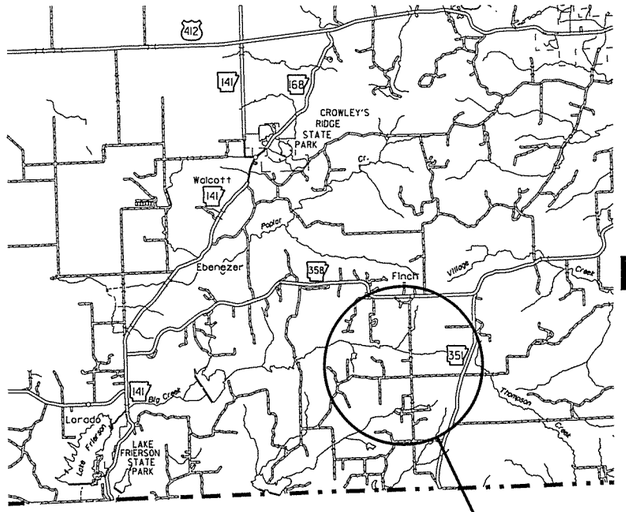
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	STPR-0028(40)		
				JOB NO.		FA2808	1	74
				(4)	HWY. 351 - WEST (RECONSTRUCTION) (S)			



VICINITY MAP

PROJECT LOCATION

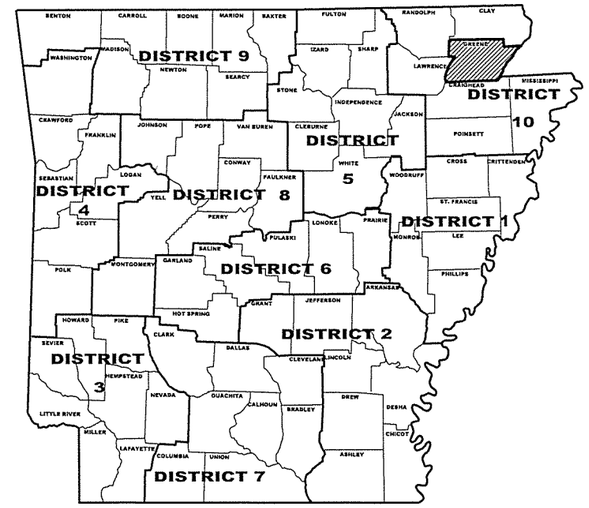
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR PROPOSED COUNTY ROAD

HWY. 351 - WEST (RECONSTRUCTION) (S)

COUNTY ROAD 113
GREENE COUNTY
FED. AID PROJECT STPR-0028(40)

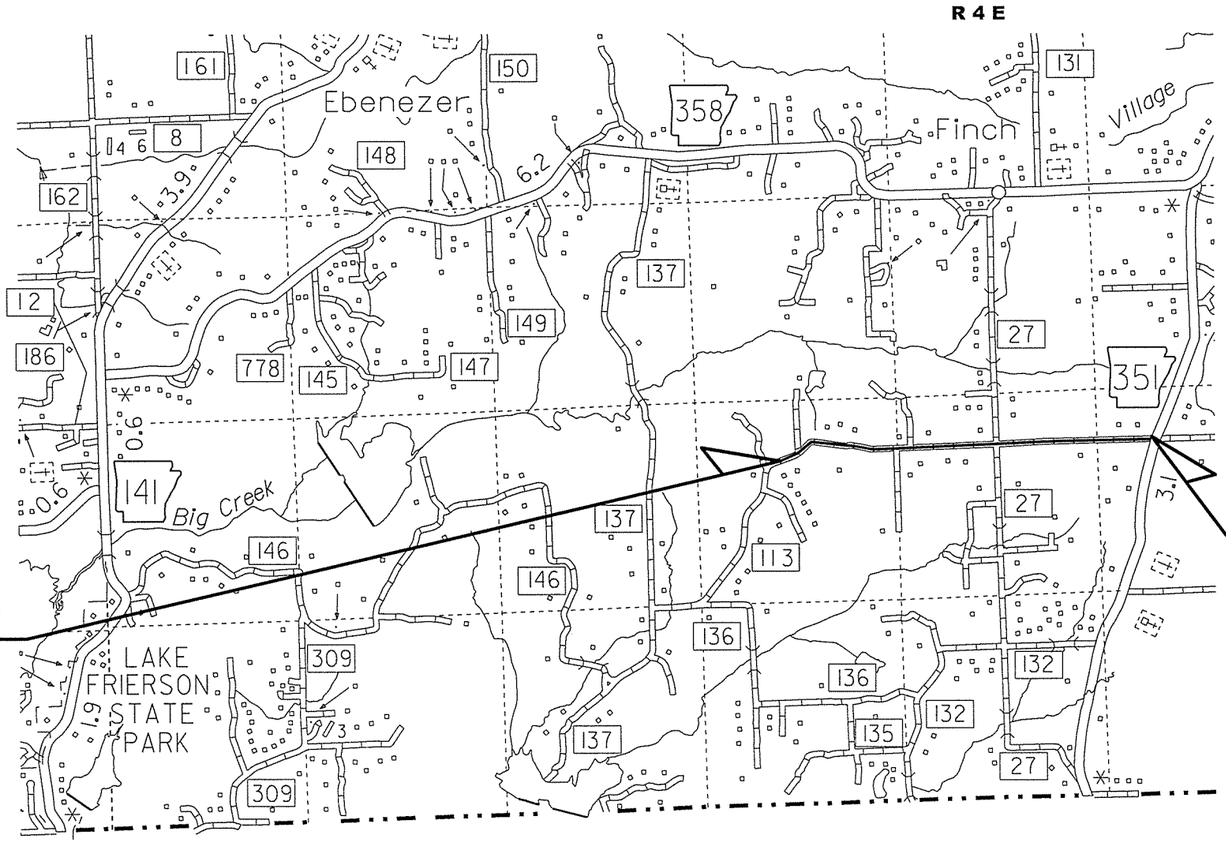
JOB FA2808

0.5 MILE 0 0.5 MILE 1.0 MILE



ARKANSAS HIGHWAY DIST. 10

R 4 E



STA. 377+00.00 BEGIN JOB FA2808

FED. AID PROJECT STPR-0028(40)

STA. 478+00.00 END JOB FA2808

FED. AID PROJECT STPR-0028(40)

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4215
RALPH D. HALL
8-15-14

Ralph D. Hall

DEPUTY DIRECTOR AND CHIEF ENGINEER

DESIGN TRAFFIC DATA

DESIGN YEAR	2034
2014 ADT	400
2034 ADT	500
2034 DHV	60
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	3%
DESIGN SPEED	30 MPH

	BEGIN	MID-POINT	END
LATITUDE	N35^59'29"	N35^59'30"	N35^59'31"
LONGITUDE	W90^36'55"	W90^37'56"	W90^38'48"

GROSS LENGTH OF PROJECT 10100.00 FEET OR 1.913 MILES
NET " " ROADWAY 10100.00 " " 1.913 "
NET " " BRIDGE 0.00 " " 0.000 "
NET " " PROJECT 10100.00 " " 1.913 "

P.E. JOB FA2807

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	2	74

4 INDEX OF SHEETS, GOV. SPECS. & GEN. NOTES

INDEX OF SHEETS

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
108-1	LIQUIDATED DAMAGES
620-1	MULCH COVER
JOB FA2808	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB FA2808	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB FA2808	MANDATORY USE OF INTERNET BIDDING
JOB FA2808	PLASTIC PIPE
JOB FA2808	STORM WATER POLLUTION PREVENTION PLAN
JOB FA2808	UTILITY ADJUSTMENTS

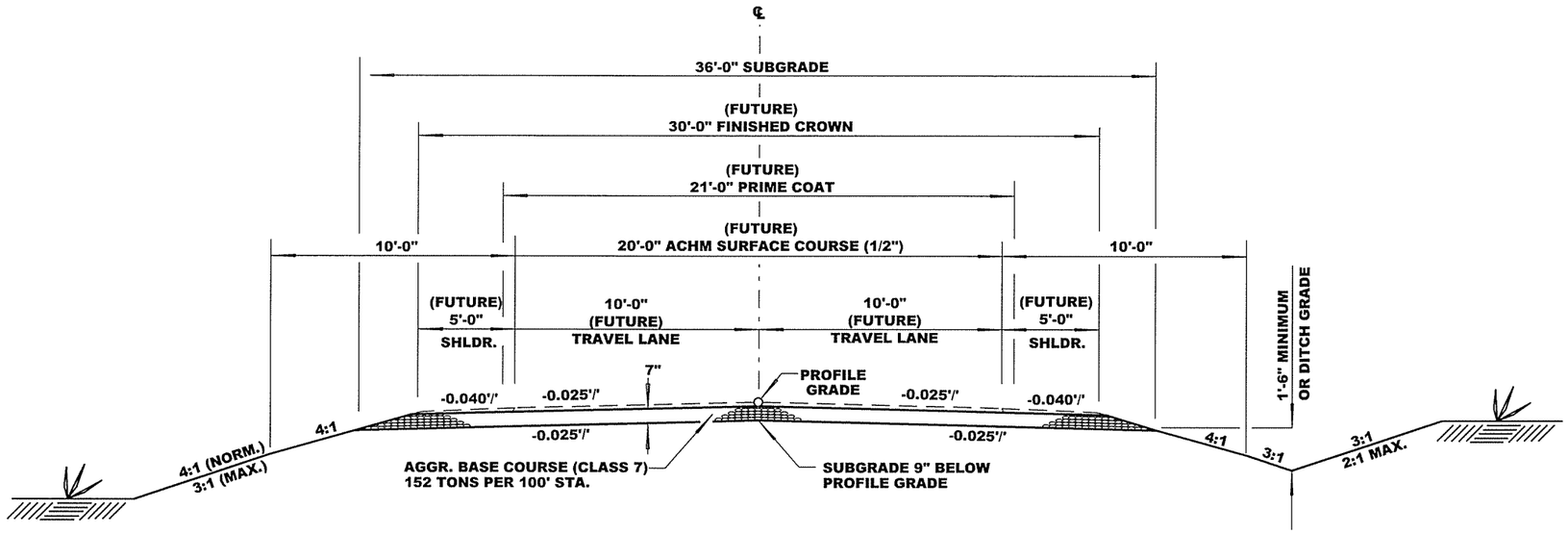
GENERAL NOTES

1. GRADE LINE DENOTES FUTURE FINISHED GRADE WHERE SHOWN ON PLANS.
2. UTILITIES INTERFERING WITH CONSTRUCTION SHALL BE MOVED BY THE OWNERS.
3. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
4. 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.
5. 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.
6. SUPERELEVATION SHALL BE COMPUTED IN ACCORDANCE WITH STD. DRWG. SE-2 USING 30 M.P.H. DESIGN VALUES AND REVOLVE ABOUT THE INNER EDGE OF TRAVEL LANE UNLESS OTHERWISE SHOWN.
7. ALL SALVAGEABLE PIPE CULVERTS AND EXISTING BRIDGE STRUCTURES SHALL BE STORED ON THE RIGHT OF WAY AND REMAIN THE PROPERTY OF GREENE COUNTY.
8. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SUPPLEMENTAL SPECIFICATION 110-1, FOR PERMIT REQUIREMENTS.
9. ROAD IS TO REMAIN OPEN THROUGHOUT THE COMPLETION OF THE PROJECT.
10. 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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	3	74

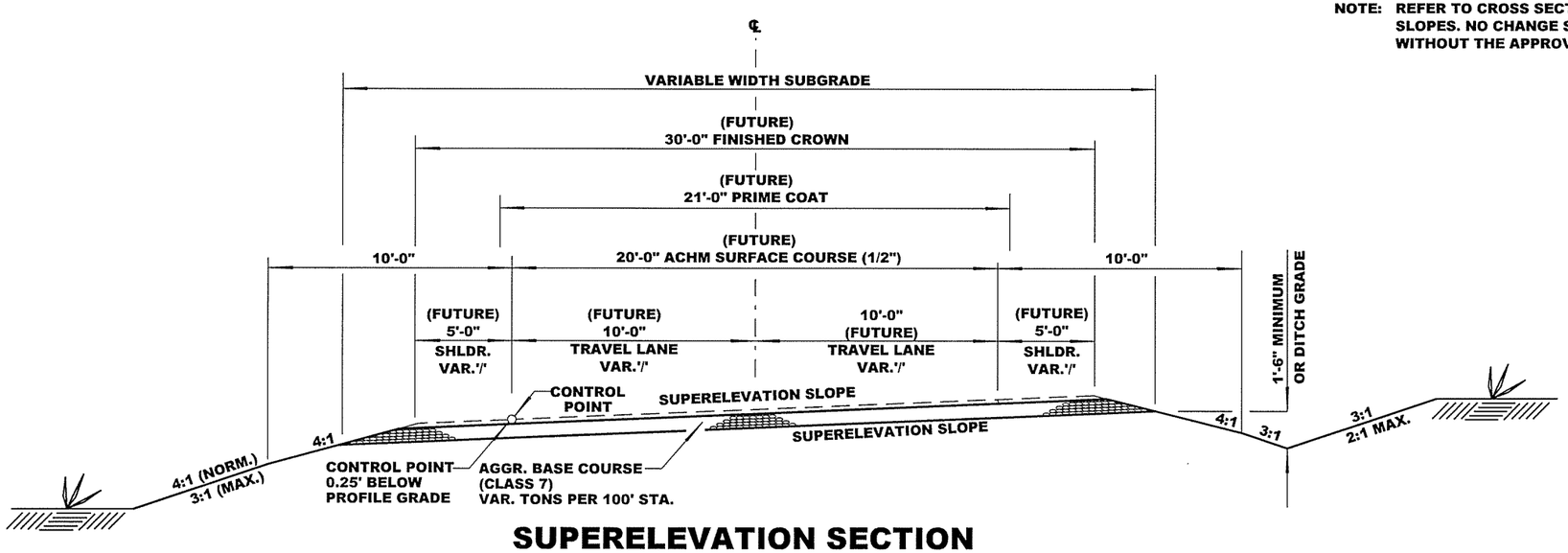
4 TYPICAL SECTION OF IMPROVEMENT & SPECIAL DTLS.



TANGENT SECTION

NOTE: AGGREGATE BASE TO BE PLACED AND SPREAD TO CONFORM TO TYPICAL SECTION. THE MATERIAL IN THE BASE COURSE SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. DENSITY REQUIREMENTS ARE NOT A PART OF THIS CONTRACT.

