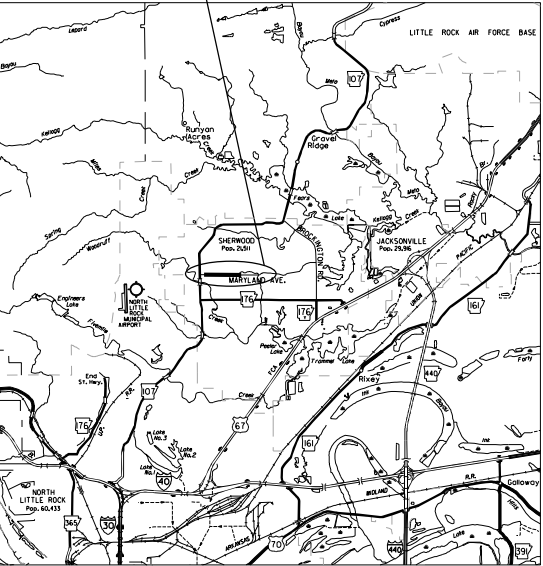


PROJECT  
LOCATION



VICINITY MAP



CITY OF SHERWOOD

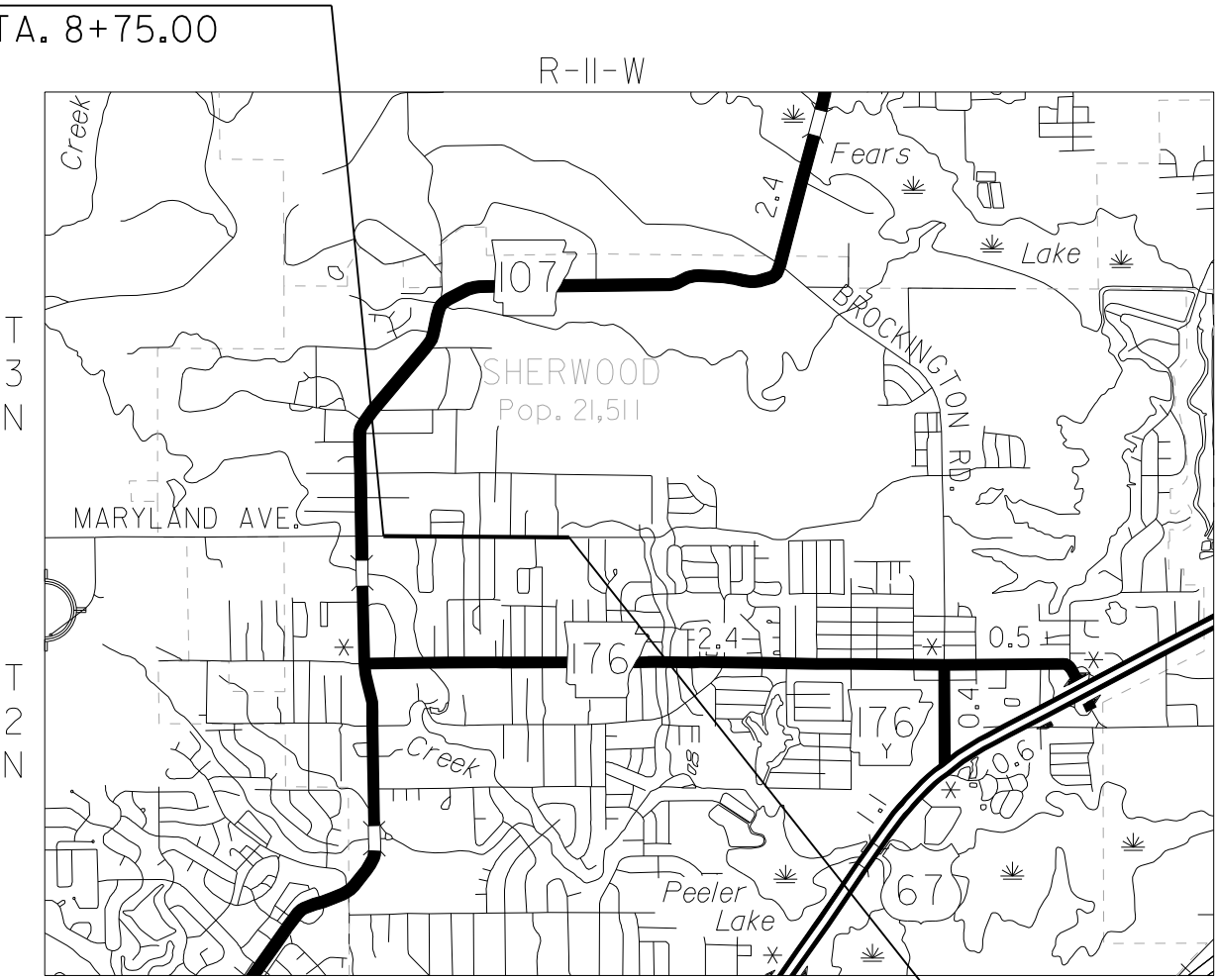


CONSTRUCTION PLANS

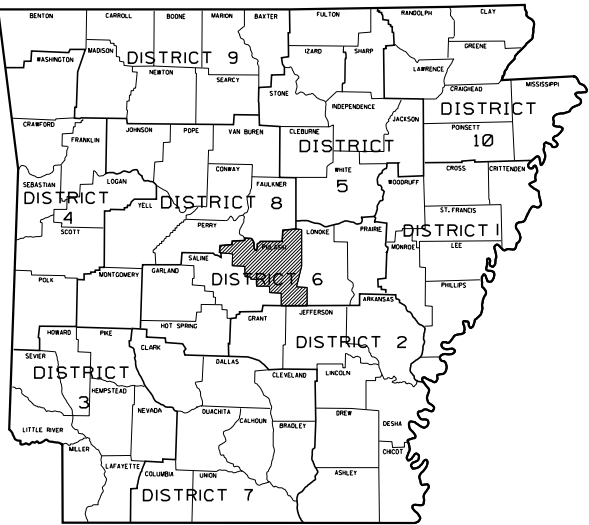
MARYLAND AVENUE IMPVTS. &  
EXTENSION (SHERWOOD) (S)  
PULASKI COUNTY

FEDERAL AID PROJECT STPU-9391(13)  
JOB 061295

BEGIN JOB 061295  
STA. 8+75.00



END JOB 061295  
STA. 49+79.30



ARKANSAS HIGHWAY DISTRICT 6

DESIGN TRAFFIC DATA

DESIGN YEAR-----	2033
2017 ADT-----	4480
2037 ADT-----	6187
2037 DHV-----	683
DIRECTIONAL DISTRIBUTION-----	0.60
TRUCKS-----	2%
DESIGN SPEED-----	30 MPH

GARVER PROJECT NO. 12017400  
DEC, 2016



4701 Northshore Drive  
North Little Rock, AR 72118  
501-376-3633

PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 34°50'26"	N 34°50'25"	N 34°50'24"
LONGITUDE	W 92°13'52"	W 92°13'27"	W 92°13'02"

LENGTH COMPUTED ALONG C.L. MARYLAND AVE.	
GROSS LENGTH OF PROJECT	4104.30 FEET OR 0.777 MILES
NET LENGTH OF ROADWAY	4104.30 FEET OR 0.777 MILES
NET LENGTH OF BRIDGES	0.00 FEET OR 0.00 MILES
NET LENGTH OF PROJECT	4104.30 FEET OR 0.777 MILES

P.E. JOB 061295  
F.A.P. STPU-9391(13)



Digitally Signed:  
12/19/2016

BY	DESCRIPTION	DATE	REV.



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

COVER SHEET

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

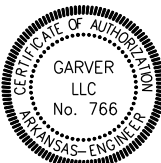
DRAWING NUMBER  
**G001**

SHEET  
NUMBER **1**

INDEX OF SHEETS			
SHEET NO.	TITLE	DRAWING NO.	DATE
1	COVER SHEET		
2	INDEX OF SHEETS AND GENERAL NOTES		
3	TYPICAL SECTIONS OF IMPROVEMENT		
4-7	SPECIAL DETAILS		
8-12	TEMPORARY EROSION CONTROL DETAILS		
13-14	MAINTENANCE OF TRAFFIC		
15-16	PERMANENT PAVEMENT MARKINGS		
17	SOIL BORING LOG		
18-19	SURVEY CONTROL DETAILS		
20	MARYLAND AVENUE - PLAN & PROFILE - STA. 7+50 TO STA. 13+00		
21	MARYLAND AVENUE - PLAN & PROFILE - STA. 13+00 TO STA. 18+50		
22	MARYLAND AVENUE - PLAN & PROFILE - STA. 18+50 TO STA. 24+00		
23	MARYLAND AVENUE - PLAN & PROFILE - STA. 24+00 TO STA. 29+50		
24	MARYLAND AVENUE - PLAN & PROFILE - STA. 29+50 TO STA. 35+00		
25	MARYLAND AVENUE - PLAN & PROFILE - STA. 35+00 TO STA. 40+50		
26	MARYLAND AVENUE - PLAN & PROFILE - STA. 40+50 TO STA. 46+00		
27	MARYLAND AVENUE - PLAN & PROFILE - STA. 46+00 TO STA. 51+50		
28	ROBIN LN. - PLAN & PROFILE - STA. 10+00 TO STA. 11+65		
29-30	SIDE ROAD PROFILES		
31	CURBING DETAILS	CG-1	11/29/2007
32	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	2/27/2014
33	FLARED END SECTION	FES-1	10/18/1996
34	FLARED END SECTION	FES-2	10/18/1996
35	DETAILS OF DROP INLETS & JUNCTION BOXES	FPC-9	11/16/2001
36	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8/22/2002
37	DETAILS OF DROP INLET (TYPE MO)	FPC-9M	8/22/2002
38	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	FPC-9S	7/26/2012
39	MAILBOX DETAILS	MB-1	11/18/2004
40	PRECAST CONCRETE BOX CULVERTS	PBC-1	1/28/2015
41	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	2/27/2014
42	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	2/27/2014
43	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHELENE)	PCP-1	2/27/2014
44	PLASTIC PIPE CULVERT (PVC F949)	PCP-2	2/27/2014
45	PAVEMENT MARKING DETAILS	PM-1	6/1/2017
46	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	7/26/2012
47	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	RCB-2	11/20/2003
48	DETAILS OF SPECIAL ITEMS	SI-1	9/12/2013
49	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	4/13/2017
50	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	9/2/2015
51	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	9/2/2015
52	TEMPORARY EROSION CONTROL DEVICES	TEC-1	11/16/2017
53	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6/2/1994
54	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11/3/1994
55	TEMPORARY EROSION CONTROL DEVICES	TEC-4	7/26/2012
56	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11/10/2005
57-96	CROSS SECTIONS		

**GENERAL NOTES:**

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. 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
9. CONTRACTOR SHALL CONTACT ARKANSAS ONE-CALL TO LOCATE ALL UTILITIES BEFORE ANY CONSTRUCTION.
10. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT REMOVED SHALL BE PAID FOR UNDER PAY ITEM 210 - EXCAVATION AND EMBANKMENT, UNLESS OTHERWISE NOTED.
11. ALL PIPES LISTED AS "R.C. PIPE CULVERT" SHALL BE CLASS III PIPE WITH TYPE 3 BEDDING UNLESS NOTED OTHERWISE.
12. ALL PIPES LISTED AS "PIPE CULVERT" SHALL BE HIGH DENSITY POLYETHELENE (HDPE) PIPE.

[illegible]

Digitally Signed:  
02/08/2018

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND

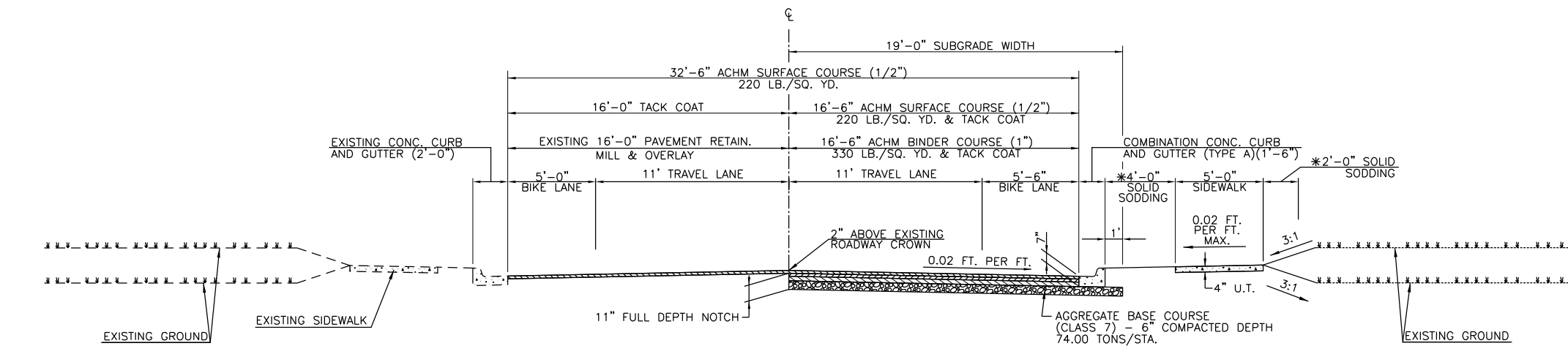
## INDEX OF SHEETS AND GENERAL NOTES

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

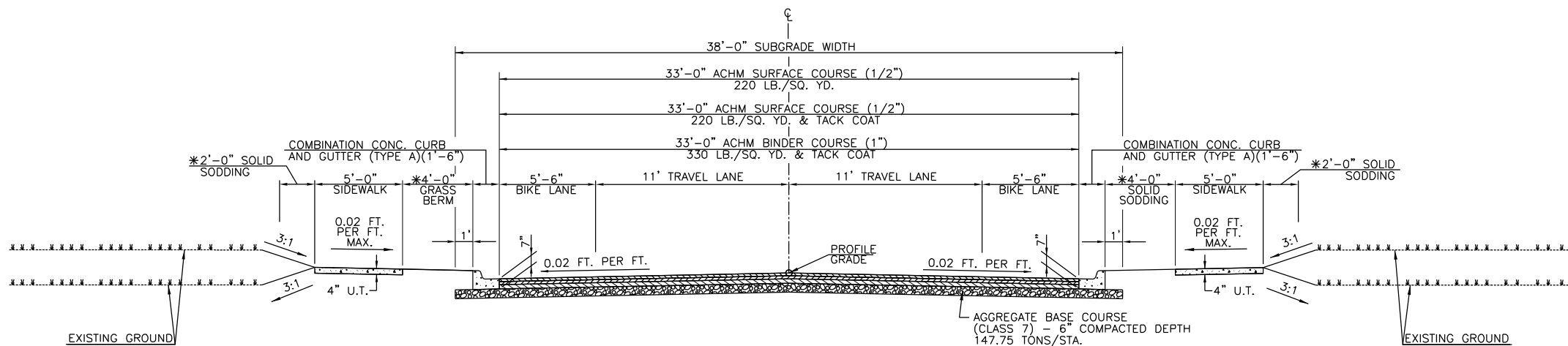
DRAWING NUMBER

SHEET NUMBER **2**

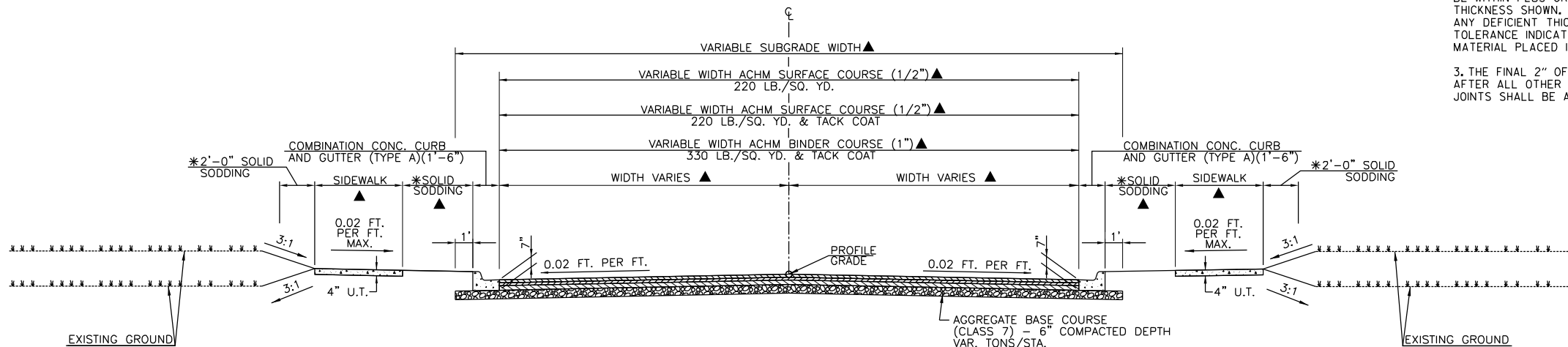
12/19/2016 8:03:06 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-C302-TS.dgn



MARYLAND AVENUE NOTCH AND WIDEN TYPICAL SECTION  
STA. 8+75.00 TO STA. 11+50.00



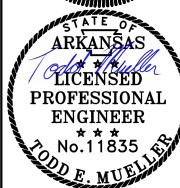
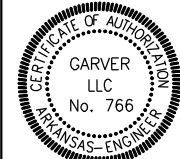
MARYLAND AVENUE TYPICAL SECTION  
STA. 11+50.00 TO STA. 49+79.30



SIDE ROADS TYPICAL SECTION

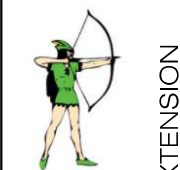
NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. 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 THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.



Digitally Signed:  
12/19/2016

BY	DESCRIPTION	DATE	REV.



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

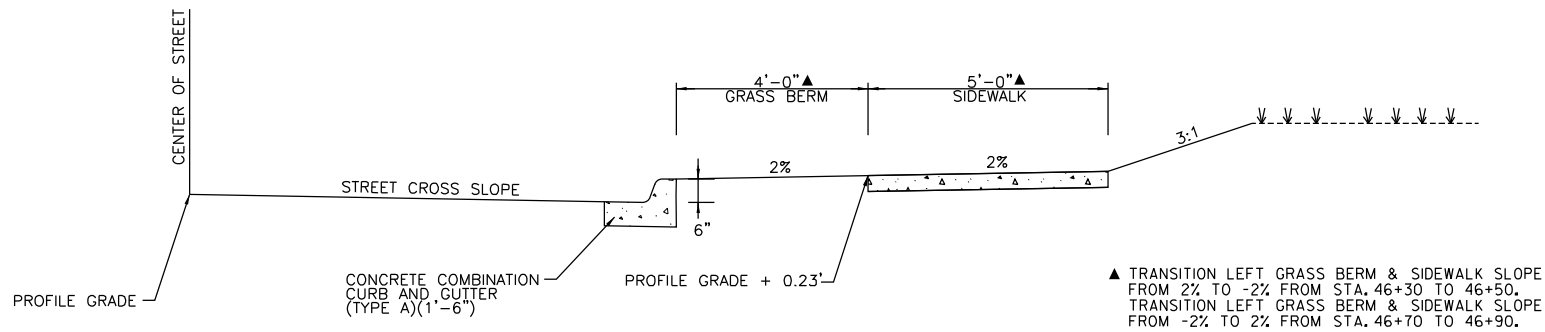
TYPICAL SECTIONS  
OF IMPROVEMENT

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

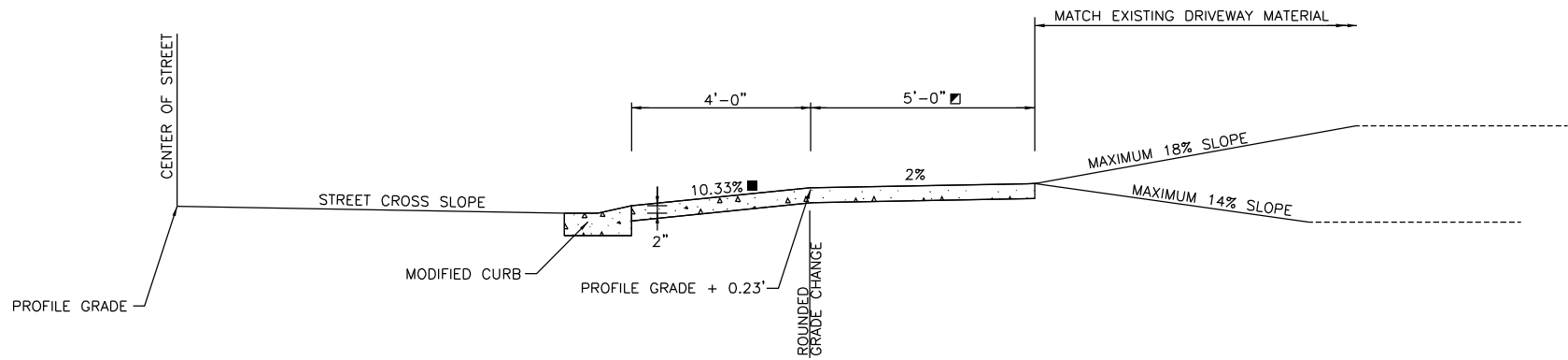
DRAWING NUMBER

SHEET  
NUMBER **3**

RC:corbyn 12/19/2016 8:03:06 AM  
WORKSPACE:AHFD  
L:20121217400 - Sherwood - Maryland AvenueDrawings\WRLD-C501-SD.dgn

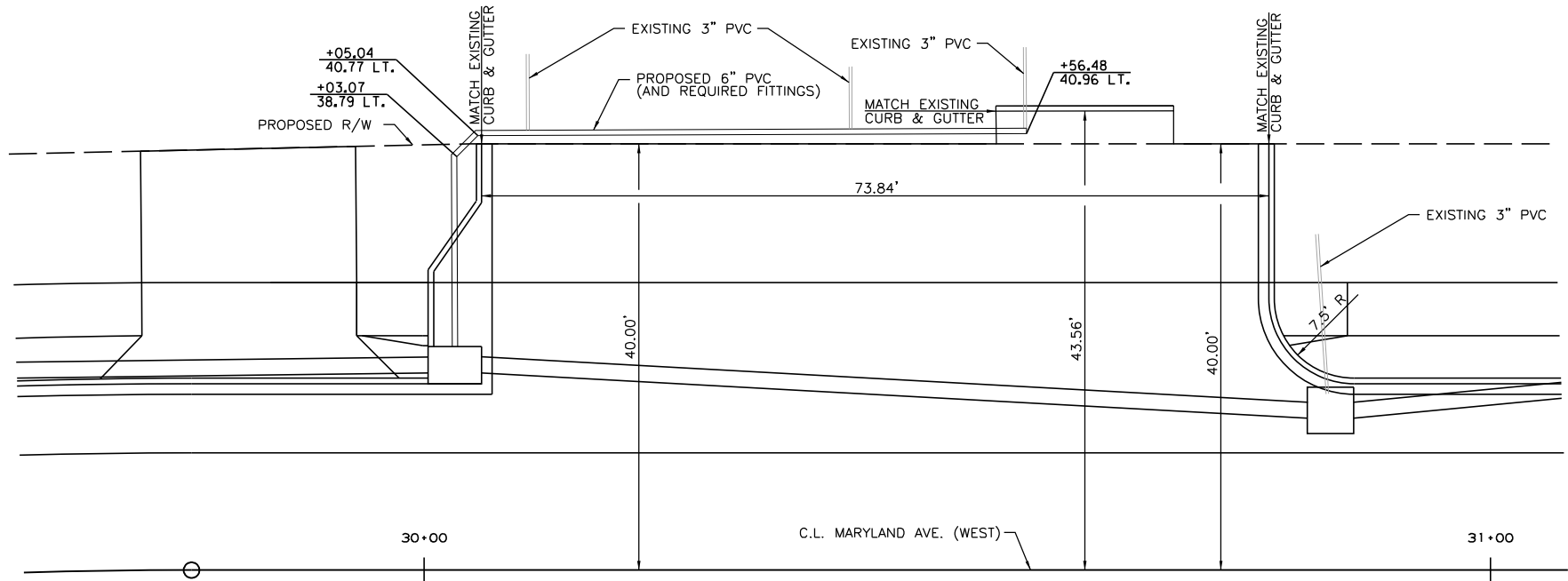


TYPICAL SIDEWALK DETAIL

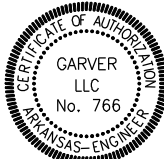


NOTE:  
1. ALL GRADE CHANGES SHALL BE ROUNDED OFF WITH A 2' RADIUS  
2. THE MAXIMUM GRADE CHANGE SHALL NOT EXCEED 16%  
3. 16% GRADE CHANGE IS A MAXIMUM AND SHOULD NOT BE USED EXCEPT IN EXTREME CONDITIONS

TYPICAL DRIVEWAY DETAIL



DETAIL OF APPROACH  
@ STA. 30+30



Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SPECIAL DETAILS

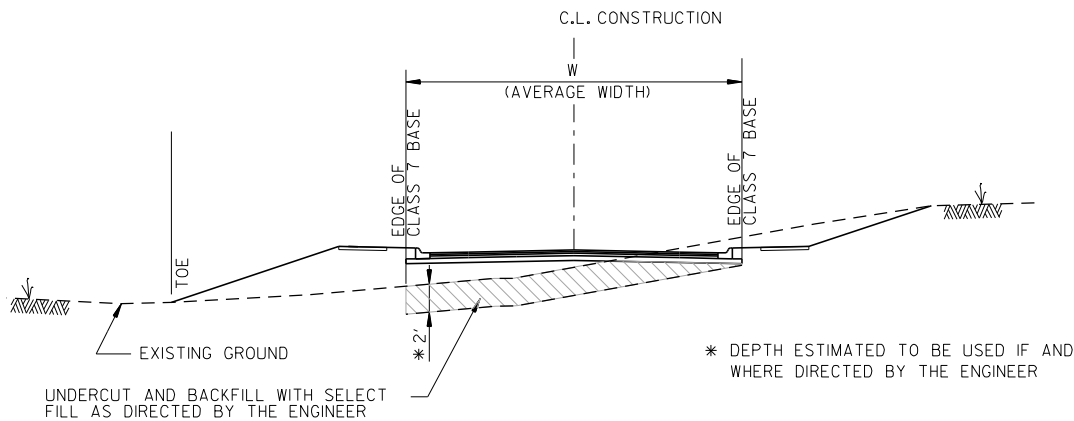
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **4**

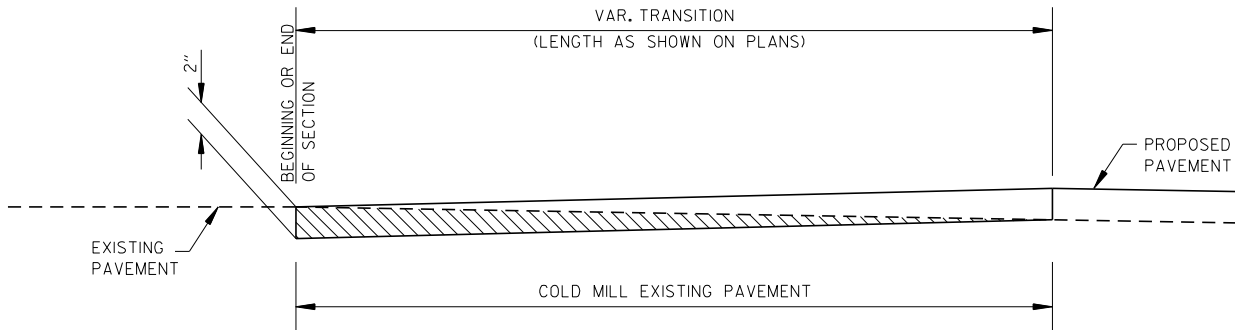


RCCorbyn 12/19/2016 8:03:07 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD\_SD\_ALL\_01.dgn

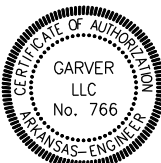


DETAIL OF UNDERCUT

MARYLAND AVE. STA. 8+75 TO STA. 21+00      W = 38' (AVG.)  
MARYLAND AVE. STA. 29+00 TO STA. 49+79.30      W = 38' (AVG.)



DETAIL FOR TRANSITIONS ON MARYLAND AVENUE



Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SPECIAL DETAILS

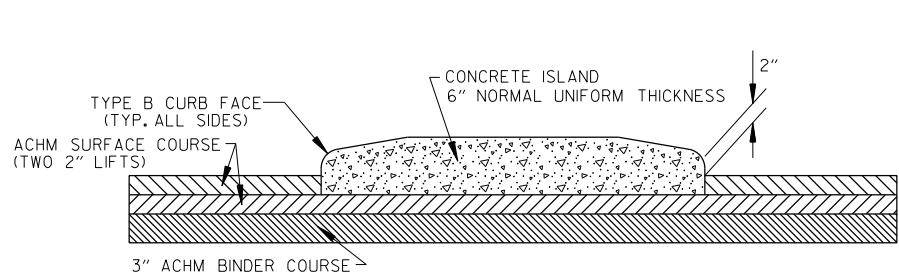
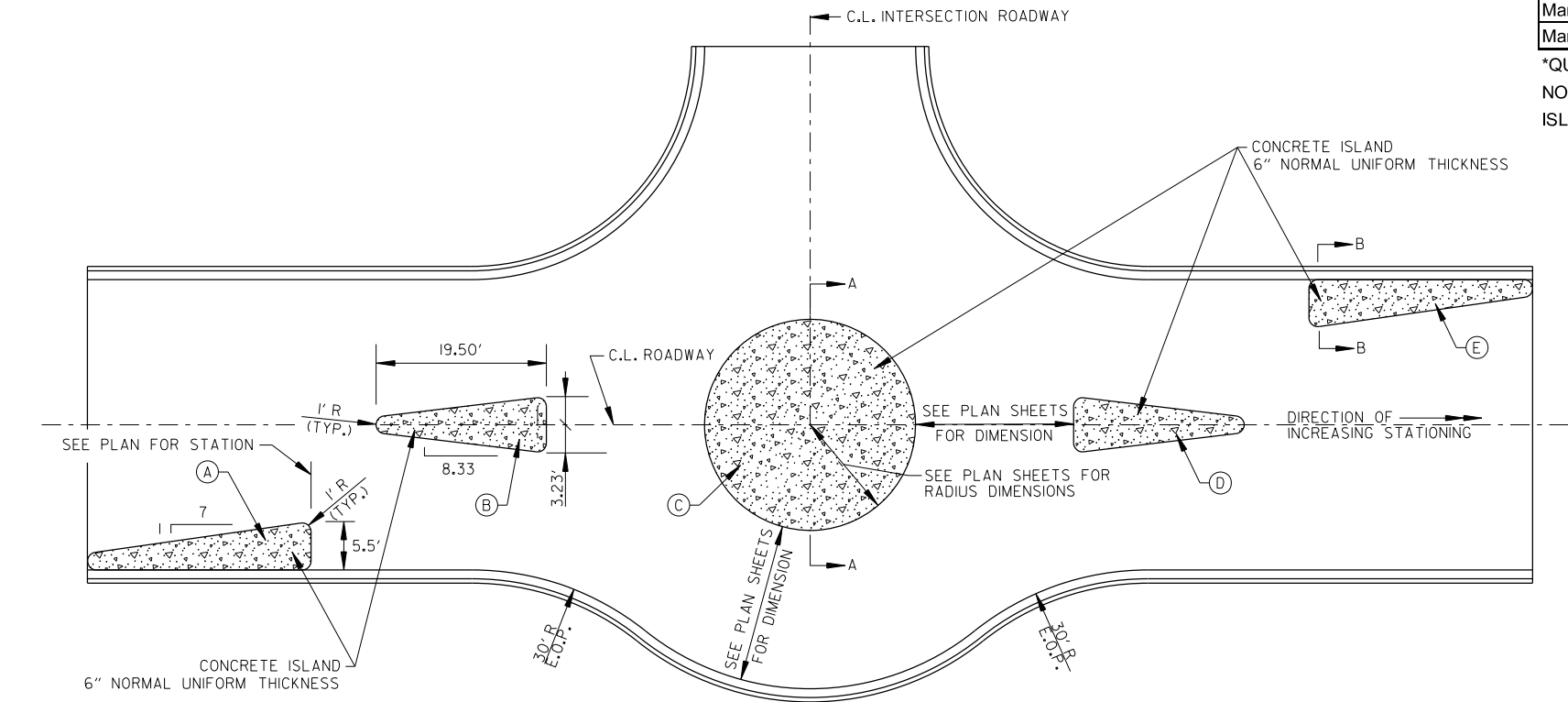
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

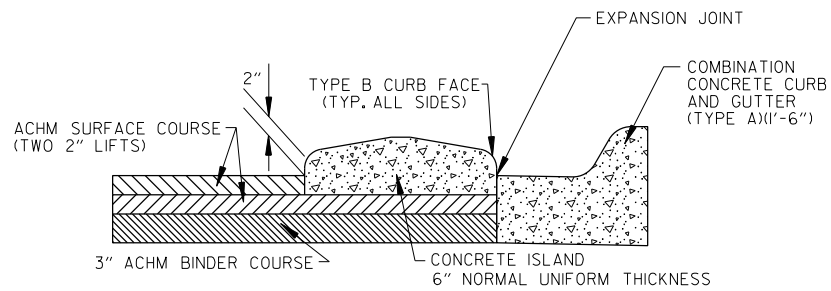
SHEET  
NUMBER

5

12/20/2016 2:16:43 PM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD\_SD\_ALL\_01.dgn



SECTION A-A



SECTION B-B

DETAIL FOR TRAFFIC CIRCLES

Concrete Islands At Traffic Circles					
LOCATION	A	B	C	D	E
	SQ. YDS.				
Maryland Ave. 18+22.83	10.31	0	50.27	8.73	10.31
Maryland Ave. 28+13.84	10.31	8.73	34.91	5.9	10.31
Maryland Ave. 38+03.05	10.31	8.73	50.27	0	10.31
Maryland Ave. 48+11.55	10.31	0	50.27	0	10.31

\*QUANTITIES ARE FOR INFORMATION ONLY  
NOTE: SEE PERMANENT PAVEMENT MARKINGS SHEETS FOR STRIPING DETAILS WHERE NO ISLANDS ARE PRESENT.



Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SPECIAL DETAILS

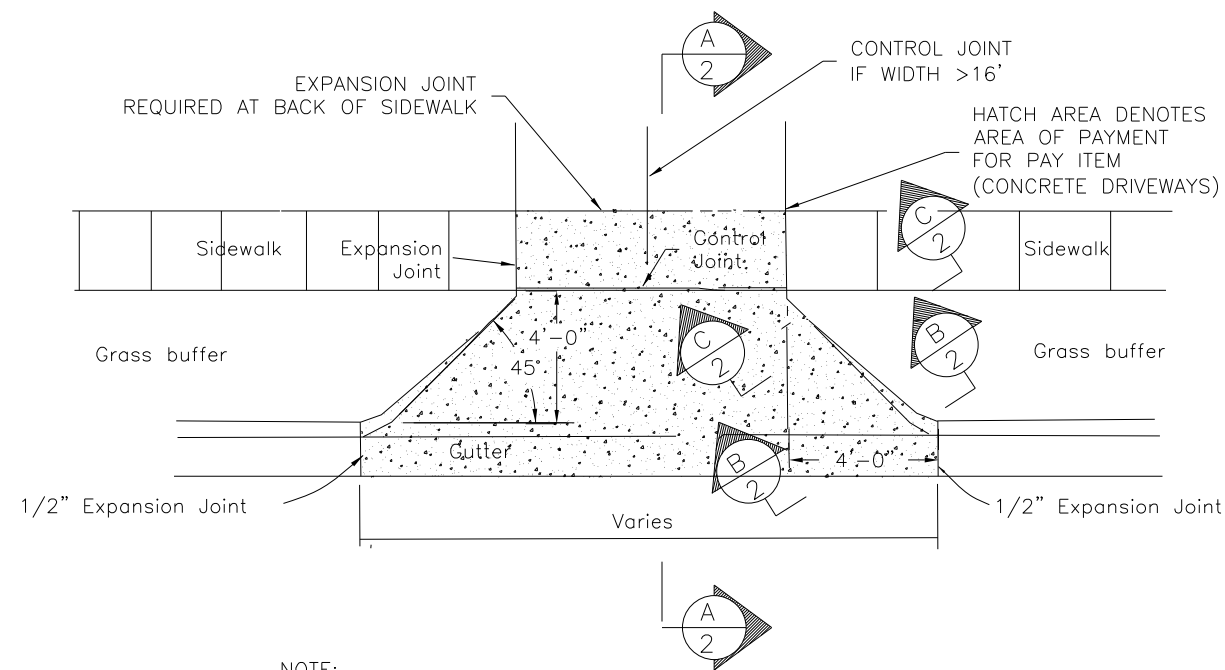
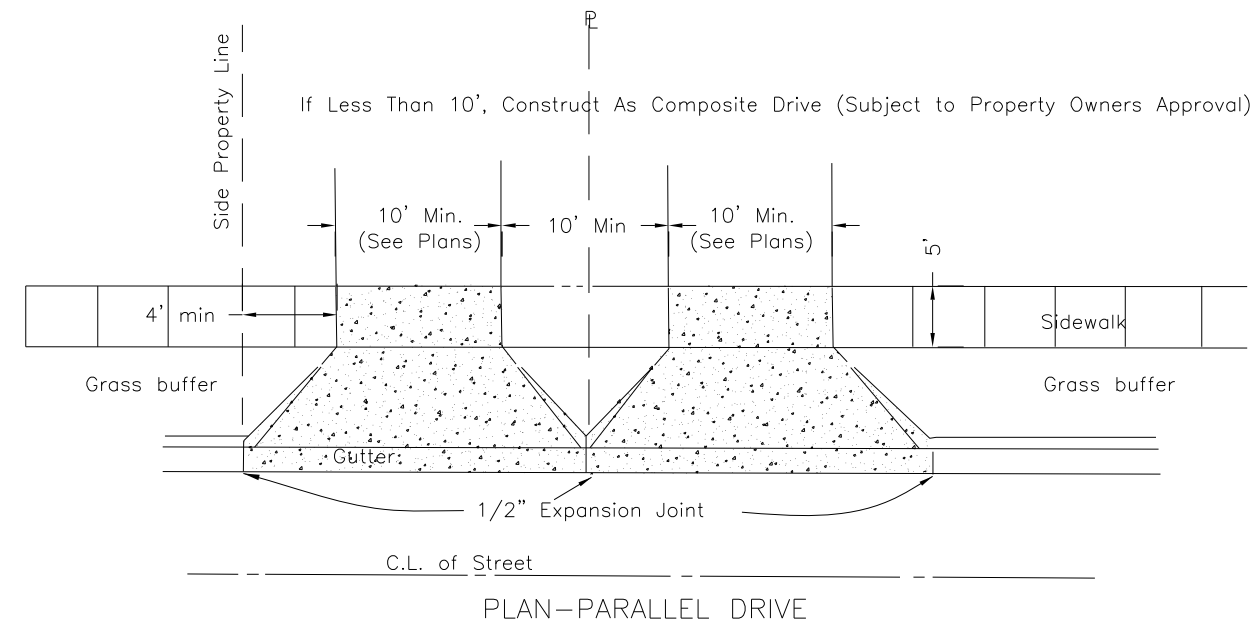
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER

6

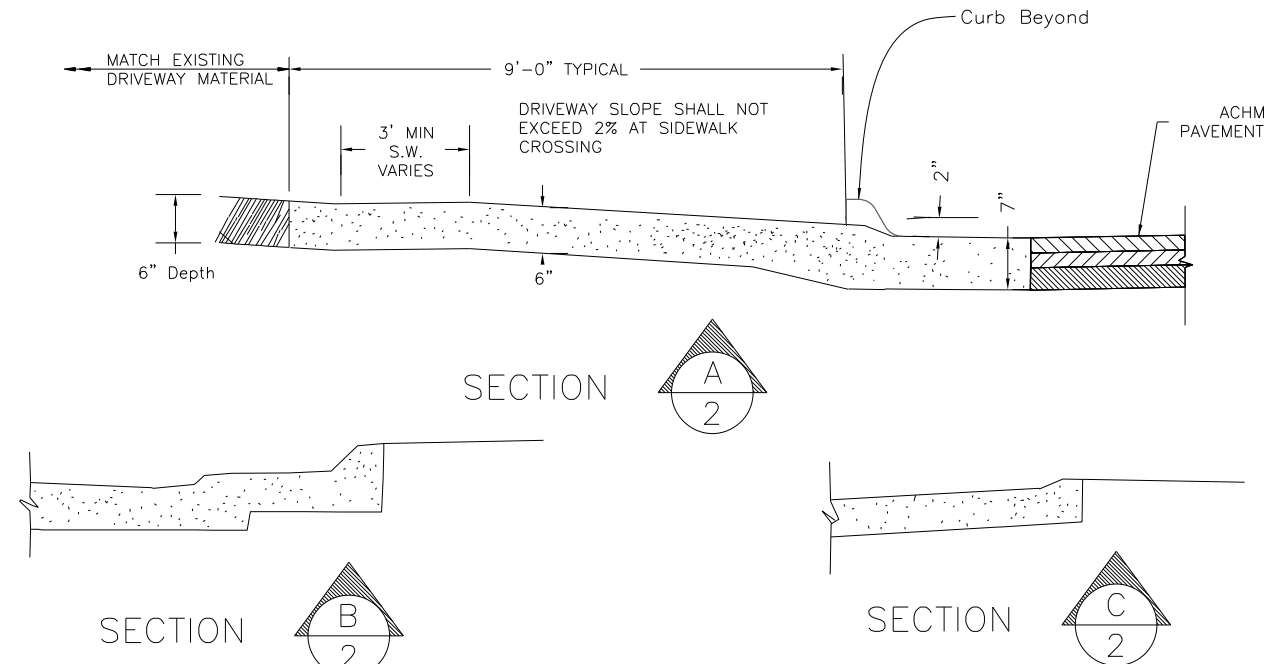
RCorbyn 12/19/2016 8:07:22 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD\_SD\_ALL\_01.dgn



NOTE:

1. CONTROL JOINTS REQUIRED IN ALL DRIVEWAYS AT 12'-0" O.C. EACH WAY OR SPACED EQUAL TO THE WIDTH OF DRIVEWAY WHICHEVER IS LESS.
2. GRASS BUFFER TO BE 4' WIDE UNLESS APPROVED BY CITY TO BE MODIFIED. GRASS BUFFER MAY BE REDUCED TO MINIMUM 36" WITH CITY APPROVAL.
3. DRIVEWAY GRADES SHALL BE DESIGNED BY ENGINEER TO KEEP STORMWATER IN STREET, 2% MINIMUM SLOPE AT SIDEWALK CROSSING, MAXIMUM % OF GRADE CHANGE IS 16.
4. DRIVEWAY GRADE NOT TO EXCEED CITY ORDINANCE REQUIREMENTS STATED IN SECTION 31-210. FIELD ADJUSTMENT MAY BE REQUIRED AT CERTAIN LOCATIONS TO INSURE PROPER RELATION BETWEEN DRIVEWAY AND STREET GRADES.
5. DRIVEWAY APRON SHALL BE CONSTRUCTED MONOLITHICALLY WITH GUTTER SECTION, UNLESS DOWLED INTO GUTTER SECTION WITH 1/2" DOWELS 18" LONG AT 12" ON CENTER AND APPROVED BY ENGINEER.
6. REFER TO STANDARD DRAWING DR-1 FOR DRIVEWAY EXTENSION DETAILS. IN CASE OF CONFLICT BETWEEN THIS SPECIAL DETAILS SHEET AND STANDARD DRAWING DR-1, THIS SPECIAL DETAILS SHEET SHALL GOVERN.

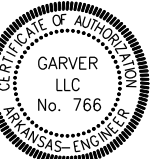
RESIDENTIAL DRIVEWAY



RESIDENTIAL DRIVEWAY SECTIONS

*EXISTING DRIVEWAY MATERIAL					
DRIVEWAY STATION	SIDE OF STREET	EXISTING MATERIAL	DRIVEWAY STATION	SIDE OF STREET	EXISTING MATERIAL
9+17	RT	AGGREGATE	26+63	LT	CONCRETE
9+66	RT	CONCRETE	26+91	RT	CONCRETE
10+97	RT	ASPHALT	29+00	RT	AGGREGATE
11+84	RT	AGGREGATE	29+82	RT	CONCRETE
12+11	LT	CONCRETE	29+84	LT	CONCRETE
12+43	RT	AGGREGATE	30+30	LT	CONCRETE
13+74	LT	AGGREGATE	30+75	LT	CONCRETE
13+88	RT	AGGREGATE	33+03	RT	CONCRETE
14+15	RT	CONCRETE	33+24	LT	ASPHALT
14+83	RT	CONCRETE	33+83	RT	CONCRETE
15+33	RT	AGGREGATE	34+63	LT	ASPHALT
15+36	LT	CONCRETE	36+72	RT	AGGREGATE
16+06	RT	ASPHALT	38+47	LT	ASPHALT
16+51	LT	AGGREGATE	39+81	RT	ASPHALT
16+68	RT	ASPHALT	40+39	LT	CONCRETE
17+56	RT	CONCRETE	41+14	RT	CONCRETE
17+82	LT	CONCRETE	41+60	LT	AGGREGATE
19+02	LT	CONCRETE	42+14	RT	CONCRETE
20+22	RT	CONCRETE	42+97	LT	CONCRETE
23+18	LT	CONCRETE	43+42	LT	AGGREGATE
23+65	LT	CONCRETE	44+65	LT	AGGREGATE
24+42	LT	CONCRETE	45+11	RT	ASPHALT
24+99	RT	ASPHALT	46+64	LT	CONCRETE
25+13	LT	CONCRETE	47+62	RT	AGGREGATE
25+94	LT	CONCRETE	48+59	RT	AGGREGATE
26+52	RT	CONCRETE	49+59	LT	CONCRETE

\*FOR INFORMATION ONLY



Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

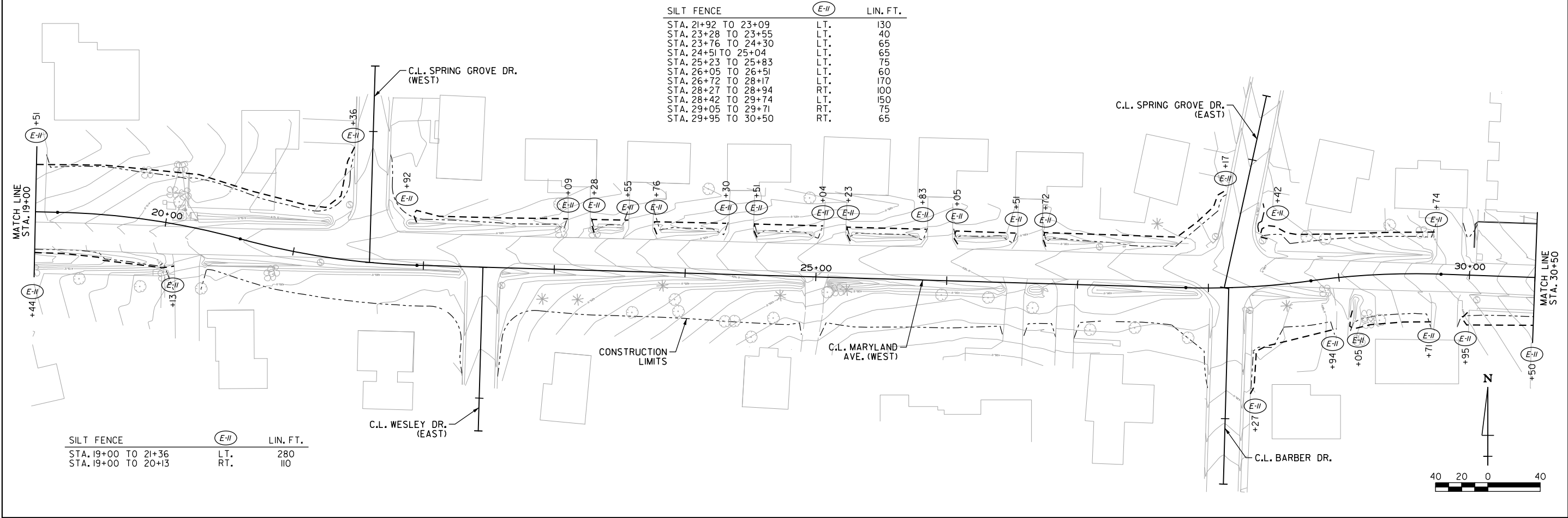
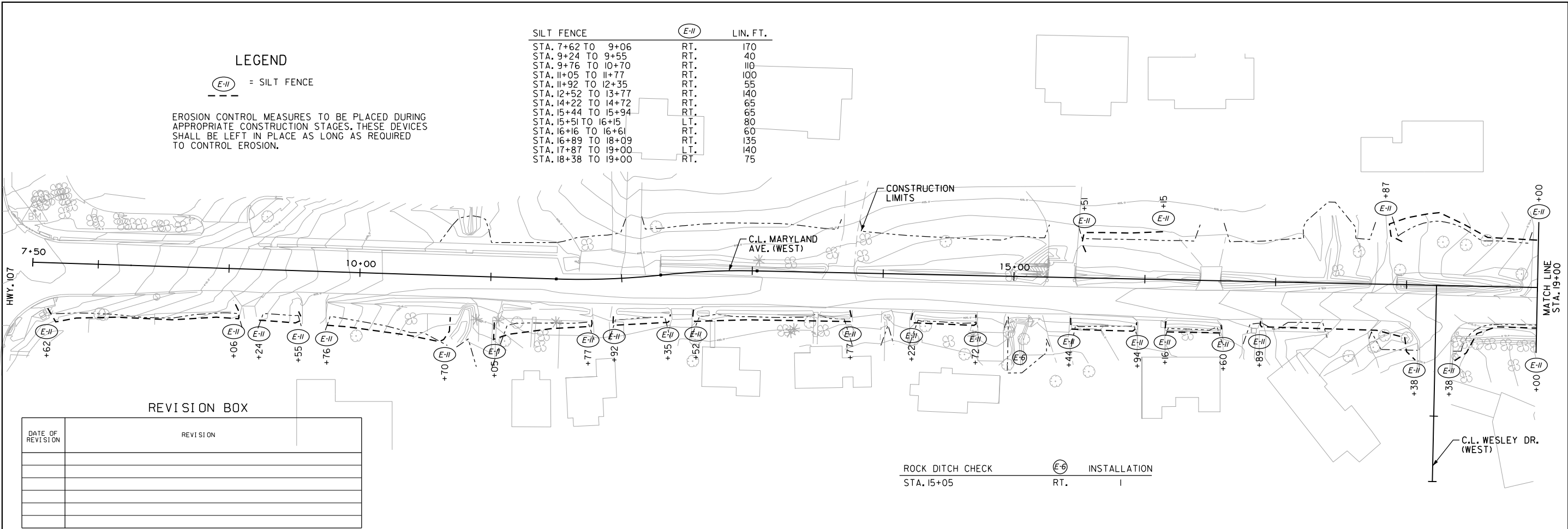
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SPECIAL DETAILS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **7**



**GARVER**

CERTIFICATE OF AUTHORIZATION

GARVER LLC  
No. 766  
ARKANSAS-ENGINEER

STATE OF ARKANSAS  
*Todd E. Mueller*  
LICENSED PROFESSIONAL ENGINEER  
No. 11835  
TODD E. MUELLER

Digitally Signed:  
12/19/2016

REV.	BY	DESCRIPTION	DATE

CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

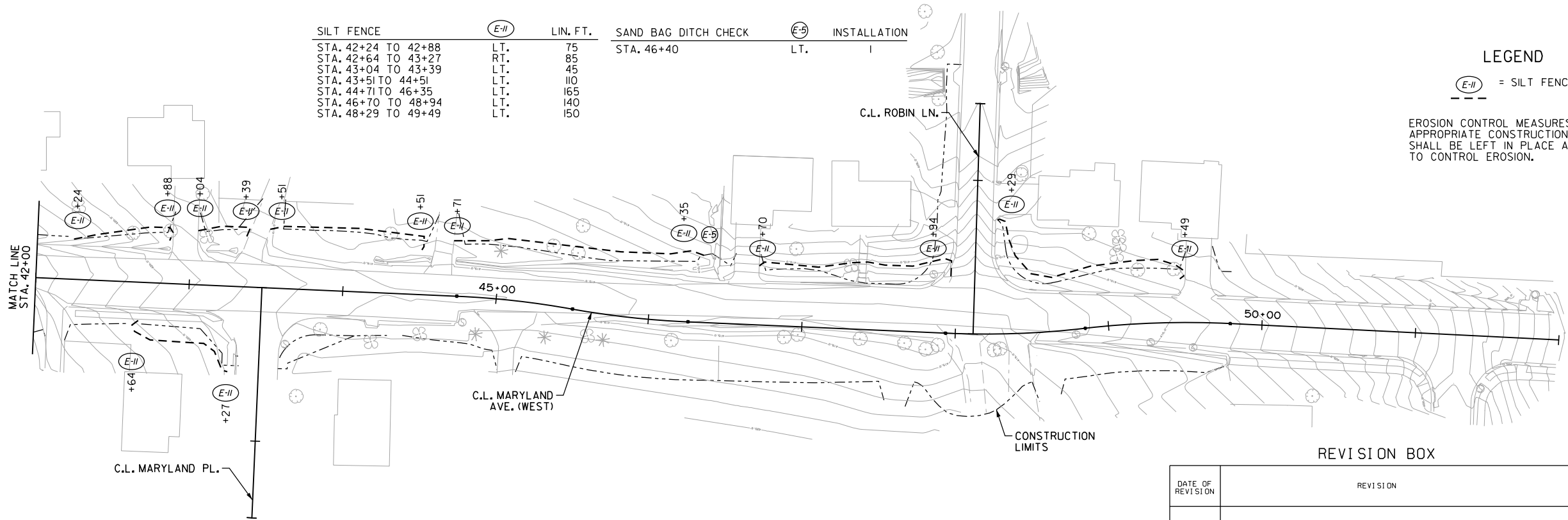
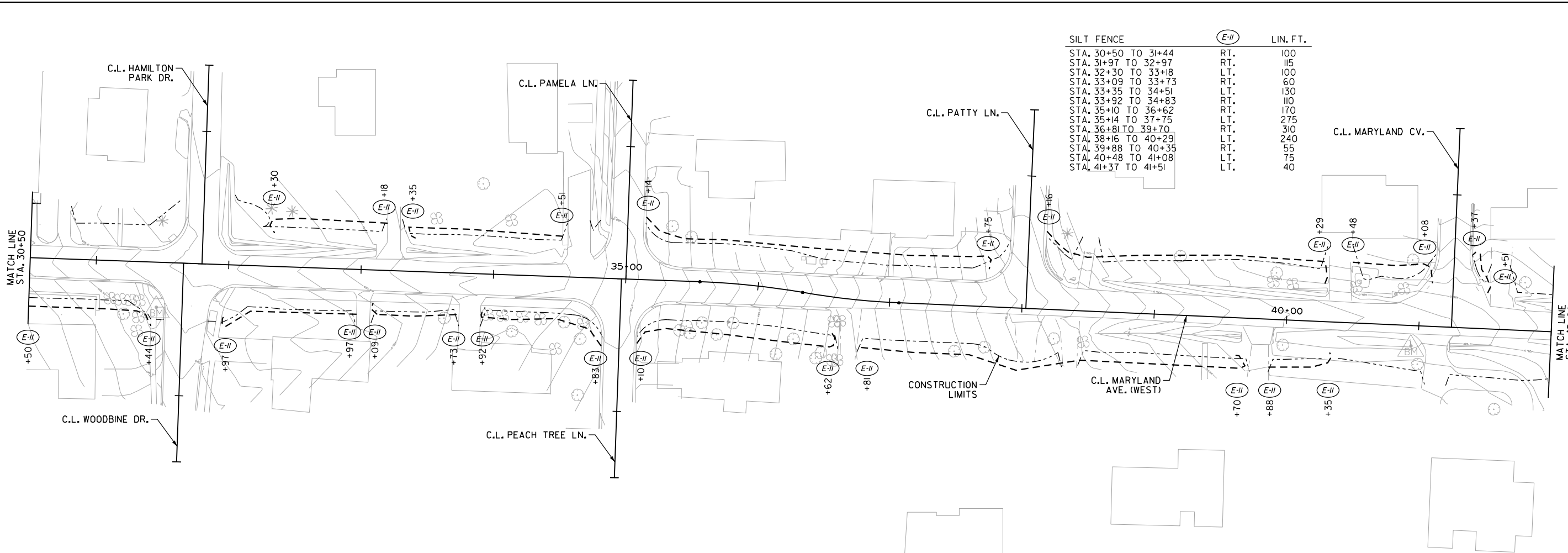
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

TEMPORARY EROSION CONTROL DETAILS - CLEARING AND GRUBBING  
STA. 7+50 TO 30+50

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER
SHEET NUMBER <b>8</b>





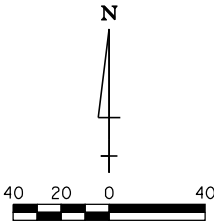
LEGEND

E-II = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE CONSTRUCTION STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

REVISION BOX

DATE OF REVISION	REVISION



Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



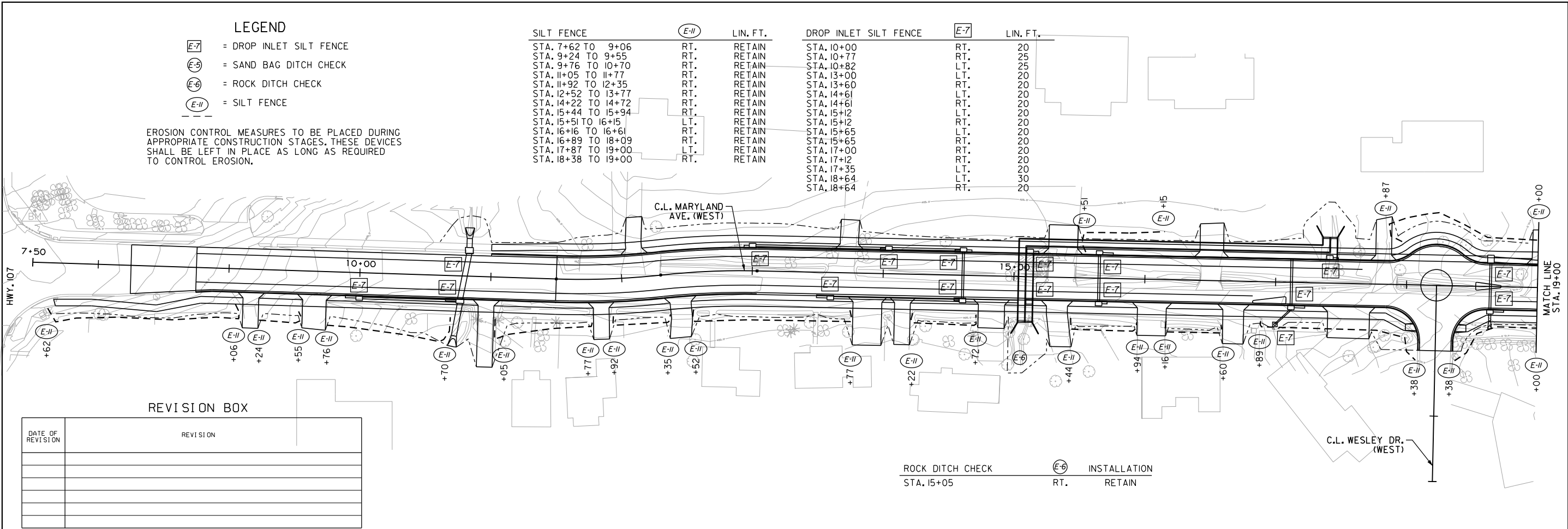
CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

TEMPORARY EROSION  
CONTROL DETAILS -  
CLEARING AND  
GRUBBING  
STA. 30+50 TO 50+30

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 9



**GARVER**

STATE OF ARKANSAS  
TODD E. MUELLER  
No. 11835  
LICENSED PROFESSIONAL ENGINEER

Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY

CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

TEMPORARY EROSION CONTROL DETAILS - STAGE 1

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

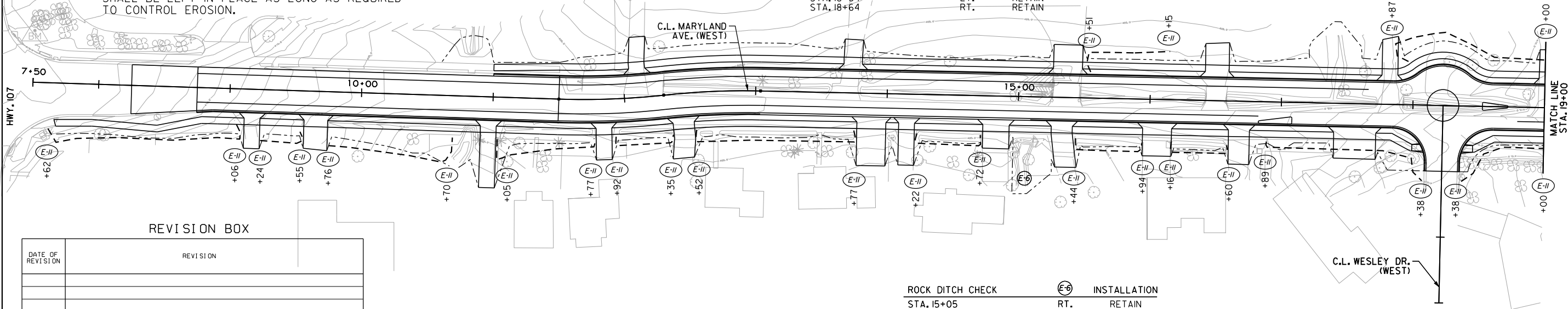
SHEET NUMBER **10**

LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE CONSTRUCTION STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

