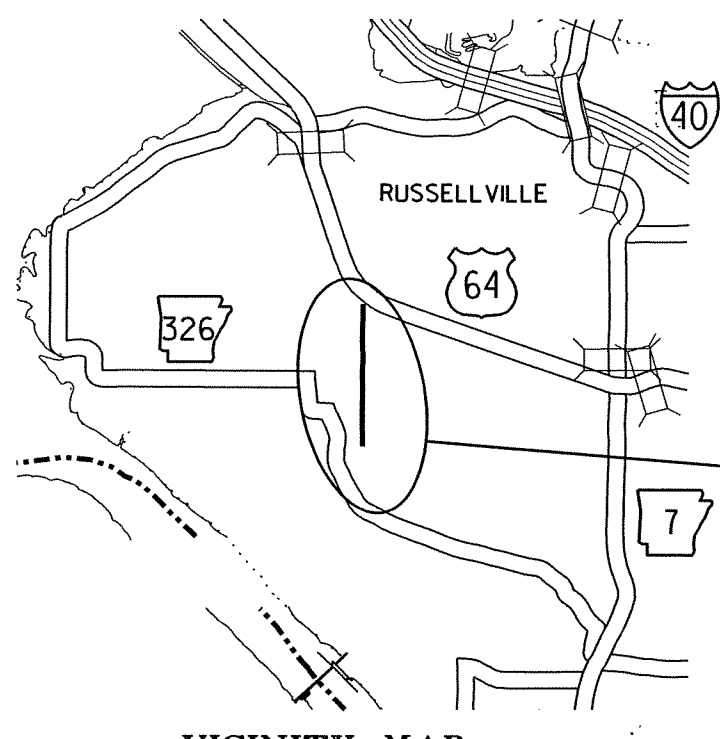


**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS**

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	080295	I 70
						② WEST MAIN PL. - HONEYSUCKLE LN. (INGLEWOOD ST.) (RUSSELLVILLE) (S)		



VICINITY MAP

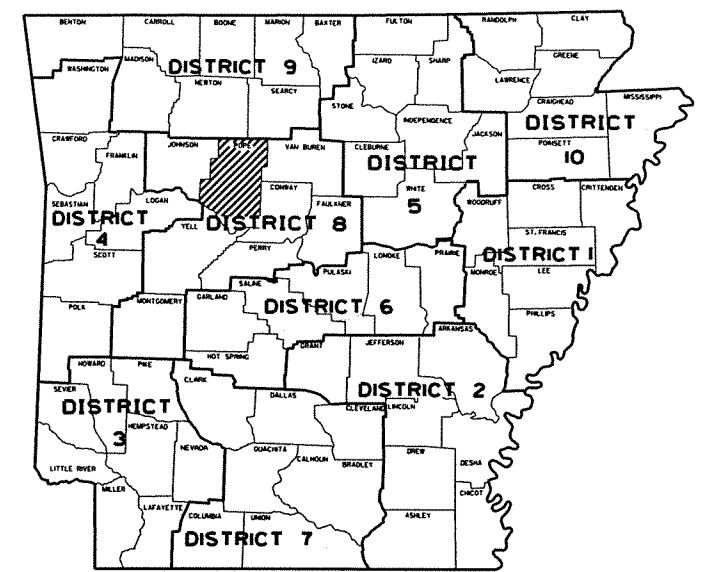
**WEST MAIN PL. - HONEYSUCKLE LN.
(INGLEWOOD ST.) (RUSSELLVILLE) (S)**

POPE COUNTY

F.A.P. STP-9379(17)

JOB 080295

NOT TO SCALE



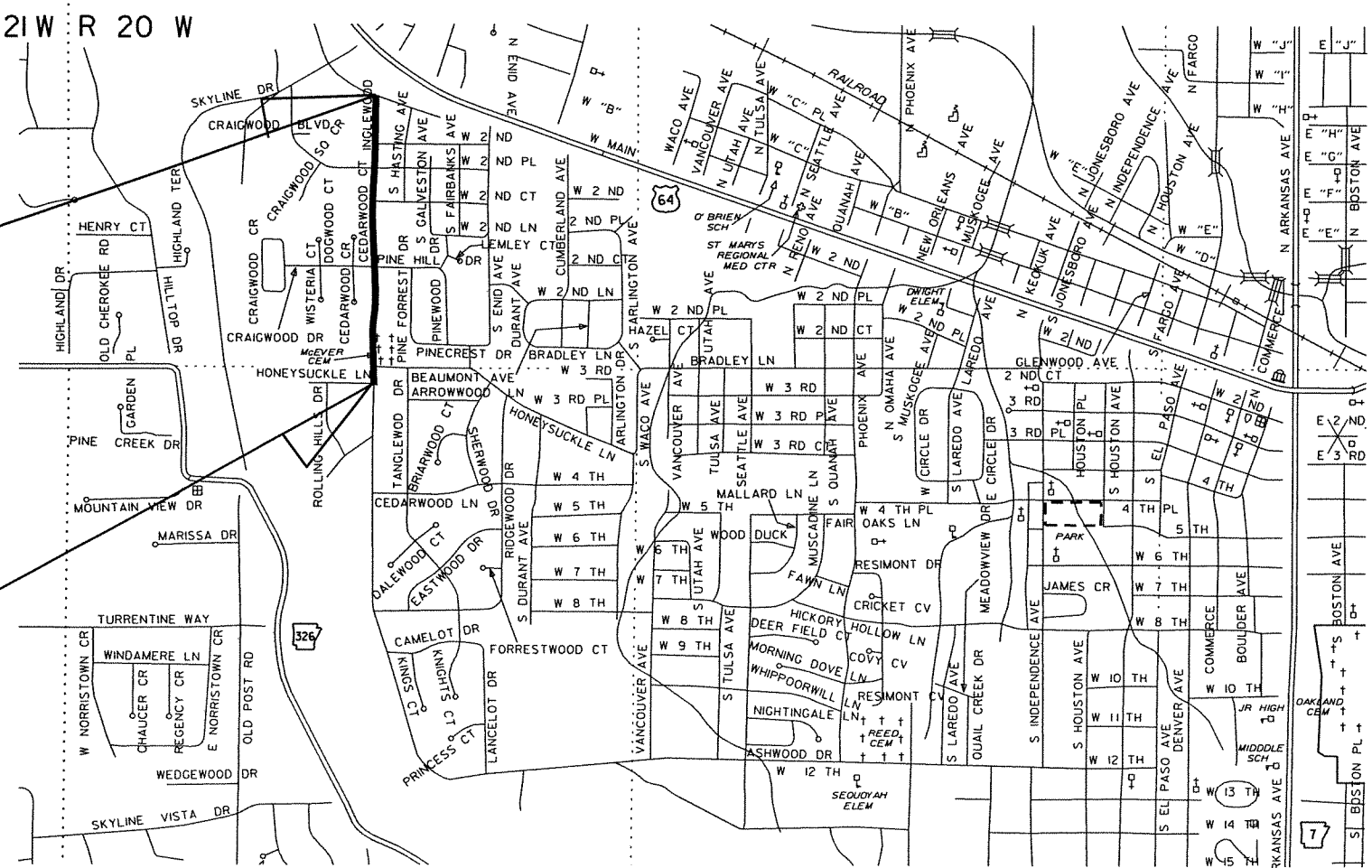
ARKANSAS HIGHWAY DISTRICT 8

• DESIGN TRAFFIC DATA •

DESIGN YEAR-----	2031
2011 ADT-----	3,000
2031 ADT-----	3,900
2031 DHV-----	429
DIRECTIONAL DISTRIBUTION-----	60%
TRUCKS-----	3%
DESIGN SPEED-----	30 MPH

END JOB 080295
STA. 184+75

BEGIN JOB 080295
STA. 153+00



PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N35° 16' 43"	N35° 16' 59"	N35° 17' 14"
LON.	W93° 09' 53"	W93° 09' 52"	W93° 09' 52"

GROSS LENGTH OF PROJECT	3175.00	FEET OR	0.601	MILES
NET LENGTH OF ROADWAY	3175.00	FEET OR	0.601	MILES
NET LENGTH OF BRIDGES	0000.00	FEET OR	0.000	MILES
NET LENGTH OF PROJECT	3175.00	FEET OR	0.601	MILES

P.E. JOB 080295
F.A.P. H200-9379-017

APPROVED



10/7/11
DEPUTY DIRECTOR
AND CHIEF ENGINEER

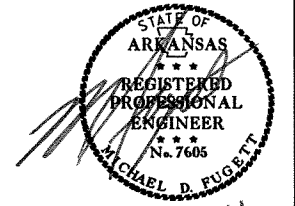
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				6	ARK.			
						JOB NO.	080295	2 70

② INDEX OF SHEETS & GOVERNING SPECIFICATIONS

INDEX OF SHEETS

GOVERNING SPECIFICATIONS

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



SHEET NO.	TITLE	DRWG. NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS AND GOVERNING SPECIFICATIONS		
3	LEGEND AND GENERAL NOTES		
4-5	TYPICAL SECTIONS OF IMPROVEMENT AND SPECIAL DETAILS		
6-9	TEMPORARY EROSION CONTROL DETAILS		
10-13	MAINTENANCE OF TRAFFIC DETAILS		
14	PERMANENT PAVEMENT MARKING DETAILS		
15-21	QUANTITY SHEETS		
22	SUMMARY OF QUANTITIES AND REVISIONS		
23-24	SURVEY CONTROL DETAILS		
25-28	PLAN AND PROFILE SHEETS		
29	CURBING DETAILS	CG-1	11-29-07
30	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
31	FLARED END SECTION	FES-1	10-18-96
32	FLARED END SECTION	FES-2	10-18-96
33	DETAILS OF DROP INLETS & JUNCTION BOXES	FPC-9	11-16-01
34	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8-22-02
35	DETAILS OF DROP INLETS (TYPE MO)	FPC-9M	8-22-02
36	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	FPC-9S	11-16-01
37	MAILBOX DETAILS	MB-1	11-18-04
38	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	5-18-00
39	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	3-30-00
40	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	PCP-1	11-17-10
41	PLASTIC PIPE CULVERT (PVC F949)	PCP-2	11-17-10
42	PAVEMENT MARKING DETAILS	PM-1	11-17-10
43	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
44	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10-18-96
45	DETAILS OF SPECIAL ITEMS	SI-1	4-17-08
46	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	11-17-10
47	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
48	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
49	TEMPORARY EROSION CONTROL DEVICES	TEC-1	11-18-98
50	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-02-94
51	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11-03-94
52	CHAIN LINK FENCE	WF-3	11-17-10
53	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11-10-05
54-70	CROSS SECTIONS		

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS.

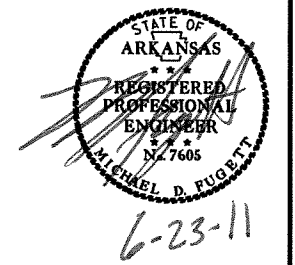
NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY 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 080295	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080295	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 080295	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 080295	INTERNET BIDDING
JOB 080295	PLASTIC PIPE
JOB 080295	SITE USE (A + C METHOD)
JOB 080295	SOIL STABILIZATION
JOB 080295	STORM WATER POLLUTION PREVENTION PLAN
JOB 080295	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 080295	UTILITY ADJUSTMENTS
JOB 080295	WARM MIX ASPHALT

GENERAL NOTES

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

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				6	ARK.			
							3	70

② LEGEND AND GENERAL NOTES



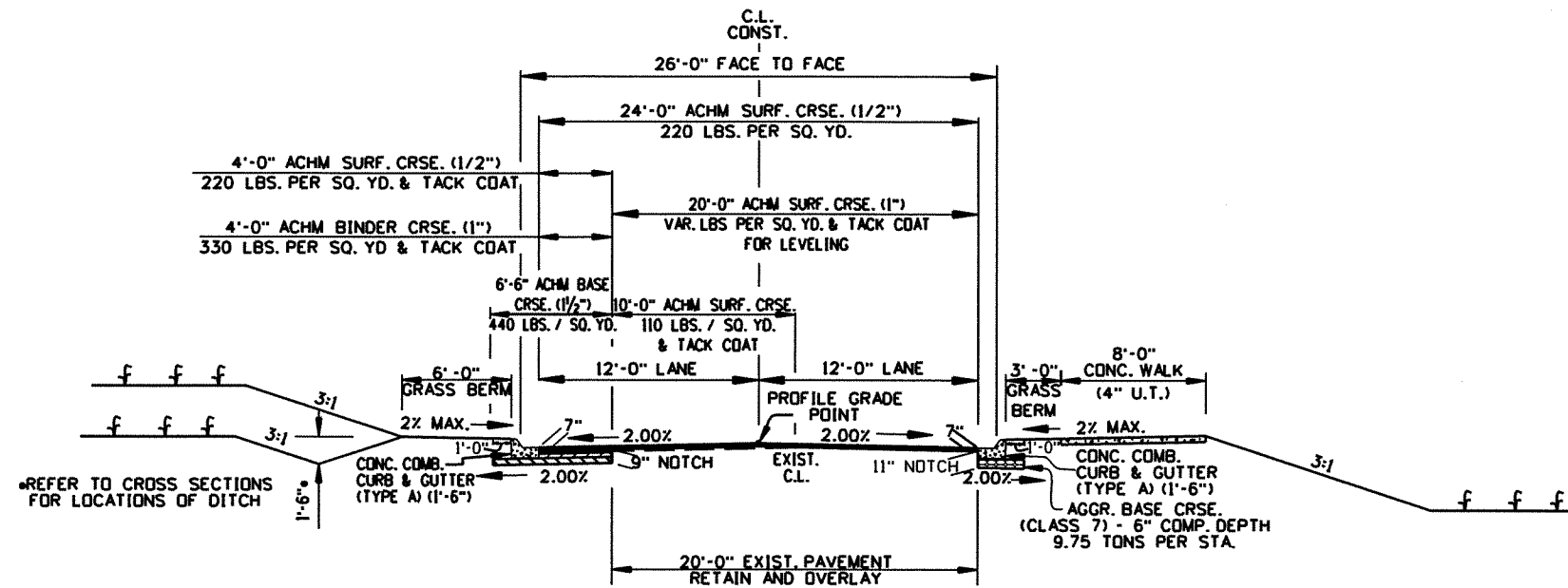
SYMBOL LEGEND		LINE LEGEND	
	SURVEY POINTS		SURVEY ALIGNMENT
	TOPO POINTS		CONSTR. ALIGNMENT
	LAND CORNER		EXISTING PAVMT EDGE
	LAND MONUMENT		CONSTRUCTION LIMITS
	FIRE HYDRANT		PROPOSED RIGHT-OF-WAY
	LIGHT POLE		PROPOSED STORM DRAINAGE
	SIGN		EXISTING RIGHT-OF-WAY
	WATER METER		PROPOSED CURB
	WATER VALVE		TEMP. CONST. ESMT.
	WELL		EDGE GRAVEL SURFACE
	EXISTING DROP INLET		EXISTING CULVERT
	POWER POLE		RIGHT-OF-WAY WITH CONTROL OF ACCESS FENCE
	PROPOSED BOX CULVERT		RIGHT-OF-WAY WITH CONTROL OF ACCESS
	PROPOSED PIPE CULVERT		
	COMBINATION POLE		
	POLE WITH GUY		TRAIL
	GUY		BOUNDARY
	TELEPHONE POLE		SIDEWALK BEHIND CURB
	TELEPHONE BOX		WIRE FENCE
	UGC MARKER		CHAIN LINK FENCE
	GAS VALVE		WATER LINE
	GAS LIGHT		S. S. LINE
	GAS METER		GAS LINE
	DECIDUOUS TREE		STREAM OR DITCH
	EVERGREEN TREE		
	MANHOLE		
	DRIVEWAY (RURAL)		
	DRIVEWAY (URBAN)		
	PROPOSED DROP INLET		
	TYPE 1 WHEELCHAIR RAMP		
	TYPE 4 WHEELCHAIR RAMP		

GENERAL NOTES

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				6	ARK.			
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2 TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING

NOTES:

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

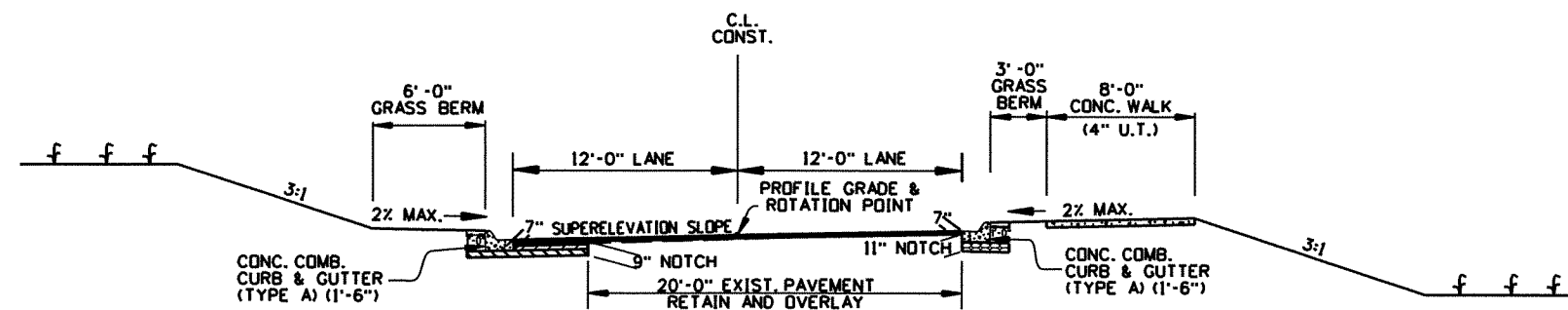
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

THE FINAL 2 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.

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.

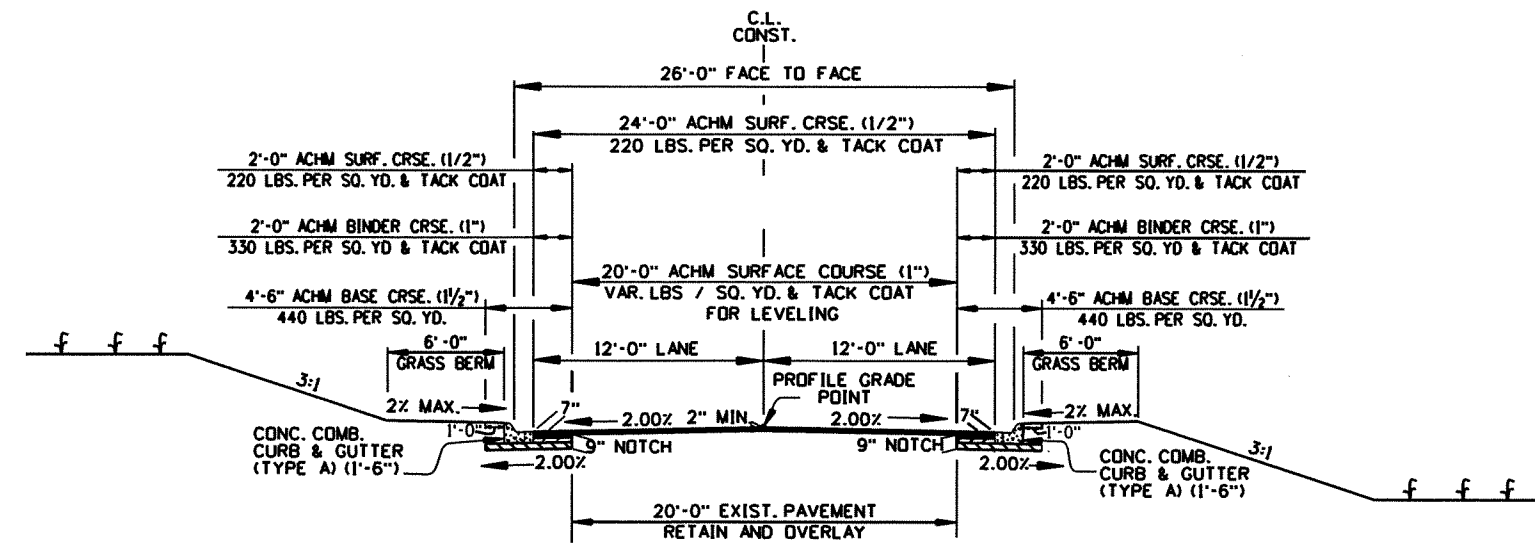
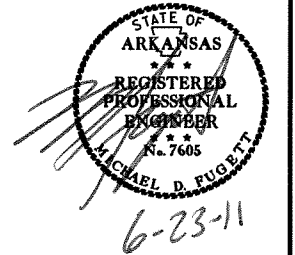
TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN THE CONCRETE WALKS AT 45' INTERVALS.



TYPICAL SECTION OF IMPROVEMENT
NOTCH & WIDENING - SUPERELEVATION
(PAVEMENT SECTION SAME AS SHOWN ABOVE)

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



TYPICAL SECTION OF IMPROVEMENT NOTCH AND WIDENING (HONEYSUCKLE LANE)

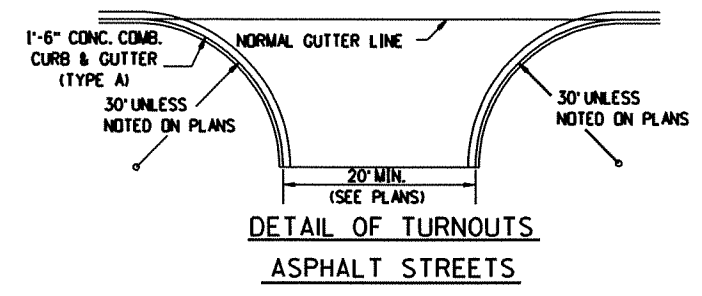
NOTES:

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

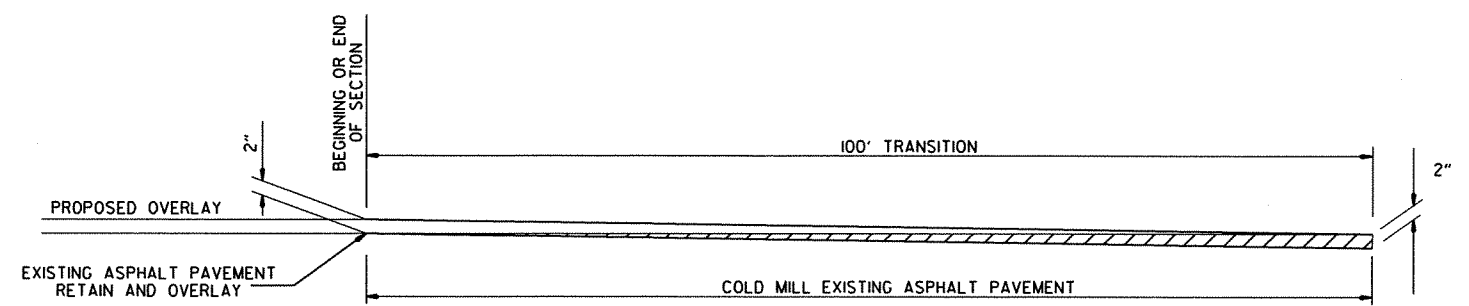
THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

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.

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.



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'.

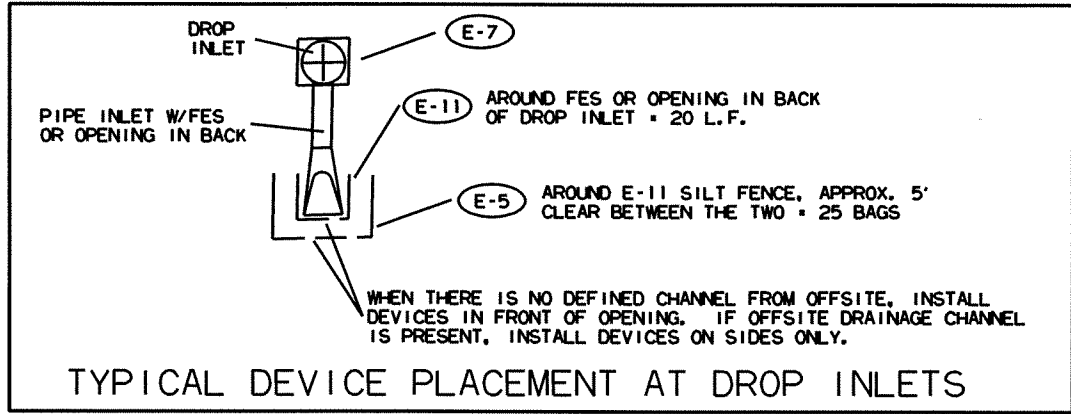
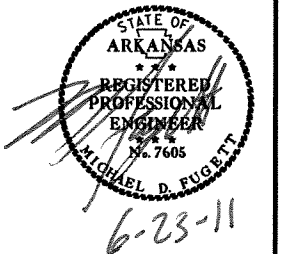


DETAIL FOR TRANSITIONS

TYPICAL SECTIONS OF IMPROVEMENT & SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080295		6	70

2 TEMPORARY EROSION CONTROL DETAILS



TYPICAL DEVICE PLACEMENT AT DROP INLETS

- (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.

EROSION CONTROL QUANTITIES - STAGE 1:

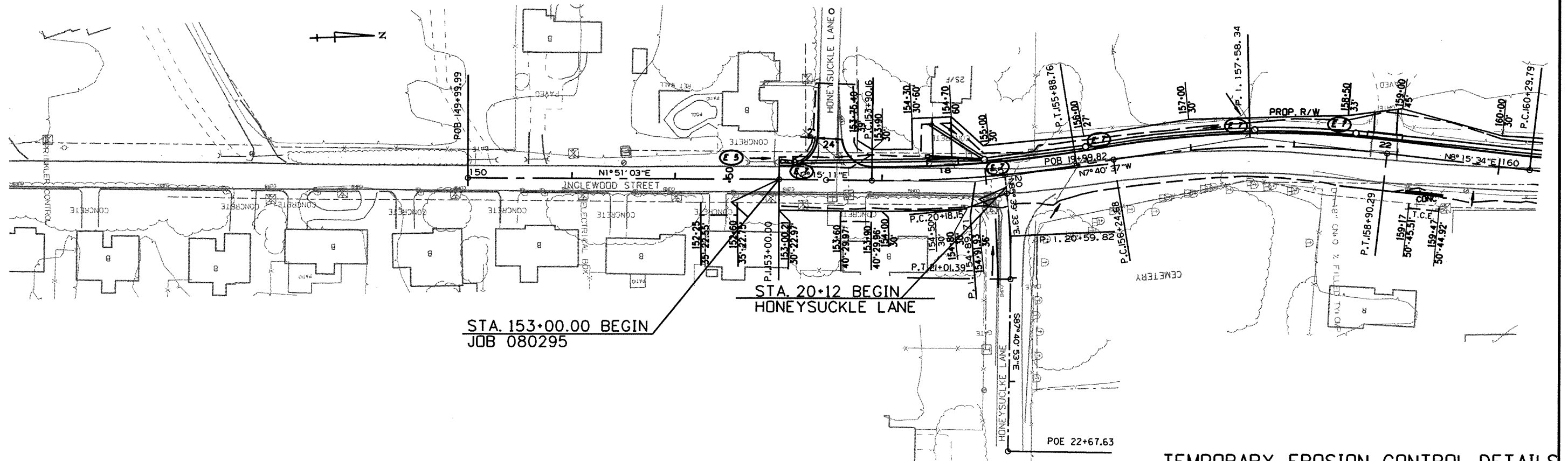
- SAND BAG DITCH CHECK = 225 BAG
- DROP INLET SILT FENCE = 625 LIN. FT.
- SILT FENCE = 160 LIN. FT.
- SEDIMENT REMOVAL AND DISPOSAL = 25 CU. YDS.

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.

REVISIONS

DATE	REVISION



TEMPORARY EROSION CONTROL DETAILS
STAGE 1

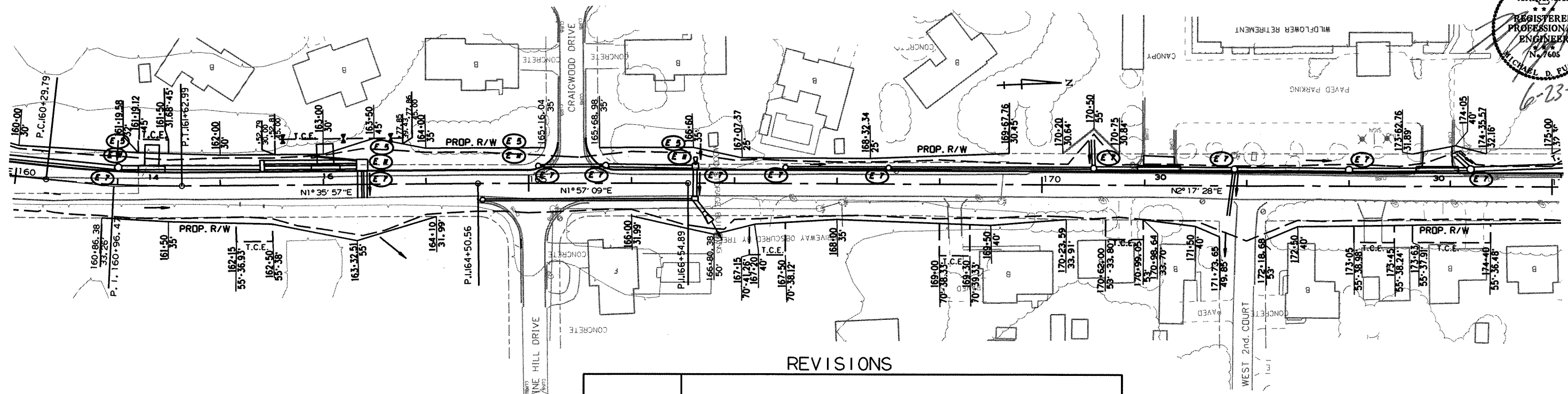
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				6	ARK.		7	70

2 TEMPORARY EROSION CONTROL DETAILS



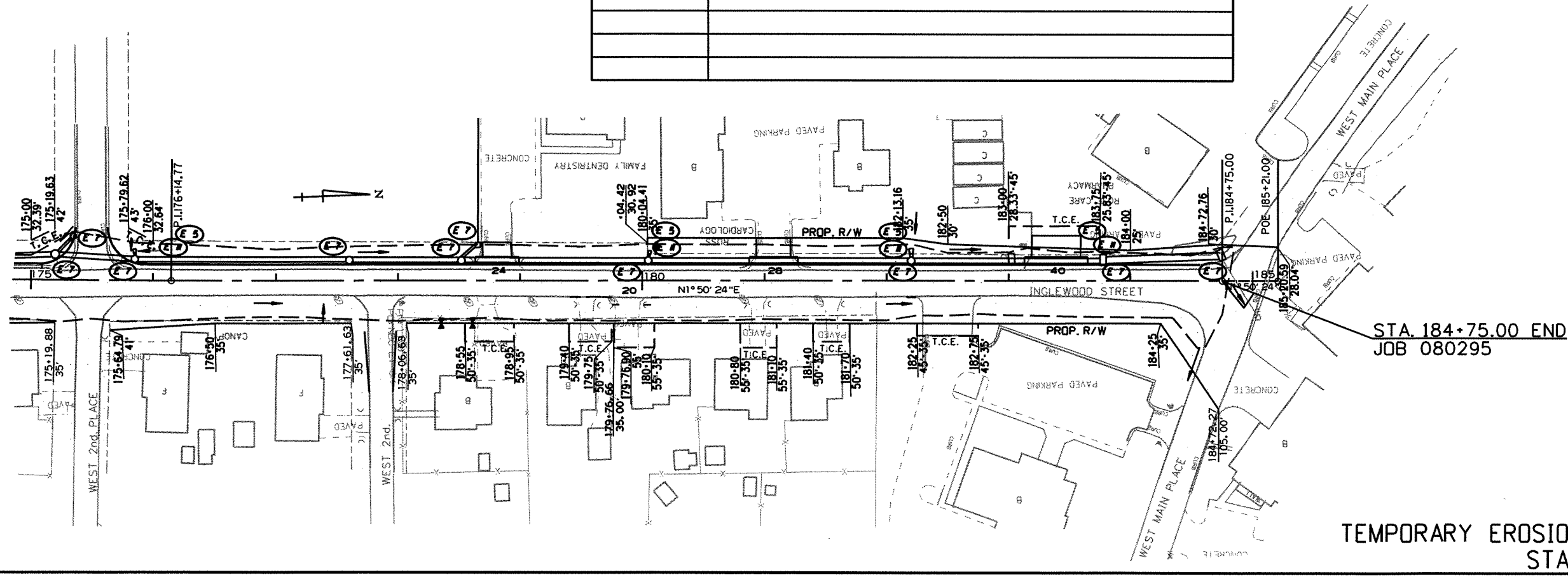
6-23-11

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



REVISIONS

DATE	REVISION

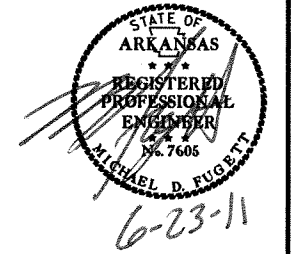


STA. 184+75.00 END
JOB 080295

**TEMPORARY EROSION CONTROL DETAILS
STAGE 1**

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

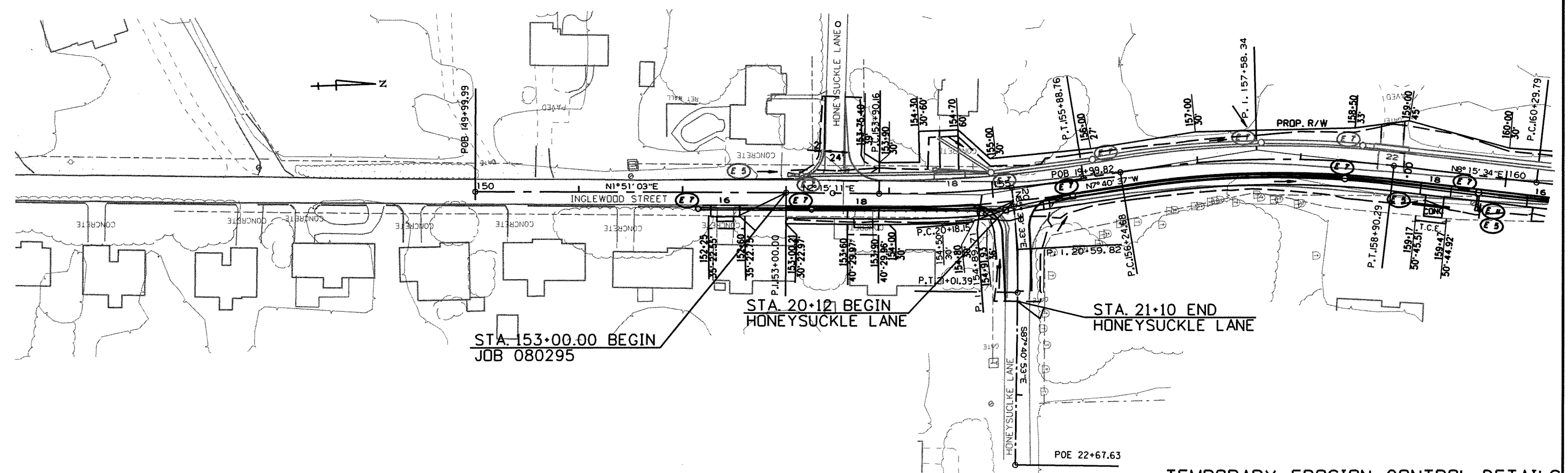
EROSION CONTROL DEVICES FROM STAGE 1 TO BE LEFT IN PLACE

REVISIONS

DATE	REVISION

EROSION CONTROL QUANTITIES - STAGE 2:
 SAND BAG DITCH CHECK = 75 BAGS
 DROP INLET SILT FENCE = 450 LIN. FT.
 SILT FENCE = 1920 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.



TEMPORARY EROSION CONTROL DETAILS
 STAGE 2

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

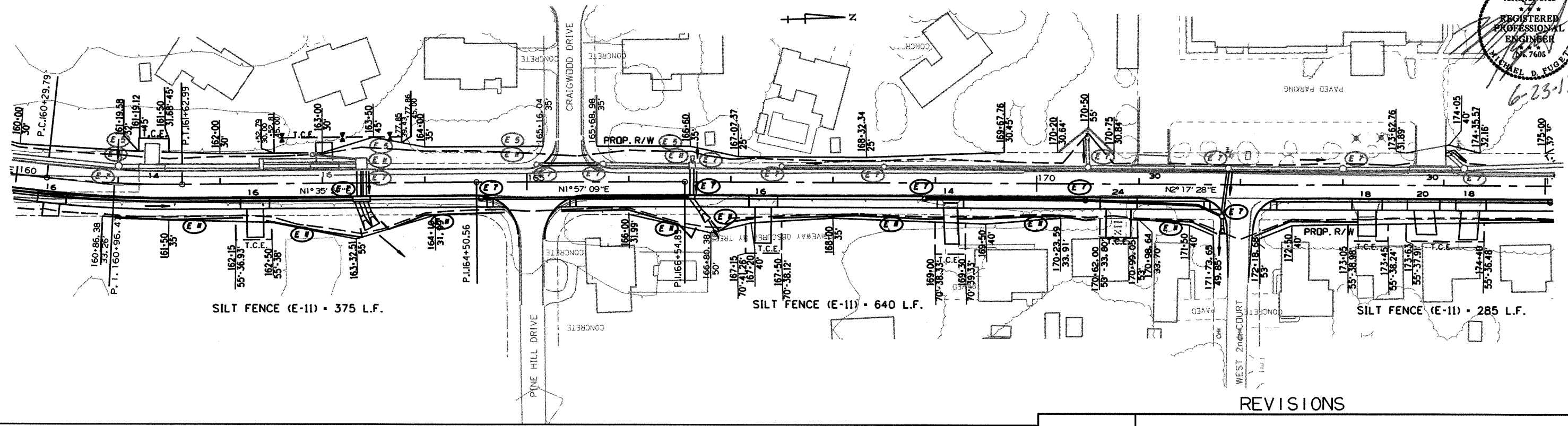
LEGEND

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		9	70
				JOB NO. 080295				

2 TEMPORARY EROSION CONTROL DETAILS

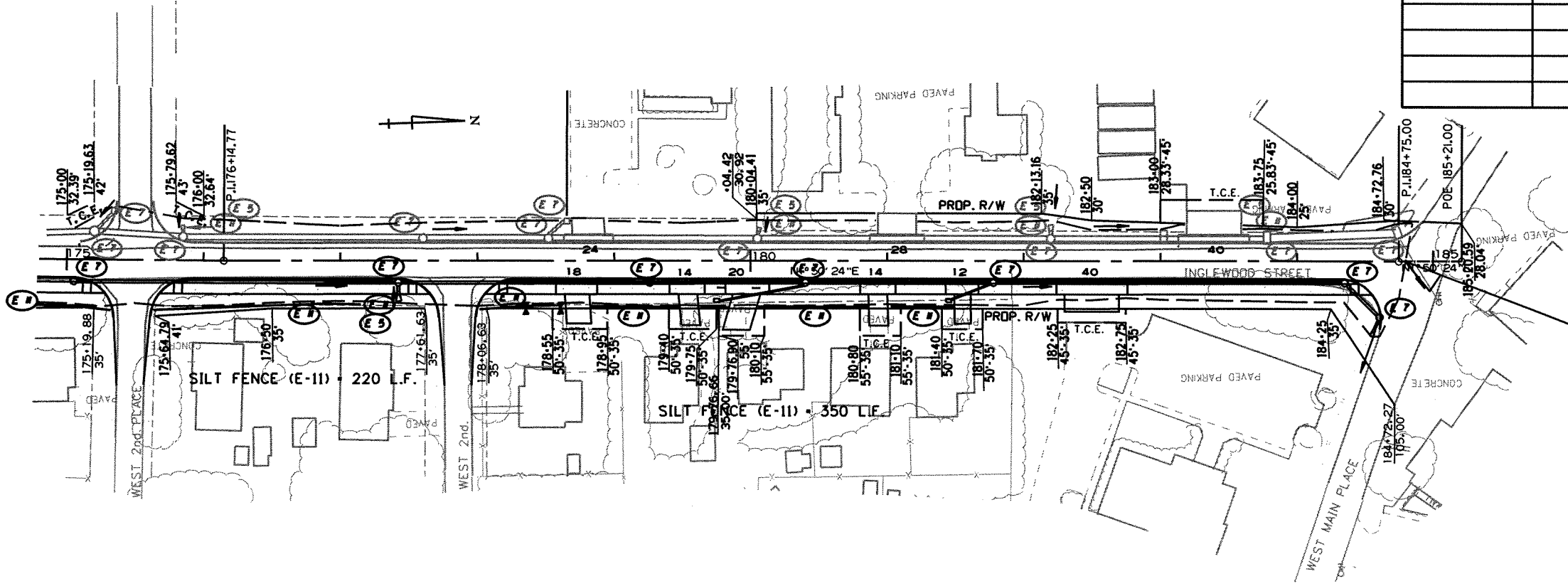


6-23-11



REVISIONS

DATE	REVISION

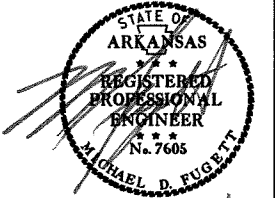


STA. 184+75.00 END
JOB 080295

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. 080295							10	70

② MAINTENANCE OF TRAFFIC DETAILS



6-23-11

END ROAD WORK

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



(1) W20-1 (48" X 48")



(1) W20-1 (48" X 48")



(1) W20-1 (48" X 48")

DETAIL OF SIGN PLACEMENT AT BEGINNING OF JOB

STAGE 1:

TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES THROUGHOUT THE PROJECT. CONSTRUCT NOTCH AND WIDENING ON LEFT.

PLACE VERTICAL PANELS ON THE LEFT (30' ON CENTER).

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.

MAINTENANCE OF TRAFFIC QUANTITIES - STAGE 1:

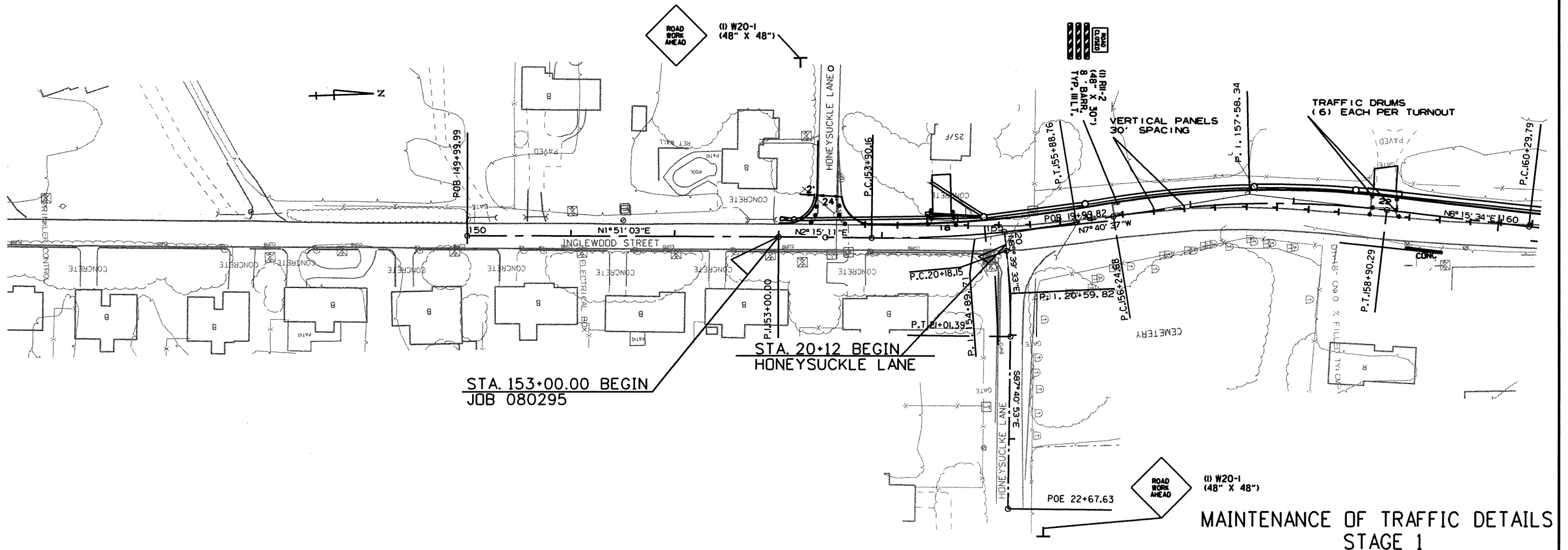
SIGNS - 262 LIN. FT.

TRAFFIC DRUMS - 63 EACH

VERTICAL PANELS - 85 EACH

BARRICADES (TYPE III) - 16 LIN. FT.

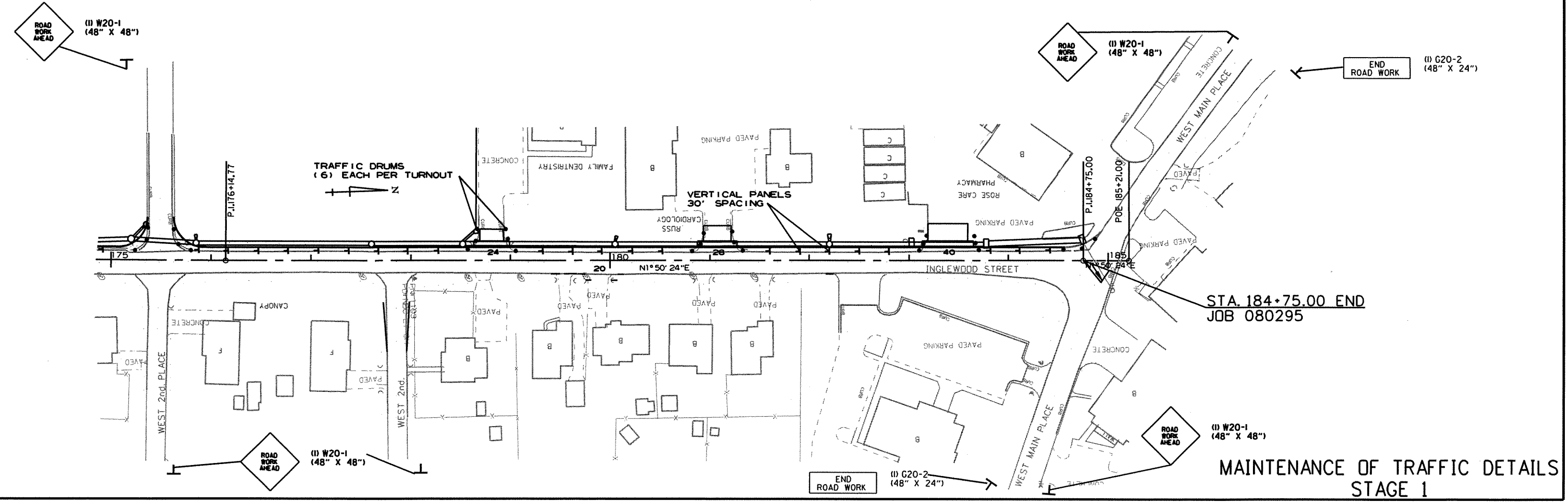
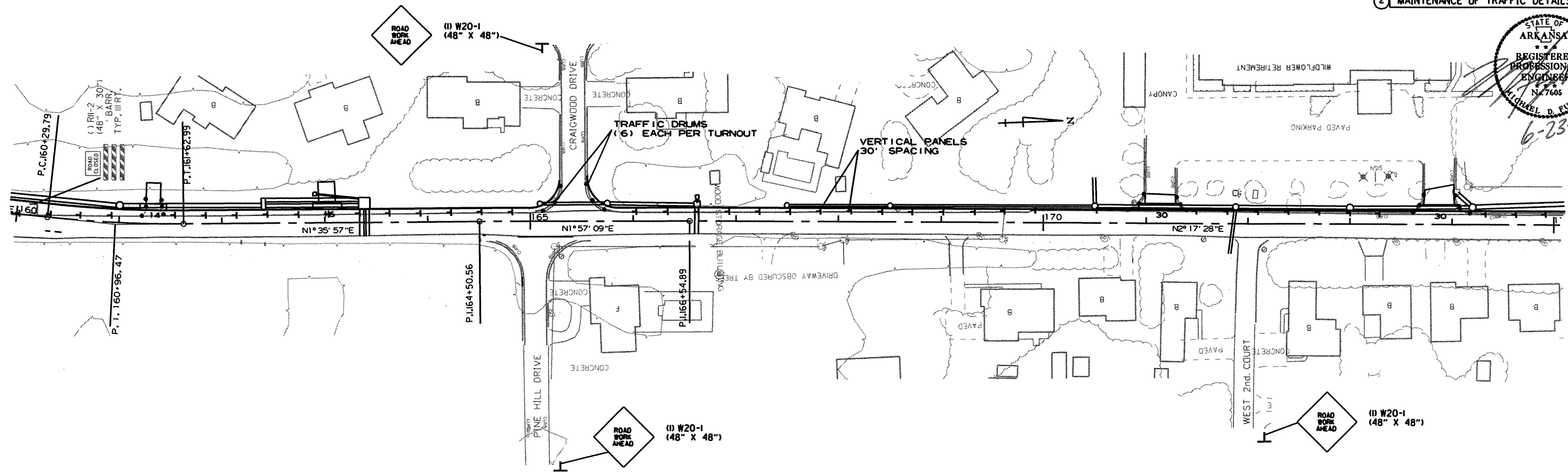
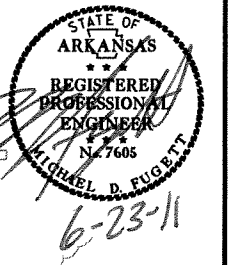
CONSTRUCTION PVMT. MRK. - 12700 L.F.