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



SUPERELEVATION SECTION

TYPICAL SECTION OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
8/4/2014

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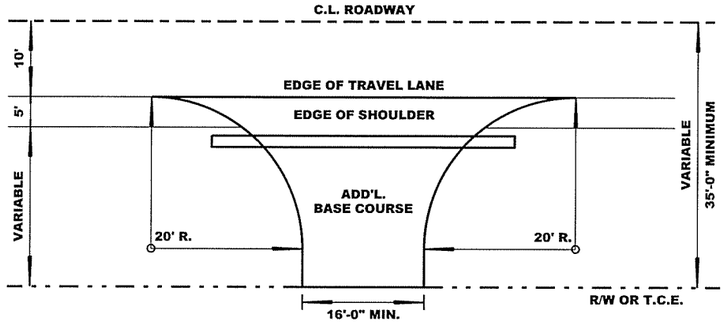
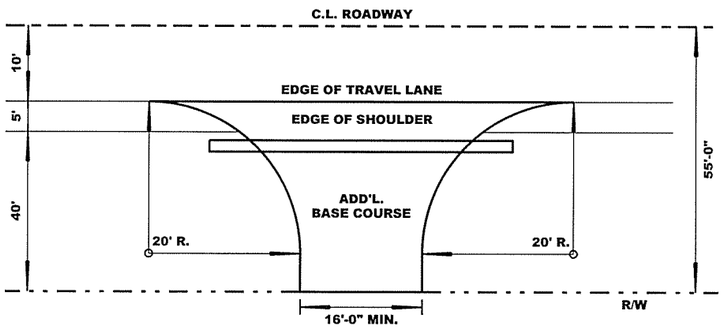
4 TYPICAL SECTION OF IMPROVEMENT & SPECIAL DTLS.



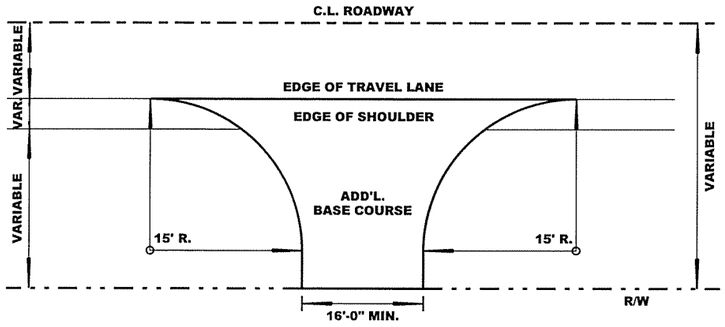
DETAIL OF PRIVATE ENTRANCES

ADD'L.BASE COURSE



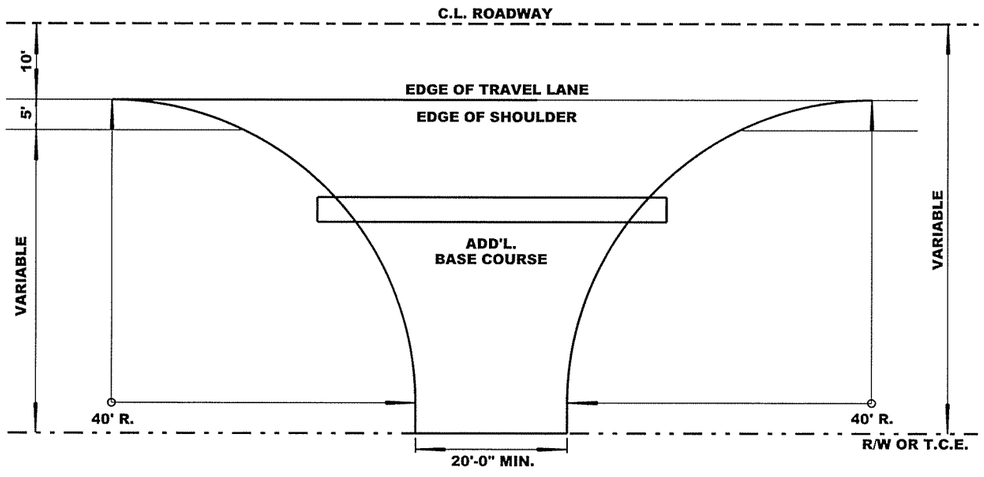
DETAIL OF PRIVATE ENTRANCE

ADD'L.BASE COURSE
STA. 455+36 RT.
PORTLAND CEMENT CONCRETE DRIVE = 99.08 SQ. YD.



DETAIL OF PRIVATE ENTRANCE

ADD'L.BASE COURSE
STA. 436+30 LT.



DETAIL OF COUNTY ROAD TURNOUT

ADD'L.BASE COURSE

TYPICAL SECTION OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
8/4/2014

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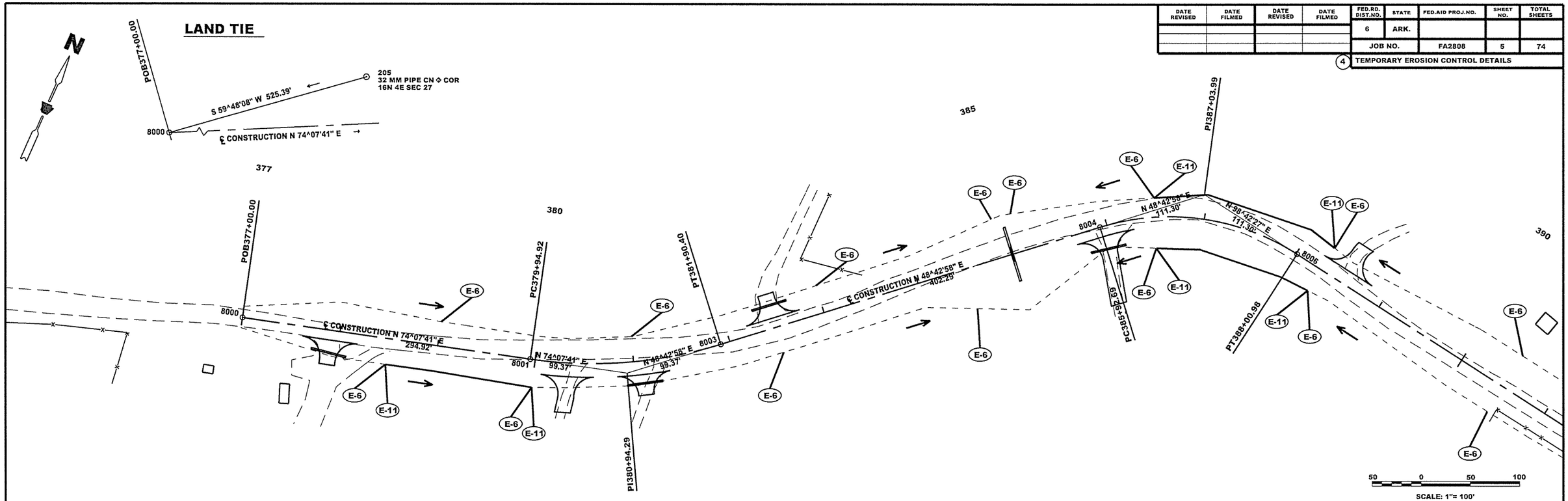
4 TEMPORARY EROSION CONTROL DETAILS

LAND TIE



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 378+50	RT.	= 1 CU. YD.	1 CU. YD.
STA. 379+00	LT.	= 1 CU. YD.	1 CU. YD.
STA. 380+50	RT.	= 1 CU. YD.	1 CU. YD.
STA. 381+00	LT.	= 1 CU. YD.	1 CU. YD.
STA. 382+50	RT.	= 1 CU. YD.	1 CU. YD.
STA. 383+00	LT.	= 1 CU. YD.	1 CU. YD.
STA. 384+50	RT.	= 1 CU. YD.	1 CU. YD.
STA. 384+90	LT.	= 1 CU. YD.	1 CU. YD.
STA. 385+10	LT.	= 1 CU. YD.	1 CU. YD.
STA. 386+50	LT. & RT.	= 2 CU. YD.	2 CU. YD.
STA. 388+30	LT. & RT.	= 2 CU. YD.	2 CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 378+50 - STA. 380+00	RT.	= 150	LIN. FT.	5 CU. YD.
STA. 386+50 - STA. 388+30	LT.	= 196	LIN. FT.	6 CU. YD.
STA. 386+50 - STA. 388+30	RT.	= 161	LIN. FT.	5 CU. YD.

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYOR JR.
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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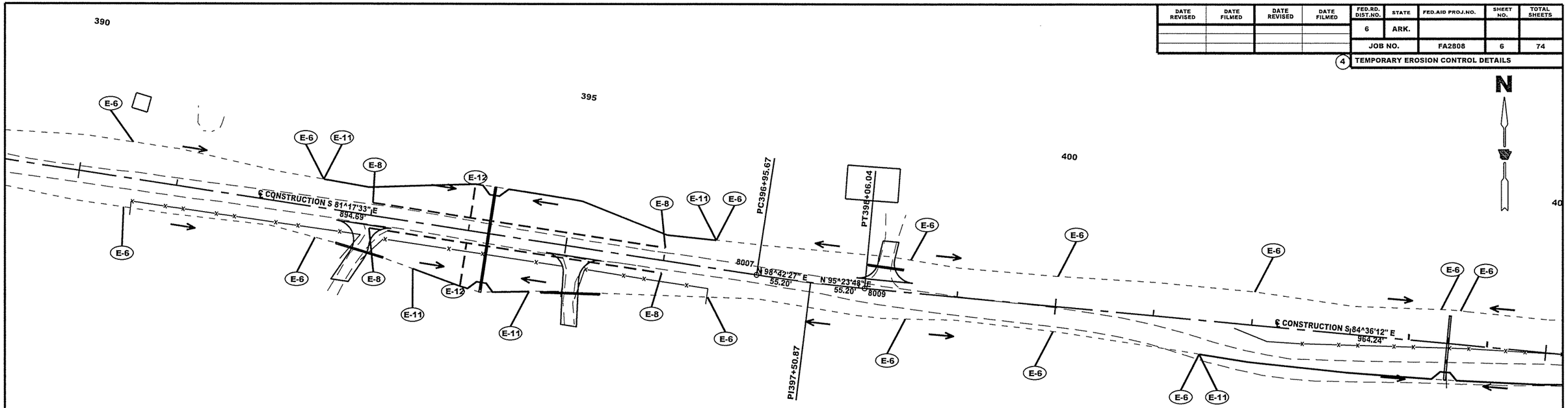
4 TEMPORARY EROSION CONTROL DETAILS



50 0 50 100

SCALE: 1"= 100'

TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 390+50	LT. & RT.	= 2 CU. YD.	2 CU. YD.
STA. 392+50	LT. & RT.	= 2 CU. YD.	2 CU. YD.
STA. 396+50	LT. & RT.	= 2 CU. YD.	2 CU. YD.
STA. 398+50	LT. & RT.	= 2 CU. YD.	2 CU. YD.
STA. 400+00	LT. & RT.	= 2 CU. YD.	2 CU. YD.
STA. 401+50	RT.	= 1 CU. YD.	1 CU. YD.
STA. 402+00	LT.	= 1 CU. YD.	1 CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 392+50 - STA. 396+50	LT. = 415 LIN. FT.	13 CU. YD.
STA. 393+50 - STA. 394+70	RT. = 128 LIN. FT.	4 CU. YD.
STA. 401+50 - STA. 406+50	RT. = 507 LIN. FT.	16 CU. YD.

DIVERSION DITCH (E-8)

STA. 393+00 - STA. 396+00	LT. = 300 LIN. FT.
STA. 393+00 - STA. 396+00	RT. = 300 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 394+00	LT. = 40 LIN. FT.
STA. 394+00	RT. = 50 LIN. FT.

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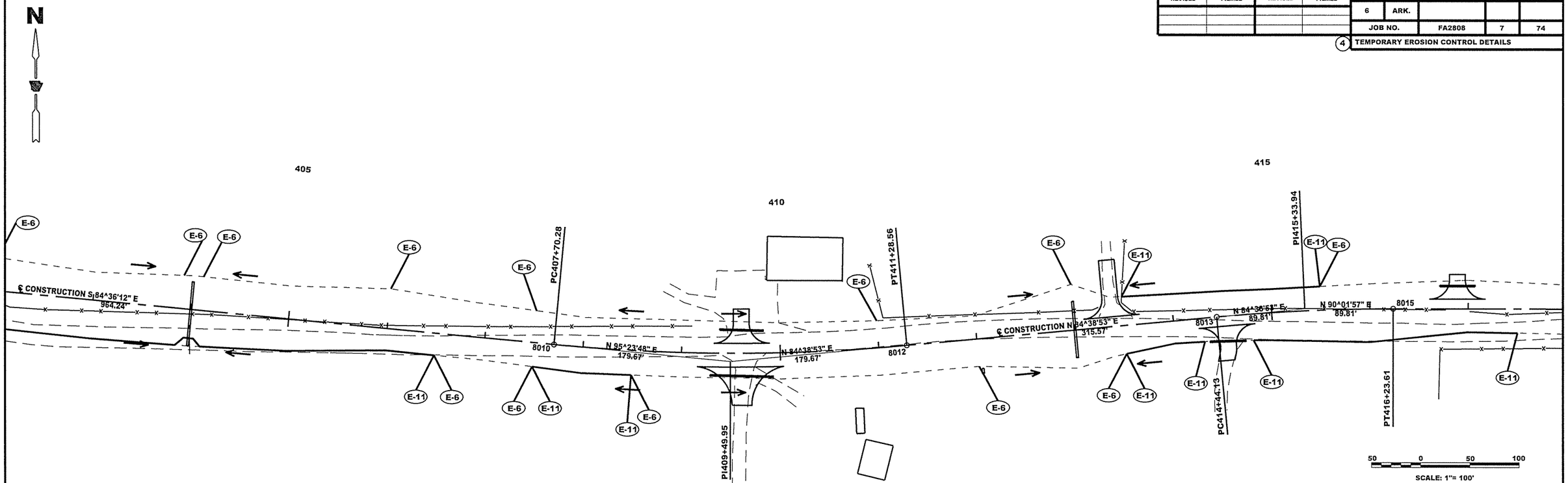
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAXWELL JR.
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	7	74

4 TEMPORARY EROSION CONTROL DETAILS



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 403+90	LT.	= 1	CU. YD.	1	CU. YD.
STA. 404+10	LT.	= 1	CU. YD.	1	CU. YD.
STA. 406+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 406+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 407+50	LT. & RT.	= 2	CU. YD.	2	CU. YD.
STA. 408+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 411+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 412+00	RT.	= 1	CU. YD.	1	CU. YD.
STA. 413+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 413+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 415+50	LT.	= 1	CU. YD.	1	CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 407+50 - STA. 408+50	RT. = 101	LIN. FT.	4	CU. YD.
STA. 413+50 - STA. 414+30	RT. = 80	LIN. FT.	3	CU. YD.
STA. 413+50 - STA. 415+50	LT. = 201	LIN. FT.	6	CU. YD.
STA. 414+80 - STA. 417+50	RT. = 269	LIN. FT.	9	CU. YD.

