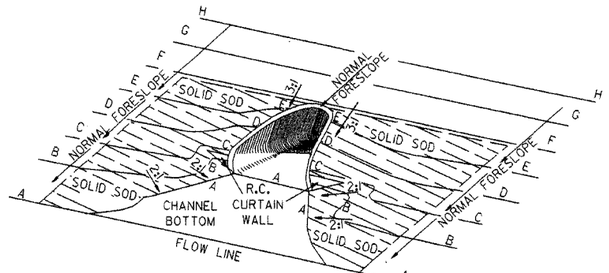
SECTION B-B
CURBED ISLAND BEHIND WALK

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

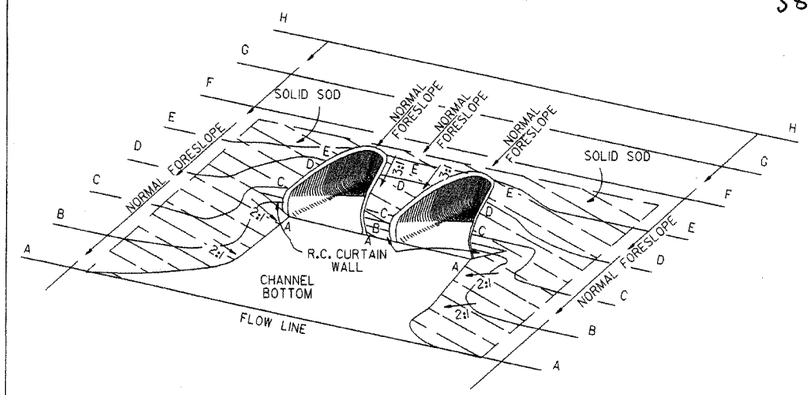
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



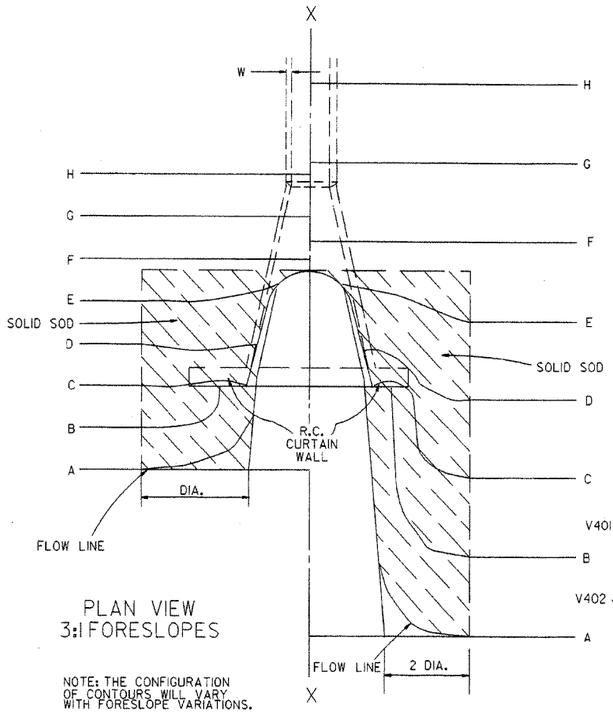
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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



PLAN VIEW
3:1 FORESLOPES

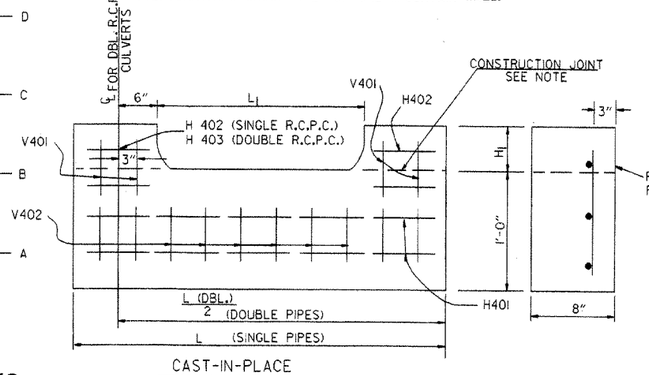
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

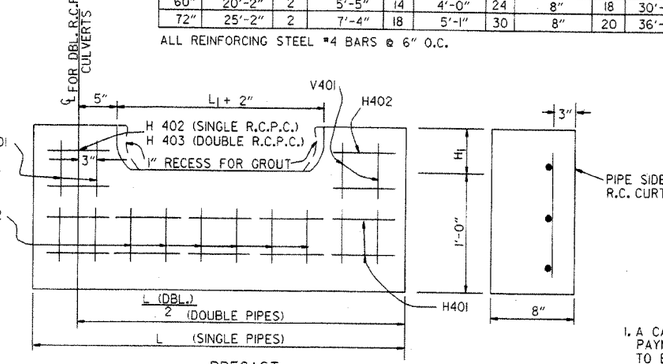
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0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

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	V401 L	NO.	V402 L	NO.	DOUBLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	H403 L	NO.	V401 L	NO.	V402 L	NO.
18"	7'-8"	2	1'-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.

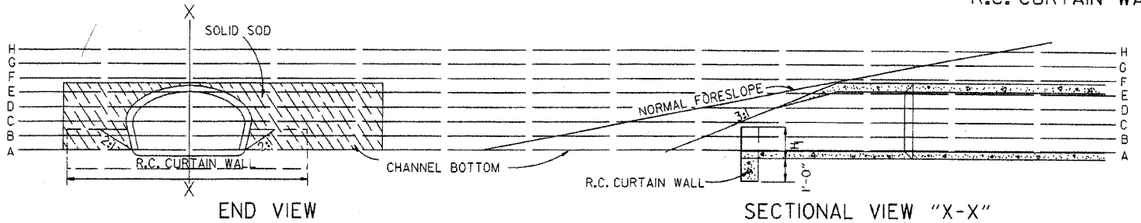
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W/10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

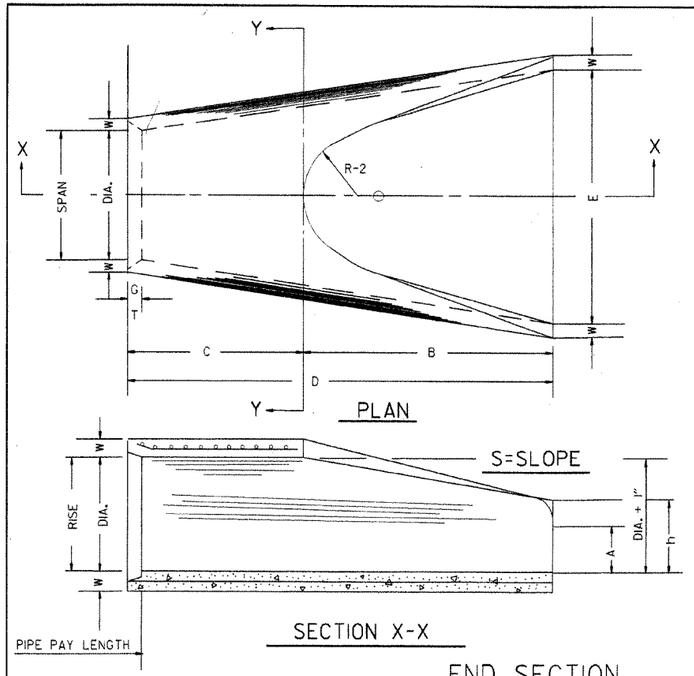
SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

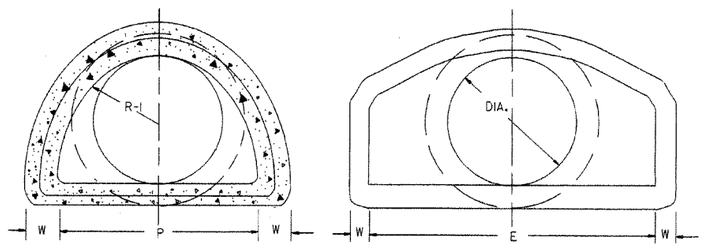
STANDARD DRAWING FES-1



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"	33 3/16"	16 13/16"	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"	47 1/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 1/16"	38 5/16"	24"	5"	13250	4'-6"

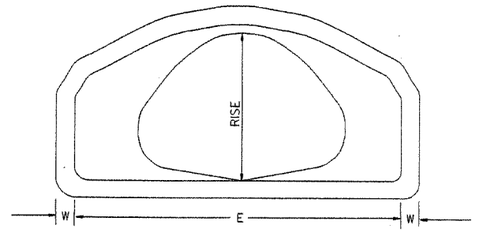


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

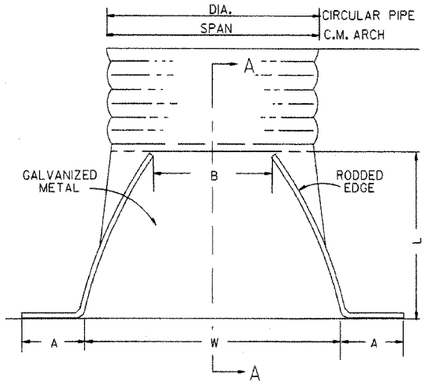
ARCH PIPE

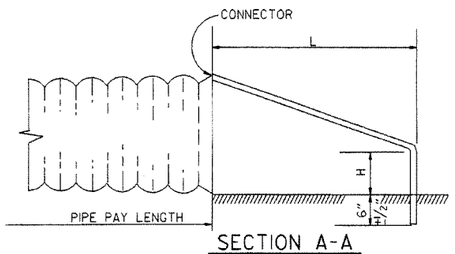
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 1/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54 1/16"	22"	3½"	2½:1
42	51⅛	51	31 9/16	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"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/16"	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.

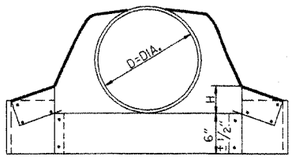


END VIEW
CONCRETE ARCH PIPE

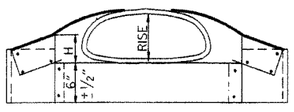




SECTION A-A



CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

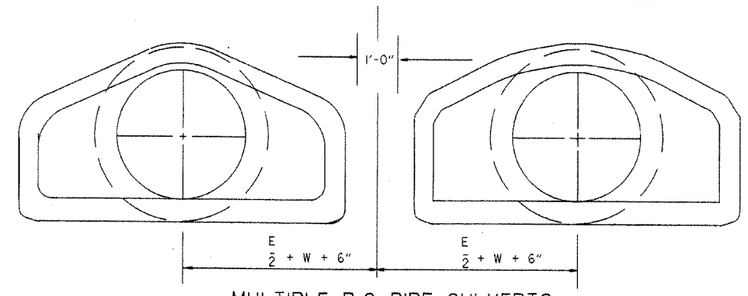
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12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

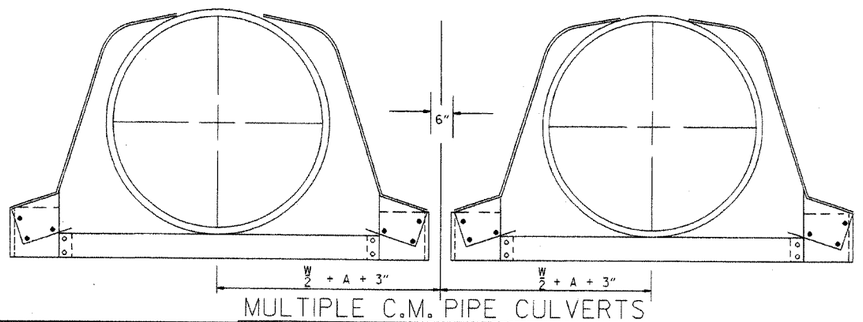
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12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



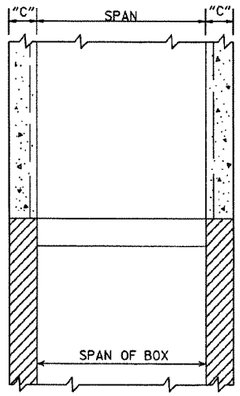
MULTIPLE C.M. PIPE CULVERTS

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

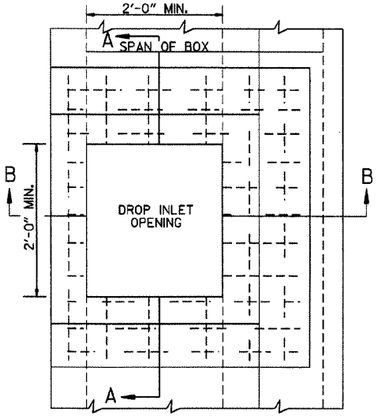
ARKANSAS STATE HIGHWAY COMMISION

FLARED END SECTION

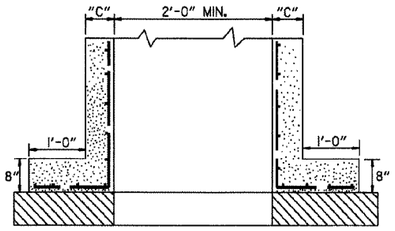
STANDARD DRAWING FES-2



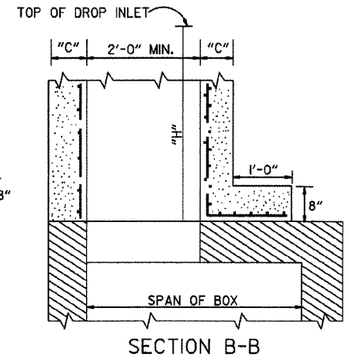
SECTION B-B



PLAN

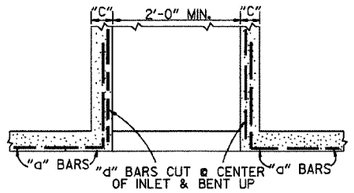


SECTION A-A

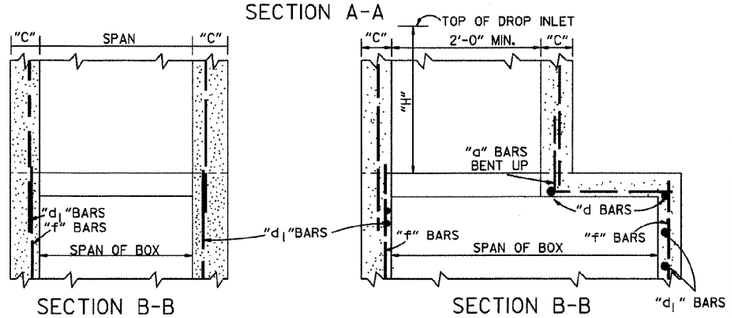


SECTION B-B

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



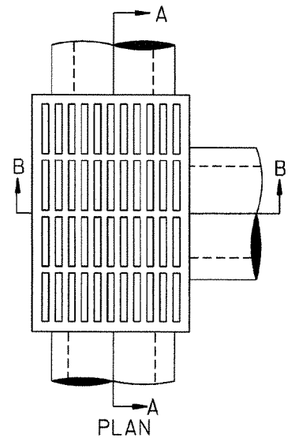
SECTION A-A



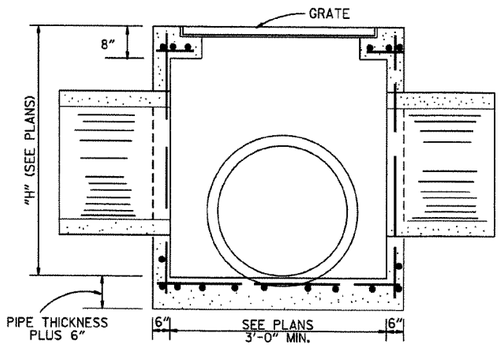
SECTION B-B SECTION B-B

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

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

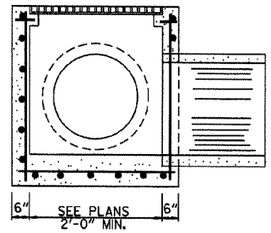


PLAN



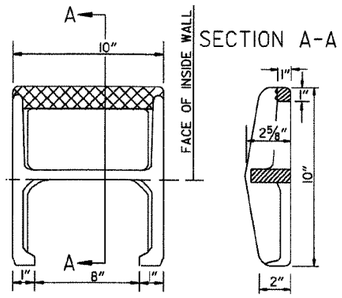
SECTION A-A

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



SECTION B-B

DROP INLET (TYPE E)

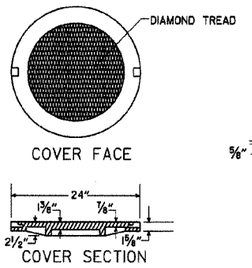


APPROX. WEIGHT = 11 LBS. (CAST IRON)

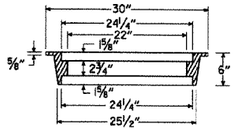
PLAN

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

DETAIL OF STEP FOR DROP INLET



COVER FACE

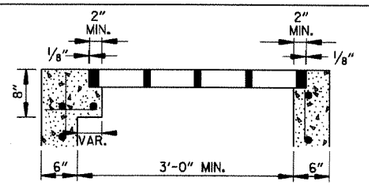


RING SECTION

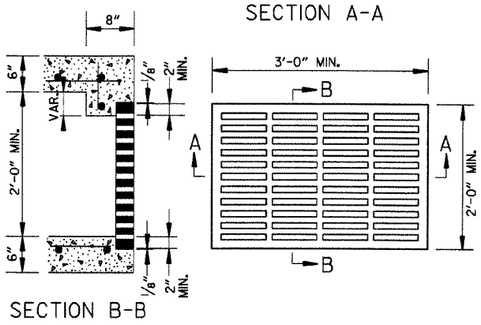
COVER SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



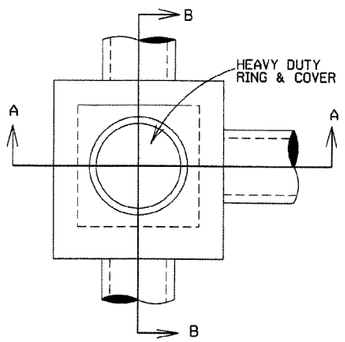
SECTION A-A



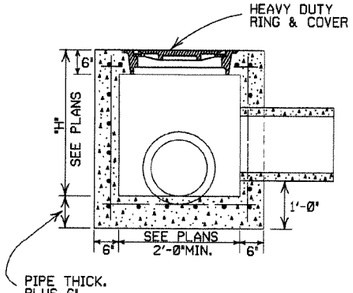
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

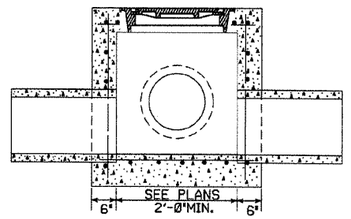


PLAN



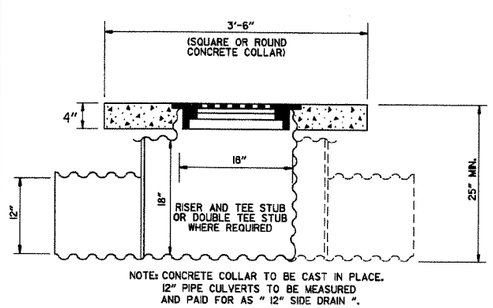
SECTION A-A

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

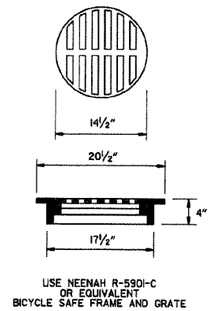


SECTION B-B

JUNCTION BOX (TYPE E)



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



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

DETAIL OF YARD DRAIN

GENERAL NOTES:

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

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

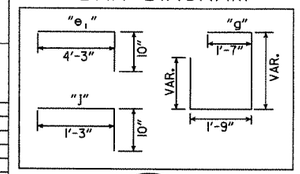
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

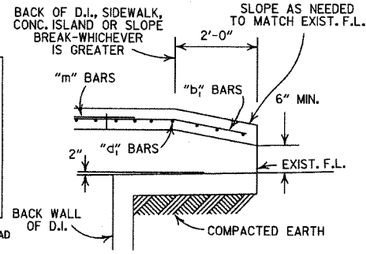
DROP INLET EXTENSION

4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET		
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

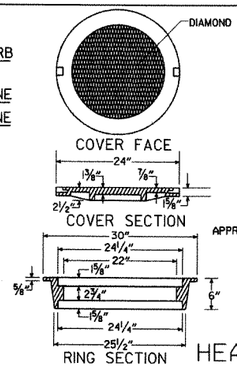
BAR DIAGRAM





BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

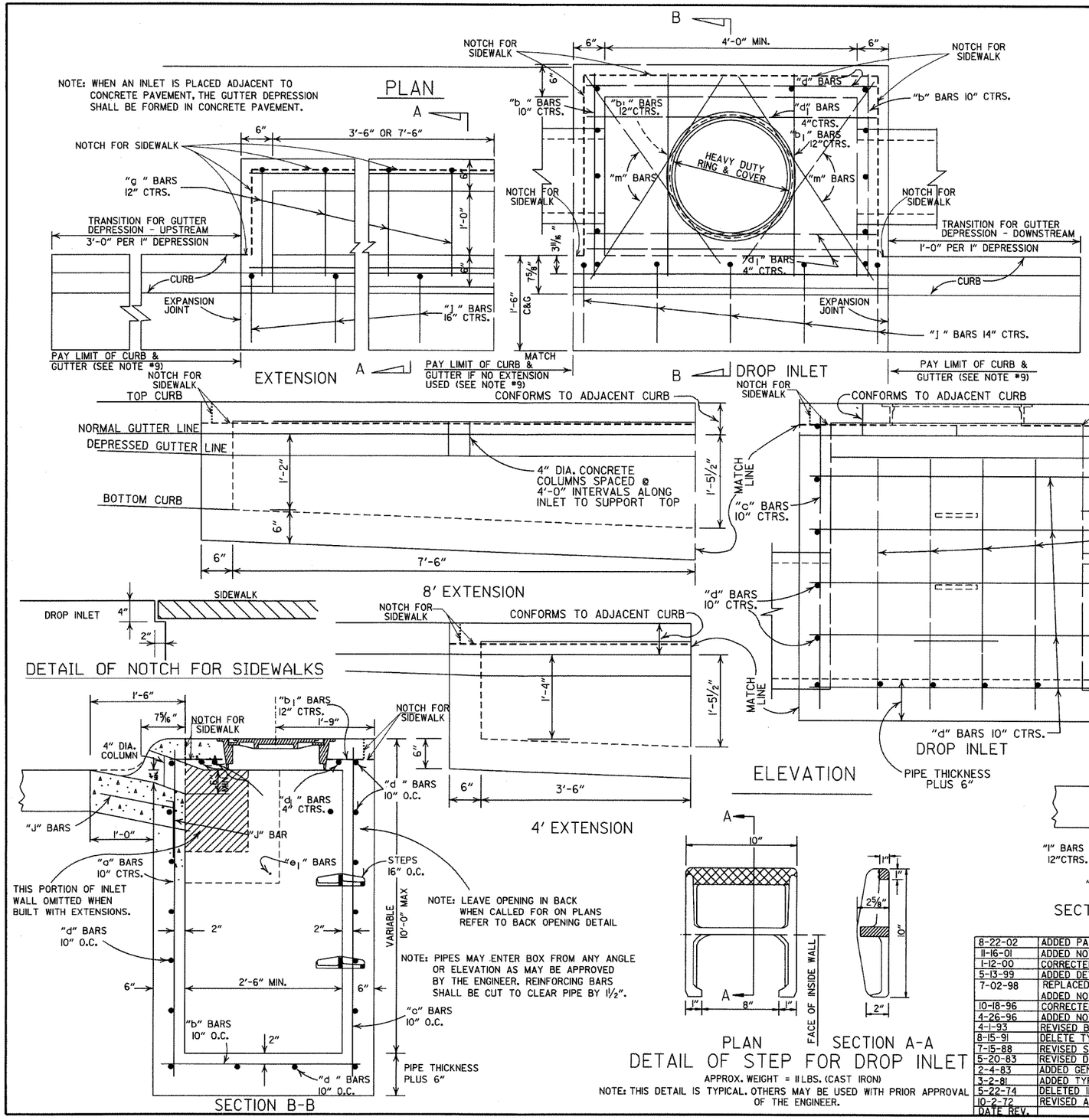


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



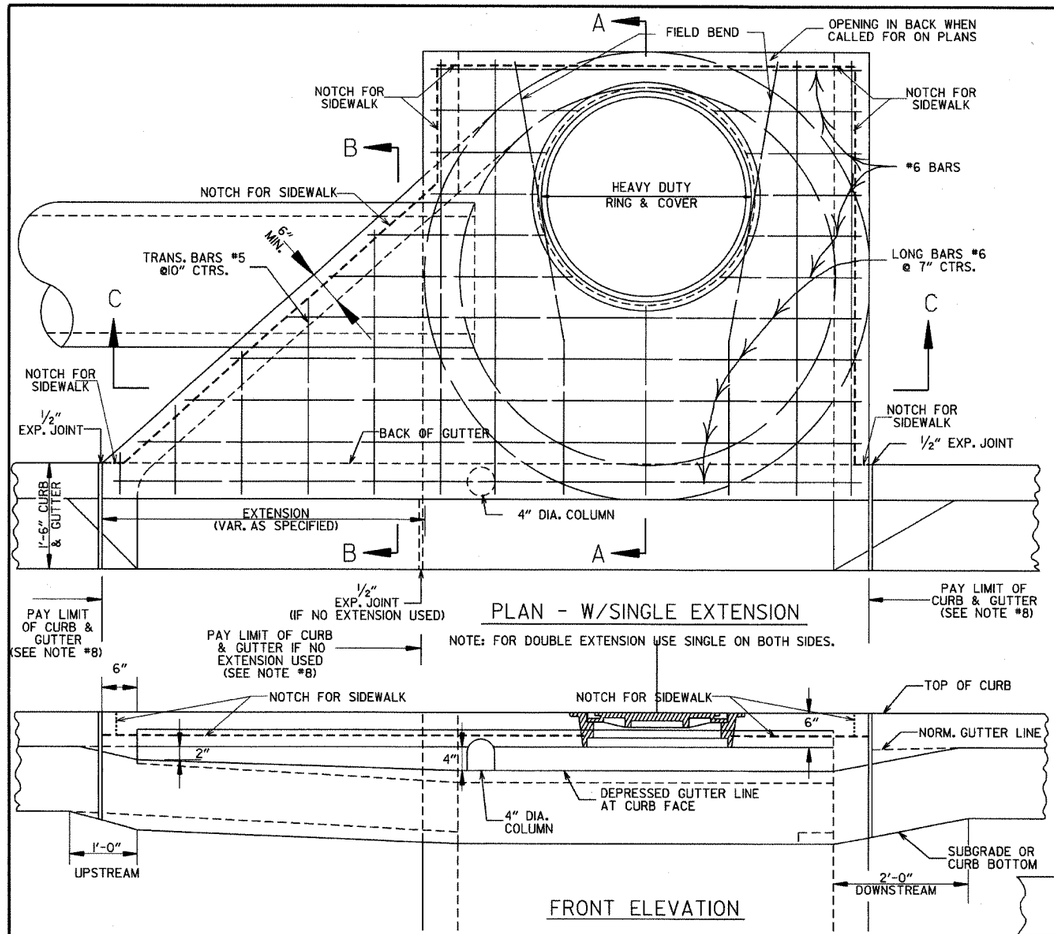
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13, REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

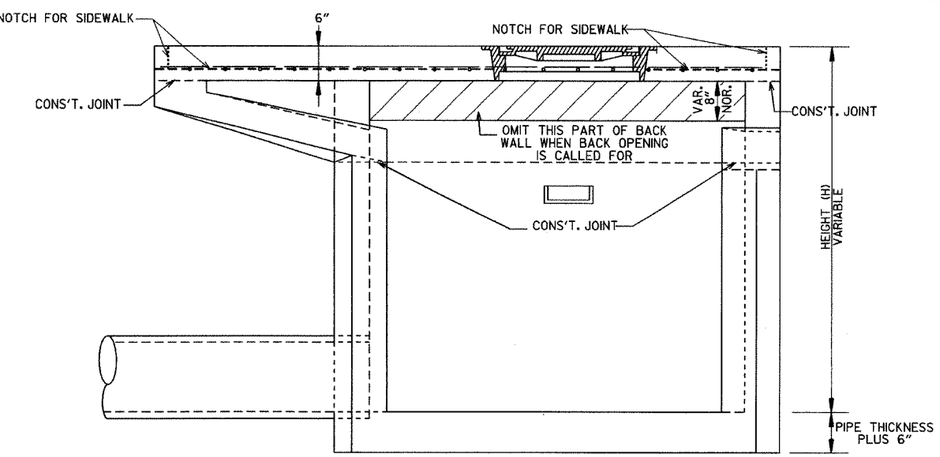
STANDARD DRAWING FPC-9E



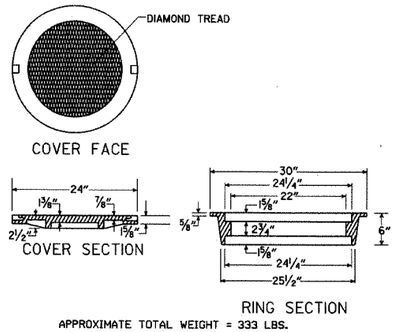
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



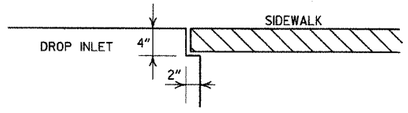
SECTION C-C



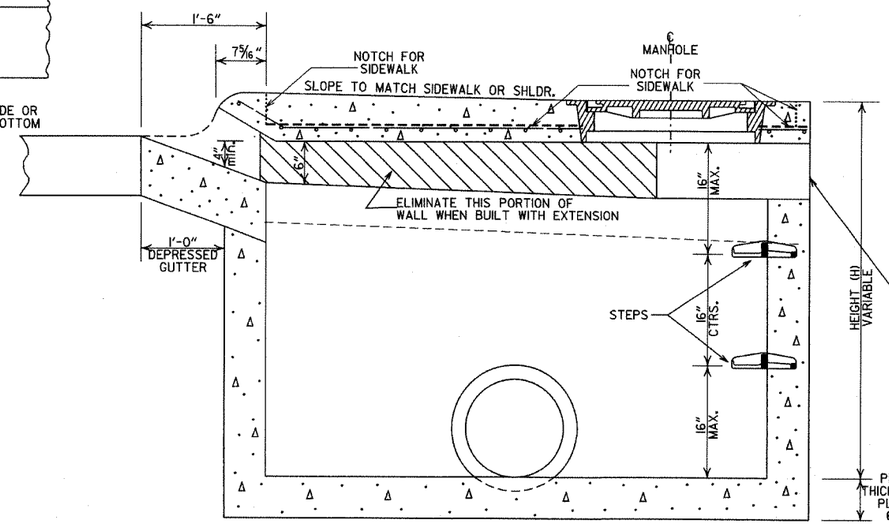
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

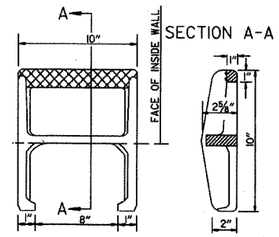
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS



SECTION A-A

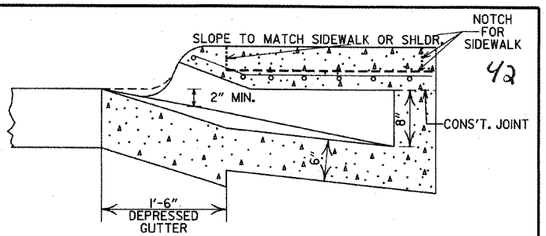


APPROX. WEIGHT = 11 LBS. (CAST IRON)

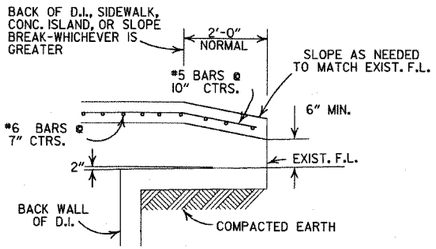
PLAN

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

DETAIL OF STEP FOR DROP INLET



SECTION B-B



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1/2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"×2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

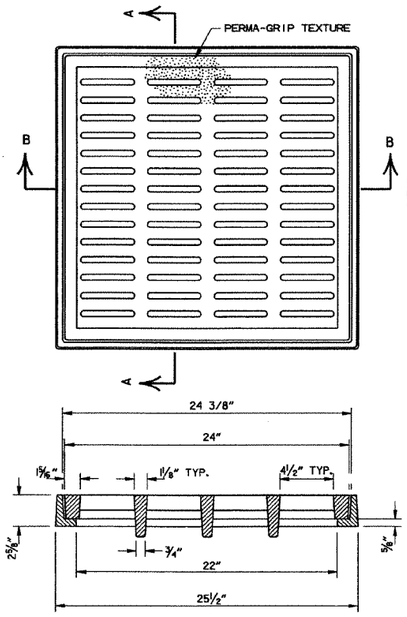
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11 & ADJ. OPENING DIMENSION	
10-12-95	CORRECTED *6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
6-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BR.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO.12	11-30-89
4-23-89	ADDED NOTE 8 & MINIMUM WALL THICKNESS	5(1-3-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	6,9-7-15-88
1-14-87	MODIFIED WALL THICKNESS	7&1-1-14-87
6-12-87	ISSUED	4-6-12-87

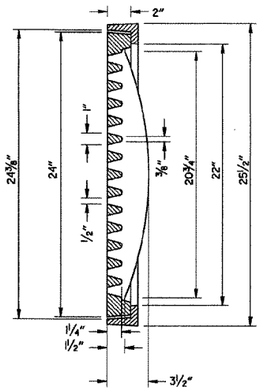
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M



SECTION B-B

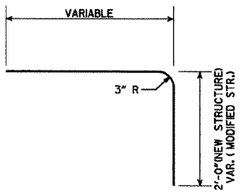


SECTION A-A

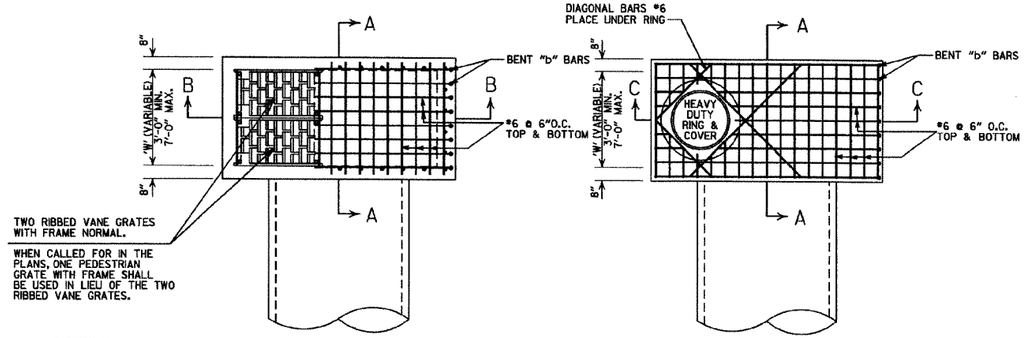
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

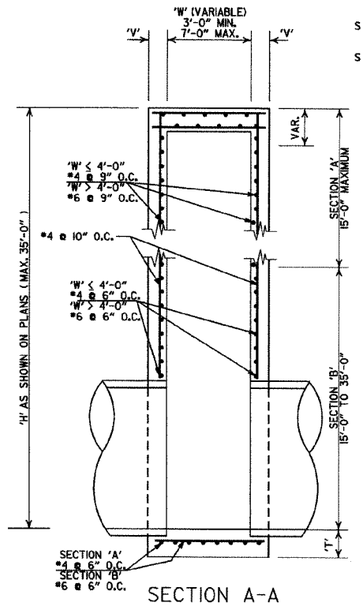
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 211LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

DETAILS OF PEDESTRIAN GRATE AND FRAME



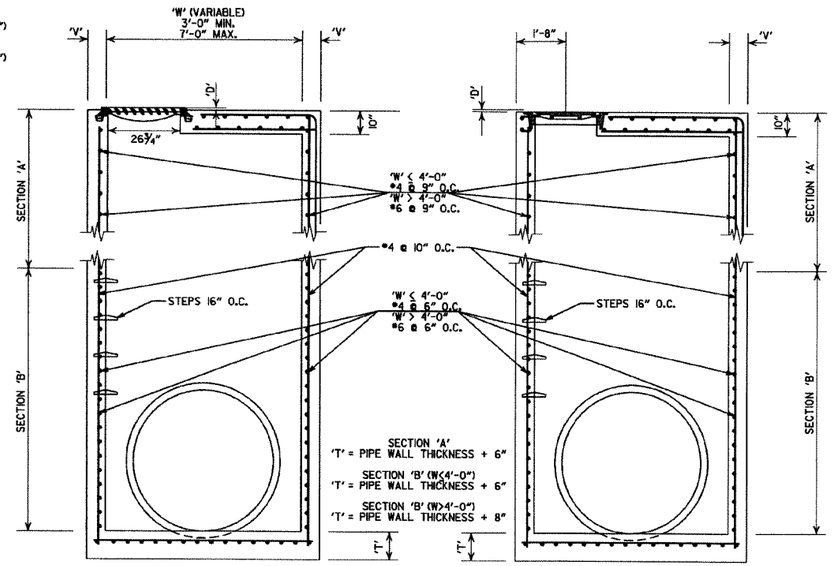
DETAIL OF BENT "b" BAR





SECTION A-A

DETAILS OF DROP INLET
(TYPE ST)



SECTION B-B

SECTION C-C

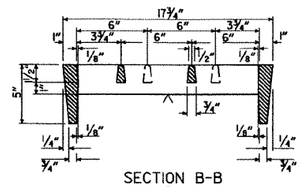
DETAILS OF JUNCTION BOX
(TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

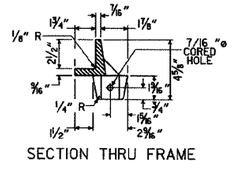
1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A ¾" CHAMFER.
4. ALL #4 & #5 REINFORCING BARS ARE TO HAVE A MIN. 1½" COVER. ALL LARGER SIZE BARS ARE TO HAVE A 2" MIN. COVER.

GENERAL NOTES (HEAVY DUTY RING & COVER):

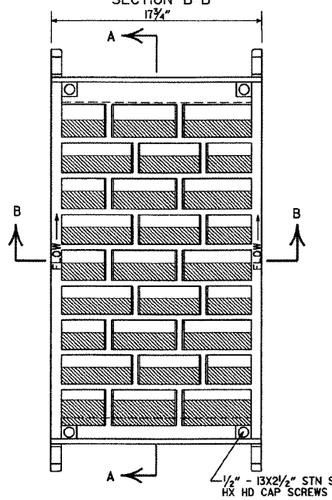
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

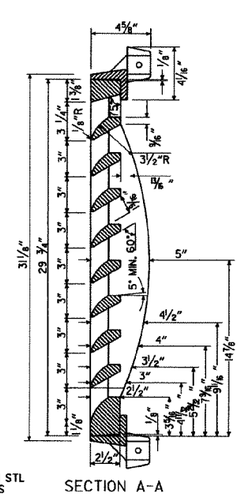


SECTION B-B



SECTION THRU FRAME



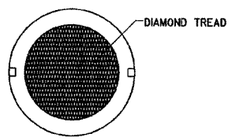


SECTION A-A

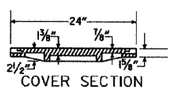
DETAILS OF RIBBED VANE GRATE AND FRAME

GENERAL NOTES (RIBBED VANE GRATE & FRAME)

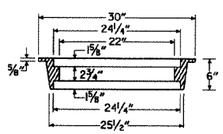
1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY
RING & COVER

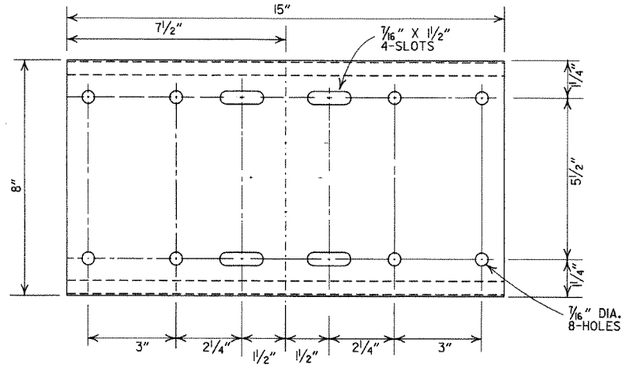
APPROXIMATE TOTAL WEIGHT = 333 LBS.