MAINTENANCE OF TRAFFIC DETAILS STAGE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		11	70
JOB NO. 080295								

② MAINTENANCE OF TRAFFIC DETAILS

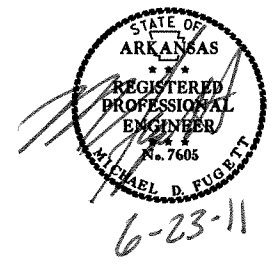


STA. 184+75.00 END
JOB 080295

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. 080295							12	70

② MAINTENANCE OF TRAFFIC DETAILS



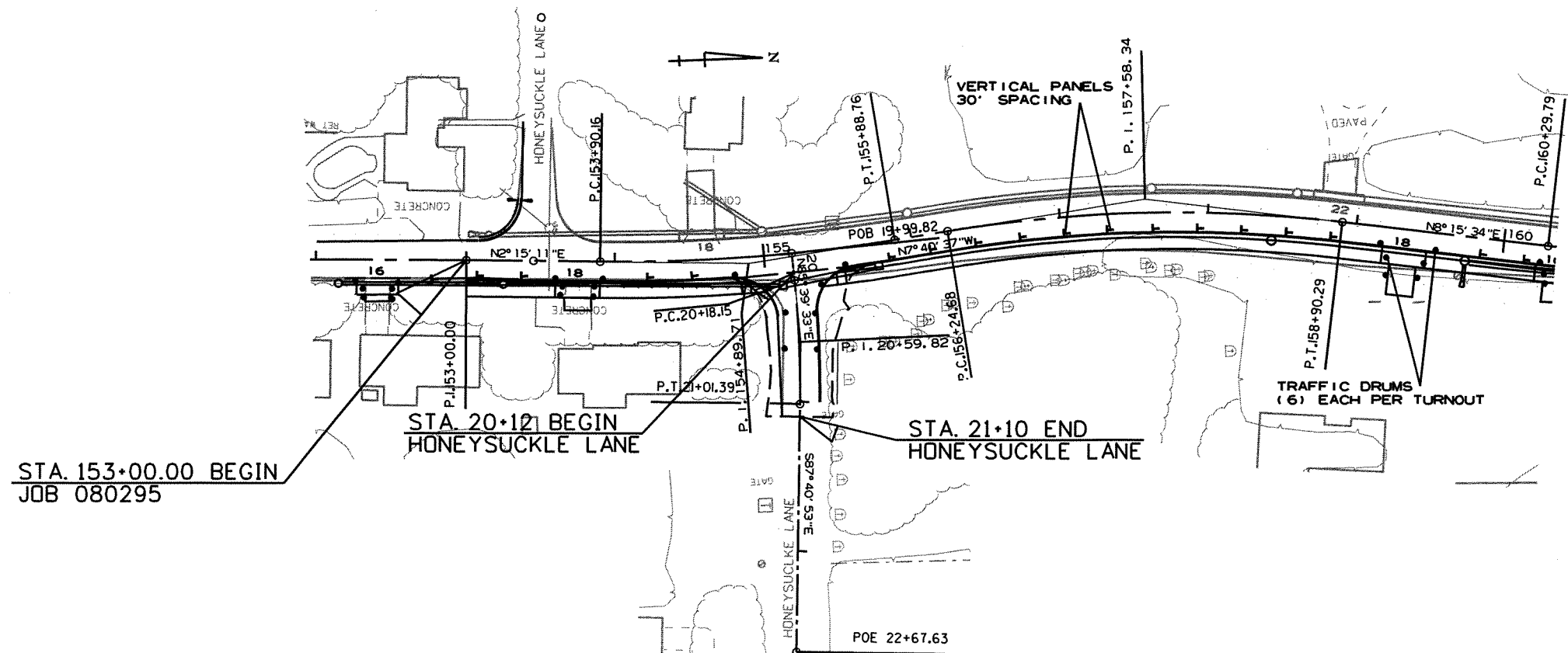
STAGE 2:
SHIFT TRAFFIC TO LEFT AS SHOWN ON PLANS. CONSTRUCT NOTCH AND WIDENING ON RIGHT.

RETAIN SIGNS AS SHOWN ON SIGN PLACEMENT DETAIL, W20-1 (AHEAD) SIGNS AND R4-1 SIGNS AS SHOWN IN STAGE 1.
PLACE VERTICAL PANELS ON THE RIGHT (30' ON CENTER).

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).

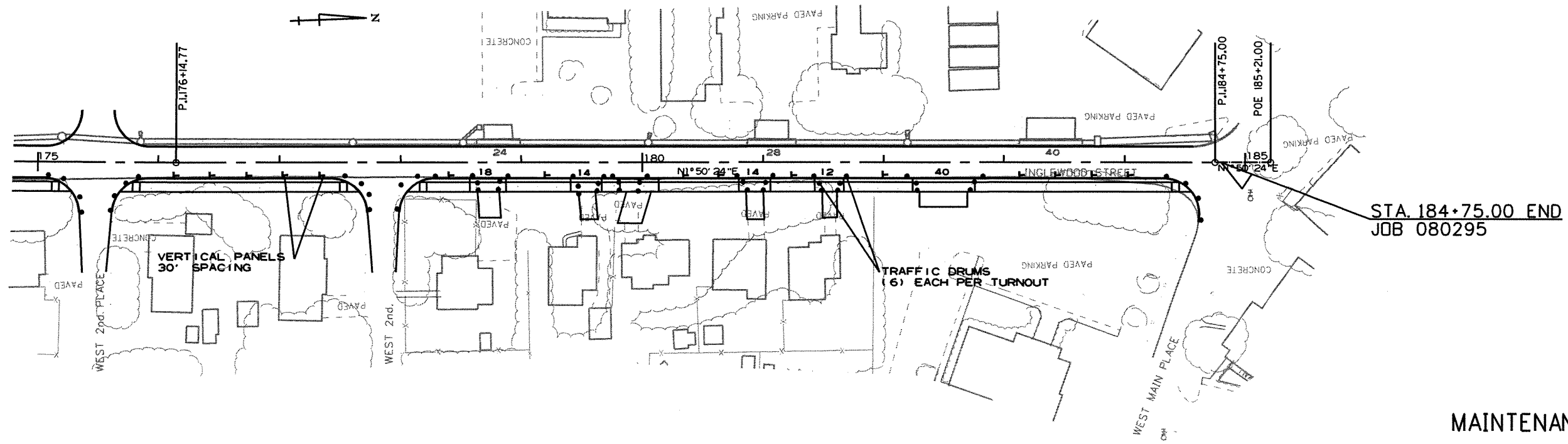
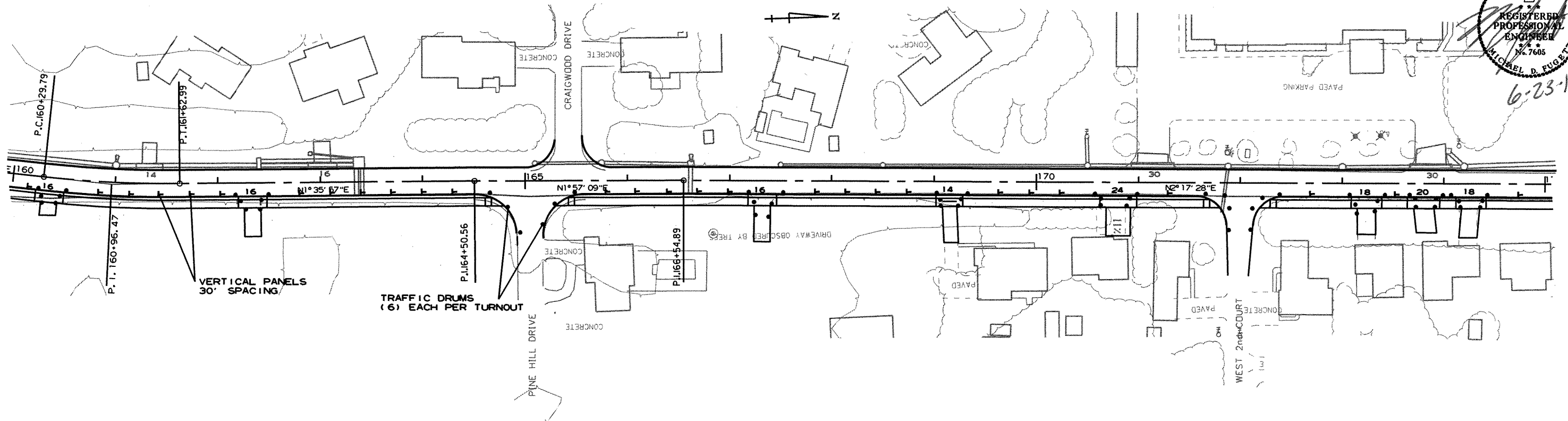
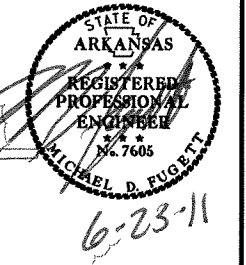
MAINTENANCE OF TRAFFIC QUANTITIES - STAGE 2:
SIGNS - 226 LIN. FT.
TRAFFIC DRUMS - 144 EACH
VERTICAL PANELS - 60 EACH
CONSTRUCTION PVMT. MRK. - 12700 L.F.
REMOVAL OF CONST. PVMT. MRK. - 12700 L.F.



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.		13	70
JOB NO. 080295								

② MAINTENANCE OF TRAFFIC DETAILS



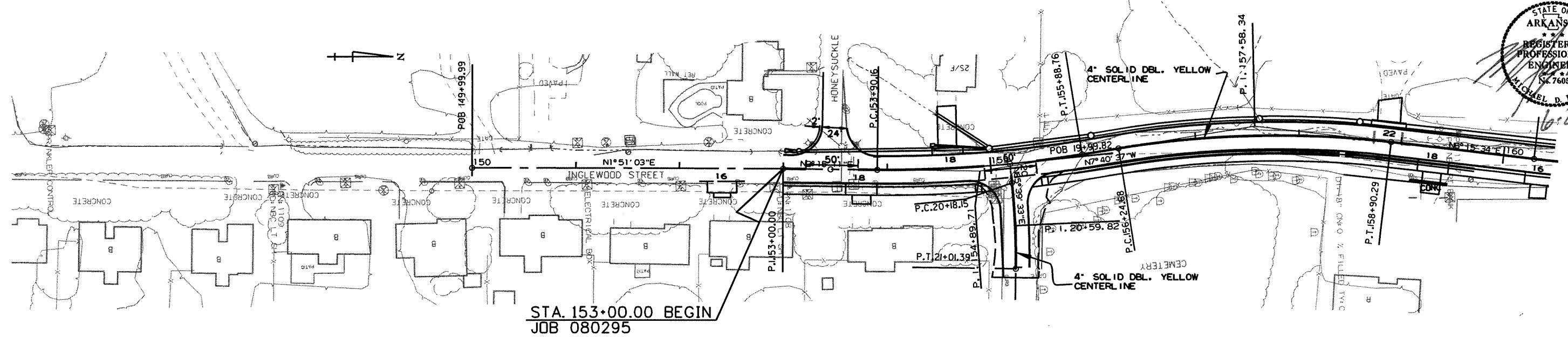
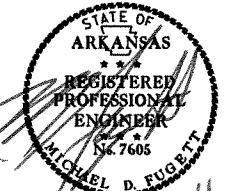
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

r080295.dgn 9/22/2009

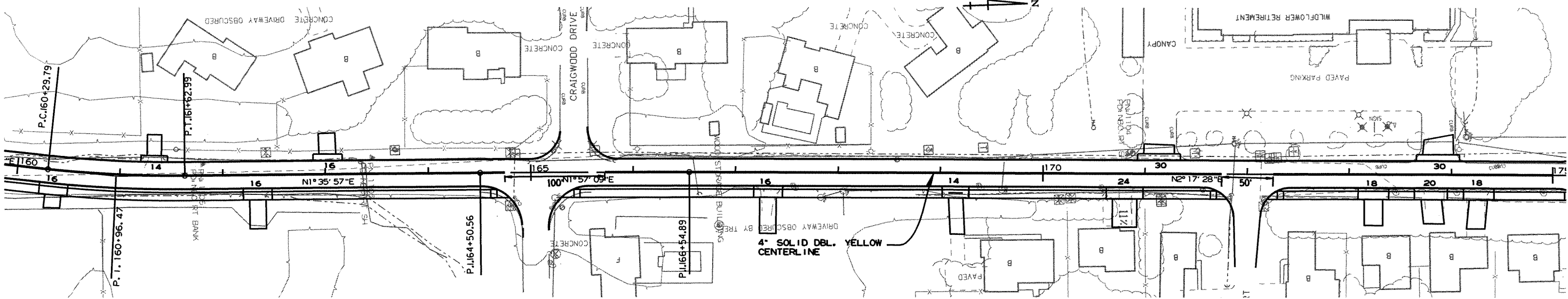
PERMANENT PAVEMENT MARKING QUANTITIES:
 THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4") = 5650 L.F.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 080295							14	70

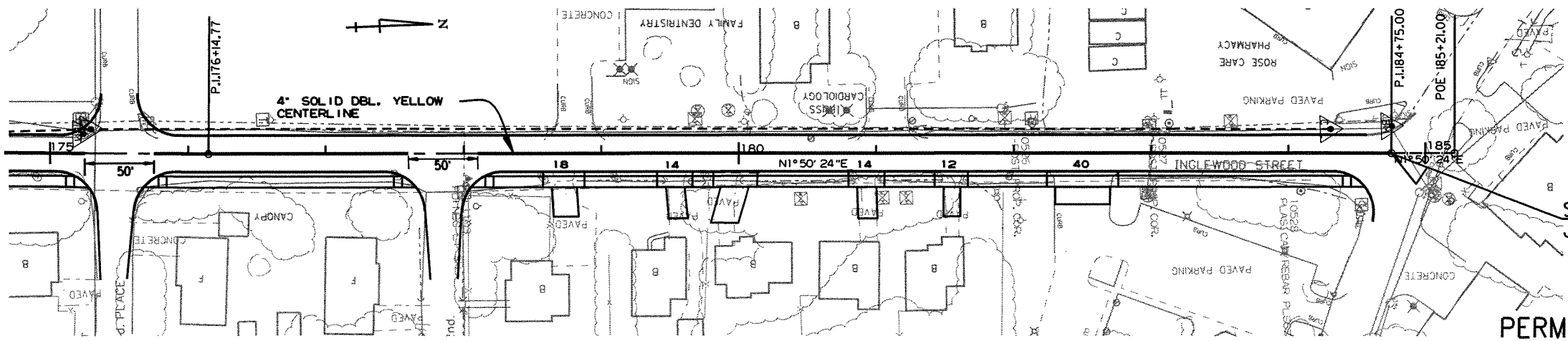
2 PERMANENT PAVEMENT MARKING DETAILS



STA. 153+00.00 BEGIN
 JOB 080295



STA. 184+75.00 END
 JOB 080295



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.	080295		15	70

② QUANTITIES

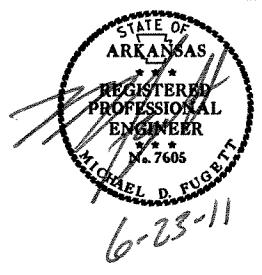
SOIL LOG

STATION	LOCATION	DEPTH	PLASTICITY INDEX	LIQUID	AASHTO SOIL CLASS.	COLOR
		FEET				
105+00	15'RT	0-5	26	10	A-4(4)	BROWN
105+00	5'RT	0-5	25	11	A-6(3)	BROWN
113+00	20'LT	0-5	ND	NP	A-4(0)	BROWN
113+00	5'LT	0-5	26	11	A-6(5)	RD/BR
121+00	21'RT	0-5	25	8	A-4(3)	RD/BR
121+00	5'RT	0-5	28	12	A-6(6)	BROWN
129+00	18'LT	0-5	53	30	A-7-6(26)	RED
129+00	6'LT	0-5	39	18	A-6(13)	RED
137+00	6'RT	0-5	49	27	A-7-6(22)	RED
137+00	22'RT	0-5	24	7	A-4(3)	RD/BR
137+00	22'RT	0-5	20	4	A-4(0)	RD/BR
145+00	16'LT	0-5	35	19	A-6(12)	RD/BR
145+00	5'LT	0-5	33	17	A-6(10)	RD/BR
153+00	15'RT	0-5	27	11	A-6(7)	BROWN
153+00	6'RT	0-5	25	9	A-4(3)	RD/BR
161+00	8'LT	0-3Z	20	5	A-4(0)	BROWN
161+00	15'LT	0-4.4Z	24	7	A-4(2)	BROWN
169+00	22'RT	0-5	32	13	A-6(7)	BROWN
169+00	5'RT	0-5	26	8	A-4(2)	RD/BR
177+00	17'LT	0-5	33	14	A-6(9)	BROWN
177+00	5'LT	0-5	23	7	A-4(3)	BROWN

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

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	DESCRIPTION	FENCE
			LIN. FT.
156+65	160+50	WOOD FENCE W/ BRICK COLUMNS ON LT.	385
160+85	163+32	6' WOOD PRIVACY FENCE ON RT.	269
161+20	162+53	6' WOOD FENCE ON LT.	133
162+55	163+77	4' CHAINLINK FENCE ON LT.	124
163+77	164+98	WOOD PICKET FENCE ON LT.	130
165+97	166+94	WOOD PRIVACY FENCE ON LT.	106
166+23	166+70	6' WOOD PRIVACY FENCE ON RT.	50
167+02	167+55	3' LATIC FENCE ON RT.	70
170+24		6' WOOD PRIVACY FENCE ON RT.	6
171+00		6' WOOD PRIVACY FENCE ON RT.	8
178+03	178+63	4' CHAINLINK FENCE ON RT.	63
181+92		6' WOOD PRIVACY FENCE ON RT.	7
TOTAL:			1351



CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
		STATION	STATION
158+40	164+75	7	7
166+00	171+00	5	5
172+15	177+65	6	6
179+50	181+60	3	3
183+00	184+75	2	2
TOTALS:		23	23

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
166+62	ON TOP OF DROP INLET ON LT.	1

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SOIL STABILIZATION
			CU. YD.		TON
153+00	184+75	MAIN LANES	748	5941	
20+12	21+10	HONEYSUCKLE LANE	14	138	
ENTIRE PROJECT	APPROACHES			790	
* ENTIRE PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				50
TOTALS:			762	6869	50

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

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

SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU.YD.	
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	100	200
TOTALS:	100	200

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

COLD MILLING

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASHALT PAVEMENT
			FEET	SQ. YD.
152+00	153+00	MAIN LANES	20	222.22
184+75	185+10	MAIN LANES	VAR.	300.00
TOTAL:				522.22

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 2	CLASS 3
			LIN. FT.	SQ. YD.	
161+00	163+38	DITCH ON LT.	238.0		211.6
180+00	181+00	DITCH ON LT.	100.0		88.9
ENTIRE PROJECT	IF AND WHERE DIRECTED BY THE ENGINEER			100.0	
TOTALS:				100.0	300.5

NOTE: AVERAGE WIDTH = 8'-0" FOR CLASS 3
*QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

PERMANENT PAVEMENT MARKINGS

LOCATION	THERMOPLASTIC PAVEMENT MARKING
	4" YELLOW LIN. FT.
ENTIRE PROJECT AS SHOWN ON PERMANENT MARKING DETAILS	5650
TOTAL:	5650

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	15	30
TOTALS:	15	30

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

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	DEPTH	PAVEMENT REPAIR	FLOWABLE SELECT MATERIAL
		TON	CU.YD.
155+22	5.5	11	17.7
155+80	2	12	4.4
163+38	5.5	22	21.0
166+62	4	11	20.1
171+88	3.5	12	7.1
TOTALS:		68	70.3

ADVANCE WARNING SIGNS AND DEVICES AND CONSTRUCTION PAVEMENT MARKINGS

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		BARRICADES	VERTICAL PANELS	TRAFFIC DRUMS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
			SQ.FT. - LIN.FT. - EACH			NO.	SQ. FT.					
W20-1	ROAD WORK 1500 FT.	48"x48"	1	1	1	1	16.0					
W20-1	ROAD WORK 1000 FT.	48"x48"	1	1	1	1	16.0					
W20-1	ROAD WORK 500 FT.	48"x48"	1	1	1	1	16.0					
W20-1	ROAD WORK AHEAD	48"x48"	10	10	10	10	160.0					
G20-2	END ROAD WORK	48"x24"	3	3	3	3	24.0					
R4-1	DO NOT PASS	24"x30"	2	2	2	2	10.0					
R11-2	ROAD CLOSED	48"X30"	2		2	2	20.0					
	BARRICADES (TYPE III) - LT.							8				
	BARRICADES (TYPE III) - RT.							8				
	VERTICAL PANELS		85	60	85	85			85			
	TRAFFIC DRUMS		63	144	144	144				144		
	CONSTRUCTION PAVEMENT MARKINGS		12700	12700							38100	12700
	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS											
TOTALS:							262.0	16	85	144	38100	12700

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		16	70
							JOB NO.	080295

② QUANTITIES

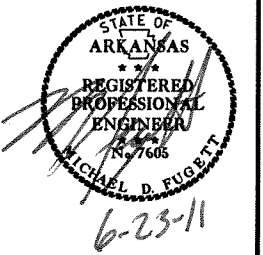


DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080295		17	70

2 QUANTITIES

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS	CURB AND GUTTER	CONCRETE DRIVEWAYS	CONCRETE DRAINS	BRICK COLUMNS	BRICK WALL	WOODEN BRIDGES	LUMINAIRE POLE & FDN.	SIGNS	SIGN FOUNDATION	SPRINKLER SYSTEM	PLANTER	POSTS
			EACH	EACH	LIN. FT.	SQ. YD.	SQ. YD.	EACH	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH
153+27		BRICK DECORATIVE LIGHT POLE ON LT.									1					
153+47		18" X 31" PIPE - LT. SIDE DRAIN	1													
153+70		BRICK DECORATIVE LIGHT POLE ON LT.									1					
154+58		18" X 24' PLASTIC PIPE - RT. SIDE DRAIN	1													
154+59		CONCRETE DRIVE ON LT.				116										
154+69		12" X 49' R.C.P. ON LT.	1													
154+95		SIGN ON RT.										1				
154+97		BRICK POSTS ON RT.						2								
155+11		DROP INLET ON RT.		1												
155+22		36" X 36' PIPE CULVERT	1													
155+80		18" X 48' PIPE CULVERT	1													
156+60	158+50	BRICK COLUMN ON LT.						10								
158+50	158+75	BRICK WALL ON LT.							34							
158+50		BRICK COLUMN ON LT.						1								
158+87		36" X 28' PIPE - LT SIDE DRAIN	1													
158+99		18" X 101' PIPE - RT. SIDE DRAIN	1													
159+00		BRICK COLUMN ON LT.						1								
159+00	159+30	BRICK WALL ON LT.							34							
160+35		18" X 30' PIPE - RT. SIDE DRAIN	1													
161+32		30" X 20' PIPE - LT. SIDE DRAIN	1													
162+30		18" X 23' PIPE - RT. SIDE DRAIN	1													
163+38		18" X 32' C.M.P.	1													
163+38		24" X 30' RC.P.	1													
164+50	165+59	CURB ON RT.			122											
164+87		SIGN ON RT.										1				
165+00		PLANTER ON LT.													1	
165+05	165+79	CURB ON LT.			97											
165+17		METAL DECORATIVE LIGHT POLE ON LT.									1					
165+40		18" X 82' PIPE - LT. SIDE DRAIN	1													
165+69		METAL DECORATIVE LIGHT POLE ON LT.									1					
166+62		24" X 33' C.M.P.	1													
167+14		PLANTER AND WOOD POST ON RT.													1	1
167+50		PLANTER AND WOOD POST ON RT.													1	1
169+15		12" X 18' PIPE - RT. SIDE DRAIN	1													
169+88	175+79	CURB ON LT.			585											
170+45		WOOD FOOT BRIDGE ON RT.								1						
170+81		12" X 38' PIPE - RT. SIDE DRAIN	1													
170+87		24" X 196' PIPE CULVERT ON LT.	1													
170+89		SIGN ON LT.										1	1			
170+91		SPRINKER HEAD ON LT.												1		
171+35		SIGN ON LT.										1				
171+87		DROP INLET ON LT		1												
172+94		24" X 213' PIPE CULVERT ON LT.	1													
174+08		SIGN ON LT.										1	1			
174+64		24" X 116' PIPE CULVERT ON LT.	1													
175+24		DROP INLET ON LT		1												
175+31		CONCRETE DRAIN ON LT.					9									
175+51		24" X 50' PIPE CULVERT ON LT.	1													
175+70		CONCRETE DRAIN ON LT.					9									
177+86		8" X 24' PIPE - RT. SIDE DRAIN	1													
178+81		CONCRETE DRIVE ON LT.				70										
178+80		24" X 40' PIPE - LT. SIDE DRAIN	1													
179+54		8" X 18' PIPE - RT. SIDE DRAIN	1													
179+89		8" X 24' PIPE - RT. SIDE DRAIN	1													
180+48		30" X 75' PIPE ON LT.	1													
180+72		SIGN ON LT.										1	1			
180+78	181+38	CURB ON LT.			65											
180+93		PIPE CULVERT - RT. SIDE DRAIN	1													
181+08		30" X 41' ON LT.	1													
181+23		SIGN ON LT.										1	1			
181+54		12" X 18' PIPE - RT. SIDE DRAIN	1													
182+23	182+77	CONCRETE DRIVE W/ CURB ON RT.			48	112										
183+15		SIGN ON LT.										1	1			
183+92		24" X 160' PIPE ON LT.	1													
184+33	184+75	CURB ON LT.			55											
184+75		SIGN ON LT.										1	1			
184+75		DROP INLET ON LT		1												
TOTALS:			29	4	972	298	18	14	68	1	4	9	6	1	3	2



CONCRETE ITEMS

STATION	STATION	SIDE	CONCRETE COMBINATION CURB & GUTTER TYPE A (1' 6")		CONCRETE WALKS	WHEELCHAIR RAMPS (TYPE 3)
			LIN. FT.	SQ. YD.		
153+00	155+06	RT.	220	84		
154+90		RT.				11.1
155+31	164+92	RT.	965	453		
155+47		RT.				10.6
164+67		RT.				12.2
165+18	171+87	RT.	692	289		
165+42		RT.				12.1
171+70		RT.				11.3
172+12	175+35	RT.	350	101		
175+18		RT.				11.5
172+29		RT.				11.2
175+61	177+72	RT.	238	89		
175+78		RT.				11.5
177+55		RT.				10.8
177+98	184+61	RT.	691	236		
184+45		RT.				11.1
178+16		RT.				11.7
153+00	153+34	LT.	49			
153+60	165+29	LT.	983			
165+55	175+37	LT.	868			
175+63	184+95	LT.	934			
20+38	21+10	RT.	114	63		
20+40	21+00	LT.	61			
TOTALS:			6165	1315		125.1

FENCING

STATION	STATION	LOCATION	4' CHAIN LINK FENCE LIN. FT.
162+53	163+77	LT. OF MAIN LANES	130
178+03	178+63	RT. OF MAIN LANES	62
TOTAL:			192

NOTE: 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 LINEAR FOOT OF CHAIN LINK FENCE.

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
EACH			
ENTIRE PROJECT	13	11	1
TOTALS:		13	11

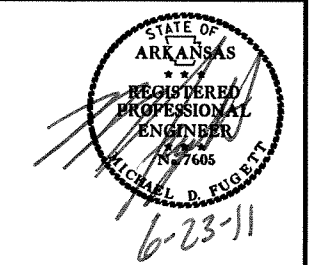
4" PIPE UNDERDRAIN

LOCATIONS	4" PIPE UNDERDRAINS
	LIN. FT.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	1500
TOTAL:	1500

*NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLETS AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE UNDERDRAIN.

② QUANTITIES



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 REMOVAL & DISPOSAL	
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	BAG	LIN.FT.	LIN.FT.	CU. YD.	
ENTIRE PROJECT		STAGE 1														
ENTIRE PROJECT		STAGE 2														
ENTIRE PROJECT		MAIN LANES	1.69	3.38	1.69	185.7	1.69	1058	2.61	2.61	53.2	75	450	1920	25	
20+12	21+10	HONEYSUCKLE LANE	0.04	0.08	0.04	4.5	0.04	33	0.04	0.04	0.8					
TOTALS:			1.73	3.46	1.73	190.2	1.73	1091	2.65	2.65	54.0	300	1075	2080	50	

BASIS OF ESTIMATE:

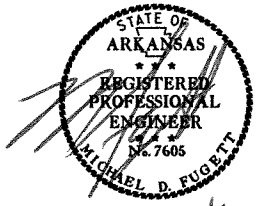
LIME2 TONS / ACRE OF SEEDING
 WATER.....102.0 M.G. / ACRE OF SEEDING.
 WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
 WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
 SAND BAG DITCH CHECKS.....25 BAGS / LOCATION

*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.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080295		20	70

② QUANTITIES



6-23-11

DRIVEWAYS & TURNOUTS

STATION	SIDE	WIDTH FEET	PORTLAND CEMENT CONCRETE DRIVES SQ. YD.	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG64-22)		AGGREGATE BASE COURSE (CLASS 7) (7" COMP. DEPTH) TON	SIDE DRAINS LIN. FT.		
				SQ. YD.	TON		18"	24"	21"X15"
152+41	RT.	16	33.80						
153+75	RT.	18	44.70						
154+60	LT.	18	108.70						
158+85	LT.	22	91.30					44	
159+33	RT.	18	66.70						
160+37	RT.	16	24.90	30.2	3.3	12.3			
161+33	RT.	14	23.10	31.1	3.4	12.7	30		
162+34	RT.	16	24.90	49.8	5.5	20.3			
163+00	RT.	16	24.90	33.8	3.7	13.8			
167+32	RT.	16	24.90	64.0	7.0	26.1			
169+17	RT.	14	23.10	56.0	6.2	22.9			
170+15	RT.	24	32.00	66.7	7.3	27.2			
171+14	LT.	30	37.30	33.3	3.7	13.6			
173+24	RT.	18	26.70	52.0	5.7	21.2			
173+87	LT.	30	37.30	53.3	5.9	21.8			
173+83	RT.	20	28.40	53.3	5.9	21.8			
174+24	RT.	18	26.70	54.0	5.9	22.1			
178+74	RT.	18	26.70	44.0	4.8	18.0			
178+80	LT.	24	72.00						36
179+56	RT.	14	23.10	35.8	3.9	14.6			
179+90	RT.	20	28.40	60.0	6.6	24.5			
180+94	RT.	14	23.10	35.8	3.9	14.6			
181+08	LT.	28	35.60	49.8	5.5	20.3			40
181+55	RT.	12	21.30	28.0	3.1	11.4			
182+50	RT.	40	104.00						
183+39	LT.	40	46.20	80.0	8.8	32.7			
* ENTIRE PROJECT TEMPORARY DRIVES						350.0			
TOTALS:			1059.80		100.1	721.9	30	44	76

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER

MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

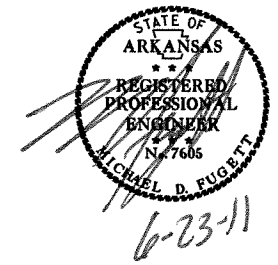
* QUANTITY ESTIMATED

SEE SECTION 104.03 OF THE STD. SPECS.

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		21	70
				JOB NO.		080295		

② QUANTITIES



BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE CRSE. (CL. 7)		TACK COAT				ACHM BASE COURSE (1 1/2")			ACHM BINDER COURSE (1")			ACHM SURFACE COURSE (1/2")					
				TON / STATION	TON	TOTAL WID. FEET	SQ.YD.	GAL. / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON
152+00	153+00	MAIN LANES - OVERLAY	100.0			20.0	222.2	0.03	6.7									20.0	222.2	220.0	24.4
153+00	155+00	MAIN LANES - NOTCH & WIDENING	200.0	9.75	19.5	32.0	711.1	0.03	21.3	6.50	144.4	440.0	31.8	4.0	88.9	330.0	14.7	28.0	622.2	220.0	68.4
155+00	163+50	MAIN LANES - NOTCH & WIDENING	850.0	9.75	82.9	47.0	4438.9	0.03	133.2	14.0	1322.2	440.0	290.9	11.5	1086.1	330.0	179.2	35.5	3352.8	220.0	368.8
163+50	184+75	MAIN LANES - NOTCH & WIDENING	2125.0	9.75	207.2	32.0	7555.6	0.03	226.7	6.5	1534.7	440.0	337.6	4.0	944.4	330.0	155.8	28.0	6611.1	220.0	727.2
153+00	184+75	MAIN LANES - LEVELING	3175.0			20.0	7055.6	0.10	705.6									20.0	7055.6	VAR.	1131.2
153+00	184+75	MAIN LANES - LEVELING FOR C.L. SHIFT	3175.0															10.0	3527.8	110.0	194.0
184+75	185+10	MAIN LANES - OVERLAY	35.0			20.0	77.8	0.03	2.3									VAR.	300.0	440.0	66.0
20+12	20+40	HONEYSUCKLE LN. - NOTCH & WIDENING	28.0			VAR.	248.9	0.03	7.5	VAR.	62.2	440.0	13.7	VAR.	62.2	330.0	10.3	VAR.	186.7	220.0	20.5
20+40	21+10	HONEYSUCKLE LN. - NOTCH & WIDENING	70.0			32.0	248.9	0.03	7.5	9.0	70.0	440.0	15.4	4.0	31.1	330.0	5.1	28.0	217.8	220.0	24.0
20+12	21+10	HONEYSUCKLE LN. - LEVELING	98.0			20.0	217.8	0.10	21.8									20.0	217.8	VAR.	101.0
21+10	21+60	HONEYSUCKLE LN. - OVERLAY	50.0			20.0	111.1	0.03	3.3									VAR.	111.1	220.0	12.2
		HONEYSUCKLE LN. LT					488.4	0.03	14.7		244.2	440.0	53.7		244.2	330.0	40.3		244.2	440.0	53.7
		PINE HILL DRIVE - RT.					391.0	0.03	11.7		194.5	440.0	42.8		195.5	330.0	32.3		195.5	440.0	43.0
		CRAIGWOOD DRIVE - LT.					257.7	0.03	7.7		128.9	440.0	28.4		128.8	330.0	21.3		128.9	440.0	28.4
		WEST SECOND COURT - RT.					493.8	0.03	14.8		246.9	440.0	54.3		246.9	330.0	40.7		246.9	440.0	54.3
		WEST SECOND PLACE - RT.					508.4	0.03	15.3		254.2	440.0	55.9		254.2	330.0	41.9		254.2	440.0	55.9
		WEST SECOND PLACE - LT.					267.6	0.03	8.0		133.8	440.0	29.4		133.8	330.0	22.1		133.8	440.0	29.4
		WEST SECOND - RT.					504.4	0.03	15.1		252.2	440.0	55.5		252.2	330.0	41.6		252.2	440.0	55.5
TOTALS:					309.6				1223.2				1009.4				605.3				3057.9

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2")..... 94.5% MIN. AGGR..... 5.5% ASPHALT BINDER
 ACHM BINDER COURSE (1")..... 95.7% MIN. AGGR..... 4.3% ASPHALT BINDER
 ACHM BASE COURSE (1 1/2")..... 96% MIN. AGGR..... 4% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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.

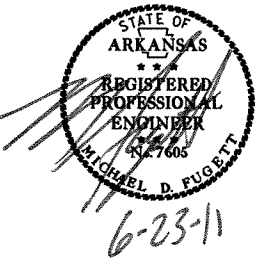
SUMMARY OF QUANTITIES

Table with columns: ITEM NUMBER, ITEM, QUANTITY, UNIT. Includes items like CLEARING, GRUBBING, REMOVAL AND DISPOSAL OF CURB AND GUTTER, ASPHALT BINDER, MINERAL AGGREGATE, POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE, etc.

*ALTERNATE BID ITEMS

REVISION BOX table with columns: DATE, REVISION, SHEET NUMBER.

Summary of quantities & revisions table with columns: DATE REVISED, DATE FILMED, SHEET NO., TOTAL SHEETS, JOB NO., FED.AID PROJ.NO., STATE, FED.RD. DIST.NO.



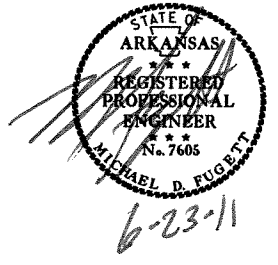
6-23-11

SURVEY CONTROL COORDINATES

Project Name: S080295G1.CTL
 Date: 9/17/2008
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 080295							23	70

2 SURVEY CONTROL DETAILS



Point Name	Northing	Easting	Elev	Feature	Description
1	349245.3460	964800.9288	368.08	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
2	348344.9370	964771.2649	378.64	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
3	347376.7707	964766.7958	394.84	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
4	346389.7112	964708.4984	419.23	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
5	345412.8055	964673.5874	458.46	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
6	344784.9012	964679.0954	453.33	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
7	344362.8173	964622.4761	465.52	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
8	343659.6829	964662.8794	458.03	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
9	342997.6608	964909.2547	447.93	CTL	5/8" REBAR W/ 2" ALUMINUM CAP EAST SIDE INGLEWOOD
10	342395.7005	965037.1708	454.41	CTL	5/8" REBAR W/ 2" ALUMINUM CAP WEST SIDE INGLEWOOD
11	342146.7153	965299.9235	449.72	CTL	5/8" REBAR W/ 2" ALUMINUM CAP SOUTH SIDE INGLEWOOD
12	342233.3497	966099.7120	407.00	CTL	5/8" REBAR W/ 2" ALUMINUM CAP N SIDE INGLEWOOD
13	342272.6995	967127.4022	390.98	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
14	342311.8036	967786.1182	394.99	CTL	5/8" REBAR W/ 2" ALUMINUM CAP NORTH SIDE INGLEWOOD
100	349450.8567	964465.4228	370.57	GPS	AHTD GPS 580021
900	349010.7289	965756.3189	361.79	BM	STAINLESS STEEL ROD IN SLEEVE NGS MARK Q 292
901	349289.9183	964800.0607	367.48	BM	SQUARE CUT IN DROP INLET
902	348339.3454	964774.4471	378.73	BM	SQUARE CUT IN CF 2ND INGLEWOOD
903	347315.5654	964737.0573	394.89	BM	SQUARE CUT IN RCP CRAIGWOOD & INGLEWOOD
904	346332.4522	964739.3719	421.56	BM	SQUARE CUT IN DROP INLET HONEYSUCKLE & INGLEWOOD
905	345175.0302	964669.3436	449.25	BM	SQUARE CUT IN BACK OF DROP INLET WEST OF INGLEWOOD
906	344339.0722	964625.6593	468.30	BM	CPS IN COMBINATION POLE WEST SIDE INGLEWOOD
907	343193.5039	964853.1734	446.98	BM	SQUARE CUT IN TOP OF REINFORCED CONCRETE PIPE
908	342442.0605	965055.2598	453.45	BM	CPS IN CP EAST SIDE INGLEWOOD
909	342229.0273	966478.5523	397.49	BM	SQUARE IN HEADWALL SOUTH OF 12TH INGLEWOOD
910	342327.5756	967215.6866	390.51	BM	SQUARE CUT IN TOP OF HEADWALL NORTH SIDE INGLEWOOD

CONSTRUCTION

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	149+99.99	345819.4719	964706.9384
8001	P. I.	153+00.00	346119.3298	964716.6276
8002	P. C.	153+90.16	346209.4124	964720.1716
8003	P. T.	155+88.76	346407.5418	964710.7862
8004	P. C.	156+24.68	346443.1414	964705.9875
8005	P. T.	158+90.29	346707.8902	964707.3328
8006	P. C.	160+29.79	346845.9482	964727.3734
8007	P. T.	161+62.99	346978.5839	964738.8126
8008	P. I.	164+50.56	347266.0409	964746.8382
8009	P. I.	166+54.89	347470.2492	964753.7994
8010	P. I.	176+14.77	348429.3594	964792.1699
8501	P. I.	184+75.00	349269.1487	964819.7915
8011	POE	185+21.00	349335.1250	964821.2685

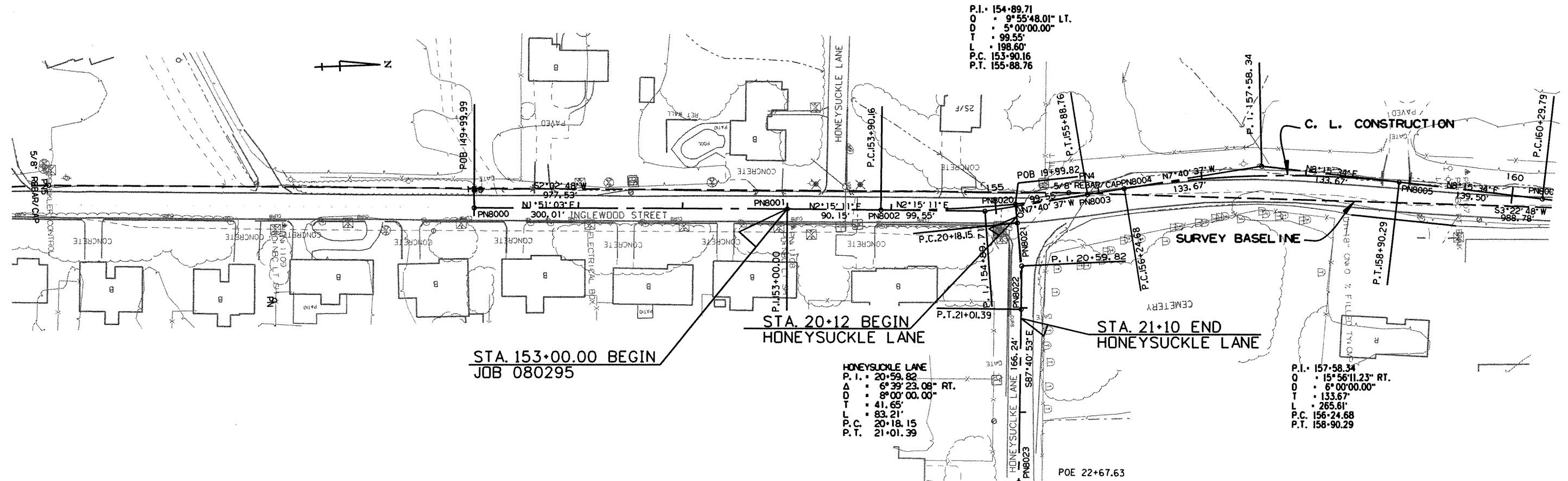
HONEYSUCKLE LANE

POINT NO.	TYPE	STATION	NORTHING	EASTING
8020	POB	19+99.82	346337.9673	964718.0105
8021	P. C.	20+18.15	346339.3547	964736.2879
8022	P. T.	21+01.39	346340.8229	964819.4708
8023	POE	22+67.63	346334.0978	964985.5732

*Note: Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
 AHTD 080295 T-, or as indicated
 (Other markings indicated in the point description of the individual point).
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
 A PROJECT CAF OF 0.9999386822 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
 THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
 GRID DISTANCE = GROUND DISTANCE X CAF
 GRID COORDINATES ARE STORED UNDER FILE NAME: S080295G1.CTL
 HORIZONTAL DATUM: NAD 83 (1997)
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
 AT A SPECIFIC POINT.

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

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: Q 292 - 580021
 CONVERGENCE ANGLE: 0 40 42.29 LEFT AT LT: 35.171571248 LG: 93.095711828
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

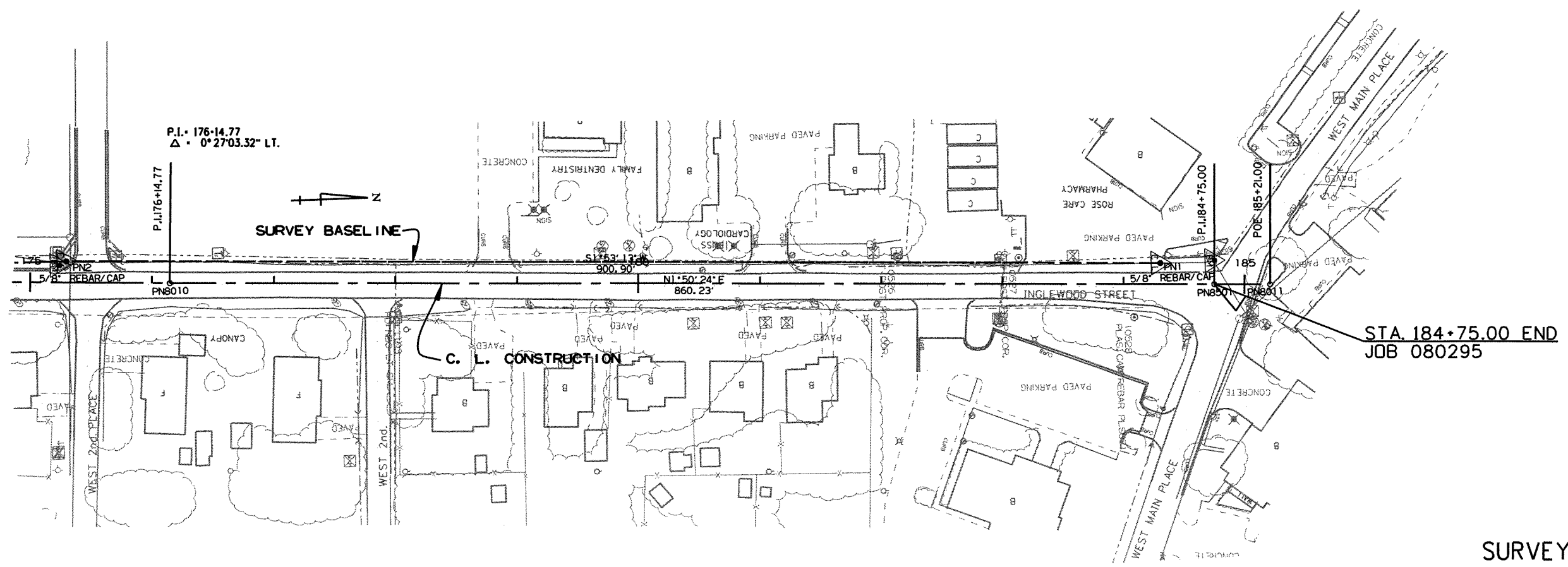
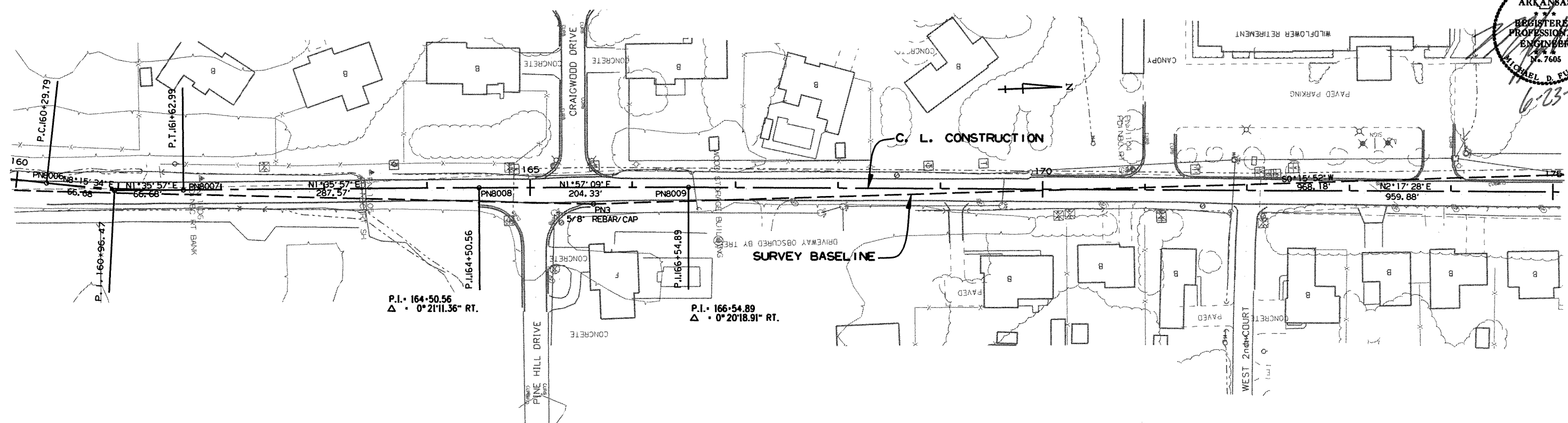


SURVEY CONTROL DETAILS

P.I. 160-96.47
 O.D. 6° 39' 36.55" LT.
 D.T. 5° 00' 00.00"
 L. 66.68'
 P.C. 160-29.79
 P.T. 161-62.99

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		24	70

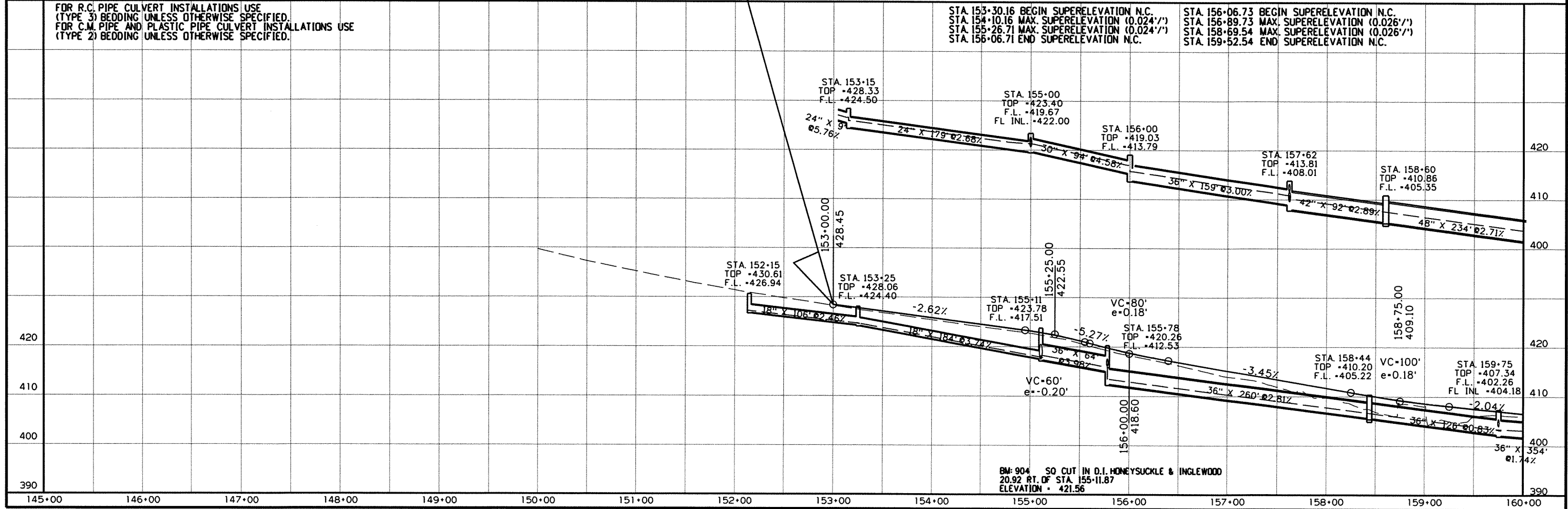
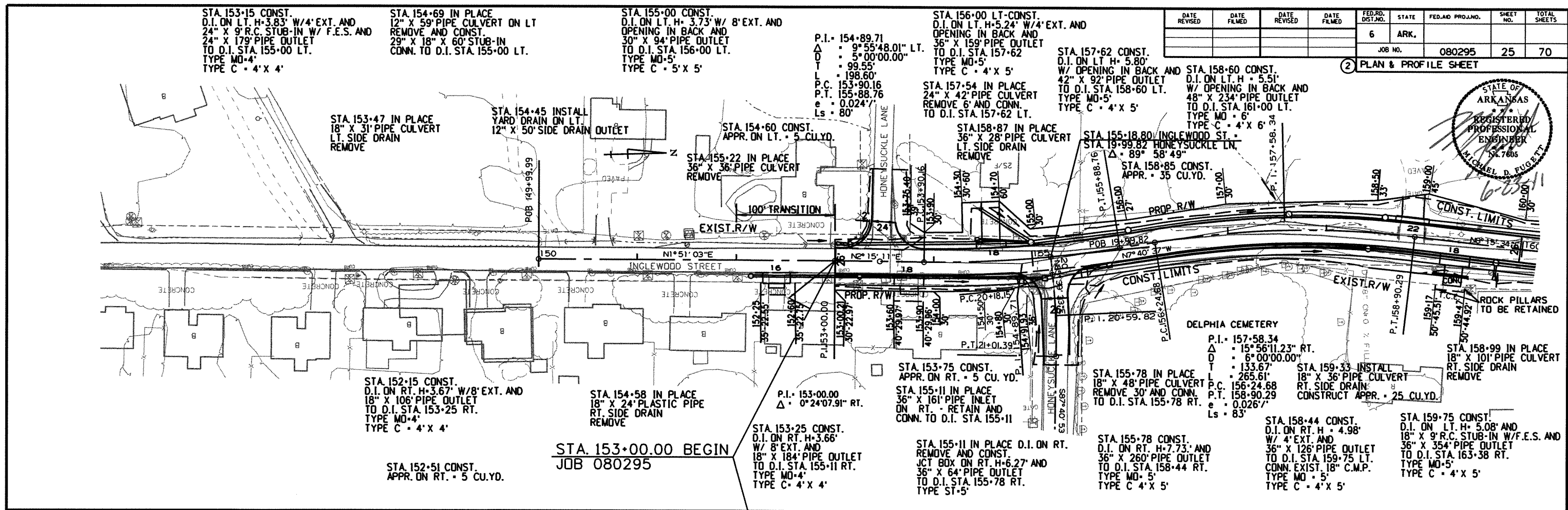
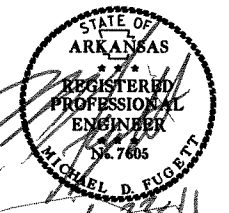
2 SURVEY CONTROL DETAILS



SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		25	70

2 PLAN & PROFILE SHEET

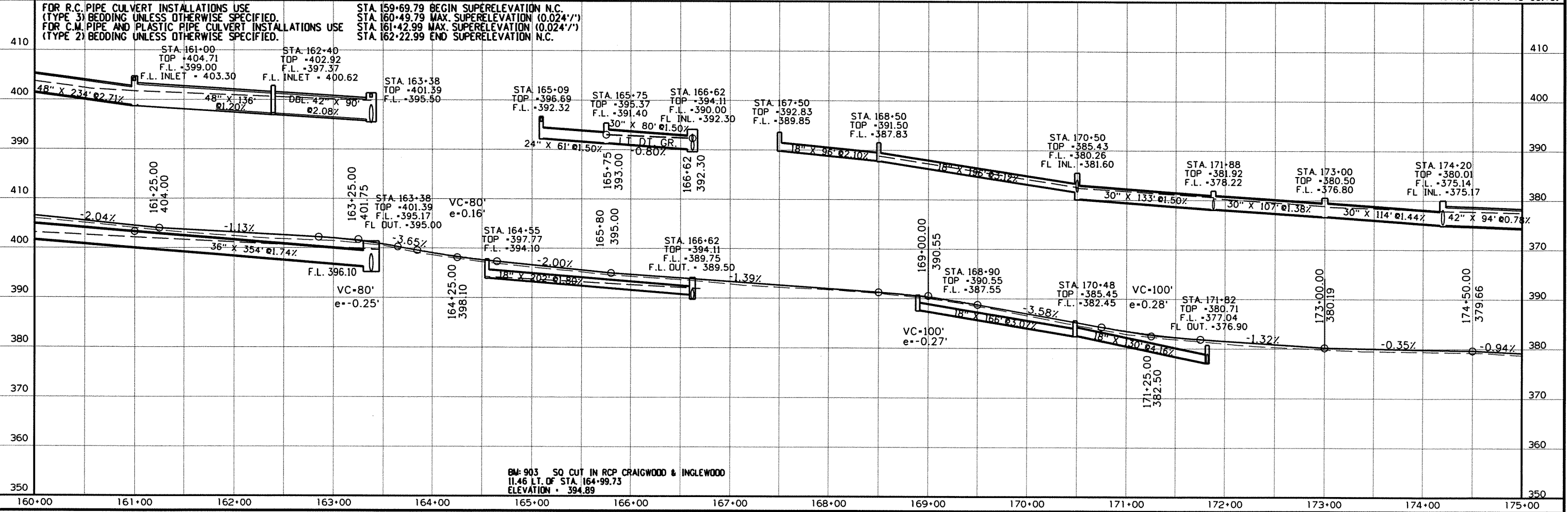
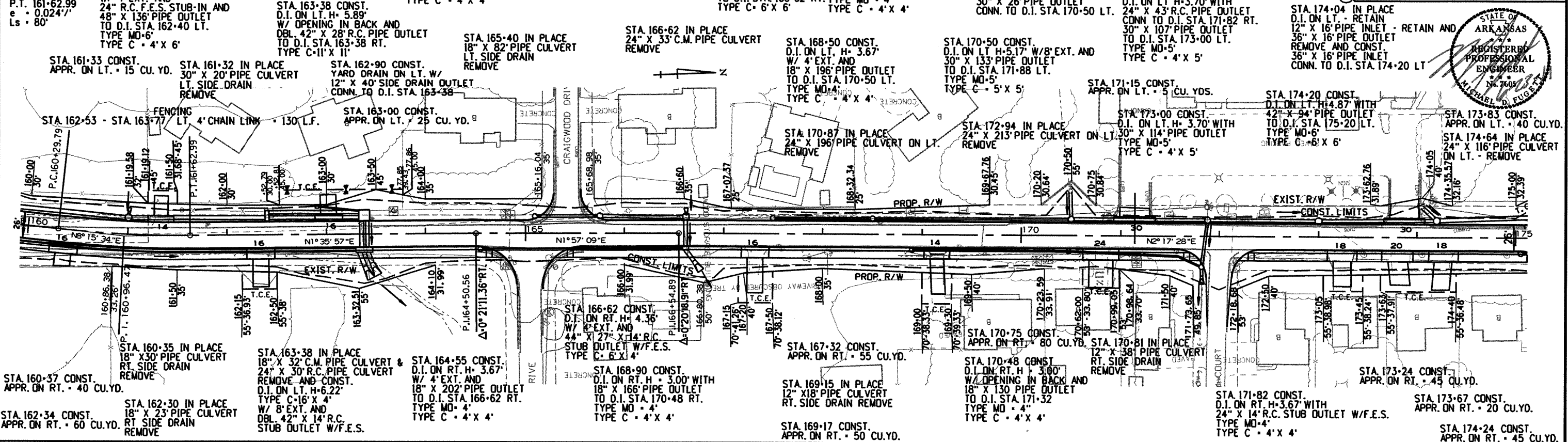
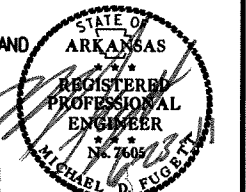


FOR R.C. PIPE CULVERT INSTALLATIONS USE (TYPE 3) BEDDING UNLESS OTHERWISE SPECIFIED. FOR C.M. PIPE AND PLASTIC PIPE CULVERT INSTALLATIONS USE (TYPE 2) BEDDING UNLESS OTHERWISE SPECIFIED.

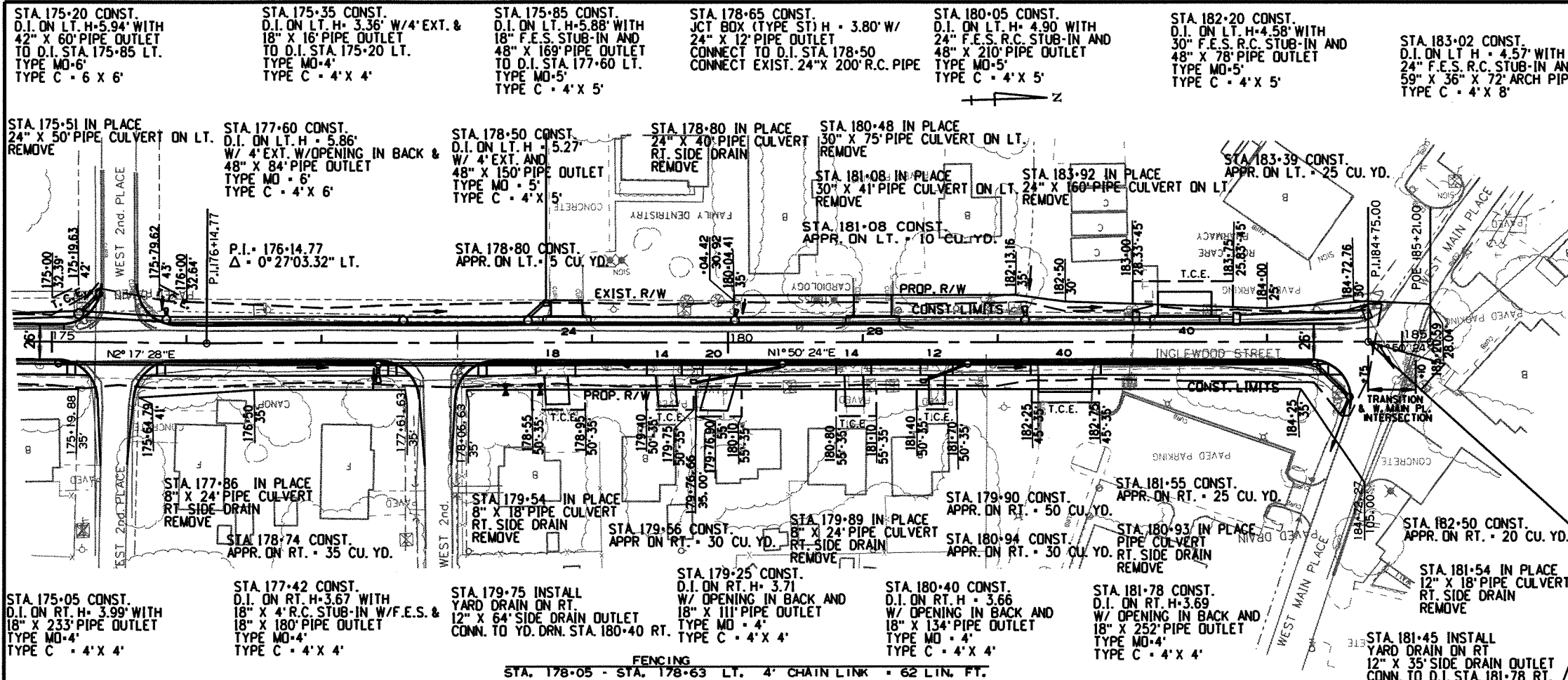
1/23/2009 file r080295

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	080295	26	70

2 PLAN & PROFILE SHEET

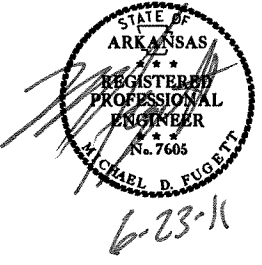


BM: 903 SQ CUT IN RCP CRAIGWOOD & INGLEWOOD
 11.46 LT. OF STA. 164+99.73
 ELEVATION = 394.89



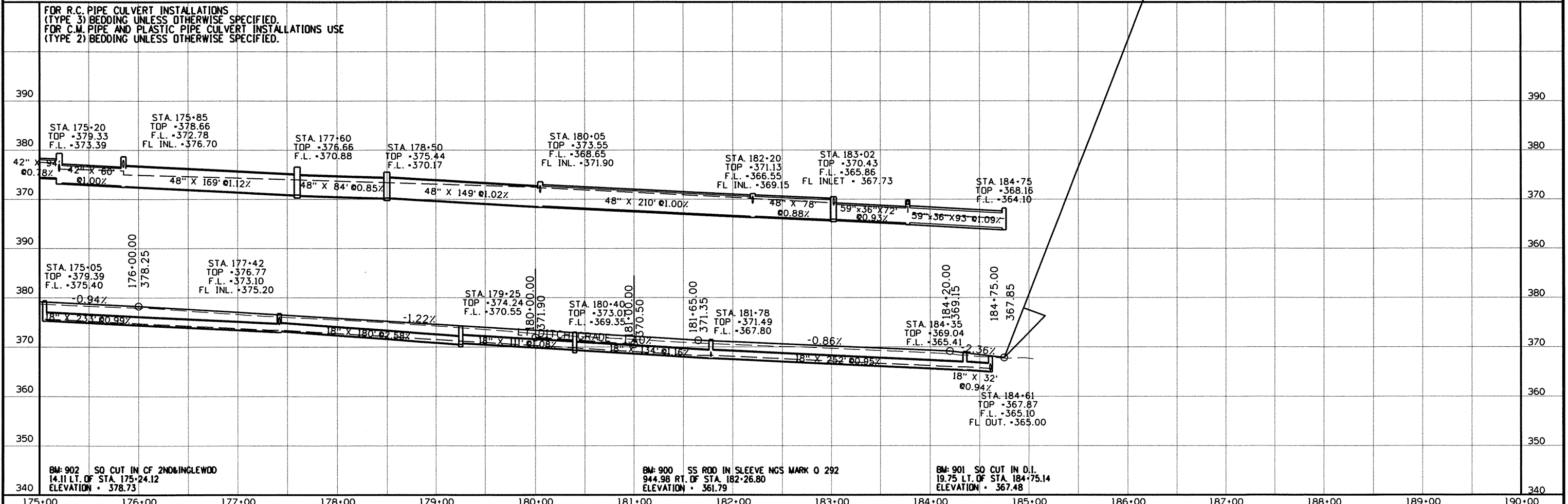
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		27	70

PLAN & PROFILE SHEET



STA. 183-78 CONST.
D.I. ON LT. H=4.61' W/8' EXT.
W/ OPENING IN BACK AND
59" X 36" X 72" ARCH PIPE
OUTLET
TYPE C - 4' X 8'

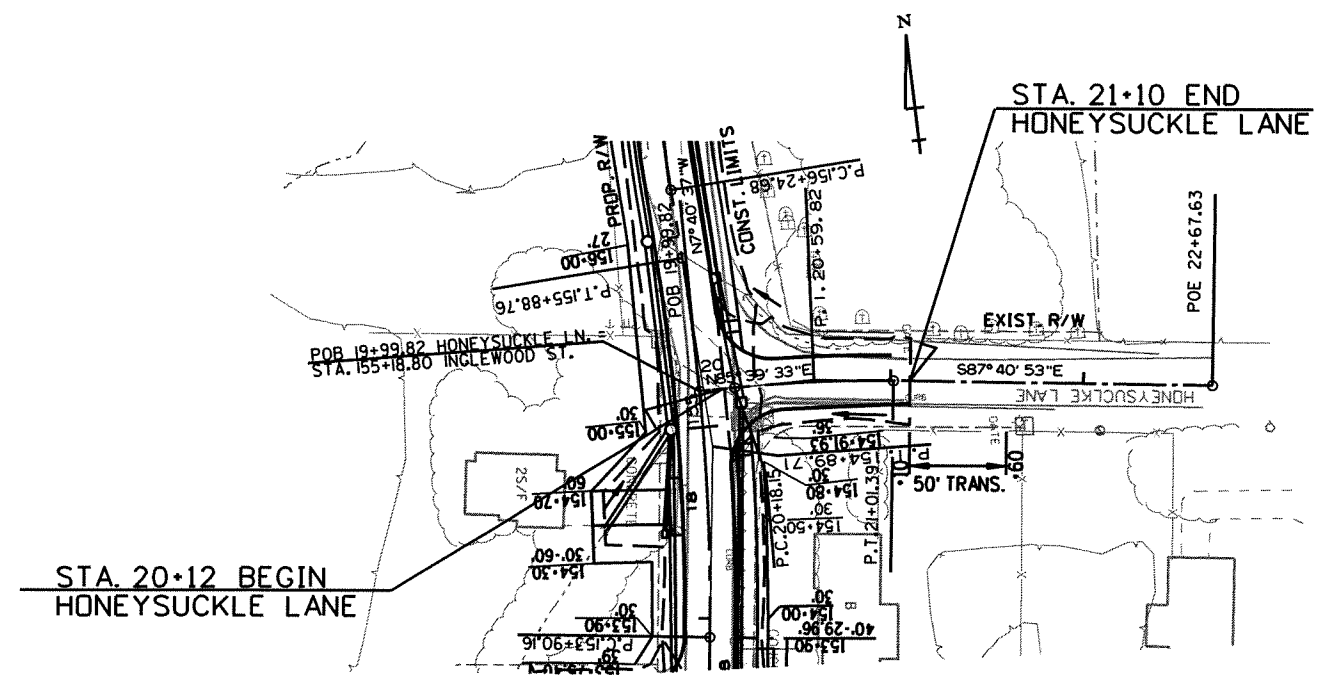
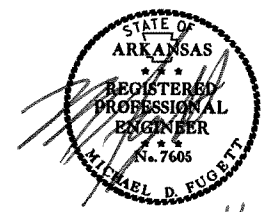
STA. 184-75 CONST.
D.I. ON LT. H=4.06' W/8' EXT.
TYPE C=4' X 8'
CONN. EXISTING 24" PIPE OUTLET



1/23/2009 file r080295

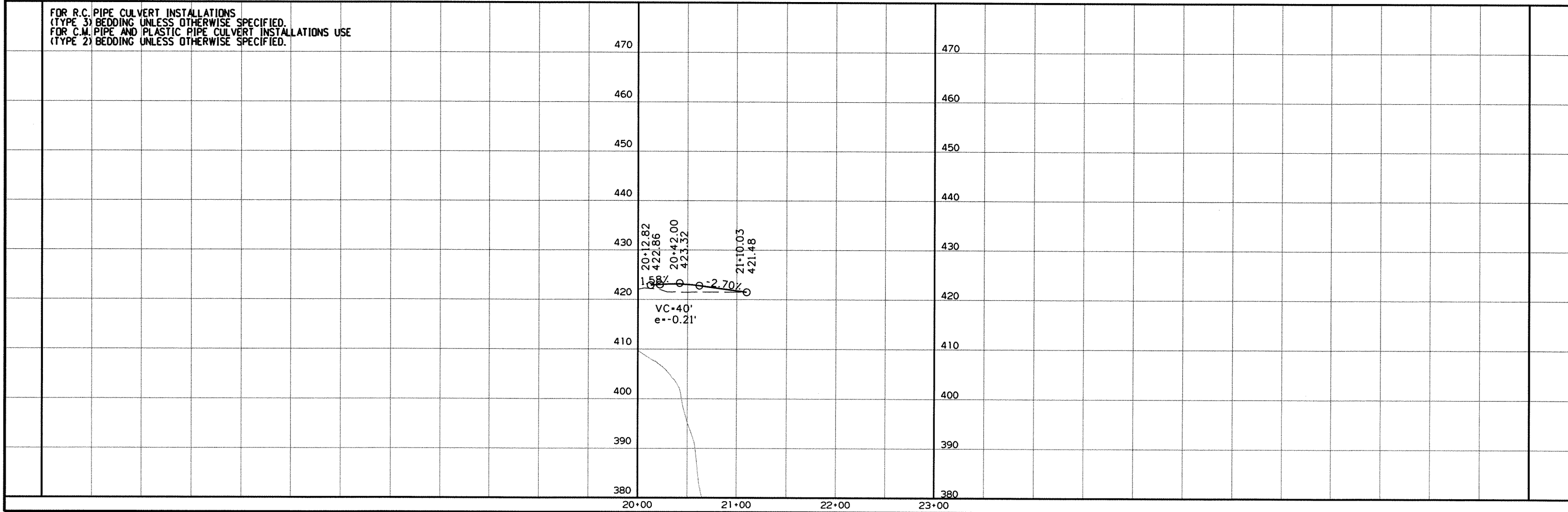
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080295		28	70

② PLAN & PROFILE SHEET

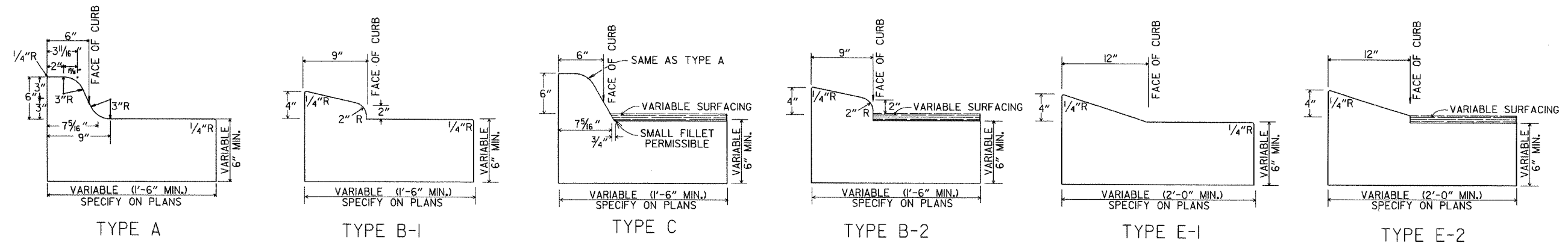


P.I. = 20+59.82
 Δ = 6° 39' 23.08" RT.
D = 8° 00' 00.00"
T = 41.65'
L = 83.21'
P.C. = 20+18.15
P.T. = 21+01.39
NO SUPER.

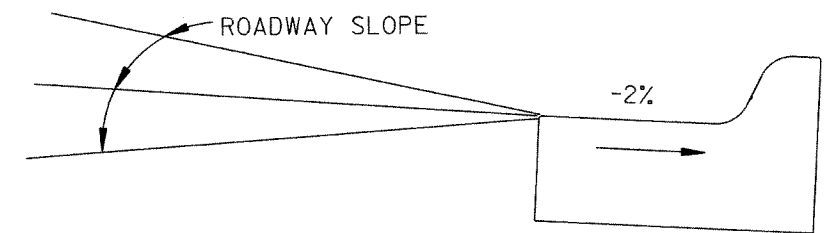
FOR R.C. PIPE CULVERT INSTALLATIONS
(TYPE 3) BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE AND PLASTIC PIPE CULVERT INSTALLATIONS USE
(TYPE 2) BEDDING UNLESS OTHERWISE SPECIFIED.



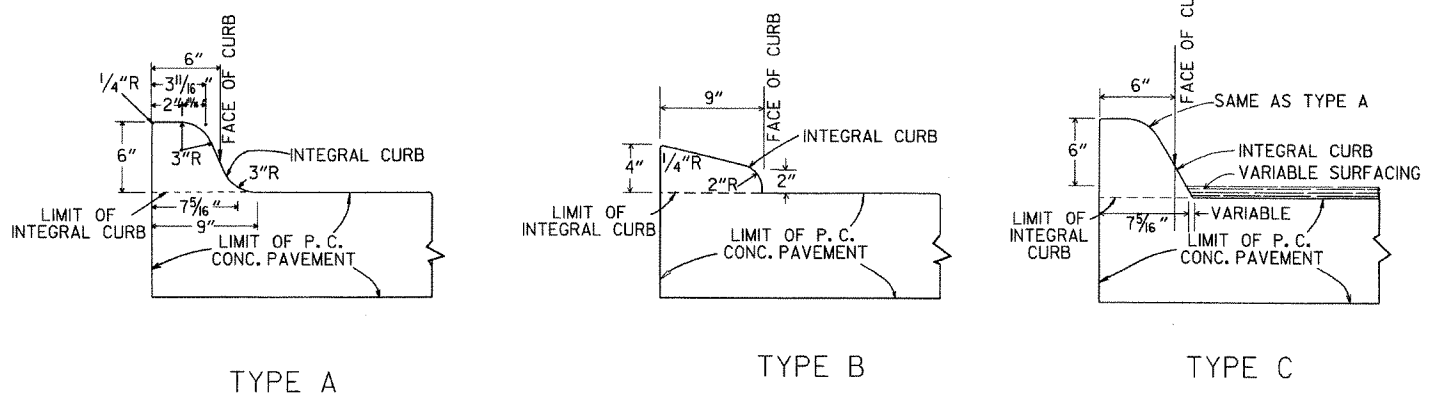
1/23/2009



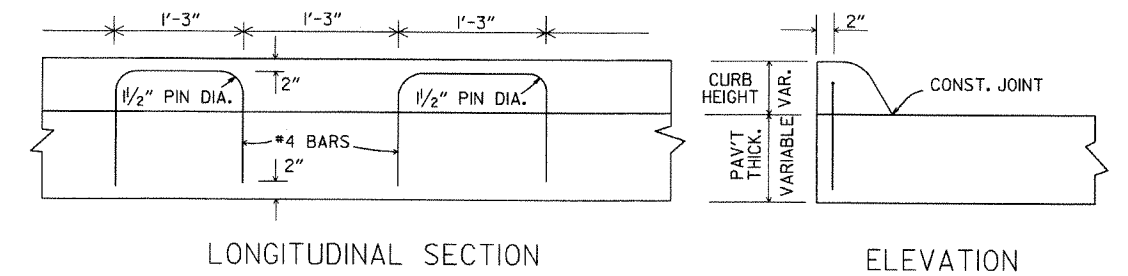
CONCRETE COMBINATION CURB AND GUTTER



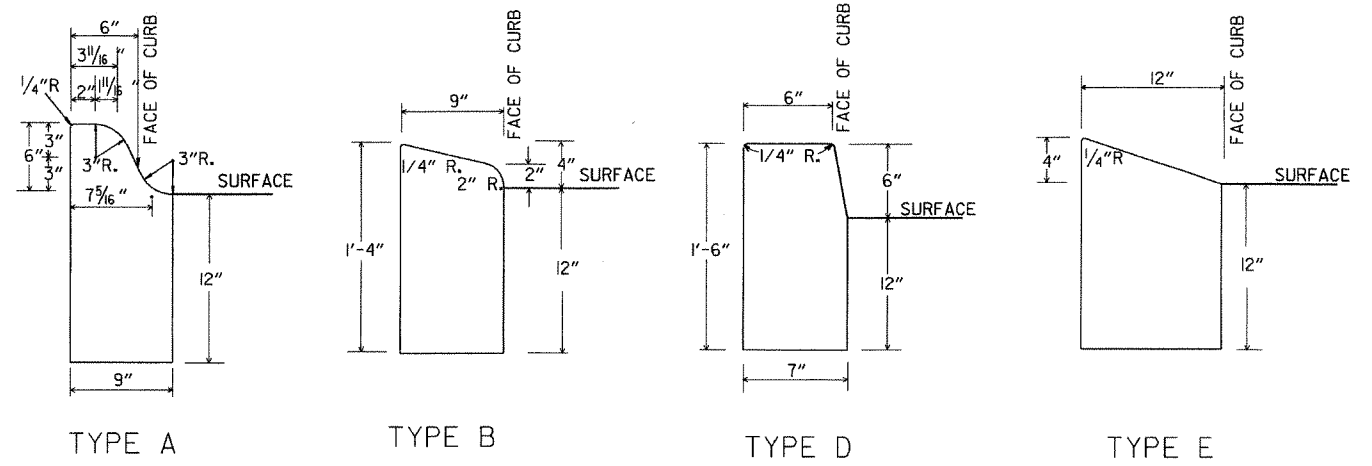
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



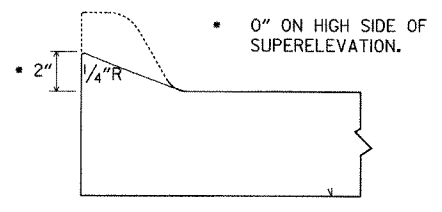
INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



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.

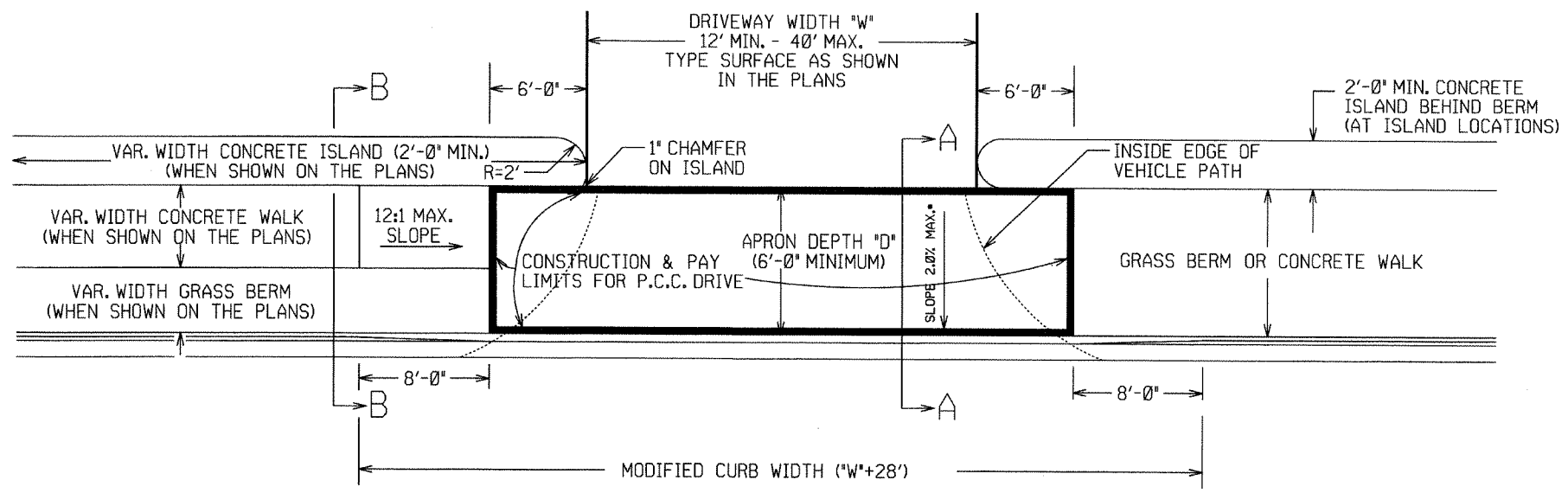
DETAILS OF MODIFIED CURB

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	VARIABLE DEPTH TYPE A & B 1	11-30-89
7-16-88	REVISED MODIFIED CURB	630-7-16-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

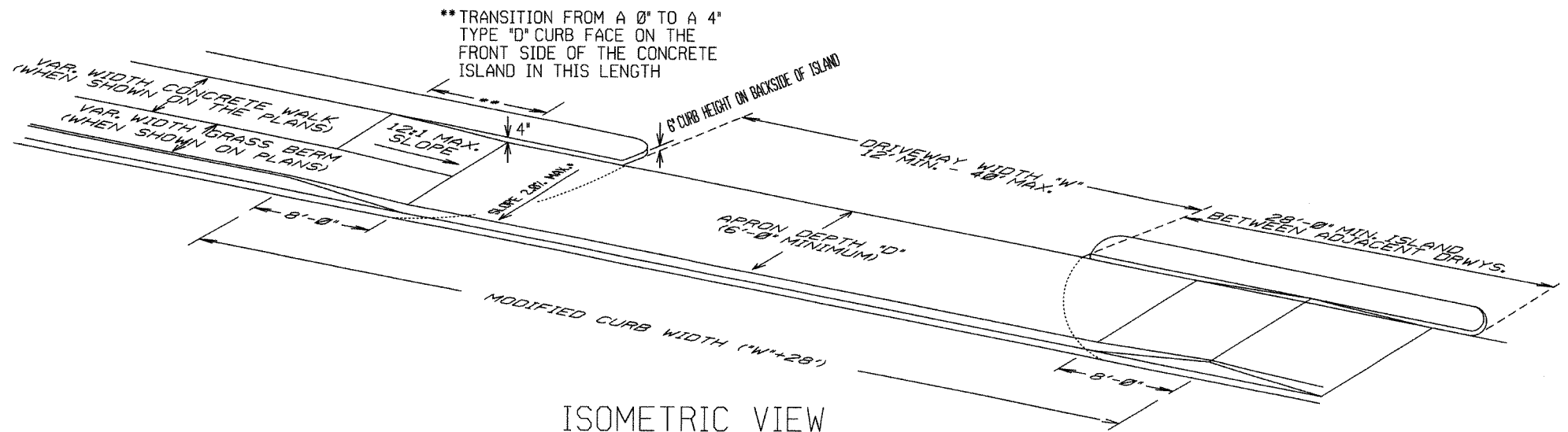
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

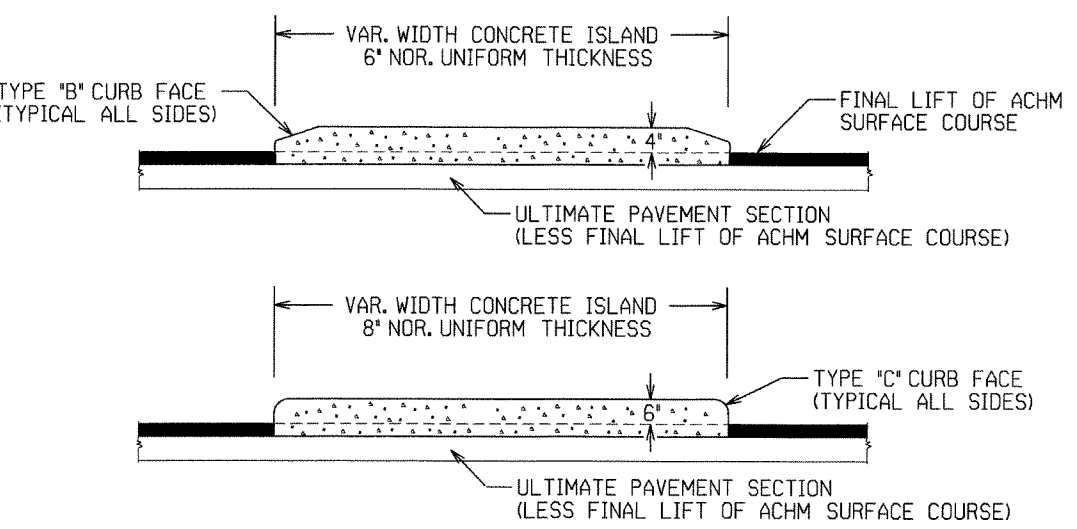
STANDARD DRAWING CG-1



PLAN VIEW

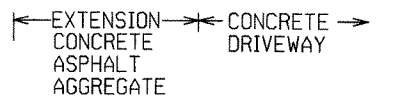


ISOMETRIC VIEW



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".

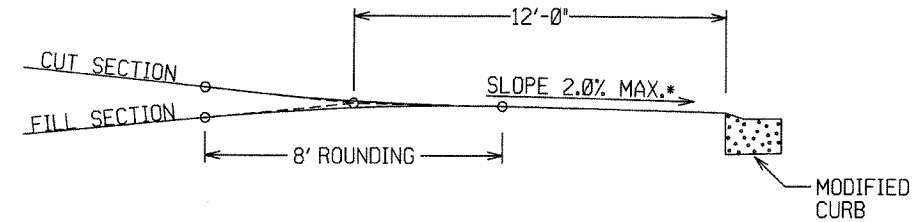


EXTENSION TYPICAL SECTIONS

- 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

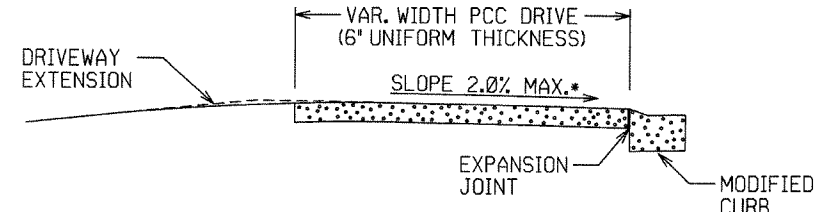
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

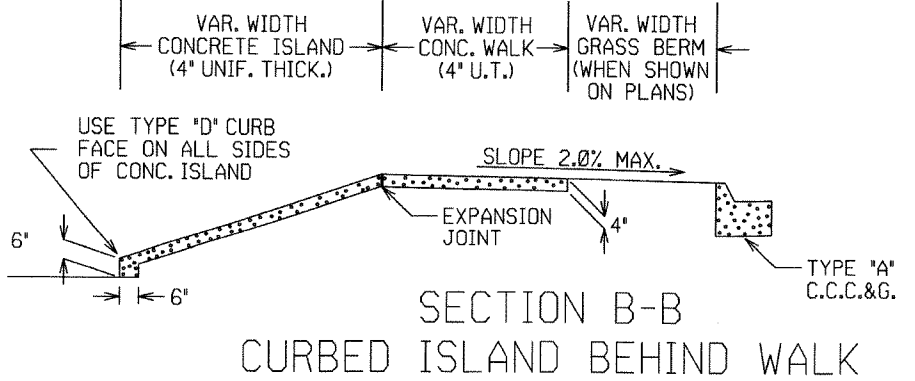


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



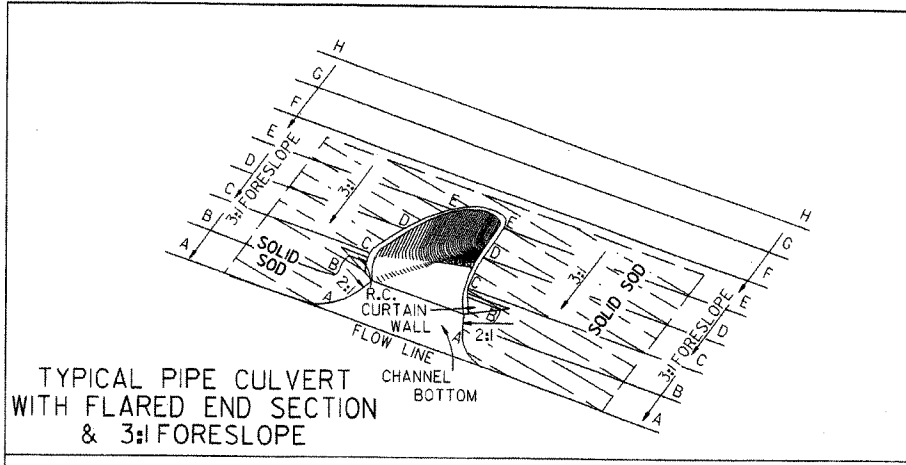
SECTION A-A



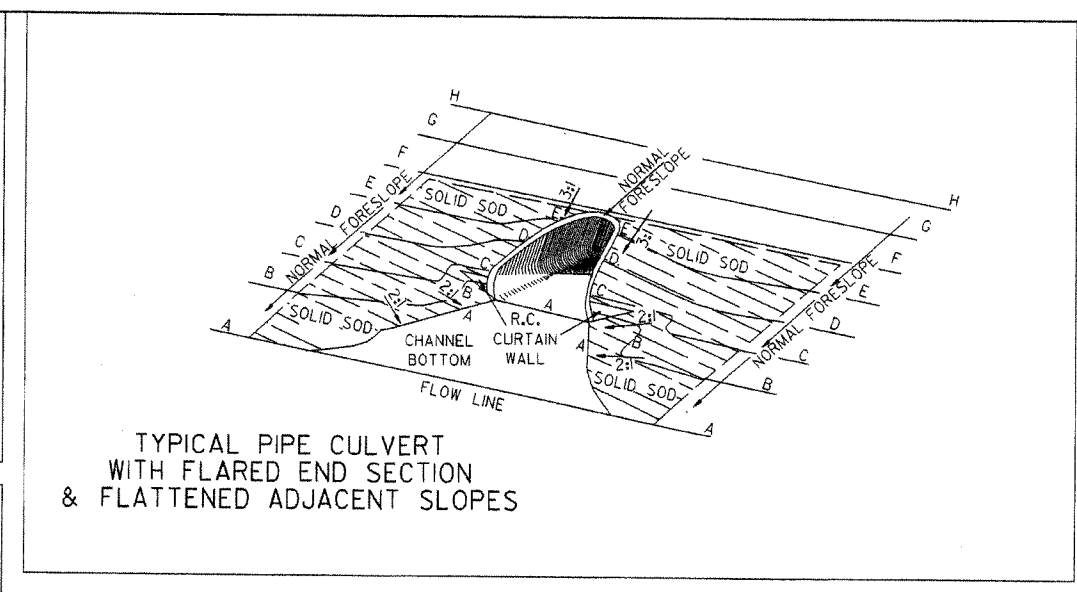
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE	REV	DATE	FILED	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

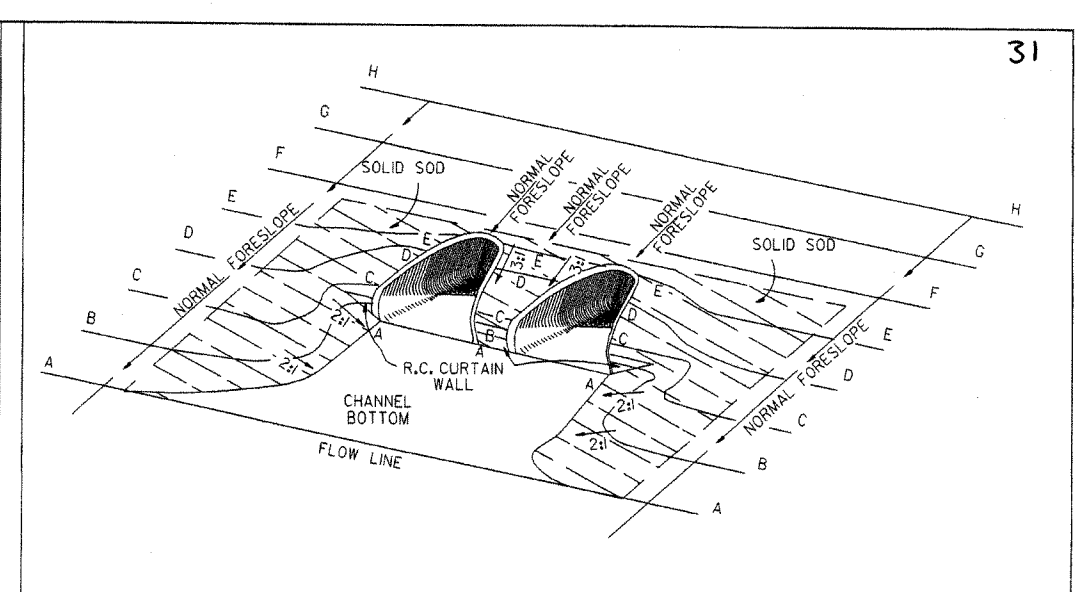
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



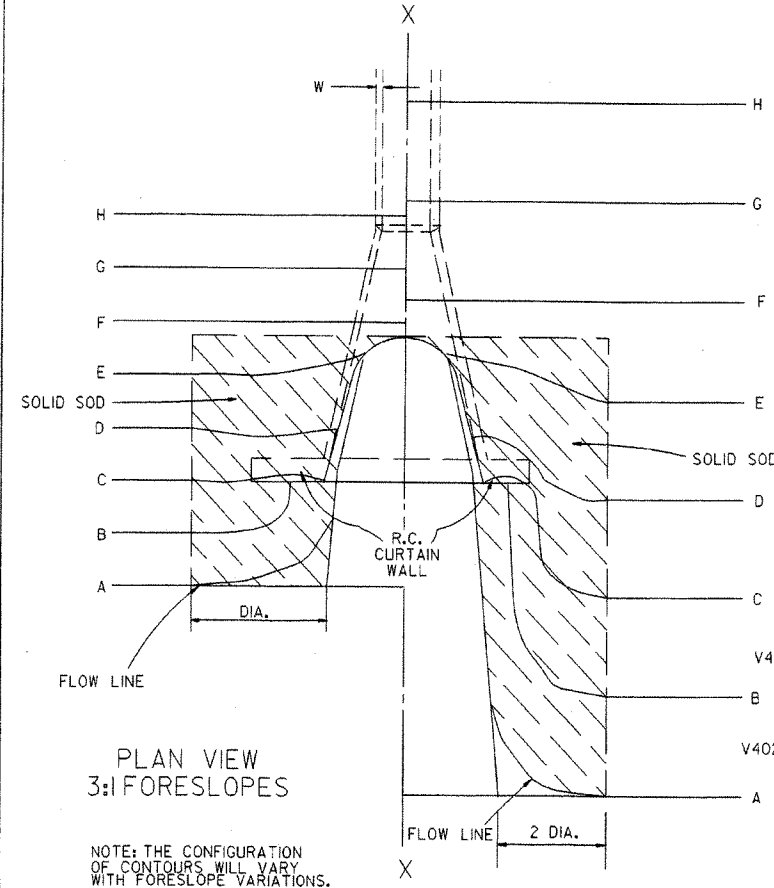
TYPICAL PIPE CULVERT WITH FLARED END SECTION & 3:1 FORESLOPE



TYPICAL PIPE CULVERT WITH FLARED END SECTION & FLATTENED ADJACENT SLOPES



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



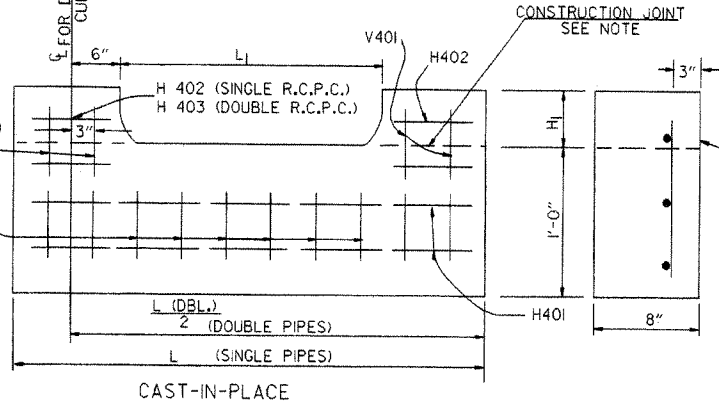
PLAN VIEW 3:1 FORESLOPES

PLAN VIEW FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

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

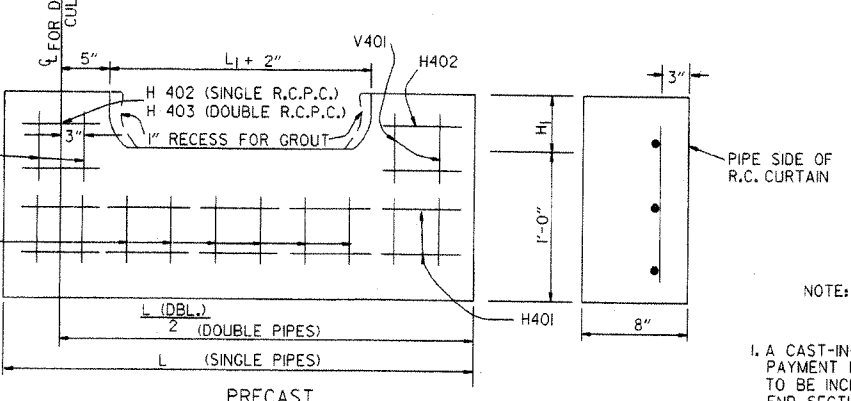
NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



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.

R.C. CURTAIN WALL DETAILS



PRECAST

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

REINFORCING STEEL SCHEDULE

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

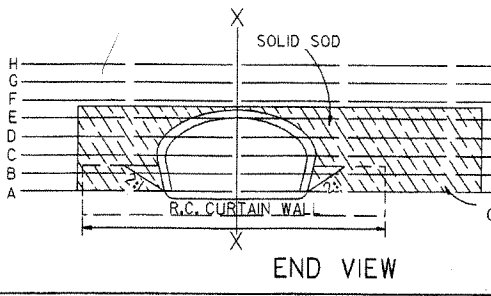
ALL REINFORCING STEEL #4 BARS @ 6" O.C.