SILT FENCE	[E-II]	LIN. FT.	DROP INLET SILT FENCE	[E-7]	LIN. FT.
STA. 7+62 TO 9+06	RT.	RETAIN	STA. 10+00	RT.	RETAIN
STA. 9+24 TO 9+55	RT.	RETAIN	STA. 10+77	RT.	RETAIN
STA. 9+76 TO 10+70	RT.	RETAIN	STA. 10+82	LT.	RETAIN
STA. 11+05 TO 11+77	RT.	RETAIN	STA. 13+00	LT.	RETAIN
STA. 11+92 TO 12+35	RT.	RETAIN	STA. 13+60	RT.	RETAIN
STA. 12+52 TO 13+77	RT.	RETAIN	STA. 14+61	LT.	RETAIN
STA. 14+22 TO 14+72	RT.	RETAIN	STA. 14+61	RT.	RETAIN
STA. 15+44 TO 15+94	RT.	RETAIN	STA. 15+12	LT.	RETAIN
STA. 15+51 TO 16+15	LT.	RETAIN	STA. 15+12	RT.	RETAIN
STA. 16+16 TO 16+61	RT.	RETAIN	STA. 15+65	LT.	RETAIN
STA. 16+89 TO 18+09	RT.	RETAIN	STA. 15+65	RT.	RETAIN
STA. 17+87 TO 19+00	LT.	RETAIN	STA. 17+00	RT.	RETAIN
STA. 18+38 TO 19+00	RT.	RETAIN	STA. 17+12	LT.	RETAIN
			STA. 17+35	LT.	RETAIN
			STA. 18+64	LT.	RETAIN
			STA. 18+64	RT.	RETAIN



REVISION BOX

DATE OF REVISION	REVISION

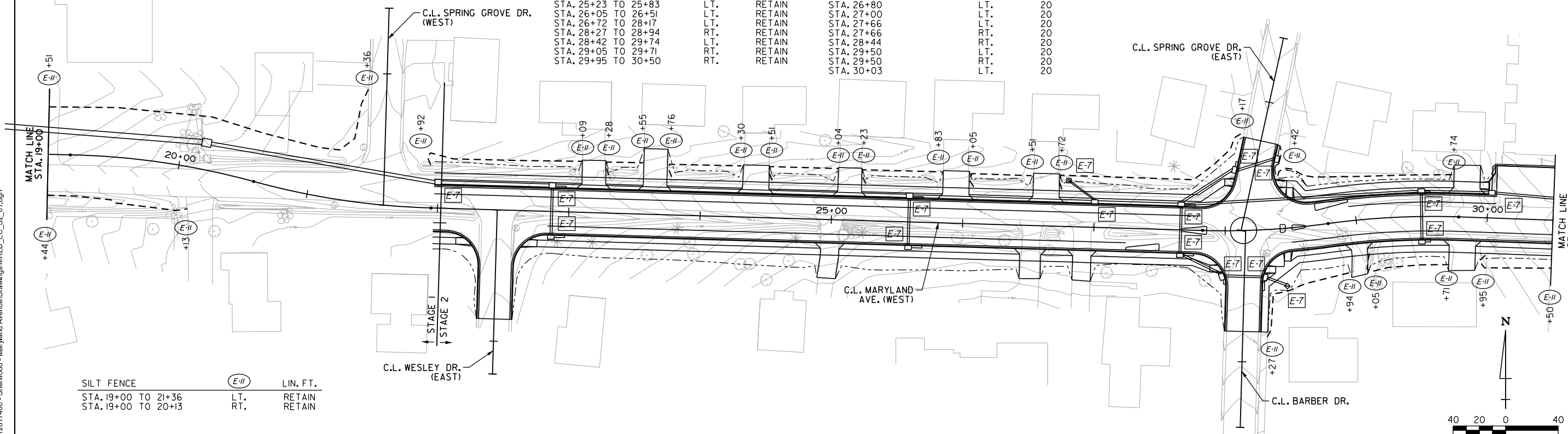
ROCK DITCH CHECK [E-6] INSTALLATION  
STA. 15+05 RT. RETAIN

DROP INLET SILT FENCE	[E-7]	LIN. FT.
STA. 20+17.50	LT.	RETAIN
STA. 20+45	RT.	RETAIN
STA. 22+00	LT.	RETAIN

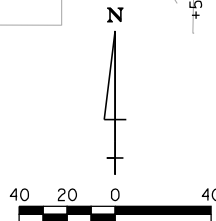
SILT FENCE	[E-II]	LIN. FT.
STA. 21+92 TO 23+09	LT.	RETAIN
STA. 23+28 TO 23+55	LT.	RETAIN
STA. 23+76 TO 24+30	LT.	RETAIN
STA. 24+51 TO 25+04	LT.	RETAIN
STA. 25+23 TO 25+83	LT.	RETAIN
STA. 26+05 TO 26+51	LT.	RETAIN
STA. 26+72 TO 28+17	LT.	RETAIN
STA. 28+27 TO 28+94	RT.	RETAIN
STA. 28+42 TO 29+74	LT.	RETAIN
STA. 29+05 TO 29+71	RT.	RETAIN
STA. 29+95 TO 30+50	RT.	RETAIN

DROP INLET SILT FENCE	[E-7]	LIN. FT.
STA. 22+87	LT.	25
STA. 22+87	RT.	20
STA. 25+59	RT.	25
STA. 25+59	LT.	20
STA. 26+80	LT.	20
STA. 27+00	LT.	20
STA. 27+66	LT.	20
STA. 27+66	RT.	20
STA. 28+44	RT.	20
STA. 29+50	LT.	20
STA. 29+50	RT.	20
STA. 30+03	LT.	20

DROP INLET SILT FENCE	[E-7]	LIN. FT.
BARBER ST. STA. 9+65	LT.	20
BARBER ST. STA. 9+65	LT.	20
SPRING GROVE STA. 10+44	LT.	20
SPRING GROVE STA. 10+59	RT.	20



SILT FENCE	[E-II]	LIN. FT.
STA. 19+00 TO 21+36	LT.	RETAIN
STA. 19+00 TO 20+13	RT.	RETAIN



Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

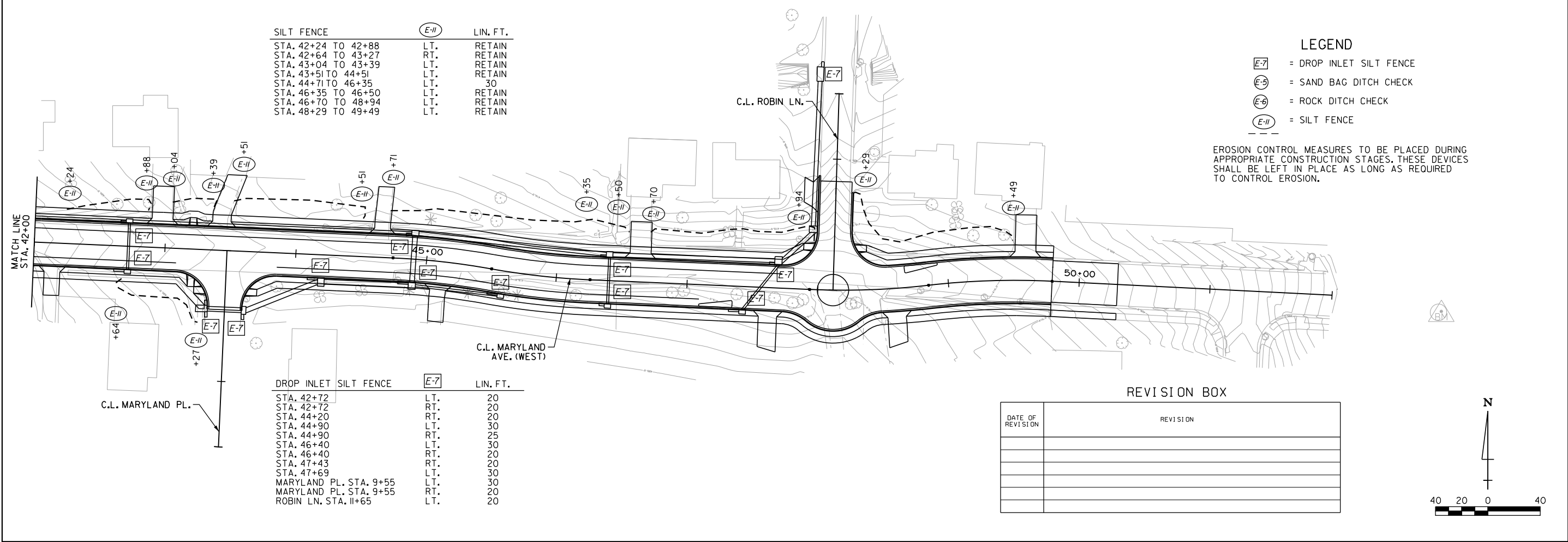
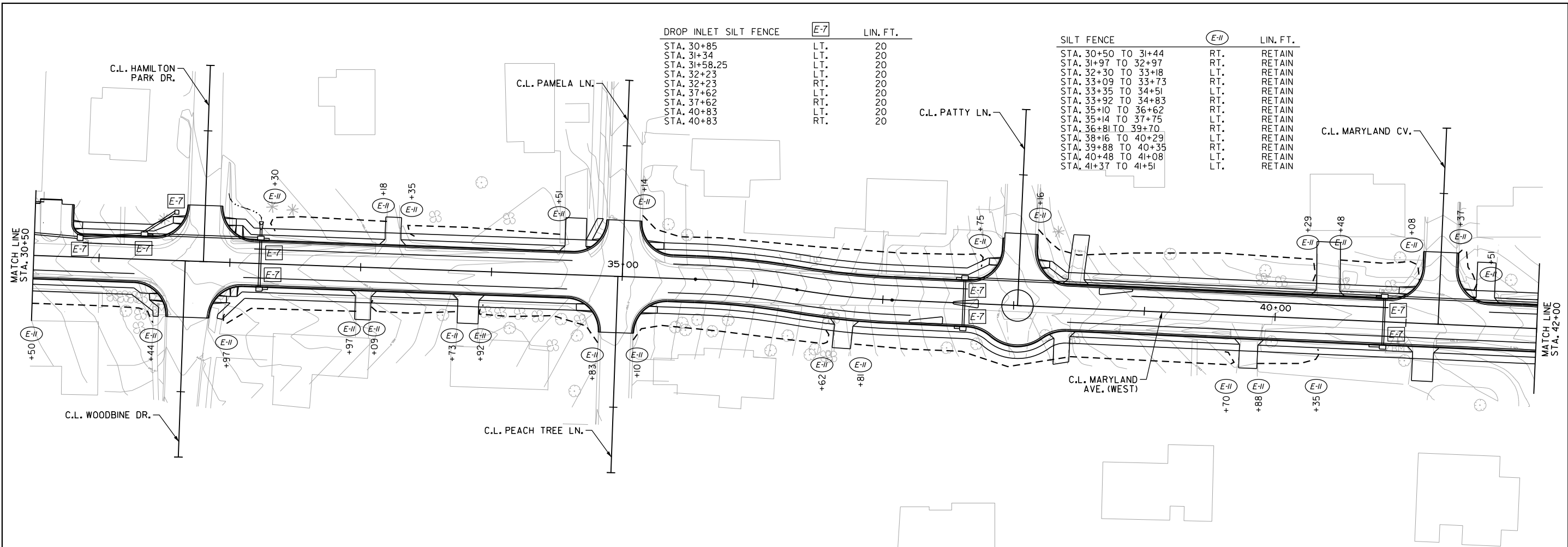
TEMPORARY EROSION  
CONTROL DETAILS -  
STAGE 2  
STA. 7+50 TO 30+50

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 11





**GARVER**

CERTIFICATE OF AUTHORIZATION  
GARVER  
LLC  
No. 766  
ARKANSAS-ENGINEER

STATE OF ARKANSAS  
TODD E. MUELLER  
LICENSED PROFESSIONAL ENGINEER  
No. 11835

Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY

CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

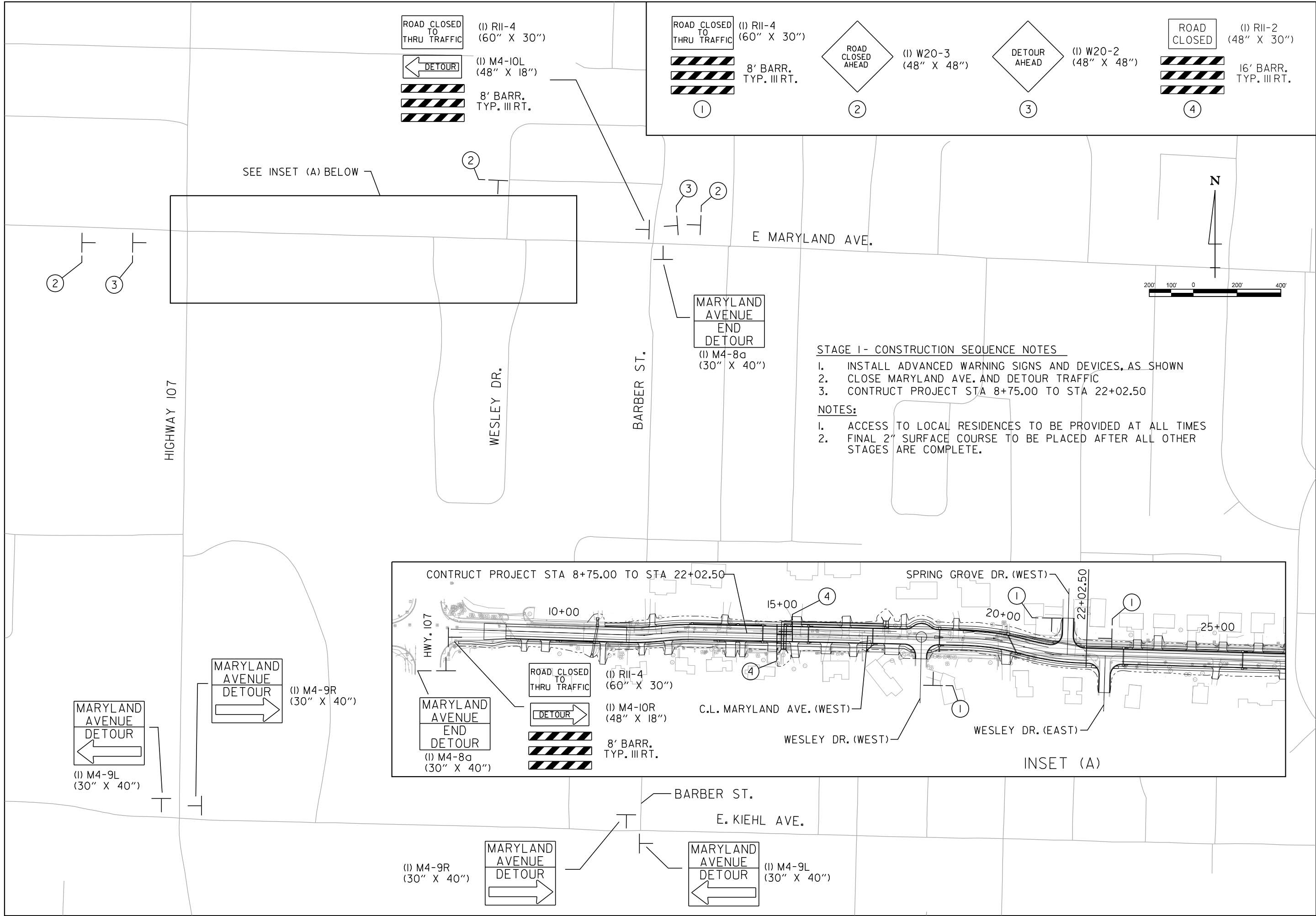
TEMPORARY EROSION  
CONTROL DETAILS -  
STAGE 2  
STA. 30+50 TO 50+30

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **12**





Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

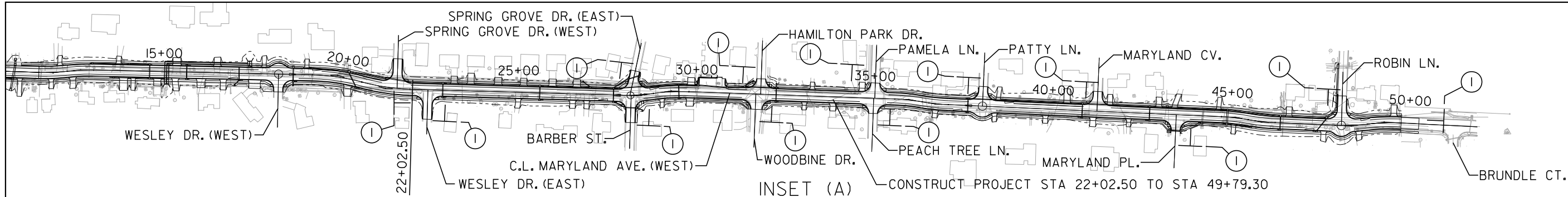
MARYLAND AVE.  
MAINTENANCE  
OF  
TRAFFIC  
STAGE 1

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **13**

RC:corbyn  
WORKSPACE:ARFD  
L:2012121017400 - Sherwood - Maryland AvenueDrawings\WRLD\_MOT\_02.dgn  
12/19/2016 8:03:32 AM

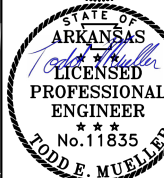
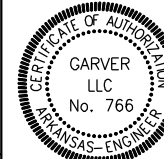
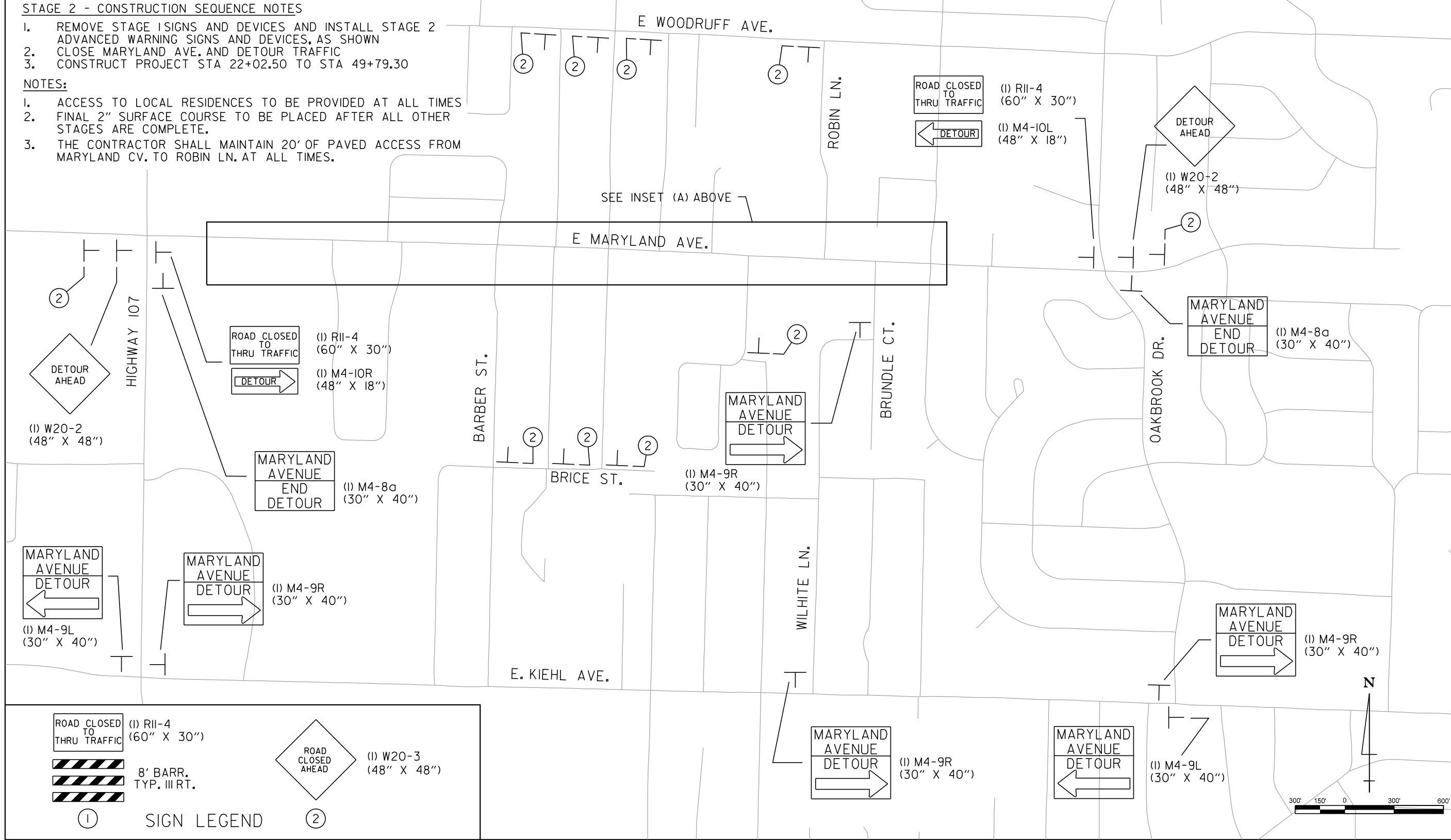


STAGE 2 - CONSTRUCTION SEQUENCE NOTES

1. REMOVE STAGE 1 SIGNS AND DEVICES AND INSTALL STAGE 2 ADVANCED WARNING SIGNS AND DEVICES, AS SHOWN
2. CLOSE MARYLAND AVE. AND DETOUR TRAFFIC
3. CONSTRUCT PROJECT STA 22+02.50 TO STA 49+79.30

NOTES:

1. ACCESS TO LOCAL RESIDENCES TO BE PROVIDED AT ALL TIMES
2. FINAL 2" SURFACE COURSE TO BE PLACED AFTER ALL OTHER STAGES ARE COMPLETE.
3. THE CONTRACTOR SHALL MAINTAIN 20' OF PAVED ACCESS FROM MARYLAND CV. TO ROBIN LN. AT ALL TIMES.



Digitally Signed:  
12/19/2016

BY	DESCRIPTION	DATE	REV.

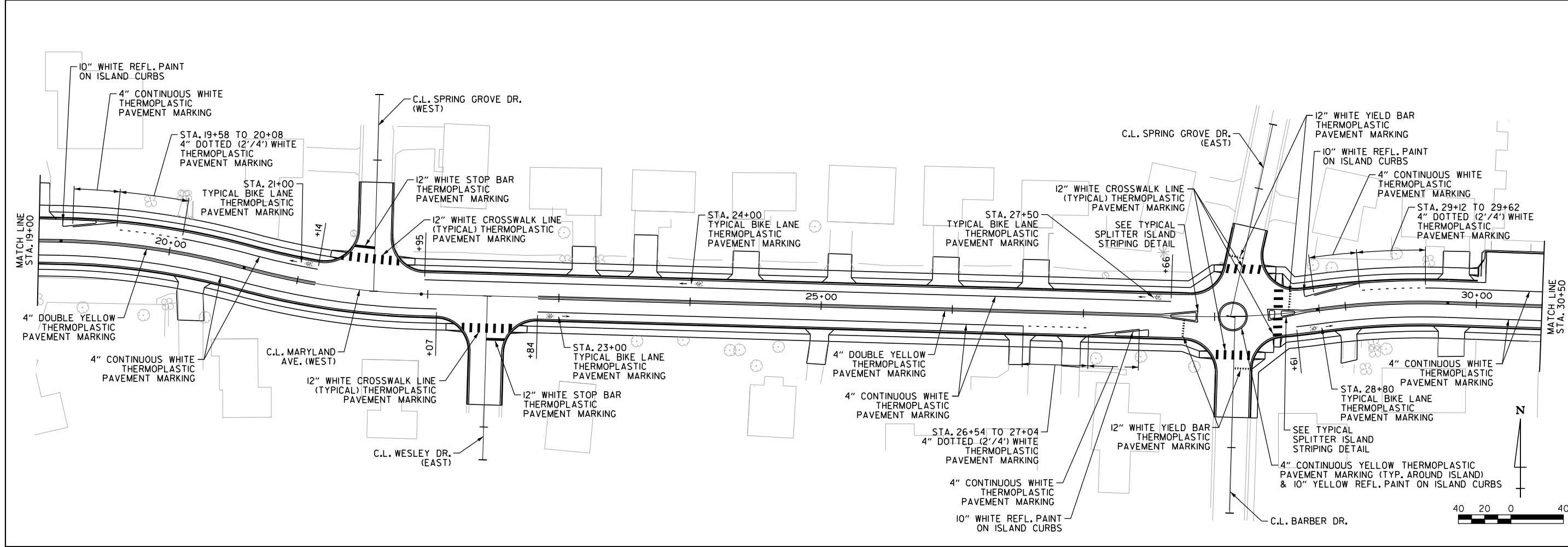
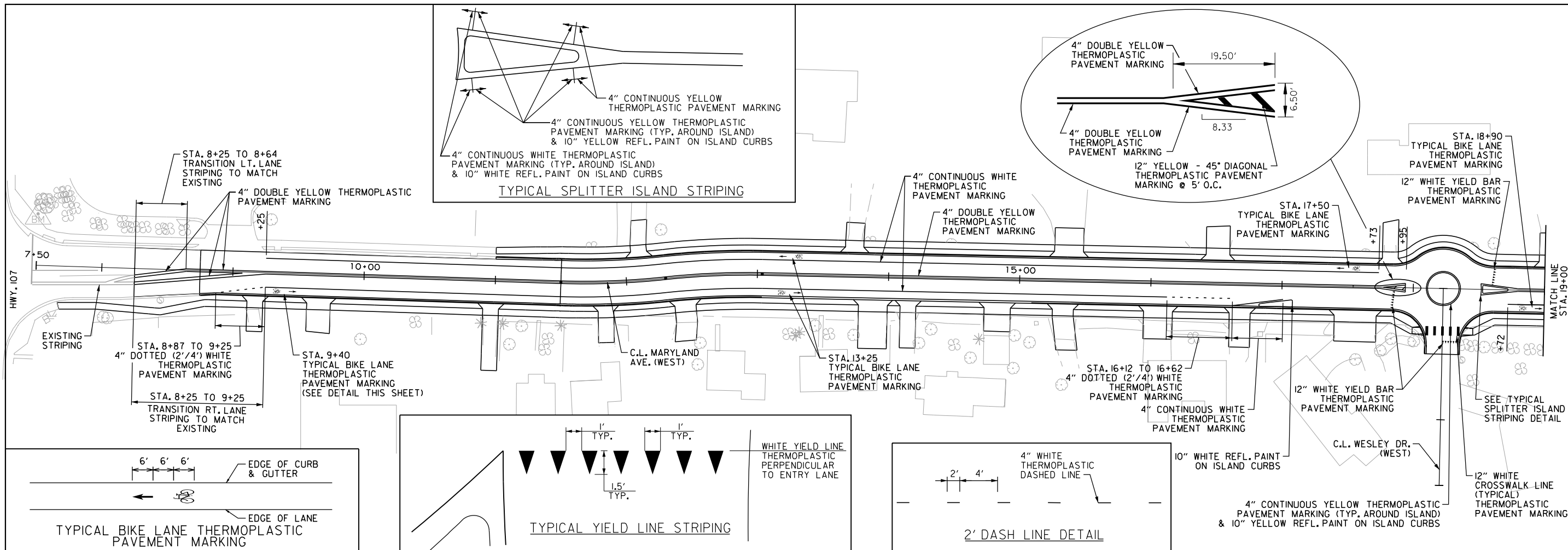



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

MARYLAND AVE.  
MAINTENANCE  
OF  
TRAFFIC  
STAGE 2  
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

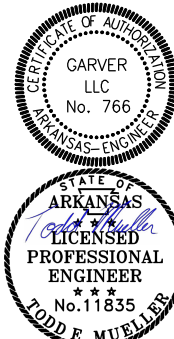
DRAWING NUMBER

SHEET  
NUMBER **14**






**GARVER**



**Todd E. Mueller**  
LICENSED PROFESSIONAL ENGINEER  
No. 11835  
Arkansas

Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION



**CITY OF SHERWOOD**  
PULASKI COUNTY, ARKANSAS

**MARYLAND AVENUE IMPROVEMENTS AND EXTENSION**

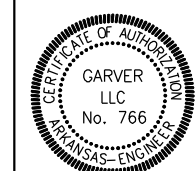
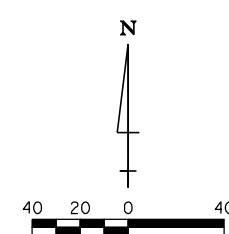
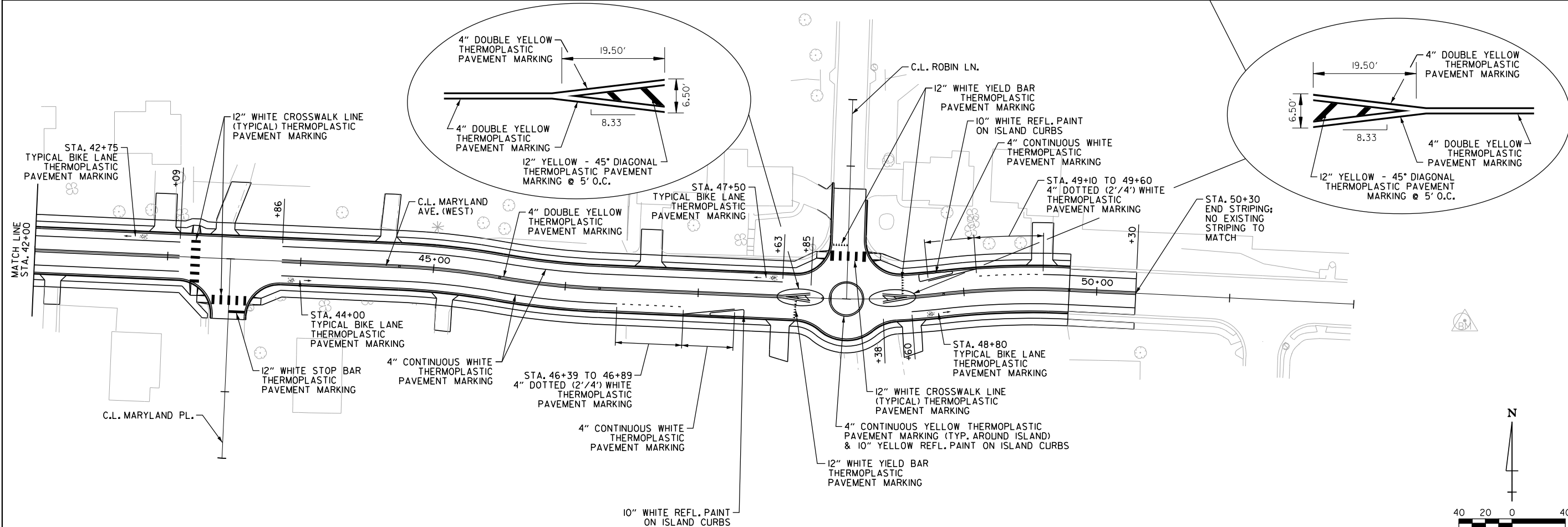
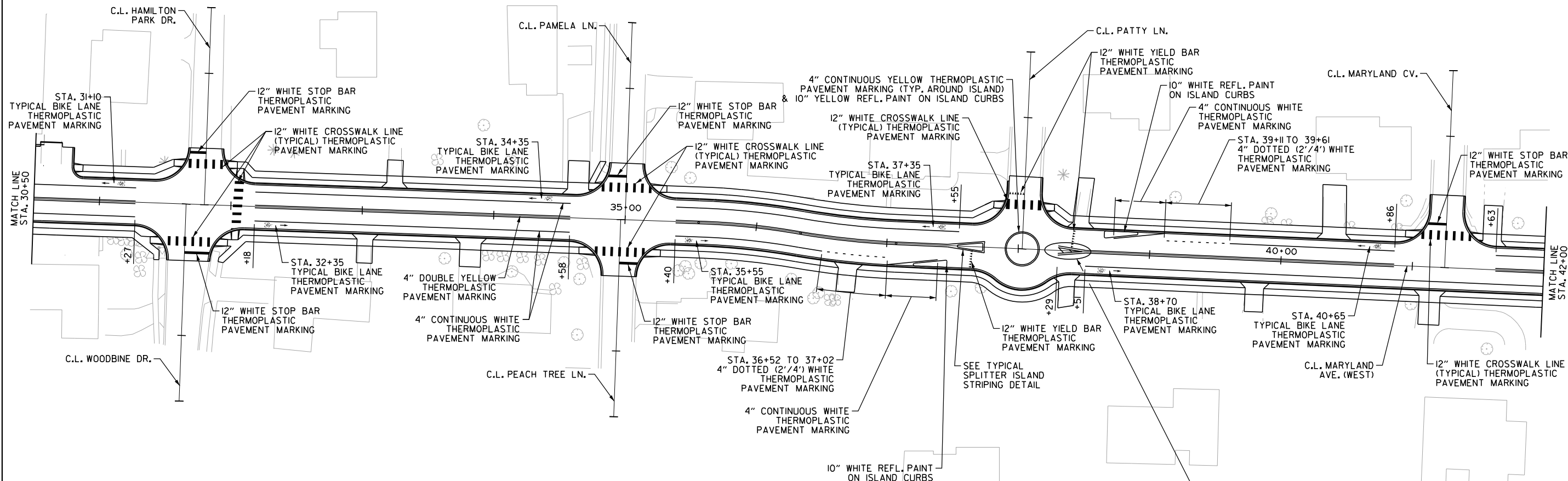
**MARYLAND AVE. PERMANENT PAVEMENT MARKINGS STA. 8+35 TO 30+50**

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

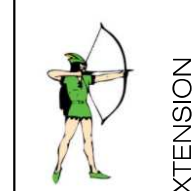
SHEET NUMBER **15**





Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

MARYLAND AVE.  
PERMANENT  
PAVEMENT  
MARKINGS  
STA. 30+50 TO 50+30


JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS



DRAWING NUMBER

SHEET  
NUMBER **16**




SOIL BORING LOG																
BORING NO.	APPROX. MARYLAND STA.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS								UNIFIED CLASS.	AASHTO CLASS.
				LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	PERCENT PASSING									
							1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200			
1	11+68, 39' RT.	1-2	13	41	21	20	100	100	94	90	84	81	70	CL	A-7-6	
2	15+99, 24' LT.	1-2	11	24	18	6	100	100	83	78	73	68	45	GC-GM	A-4	
3	20+52, 50' RT.	2-2.8	9	32	20	12	---	---	---	---	---	---	33	GC	A-2-6	
3	20+52, 50' RT.	6.5-7.5	14	35	23	12	---	---	---	---	---	---	30	GC	A-2-6	
4	25+35, 53' RT.	1-2	12	27	17	10	---	---	---	---	---	---	53	CL	A-4	
4	25+35, 53' RT.	2.5-3.5	16	28	17	11	---	---	---	---	---	---	57	CL	A-6	
5	29+34, 22' LT.	1-2	9	25	16	9	---	---	---	---	---	---	48	GC	A-4	
6	33+31, 25' LT.	1-2	8	18	14	4	100	100	85	77	75	73	45	SM	A-4	
7	37+26, 57' RT.	1-2	12	26	16	10	---	---	---	---	---	---	56	CL	A-4	
8	41+26,25' RT.	1-2	13	20	16	4	---	---	---	---	---	---	57	ML	A-4	
9	45+43, 21' LT.	1-2	6	16	14	2	100	92	89	79	73	69	44	ML	A-4	
10	49+56, 43' RT.	1-2	16	22	16	6	---	---	---	---	---	---	64	CL-ML	A-4	





Digitally Signed:  
12/19/2016

REV.	BY	DESCRIPTION	DATE



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SOIL BORING LOG

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET NUMBER 17

MIDPOINT:  
LAT: 34-50-24  
LONG: 092-12-55

SURVEY CONTROL COORDINATES

Project Name: 061295  
Date: 2/27/2013  
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,  
PROJECTED TO GROUND.  
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	184700.6263	1242902.2143	415.05	CTL	2" ALM MON
2	184665.9763	1243302.3922	402.97	CTL	2" ALM MON
3	184653.8635	1243706.4948	401.74	CTL	2" ALM MON
4	184643.6100	1244109.1615	414.71	CTL	2" ALM MON
5	184634.1317	1244488.4975	422.53	CTL	2" ALM MON
6	184624.6502	1244912.0345	432.23	CTL	2" ALM MON
7	184621.5387	1245349.2075	447.85	CTL	2" ALM MON
8	184614.5402	1245655.2936	450.00	CTL	2" ALM MON
9	184581.6716	1246026.9764	428.33	CTL	2" ALM MON
10	184561.6021	1246412.2400	418.87	CTL	2" ALM MON
11	184542.8933	1246770.0432	413.33	CTL	2" ALM MON
12	184536.1191	1247166.7721	404.91	CTL	2" ALM MON
13	184508.2425	1246952.6870	414.82	CTL	2" ALM MON
14	184526.5967	1246442.0078	418.49	CTL	CPS
15	184540.7520	1246158.4025	426.24	CTL	2" ALM MON
16	184556.6245	1245818.1668	440.13	CTL	2" ALM MON
17	184567.6957	1245559.2526	452.70	CTL	2" ALM MON
18	184583.4965	1245209.6794	444.20	CTL	2" ALM MON
19	184601.8136	1244700.3154	429.01	CTL	2" ALM MON
20	184611.4662	1244280.1203	418.35	CTL	2" ALM MON
21	184618.0636	1243931.4972	408.10	CTL	2" ALM MON
30	184554.9193	1250329.5692	325.30	CTL	2" ALM MON
31	184556.7976	1250613.2937	308.67	CTL	2" ALM MON
32	184553.4004	1251051.4791	289.49	CTL	2" ALM MON
38	184624.7669	1252060.1952	283.66	CTL	CPS
100	185144.4995	1242885.5978	431.44	GPS	
101	184680.4768	1243169.1445	404.03	GPS	
102	184686.5006	1252265.2406	288.62	GPS	
103	184834.5632	1253354.5480	270.37	GPS	

Note - 2" ALM MON = Standard - 5/8" Rebar with 2" Aluminum Cap stamped  
"GARVER CONTROL" and appropriate point number "##"  
ALL DISTANCES ARE GROUND.  
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.  
A PROJECT CAF OF 0.9999991244 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.  
HORIZONTAL DATUM: NAD 83 (1997)  
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE  
AT A SPECIFIC POINT. BASED ON TBM 918 FROM JOB 060497. 3 WIRE LEVEL RAN THROUGH POINTS  
1-21, 30-32, 38, 100-103.

BASIS OF BEARING:  
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE  
DETERMINED FROM GPS CONTROL POINTS: 100 - 103  
CONVERGENCE ANGLE: 0-08-03 LEFT AT PN: 101  
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

PN: 101  
LT: 34-50-25.8 LG: 092-13-49.7  
GRID NORTHING: 184680.6385 GRID EASTING: 1243170.2330  
GROUND NORTHING: 184680.4768 GROUND EASTING: 1243169.1445

ALIGNMENT NAME: MARYLAND AVE. (WEST)				
POINT	STATION	TYPE	NORTHING	EASTING
8000	7+50.00	POB	184670.4284	1242892.4050
8001	11+50.00	PC	184657.6127	1243292.1997
8002	11+90.05	PI	184656.3294	1243332.2305
8003	12+29.97	PRC	184660.6280	1243372.0506
8004	12+66.92	PI	184664.5933	1243408.7826
8005	13+03.76	PT	184663.8082	1243445.7197
8006	19+16.99	PC	184650.7771	1244058.8144
8007	19+88.00	PI	184649.2682	1244129.8068
8008	20+58.29	PRC	184630.4746	1244198.2829
8009	21+27.04	PI	184612.2795	1244264.5782
8010	21+95.13	PT	184610.2840	1244333.2960
8011	27+82.78	PC	184593.2269	1244920.6963
8012	28+30.78	PI	184591.8336	1244968.6803
8013	28+78.56	PRC	184598.4441	1245016.2272
8014	29+28.51	PI	184605.3215	1245065.6943
8015	29+78.20	PT	184603.5365	1245115.6053
8016	35+55.99	PC	184582.8857	1245693.0315
8017	35+95.02	PI	184581.4907	1245732.0364
8018	36+35.93	PRC	184574.8192	1245770.4918
8019	36+70.55	PI	184568.5605	1245806.5673
8020	37+07.06	PT	184566.9448	1245843.1461
8021	44+74.37	PC	184533.0842	1246609.7119
8022	45+12.30	PI	184531.4104	1246647.6048
8023	45+50.12	PRC	184524.7561	1246684.9464
8024	45+88.05	PT	184518.1018	1246722.2879
8025	46+25.87	PI	184516.4280	1246760.1808
8026	47+93.70	PC	184509.0219	1246927.8461
8027	48+39.34	PI	184507.0080	1246973.4388
8028	48+84.78	PRC	184512.2368	1247018.7755
8029	49+32.15	PI	184517.6634	1247065.8278
8030	49+79.30	PT	184515.2900	1247113.1325
8031	51+93.39	POE	184504.5614	1247326.9610

ALIGNMENT NAME: WESLEY DR. (WEST)				
POINT	STATION	TYPE	NORTHING	EASTING
8040	8+50.00	POB	184502.8120	1243961.4843
8041	11+50.00	POE	184652.7781	1243964.6717

ALIGNMENT NAME: SPRING GROVE DR. (WEST)				
POINT	STATION	TYPE	NORTHING	EASTING
8050	10+00.00	POB	184612.4880	1244297.0470
8051	11+50.00	POE	184762.4248	1244301.4009

ALIGNMENT NAME: WESLEY DR. (EAST)				
POINT	STATION	TYPE	NORTHING	EASTING
8060	8+75.00	POB	184483.8717	1244380.1183
8061	11+50.00	POE	184608.8190	1244383.7465

ALIGNMENT NAME: BARBER ST.				
POINT	STATION	TYPE	NORTHING	EASTING
8070	8+50.00	POB	184443.2725	1244949.2997
8071	10+00.00	POE	184593.2138	1244953.4980

ALIGNMENT NAME: SPRING GROVE DR. (EAST)				
POINT	STATION	TYPE	NORTHING	EASTING
8080	10+00.00	POB	184593.1257	1244949.9999
8081	11+50.00	POE	184739.6065	1244982.3012

ALIGNMENT NAME: WOODBINE DR.				
POINT	STATION	TYPE	NORTHING	EASTING
8090	8+50.00	POB	184446.9212	1245297.8967
8091	11+50.00	POE	184596.8254	1245303.2578

ALIGNMENT NAME: HAMILTON PARK DR.				
POINT	STATION	TYPE	NORTHING	EASTING
8100	10+00.00	POB	184596.3320	1245317.0542
8101	11+50.00	POE	184746.2362	1245322.4154

ALIGNMENT NAME: PEACH TREE LN.				
POINT	STATION	TYPE	NORTHING	EASTING
8110	8+50.00	POB	184435.1019	1245628.3817
8111	10+00.00	POE	184585.0061	1245633.7429

ALIGNMENT NAME: PAMELA LN.				
POINT	STATION	TYPE	NORTHING	EASTING
8120	10+00.00	POB	184584.8869	1245637.0750
8121	11+50.00	POE	184734.7911	1245642.4361

ALIGNMENT NAME: PATTY LN.				
POINT	STATION	TYPE	NORTHING	EASTING
8130	10+00.00	POB	184562.7090	1245939.0393
8131	11+50.00	POE	184712.5629	1245945.6586

ALIGNMENT NAME: MARYLAND CV.				
POINT	STATION	TYPE	NORTHING	EASTING
8140	10+00.00	POB	184548.5176	1246260.3166
8141	11+50.00	POE	184698.3715	1246266.9360

ALIGNMENT NAME: MARYLAND PL.				
POINT	STATION	TYPE	NORTHING	EASTING
8150	8+50.00	POB	184388.8365	1246476.1747
8151	10+00.00	POE	184538.6904	1246482.7940

ALIGNMENT NAME: ROBIN LN.				
POINT	STATION	TYPE	NORTHING	EASTING
8160	10+00.00	POB	184508.5120	1246945.6910
8161	11+50.00	POE	184658.4363	1246950.4582



Digitally Signed:  
12/19/2016

BY				
DESCRIPTION				
DATE				
REV.				



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SURVEY CONTROL  
DETAILS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

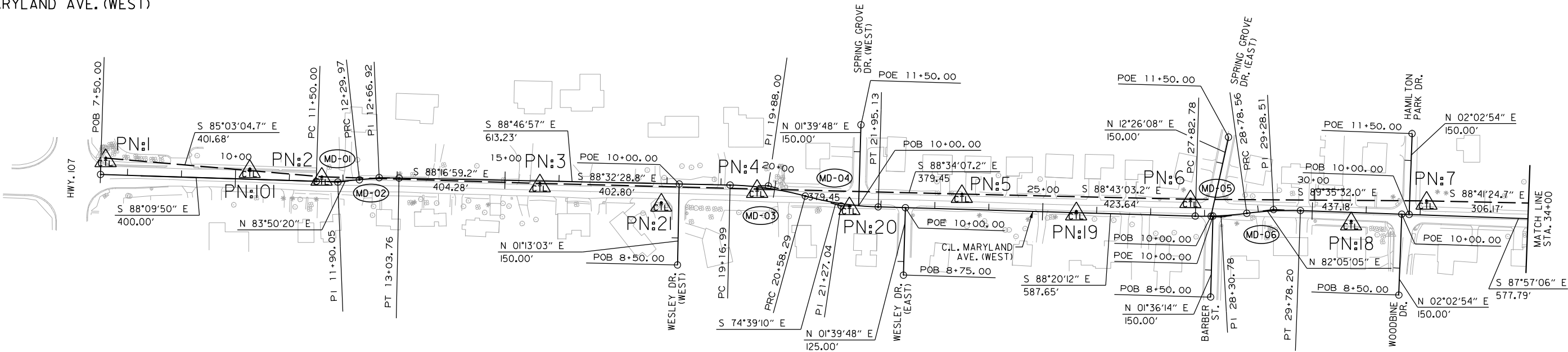
DRAWING NUMBER

SHEET  
NUMBER 18

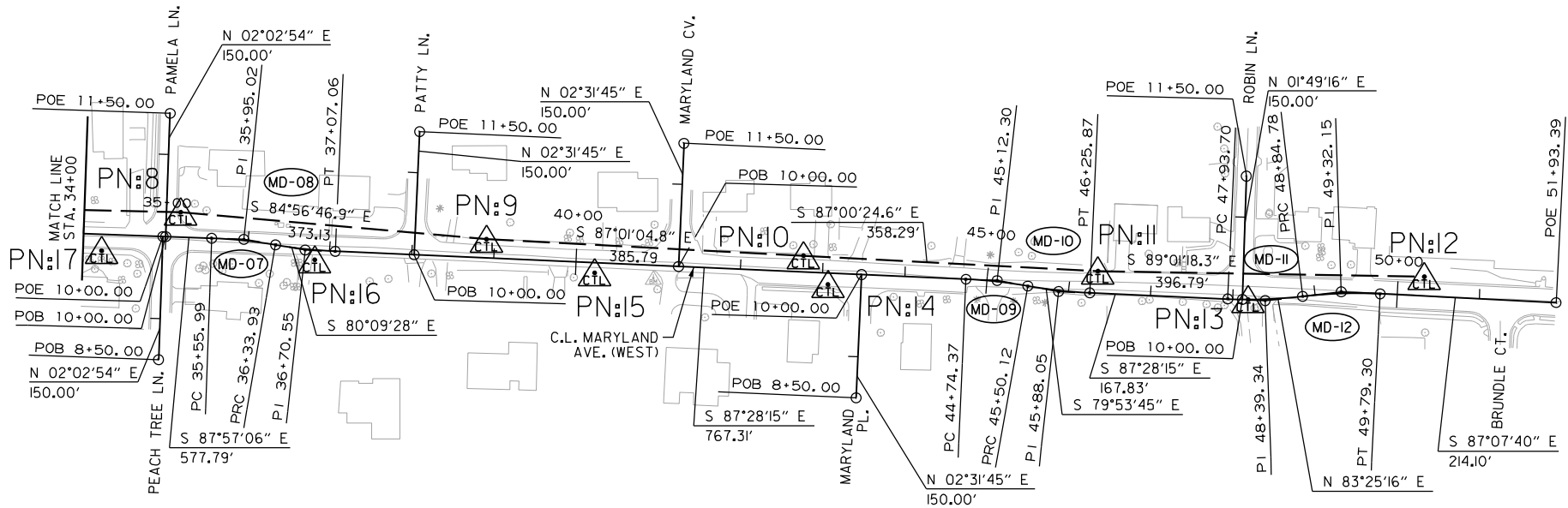
RCorbyn  
WORKSPACE\AFTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD\_SC\_02.dgn

12/19/2016 8:03:40 AM

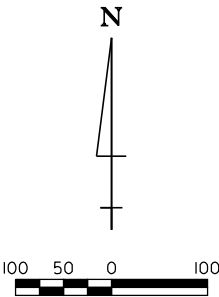
MARYLAND AVE. (WEST)



MARYLAND AVE. (WEST) CONT'D



CURVE DATA										
CURVE	PC/PRC	PI	PT/PRC	Δ	D	TANGENT	LENGTH	e	Ls	DESIGN SPEED
						FEET	FEET	FT./FT.	FEET	
MD-01	11+50.00	11+90.05	12+29.97	7°59'50"	10°00'00"	40.05	79.97	N/A	N/A	30 MPH
MD-02	12+29.97	12+66.92	13+03.76	7°22'44"	10°00'00"	36.95	73.79	N/A	N/A	30 MPH
MD-03	19+16.99	19+88.00	20+58.29	14°07'47"	10°00'00"	71.01	141.30	N/A	N/A	30 MPH
MD-04	20+58.29	21+27.04	21+95.13	13°41'02"	10°00'00"	68.75	136.84	N/A	N/A	30 MPH
MD-05	27+82.78	28+30.78	28+78.56	9°34'43"	10°00'00"	48.00	95.78	N/A	N/A	30 MPH
MD-06	28+78.56	29+28.51	29+78.20	9°57'48"	10°00'00"	49.94	99.63	N/A	N/A	30 MPH
MD-07	35+55.99	35+95.02	36+33.93	7°47'38"	10°00'00"	39.02	77.94	N/A	N/A	30 MPH
MD-08	36+33.93	36+70.55	37+07.06	7°18'47"	10°00'00"	36.61	73.13	N/A	N/A	30 MPH
MD-09	44+47.37	45+12.30	45+50.12	7°34'30"	10°00'00"	37.93	75.75	N/A	N/A	30 MPH
MD-10	45+50.12	45+88.05	46+25.87	7°34'30"	10°00'00"	37.93	75.75	N/A	N/A	30 MPH
MD-11	47+93.70	48+39.34	48+84.78	9°06'30"	10°00'00"	45.64	91.08	N/A	N/A	30 MPH
MD-12	48+84.78	49+32.15	49+79.30	9°27'05"	10°00'00"	47.36	94.51	N/A	N/A	30 MPH



Digitally Signed:  
12/19/2016

BY	DESCRIPTION	DATE	REV.



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SURVEY CONTROL  
DETAILS

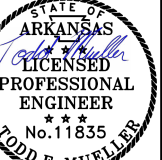
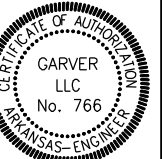
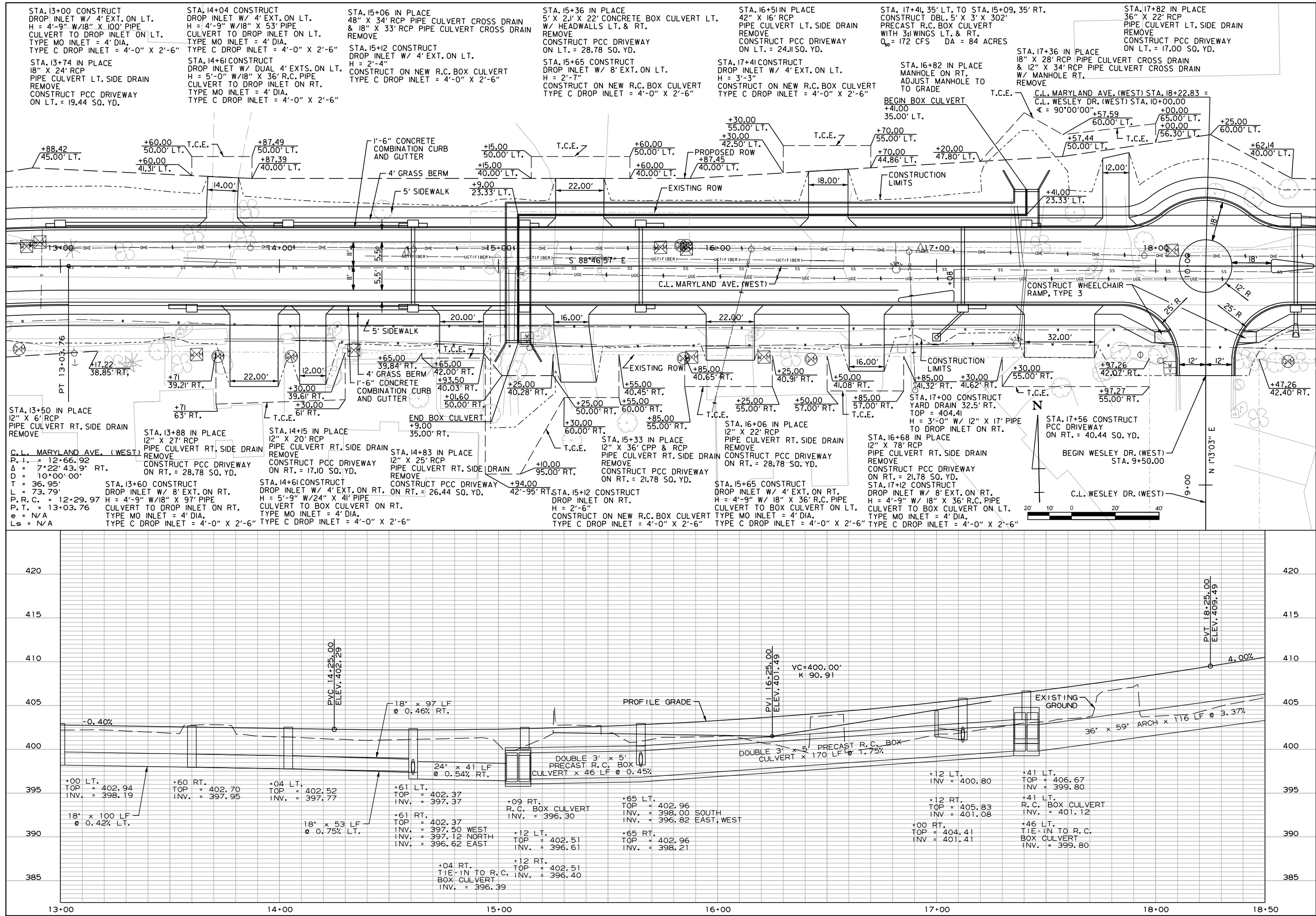
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 19







Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

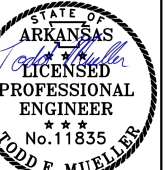
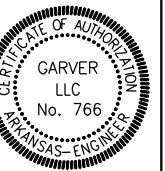
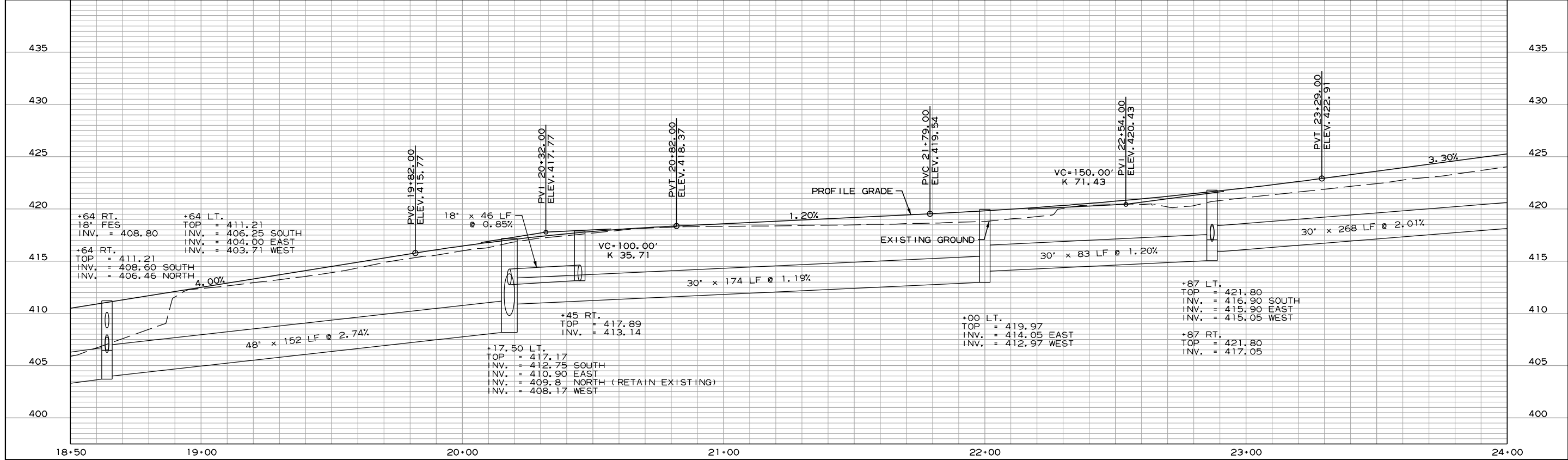
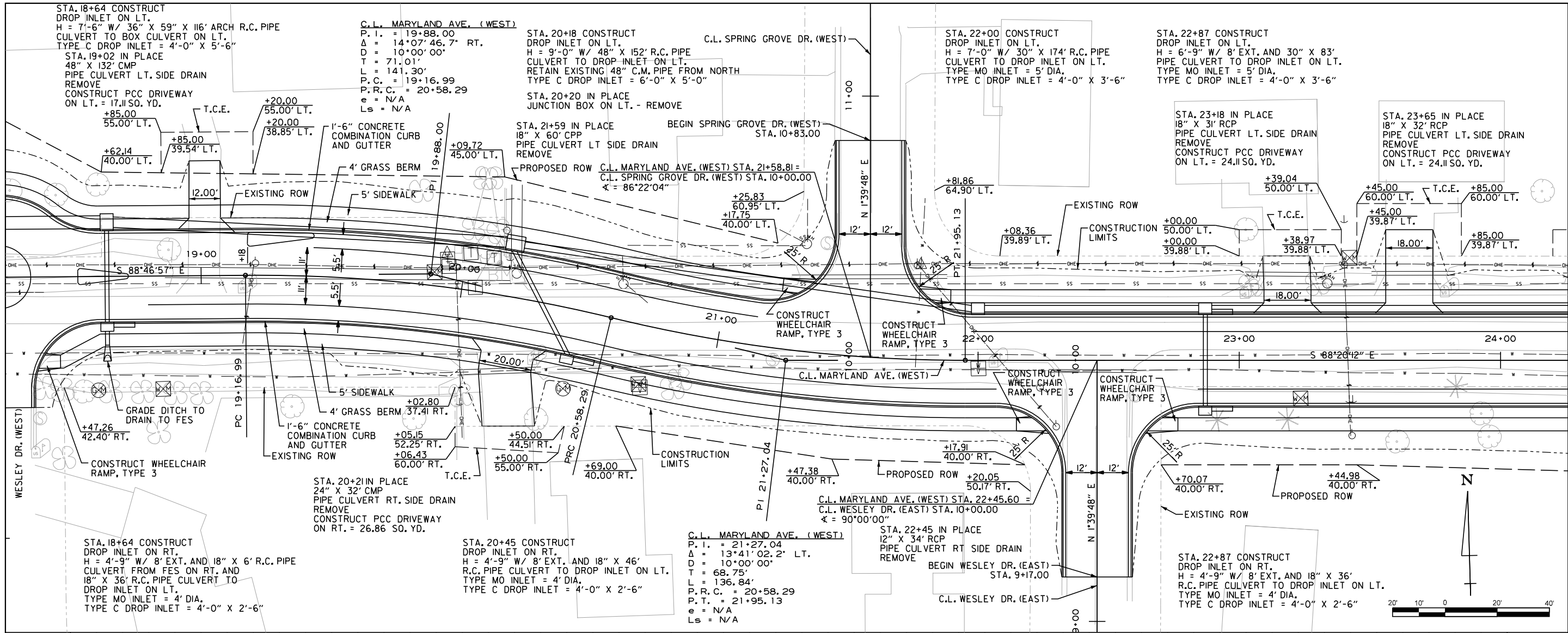
MARYLAND AVENUE  
IMPROVEMENTS AND

MARYLAND AVE.  
PLAN & PROFILE  
STA. 13+00 TO  
STA. 18+50

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

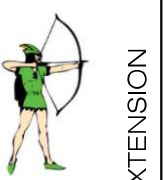
DRAWING NUMBER
----------------

SHEET  
NUMBER **21**



Digitally Signed:  
12/19/2016

BY	DESCRIPTION	DATE	REV.