DATE REVISED	DATE FILMED	DESCRIPTION
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

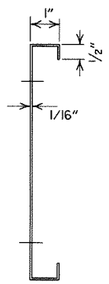
ARKANSAS STATE HIGHWAY COMMISSION

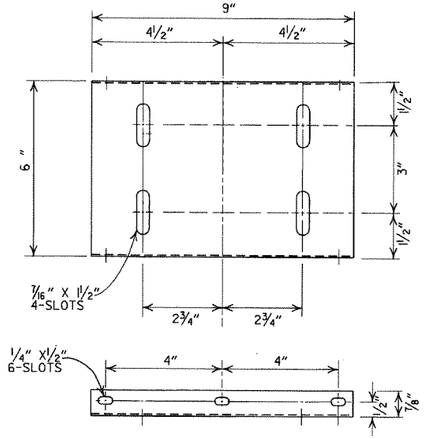
DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

STANDARD DRAWING FPC-9S

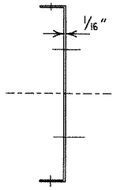


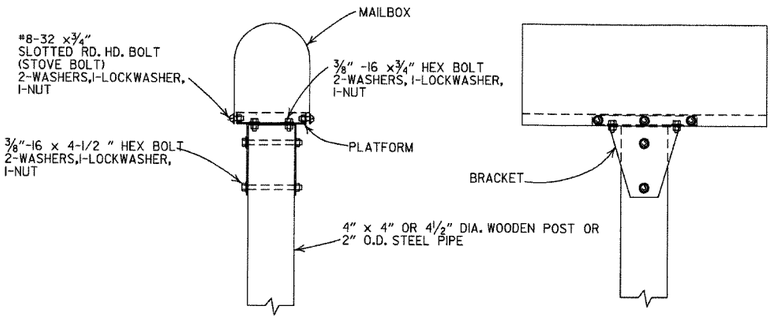
SHELF



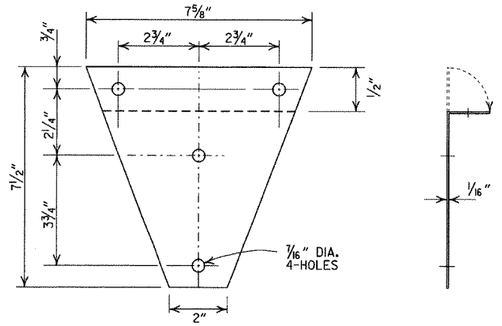


PLATFORM

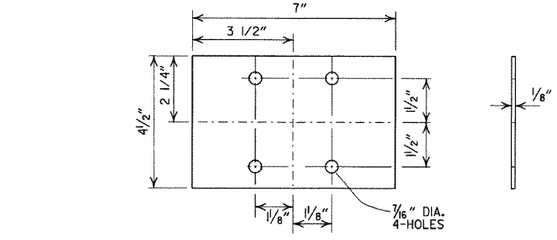




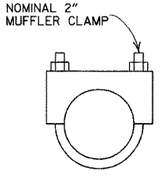
SINGLE INSTALLATION



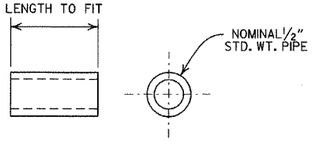
BRACKET



ANTI-TWIST PLATE



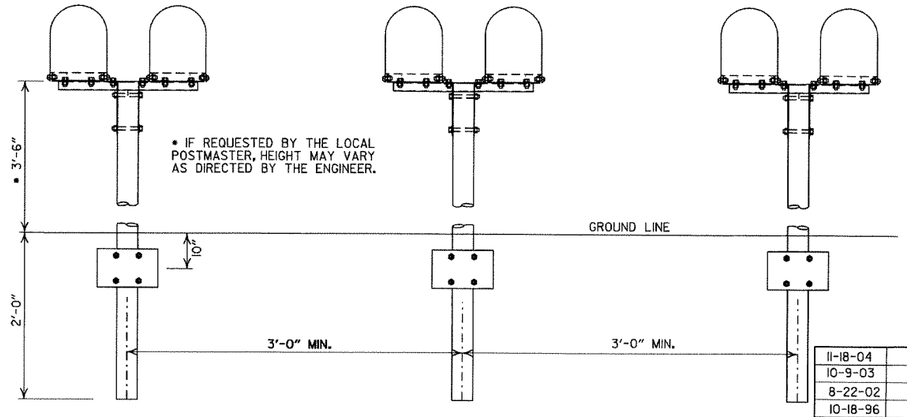
CLAMP



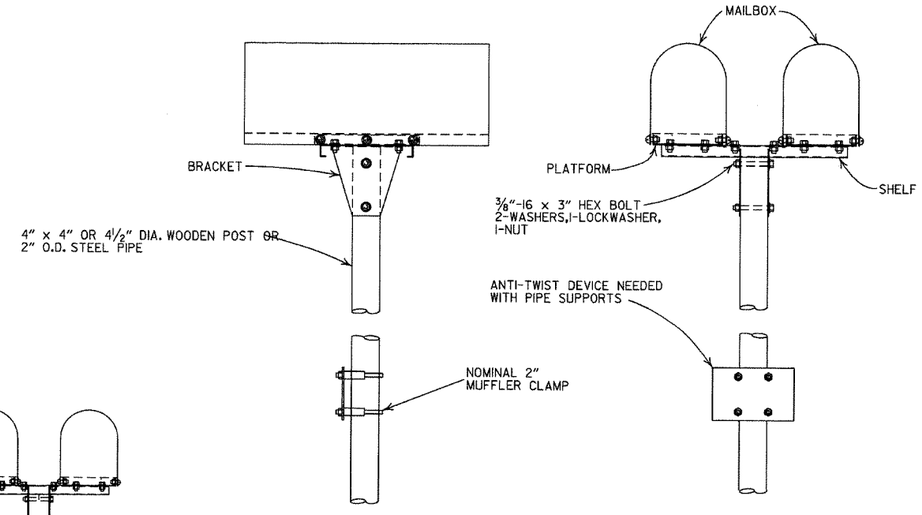
SPACER

GENERAL NOTES

1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X¾" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



SPACING FOR MULTIPLE POST INSTALLATION



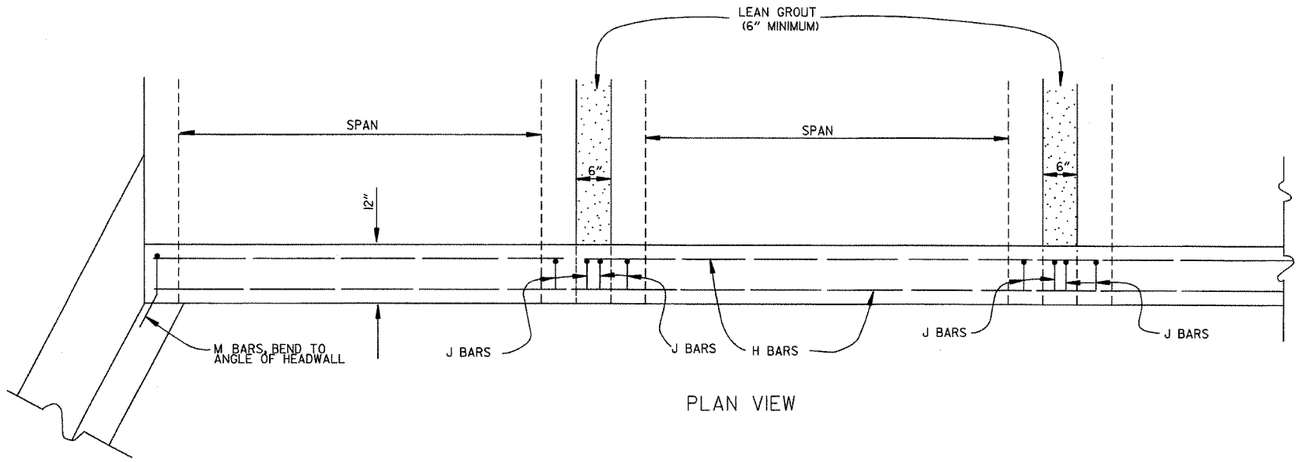
DOUBLE INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

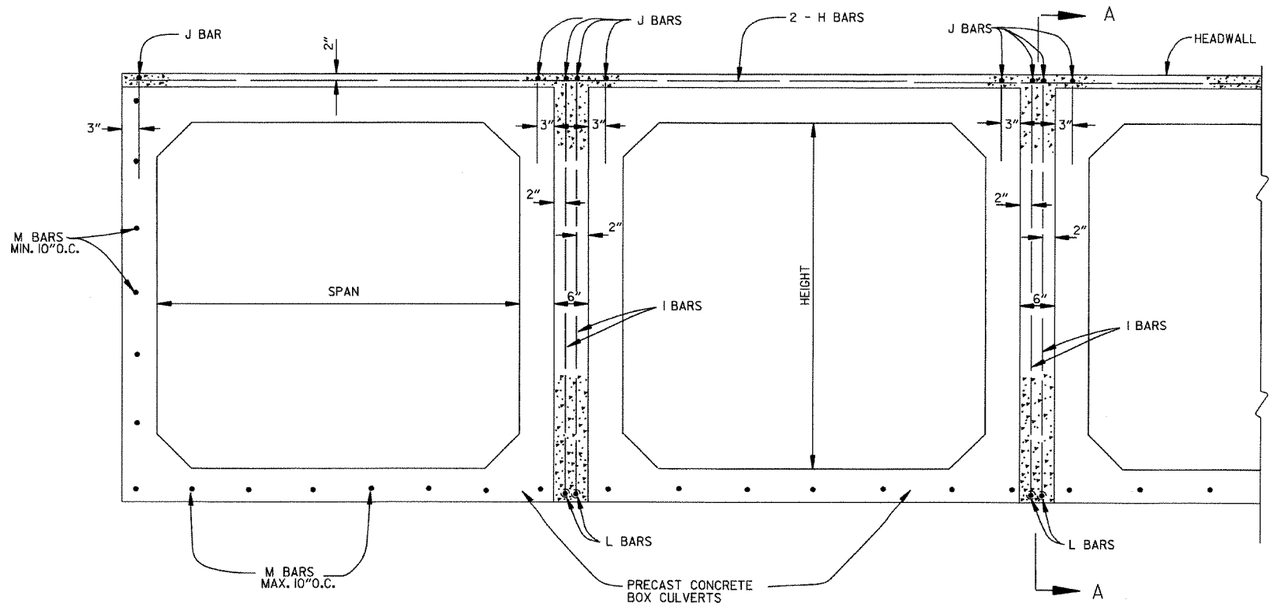


PLAN VIEW

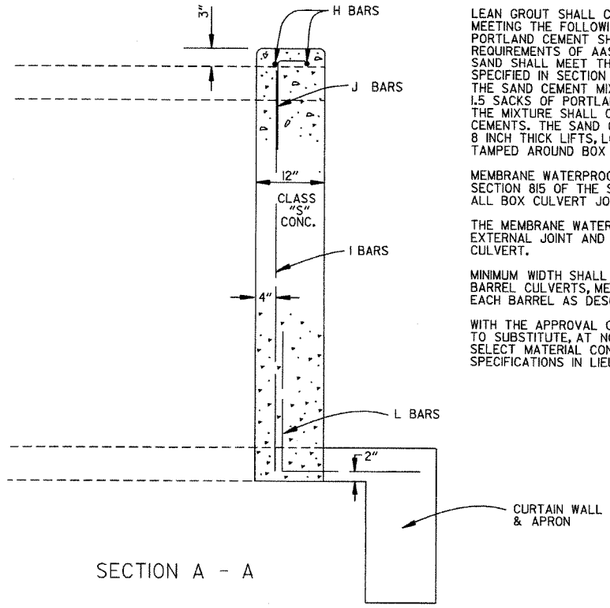
BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	6", 11", J BAR; 20", L BAR, 18"
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	

• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT



END VIEW



SECTION A - A

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE STANDARD WING DRAWING, STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

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

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.

DATE	REVISION	DATE FILMED
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

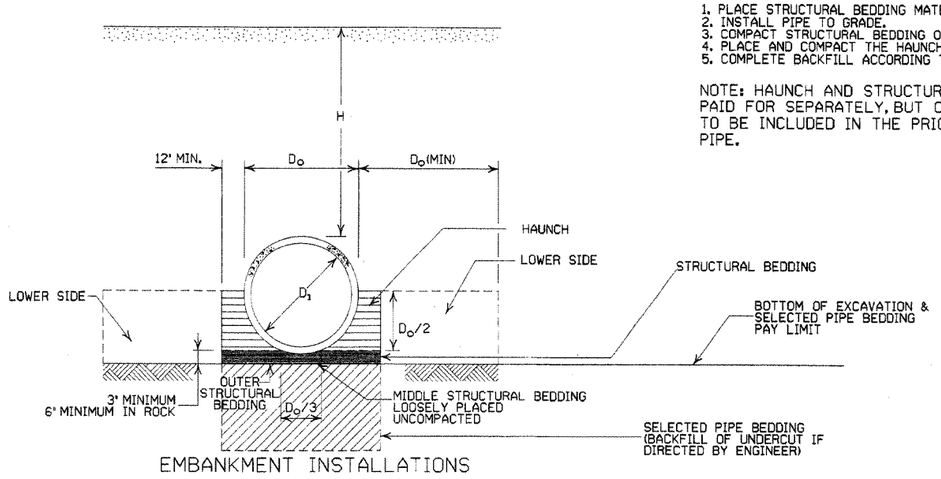
PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

CONSTRUCTION SEQUENCE

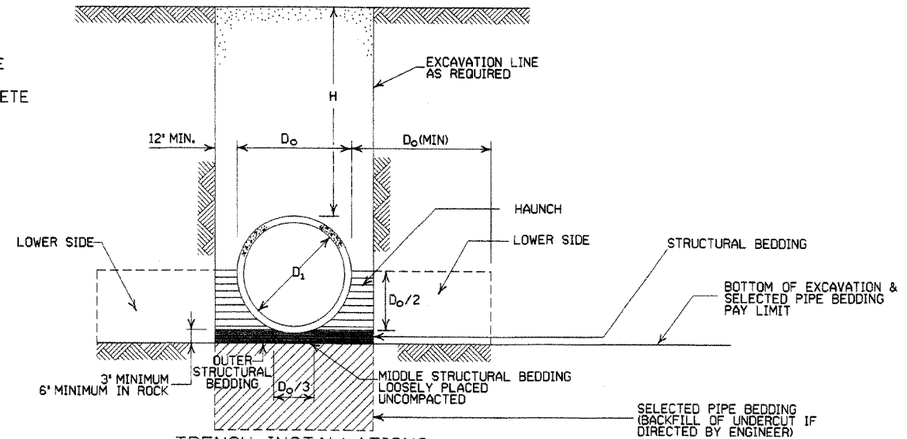
1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SPECIFICATIONS.

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.



EMBANKMENT INSTALLATIONS

1. MATERIAL IN THE LOWER SIDE, HAUNCH, AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.



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.

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	•SPAN		• RISE	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD 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	43¾	44	26⅝	27
42	51⅛	51	31 1/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77¼	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 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

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-3) OR TYPE 1 INSTALLATION MATERIAL
TYPE 3	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

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

MAXIMUM HEIGHT OF FILL OVER R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	17	27	41
TYPE 3	13	20	32

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

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.
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 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.'

- 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

DATE	REVISION	DATE FILMED
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) H-20 LOADING

PIPE DIAMETER (INCHES)	MINUMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT ABOVE TOP OF PIPE (FEET)							
		METAL THICKNESS IN INCHES							
		0.064	0.079	0.109		0.138		0.168	
				ROUND	ELONG.	ROUND	ELONG.	ROUND	ELONG.
		2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL							
12	12	84	91						
15	12	67	73						
18	12	56	61						
24	12	42	46	59					
30	12	34	36	47					
36•	12		30	39		41			
42•	12		43	46	67	48	70	50	73
48•	12		37	45	58	46	61	47	64
		3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION•• RIVETED, WELDED, HELICAL, OR BOLTED							
36	12	48	60	78	88	89	111	101	131
42	12	41	51	64	72	71	90	79	102
48	12	36	45	57	64	61	77	66	85
54	12	32	40	52	59	55	71	59	79
60•	12	29	36	49	53	51	64	54	71
66	12	26	33	47		49	58	51	64
72•	12	24	30	44		47	53	49	59
78	12		28	41		46	49	47	54
84•	12		26	38		45		46	51
90	12		24	35		43		45	
96•	12		22	33		40		44	
102	24			31		38		42	
108•	24			30		35		39	
114	24			28		34		37	
120•	24			27		32		35	

• MAX. FILL CAN BE INCREASED IN THESE DIAMETER PIPES BY USING THE NEXT LARGER CORRUGATION. REFER TO 'CORRUGATED METAL PIPE', REVISED 1970, PUBLISHED BY U.S. DEPARTMENT OF TRANSPORTATION, F.H.W.A., B.P.R.

•• WHERE THE STANDARD 2 ⅔"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER A 3" x 1" OR 5" x 1" CORRUGATION PIPE OF THE SAME DIAMETER 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 GAGE AND CORRUGATION

CORRUGATED ALUMINUM PIPE (ROUND) H-20 LOADING

PIPE DIAMETER (INCHES)	MINUMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT 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				
12	12	45	45			
18	12	30	30	52		
24	12	22	22	39	41	
30	12	18	18	31	32	34
36	12		15	26	27	28
42	12		26	43	43	44
48	12			40	41	43
54	12			35	37	38
60	12				33	34
66	12				30	31
72	12					29

EQUIVALENT METAL THICKNESSES AND GAUGES

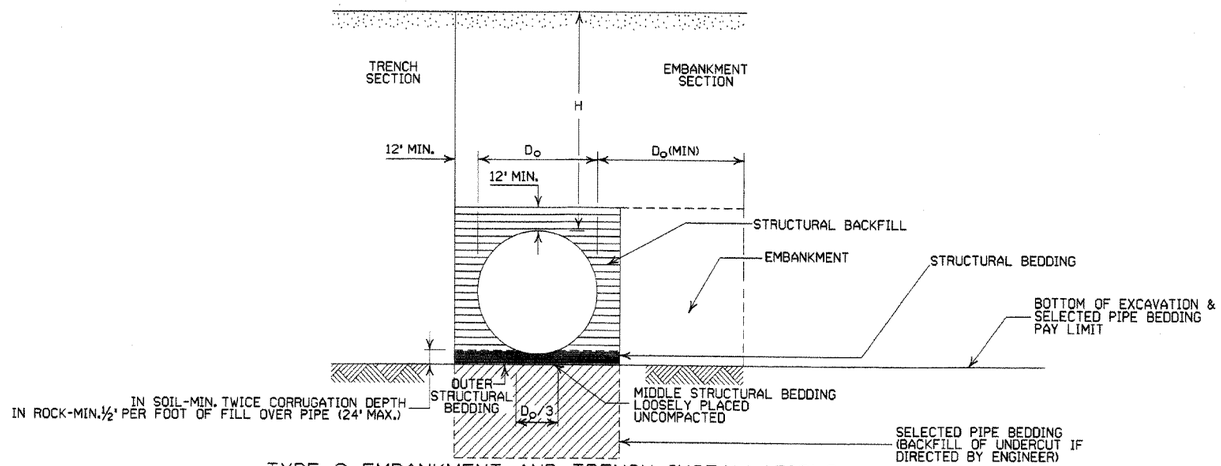
METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8
0.188	0.1838		7
0.218	0.2145		5
0.249	0.2451		3
0.280	0.2758		1

CORRUGATED METAL PIPE ARCHES (H - 20 LOADING)

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE FOR 2 TONS PER SQ. FT. (INCHES)	STEEL			ALUMINUM		
				MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHT ABOVE TOP OF PIPE(IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.		MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHTS ABOVE TOP OF PIPE(IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.	
					2 TONS	3 TONS[1]		2 TONS	3 TONS[1]
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL				2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL		
15	17×13	3	12	0.064	13	15+	0.060	15	
18	21×15	3	12	0.064	12	15+	0.060	14	
21	24×18	3	12	0.064	10	15+	0.060	12	15+
24	28×20	3	12	0.064	10	15	0.060	10	15+
30	35×24	3	12	0.079	9	14	0.075	9	14
36	42×29	3½	12	0.079	9	13	0.075	9	13
42	49×33	4	12	0.079	8	12	0.105	8	12
48	57×38	5	12	0.109	8	12	0.135	8	12
54	64×43	6	12	0.109	8	12	0.135	8	12
60	71×47	7	12	0.138	8	12	0.164	8	12
66	77×52	8	12	0.168	8	12	0.164	8	12
72	83×57	9	12	0.168	9	13			
			3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION•• RIVETED, WELDED, OR HELICAL						
36	40×31	5	12	0.079	15	15+			
42	46×36	6	12	0.079	15	15+			
48	53×41	7	12	0.079	15	15+			
54	60×46	8	12	0.079	15	15+			
60	66×51	9	12	0.079	15	15+			
66	73×55	12	12	0.079	15	15+			
72	81×59	14	18	0.079	15	15+			
78	87×63	14	18	0.079	14	15+			
84	95×67	16	18	0.109	13	15+			
90	103×71	16	24	0.109	12	15+			
96	112×75	18	24	0.109	11	15+			
102	117×79	18	24	0.109	10	15			
108	128×83	18	24	0.138	9	14			

1 WHERE BEARING PRESSURE EXCEEDING 2 TONS PER SQUARE FOOT IS REQUIRED FOR GIVEN FILL HEIGHTS, THE FOUNDATION MATERIAL SHALL BE INVESTIGATED TO DETERMINE THE BEARING CAPACITY.

•• WHERE THE STANDARD 2 ⅔" x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A 3" x 1" OR 5" x 1" CORRUGATION PIPE OF THE SAME DIAMETER 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.



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. 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.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-3)

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

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.

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.'
8. 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.'

- LEGEND -

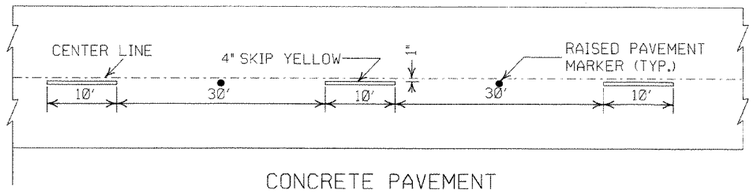
D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
ELONG. = ELONGATED
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)

DATE	REVISION	DATE FILMED
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

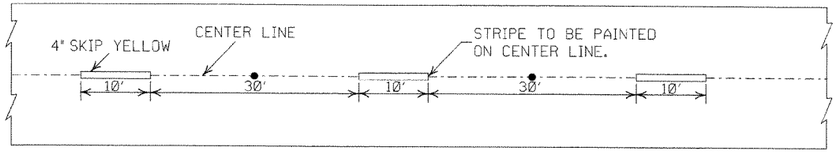
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

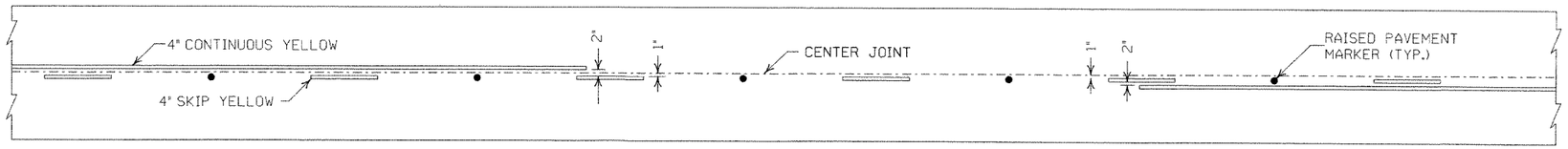


CONCRETE PAVEMENT

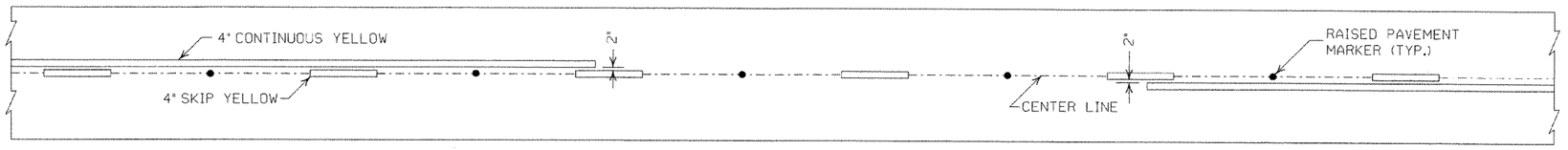


ASPHALT PAVEMENT

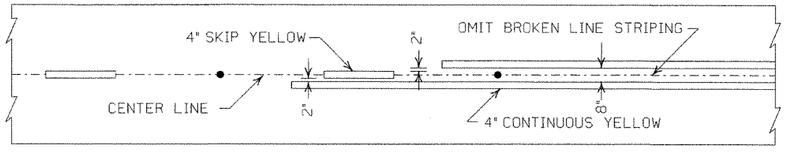
BROKEN LINE STRIPING



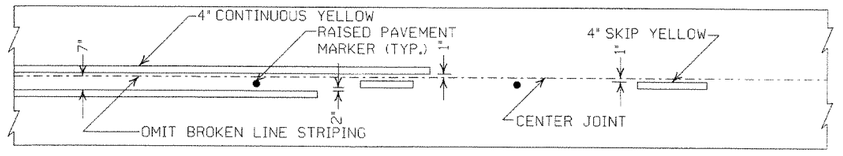
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

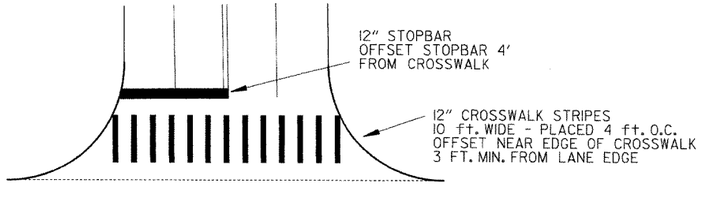


ASPHALT PAVEMENT



CONCRETE PAVEMENT

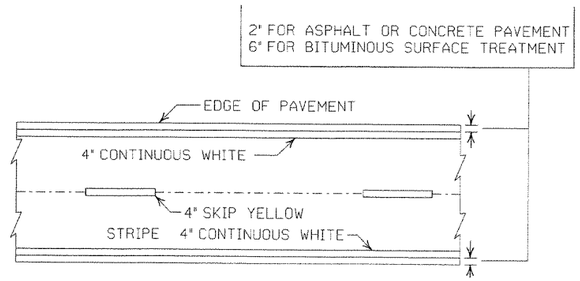
STRIPING AT ADJACENT NO PASSING LANES



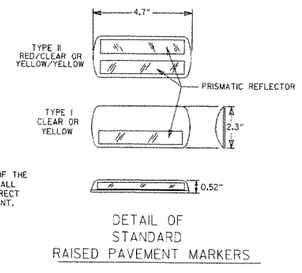
CROSSWALK AND STOPBAR DETAILS

NOTES:

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



PAVEMENT EDGE LINE MARKING



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

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

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

NOTE:

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

DATE	REVISION	FILMED
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

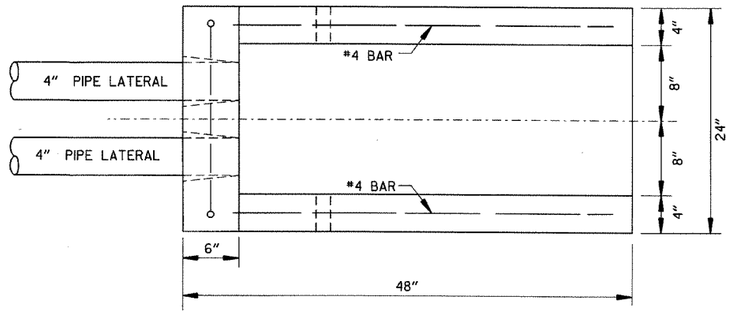
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

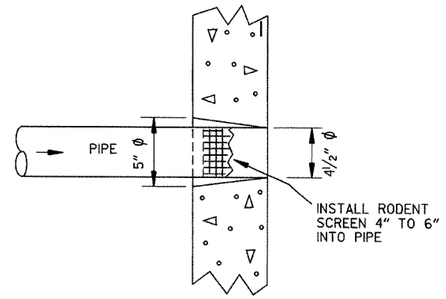
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

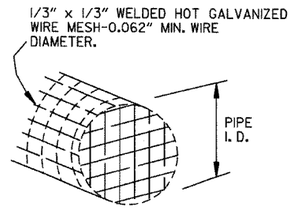
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



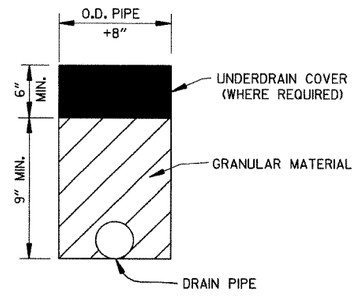
PLAN VIEW

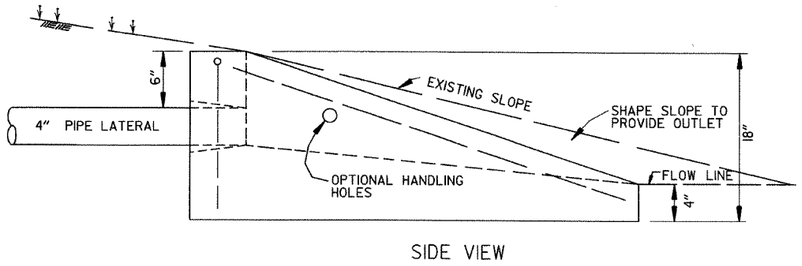


DETAIL OF HOLE FOR 4" PIPE

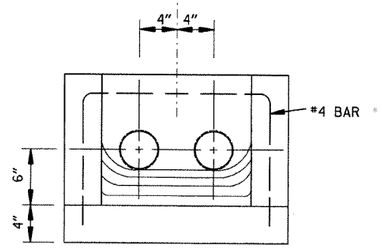


DETAIL OF RODENT SCREEN

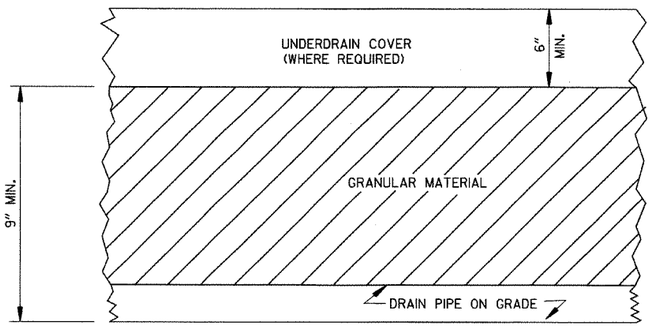




SIDE VIEW

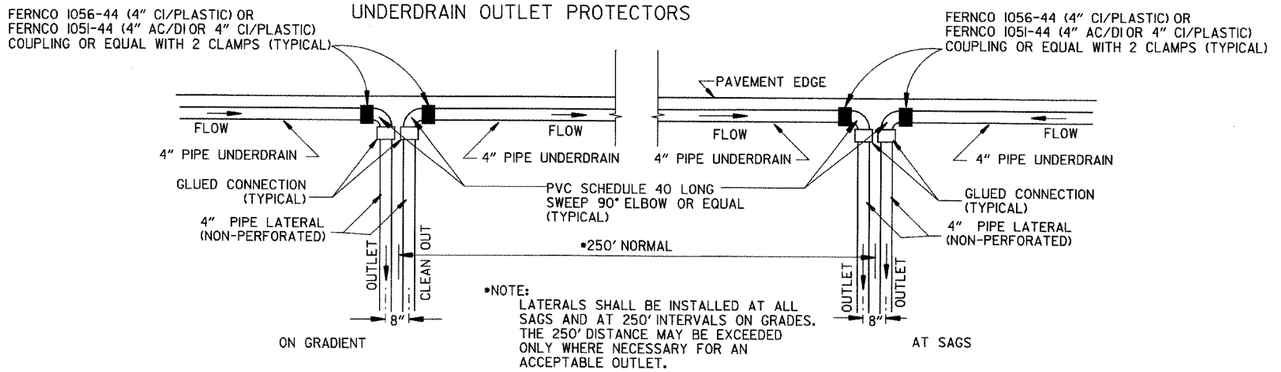


FRONT VIEW



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

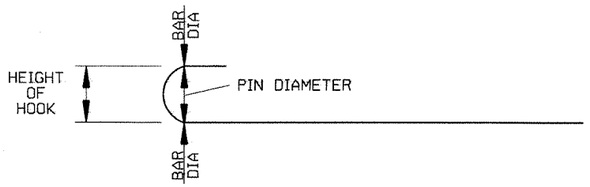
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

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

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

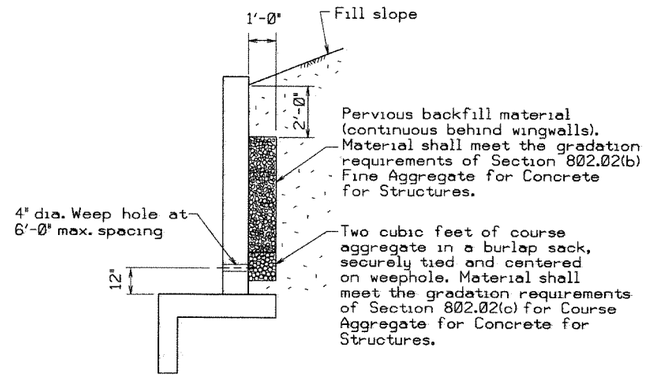
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

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

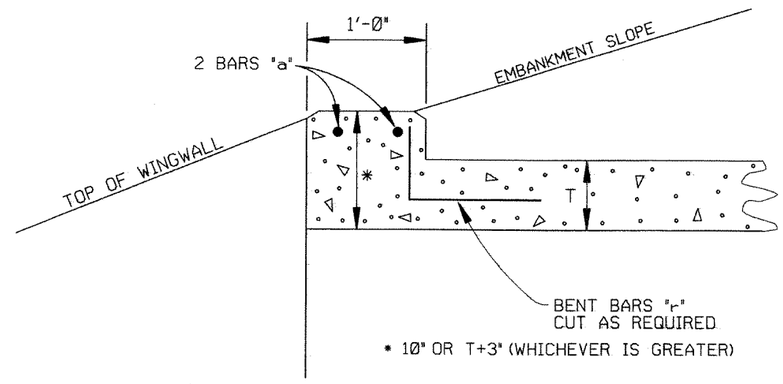
MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

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

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN WINGWALLS: THE MAXIMUM HORIZONTAL SPACING OF WEEP HOLES IN WINGWALLS SHALL BE 6'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND PLACED 12" ABOVE TOP OF WINGWALL FOOTING.

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



* 10" OR T+3" (WHICHEVER IS GREATER)

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

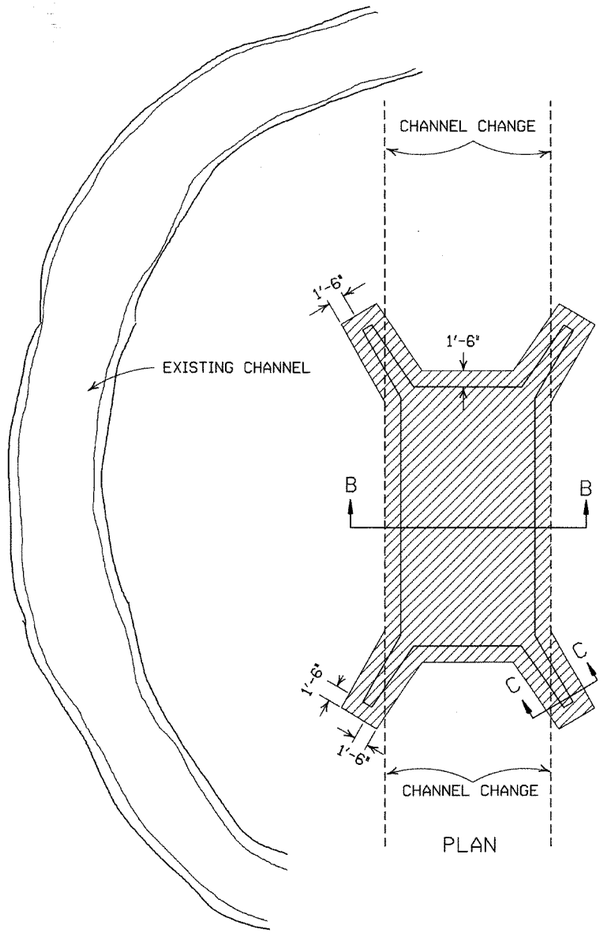
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
05-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

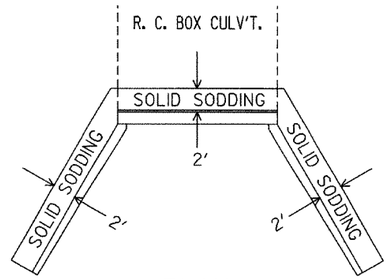
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

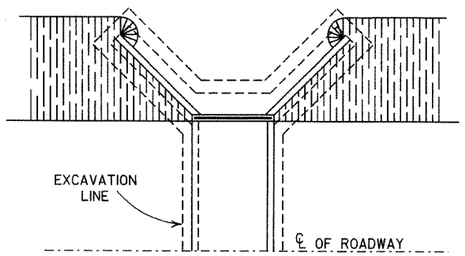
SOLID SODDING



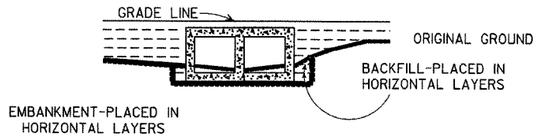
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

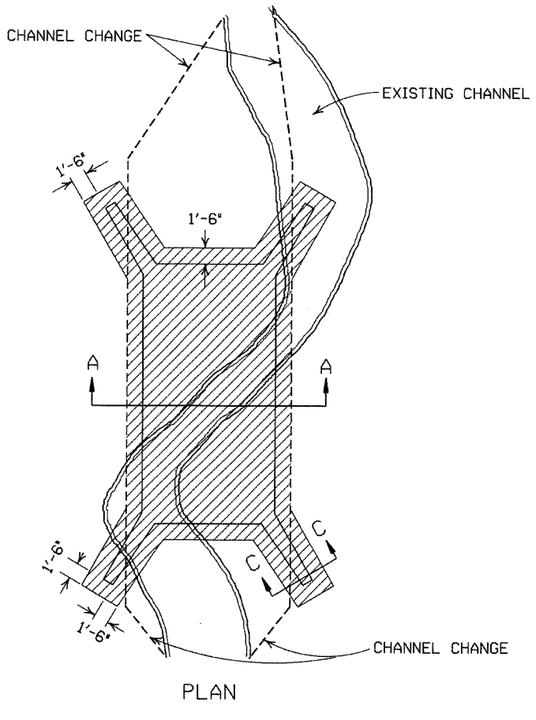


PLAN

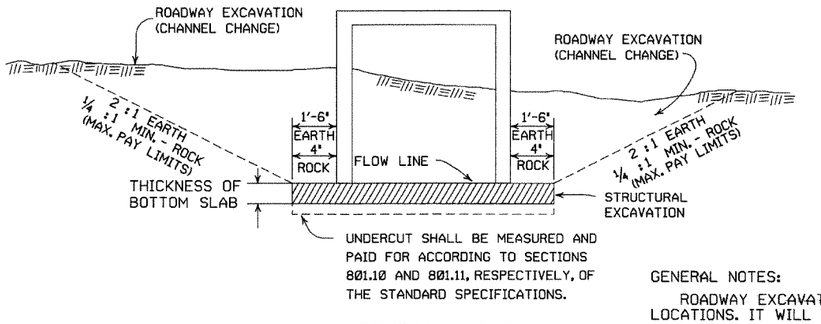


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

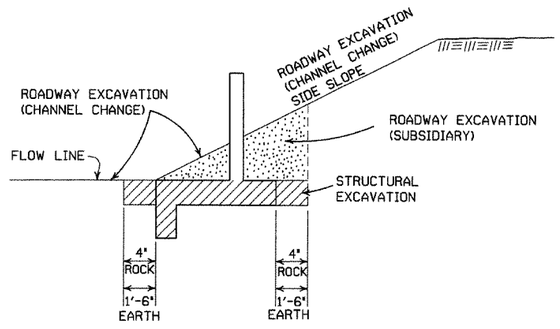


PLAN

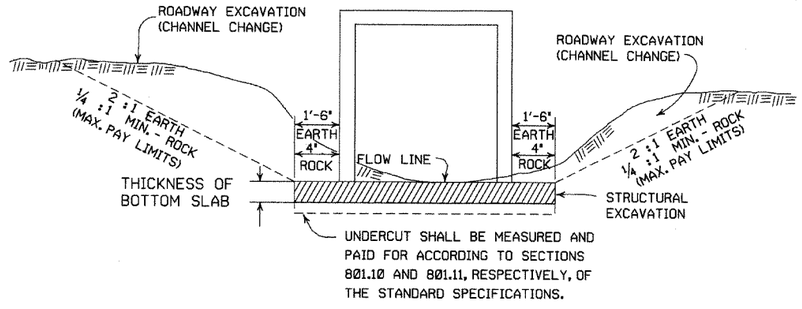


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

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

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

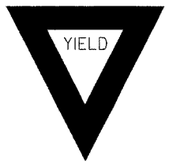
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

R1-1

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

R1-2



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

R2-1

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

R2-5A

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

R2-5C

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

R4-1

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

R4-2

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

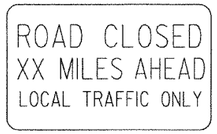
R5-1

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

R11-2

48"X30"

R11-3A



60"X30"

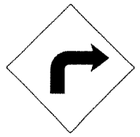
R11-4

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"

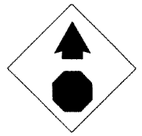
W1-6

STD. 48"X24"
SPECIAL 60"X30"

W1-8

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

W3-1

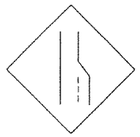


STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

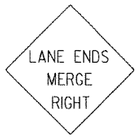
W6-3

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"

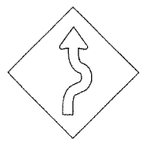
W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b

STD. 48"X48"

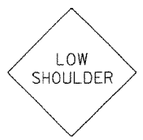
R56-1

STD. 18"X18"

W8-11

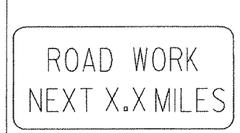
STD. 36"X36"
FWY. 48"X48"

W8-9



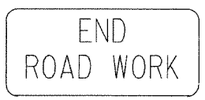
STD. 36"X36"
FWY. 48"X48"

G20-1



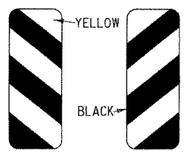
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

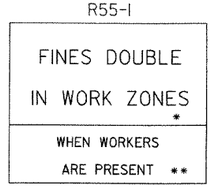
M4-9

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"×4" 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.

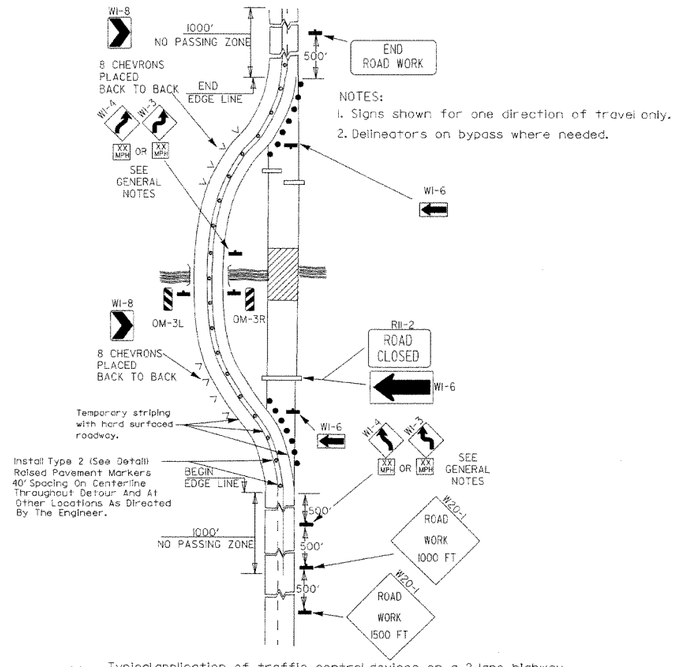
* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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

ARKANSAS STATE HIGHWAY COMMISSION

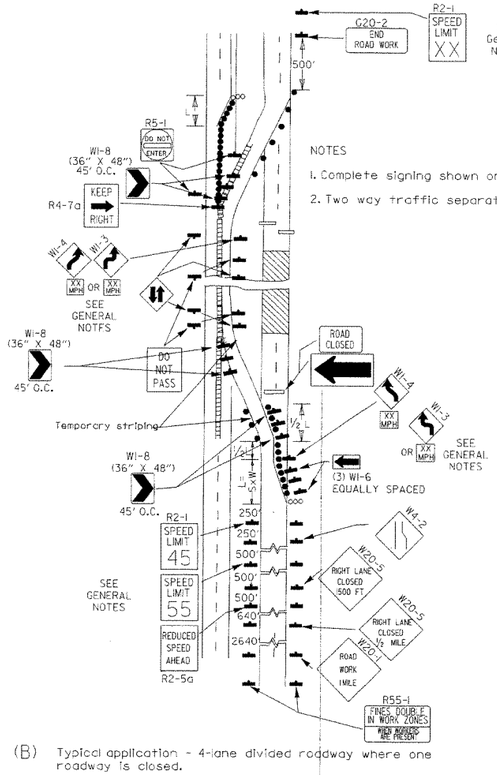
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



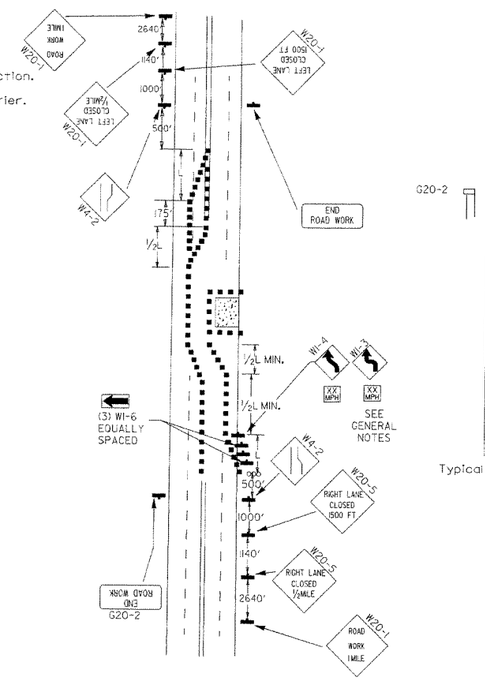
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.