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STATE OF ARKANSAS
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No. 5368
DAVID R. MAYO JR.
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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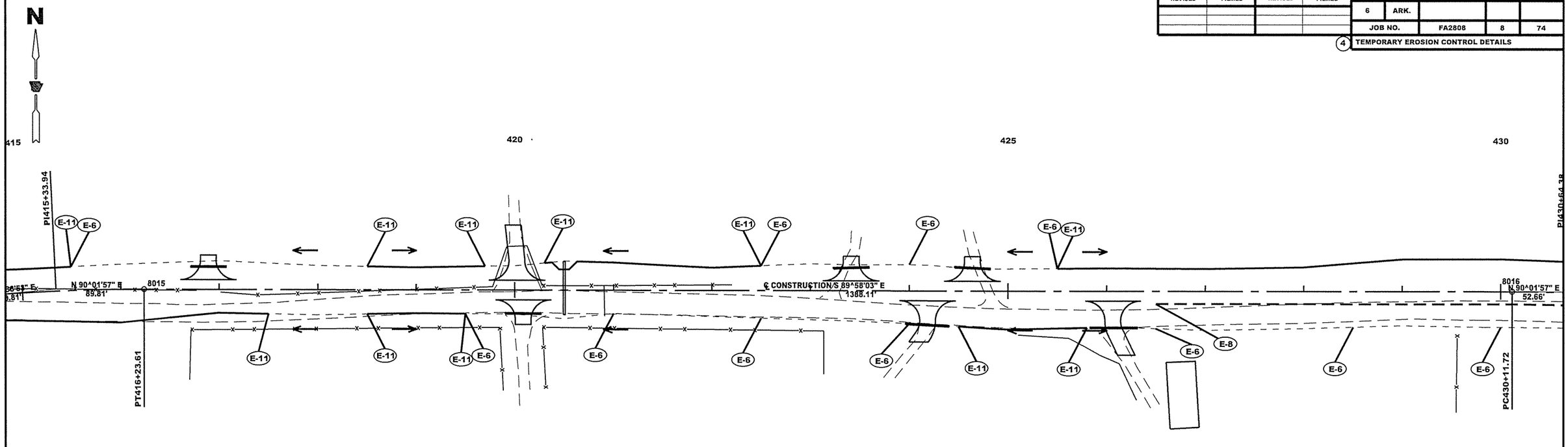
				JOB NO.		FA2808	8	74

4 TEMPORARY EROSION CONTROL DETAILS



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 419+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 421+00	RT.	= 1	CU. YD.	1	CU. YD.
STA. 422+50	LT. & RT.	= 2	CU. YD.	2	CU. YD.
STA. 424+00	LT. & RT.	= 2	CU. YD.	2	CU. YD.
STA. 425+50	LT.	= 1	CU. YD.	1	CU. YD.
STA. 426+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 428+50	RT.	= 1	CU. YD.	1	CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 418+50 - STA. 419+70	LT.	= 120 LIN. FT.	4	CU. YD.
STA. 418+50 - STA. 419+50	RT.	= 100 LIN. FT.	4	CU. YD.
STA. 420+30 - STA. 422+50	LT.	= 226 LIN. FT.	7	CU. YD.
STA. 424+50 - STA. 425+80	RT.	= 130 LIN. FT.	4	CU. YD.
STA. 425+50 - STA. 431+50	LT.	= 605 LIN. FT.	19	CU. YD.

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8368
DAVID R. MAYOUR
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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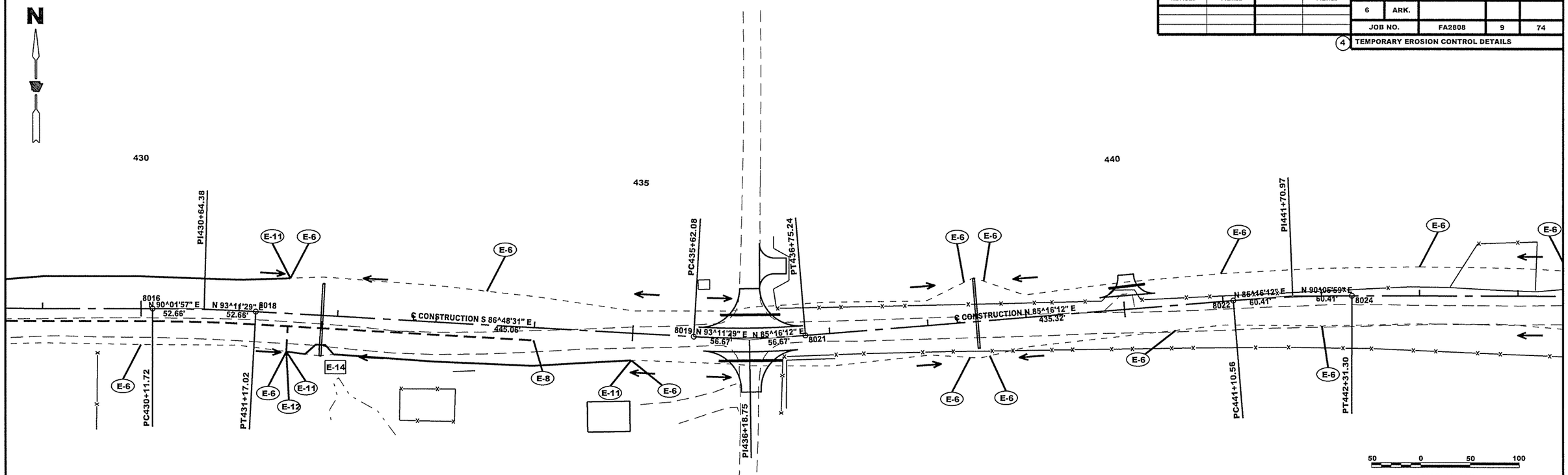
4 TEMPORARY EROSION CONTROL DETAILS



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 430+00	RT.	= 1	CU. YD.	1	CU. YD.
STA. 431+50	LT. & RT.	= 2	CU. YD.	2	CU. YD.
STA. 433+50	LT.	= 1	CU. YD.	1	CU. YD.
STA. 435+00	RT.	= 1	CU. YD.	1	CU. YD.
STA. 438+40	LT. & RT.	= 2	CU. YD.	2	CU. YD.
STA. 438+60	LT. & RT.	= 2	CU. YD.	2	CU. YD.
STA. 440+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 441+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 442+00	RT.	= 1	CU. YD.	1	CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 431+50 - STA. 435+00 RT. = 351 LIN. FT. 11 CU. YD.

SEDIMENT BASIN (E-14)

STA. 432+00 RT. = 250 CU. YD.

OBLIT. OF SED. BASIN = 250 CU. YD.

SED. REM. AND DISP. = 250 CU. YD.

DIVERSION DITCH (E-8)

STA. 426+50 - STA. 434+00 RT. = 750 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 431+50 RT. = 33 LIN. FT.

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STATE OF ARKANSAS
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No. 5368
DAVID R. MAYO JR.
8/4/2014

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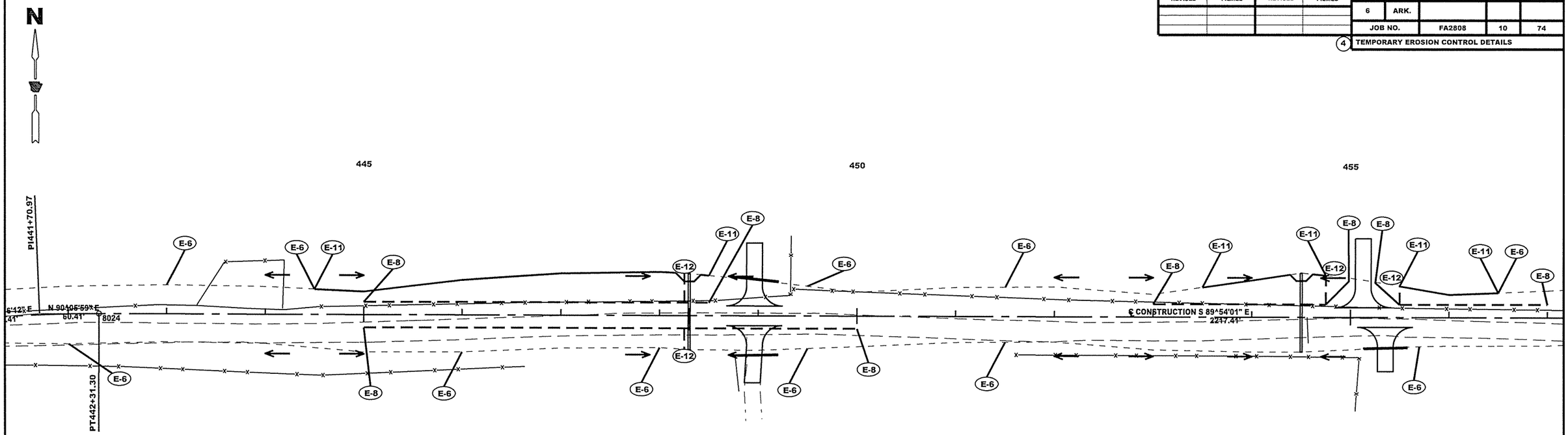
4 TEMPORARY EROSION CONTROL DETAILS



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 443+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 444+50	LT.	= 1	CU. YD.	1	CU. YD.
STA. 446+00	RT.	= 1	CU. YD.	1	CU. YD.
STA. 448+00	RT.	= 1	CU. YD.	1	CU. YD.
STA. 449+50	LT. & RT.	= 2	CU. YD.	2	CU. YD.
STA. 451+50	LT. & RT.	= 2	CU. YD.	2	CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 444+50 - STA. 448+50	LT.	= 408	LIN. FT.	13 CU. YD.
STA. 453+50 - STA. 454+75	LT.	= 131	LIN. FT.	4 CU. YD.

DIVERSION DITCH (E-8)

STA. 445+00 - STA. 448+50	LT.	= 350	LIN. FT.
STA. 445+00 - STA. 450+00	RT.	= 500	LIN. FT.
STA. 453+00 - STA. 454+75	LT.	= 175	LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 448+25	LT.	= 36	LIN. FT.
STA. 448+25	RT.	= 24	LIN. FT.
STA. 454+75	LT.	= 34	LIN. FT.

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STATE OF ARKANSAS
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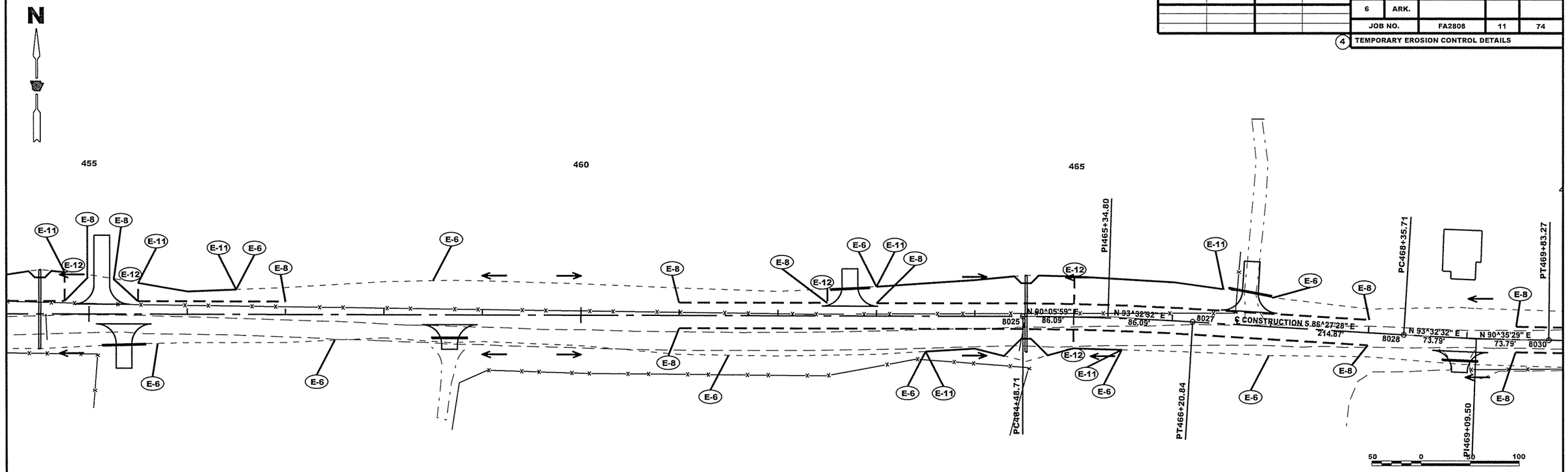
No. 5368
DAVID R. MAYO JR.
8/14/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	11	74

4 TEMPORARY EROSION CONTROL DETAILS



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 455+70	RT.	= 1	CU. YD.	1	CU. YD.
STA. 456+50	LT.	= 1	CU. YD.	1	CU. YD.
STA. 457+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 458+50	LT.	= 1	CU. YD.	1	CU. YD.
STA. 461+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 463+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 463+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 465+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 467+00	LT. & RT.	= 2	CU. YD.	2	CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 455+50 - STA. 456+50 LT.	= 101 LIN. FT.	4	CU. YD.
STA. 463+00 - STA. 466+50 LT.	= 359 LIN. FT.	11	CU. YD.
STA. 463+50 - STA. 465+50 RT.	= 215 LIN. FT.	7	CU. YD.

DIVERSION DITCH (E-8)

STA. 455+50 - STA. 457+00 LT. = 150 LIN. FT.
STA. 461+00 - STA. 462+50 LT. = 150 LIN. FT.
STA. 463+00 - STA. 468+00 LT. = 500 LIN. FT.
STA. 461+00 - STA. 468+00 RT. = 700 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 455+50 LT. = 24 LIN. FT.
STA. 462+50 LT. = 24 LIN. FT.
STA. 465+00 LT. = 33 LIN. FT.
STA. 465+00 RT. = 23 LIN. FT.

REVISION NO.	REVISION
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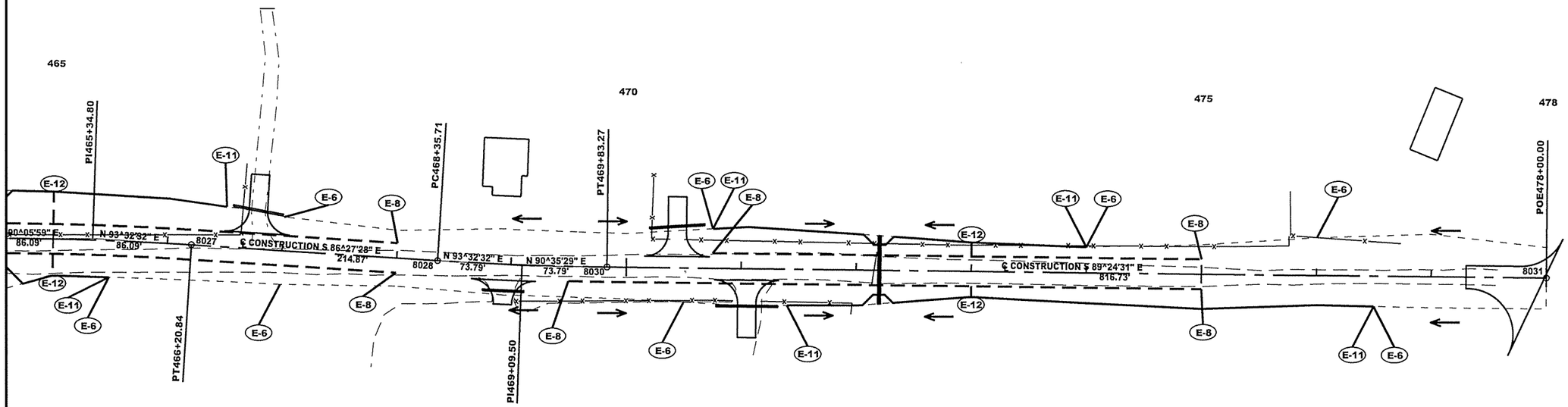
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAXWELL
8/14/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	12	74

4 TEMPORARY EROSION CONTROL DETAILS



50 0 50 100

SCALE: 1"= 100'

TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6) SEDIMENT REMOVAL AND DISPOSAL

STA. 470+50	RT.	= 1	CU. YD.	1	CU. YD.
STA. 470+75	LT.	= 1	CU. YD.	1	CU. YD.
STA. 474+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 476+00	LT.	= 1	CU. YD.	1	CU. YD.
STA. 476+50	RT.	= 1	CU. YD.	1	CU. YD.