SOLID SODDING

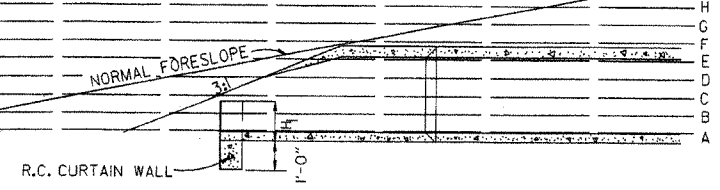
PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.					
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	36	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

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

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



END VIEW



SECTIONAL VIEW "X-X"

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

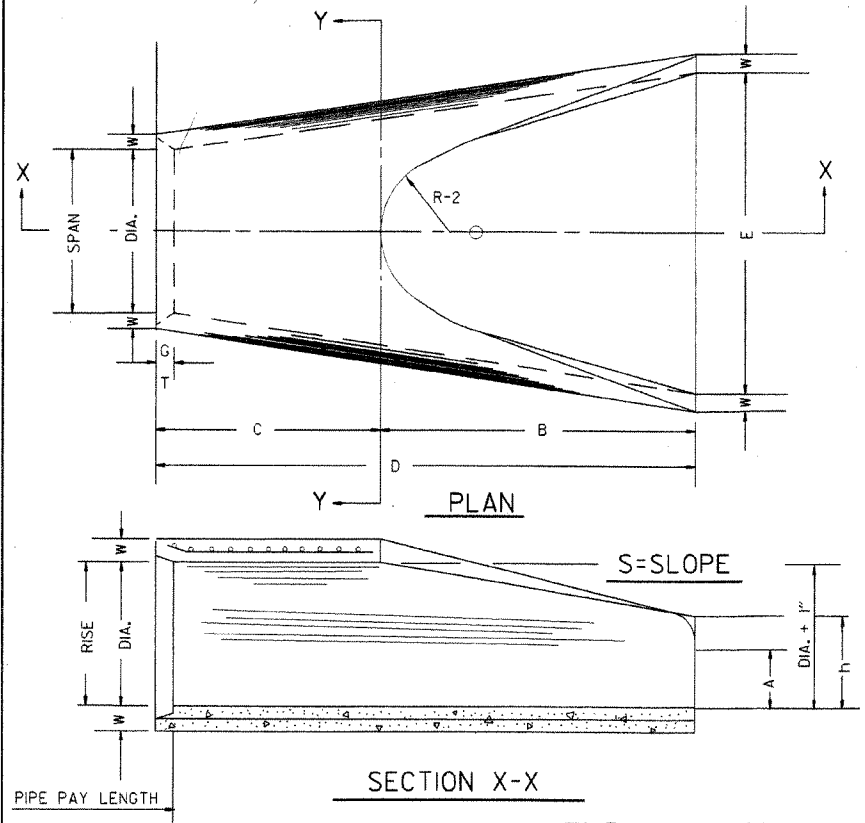
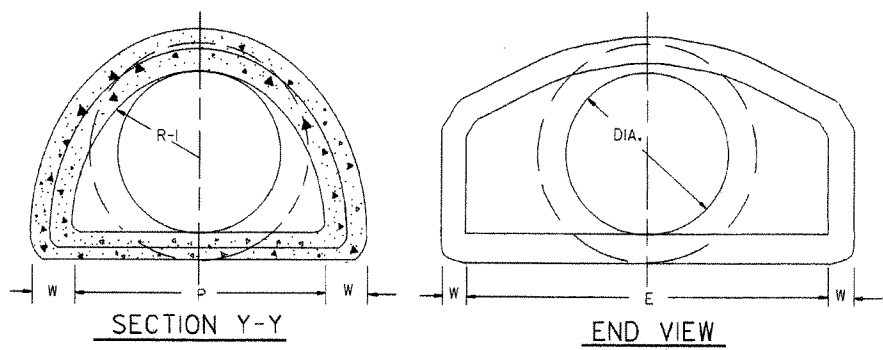


TABLE OF DIMENSIONS

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



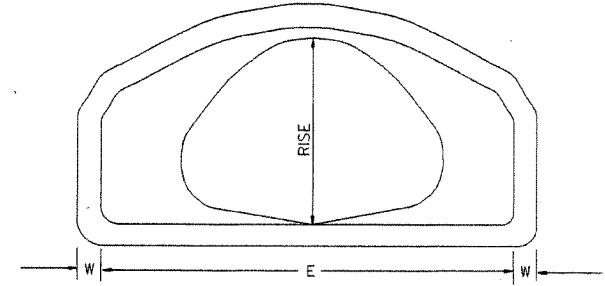
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

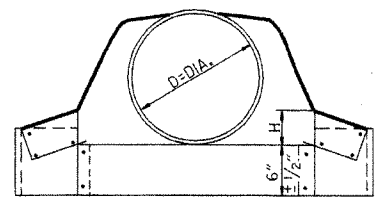
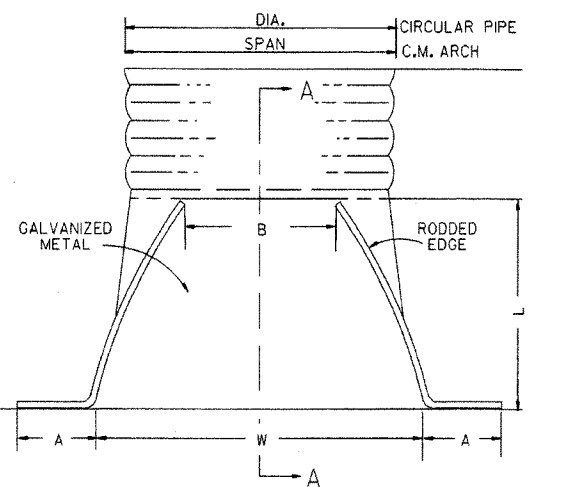
ARCH PIPE

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

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



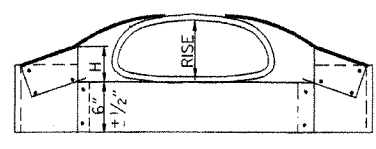
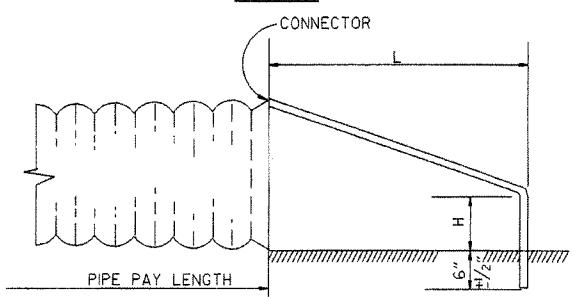
END VIEW CONCRETE ARCH PIPE



CIRCULAR PIPE

CIRCULAR PIPE

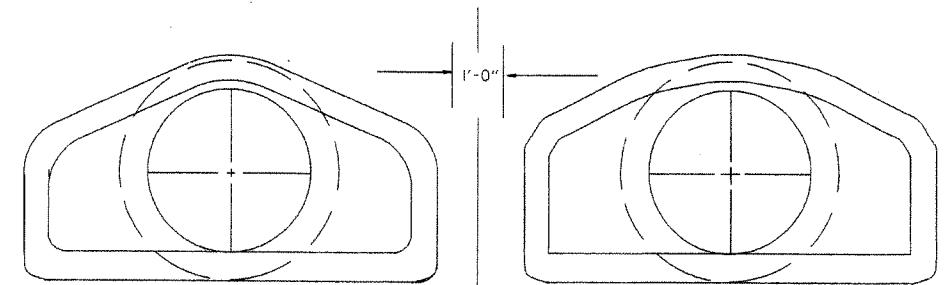
D. DIA.	GAUGE	A		B. MAX.		H	L	W	S
		1" ±	MAX.	1" ±	MAX.				
12	16	6	6	6	6	21	24	2 1/2:1	
15	16	7	8	6	6	26	30	2 1/2:1	
18	16	8	10	6	6	31	36	2 1/2:1	
21	16	9	12	6	6	36	42	2 1/2:1	
24	16	10	13	6	6	41	48	2 1/2:1	
30	14	12	16	8	8	51	60	2 1/2:1	
36	14	14	19	9	9	60	72	2 1/2:1	
42	12	16	22	11	11	69	84	2 1/2:1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



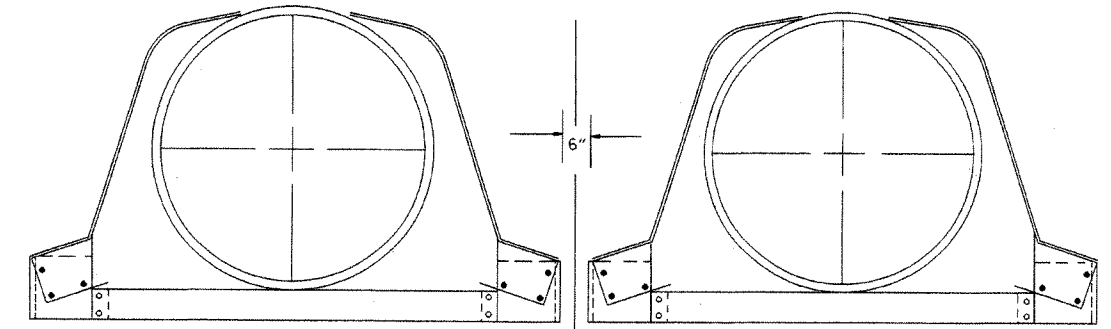
C.M. ARCH PIPE

C.M. ARCH PIPE

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



MULTIPLE R.C. PIPE CULVERTS



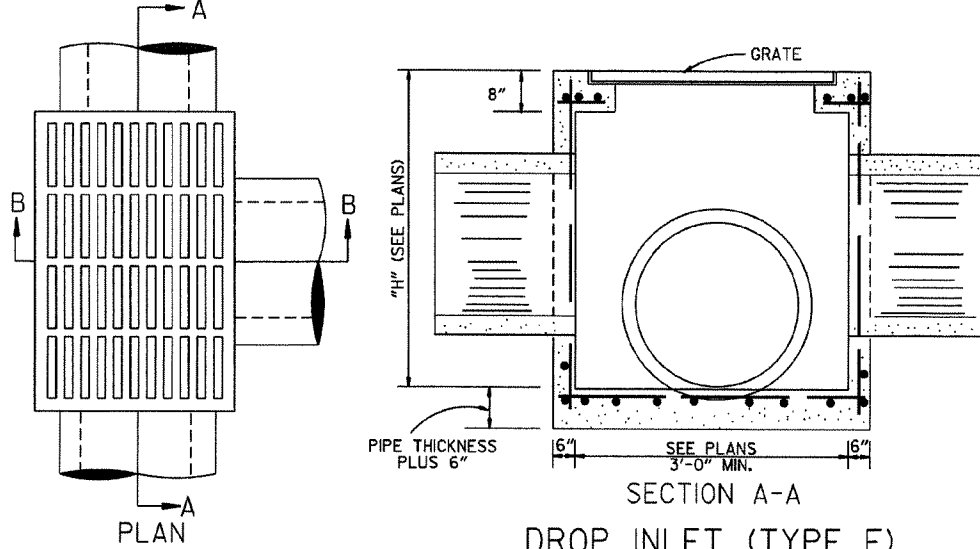
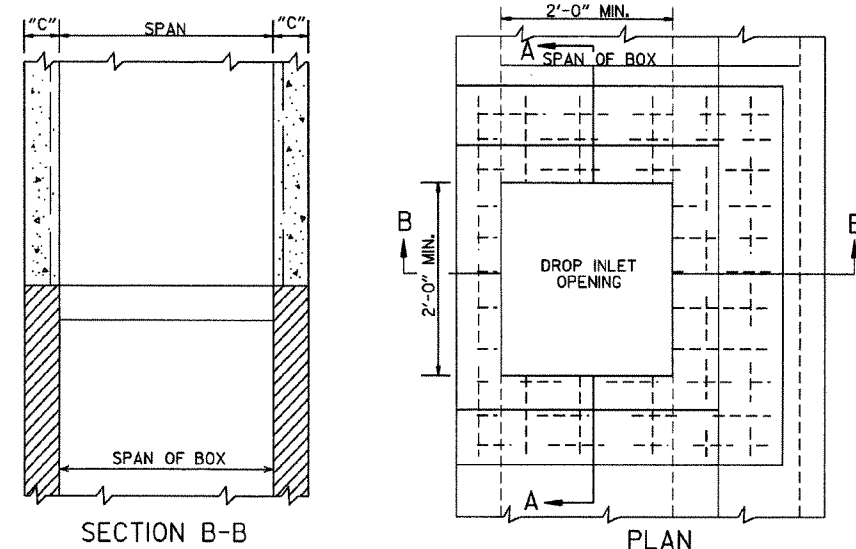
MULTIPLE C.M. PIPE CULVERTS

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

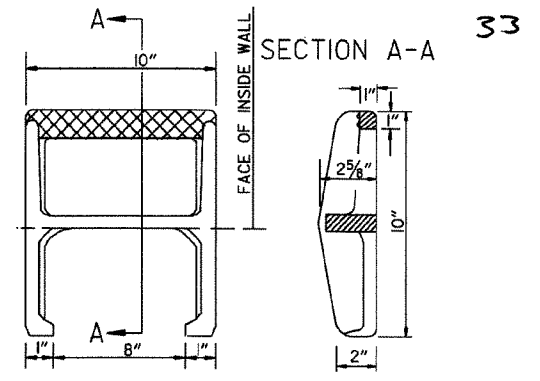
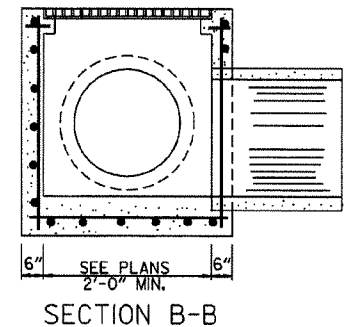
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

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

FLARED END SECTION
STANDARD DRAWING FES-2

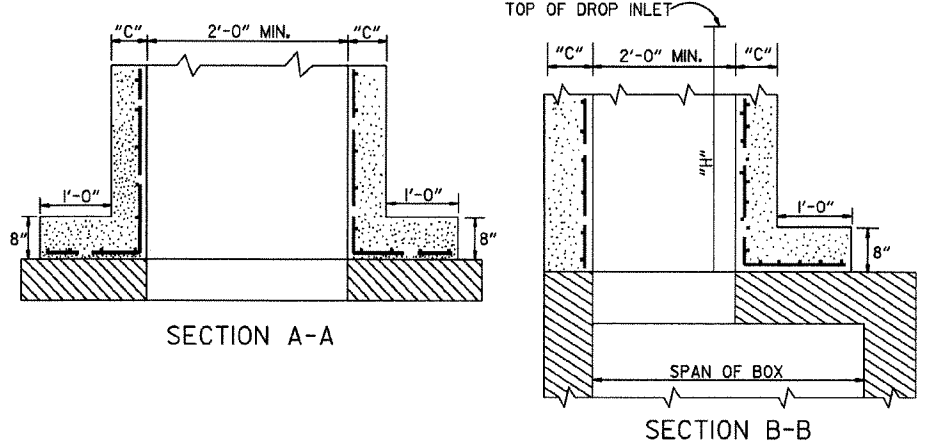


NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

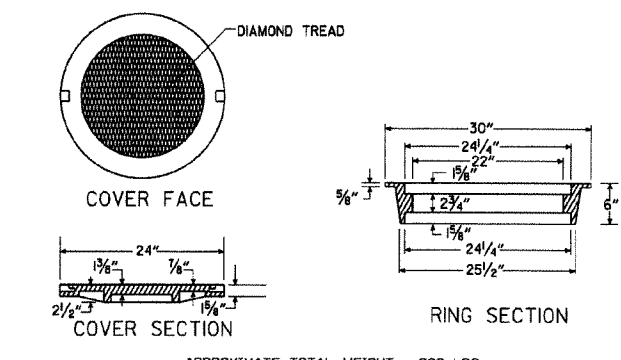


APPROX. WEIGHT = 11 LBS. (CAST IRON)
 PLAN
 NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

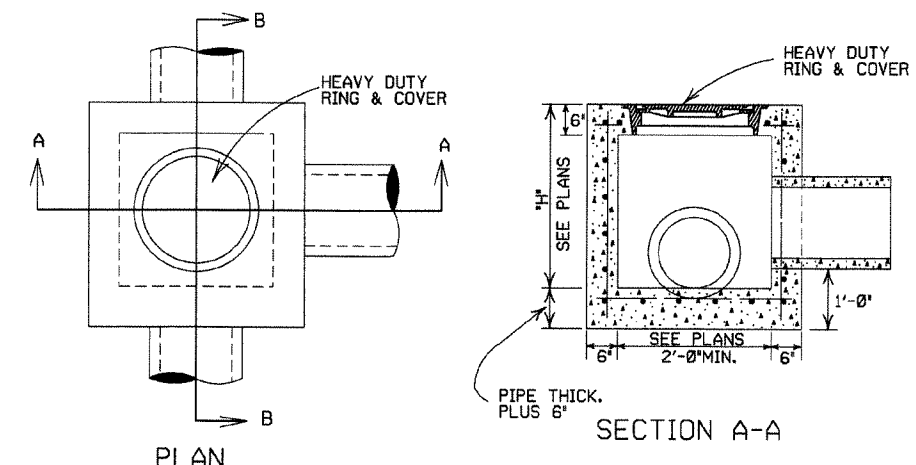
DETAIL OF STEP FOR DROP INLET



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

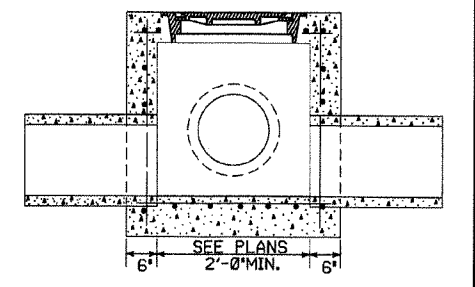


APPROXIMATE TOTAL WEIGHT = 333 LBS.
 HEAVY DUTY RING & COVER

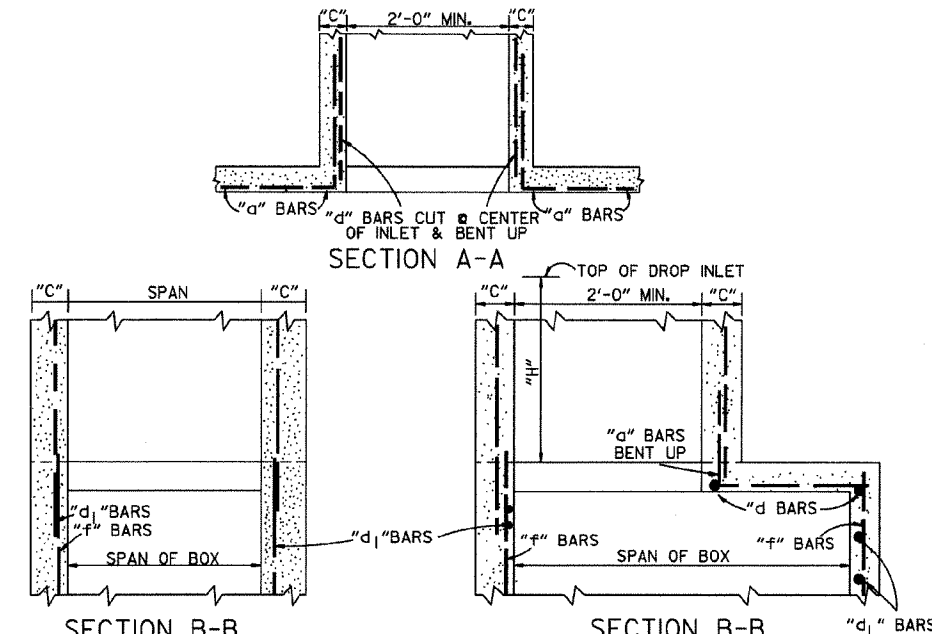


JUNCTION BOX (TYPE E)

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

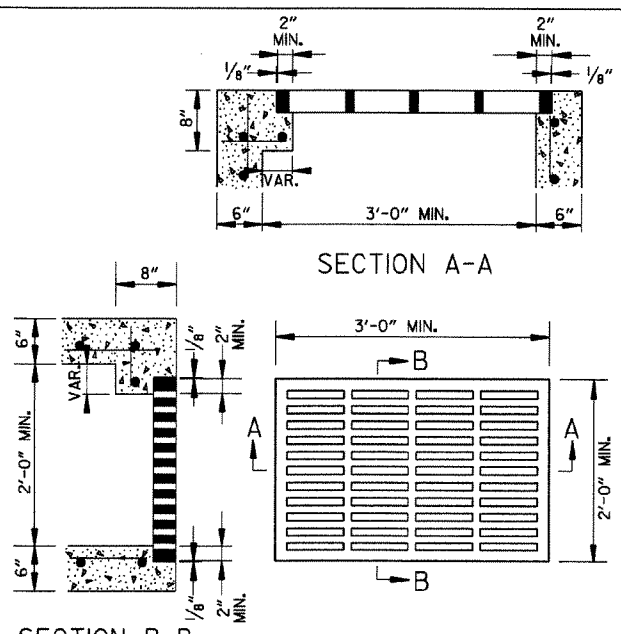


SECTION B-B

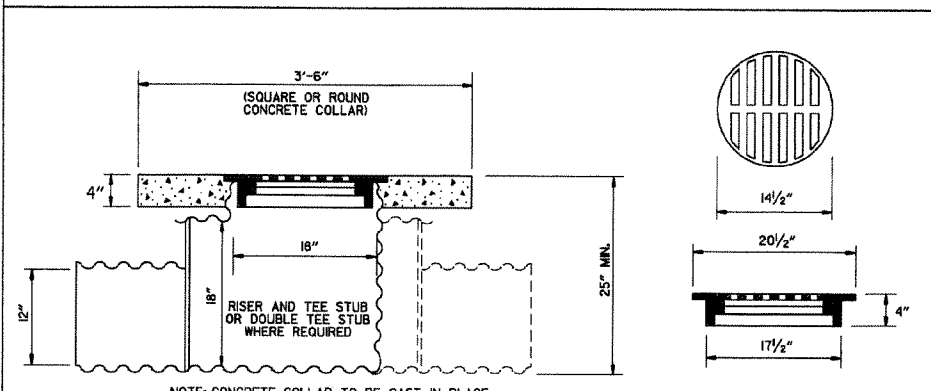


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

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



APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.
 GRATE FOR TYPE E DROP INLET

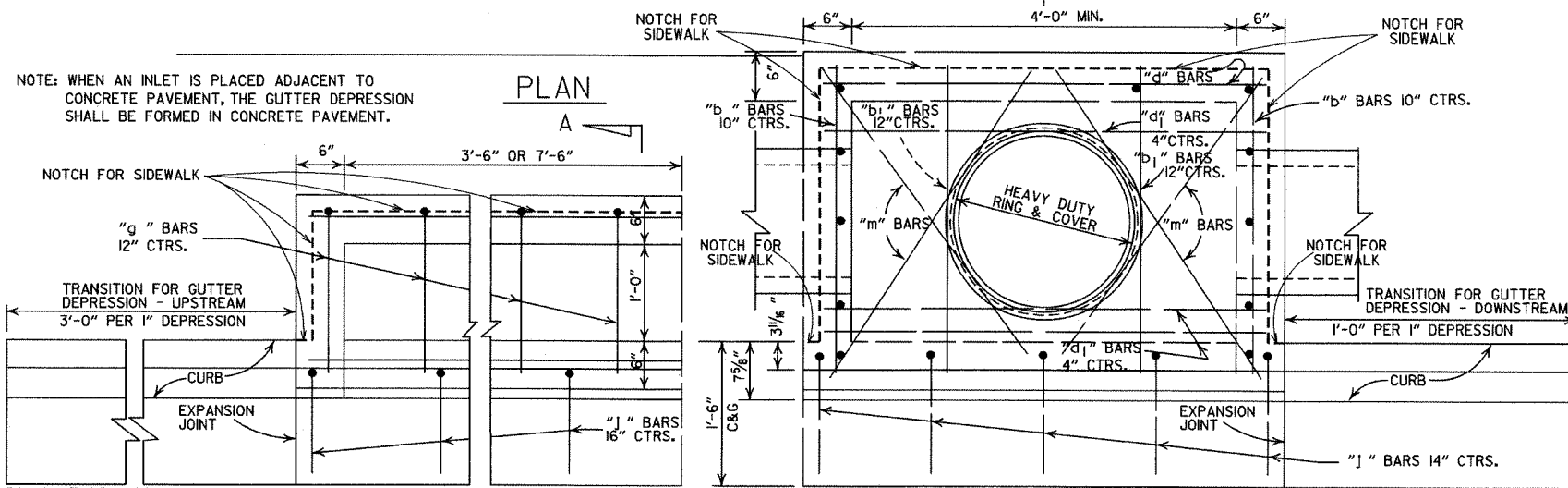


NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS "12" SIDE DRAIN".

DETAIL OF YARD DRAIN

- GENERAL NOTES:
1. ALL EXPOSED CORNERS SHALL BE 3/4" 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 3/4" 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	

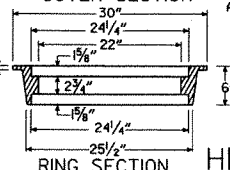
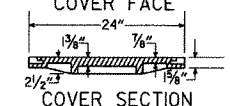
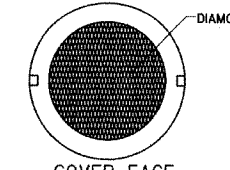
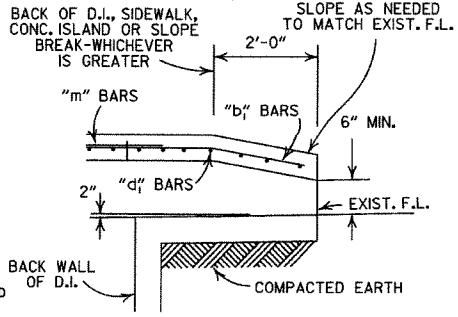
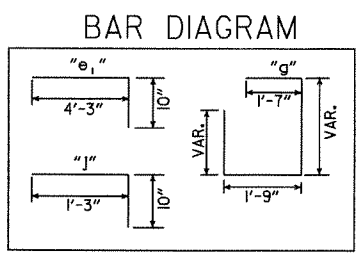


PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0"		PLUS OR MINUS PER LIN. FT. OF HEIGHT		4'-0"		8'-0"	
		CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22	0.58	38	0.87	72
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				
						DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
						0.04	3		

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

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

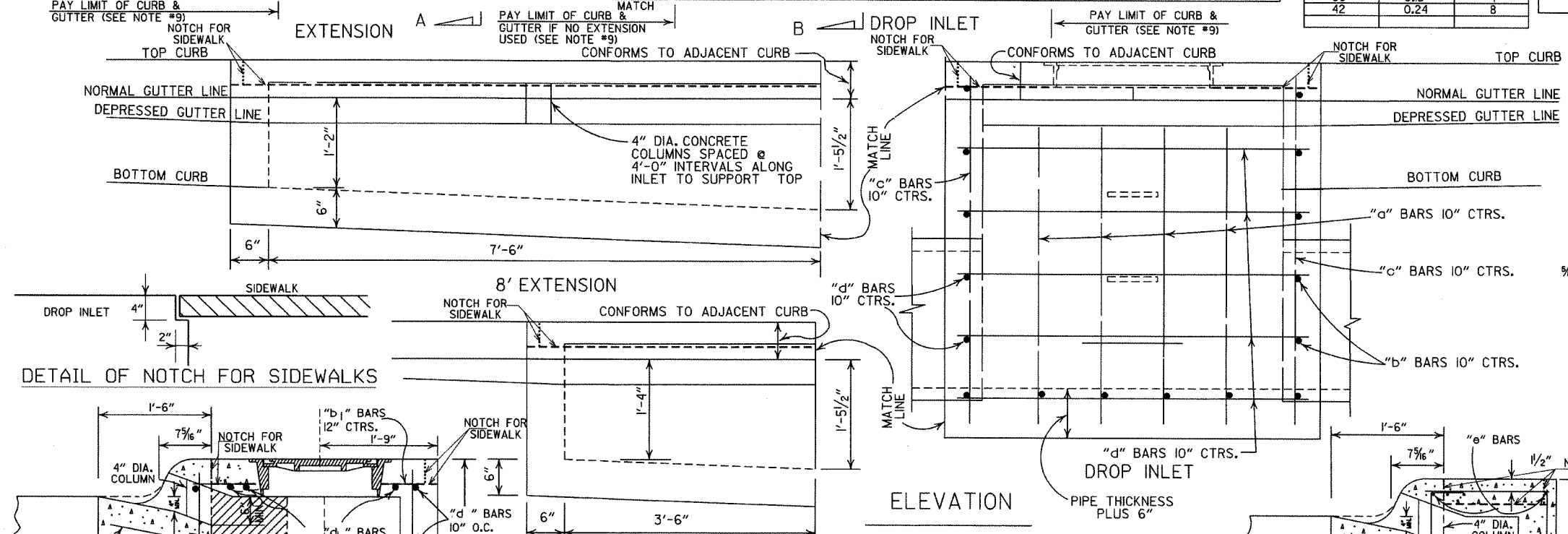
INSIDE DIA. PIPE INCHES	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8



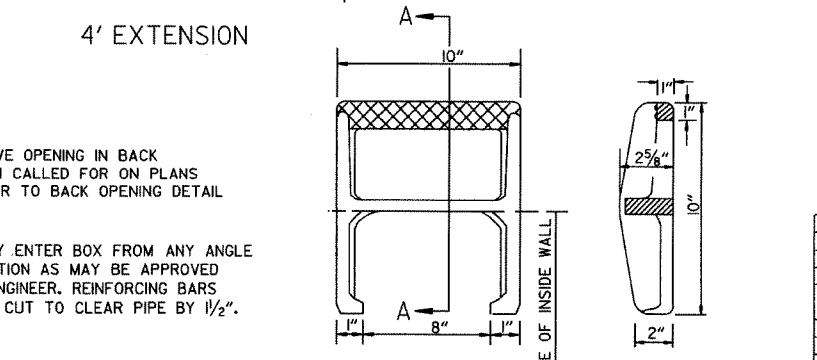
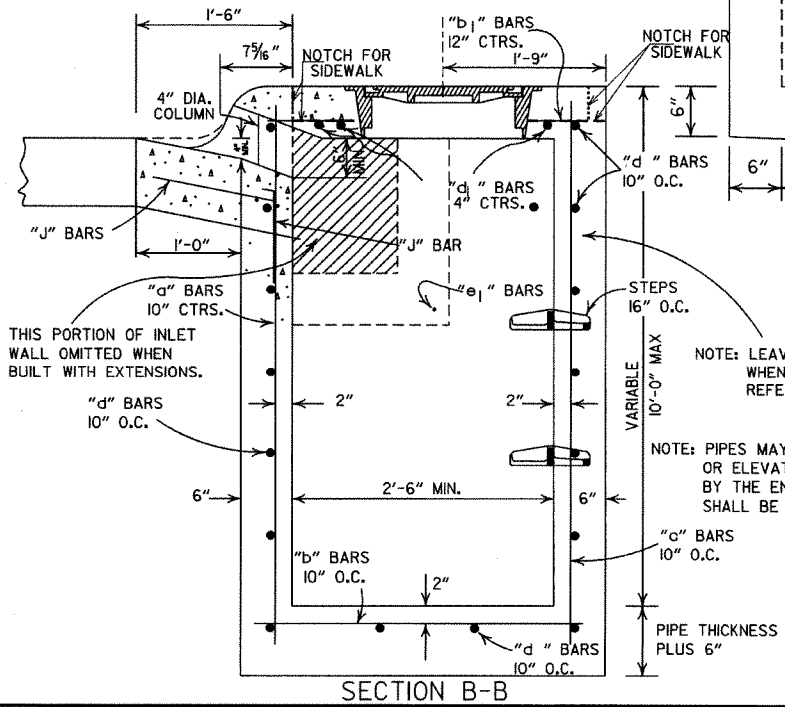
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

- GENERAL NOTES:
- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
 - STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
 - ALL REINF. BARS SHALL BE #4 AND HAVE 1/2" COVER.
 - DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
 - THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
 - 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).
 - HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
 - DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
 - 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 INLETS AND/OR DROP INLET EXTENSIONS.
 - 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.
 - HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
 - 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
 - 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.



DETAIL OF NOTCH FOR SIDEWALKS

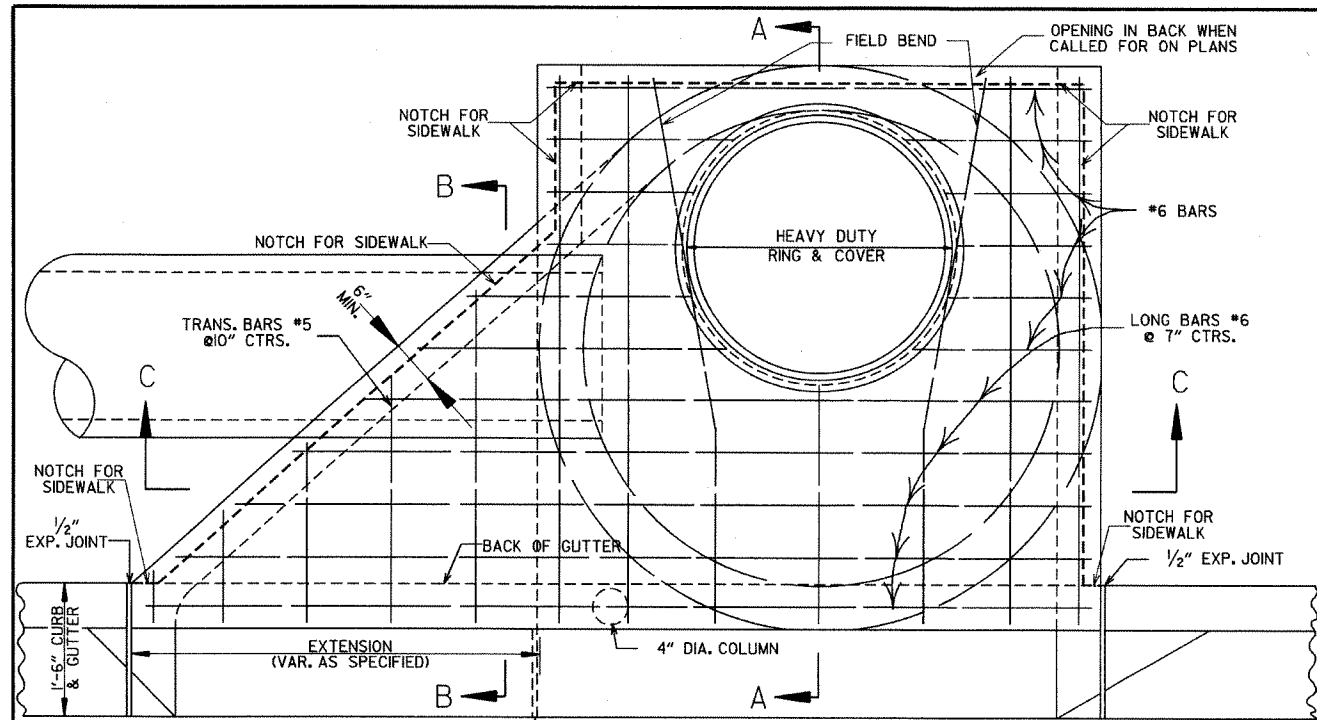


PLAN DETAIL OF STEP FOR DROP INLET

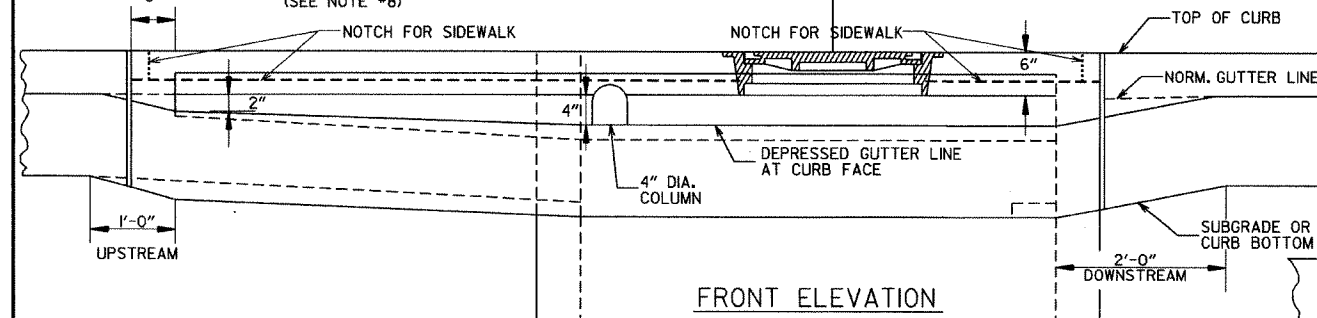
APPROX. WEIGHT = 11LBS. (CAST IRON)
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DATE	REV.	DESCRIPTION	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	
10-18-96		ADDED NOTES 9,10,&11	
4-26-96		CORRECTED SPELLING	
4-1-93		ADDED NOTE 8 & REVISED (4'x8') 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	

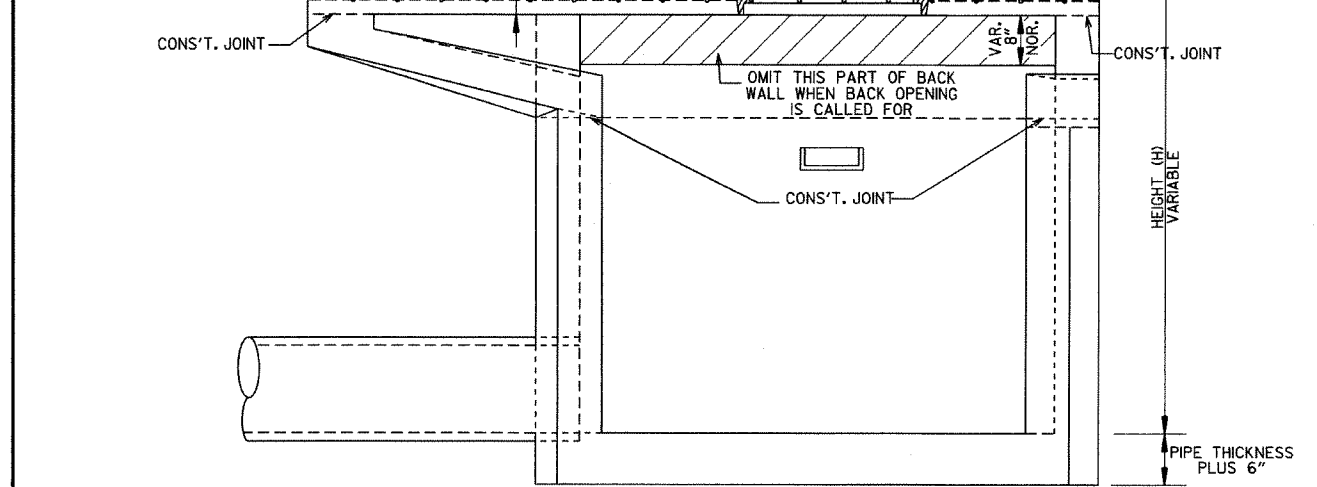
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DROP INLETS (TYPE C)
STANDARD DRAWING FPC-9E



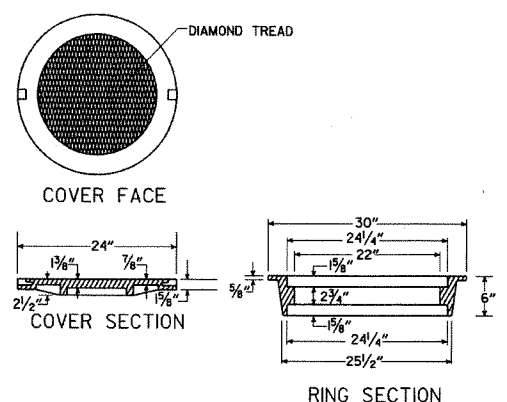
PLAN - W/SINGLE EXTENSION
 PAY LIMIT OF CURB & GUTTER (SEE NOTE #8)
 PAY LIMIT OF CURB & GUTTER IF NO EXTENSION USED (SEE NOTE #8)
 PAY LIMIT OF CURB & GUTTER (SEE NOTE #8)
 NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.



FRONT ELEVATION
 UPSTREAM
 DOWNSTREAM
 2'-0" DOWNSTREAM
 6" DOWNSTREAM

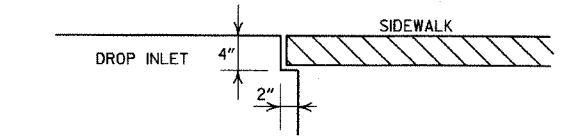


SECTION C-C
 HEIGHT (H) VARIABLE
 PIPE THICKNESS PLUS 6"

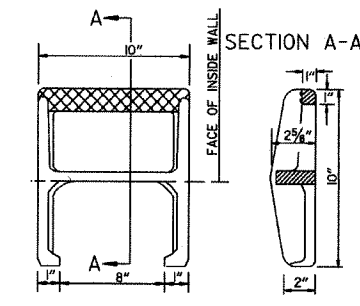


HEAVY DUTY RING & COVER
 APPROXIMATE TOTAL WEIGHT = 333 LBS.

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 M05 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.

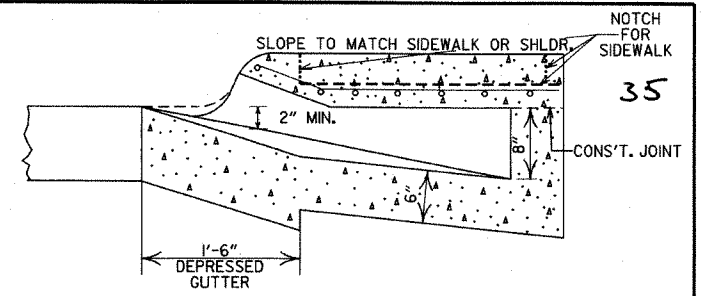


DETAIL OF NOTCH FOR SIDEWALKS

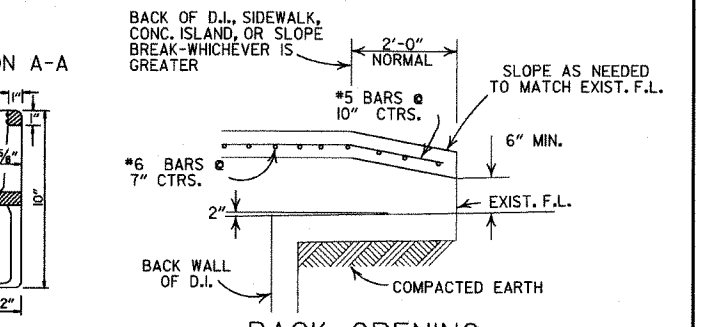


SECTION A-A
 PLAN
 APPROX. WEIGHT = 11 LBS. (CAST IRON)
 NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B
 SLOPE TO MATCH SIDEWALK OR SHLDR.
 2" MIN.
 1'-6" DEPRESSED GUTTER
 NOTCH FOR SIDEWALK
 CONS'T. JOINT

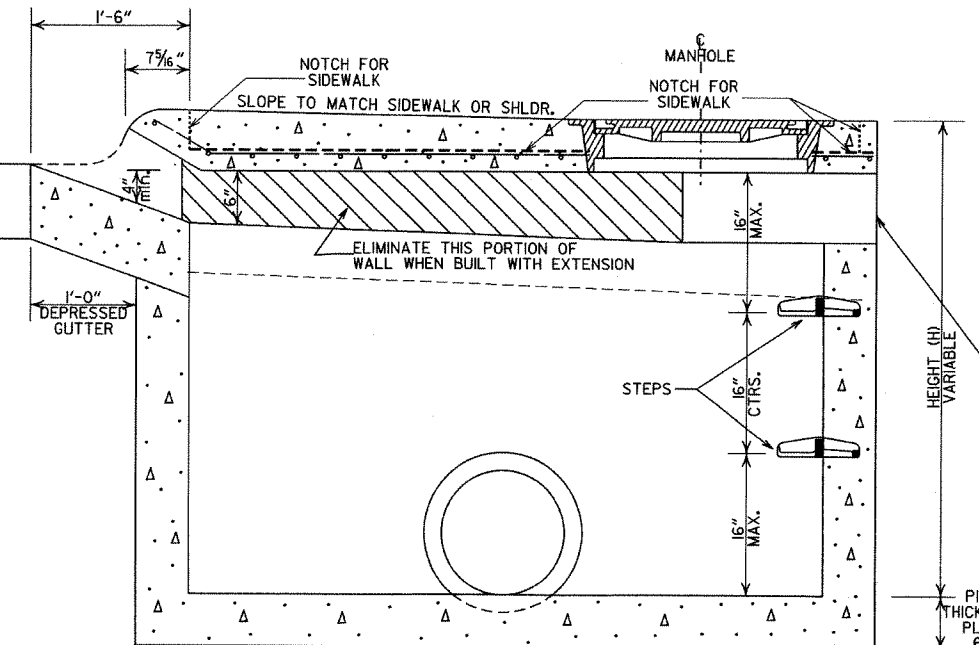


BACK OPENING
 WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).
 BACK OF D.I., SIDEWALK, CONC. ISLAND, OR SLOPE BREAK-WHICHEVER IS GREATER
 2'-0" NORMAL
 SLOPE AS NEEDED TO MATCH EXIST. F.L.
 #5 BARS @ 10" CTRS.
 6" MIN.
 #6 BARS @ 7" CTRS.
 2"
 EXIST. F.L.
 BACK WALL OF D.I.
 COMPACTED EARTH

- 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"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.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

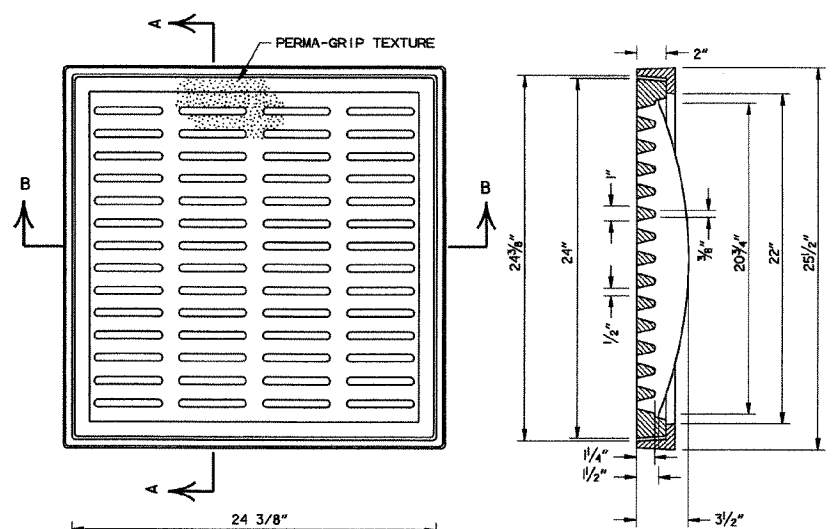
MINIMUM WALL THICKNESS			
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4" I.D.	12" THRU 27"	6"	5"
5" I.D.	30" THRU 42"	8"	6"
6" I.D.	48" THRU 54"	8"	7"



SECTION A-A
 HEIGHT (H) VARIABLE
 PIPE THICKNESS PLUS 6"

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 B, 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 REGARDING OPENING DIMENSION	
10-22-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
7-22-95	TYPE C TO MO OPEN BACK DETAIL	
11-7-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 112 & ADDED BK. OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 12	11-30-89
5-24-89	ADDED NOTE & MINIMUM WALL THICKNESS	5-24-89
1-15-88	ADDED EXTENSION NOTE TO SECTION A-A	1-15-88
1-14-87	MODIFIED WALL THICKNESS	1-14-87
6-12-87	ISSUED	6-12-87

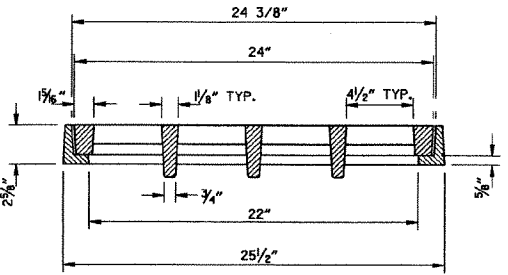
ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF DROP INLET (TYPE MO)
 STANDARD DRAWING FPC-9M



SECTION A-A

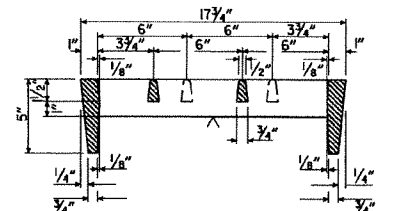
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE 1/2" 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 28 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

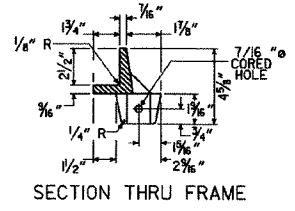


SECTION B-B

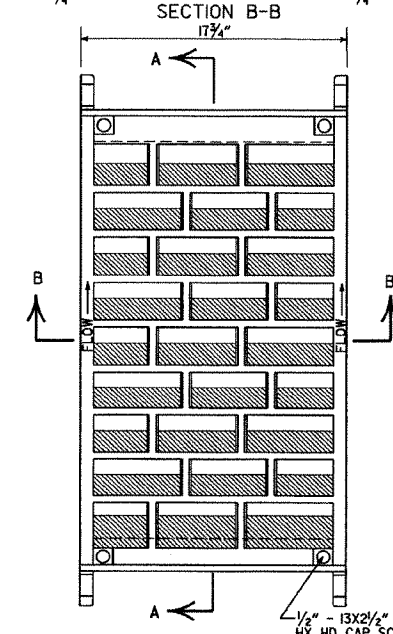
DETAILS OF PEDESTRIAN GRATE AND FRAME



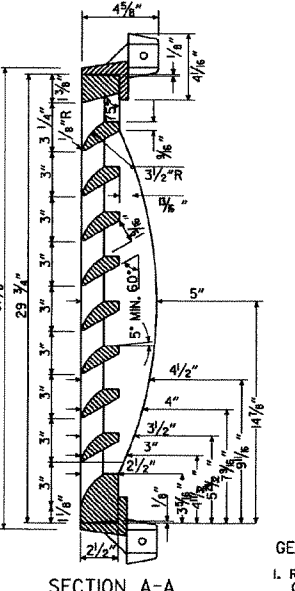
SECTION B-B



SECTION THRU FRAME



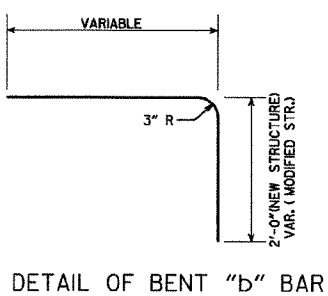
DETAILS OF RIBBED VANE GRATE AND FRAME



SECTION A-A

GENERAL NOTES (RIBBED VANE GRATE & FRAME)

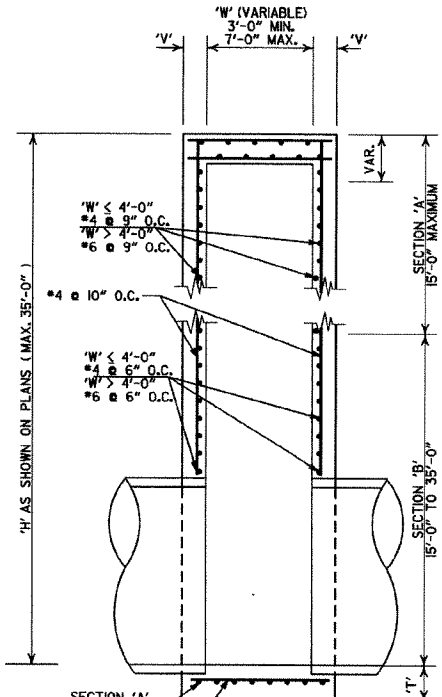
1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED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



DETAIL OF BENT "b" BAR

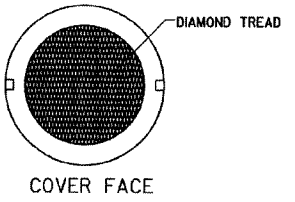
TWO RIBBED VANE GRATES WITH FRAME NORMAL.
WHEN CALLED FOR IN THE PLANS, ONE PEDESTRIAN GRATE WITH FRAME SHALL BE USED IN LIEU OF THE TWO RIBBED VANE GRATES.