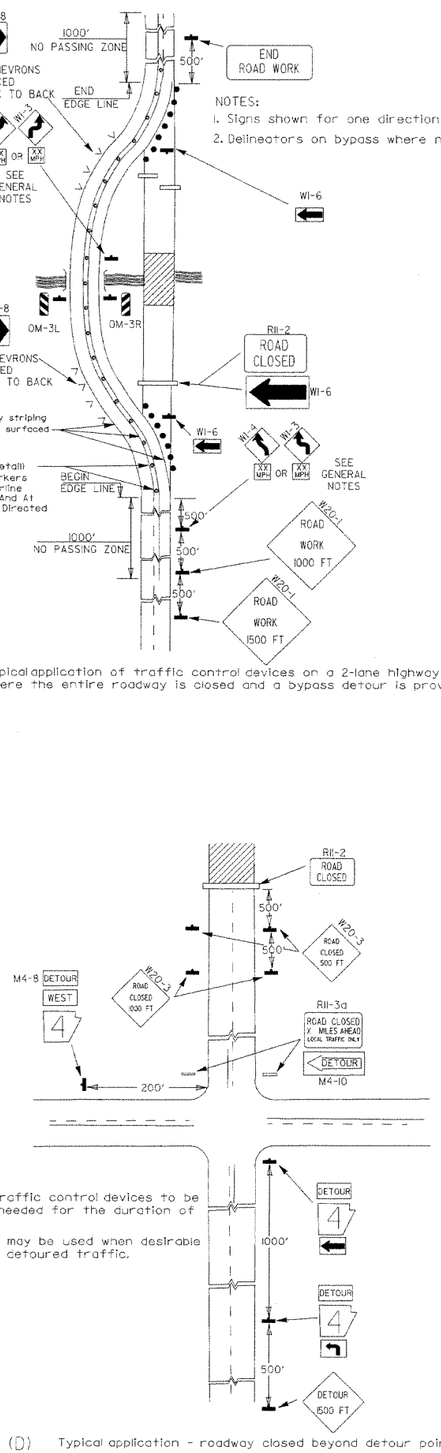


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

(B) Typical application - 4-lane divided roadway where one roadway is closed.

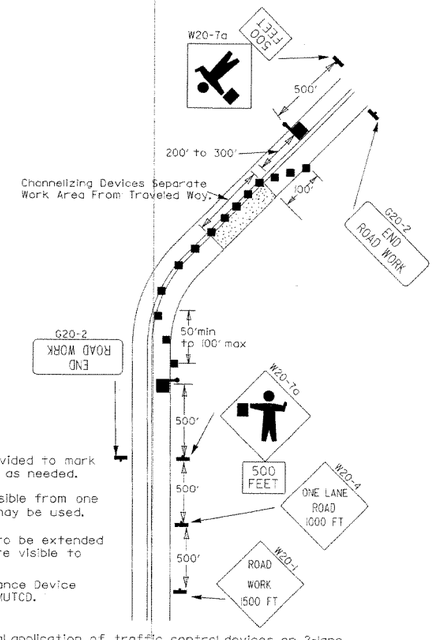


(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



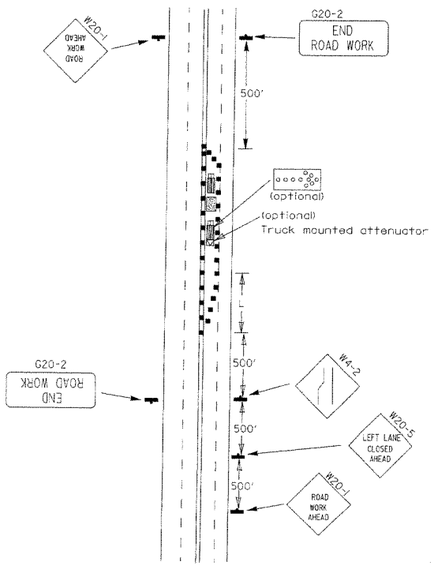
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

(D) Typical application - roadway closed beyond detour point.

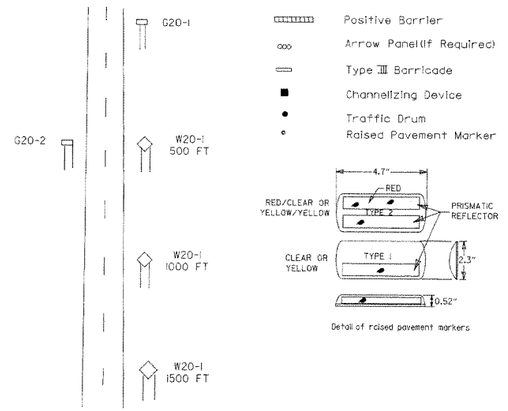


NOTES:
1. Flood lights should be provided to mark flagger stations at night as needed.
2. If entire work area is visible from one station, a single flagger may be used.
3. Channelizing devices are to be extended to a point where they are visible to approaching traffic.
4. Automated Flagger Assistance 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.



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:

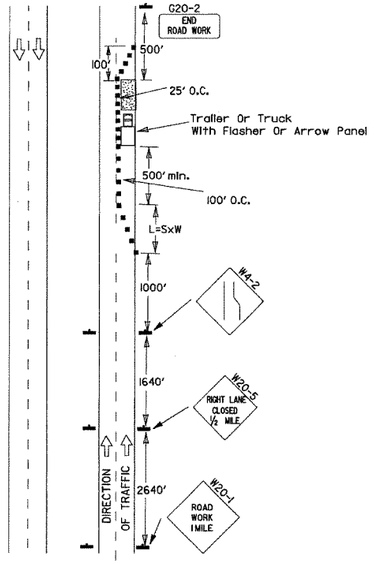
1. Advisory speed posted on WI-3 or WI-4 curve warning signs to be determined at site. Use WI-4 when speed is greater than 30mph and WI-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed 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. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

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

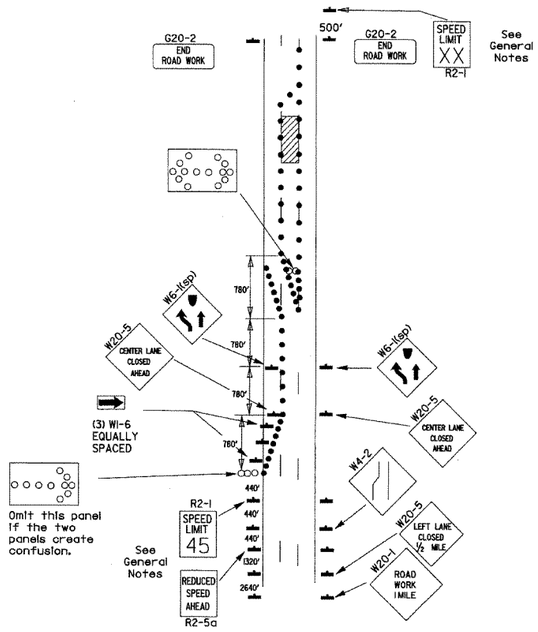
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

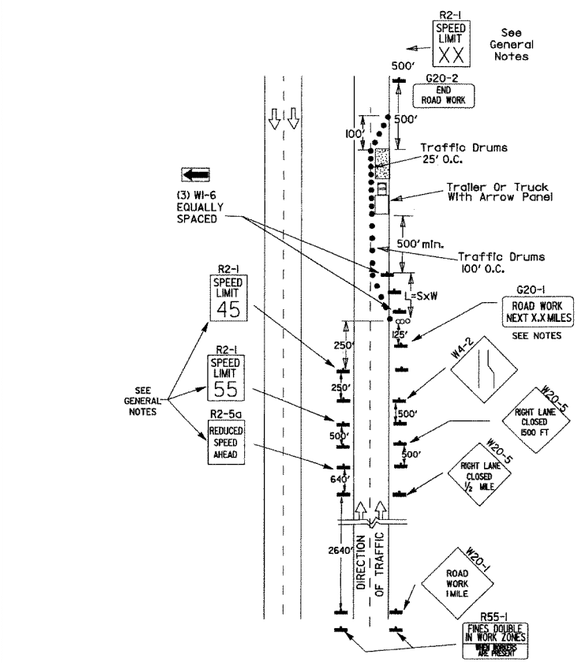
STANDARD DRAWING TC-2



(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.



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

KEY:

ooo Arrow Panel (If Required)

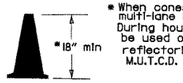
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

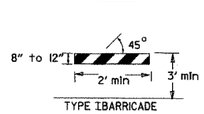
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 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.

Channelizing devices

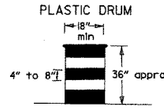


CONES

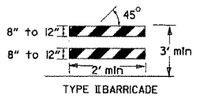
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.



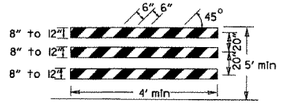
TYPE I BARRICADE



PLASTIC DRUM

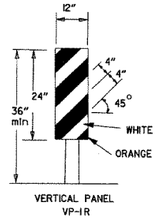


TYPE II BARRICADE



TYPE III BARRICADE

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



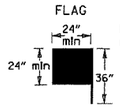
VERTICAL PANEL
VP-1R

TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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

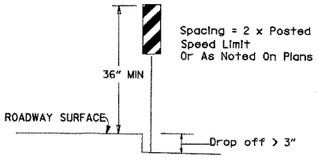
* When shown on the plans concrete barrier will be used.

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

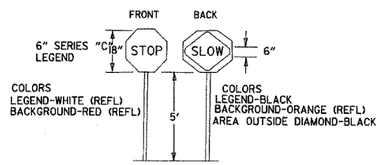


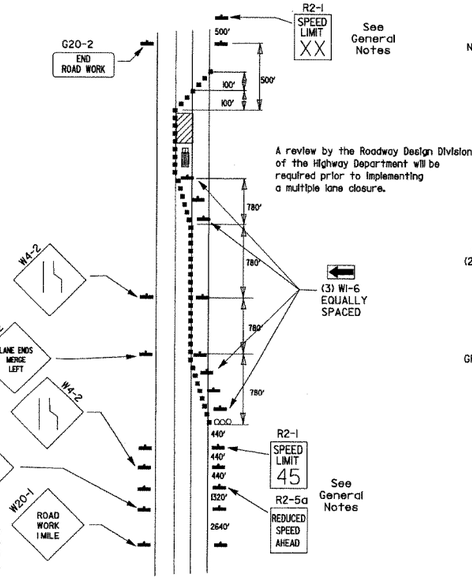
Flag shall be of good grade red material

VERTICAL PANEL PLACEMENT



STOP SLOW PADDLE





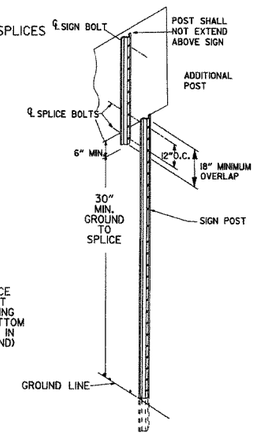
(D) Typical application - closing multiple lanes of a multilane highway.

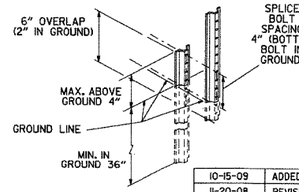
NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

DETAIL OF SPLICES





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

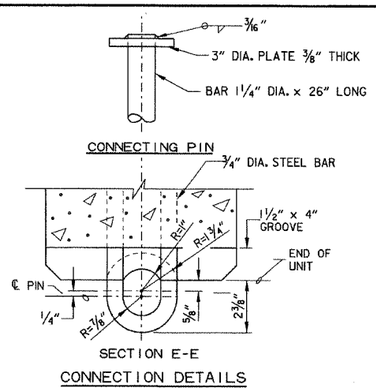
ARKANSAS STATE HIGHWAY COMMISSION

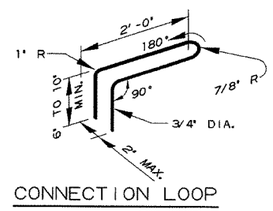
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

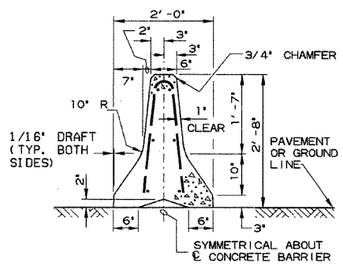
STANDARD DRAWING TC-3

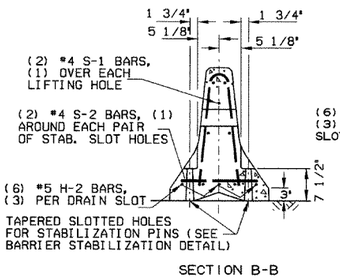
REINFORCING BAR TABLE PER BARRIER UNIT

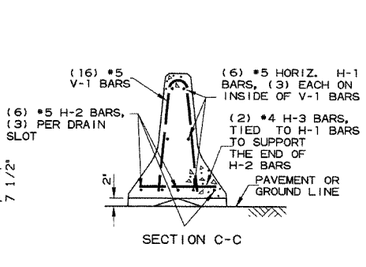
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ.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

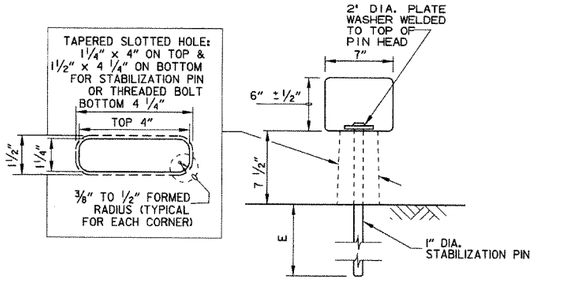






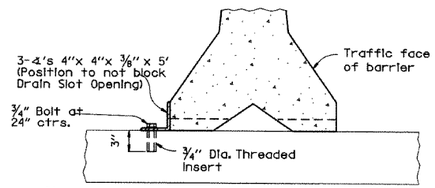






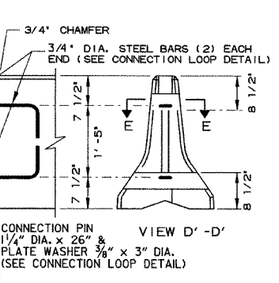
ROADWAY SECTION

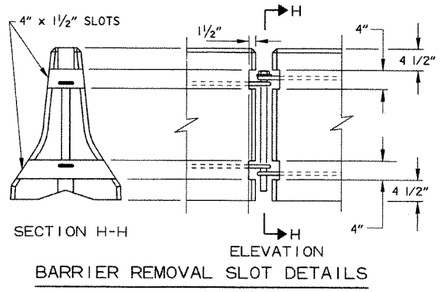
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas

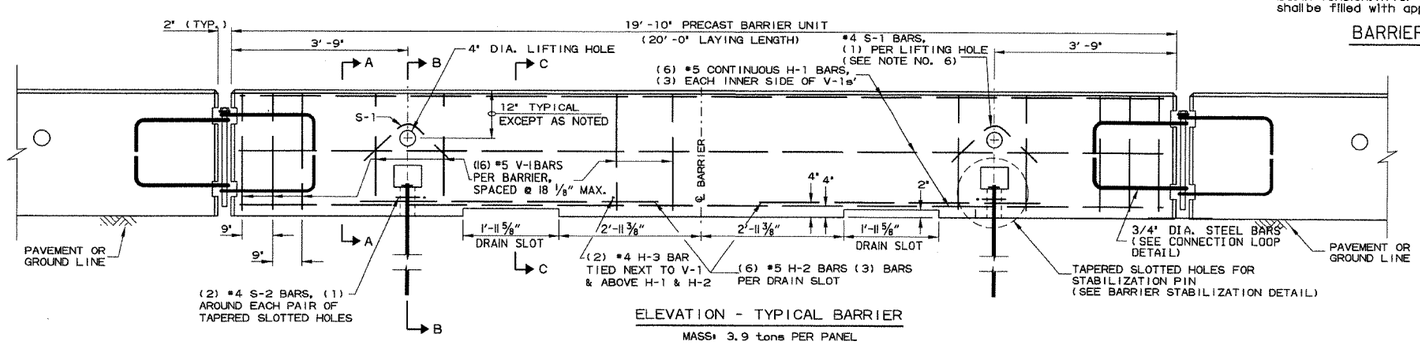


NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the Inserts shall be filled with approved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

BRIDGE DECKS







ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

BARRIER STABILIZATION DETAIL

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.

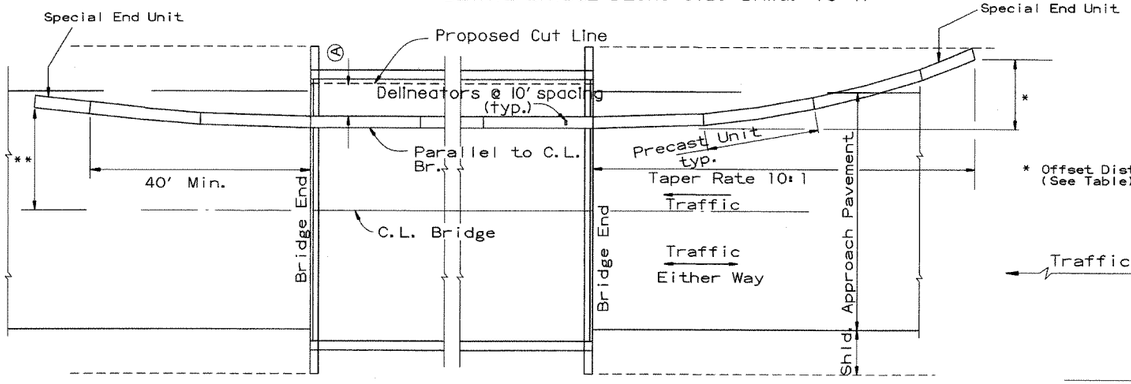
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

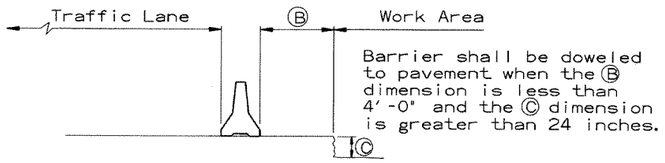
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



* Offset Distance (See Table)

BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

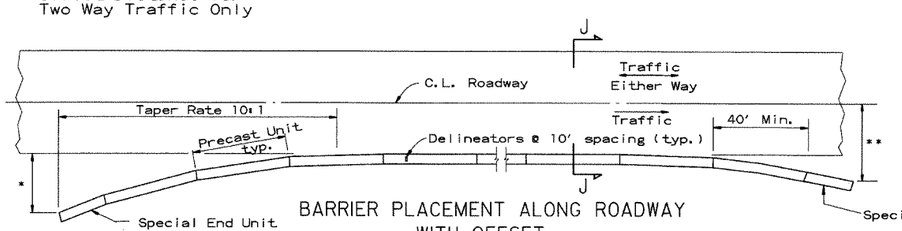


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

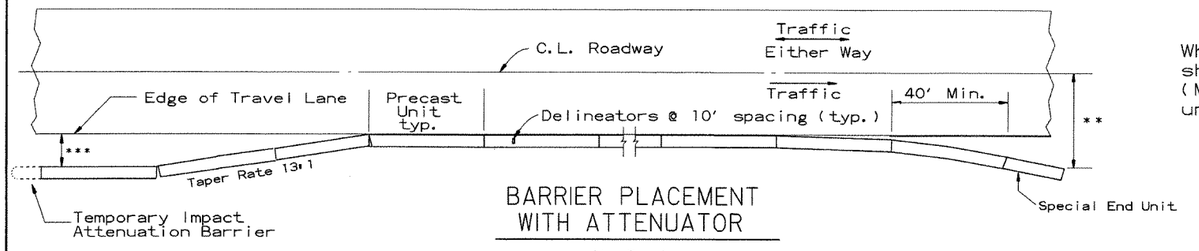
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

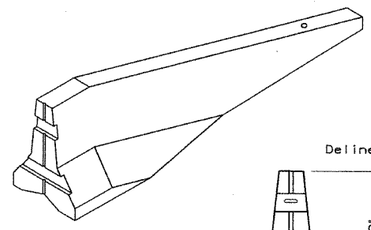


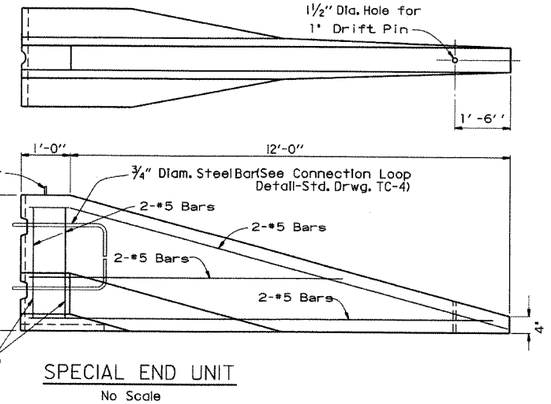
BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** 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	

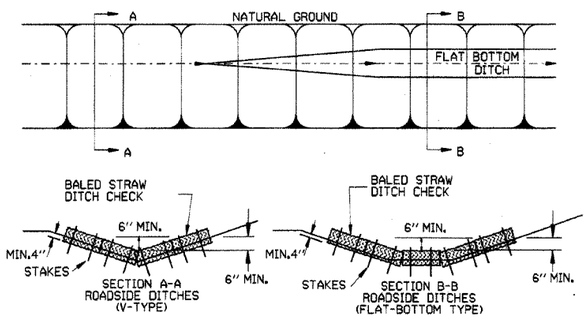
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

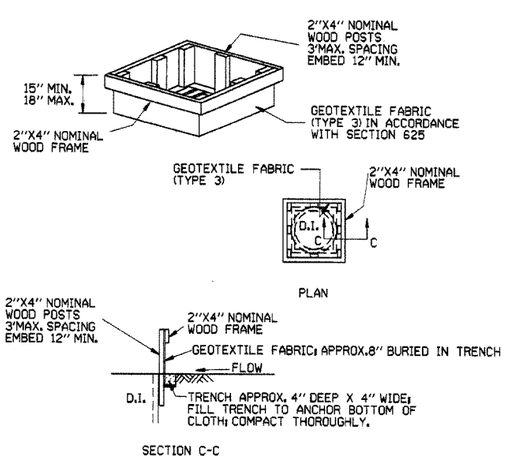
STANDARD DRAWING TC-5

GENERAL NOTES

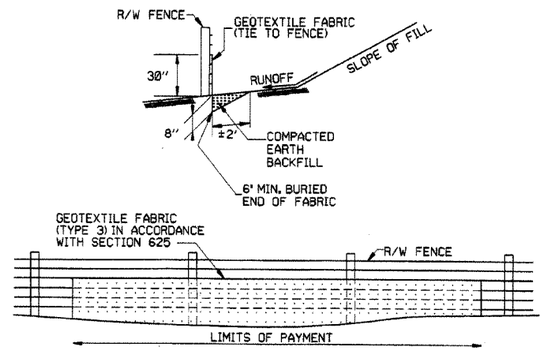
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. STRAW BALES SHALL BE KEYED INTO SOIL A MINIMUM OF 4' AND NO GAPS SHALL BE LEFT BETWEEN BALES.



BALED STRAW DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



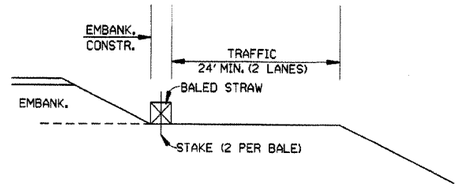
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

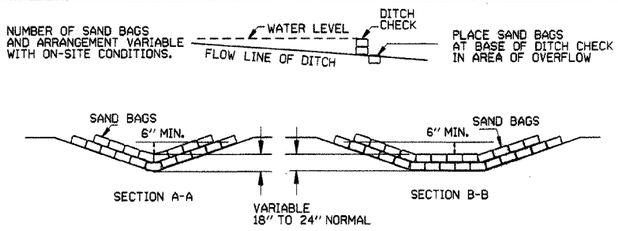
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

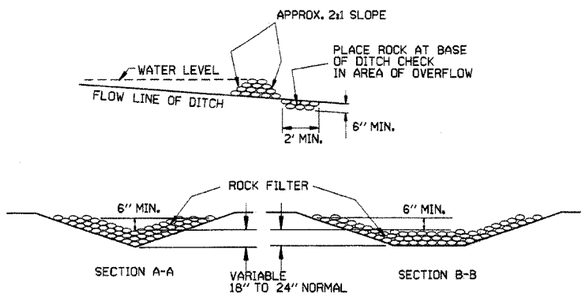
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED 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.



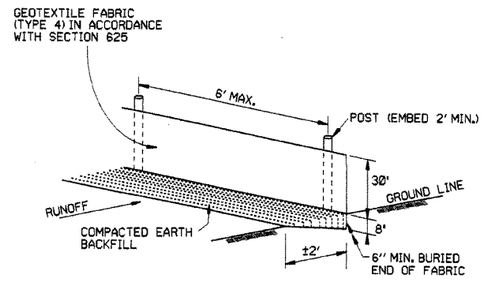
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

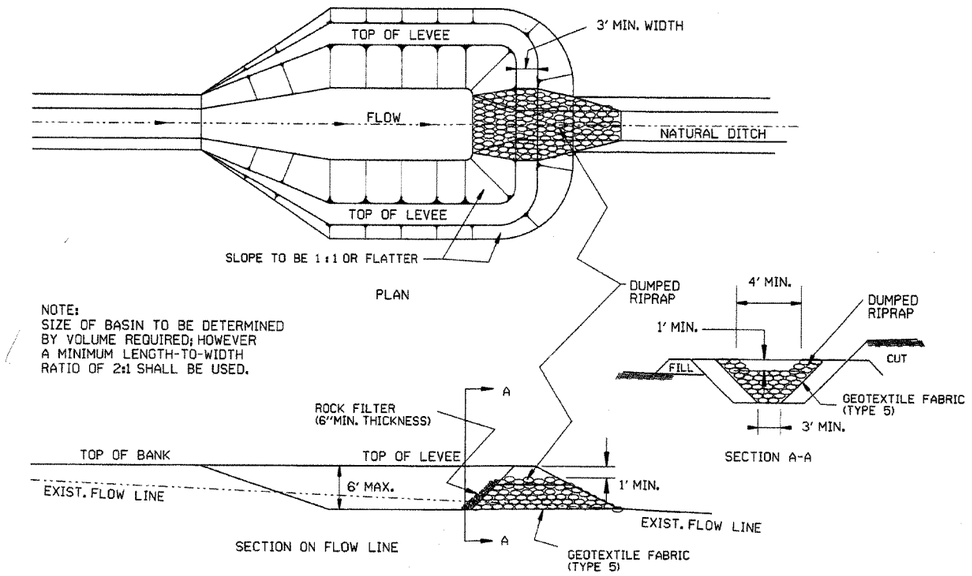
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
11-18-98	ADDED NOTES	11-18-98
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

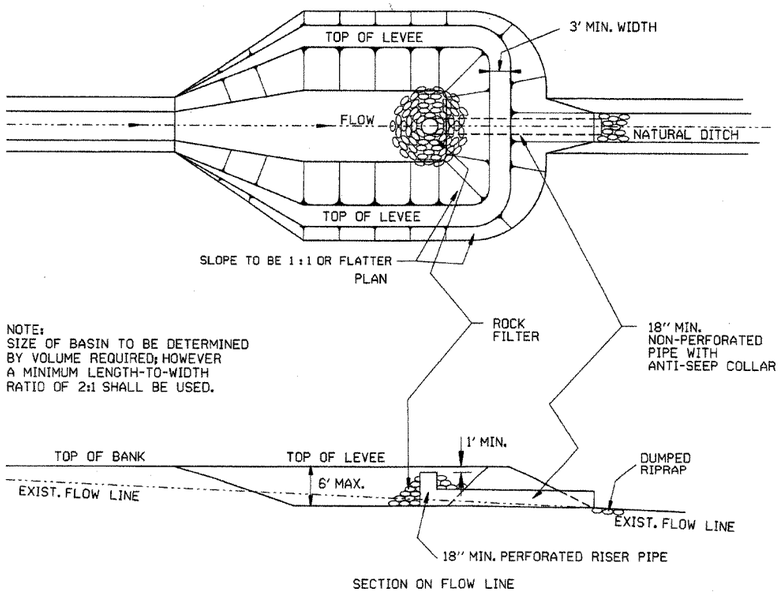
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

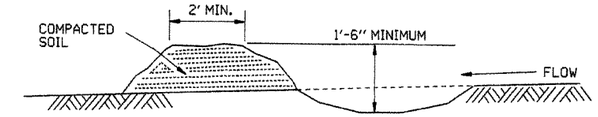
STANDARD DRAWING TEC-1



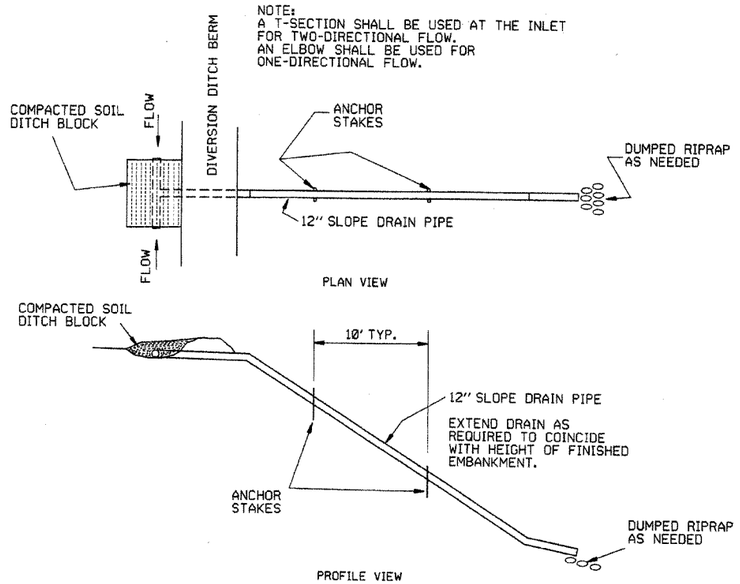
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



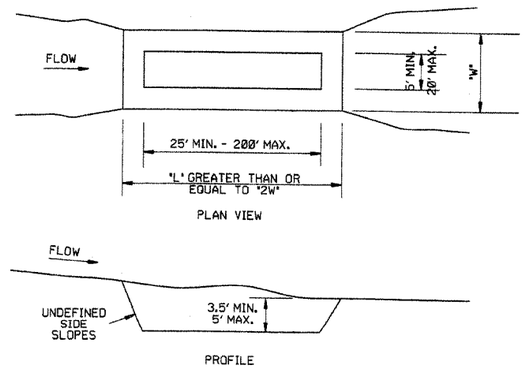
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

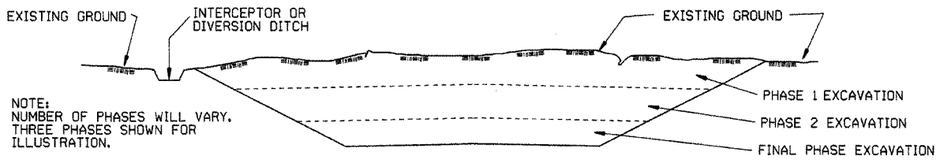
STANDARD DRAWING TEC-2

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



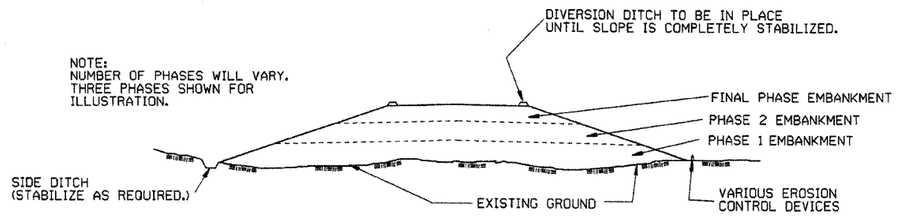
GENERAL NOTE

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.

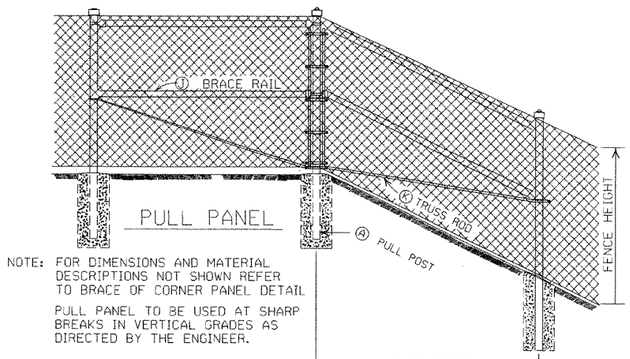
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

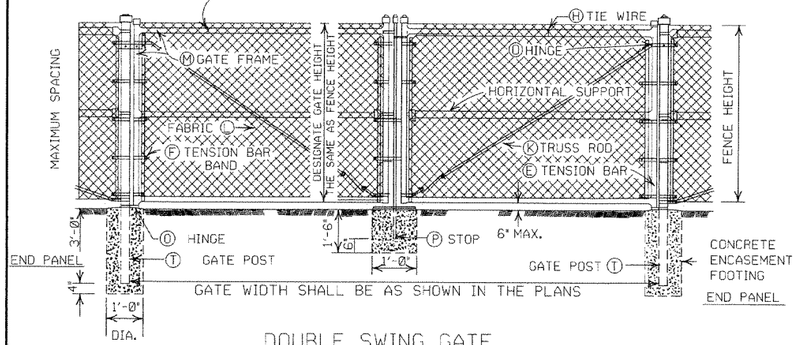
stdtec3.dgn



PULL PANEL

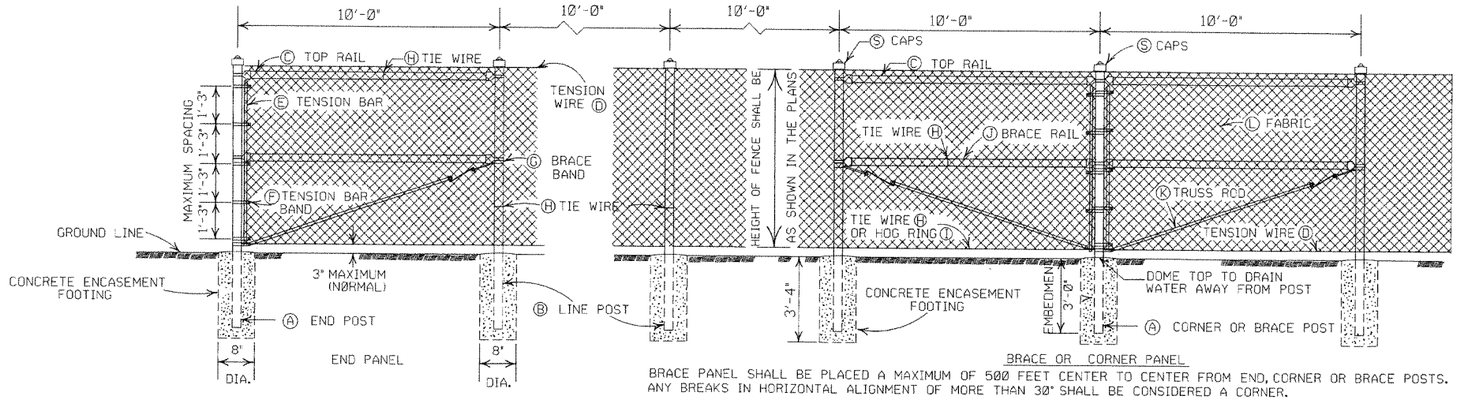
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



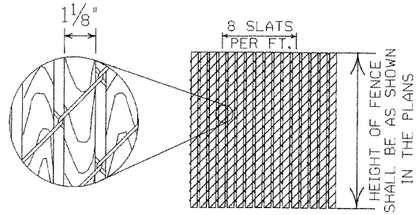
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

GENERAL NOTES:

(C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.

(D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.

(J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

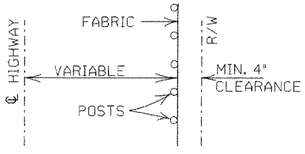
HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ⅜" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3" O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE TYPE 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK-ING AND/OR TWIST-ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12', END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

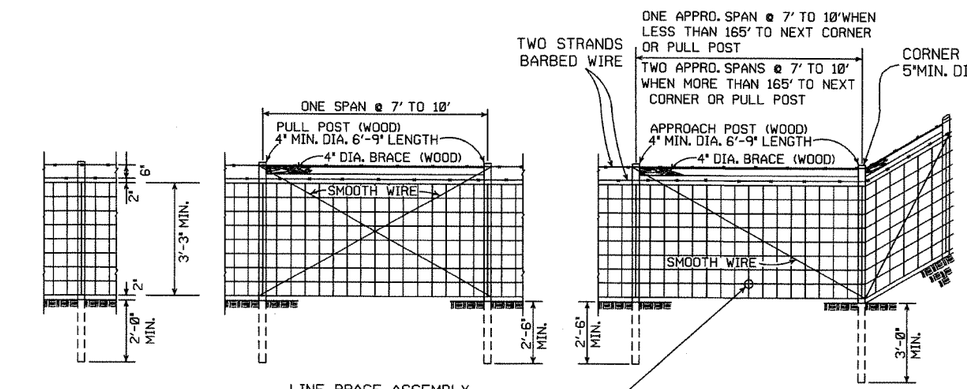
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

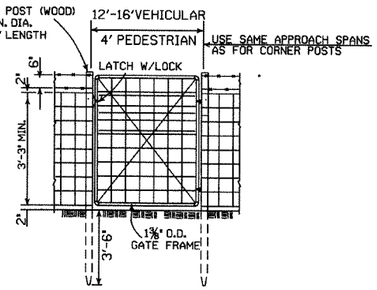
CHAIN LINK FENCE

STANDARD DRAWING WF-3



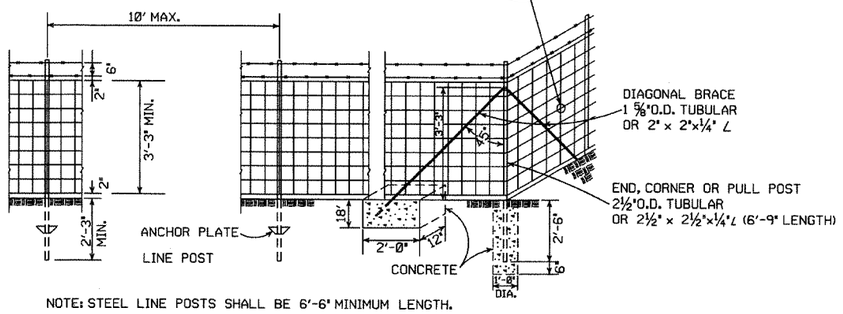
LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"

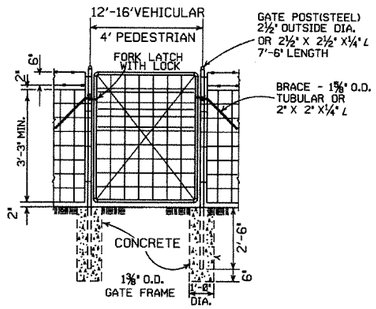
LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'



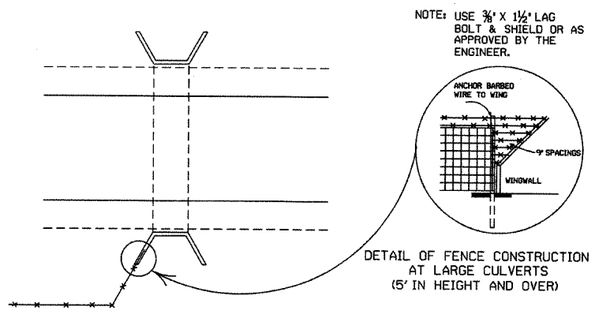
TYPE C FENCE (WOOD POSTS)

OTHER APPROVED TIES WILL BE PERMITTED





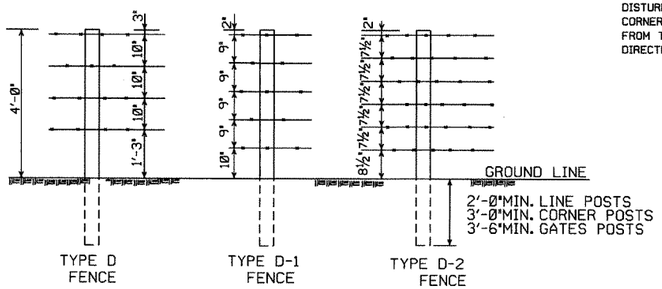
NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.