SILT FENCE (E-11) SEDIMENT REMOVAL AND DISPOSAL

STA. 470+75 - STA. 474+00	LT.	= 332 LIN. FT.	10	CU. YD.
STA. 471+40 - STA. 476+50	RT.	= 517 LIN. FT.	16	CU. YD.

DIVERSION DITCH (E-8)

STA. 470+75 - STA. 475+00 LT. = 425 LIN. FT.
STA. 469+50 - STA. 475+00 RT. = 550 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 473+00 LT. = 16 LIN. FT.
STA. 473+00 RT. = 13 LIN. FT.

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8368
DAVID R. MAYO JR.
8/4/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	13	74

(4) QUANTITIES

EARTHWORK

STATION	STATION	UNCLASSIFIED EXCAVATION			COMPACTED EMBANKMENT		
		NORMAL	ADDITIONAL	TOTAL	NORMAL	ADDITIONAL	TOTAL
		CUBIC YARDS					
377+00	478+00	12060		12060	62373		62373
377+91						20	20
380+33						45	45
381+09						15	15
382+49						15	15
385+94						55	55
388+54						30	30
392+94						110	110
395+10						170	170
398+26			15	15		15	15
409+61						35	35
409+61			10	10		20	20
413+38						90	90
414+54						40	40
416+89						25	25
420+03						65	65
420+09						20	20
423+42						20	20
424+19						65	65
424+67						25	25
426+07						100	100
436+20			15	15		40	40
436+20			15	15		30	30
436+30						10	10
440+04						15	15
448+97						100	100
448+97						105	105
455+13						120	120
455+36						70	70
458+67						15	15
462+73						45	45
466+78						85	85
468+94						15	15
470+44						100	100
471+06						80	80
401+39	404+13					80	80
TOTALS:		12060	55	12115	62373	1890	64263

NOTE: EARTHWORK QUANTITIES SHOWN SHALL BE PAID AS PLAN QUANTITY.
SOIL STABILIZATION TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

REMOVAL AND DISPOSAL ITEMS

	STATION	STATION	LOCATION	DESCRIPTION	PIPE CULVERTS	FENCE	METAL GATES	MAILBOXES
					EACH	LIN. FT.	EACH	EACH
*	382+75		LT.	BRICK MAILBOX				1
	383+32	383+48	LT.	3B - 3 STRAND BARBED WIRE		19		
*	393+28		LT.	BRICK MAILBOX				1
	394+21		CROSS DRAIN	18" X 24' C.M. PIPE CULVERT CROSS DRAIN	1			
	401+83	409+10	LT.	WEBWIRE		729		
	404+02		CROSS DRAIN	18" X 30' C.M. PIPE CULVERT CROSS DRAIN	1			
	411+05	413+25	LT.	5B - 5 STRAND BARBED WIRE		229		
	413+51	416+77	LT.	4B - 4 STRAND BARBED WIRE		344		
	416+89		LT.	24' METAL GATE			1	
	417+02	419+87	LT.	WEBWIRE		310		
	420+17	422+20	LT.	WEBWIRE		224		
	420+91		CROSS DRAIN	18" X 32' C.M. PIPE CULVERT CROSS DRAIN	1			
	431+83		CROSS DRAIN	24" X 30' C.M. PIPE CULVERT CROSS DRAIN	1			
	436+47	449+33	LT.	WEBWIRE		1364		
	436+50	439+21	RT.	5B - 5 STRAND BARBED WIRE		290		
	448+31		CROSS DRAIN	12" X 30' C.M. PIPE CULVERT CROSS DRAIN	1			
	449+33	455+05	LT.	4B - 4 STRAND BARBED WIRE		573		
	454+57		CROSS DRAIN	12" X 27' C.M. PIPE CULVERT CROSS DRAIN	1			
	455+13		LT.	12' METAL GATE			1	
	455+21	462+15	LT.	4B - 4 STRAND BARBED WIRE		744		
	462+31	466+64	LT.	4B - 4 STRAND BARBED WIRE		376		
	462+73		LT.	12' METAL GATE			1	
	464+49		CROSS DRAIN	24" X 30' C.M. PIPE CULVERT CROSS DRAIN	1			
	469+06	470+94	RT.	6' CHAIN LINK FENCE		188		
	470+23	470+36	LT.	4B - 4 STRAND BARBED WIRE		13		
	470+44		LT.	12' METAL GATE			1	
	470+52	476+74	LT.	4B - 4 STRAND BARBED WIRE		622		
	471+18	471+96	RT.	6' CHAIN LINK FENCE		78		
	472+16		CROSS DRAIN	30" X 30' C.M. PIPE CULVERT CROSS DRAIN	1			
	TOTALS:				8	6103	4	2

*NOTE: BRICK MAILBOXES SHALL BE MOVED AND PLACED ON OWNER'S PROPERTY AT THE DIRECTION OF THE ENGINEER.

STRUCTURES

STATION	DESCRIPTION	CROSS DRAIN ALTS.				F.E.S. ALTS.		SOLID SODDING	WATER	*SELECTED PIPE BEDDING	*SELECTED PIPE BACKFILL	STANDARD DRAWING
		36" R.C.P.	36" C.M.P.	36" H.D.P.E.	36" P.V.C.	36" R.C.P.	36" C.M.P.					
		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	SQ. YD.	M. GAL.	CU. YDS.	CU. YDS.	
464+52	36" PIPE CULVERT CROSS DRAIN	64	70	70	70	2	2	28	0.4	13	110	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
472+15	36" PIPE CULVERT CROSS DRAIN	52	58	58	58	2	2	28	0.4	11	93	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
TOTALS:		116	128	128	128	4	4	56	0.8	24	203	

BASIS OF ESTIMATE:

WATER: 12.6 GAL. PER SQ. YD. SOLID SODDING.

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS, USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. OR PLASTIC PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

*QUANTITIES ARE ESTIMATED AND SHALL BE PLACED IF AND WHERE BY THE ENGINEER.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

TRAFFIC CONTROL DEVICES

LOCATION	W20-1								G20-1		G20-2		TRAFFIC DRUMS	STANDARD DRAWING NUMBER
	1500 FT.		1000 FT.		500 FT.		AHEAD							
	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	EACH	
STA. 362+00	1	16												TC-1, 2 & 3
STA. 367+00			1	16										TC-1, 2 & 3
STA. 372+00					1	16								TC-1, 2 & 3
STA. 377+00									1	10	1	8		TC-1, 2 & 3
STA. 436+20							2	32						TC-1, 2 & 3
STA. 478+00									1	10	1	8		TC-1, 2 & 3
ENTIRE JOB													50	TC-1, 2 & 3
TOTALS:	1	16	1	16	1	16	2	32	2	20	2	16	50	

WIRE FENCE

STATION	STATION	SIDE	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	WIRE FENCE (TYPE D-1)	WIRE FENCE (6' CHAIN LINK)	STANDARD DRAWING NUMBER
			LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	
401+83	409+10	LT.	508				WF-4
411+05	413+25	LT.		220			WF-4
413+51	416+77	LT.		330			WF-4
417+02	419+87	LT.	287				WF-4
420+17	422+20	LT.	203				WF-4
436+47	448+89	LT.	1244				WF-4
436+50	439+21	RT.			273		WF-4
449+05	449+33	LT.	29				WF-4
449+33	455+05	LT.		573			WF-4
455+21	462+15	LT.		744			WF-4
462+31	466+64	LT.		388			WF-4
469+06	470+94	RT.				188	WF-4
470+23	470+36	LT.		13			WF-4
470+52	476+74	LT.		622			WF-4
471+18	471+96	RT.				78	WF-4
TOTALS:			2271	2890	273	266	

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO, P.E.
8/5/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	14	74

4 QUANTITIES

TEMPORARY & PERMANENT SEEDING

STATION	TEMPORARY SEEDING	LIME	SEEDING	MULCH COVER	WATER	STANDARD DRAWING NO.
	ACRES	TONS	ACRES	ACRES	M. GAL.	
ENTIRE PROJECT	14.20	29	14.20	28.40	1738.1	TEC-3
TOTALS:	14.20	29	14.20	28.40	1738.1	

BASIS OF ESTIMATE:

LIME: 2 TONS PER ACRE
WATER: 102 M. GALS. PER ACRE PERMANENT SEEDING
WATER: 20.4 M. GALS. PER ACRE TEMPORARY SEEDING

ITEMS REMOVED AND RECONSTRUCTED

STATION	STATION OR SIDE	DESCRIPTION	FENCE REM. AND RECONST.	GATES REM. AND RECONST.
			LIN. FT.	EACH
390+57	392+80	3 RAIL PLASTIC FENCE	223	
392+97	395+03	3 RAIL PLASTIC FENCE	203	
395+17	396+49	3 RAIL PLASTIC FENCE	128	
436+54	437+03	3 RAIL PLASTIC FENCE	65	
471+06	RT.	24' CHAIN LINK GATE		1
TOTALS:			619	1

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

STATION	SIDE	STANDARD SIGN NUMBER								SUPPORT ASSEMBLIES (TYPE A)	STANDARD DRAWING NUMBER
		W1-2 LT.		W1-2 RT.		W2-1		R1-1			
		NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	EACH	
378+20	RT.	1	6.25							1	SHS - 1 & 2
383+65	LT.			1	6.25					1	SHS - 1 & 2
384+20	RT.			1	6.25					1	SHS - 1 & 2
389+75	LT.	1	6.25							1	SHS - 1 & 2
394+95	RT.	1	6.25							1	SHS - 1 & 2
400+10	LT.			1	6.25					1	SHS - 1 & 2
406+65	RT.	1	6.25							1	SHS - 1 & 2
412+30	LT.			1	6.25					1	SHS - 1 & 2
412+70	RT.			1	6.25					1	SHS - 1 & 2
418+00	LT.	1	6.25							1	SHS - 1 & 2
429+95	RT.			1	6.25					1	SHS - 1 & 2
433+65	RT.	1	6.25							1	SHS - 1 & 2
434+45	RT.					1	6.25			1	SHS - 1 & 2
434+95	LT.	1	6.25							1	SHS - 1 & 2
437+40	RT.			1	6.25					1	SHS - 1 & 2
437+95	LT.					1	6.25			1	SHS - 1 & 2
438+70	LT.			1	6.25					1	SHS - 1 & 2
442+50	LT.	1	6.25							1	SHS - 1 & 2
462+70	RT.			1	6.25					1	SHS - 1 & 2
466+60	RT.	1	6.25							1	SHS - 1 & 2
468+00	LT.	1	6.25							1	SHS - 1 & 2
471+60	LT.			1	6.25					1	SHS - 1 & 2
477+75	RT.							1	6.25	1	SHS - 1 & 2
TOTALS:		10	62.50	10	62.50	2	12.50	1	6.25	23	

NOTE: ALL STANDARD SIGN BLANKS TO BE 0.080" THICK. REFER TO STANDARD DWG. SHS-2 FOR CHANNEL POST SPLICING DETAILS.

STRUCTURES

STATION	DESCRIPTION	SIDE DRAIN	CROSS DRAIN ALTS.				F.E.S. ALTS.		SOLID SODDING	WATER	*SELECTED PIPE BEDDING	*SELECTED PIPE BACKFILL	STANDARD DRAWING
		18"	24" R.C.P.	24" C.M.P.	24" H.D.P.E.	24" P.V.C.	24" R.C.P.	24" C.M.P.					
		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	SQ. YD.	M. GAL.	CU. YDS.	CU. YDS.	
377+91	18" X 36' PIPE CULVERT RT.	36											PCC-1, PCM-1
381+09	18" X 36' PIPE CULVERT RT.	36											PCC-1, PCM-1
382+49	18" X 36' PIPE CULVERT LT.	36											PCC-1, PCM-1
385+00	24" PIPE CULVERT CROSS DRAIN		40	46	46	46	2	2	16	0.2	7	44	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
385+94	18" X 36' PIPE CULVERT RT.	36											PCC-1, PCM-1
392+94	18" X 50' PIPE CULVERT RT.	50											PCC-1, PCM-1
394+21	24" PIPE CULVERT CROSS DRAIN		98	104	104	104	2	2	16	0.2	12	84	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
395+10	18" X 60' PIPE CULVERT RT.	60											PCC-1, PCM-1
398+26	18" X 36' PIPE CULVERT LT.	36											PCC-1, PCM-1
404+00	24" PIPE CULVERT CROSS DRAIN		54	58	58	58	2	2	16	0.2	8	51	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
409+61	18" X 64' PIPE CULVERT LT.	64											PCC-1, PCM-1
409+61	18" X 44' PIPE CULVERT RT.	44											PCC-1, PCM-1
413+00	24" PIPE CULVERT CROSS DRAIN		42	48	48	48	2	2	16	0.2	7	45	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
414+54	18" X 36' PIPE CULVERT RT.	36											PCC-1, PCM-1
416+89	18" X 36' PIPE CULVERT LT.	36											PCC-1, PCM-1
420+09	18" X 36' PIPE CULVERT RT.	36											PCC-1, PCM-1
420+50	24" PIPE CULVERT CROSS DRAIN		46	50	50	50	2	2	16	0.2	6	42	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
423+42	18" X 36' PIPE CULVERT LT.	36											PCC-1, PCM-1
424+19	18" X 44' PIPE CULVERT RT.	44											PCC-1, PCM-1
424+67	18" X 36' PIPE CULVERT LT.	36											PCC-1, PCM-1
426+07	18" X 48' PIPE CULVERT RT.	48											PCC-1, PCM-1
431+84	24" PIPE CULVERT CROSS DRAIN		62	68	68	68	2	2	16	0.2	9	57	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
436+20	18" X 60' PIPE CULVERT LT.	60											PCC-1, PCM-1
436+20	18" X 64' PIPE CULVERT RT.	64											PCC-1, PCM-1
438+50	24" PIPE CULVERT CROSS DRAIN		42	48	48	48	2	2	16	0.2	7	43	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
440+04	18" X 36' PIPE CULVERT LT.	36											PCC-1, PCM-1
448+30	24" PIPE CULVERT CROSS DRAIN		68	72	72	72	2	2	16	0.2	9	60	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
448+97	18" X 48' PIPE CULVERT RT.	48											PCC-1, PCM-1
448+97	18" X 48' PIPE CULVERT LT.	48											PCC-1, PCM-1
454+50	24" PIPE CULVERT CROSS DRAIN		70	76	76	76	2	2	16	0.2	9	62	PCC-1, PCM-1, FES-1, FES-2, PCP-1, PCP-2
455+36	18" X 44' PIPE CULVERT RT.	44											PCC-1, PCM-1
458+67	18" X 36' PIPE CULVERT RT.	36											PCC-1, PCM-1
462+73	18" X 40' PIPE CULVERT LT.	40											PCC-1, PCM-1
466+78	18" X 44' PIPE CULVERT LT.	44											PCC-1, PCM-1
468+94	18" X 36' PIPE CULVERT RT.	36											PCC-1, PCM-1
470+44	18" X 48' PIPE CULVERT LT.	48											PCC-1, PCM-1
471+06	18" X 54' PIPE CULVERT RT.	54											PCC-1, PCM-1
TOTALS:		1228	522	570	570	570	18	18	144	1.8	74	488	

BASIS OF ESTIMATE:

WATER: 12.6 GAL. PER SQ. YD. SOLID SODDING.