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

MARYLAND AVE.  
PLAN & PROFILE  
STA. 18+50 TO  
STA. 24+00

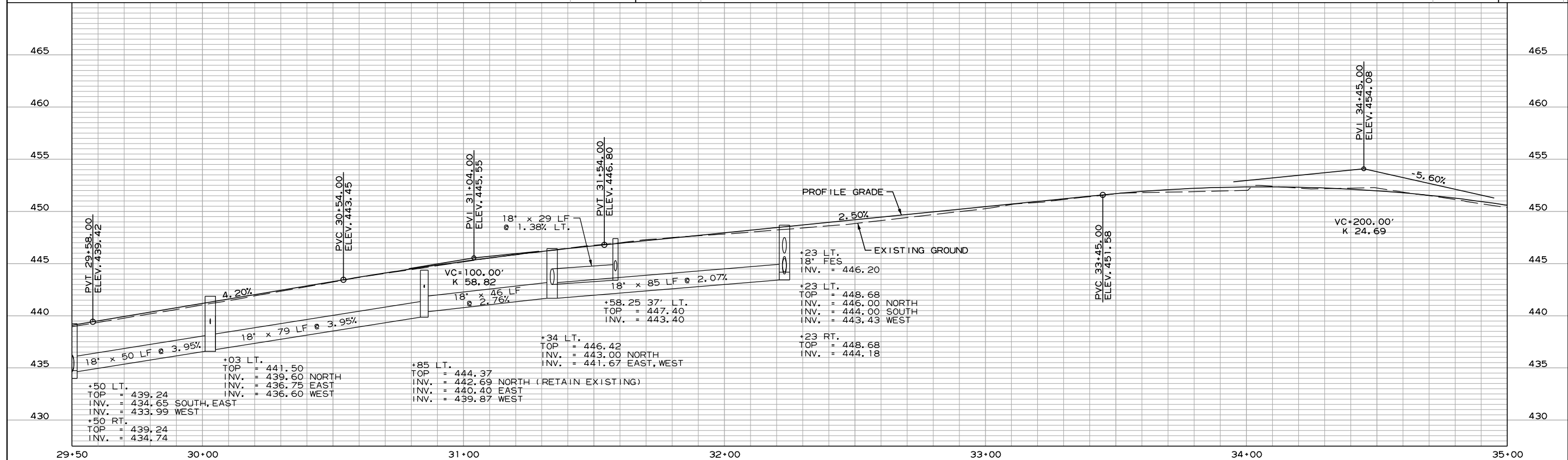
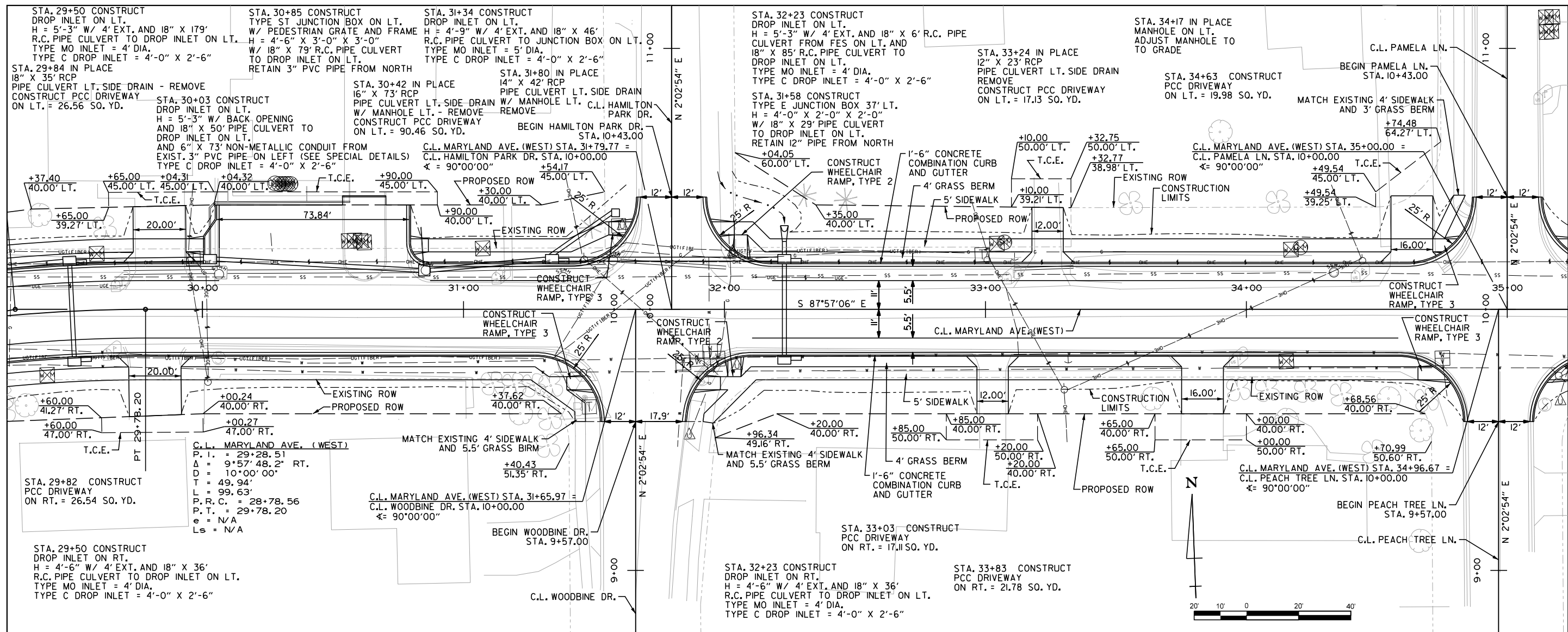
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **22**

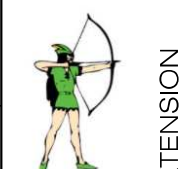






Digitally Signed:  
13/10/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

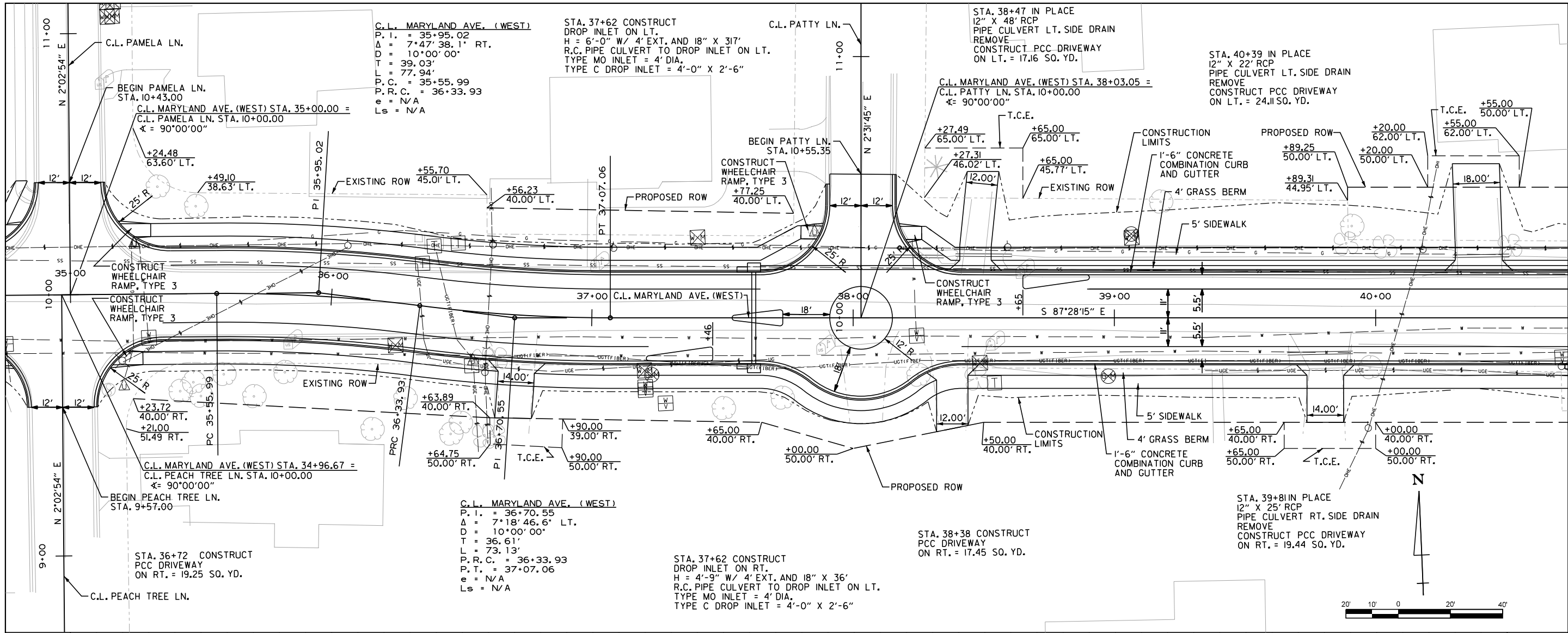
MARYLAND AVENUE  
IMPROVEMENTS AND


MARYLAND AVE. PLAN & PROFILE STA. 29+50 TO STA. 35+00
JOB NO.: 12017400 DATE: DEC, 2016 DESIGNED BY: TEM DRAWN BY: AMS

DRAWING NUMBER

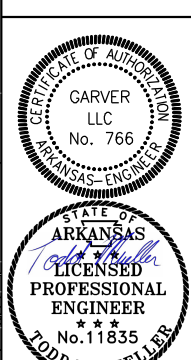
SHEET  
NUMBER **24**





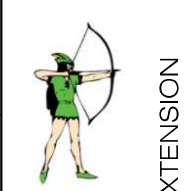


**GARVER**



CERTIFICATE OF AUTHORIZATION  
GARVER  
LLC  
No. 766  
ARKANSAS-ENGINEER  
TODD E. MUELLER  
No. 11835  
Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

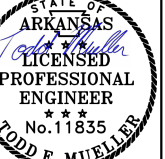
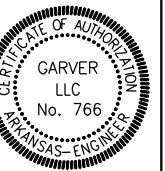
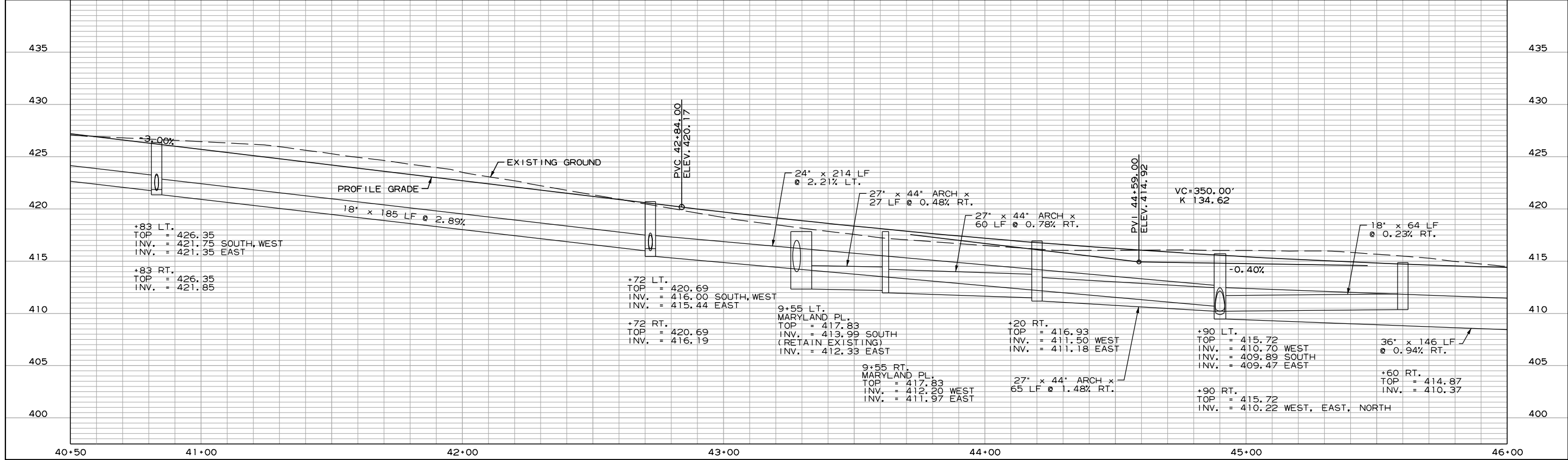
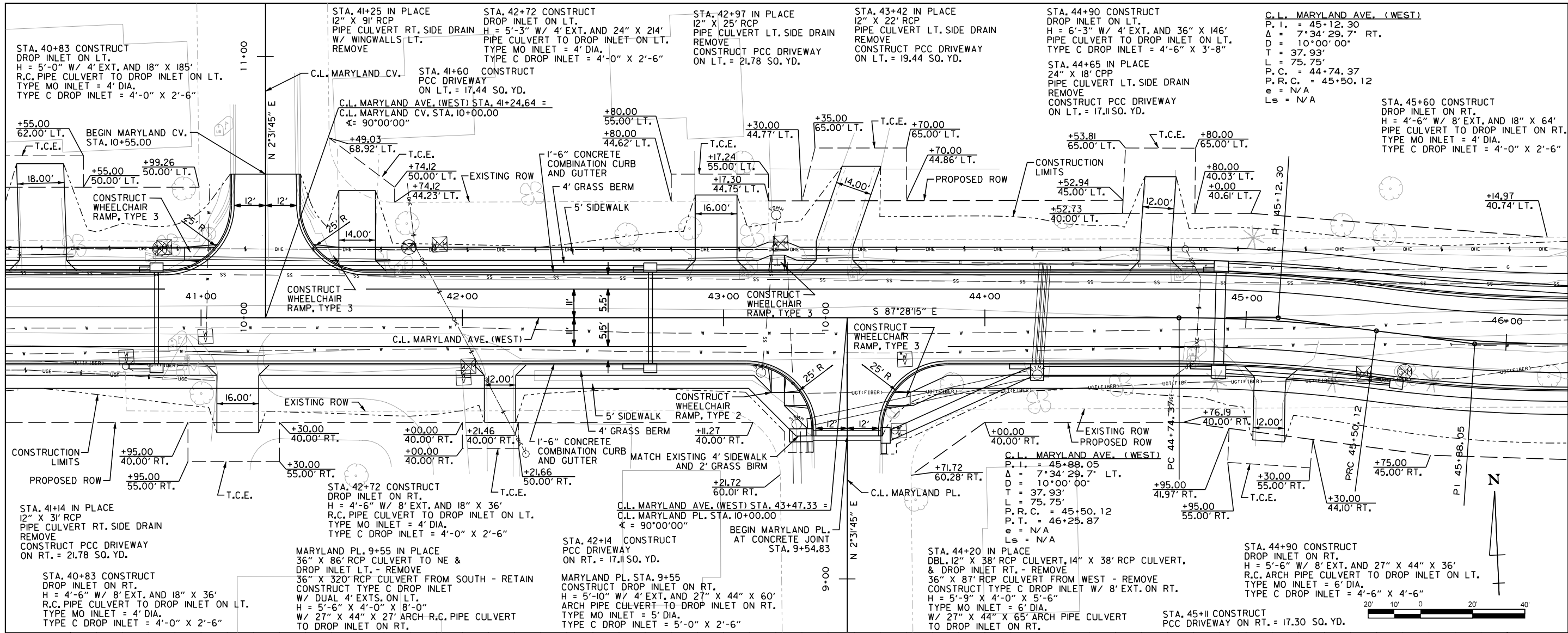
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

MARYLAND AVE.  
PLAN & PROFILE  
STA. 35+00 TO  
STA. 40+50

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

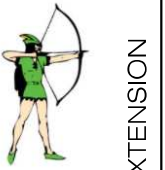
DRAWING NUMBER

SHEET NUMBER **25**



Digitally Signed: 12/19/2016

REV.	DATE	DESCRIPTION



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

MARYLAND AVE.  
PLAN & PROFILE  
STA. 40+50 TO  
STA. 46+00

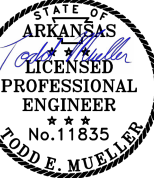
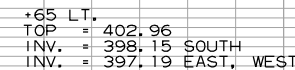
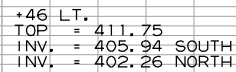
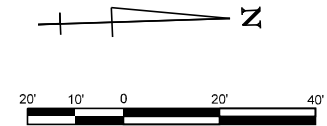
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET NUMBER **26**







Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND

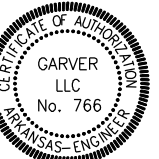
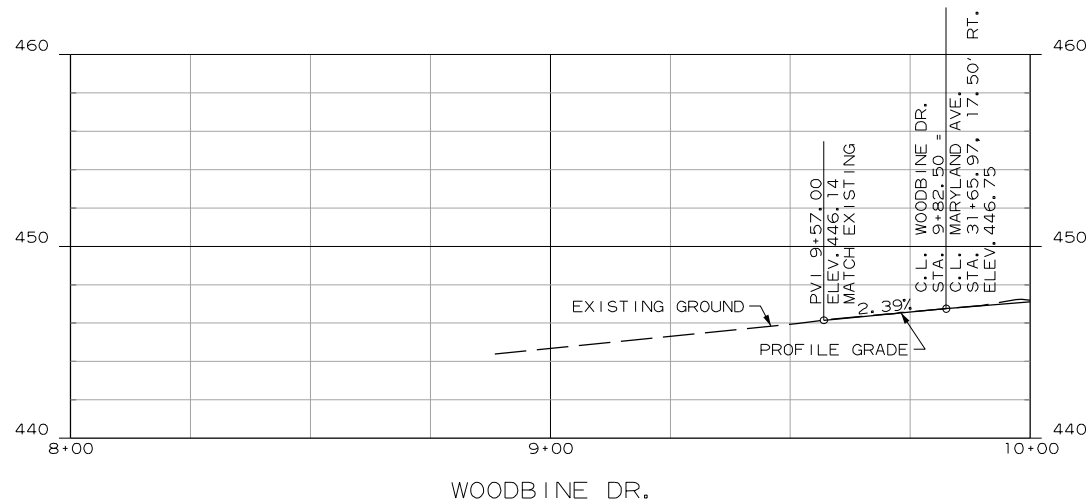
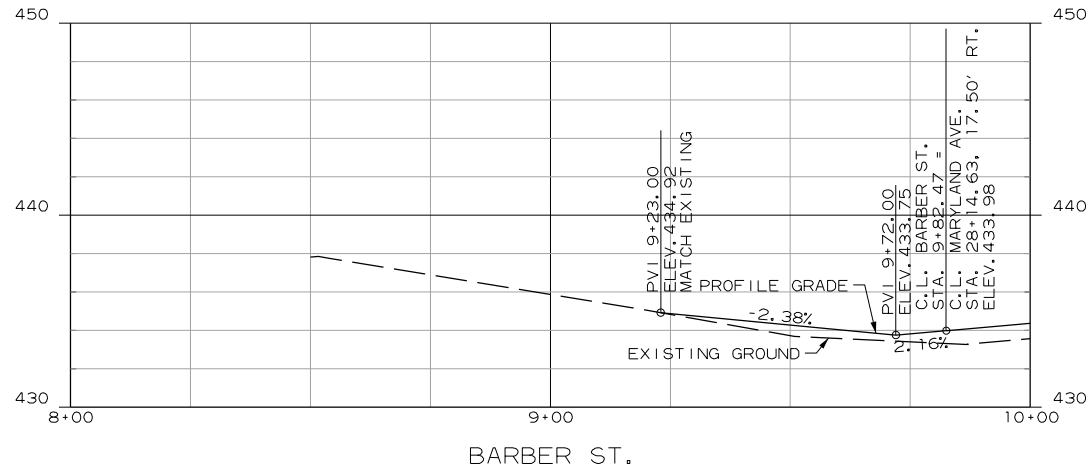
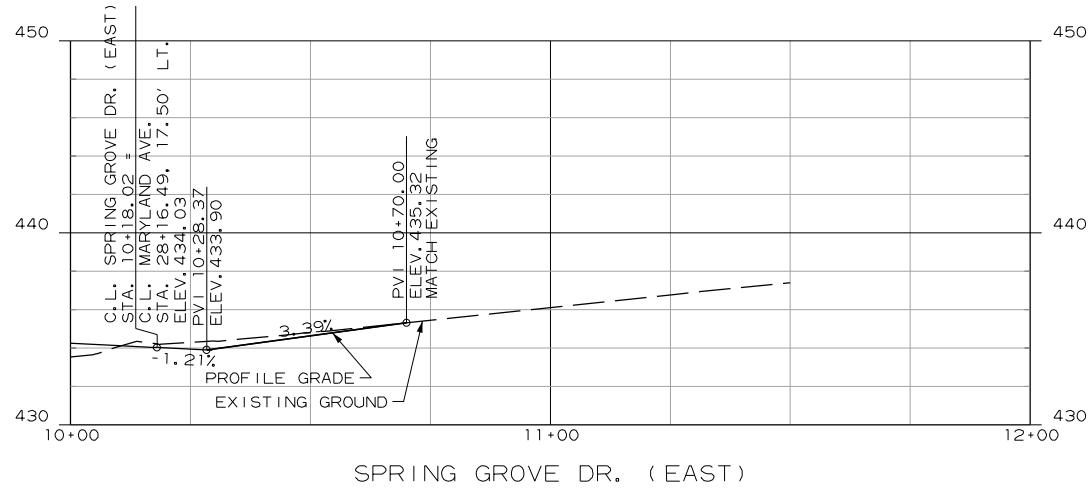
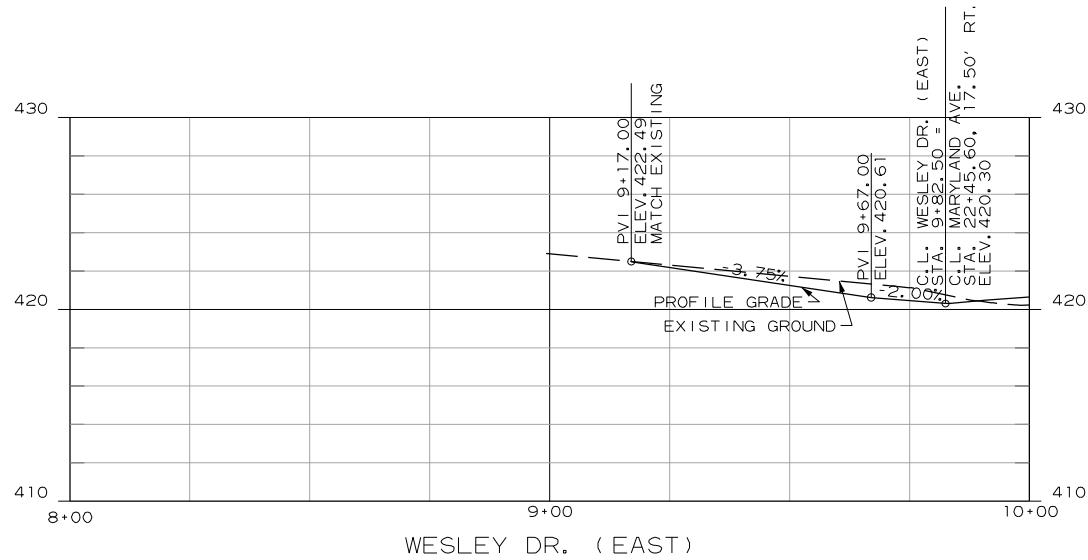
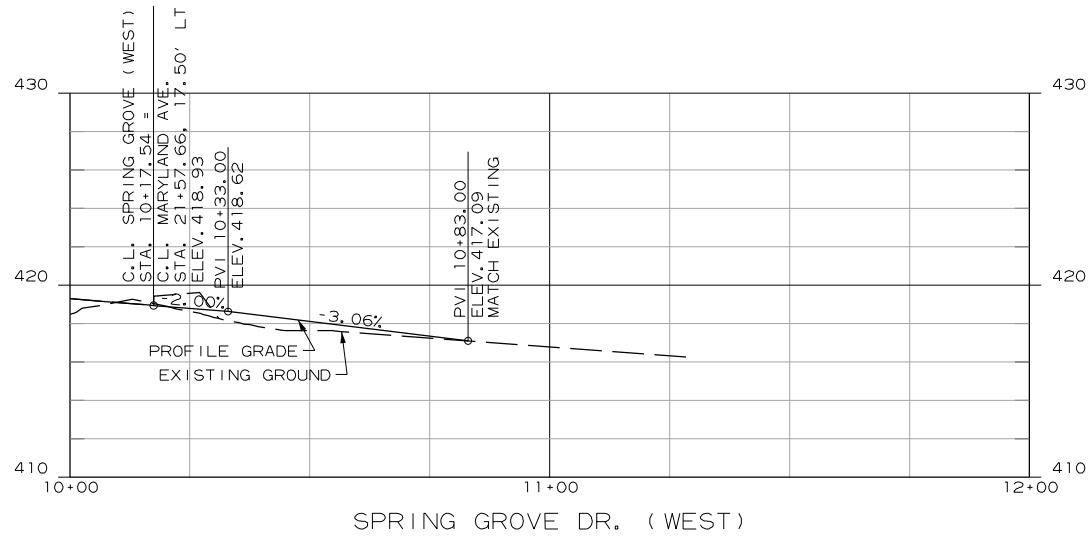
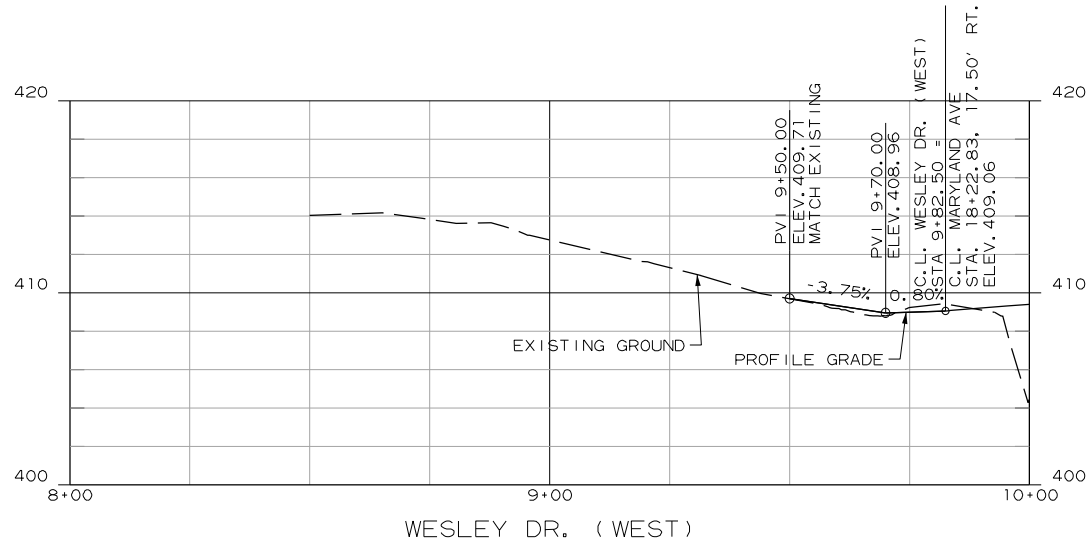
ROBIN LN.  
PLAN & PROFILE  
STA. 10+00 TO  
STA. 11+65

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **28**





Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

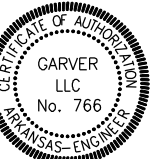
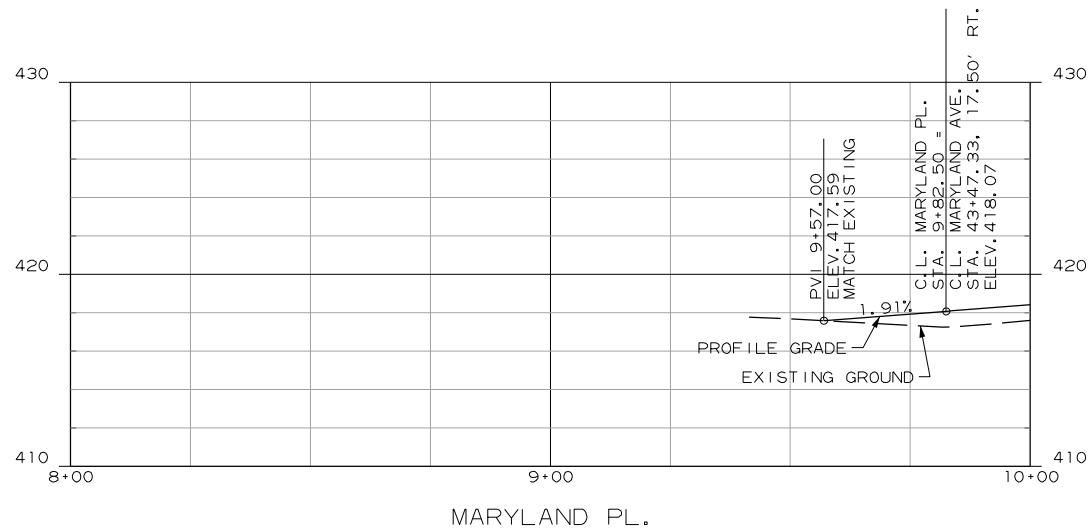
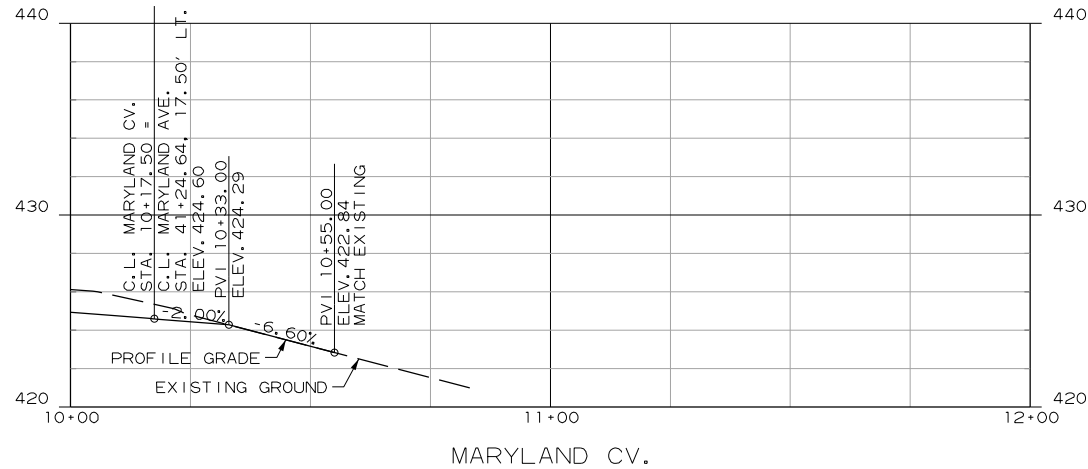
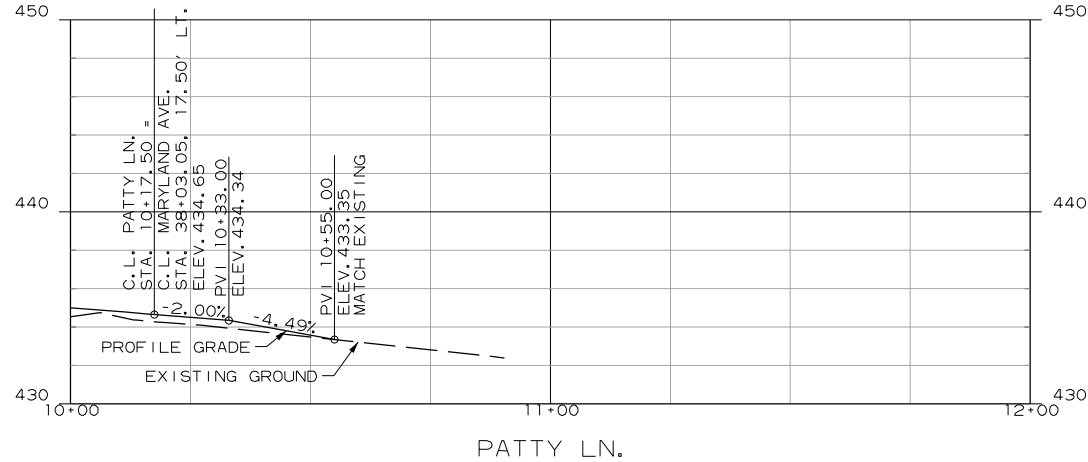
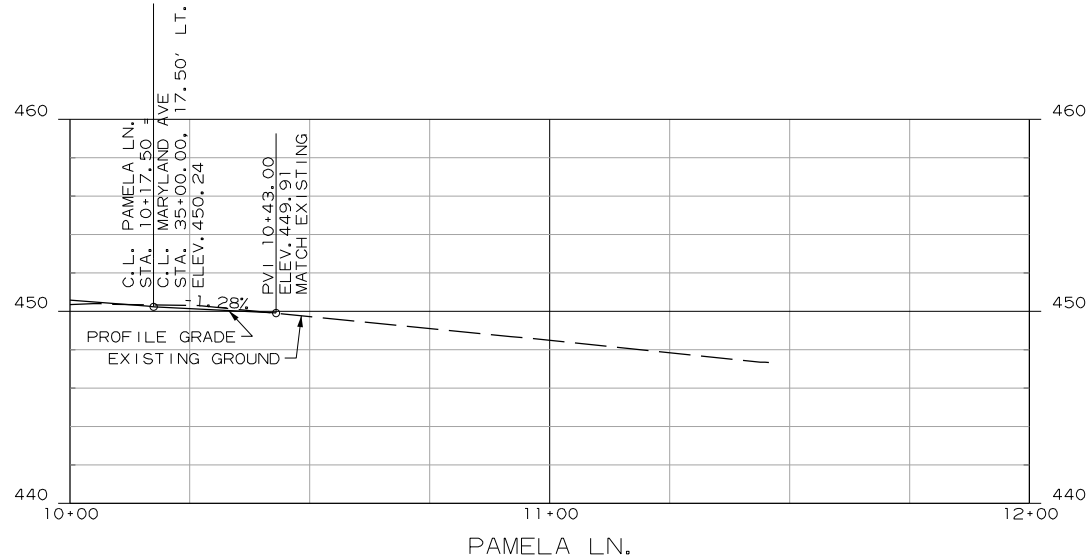
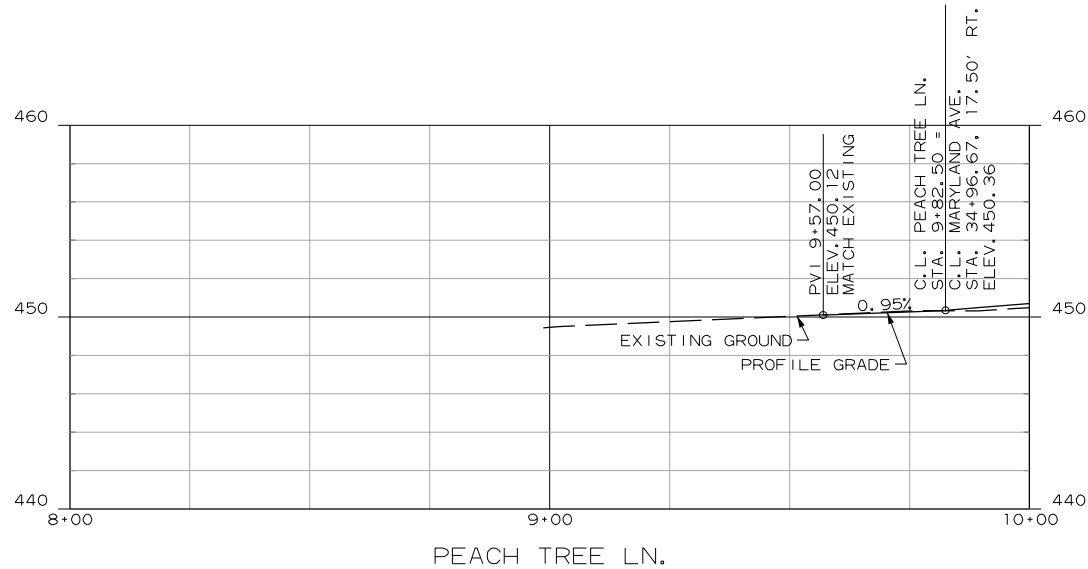
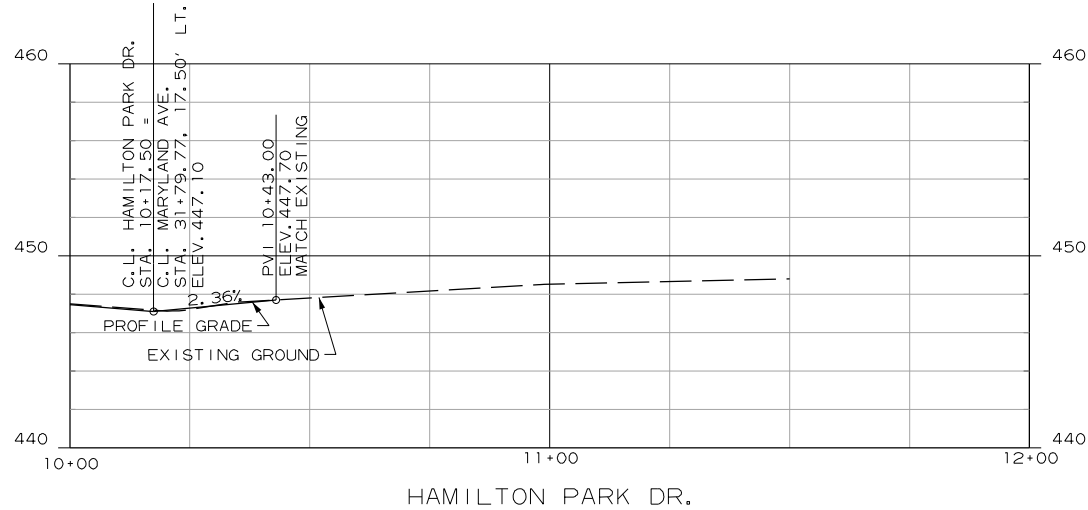
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SIDE  
ROAD  
PROFILES

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 29



Digitally Signed:  
12/19/2016

REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

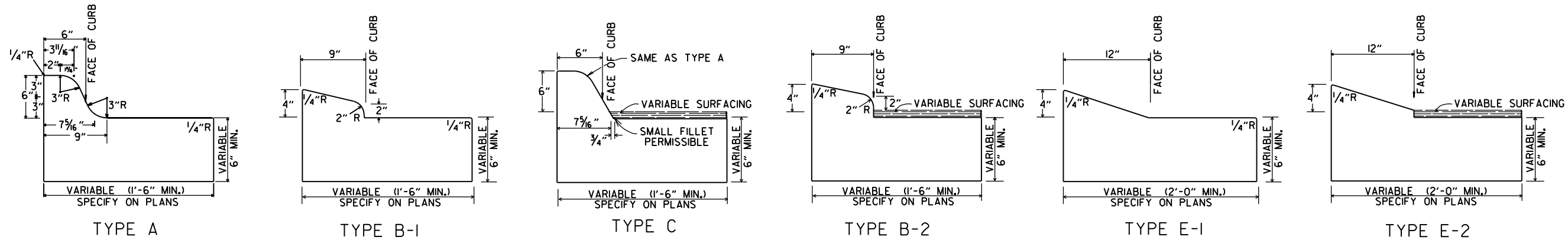
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

SIDE  
ROAD  
PROFILES

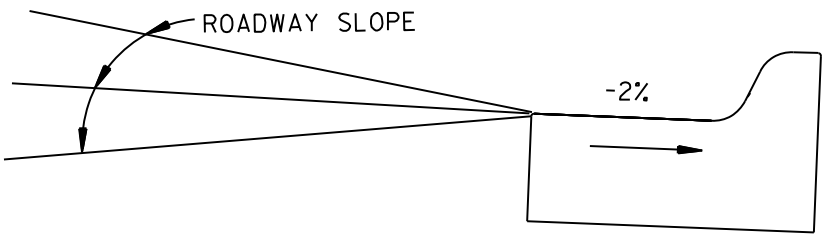
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

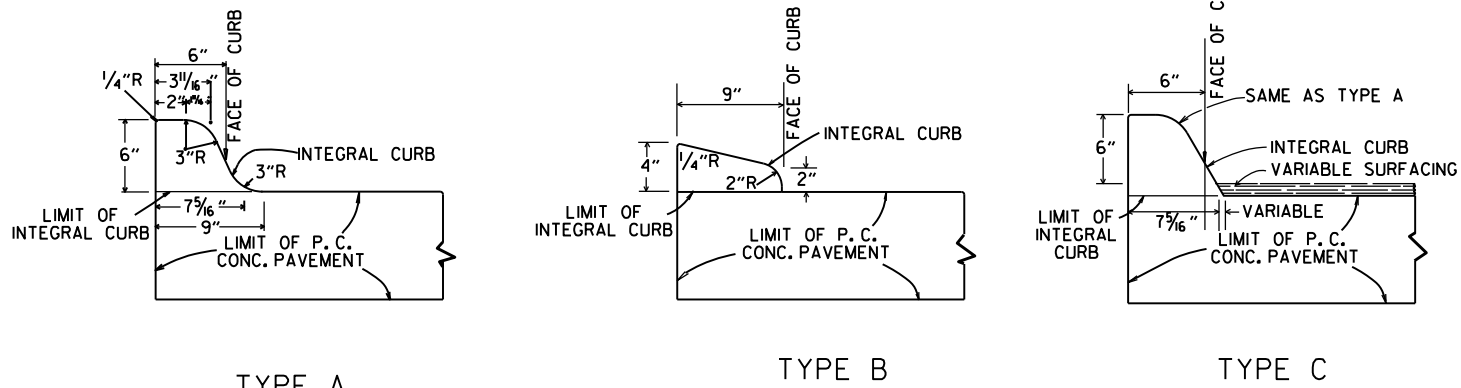
SHEET  
NUMBER 30



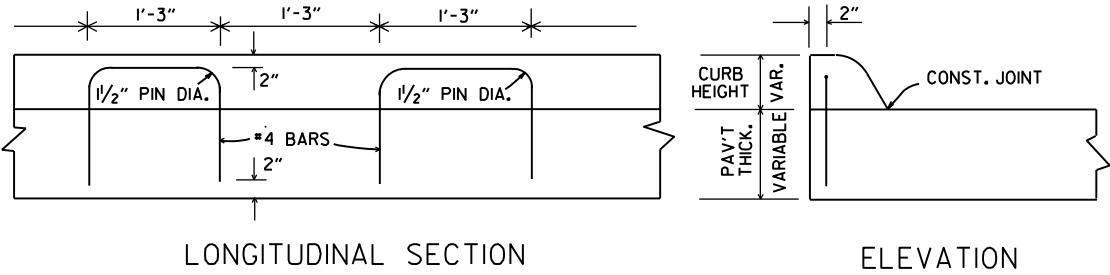
CONCRETE COMBINATION CURB AND GUTTER



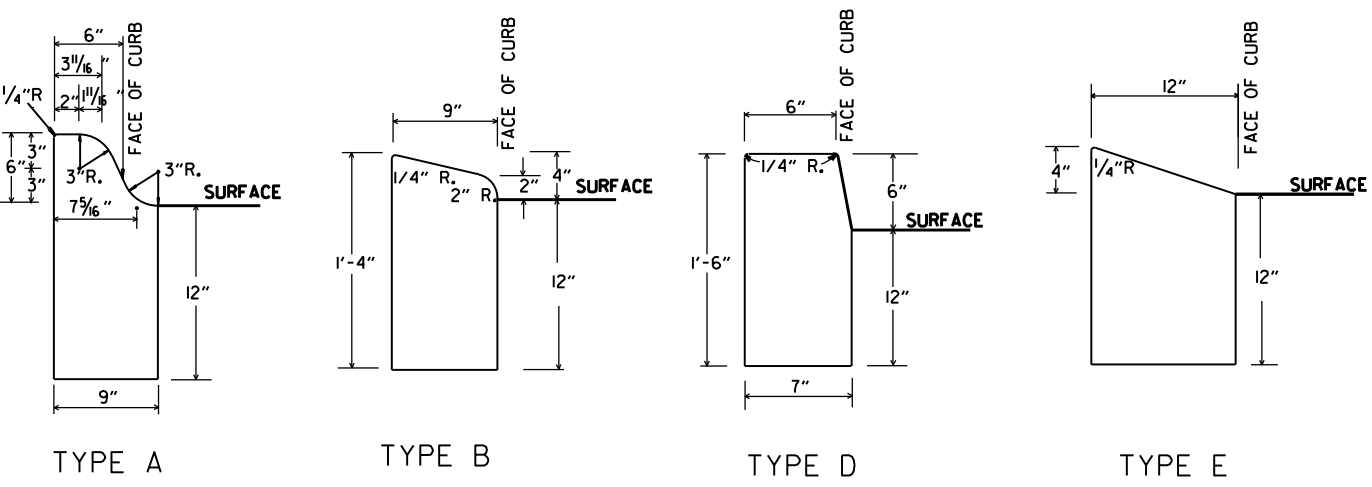
DETAIL OF GUTTER SLOPE  
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



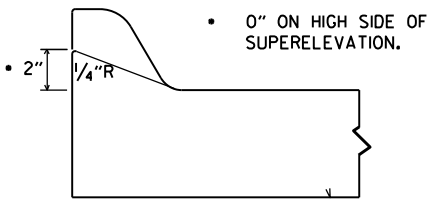
INTEGRAL CURB



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

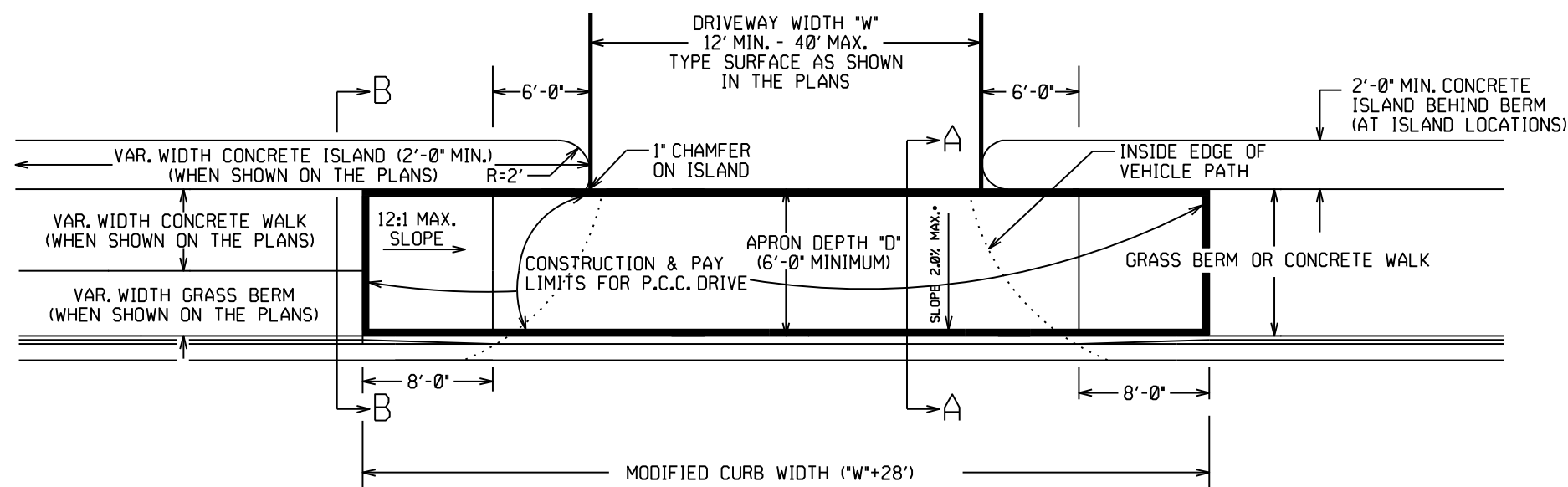
DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER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

ARKANSAS STATE HIGHWAY COMMISSION

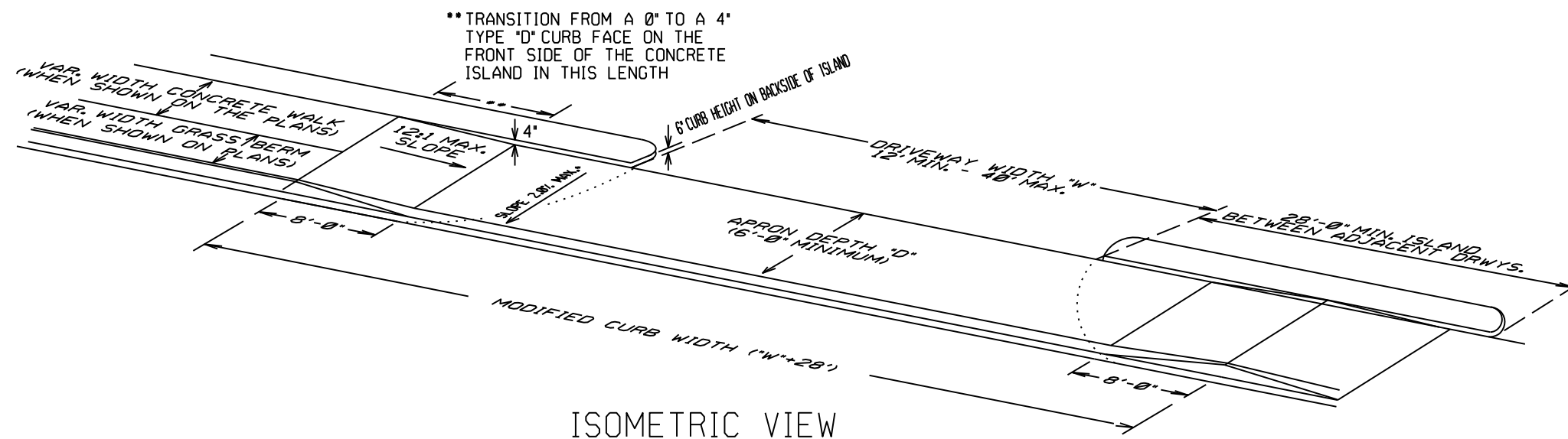
CURBING DETAILS

STANDARD DRAWING CG-1

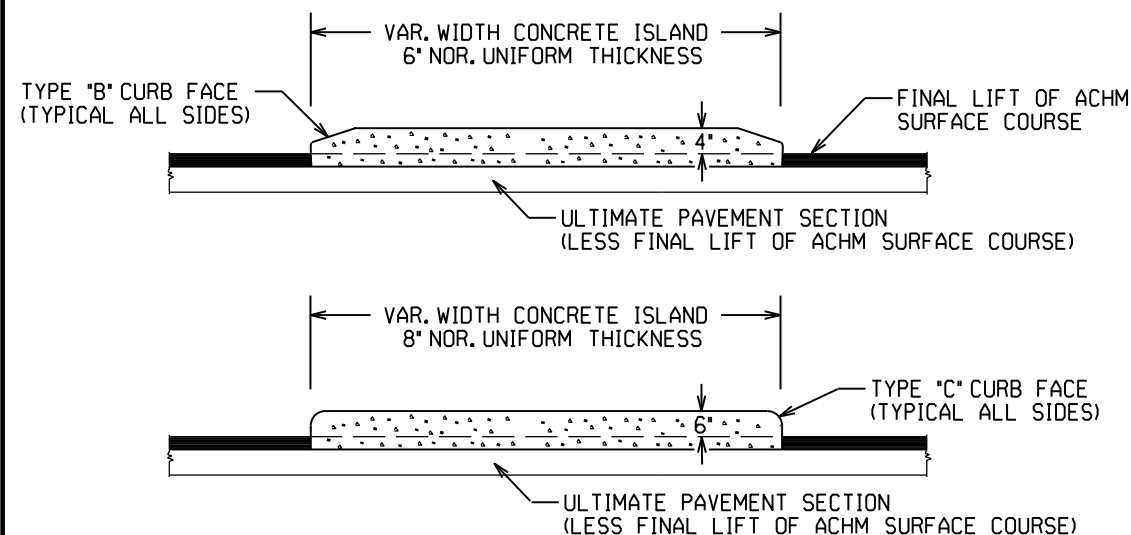




PLAN VIEW

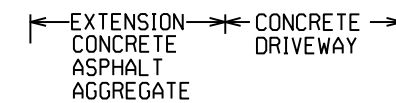


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

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

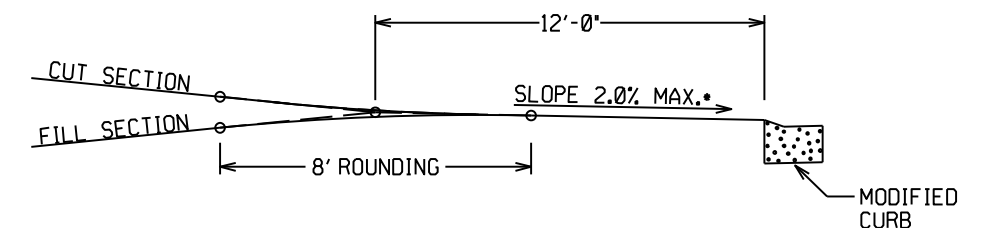


EXTENSION TYPICAL SECTIONS

- 1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY
- 2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")  
4" ACHM BINDER COURSE (1") OR  
4" ACHM BASE COURSE (1-1/2")
- 3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")  
7" AGGREGATE BASE COURSE
- 4: AGGREGATE - 6" AGGREGATE BASE COURSE

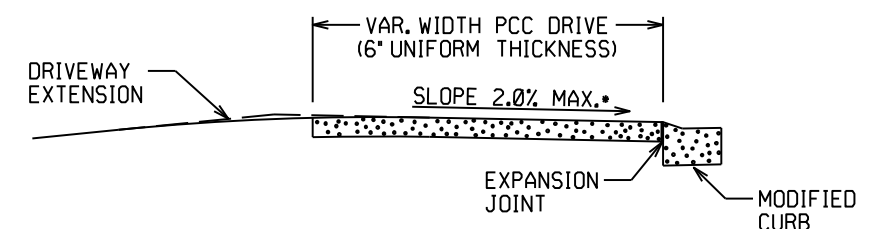
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS.  
THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER,  
SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU  
OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL  
COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

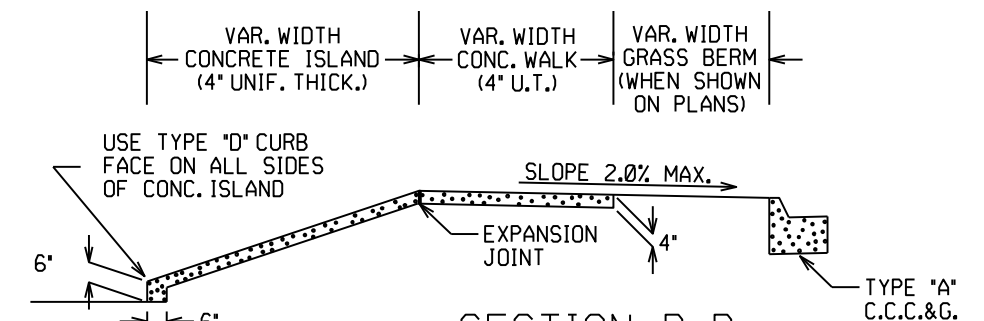


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



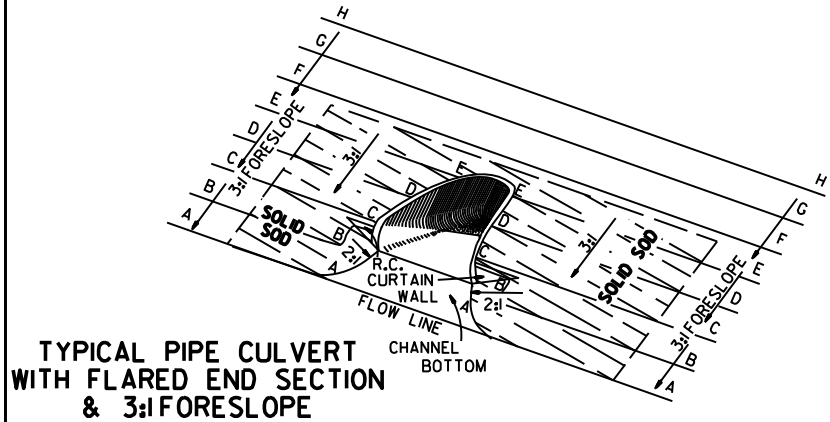
SECTION A-A



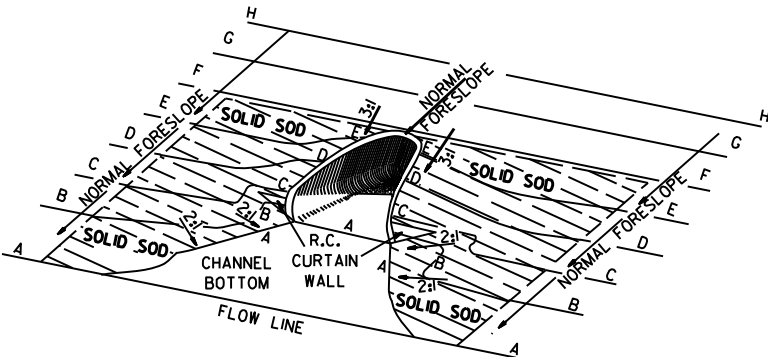
SECTION B-B  
CURBED ISLAND BEHIND WALK

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

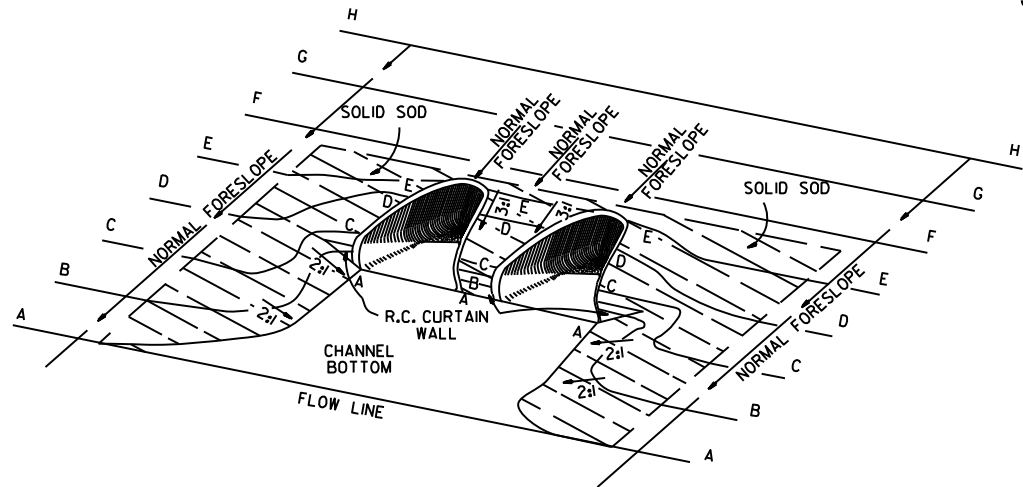
ARKANSAS STATE HIGHWAY COMMISSION  
DETAILS OF DRIVEWAYS & ISLANDS  
STANDARD DRAWING DR-1



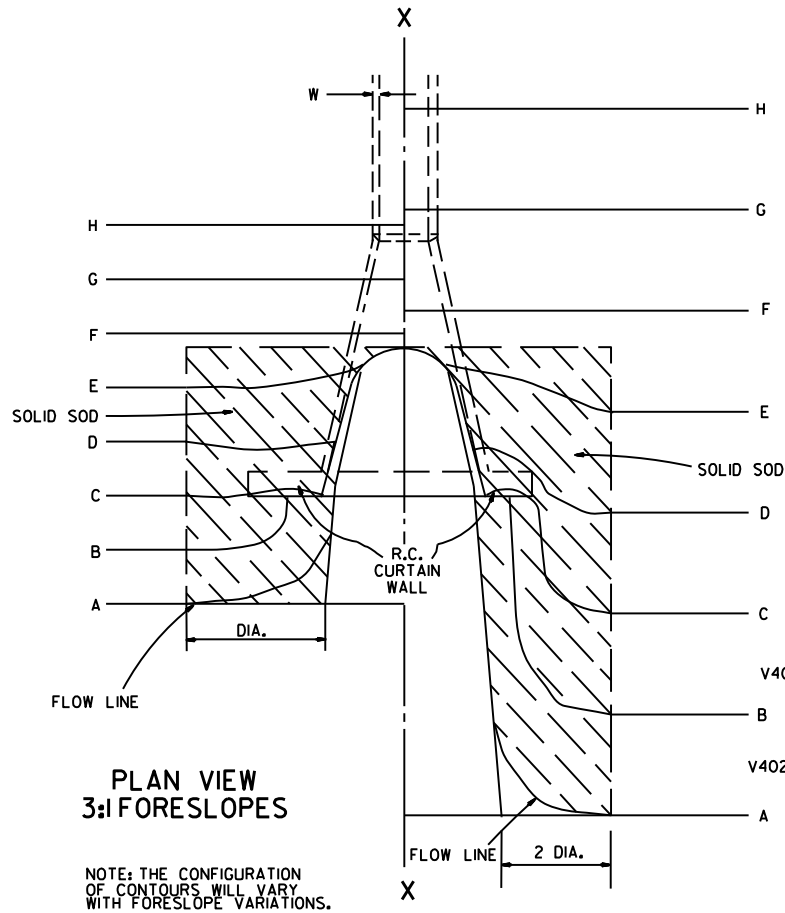
TYPICAL PIPE CULVERT  
WITH FLARED END SECTION  
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT  
WITH FLARED END SECTION  
& FLATTENED ADJACENT SLOPES



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



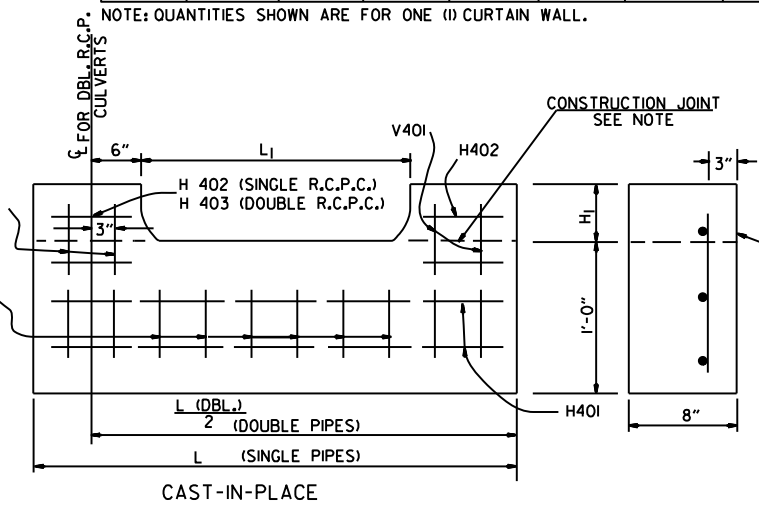
PLAN VIEW  
3:1 FORESLOPES

PLAN VIEW  
FLATTENED FORESLOPES

### R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

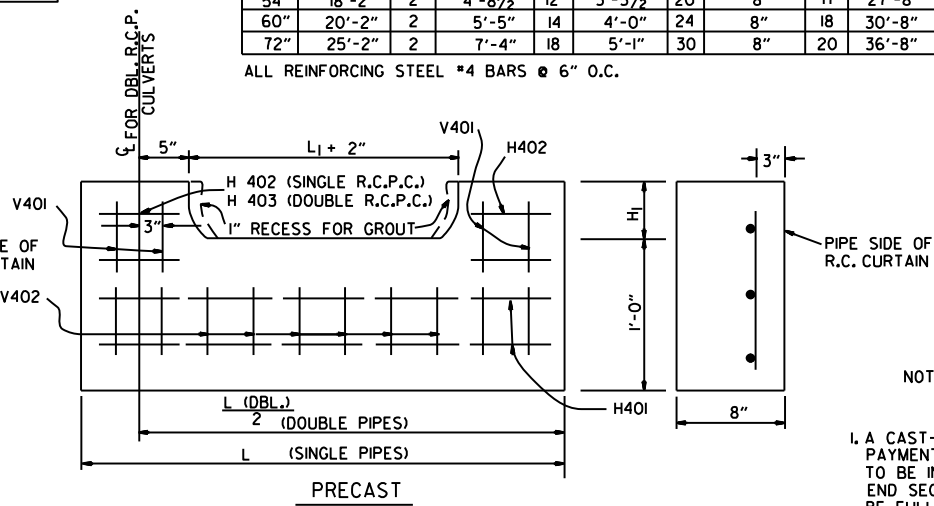
PIPE DIA.	H <sub>1</sub>	L <sub>1</sub>	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45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