SECTION 'A'
"V" = 8"
SECTION 'B' (W<4'-0")
"V" = 8"
SECTION 'B' (W>4'-0")
"V" = 10"

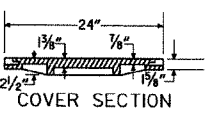


SECTION A-A

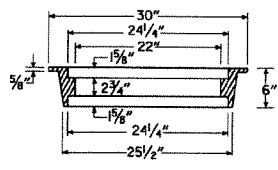
DETAILS OF DROP INLET (TYPE ST)



COVER FACE



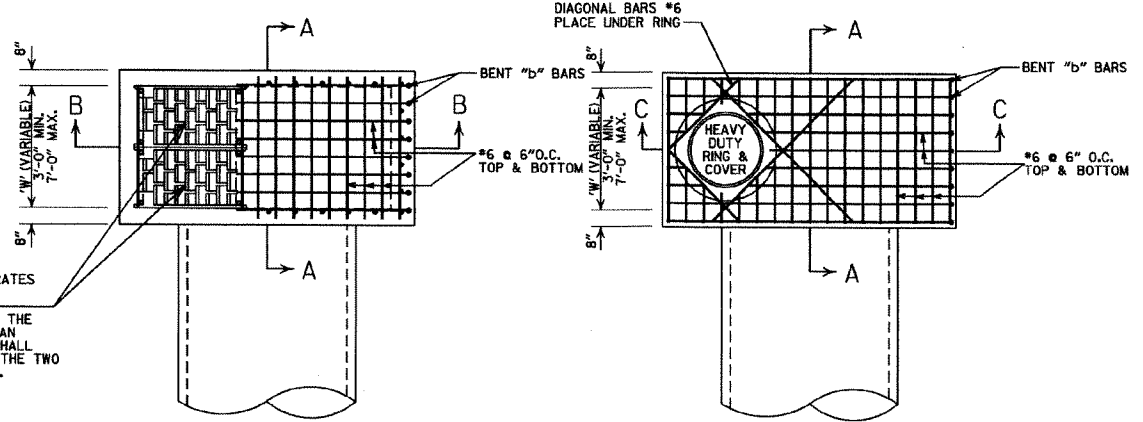
COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

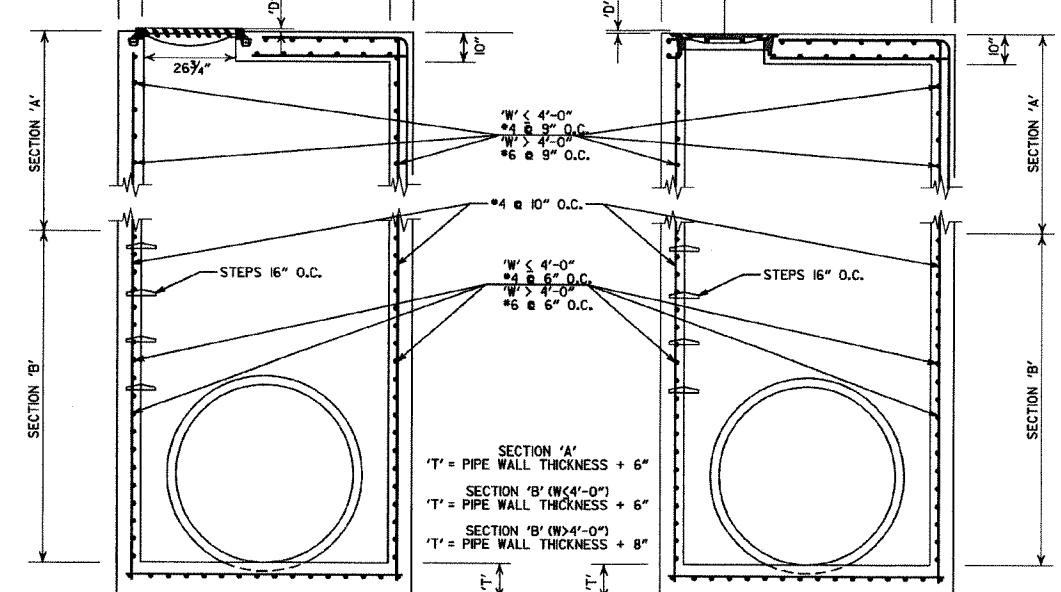
APPROXIMATE TOTAL WEIGHT = 333 LBS.



SECTION 'A'

SECTION 'B'

SECTION 'C'



SECTION B-B

SECTION C-C

DETAILS OF JUNCTION BOX (TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

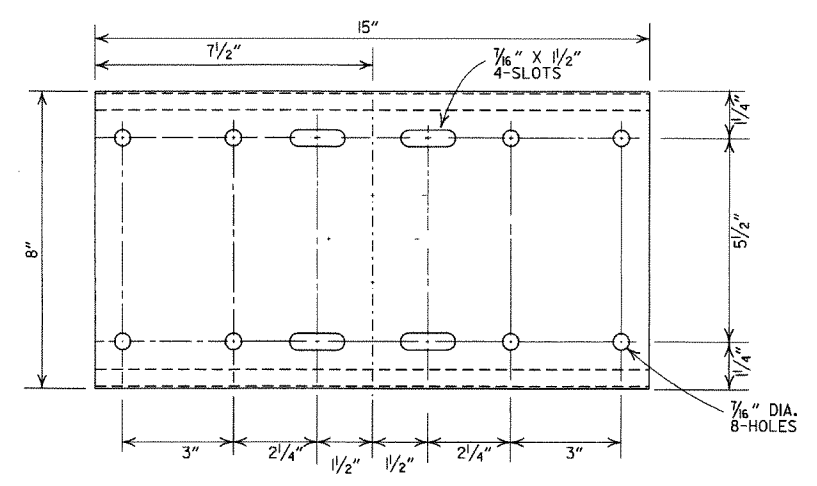
1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A 3/4" CHAMFER.
4. ALL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

GENERAL NOTES (HEAVY DUTY RING & COVER):

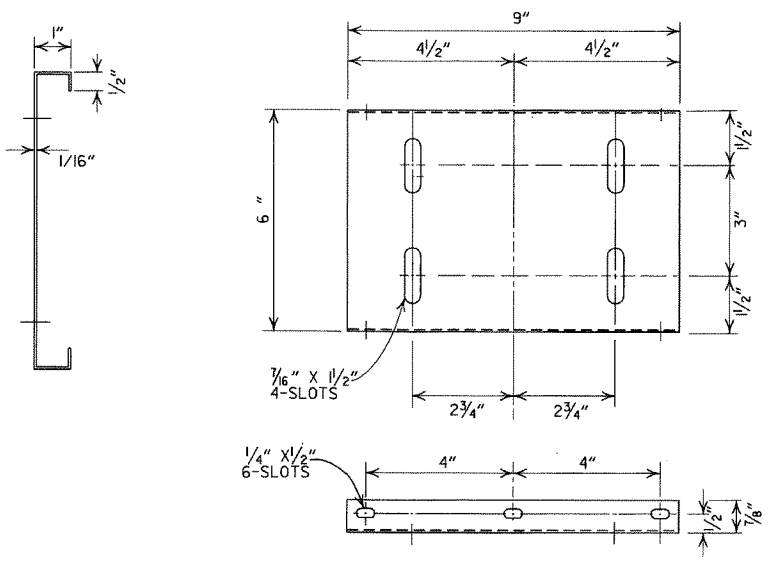
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE 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.

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

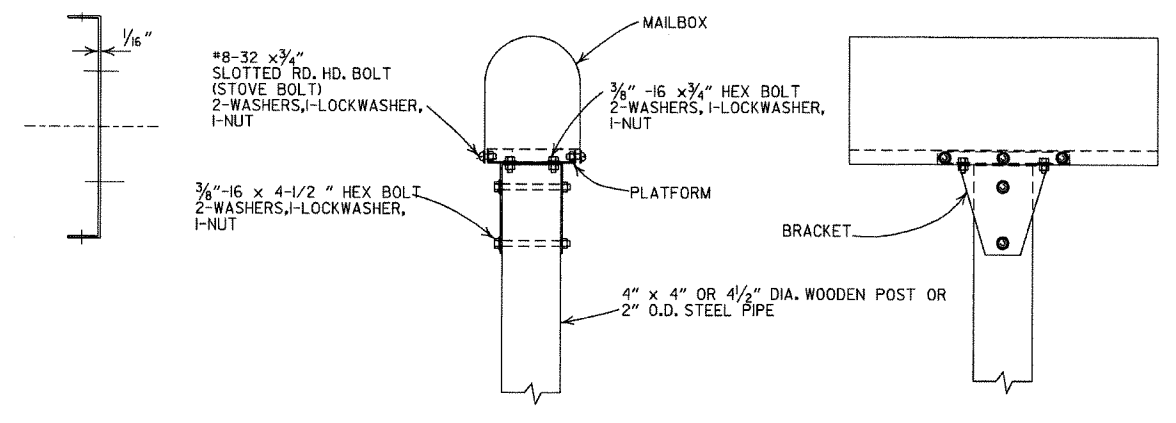
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)
 STANDARD DRAWING FPC-9S



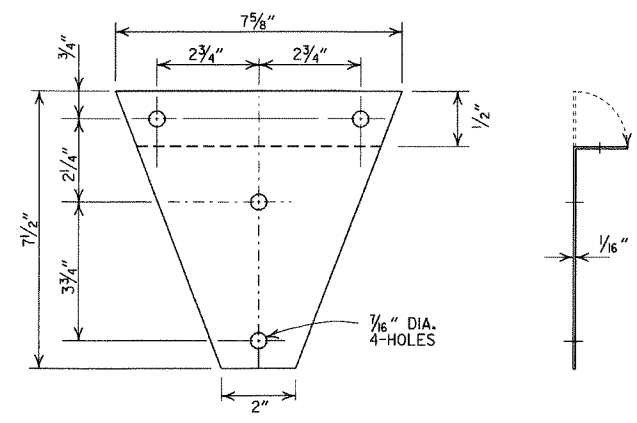
SHELF



PLATFORM

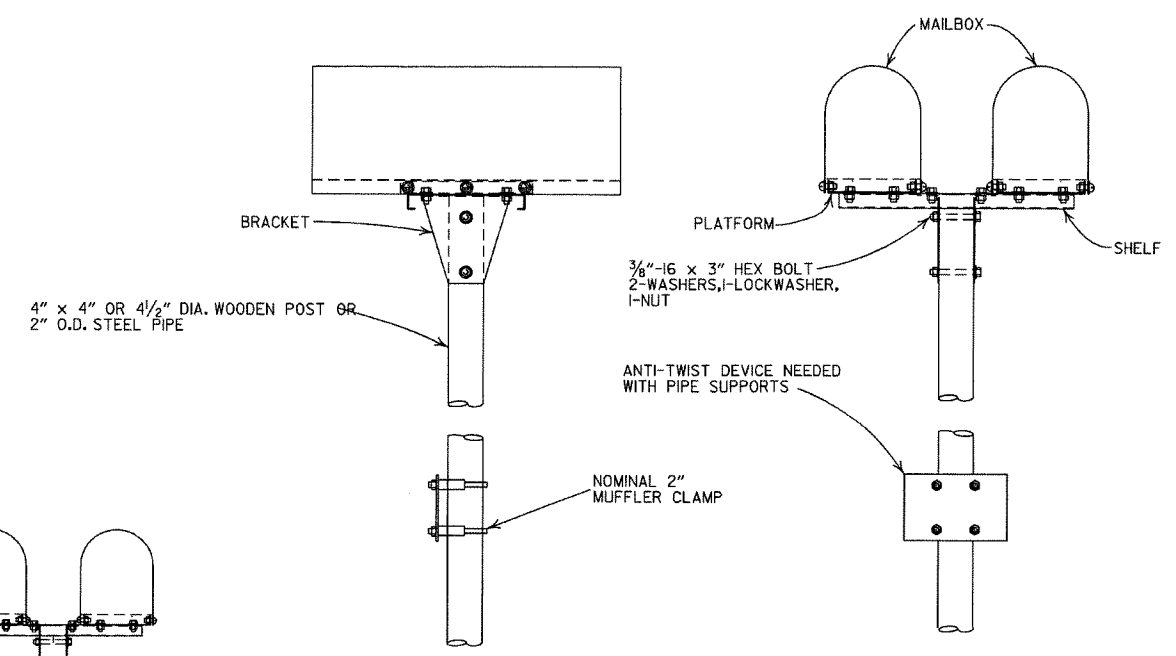


SINGLE INSTALLATION

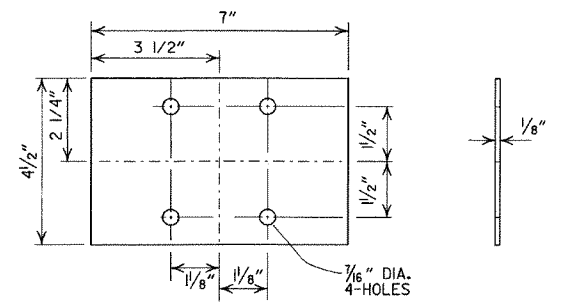


BRACKET

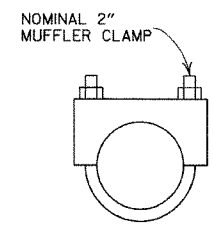
- GENERAL NOTES
- MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
 - ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
 - MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF 3/4" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X 3/4" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
 - 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.
 - 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.
 - MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



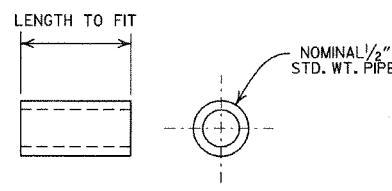
DOUBLE INSTALLATION



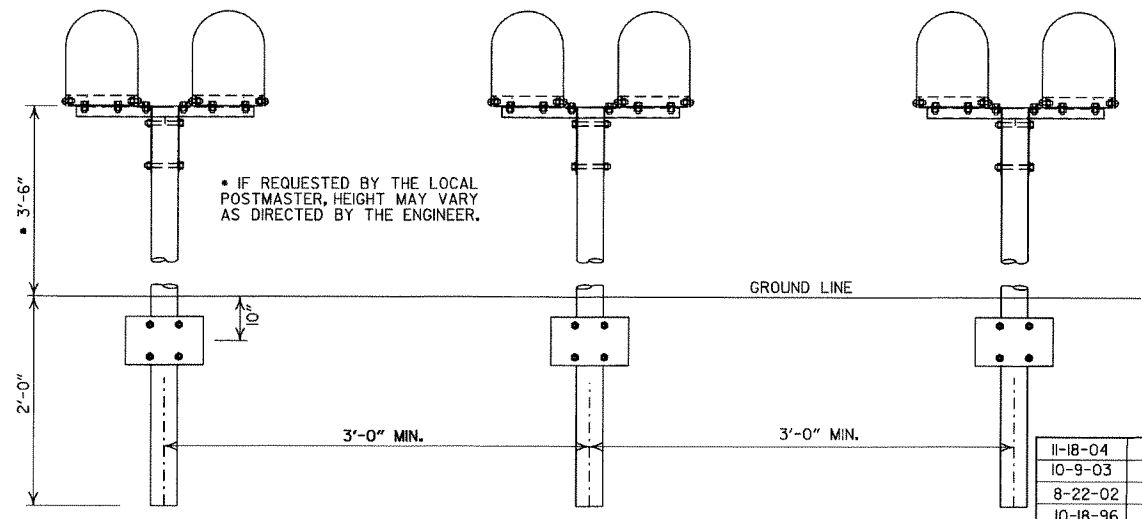
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

DATE	FILED	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

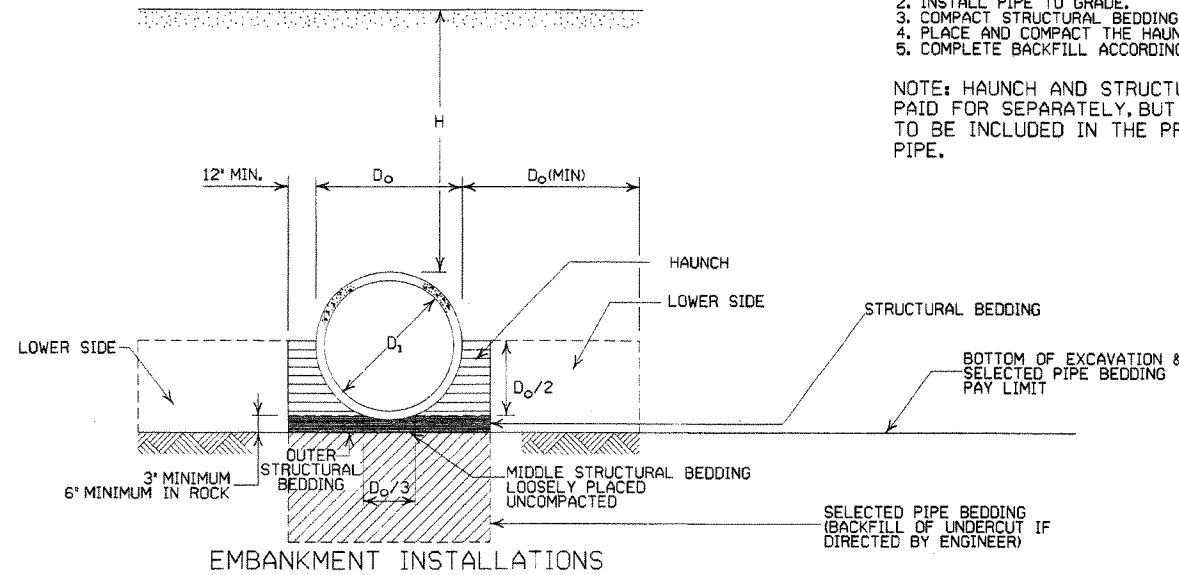
MAILBOX DETAILS

STANDARD DRAWING MB-1

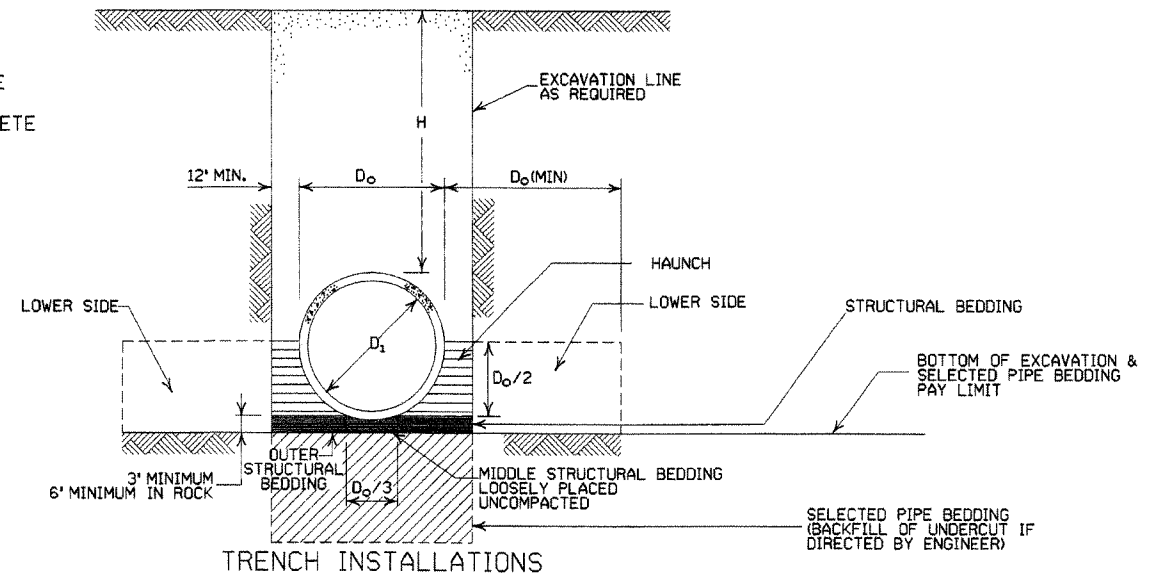
CONSTRUCTION SEQUENCE

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.



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.



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	13 1/2	14
21	26	26	15 1/2	16
24	28 1/2	29	18	18
30	36 1/2	36	22 1/2	23
36	43 1/2	44	26 1/2	27
42	51 1/2	51	31 1/2	31
48	58 1/2	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77 1/4	77
108	138	138	87 1/2	87
120	154	154	96 1/2	97
132	168 1/2	169	106 1/2	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 -

- D₁ = NORMAL INSIDE DIAMETER OF PIPE
- D₀ = 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

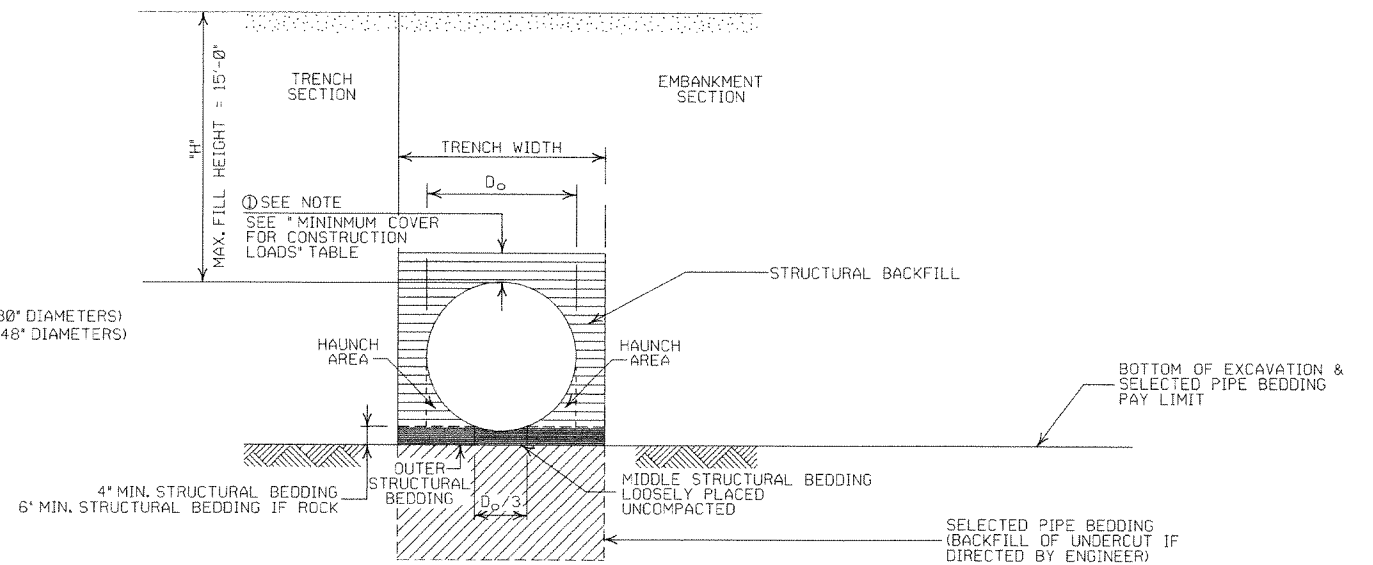
INSTALLATION TYPE	** MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

- * AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.
- SM3 WILL NOT BE ALLOWED.
- ** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.
- STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HOPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (32" - 48" DIAMETERS)



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.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
3. 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.
4. 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."
5. 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."
6. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
7. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
8. JOINTS FOR HOPE PIPE SHALL MEET THE REQUIREMENTS FOR SOILTIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURERS

- LEGEND -

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

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

11-17-10	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)
STANDARD DRAWING PCP-1

INSTALLATION TYPE	** MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2, SM-3 OR SM-4)

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

** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

PIPE DIAMETER	(SM-1, SM-2, OR SM-4)	(SM-3)
	"H"	"H"
18"	45'-0"	26'-0"
24"	45'-0"	26'-0"
30"	40'-0"	26'-0"
36"	40'-0"	26'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

MULTIPLE INSTALLATION OF PVC PIPES

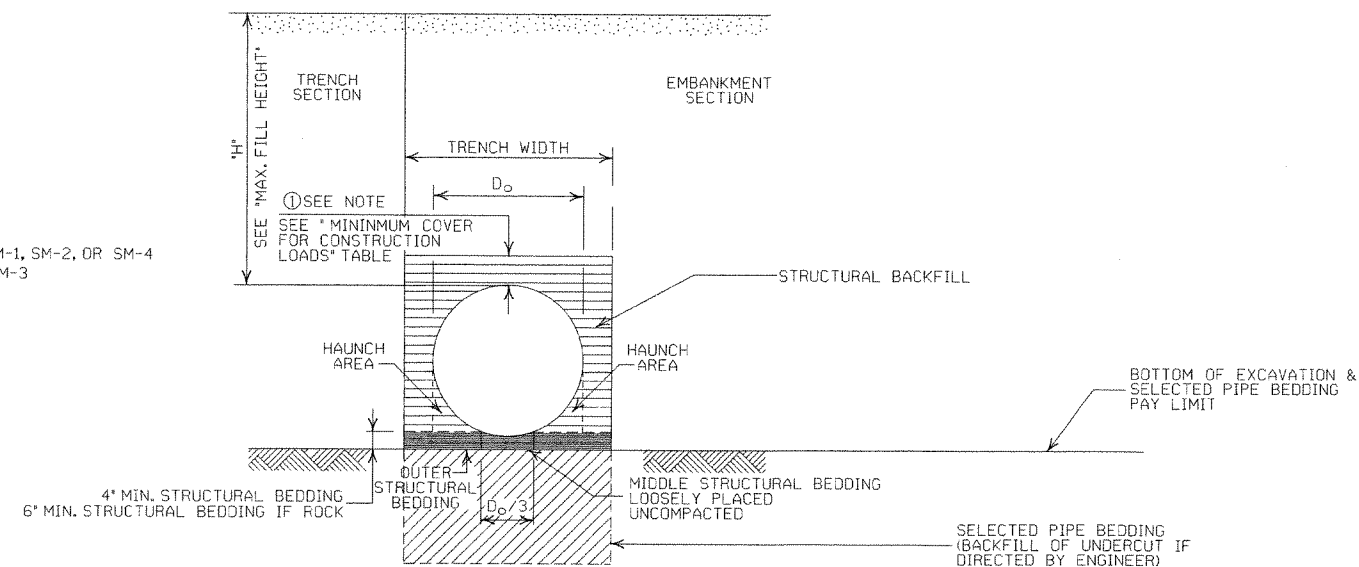
PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

① NOTE:
12" MIN FOR SM-1, SM-2, OR SM-4
24" MIN FOR SM-3



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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

- LEGEND -

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

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

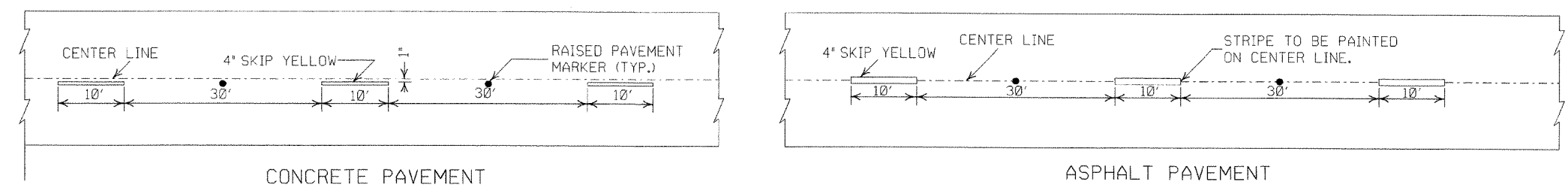
GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
3. 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.
4. 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."
5. 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."
6. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
7. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
8. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOILTIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

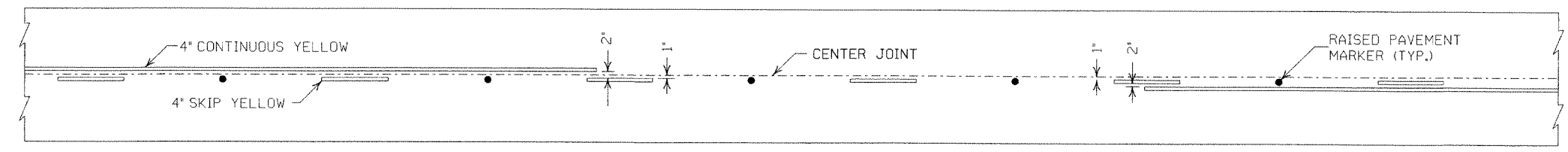
11-17-10	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT (PVC F949)
STANDARD DRAWING PCP-2

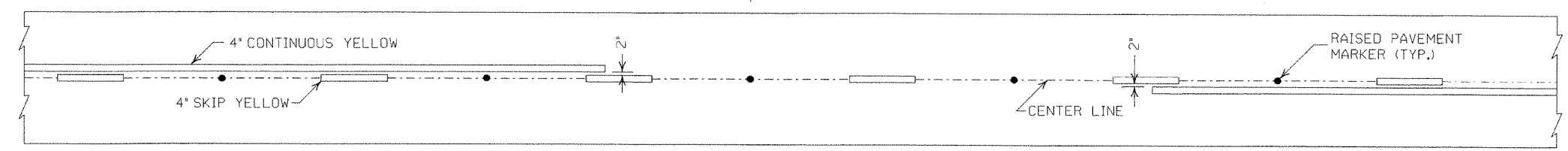
- NOTES:
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
 2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
 3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.'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



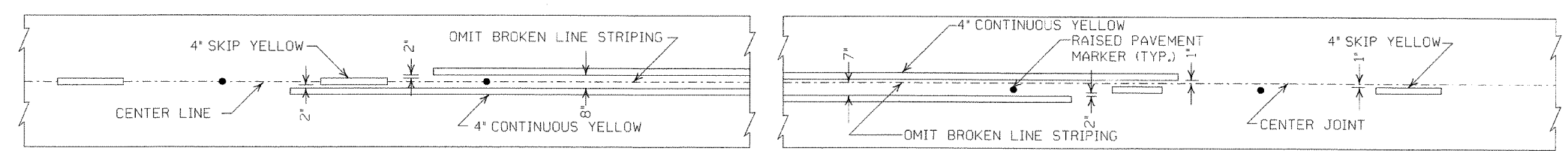
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



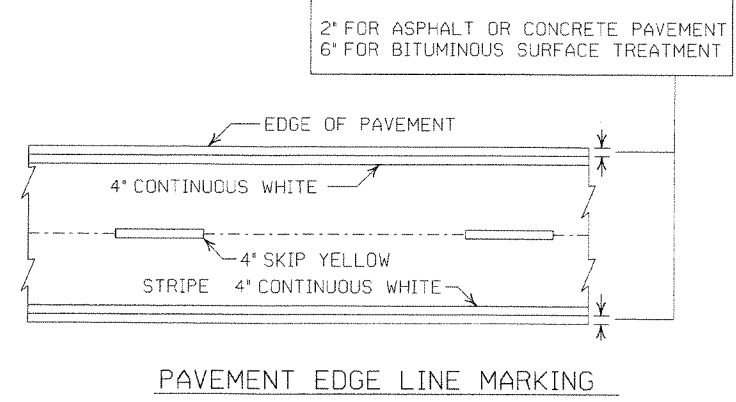
SOLID LINE STRIPING ON ASPHALT PAVEMENT



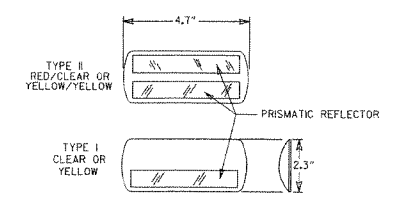
ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



PAVEMENT EDGE LINE MARKING



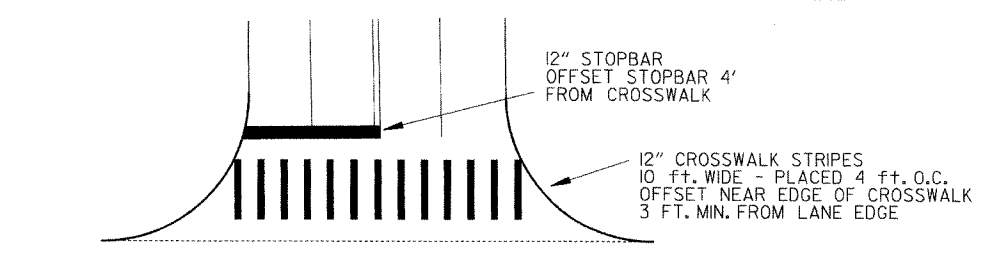
NOTE: THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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

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

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



CROSSWALK AND STOPBAR DETAILS

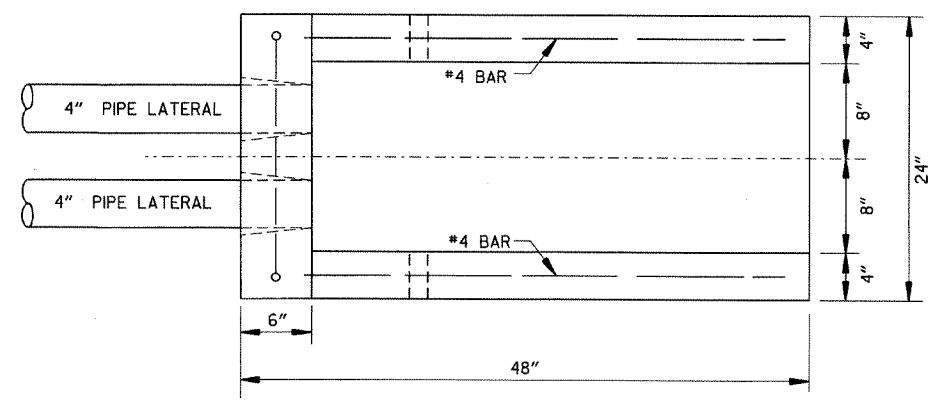
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PYMT MKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

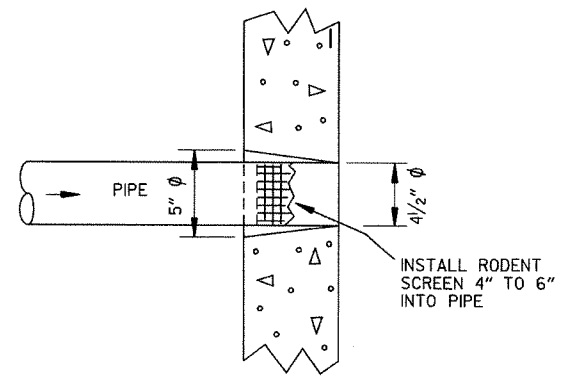
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

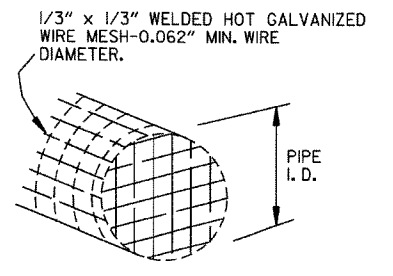
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH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



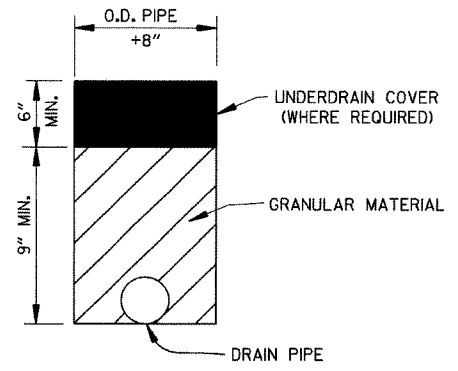
PLAN VIEW



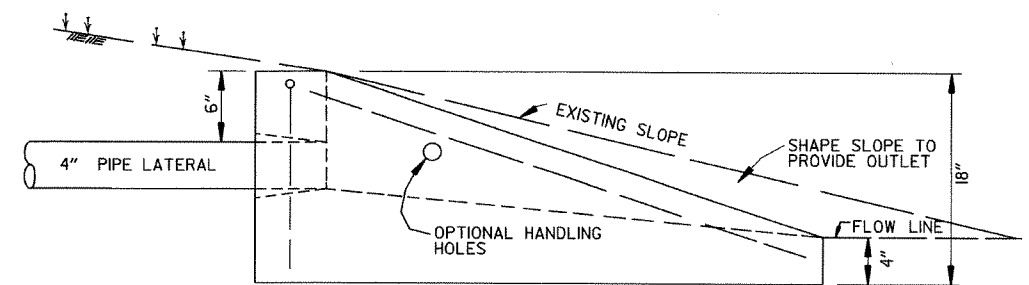
DETAIL OF HOLE FOR 4" PIPE



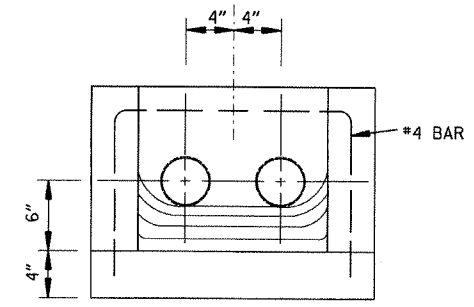
DETAIL OF RODENT SCREEN



DETAILS OF PIPE UNDERDRAIN

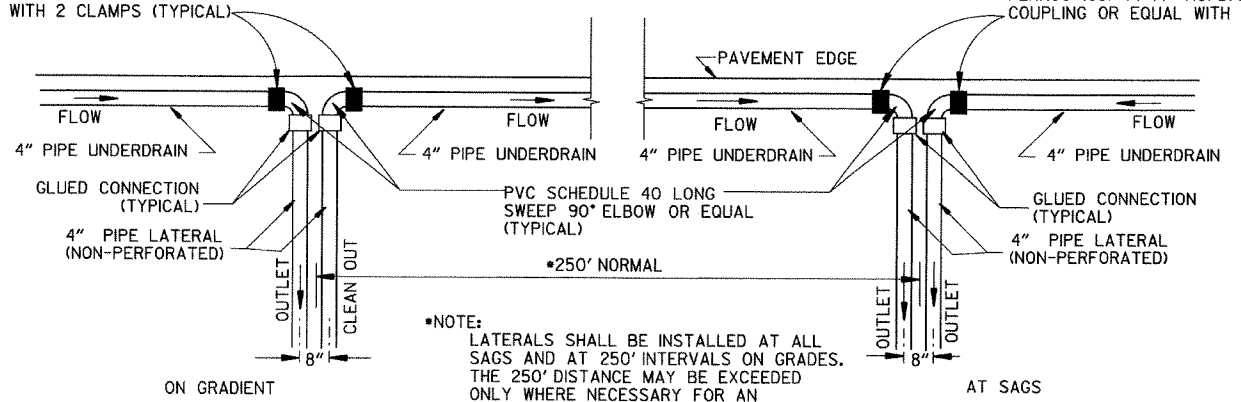


SIDE VIEW



FRONT VIEW

UNDERDRAIN OUTLET PROTECTORS



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

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; 5 1/2" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11-3-94	REVISED FOR DUAL LATERALS	11-3-94
10-1-92	SUBSTITUTED GEOTEXTILE	10-1-92
8-15-91	ADDED POLYETHYLENE PIPE	8-15-91
11-8-90	DELETED ALTERNATE NOTE	11-8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)	
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
0° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 00'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 00'	R.C.		R.C.		R.C.		R.C.		R.C.		R.C.	
2° 15'	R.C.		R.C.		R.C.		R.C.		R.C.		R.C.	
2° 30'	0.021		0.021		0.021		0.021		0.021		0.021	
2° 45'	0.023		0.023		0.023		0.023		0.023		0.023	
3° 00'	0.025		0.025		0.025		0.025		0.025		0.025	
3° 15'	0.027		0.027		0.027		0.027		0.027		0.027	
3° 30'	0.029		0.029		0.029		0.029		0.029		0.029	
3° 45'	0.031		0.031		0.031		0.031		0.031		0.031	
4° 00'	0.033		0.033		0.033		0.033		0.033		0.033	
4° 30'	0.037		0.037		0.037		0.037		0.037		0.037	
5° 00'	0.040		0.040		0.040		0.040		0.040		0.040	
5° 30'	0.043		0.043		0.043		0.043		0.043		0.043	
6° 00'	0.046		0.046		0.046		0.046		0.046		0.046	
6° 30'	0.050		0.050		0.050		0.050		0.050		0.050	
7° 00'	0.053		0.053		0.053		0.053		0.053		0.053	
7° 30'	0.056		0.056		0.056		0.056		0.056		0.056	
8° 00'	0.058		0.058		0.058		0.058		0.058		0.058	
8° 30'	0.061		0.061		0.061		0.061		0.061		0.061	
9° 00'	0.063		0.063		0.063		0.063		0.063		0.063	
10° 00'	0.068		0.068		0.068		0.068		0.068		0.068	
11° 00'	0.072		0.072		0.072		0.072		0.072		0.072	
12° 00'	0.075		0.075		0.075		0.075		0.075		0.075	
13° 00'	0.080		0.080		0.080		0.080		0.080		0.080	
14° 00'	0.083		0.083		0.083		0.083		0.083		0.083	
15° 00'	0.086		0.086		0.086		0.086		0.086		0.086	
16° 00'	0.089		0.089		0.089		0.089		0.089		0.089	
17° 00'	0.091		0.091		0.091		0.091		0.091		0.091	
18° 00'	0.093		0.093		0.093		0.093		0.093		0.093	
19° 00'	0.095		0.095		0.095		0.095		0.095		0.095	
20° 00'	0.097		0.097		0.097		0.097		0.097		0.097	
21° 00'	0.098		0.098		0.098		0.098		0.098		0.098	
22° 00'	0.099		0.099		0.099		0.099		0.099		0.099	
23° 00'	0.099		0.099		0.099		0.099		0.099		0.099	
24° 00'	0.100		0.100		0.100		0.100		0.100		0.100	

D MAX = 24° 45'

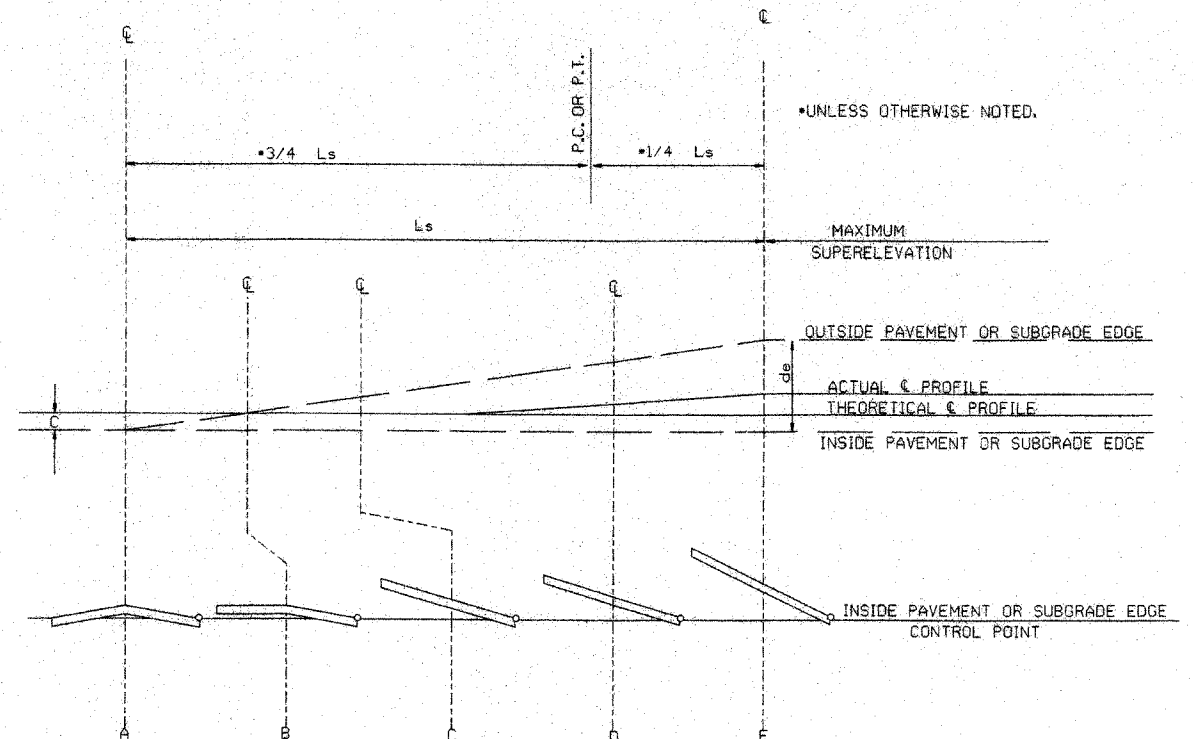
GENERAL NOTES

- ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
- SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
- LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
- PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:
 - 3 LANE UNDIVIDED - - - - +20%
 - 4 LANE UNDIVIDED - - - - +50%
 - 5 LANE UNDIVIDED - - - - +80%
 - 6 LANE UNDIVIDED - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.
RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

ABBREVIATIONS

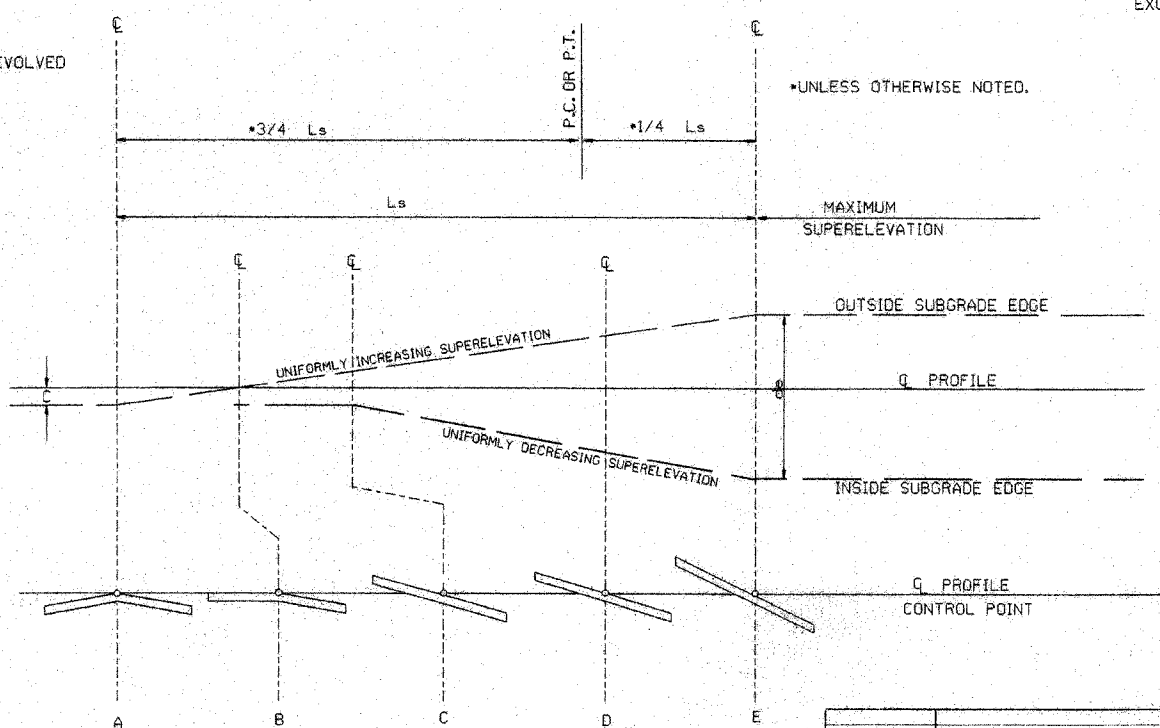
- NC - NORMAL CROWN
- RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
- e - RATE OF SUPERELEVATION (FT. PER FT.)
- Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
- L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
- d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)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



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

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

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



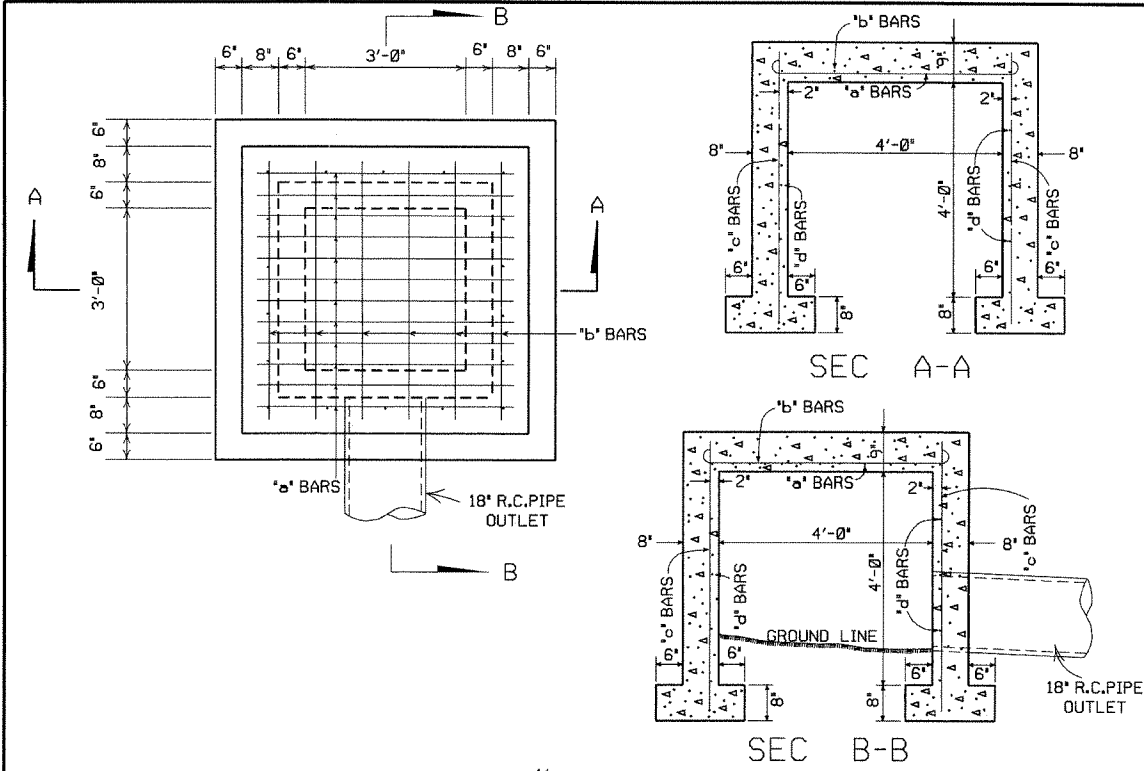
STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

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



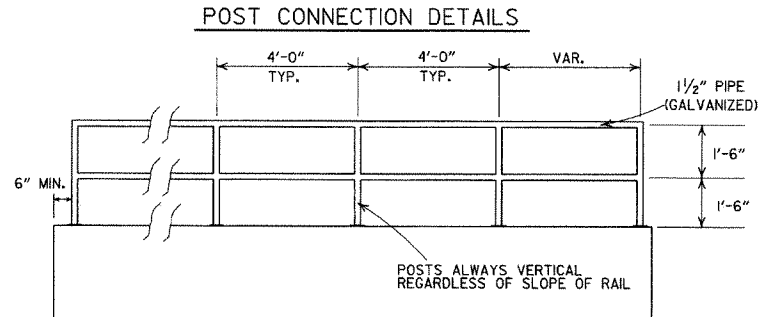
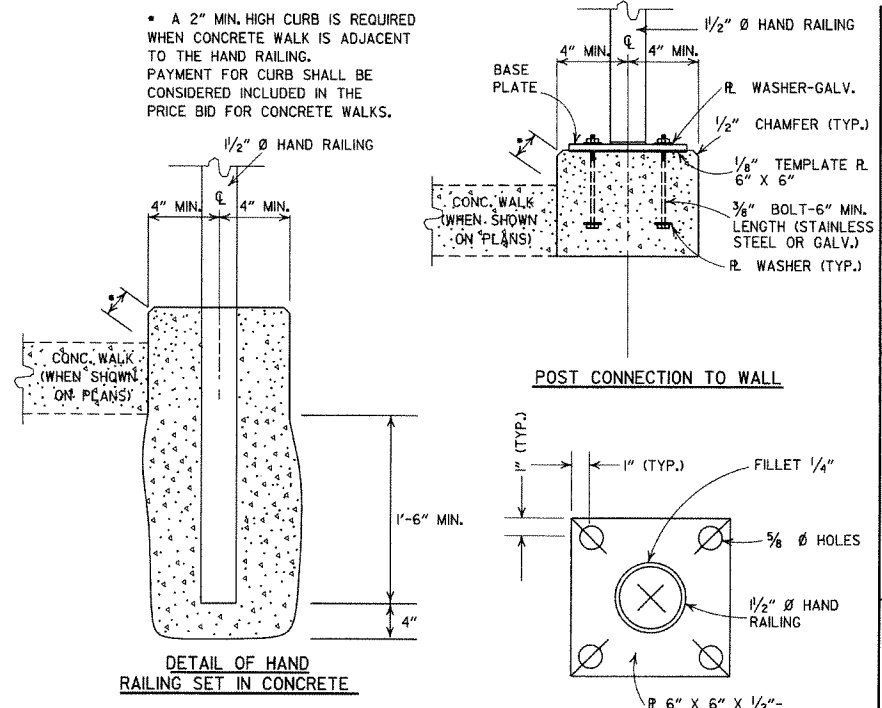
STEEL SCHEDULE

BAR	NUMBER	LENGTH	SPACING
'a'	11	6'-0"	5"
'b'	6	6'-0"	10"
'c'	16	5'-1"	12"
'd'	16	5'-0"	12"

QUANTITIES
 CONCRETE 3.40 CU. YDS.
 REINFORCING STEEL 176 LB.