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS, USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. OR PLASTIC PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

*QUANTITIES ARE ESTIMATED AND SHALL BE PLACED IF AND WHERE BY THE ENGINEER.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID B. MAYO
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	15	74

(4) QUANTITIES

TEMPORARY EROSION CONTROL

	STATION	STATION	LOCATION	ROCK DITCH CKS. (E-6)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLIT. OF SEDIMENT BASIN	DIVERSION DITCH (E-8)	PIPE FOR SLOPE DRAINS (E-12)	SEDIMENT REMOVAL & DISPOSAL	STANDARD DRAWING NUMBER
				CU. YDS.	LIN. FT.	CU. YDS.	CU. YDS.	LIN. FT.	LIN. FT.	CU. YDS.	
	377+00	478+00	MAIN LANES	81	5803	250	250	4850	350	516	TEC-1, 2&3
*	ENTIRE PROJECT AS DIRECTED BY ENGINEER			20	200					27	TEC-1, 2&3
	TOTALS:			101	6003	250	250	4850	350	543	

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

*QUANTITIES ARE ESTIMATED AND SHALL BE PLACED IF AND WHERE BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

AGGREGATE BASE COURSE

	STATION	STATION	DESCRIPTION	LENGTH	AGGREGATE BASE CRS. (CLASS 7)
				LIN. FT.	TONS
	377+00	378+00	100' TRANSITION	100	121
	378+00	477+30.20	COUNTY ROAD 73	9930.20	15094
	377+91		PRIVATE DRIVE - RT. SIDE		26
	380+33		PRIVATE DRIVE - RT. SIDE		34
	381+09		PRIVATE DRIVE - RT. SIDE		23
	382+49		PRIVATE DRIVE - LT. SIDE		26
	385+94		PRIVATE DRIVE - RT. SIDE		60
	388+54		PRIVATE DRIVE - LT. SIDE		30
	392+94		PRIVATE DRIVE - RT. SIDE		54
	395+10		PRIVATE DRIVE - RT. SIDE		59
	398+26		PRIVATE DRIVE - LT. SIDE		38
	409+61		PRIVATE DRIVE - LT. SIDE		34
	409+61		COUNTY ROAD TURNOUT - RT. SIDE		64
	413+38		PRIVATE DRIVE - LT. SIDE		50
	414+54		PRIVATE DRIVE - RT. SIDE		34
	416+89		FIELD ENTRANCE - LT. SIDE		26
	420+03		PRIVATE DRIVE - LT. SIDE		49
	420+09		PRIVATE DRIVE - RT. SIDE		26
	423+42		PRIVATE DRIVE - LT. SIDE		26
	424+19		PRIVATE DRIVE - RT. SIDE		40
	424+67		PRIVATE DRIVE - LT. SIDE		26
	426+07		PRIVATE DRIVE - RT. SIDE		50
	436+20		COUNTY ROAD TURNOUT - LT. SIDE		71
	436+20		COUNTY ROAD TURNOUT - RT. SIDE		66
	436+30		PRIVATE DRIVE - LT. SIDE		24
	440+04		PRIVATE DRIVE - LT. SIDE		23
	448+97		PRIVATE DRIVE - RT. SIDE		50
	448+97		PRIVATE DRIVE - LT. SIDE		55
	455+13		FIELD ENTRANCE - LT. SIDE		59
	455+36		PRIVATE DRIVE - RT. SIDE		41
	458+67		PRIVATE DRIVE - RT. SIDE		26
	462+73		FIELD ENTRANCE - LT. SIDE		36
	466+78		PRIVATE DRIVE - LT. SIDE		45
	468+94		PRIVATE DRIVE - RT. SIDE		23
	470+44		FIELD ENTRANCE - LT. SIDE		46
	471+06		PRIVATE DRIVE - RT. SIDE		45
	477+30.20		COUNTY ROAD TURNOUT		145
**	ENTIRE JOB		MAINTENANCE OF TRAFFIC		2000
	TOTAL:				18745

BASIS OF ESTIMATE:

AGGREGATE BASE COURSE (CLASS 7)_____152 TONS PER 100' STA. (MAIN LANES)

** QUANTITIES ARE ESTIMATED AND SHALL BE PLACED IF AND WHERE BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

METAL VEHICULAR GATES

STATION	SIDE	WIDTH LIN. FT.	12' EACH	16' EACH
416+89	LT.	24	2	
436+30	LT.	16		1
448+97	LT.	16		1
455+13	LT.	16		1
462+73	LT.	16		1
470+44	LT.	16		1
TOTALS:			2	5

OBLITERATION OF ABANDONED ROADWAY

	STATION	STATION	SIDE	UNCLASSIFIED EXCAVATION CUBIC YARD	LIME TON	SEEDING ACRE	MULCH COVER ACRE	WATER M. GALS.
*	401+39	404+13	RT.	43	0.05	0.03	0.03	3.1
	TOTALS:			43	0.05	0.03	0.03	3.1
	USE:			43	1	0.03	0.03	3.1

* NOTE: EXCAVATION FROM OBLITERATION OF EXISTING ROADWAY, IF DEEMED SUITABLE BY THE ENGINEER, TO BE USED AS ROADWAY EMBANKMENT. EXCAVATION UNSUITABLE SHALL BE DISPOSED OF AS APPROVED BY THE ENGINEER.

PORTLAND CEMENT CONCRETE DRIVEWAY

STATION	SIDE	PORTLAND CEMENT CONCRETE DRIVEWAY
		SQ. YD.
455+36	RT.	99.08
TOTAL:		99.08

CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
		STATIONS	STATIONS
377+00	478+00	101	101
TOTALS:		101	101

MAILBOXES

STATION	SIDE	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)	MAILBOX
		EACH		
380+40	LT.	1		1
382+75	LT.	1		1
386+07	LT.	1		1
388+40	LT.		1	2
393+28	LT.	1		1
394+94	LT.	1		1
398+05	LT.	1		1
410+12	LT.	1		1
413+64	LT.		1	2
414+63	LT.		1	2
420+35	LT.	1		1
424+97	LT.	1		1
426+24	LT.	1		1
455+18	RT.	1		1
TOTALS:		11	3	17

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO, II
8/5/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
S.2344				6	ARK.			
				JOB NO.		FA2808	16	74

(4) SUMMARY OF QUANTITIES AND REVISIONS

SUMMARY OF QUANTITIES

	ITEM NUMBER	ITEM		QUANTITY	UNIT
	201	CLEARING		101	STA.
	201	GRUBBING		101	STA.
	202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		8	EACH
	202	REMOVAL AND DISPOSAL OF FENCE		6103	LIN. FT.
	202	REMOVAL AND DISPOSAL OF GATES		4	EACH
	202	REMOVAL AND DISPOSAL OF MAILBOXES		2	EACH
	208	FENCE REMOVED AND RECONSTRUCTED		619	LIN. FT.
	208	GATES REMOVED AND RECONSTRUCTED		1	EACH
	210	UNCLASSIFIED EXCAVATION		12158	CU. YD.
	210	COMPACTED EMBANKMENT		64263	CU. YD.
	303	AGGREGATE BASE COURSE (CLASS 7)		18745	TON
	505	PORTLAND CEMENT CONCRETE DRIVEWAY		99.08	SQ. YD.
	601	MOBILIZATION		1.00	LUMP SUM
	SP&602	FURNISHING FIELD OFFICE		1	EACH
	603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
	604	SIGNS		116	SQ. FT.
	604	TRAFFIC DRUMS		50	EACH
	SP&606	18" SIDE DRAIN		1228	LIN. FT.
*	606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	ALT. NO. 1	522	LIN. FT.
*	606	24" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	ALT. NO. 2	570	LIN. FT.
*	606	24" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	ALT. NO. 3	570	LIN. FT.
*	606	24" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	ALT. NO. 4	570	LIN. FT.
*	SP&606	24" HIGH DENSITY POLYETHYLENE PIPE	ALT. NO. 5	570	LIN. FT.
*	SP&606	24" PVC PIPE	ALT. NO. 6	570	LIN. FT.
*	606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	ALT. NO. 1	116	LIN. FT.
*	606	36" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	ALT. NO. 2	128	LIN. FT.
*	606	36" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	ALT. NO. 3	128	LIN. FT.
*	606	36" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	ALT. NO. 4	128	LIN. FT.
*	SP&606	36" HIGH DENSITY POLYETHYLENE PIPE	ALT. NO. 5	128	LIN. FT.
*	SP&606	36" PVC PIPE	ALT. NO. 6	128	LIN. FT.
*	606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	ALT. NO. 1	18	EACH
*	606	24" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	ALT. NO. 2	18	EACH
*	606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	ALT. NO. 1	4	EACH
*	606	36" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	ALT. NO. 2	4	EACH
	606	SELECTED PIPE BEDDING		98	CU. YD.
	606	SELECTED PIPE BACKFILL		691	CU. YD.
	619	WIRE FENCE (TYPE C)		2271	LIN. FT.
	619	WIRE FENCE (TYPE D)		2890	LIN. FT.
	619	WIRE FENCE (TYPE D-1)		273	LIN. FT.
	619	6' STEEL CHAIN LINK FENCE		266	LIN. FT.
*	619	12' STEEL GATES	ALT. NO. 1	2	EACH
*	619	12' ALUMINUM GATES	ALT. NO. 2	2	EACH
*	619	16' STEEL GATES	ALT. NO. 1	5	EACH
*	619	16' ALUMINUM GATES	ALT. NO. 2	5	EACH
	620	LIME		30	TON
	620	SEEDING		14.23	ACRE
	SS&620	MULCH COVER		28.43	ACRE
	620	WATER		1743.8	M. GAL.
	621	TEMPORARY SEEDING		14.20	ACRE
	621	SILT FENCE		6003	LIN. FT.
	621	ROCK DITCH CHECKS		101	CU. YD.
	621	SEDIMENT REMOVAL AND DISPOSAL		543	CU. YD.
	621	SEDIMENT BASIN		250	CU. YD.
	621	OBLITERATION OF SEDIMENT BASIN		250	CU. YD.
	621	DIVERSION DITCH		4850	LIN. FT.
	621	PIPE FOR SLOPE DRAINS		350	LIN. FT.
	624	SOLID SODDING		200	SQ. YD.
	635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
	637	MAILBOXES		17	EACH
	637	MAILBOX SUPPORTS (SINGLE)		11	EACH
	637	MAILBOX SUPPORTS (DOUBLE)		3	EACH
	726	STANDARD SIGN		143.75	SQ. FT.
	729	CHANNEL POST SIGN SUPPORT (TYPE A)		23	EACH

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
8/28/14	REVISED SPECIAL PROVISION STORM WATER PREVENTION PLAN	16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
8/28/14

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	17	74

(4) SURVEY CONTROL DETAIL

SURVEY CONTROL COORDINATES

Project Name: FA2808
Date: 2/6/2013
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	605710.33700	1721815.14580	496.86320	CTL	T-1 5/8" Rebar with 2" Aluminum Cap
2	606426.52260	1722122.01780	496.28720	CTL	T-3 5/8" Rebar with 2" Aluminum Cap
3	606462.28780	1721179.76550	488.32800	CTL	T-3 5/8" Rebar with 2" Aluminum Cap
4	606431.70550	1720178.11050	496.33010	CTL	T-4 5/8" Rebar with 2" Aluminum Cap
5	606439.69460	1719446.75630	492.29220	CTL	T-5 5/8" Rebar with 2" Aluminum Cap
6	606483.76880	1719028.50540	476.62160	CTL	T-6 5/8" Rebar with 2" Aluminum Cap
7	606446.56680	1718584.34390	488.67210	CTL	T-7 5/8" Rebar with 2" Aluminum Cap
8	606456.67210	1717937.48290	482.75740	CTL	T-8 5/8" Rebar with 2" Aluminum Cap
9	606416.32040	1717495.84160	467.90990	CTL	T-9 5/8" Rebar with 2" Aluminum Cap
10	606451.01470	1717190.14970	471.80910	CTL	T10 5/8" Rebar with 2" Aluminum Cap
11	606420.32810	1716803.80080	492.88070	CTL	T11 5/8" Rebar with 2" Aluminum Cap
12	606462.95740	1716345.25640	484.80520	CTL	T12 5/8" Rebar with 2" Aluminum Cap
13	606424.89440	1716050.49220	492.66050	CTL	T13 5/8" Rebar with 2" Aluminum Cap
14	606403.90510	1715235.57280	488.64710	CTL	T14 5/8" Rebar with 2" Aluminum Cap
15	606418.52620	1714529.50310	476.19270	CTL	T15 5/8" Rebar with 2" Aluminum Cap
16	606517.97790	1714151.52170	496.78320	CTL	T16 5/8" Rebar with 2" Aluminum Cap
17	606565.50920	1713651.14780	476.79670	CTL	T17 5/8" Rebar with 2" Aluminum Cap
18	606655.57000	1713219.95210	500.75220	CTL	T18 5/8" Rebar with 2" Aluminum Cap
19	606650.52870	1712933.14440	497.98740	CTL	T19 5/8" Rebar with 2" Aluminum Cap
20	606268.06070	1712500.38060	497.67260	CTL	T20 5/8" Rebar with 2" Aluminum Cap
21	606048.87860	1711819.07250	500.60360	CTL	T21 5/8" Rebar with 2" Aluminum Cap
22	605264.44290	1711666.23700	498.51830	CTL	T22 5/8" Rebar with 2" Aluminum Cap
23	604803.59780	1711230.51200	487.24990	CTL	T23 5/8" Rebar with 2" Aluminum Cap
24	604401.52670	1711138.15930	471.85090	CTL	T24 5/8" Rebar with 2" Aluminum Cap
25	604050.91850	1711134.40210	477.31700	CTL	T25 5/8" Rebar with 2" Aluminum Cap
26	603575.65550	1710862.48830	467.34160	CTL	T26 5/8" Rebar with 2" Aluminum Cap
27	603027.44220	1710374.77610	444.22160	CTL	14' NORTHWEST OF C/L COUNTY ROAD
28	602484.55870	1709964.38270	442.70660	CTL	T28 5/8" Rebar with 2" Aluminum Cap
29	602483.91300	1710110.77080	448.85360	CTL	T29 5/8" Rebar with 2" Aluminum Cap
30	602417.85600	1709592.49770	430.80660	CTL	T30 5/8" Rebar with 2" Aluminum Cap
31	602415.84820	1709227.32110	406.38720	CTL	T31 5/8" Rebar with 2" Aluminum Cap
32	602420.98200	1708825.64730	423.80320	CTL	T32 5/8" Rebar with 2" Aluminum Cap
33	602434.55120	1708614.19020	414.06360	CTL	T33 5/8" Rebar with 2" Aluminum Cap
34	601965.40350	1708638.45970	400.18590	CTL	T34 5/8" Rebar with 2" Aluminum Cap
35	601245.62250	1708617.15140	431.64340	CTL	T35 5/8" Rebar with 2" Aluminum Cap
36	600949.44450	1708343.59650	435.22080	CTL	T36 5/8" Rebar with 2" Aluminum Cap
37	600801.26950	1708001.72130	441.77800	CTL	T37 5/8" Rebar with 2" Aluminum Cap
38	600626.80140	1707636.22870	430.02020	CTL	T38 5/8" Rebar with 2" Aluminum Cap
39	600296.20090	1707341.32250	429.74740	CTL	T39 5/8" Rebar with 2" Aluminum Cap
40	600031.54240	1707017.60250	416.87760	CTL	T40 5/8" Rebar with 2" Aluminum Cap
900	606419.55280	1722211.45720	504.09440	TBM	COTTON PICKER SPINDLE IN POWER POLE 27' S OF C/L CR 721
901	606423.53970	1720189.55420	499.74020	TBM	COTTON PICKER SPINDLE IN POWER POLE
902	606490.15490	1717862.58030	483.89160	TBM	1/2" BOLT 2" ABOVE SURFACE
903	606451.02090	1716428.21950	487.28100	TBM	COTTON PICKER SPINDLE IN 24" TRIPLE ASH
904	606402.04890	1714936.35510	483.66240	TBM	CPS IN COMBINATION POLE 15' S C/L COUNTY ROAD 721
905	606457.89460	1712751.02030	498.39650	TBM	COTTON PICKER SPINDLE IN COMBINATION POLE
906	605212.94990	1711646.21570	499.50280	TBM	COTTON PICKER SPINDLE IN POWER POLE
907	603952.36850	1711184.39920	472.92360	TBM	CHISELED SQUARE IN CONCRETE
908	602503.37200	1710003.20180	448.14860	TBM	COTTON PICKER SPINDLE IN 40" OAK
909	602390.25660	1708604.06880	414.44160	TBM	COTTON PICKER SPINDLE IN 20" GUM 19' WEST OF C/L 710
910	601112.10650	1708467.73220	437.30860	TBM	COTTON PICKER SPINDLE IN COMBINATION POLE
911	600427.50980	1707280.95950	428.45890	TBM	COTTON PICKER SPINDLE IN POWER POLE 29' SW OF C/L COUNTY ROAD 710

***Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped**
***(standard markings common to all caps), or as indicated**
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999381439 HAS BEEN USED TO COMPUTE THE ABOVE LISTED GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GROUND COORDINATES ARE PROJECTED FROM AR. STATE PLANE GRID COORDINATES BY SCALING ALL X,Y COORDINATE VALUES WITH THE INVERSE (1/X) OF THE COMBINED AJUSTMENT FACTOR (CAF) ABOUT X=0,Y=0.

GRID COORDINATES ARE STORED UNDER FILE NAME.sFA2807GI.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 ELEVATIONS FOR POINTS 1-40 AND 900-911 WERE ESTABLISHED BY 3-WIRE LEVEL TECHNIQUES FROM NGS BENCHMARKS.

POSITIONAL ACCURACY:

HORIZONTAL-GPS: 1.0 CM 10 PPM, PRIMARY CONTROL(POINTS 1-40): 2.0 CM 20 PPM

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: K 324 AND STATIC GPS OBSERVATIONS ON PTS 1-2 & 30-31

CONVERGENCE ANGLE: 00-47-03.16 LEFT AT PN:24
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

LT: 35-59-10.46 LG: 090-39-08.37

GRID NORTHING: 604364.1408 GRID EASTING: 1711032.3150

GROUND NORTHING: 604401.5267 GROUND EASTING: 1711138.1593

Construction Centerline

POINT NAME		ELEVATION	NORTHING	EASTING
8000	POB	377+00.00	606168.61771	1712156.15359
8001	PC	379+94.92	606249.27507	1712439.83136
8003	PT	381+90.40	606342.01707	1712610.08876
8004	PC	385+92.69	606607.44313	1712912.38915
8006	PT	388+00.98	606664.02832	1713106.04392
8007	PC	396+95.67	606528.58150	1713990.42058
8009	PT	398+05.04	606515.03398	1714099.93408
8010	PC	407+70.28	606424.34792	1715059.90530
8012	PT	411+28.56	606424.20848	1715417.66280
8013	PC	414+44.13	606453.64221	1715731.85380
8015	PT	416+23.61	606461.96773	1715911.07707
8016	PC	430+11.72	606461.17866	1717299.18503
8018	PT	431+17.03	606458.21682	1717404.42822
8019	PC	435+62.08	606433.43894	1717848.79371
8021	PT	436+75.24	606434.95698	1717961.85762
8022	PC	441+10.56	606470.85349	1718395.69553
8024	PT	442+31.30	606475.72952	1718516.30300
8025	PC	464+48.71	606471.87141	1720733.70564
8027	PT	466+20.84	606466.40227	1720905.72604
8028	PC	468+35.71	606453.12624	1721120.18538
8030	PT	469+83.27	606447.80530	1721267.62823
8031	POE	478+00.00	606439.37736	1722084.31563

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	18	74

4 SURVEY CONTROL DETAIL

LAND TIE

POB377+00.00

205
32 MM PIPE CN ◇ COR
16N 4E SEC 27

S 59^48'08" W 525.39'

8000

℄ CONSTRUCTION N 74^07'41" E

BEGIN JOB STA. 377+00.00

21
PN:21
PD:T21 2"ALUM CAP 5/8"RBR

SURVEY BASELINE 191^01'30.36" 799.19'

PN:1115
PD:SET 8" NAIL TRIG ELEV

22
PN:22
PD:T22 2"ALUM CAP 5/8"RBR

PN:906
PD:CPS IN PP

SURVEY BASELINE 252^09'59.81" 715.70'

377

POB377+00.00

8000

PN:1114
PD:SET 8" NAIL TRIG ELEV

℄ CONSTRUCTION
PI = 380+94.29
Δ = 25^24'42.9" LT.
D = 13^00'00.0"
T = 99.37'
L = 195.48'
e = 0.080
PC = 379+94.92
PT = 381+90.40
Ls = 180.00'
BEGIN SUPER TRANSITION = 378+59.92
BEGIN MAX. SUPER = 380+39.92
END MAX. SUPER = 381+45.40
END SUPER TRANSITION = 383+25.40

380

PC379+94.92

℄ CONSTRUCTION N 74^07'41" E 294.92'

N 74^07'41" E 99.37'

8001

20
PN:20
PD:T20 2"ALUM CAP 5/8"RBR

PI380+94.29

385

PI381+90.40

205
32MM PIPE CN 1/16 S 27 (16N-4E)
LAND TIE

206
16 MM REBAR BY PLS # 1293 8-27-
LAND TIE

SURVEY BASELINE 228^31'49.42" 577.55'

℄ CONSTRUCTION N 48^42'58" E 402.29'

8003

N 48^42'58" E 99.37'

PN:905
PD:CPS IN CP

PN:1113
PD:SET 8" NAIL TRIG ELEV

PC385+92.69

PI387+03.99

204
13 MM REBAR BY # 1293 / 8-27-09
LAND TIE

PN:19
PD:T19 2"ALUM CAP5/8"RBR

19

N 48^42'58" E 111.30'

8004

N 98^42'27" E 111.30'

SURVEY BASELINE 268^57'34.98" 286.85

8006

PT388+00.98

390

18
PN:18
PD:T18 2"ALUM CAP 5/8"RBR

SURVEY BASELINE 281^47'50.52" 440.50'

℄ CONSTRUCTION
PI = 387+03.99
Δ = 49^59'28.6" RT.
D = 24^00'00.0"
T = 111.30'
L = 208.30'
e = 0.1000
PC = 385+92.69
PT = 388+00.98
Ls = 220.00'
BEGIN SUPER TRANSITION = 384+27.69
BEGIN MAX. SUPER = 386+47.69
END MAX. SUPER = 387+45.98
END SUPER TRANSITION = 389+65.98

50 0 50 100
SCALE IN FEET
SCALE RATIO 1" = 100'

PN:1112
PD:SET 8" NAIL TRIG ELEV

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO, JR.

8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	19	74

4 SURVEY CONTROL DETAIL

395 400 405

℄ CONSTRUCTION S 81^17'33" E
SURVEY BASELINE
2884.29'
440.50'
PN:1112
PD:SET 8" NAIL TRIG ELEV
17
PN:17
PD:T17 2"ALUM CAP 5/8"RBR
SURVEY BASELINE
275^25'34.80"
502.63'
PC396+95.67
PT398+06.04
N 98^42'27" E
55.20'
N 95^23'48" E
55.20'
8009
PN:1111
PD:SET 8" NAIL TRIG ELEV
PI397+50.87
16
PN:16
PD:T16 2"ALUM CAP 5/8"RBR
SURVEY BASELINE
284^44'28.10"
390.85'
℄ CONSTRUCTION S 84^36'12" E
964.24'
PN:15
PD:T15 2"ALUM CAP 5/8"RBR
15
SURVEY BASELINE
271^11'10.67"
706.22'
PN:1110
PD:SET 8" NAIL TRIG ELEV
PN:1109
PD:SET 8" NAIL TRIG ELEV
PN:904
PD:CPS IN CP 15' S C/L CR 721 8.3' E TB

℄ CONSTRUCTION
PI = 397+50.87
Δ= 3^18'39.3" LT.
D = 3^00'00.0"
T = 55.20'
L = 110.36'
e = 0.027
PC = 396+95.67
PT = 398+06.04
Ls = 150.00'
BEGIN SUPER TRANSITION = 395+83.17
BEGIN MAX. SUPER = 397+33.17
END MAX. SUPER = 397+68.54
END SUPER TRANSITION = 399+18.54

410 415 420

PC407+70.28
PT411+28.56
PI409+49.95
PN:1107
PD:SET 8" NAIL TRIG ELEV
207
16MM REBAR
LAND TIE
N1/16, S26, S27, T16N, R4E
8010
N 95^23'48" E
179.67'
N 84^38'53" E
179.67'
8012
14
PN:14
PD:T14 2"ALUM CAP 5/8"RBR
SURVEY BASELINE
271^11'10.67"
706.22'
PN:1109
PD:SET 8" NAIL TRIG ELEV
PN:904
PD:CPS IN CP 15' S C/L CR 721 8.3' E TB
PN:1108
PD:SET 8" NAIL TRIG ELEV
℄ CONSTRUCTION N 84^38'53" E
315.57'
8013
N 84^38'53" E
89.81'
PI415+33.94
N 90^01'57" E
89.81'
8015
PC414+44.13
PT416+23.61
PN:1106
PD:SET 8" NAIL TRIG ELEV
SURVEY BASELINE
268^31'28.56"
815.19'
SURVEY BASELINE
262^38'31.54"
297.21'
13
PN:13
PD:T13 2"ALUM CAP 5/8"RBR
12
PN:12
PD:T12 2"ALUM CAP 5/8"RBR

℄ CONSTRUCTION
PI = 409+49.95
Δ= 10^44'54.5" LT.
D = 3^00'00.0"
T = 179.67'
L = 358.28'
e = 0.027
PC = 407+70.28
PT = 411+28.56
Ls = 150.00'
BEGIN SUPER TRANSITION = 406+57.78
BEGIN MAX. SUPER = 408+07.78
END MAX. SUPER = 410+91.06
END SUPER TRANSITION = 412+41.06

℄ CONSTRUCTION
PI = 415+33.94
Δ= 5^23'04.1" RT.
D = 3^00'00.0"
T = 89.81'
L = 179.48'
e = 0.027
PC = 414+44.13
PT = 416+23.61
Ls = 150.00'
BEGIN SUPER TRANSITION = 413+31.63
BEGIN MAX. SUPER = 414+81.63
END MAX. SUPER = 415+86.11
END SUPER TRANSITION = 417+36.11

50 0 50 100
SCALE IN FEET
SCALE RATIO 1" = 100'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO, JR.
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	20	74

4 SURVEY CONTROL DETAIL

420 425 430 435

℄ CONSTRUCTION
PI = 430+64.38
Δ= 3^09'32.2" RT.
D = 3^00'00.0"
T = 52.66'
L = 105.30'
e = 0.027
PC = 430+11.72
PT = 431+17.02
Ls = 150.00'
BEGIN SUPER TRANSITION = 428+99.22
BEGIN MAX. SUPER = 430+49.22
END MAX. SUPER = 430+79.52
END SUPER TRANSITION = 432+29.52

PN:12
PD:T12 2"ALUM CAP 5/8"RBR

202
16MM RBR & HANCOCK CAP LAND TIE
LAND TIE

℄ CONSTRUCTION S 89^58'03" E
1388.11'

SURVEY BASELINE
275^18'40.77"
460.52'

PN:903
PD:CPS IN 24" TRIPLE ASH

SURVEY BASELINE
265^27'31.29"
387.57'

PN:11
PD:T11 2"ALUM CAP 5/8"RBR

PN:10
PD:T10 2"ALUM CAP 5/8"RBR

PI430+64.38

8016
N 90^01'57" E
52.66'

N 93^11'29" E 8018
52.66'

SURVEY BASELINE
276^28'30.14"
307.65'

℄ CONSTRUCTION S 86^48'31" E
395.08'
SURVEY BASELINE
264^46'46.26"
443.48'

PN:9
PD:T-9 2"ALUM CAP 5/8"RBR

PC430+11.72

PT431+17.02

435 440 445 450

℄ CONSTRUCTION
PI = 436+18.75
Δ= 7^55'17.4" LT.
D = 7^00'00.0"
T = 56.67'
L = 113.07'
e = 0.053
PC = 435+62.08
PT = 436+75.24
Ls = 150.00'
BEGIN SUPER TRANSITION = 434+49.58
BEGIN MAX. SUPER = 435+99.58
END MAX. SUPER = 436+37.74
END SUPER TRANSITION = 437+87.74

℄ CONSTRUCTION
PI = 441+70.97
Δ= 4^49'46.8" RT.
D = 4^00'00.0"
T = 60.41'
L = 120.74'
e = 0.033
PC = 441+10.56
PT = 442+31.30
Ls = 150.00'
BEGIN SUPER TRANSITION = 439+98.06
BEGIN MAX. SUPER = 441+48.06
END MAX. SUPER = 441+93.80
END SUPER TRANSITION = 443+43.80

PC435+62.08

PT436+75.24

PN:902
PD:1/2" BOLT 2" ABV SURFACE

SURVEY BASELINE
264^46'46.26"
443.48'

PN:8
PD:T-8 2"ALUM CAP 5/8"RBR

8019
N 93^11'29" E
56.67'

N 85^16'12" E
56.67'
8021

℄ CONSTRUCTION N 85^16'12" E
435.32'

200
13MM REBAR BY PLS 1213 4/13/04
LAND TIE
CN¼ T16N, R4E

PN:1105
PD:SET 8" NAIL TRIG ELEV

PI436+18.75

SURVEY BASELINE
270^53'42.02"
646.94'

8022
N 85^16'12" E
60.41'

PI441+70.97

N 90^05'59" E
60.41'
8024

PC441+10.56

PT442+31.30

PN:7
PD:T-7 2"ALUM CAP 5/8"RBR

PN:1104
PD:SET 8" NAIL TRIG ELEV

SURVEY BASELINE
265^42'43.98"
445.72'