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



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'-9"	12	8"	6	3'-5 1/2"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

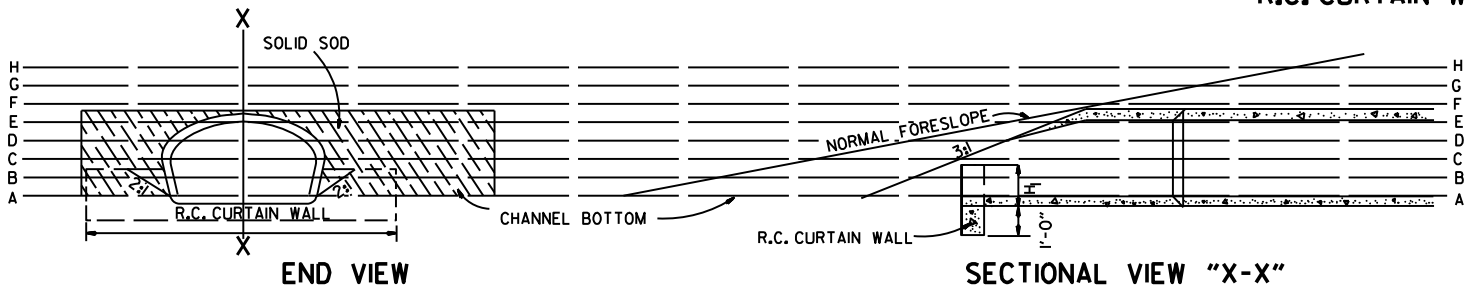
### SOLID SODDING

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

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

### GENERAL NOTES

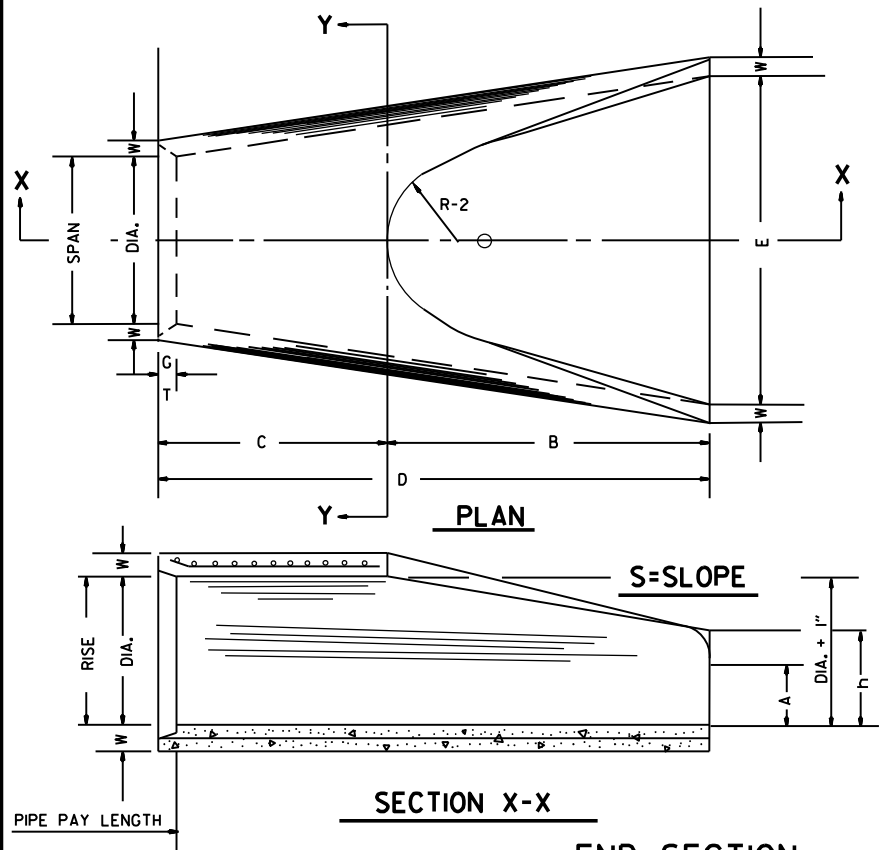
1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE;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



END VIEW

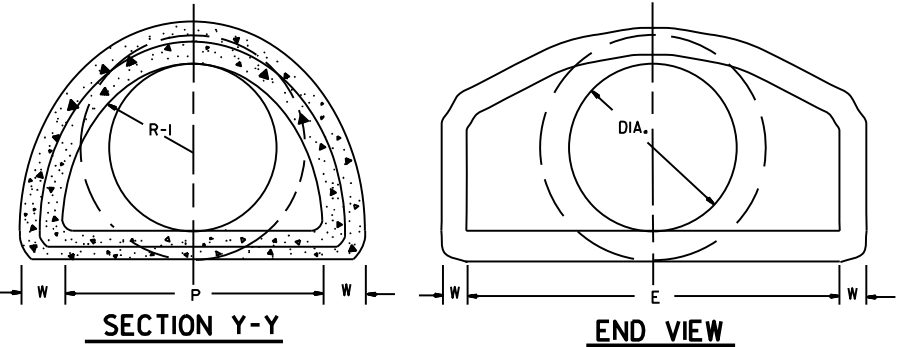
SECTIONAL VIEW "X-X"

10-18-96	ADDED NOTE TO SOLID SODDING			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



END SECTION  
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS															
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h	
18"	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 1/8"	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 3/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"	
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"	
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 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 3/8"	38 3/8"	24"	5"	13250	4'-6"	

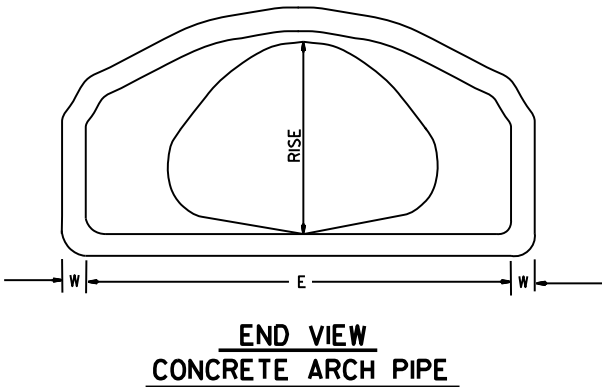


NOTE: TONGUE END ON UPSTREAM SECTION  
GROOVE END ON DOWNSTREAM SECTION

ARCH PIPE

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

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



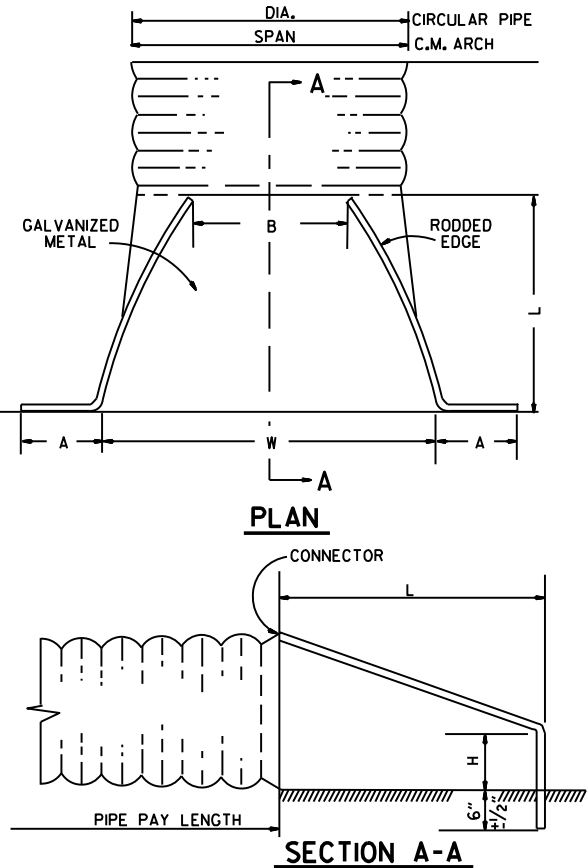
END VIEW  
CONCRETE ARCH PIPE

CIRCULAR PIPE

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

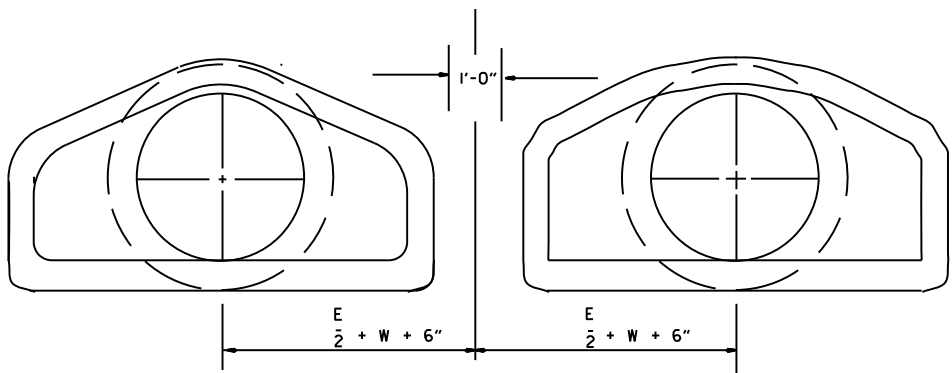
C.M. ARCH PIPE

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

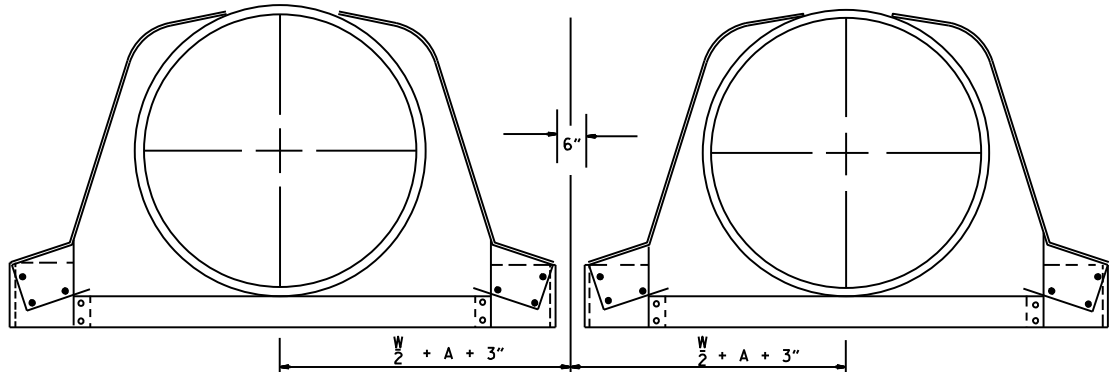


NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



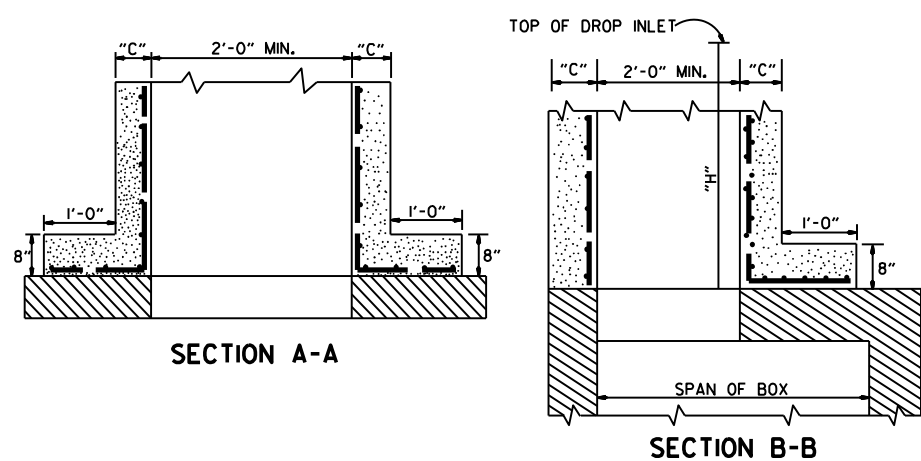
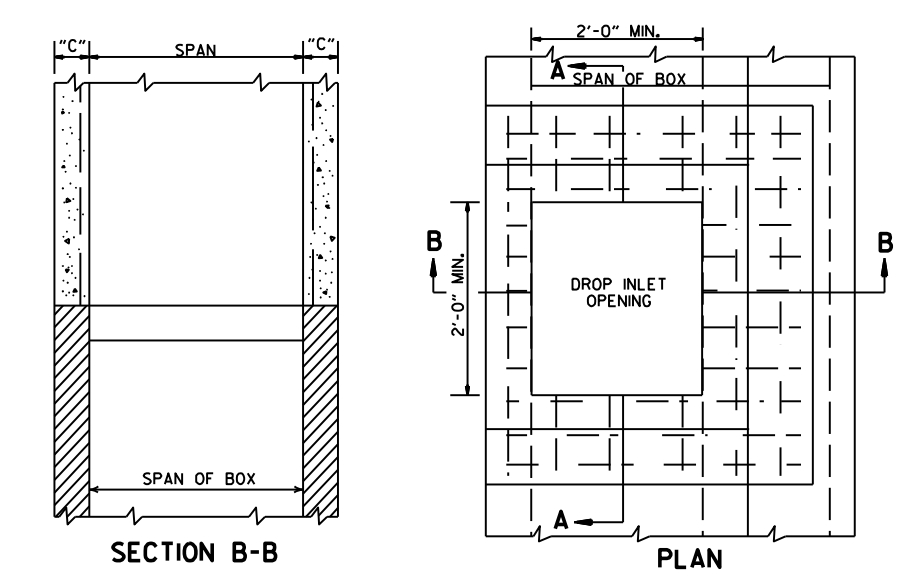
MULTIPLE R.C. PIPE CULVERTS



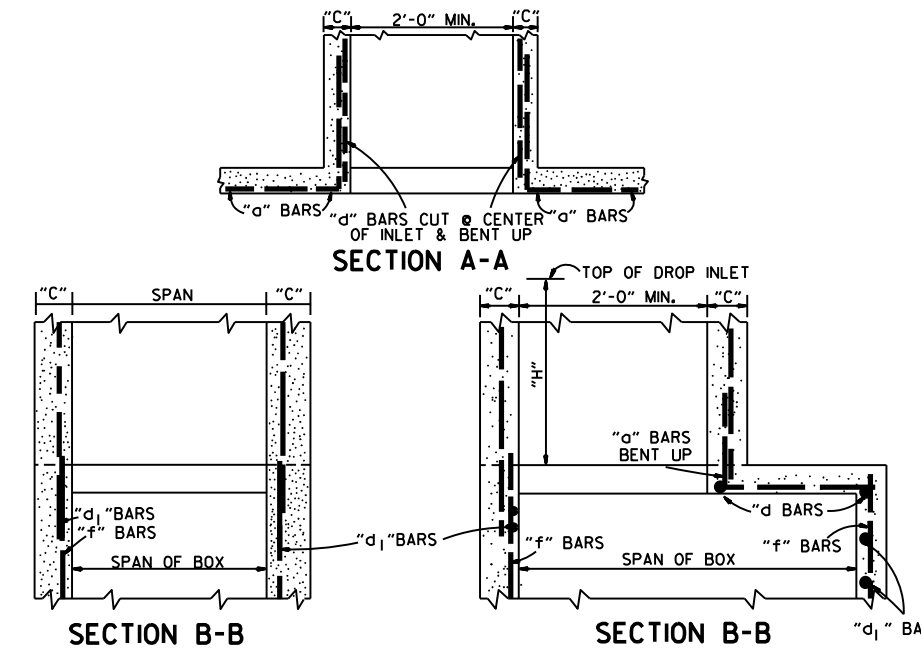
MULTIPLE C.M. PIPE CULVERTS

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



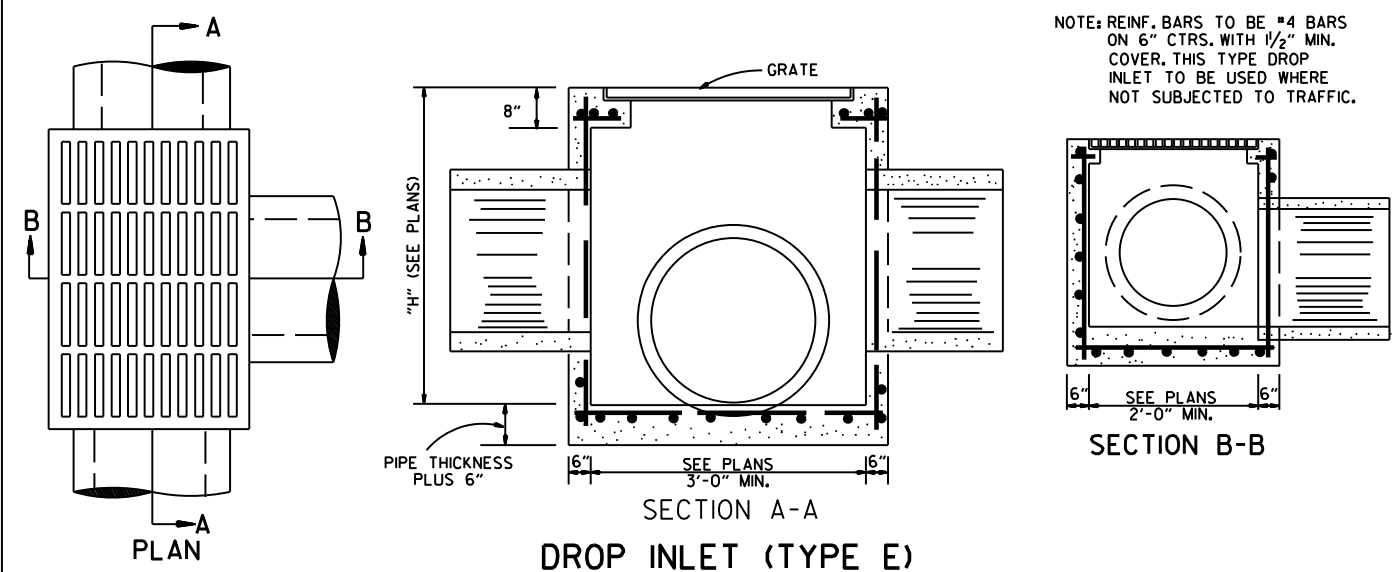


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

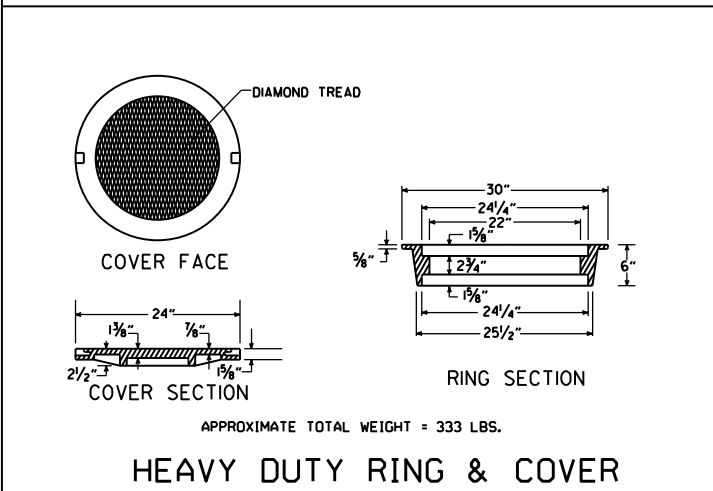


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

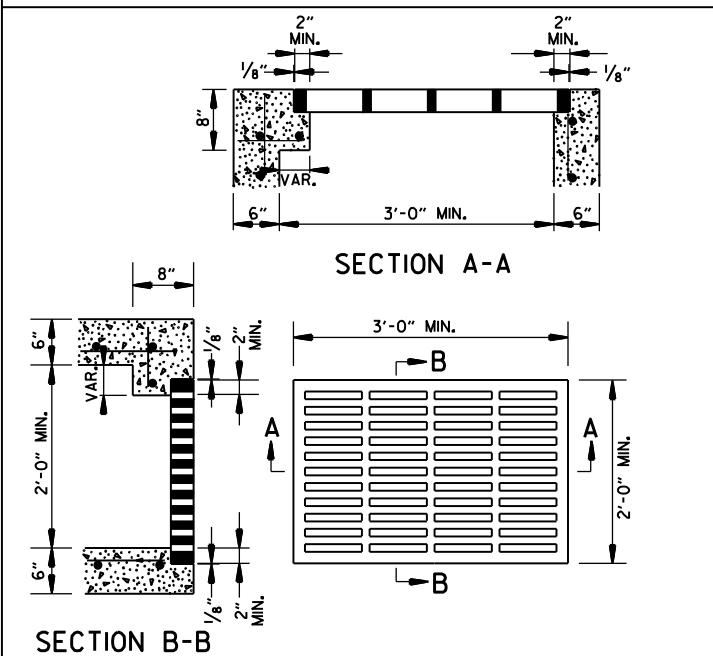
NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



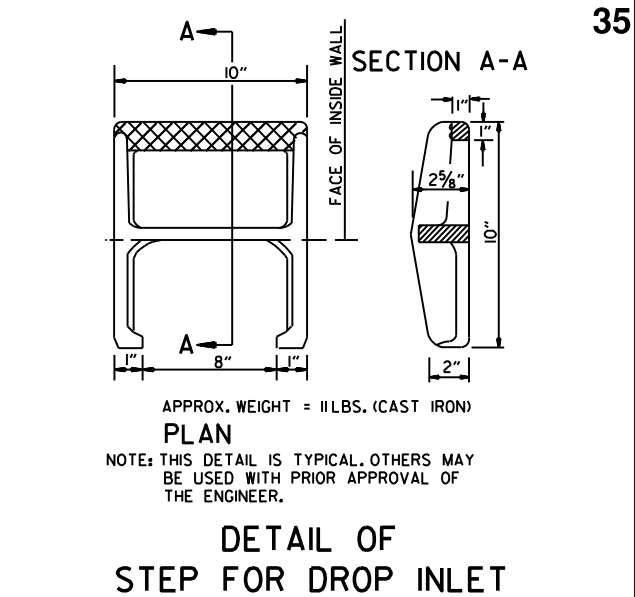
DROP INLET (TYPE E)



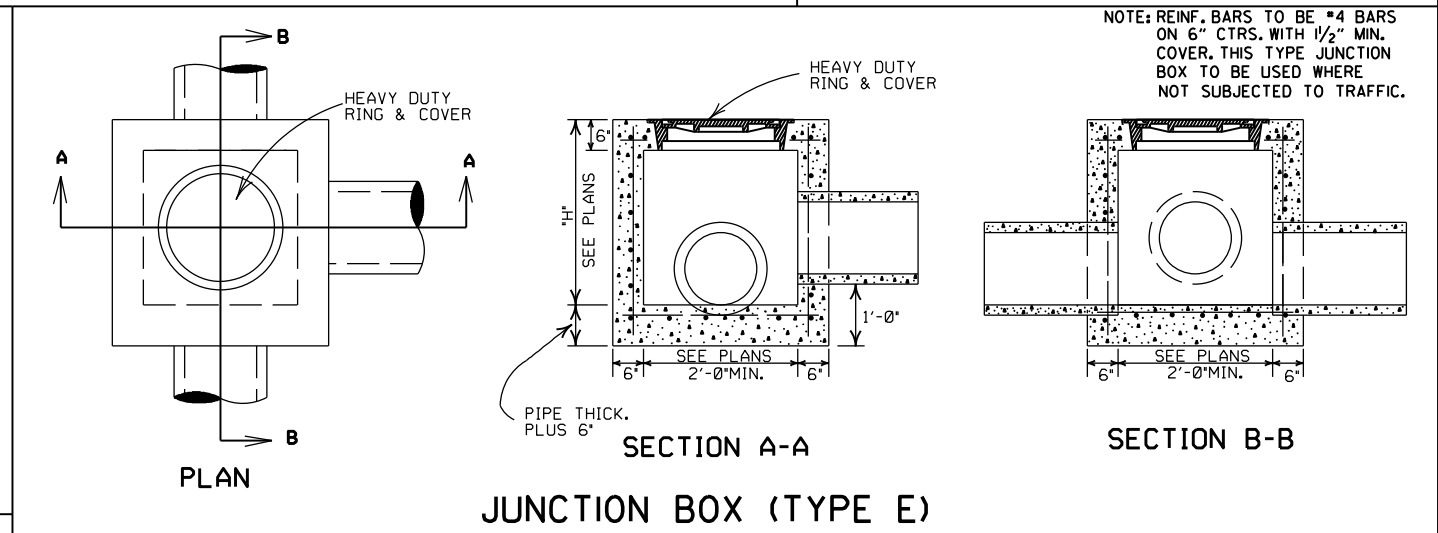
HEAVY DUTY RING & COVER



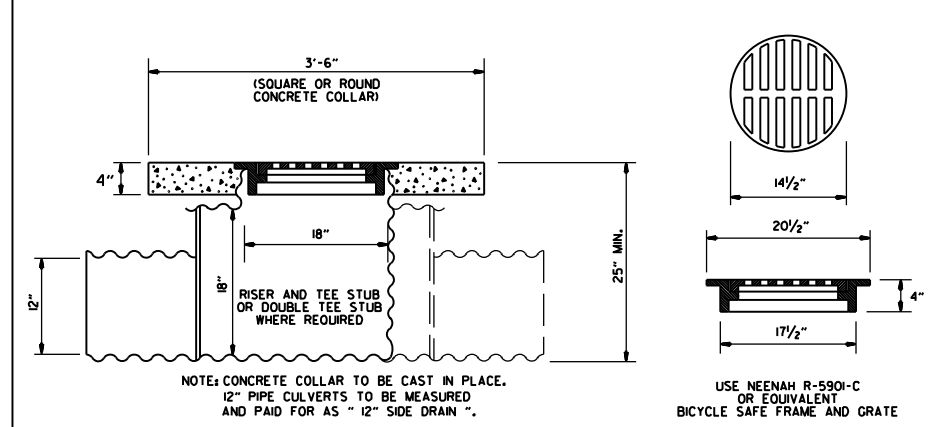
GRATE FOR TYPE E DROP INLET



DETAIL OF STEP FOR DROP INLET



JUNCTION BOX (TYPE E)



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.

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		
DATE REV.	REVISION	DATE FILMED	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

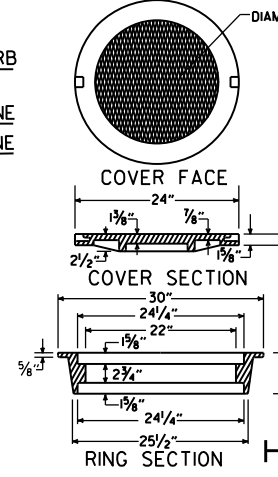
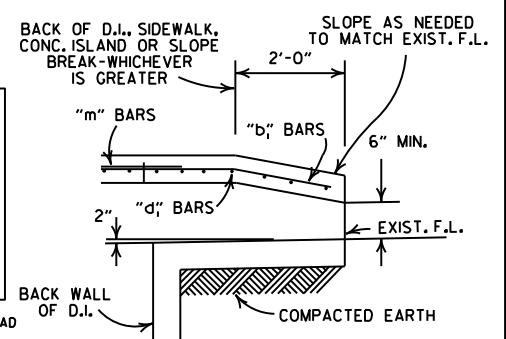
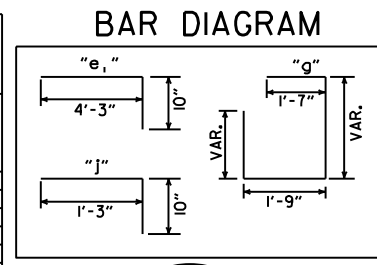
STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET DROP INLET EXTENSION

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0"		PLUS OR MINUS PER LIN. FT. OF HEIGHT		4'-0"		8'-0"	
		CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL
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		

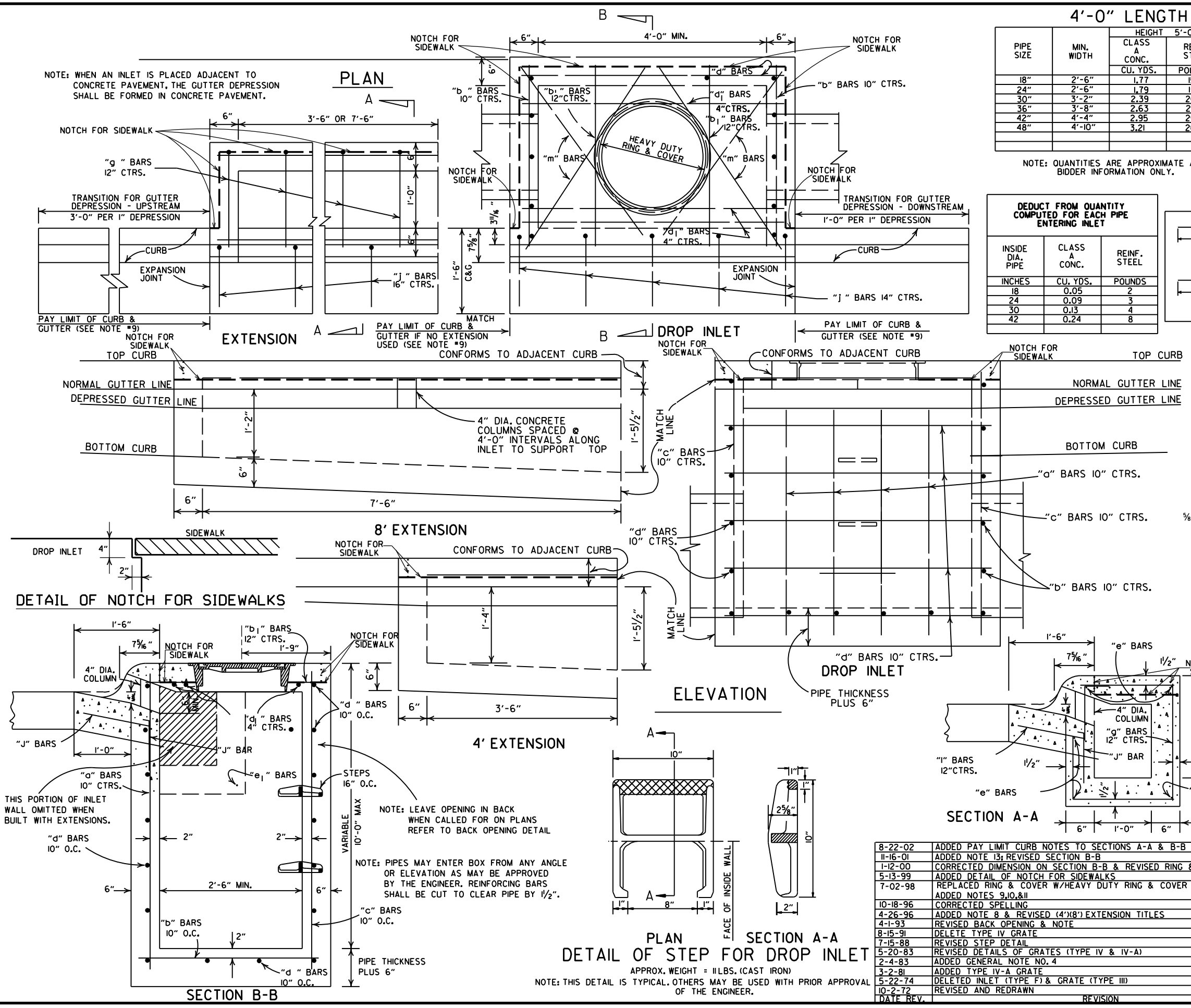
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

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



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

NOTE: WHEN AN INLET IS PLACED ADJACENT TO CONCRETE PAVEMENT, THE GUTTER DEPRESSION SHALL BE FORMED IN CONCRETE PAVEMENT.

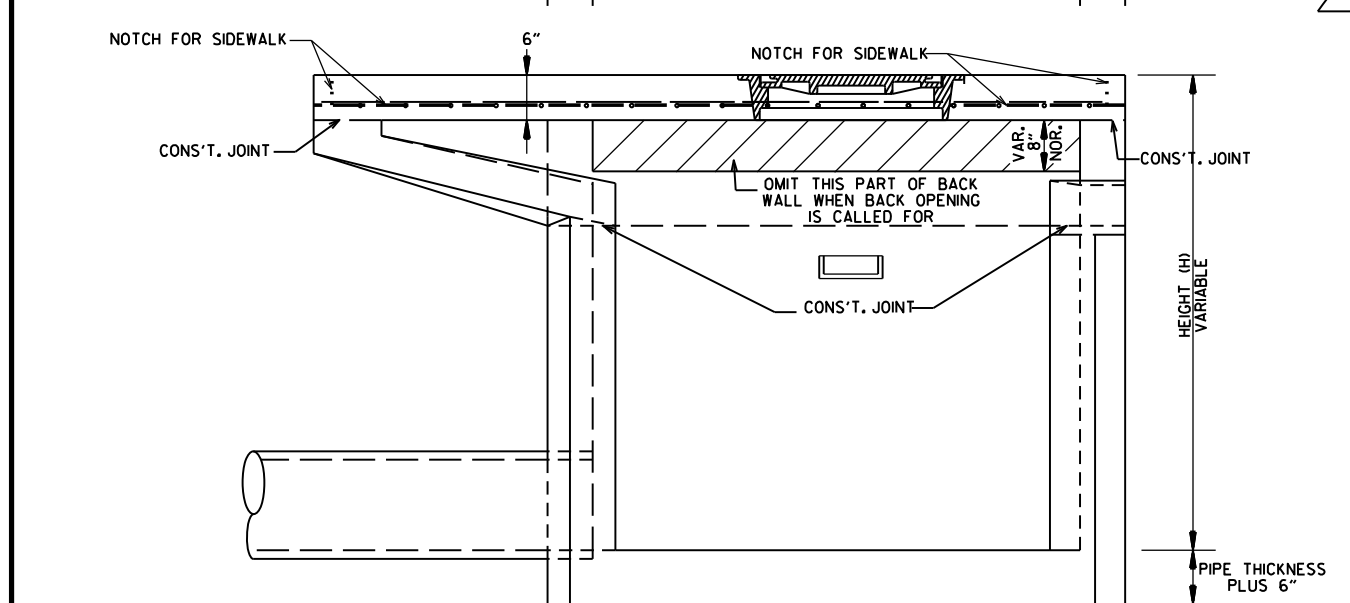
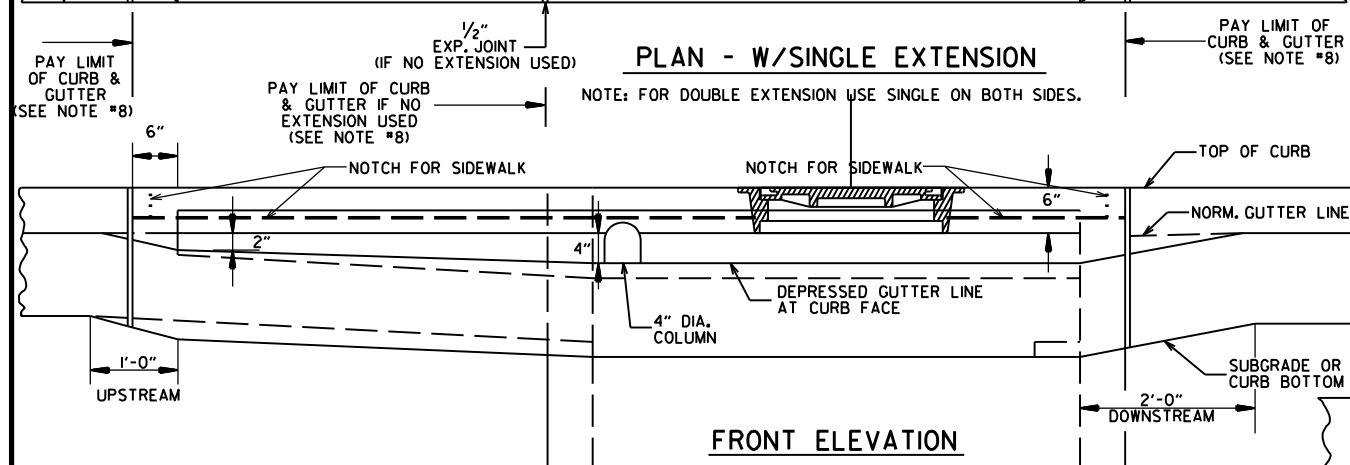
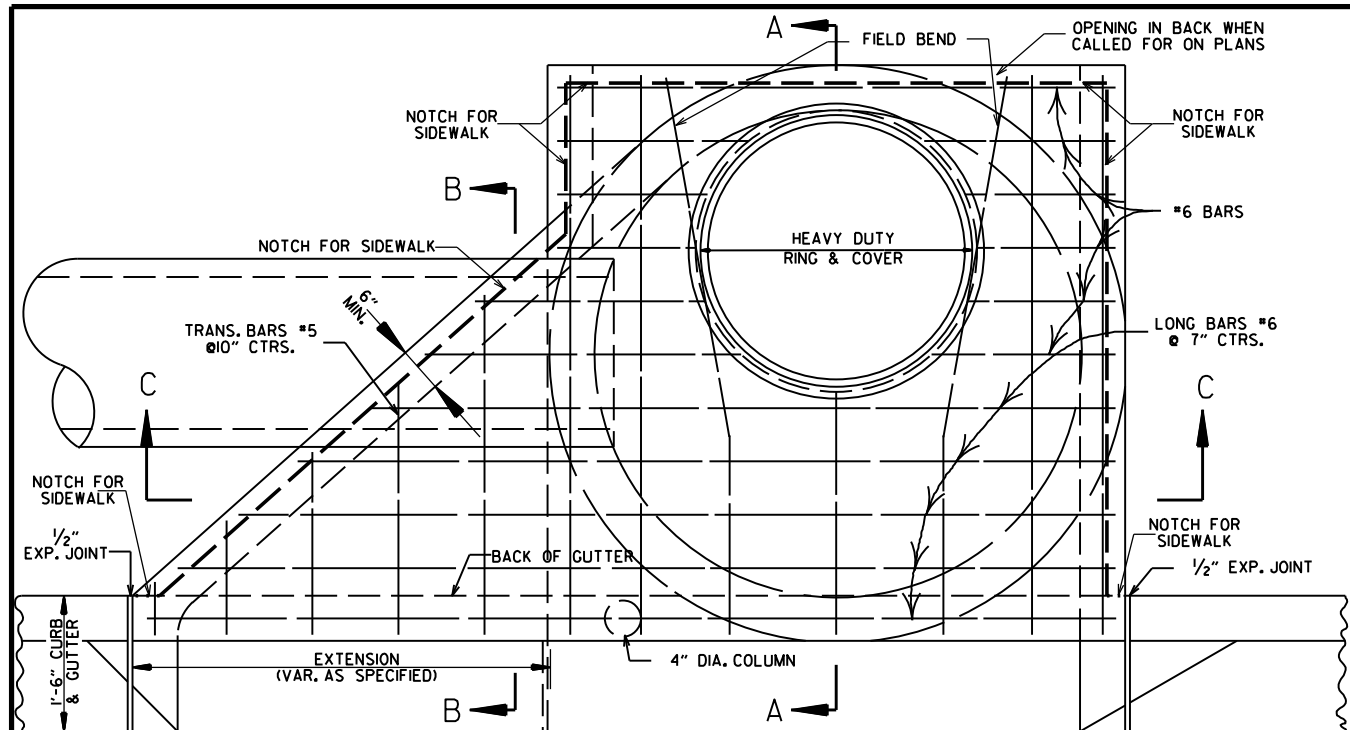


DATE	REV.	REVISION	DATE FILMED
8-22-02		ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01		ADDED NOTE 13; REVISED SECTION B-B	
1-12-00		CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99		ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98		REPLACED RING & COVER W/HEAVY DUTY RING &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

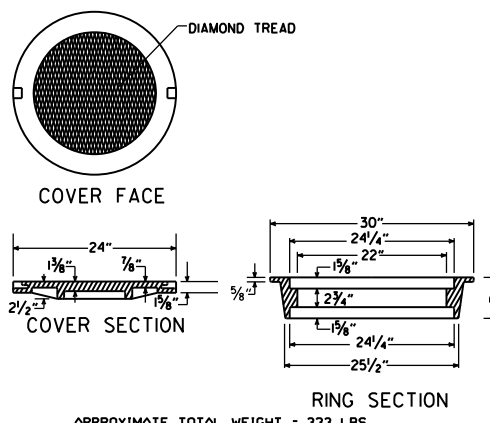
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS  
(TYPE C)

STANDARD DRAWING FPC-9E

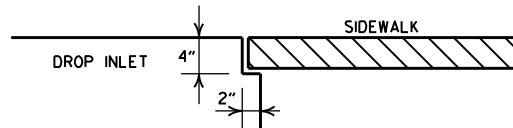


SECTION C-C

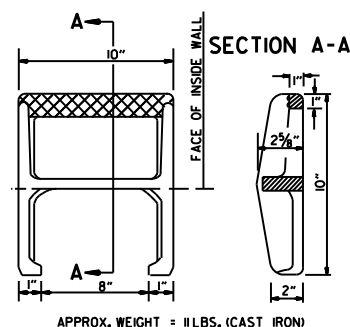


HEAVY DUTY RING & COVER

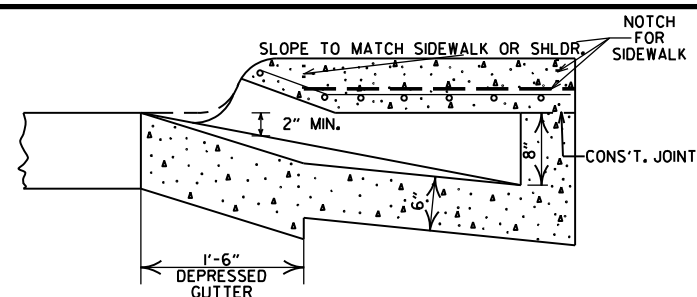
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON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



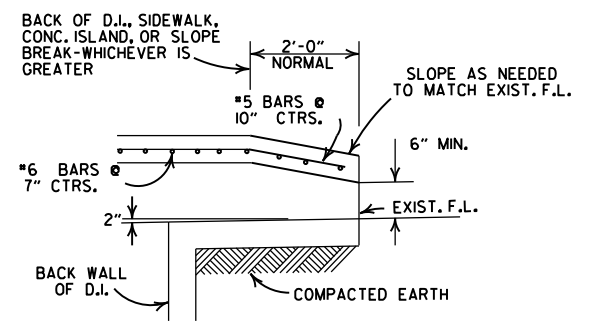
DETAIL OF NOTCH FOR SIDEWALKS



DETAIL OF STEP FOR DROP INLET



SECTION B-B



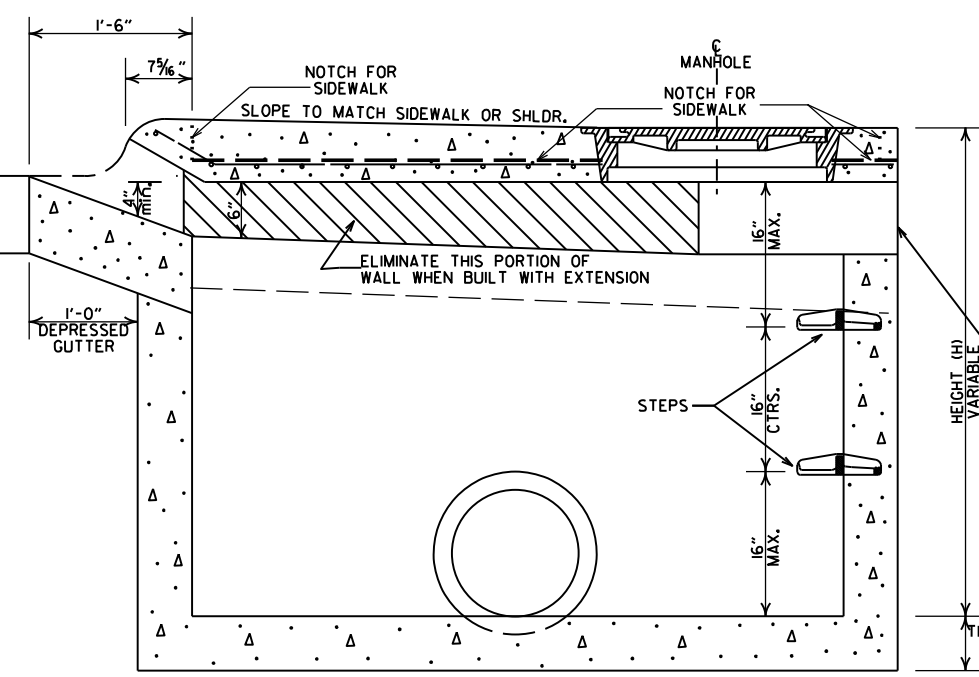
BACK OPENING

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

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

8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
11-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REV. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11, ADJ. OPENING DIMENSION	
10-12-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
7-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
4-1-94	REV. BACK OPEN DETAIL & NOTE	11-23-94
4-1-93	REVISED GENERAL NOTES	4-1-93
8-15-91	REVISED NOTES 11, 12 & 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
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	6-19-15-88
11-14-87	MODIFIED WALL THICKNESS	7-83-11-14-87
15-12-87	ISSUED	4-6-12-87
DATE	REVISIONS	DATE FILMED

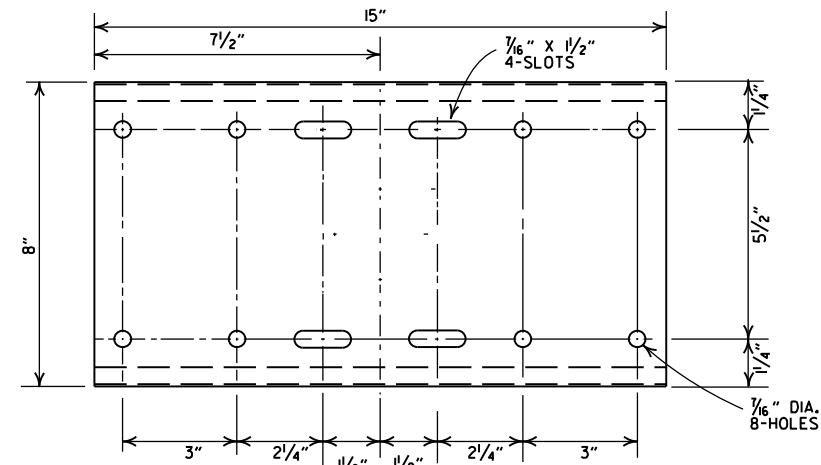
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

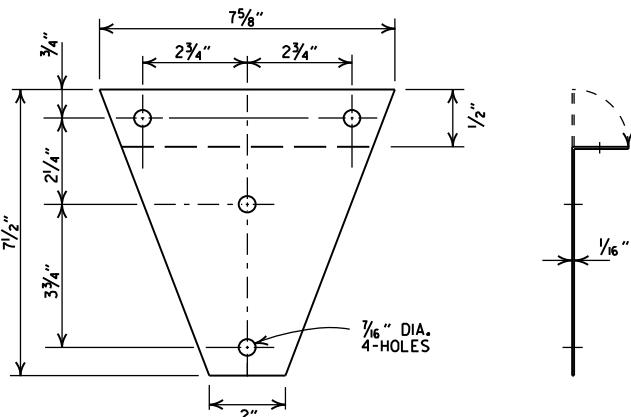
STANDARD DRAWING FPC-9M



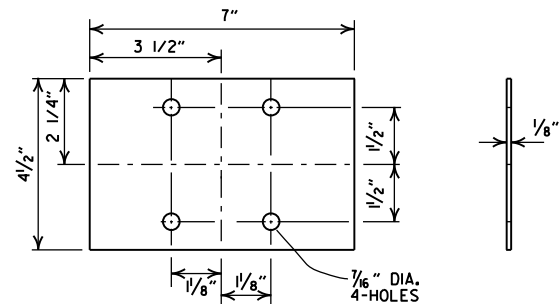




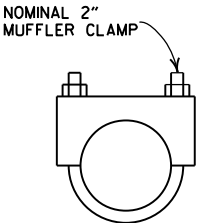
SHELF



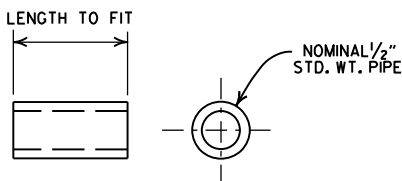
BRACKET



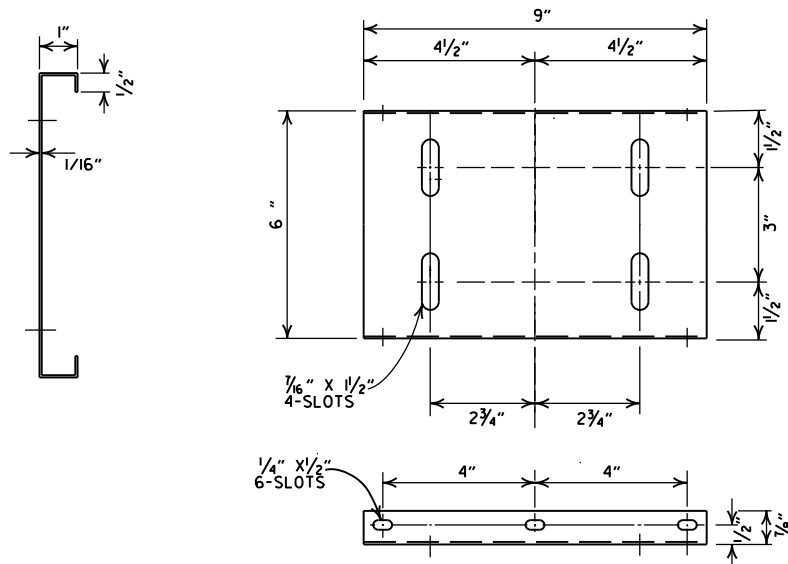
ANTI-TWIST PLATE



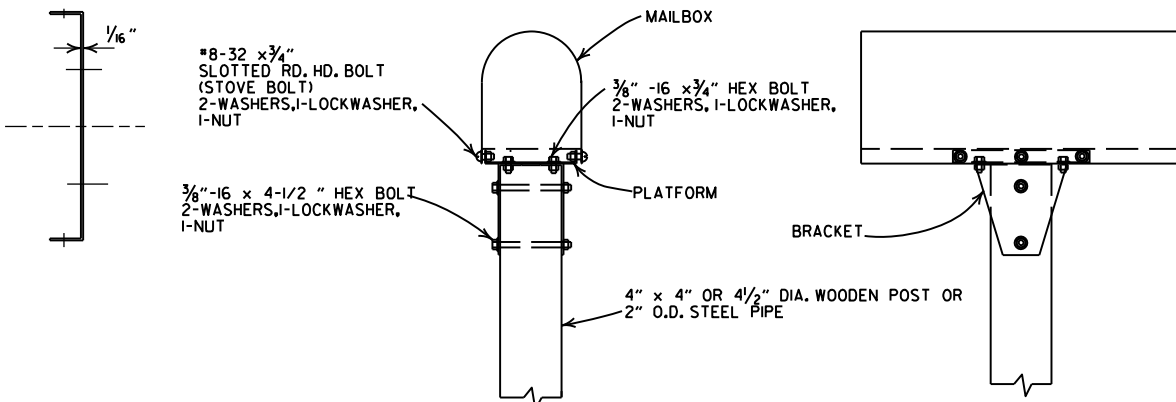
CLAMP



SPACER

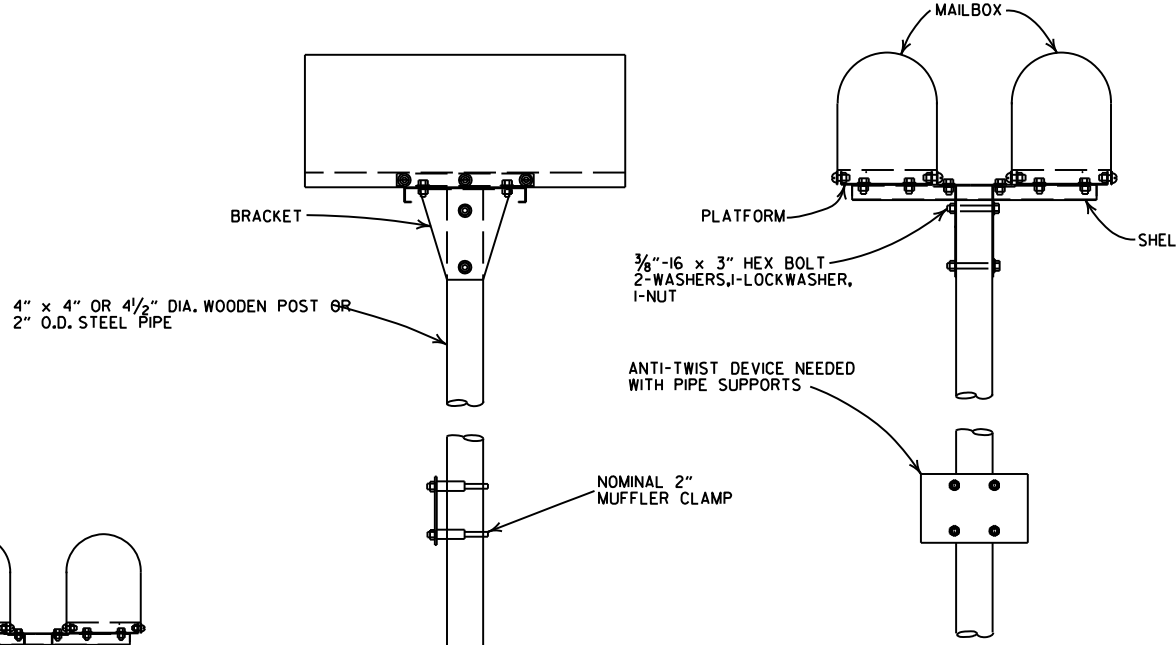


PLATFORM

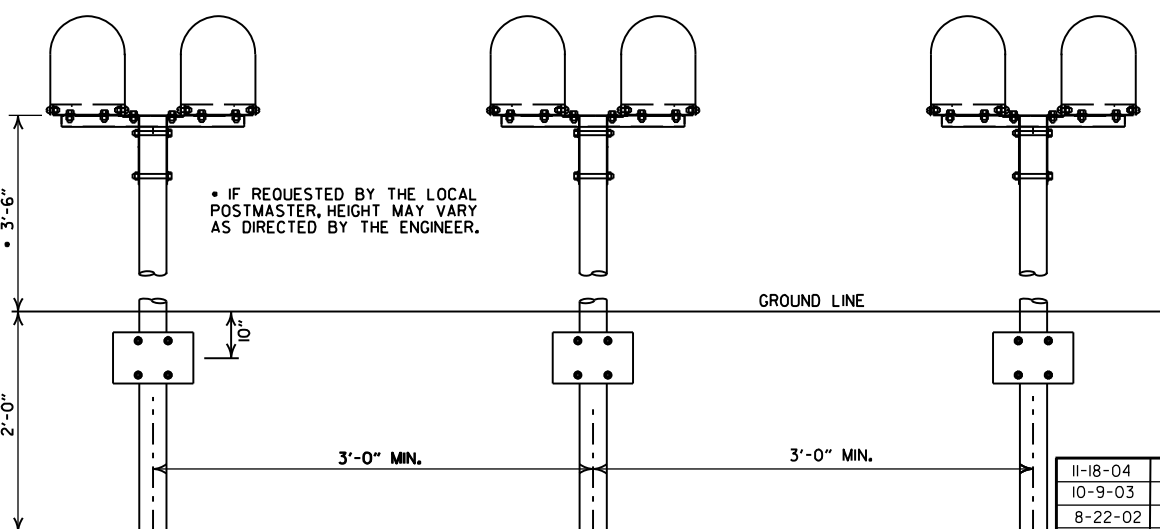


SINGLE INSTALLATION

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



DOUBLE INSTALLATION



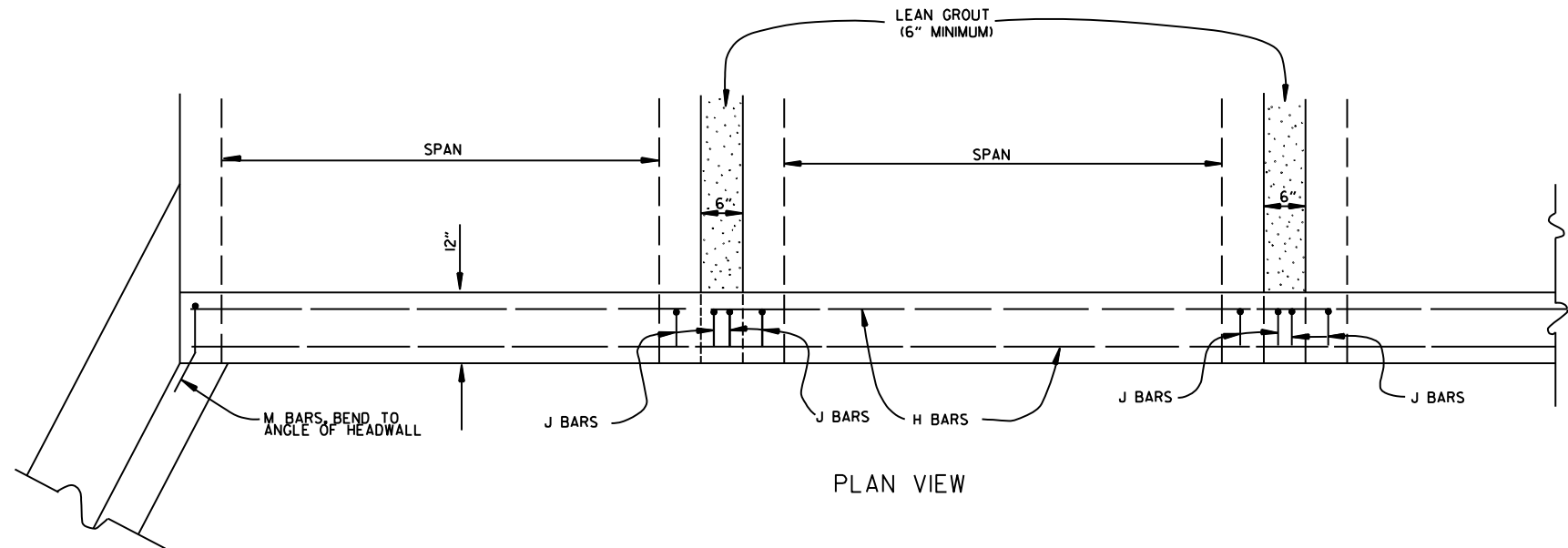
SPACING FOR MULTIPLE POST INSTALLATION

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



BAR LIST				
BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	

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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

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

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

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

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

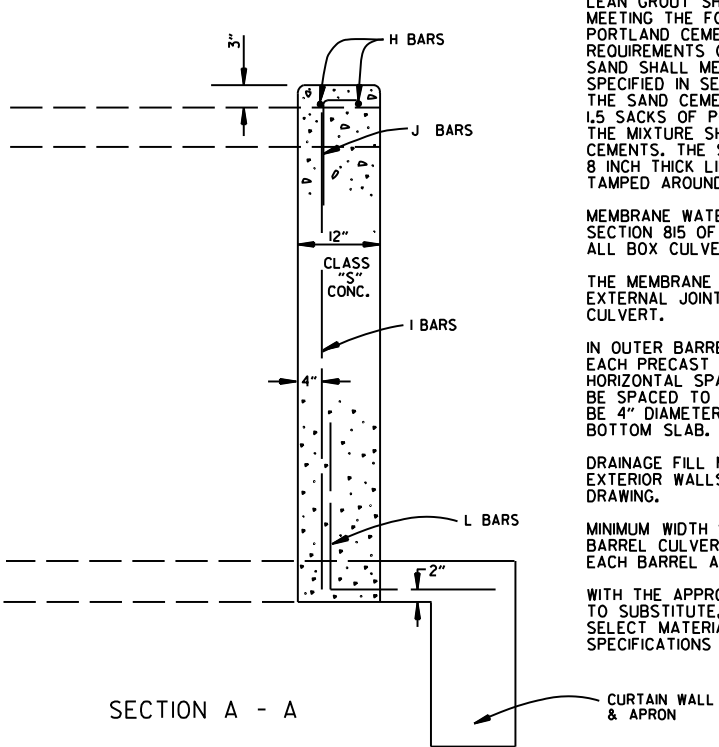
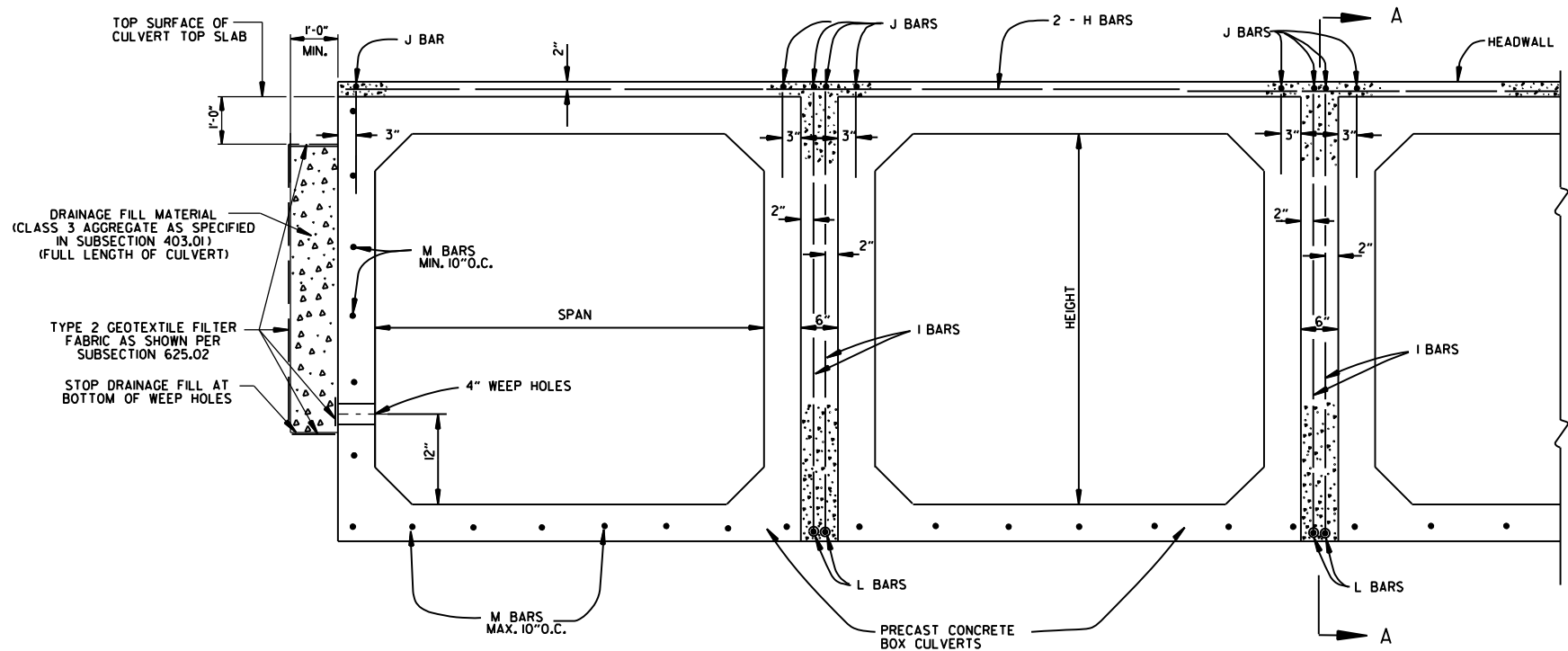
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

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

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



1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLs FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED: JABE	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE  
ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51⅝	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅝	87
120	154	154	96⅝	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE  
HORIZONTAL ELLIPTICAL  
PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

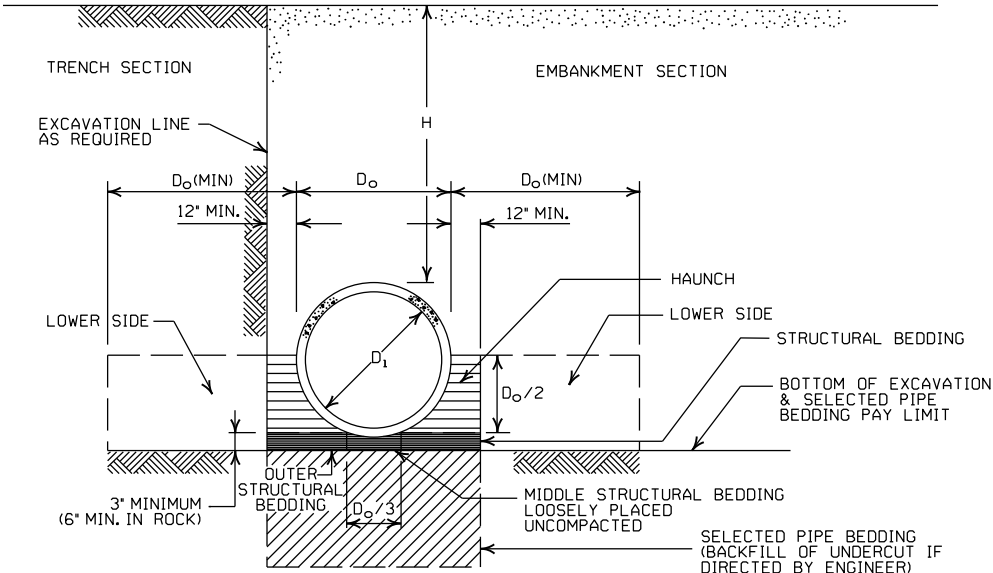
- LEGEND -

- D<sub>i</sub> = NORMAL INSIDE DIAMETER OF PIPE  
D<sub>o</sub> = OUTSIDE DIAMETER OF PIPE  
H = FILL COVER HEIGHT OVER PIPE (FEET)  
MIN. = MINIMUM  
= UNDISTURBED SOIL

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

\* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M10, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION	
CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	
STANDARD DRAWING PCC-1	

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION	INSTALLATION		INSTALLATION	INSTALLATION
				TYPE 1	TYPE 1		TYPE 1	TYPE 1
			2 ⅝ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅝ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2,25	15	0.060	2,25	15
24	28x20	3	0.064	2,5	15	0.075	2,5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			① FOR MINIMUM COVER VALUES, "H" SHALL ② WHERE THE STANDARD 2 2/3" x ½" COR WITH A 3" x 1" OR 5" x 1" CORRUGATION OR GREATER THAN THE MAXIMUM FILL		
			INSTALLATION		INSTALLATION			
			TYPE 2	TYPE 1	TYPE 2	TYPE 1		
36	40x31	5	0.079	3	2	12	15	
42	46x36	6	0.079	3	2	13	15	
48	53x41	7	0.079	3	2	13	15	
54	60x46	8	0.079	3	2	13	15	
60	66x51	9	0.079	3	2	13	15	
66	73x55	12	0.079	3	2	15	15	
72	81x59	14	0.079	3	2	15	15	
78	87x63	14	0.079	3	2	15	15	
84	95x67	16	0.109	3	2	15	15	
90	103x71	16	0.109	3	2	15	15	
96	112x75	18	0.109	3	2	15	15	
102	117x79	18	0.109	3	2	15	15	
108	128x83	18	0.138	3	2	15	15	

CONSTRUCTION SEQUENCE

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

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

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

③ SM-3 WILL NOT BE ALLOWED.