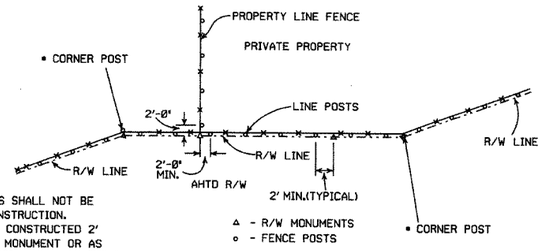
DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

TYPE C FENCE (STEEL POSTS)

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

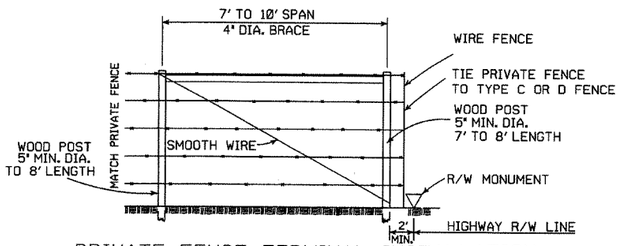


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



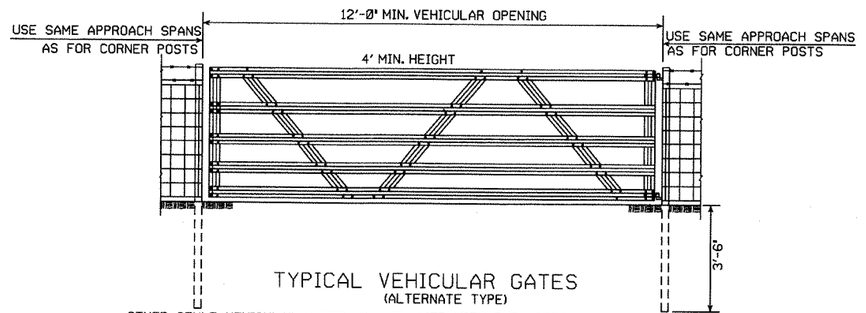
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

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



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

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

GENERAL NOTES:

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

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

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

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

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

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

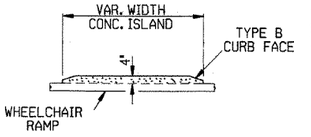
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

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

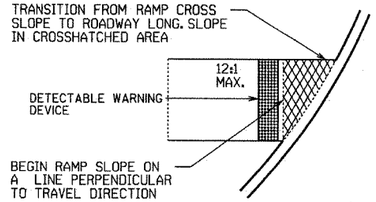
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4



CONCRETE ISLAND DETAIL



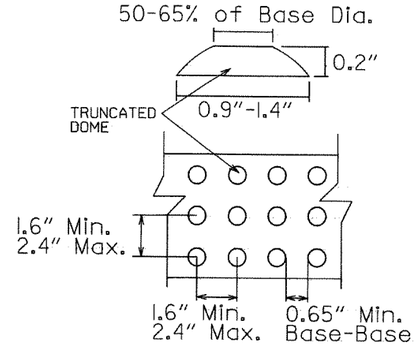
SLOPE TRANSITION DETAILS

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

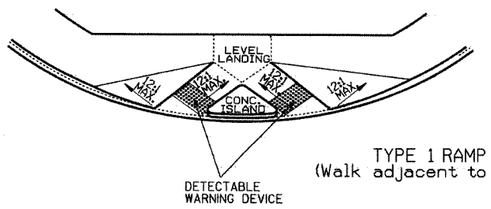
RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

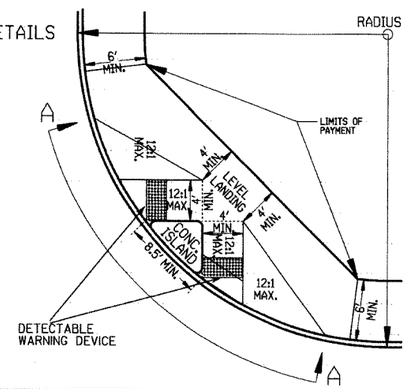
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

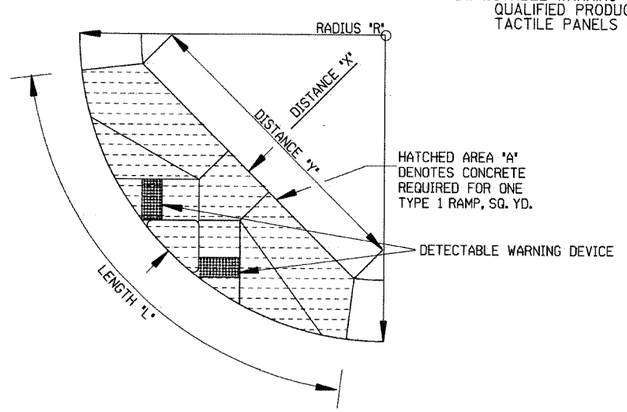


DETECTABLE WARNING DEVICE DETAIL



TYPE 1 RAMP
(Walk adjacent to curb)



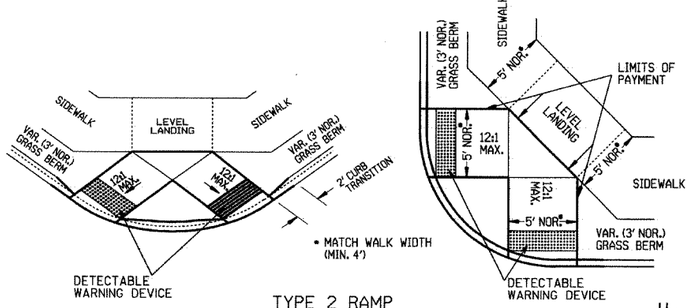


SECTION A-A

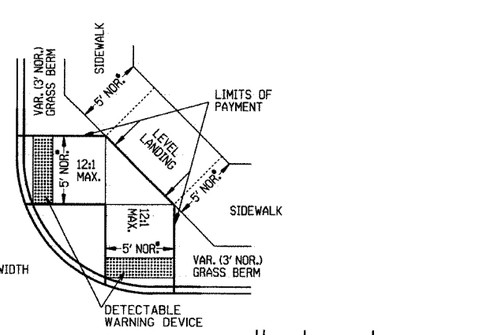
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

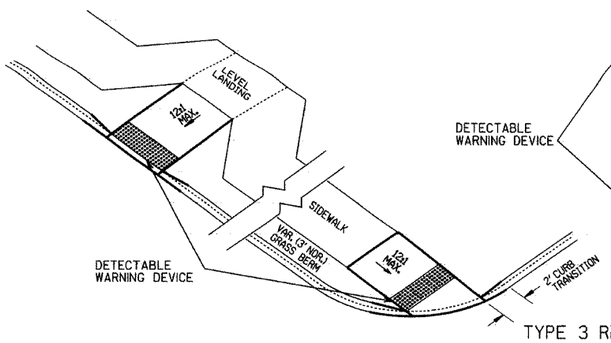
GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

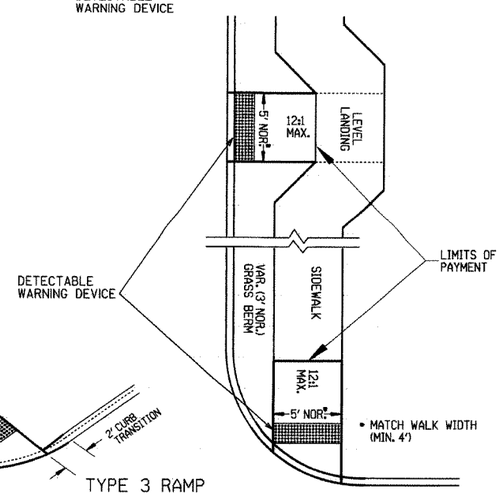


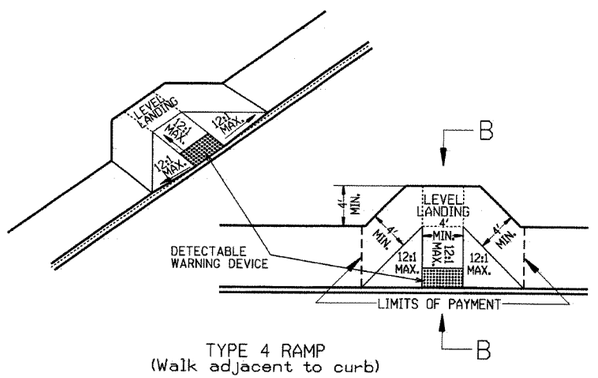
TYPE 2 RAMP



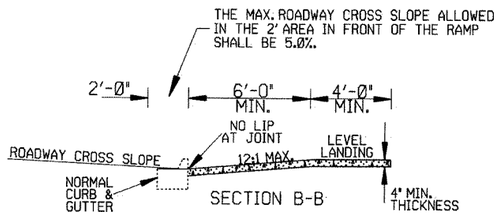


TYPE 3 RAMP





TYPE 4 RAMP
(Walk adjacent to curb)



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.
AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

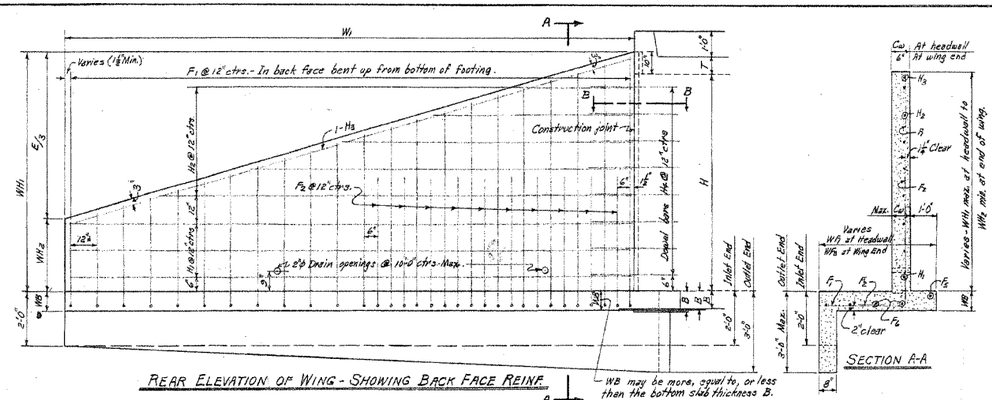
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
8-18-98	REVISED NOTES	
6-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8:1TO12:1MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76
DATE	REVISION	DATE FILM

ARKANSAS STATE HIGHWAY COMMISSION

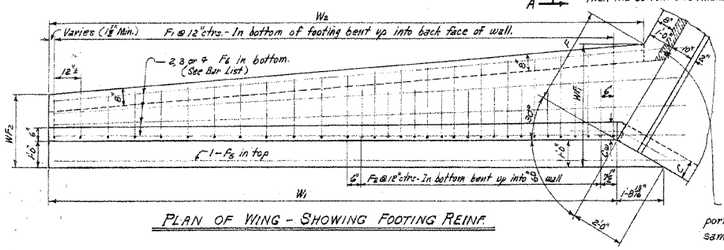
WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

STANDARD DRAWING WR-1

FED. ROAD DIV.	STATE	FED. AID PROJECT		SHEET NO.	TOTAL SHEETS
6	ARK.			63	
JOB NO.					



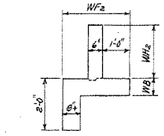
REAR ELEVATION OF WING - SHOWING BACK FACE REINF.



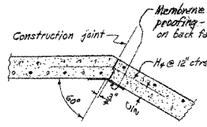
PLAN OF WING - SHOWING FOOTING REINF.

SECTION A-A

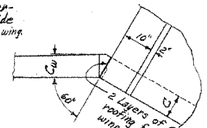
When B is more than WB, the shaded portion of the apron shall be made the same thickness as the barrel base B.



END VIEW OF WING



SECTION B-B THRU CONSTRUCTION JOINT



DETAIL AT TOP OF WING

Note:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	WINGWALL HEIGHTS: AT HEADWALL = C	WINGWALL HEIGHTS: AT HEADWALL	WINGWALL HEIGHTS: AT END OF WING	WIDTHS OF WING FOOTINGS: AT HEADWALL	WIDTHS OF WING FOOTINGS: AT END OF WING	PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR DIST. FROM HDWL. TO END OF WING	LENGTH OF WING WALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING: CLASS S CONCRETE: INLET END	* QUANTITY PER WING: CLASS S CONCRETE: OUTLET END
H	WB	C_W	WH_1	WH_2	W_{F5}	W_{F6}	F	E	W_1	W_2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-9"	2'-0"	0'-11⅜"	6'-6"	7'-6"	7'-1⅝"	0.889	0.986
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1⅝"	1'-0⅜"	8'-6"	9'-0⅜"	9'-2⅝"	1.338	1.466
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-3"	10'-6"	12'-1⅜"	12'-1⅝"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4⅝"	2'-1⅜"	12'-6"	14'-5⅝"	14'-7⅝"	2.979	2.668
		7"	5'-11"	1'-8"	3'-5"	2'-5⅛"	2'-1⅜"	12'-6"	14'-5⅝"	14'-7⅝"	2.982	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-4⅝"	14'-6"	16'-3"	17'-1⅝"	3.940	3.661
		7⅝"	6'-10"	2'-0"	3'-8"	2'-6"	2'-4⅝"	14'-6"	16'-3"	17'-1⅝"	3.811	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-4⅝"	14'-6"	16'-3"	17'-1⅝"	3.582	3.803
7'	8⅝"	7⅝"	7'-10"	2'-4"	4'-2"	2'-7⅝"	3'-1⅛"	16'-6"	19'-0⅝"	19'-0⅝"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7⅝"	3'-1⅛"	16'-6"	19'-0⅝"	19'-0⅝"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-3⅛"	18'-6"	21'-0⅝"	22'-0"	5.761	6.049

* Quantity per wing does not include headwall or that portion of apron or toewall for the length W_3.

APRON DIMENSION W_3

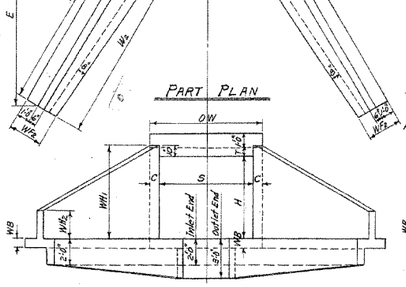
$W_3 = (CW - 2F)$

CLEAR SPAN	CLEAR HEIGHT	FOOTING DIMENSION	SINGLE BARREL CULVERT: OW	SINGLE BARREL CULVERT: W_3	DOUBLE BARREL CULVERT: OW	DOUBLE BARREL CULVERT: W_3	TRIPLE BARREL CULVERT: OW	TRIPLE BARREL CULVERT: W_3	QUADRUPLE BARREL CULVERT: OW	QUADRUPLE BARREL CULVERT: W_3	QUINTUPLE BARREL CULVERT: OW	QUINTUPLE BARREL CULVERT: W_3
S	H	2F	OW	W_3	OW	W_3	OW	W_3	OW	W_3	OW	W_3
4'	2'	1'-11½"	5'-0"	3'-0½"	9'-8"	7'-8½"	14'-4"	12'-4½"	19'-0"	17'-0½"	23'-8"	21'-8½"
	3'	2'-8⅜"	5'-0"	2'-3⅝"	9'-8"	6'-11⅛"	14'-4"	11'-7⅞"	19'-0"	16'-3⅝"	23'-8"	20'-11⅝"
	4'	3'-6"	5'-0"	1'-6"	9'-5"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-2"
	5"	4'-3⅜"	5'-0"	0'-8⅝"	9'-8"	5'-4⅛"	14'-4"	10'-0⅝"	19'-0"	14'-8⅛"	23'-8"	19'-4⅝"
	6'	5'-0⅞"	5'-2"	0'-1⅛"	9'-11"	4'-10⅛"	14'-8"	9'-7⅛"	19'-5"	14'-4⅛"	24'-2"	19'-1⅛"
5'	3'	2'-8⅜"	6'-0"	3'-3⅜"	11'-8"	8'-11⅛"	17'-4"	14'-7⅛"	23'-0"	20'-3⅛"	28'-8"	25'-11⅛"
	4'	3'-6"	6'-0"	2'-6"	11'-9"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3⅜"	6'-0"	1'-8⅝"	11'-8"	7'-4⅛"	17'-4"	13'-0⅝"	23'-0"	18'-8⅛"	28'-8"	24'-4⅝"
	6'	5'-0⅞"	6'-2"	1'-1⅛"	11'-11"	6'-10⅛"	17'-8"	12'-7⅛"	23'-5"	18'-4⅛"	29'-2"	24'-1⅛"
	7'	6'-2⅝"	6'-3"	0'-0⅝"	12'-1"	5'-10⅝"	17'-11"	11'-8⅝"	23'-9"	17'-6⅝"	29'-7"	23'-4⅝"
6'	3'	2'-8⅜"	7'-0"	4'-3⅜"	13'-8"	10'-11⅛"	20'-4"	17'-7⅛"	27'-0"	24'-3⅛"	33'-8"	30'-11⅛"
	4'	3'-6"	7'-0"	3'-6"	13'-8"	10'-2"	20'-4"	16'-10"	27'-0"	23'-6"	33'-8"	30'-2"
	5"	4'-3⅜"	7'-0"	2'-8⅝"	13'-9"	9'-4⅛"	20'-4"	16'-0⅝"	27'-0"	22'-8⅛"	33'-8"	29'-4⅝"
	6'	5'-0⅞"	7'-2"	2'-1⅛"	13'-11"	8'-10⅛"	20'-8"	15'-7⅛"	27'-5"	22'-4⅛"	34'-2"	29'-1⅛"
	7'	6'-2⅝"	7'-3"	1'-0⅝"	14'-1"	7'-10⅝"	20'-11"	14'-8⅝"	27'-9"	21'-6⅝"	34'-7"	28'-4⅝"
	8"	7'-4"	7'-4"	0'-0"	14'-2"	6'-10"	21'-0"	13'-8"	27'-10"	20'-6"	34'-8"	27'-6"
7'	4'	3'-6"	8'-0"	4'-6"	15'-8"	12'-2"	23'-4"	19'-10"	31'-0"	27'-6"	38'-8"	35'-2"
	5"	4'-3⅜"	8'-0"	3'-8⅝"	15'-8"	11'-4⅛"	23'-4"	19'-0⅝"	31'-0"	26'-8⅛"	38'-8"	34'-4⅝"
	6'	5'-0⅞"	8'-2"	3'-1⅛"	15'-11"	10'-10⅛"	23'-8"	18'-7⅛"	31'-5"	26'-4⅛"	39'-2"	34'-1⅛"
	7'	6'-2⅝"	8'-3"	2'-0⅝"	16'-1"	9'-10⅝"	23'-11"	17'-8⅝"	31'-9"	25'-6⅝"	39'-7"	33'-4⅝"
	8"	7'-4"	8'-4"	1'-0"	16'-2"	8'-10"	24'-0"	16'-8"	31'-10"	24'-6"	39'-8"	32'-6"
8'	4'	3'-6"	9'-0"	5'-6"	17'-8"	14'-2"	26'-4"	22'-10"	35'-0"	31'-6"	43'-8"	40'-2"
	5"	4'-3⅜"	9'-2"	4'-10⅝"	17'-11"	13'-7⅛"	26'-8"	22'-0⅛"	35'-5"	31'-1⅛"	44'-2"	39'-10⅝"
	6'	5'-0⅞"	9'-2"	4'-1⅛"	17'-11"	12'-10⅛"	26'-8"	21'-1⅞"	35'-5"	30'-1⅛"	44'-2"	38'-11⅛"
	7'	6'-2⅝"	9'-3"	3'-0⅝"	18'-1"	11'-10⅝"	26'-11"	20'-2⅝"	35'-9"	29'-6⅝"	44'-7"	38'-4⅝"
	8'	7'-4"	9'-4"	2'-0"	18'-2"	10'-10"	27'-0"	19'-2"	35'-10"	28'-6"	44'-8"	37'-6"
9'	5'	4'-3⅜"	10'-5"	5'-10⅝"	19'-11"	15'-7⅛"	29'-5"	25'-4⅛"	39'-5"	35'-1⅛"	49'-2"	44'-10⅝"
	6'	5'-0⅞"	10'-3"	5'-2⅛"	20'1"	15'-0⅛"	29'-11"	24'-6⅛"	39'-9"	34'-3⅛"	49'-7"	44'-1⅛"
	7'	6'-2⅝"	10'-3"	4'-1⅝"	20'1"	13'-10⅝"	29'-11"	23'-4⅝"	39'-9"	33'-1⅝"	49'-7"	43'-0⅝"
	8'	7'-4"	10'-4"	3'-0"	20'-2"	12'-10"	30'-0"	22'-2"	39'-10"	32'-0"	49'-8"	41'-8"
10'	5'	4'-3⅜"	11'-2"	6'-10⅝"	21'-11"	17'-7⅛"	32'-6"	28'-4⅛"	43'-5"	39'-1⅛"	54'-2"	49'-10⅝"
	6'	5'-0⅞"	11'-3"	6'-2⅛"	22'-0"	17'-0⅛"	32'-11"	27'-10⅛"	43'-9"	38'-3⅛"	54'-7"	49'-1⅛"
	7'	6'-2⅝"	11'-3"	5'-1⅝"	22'-1"	15'-10⅝"	32'-11"	26'-8⅝"	43'-11"	37'-1⅝"	54'-7"	47'-10⅝"
	8'	7'-4"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-8"	43'-10"	36'-0"	54'-8"	46'-8"
11'	6'	5'-0⅞"	12'-4"	7'-3⅛"	24'-2"	19'-1⅛"	36'-0"	30'-1⅛"	47'-10"	42'-3⅛"		
	7'	6'-2⅝"	12'-4"	6'-1⅝"	24'-2"	17'-11⅝"	36'-0"	29'-0⅝"	47'-10"	41'-1⅝"		
	8'	7'-4"	12'-5"	5'-0"	24'-3"	16'-10"	36'-0"	28'-8"	47'-11"	40'-6"		
12'	6'	5'-0⅞"	13'-0"	8'-3⅛"	26'-2"	21'-1⅛"	39'-0"	33'-1⅛"	51'-10"	46'-3⅛"		
	7'	6'-2⅝"	13'-0"	7'-1⅝"	26'-2"	19'-11⅝"	39'-0"	32'-0⅝"	51'-10"	45'-1⅝"		
	8'	7'-4"	13'-0"	6'-0"	26'-2"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WINGS AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING ® - STEEL - LBS.	CLASS S CONCRETE - 4 WINGS: HEADWALLS, WINGWALLS, FOOTINGS, TOE WALLS AND APRONS: SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	C_W		LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	108.0	4.50	5.46	6.42	7.38	8.34
	3'	6"	7"	164.9	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	225.6	8.33	9.28	10.24	11.20	12.16
	5'	6"	7"	283.8	10.72	11.68	12.64	13.60	14.56
	6'	7"	8"	583.1	14.55	15.53	16.52	17.51	18.49
5'	3'	6"	7"	164.9	6.97	7.68	8.79	9.96	11.12
	4'	6"	7"	225.6	8.54	9.70	10.87	12.03	13.20
	5'	6"	7"	357.8	10.96	12.10	13.26	14.43	15.59
	6'	7"	8"	583.1	14.77	16.36	17.15	18.34	19.54
	7'	7⅞"	8⅝"	1139.6	18.94	20.15	21.37	22.59	23.80
6'	3'	6"	7"	164.9	6.68	8.06	9.42	10.80	12.18
	4'	6"	7"	225.6	8.75	10.14	11.49	12.87	14.25
	5'	6"	7"	357.8	11.15	12.53	13.89	15.27	16.65
	6'	7"	8"	583.1	14.98	16.39	17.78	19.18	20.59
	7'	7⅞"	8⅝"	1139.6	19.15	20.58	22.00	23.43	24.86
	8'	8"	9"	1425.6	24.09	25.53	26.96	28.39	29.83
7'	4'	6"	7"	225.6	8.97	10.58	12.15	13.76	15.35
	5'	7"	7"	357.8	11.36	12.97	14.58	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7⅞"	8⅝"	1139.6	19.38	21.02	22.67	24.29	25.92
	8'	8"	9"	1425.6	24.32	25.97	27.60	29.25	30.89
8'	4'	6"	7"	225.6	9.19	11.03	12.82	14.65	16.45
	5'	7"	7"	357.8	12.03	13.89	15.70	17.55	19.36
	6'	7"	8"	583.1	15.92	17.27	19.09	20.93	22.75
	7'	7⅞"	8⅝"	1139.6	19.59	21.96	23.30	25.16	26.99
	8'	8"	9"	1425.6	24.52	26.91	28.29	30.11	31.96
9'	5'	7"	7"	357.8	12.86	14.99	16.87	18.95	20.97
	6'	7⅞"	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7⅞"	8⅝"	1139.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	1425.6	24.76	26.86	28.91	31.00	33.05
10'	5'	7"	7"	357.8	12.49	14.80	17.05	19.26	21.52
	6'	7⅞"	8"	583.1	16.17	18.50	20.77	22.99	25.28
	7'	7⅞"	8⅝"	1139.6	20.04	22.37	24.64	26.87	29.15
	8'	8"	9"	1425.6	24.98	27.31	29.58	31.81	34.10
11'	6'	8"	8"	583.1	16.69	19.27	21.76	24.23	
	7'	8"	8⅝"	1139.6	20.64	23.22	25.71	28.18	
	8'	8"	9"	1425.6	25.19	27.77	30.27	32.74	
12'	6'	8"	8"	583.1	16.92	19.75	22.95	25.18	
	7'	8"	8⅝"	1139.6	20.87	23.69	26.90	29.13	
	8'	8"	9"	1425.6	25.42	28.25	30.96	33.69	

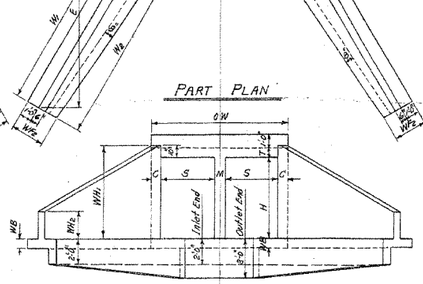
® For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.



PART PLAN

END ELEVATION

SINGLE BARREL CULVERT

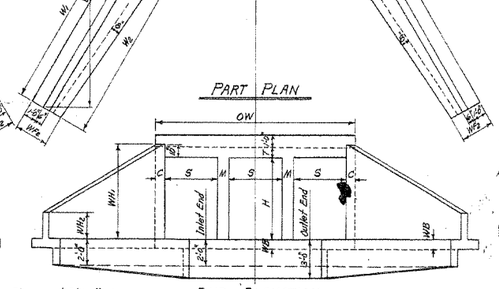


PART PLAN

END ELEVATION

DOUBLE BARREL CULVERT

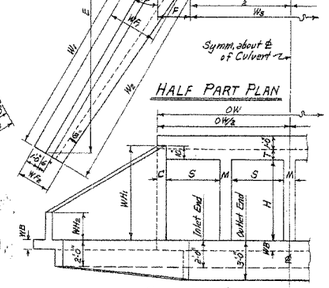
NOTE:- Plans and Elevations are not to scale.



PART PLAN

END ELEVATION

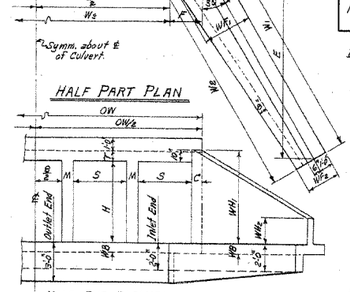
TRIPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

QUADRUPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

QUINTUPLE BARREL CULVERT

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

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT H	F_1 Bent: In bottom of footing, bent up into back face of wing. One bar of each length. SIZE	SPACING	NO. REQ'D	LENGTHS VARY X MIN.	X MAX.	Y MIN.	Y MAX.	F_2 Bent: In bottom of footing, bent up into back face of wing. Alt. with F_1 bars. SIZE	SPACING	NO. REQ'D	LENGTH	X	Y	F_3 Straight: Longitudinal in top of wing footing heel. SIZE	NO. REQ'D	LENGTH	F_4 Straight: Longitudinal in bottom of wing footing toe. SIZE	NO. REQ'D	LENGTH	H_1 Horizontal in back face of wing. SIZE	SPACING	NO. REQ'D	LENGTH	H_2 Straight: Horizontal in back face of wing. One bar of each length. SIZE	SPACING	NO. REQ'D	LENGTHS VARY MAX.	MIN.	H_3 In back face of wing at top-on slope. SIZE	NO. REQ'D	LENGTH	H_4 Bent: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQ'D	LENGTH	X	QUANTITY REINFORCING STEEL PER WING LB.
2'	#3	12"	8	1'-6"	3'-10"	0'-8"	1'-0"	#3	12"	1	9'-8"	—	—	#3	1	9'-8"	#3	2	8'-6"	#5	12"	1	7'-2"	#3	12"	1	—	—	9'-0"	#8	1	7'-4"	#3	12"	2	2'-8"	1'-4"	27.0
3'	#3	12"	10	2'-2"	5'-2"	0'-10"	1'-3"	#3	12"	1	12'-0"	—	—	#3	2	11'-0"	#3	3	8'-6"	#5	12"	1	9'-6"	#3	12"	2	7'-6"	9'-0"	9'-0"	#8	1	9'-9"	#3	12"	3	2'-8"	1'-4"	41.1
4'	#3	12"	13	2'-9"	6'-6"	0'-11"	1'-7"	#3	12"	1	14'-9"	—	—	#3	3	13'-6"	#3	3	8'-6"	#5	12"	1	11'-10"	#3	12"	3	10'-11"	9'-0"	9'-0"	#3	1	12'-2"	#3	12"	4	2'-8"	1'-4"	63.7
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	#3	12"	4	3'-6"	1'-1"	2'-6"	#3	1	16'-8"	#3	3	16'-0"	#5	12"	2	14'-2"	#3	12"	3	10'-11"	4'-0"	9'-0"	#3	1	14'-7"	#3	12"	5	2'-8"	1'-4"	89.5
6'	#3	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	#3	12"	4	4'-6"	1'-6"	3'-3"	#3	1	19'-0"	#3	3	18'-6"	#3	12"	2	16'-6"	#3	12"	4	14'-4"	4'-0"	9'-0"	#3	1	17'-0"	#3	12"	6	2'-8"	1'-4"	145.8
7'	#4	12"	20	3'-9"	10'-8"	1'-3"	2'-9"	#4	12"	7	5'-6"	1'-7"	3'-9"	#4	1	21'-6"	#4	4	21'-0"	#5	12"	2	18'-9"	#4	12"	5	17'-9"	4'-0"	9'-0"	#4	1	19'-5"	#4	12"	7	3'-6"	1'-9"	283.7
8'	#4	12"	22	4'-6"	12'-3"	1'-5"	3'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	23'-8"	#4	4	23'-9"	#4	12"	3	21'-0"	#4	12"	5	17'-9"	4'-0"	9'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"	356.4

BAR BENDING DIAGRAMS

NOTE:- Dimensions are to bar centers.

Designed By:- W.C.H. 6-20-62 Checked By:-
Drawn By:- W.C.H. 12-9-62 Checked By:- R.H.S. 1-9-63
Quantities By:- W.C.H. 12-14-62 Checked By:- R.H.S. 1-30-63
Detailed By:- Checked By:- R.H.S. 2-25-63

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

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾ chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/#²

Reinforcing Steel 20,000#/#²

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

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

MVI.BR (3)

KESHOT 3-4-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			64	
JOB No.					

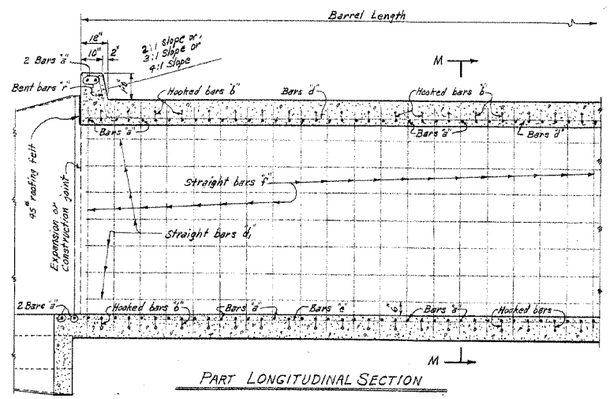
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"a" bars STRAIGHT In Top and Bottom Slabs of Barrel. 2 Add'l. in Apron and Headwall - Each. SIZE	"a" bars SPACING	"a" bars NUMBER REQ'D 3:1	"a" bars NUMBER REQ'D 4:1	"a" bars LENGTH	"b" bars BENT - See Diagram below. In Top and Bottom Slabs of Barrel. Alternate with "a" bars. SIZE	"b" bars SPACING	"b" bars NUMBER REQ'D 3:1	"b" bars NUMBER REQ'D 4:1	"b" bars LENGTH	"b" bars X	"d" bars STRAIGHT Longitudinal in Top Slab of Barrel SIZE	"d" bars SPACING	"d" bars No. REQ'D	"d" bars LENGTH	"d1" bars STRAIGHT Longitudinal in Sidewalls SIZE	"d1" bars SPACING	"d1" bars No. REQ'D	"d1" bars LENGTH	"e" bars. Longitudinal in Bottom Slab of Barrel SIZE	"e" bars. SPACING	"e" bars. NUMBER REQ'D	"e" bars. LENGTH	"f" bars STRAIGHT Verticals in Sidewalls SIZE	"f" bars SPACING	"f" bars NUMBER REQ'D 3:1	"f" bars NUMBER REQ'D 4:1	"f" bars LENGTH
0'-0" TO 5'-0" MAXIMUM	1 @ 4'	2'	#5	13"	120	120	4'-9"	#6	13"	110	110	5'-10"	4'-8"	#5	10½"	6		#4	12"	4				#4	12"	5		#4	12"	120	120	2'-11"
		3'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				6						5				120	120	3'-11"
		4'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				8						5				120	120	4'-11"
		5'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				10						5				120	120	5'-11"
		6'			120	120	4'-11"			110	110	6'-0"	4'-10"			6				12						5				120	120	6'-11"
	1 @ 5'	3'			120	120	5'-9"			110	110	6'-10"	5'-8"			7				6						6				120	120	4'-10"
		4'			120	120	5'-9"			110	110	6'-10"	5'-8"			7				8						6				120	120	5'-0"
		5'	#6	13"	120	120	5'-9"	#6	13"	110	110	6'-10"	5'-8"	#5	10½"	7		#4	12"	10				#4	12"	6		#4	12"	120	120	6'-0"
		6'			120	120	5'-11"			110	110	7'-0"	5'-10"			7				12						6				120	120	7'-0"
		7'			120	120	6'-0"			110	110	7'-1"	5'-11"			7				14						6				120	120	8'-0"
		3'			128	128	6'-9"			118	118	7'-10"	6'-8"			8				6						7				120	120	4'-1"
		4'			128	128	6'-9"			118	118	7'-10"	6'-8"			8				8						7				120	120	5'-1"
	1 @ 6'	5'	#6	12"	128	128	6'-9"	#6	12"	118	118	7'-10"	6'-8"	#5	10½"	8		#4	12"	10				#4	12"	7		#4	12"	120	120	6'-2"
		6'			128	128	6'-11"			118	118	8'-0"	6'-10"			8				12						7				120	120	7'-1"
		7'			128	128	7'-0"			118	118	8'-1"	6'-11"			8				14						7				120	120	8'-1"
		8'			128	128	7'-1"			118	118	8'-2"	7'-0"			8				16						7		#5	12"	120	120	9'-1"
		4'			140	140	7'-9"			130	130	8'-10"	7'-8"			9				8						8				120	120	5'-2"
		5'			140	140	7'-9"			130	130	8'-10"	7'-8"			9				10						8				120	120	6'-2"
	1 @ 7'	6'	#6	11"	140	140	7'-11"	#6	11"	130	130	9'-0"	7'-10"	#5	10½"	9		#4	12"	12				#4	12"	8		#4	12"	120	120	7'-2"
		7'			140	140	8'-0"			130	130	9'-1"	7'-11"			9				14						8				120	120	8'-2"
		8'			140	140	8'-1"			130	130	9'-2"	8'-0"			9				16						8		10"	144	144	9'-2"
		9'			140	140	8'-3"			130	130	9'-4"	8'-2"			9				18						8		#5	12"	120	120	10'-2"
		4'			128	128	8'-9"			118	118	9'-10"	8'-8"			11				8						9				120	120	5'-4"
		5'			128	128	8'-11"			118	118	10'-0"	8'-10"			11				10						9				120	120	6'-4"
	1 @ 8'	6'			128	128	8'-11"			118	118	10'-0"	8'-10"			11				12						9		#4	12"	120	120	7'-3"
		7'	#7	12"	128	128	9'-0"	#6	12"	118	118	10'-1"	8'-11"	#5	10"	11		#4	12"	14				#4	12"	9				120	120	8'-4"
		8'			128	128	9'-1"			118	118	10'-2"	9'-0"			11				16						9				10"	144	144	9'-4"
		9'			128	128	9'-3"			118	118	10'-4"	9'-2"			11				18						9				12"	120	120	10'-4"
		10'			128	128	9'-5"			118	118	10'-6"	9'-4"			11				20						9		#5	11"	132	132	11'-4"
		5'			140	140	9'-11"			130	130	11'-0"	9'-10"			12				10						10				120	120	6'-5"
		6'			140	140	10'-0"			130	130	11'-1"	9'-11"			12				12						10		#4	12"	120	120	7'-5"
		7'			140	140	10'-0"			130	130	11'-1"	9'-11"			12				14						10				120	120	8'-5"
	1 @ 9'	8'	#7	11"	140	140	10'-1"	#6	11"	130	130	11'-2"	10'-0"	#5	10"	12		#4	12"	16				#4	12"	10				10"	144	144	9'-5"
		9'			140	140	10'-3"			130	130	11'-4"	10'-2"			12				18						10				12"	120	120	10'-5"
		10'			140	140	10'-5"			130	130	11'-6"	10'-4"			12				20						10		#5	11"	132	132	11'-5"
		11'			140	140	10'-7"			130	130	11'-8"	10'-6"			12				22						10				10"	144	144	12'-5"
		5'			128	128	10'-11"			118	118	12'-2"	10'-10"			13				10						11				120	120	6'-6"
		6'			128	128	11'-0"			118	118	12'-3"	10'-11"			13				12						11		#4	12"	120	120	7'-6"
	1 @ 10'	7'			128	128	11'-0"			118	118	12'-3"	10'-11"			13				14						11				120	120	8'-6"
		8'	#7	12"	128	128	11'-1"	#7	12"	118	118	12'-4"	11'-0"	#5	10"	13		#4	12"	16				#4	12"	11				10"	144	144	9'-6"
		9'			128	128	11'-3"			118	118	12'-6"	11'-2"			13				18						11				12"	120	120	10'-6"
		10'			128	128	11'-5"			118	118	12'-8"	11'-4"			13				20						11		#5	11"	132	132	11'-6"
		11'			128	128	11'-7"			118	118	12'-10"	11'-6"			13				22						11				10"	144	144	12'-6"
		12'			128	128	11'-9"			118	118	13'-0"	11'-8"			13				24						11		#6	12"	120	120	13'-6"
		6'			140	140	12'-1"			130	130	13'-1"	12'-0"			15				12						12				120	120	7'-7"
		7'			140	140	12'-1"			130	130	13'-1"	12'-0"			15				14						12		#4	12"	120	120	8'-7"
	1 @ 11'	8'			140	140	12'-1"			130	130	13'-2"	12'-0"			15				16						12				10"	144	144	9'-7"
		9'	#7	11"	140	140	12'-3"	#7	11"	130	130	13'-3"	12'-2"	#5	9½"	15		#4	12"	18				#4	12"	12				12"	120	120	10'-7"
		10'			140	140	12'-5"			130	130	13'-5"	12'-4"			15				20						12		#5	11"	132	132	11'-7"
		11'			140	140	12'-7"			130	130	13'-6"	12'-6"			15				22						12				10"	144	144	12'-7"
		12'			140	140	12'-9"			130	130	13'-8"	12'-8"			15				24						12		#6	12"	120	120	13'-7"
		6'			128	128	13'-1"			118	118	14'-2"	13'-0"			16				12						13				120	120	7'-9"
		7'			128	128	13'-1"			118	118	14'-2"	13'-0"			16				14						13		#4	12"	120	120	8'-9"
	1 @ 12'	8'			128	128	13'-1"			118	118	14'-2"	13'-0"			16				16						13				10"	144	144	9'-9"
		9'	#8	12"	128	128	13'-3"	#7	12"	118	118	14'-4"	13'-2"	#5	9½"	16		#4	12"	18				#4	12"	13				12"	120	120	10'-9"
		10'			128	128	13'-5"			118	118	14'-6"	13'-4"			16				20						13		#5	11"	132	132	11'-9"
		11'			128	128	13'-7"			118	118	14'-10"	13'-6"			16				22						13				10"	144	144	12'-9"
		12'			128	128	13'-9"			118	118	15'-0"	13'-8"			16				24						13		#6	12"	120	120	13'-9"

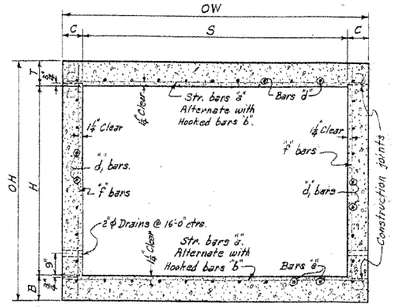
DIMENSIONS AND QUANTITIES

MIN. DESIGN DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	BARREL DIMENSIONS Area A	Overall Width OW	Thickness of Top Slab T	Thickness of Sidewalls C	Thickness of Bottom Slab B	Overall Height OH	UNIT QUANTITIES Class S Conc. Per Lin. Ft. of Barrel CUYD	Reinforcing Steel Per Lin. Ft. of Barrel LB.	Additional Reinforcing Steel Per Lap LB.	Additional Reinforcing Steel Two Headwalls & Aprons LB.
5'-0"	1 @ 4'	2'	8	5'-0"	7"	6"	6½"	3'-1½"	0.282	41.49	17.95	66.35
		3'	12	5'-0"		6"		4'-1½"	0.319	44.16	19.62	66.35
		4'	16	5'-0"		6"		5'-1½"	0.356	46.83	21.29	66.35
		5'	20	5'-0"		6"		6'-1½"	0.394	49.50	22.96	66.35
		6'	24	5'-2"		7"		7'-1½"	0.474	52.96	24.63	67.75
	1 @ 5'	3'	15	6'-0"	7½"	6"	7"	4'-2½"	0.380	55.55	22.19	101.27
		4'	20	6'-0"		6"		5'-2½"	0.417	58.23	23.86	101.27
		5'	25	6'-0"		6"		6'-2½"	0.454	60.90	25.53	101.27
		6'	30	6'-2"		7"		7'-2½"	0.535	64.49	27.20	103.27
		7'	35	6'-3"		7½"		8'-2½"	0.604	67.63	28.87	104.27
	1 @ 6'	3'	18	7'-0"	8"	6"	7½"	4'-3½"	0.446	66.29	29.76	118.94
		4'	24	7'-0"		6"		5'-3½"	0.483	68.96	26.93	118.94
		5'	30	7'-0"		6"		6'-3½"	0.520	71.64	28.10	118.96
		6'	36	7'-2"		7"		7'-3½"	0.602	75.31	29.77	120.96
		7'	42	7'-3"		7½"		8'-3½"	0.671	78.98	31.99	121.97
		8'	48	7'-4"		8"		9'-3½"	0.746	88.97	33.11	162.37
	1 @ 7'	4'	28	8'-0"	8½"	6"	8½"	5'-5"	0.568	81.32	29.01	136.88
		5'	35	8'-0"		6"		6'-5"	0.605	84.00	30.68	136.88
		6'	42	8'-2"		7"		7'-5"	0.688	87.76	32.35	138.88
		7'	49	8'-3"		7½"		8'-5"	0.757	94.98	34.02	139.88
		8'	56	8'-4"		8"		9'-5"	0.832	96.65	35.69	140.88
		9'	63	8'-6"		9"		10'-5"	0.996	105.59	37.36	162.89
	1 @ 8'	4'	32	9'-0"	9"	6"	9½"	5'-7"	0.676	95.26	33.32	194.67
		5'	40	9'-2"		7"		6'-7"	0.754	99.12	34.99	196.80
		6'	48	9'-2"		7"		7'-7"	0.797	101.79	36.66	196.80
		7'	56	9'-3"		7½"		8'-7"	0.867	105.05	38.33	198.16
		8'	64	9'-4"		8"		9'-7"	0.992	110.81	40.00	199.52
		9'	72	9'-6"		9"		10'-7"	1.057	119.92	41.67	202.25
		10'	80	9'-8"		10"		11'-7"	1.184	126.67	43.34	204.97
	1 @ 9'	5'	45	10'-2"	9½"	7"	10"	6'-8"	0.844	114.72	37.56	219.61
		6'	54	10'-3"		7½"		7'-8"	0.910	118.04	39.23	220.97
		7'	63	10'-3"		7½"		8'-8"	0.957	120.71	40.90	220.97
		8'	72	10'-4"		8"		9'-8"	1.033	126.54	42.57	222.33
		9'	81	10'-6"		9"		10'-8"	1.148	135.80	44.24	225.06
		10'	90	10'-6"		10"		11'-8"	1.276	142.68	45.91	227.78
		11'	99	10'-10"		11"		12'-8"	1.416	150.90	47.58	230.51
	1 @ 10'	5'	50	11'-2"	10"	7"	11"	6'-9½"	0.957	130.64	40.13	242.64
		6'	60	11'-3"		7½"		7'-9½"	1.024	133.99	41.80	244.00
		7'	70	11'-3"		7½"		8'-9½"	1.071	136.66	43.47	244.00
		8'	80	11'-4"		8"		9'-9½"	1.147	142.55	95.14	245.36
		9'	90	11'-6"		9"		10'-9½"	1.263	151.92	96.81	248.09
		10'	100	11'-8"		10"		11'-9½"	1.391	158.89	98.98	250.81
		11'	110	11'-10"		11"		12'-9½"	1.532	166.71	50.15	252.54
		12'	120	12'-0"		12"		13'-9½"	1.685	178.67	51.82	256.26
	1 @ 11'	6'	66	12'-4"	11"	8"	11½"	7'-10½"	1.153	156.16	96.12	268.62
		7'	77	12'-4"		9"		8'-10½"	1.202	157.83	97.79	268.62
		8'	88	12'-4"		9"		9'-10½"	1.252	162.06	99.46	268.62
		9'	99	12'-6"		9"		10'-10½"	1.368	172.60	51.18	271.34
		10'	110	12'-8"		10"		11'-10½"	1.497	179.70	52.80	274.07
		11'	121	12'-10"		11"		12'-10½"	1.638	187.67	54.97	276.79
		12'	132	13'-0"		12"		13'-10½"	1.792	199.79	56.14	279.52
	1 @ 12'	6'	72	13'-4"	12"	8"	12"	8'-0"	1.284	176.20	98.69	357.62
		7'	84	13'-4"		9"		9'-0"	1.333	179.87	50.36	357.62
		8'	96	13'-4"		9"		10'-0"	1.383	180.15	52.03	357.62
		9'	108	13'-4"	11½"	9"	12½"	11'-0"	1.500	189.85	58.70	361.18
		10'	120	13'-8"		10"		12'-0"	1.630	197.07	55.37	364.74
		11'	132	13'-10"		11"		13'-0"	1.772	205.16	57.04	368.30
		12'	144	14'-0"		12"		14'-0"	1.926	217.95	58.71	371.86

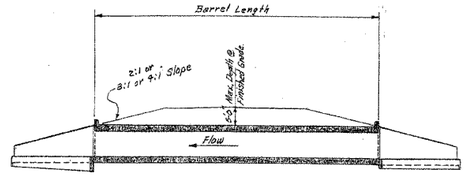
W-X002-1, W-X003-2, W-X004-2. or W-X002-1 or W-X003-1 or W-X004-1 and W-X002-2 or W-X003-2 or W-X004-2.