PN:6
PD:T-6 2"ALUM CAP 5/8"RBR

201
13MM REBAR BY PLS #1432 5/15/08
LAND TIE
NE 1/16, T16N, R4E

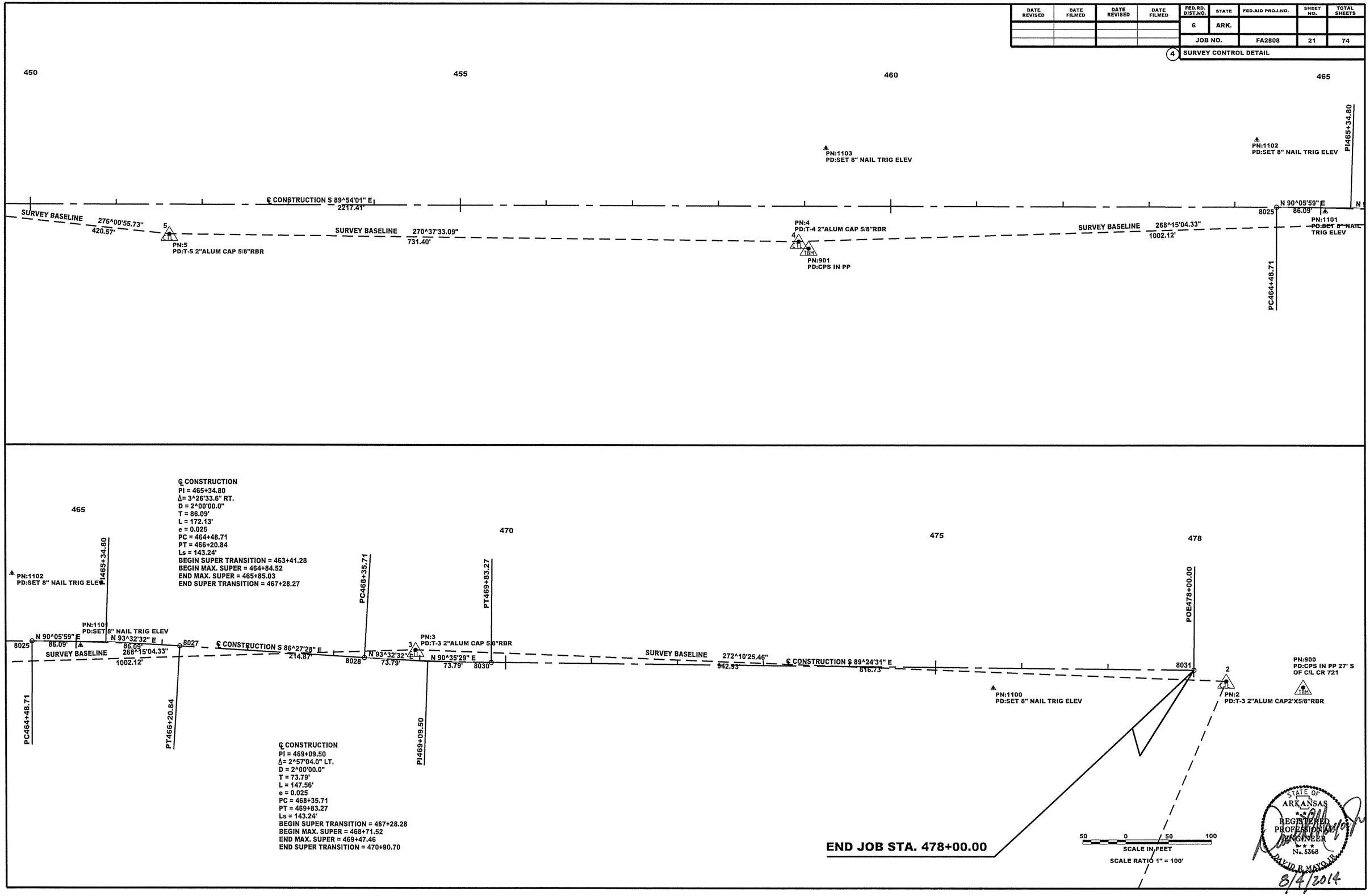
SURVEY BASELINE
276^00'55.73"
420.57'

50 0 50 100
SCALE IN FEET
SCALE RATIO 1" = 100'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
3/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	21	74

4 SURVEY CONTROL DETAIL



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	22	74
				4	PLAN AND PROFILE			

CLEARING AND GRUBBING
STA. 377+00 - STA. 478+00 = 101 STATIONS

℄ CONSTRUCTION
PI = 380+94.29
Δ = 25°24'42.9" LT.
D = 13°00'00.0"
T = 99.37'
L = 195.48'
e = 0.080
PC = 379+94.92
PT = 381+90.40
Ls = 180.00'
BEGIN SUPER TRANSITION = 378+59.92
BEGIN MAX. SUPER = 380+39.92
END MAX. SUPER = 381+45.40
END SUPER TRANSITION = 383+25.40

EARTHWORK

UNCLASSIFIED EXCAVATION (NORMAL)	12060	CU. YDS.
UNCLASSIFIED EXCAVATION (ADDITIONAL)	55	CU. YDS.
UNCLASSIFIED EXCAVATION (RDWY. OBLIT.)	43	CU. YDS.
COMPACTED EMBANKMENT (NORMAL)	62373	CU. YDS.
COMPACTED EMBANKMENT (ADDITIONAL)	1890	CU. YDS.

EARTHWORK TO BE PAID FOR AS A PLAN QUANTITY.

STA. 383+65
W1-2R

STA. 385+00 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = NA Q25 = NA
24" RCP(CL. III)(TYPE 3 BEDDING) = 40 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 46 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

STA. 382+49 INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

STA. 389+75
W1-2L

STA. 388+54 CONST.
APPROACH = 30 CU. YDS.
ON LT.

'41
NORMAN & LILLIAN
COFFMAN
2009

'35
THOMAS E &
JIMMY HOWARD
SPARKS
1999

'12
EARL &
LORENE BRANCH
1967

'48
TIM CAMP
2010

'53
JAMES D &
TAYLOR M INGLE
2008

'57
RONNIE K &
LINDA K FEARS
1978

'60
DAVID G &
CHERI T HUTCHISON
1998

'63
SHIRLE WILTSE
1996

POB377+00.00
PC379+94.92
PT381+90.40
PI380+94.29
PI387+03.99
PC385+92.69
PT388+00.98
LIMITS OF CONSTRUCTION
℄ CONSTRUCTION N 74°07'41" E 294.92'
℄ CONSTRUCTION N 48°42'58" E 402.29'
N 74°07'41" E 99.37'
N 48°42'58" E 99.37'
N 48°42'58" E 111.30'
N 38°42'27" E 111.30'
8000
8001
8003
8004
8006
T.C.E.
PC 60'35"
PT 35'
377
380
385
390

STA. 377+91 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 20 CU. YDS.

STA. 378+20
W1-2L

STA. 380+33 CONST.
APPROACH = 45 CU. YDS.
ON RT.

STA. 381+09 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

STA. 384+20
W1-2R

STA. 385+94 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 55 CU. YDS.

℄ CONSTRUCTION
PI = 387+03.99
Δ = 49°59'28.6" RT.
D = 24°00'00.0"
T = 111.30'
L = 208.30'
e = 0.1000
PC = 385+92.69
PT = 388+00.98
Ls = 220.00'
BEGIN SUPER TRANSITION = 384+27.69
BEGIN MAX. SUPER = 386+47.69
END MAX. SUPER = 387+45.98
END SUPER TRANSITION = 389+65.98

BEGIN JOB STA. 377+00.00

50 0 50 100
SCALE: 1"= 100'

TRAFFIC CONTROL DEVICES

G20-1
STA. 377+00 - RT.(1 SIGN) = 10 SQ. FT.
STA. 478+00 - LT.(1 SIGN) = 10 SQ. FT.

G20-2
STA. 377+00 - LT.(1 SIGN) = 8 SQ. FT.
STA. 478+00 - RT.(1 SIGN) = 8 SQ. FT.

W20-1
STA. 362+00 (1500) - RT.(1 SIGN) = 16 SQ. FT.
STA. 367+00 (1000) - RT.(1 SIGN) = 16 SQ. FT.
STA. 372+00 (500) - RT.(1 SIGN) = 16 SQ. FT.
STA. 436+20 (NORTH AHEAD) - LT.(1 SIGN) = 16 SQ. FT.
STA. 436+20 (SOUTH AHEAD) - RT.(1 SIGN) = 16 SQ. FT.

TRAFFIC DRUMS
ENTIRE JOB - 50 DRUMS

100' TRANSITION

WIRE FENCE REMOVED	3B
STA. 383+32 - STA. 383+48 LT. =	19'

LEGEND
- POWER POLE
- COMBINATION POLE
- POLE W/GUY
- TELEPHONE RISER
- TELEPHONE POLE
- U UNDERGROUND CABLE MKR.
- WATER METER
- WATER VALVE

LAND TIE

POB377+00.00
8000
℄ CONSTRUCTION N 74°07'41" E
377
S 59°48'08" W 525.39'
205
32 MM PIPE
CN ⌀ COR
16N 4E SEC 27

510 505 500 495 490

500.14 377+00.00
-0.31%
382+00.00 495.59
LT. DITCH GRADE -0.55%
385+00.00 493.94
LT. DITCH GRADE 3.52%
386+00.00 497.46
386+10.90 497.31
300' V.C.
498.07
1.72%
504.00 390+00.00
500.51
400' V.C.

INLET = 495.11 OUTLET = 493.93

377+00 378+00 379+00 380+00 381+00 382+00 383+00 384+00 385+00 386+00 387+00 388+00 389+00 390+00

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
8/5/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	23	74

4 PLAN AND PROFILE

STA. 394+21 IN PLACE
18" X 24' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

'39
THOMAS E &
ANGLA L SPARKS
1987

STA. 394+21 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 6 ACRES Q25 = 9 CFS
24" RCP(CL. III)(TYPE 3 BEDDING) = 98 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 104 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

'37
JIMMY HOWARD
SPARKS
1982

FENCE REMOVED AND RECONSTRUCTED
STA. 390+57 - STA. 392+80 RT. = 223 FT.
STA. 392+97 - STA. 395+03 RT. = 203 FT.
STA. 395+17 - STA. 396+49 RT. = 128 FT.

'35
THOMAS E &
JIMMY HOWARD
SPARKS
1999

LIMITS OF CONSTRUCTION

STA. 398+26 INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR.
- COMP. EMBK. = 15 CU. YDS.
- UNCL. EXCAV. = 15 CU. YDS.

STA. 400+10
W1-2R

℄ CONSTRUCTION
PI = 397+50.87
Δ = 3^18'39.3" LT.
D = 3^00'00.0"
T = 55.20'
L = 110.36'
e = 0.027
PC = 396+95.67
PT = 398+06.04
Ls = 150.00'
BEGIN SUPER TRANSITION = 395+83.17
BEGIN MAX. SUPER = 397+33.17
END MAX. SUPER = 397+68.54
END SUPER TRANSITION = 399+18.54

'63
SHIRLE WILTSE
1996

'66
NORMAN &
SHIRLEY RUSSELL
1996

'70
MARLLYN M KEITH
2007

'45
MICHAEL & JULIE
CLARK
2012

℄ CONSTRUCTION S 81^17'33" E 894.69'

℄ CONSTRUCTION S 84^36'12" E 964.24'

N 98^42'27" E 55.20'

N 95^23'48" E 55.20'

PC396+95.67

PT398+06.04

PI397+50.87

T.C.E.

STA. 392+94 INSTALL
18" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 110 CU. YDS.

STA. 395+10 INSTALL
18" X 60' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 170 CU. YDS.

STA. 394+95
W1-2L

OBLITERATION OF EXISTING ROADWAY
STA. 401+39 - STA. 403+80 UNCL. EXCAV. = 43 CU. YDS.

N

50 0 50 100
SCALE: 1"= 100'

WIRE FENCE REMOVED
STA. 401+83 - STA. 409+10 LT. = WEB 729'

390+00 504.00 500.51 400' V.C.

394+00 487.88 483.00 400' V.C.

398+00 497.50 501.00 300' V.C.

-5.25%

4.50%

-3.76%

INLET = 476.74 OUTLET = 472.57

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

500 495 490 485 480 475 470

390+00 391+00 392+00 393+00 394+00 395+00 396+00 397+00 398+00 399+00 400+00 401+00 402+00 403+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO, P.E.
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	24	74
				4	PLAN AND PROFILE			

WIRE FENCE (TYPE C)
STA. 401+83 - STA. 409+10 LT. = 508 FT.

WIRE FENCE (TYPE D)
STA. 411+05 - STA. 413+25 LT. = 220 FT.
STA. 413+51 - STA. 416+77 LT. = 330 FT.

℄ CONSTRUCTION
PI = 409+49.95
Δ= 10^44'54.5" LT.
D = 3^00'00.0"
T = 179.67'
L = 358.28'
e = 0.027
PC = 407+70.28
PT = 411+28.56
Ls = 150.00'
BEGIN SUPER TRANSITION = 406+57.78
BEGIN MAX. SUPER = 408+07.78
END MAX. SUPER = 410+91.06
END SUPER TRANSITION = 412+41.06

STA. 409+61 INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR.
- COMP. EMBK. = 20 CU. YDS.
- UNCL. EXCAV. = 10 CU. YDS.

STA. 412+30
W1-2R

℄ CONSTRUCTION
PI = 415+33.94
Δ= 5^23'04.1" RT.
D = 3^00'00.0"
T = 89.81'
L = 179.48'
e = 0.027
PC = 414+44.13
PT = 416+23.61
Ls = 150.00'
BEGIN SUPER TRANSITION = 413+31.63
BEGIN MAX. SUPER = 414+81.63
END MAX. SUPER = 415+86.11
END SUPER TRANSITION = 417+36.11

STA. 413+00 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 4 ACRES Q25 = 6 CFS
24" RCP(CL. III)(TYPE 3 BEDDING) = 42 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 48 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

405

STA. 404+00 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 4 ACRES Q25 = 5 CFS
24" RCP(CL. III)(TYPE 3 BEDDING) = 54 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 58 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

410

415

STA. 413+38 CONST.
APPROACH = 90 CU. YDS.
ON LT.

STA. 418+00
W1-2L

LIMITS OF CONSTRUCTION

'70
MARLLYN M KEITH
2007

'115
PHILLIP D &
CYNTHIA L NELSON

'119
DONALD E & LICY BOBBIT
1998

℄ CONSTRUCTION S 84^36'12" E
964.24'

℄ CONSTRUCTION N 84^38'53" E
315.57'

N 84^36'52" E
89.81'

N 90^01'57" E
8015

8013

8012

8010

N 95^23'48" E
179.67'

N 84^38'53" E
179.67'

PC407+70.28

PT411+28.56

PI415+33.94

PC414+44.13

PT416+23.61

T.C.E.

'45
MICHAEL & JULIE
CLARK
2012

'23
JERRY McMINN
2010

'28
LARRY R CANADY
2009

'19
EDWARD &
CARLA DENISE NEWBERRY
2009

STA. 404+02 IN PLACE
18" X 30' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 406+65
W1-2L

STA. 409+61 INSTALL
18" X 64' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 35 CU. YDS.

PI409+49.95

STA. 412+70
W1-2R

STA. 414+54 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 40 CU. YDS.