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

REINFORCED CONCRETE SPRING BOX



HAND RAILING DETAILS

STEEL SCHEDULE

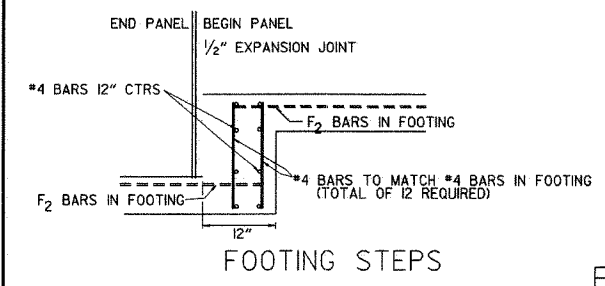
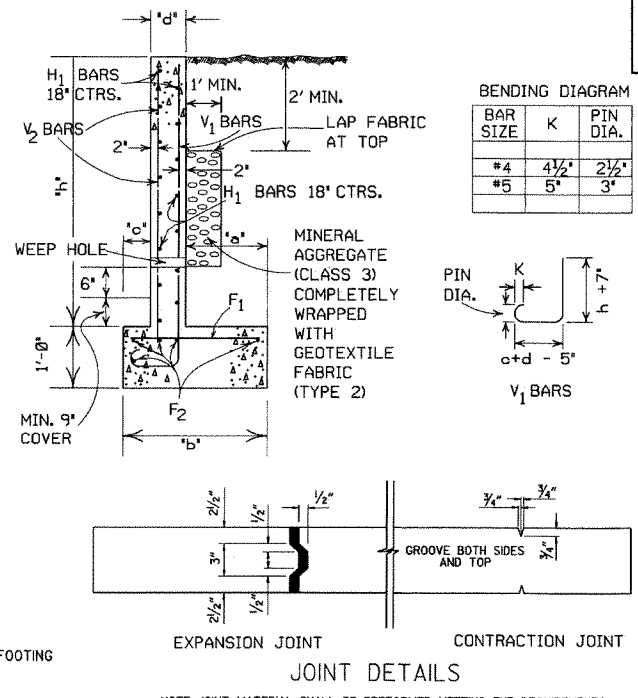
'c'	'd'	'h'	'a'	'b'	V ₁ BARS	F ₁ BARS	H ₁	V ₂	F ₂
SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SPAC.	NO. REQ'D.	NO.	REQ'D.
#4	12"	#4	12"	#4	12"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"
#5	6"	#4	6"	#4	6"	#4	18"	#4	18"

GENERAL NOTES
 THE PAY ITEMS FOR THE CONSTRUCTION OF REINFORCED CONCRETE RETAINING WALL SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL AND EXCAVATION FOR STRUCTURES.

MINERAL AGGREGATE WRAPPED WITH GEOTEXTILE FABRIC (CONTINUOUS) TO BE PLACED 1'-0" IN WIDTH AND 1'-0" IN HEIGHT AS A SUBSIDIARY ITEM TO THE VARIOUS PAY ITEMS.

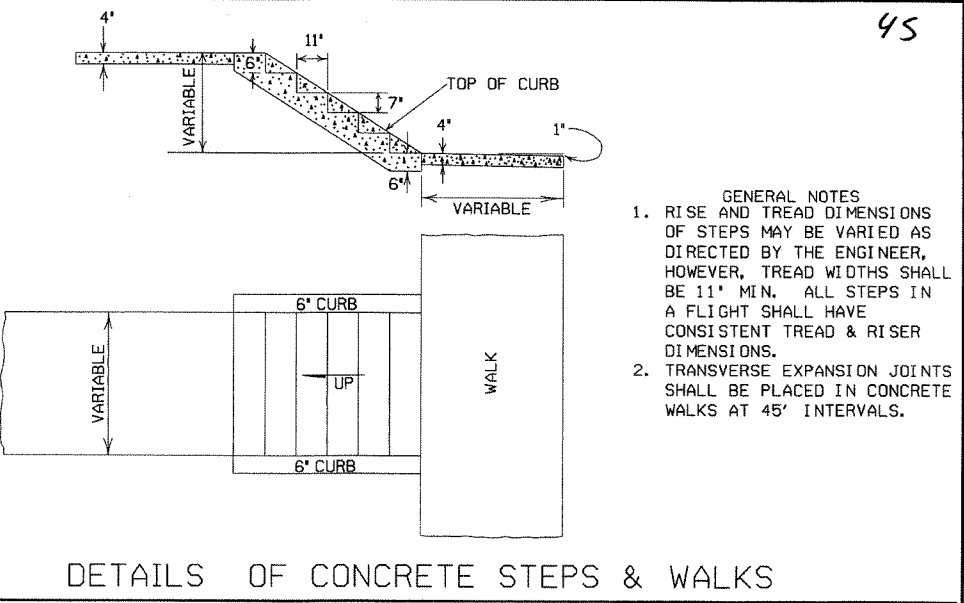
3" WEEP HOLES (MAX. SPACING 10'-0" CTRS.) TO BE PLACED WHERE SPECIFIED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO PLACE CONTRACTION JOINTS ON 20' CENTERS AND EXPANSION JOINTS ON 60' CENTERS.

ALL EXPOSED EDGES TO BE CHAMFERED 3/4".



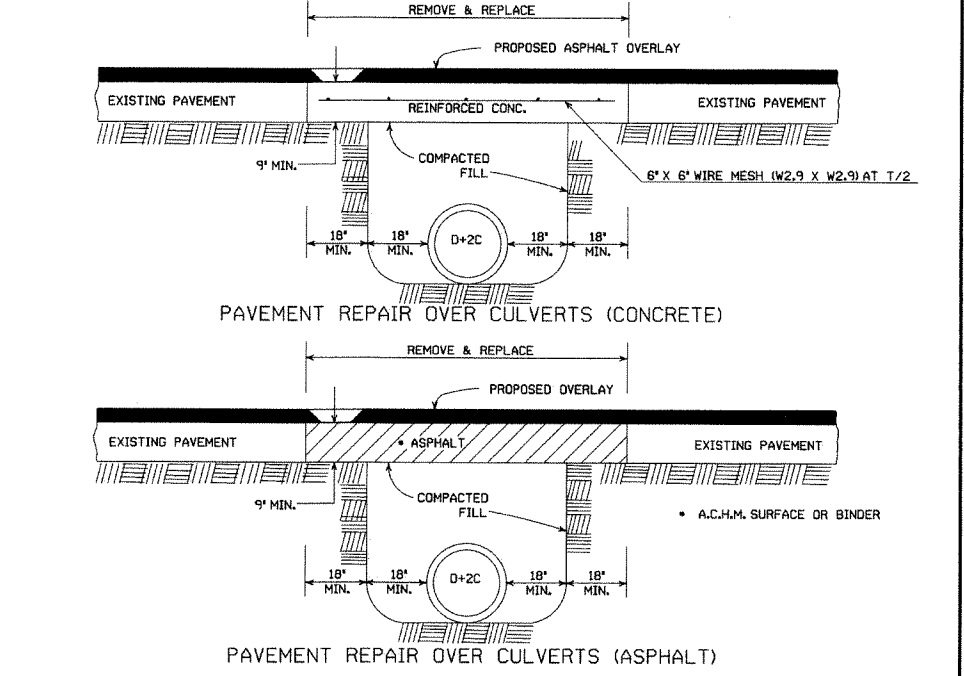
FOOTING STEPS

REINFORCED CONCRETE RETAINING WALL



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

DETAILS OF CONCRETE STEPS & WALKS



PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

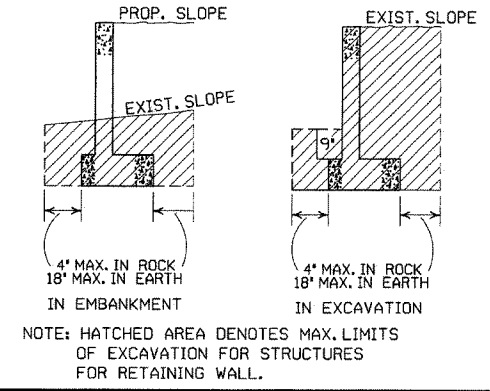
DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

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


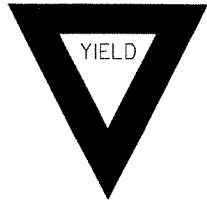

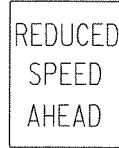

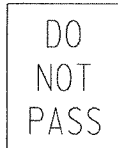


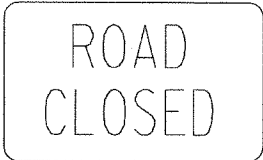
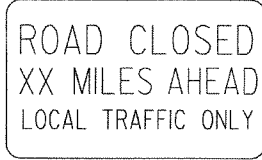
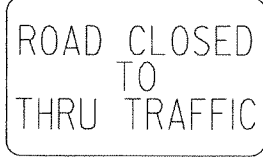
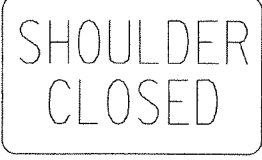
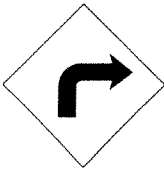





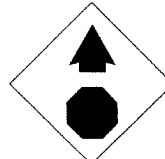
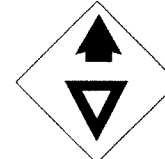
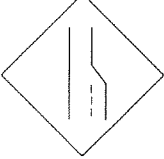



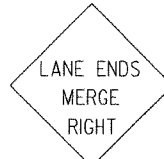









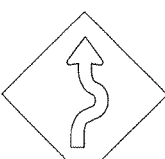
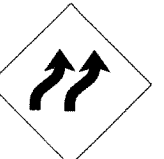


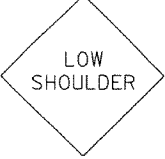
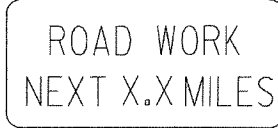
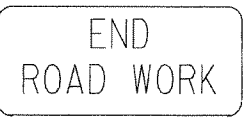
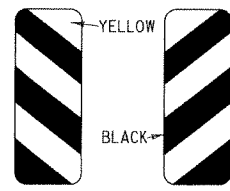


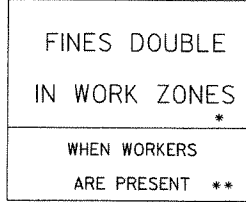
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1



NOTE: HATCHED AREA DENOTES MAX. LIMITS OF EXCAVATION FOR STRUCTURES FOR RETAINING WALL.

<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>WI-3</p>  <p>STD. 48"x48"</p>	<p>WI-4</p>  <p>STD. 48"x48"</p>	<p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>WI-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>500 FEET 18" W16-2 24"</p> <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>W1-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>* USE 6" C LETTERS ** USE 4" D LETTERS</p>

ADVANCE DISTANCES (XXXX)

500 FT 1/2 MILE
1000 FT 3/4 MILE
1500 FT 1 MILE AHEAD

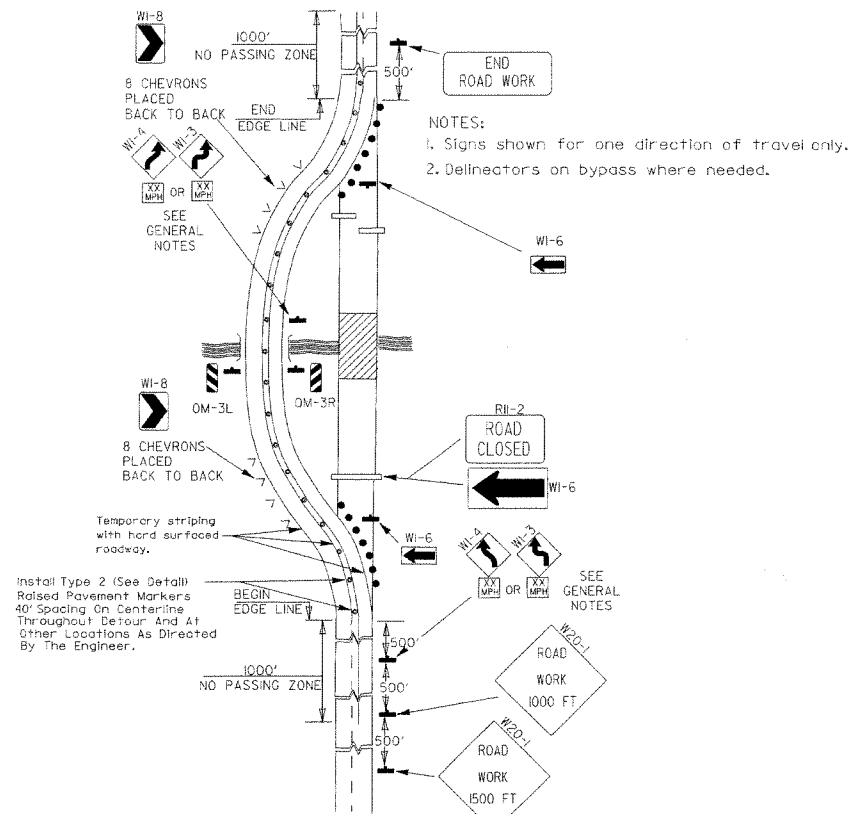
GENERAL NOTES:

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

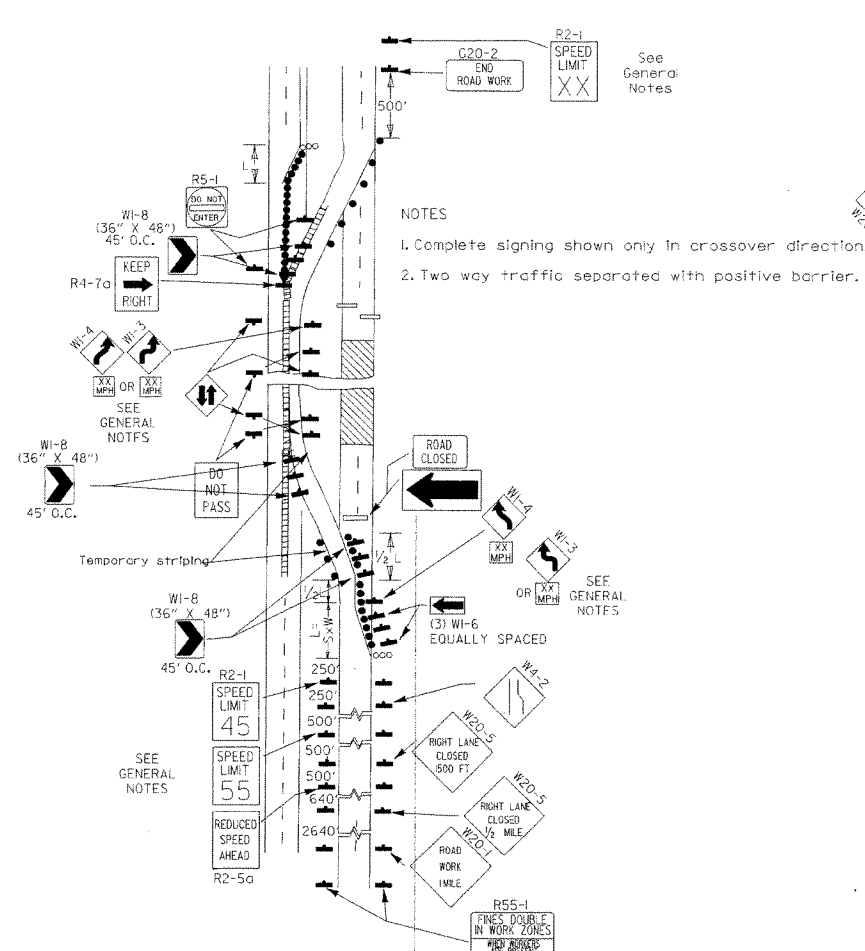
* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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	
6-9-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

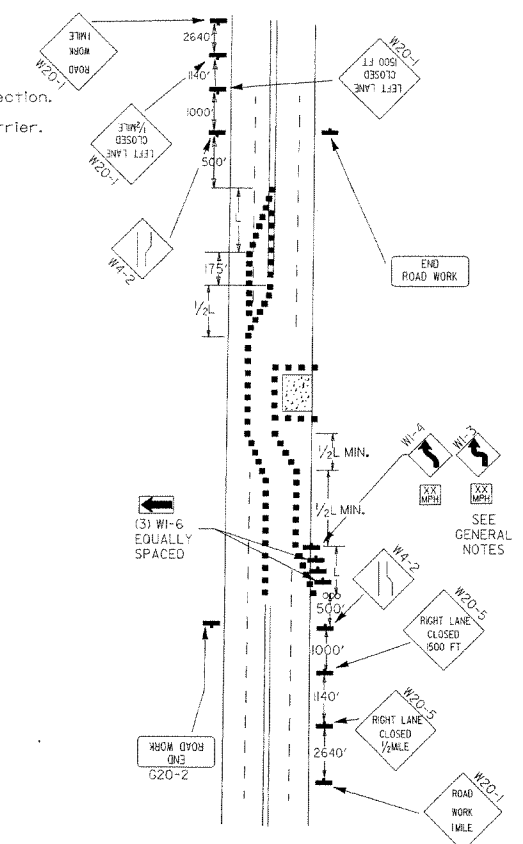
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



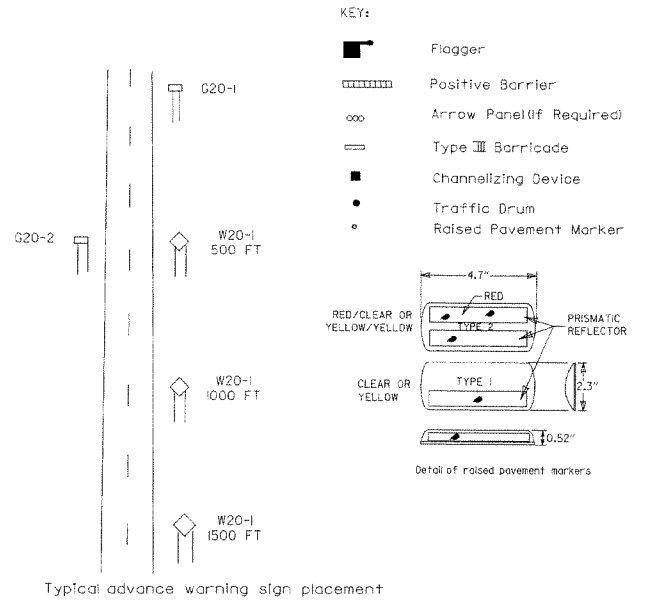
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



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

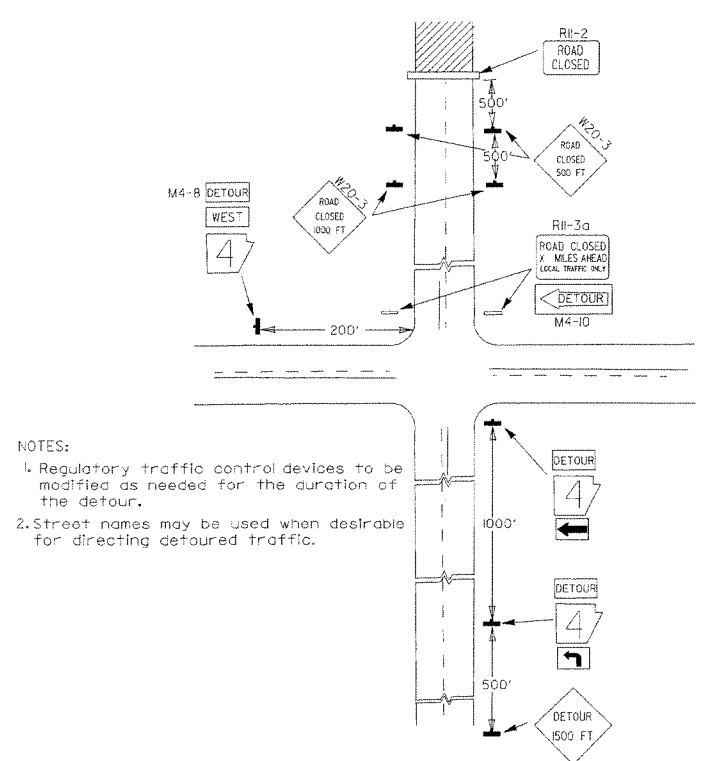


(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.

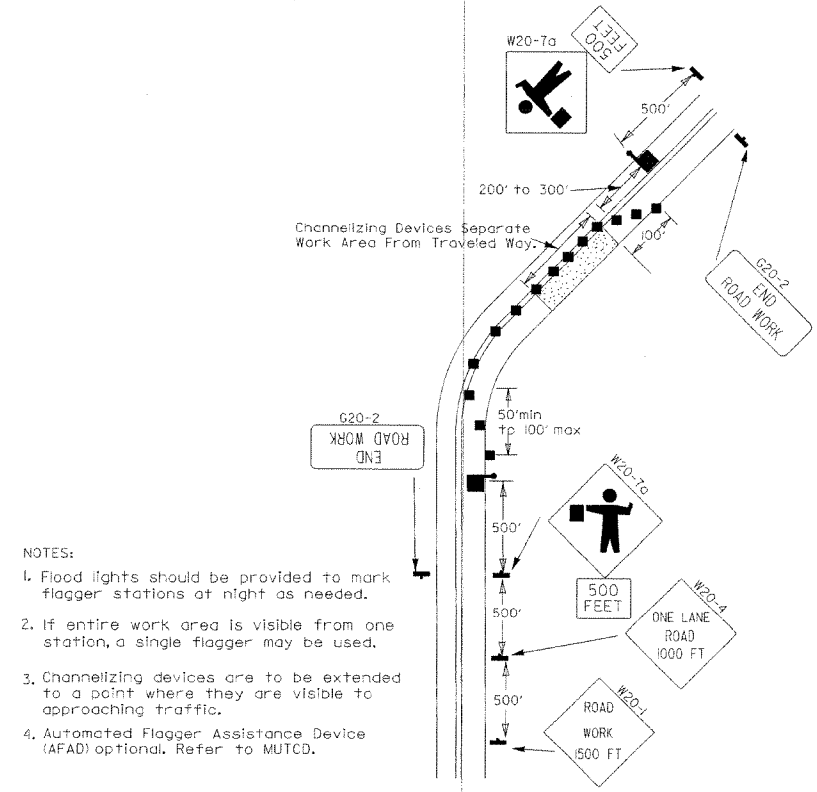


Taper formulae:
 $L = SxW$ for speeds of 45mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40mph or less.
 Where:
 L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85th percentile speed.
 W = Width of offset.

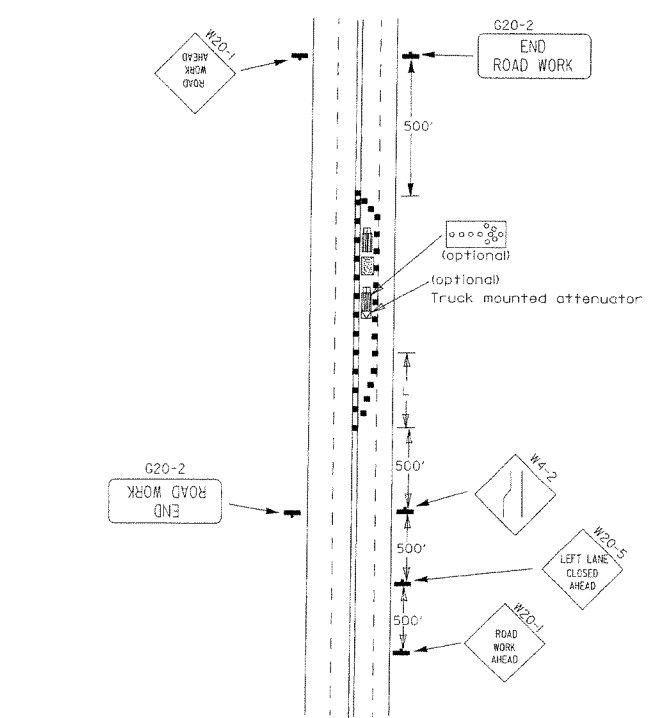
- GENERAL NOTES:
- Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
 - When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(55) shall be installed to match original speed limit.
 - When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(65) shall be installed to match original speed limit.
 - 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.
 - Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
 - Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
 - 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.



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



(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.



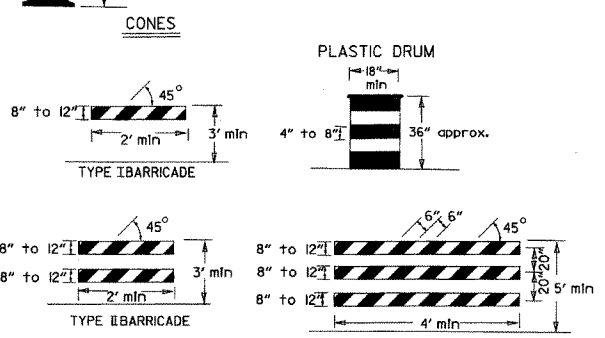
(F) Typical application - 4-lane undivided roadway with inside lane closed.

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 W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

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

Channelizing devices

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

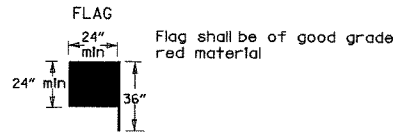


NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

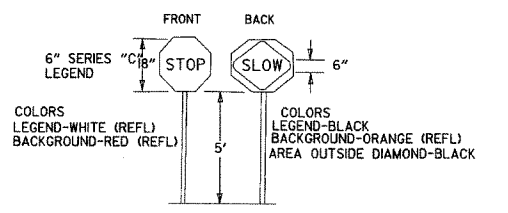
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

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

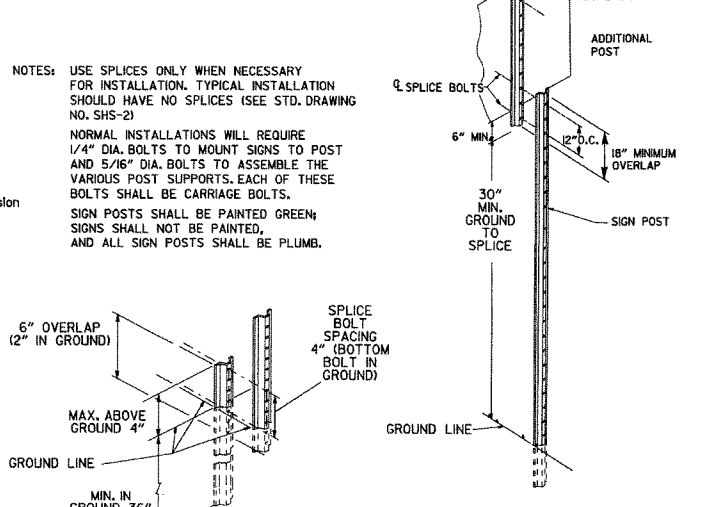
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



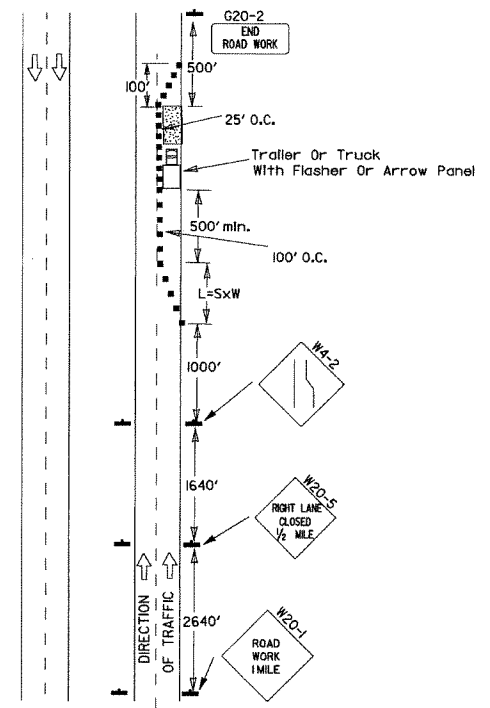
STOP SLOW PADDLE



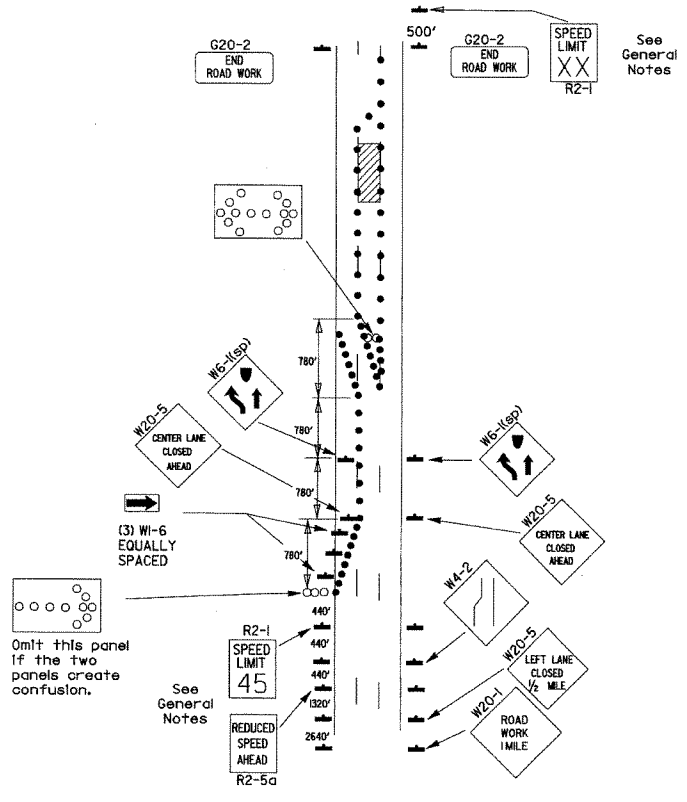
DETAIL OF SPLICES



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



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

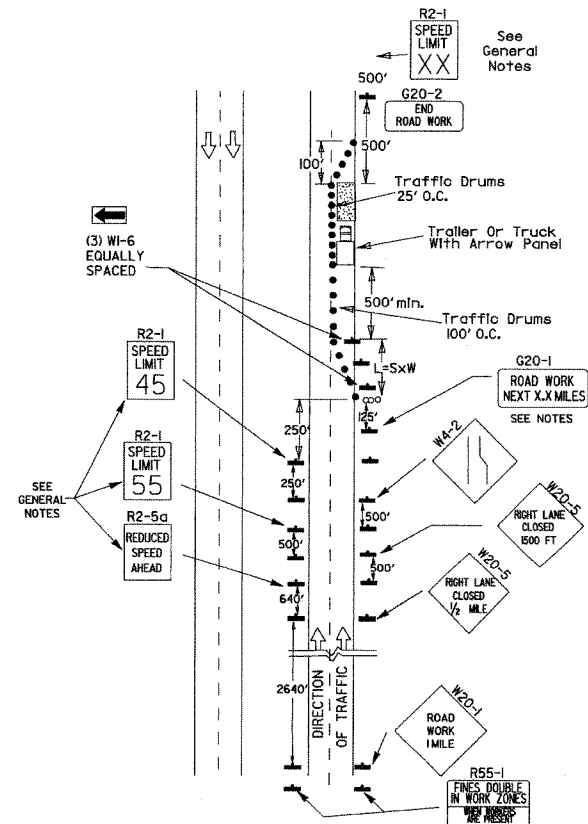


(B) Typical application - 3-lane one-way roadway where center lane is closed.

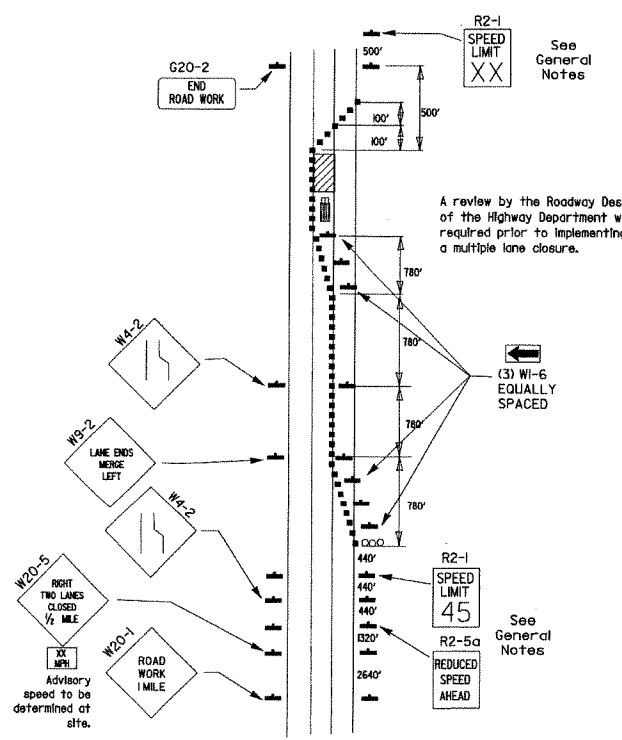
- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- 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 R2-145mph 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.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- 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.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- 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.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
- Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



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



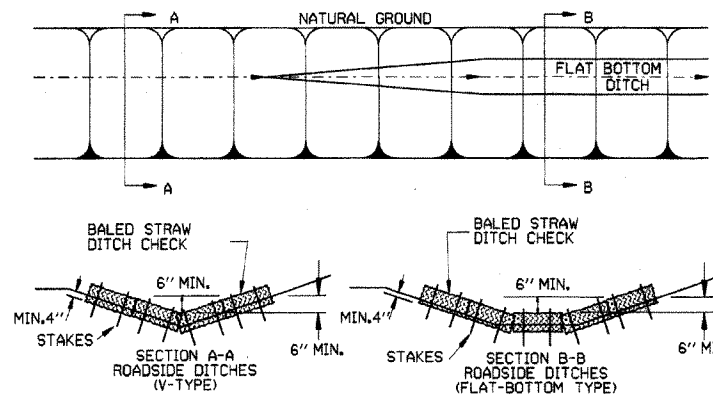
(D) Typical application - closing multiple lanes of a multi-lane highway.

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

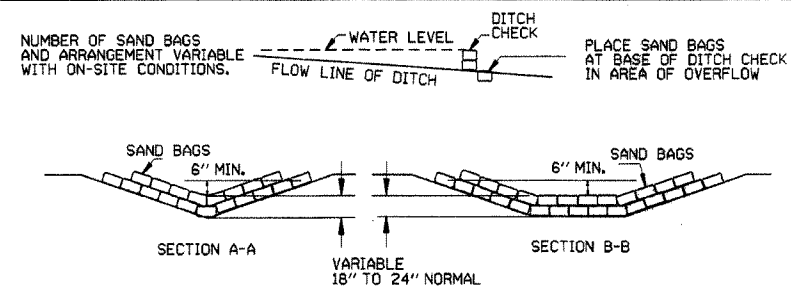
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-3

GENERAL NOTES

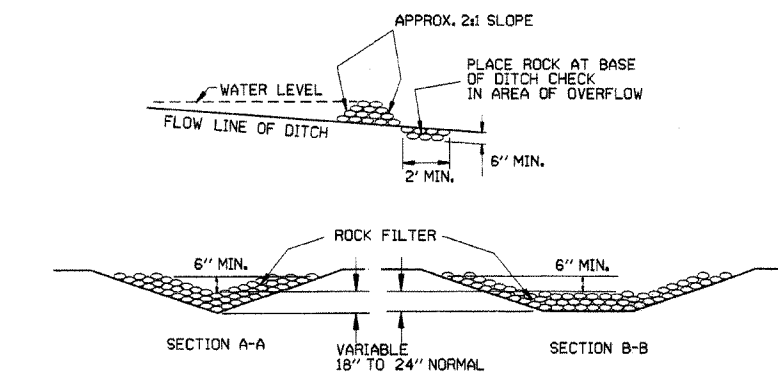
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. STRAW BALES SHALL BE KEYPED INTO SOIL A MINIMUM OF 4' AND NO GAPS SHALL BE LEFT BETWEEN BALES.



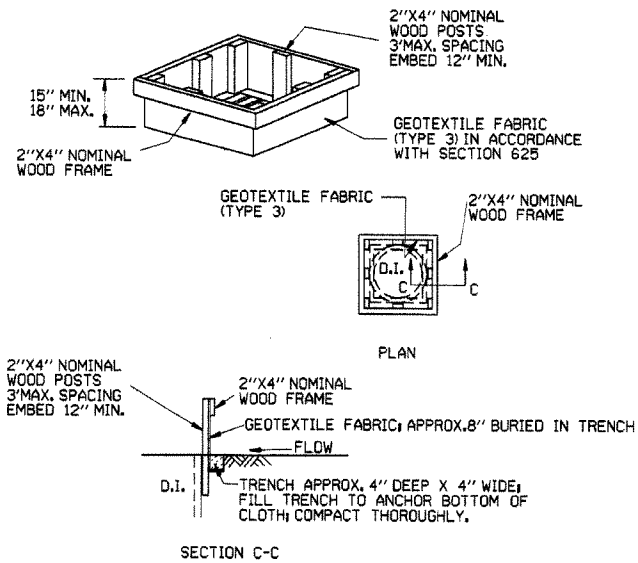
BALED STRAW DITCH CHECK (E-1)



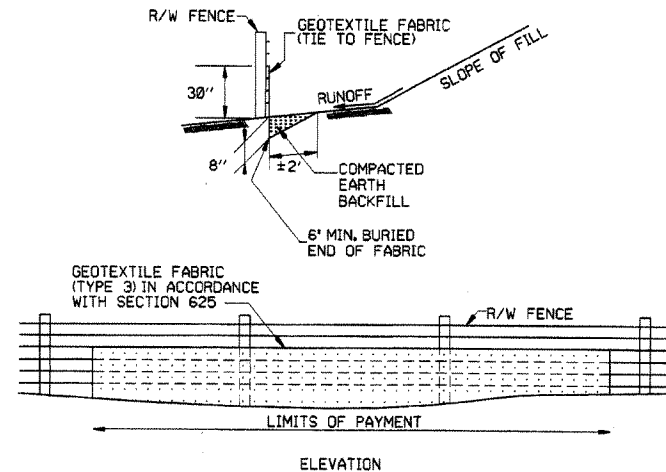
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



DROP INLET SILT FENCE (E-7)

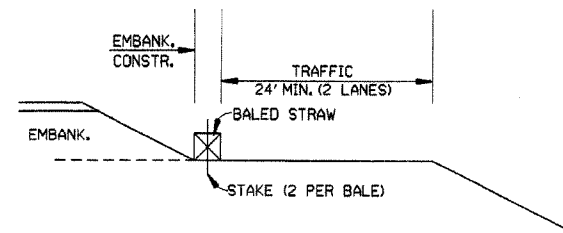


SILT FENCE ON R/W FENCE (E-4)

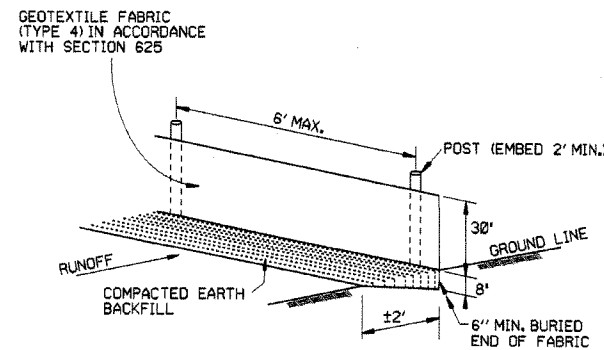
- GENERAL NOTES
- GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



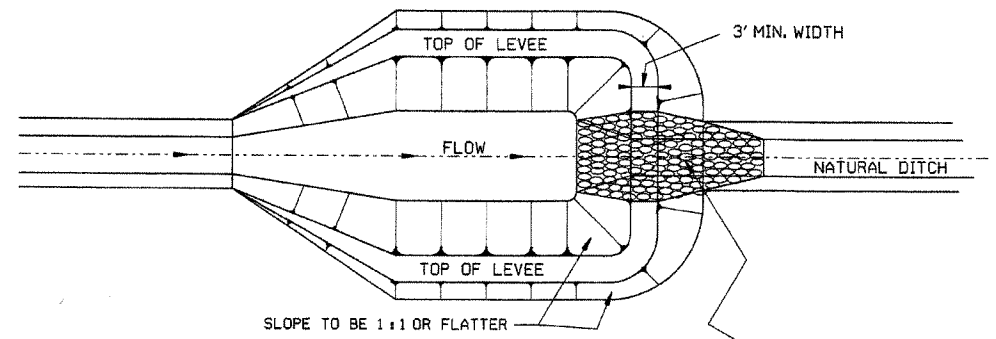
SILT FENCE (E-11)

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

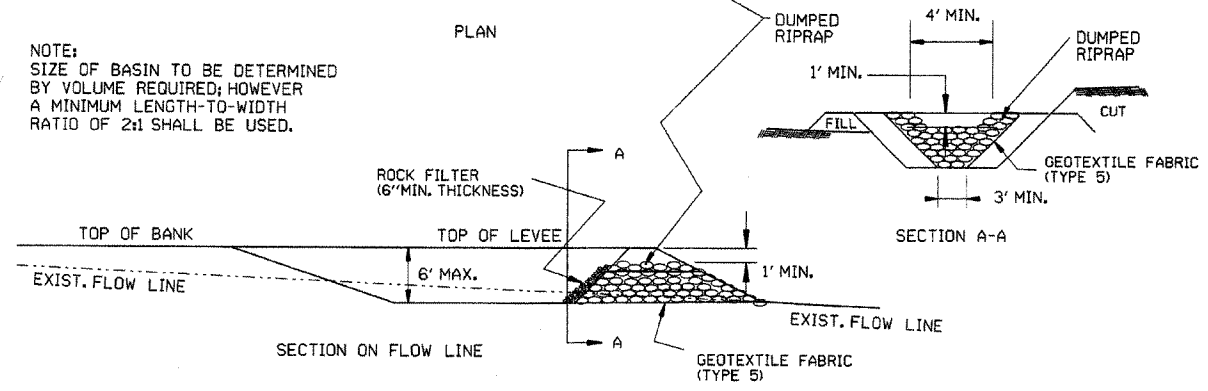
11-18-98	ADDED NOTES	11-18-98	ARKANSAS STATE HIGHWAY COMMISSION
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	Rev. E-4 & E-11 Min. 13' Buried End of Fabric		
6-2-94	Revised E-1,4,7, & 11 Deleted E-2 & 3	6-2-94	
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	

TEMPORARY EROSION CONTROL DEVICES

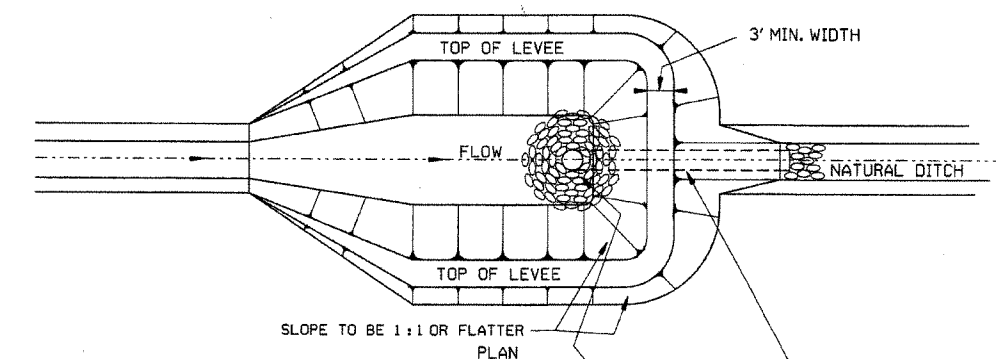
STANDARD DRAWING TEC-1



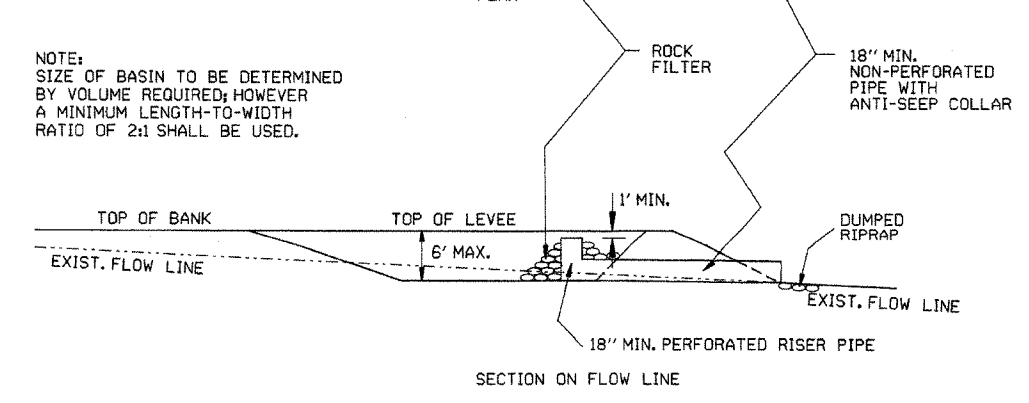
NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.



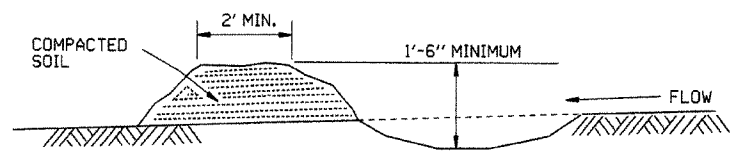
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



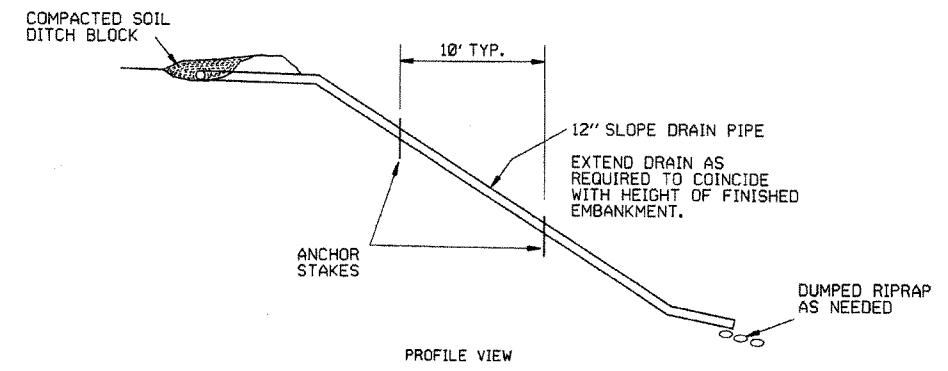
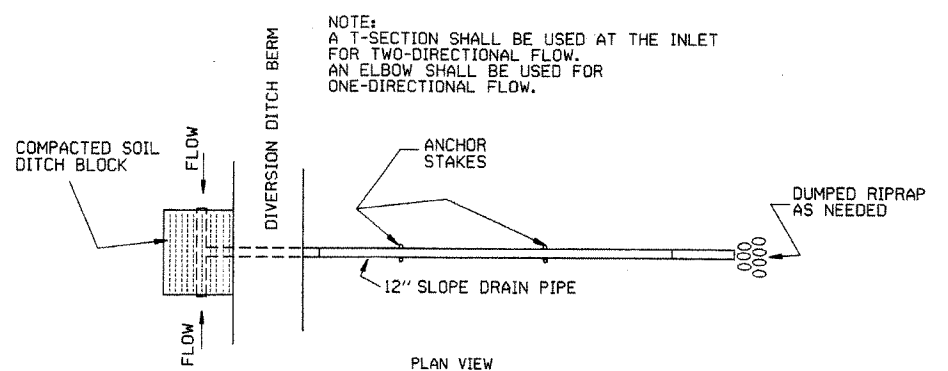
NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.