PART LONGITUDINAL SECTION



TYPICAL SECTION M-M



LONGITUDINAL SECTION

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.

BAR LAPS:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM Bars "b".
#6	3"	5"	1'-2"	K, Pin Diam., X
#7	3½"	5¾"	1'-4"	

NOTE:- Dimensions are to centers of bars.

DOWEL BARS FOR TWO HEADWALLS

SPAN	SIZE	SPACING	NO. REQ'D	LENGTH	X
4'	#4	11"±	12	2'-6"	1'-3"
5'	#4	11"±	14	2'-7"	1'-3⅜"
6'	#4	11"±	16	2'-8"	1'-4"
7'	#4	11"±	18	2'-9"	1'-4⅝"
8'	#4	11⅝"±	20	2'-11"	1'-5⅝"
9'	#4	11⅝"±	22	3'-0"	1'-6"
10'	#4	11⅝"±	24	3'-1"	1'-6⅝"
11'	#4	12"±	26	3'-2"	1'-7"
12'	#4	12"±	28	3'-3"	1'-7⅝"

Bars "r" Dowel bars in Headwalls. (X, 12, 2)

NOTE:- This drawing to be used in conjunction with Standard Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing Nos. W-X002-1 or W-X002-2.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961
AND
SPECIAL MILITARY LOADING
Two 24,000 Lb. Axles @ 9'-0" ctrs.

UNIT STRESSES:-
Class S Concrete (n=10) 1800 #/□"
Reinforcing Steel 20,000 #/□"

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

4',6',6',7',8',9',10',11' & 12' SPANS — 3:1 OR 4:1 SLOPES
SINGLES — UNDER 5'-0" COVER

STANDARD DRAWING NO. R-100X-0

Designed By:- W.C.H. 1-23-63. Checked By:- RWG - 5-8-63
Drawn By:- W.C.H. 2-8-63. Checked By:- RWG - 5-24-63
Quantities By:- W.C.H. 2-12-63. Checked By:- RWG - 5-24-63

RESHOT 3-5-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			65	
JOB No.					

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

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"a" bars STRAIGHT In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'	#5	12"	128	128	9'-5"
		3'			128	128	9'-5"
		4'			128	128	9'-5"
		5'			128	128	9'-5"
		6'			128	128	9'-8"
	2 @ 6'-0"	3'	#6	12"	128	128	11'-5"
		4'			128	128	11'-5"
		5'			128	128	11'-5"
		6'			128	128	11'-8"
		7'			128	128	11'-10"
		8'			128	128	12'-0"
	2 @ 7'-0"	4'	#6	12"	128	128	15'-5"
		5'			128	128	15'-5"
		6'			128	128	15'-5"
		7'			128	128	15'-8"
		8'			128	128	15'-10"
		9'			128	128	16'-2"
	2 @ 8'-0"	4'	#6	11"	140	140	17'-5"
		5'			140	140	17'-8"
		6'			140	140	17'-8"
		7'			140	140	17'-10"
		8'			140	140	17'-11"
		9'			140	140	18'-2"
		10'			140	140	18'-5"
	2 @ 9'-0"	5'	#6	11"	140	140	19'-8"
		6'			140	140	19'-10"
		7'			140	140	19'-10"
		8'			140	140	19'-11"
		9'			140	140	20'-2"
		10'			140	140	20'-5"
		11'			140	140	20'-7"
	2 @ 10'-0"	5'	#7	12"	128	128	21'-8"
		6'			128	128	21'-10"
		7'			128	128	21'-10"
		8'			128	128	21'-11"
		9'			128	128	22'-2"
		10'			128	128	22'-5"
		11'			128	128	22'-7"
		12'			128	128	22'-9"
	2 @ 11'-0"	6'	#7	12"	128	128	23'-11"
		7'			128	128	23'-11"
		8'			128	128	23'-11"
		9'			128	128	24'-2"
		10'			128	128	24'-5"
		11'			128	128	24'-7"
		12'			128	128	24'-9"
	2 @ 12'-0"	6'	#7	11"	140	140	25'-11"
		7'			140	140	25'-11"
		8'			140	140	25'-11"
		9'			140	140	26'-2"
		10'			140	140	26'-5"
		11'			140	140	26'-7"
		12'			140	140	26'-9"

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"b" bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with "a" and "c" bars. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'	#5	12"	59	59	10'-6"	0'-3"	2'-2½"	3'-9"
		3'			59	59	10'-6"	0'-3"	2'-2½"	3'-9"
		4'			59	59	10'-6"	0'-3"	2'-2½"	3'-9"
		5'			59	59	10'-6"	0'-3"	2'-2½"	3'-9"
		6'			59	59	10'-9"	0'-3"	2'-3½"	3'-5"
	2 @ 6'-0"	3'	#6	12"	59	59	12'-1"	0'-3½"	2'-7½"	4'-1"
		4'			59	59	12'-1"	0'-3½"	2'-7½"	4'-1"
		5'			59	59	12'-1"	0'-3½"	2'-7½"	4'-1"
		6'			59	59	12'-10"	0'-3½"	2'-8½"	4'-2"
		7'			59	59	13'-10"	0'-3½"	2'-9½"	4'-2½"
	2 @ 7'-0"	4'	#6	11"	65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		5'			65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		6'			65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		7'			65	65	14'-10"	0'-4"	3'-1½"	4'-11"
		8'			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"
		9'			65	65	15'-1"	0'-4"	3'-2½"	5'-0"
	2 @ 8'-0"	4'	#6	12"	59	59	16'-3"	0'-4½"	3'-5"	5'-7"
		5'			59	59	16'-3"	0'-4½"	3'-5"	5'-7"
		6'			59	59	16'-3"	0'-4½"	3'-5"	5'-7"
		7'			59	59	17'-2"	0'-4½"	3'-7"	5'-8½"
		8'			59	59	17'-3"	0'-4½"	3'-7"	5'-9"
		9'			59	59	17'-6"	0'-4½"	3'-8"	5'-10"
	2 @ 9'-0"	4'	#6	11"	65	65	18'-0"	0'-5"	3'-10"	6'-4"
		5'			65	65	18'-1"	0'-5"	3'-11"	6'-5"
		6'			65	65	18'-1"	0'-5"	3'-11"	6'-5"
		7'			65	65	19'-3"	0'-5"	4'-0"	6'-5½"
		8'			65	65	19'-4"	0'-5"	4'-0"	6'-6"
		9'			65	65	19'-7"	0'-5"	4'-1"	6'-7"
		10'			65	65	19'-10"	0'-5"	4'-2"	6'-8"
	2 @ 10'-0"	5'	#6	11"	65	65	21'-1"	0'-5½"	4'-4"	7'-2"
		6'			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"
		7'			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"
		8'			65	65	21'-4"	0'-5½"	4'-5"	7'-3"
		9'			65	65	21'-7"	0'-5½"	4'-6"	7'-3½"
		10'			65	65	21'-10"	0'-5½"	4'-7"	7'-5"
		11'			65	65	22'-0"	0'-5½"	4'-7"	7'-6"
	2 @ 11'-0"	6'	#6	11"	65	65	23'-2"	0'-6"	4'-9"	7'-11"
		7'			59	59	23'-2"	0'-6"	4'-10"	7'-11½"
		8'			59	59	23'-4"	0'-6"	4'-10"	7'-11½"
		9'			59	59	23'-5"	0'-6"	4'-10"	8'-0"
		10'			59	59	23'-11"	0'-6"	5'-0"	8'-2"
		11'			59	59	24'-1"	0'-6"	5'-0"	8'-2½"
		12'			59	59	24'-3"	0'-6"	5'-0"	8'-3"
	2 @ 12'-0"	6'	#7	12"	59	59	25'-5"	0'-6½"	5'-3"	8'-9"
		7'			59	59	25'-5"	0'-6½"	5'-3"	8'-9"
		8'			59	59	25'-5"	0'-6½"	5'-3"	8'-9"
		9'			59	59	25'-8"	0'-6½"	5'-4"	8'-10"
		10'			59	59	25'-11"	0'-6½"	5'-5"	8'-11"
		11'			59	59	26'-1"	0'-6½"	5'-5"	9'-0"
		12'			59	59	26'-3"	0'-6½"	5'-5"	9'-1"
	2 @ 13'-0"	6'	#7	11"	65	65	27'-5"	0'-7"	5'-8"	9'-6"
		7'			65	65	27'-5"	0'-7"	5'-8"	9'-6"
		8'			65	65	27'-5"	0'-7"	5'-8"	9'-6"
		9'			65	65	27'-8"	0'-7"	5'-9"	9'-7"
		10'			65	65	27'-11"	0'-7"	5'-10"	9'-8"
		11'			65	65	28'-1"	0'-7"	5'-10"	9'-9"
		12'			65	65	28'-3"	0'-7"	5'-10"	9'-10"

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"b2" bars BENT - See Diagram below. In Top of Bottom Slab bent down under Division Wall - hooked. Alternate with "a" and "c" bars. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'	#5	12"	59	59	10'-6"	0'-2½"	2'-3½"	3'-9"
		3'			59	59	10'-6"	0'-2½"	2'-3½"	3'-9"
		4'			59	59	10'-6"	0'-2½"	2'-3½"	3'-9"
		5'			59	59	10'-6"	0'-2½"	2'-3½"	3'-9"
		6'			59	59	10'-9"	0'-2½"	2'-4½"	3'-5"
	2 @ 6'-0"	3'	#6	12"	59	59	12'-4"	0'-3"	2'-6½"	4'-1"
		4'			59	59	12'-6"	0'-3"	2'-6½"	4'-1"
		5'			59	59	12'-6"	0'-3"	2'-6½"	4'-1"
		6'			59	59	12'-9"	0'-3"	2'-7½"	4'-2"
		7'			59	59	12'-11"	0'-3"	2'-7½"	4'-2½"
	2 @ 7'-0"	4'	#6	11"	65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		5'			65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		6'			65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		7'			65	65	14'-10"	0'-4"	3'-1½"	4'-11"
		8'			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"
		9'			65	65	15'-1"	0'-4"	3'-2½"	5'-0"
	2 @ 8'-0"	4'	#6	12"	59	59	16'-9"	0'-4½"	3'-5"	5'-7"
		5'			59	59	16'-9"	0'-4½"	3'-5"	5'-7"
		6'			59	59	17'-0"	0'-4½"	3'-6"	5'-8"
		7'			59	59	17'-2"	0'-4½"	3'-7"	5'-8½"
		8'			59	59	17'-3"	0'-4½"	3'-7"	5'-9"
		9'			59	59	17'-6"	0'-4½"	3'-8"	5'-10"
	2 @ 9'-0"	4'	#6	11"	65	65	18'-10"	0'-5"	3'-10"	6'-4"
		5'			65	65	19'-1"	0'-5"	3'-11"	6'-5"
		6'			65	65	19'-1"	0'-5"	3'-11"	6'-5"
		7'			65	65	19'-3"	0'-5"	4'-0"	6'-5½"
		8'			65	65	19'-4"	0'-5"	4'-0"	6'-6"
		9'			65	65	19'-7"	0'-5"	4'-1"	6'-7"
		10'			65	65	19'-10"	0'-5"	4'-2"	6'-8"
	2 @ 10'-0"	5'	#6	11"	65	65	21'-1"	0'-5½"	4'-4"	7'-2"
		6'			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"
		7'			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"
		8'			65	65	21'-4"	0'-5½"	4'-5"	7'-3"
		9'			65	65	21'-7"	0'-5½"	4'-6"	7'-3½"
		10'			65	65	21'-10"	0'-5½"	4'-7"	7'-5"
		11'			65	65	22'-0"	0'-5½"	4'-7"	7'-6"
	2 @ 11'-0"	6'	#6	11"	65	65	23'-2"	0'-6"	4'-9"	7'-11"
		7'			59	59	23'-2"	0'-6"	4'-10"	7'-11½"
		8'			59	59	23'-4"	0'-6"	4'-10"	7'-11½"
		9'			59	59	23'-5"	0'-6"	4'-10"	8'-0"
		10'			59	59	23'-11"	0'-6"	5'-0"	8'-2"
		11'			59	59	24'-1"	0'-6"	5'-0"	8'-2½"
		12'			59	59	24'-3"	0'-6"	5'-0"	8'-3"
	2 @ 12'-0"	6'	#7	12"	59	59	25'-5"	0'-6½"	5'-3"	8'-9"
		7'			59	59	25'-5"	0'-6½"	5'-3"	8'-9"
		8'			59	59	25'-5"	0'-6½"	5'-3"	8'-9"
		9'			59	59	25'-8"	0'-6½"	5'-4"	8'-10"
		10'			59	59	25'-11"	0'-6½"	5'-5"	8'-11"
		11'			59	59	26'-1"	0'-6½"	5'-5"	9'-0"
		12'			59	59	26'-3"	0'-6½"	5'-5"	9'-1"
	2 @ 13'-0"	6'	#7	11"	65	65	27'-5"	0'-7"	5'-8"	9'-6"
		7'			65	65	27'-5"	0'-7"	5'-8"	9'-6"
		8'			65	65	27'-5"	0'-7"	5'-8"	9'-6"
		9'			65	65	27'-10"	0'-7"	5'-9"	9'-7"
		10'			65	65	28'-1"	0'-7"	5'-10"	9'-8"
		11'			65	65	28'-3"	0'-7"	5'-10"	9'-9"
		12'			65	65	28'-5"	0'-8"	5'-7"	9'-10"

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"c" bars STRAIGHT In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'	#5	12"	120	120	4'-1"
		3'			120	120	4'-8"
		4'			120	120	4'-8"
		5'			120	120	4'-8"
		6'			120	120	4'-9"
	2 @ 6'-0"	3'	#6	12"	120	120	5'-8"
		4'			120	120	5'-8"
		5'			120	120	5'-8"
		6'			120	120	5'-9"
		7'			120	120	5'-10"
	2 @ 7'-0"	4'	#6	11"	132	132	6'-8"
		5'			132	132	6'-8"
		6'			132	132	6'-8"
		7'			132	132	6'-8"
		8'			132	132	6'-10"
		9'			132	132	6'-10"
	2 @ 8'-0"	4'	#6	12"	120	120	7'-8"
		5'			120	120	7'-8"
		6'			120	120	7'-9"
		7'			120	120	7'-10"
		8'			120	120	7'-11"
		9'			120	120	7'-11"
	2 @ 9'-0"	4'	#7	12"	120	120	8'-8"
		5'			120	120	8'-8"
		6'			120	120	8'-8"
		7'			120	120	8'-9"
		8'			120	120	8'-10"
		9'			120	120	8'-11"
		10'			120	120	8'-11"
	2 @ 10'-0"	5'	#7	12"	120	120	9'-8"
		6'			120	120	9'-8"
		7'			120	120	9'-8"
		8'			120	120	9'-9"
		9'			120	120	9'-10"
		10'			120	120	9'-11"
		11'			120	120	9'-11"
	2 @ 11'-0"	6'	#7	12"	120	120	10'-8"
		7'			120	120	10'-8"
		8'			120	120	10'-8"
		9'			120	120	10'-9"
		10'			120	120	10'-10"
		11'			120	120	10'-10"
		12'			120	120	11'-0"
	2 @ 12'-0"	6'	#7	12"	120	120	11'-8"
		7'			120	120	11'-8"
		8'			120	120	11'-8"
		9'			120	120	11'-9"
		10'			120	120	11'-11"
		11'			120	120	12'-0"
		12'			120	120	12'-0"
	2 @ 13'-0"	6'	#7	12"	132	132	12'-8"
		7'			132	132	12'-8"
		8'			132	132	12'-8"
		9'			132	132	12'-9"
		10'			132	132	12'-10"
		11'			132	132	12'-11"
		12'			132	132	13'-0"

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"d" bars STRAIGHT Longitudinal in Top Slab of Barrel. SIZE	SPACING	NO. REQ'D	LENGTH
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'				14'
		3'				14'
		4'				14'
		5'				14'
		6'				14'
	2 @ 6'-0"	3'				14'
		4'				14'
		5'				14'
		6'				14'
		7'				14'
	2 @ 7'-0"	4'				14'
		5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
	2 @ 8'-0"	4'				14'
		5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
	2 @ 9'-0"	5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
	2 @ 10'-0"	5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
	2 @ 11'-0"	6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
		12'				14'
	2 @ 12'-0"	6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
		12'				14'
	2 @ 13'-0"	6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
		12'				14'

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"d1" bars STRAIGHT Longitudinal in Sidewalls and Division Walls. SIZE	SPACING	NO. REQ'D	LENGTH
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'				8'
		3'				12'
		4'				16'
		5'				20'
		6'				24'
	2 @ 6'-0"	3'				12'
		4'				16'
		5'				20'
		6'				24'
		7'				28'
	2 @ 7'-0"	4'				16'
		5'				20'
		6'				24'
		7'				28'
		8'				32'
		9'				36'
	2 @ 8'-0"	4'				16'
		5'				20'
		6'				24'
		7'				28'
		8'				32'
		9'				36'
		10'				40'
	2 @ 9'-0"	5'				20'
		6'				24'
		7'				28'
		8'				32'
		9'				36'
		10'				40'
		11'				44'
	2 @ 10'-0"	5'				20'
		6'				24'
		7'				28'
		8'				32'
		9'				36'
		10'				40'
		11'				44'
	2 @ 11'-0"	6'				24'
		7'				28'
		8'				32'
		9'				36'
		10'				40'
		11'				44'
		12'				48'
	2 @ 12'-0"	6'				24'
		7'				28'
		8'				32'
		9'				36'
		10'				40'
		11'				44'
		12'				48'
	2 @ 13'-0"	6'				24'
		7'				28'
		8'				32'
		9'				36'
		10'				40'
		11'				44'
		12'				48'

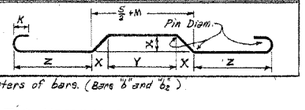
DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"e" bars STRAIGHT Longitudinal in Bottom Slab of Barrel. SIZE	SPACING	NO. REQ'D	LENGTH
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'				14'
		3'				14'
		4'				14'
		5'				14'
		6'				14'
	2 @ 6'-0"	3'				14'
		4'				14'
		5'				14'
		6'				14'
		7'				14'
	2 @ 7'-0"	4'				14'
		5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
	2 @ 8'-0"	4'				14'
		5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
	2 @ 9'-0"	5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
	2 @ 10'-0"	5'				14'
		6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
	2 @ 11'-0"	6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
		12'				14'
	2 @ 12'-0"	6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
		12'				14'
	2 @ 13'-0"	6'				14'
		7'				14'
		8'				14'
		9'				14'
		10'				14'
		11'				14'
		12'				14'

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"f" bars STRAIGHT Vertical in Sidewalls and Division Walls. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'	#4	12"	240	240	6'-10"
		3'			240	240	7'-10"
		4'			240	240	8'-10"
		5'			240	240	9'-10"
		6'			240	240	10'-10"
	2 @ 6'-0"	3'	#4	12"	240	240	8'-11"
		4'			240	240	9'-11"
		5'			240	240	10'-11"
		6'			240	240	11'-11"
		7'			240	240	12'-11"
	2 @ 7'-0"	4'	#4	12"	240	240	10'-0"
		5'			240	240	11'-0"
		6'			240	240	12'-0"
		7'			240	240	13'-0"
		8'			240	240	14'-0"
		9'			240	240	15'-0"
	2 @ 8'-0"	4'	#4	12"	240	240	11'-1"
		5'			240	240	12'-1"
		6'			240	240	13'-1"
		7'			240	240	14'-1"
		8'			240	240	15'-1"
		9'			240	240	16'-1"
		10'			288	288	17'-1"
	2 @ 9'-0"	5'	#5	12"	240	240	13'-2"
		6'			240	240	14'-2"
		7'			240	240	15'-2"
		8'			240	240	16'-2"
		9'			240	240	17'-2"
		10'			288	288	18'-2"
		11'			264	264	18'-2"
	2 @ 10'-0"	5'	#5	12"	240	240	14'-3"
		6'			240	240	15'-3"
		7'			240	240	16'-3"
		8'			240	240	17'-3"
		9'			240	240	18'-3"
		10'			288	288	19'-3"
		11'			264	264	19'-3"
	2 @ 11'-0"	6'	#6	12"	240	240	16'-4"
		7'			240	240	17'-4"
		8'			240	240	18'-4"
		9'			240	240	19'-4"
		10'			288	288	20'-4"
		11'			264	264	20'-4"
		12'			240	240	20'-4"
	2 @ 12'-0"	6'	#6	12"	240	240	17'-5"
		7'			240	240	18'-5"
		8'			240	240	19'-5"
		9'			240	240	20'-5"
		10'			288	288	21'-5"
		11'			264	264	21'-5"
		12'			240	240	21'-5"
	2 @ 13'-0"	6'	#6	12"	240	240	18'-6"
		7'			240	240	19'-6"
		8'			240	240	20'-6"
		9'			240	240	21'-6"
		10'			288	288	22'-6"
		11'			264	264	22'-6"
		12'			240	240	22'-6"

Designed by:- W.C.H. 1-17-63.
Drawn by:- W.C.H. 2-15-63.
Quantities by:- W.C.H. 2-19-63.
Checked by:- TJHS - 5-14-63
Checked by:- TJHS - 5-24-63
Checked by:- TJHS - 5-24-63

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#5	2⅝"	4⅛"	0'-11½"
#6	3"	5"	1'-2"

BENDING DIAGRAM FOR Bars "b" and "b2"

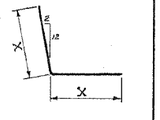


NOTE:- Dimensions are to centers of bars. (Bars "b" and "b2")

DOWEL BARS FOR TWO HEADWALLS

SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH	X
4'	#4	12"c	20	2'-5"	1'-2½"
5'	#4	12"c	24	2'-6"	1'-3"
6'	#4	12"c	28	2'-7"	1'-3⅜"
7'	#4	12"c	32	2'-8"	1'-4"
8'	#4	12"c	36	2'-9"	1'-4½"
9'	#4	12"c	40	2'-10"	1'-5"
10'	#4	12"c	46	2'-11"	1'-5½"
11'	#4	12"c	50	3'-0"	1'-6"
12'	#4	12"c	54	3'-1"	1'-6½"

Bars "r" Dowel bars in Headwalls.



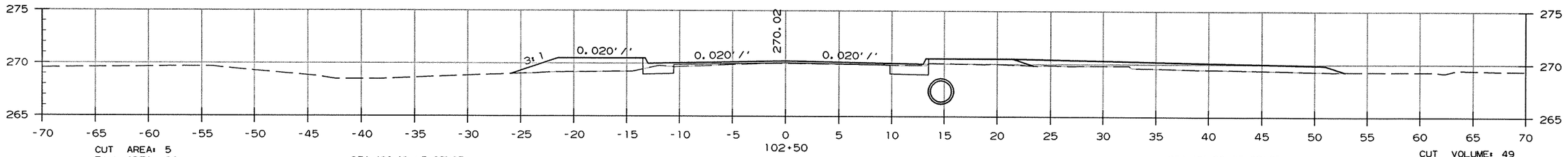
DIMENSIONS

BARREL DIMENSIONS

MAX. DESIGN DEPTH OF COVER D	CLEAR SPANS S	CLEAR HEIGHT H	SQ. FT. OPENING A	OVERALL WIDTH OW	THICKNESS OF TOP SLAB T	THICKNESS OF SIDEWALLS C	THICKNESS OF DIVISION WALL M	THICKNESS OF BOTTOM SLAB B	OVERALL HEIGHT OH
5'-0"	2 @ 4'-0"	2'	16	9'-8"	6½"	6"	8"	6"	3'-0½"
		3'	24	9'-8"		6"	8"		4'-0½"
		4'	32	9'-8"		6"	8"		5'-0½"
		5'	40	9'-8"		6"	8"		6'-0½"
		6'	48	9'-11"		7"	9"		7'-0½"
	2 @ 6'-0"	3'	36	13'-8"	7"	6"	8"	6½"	4'-5"
		4'	48	13'-8"		6"	8"		5'-5"
		5'	60	13'-8"		6"

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	66	97

(2) CROSS SECTIONS



CUT AREA: 5
FILL AREA: 36

STA. 102+10 LT-CONST.
DI H=4.28' W/
18" X 79' R.C. PIPE INLET
30" X 6' R.C. PIPE OUTLET W/ FES
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 5' X 4'

STA. 102+10
TOP 270.17
FL 265.89

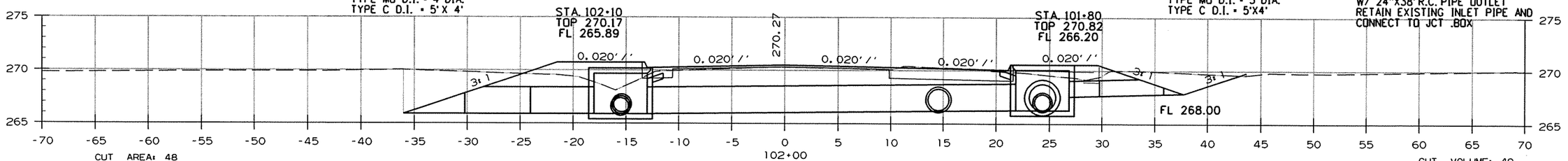
STA. 101+80
TOP 270.82
FL 266.20

STA. 101+80 RT-CONST.
DROP INLET H=4.62'
18" X 3' R.C. PIPE INLET W/ FES
30" X 37' R.C. PIPE OUTLET
TYPE MD D.I. = 5' DIA.
TYPE C D.I. = 5'X4'

FL 268.00

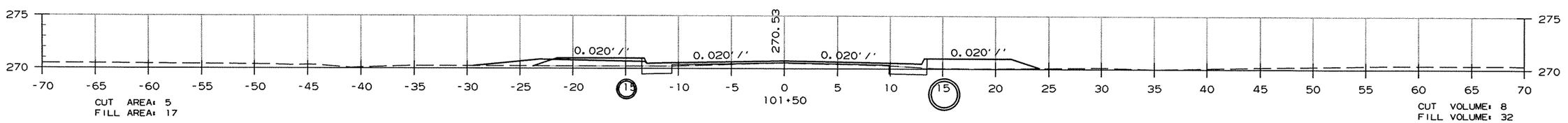
CUT VOLUME: 49
FILL VOLUME: 59

STA. 102+17 RT. - IN PLACE
DROP INLET W/ PIPE INLET
REMOVE D I & CONST. JCT BOX TYPE ST
W/ 24"X38' R.C. PIPE OUTLET
RETAIN EXISTING INLET PIPE AND
CONNECT TO JCT .BOX



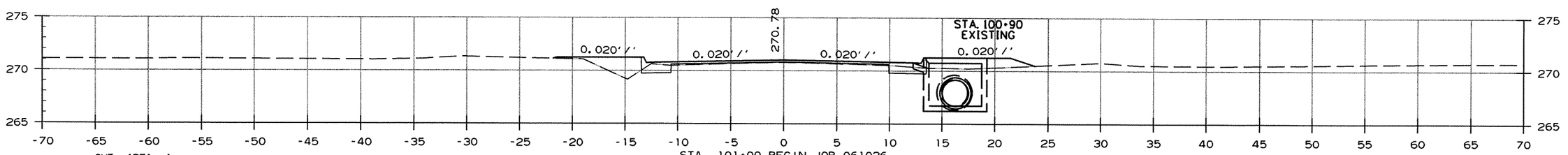
CUT AREA: 48
FILL AREA: 27

CUT VOLUME: 49
FILL VOLUME: 41



CUT AREA: 5
FILL AREA: 17

CUT VOLUME: 8
FILL VOLUME: 32



CUT AREA: 4
FILL AREA: 18

STA. 101+00 BEGIN JOB 061026

STA. 100+90 RT- IN PLACE. DI
W/ PIPE INLET & OUTLET
RETAIN

CUT VOLUME: 0
FILL VOLUME: 0

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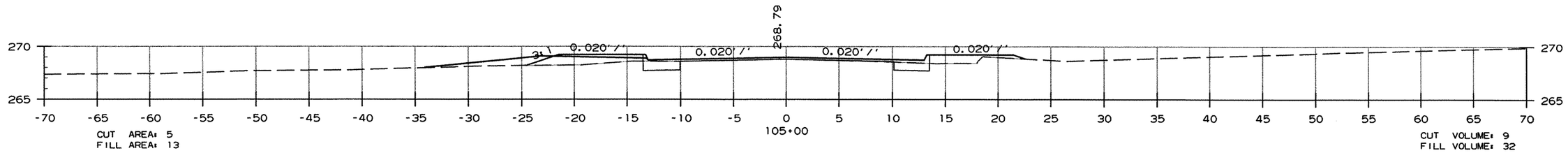
CROSS SECTION STA. 101+00 TO STA. 102+50

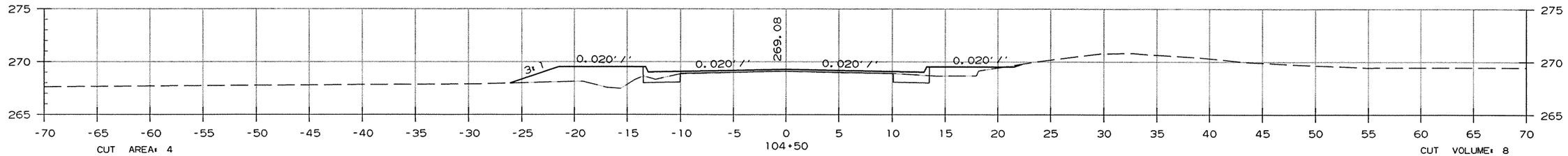
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	67	97

(2) CROSS SECTIONS



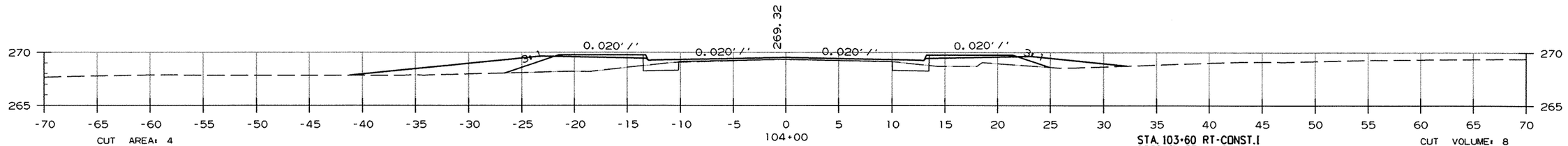
CUT AREA: 5
FILL AREA: 13

CUT VOLUME: 9
FILL VOLUME: 32



CUT AREA: 4
FILL AREA: 21

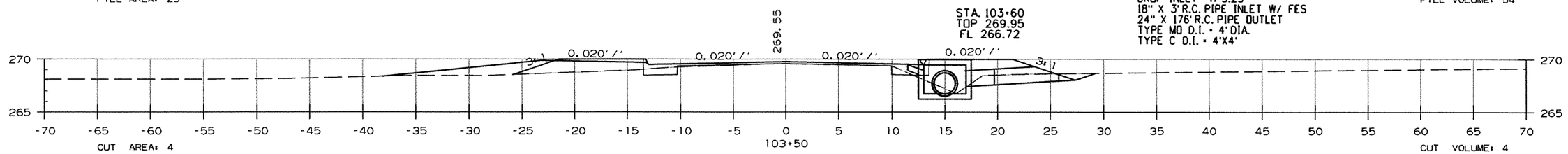
CUT VOLUME: 8
FILL VOLUME: 42



CUT AREA: 4
FILL AREA: 25

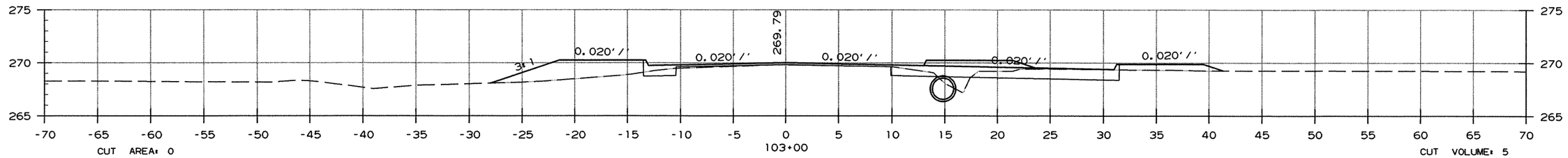
STA. 103+60 RT-CONST.I
DROP INLET H=3.23'
18" X 3' R.C. PIPE INLET W/ FES
24" X 176' R.C. PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

CUT VOLUME: 8
FILL VOLUME: 54



CUT AREA: 4
FILL AREA: 33

CUT VOLUME: 4
FILL VOLUME: 68



CUT AREA: 0
FILL AREA: 41

CUT VOLUME: 5
FILL VOLUME: 71

R061026.DGN 7/7/2011

CROSS SECTION STA. 103+00 TO STA. 105+00

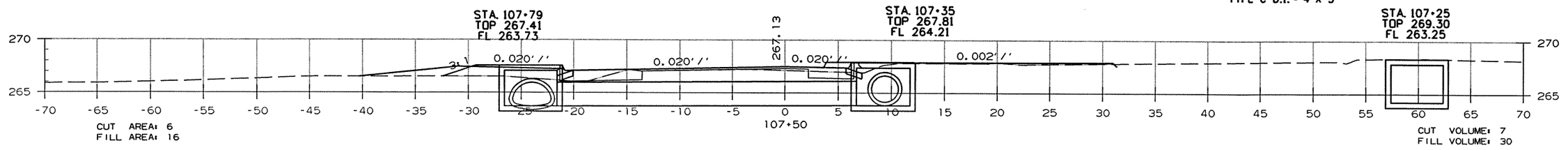
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	68	97

(2) CROSS SECTIONS

STA. 107+79 LT-CONST.
DROP INLET H=3.68 W/'
44" X 27" X 116' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4'X5"

STA. 107+35 RT-CONST.
JCT BOX TYPE ST. (4'X5') H=3.60'
44" X 27" X 57' R.C. PIPE OUTLET
CONN. EXIST. PIPE FROM STA. 107+03

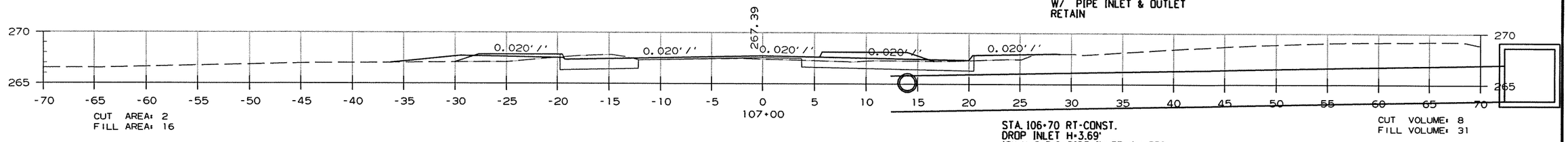
STA. 107+25 RT-CONST.
DROP INLET H=6.05'
24" X 185' R.C. PIPE INLET
42" X 180' R.C. PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4' X 5'



CUT AREA: 6
FILL AREA: 16

CUT VOLUME: 7
FILL VOLUME: 30

STA. 107+03 RT- IN PLACE DI
W/ PIPE INLET & OUTLET
RETAIN

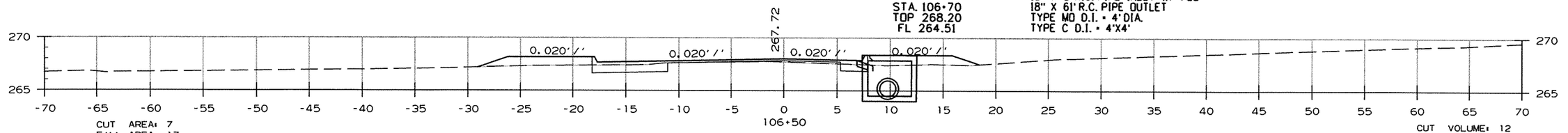


CUT AREA: 2
FILL AREA: 16

CUT VOLUME: 8
FILL VOLUME: 31

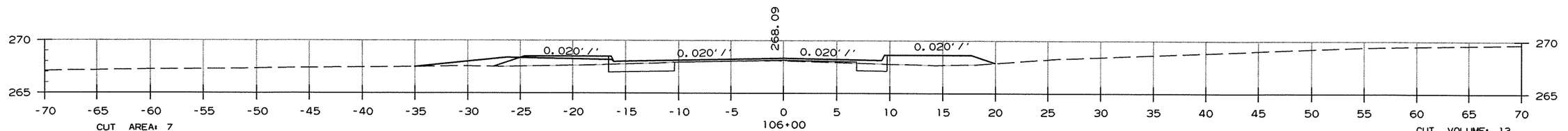
STA. 106+70 RT-CONST.
DROP INLET H=3.69'
18" X 8' R.C. PIPE INLET W/ FES
18" X 61' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 106+70
TOP 268.20
FL 264.51