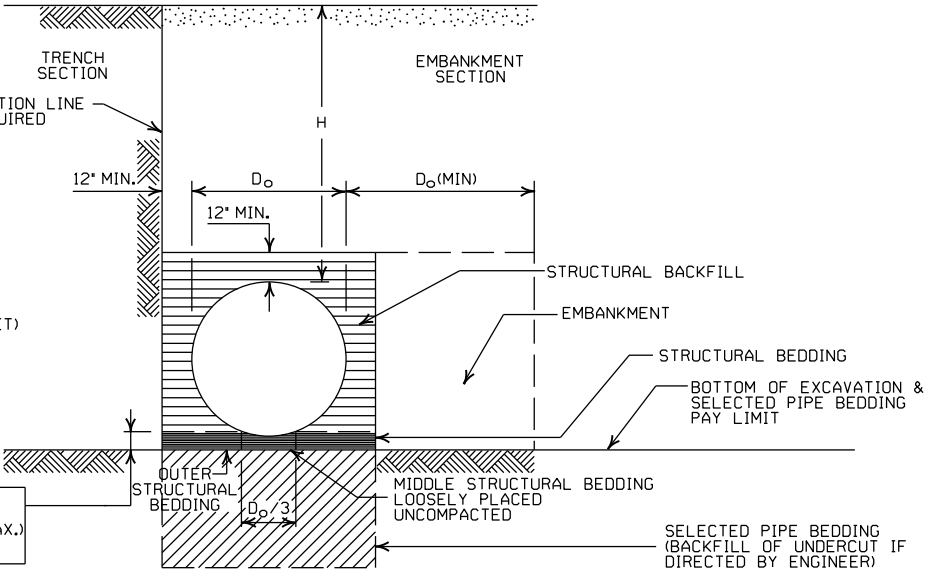
EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

- D<sub>o</sub> = OUTSIDE DIAMETER OF PIPE  
MAX. = MAXIMUM  
MIN. = MINIMUM  
===== = STRUCTURAL BACKFILL MATERIAL  
||||||| = UNDISTURBED SOIL  
EQUIV. DIA. = EQUIVALENT DIAMETER  
H = FILL COVER HEIGHT OVER PIPE (FEET)

IN SOIL-MIN. EQUALS TWICE CORRUGATION DEPTH  
IN ROCK-MIN. EQUALS GREATER OF:  
1/2" PER FOOT OF FILL OVER PIPE (24" MAX.)  
TWICE CORRUGATION DEPTH



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/8" X 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT  
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1





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

- AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.
- SM3 WILL NOT BE ALLOWED.
- STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1/2 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MINIMUM TRENCH WIDTH  
BASED ON FILL HEIGHT "H"

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

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

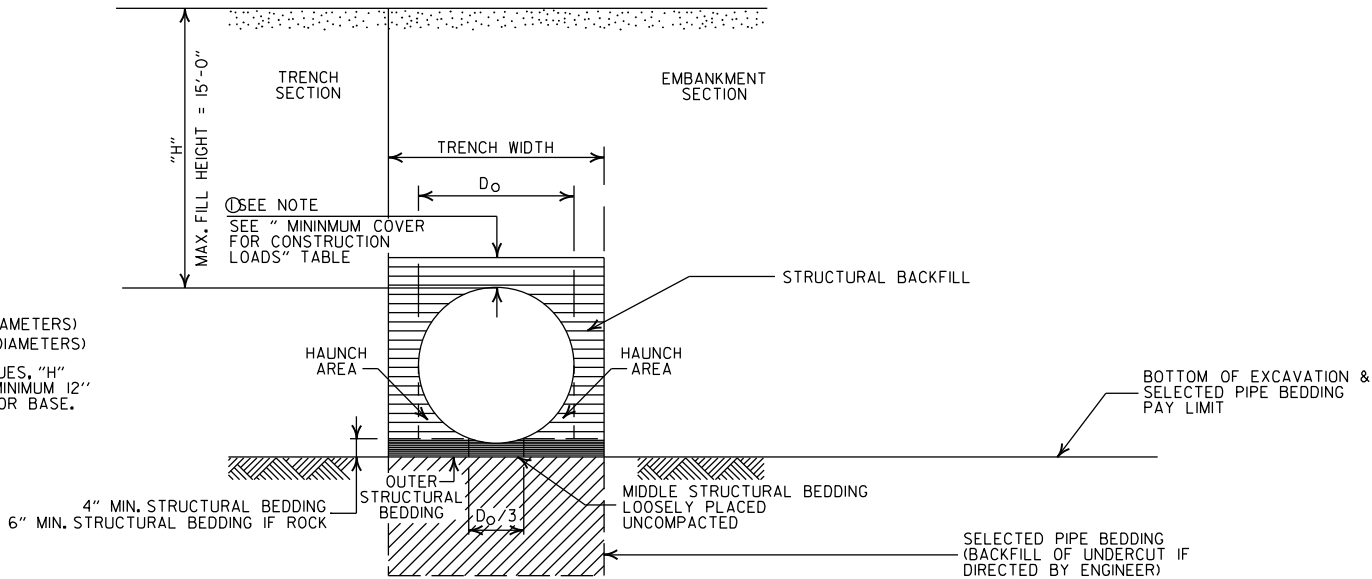
MULTIPLE INSTALLATION OF  
HIGH DENSITY POLYETHYLENE PIPES

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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


- LEGEND -

- H = FILL HEIGHT (FT.)  
D<sub>o</sub> = OUTSIDE DIAMETER OF PIPE  
MAX. = MAXIMUM  
MIN. = MINIMUM
- ===== = STRUCTURAL BACKFILL MATERIAL  
||||||| = UNDISTURBED SOIL

GENERAL NOTES

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

2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
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, OR SM-4)

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

MINIMUM TRENCH WIDTH  
BASED ON FILL HEIGHT "H"

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

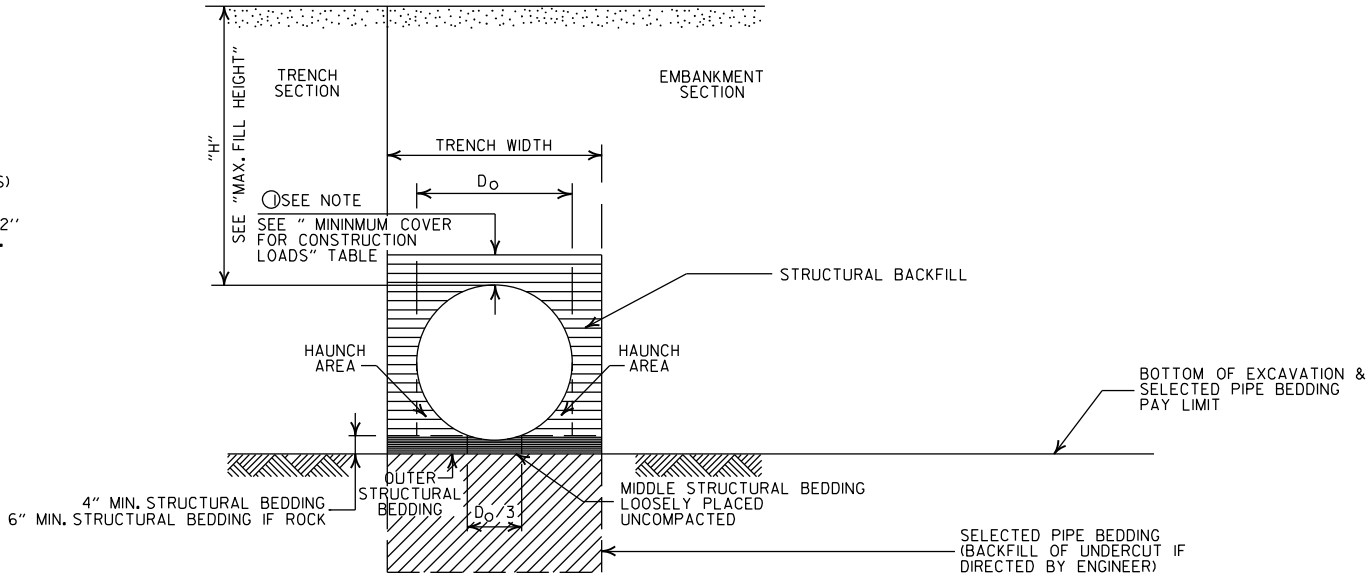
MULTIPLE INSTALLATION OF  
PVC PIPES

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

MAXIMUM FILL HEIGHT  
BASED ON STRUCTURAL BACKFILL

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

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<sub>o</sub> = OUTSIDE DIAMETER OF PIPE  
MAX. = MAXIMUM  
MIN. = MINIMUM

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

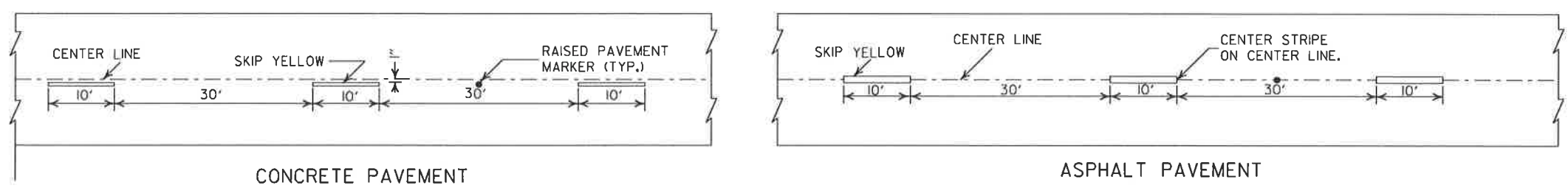
1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454, INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,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

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

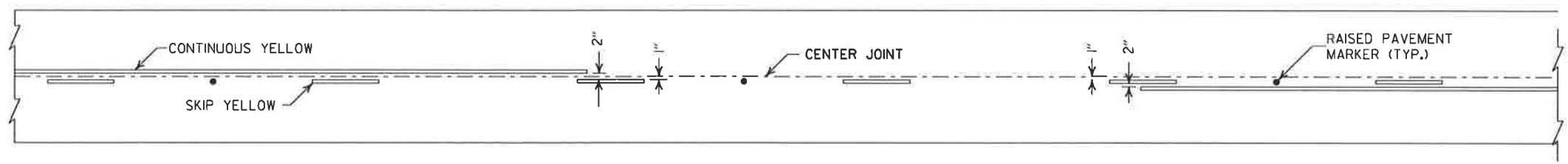
ARKANSAS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT (PVC F949)
STANDARD DRAWING PCP-2



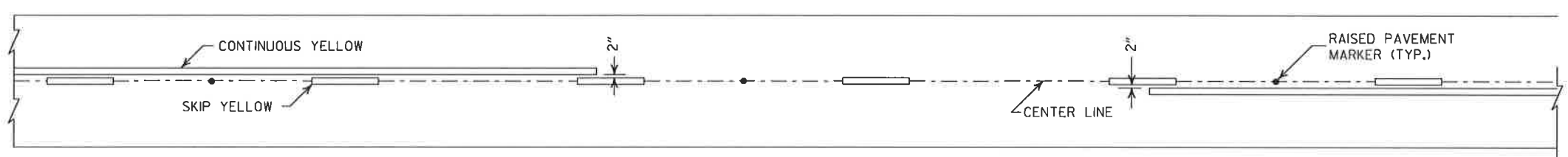
- NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
  2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
  3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN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



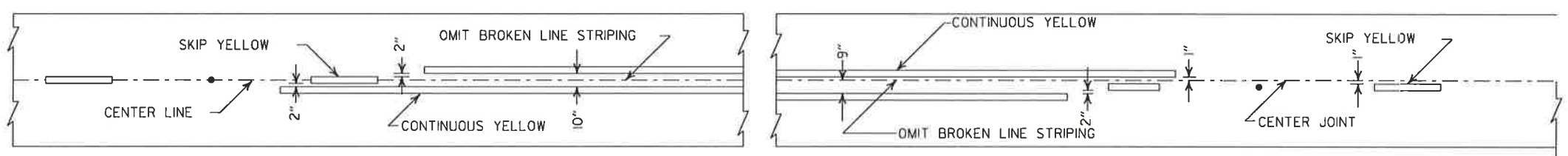
**BROKEN LINE STRIPING**



**SOLID LINE STRIPING ON CONCRETE PAVEMENT**



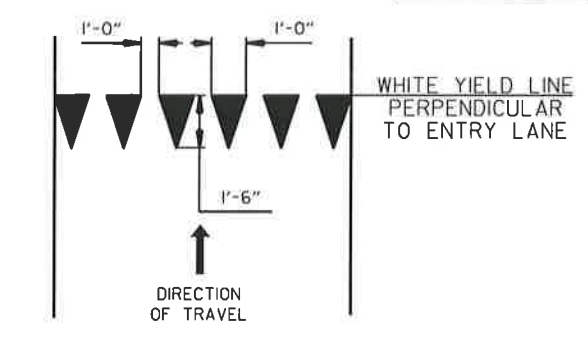
**SOLID LINE STRIPING ON ASPHALT PAVEMENT**



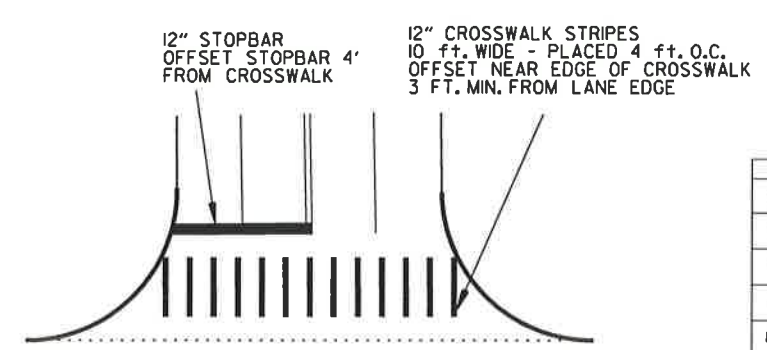
ASPHALT PAVEMENT

CONCRETE PAVEMENT

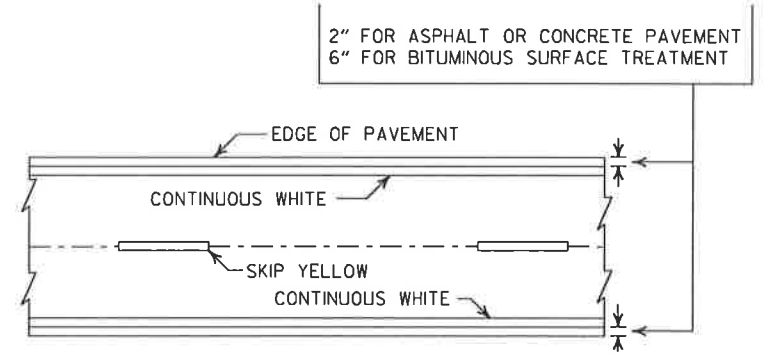
**STRIPING AT ADJACENT NO PASSING LANES**



**YIELD LINE DETAIL**

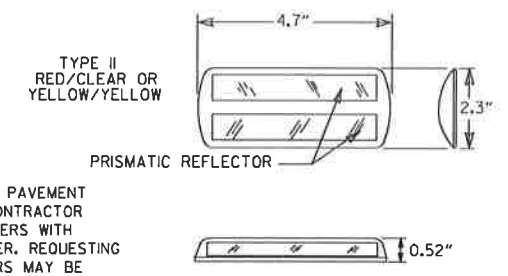


**CROSSWALK AND STOPBAR DETAILS**



**PAVEMENT EDGE LINE MARKING**

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



**DETAIL OF STANDARD  
RAISED PAVEMENT MARKERS**

6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PAV'T. MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

**PAVEMENT MARKING DETAILS**

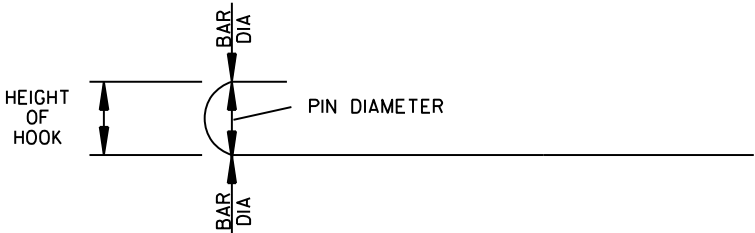
STANDARD DRAWING PM-1



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

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

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



OVERALL HEIGHT OF HOOKED BAR DIAGRAM

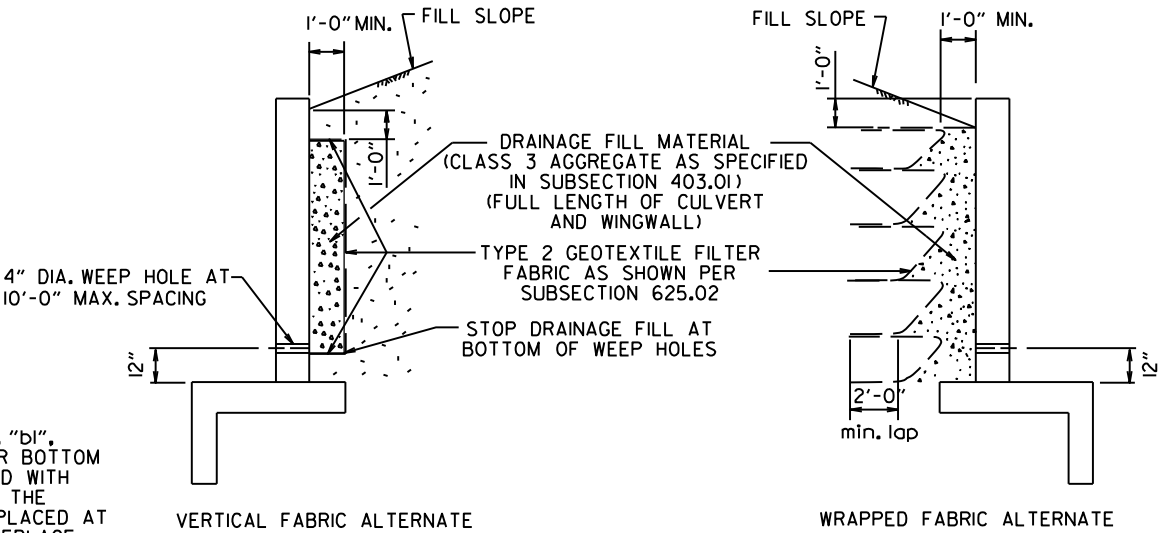
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

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

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

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

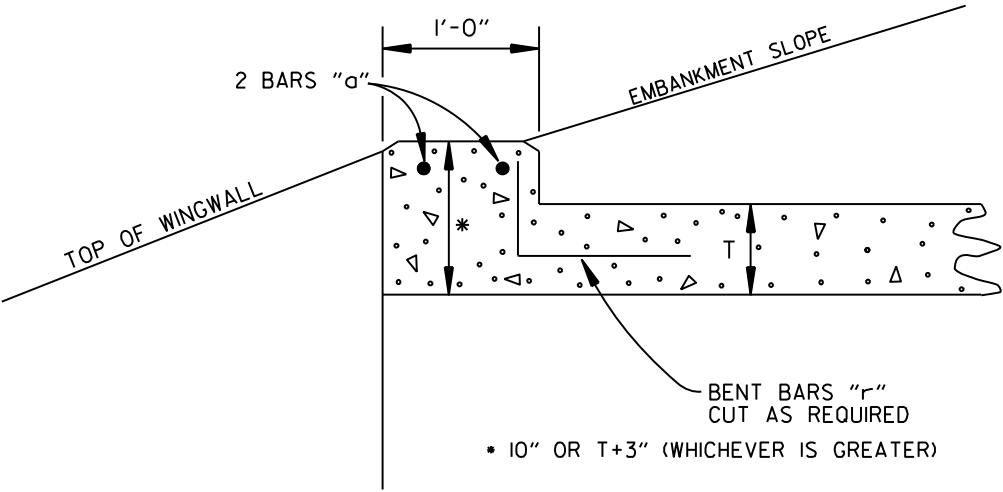
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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

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

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

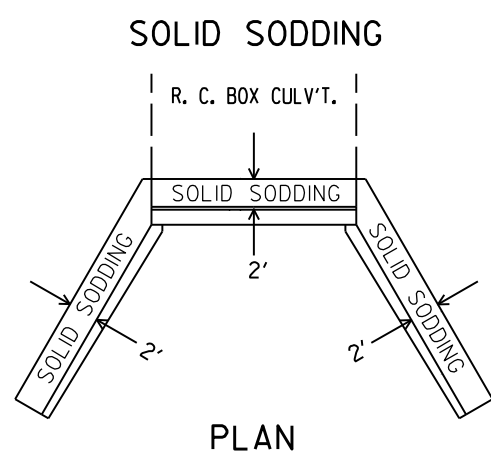
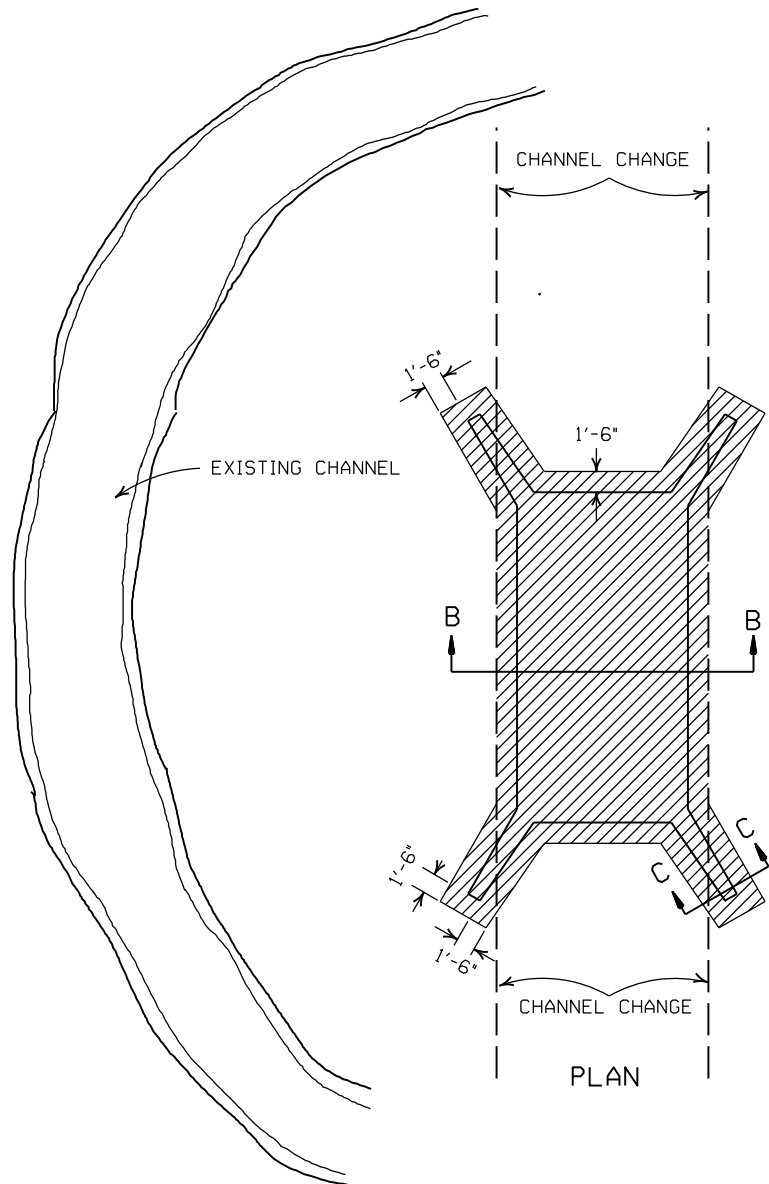
THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



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

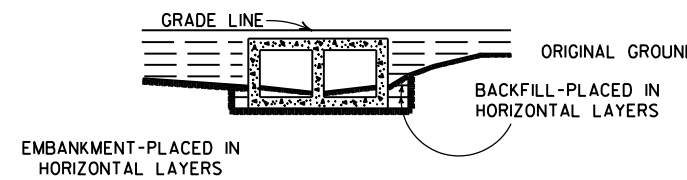
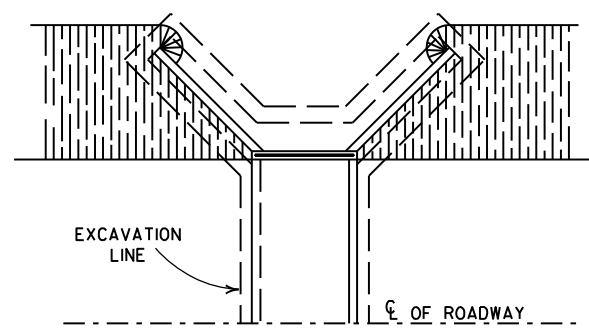
R.C. BOX CULVERT HEADWALL MODIFICATIONS

7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL		ARKANSAS STATE HIGHWAY COMMISSION
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS		
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM		
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES		REINFORCED CONCRETE BOX CULVERT DETAILS
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM		
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2		
6-2-94	ADDED SOLID SODDING PLAN DETAIL		STANDARD DRAWING RCB-1
8-5-93	REVISED PIN DIAMETER TO SPECS.		
8-15-91	DRAWN AND ISSUED		
DATE	REVISION	DATE FILMED	

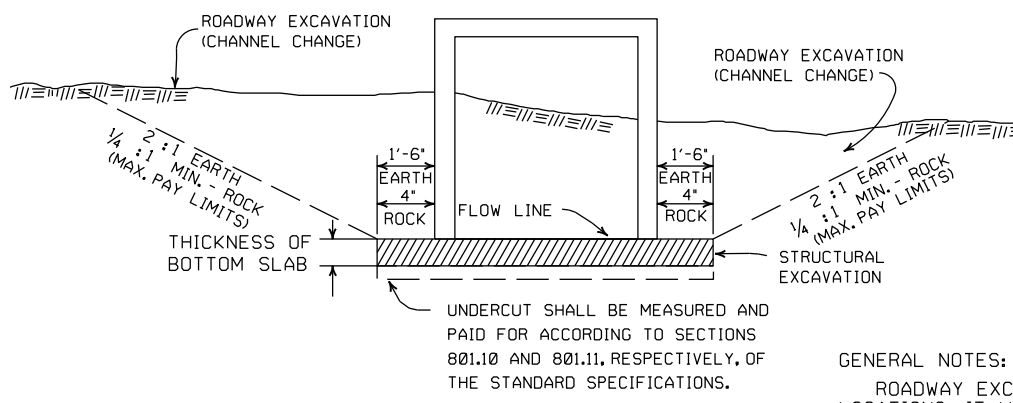
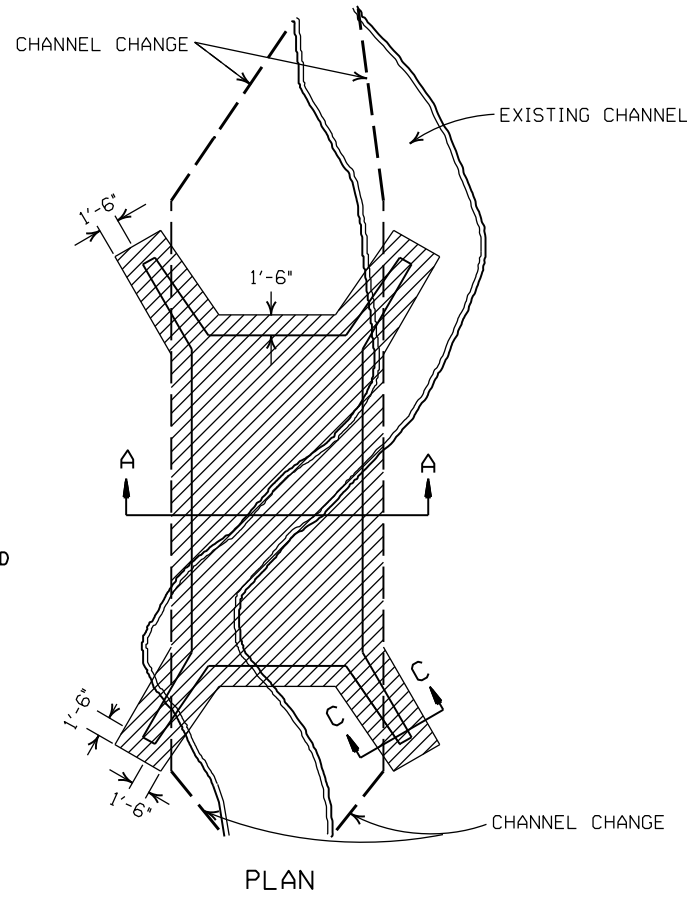


PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

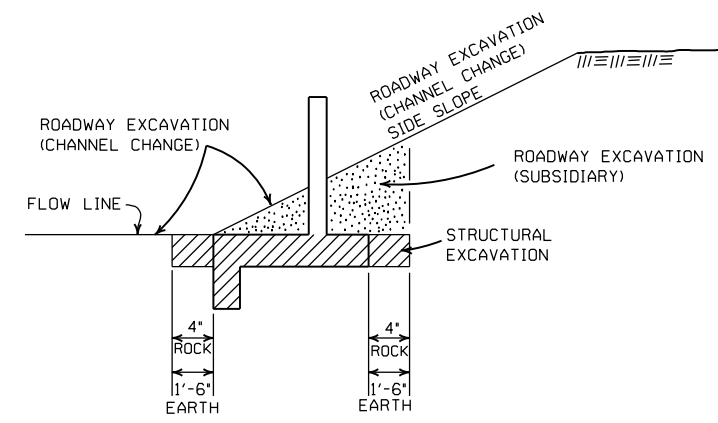
NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.



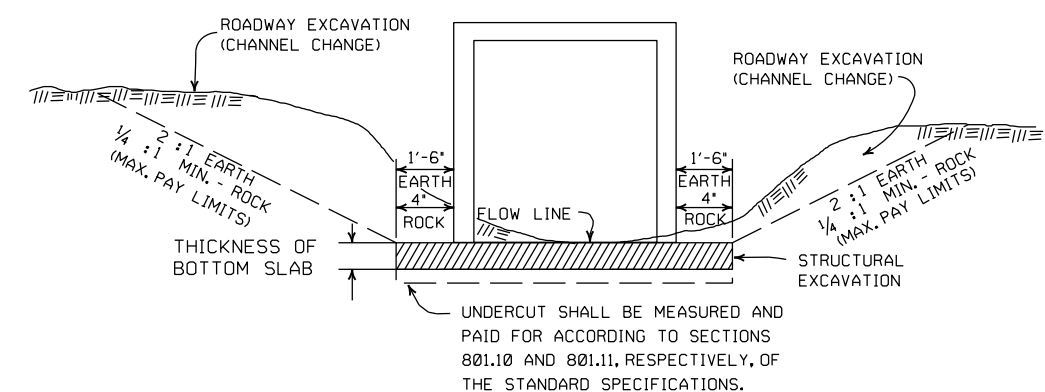
BACKFILL DETAILS FOR BOX CULVERT



SECTION B-B  
DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A  
DETAILS THROUGH EXISTING CHANNELS

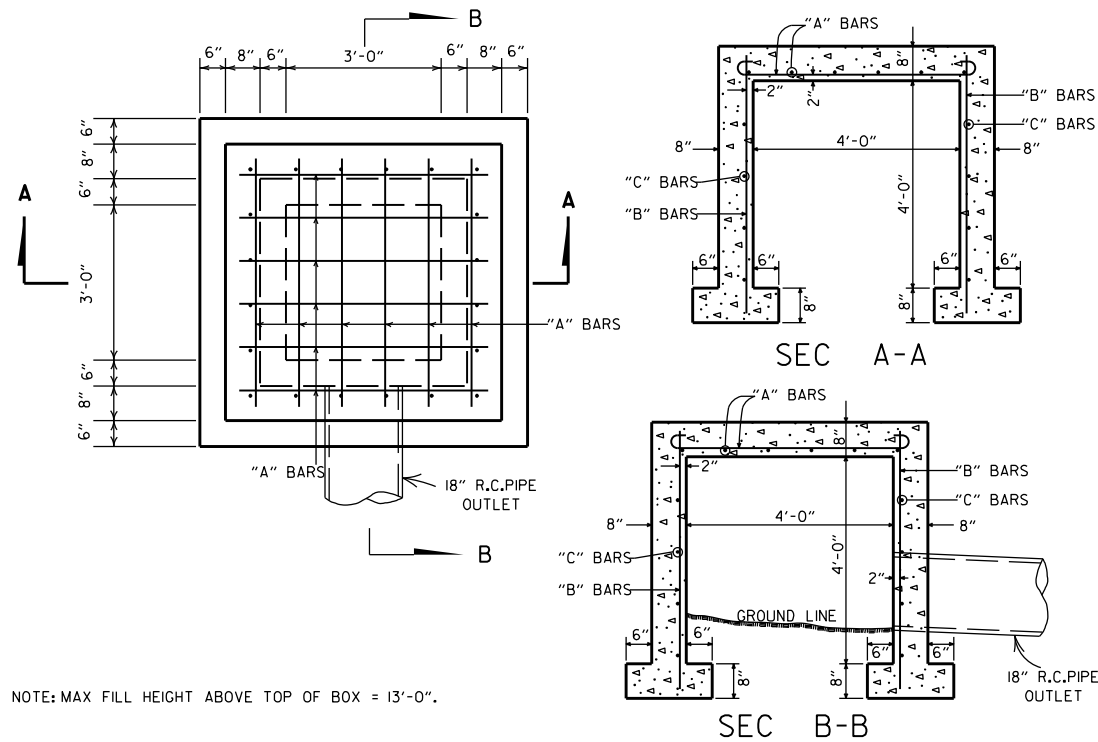
GENERAL NOTES:  
ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.  
EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.  
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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

ARKANSAS STATE HIGHWAY COMMISSION

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

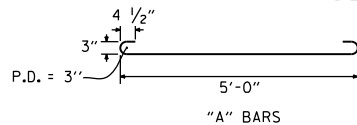
STANDARD DRAWING RCB-2



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

STEEL SCHEDULE			
BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 1/2"
"C"	16	5'-0"	12"

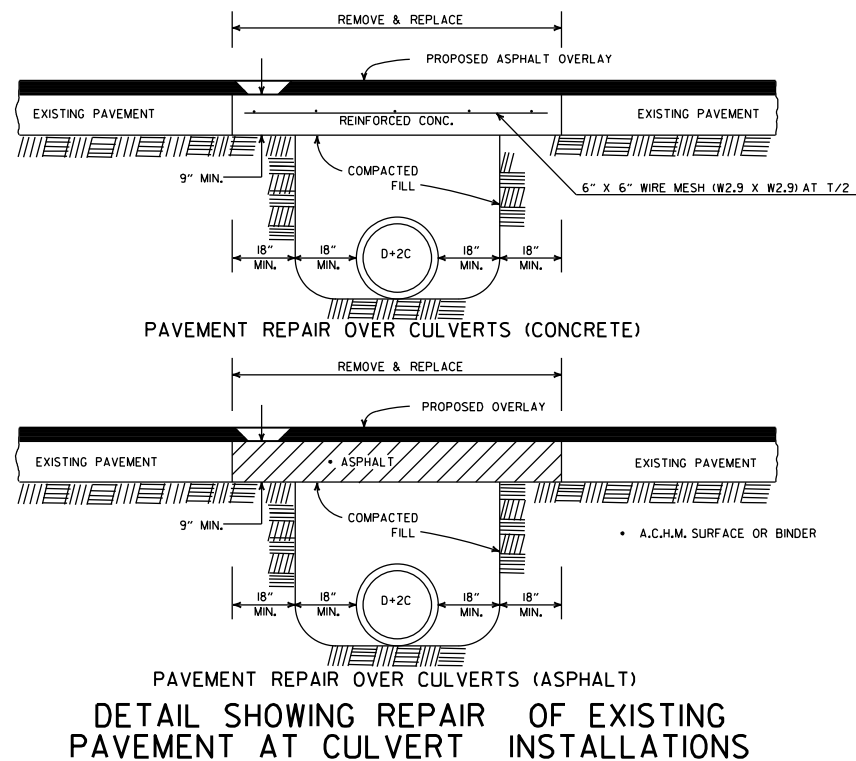
ALL STEEL TO BE #4 BARS



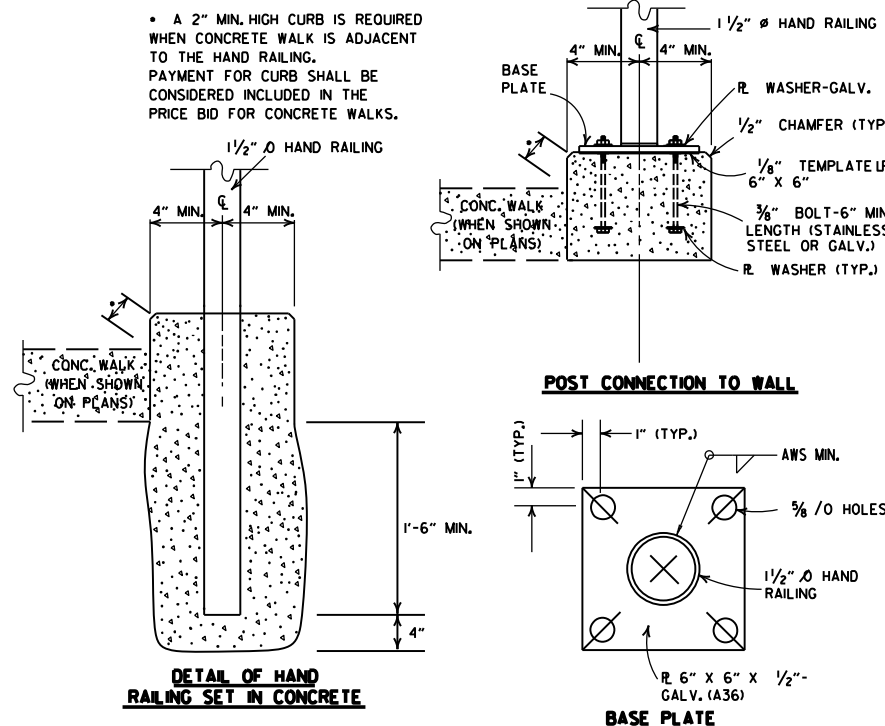
QUANTITIES  
CONCRETE 3.31 CU. YDS.  
REINFORCING STEEL 168 LB.

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

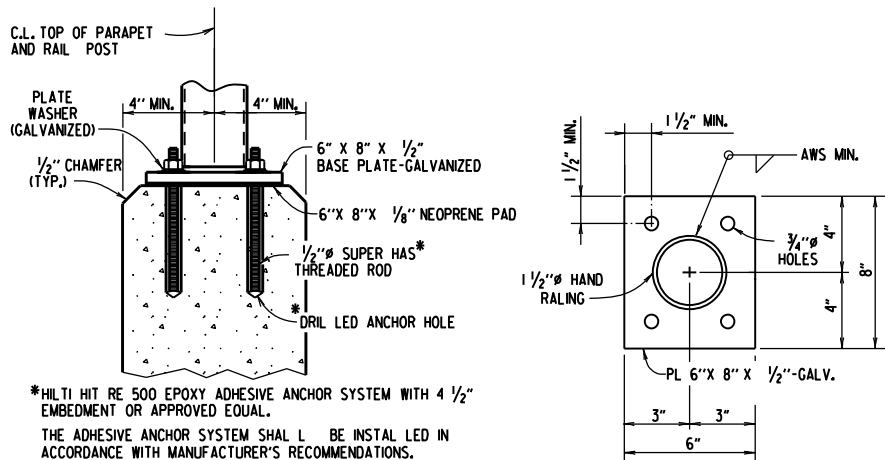
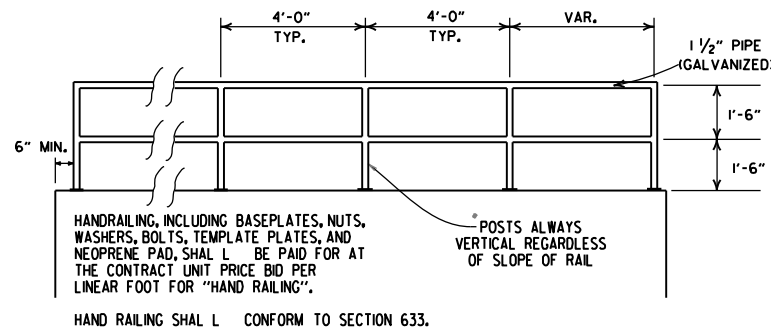
### REINFORCED CONCRETE SPRING BOX



DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS



### POST CONNECTION DETAILS



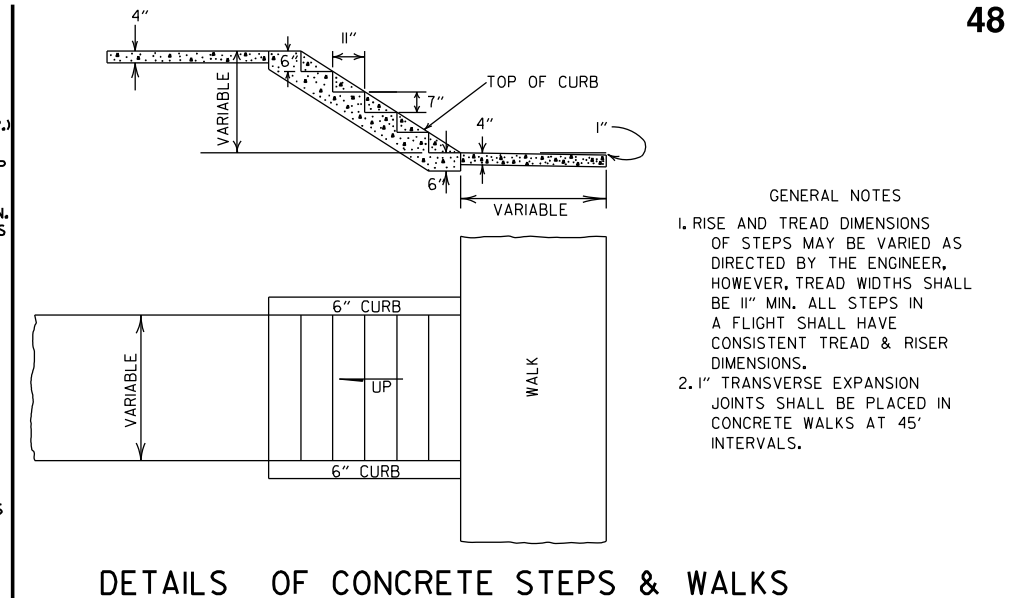
\*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 1/2" EMBEDMENT OR APPROVED EQUAL.  
THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

### POST CONNECTION TO WALL

### BASE PLATE

### DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

### HAND RAILING DETAILS



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


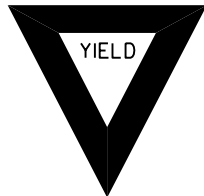

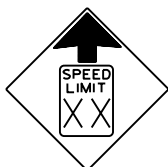

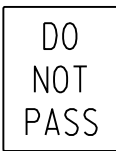



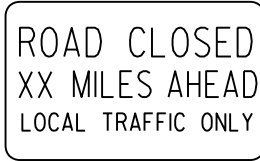


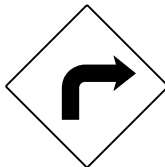




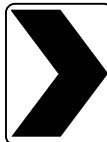
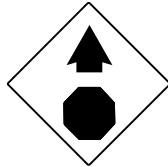
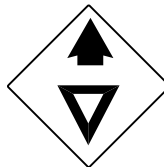
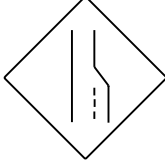



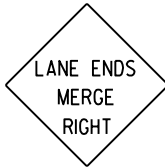


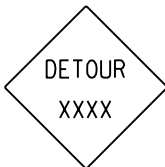






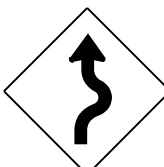



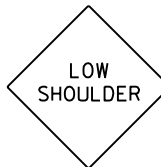

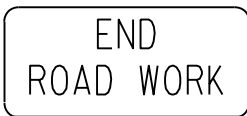
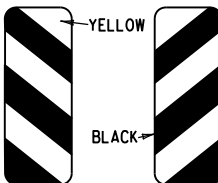


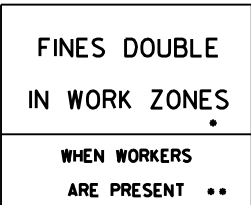
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	10-1-92
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	8-15-91
8-15-91	DELETED HOWL MODIFICATION DETAIL	11-8-90
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-30-89
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	665-11-17-88
11-17-88	V. BARS BEHIND ARROW	649-7-15-88
7-15-88	REV. PAVEMENT REPAIR	
11-1-84	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	510-11-1-84
1-4-83	REV. TRENCH FOR PIPE UNDERDRAIN	682-1-4-83
	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	
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

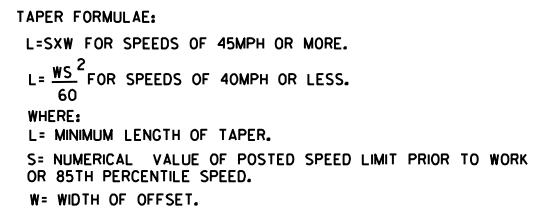
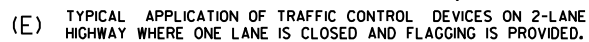
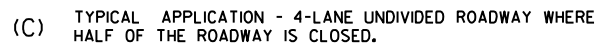
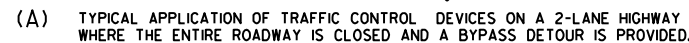
### ARKANSAS STATE HIGHWAY COMMISSION

### DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

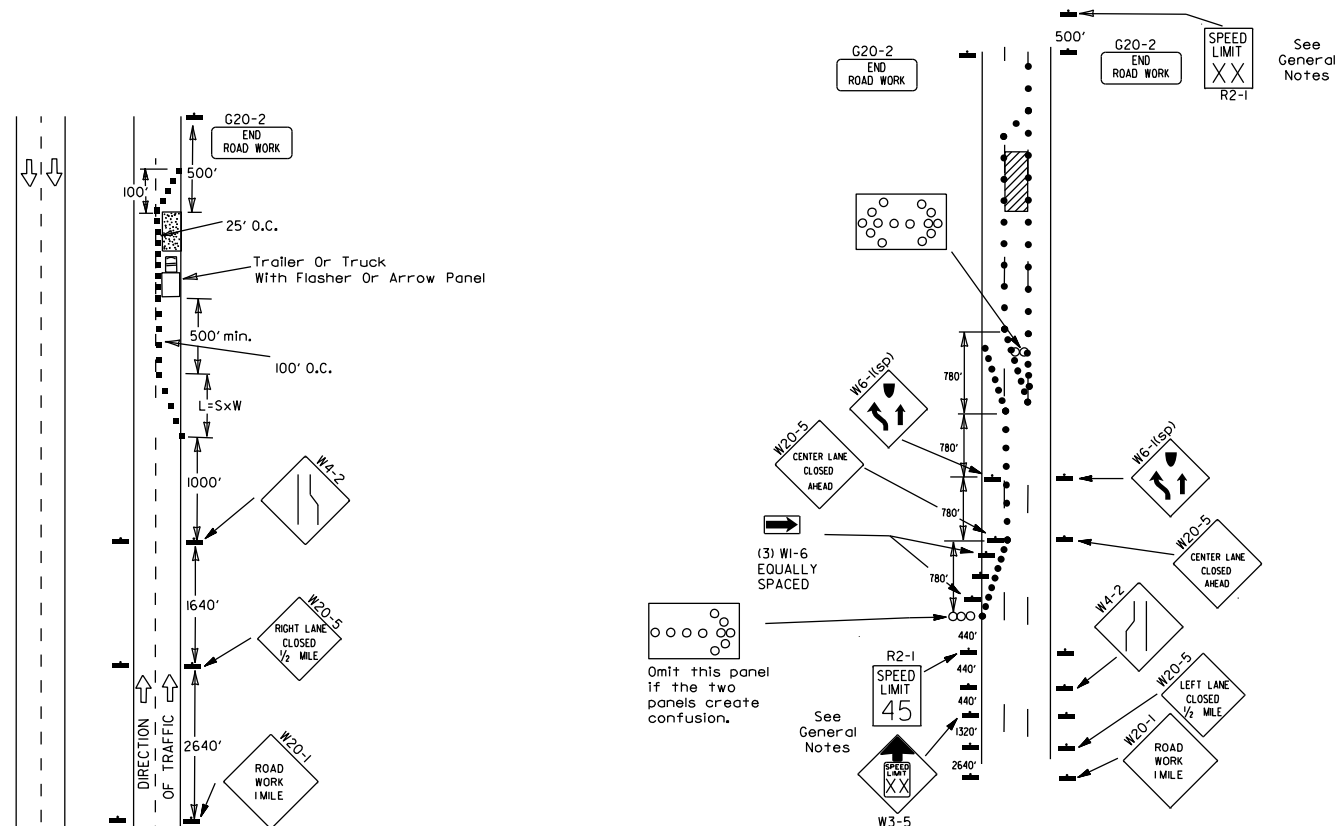


<div>RI-I</div> <div></div> <div>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</div>		<div>RI-2</div> <div></div> <div>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</div>		<div>R2-I</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>		<div>W3-5</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>		<div>W3-5a</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>		<div>R4-I</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>		<div>R4-2</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>		<div>ADVANCE DISTANCES (XXXX)</div> <div>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</div>		<div>49</div>																																																	
<div>R5-I</div> <div></div> <div>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</div>							<div>R1I-2</div> <div></div> <div>48"x30"</div>		<div>R1I-3A</div> <div></div> <div>60"x30"</div>		<div>R1I-4</div> <div></div> <div>60"x30"</div>		<div>W2I-5a</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>		<div>WI-I</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>		<div>WI-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>		<div>GENERAL NOTES:</div> <div>1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.</div> <div>2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.</div> <div>3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.</div> <div>4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.</div> <div>5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.</div> <div>6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.</div> <div>7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.</div> <div>8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.</div> <div>9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.</div> <div>10. R55-I 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.</div> <div>• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 &amp; 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.</div>																																														
<div>WI-3</div> <div></div> <div>STD. 48"x48"</div>		<div>WI-4</div> <div></div> <div>STD. 48"x48"</div>		<div>WI-6</div> <div></div> <div>STD. 48"x24" SPECIAL 60"x30"</div>		<div>WI-8</div> <div></div> <div>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</div>		<div>W3-I</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>		<div>W3-2</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>		<div>W4-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>																																																					
<div>W5-I</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>		<div>W6-3</div> <div></div> <div>EXPWY. 36"x36" SPECIAL 48"x48"</div>		<div>W8-7</div> <div></div> <div>EXPWY. 36"x36" FWY. 48"x48"</div>		<div>W9-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>		<div>WI3-I</div> <div></div> <div>STD. 24"x24"</div>		<div>W20-I</div> <div></div> <div>STD. 48"x48"</div>		<div>W20-2</div> <div></div> <div>STD. 48"x48"</div>		<div>W20-3</div> <div></div> <div>STD. 48"x48"</div>																																																			
<div>W20-4</div> <div></div> <div>STD. 48"x48"</div>		<div>W20-5</div> <div></div> <div>STD. 48"x48"</div>		<div>W20-7a</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>		<div>W2I-2</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>		<div>W2I-5</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>		<div>W24-I</div> <div></div> <div>STD. 36"x36"</div>		<div>WI-4b</div> <div></div> <div>STD. 48"x48"</div>		<div>R56-I</div> <div></div> <div>STD. 18"x18"</div>																																																			
<div>W8-II</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>		<div>W8-9</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>		<div>G20-I</div> <div></div> <div>60"x24"</div>		<div>G20-2</div> <div></div> <div>48"x24"</div>		<div>OM-3L OM-3R</div> <div></div> <div>12"x36"</div>		<div>M4-9</div> <div></div> <div>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</div>		<div>M4-10</div> <div></div> <div>48"x18"</div>		<div>R55-I</div> <div></div> <div>36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS</div>																																																			
							<table><tr><td>4-13-17</td><td>DELETED RSP-I &amp; ADDED W2I-5a</td><td></td></tr><tr><td>9-2-15</td><td>REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES</td><td></td></tr><tr><td>12-15-11</td><td>REVISED W24-I</td><td></td></tr><tr><td>11-17-10</td><td>DELETED W8-9a &amp; ADDED W8-9</td><td></td></tr><tr><td>10-15-09</td><td>ADDED REFERENCE TO MASH &amp; ADDED SIGN W24-I</td><td></td></tr><tr><td>4-17-08</td><td>REVISED SIGN DESIGNATIONS</td><td></td></tr><tr><td>11-18-04</td><td>REVISED NOTES</td><td></td></tr><tr><td>10-9-03</td><td>REVISED NOTE 1</td><td></td></tr><tr><td>11-16-01</td><td>REVISED NOTE 7</td><td></td></tr><tr><td>9-28-00</td><td>REVISED NOTE</td><td></td></tr><tr><td>11-18-98</td><td>ADDED NOTE</td><td></td></tr><tr><td>6-26-97</td><td>REVISED NOTE 5</td><td></td></tr><tr><td>4-03-97</td><td>REVISED NOTE 5</td><td></td></tr><tr><td>10-18-96</td><td>ADDED CONTROLLED ACCESS HWY. SIGN &amp; TO NOTE 7</td><td></td></tr><tr><td>10-12-95</td><td>ADDED R55-I</td><td></td></tr><tr><td>6-8-95</td><td>REVISED TO CORRECT SIGN ILLUSTRATIONS</td><td>6-8-95</td></tr><tr><td>2-2-95</td><td>REVISED PER PART VI, MUTCD SEPT. 3, 1993</td><td></td></tr><tr><td>8-15-91</td><td>DRAWN AND PLACED IN USE</td><td></td></tr><tr><td>DATE</td><td>REVISION</td><td>FILMED</td></tr></table>		4-13-17	DELETED RSP-I & ADDED W2I-5a		9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES		12-15-11	REVISED W24-I		11-17-10	DELETED W8-9a & ADDED W8-9		10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-I		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-I		6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95	2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993		8-15-91	DRAWN AND PLACED IN USE		DATE	REVISION	FILMED
4-13-17	DELETED RSP-I & ADDED W2I-5a																																																																
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES																																																																
12-15-11	REVISED W24-I																																																																
11-17-10	DELETED W8-9a & ADDED W8-9																																																																
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-I																																																																
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-I																																																																
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95																																																															
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993																																																																
8-15-91	DRAWN AND PLACED IN USE																																																																
DATE	REVISION	FILMED																																																															
							<div>ARKANSAS STATE HIGHWAY COMMISSION</div> <div>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</div> <div>STANDARD DRAWING TC-1</div>																																																										

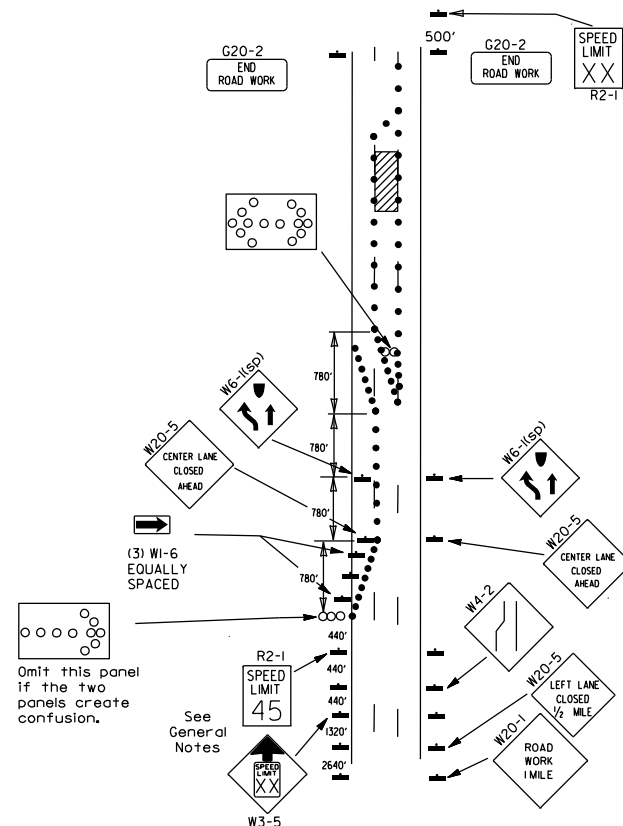


ARKANSAS STATE HIGHWAY COMMISSION  
STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION  
STANDARD DRAWING TC-2

## Channelizing devices



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



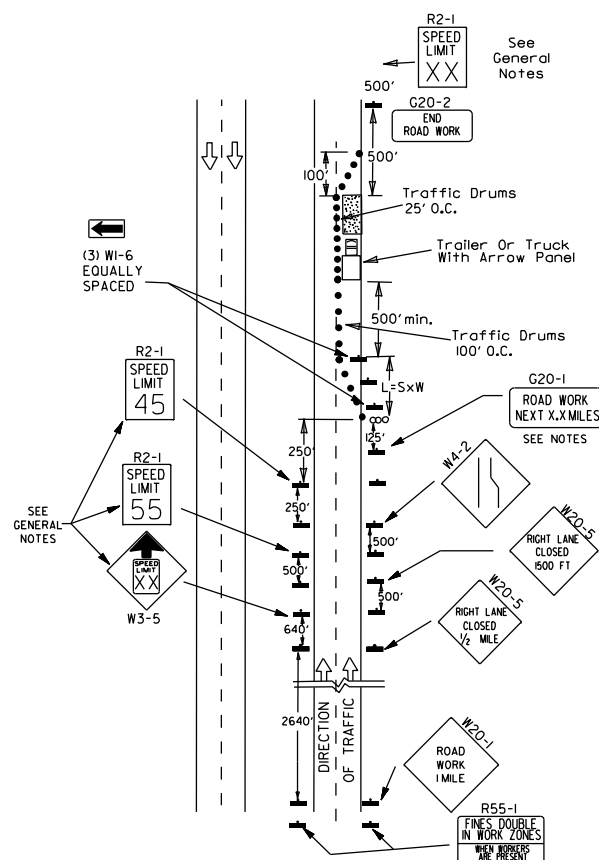
(B) Typical application - 3-lane oneway roadway where center lane is closed.