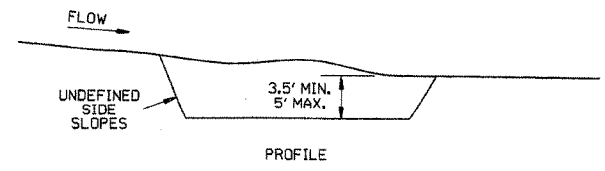
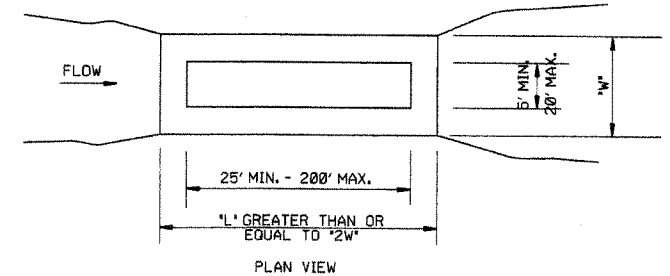
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

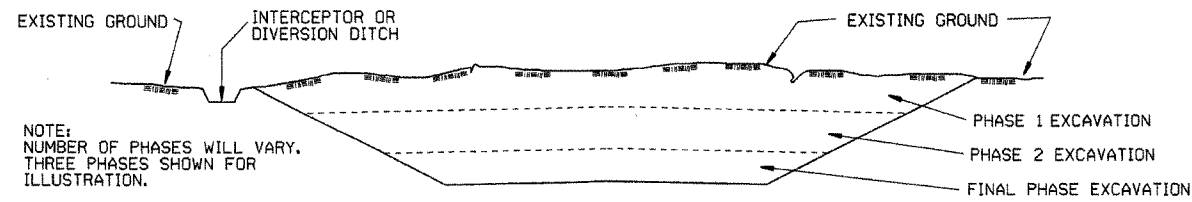
ARKANSAS STATE HIGHWAY COMMISSION
 TEMPORARY EROSION CONTROL DEVICES
 STANDARD DRAWING TEC-2

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



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

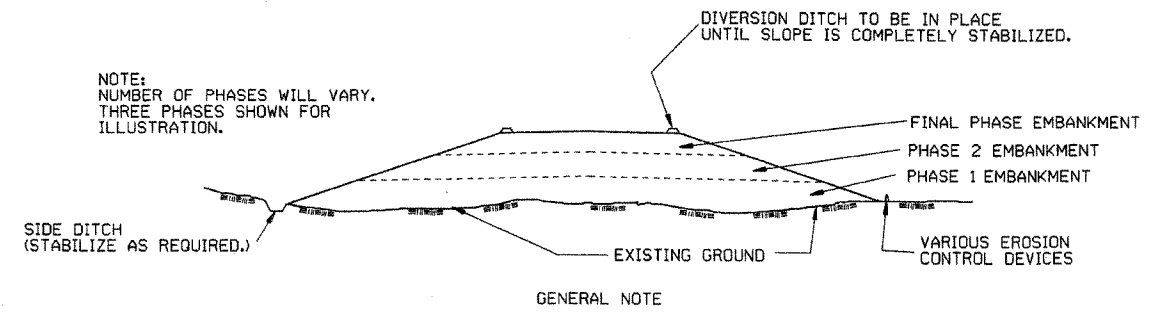
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



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

GENERAL NOTE

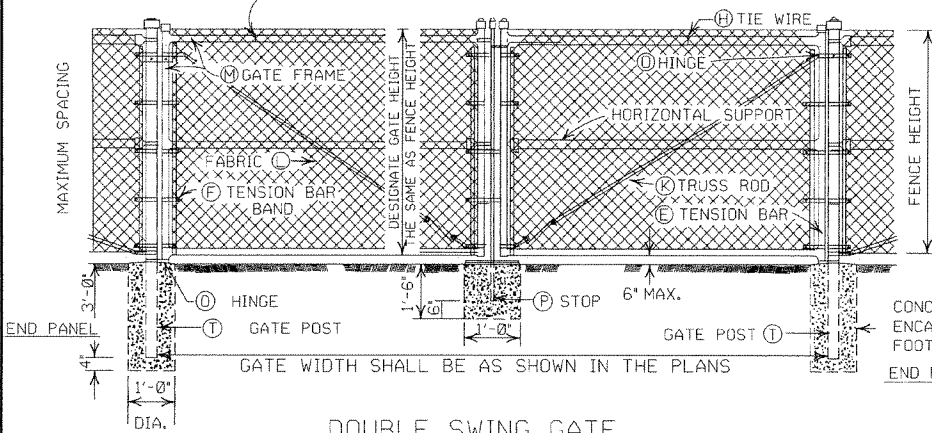
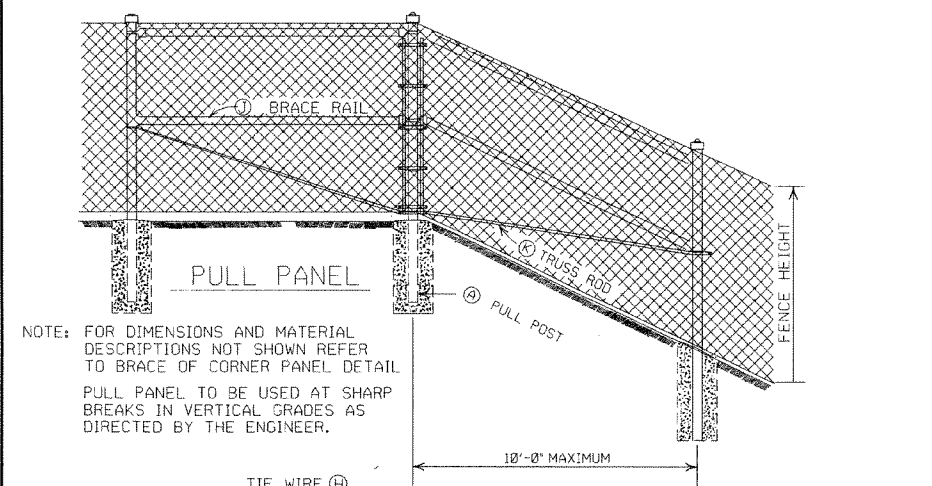
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

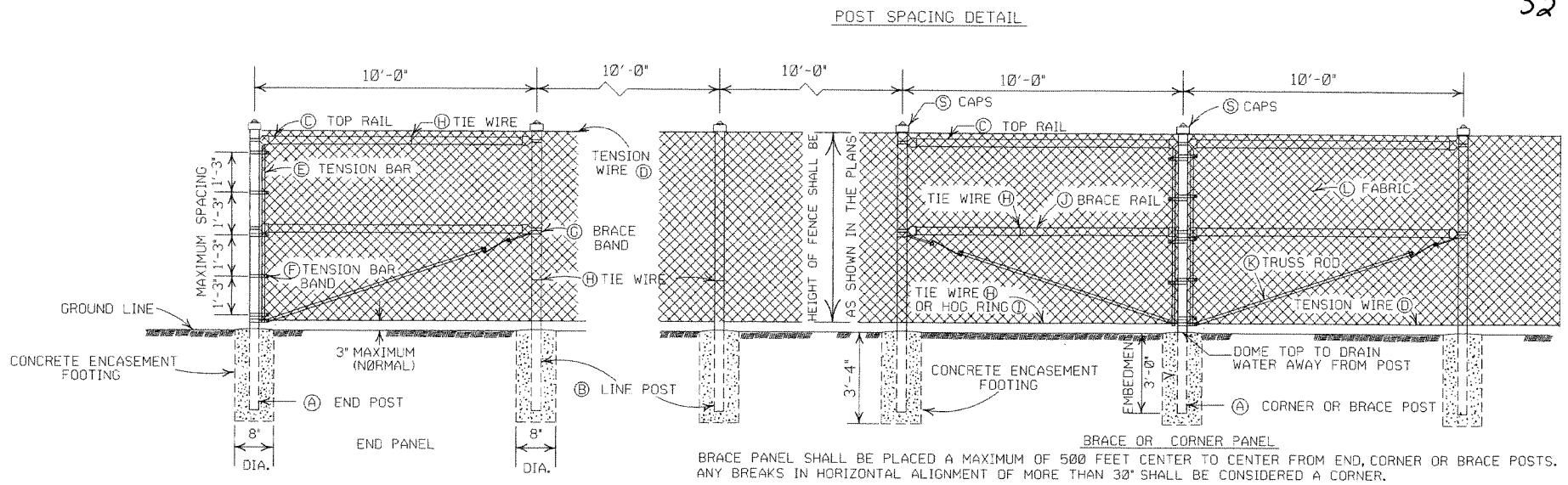
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

51

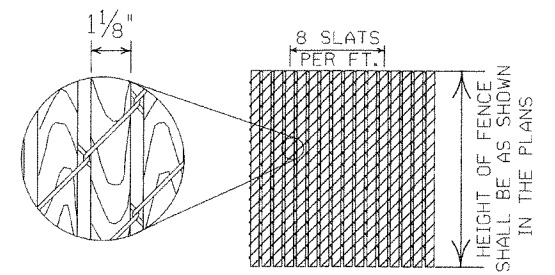
ARKANSAS STATE HIGHWAY COMMISSION		
TEMPORARY EROSION CONTROL DEVICES		
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	
DATE	REVISION	6-2-94 FILMED
STANDARD DRAWING TEC-3		



DOUBLE SWING GATE



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.



1 1/8" x 1/4" REDWOOD SLATS (LENGTH TO MATCH HEIGHT OF FENCE) (L) FABRIC SHALL CONFORM TO THE SPECIFICATIONS. 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 HALF WAY 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.

HEIGHT OF FENCE FABRIC	(A) END, PULL, CORNER OR BRACE POST		(B) LINE POSTS		(C) TOP RAIL			(D) TENSION WIRE		(E) TENSION BAR		(F) TENSION BAR BAND		(G) BRACE BAND		
	SIZE	TIE SPACING	SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. LENGTH	SIZE	TIE SPACING	SIZE	LENGTH	SIZE	BOLT SIZE	SPACING	SIZE	BOLT SIZE
6' AND LESS	2 1/2" O.D.	1 TIE EVERY 1'-2"	2' O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1 1/2" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF 3/8" x 3/4"	2" LESS THAN FABRIC HEIGHT	3/4" x 3/8"	5/16" x 1 1/2"	15" MAX. INTERVAL BETWEEN BANDS	3/4" x 3/8"	5/16" x 1 1/4"
OVER 6' TO 12' INCL.	3" O.D.	1 TIE EVERY 1'-2"	2 1/2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1 1/2" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF 3/8" x 3/4"	2" LESS THAN FABRIC HEIGHT	3/4" x 3/8"	5/16" x 1 1/2"	15" MAX. INTERVAL BETWEEN BANDS	3/4" x 3/8"	5/16" x 1 1/4"

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL		(K) TRUSS ROD	(L) FABRIC		(M) GATE FRAME	(N) HORIZONTAL SUPPORT	(O) HINGE TYPE	(P) GATE POST	
	SIZE	SIZE	SIZE	TIE SPACING	MIN. OF 1/2" ROUND WITH TIGHTENERS AND FITTINGS	SIZE	MESH SELVAGE	SIZE	SIZE	180° SWING	SIZE	GATE POST WIDTH OVER 12' AND LESS 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1 1/2" O.D.	1 TIE EVERY 2'-0"	MIN. OF 1/2" ROUND WITH TIGHTENERS AND FITTINGS	9 GA. 2"	KNUCKLING AND/OR TWISTING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	3" O.D.
OVER 6' TO 12' INCL.	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1 1/2" O.D.	1 TIE EVERY 2'-0"	MIN. OF 1/2" ROUND WITH TIGHTENERS AND FITTINGS	9 GA. 2"	KNUCKLING AND/OR TWISTING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	4" O.D.

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2 1/2" 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 3 1/2" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3 1/2" 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.

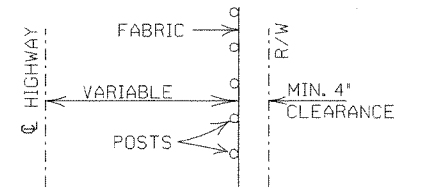
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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.

- (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.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS. TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY				GRADE 2		
	O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.		O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
			STEEL	ALUMINUM			
1 1/2"	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
2 1/2"	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
3 1/2"	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

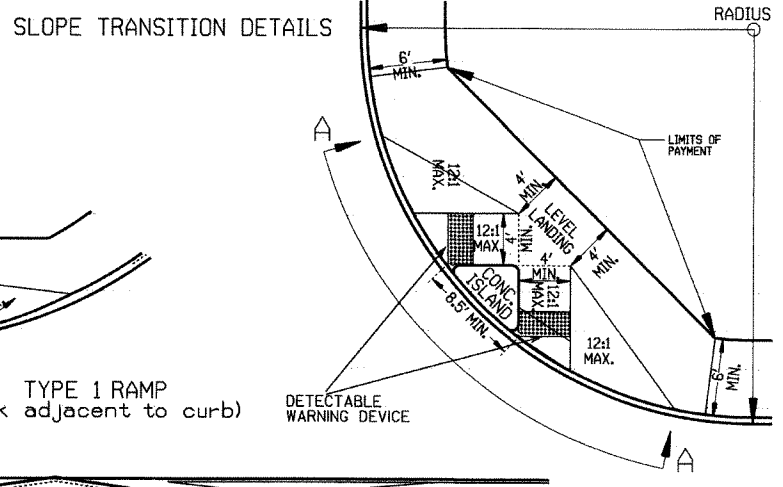
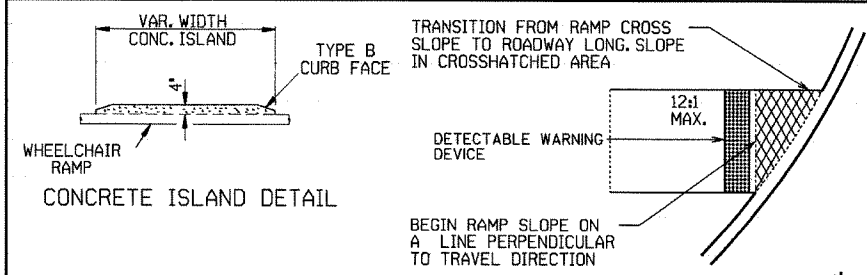
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

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	8-15-91
	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

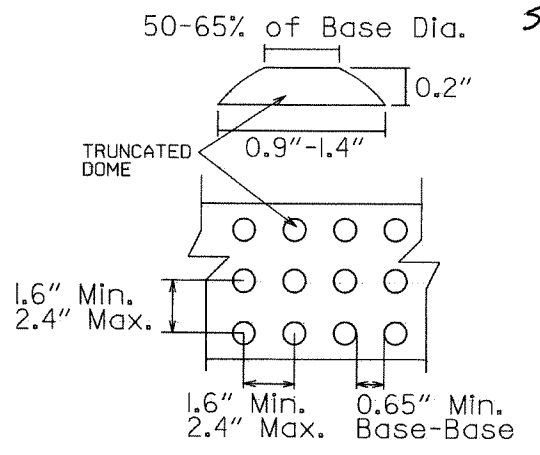


TYPE 1 RAMP DIMENSIONS AND QUANTITIES

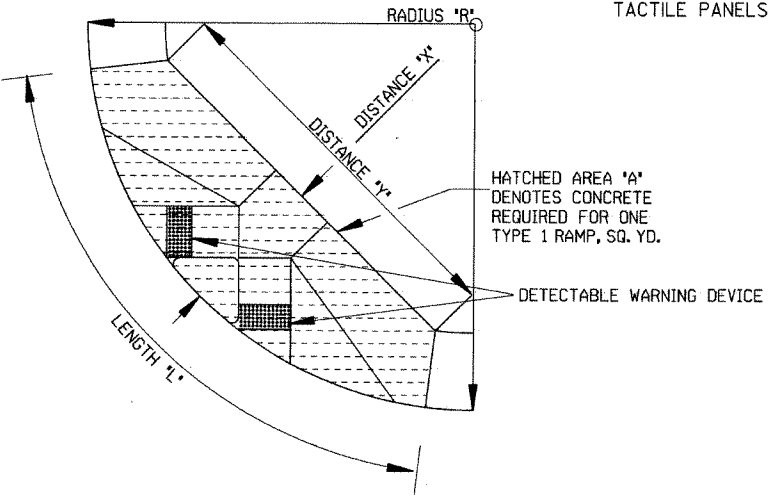
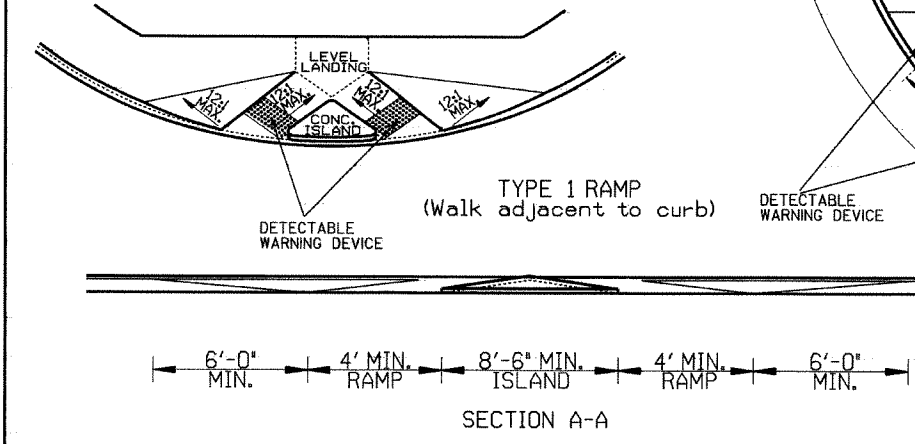
RADIUS 'R'	DISTANCE 'x'	DISTANCE 'y'	LENGTH 'L'	RAMP AREA 'A'
FEET	FEET	FEET	FEET	SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
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).



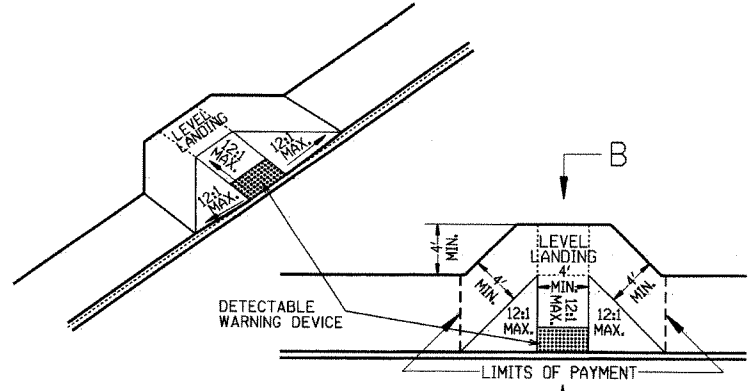
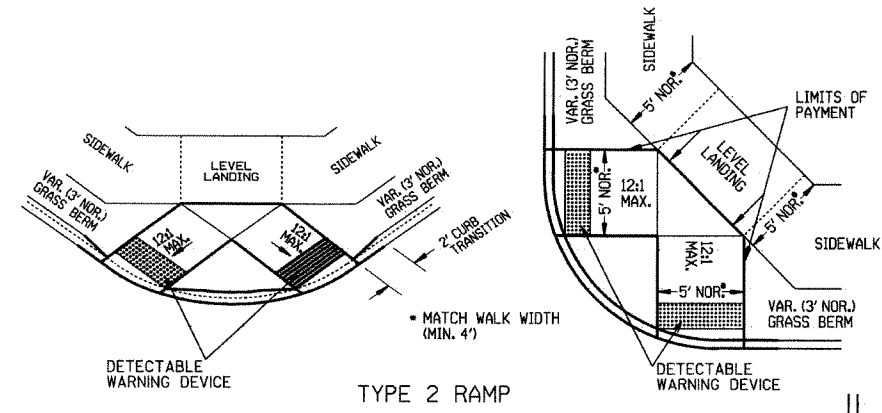
DETECTABLE WARNING DEVICE DETAIL



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

GENERAL NOTES:

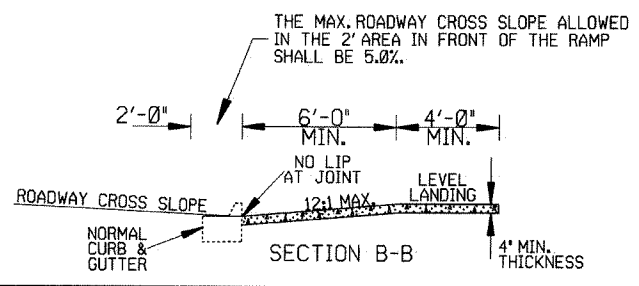
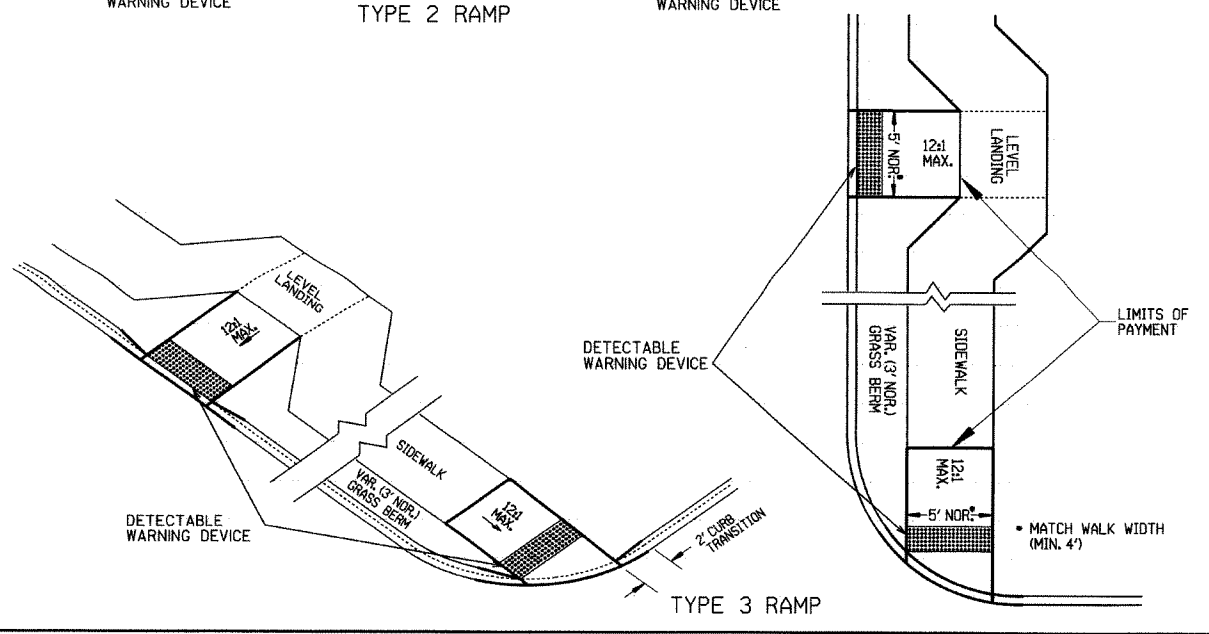
IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS. IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK 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.



RAMP SELECTION CRITERIA

CHOICE	TYPE	DESCRIPTION
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.



DATE	REVISION	DATE FILM
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.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM 8:1 TO 12:1 MAX. SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCL. "CONC. ISLAND" IN PAY ITEM	
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

STANDARD DRAWING WR-1

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 080295							54	70

STA. 154.69 IN PLACE
12" X 59' PIPE CULVERT ON LT
REMOVE AND CONST.
29" X 18" X 60' STUB-IN
CONN. TO D.I. STA. 155.00 LT.

STA. 155.00 CONST.
D.I. ON LT. H= 3.73' W/ 8' EXT. AND
OPENING IN BACK AND
30" X 94' PIPE OUTLET
TO D.I. STA. 156.00 LT.
TYPE MD-5'
TYPE C - 5' X 5'

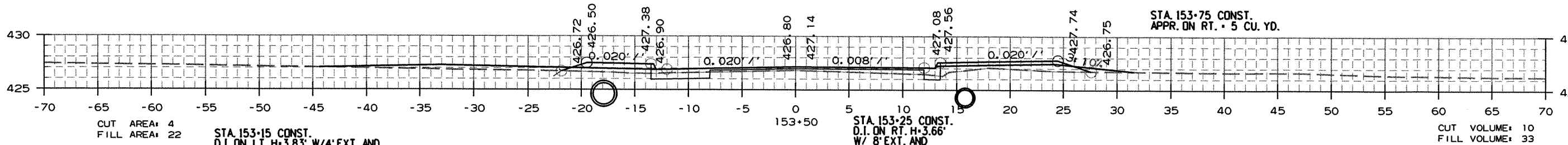
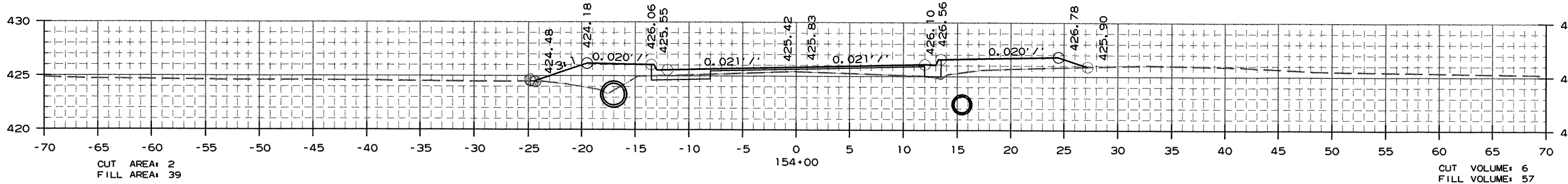
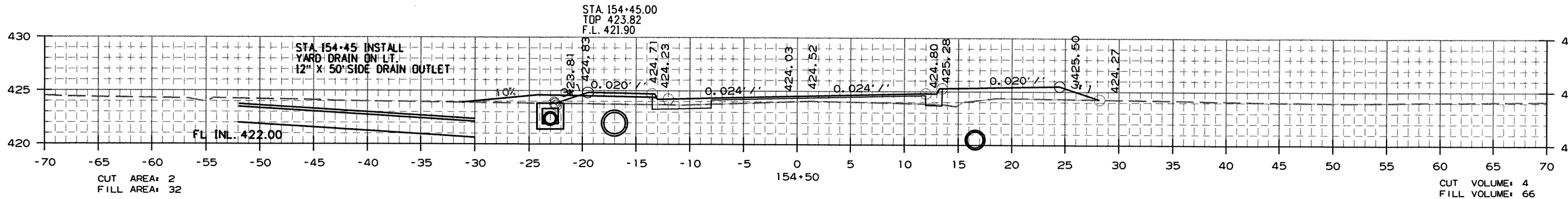
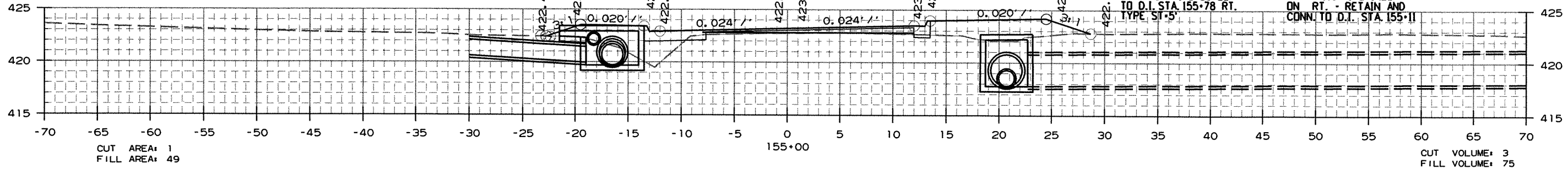
STA. 155.00.00
TOP 423.40
F.L. 419.67

STA. 155.11.00
TOP 423.78
F.L. 417.51

STA. 155.11 IN PLACE D.I. ON RT.
REMOVE AND CONST.
JCT BOX ON RT. H=6.27' AND
36" X 64' PIPE OUTLET
TO D.I. STA. 155.78 RT.
TYPE ST-5'

STA. 155.11 IN PLACE
36" X 161' PIPE INLET
ON RT. - RETAIN AND
CONN. TO D.I. STA. 155.11

2 CROSS SECTIONS



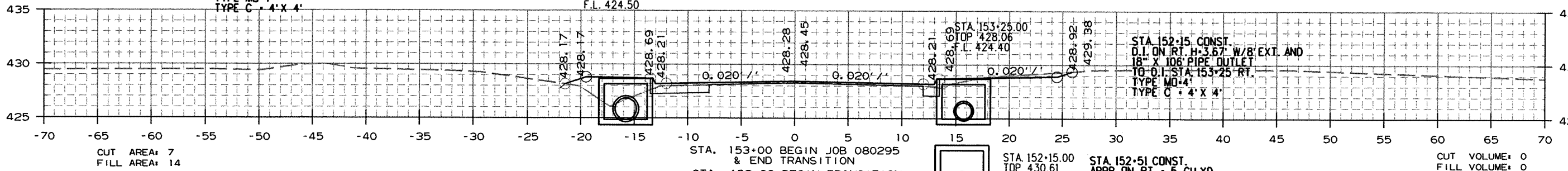
STA. 153.15 CONST.
D.I. ON LT. H=3.83' W/4' EXT. AND
24" X 9' R.C. STUB-IN W/ F.E.S. AND
24" X 179' PIPE OUTLET
TO D.I. STA. 155.00 LT.
TYPE MD-4'
TYPE C - 4' X 4'

STA. 153.15.00
TOP 428.33
F.L. 424.50

STA. 153.25 CONST.
D.I. ON RT. H=3.66'
W/ 8' EXT. AND
18" X 184' PIPE OUTLET
TO D.I. STA. 155.11 RT.
TYPE MD-4'
TYPE C - 4' X 4'

STA. 153.25.00
TOP 428.06
F.L. 424.40

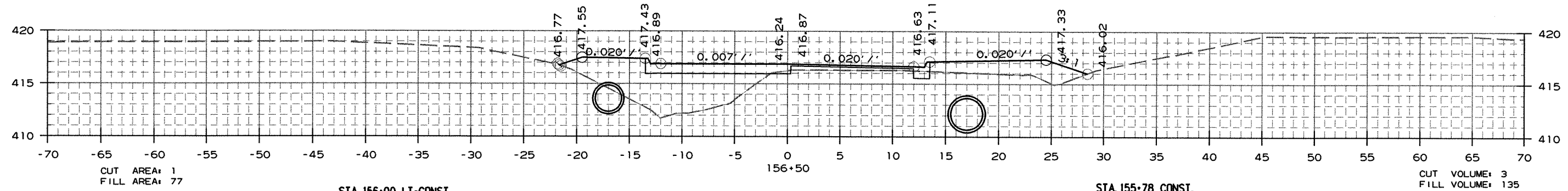
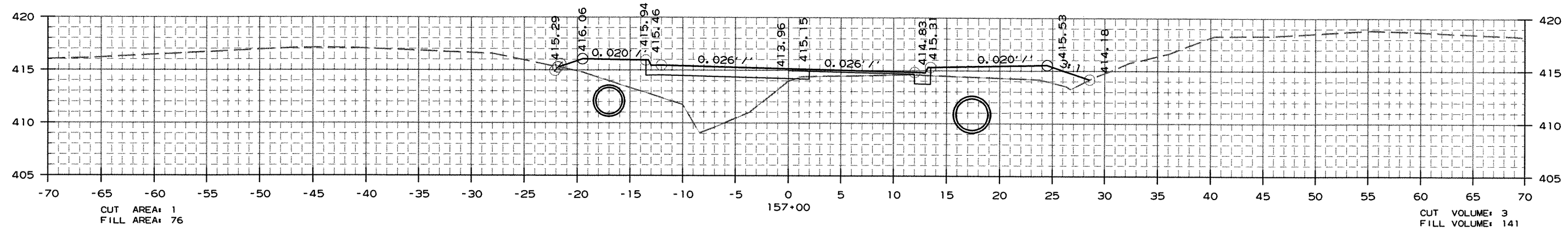
STA. 152.15 CONST.
D.I. ON RT. H=3.67' W/8' EXT. AND
18" X 106' PIPE OUTLET
TO D.I. STA. 153.25 RT.
TYPE MD-4'
TYPE C - 4' X 4'



CROSS SECTION STA. 153+00 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.	080295		55	70

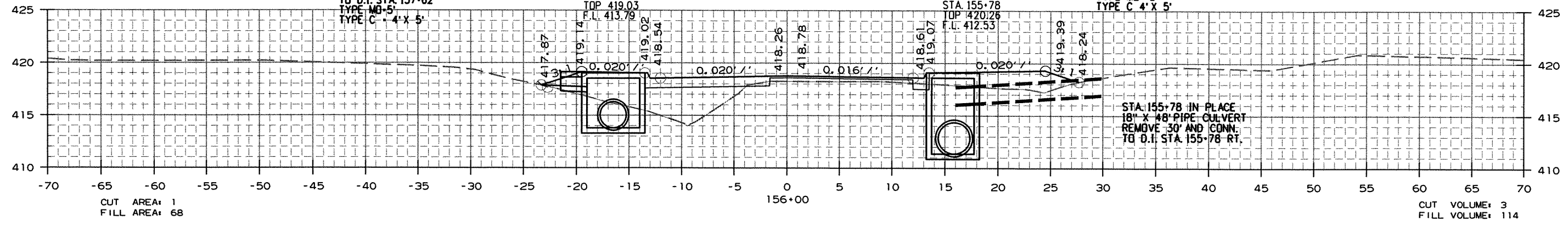
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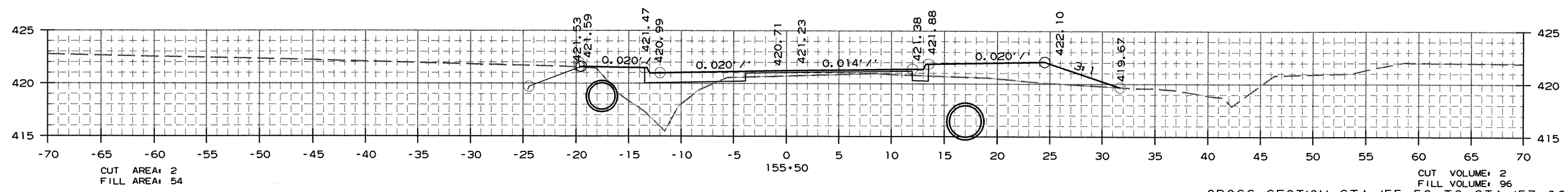
STA 156+00 LI-CONST.
D.I. ON LT. H=5.24' W/4' EXT. AND
OPENING IN BACK AND
36" X 159' PIPE OUTLET
TO D.I. STA 157+62
TYPE MD-5
TYPE C 4' X 5'

STA 156+00.00
TOP 419.03
F.L. 413.79

STA 155+78 CONST.
D.I. ON RT. H=7.73' AND
36" X 260' PIPE OUTLET
TO D.I. STA 158+44 RT.
TYPE MD-5
TYPE C 4' X 5'



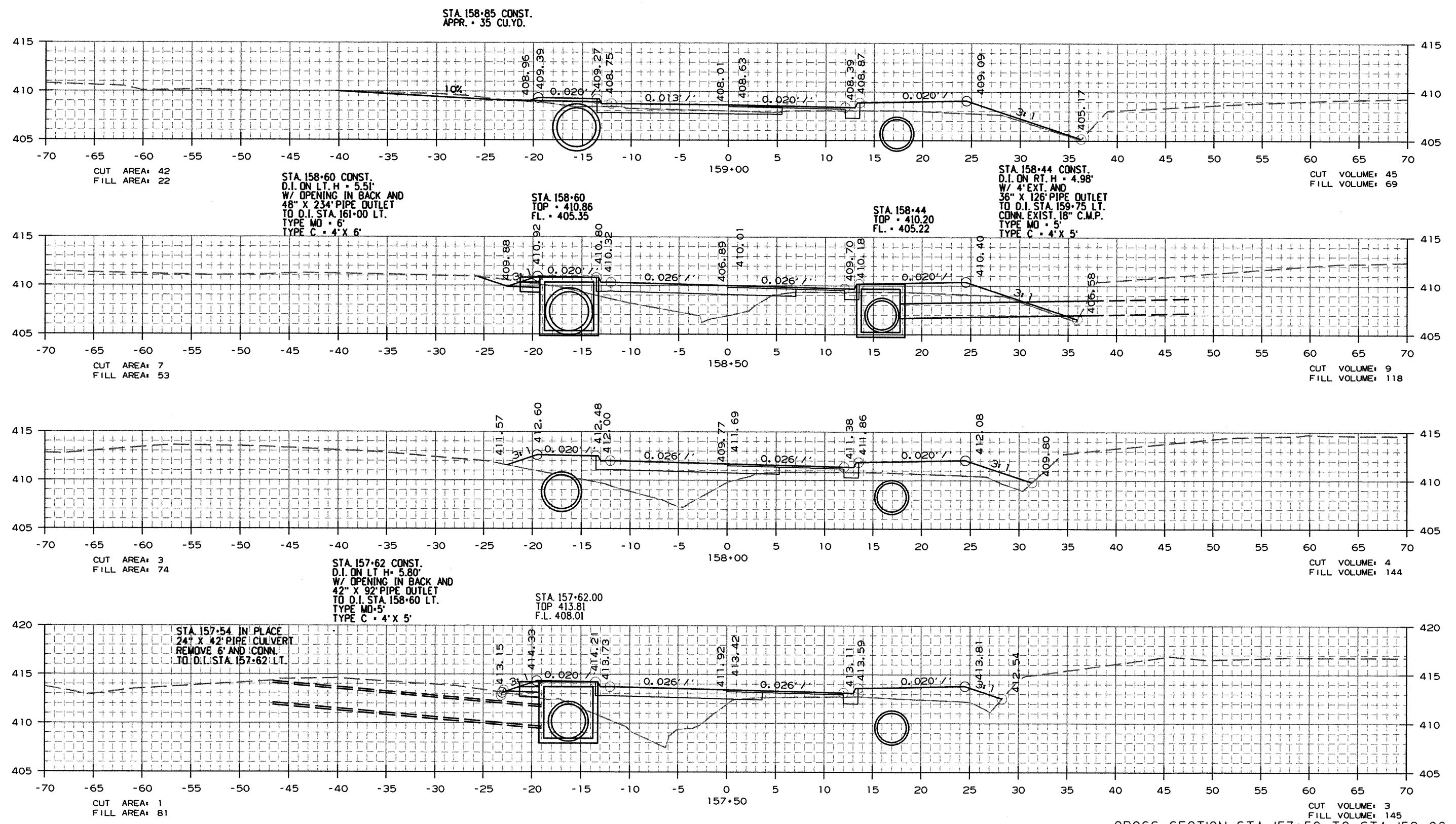
STA 155+78 IN PLACE
18" X 48" PIPE CULVERT
REMOVE 30' AND CONN.
TO D.I. STA 155+78 RT.



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.	080295
							SHEET NO.	56
							TOTAL SHEETS	70

2 CROSS SECTIONS



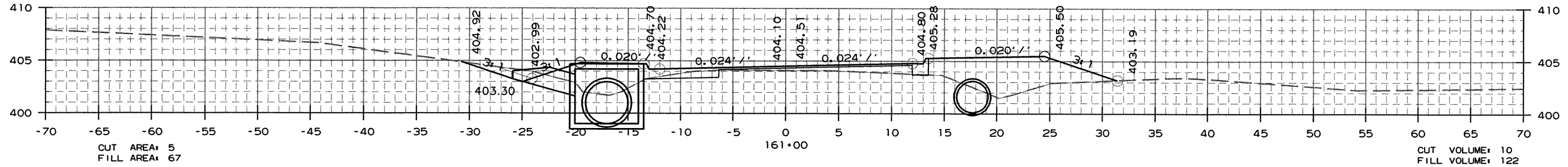
CROSS SECTION STA. 157+50 TO STA. 159+00

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. 080295	57	70

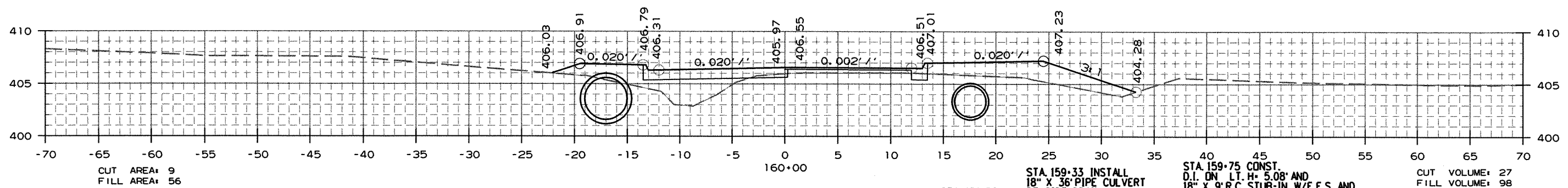
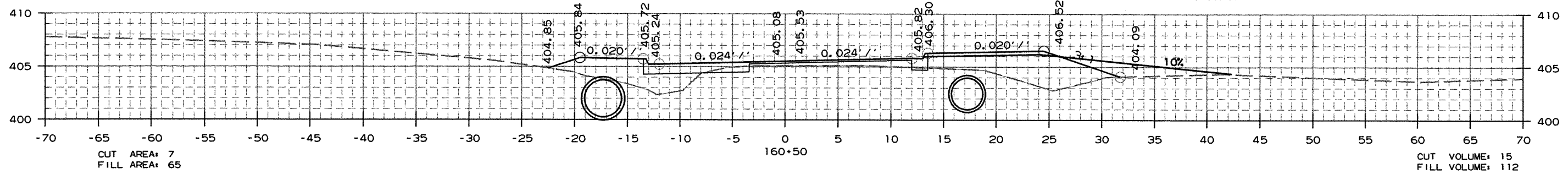
② CROSS SECTIONS

STA 161+00 CONST.
 O.I. ON LT. H=5.71'
 W/ 4' EXT. AND
 24" R.C.F.E.S. STUB-IN AND
 48" X 136" PIPE OUTLET
 TO D.I. STA. 162+40 LT.
 TYPE MD-6'
 TYPE C - 4' X 6'

STA. 161+00
 TOP 404.71
 F.L. 399.00



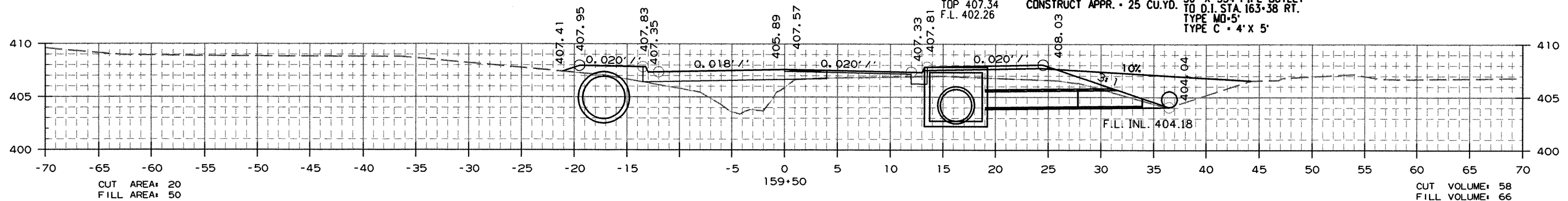
STA. 160+37 CONST.
 APPR. ON RT. - 40 CU.YD.



STA. 159+33 INSTALL
 RT. SIDE DRAIN
 CONSTRUCT APPR. - 25 CU.YD.

STA. 159+75 CONST.
 O.I. ON LT. H= 5.08' AND
 18" X 36" PIPE CULVERT
 RT. SIDE DRAIN
 36" X 354" PIPE OUTLET
 TO D.I. STA. 163+38 RT.
 TYPE MD-5'
 TYPE C - 4' X 5'

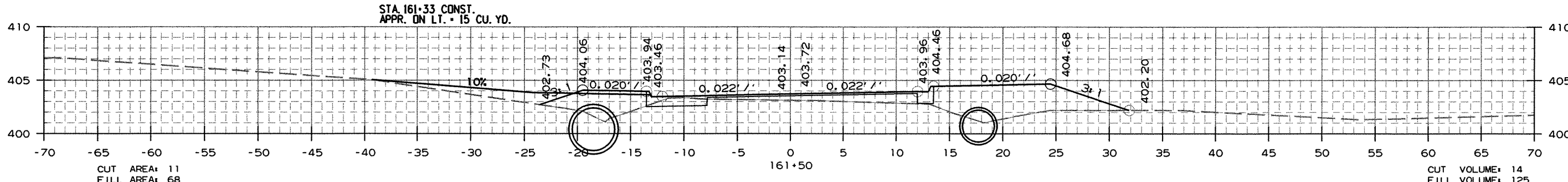
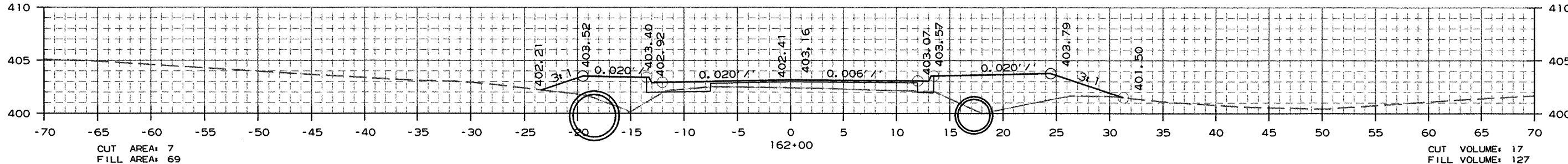
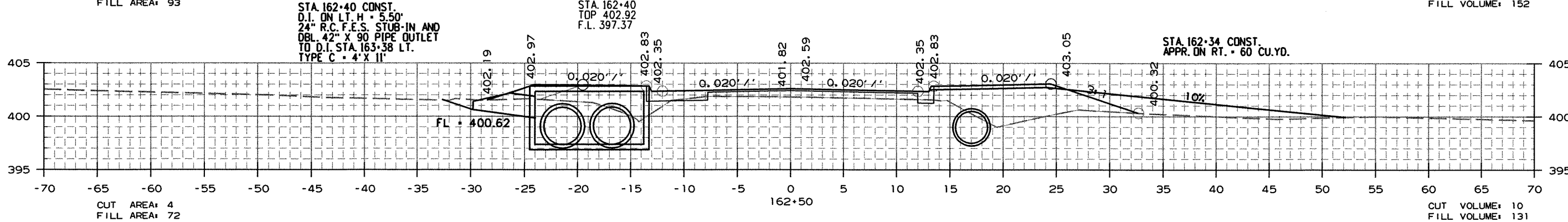
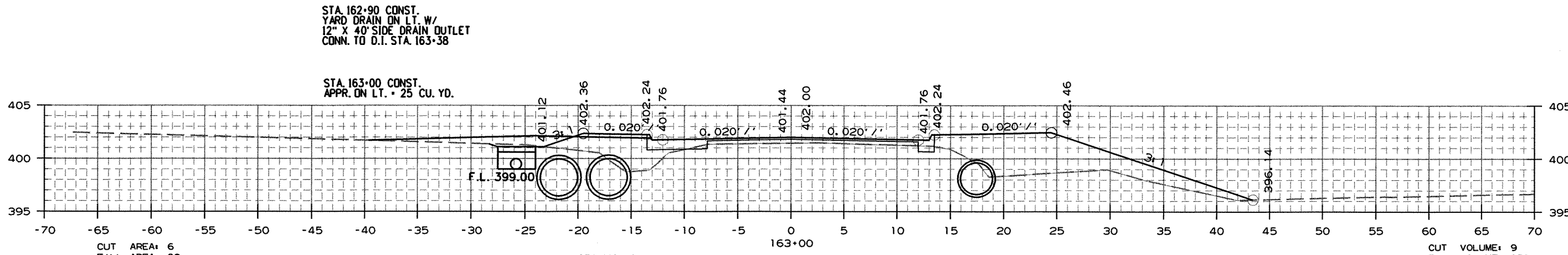
STA. 159+75
 TOP 407.34
 F.L. 402.26



CROSS SECTION STA. 159+50 TO STA. 161+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. 080295							58	70

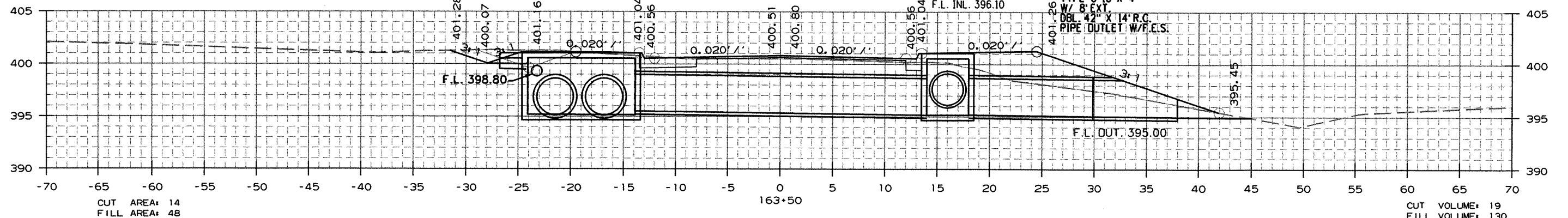
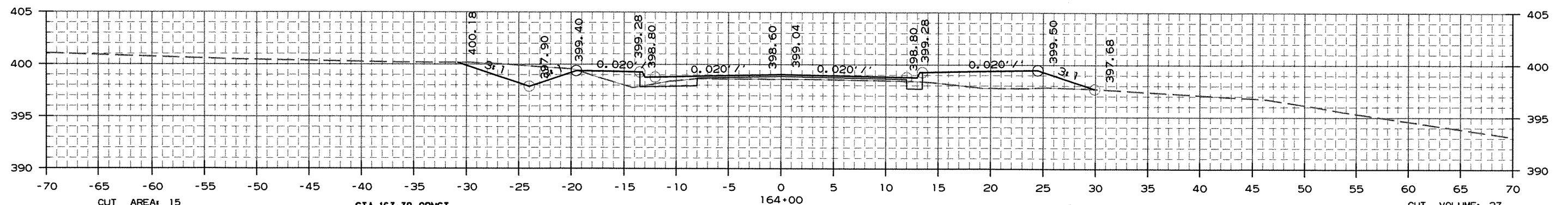
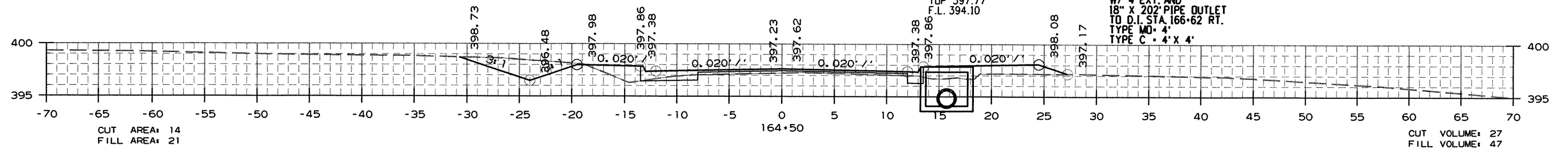
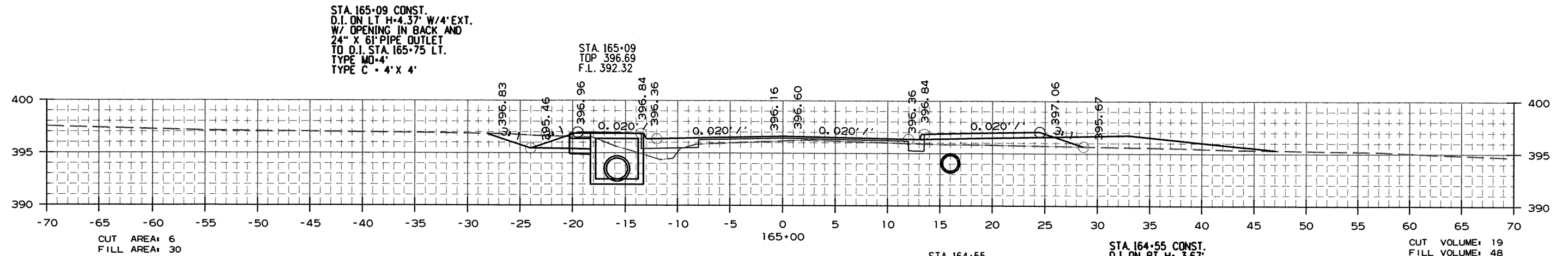
② CROSS SECTIONS