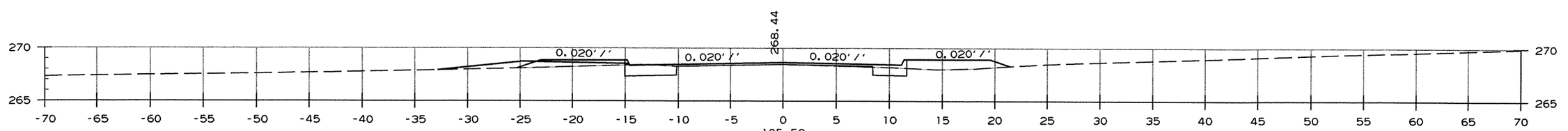
CUT AREA: 7
FILL AREA: 17

CUT VOLUME: 12
FILL VOLUME: 32



CUT AREA: 7
FILL AREA: 18

CUT VOLUME: 13
FILL VOLUME: 29



CUT AREA: 7
FILL AREA: 14

CUT VOLUME: 12
FILL VOLUME: 25

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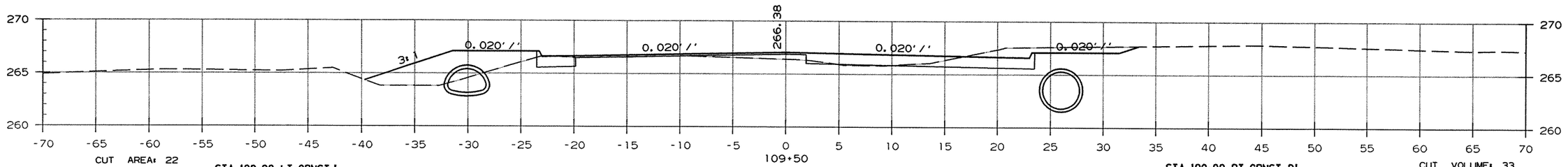
CROSS SECTION STA. 105+50 TO STA. 107+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	69	97

(2) CROSS SECTIONS

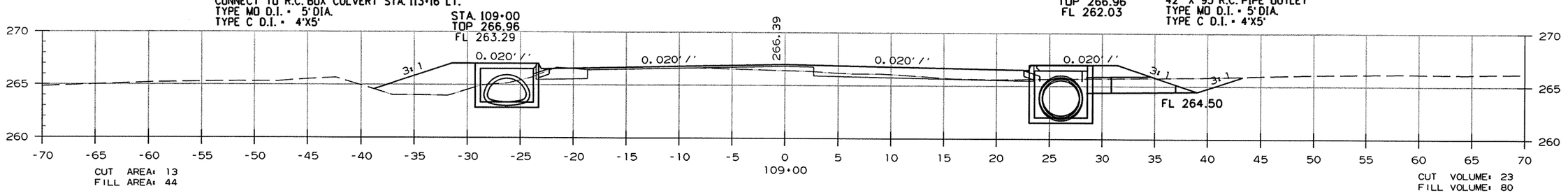


CUT AREA: 22
FILL AREA: 33

CUT VOLUME: 33
FILL VOLUME: 72

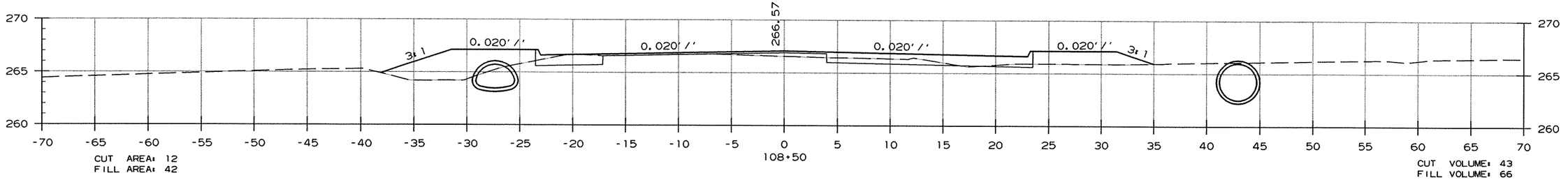
STA. 109+00 LT-CONST.1
DROP INLET H=3.67'
44" X 27" X 406'R.C. ARCH PIPE OUTLET
CONNECT TO R.C. BOX CULVERT STA. 113+16 LT.
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4'X5'

STA. 109+00 RT-CONST. DI
DROP INLET H=4.93'
18" X 2'R.C. PIPE INLET W/ FES
42" X 95'R.C. PIPE OUTLET
TYPE MO D.I. = 5' DIA.
TYPE C D.I. = 4'X5'



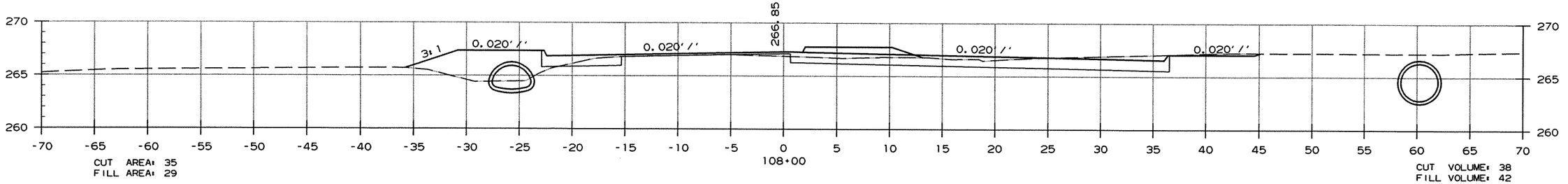
CUT AREA: 13
FILL AREA: 44

CUT VOLUME: 23
FILL VOLUME: 80



CUT AREA: 12
FILL AREA: 42

CUT VOLUME: 43
FILL VOLUME: 66



CUT AREA: 35
FILL AREA: 29

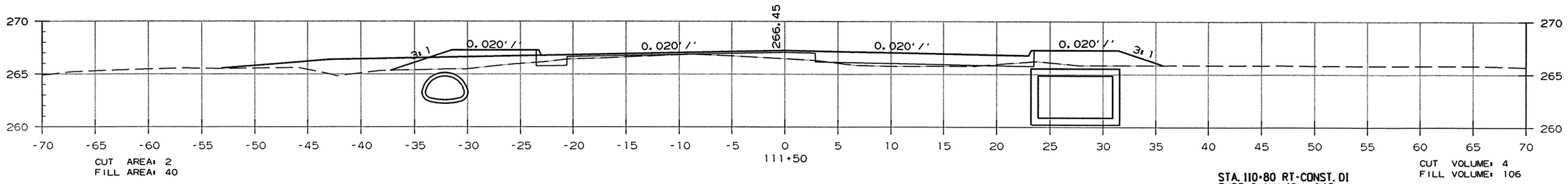
CUT VOLUME: 38
FILL VOLUME: 42

R061026.DGN 7/7/2011

CROSS SECTION STA. 108+00 TO STA. 109+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	70	97

(2) CROSS SECTIONS

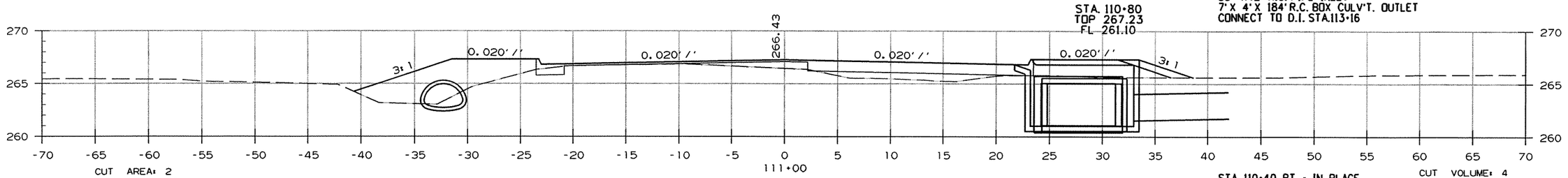


CUT AREA: 2
FILL AREA: 40

CUT VOLUME: 4
FILL VOLUME: 106

STA. 110+80 RT-CONST. DI
TYPE C-4' X 10' H-6.13'
30" X42' R.C. PIPE INLET
7' X 4' X 184' R.C. BOX CULV'T. OUTLET
CONNECT TO D.I. STA.113+16

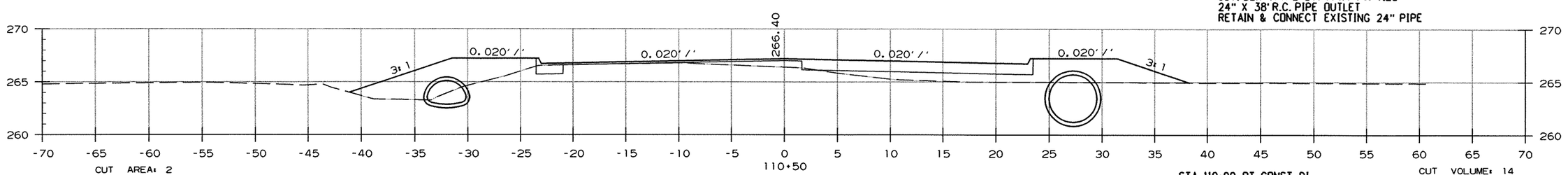
STA. 110+80
TOP 267.23
FL 261.10



CUT AREA: 2
FILL AREA: 74

CUT VOLUME: 4
FILL VOLUME: 142

STA. 110+40 RT - IN PLACE
JUNCTION BOX W/ 24" PIPE INLET
REMOVE JCT. BOX AND CONST.
JCT. BOX (TYPE ST) (4'X4') H-4.25'
24" X 38' R.C. PIPE OUTLET
RETAIN & CONNECT EXISTING 24" PIPE

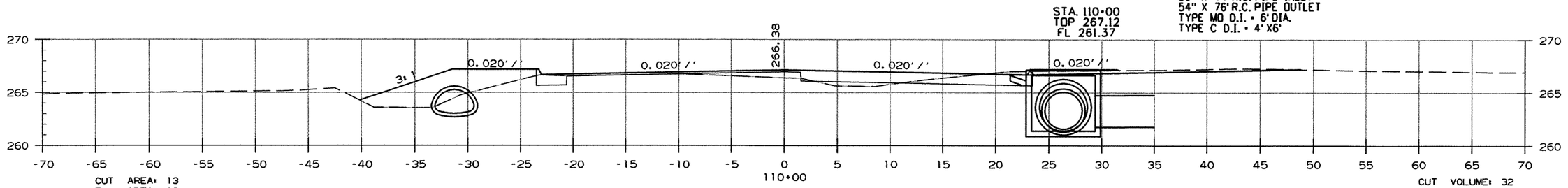


CUT AREA: 2
FILL AREA: 79

CUT VOLUME: 14
FILL VOLUME: 108

STA. 110+00 RT-CONST. DI
DROP INLET H-5.75'
36" X 44' R.C. PIPE INLET
54" X 76' R.C. PIPE OUTLET
TYPE MO D.I. - 6' DIA.
TYPE C D.I. - 4' X6'

STA. 110+00
TOP 267.12
FL 261.37



CUT AREA: 13
FILL AREA: 38

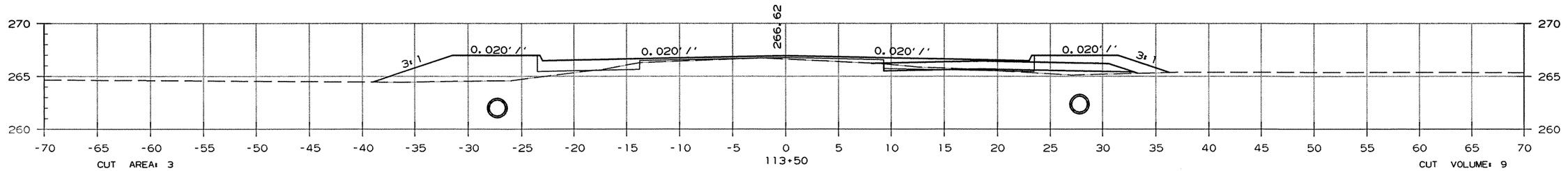
CUT VOLUME: 32
FILL VOLUME: 65

R061026.DGN 7/7/2011

CROSS SECTION STA. 110+00 TO STA. 111+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	71	97

(2) CROSS SECTIONS



CUT AREA: 3
FILL AREA: 52

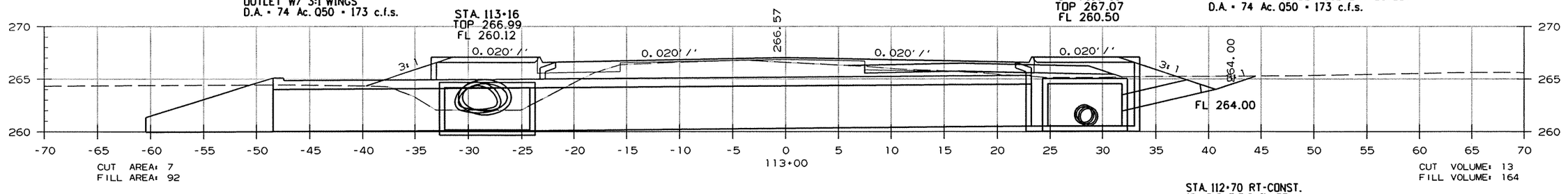
CUT VOLUME: 9
FILL VOLUME: 134

STA. 113+16 LT-CONST. DI
Type C-4' X 4' H-6.87' ON TOP
8' X 4 X 15' R.C. BOX CULVERT
OUTLET W/ 3:1 WINGS
D.A. = 74 Ac. Q50 = 173 c.f.s.

STA. 113+16
TOP 266.99
FL 260.12

STA. 113+16
TOP 267.07
FL 260.50

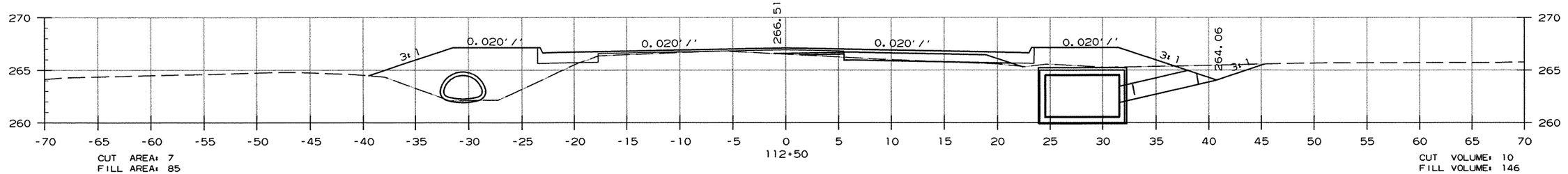
STA. 113+16 RT-CONST. DI
TYPE C-10' X 10' H-6.57'
8' X 4' X 47' R.C. BOX CULVERT OUTLET
D.A. = 74 Ac. Q50 = 173 c.f.s.



CUT AREA: 7
FILL AREA: 92

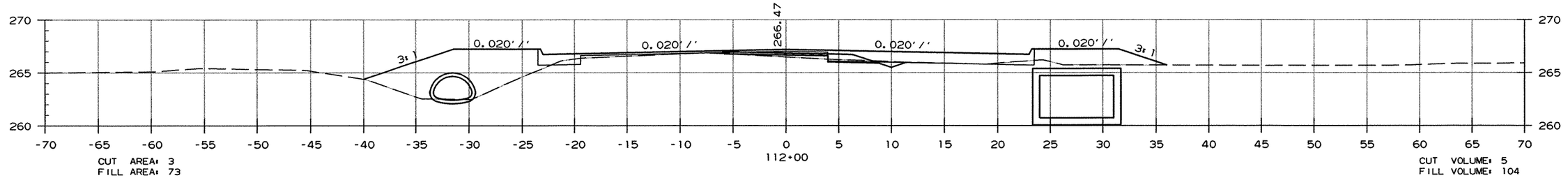
CUT VOLUME: 13
FILL VOLUME: 164

STA. 112+70 RT-CONST.
18" R.C.F.E.S. INLET.
STUB-IN TO 7'X4' R.C. BOX CULVERT



CUT AREA: 7
FILL AREA: 85

CUT VOLUME: 10
FILL VOLUME: 146



CUT AREA: 3
FILL AREA: 73

CUT VOLUME: 5
FILL VOLUME: 104

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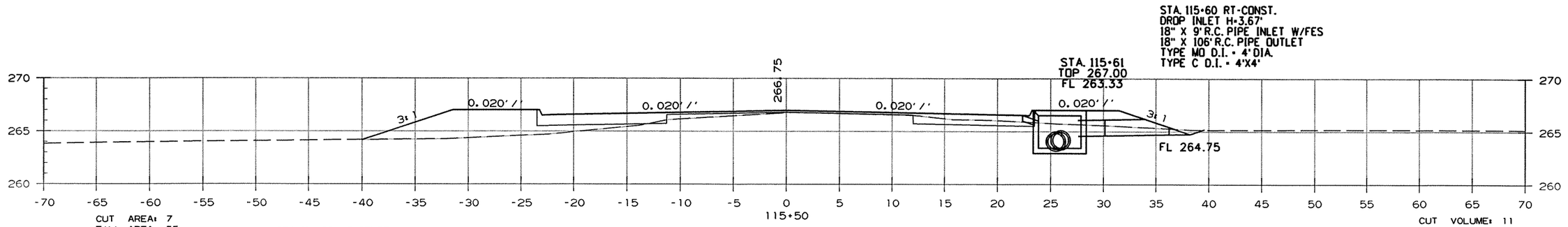
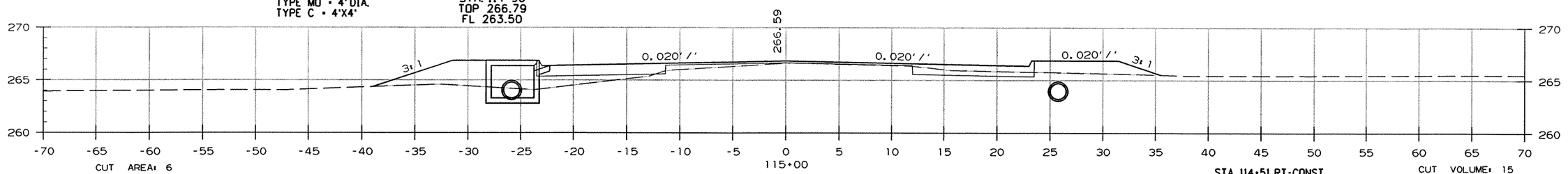
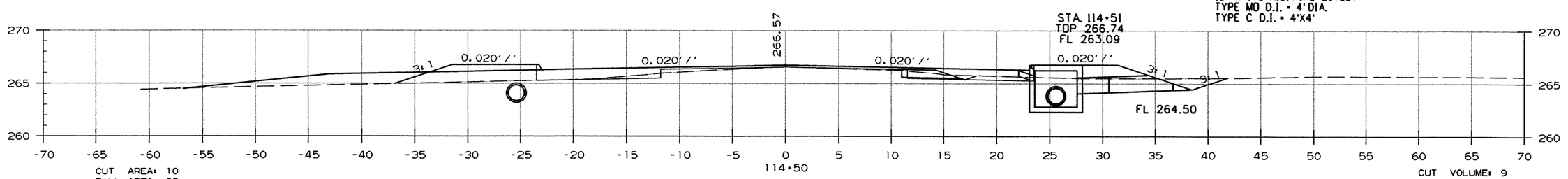
CROSS SECTION STA. 112+00 TO STA. 113+50

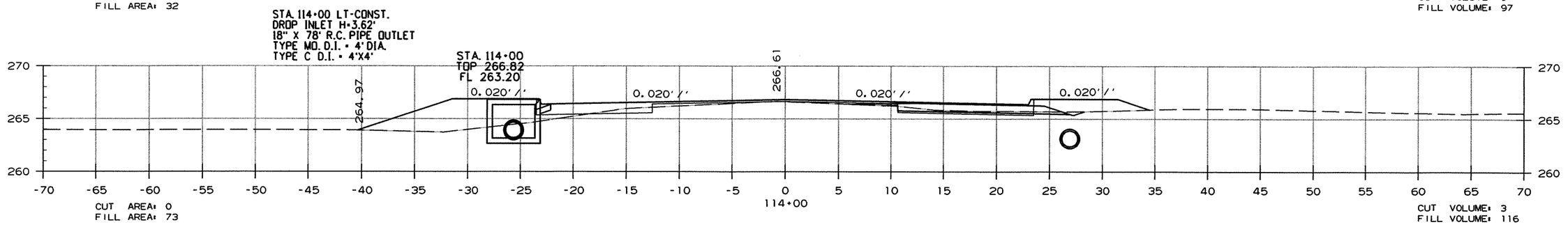
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	72	97

(2) CROSS SECTIONS







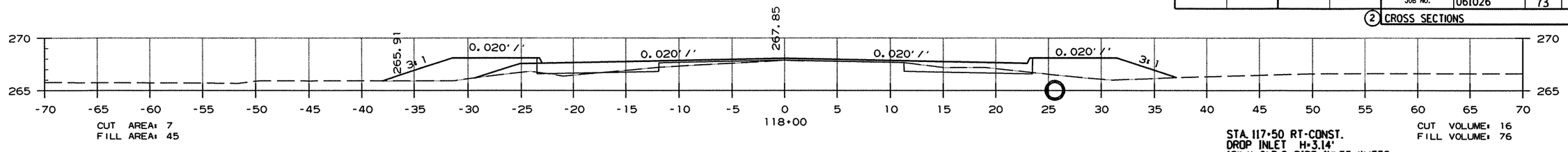


R061026.DGN 7/7/2011

CROSS SECTION STA. 114+00 TO STA. 115+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	73	97

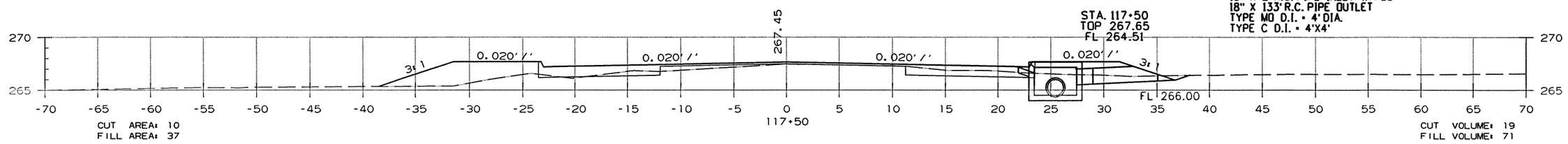
(2) CROSS SECTIONS



CUT AREA: 7
FILL AREA: 45

CUT VOLUME: 16
FILL VOLUME: 76

STA. 117+50 RT-CONST.
DROP INLET H=3.14'
18" X 2' R.C. PIPE INLET W/FES
18" X 133' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

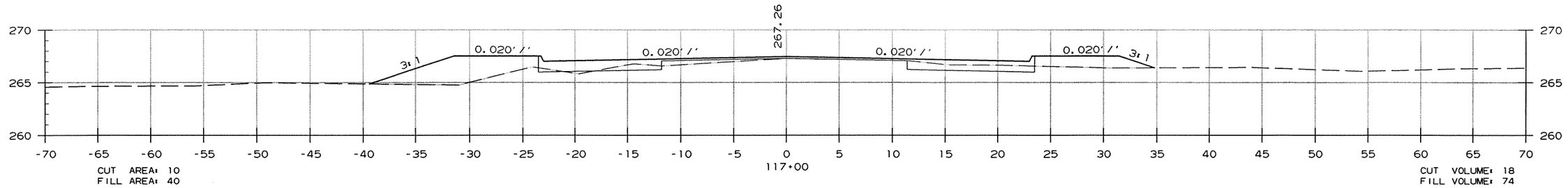


STA. 117+50
TOP 267.65
FL 264.51

FL 266.00

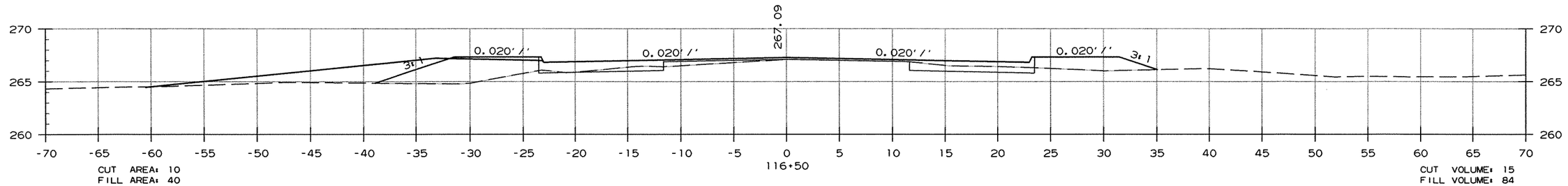
CUT AREA: 10
FILL AREA: 37

CUT VOLUME: 19
FILL VOLUME: 71



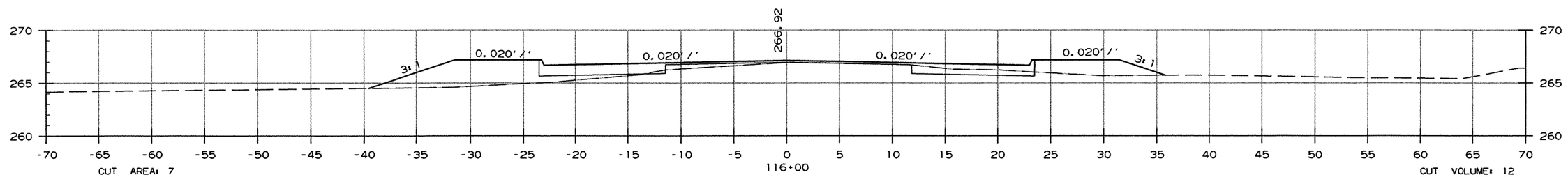
CUT AREA: 10
FILL AREA: 40

CUT VOLUME: 18
FILL VOLUME: 74



CUT AREA: 10
FILL AREA: 40

CUT VOLUME: 15
FILL VOLUME: 84



CUT AREA: 7
FILL AREA: 50

CUT VOLUME: 12
FILL VOLUME: 98

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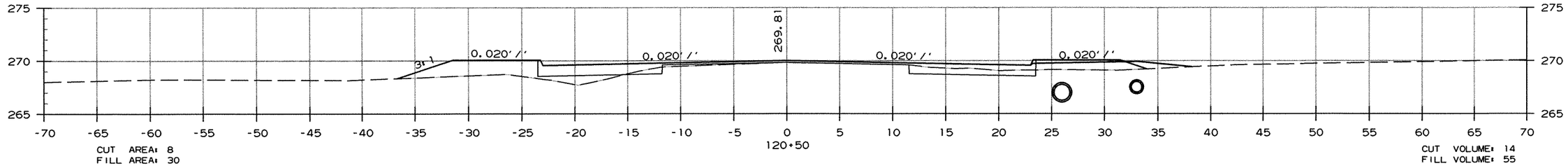
CROSS SECTION STA. 116+00 TO STA. 118+00

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.		061026	74	97

(2) CROSS SECTIONS

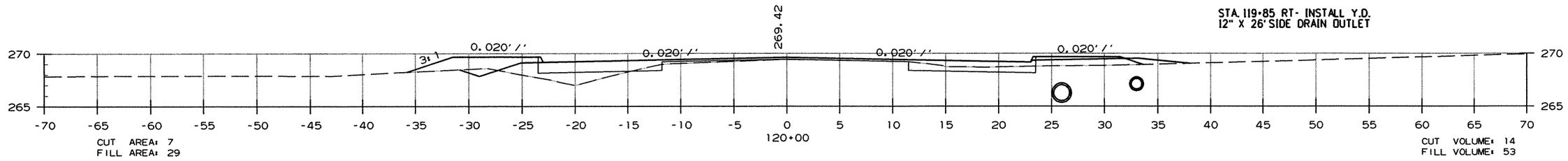
STA. 120+60 RT- INSTALL Y.D.
12" X 71' SIDE DRAIN OUTLET



CUT AREA: 8
FILL AREA: 30

CUT VOLUME: 14
FILL VOLUME: 55

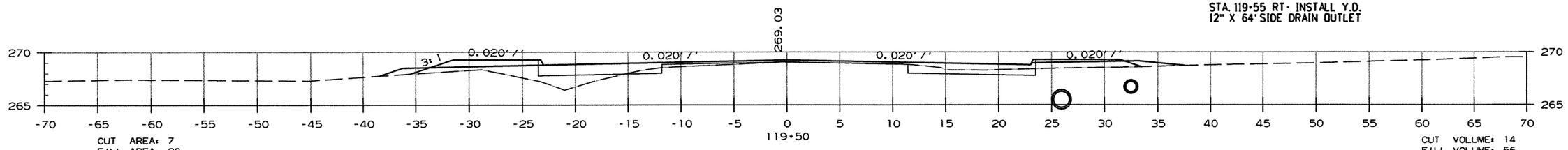
STA. 119+85 RT- INSTALL Y.D.
12" X 26' SIDE DRAIN OUTLET



CUT AREA: 7
FILL AREA: 29

CUT VOLUME: 14
FILL VOLUME: 53

STA. 119+55 RT- INSTALL Y.D.
12" X 64' SIDE DRAIN OUTLET



CUT AREA: 7
FILL AREA: 28

CUT VOLUME: 14
FILL VOLUME: 56

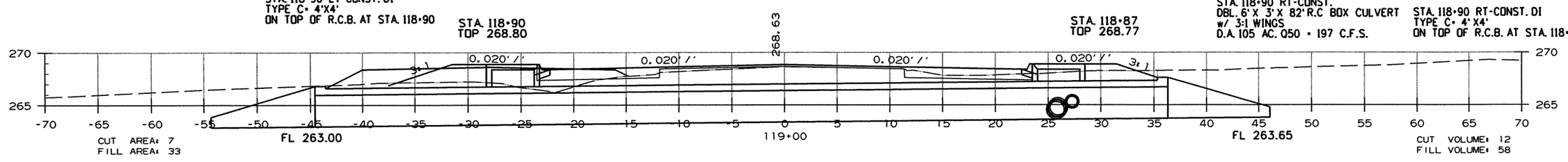
STA. 118+90 LT-CONST. DI
TYPE C- 4'X4'
ON TOP OF R.C.B. AT STA. 118+90

STA. 118+90
TOP 268.80

STA. 118+87
TOP 268.77

STA. 118+90 RT-CONST.
DBL. 6' X 3' X 82' R.C BOX CULVERT
w/ 3:1 WINGS
D.A. 105 AC. Q50 = 197 C.F.S.

STA. 118+90 RT-CONST. DI
TYPE C- 4'X4'
ON TOP OF R.C.B. AT STA. 118+90

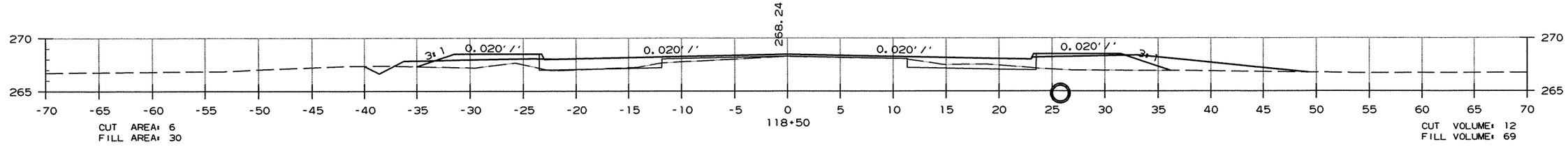


CUT AREA: 7
FILL AREA: 33

FL 263.00

FL 263.65

CUT VOLUME: 12
FILL VOLUME: 58



CUT AREA: 6
FILL AREA: 30

CUT VOLUME: 12
FILL VOLUME: 69

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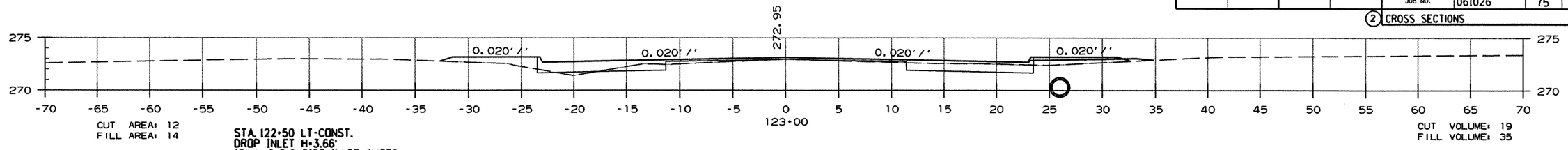
CROSS SECTION STA. 118+50 TO STA. 120+50

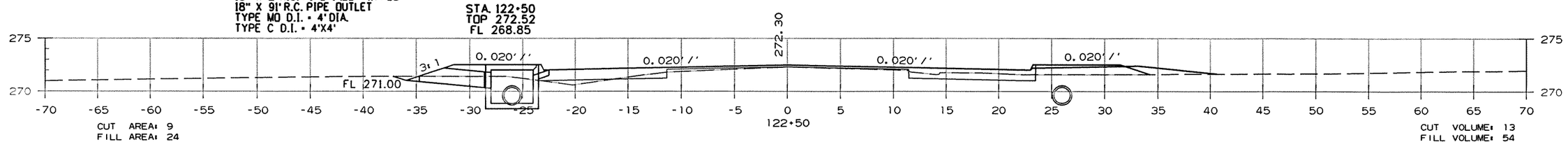
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	75	97

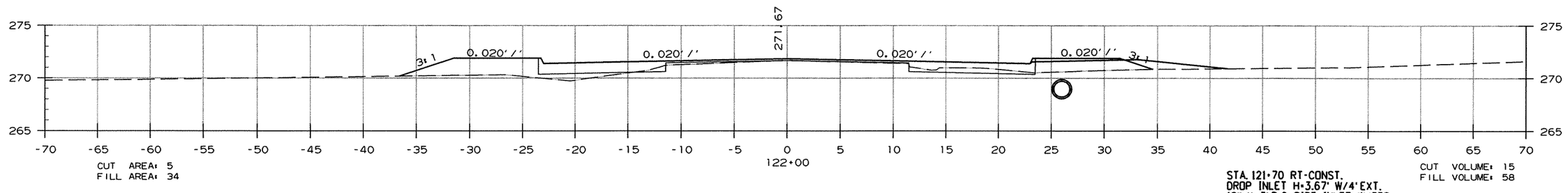
(2) CROSS SECTIONS



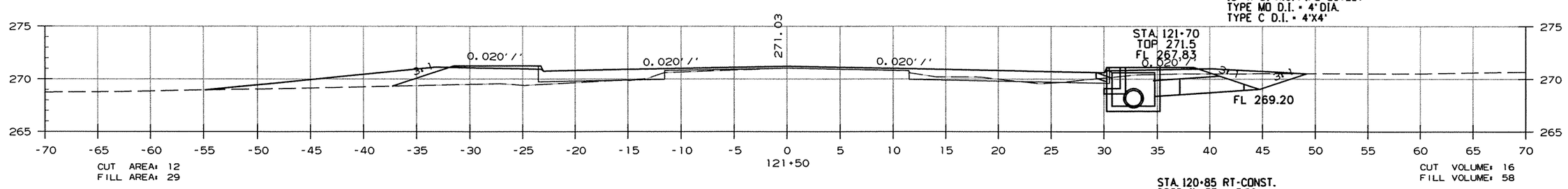
STA. 122+50 LT-CONST.
DROP INLET H=3.66'
18" X 2' R.C. PIPE INLET W/FES
18" X 91' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 122+50
TOP 272.52
FL 268.85





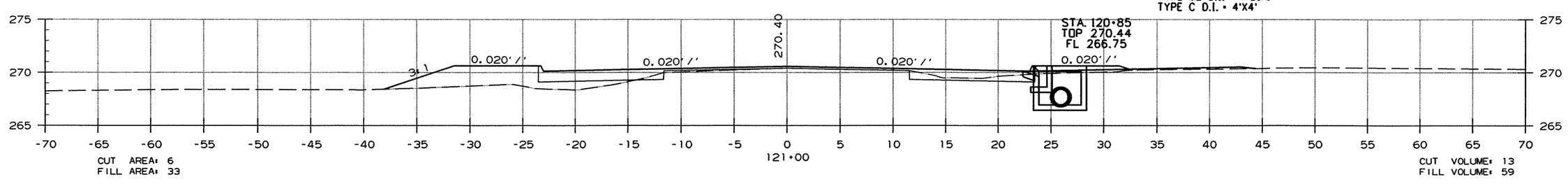
STA. 121+70 RT-CONST.
DROP INLET H=3.67' W/4' EXT.
18" X 3' R.C. PIPE INLET W/FES
18" X 81' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'



STA. 121+70
TOP 271.5
FL 267.83

FL 269.20

STA. 120+85 RT-CONST.
DROP INLET H=3.69'
18" X 194' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'



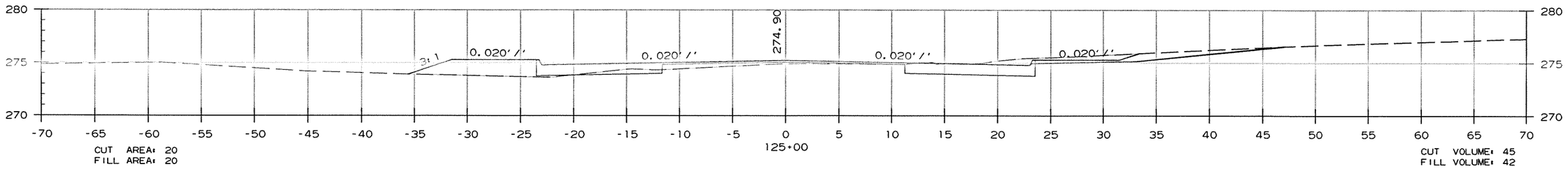
STA. 120+85
TOP 270.44
FL 266.75

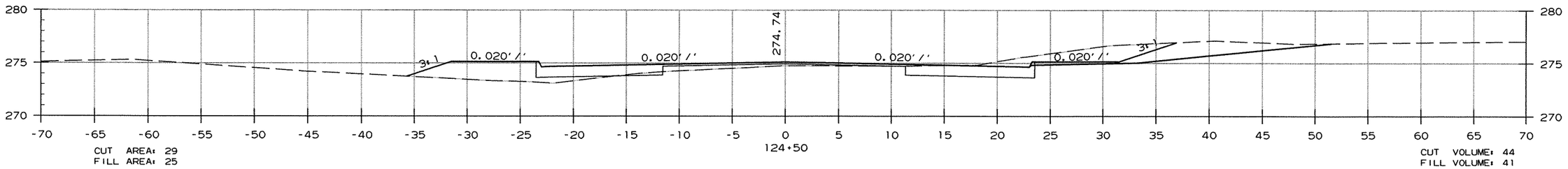
R061026.DGN 7/7/2011

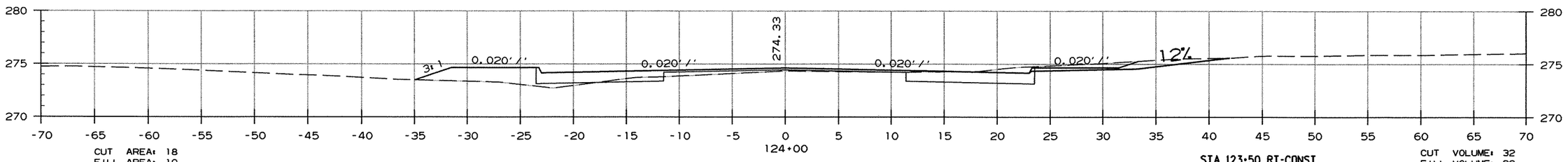
CROSS SECTION STA. 121+00 TO STA. 123+00

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.		061026	76	97

(2) CROSS SECTIONS

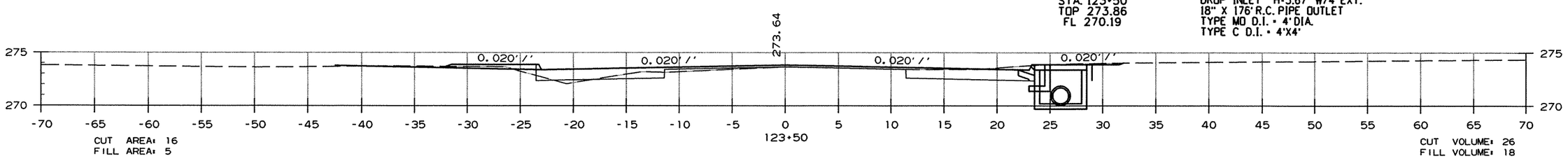






STA. 123+50
TOP 273.86
FL 270.19

STA. 123+50 RT-CONST.
DROP INLET H=3.67' W/4' EXT.
18" X 176' R.C. PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

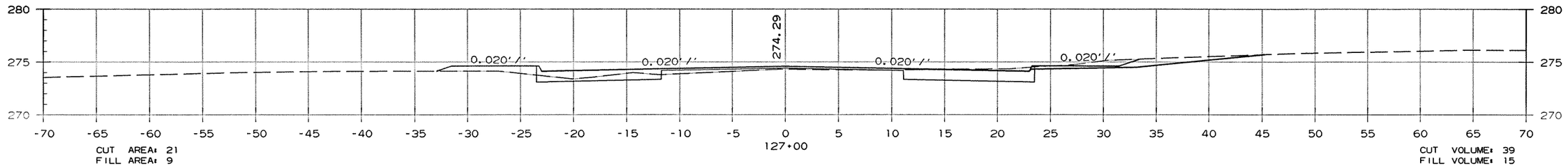


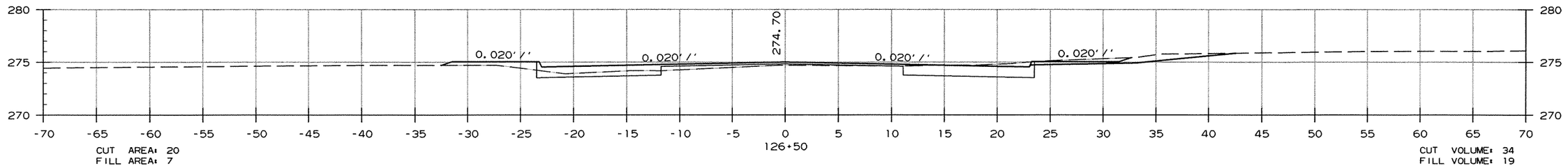
R061026.DGN 7/7/2011

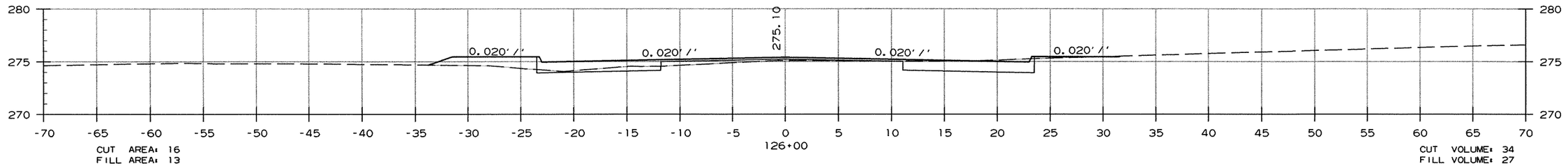
CROSS SECTION STA. 123+50 TO STA. 125+00