## KEY:

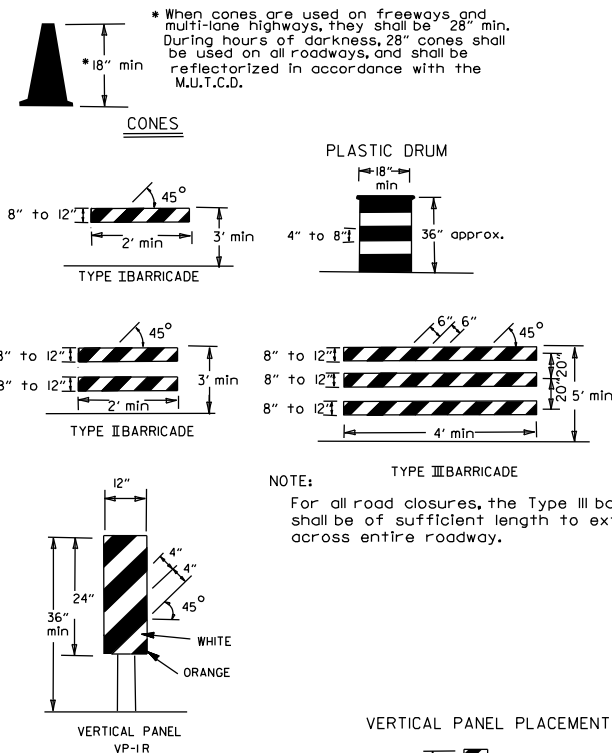
- Arrow Panel (if Required)
- Channelizing Device
- Traffic drum

## 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 W3-5 shall be installed at that location. Additional R2-1(45) 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(65) shall be omitted. Additional R2-1(55) 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.

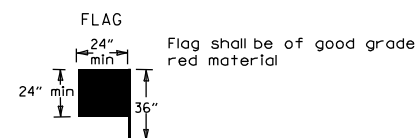


(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

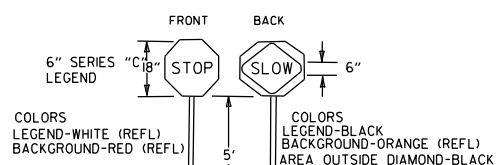
TRAFFIC CONTROL DEVICES  
FOR  
VERTICAL PAVEMENT DIFFERENTIALS

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

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

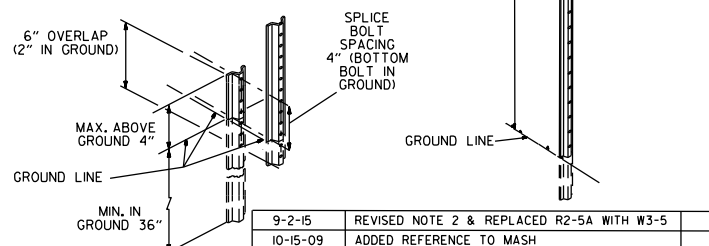


## STOP SLOW PADDLE



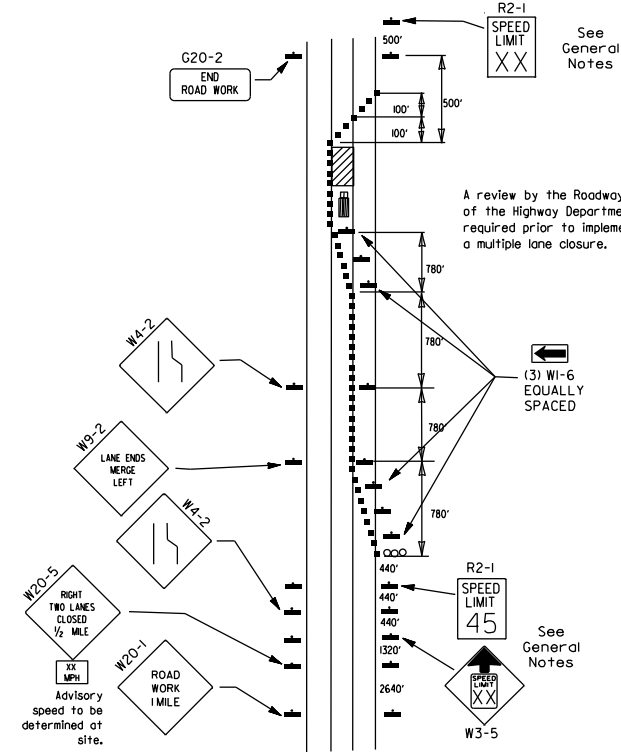
## DETAIL OF SPLICES

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



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

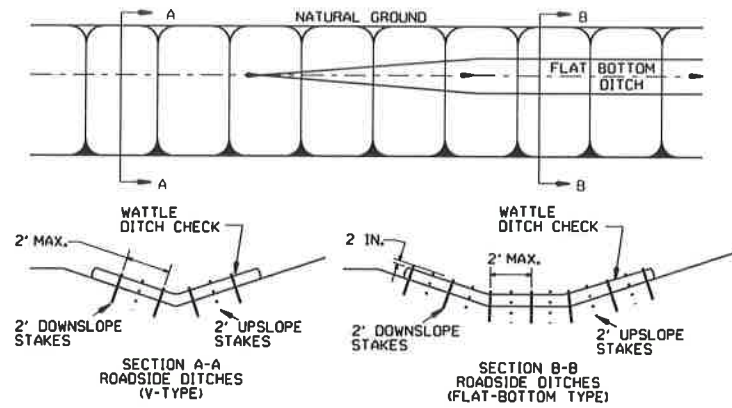
ARKANSAS STATE HIGHWAY COMMISSION  
STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION  
STANDARD DRAWING TC-3



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

GENERAL NOTES

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

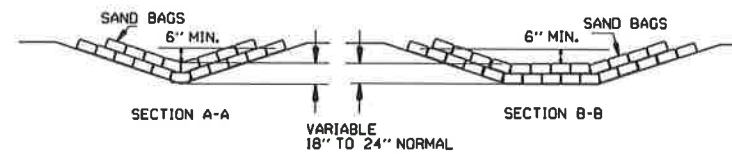


WATTLE DITCH CHECK (E-1)

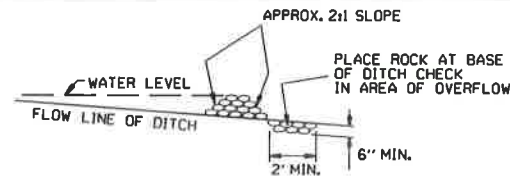
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.

WATER LEVEL  
DITCH CHECK  
FLOW LINE OF DITCH

PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



SAND BAG DITCH CHECK (E-5)

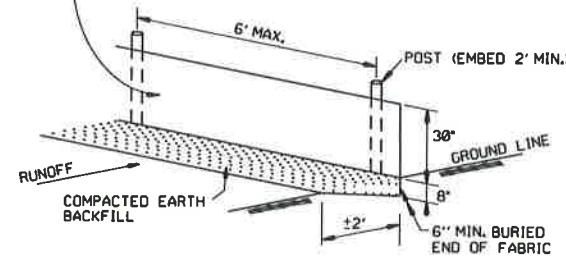


ROCK DITCH CHECK (E-6)

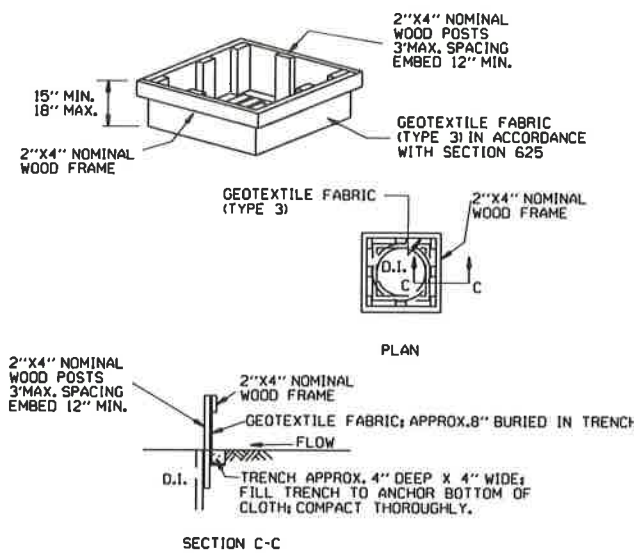
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

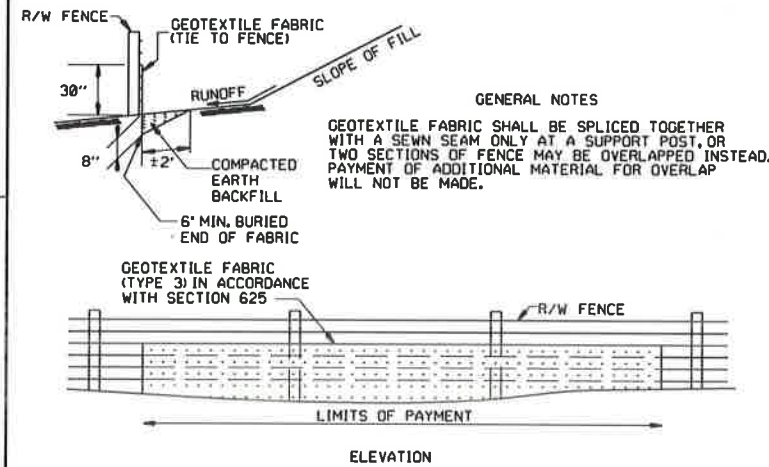
GEOTEXTILE FABRIC SHALL BE SPICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



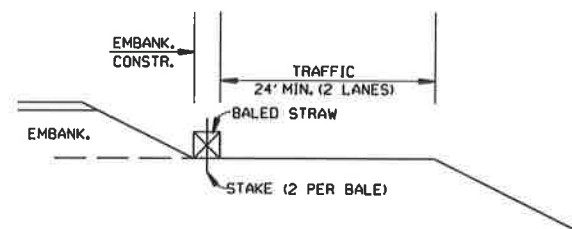
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

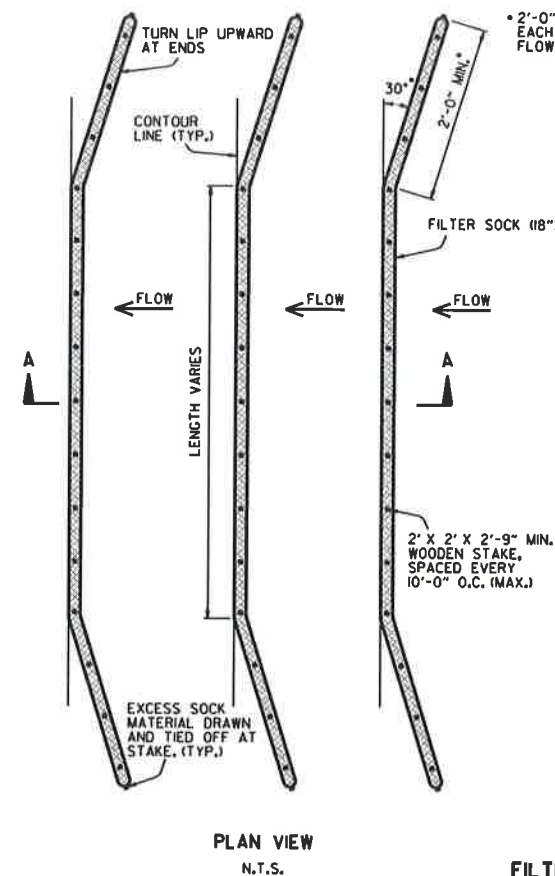
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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)



FILTER SOCK ALONG SLOPE (E-3)

NOTES:

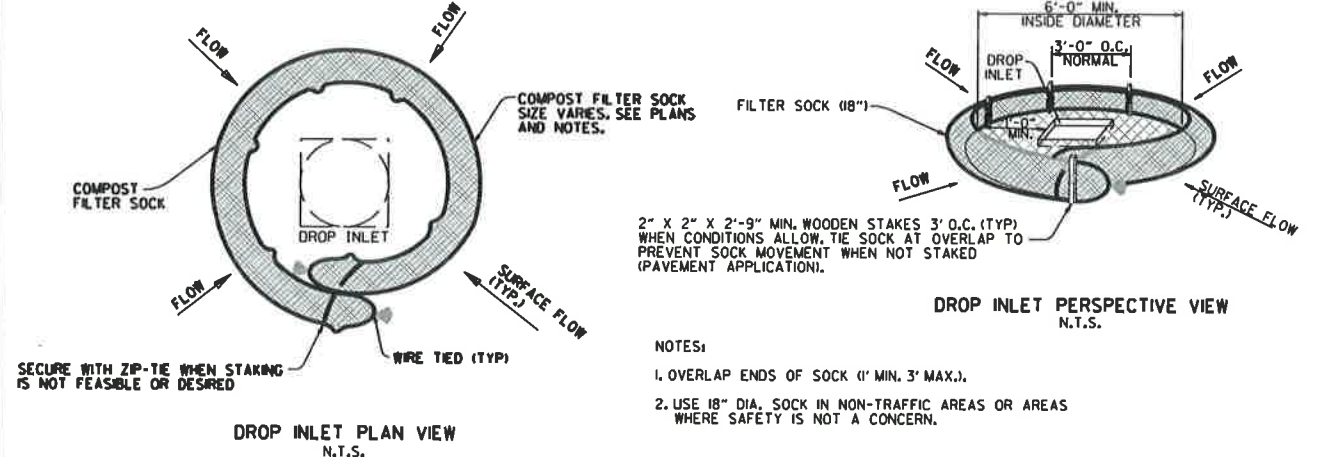
1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.



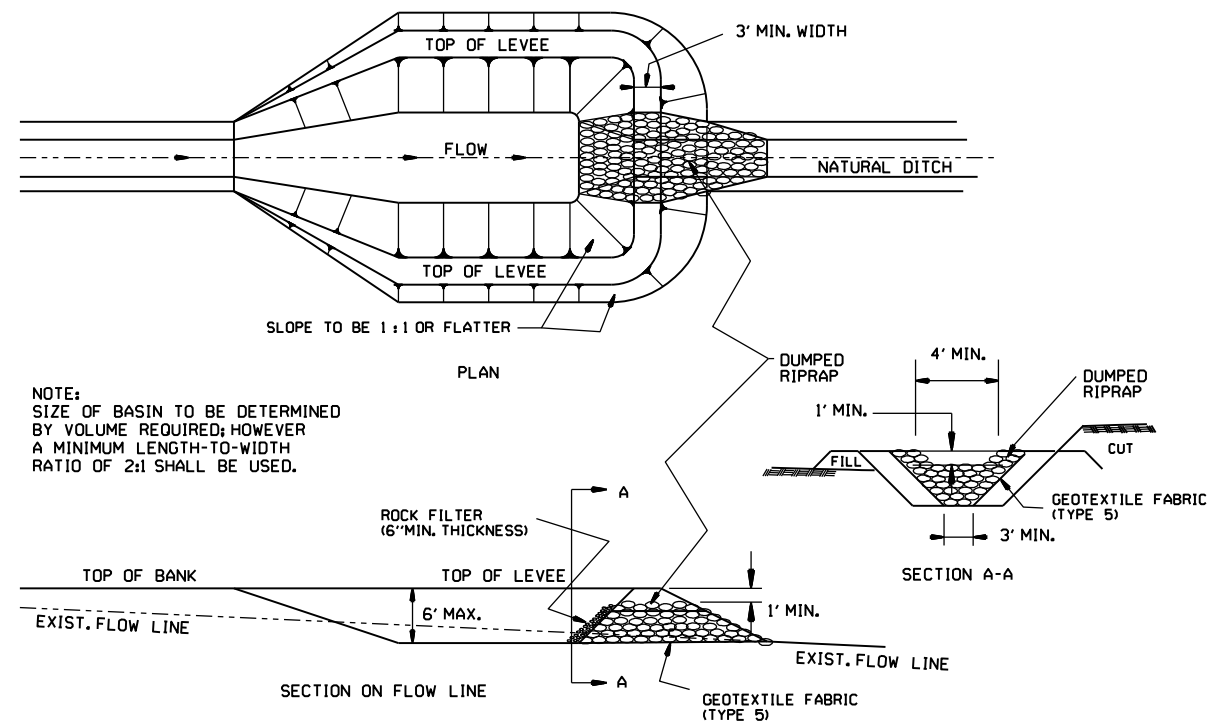
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
4-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	7-20-95
07-20-95	REVISED SILT FENCE E-4 AND E-11	
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	6-2-94
06-02-94	REVISED E-1, 4, 7 & 11 DELETED E-2 & 3	
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.O.M.	298-7-28-76
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

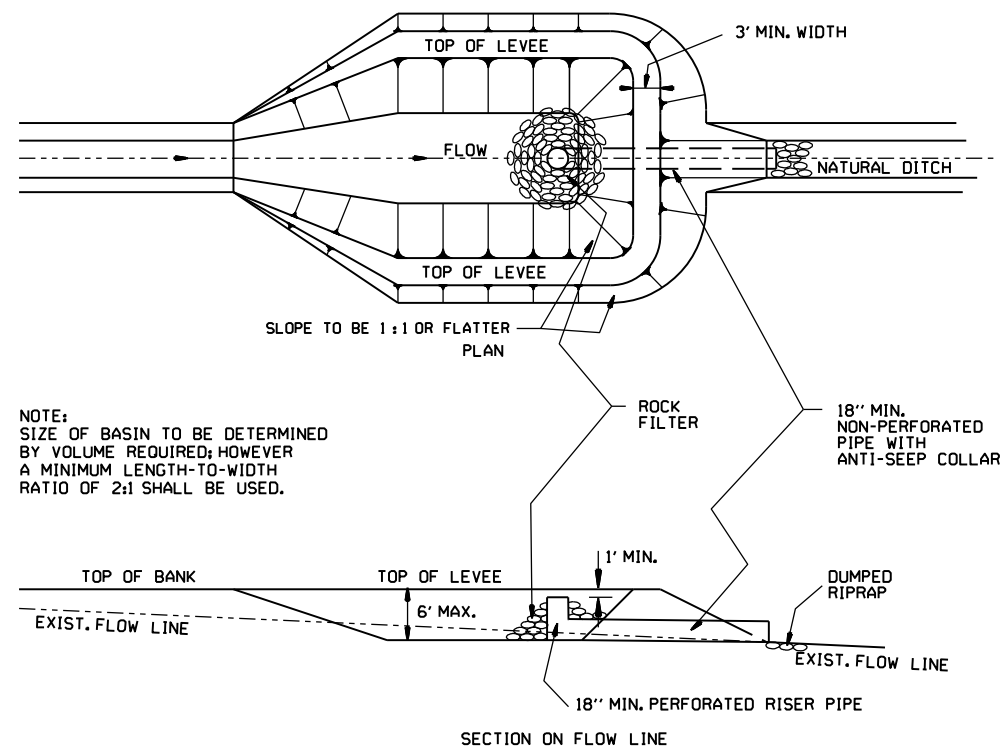
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1

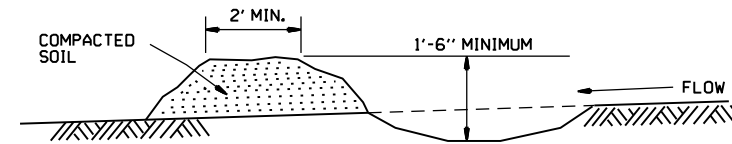




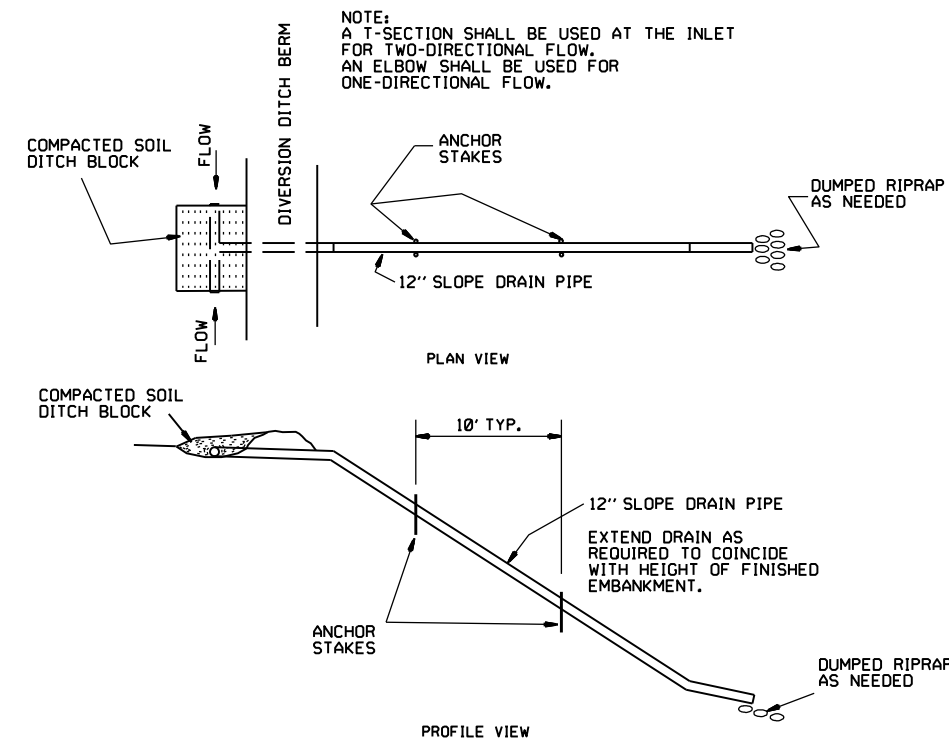
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



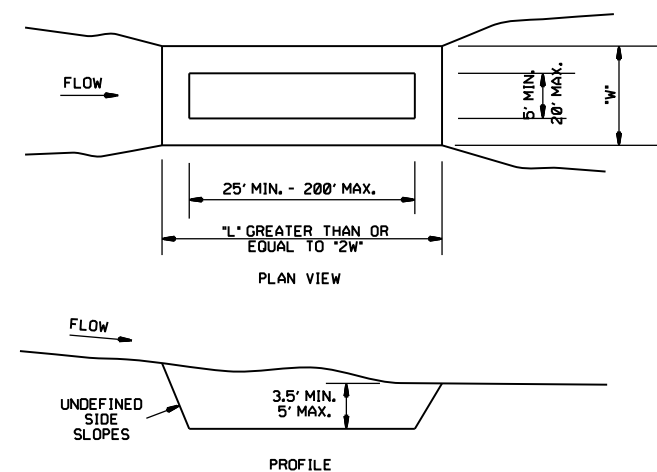
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



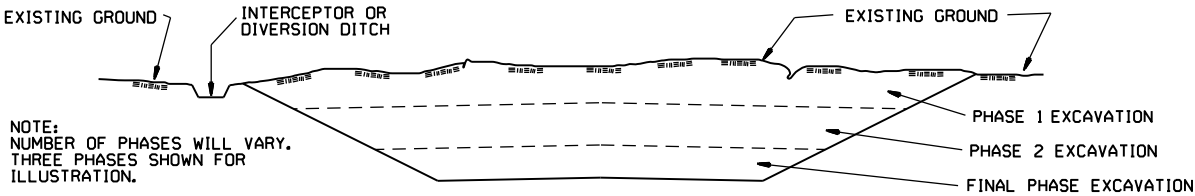
SEDIMENT BASIN (E-14)

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

CLEARING AND GRUBBING

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

EXCAVATION

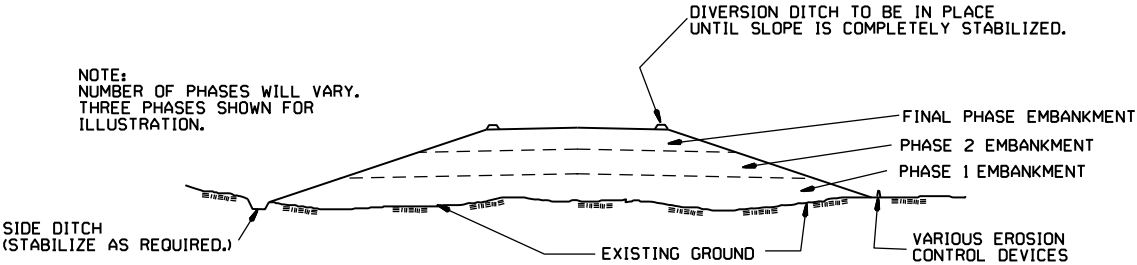


GENERAL NOTE

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

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

EMBANKMENT

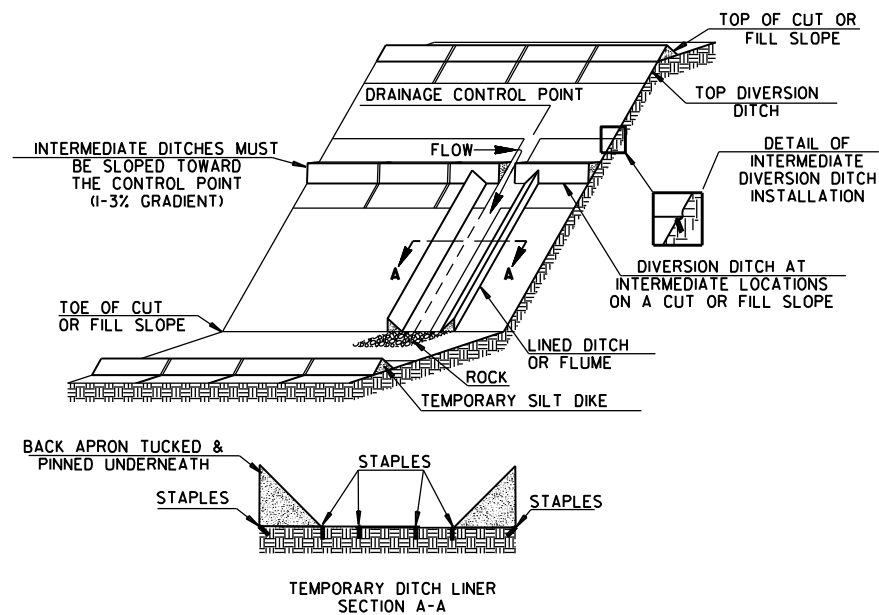


GENERAL NOTE

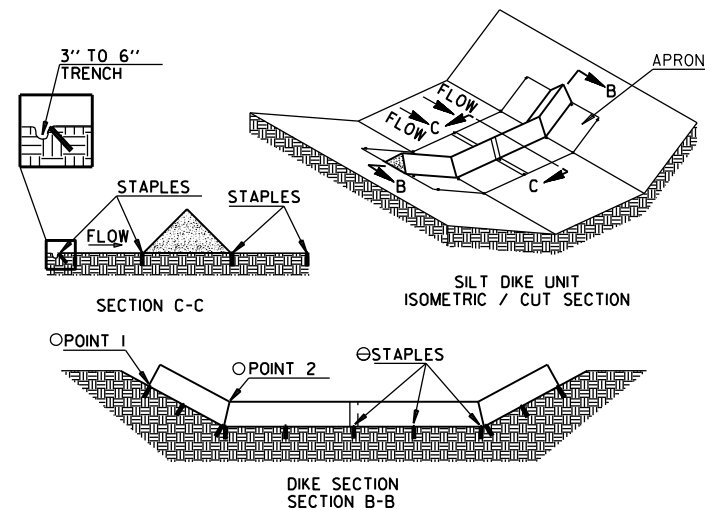
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

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

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

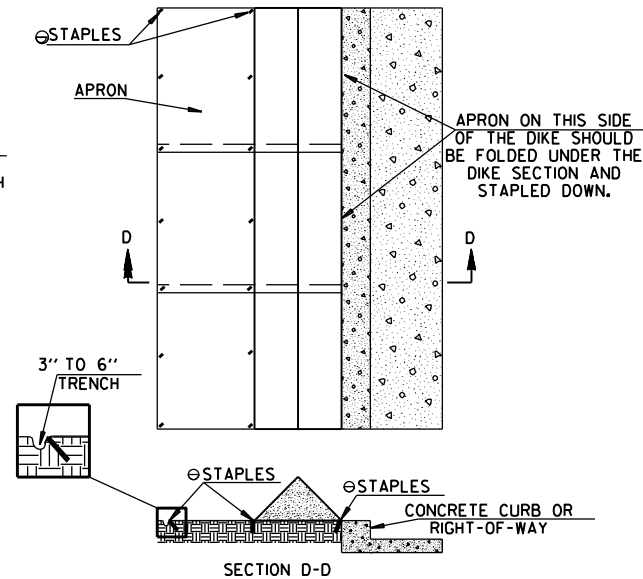


## TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER

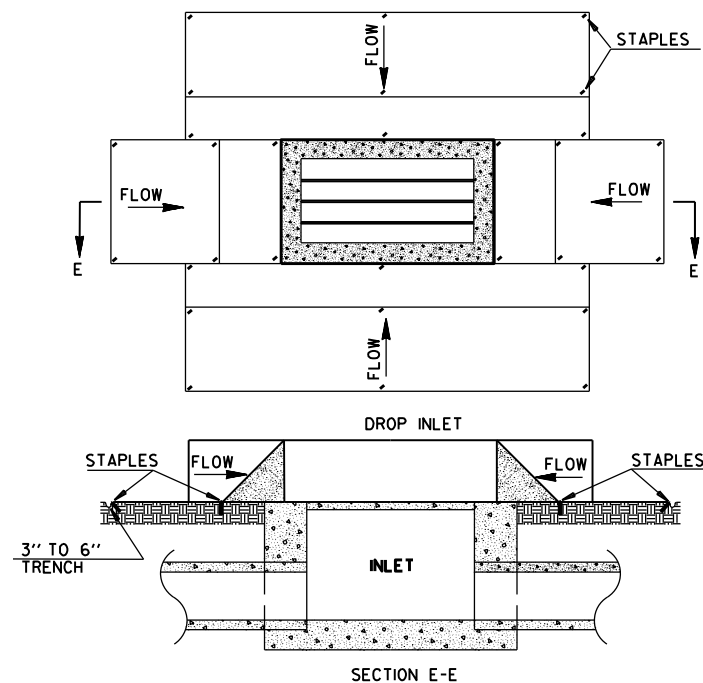


# TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

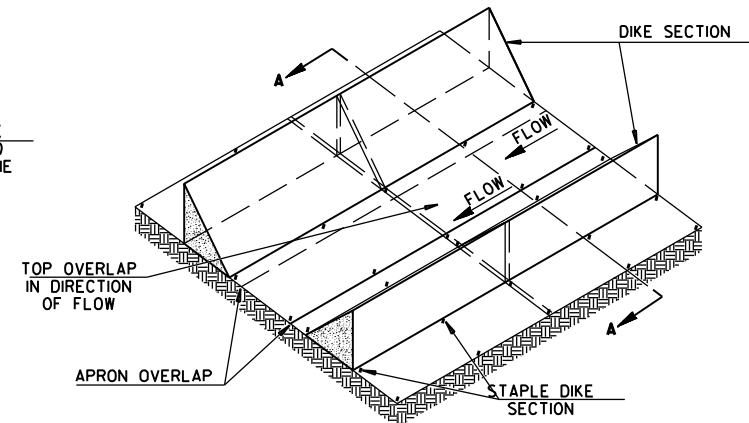
- POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



# TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



## TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS



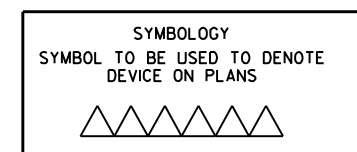
## TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

## GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 12 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

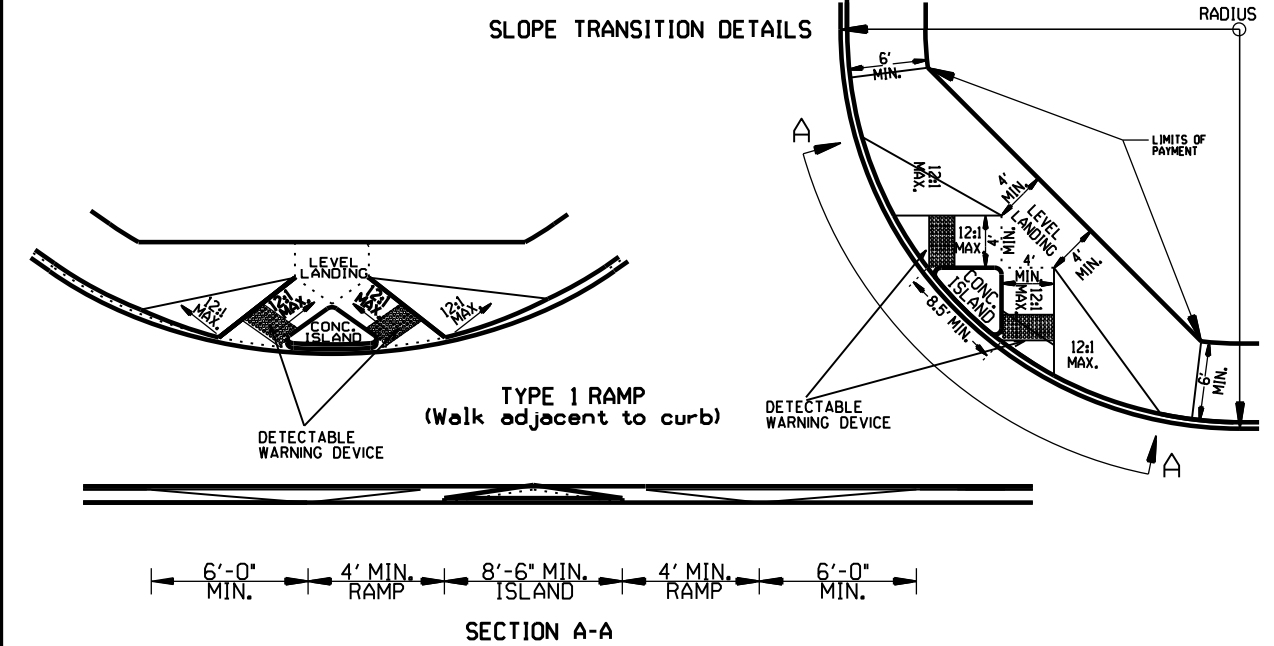
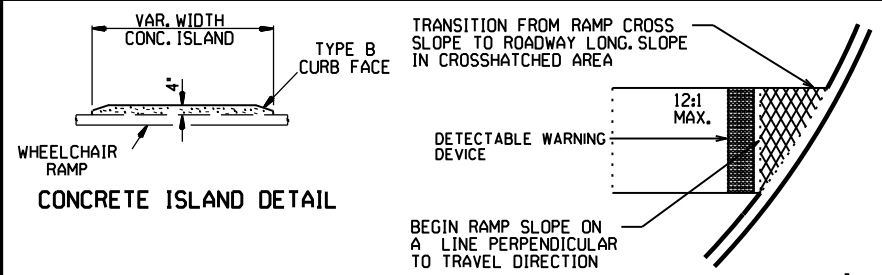
THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

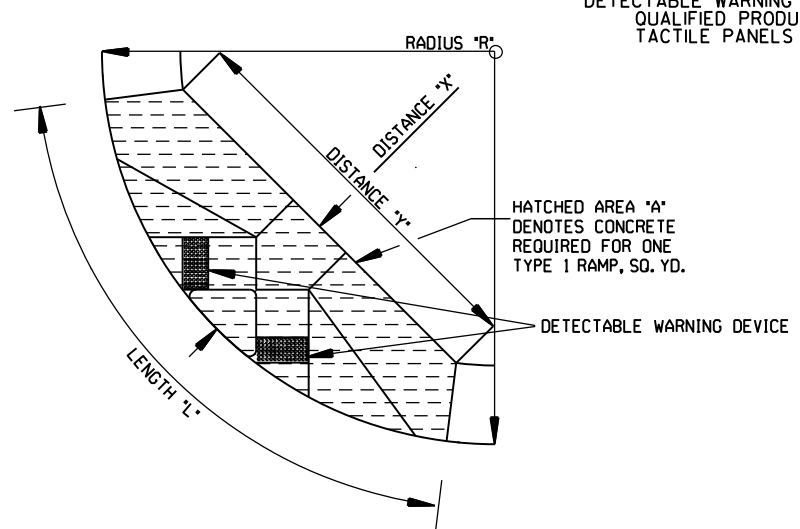


**NOTE:** SILT DIKE SHOULD ONLY BE USED FOR  
DROP INLETS IN SUMP LOCATIONS.

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
7-26-12	REVISED GENERAL NOTE 2.		STANDARD DRAWING TEC-4
12-15-11	ISSUED		
DATE	REVISION	FILMED	

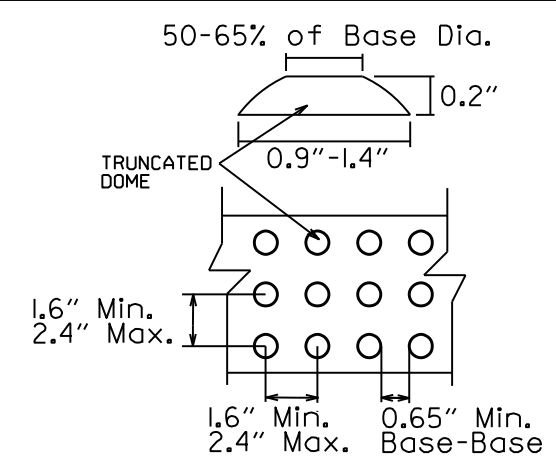


TYPE 1 RAMP DIMENSIONS AND QUANTITIES				
RADIUS "R"	DISTANCE "X"	DISTANCE "Y"	LENGTH "L"	RAMP AREA "A"
FEET	FEET	FEET	FEET	SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	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

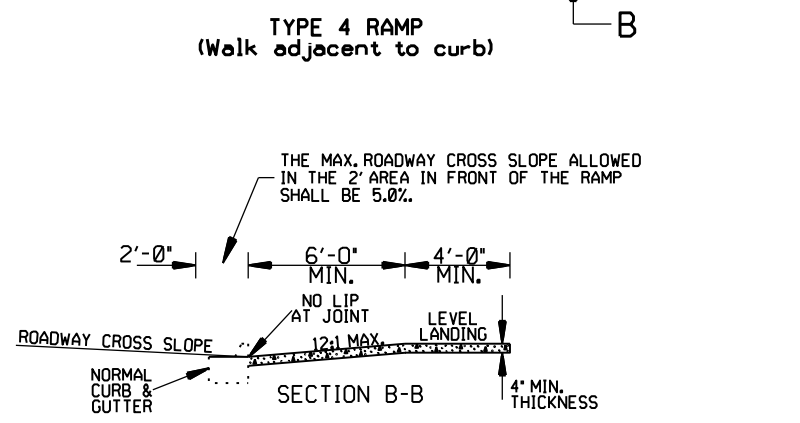
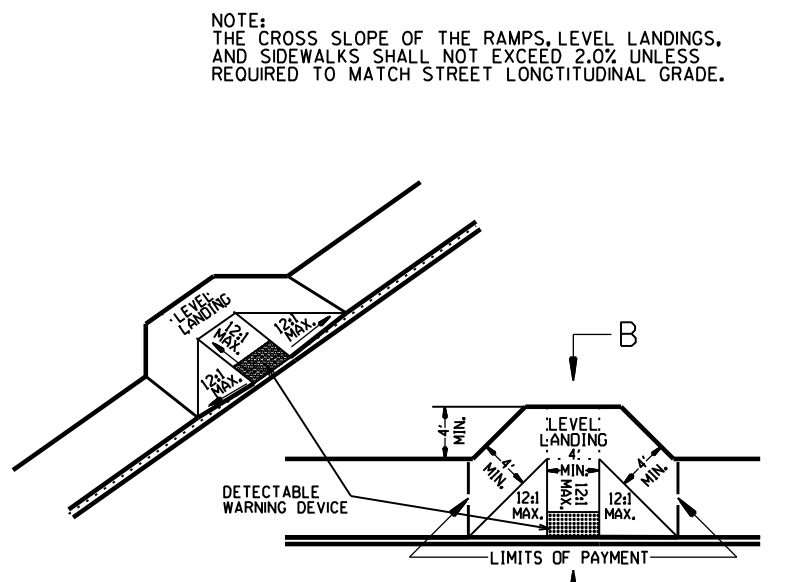
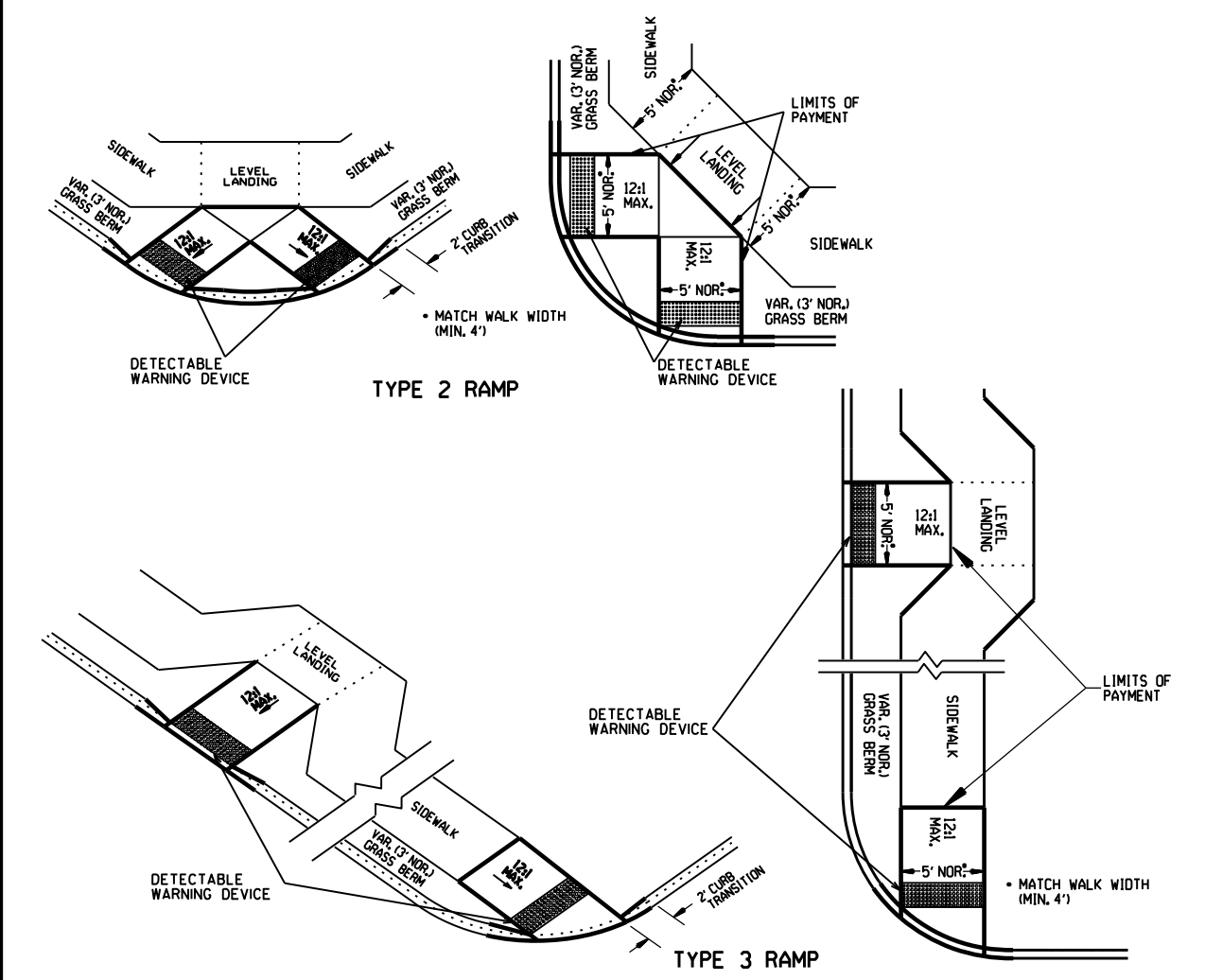
**GENERAL NOTES:**

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

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.

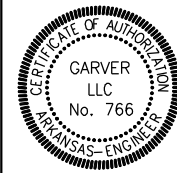
**NOTE:** IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED. AN ALTERATION 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	INCLUD. "CONC. ISLD." IN PAY ITEM	-----
6-02-76	ISSUED-P.H.D.	299-7-28-76



12/19/2016 8:03:49 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

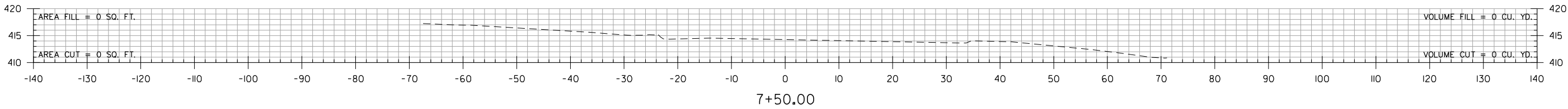
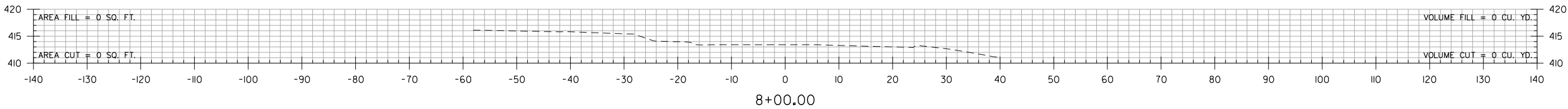
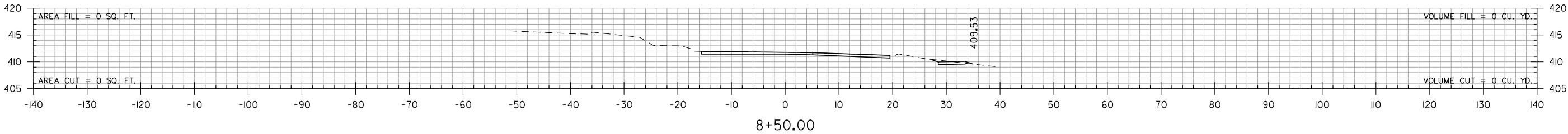
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER

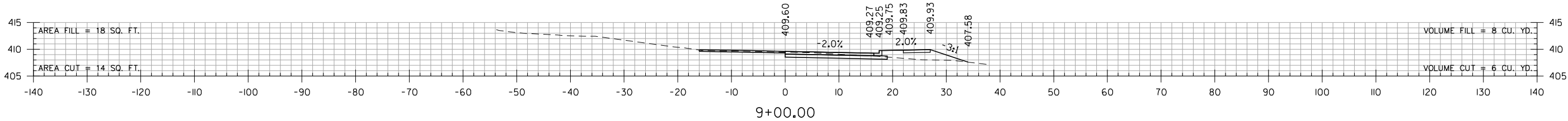
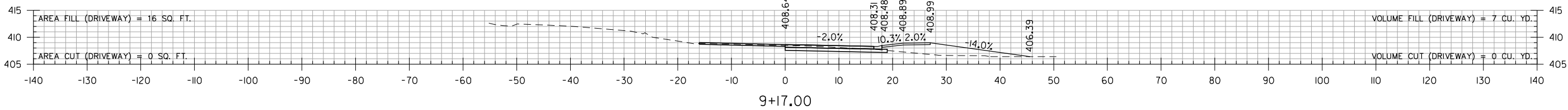
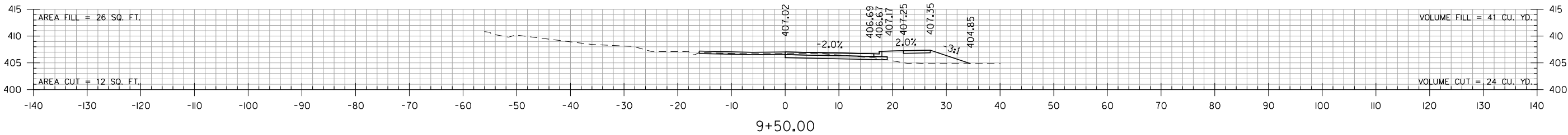
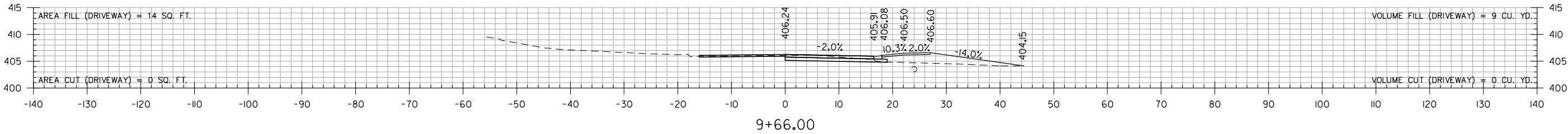
57

STA. 8+75 BEGIN JOB 061295  
MARYLAND AVE. (WEST)



STA. 7+50 TO STA. 8+85

12/19/2016 8:03:49 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 9+00 TO STA. 9+66



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

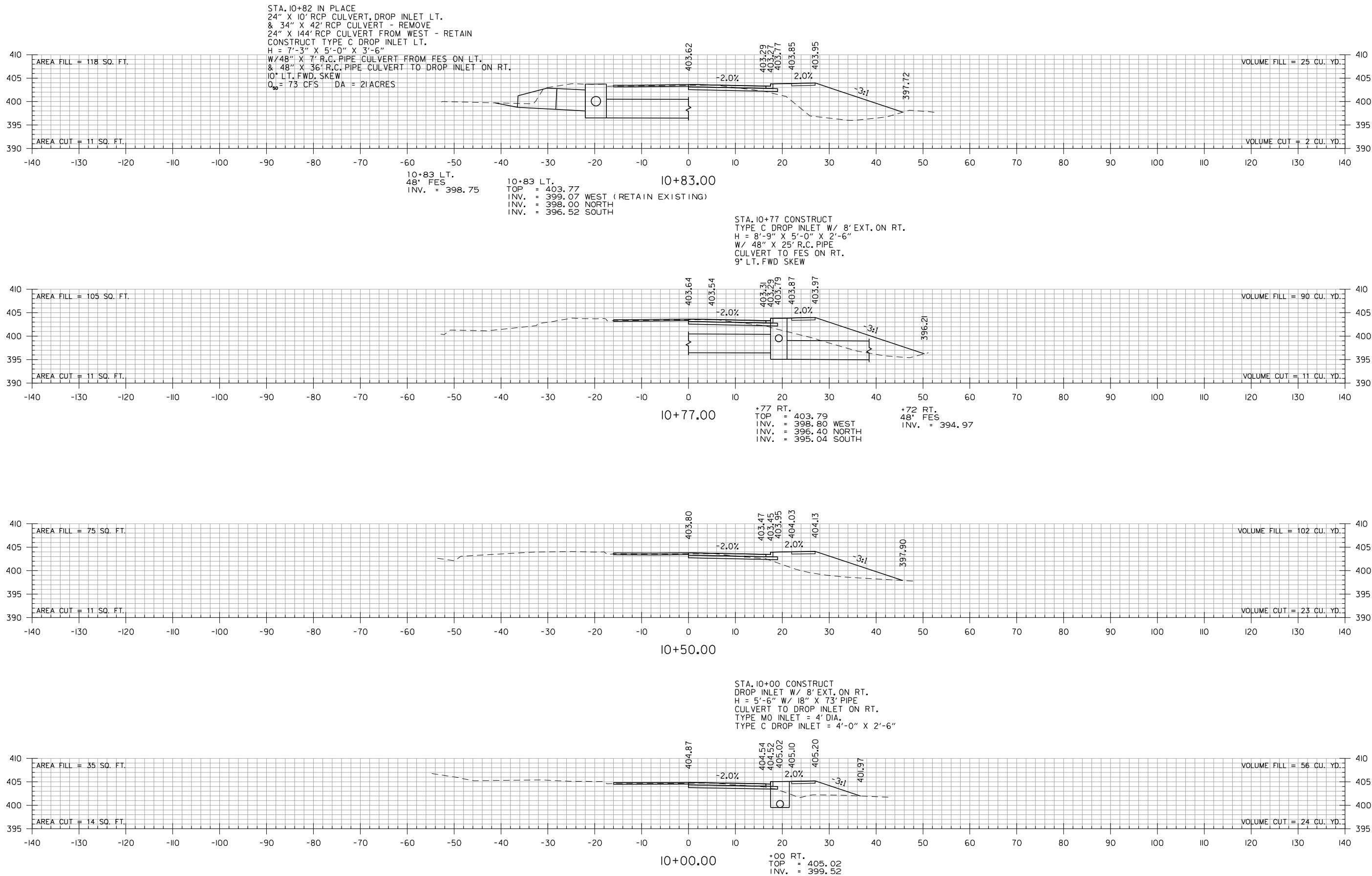
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **58**

12/19/2016 8:03:49 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

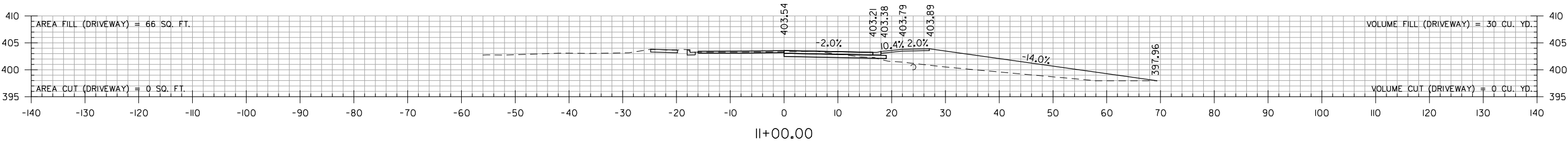
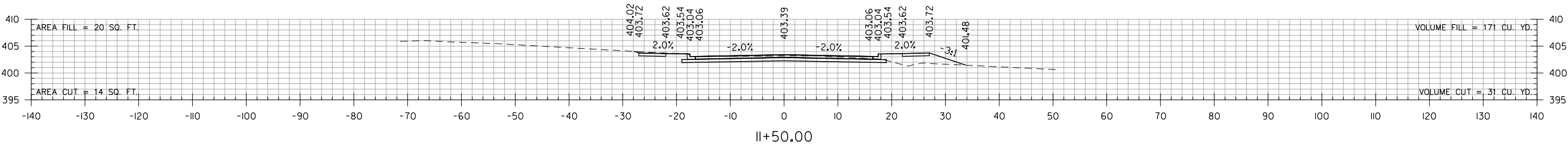
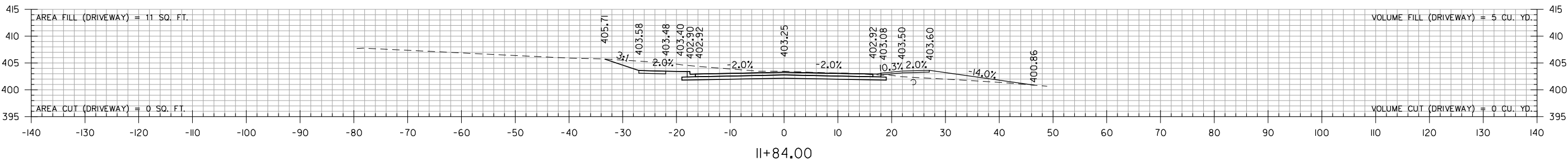
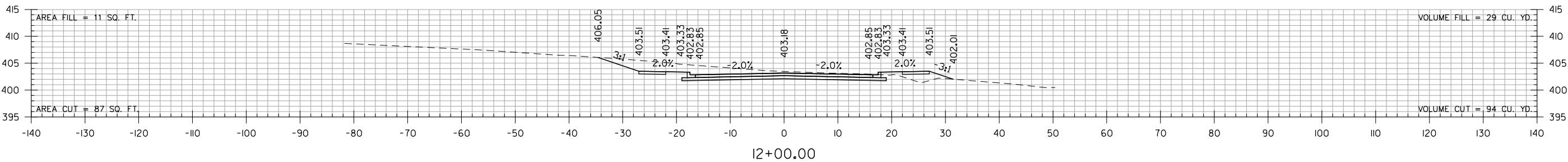
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **59**

12/19/2016 8:03:50 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 11+00 TO STA. 12+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

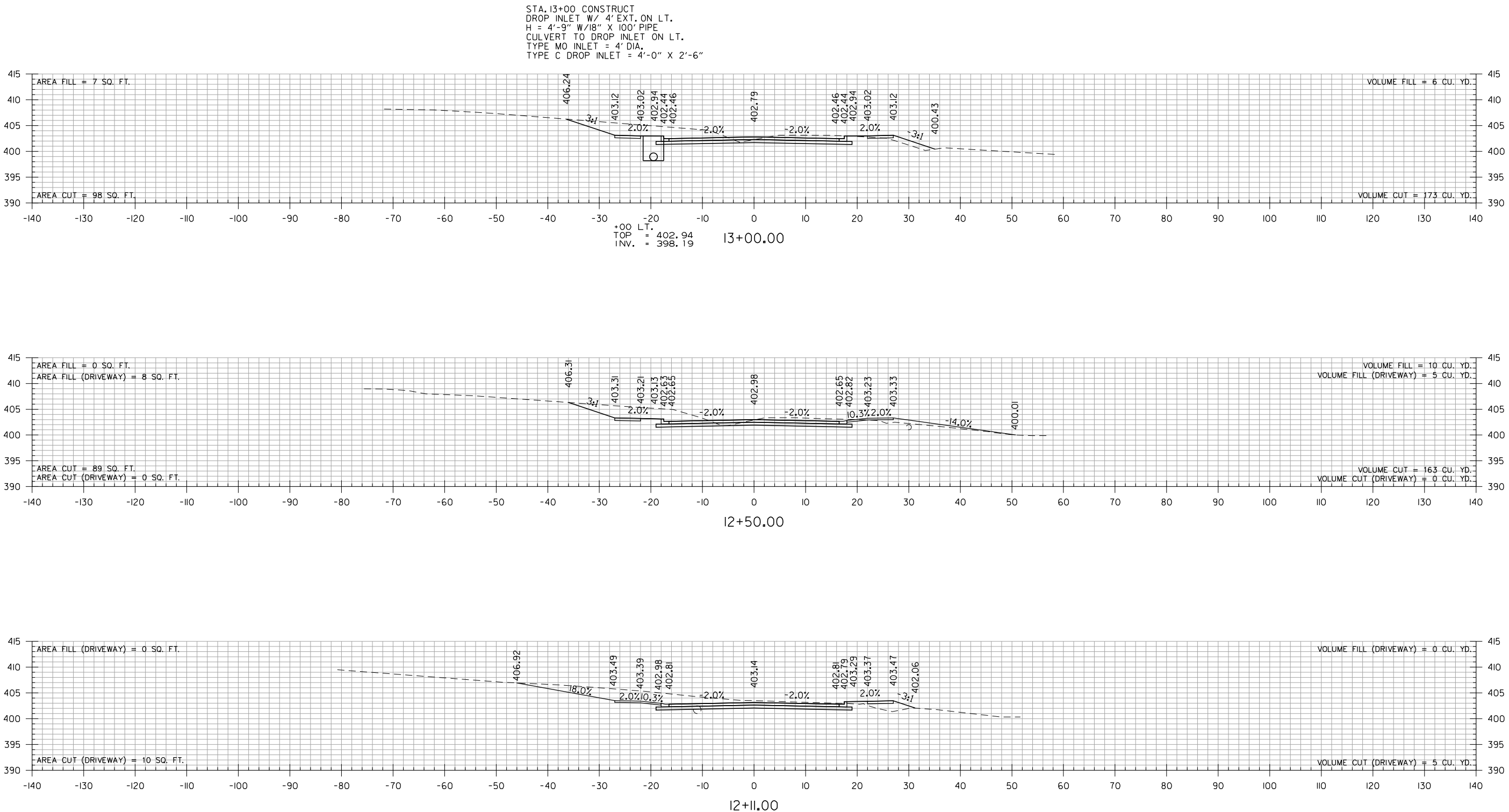
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 60



12/19/2016 8:03:50 AM  
WORKSPACE\AHTD  
L:\2017\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 12+11 TO STA. 13+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

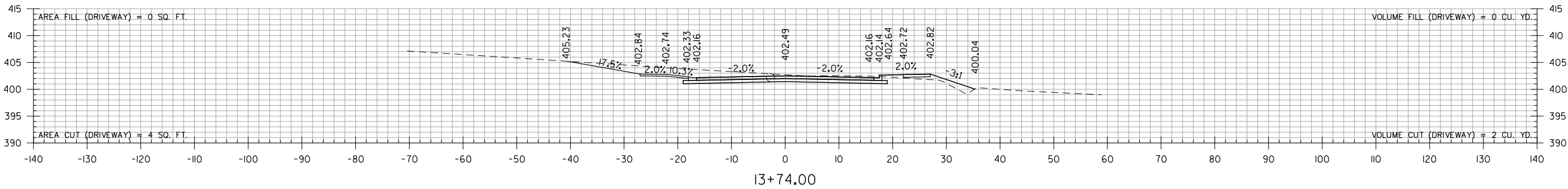
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