CROSS SECTION STA. 161+50 TO STA. 163+00

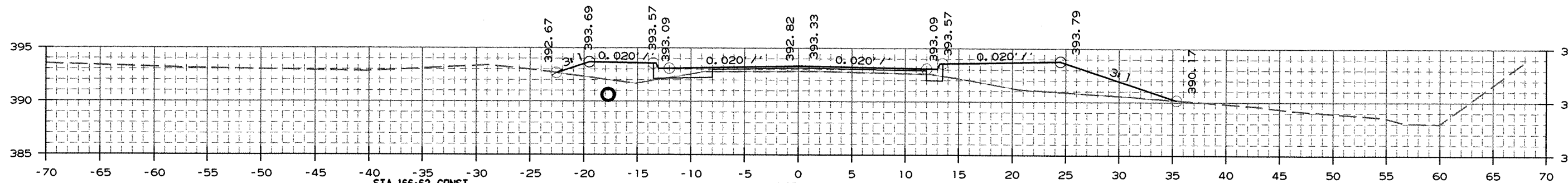
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				6	ARK.			
							JOB NO.	080295
							SHEET NO.	59
							TOTAL SHEETS	70

2 CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	080295	60 70

2 CROSS SECTIONS



CUT AREA: 2
FILL AREA: 58

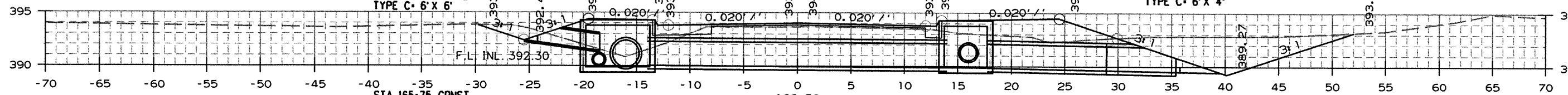
STA. 166+62 CONST.
D.I. ON LT. H= 4.11'
W/ 8' EXT. AND
24" F.E.S. INLET AND
44" X 27" X 28'
R.C. PIPE OUTLET
TO D.I. STA. 166+62 RT.
TYPE C - 6' X 6'

STA. 166+62
TOP 394.11
F.L. 390.00

STA. 166+62
TOP 394.11
F.L. 389.75

STA. 166+62 CONST.
D.I. ON RT. H= 4.36'
W/ 4' EXT. AND
44" X 27" X 14' R.C.
PIPE OUTLET W/F.E.S.
TYPE C - 6' X 4'

CUT VOLUME: 44
FILL VOLUME: 100



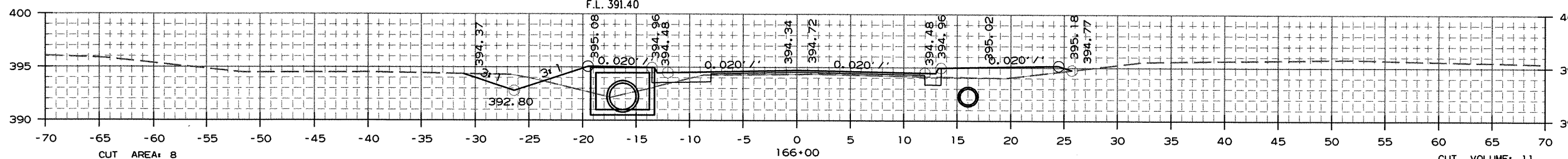
CUT AREA: 46
FILL AREA: 50

STA. 165+75 CONST.
D.I. ON LT. H= 3.97' W/8' EXT. AND
30" X 80" PIPE OUTLET
TO D.I. STA. 166+62 LT.
TYPE MD-5'
TYPE C - 4' X 5'

STA. 165+75
TOP 395.37
F.L. 391.40

F.L. OUT. - 389.50

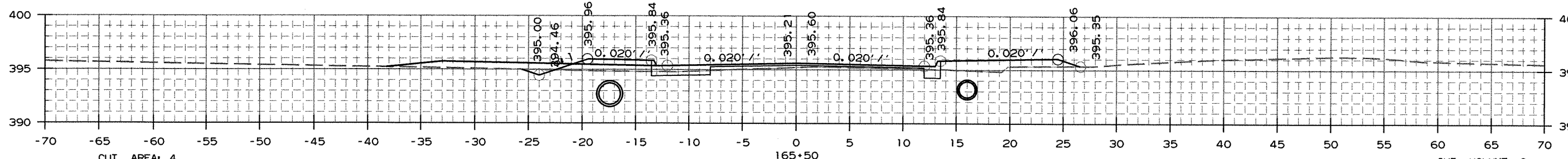
CUT VOLUME: 50
FILL VOLUME: 78



CUT AREA: 8
FILL AREA: 34

STA. 165+75
BEGIN LT. DT. GR.
393.00

CUT VOLUME: 11
FILL VOLUME: 52



CUT AREA: 4
FILL AREA: 22

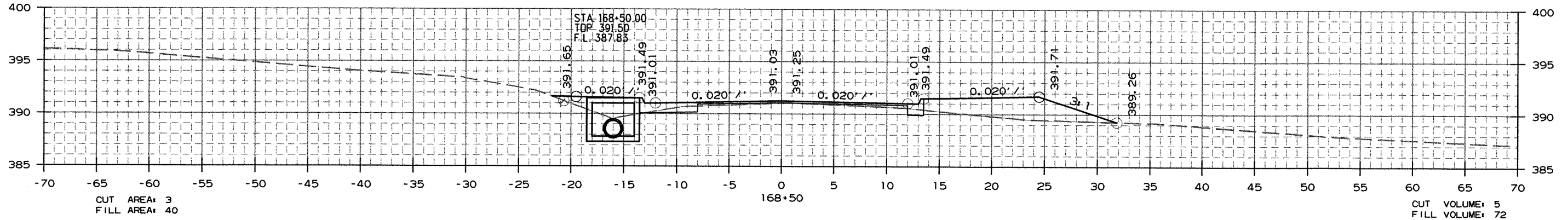
CUT VOLUME: 9
FILL VOLUME: 48

CROSS SECTION STA. 165+50 TO STA. 167+00

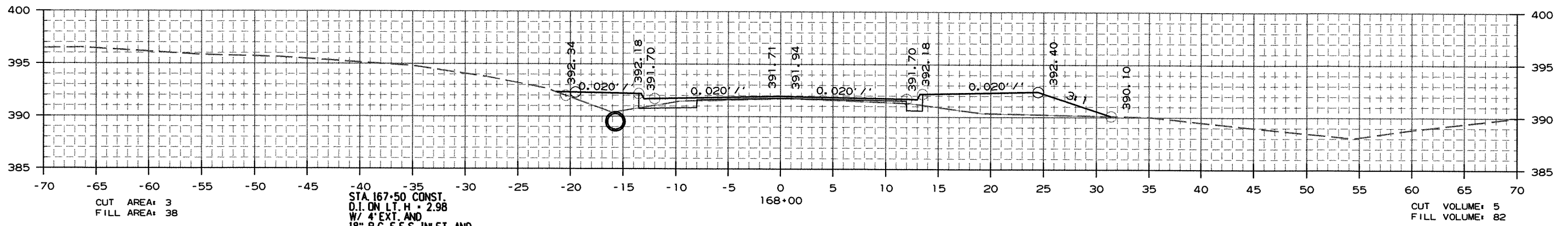
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	080295
								61
								70

2 CROSS SECTIONS

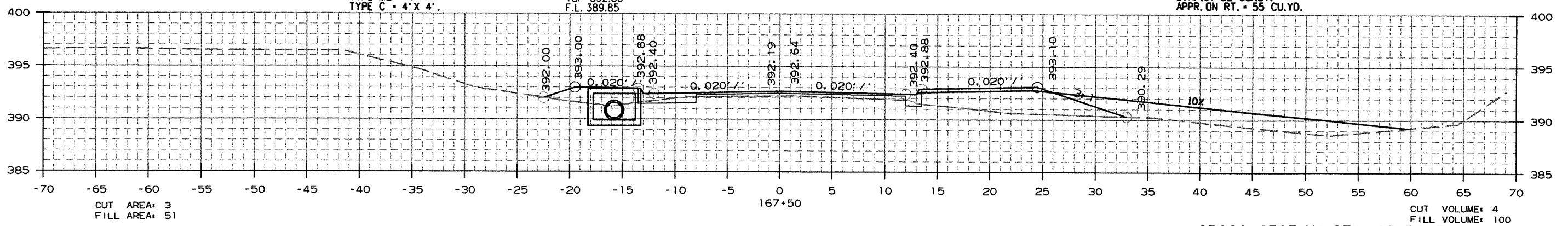
STA. 168+50 CONST.
 D.I. ON LT. H. = 3.67'
 W/ 4' EXT. AND
 18" X 196' PIPE OUTLET
 TO D.I. STA. 170+50 LT.
 TYPE MD-4'
 TYPE C = 4' X 4'



STA. 167+50 CONST.
 D.I. ON LT. H. = 2.98'
 W/ 4' EXT. AND
 18" R.C. F.E.S. INLET AND
 18" X 96' PIPE OUTLET
 TO D.I. STA. 168+50 LT.
 TYPE MD-4'
 TYPE C = 4' X 4'



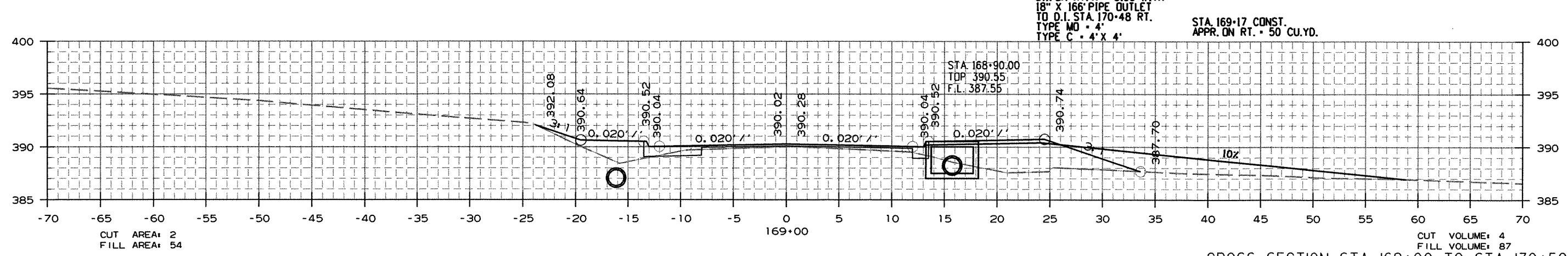
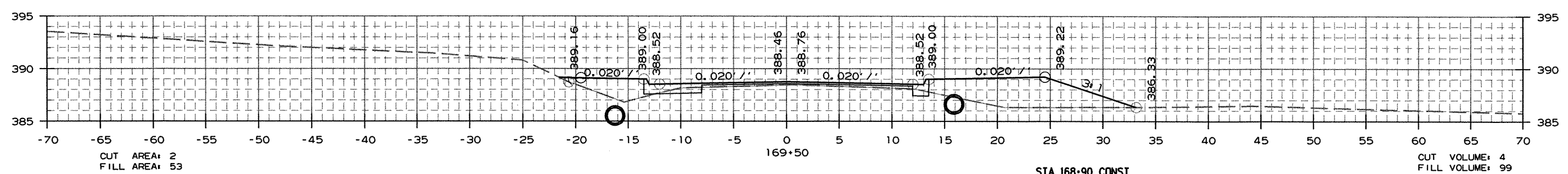
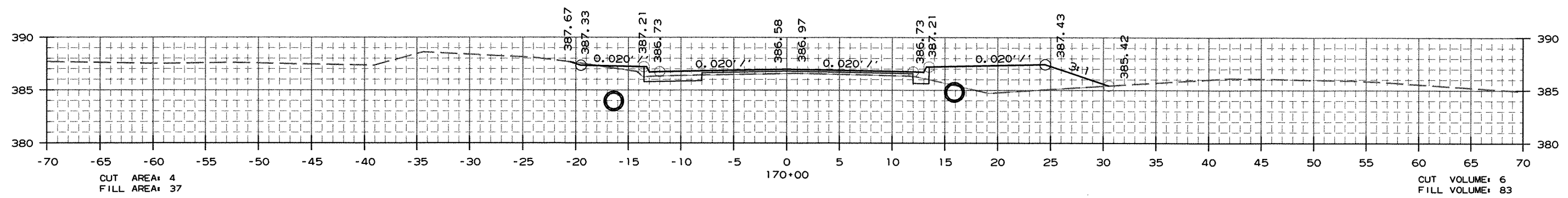
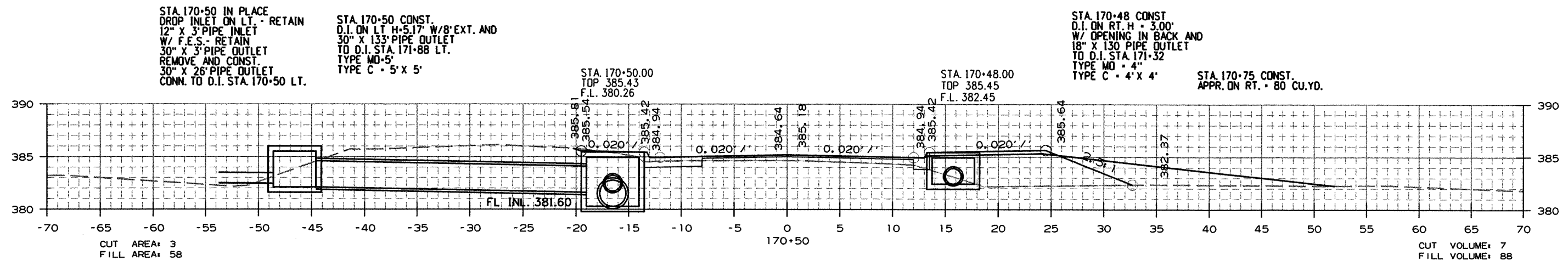
STA. 167+32 CONST.
 APPR. ON RT. = 55 CU.YD.



CROSS SECTION STA. 167+50 TO STA. 168+50

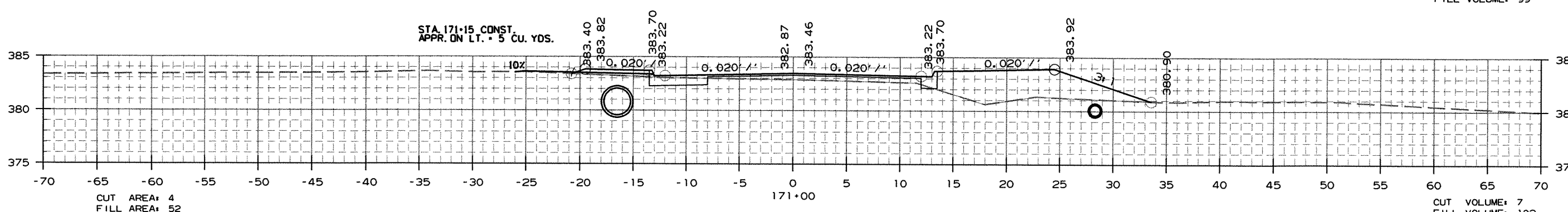
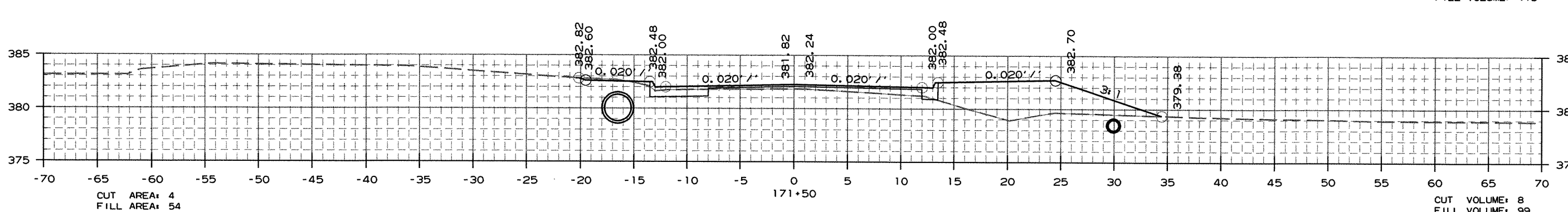
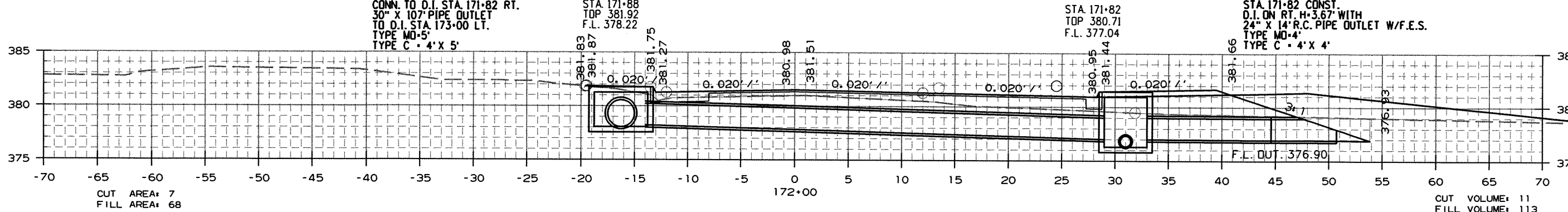
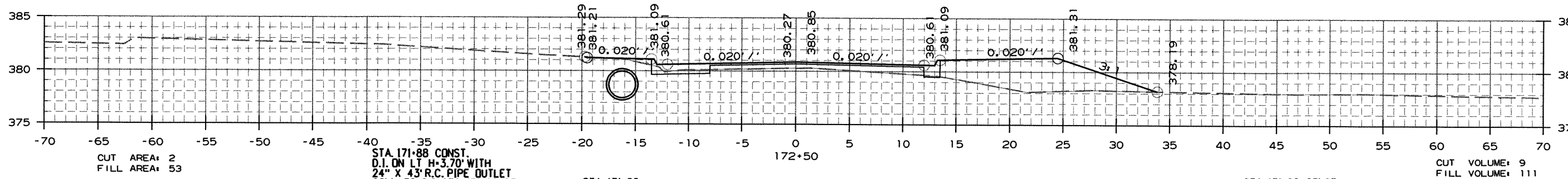
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				6	ARK.			
JOB NO. 080295							62	70

2 CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080295	63	70

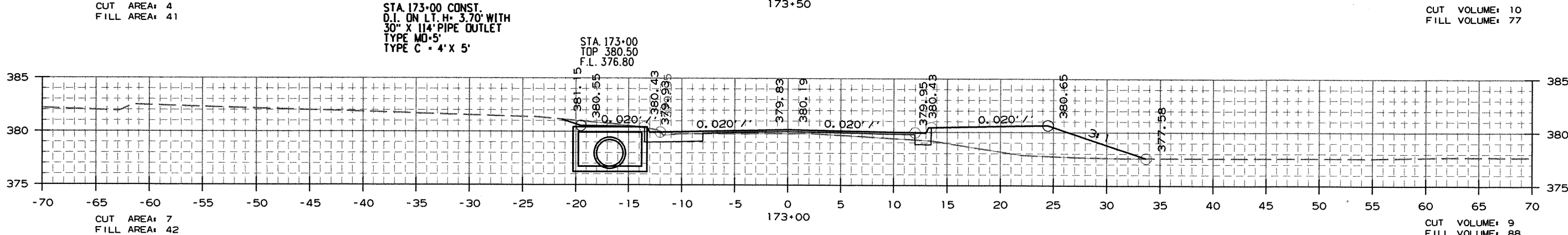
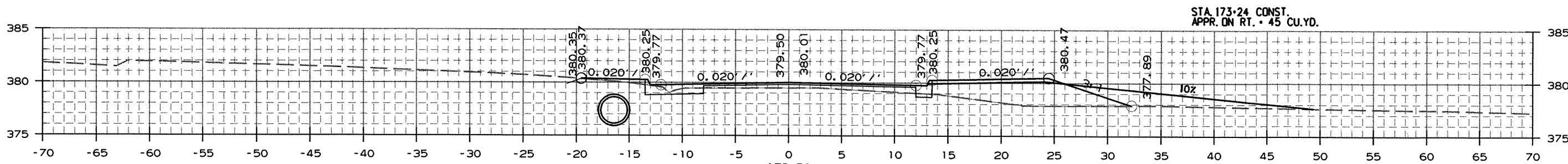
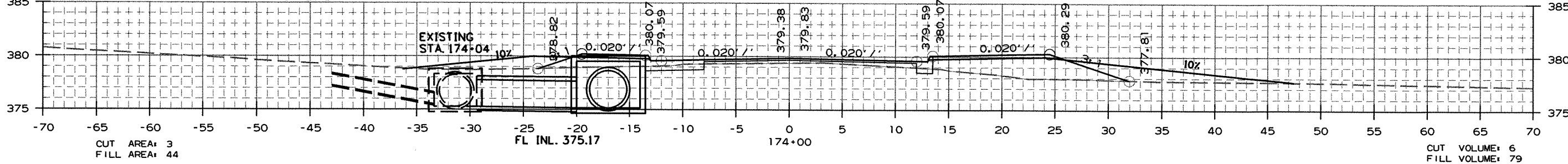
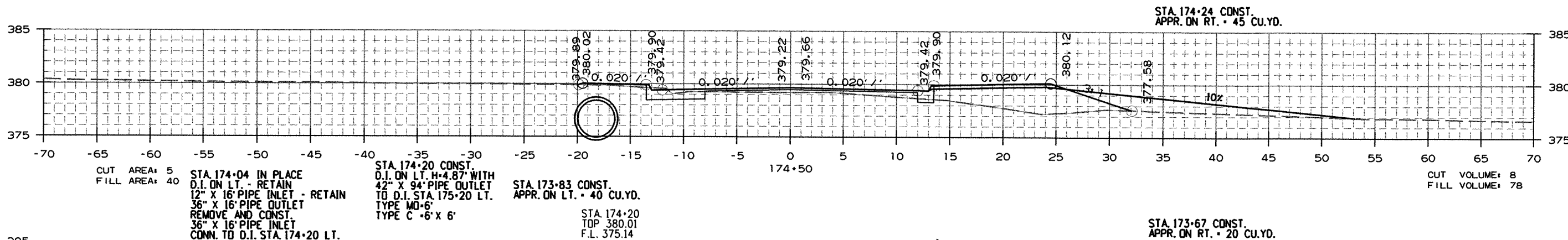
2 CROSS SECTIONS



CROSS SECTION STA. 171+00 TO STA. 172+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.	080295		64	70

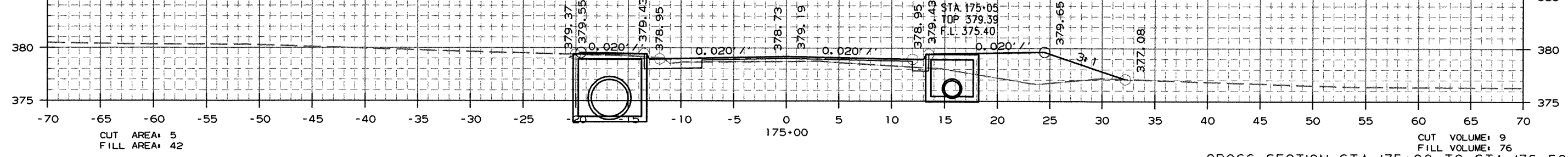
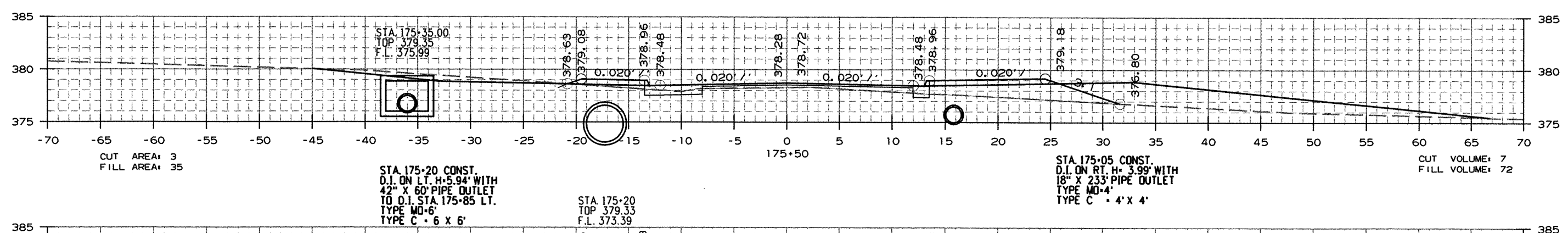
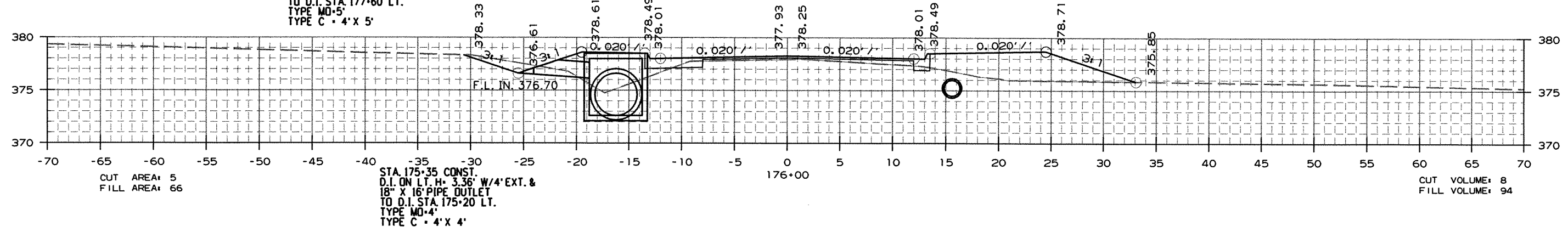
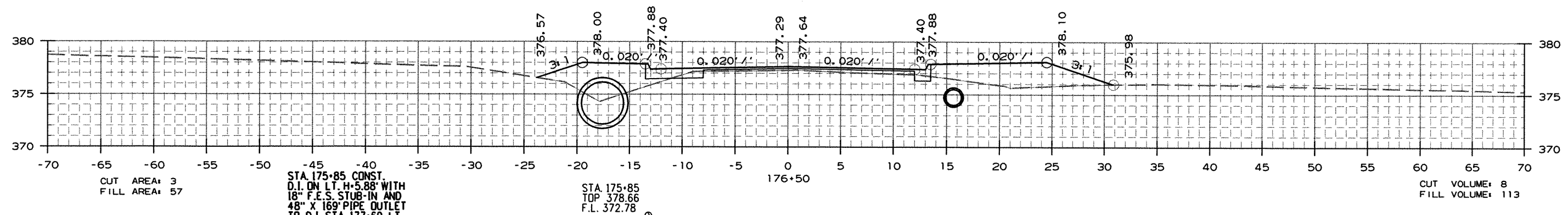
2 CROSS SECTIONS



CROSS SECTION STA. 173+00 TO STA. 174+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.	080295		65	70

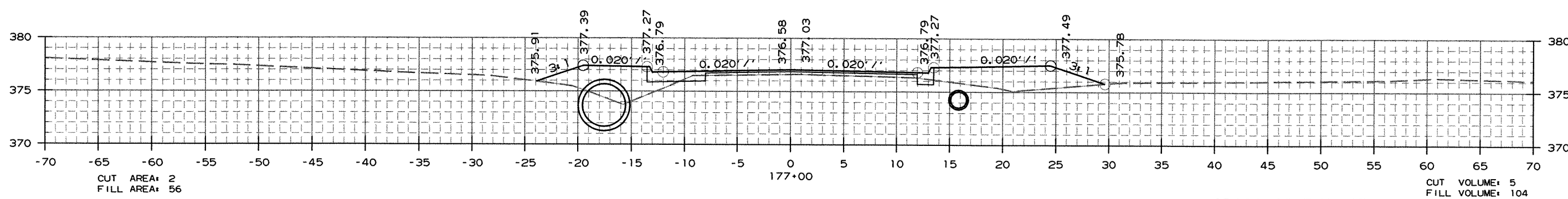
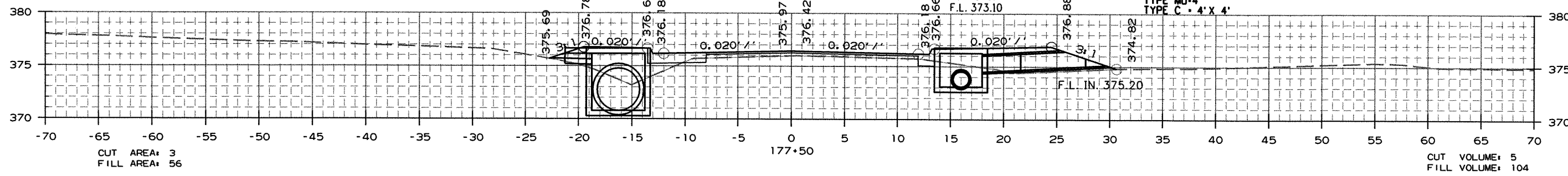
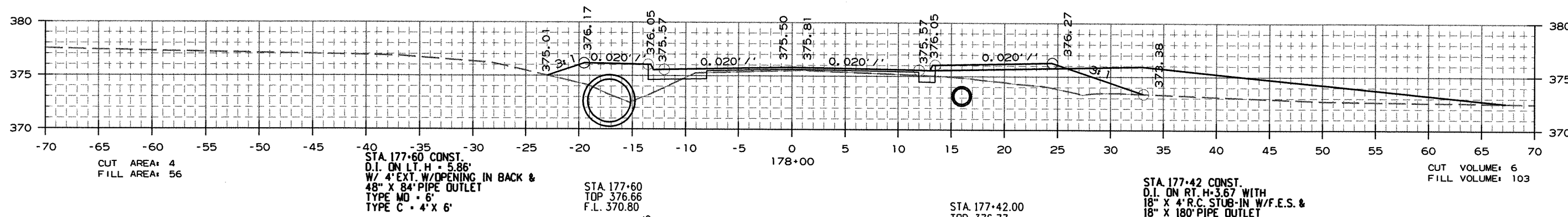
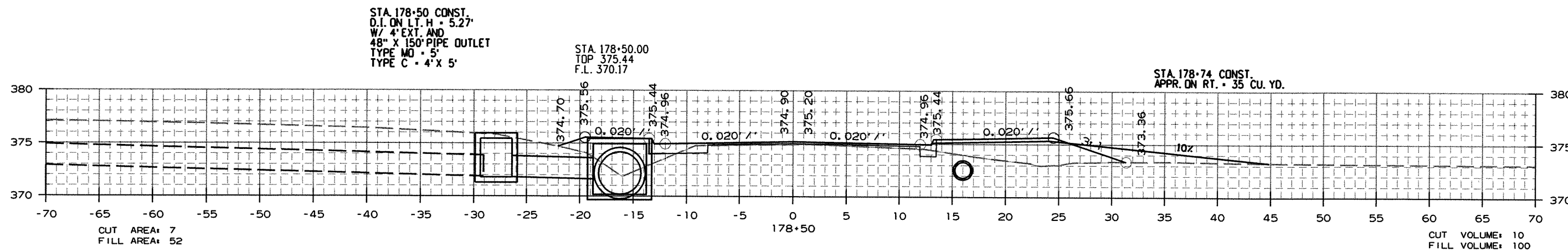
② CROSS SECTIONS



CROSS SECTION STA. 175+00 TO STA. 176+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.	080295	66

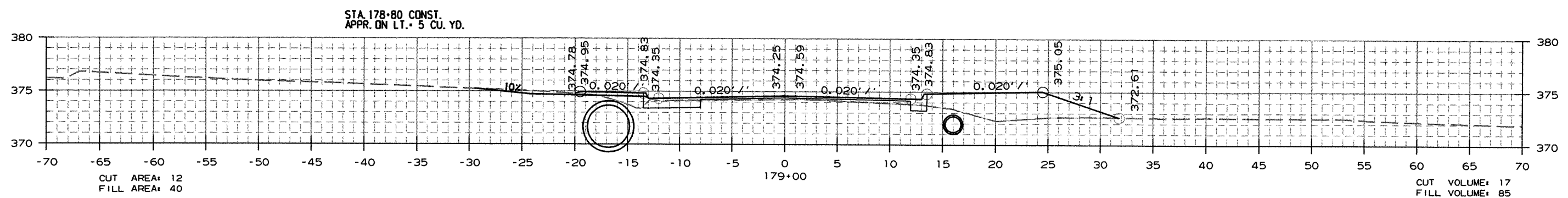
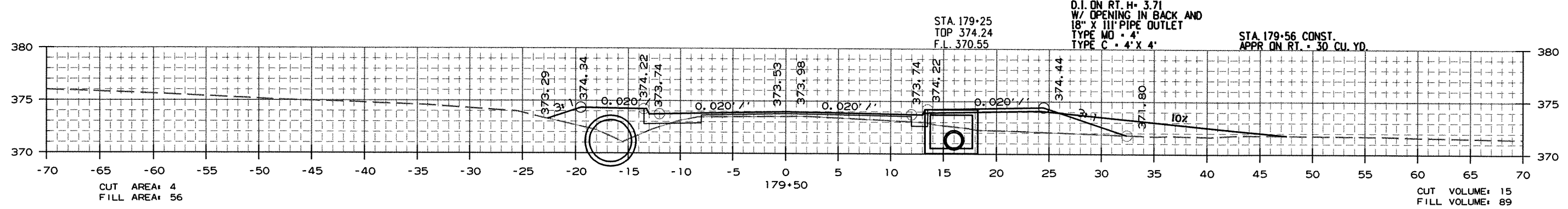
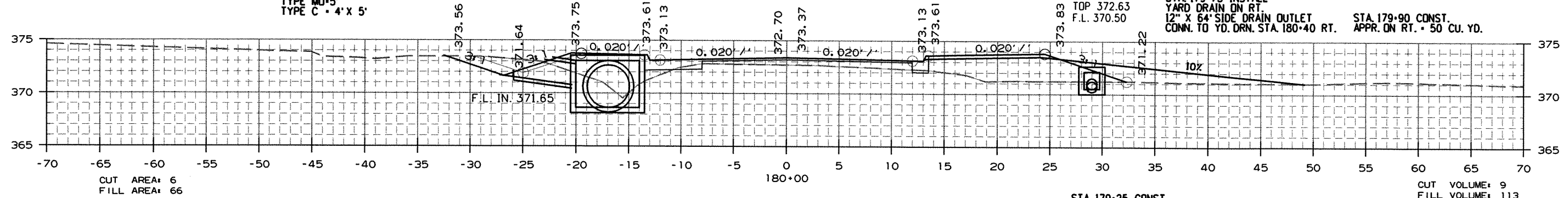
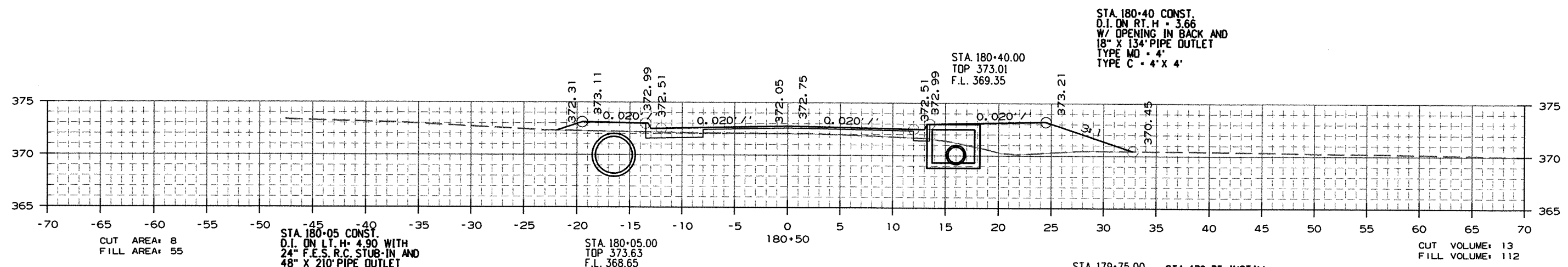
2 CROSS SECTIONS



CROSS SECTION STA. 177+00 TO STA. 178+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. 080295							67	70

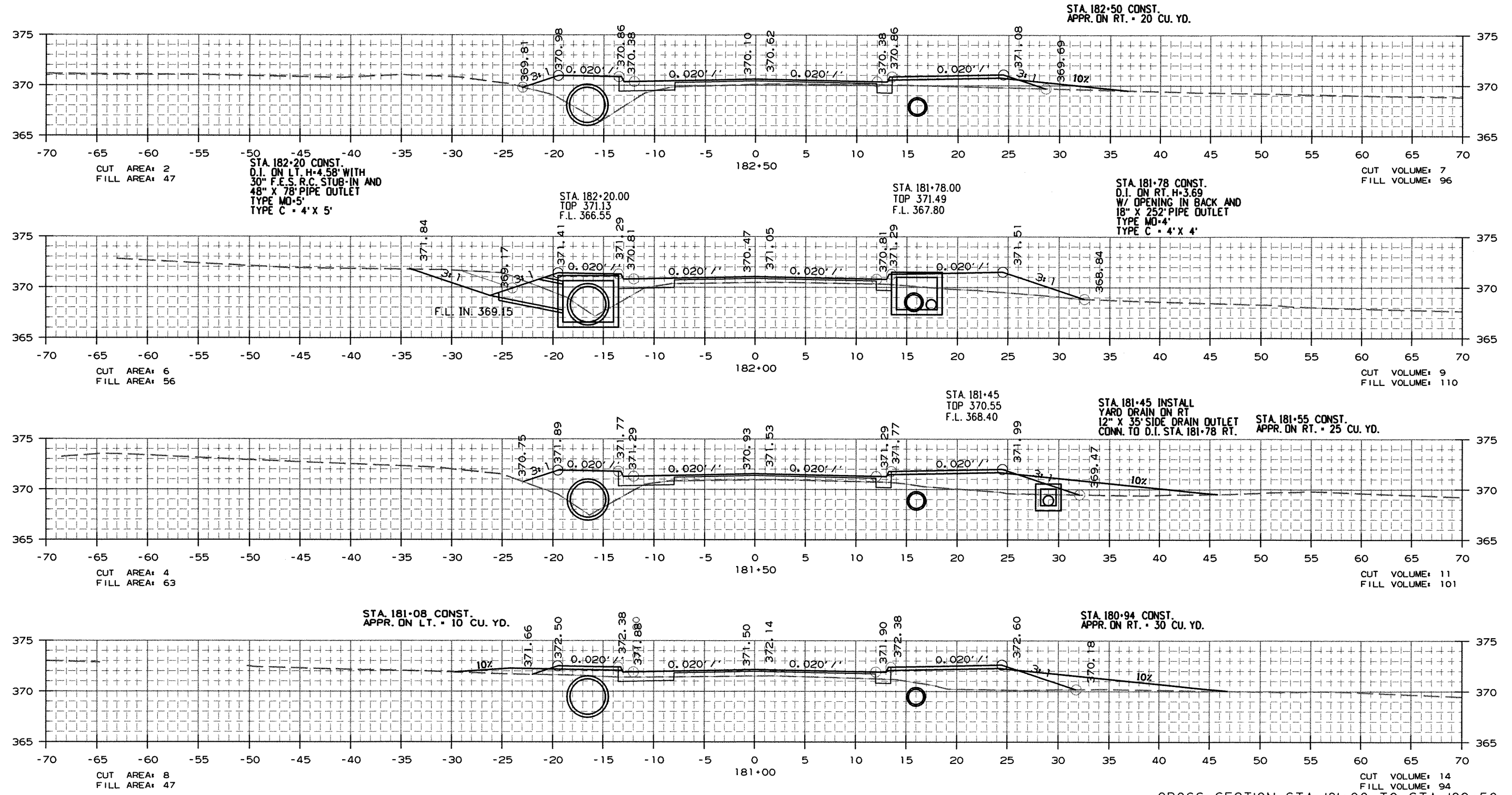
② CROSS SECTIONS



CROSS SECTION STA. 179+00 TO STA. 180+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.	080295		68	70

② CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 080295	69	70

2 CROSS SECTIONS

STA. 185+10 END TRANSITION

CUT AREA: 0
FILL AREA: 0

CUT VOLUME: 15
FILL VOLUME: 6

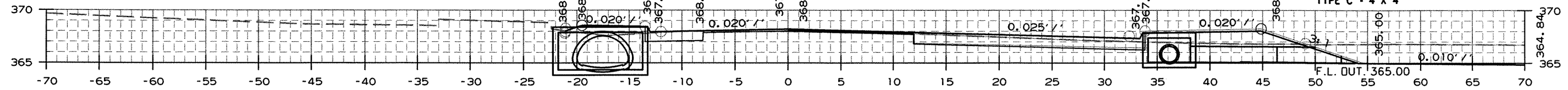
STA 184+75 CONST.
D.I. ON LT. H=4.06' W/8' EXT.
TYPE C-4' X 8'
CONN. EXISTING 24" PIPE OUTLET

STA 184+75.00
TOP 368.16
F.L. 364.10

STA. 184+75 END JOB 080295
& BEGIN TRANSITION

STA 184+61
TOP 367.87
F.L. 365.10

STA 184+61 CONST.
D.I. ON RT. H=2.77' WITH
18" X 4' R.C. PIPE
OUTLET W/ F.E.S.
TYPE MD-4'
TYPE C-4' X 4'



CUT AREA: 53
FILL AREA: 23

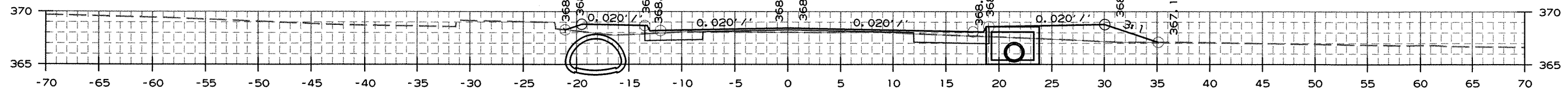
CUT VOLUME: 12
FILL VOLUME: 9

STA 183+78 CONST
D.I. ON LT. H=4.61' W/8' EXT.
W/ OPENING IN BACK AND
59" X 36" X 93' PIPE OUTLET
TYPE C-4' X 8'

STA 183+78
TOP 369.80
F.L. 365.19

STA 184+35
TOP 369.04
F.L. 365.41

STA 184+35 CONST.
D.I. ON RT. H=3.63' WITH
18" X 32' PIPE OUTLET
TYPE MD-4'
TYPE C-4' X 4'



CUT AREA: 9
FILL AREA: 26

CUT VOLUME: 11
FILL VOLUME: 59

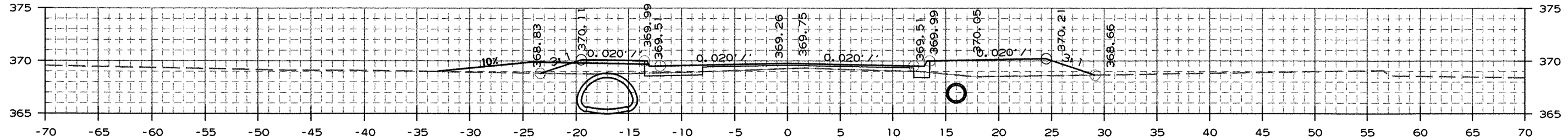
STA 183+39 CONST.
APPR. ON LT. - 25 CU. YD.

STA 183+39
TOP 370.11
F.L. 369.51

STA 183+02
TOP 370.43
FL 365.86

STA 183+02 CONST.
D.I. ON LT. H = 4.57' WITH
24" F.E.S. R.C. STUB-IN AND
59" X 36" X 72' ARCH PIPE OUTLET
TYPE C-4' X 8'

STA 183+02.00
TOP 370.43
FL 365.86

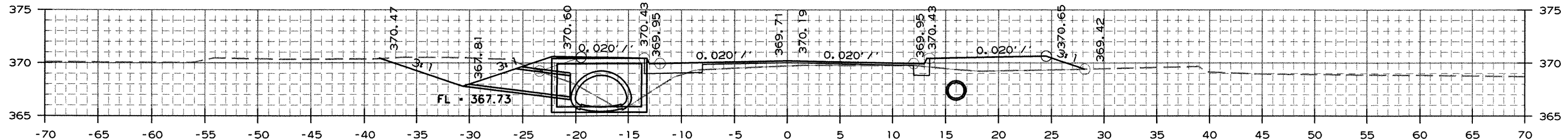


CUT AREA: 2
FILL AREA: 37

CUT VOLUME: 4
FILL VOLUME: 84

STA 183+02 CONST.
D.I. ON LT. H = 4.57' WITH
24" F.E.S. R.C. STUB-IN AND
59" X 36" X 72' ARCH PIPE OUTLET
TYPE C-4' X 8'

STA 183+02.00
TOP 370.43
FL 365.86



CUT AREA: 2
FILL AREA: 54

CUT VOLUME: 3
FILL VOLUME: 94

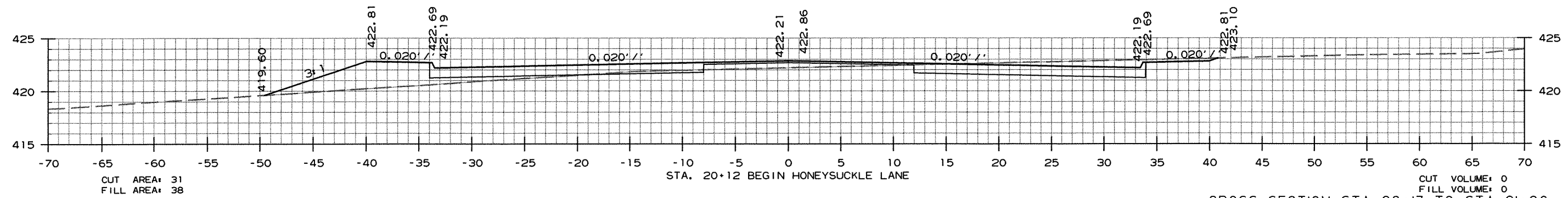
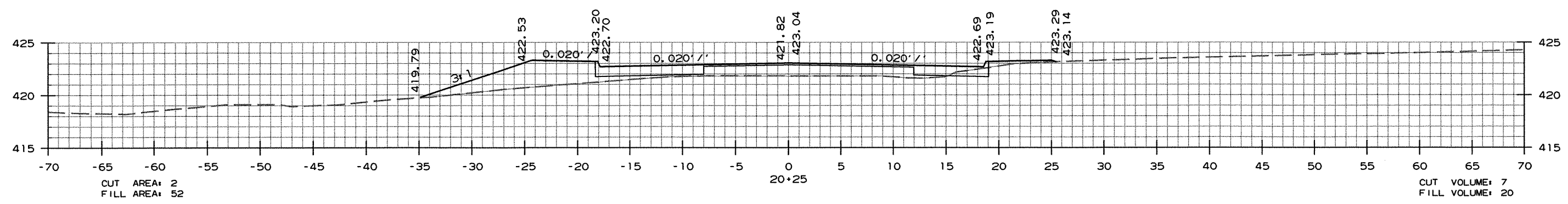
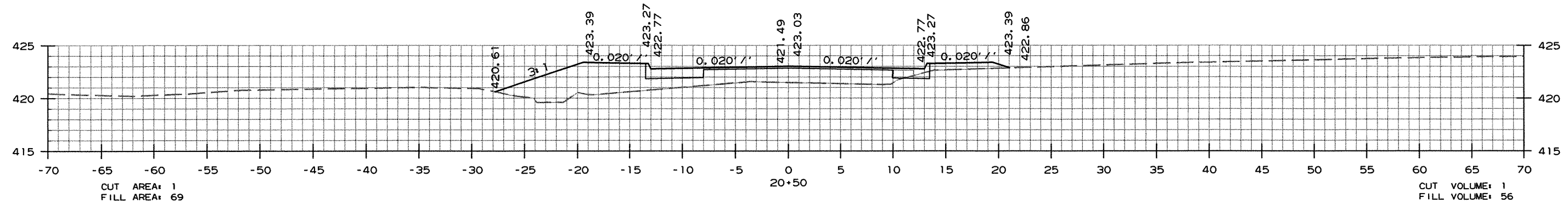
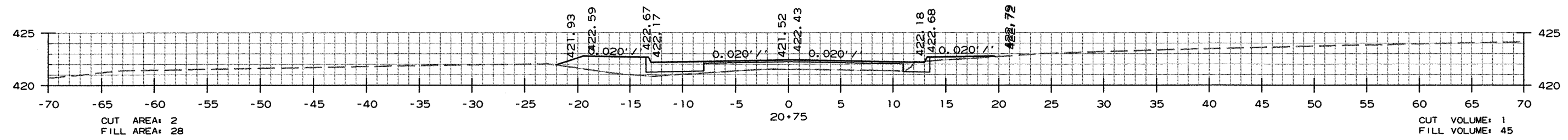
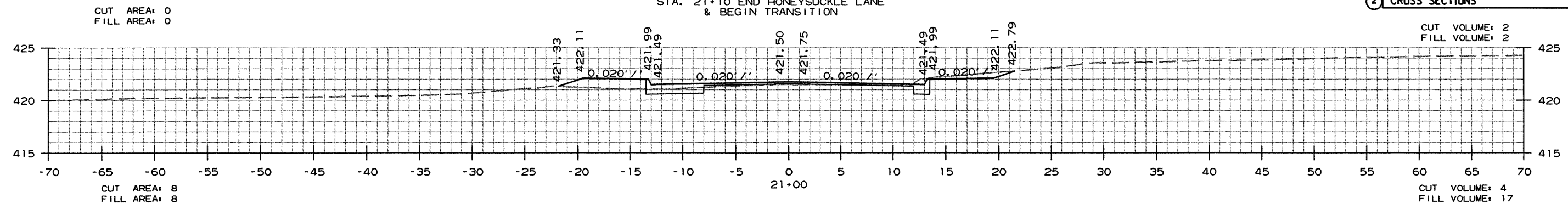
CROSS SECTION STA. 183+00 TO STA. 184+60

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 080295							70	70

STA. 21+60 END TRANSITION

STA. 21+10 END HONEYSUCKLE LANE & BEGIN TRANSITION

② CROSS SECTIONS



CROSS SECTION STA. 20+13 TO STA. 21+00