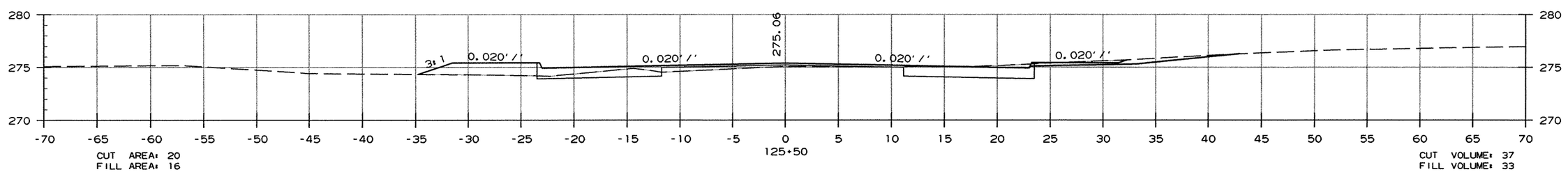
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	77	97

(2) CROSS SECTIONS







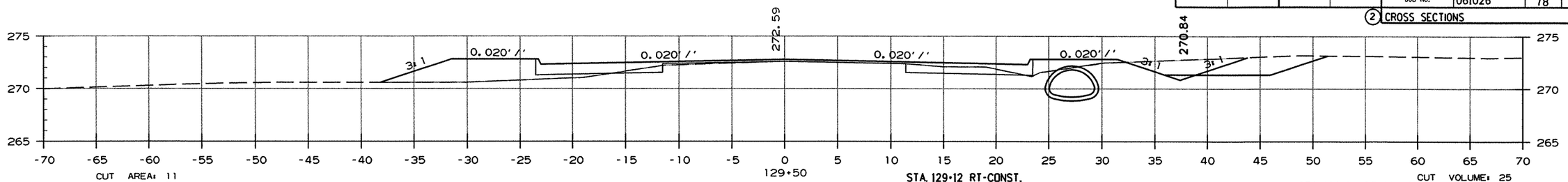


R061026.DGN 7/7/2011

CROSS SECTION STA. 125+50 TO STA. 127+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.		061026	78	97

(2) CROSS SECTIONS



CUT AREA: 11
FILL AREA: 54

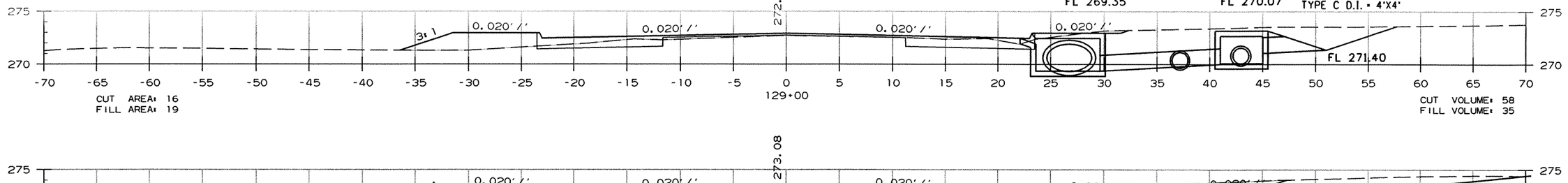
STA. 129+12 RT-CONST.
DROP INLET H=3.57'
51" X 31" X 203' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4'X6'

STA. 129+12
TOP 272.92
FL 269.35

STA. 128+84
TOP 273.73
FL 270.07

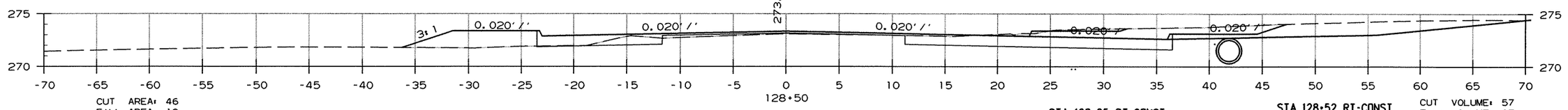
CUT VOLUME: 25
FILL VOLUME: 68

STA. 128+84 RT-CONST.
DROP INLET H=3.66' W/4' EXT.
18" R.C. F.E.S. INLET
18" X 32' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'



CUT AREA: 16
FILL AREA: 19

CUT VOLUME: 58
FILL VOLUME: 35



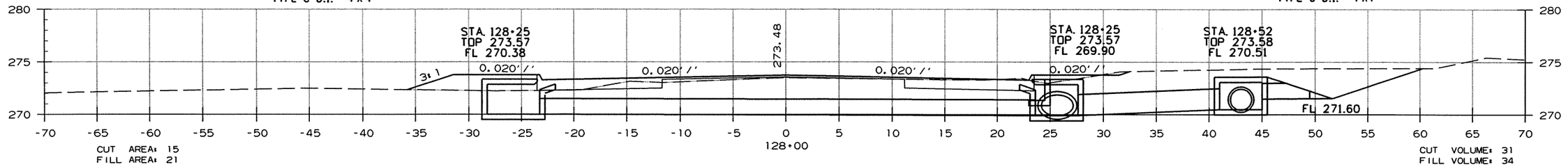
CUT AREA: 46
FILL AREA: 19

STA. 128+25 LT-CONST.
DROP INLET H=3.19'
18" X 48' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 128+25 RT-CONST.
DROP INLET H=3.67' W/4' EXT.
27" X 44" X 81' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4'X6'

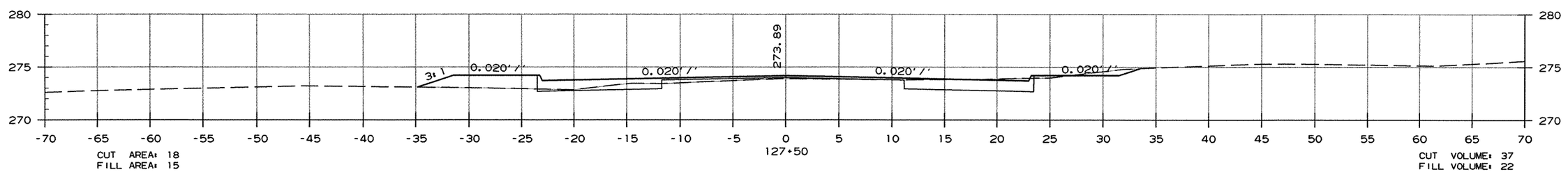
STA. 128+52 RT-CONST.
DROP INLET H=3.07' W/8' EXT.
24" R.C. F.E.S. INLET
24" X 26' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

CUT VOLUME: 57
FILL VOLUME: 37



CUT AREA: 15
FILL AREA: 21

CUT VOLUME: 31
FILL VOLUME: 34



CUT AREA: 18
FILL AREA: 15

CUT VOLUME: 37
FILL VOLUME: 22

R061026.DGN 7/7/2011

CROSS SECTION STA. 127+50 TO STA. 129+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	79	97

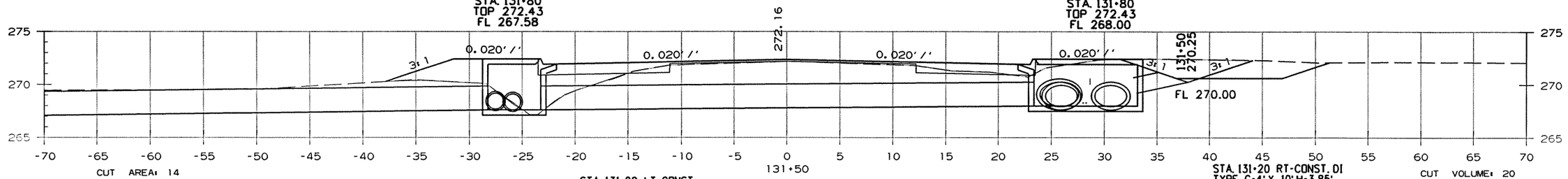
(2) CROSS SECTIONS

STA. 131+80 LT-CONST. DI
TYPE C-24' X 10' H-4.85'
TPL. 44" X 27" X 80' R.C. ARCH PIPE OUTLET
WITH F.E.S.

STA. 131+80
TOP 272.43
FL 267.58

STA. 131+80 RT-CONST. DI
TYPE C- 10 X 8' H-4.43'
18" R.C. F.E.S. INLET
DBL. 44" X 27" X 48' R.C.
ARCH PIPE OUTLET

STA. 131+80
TOP 272.43
FL 268.00



CUT AREA: 14
FILL AREA: 75

CUT VOLUME: 20
FILL VOLUME: 138

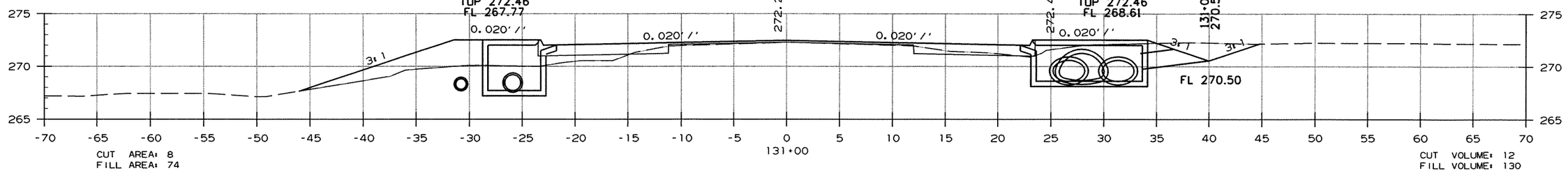
STA. 130+65 LT-INSTALL Y.D.
12" X 53' SIDE DRAIN OUTLET

STA. 131+20 LT-CONST.
DROP INLET H-4.69'
18" X 53' R.C. PIPE OUTLET
TYPE MD D.I. - 4' DIA.
TYPE C D.I. - 4'X4'

STA. 131+20
TOP 272.46
FL 267.77

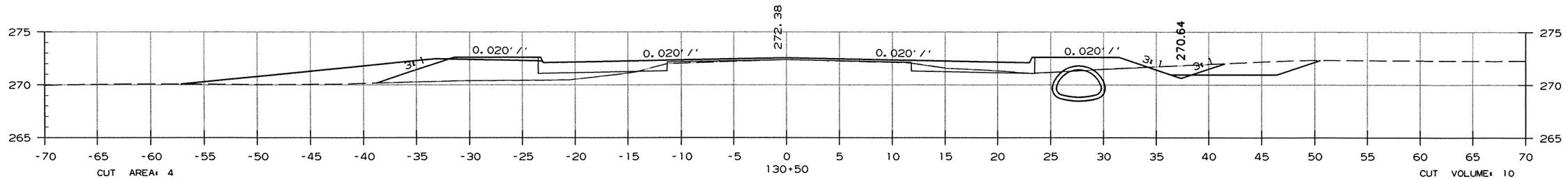
STA. 131+20 RT-CONST. DI
TYPE C-4' X 10' H-3.85'
18" R.C. F.E.S. INLET
DBL. 36" X 23" X 53' R.C.
ARCH PIPE OUTLET

STA. 131+20
TOP 272.46
FL 268.61



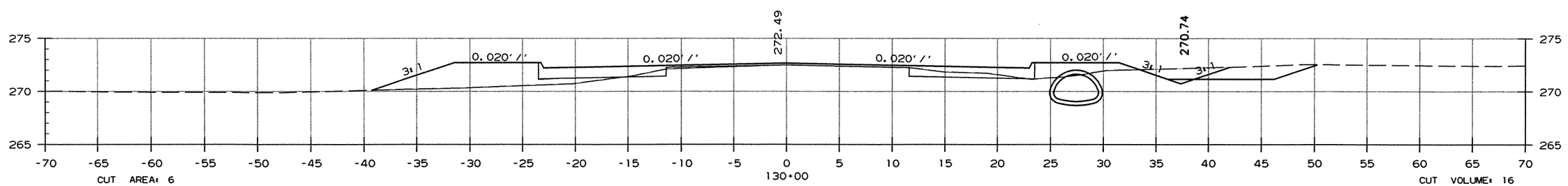
CUT AREA: 8
FILL AREA: 74

CUT VOLUME: 12
FILL VOLUME: 130



CUT AREA: 4
FILL AREA: 67

CUT VOLUME: 10
FILL VOLUME: 121



CUT AREA: 6
FILL AREA: 64

CUT VOLUME: 16
FILL VOLUME: 109

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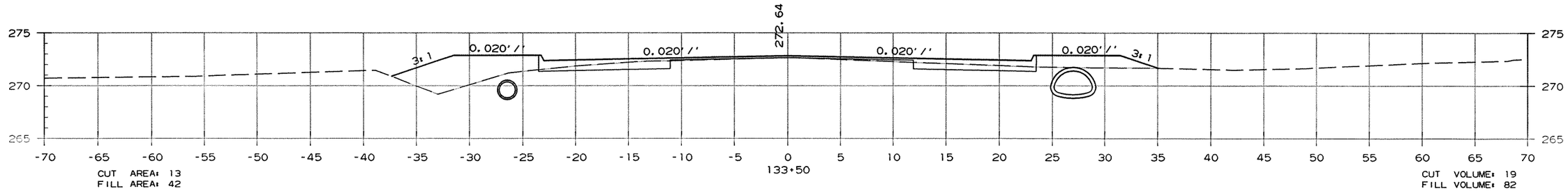
CROSS SECTION STA. 130+00 TO STA. 131+50

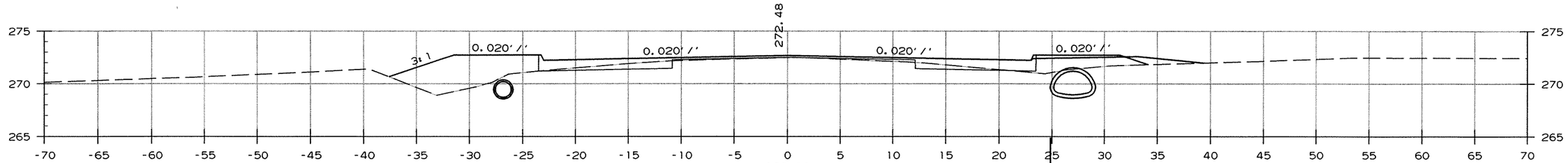
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	80	97

(2) CROSS SECTIONS



CUT AREA: 13
FILL AREA: 42

CUT VOLUME: 19
FILL VOLUME: 82



CUT AREA: 7
FILL AREA: 46

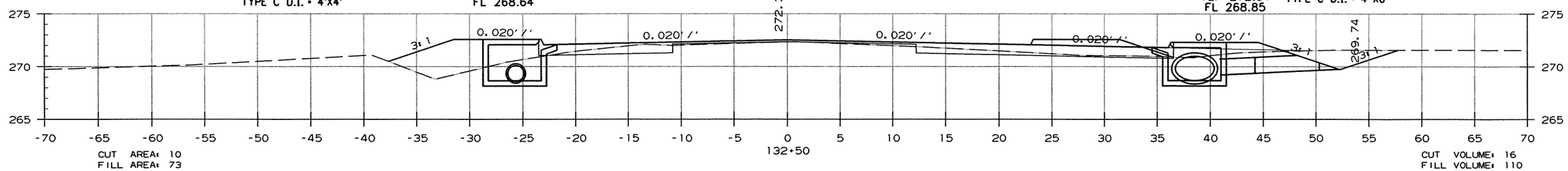
STA. 132+75 LT-CONST.
DROP INLET H=4.00'
18" X 87' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 132+75
TOP 272.64
FL 268.64

STA. 132+75 RT-CONST.
DROP INLET H=3.79'
18" X 3' R.C. PIPE INLET W/ FES
44" X 27" X 87' R.C. ARCH PIPE OUTLET
TYPE MO D.I. = 6' DIA.
TYPE C D.I. = 4' X6'

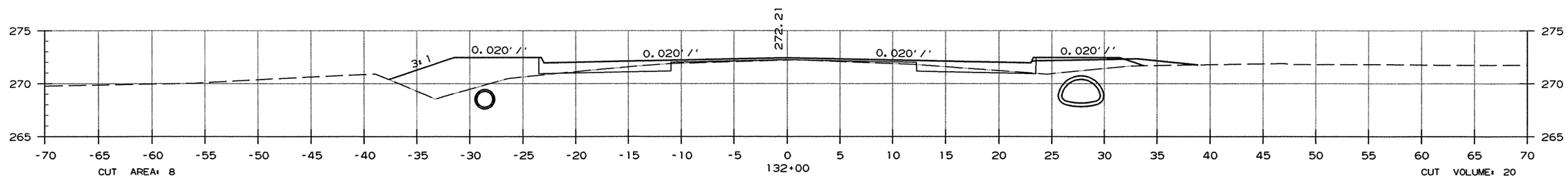
STA. 132+75
TOP 272.64
FL 268.85

CUT VOLUME: 16
FILL VOLUME: 111



CUT AREA: 10
FILL AREA: 73

CUT VOLUME: 16
FILL VOLUME: 110



CUT AREA: 8
FILL AREA: 46

CUT VOLUME: 20
FILL VOLUME: 112

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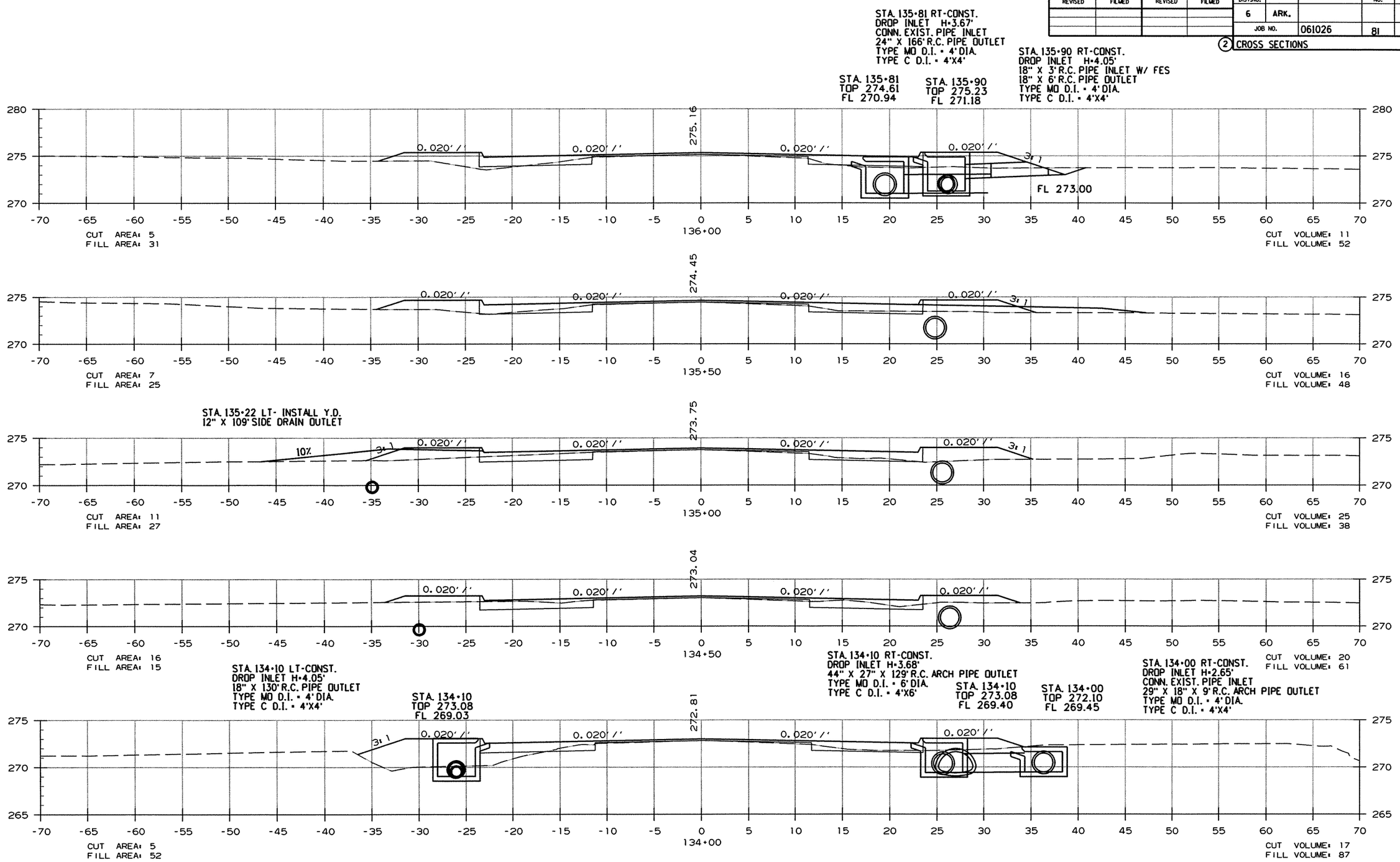
CROSS SECTION STA. 132+00 TO STA. 133+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	81	97

(2) CROSS SECTIONS



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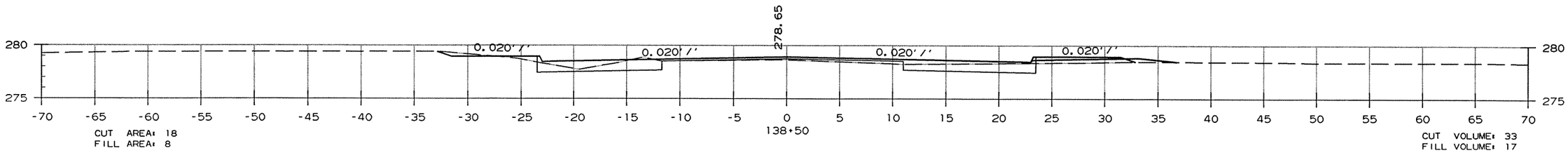
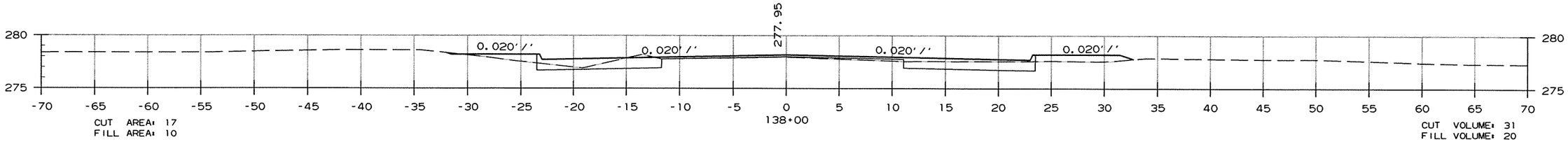
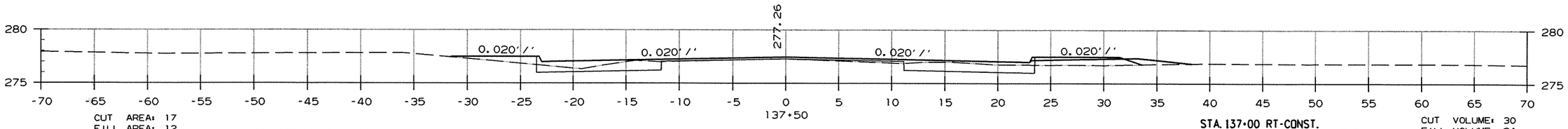
CROSS SECTION STA. 134+00 TO STA. 136+00

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.		061026	82	97

(2) CROSS SECTIONS



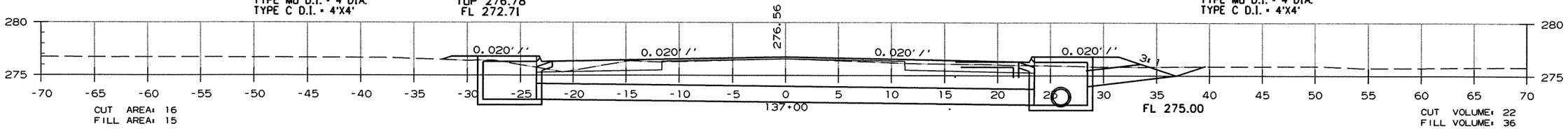


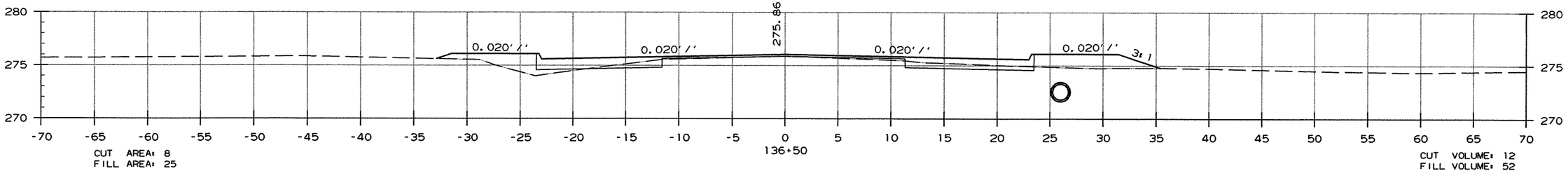


STA. 137+00 LT-CONST.
DROP INLET H=4.07' W/4' EXT.
18" X 48' R.C. PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 137+00
TOP 276.78
FL 272.71

STA. 137+00 RT-CONST.
DROP INLET H=4.52' W/4' EXT.
18" X 2' R.C. PIPE INLET
18" X 106' R.C. PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'





CROSS SECTION STA. 136+50 TO STA. 138+50

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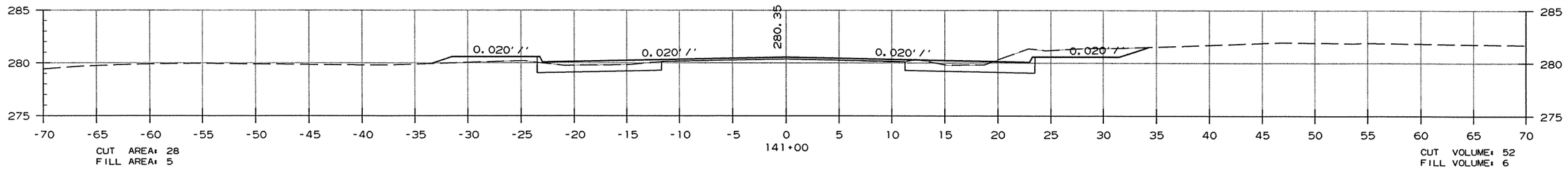
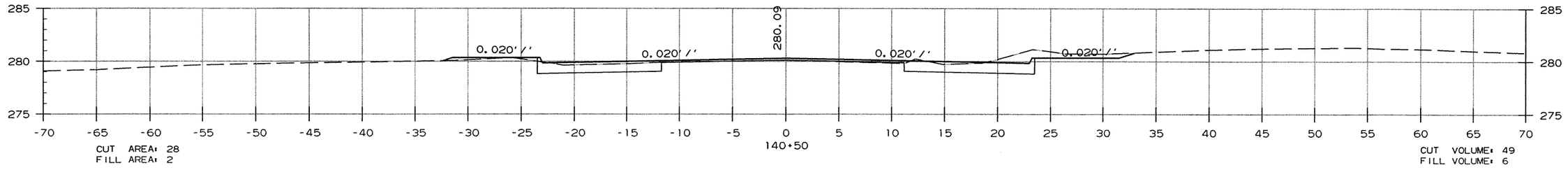
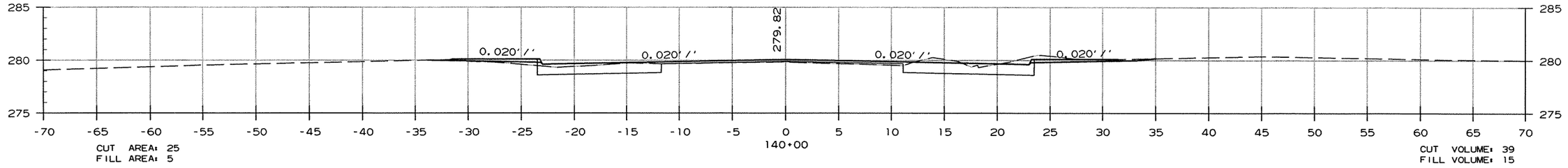
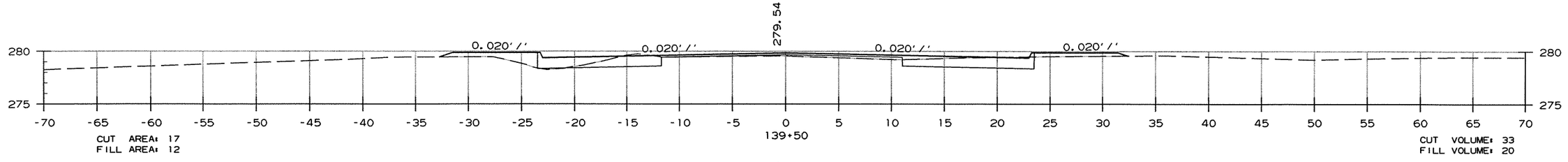
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	83	97

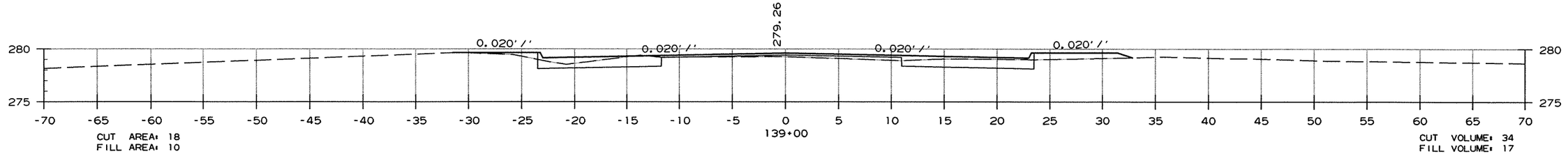
(2) CROSS SECTIONS











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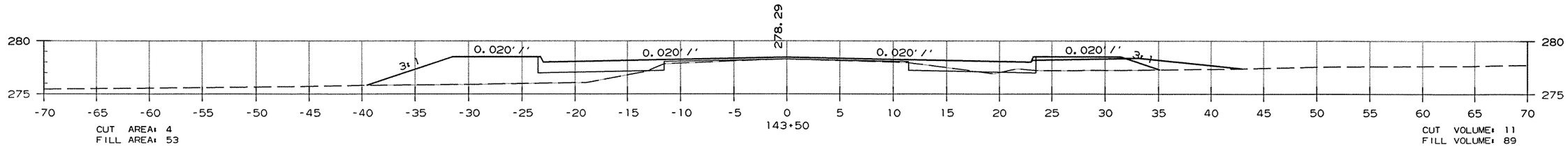
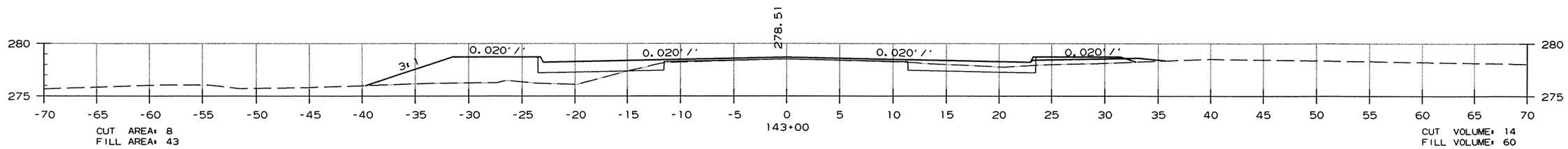
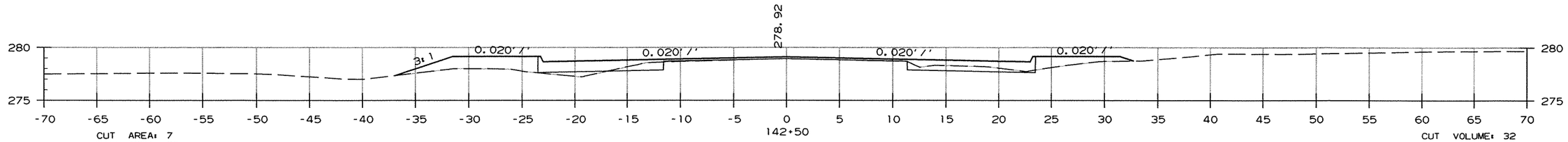
CROSS SECTION STA. 139+00 TO STA. 141+00

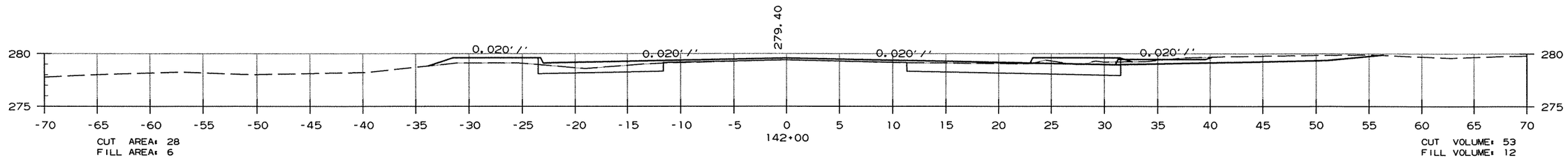
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	84	97

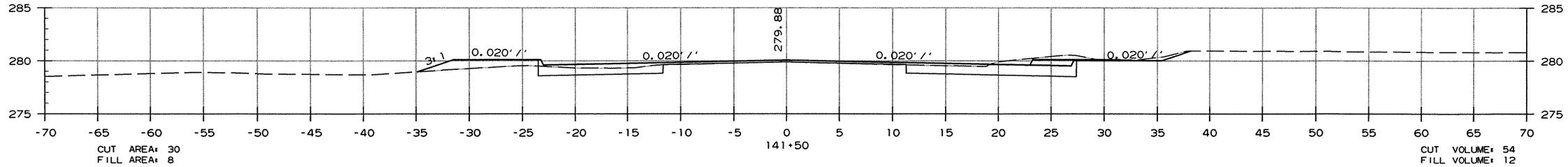
(2) CROSS SECTIONS











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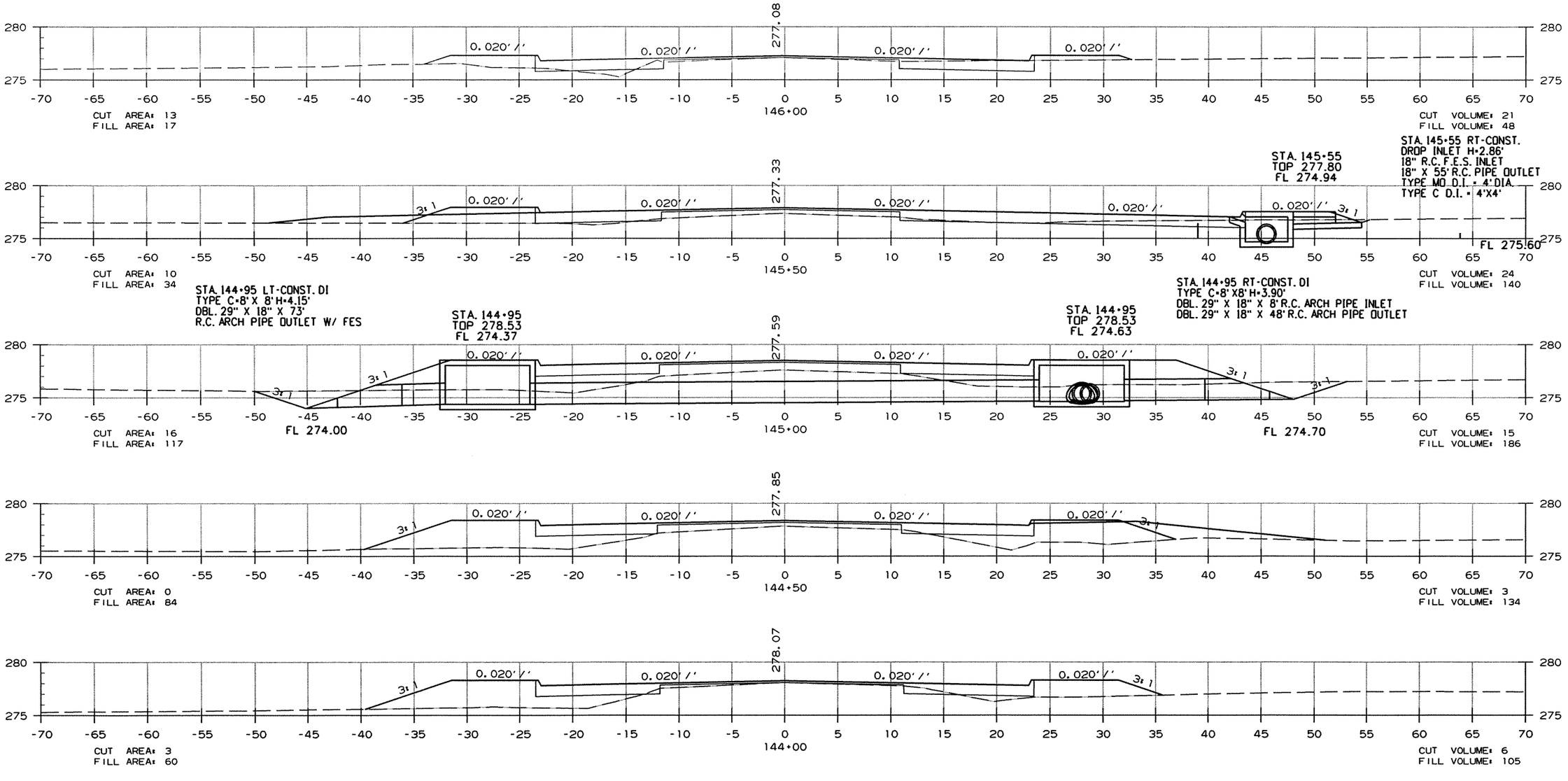
CROSS SECTION STA. 141+50 TO STA. 143+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	85	97

(2) CROSS SECTIONS



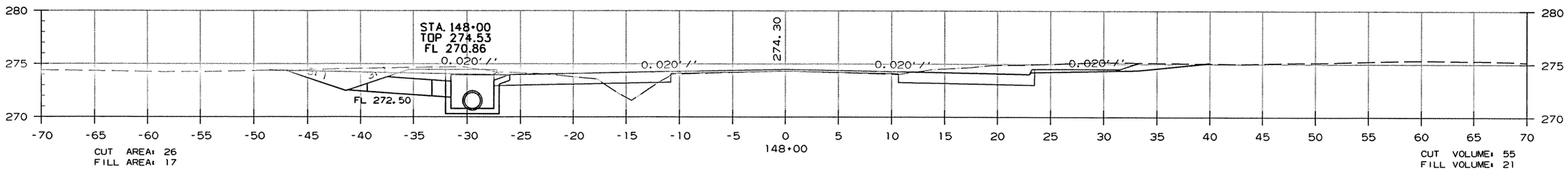
CROSS SECTION STA. 144+00 TO STA. 146+00

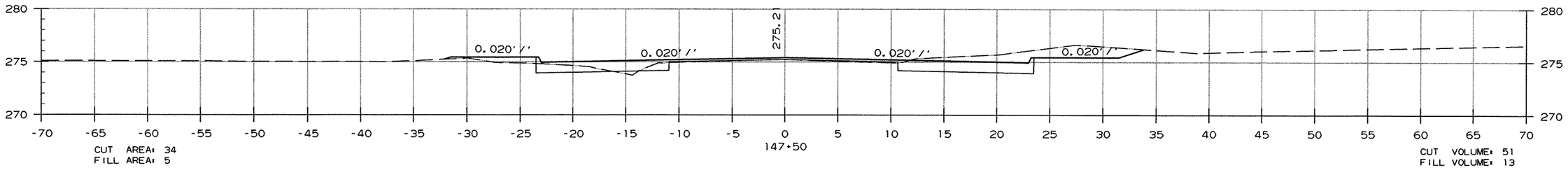
R061026.DGN 7/7/2011

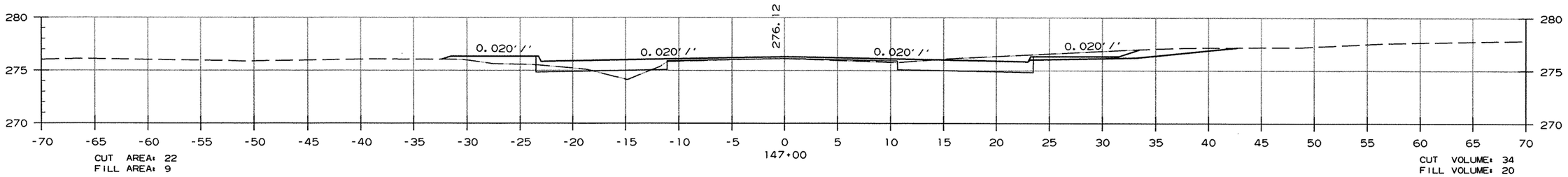
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	86	97

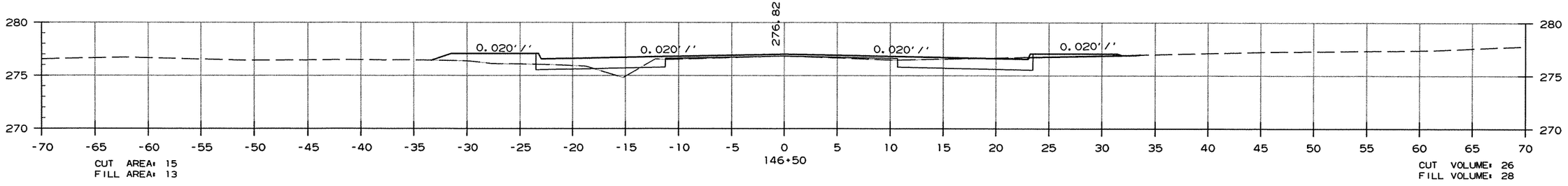
(2) CROSS SECTIONS

STA. 148+00 LT-CONST.
DROP INLET H=3.67'
18" X 2' R.C. PIPE INLET W/ FES
18" X 56' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'









R061026.DGN 7/7/2011

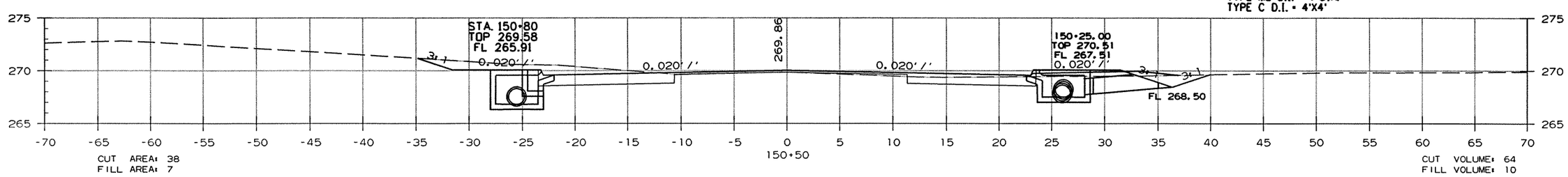
CROSS SECTION STA. 146+50 TO STA. 148+00