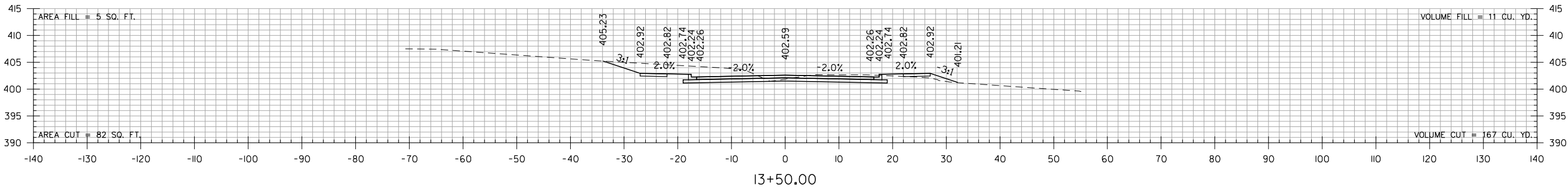
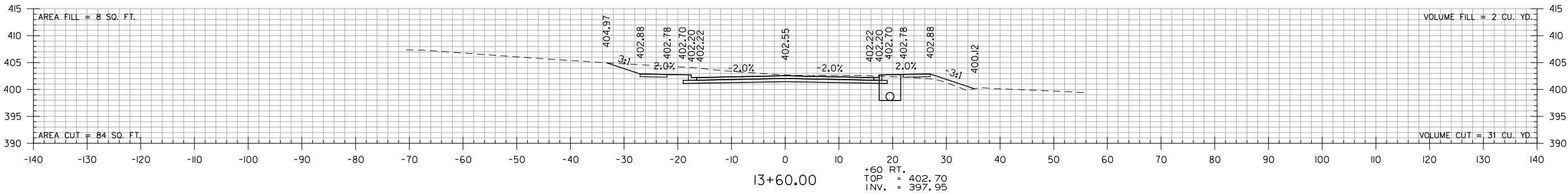
DRAWING NUMBER

SHEET  
NUMBER 61

12/19/2016 8:03:50 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 13+60 CONSTRUCT  
DROP INLET W/ 8' EXT. ON RT.  
H = 4'-9" W/18" X 97' PIPE  
CULVERT TO DROP INLET ON RT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 13+50 TO STA. 13+74



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

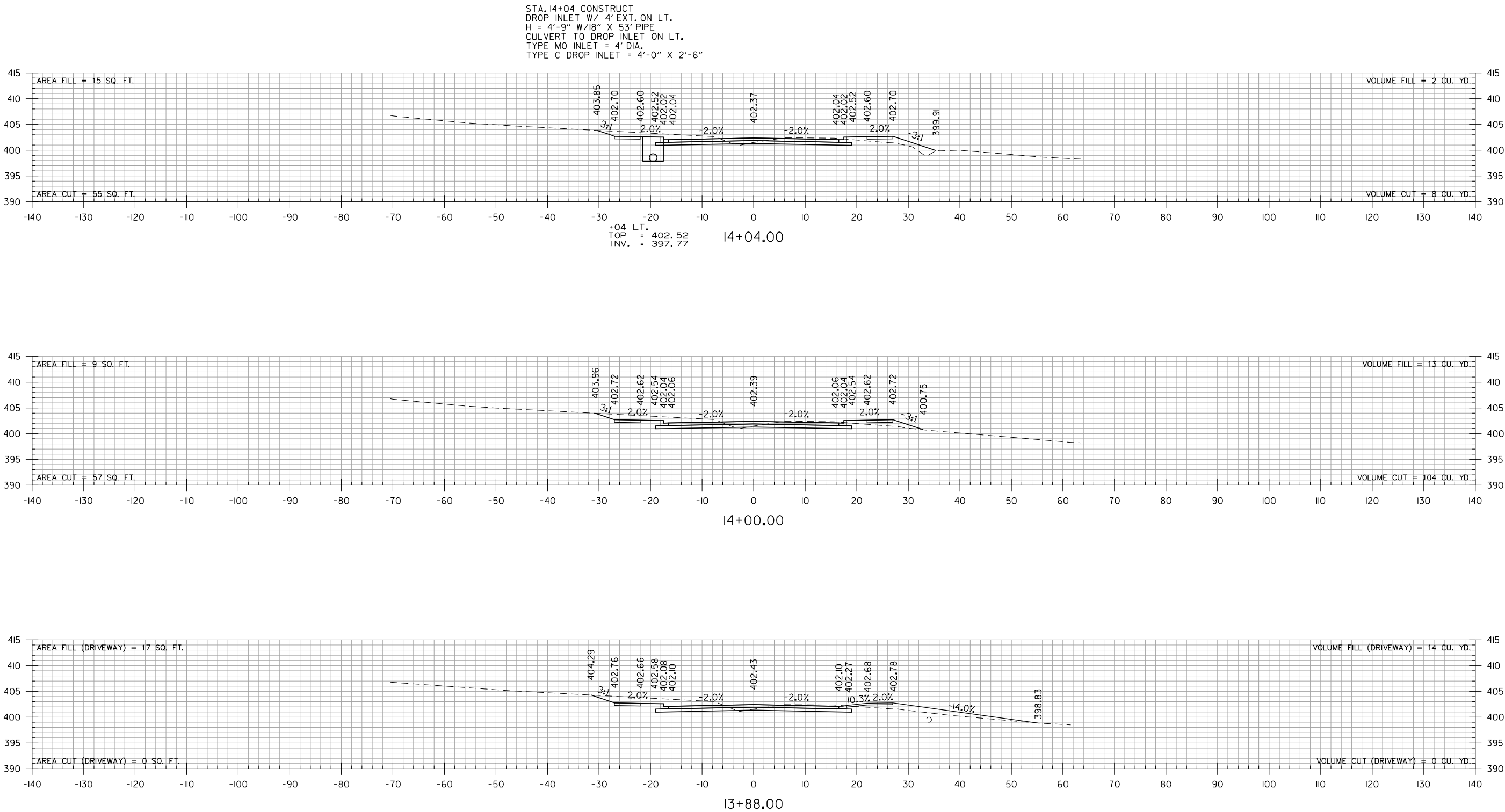
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 62

12/19/2016 8:03:51 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY

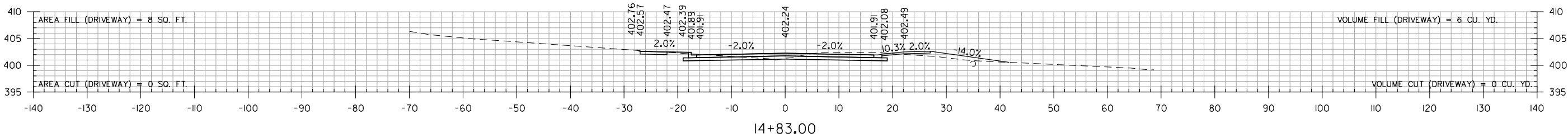


CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

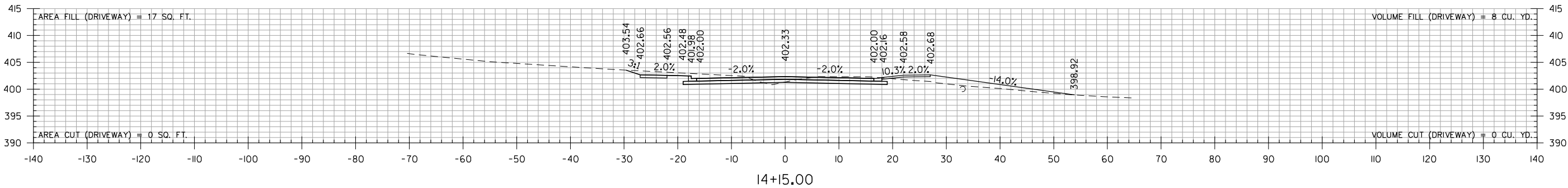
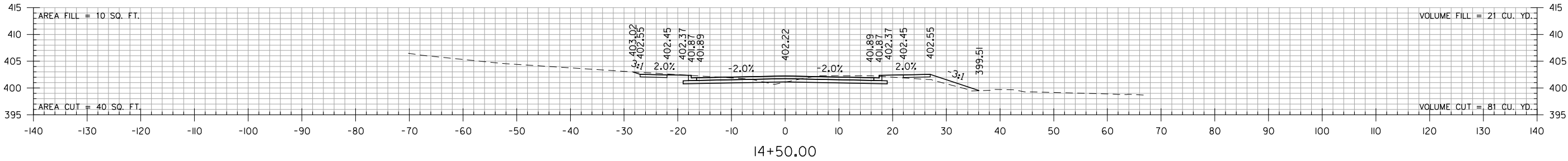
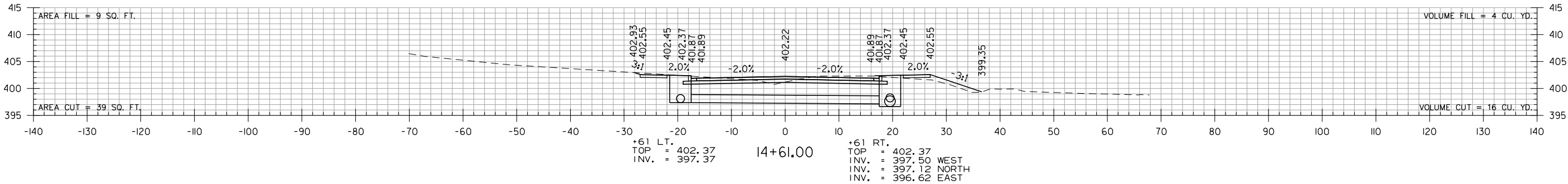
CROSS SECTIONS
JOB NO.: 12017400 DATE: DEC, 2016 DESIGNED BY: TEM DRAWN BY: AMS
DRAWING NUMBER
SHEET NUMBER 63

12/19/2016 8:03:51 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 14+61 CONSTRUCT  
DROP INLET W/ DUAL 4' EXTS. ON LT.  
H = 5'-0" W/18" X 36" R.C. PIPE  
CULVERT TO DROP INLET ON RT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"

STA. 14+61 CONSTRUCT  
DROP INLET W/ 4' EXT. ON RT.  
H = 5'-9" W/24" X 4' R.C. PIPE  
CULVERT TO BOX CULVERT ON RT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 14+15 TO STA. 14+83



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

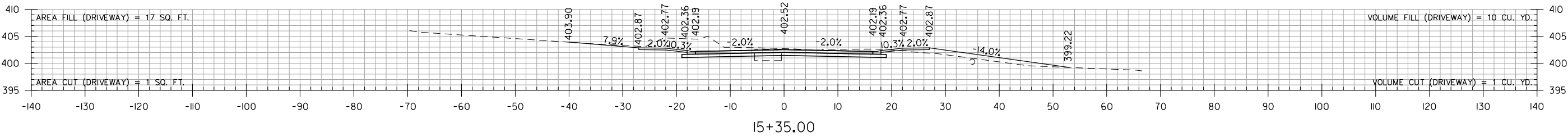
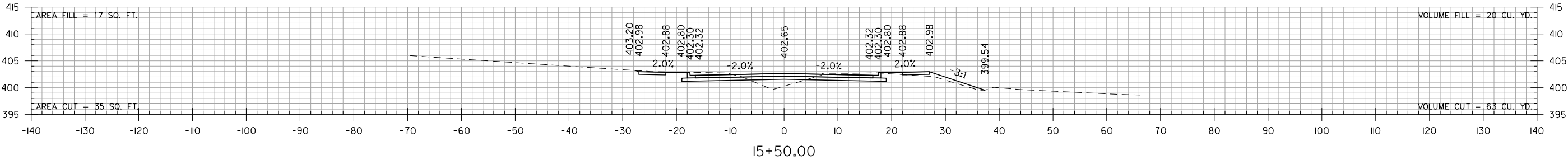
DRAWING NUMBER

SHEET  
NUMBER

64



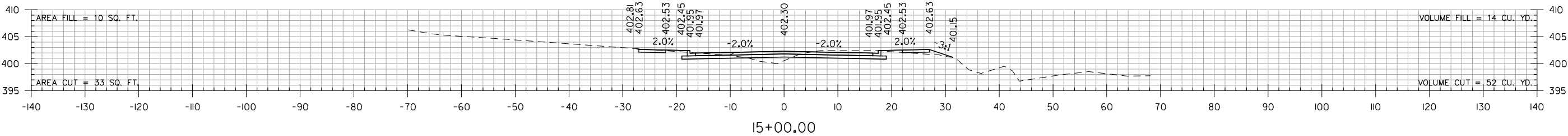
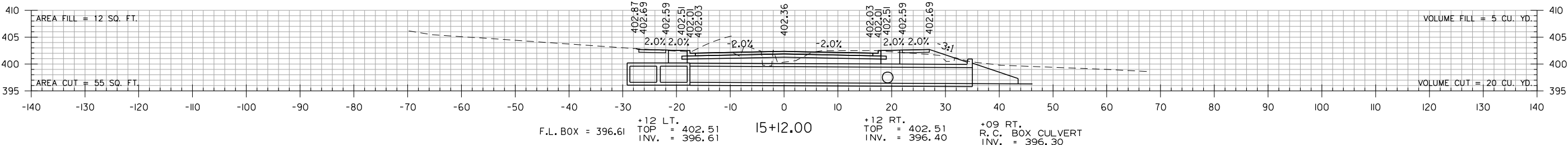
12/19/2016 8:03:51 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 15+12 CONSTRUCT  
DROP INLET W/ 4' EXT. ON LT.  
H = 2'-4"  
CONSTRUCT ON NEW R.C. BOX CULVERT  
TYPE C DROP INLET = 4'-0" X 2'-6"

STA. 15+12 CONSTRUCT  
DROP INLET ON RT.  
H = 2'-6"  
CONSTRUCT ON NEW R.C. BOX CULVERT  
TYPE C DROP INLET = 4'-0" X 2'-6"

STA. 17+41, 35' LT. TO STA. 15+09, 35' RT.  
CONSTRUCT DBL. 5' X 3' X 302'  
PRECAST R.C. BOX CULVERT  
WITH 3:1 WINGS LT. & RT.  
Q<sub>50</sub> = 172 CFS DA = 84 ACRES



STA. 15+00 TO STA. 15+50



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

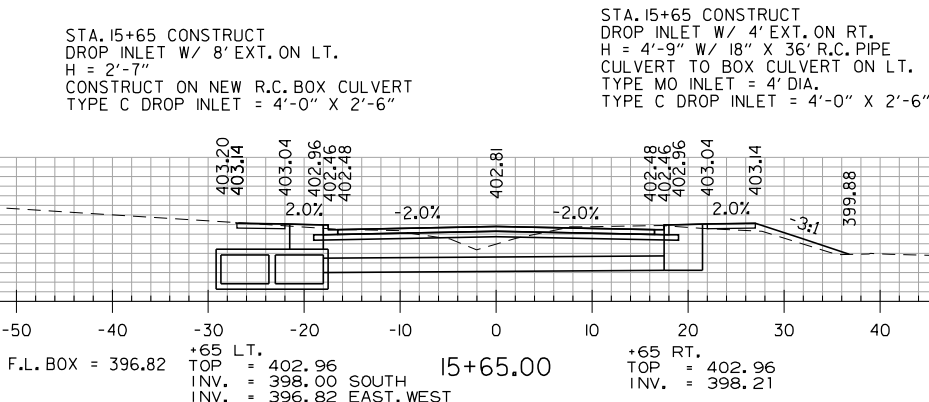
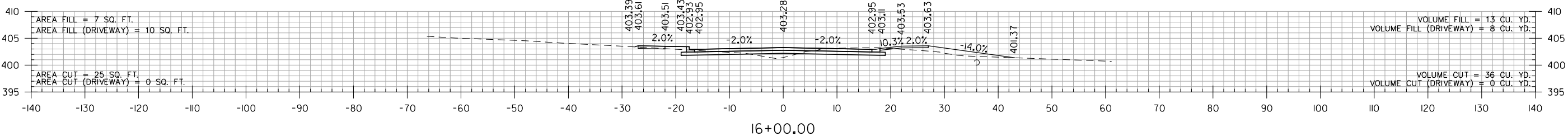
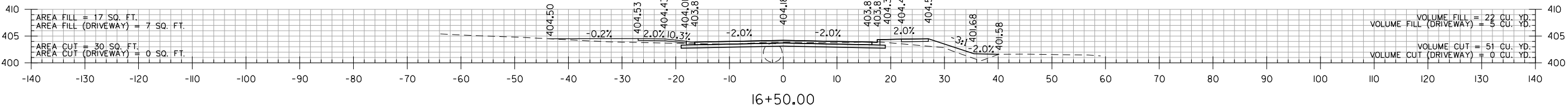
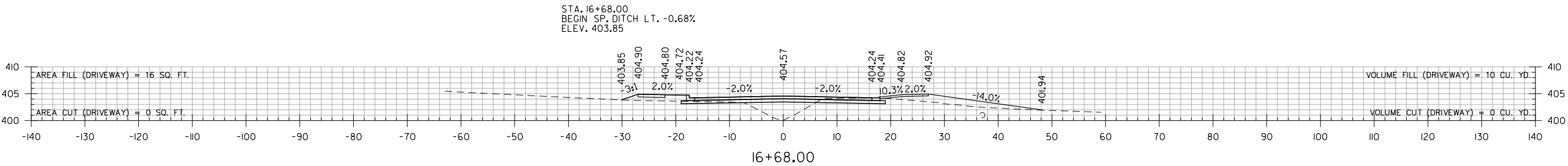
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 65

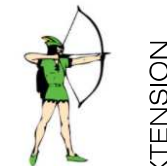
12/19/2016 8:03:51 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 15+65 TO STA. 16+68



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

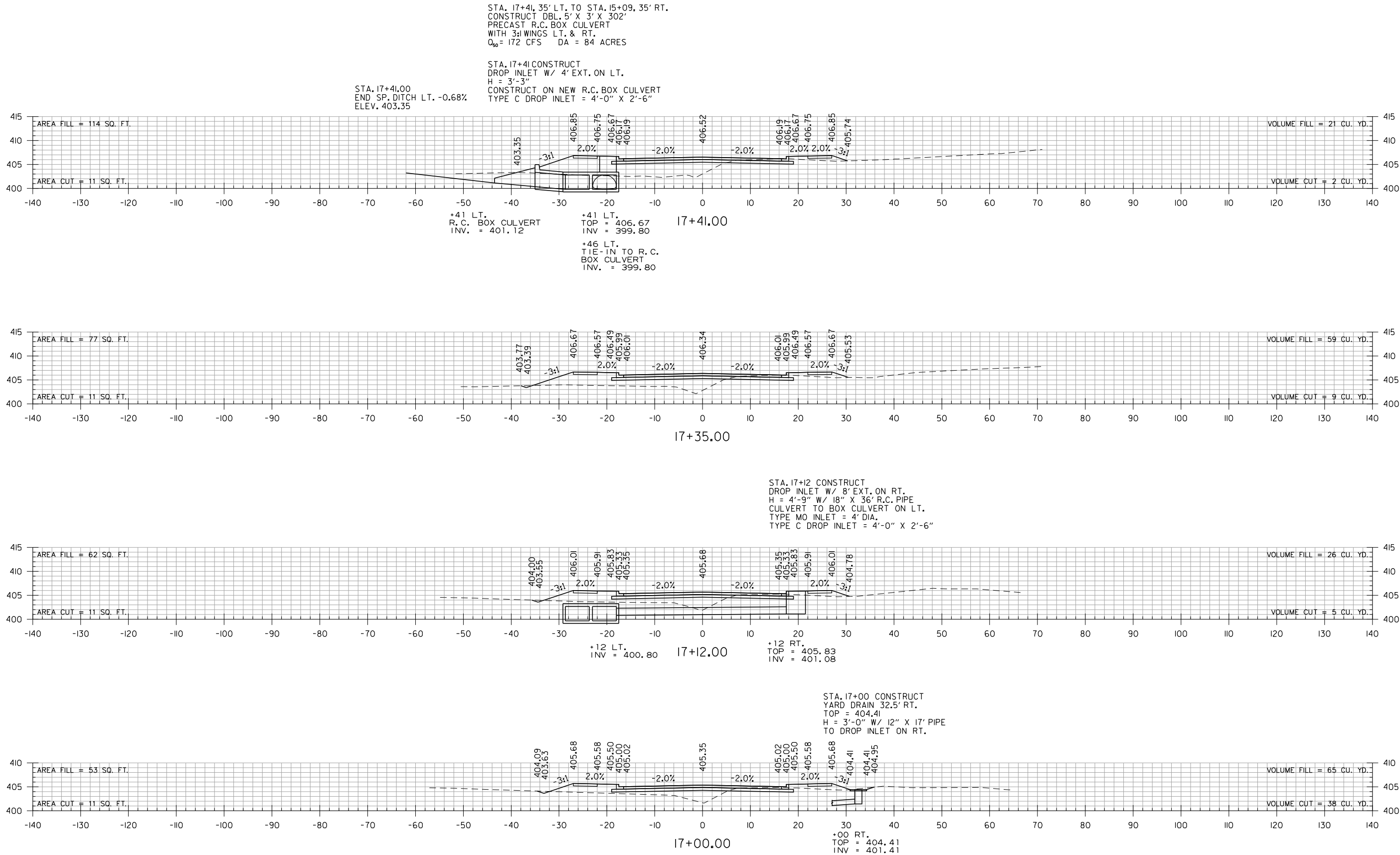
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 66

12/19/2016 8:03:52 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

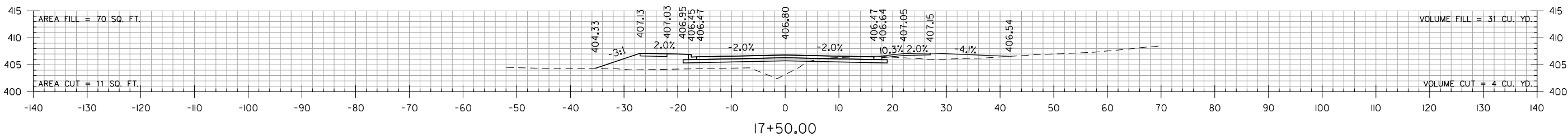
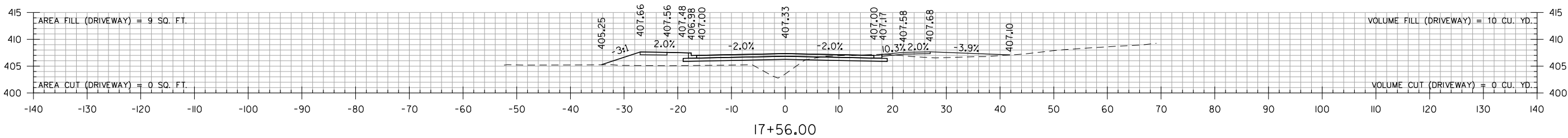
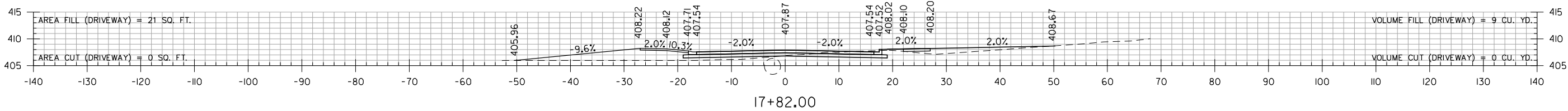
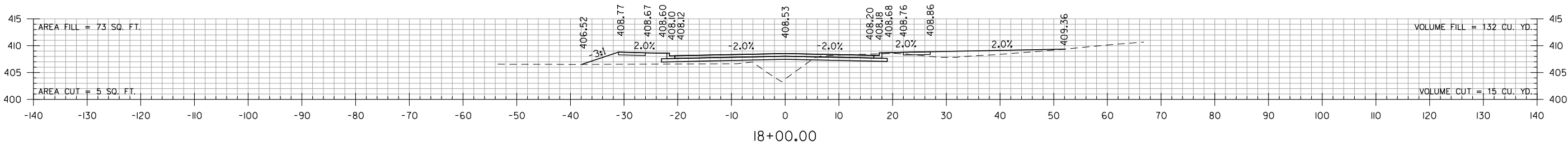
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **67**

12/19/2016 8:03:52 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 17+50 TO STA. 18+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

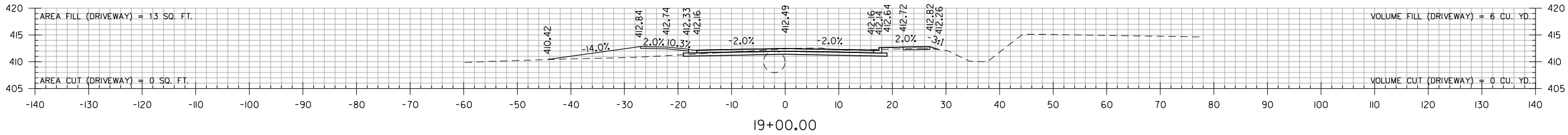
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 68

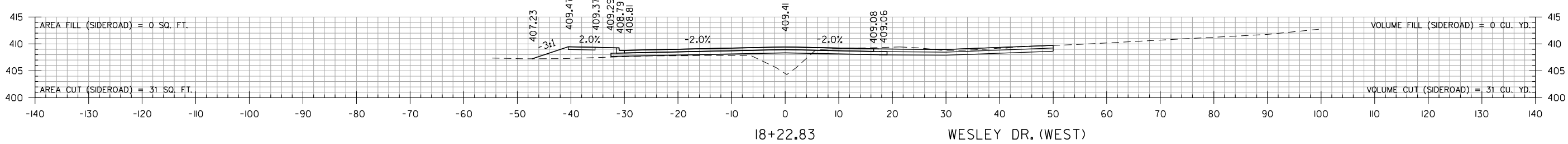
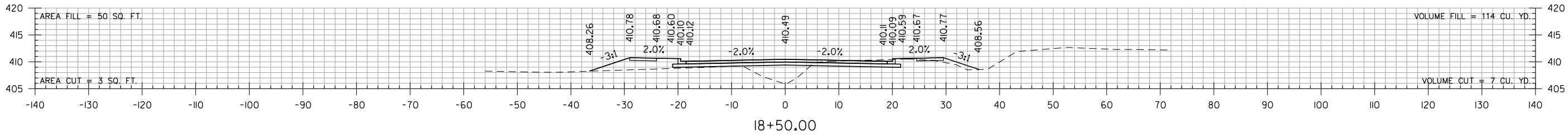
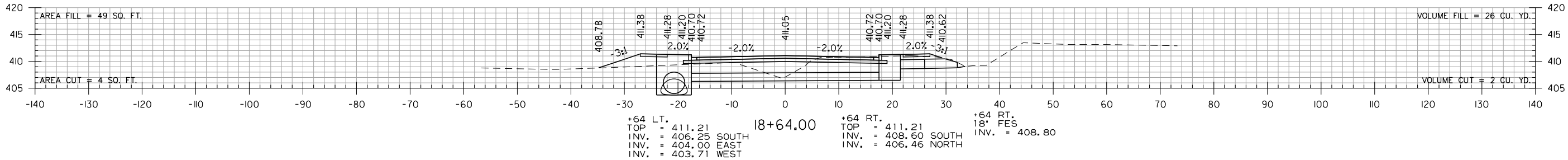


12/19/2016 8:03:52 AM  
WORKSPACE\AHTD  
L:\2017\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 18+64 CONSTRUCT  
DROP INLET ON LT.  
H = 7'-6" W/ 36" X 59" X 116' ARCH R.C. PIPE  
CULVERT TO BOX CULVERT ON LT.  
TYPE C DROP INLET = 4'-0" X 5'-6"

STA. 18+64 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-9" W/ 8' EXT. AND 18" X 6' R.C. PIPE  
CULVERT FROM FES ON LT. AND  
18" X 36' R.C. PIPE CULVERT TO  
DROP INLET ON RT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 18+23 TO STA. 19+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

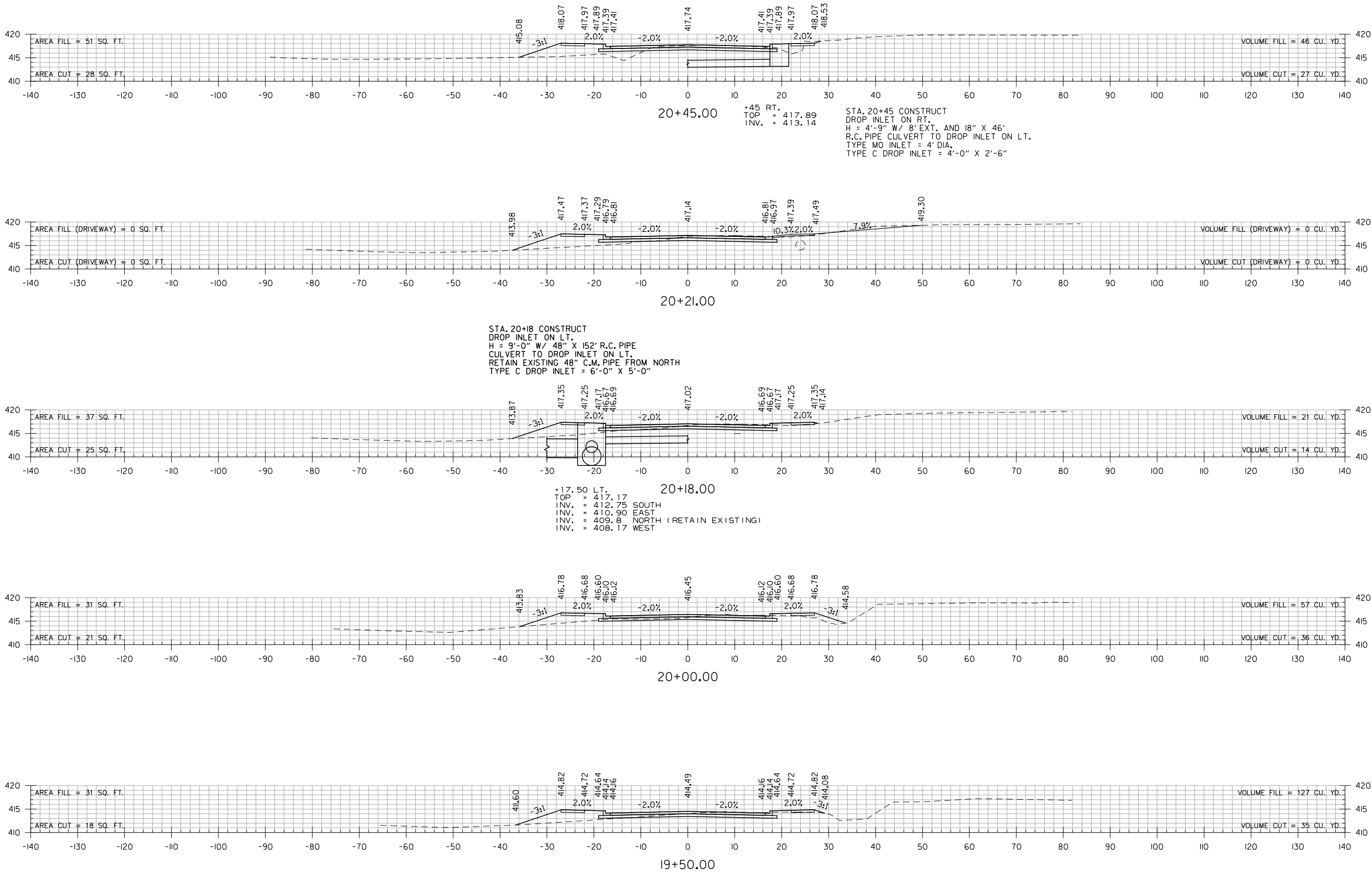
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 69

12/19/2016 8:03:53 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 19+50 TO STA. 20+45



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

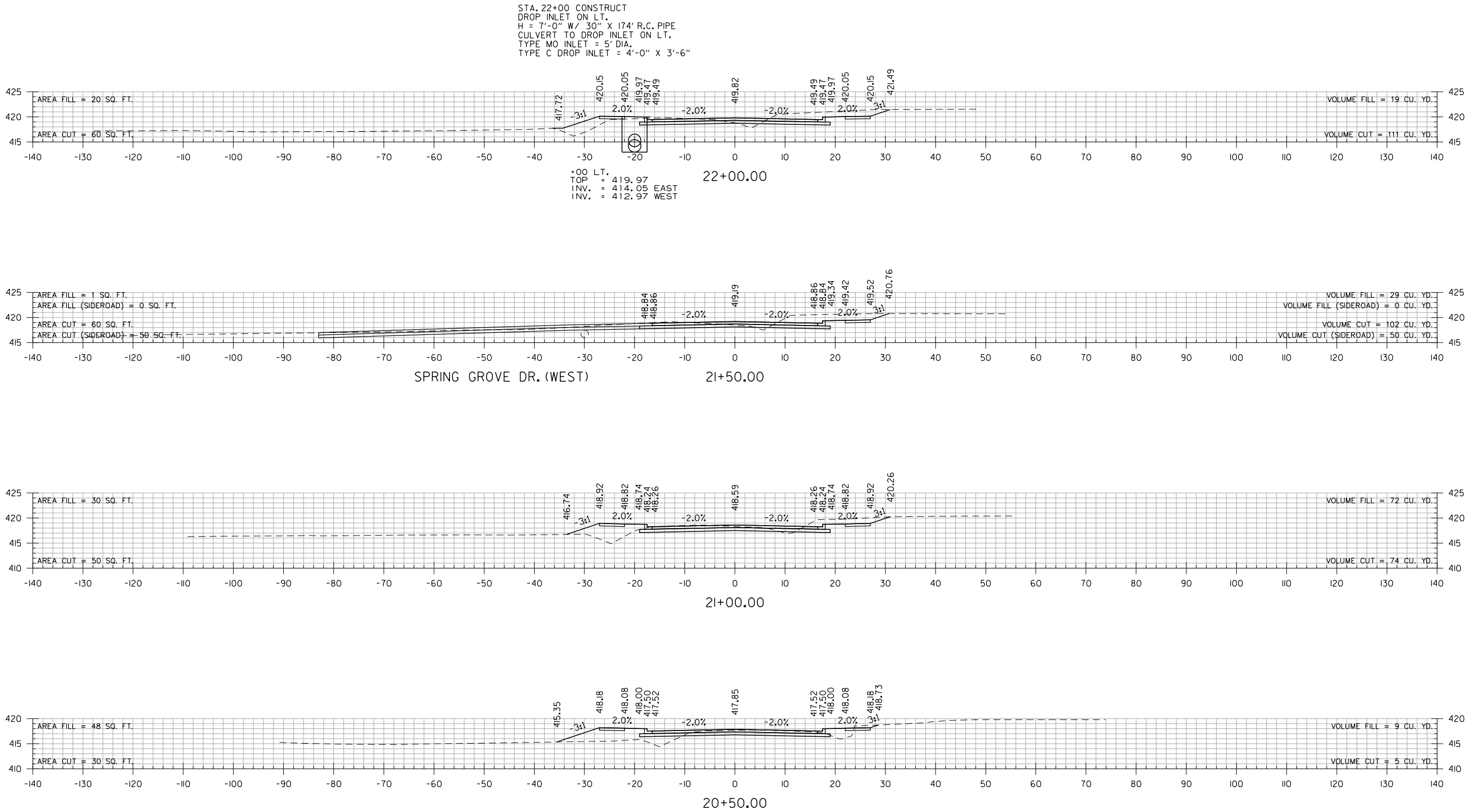
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **70**

12/19/2016 8:03:53 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 20+50 TO STA. 22+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

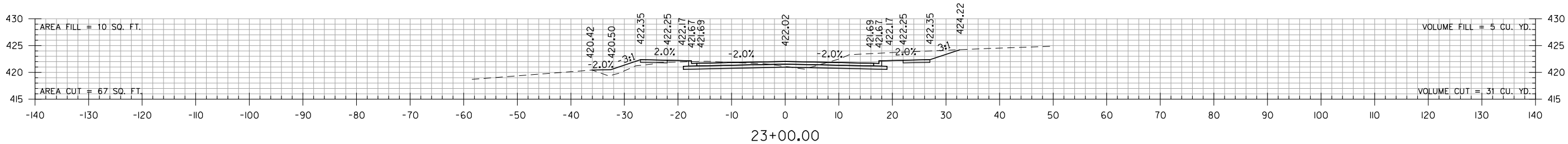
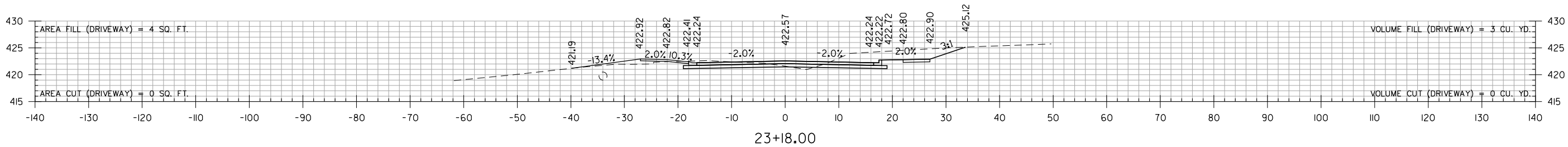
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER

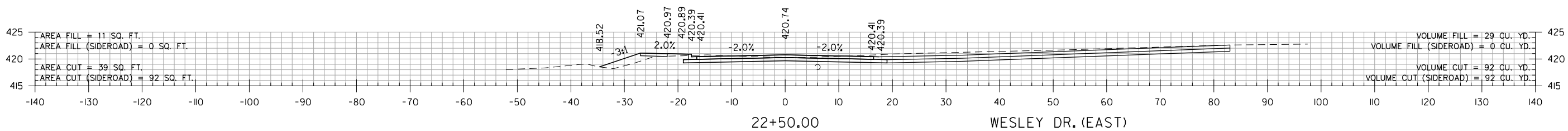
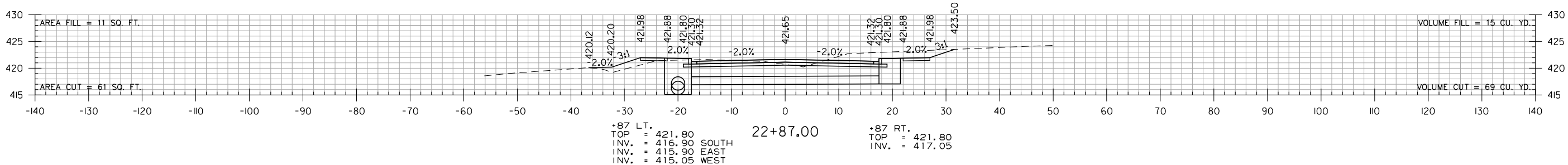
71

12/19/2016 8:03:53 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 22+87 CONSTRUCT  
DROP INLET ON LT.  
H = 6'-9" W/ 8' EXT. AND 30" X 83'  
PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 5' DIA.  
TYPE C DROP INLET = 4'-0" X 3'-6"

STA. 22+87 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-9" W/ 8' EXT. AND 18" X 36'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 22+50 TO STA. 23+18



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

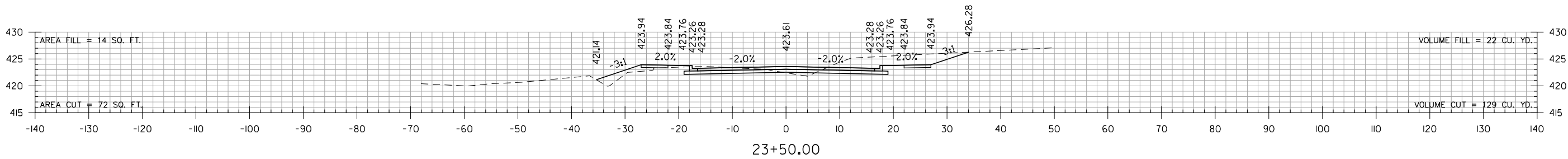
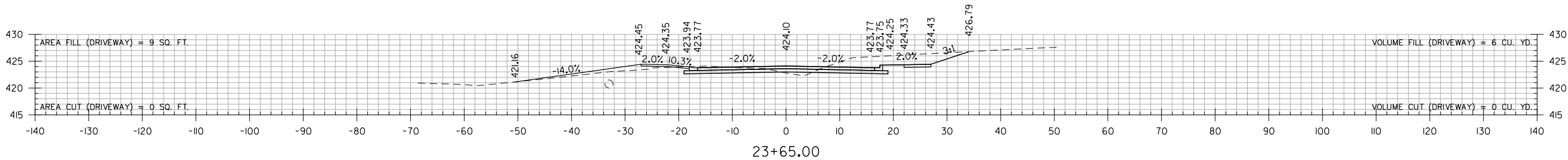
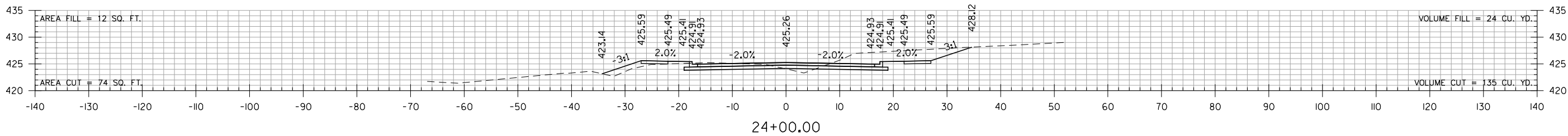
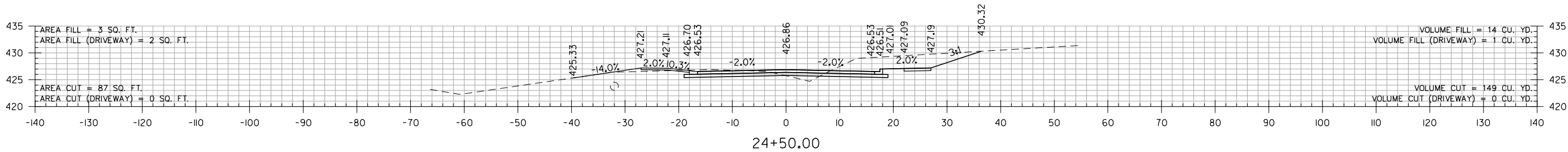
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET NUMBER **72**



12/19/2016 8:03:53 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 23+50 TO STA. 24+50



REV.	DATE	DESCRIPTION	BY

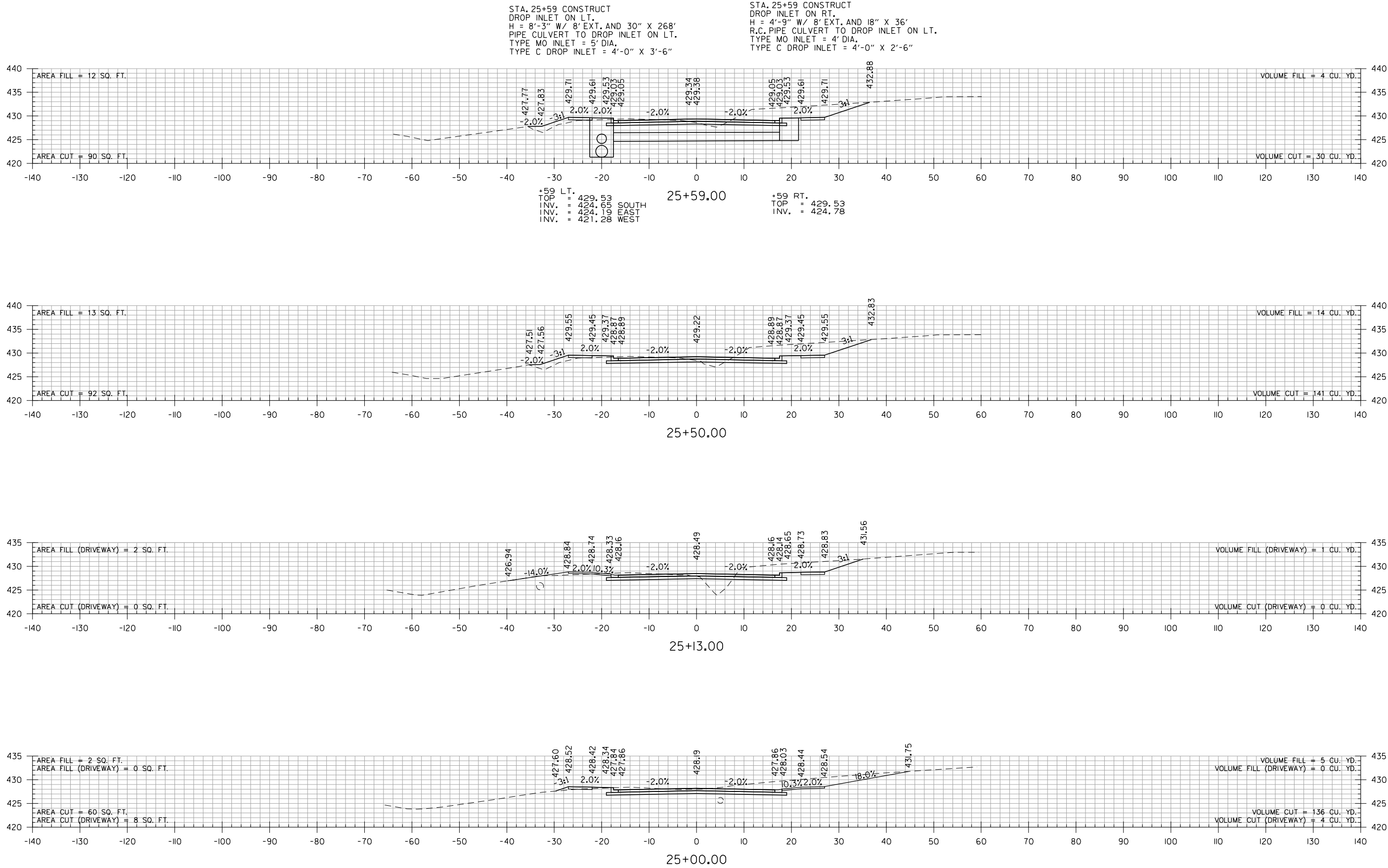


CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS
JOB NO.: 12017400 DATE: DEC, 2016 DESIGNED BY: TEM DRAWN BY: AMS
DRAWING NUMBER
SHEET NUMBER <b>73</b>

12/19/2016 8:03:54 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

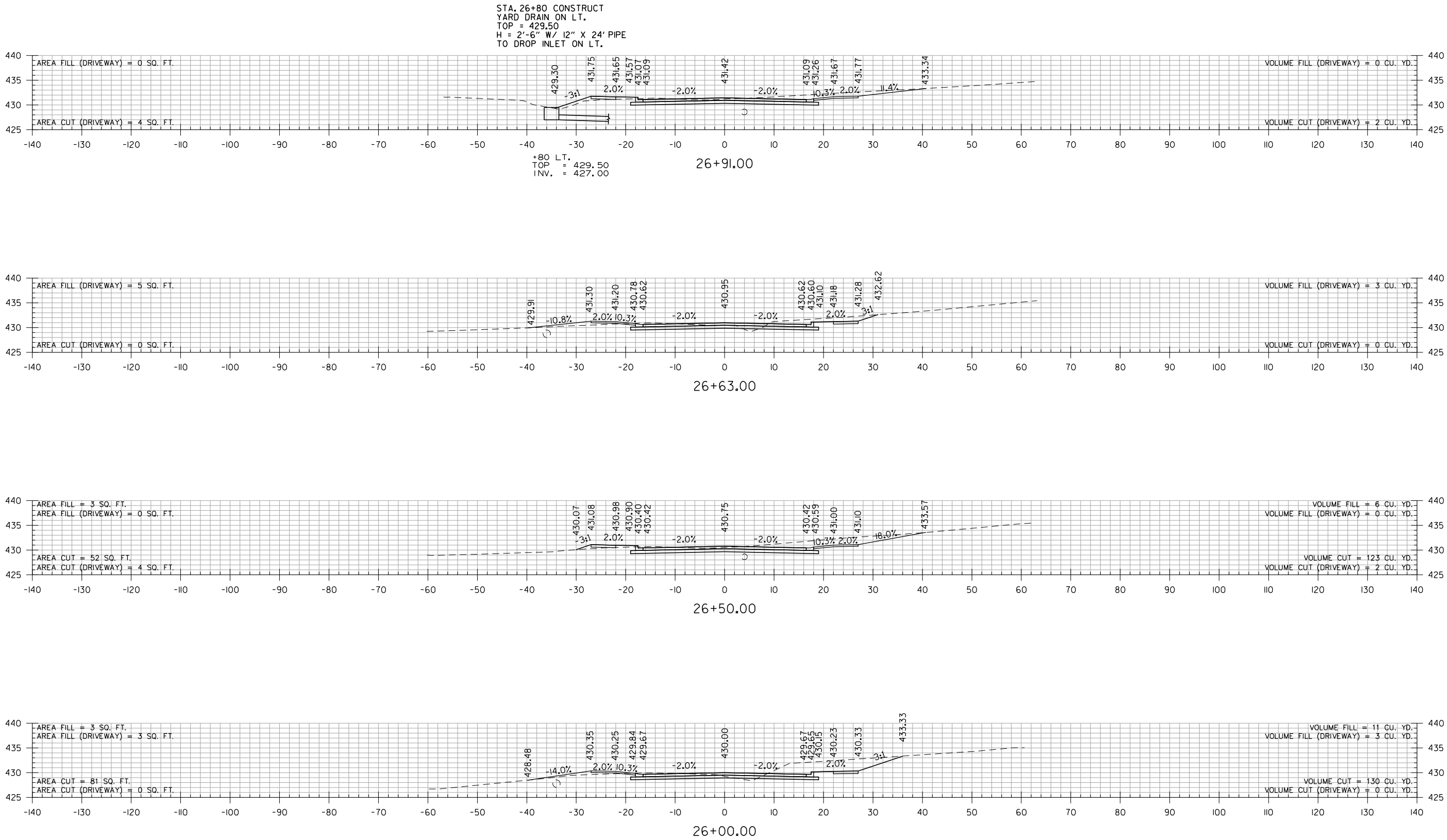
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER

74

12/19/2016 8:03:54 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

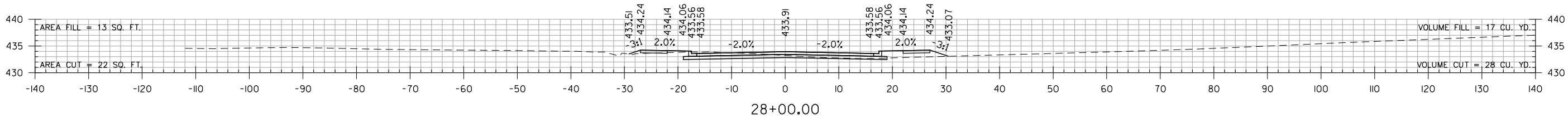
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

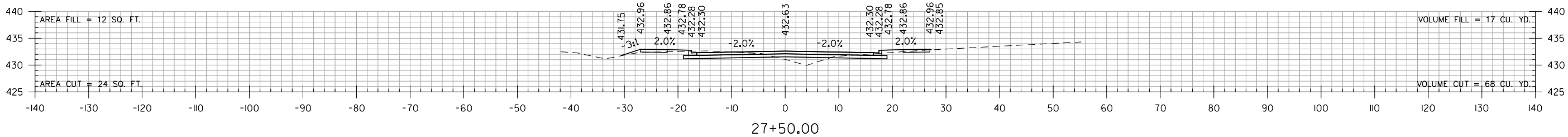
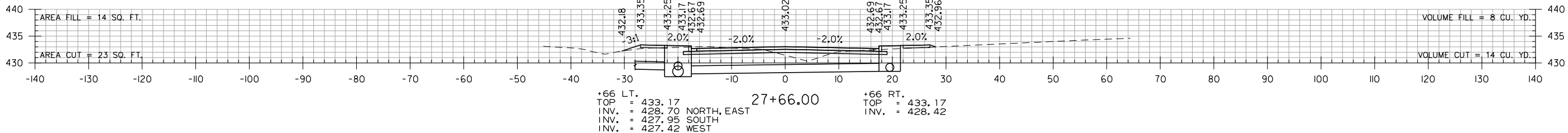
SHEET  
NUMBER **75**

12/19/2016 8:03:54 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn

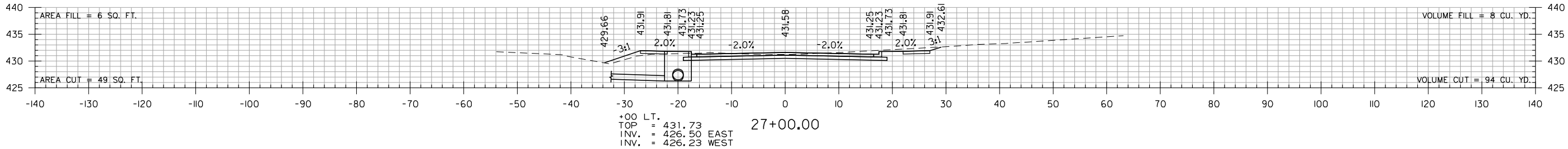


STA. 27+66 CONSTRUCT  
DROP INLET ON LT.  
H = 5'-9" W/ 8' EXT. AND 24" X 62'  
PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 5' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"

STA. 27+66 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-9" W/ 8' EXT. AND 18" X 36'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 27+00 CONSTRUCT  
DROP INLET ON LT.  
H = 5'-6" W/ 24" X 137'  
PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 5' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 27+00 TO STA. 28+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

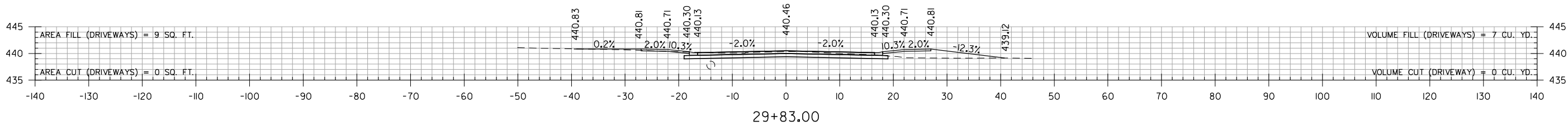
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

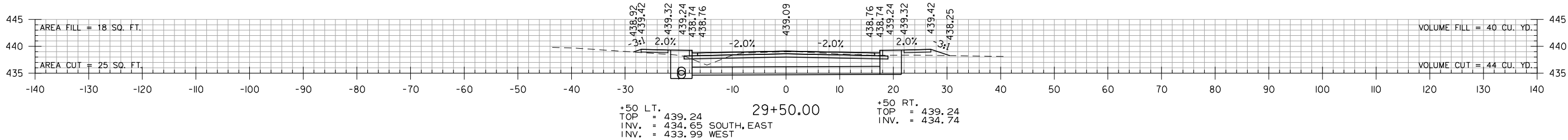
SHEET  
NUMBER **76**

12/19/2016 8:03:54 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 29+50 CONSTRUCT  
DROP INLET ON LT.  
H = 5'-3" W/ 4' EXT. AND 18" X 179'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"

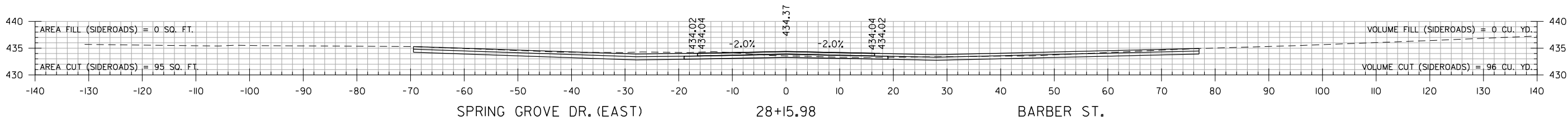
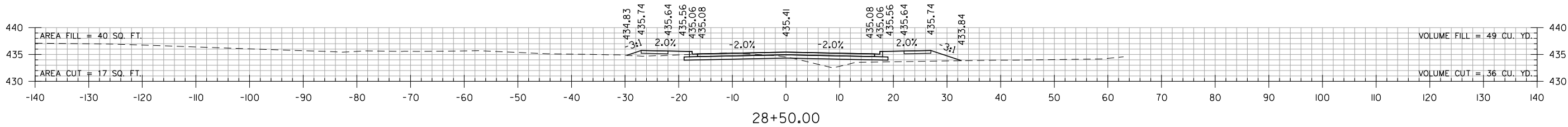
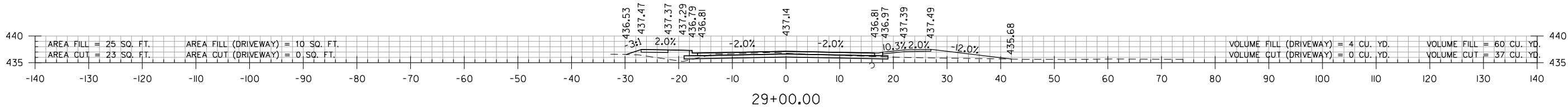
STA. 29+50 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-6" W/ 4' EXT. AND 18" X 36'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



+50 LT.  
TOP = 439.24  
INV. = 434.65 SOUTH, EAST  
INV. = 433.99 WEST

29+50.00

+50 RT.  
TOP = 439.24  
INV. = 434.74



SPRING GROVE DR. (EAST) 28+15.98 BARBER ST.

STA. 28+16 TO STA. 29+83



BY	DESCRIPTION	DATE	REV.