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.		061026	87	97

(2) CROSS SECTIONS

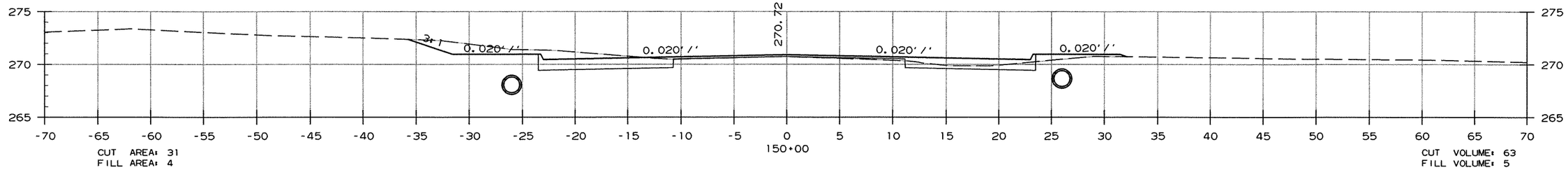
STA. 150+80 LT-CONST.
DROP INLET H=3.67' W/4' EXT.
18" X 266' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 150+25 RT-CONST.
DROP INLET H=3.00' W/4' EXT.
18" X 2' R.C PIPE INLET W/ FES
18" X 121' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'



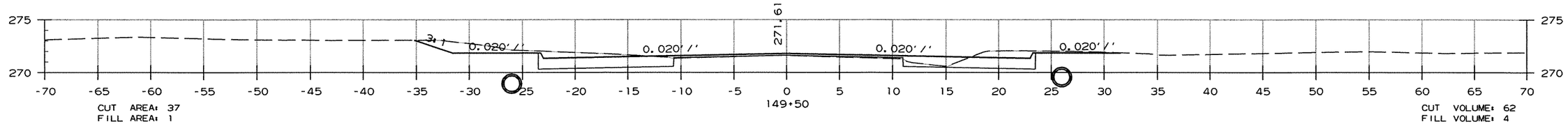
CUT AREA: 38
FILL AREA: 7

CUT VOLUME: 64
FILL VOLUME: 10



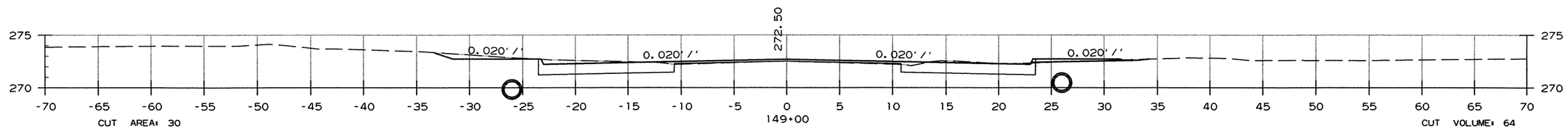
CUT AREA: 31
FILL AREA: 4

CUT VOLUME: 63
FILL VOLUME: 5



CUT AREA: 37
FILL AREA: 1

CUT VOLUME: 62
FILL VOLUME: 4



CUT AREA: 30
FILL AREA: 3

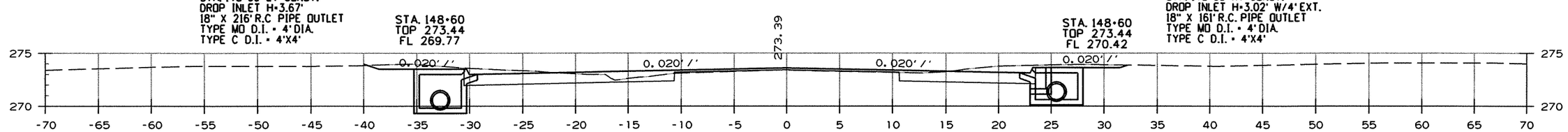
CUT VOLUME: 64
FILL VOLUME: 4

STA. 148+60 LT-CONST.
DROP INLET H=3.67'
18" X 216' R.C PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 148+60
TOP 273.44
FL 269.77

STA. 148+60
TOP 273.44
FL 270.42

STA. 148+60 RT-CONST.
DROP INLET H=3.02' W/4' EXT.
18" X 161' R.C. PIPE OUTLET
TYPE MO D.I. = 4' DIA.
TYPE C D.I. = 4'X4'



CUT AREA: 40
FILL AREA: 1

CUT VOLUME: 61
FILL VOLUME: 17

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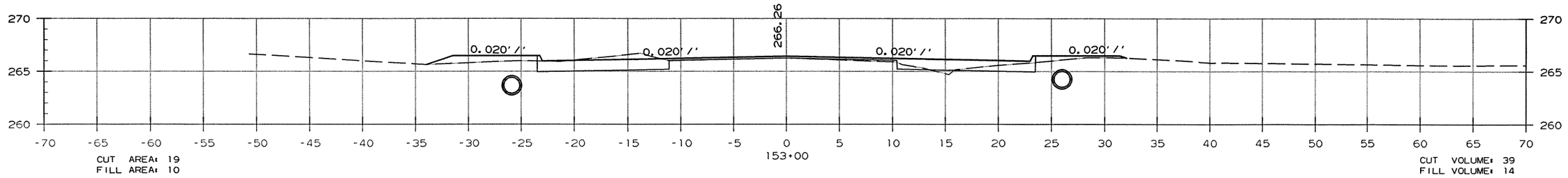
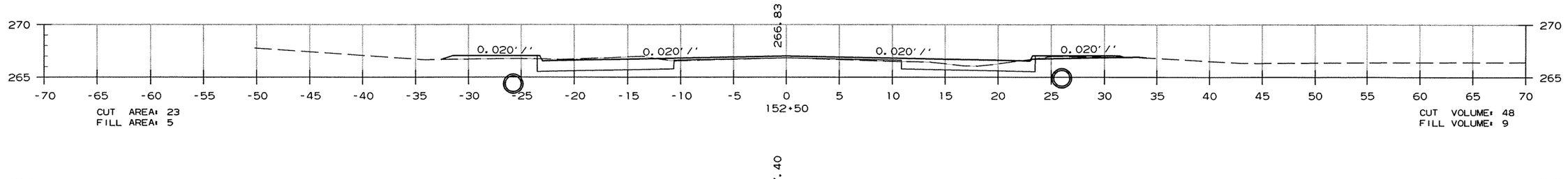
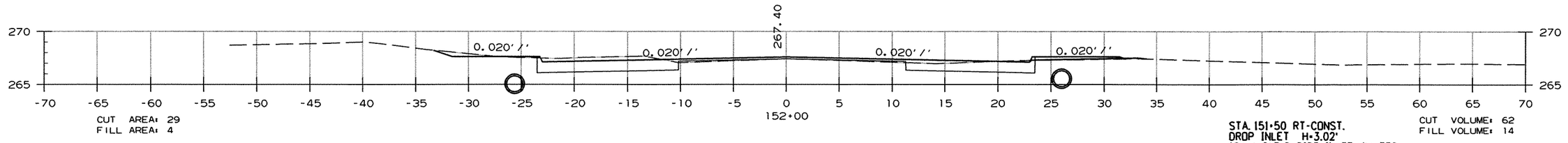
CROSS SECTION STA. 148+50 TO STA. 150+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	88	97

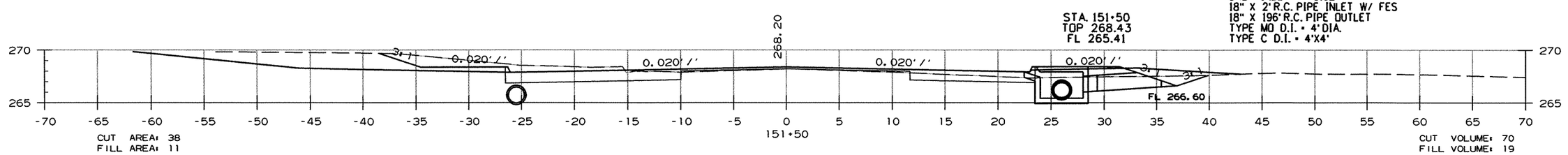
(2) CROSS SECTIONS

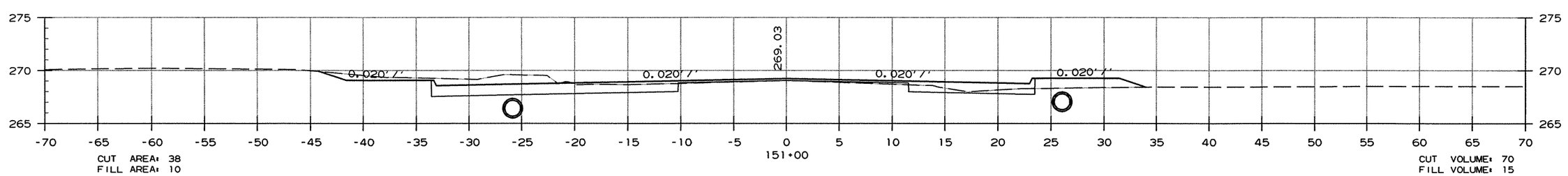






STA. 151+50 RT-CONST.
DROP INLET H=3.02'
18" X 2' R.C. PIPE INLET W/ FES
18" X 196' R.C. PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'



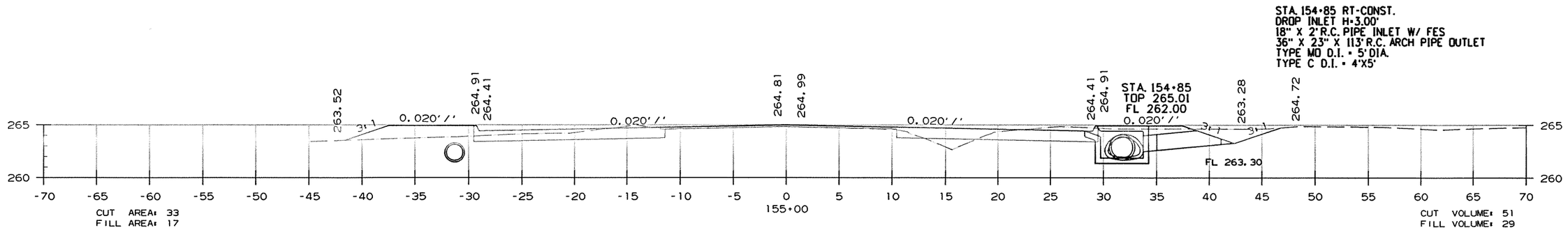


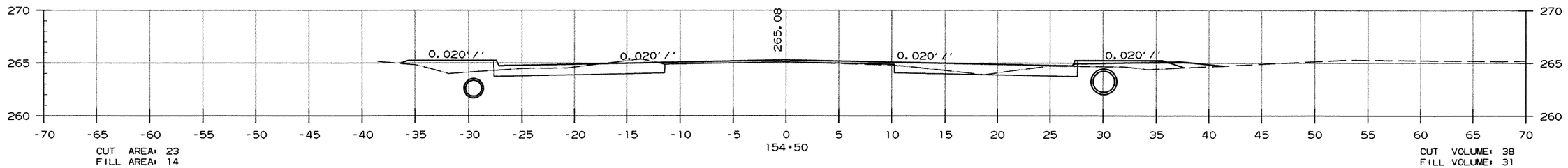
CROSS SECTION STA. 151+00 TO STA. 153+00

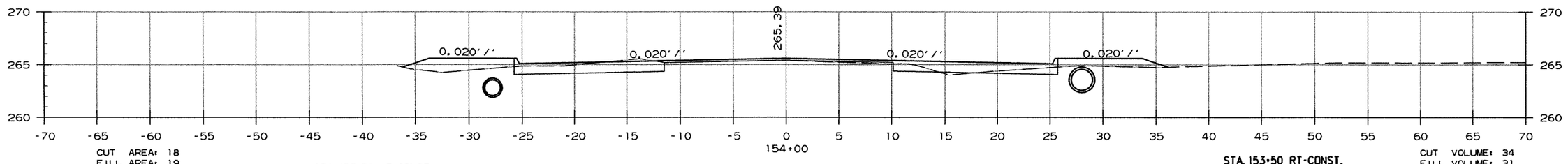
R061026.DGN 7/7/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	89	97

(2) CROSS SECTIONS

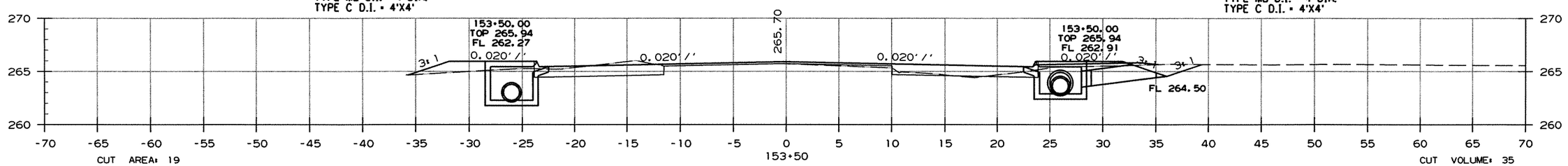






STA. 153+50 LT-CONST.
DROP INLET H=3.67'
18" X 248' R.C. PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 153+50 RT-CONST.
DROP INLET H=3.03'
18" X 2' R.C. PIPE INLET W/ FES
24" X 131' R.C. PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'



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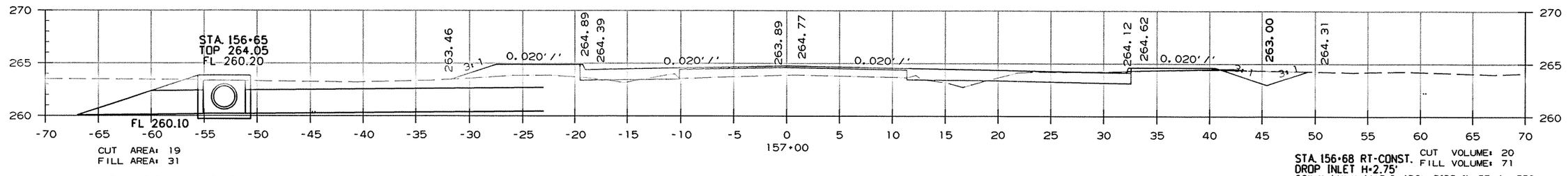
CROSS SECTION STA. 153+50 TO STA. 155+00

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.		061026	90	97

(2) CROSS SECTIONS

STA. 156+82 INSTALL (LOOP RD)
TPL. 36" X 23" X 48' PIPE CULVERT
RT. SIDE DRAIN

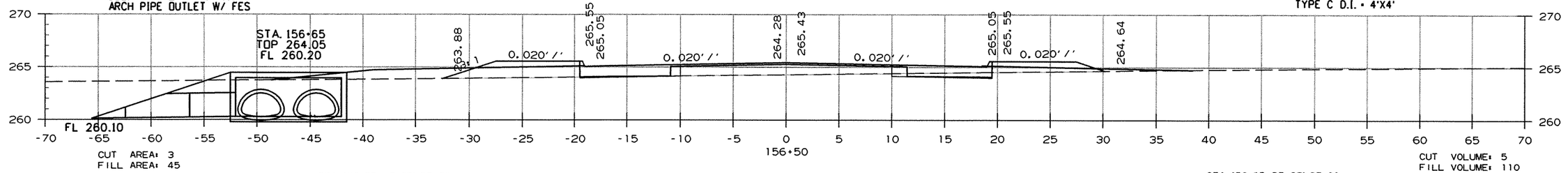
STA. 156+80 LT-CONST. DI
TYPE ST JCT BOX (4' X 5') H=2.65'
29" X 18" R.C. ARCH F.E.S. OUTLET



CUT AREA: 19
FILL AREA: 31

STA. 156+68 RT-CONST. CUT VOLUME: 20
DROP INLET H=2.75' FILL VOLUME: 71
22" X 14" X 14' R.C. ARCH PIPE INLET W/ FES
22" X 14" X 97' R.C. ARCH PIPE OUTLET
TYPE MD D.I. = 4' DIA.
TYPE C D.I. = 4'X4'

STA. 156+65 LT-CONST. DI
TYPE C-10' H=3.85'
DBL. 44" X 27" X 5' R.C.
ARCH PIPE OUTLET W/ FES

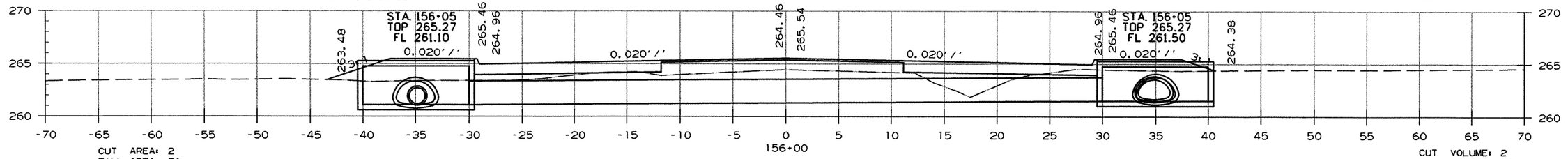


CUT AREA: 3
FILL AREA: 45

CUT VOLUME: 5
FILL VOLUME: 110

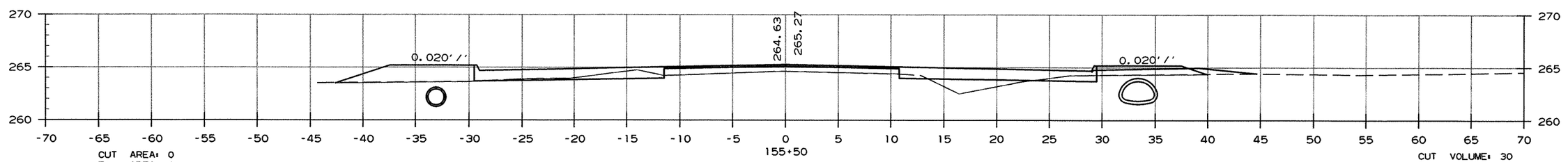
STA. 156+05 LT-CONST. DI
TYPE C-10' H=4.16'
DBL. 44" X 27" X 51' R.C.
ARCH PIPE OUTLET

STA. 156+05 RT-CONST. DI
TYPE C-10' H=3.77'
DBL. 44" X 27" X 17' ARCH R.C. PIPE INLET W/ FES
DBL. 44" X 27" X 60' ARCH R.C. PIPE OUTLET



CUT AREA: 2
FILL AREA: 74

CUT VOLUME: 2
FILL VOLUME: 69



CUT AREA: 0
FILL AREA: 0

CUT VOLUME: 30
FILL VOLUME: 16

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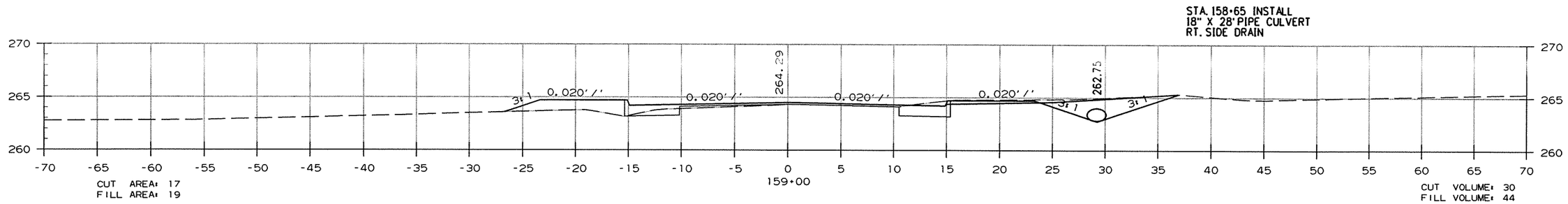
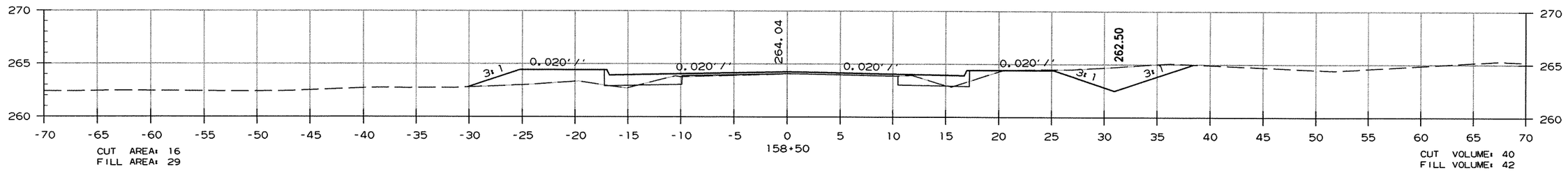
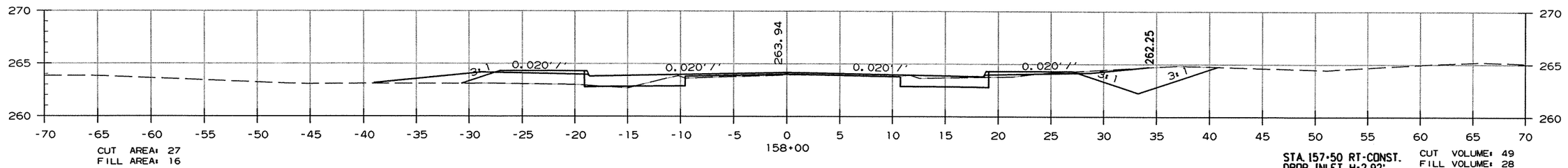
CROSS SECTION STA. 155+50 TO STA. 157+00

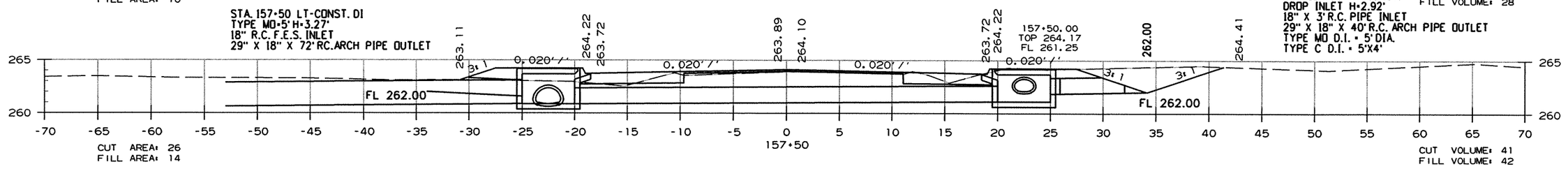
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	91	97

(2) CROSS SECTIONS









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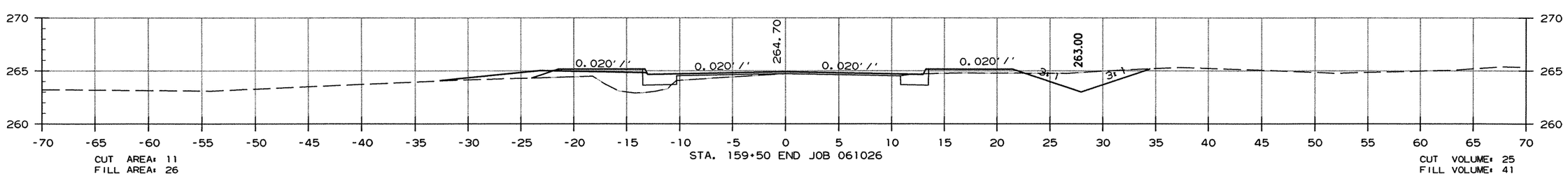
CROSS SECTION STA. 157+50 TO STA. 159+00

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.		061026	92	97

(2) CROSS SECTIONS



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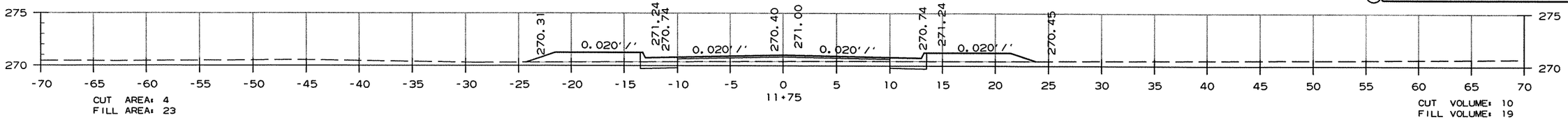
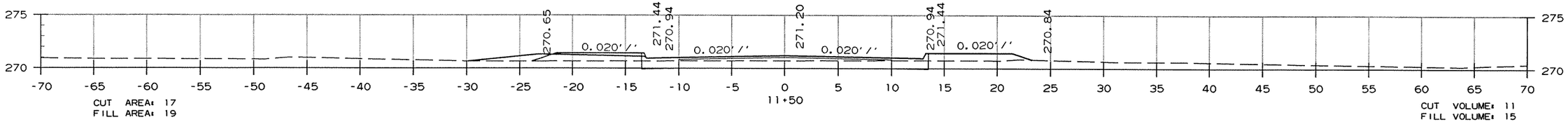
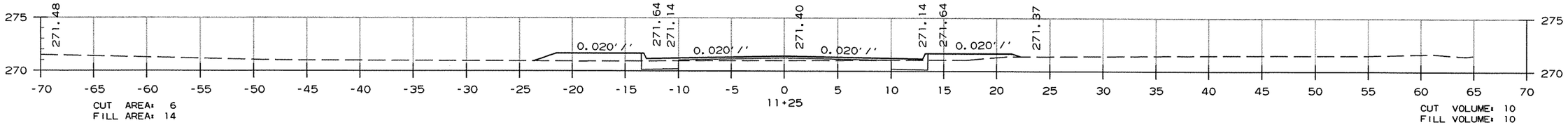
CROSS SECTION STA. 159+50 TO STA. 159+50

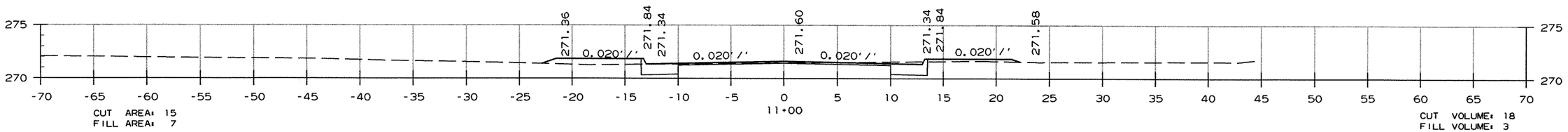
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	93	97

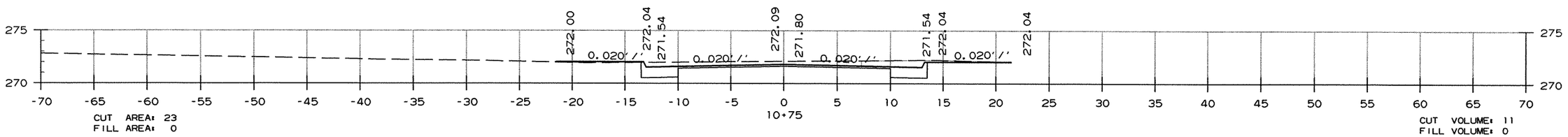
(2) CROSS SECTIONS

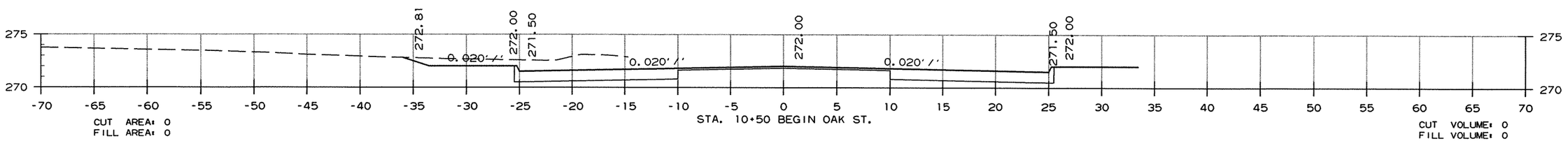












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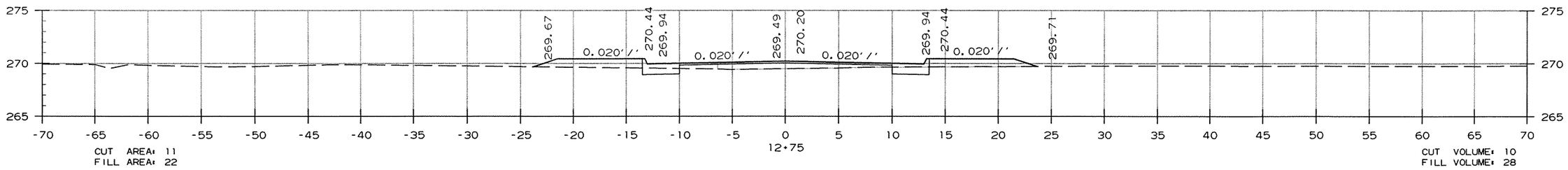
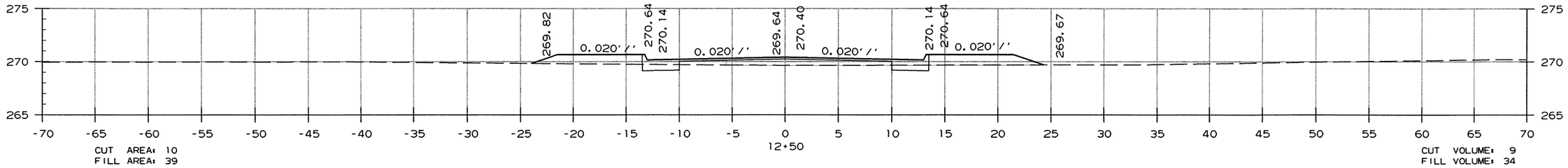
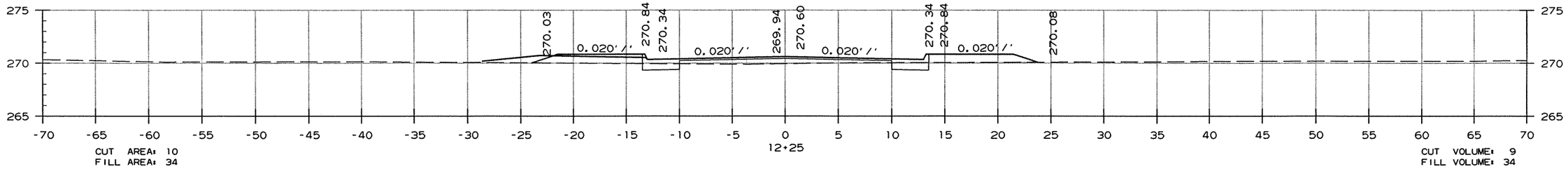
CROSS SECTION STA. 10+50 TO STA. 11+75

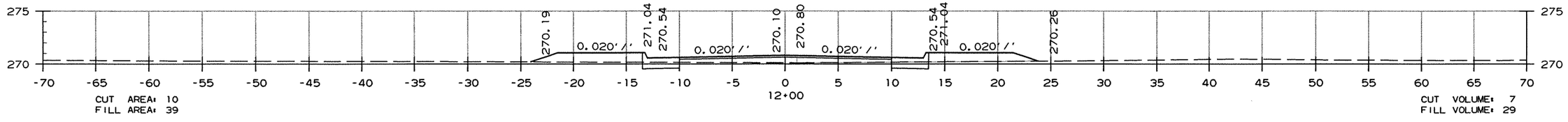
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	94	97

(2) CROSS SECTIONS









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CROSS SECTION STA. 12+00 TO STA. 12+75

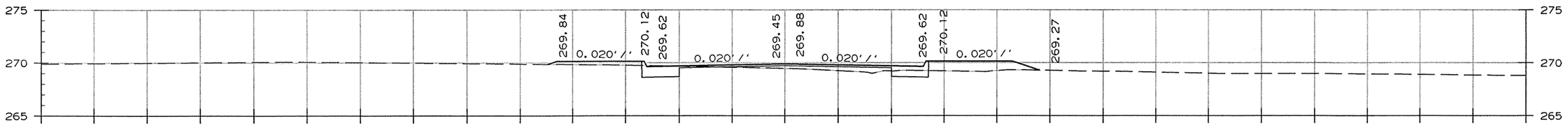
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	95	97

(2) CROSS SECTIONS

CUT AREA: 0
FILL AREA: 0

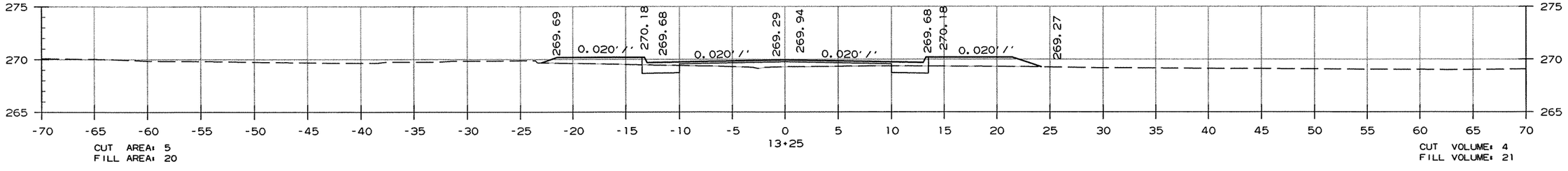
STA. 13+55 END OAK ST.

CUT VOLUME: 1
FILL VOLUME: 2



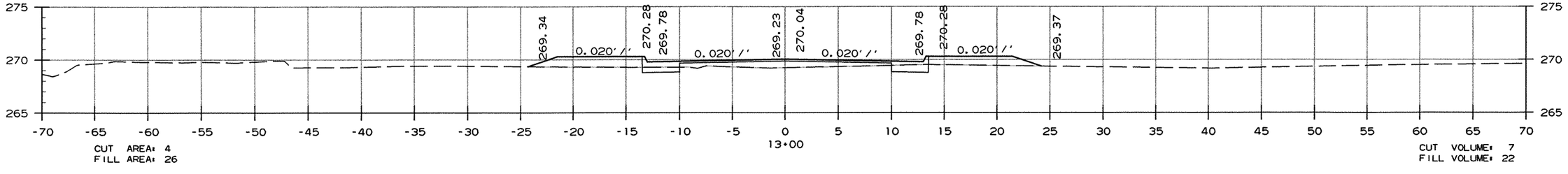
CUT AREA: 6
FILL AREA: 16

CUT VOLUME: 5
FILL VOLUME: 17



CUT AREA: 5
FILL AREA: 20

CUT VOLUME: 4
FILL VOLUME: 21



CUT AREA: 4
FILL AREA: 26

CUT VOLUME: 7
FILL VOLUME: 22

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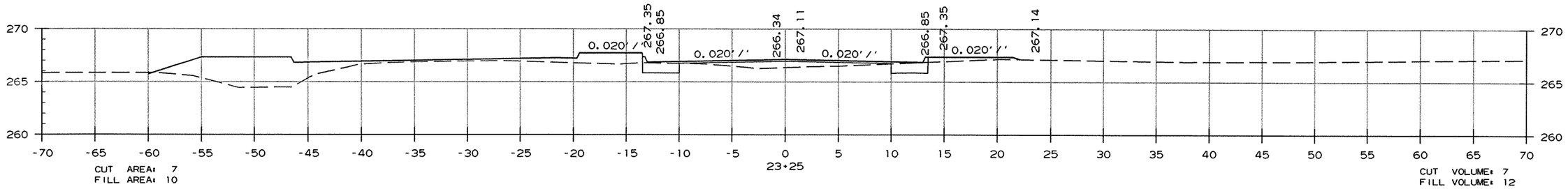
CROSS SECTION STA. 13+00 TO STA. 13+55

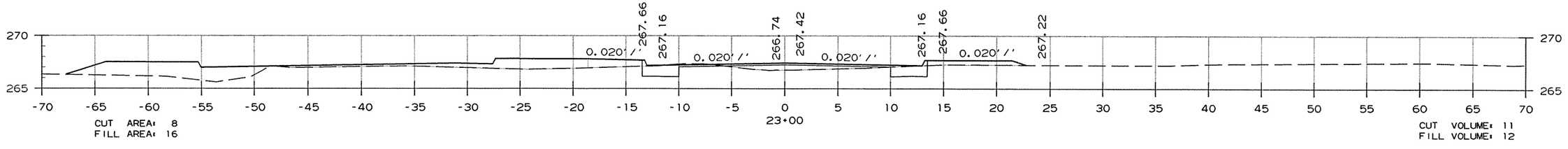
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	96	97

(2) CROSS SECTIONS



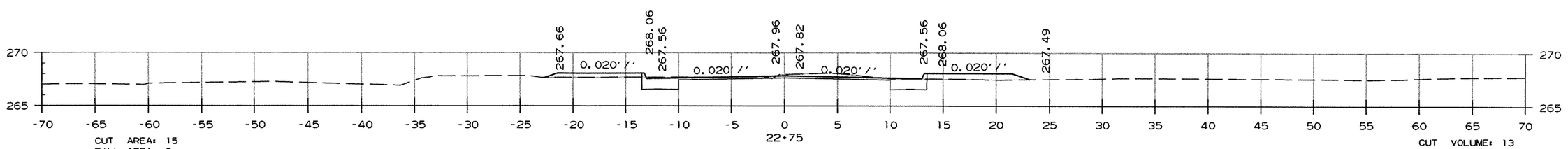
CUT AREA: 7
FILL AREA: 10

CUT VOLUME: 7
FILL VOLUME: 12



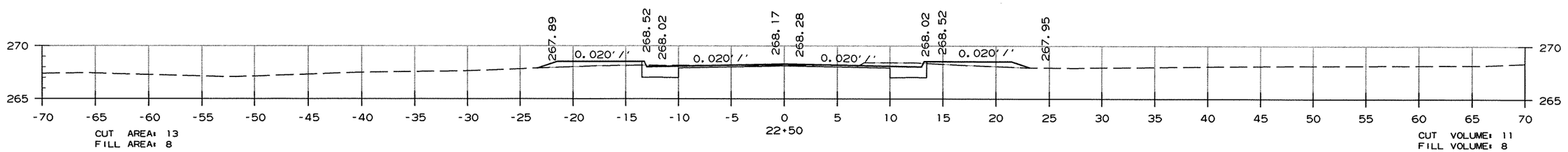
CUT AREA: 8
FILL AREA: 16

CUT VOLUME: 11
FILL VOLUME: 12



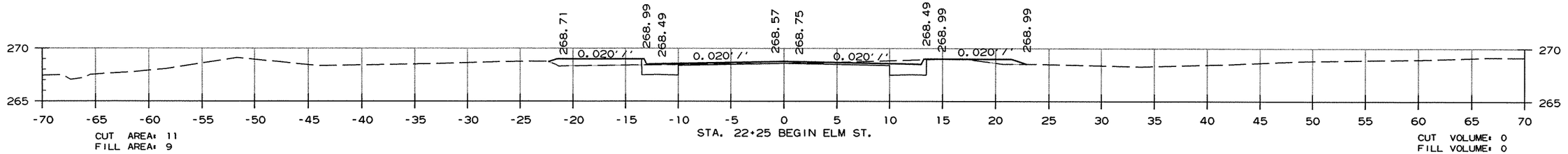
CUT AREA: 15
FILL AREA: 9

CUT VOLUME: 13
FILL VOLUME: 8



CUT AREA: 13
FILL AREA: 8

CUT VOLUME: 11
FILL VOLUME: 8



CUT AREA: 11
FILL AREA: 9

STA. 22+25 BEGIN ELM ST.

CUT VOLUME: 0
FILL VOLUME: 0

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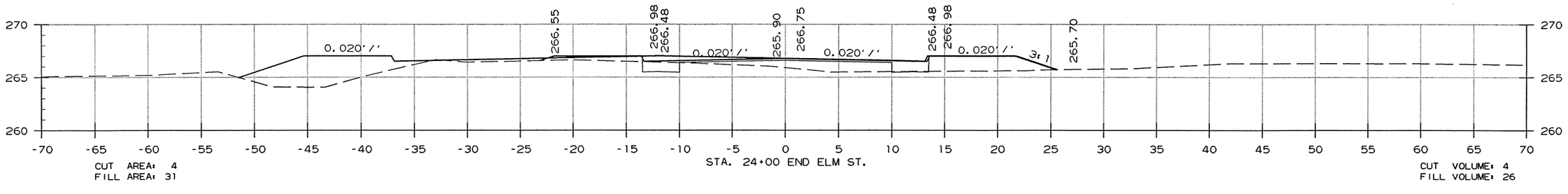
CROSS SECTION STA. 22+25 TO STA. 23+25

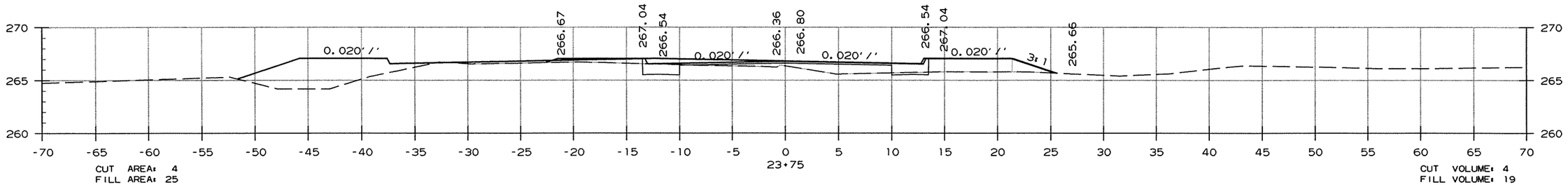
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061026	97	97

(2) CROSS SECTIONS



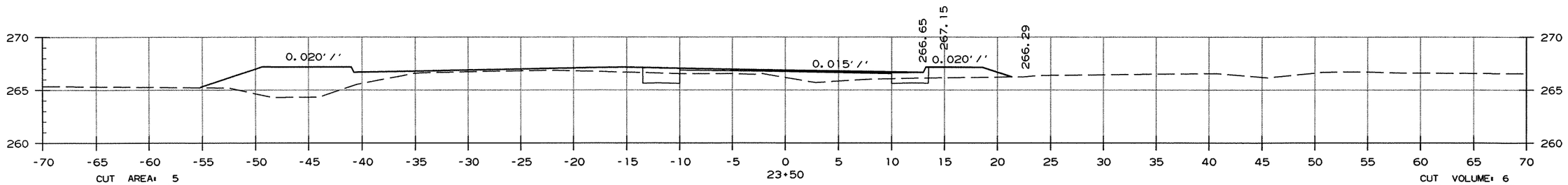
CUT AREA: 4
FILL AREA: 31

CUT VOLUME: 4
FILL VOLUME: 26



CUT AREA: 4
FILL AREA: 25

CUT VOLUME: 4
FILL VOLUME: 19



CUT AREA: 5
FILL AREA: 17

CUT VOLUME: 6
FILL VOLUME: 13

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CROSS SECTION STA. 23+50 TO STA. 24+00