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

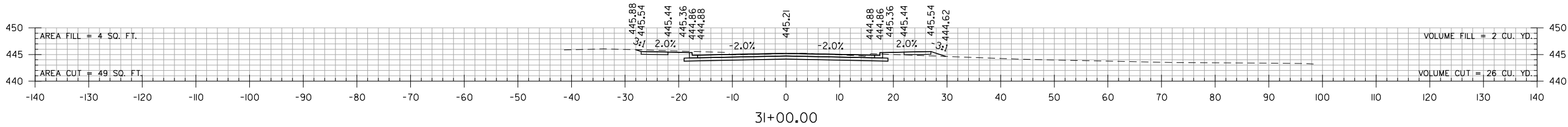
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

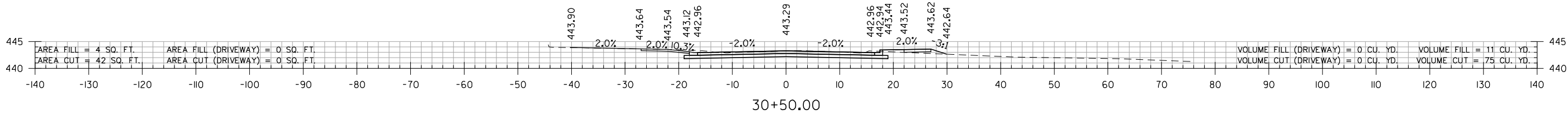
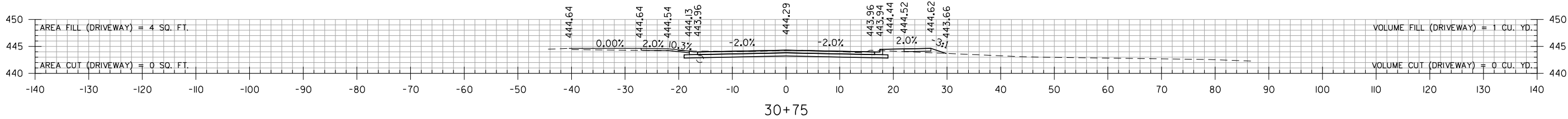
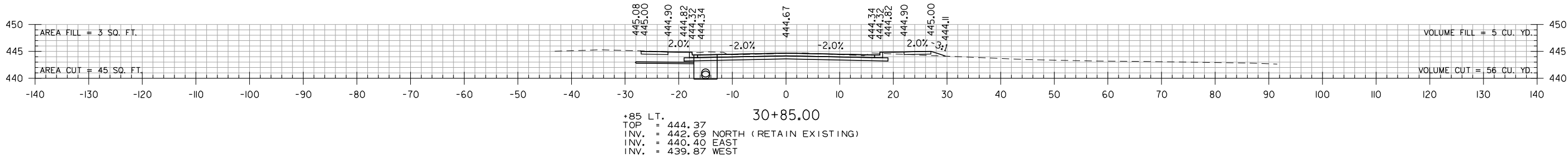
SHEET NUMBER 77



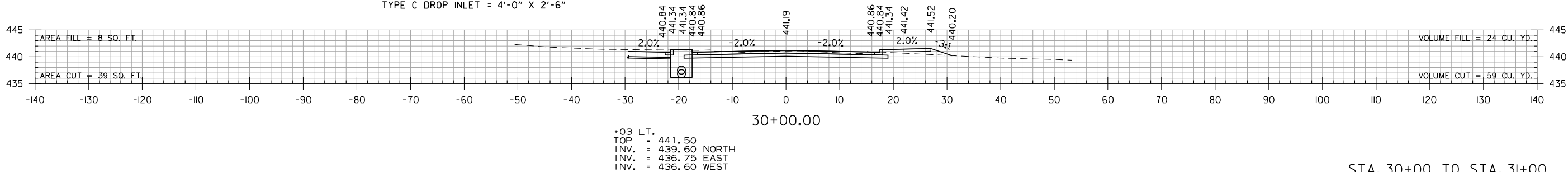
12/19/2016 8:03:55 AM  
WORKSPACE\AHTD  
L:\2017\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 30+85 CONSTRUCT  
TYPE ST JUNCTION BOX ON LT.  
W/ PEDESTRIAN GRATE AND FRAME  
H = 4'-6" X 3'-0" X 3'-0"  
W/ 18" X 79" R.C. PIPE CULVERT  
TO DROP INLET ON LT.  
RETAIN 3" PVC PIPE FROM NORTH



STA. 30+03 CONSTRUCT  
DROP INLET ON LT.  
H = 5'-3" W/ THROATED BACK OPENING  
AND 18" X 50' PIPE CULVERT TO  
DROP INLET ON LT.  
AND 6" X 73' NON-METALLIC CONDUIT FROM  
EXIST. 3" PVC PIPE ON LEFT (SEE SPECIAL DETAILS)  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 30+00 TO STA. 31+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

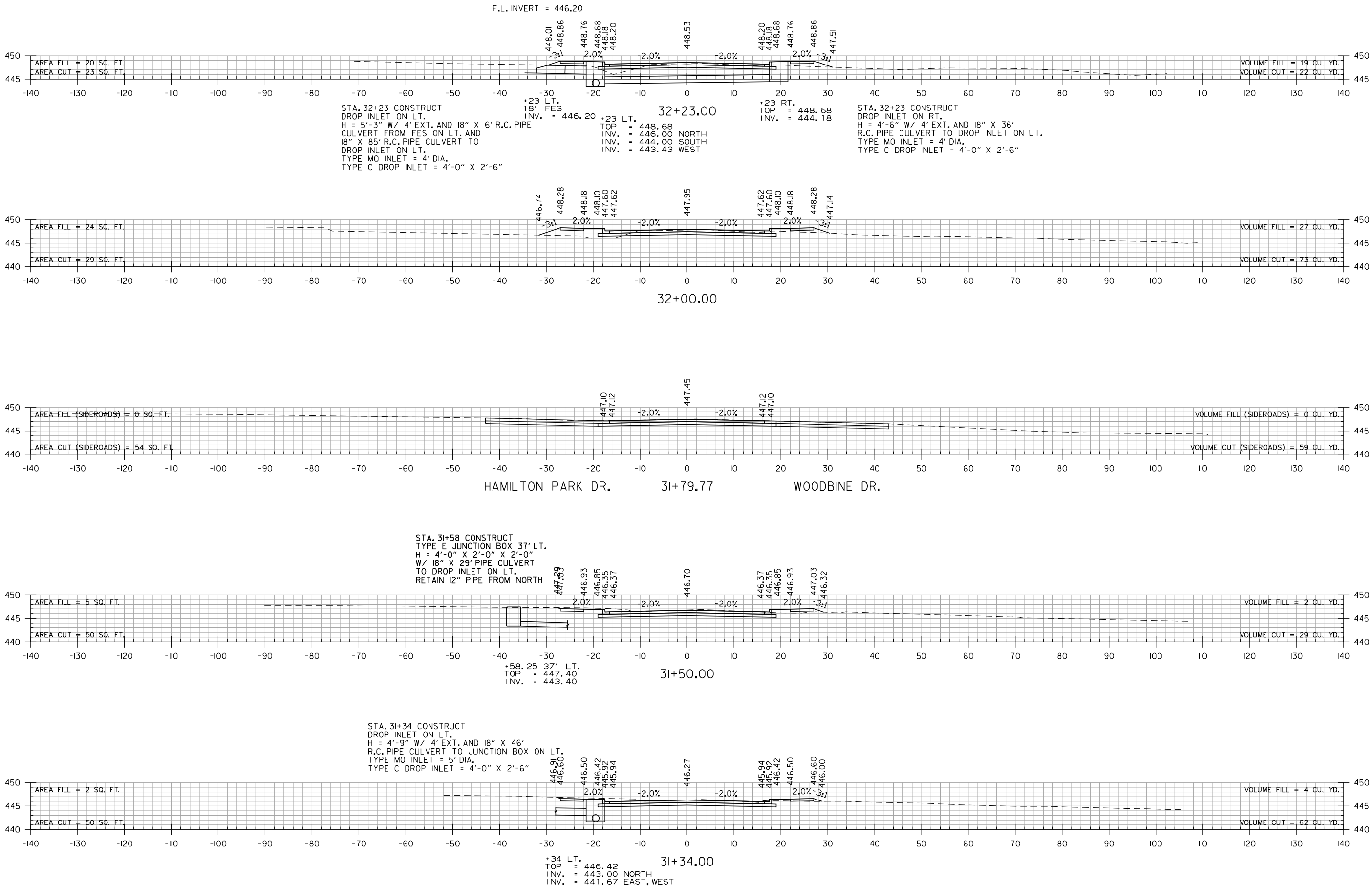
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET NUMBER **78**

12/19/2016 8:03:55 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

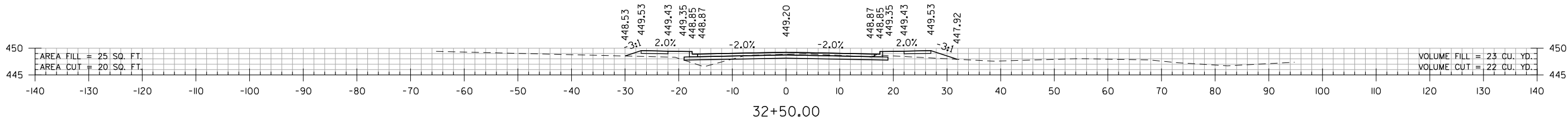
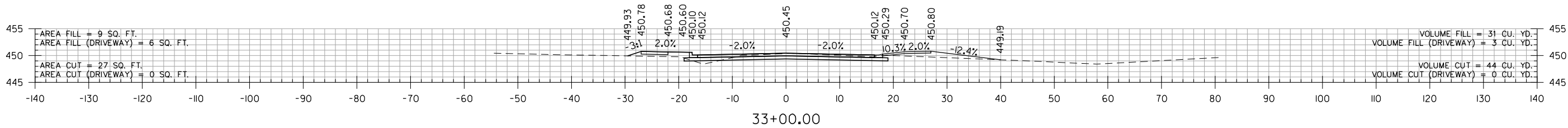
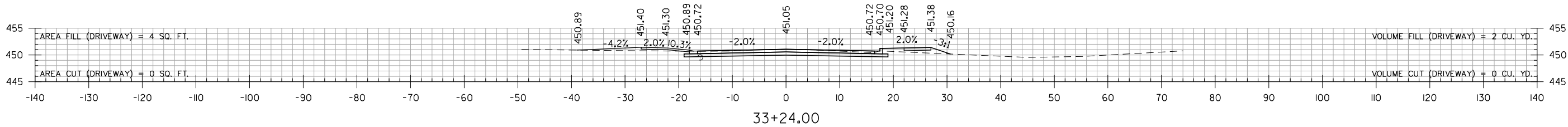
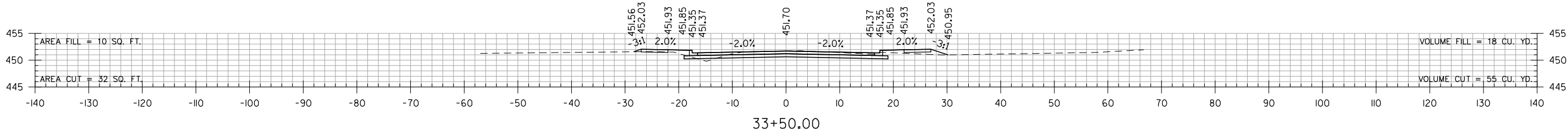
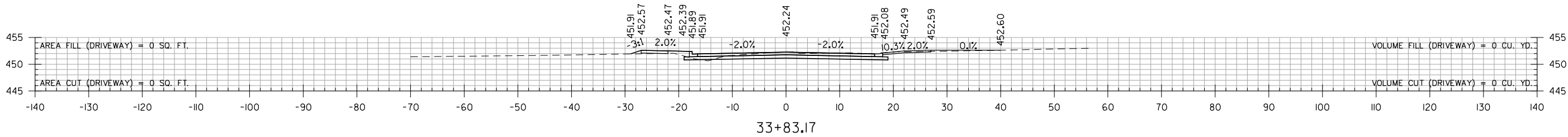
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER

79

12/19/2016 8:03:55 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 32+50 TO STA. 33+83



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

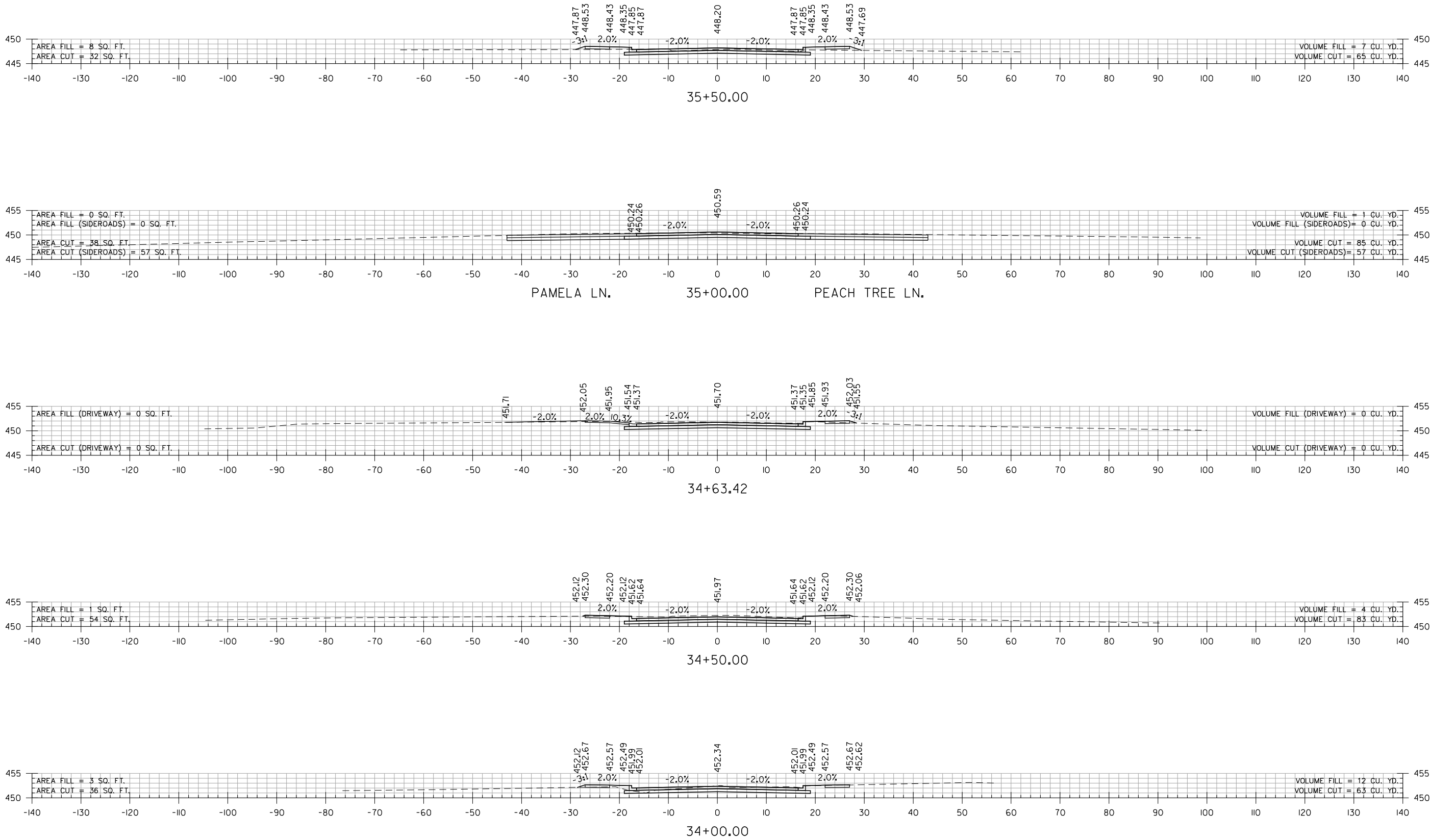
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **80**

12/19/2016 8:03:56 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 34+00 TO STA. 35+50



BY	DESCRIPTION	DATE	REV.



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

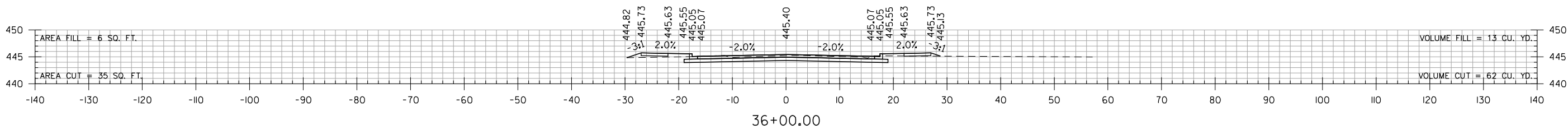
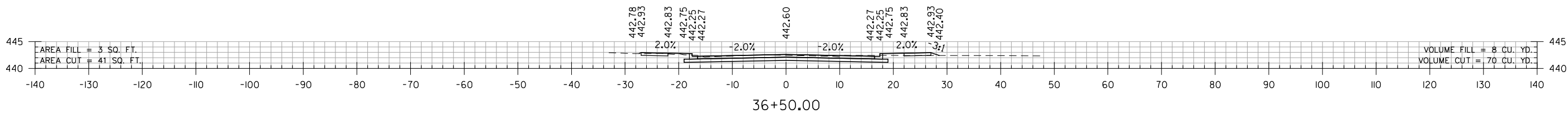
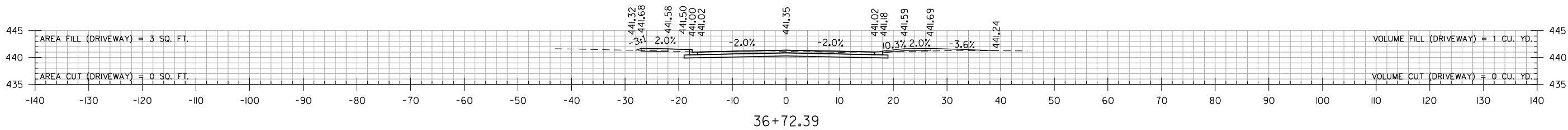
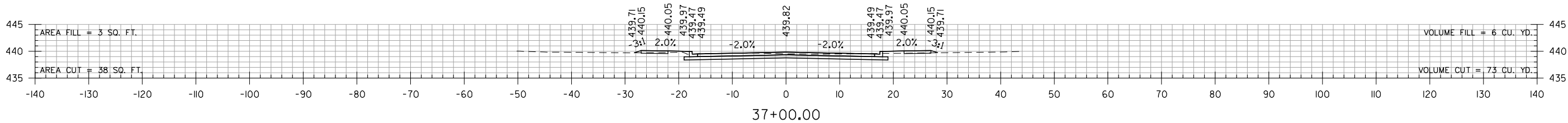
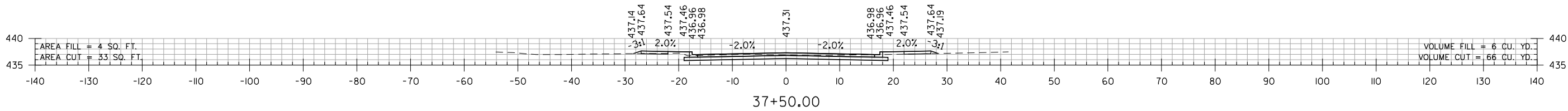
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **81**

12/19/2016 8:03:56 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 36+00 TO STA. 37+50



BY				
DESCRIPTION				
DATE				
REV.				



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

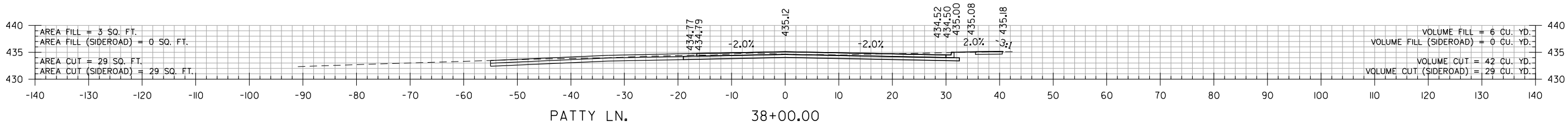
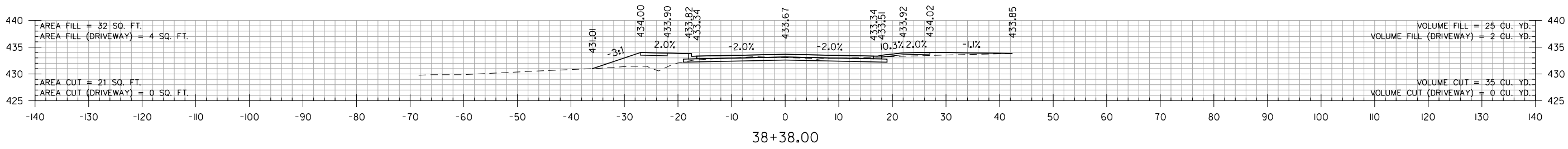
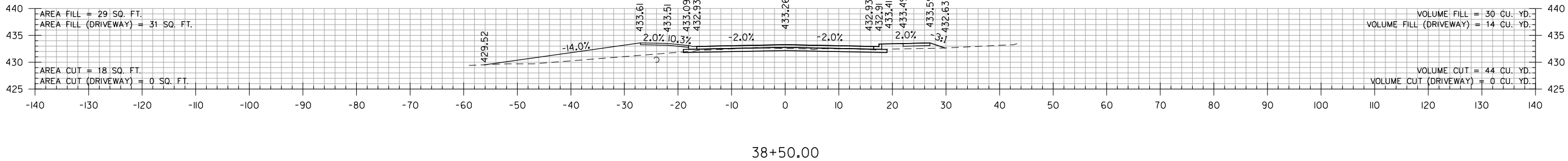
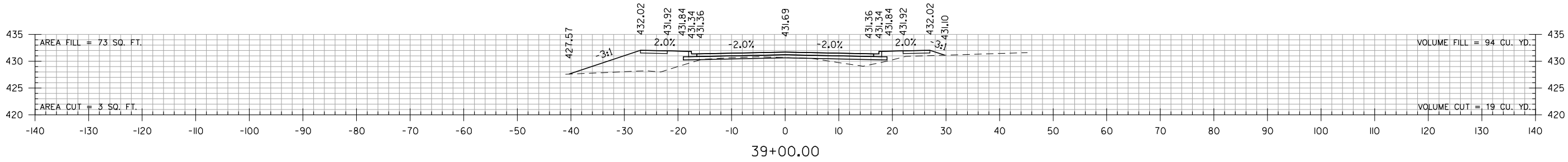
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **82**

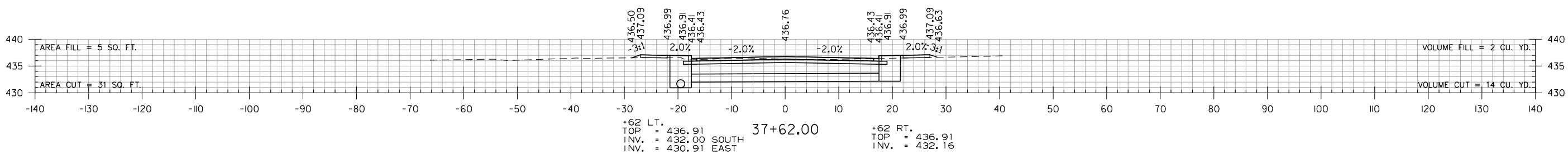


RCorbyn  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn  
12/19/2016 8:03:56 AM



STA. 37+62 CONSTRUCT  
DROP INLET ON LT.  
H = 6'-0" W/ 4' EXT. AND 18" X 317'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE M0 INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"

STA. 37+62 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-9" W/ 4' EXT. AND 18" X 36'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE M0 INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



STA. 37+62 TO STA. 39+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

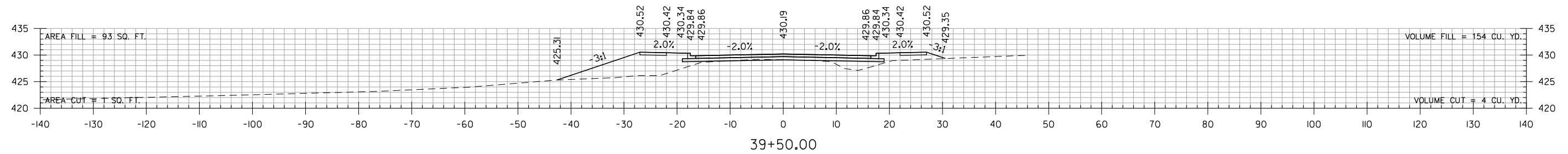
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

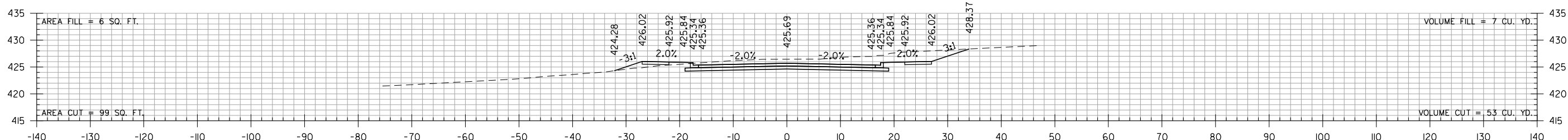
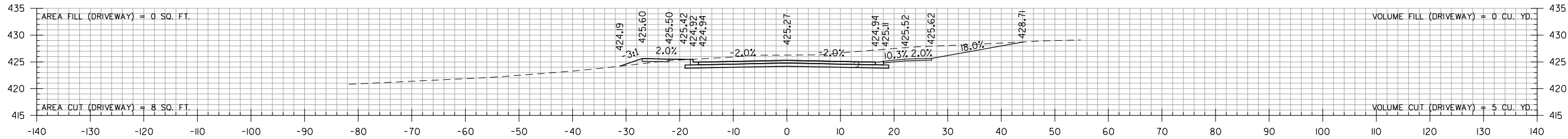
SHEET  
NUMBER **83**

[illegible]

B NO.: 12017400  
 DATE: DEC, 2016  
 DESIGNED BY: TEM  
 DRAWN BY: AMS

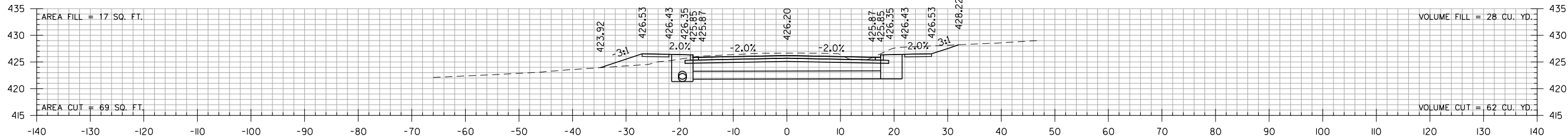
SHEET  
NUMBER **84**

RCorbyn  
WORKSPACE\HTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn  
12/19/2016 8:03:57 AM



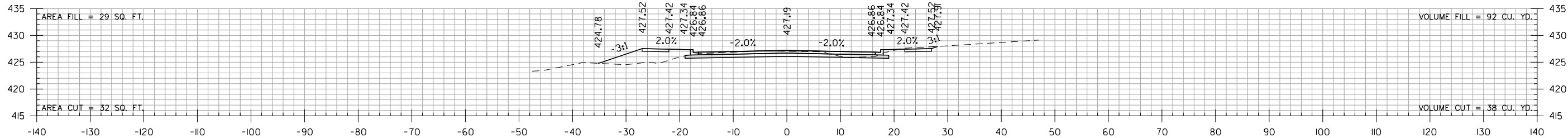
STA. 40+83 CONSTRUCT  
DROP INLET ON LT.  
H = 5'-0" W/ 4' EXT. AND 18" X 185'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"

STA. 40+83 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-6" W/ 8' EXT. AND 18" X 36'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



+83 LT.  
TOP = 426.35  
INV. = 421.75 SOUTH, WEST  
INV. = 421.35 EAST

+83 RT.  
TOP = 426.35  
INV. = 421.85



STA. 40+50 TO STA. 41+14



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

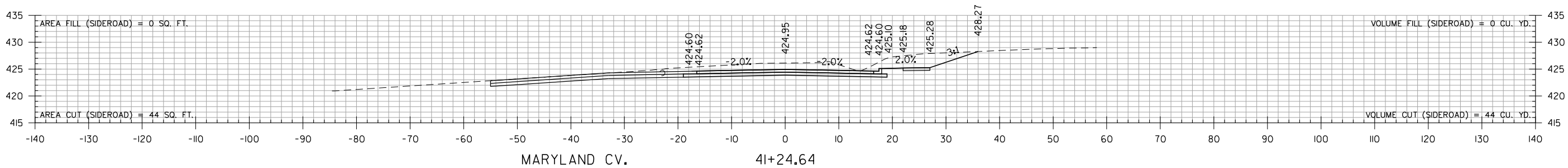
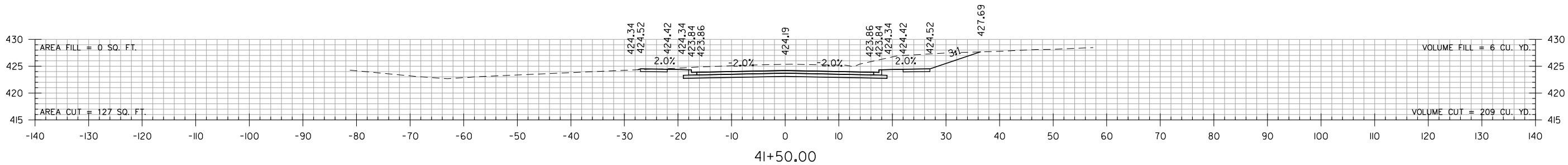
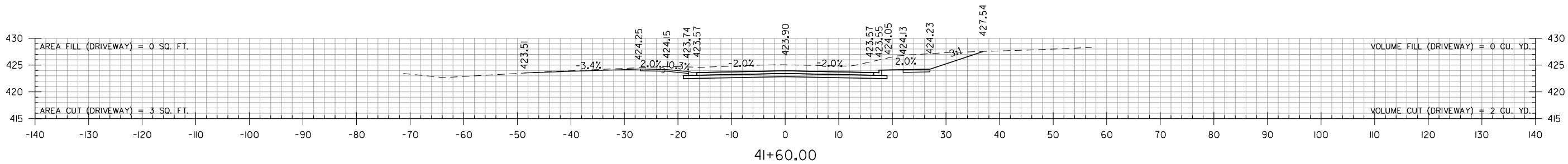
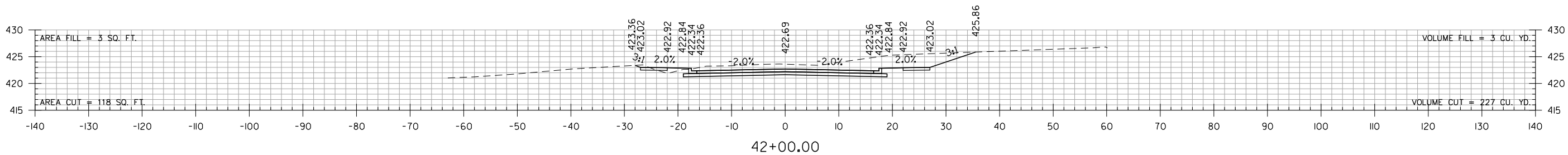
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **85**

12/19/2016 8:03:57 AM  
WORKSPACE\AHTD  
L:\2017\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



MARYLAND CV.

41+24.64

STA. 41+25 TO STA. 42+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

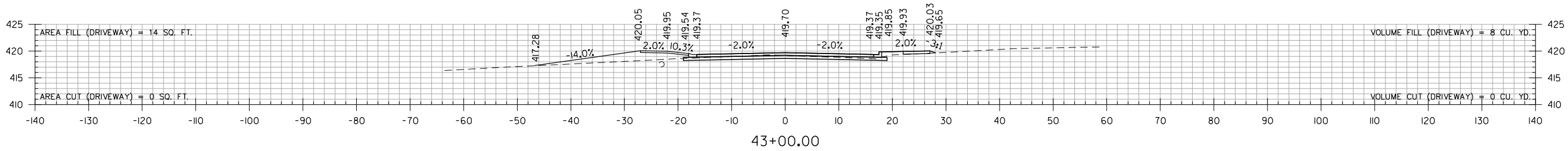
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

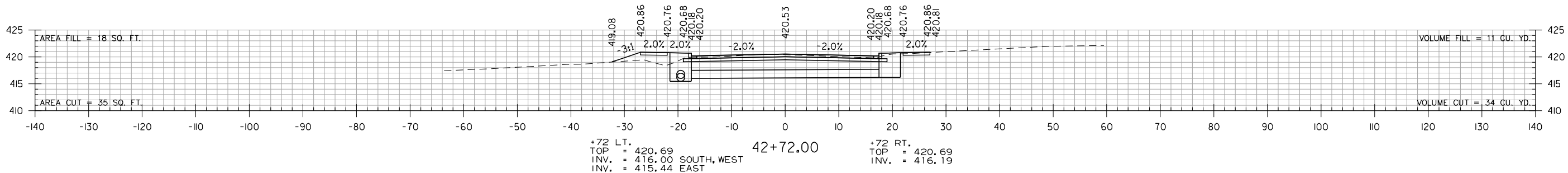
SHEET  
NUMBER 86

12/19/2016 8:03:57 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



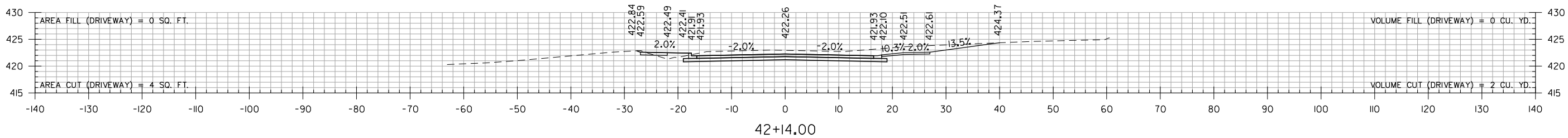
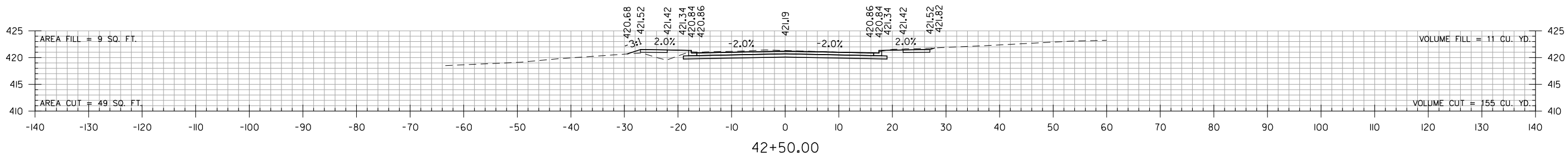
STA. 42+72 CONSTRUCT  
DROP INLET ON LT.  
H = 5'-3" W/ 4' EXT. AND 24" X 24"  
PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"

STA. 42+72 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-6" W/ 8' EXT. AND 18" X 36"  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



+72 LT.  
TOP = 420.69  
INV. = 416.00 SOUTH, WEST  
INV. = 415.44 EAST

+72 RT.  
TOP = 420.69  
INV. = 416.19



STA. 42+14 TO STA. 43+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

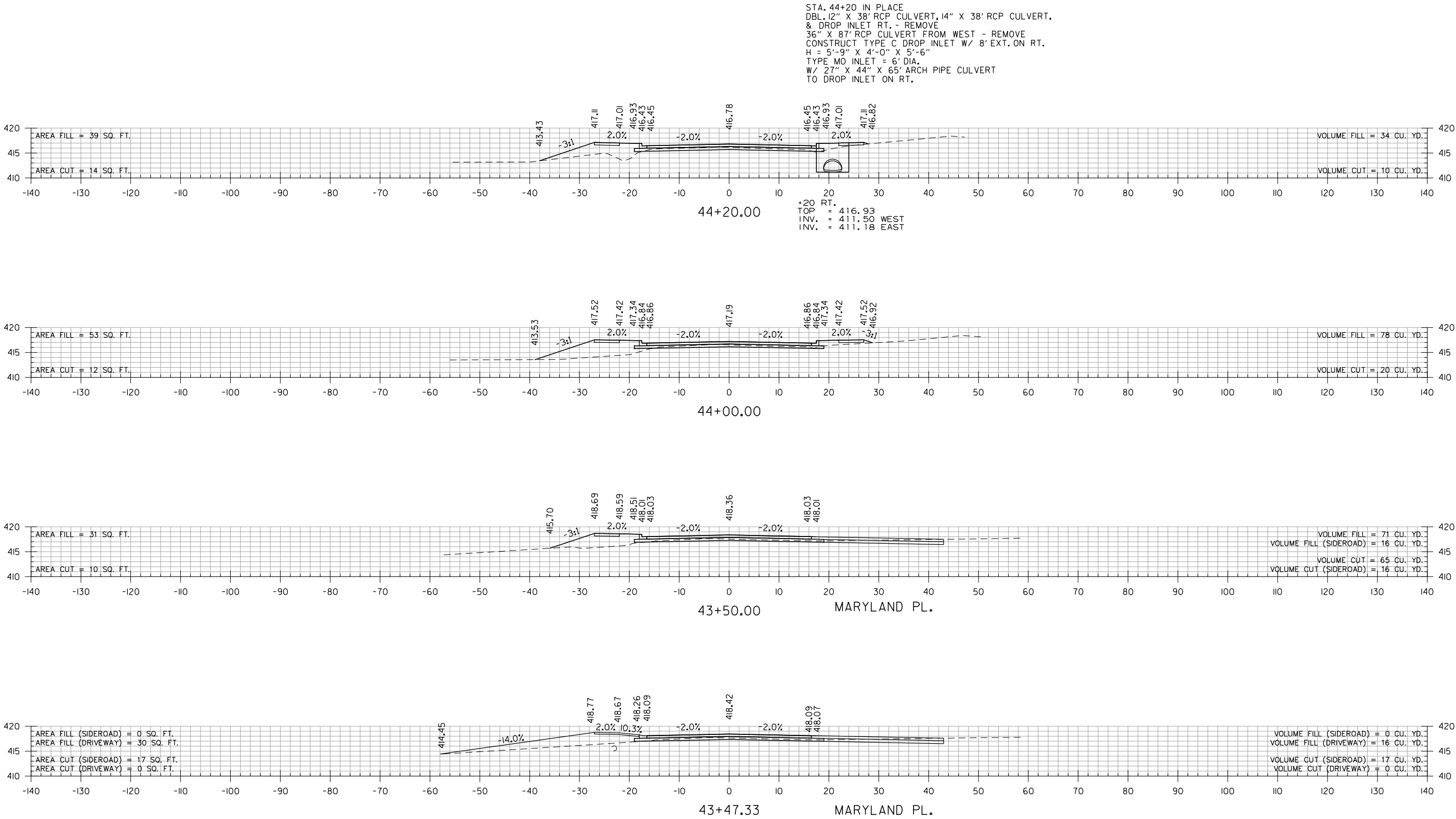
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 87



12/19/2016 8:03:58 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

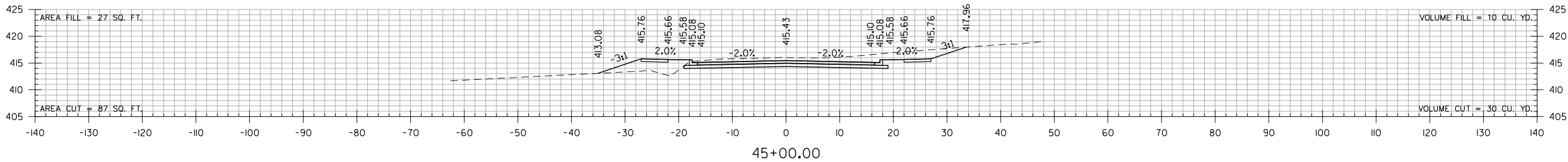
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

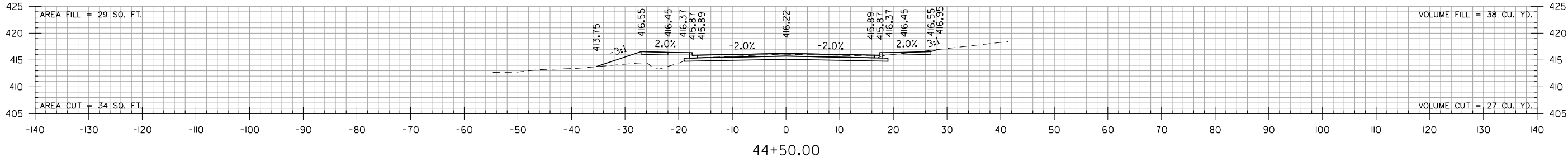
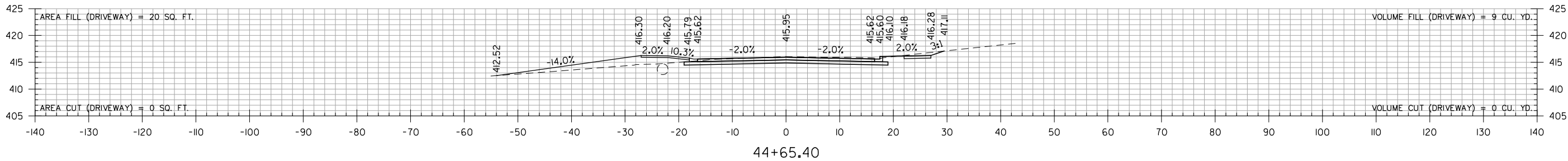
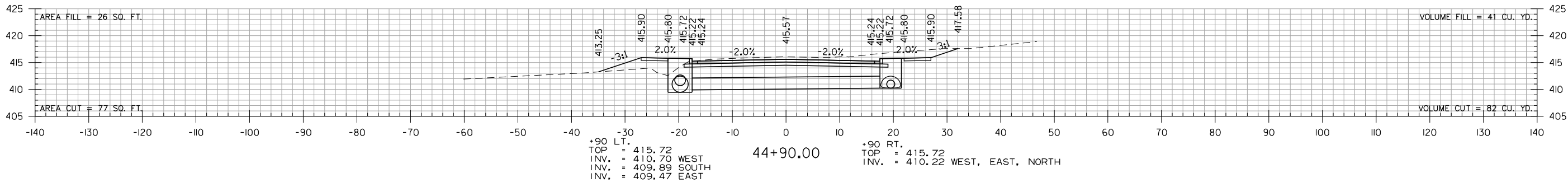
SHEET  
NUMBER **88**

12/19/2016 8:03:58 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 44+90 CONSTRUCT  
DROP INLET ON LT.  
H = 6'-3" W/ 4' EXT. AND 36" X 146'  
PIPE CULVERT TO DROP INLET ON LT.  
TYPE C DROP INLET = 4'-6" X 3'-8"

STA. 44+90 CONSTRUCT  
DROP INLET ON RT.  
H = 5'-6" W/ 8' EXT. AND 27" X 44" X 36'  
R.C. ARCH PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 6' DIA.  
TYPE C DROP INLET = 4'-6" X 4'-6"



STA. 44+50 TO STA. 45+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

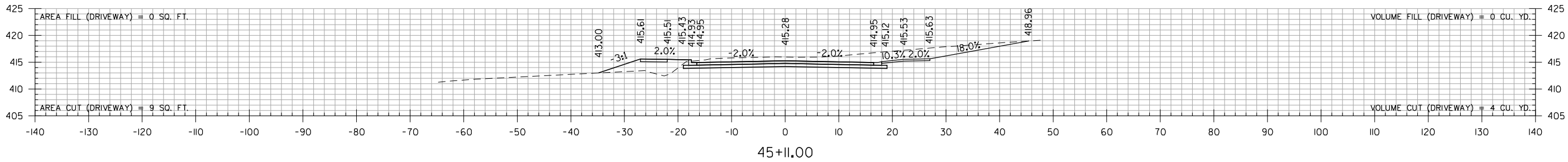
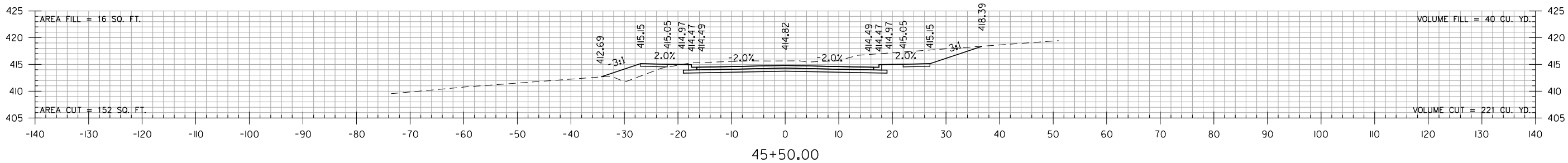
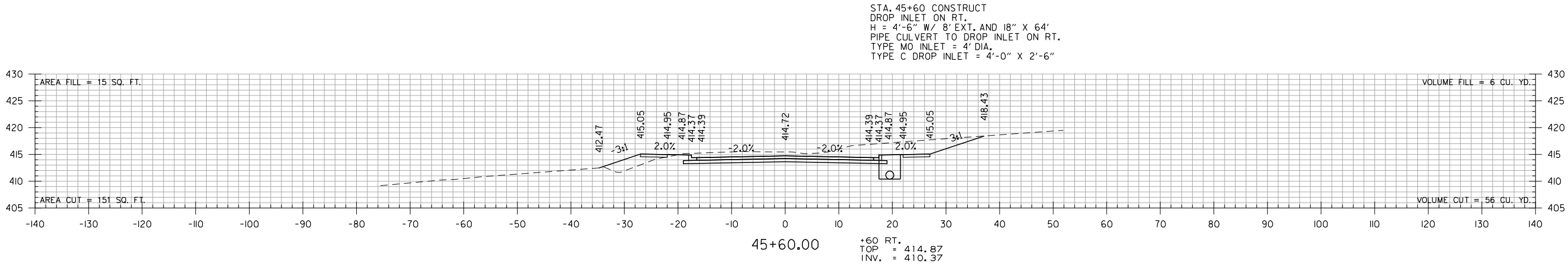
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER **89**

12/19/2016 8:03:58 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 45+11 TO STA. 45+60



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

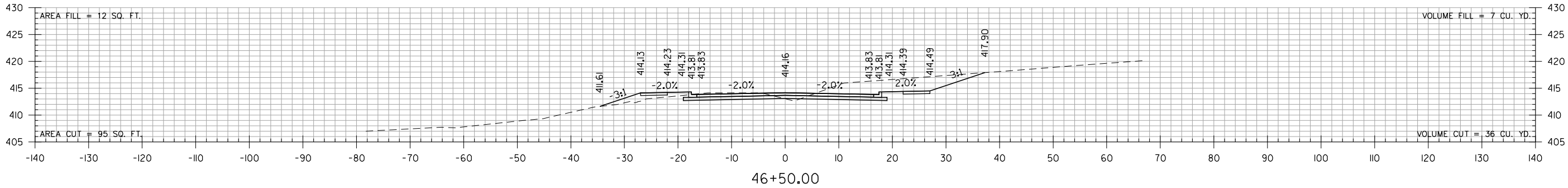
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

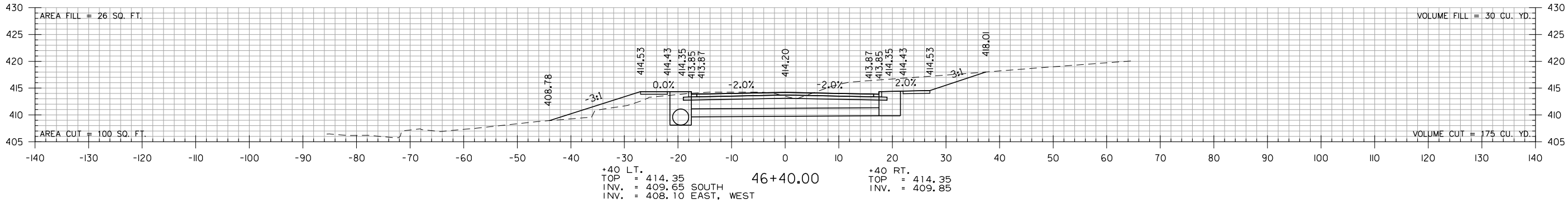
SHEET  
NUMBER **90**

12/19/2016 8:03:58 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



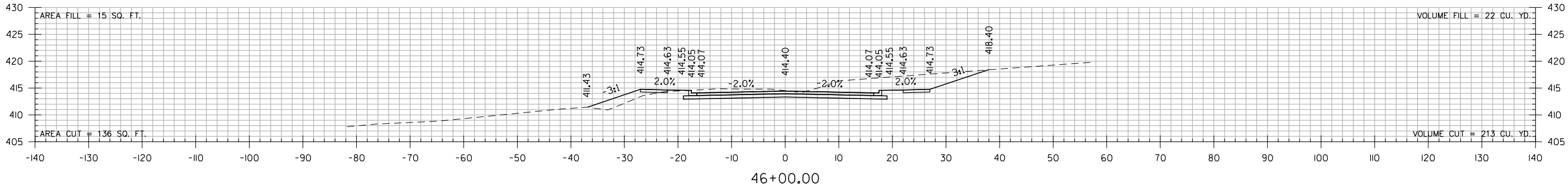
STA. 46+40 CONSTRUCT  
DROP INLET ON LT.  
H = 6'-3" W/ 4' EXT. AND 36" X 125'  
PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 5' DIA.  
TYPE C DROP INLET = 4'-0" X 3'-8"

STA. 46+40 CONSTRUCT  
DROP INLET ON RT.  
H = 4'-6" W/ 4' EXT. AND 18" X 36'  
R.C. PIPE CULVERT TO DROP INLET ON LT.  
TYPE MO INLET = 4' DIA.  
TYPE C DROP INLET = 4'-0" X 2'-6"



+40 LT.  
TOP = 414.35  
INV. = 409.65  
INV. = 408.10  
SOUTH  
EAST, WEST

+40 RT.  
TOP = 414.35  
INV. = 409.85



STA. 46+00 TO STA. 46+50



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

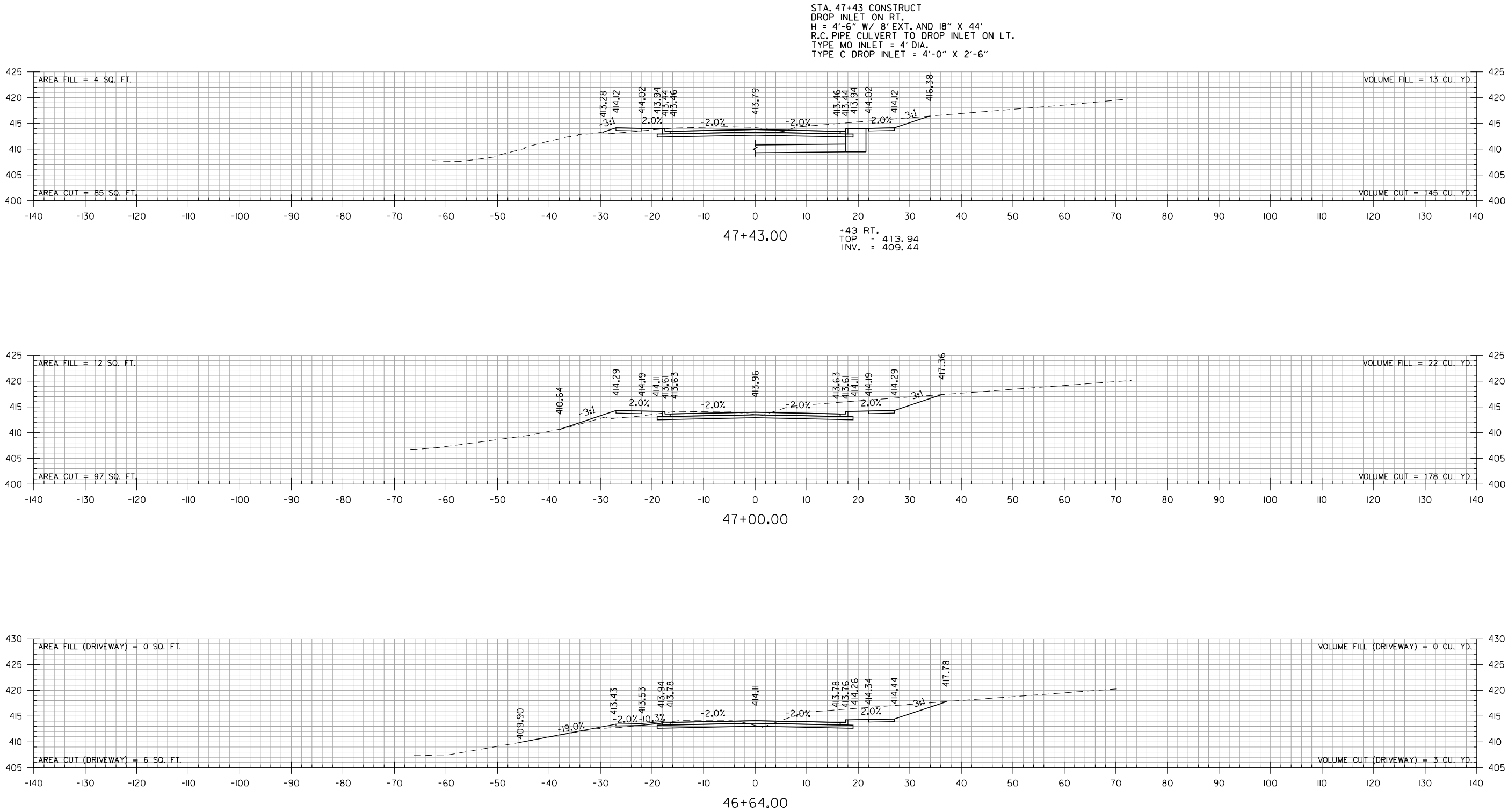
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER

91

12/19/2016 8:03:59 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 46+64 TO STA. 47+43



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

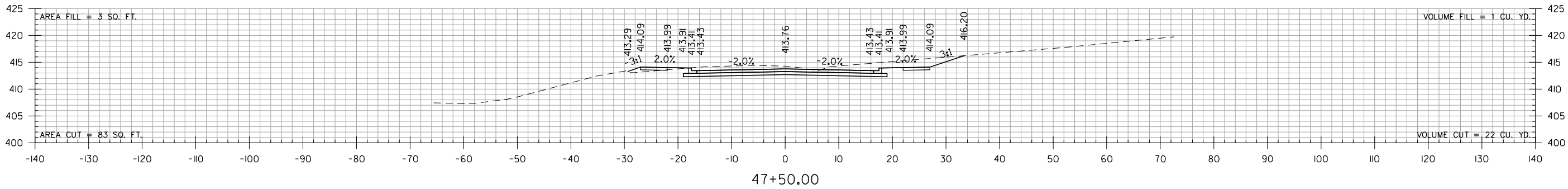
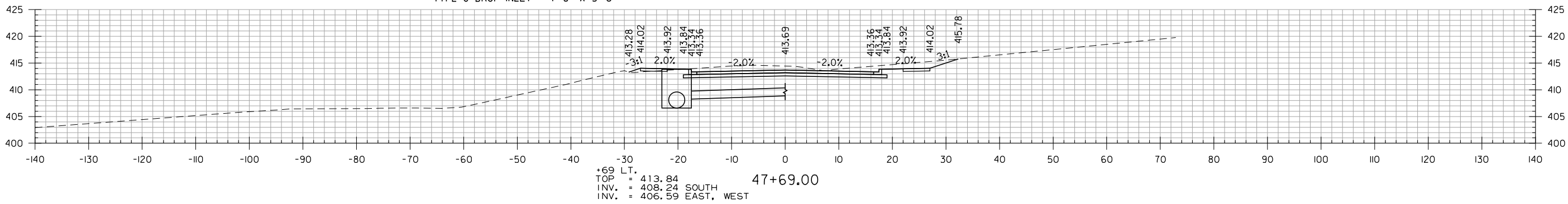
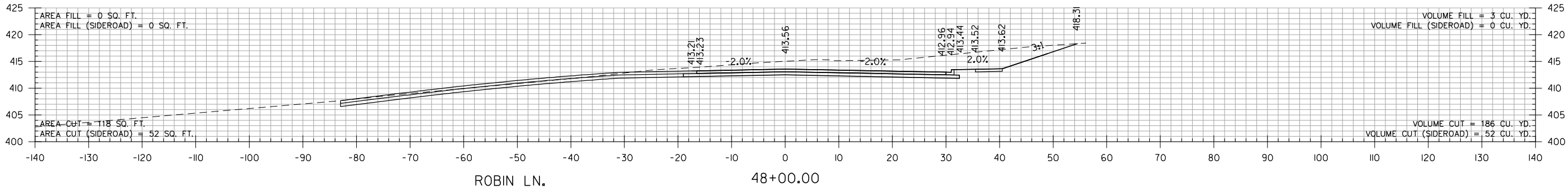
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 92



12/19/2016 8:03:59 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 47+50 TO STA. 48+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

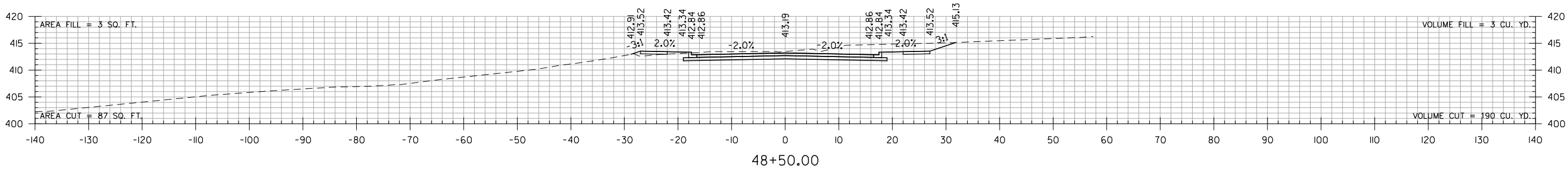
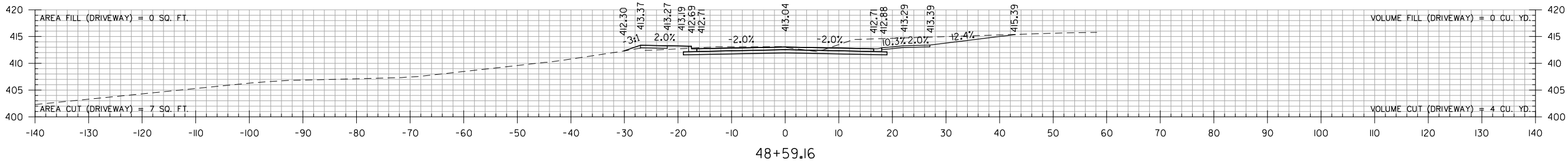
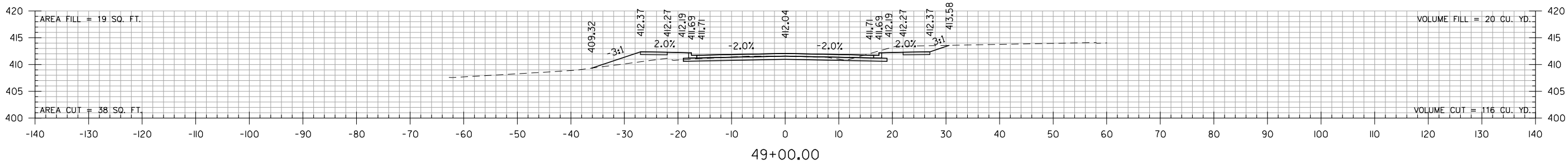
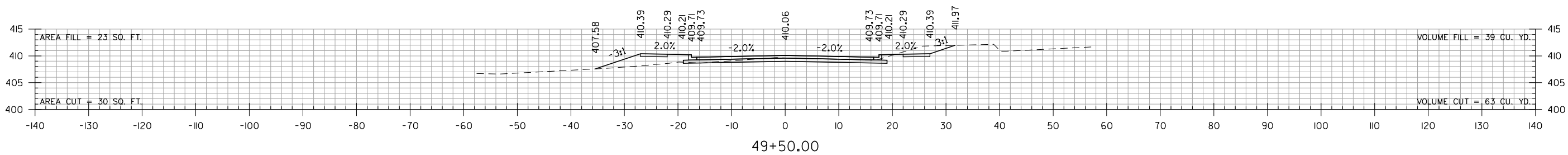
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER

93

12/19/2016 8:03:59 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue Drawings\WRLD-CX-01.dgn



STA. 48+50 TO STA. 49+50



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

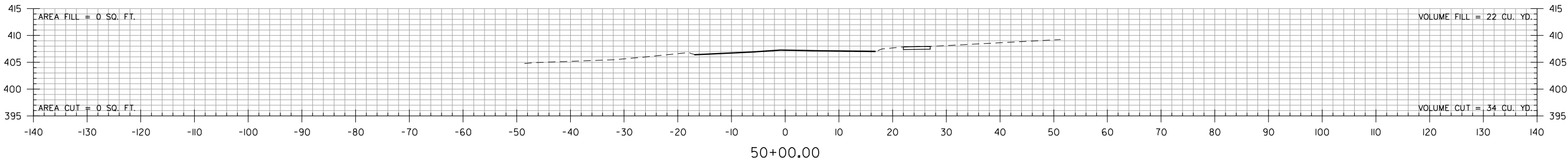
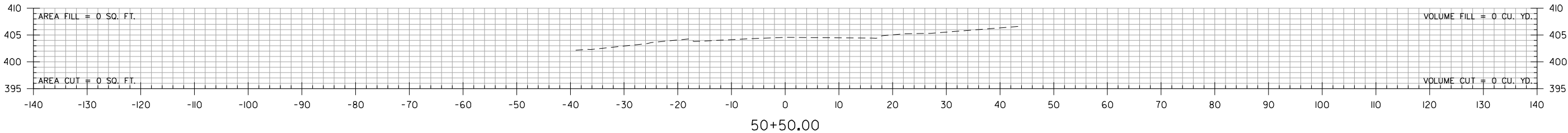
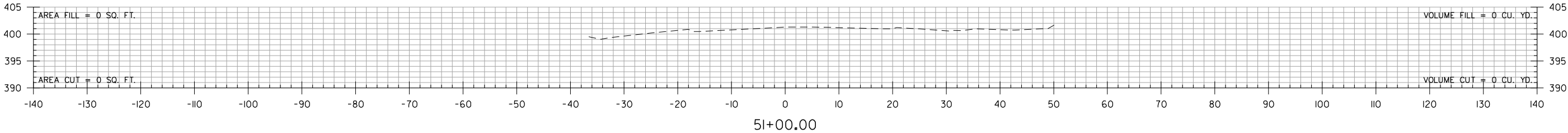
JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

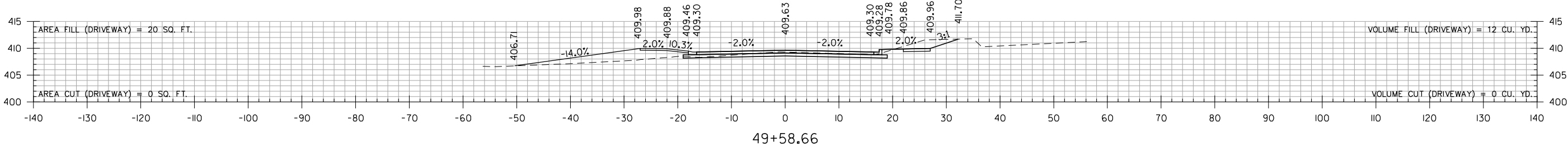
SHEET  
NUMBER

94

12/19/2016 8:03:59 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



STA. 49+79.30 END MARYLAND AVE. (WEST)



STA. 49+59 TO STA. 51+00



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS  
MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

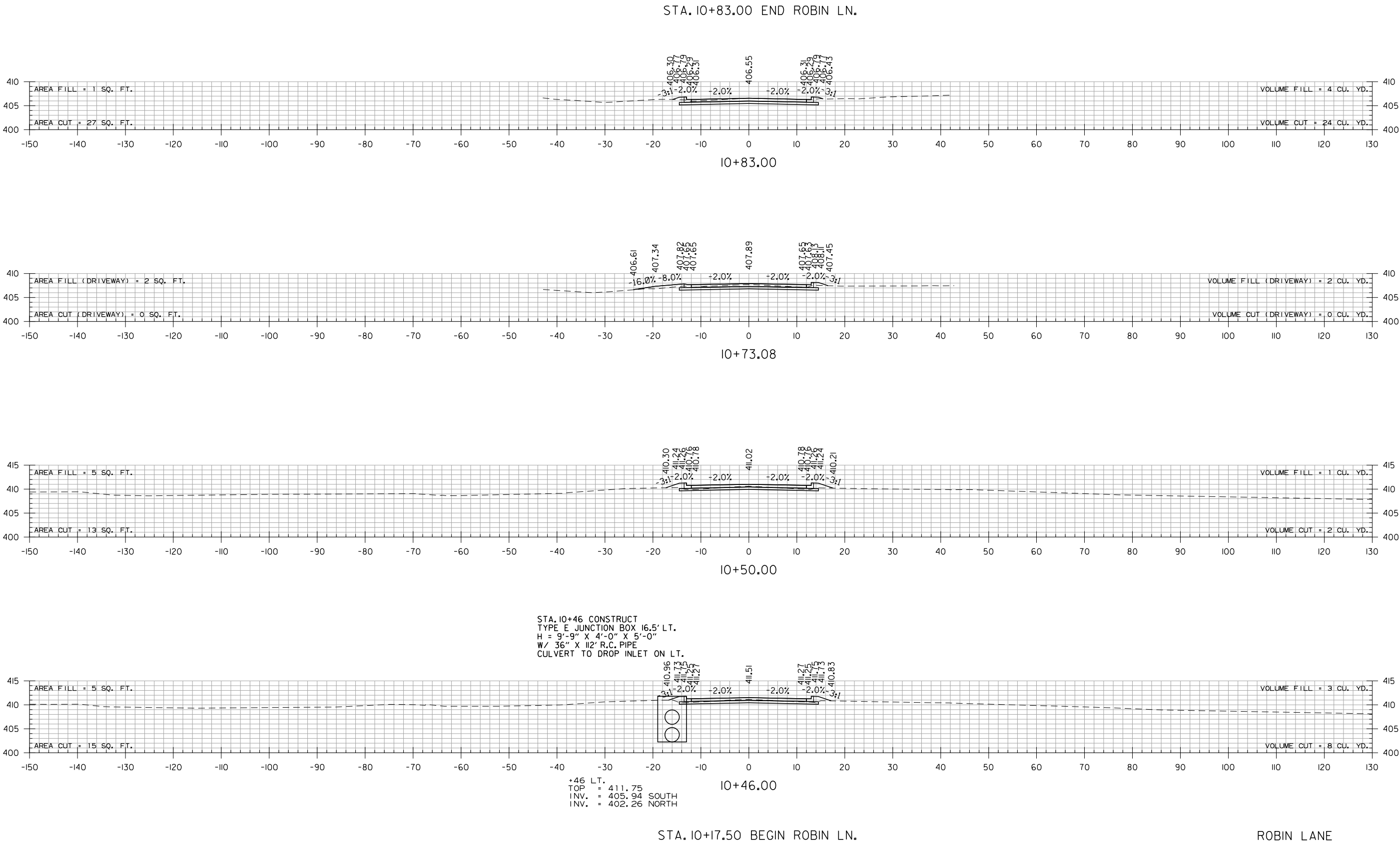
CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 95

12/19/2016 8:04:00 AM  
WORKSPACE\AHTD  
L:\2012\12017400 - Sherwood - Maryland Avenue\Drawings\WRLD-CX-01.dgn



REV.	DATE	DESCRIPTION	BY



CITY OF SHERWOOD  
PULASKI COUNTY, ARKANSAS

MARYLAND AVENUE  
IMPROVEMENTS AND EXTENSION

CROSS SECTIONS

JOB NO.: 12017400  
DATE: DEC, 2016  
DESIGNED BY: TEM  
DRAWN BY: AMS

DRAWING NUMBER

SHEET  
NUMBER 96