50 0 50 100
SCALE: 1"= 100'

WIRE FENCE REMOVED		4B	5B
STA. 411+05 - STA. 413+25	LT. =	'	229'
STA. 413+51 - STA. 416+77	LT. =	344'	'

495
490
485
480
475
470

403+00 404+00 405+00 406+00 407+00 408+00 409+00 410+00 411+00 412+00 413+00 414+00 415+00 416+00

404+32.27
479.63
477.23
300' V.C.
2.63%
LT. DITCH GRADE 4.28%
LT. DITCH GRADE 1.72%
404+00.00
475.31
405+00.00
477.03
479.59
INLET = 476.22
OUTLET = 472.18

409+55.45
483.97
491.00
300' V.C.

-2.78%
RT. DITCH GRADE 4.19%
413+00.00
477.60
412+00.00
481.79
OUTLET = 478.08

413+64.45
482.17
479.62
300' V.C.
4.01%
RT. DITCH GRADE 2.02%
414+00.00
479.52
INLET = 478.54

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R MAYO, P.E.
9/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	25	74

4 PLAN AND PROFILE

N

WIRE FENCE (TYPE C)
STA. 417+02 - STA. 419+87 LT. = 287 FT.
STA. 420+17 - STA. 422+20 LT. = 203 FT.

12'-0" VEHICULAR GATES
STA. 416+89 ON LT. = 2 EACH

STA. 416+89 INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.

STA. 420+03 CONST.
APPROACH = 65 CU. YDS.
ON LT.

STA. 420+50 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 3 ACRES Q25 = 4 CFS
24" RCP(CL. III)(TYPE 3 BEDDING) = 46 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 50 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

STA. 420+91 IN PLACE
18" X 32' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 423+42 INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 20 CU. YDS.

STA. 424+67 INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.

415 420 425 430

PI 415+33.94

LIMITS OF CONSTRUCTION

24' METAL GATE

PT 35

'19
EDWARD &
CARLA DENISE NEWBERRY
2009

N 90°01'57" E
80.81'

8015

PT 416+23.61

35'

'26
KEVI LYNN &
BRANDI LAINE SCARBOROUGH

'111
DANNY & TERRY MORRIES
2010

T.C.E.

STA. 420+09 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 20 CU. YDS.

℄ CONSTRUCTION S 89°58'03" E
1388.11'

'96
KENNETH A &
MARGOT HERREN
1979

STA. 424+19 INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 65 CU. YDS.

STA. 426+07 INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 100 CU. YDS.

'73
MARGOT LINDA WATSON HERRON
1995

PI 430+64.38

PC 35

8016
N 90°01'57" E
52.66'

PC 430+11.72

45'

'32
KEVIN L &
BRANDI L SCARBOROUGH
2012

50 0 50 100
SCALE: 1"= 100'

WIRE FENCE REMOVED		WEB
STA. 417+02 - STA. 419+87	LT. =	310'
STA. 420+17 - STA. 422+20	LT. =	224'

500 495 490 485 480 475

417+29.58
491.68
494.26
300' V.C.

-2.85%

420+00.00
484.54

RT. DITCH GRADE -1.96%

420+50.00
483.56

OUTLET = 481.94

420+75.53
487.20
484.40
300' V.C.

RT. DITCH GRADE 2.44%

421+00.00
484.78

INLET = 483.35

4.59%

425+24.02
501.12
505.00
300' V.C.

-5.73%

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

416+00 417+00 418+00 419+00 420+00 421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO, JR.
2/14/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	26	74

4 PLAN AND PROFILE

N

℄ CONSTRUCTION
PI = 430+64.38
Δ= 3^09'32.2" RT.
D = 3^00'00.0"
T = 52.66'
L = 105.30'
e = 0.027
PC = 430+11.72
PT = 431+17.02
Ls = 150.00'
BEGIN SUPER TRANSITION = 428+99.22
BEGIN MAX. SUPER = 430+49.22
END MAX. SUPER = 430+79.52
END SUPER TRANSITION = 432+29.52

℄ CONSTRUCTION
PI = 436+18.75
Δ= 7^55'17.4" LT.
D = 7^00'00.0"
T = 56.67'
L = 113.07'
e = 0.053
PC = 435+62.08
PT = 436+75.24
Ls = 150.00'
BEGIN SUPER TRANSITION = 434+49.58
BEGIN MAX. SUPER = 435+99.58
END MAX. SUPER = 436+37.74
END SUPER TRANSITION = 437+87.74

FENCE REMOVED AND RECONSTRUCTED
STA. 436+54 - STA. 437+03 RT. = 65 FT.

WIRE FENCE (TYPE C)
STA. 436+47 - STA. 448+89 LT. = 1244 FT.
STA. 449+05 - STA. 449+33 LT. = 29 FT.

WIRE FENCE (TYPE D-1)
STA. 436+50 - STA. 439+21 RT. = 273 FT.

℄ CONSTRUCTION
PI = 441+70.97
Δ= 4^49'46.8" RT.
D = 4^00'00.0"
T = 60.41'
L = 120.74'
e = 0.033
PC = 441+10.56
PT = 442+31.30
Ls = 150.00'
BEGIN SUPER TRANSITION = 439+98.06
BEGIN MAX. SUPER = 441+48.06
END MAX. SUPER = 441+93.80
END SUPER TRANSITION = 443+43.80

'73
MARGOT LINDA WATSON HERRON
1995

STA. 431+84 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 12 ACRES Q25 = 16 CFS
24" RCP(CL. III)(TYPE 3 BEDDING) = 62 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 68 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

STA. 436+20 INSTALL
18" X 60' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR.
- COMP. EMBK. = 40 CU. YDS.
- UNCL. EXCAV. = 15 CU. YDS.

STA. 436+30 CONST.
APPROACH = 10 CU. YDS.
ON LT.

16'-0" VEHICULAR GATES
STA. 436+30 ON LT. = 1 EACH

STA. 438+50 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = NA Q25 = NA
24" RCP(CL. III)(TYPE 3 BEDDING) = 42 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 48 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

STA. 440+04 INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

STA. 442+50
W1-2L

STA. 431+83 IN PLACE
24" X 30' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 434+95
W1-2L

STA. 437+95
W2-1
ON LT.

STA. 438+70
W1-2R

'128
GREGORY C &
ELIZABETH LEE
SPAUNHORST
2007

LIMITS OF CONSTRUCTION

16' METAL GATE

℄ CONSTRUCTION S 86^48'31" E
445.06'

℄ CONSTRUCTION N 85^16'12" E
435.32'

8016 N 90^01'57" E 52.66' — N 93^11'29" E 52.66' 8018

8019 N 93^11'29" E — N 85^16'12" E 56.67' 8021

8022 N 85^16'12" E 60.41' — N 90^06'59" E 60.41' 8024

POND

'30
GEORGE &
MARTHA YOUNG
2004

'15
MONTY WILLIAMS &
DONNA McGEHEE
2004

STA. 429+95
W1-2R

STA. 433+65
W1-2L

STA. 434+45
W2-1
ON RT.

STA. 436+20 INSTALL
18" X 64' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR.
- COMP. EMBK. = 30 CU. YDS.
- UNCL. EXCAV. = 15 CU. YDS.

STA. 437+40
W1-2R

SCALE: 1"= 100'

WIRE FENCE REMOVED		WEB	5B
STA. 436+47 - STA. 449+33	LT. =	1364'	'
STA. 436+50 - STA. 439+21	RT. =	'	290'

490 / 485 / 480 / 475 / 470 / 465

429+00 430+00 431+00 432+00 433+00 434+00 435+00 436+00 437+00 438+00 439+00 440+00 441+00 442+00

-5.73%
475.88 430+82.36
473.00
300' V.C.
1.94%
431+84.00 469.58
LT. DITCH GRADE -1.23%
431+00.00 470.61
INLET = 470.49 OUTLET = 466.34
LT. DITCH GRADE 1.80%
434+00.00 473.46
480.69 435+60.90
482.31
300' V.C.
-1.84%
RT. DITCH GRADE -3.24%
438+00.00 475.64
438+50.00 474.02
476.33 438+86.10
476.33
300' V.C.
RT. DITCH GRADE 4.30%
439+00.00 476.17
4.39%
OUTLET = 474.17 INLET = 474.64

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO JR.
3/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	27	74

4 PLAN AND PROFILE

N

WIRE FENCE (TYPE D)
STA. 449+33 - STA. 455+05 LT. = 573 FT.

STA. 448+30 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 8 ACRES Q25 = 11 CFS
24" RCP(CL. III)(TYPE 3 BEDDING) = 68 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 72 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

STA. 448+97 INSTALL
18" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 105 CU. YDS.

STA. 454+50 CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 9 ACRES Q25 = 12 CFS
24" RCP(CL. III)(TYPE 3 BEDDING) = 70 LIN. FT.
24" CMP OR PLASTIC(TYPE 2 BEDDING) = 76 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

445 450 455

'128
GREGORY C & ELIZABETH LEE SPAUNHORST
2007

LIMITS OF CONSTRUCTION

STA. 448+31 IN PLACE
12" X 30' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

16' METAL GATE

16'-0" VEHICULAR GATES
STA. 448+97 ON LT. = 1 EACH

STA. 454+57 IN PLACE
12" X 27' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

'2
JOEL FRANKLIN COX & WIFE
1954

PI 441+70.97
PT 35'
S 42° E
41'
N 90°05'59" E
60.41'
8024
PT 442+31.30 35'

'15
MONTY WILLIAMS & DONNA McGEHEE
2004

T.C.E.

℄ CONSTRUCTION S 89°54'01" E
2217.41'

STA. 448+97 INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 100 CU. YDS.

DAVID & HOPE PHILLIPS
1990

50 0 50 100
SCALE: 1"= 100'

WIRE FENCE REMOVED	4B
STA. 449+33 - STA. 455+05 LT. =	573'

443+79.18
494.88
498.00
300' V.C.

4.39%
-3.90%
448+15.29
483.86
481.00
300' V.C.
3.70%
451+93.48
492.03
495.00
300' V.C.
-4.25%
454+99.49
484.95
482.00
300' V.C.

OUTLET = 474.46 INLET = 477.17
OUTLET = 475.16 INLET = 478.44

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

500 495 490 485 480 475

442+00 443+00 444+00 445+00 446+00 447+00 448+00 449+00 450+00 451+00 452+00 453+00 454+00 455+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYOUR
8/4/2014

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				6	ARK.			
				JOB NO.		FA2808	28	74
				4	PLAN AND PROFILE			

N

STA. 455+13 CONST.
APPROACH = 120 CU. YDS.
ON LT.

16'-0" VEHICULAR GATES
STA. 455+13 ON LT. = 1 EACH
STA. 462+73 ON LT. = 1 EACH

WIRE FENCE (TYPE D)
STA. 455+21 - STA. 462+15 LT. = 744 FT.
STA. 462+31 - STA. 466+64 LT. = 388 FT.

STA. 464+52 CONSTRUCT
36" PIPE CULVERT
CROSS DRAIN
D.A. = 38 ACRES Q25 = 43 CFS
36" RCP(CL. III)(TYPE 3 BEDDING) = 64 LIN. FT.
36" CMP OR PLASTIC(TYPE 2 BEDDING) = 70 LIN. FT.
36" FES ON LT. AND RT. = 2 EACH

℄ CONSTRUCTION
PI = 465+34.80
Δ= 3^26'33.6" RT.
D = 2^00'00.0"
T = 86.09'
L = 172.13'
e = 0.025
PC = 464+48.71
PT = 466+20.84
Ls = 143.24'
BEGIN SUPER TRANSITION = 463+41.28
BEGIN MAX. SUPER = 464+84.52
END MAX. SUPER = 465+85.03
END SUPER TRANSITION = 467+28.27

455 460 465

STA. 462+73 INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 45 CU. YDS.

STA. 464+49 IN PLACE
24" X 30' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 468+00
W1-2L

STA. 466+78 INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 85 CU. YDS.

'2
JOEL FRANKLIN COX &
WIFE
1954

T.C.E. 16' METAL GATE LIMITS OF CONSTRUCTION 16' METAL GATE T.C.E. T.C.E. T.C.E.

PC 48 PI465+34.80 PC468+35.71 PT469+83.27

N 90^05'59" E 86.09' N 93^32'32" E 86.09' ℄ CONSTRUCTION S 86^27'28" E 214.87' N 93^32'32" E 73.79' N 90^35'29" E 73.79'

8025 8027 8028 8030

PC464+48.71 PT466+20.84 PI469+09.50 PT

50' 35'

STA. 455+36 INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 70 CU. YDS.
CONST. PCC DRIVE
= 99 SQ. YD.

DAVID & HOPE PHILLIPS
1990

STA. 458+67 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

STA. 462+70
W1-2R

'134
DAVID & HOPE PHILLIPS
1990

50 0 50 100
SCALE: 1"= 100'

WIRE FENCE REMOVED		4B
STA. 455+21 - STA. 462+15	LT. =	744'
STA. 462+31 - STA. 466+64	LT. =	376'

494.51 459+14.86 497.00
300' V.C.
3.64%
3.03%
481.32 465+09.35 479.00
300' V.C.
3.15%

OUTLET = 473.03 INLET = 474.28

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

500 495 490 485 480 475 470

455+00 456+00 457+00 458+00 459+00 460+00 461+00 462+00 463+00 464+00 465+00 466+00 467+00 468+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
DAVID R. MAYO
8/4/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA2808	29	74

4 PLAN AND PROFILE

N

℄ CONSTRUCTION
PI = 469+09.50
Δ= 2^57'04.0" LT.
D = 2^00'00.0"
T = 73.79'
L = 147.56'
e = 0.025
PC = 468+35.71
PT = 469+83.27
Ls = 143.24'
BEGIN SUPER TRANSITION = 467+28.28
BEGIN MAX. SUPER = 468+71.52
END MAX. SUPER = 469+47.46
END SUPER TRANSITION = 470+90.70

STA. 472+15 CONSTRUCT
36" PIPE CULVERT
CROSS DRAIN
D.A. = 38 ACRES Q25 = 40 CFS
36" RCP(CL. III)(TYPE 3 BEDDING) = 52 LIN. FT.
36" CMP OR PLASTIC(TYPE 2 BEDDING) = 58 LIN. FT.
36" FES ON LT. AND RT. = 2 EACH

6' CHAIN LINK FENCE
STA. 469+06 - STA. 470+94 RT. = 188 FT.
STA. 471+18 - STA. 471+96 RT. = 78 FT.

WIRE FENCE (TYPE D)
STA. 470+23 - STA. 470+36 LT. = 13 FT.
STA. 470+52 - STA. 476+74 LT. = 622 FT.

STA. 471+60
W1-2R

STA. 470+44 INSTALL
18" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 100 CU. YDS.

16'-0" VEHICULAR GATES
STA. 470+44 ON LT. = 1 EACH

STA. 472+16 IN PLACE
30" X 30' C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

'2
JOEL FRANKLIN COX &
WIFE
1954

16' METAL GATE

LIMITS OF CONSTRUCTION

'9
JACK S &
SHELBY JEAN BERRY
1991

'134
DAVID & HOPE PHILLIPS
1990

'6
JOEL F COX &
WIFE
1949

STA. 477+75
R1-1
ON RT.

'6
JOEL F COX &
WIFE
1949

24' METAL GATE

STA. 466+60
W1-2L

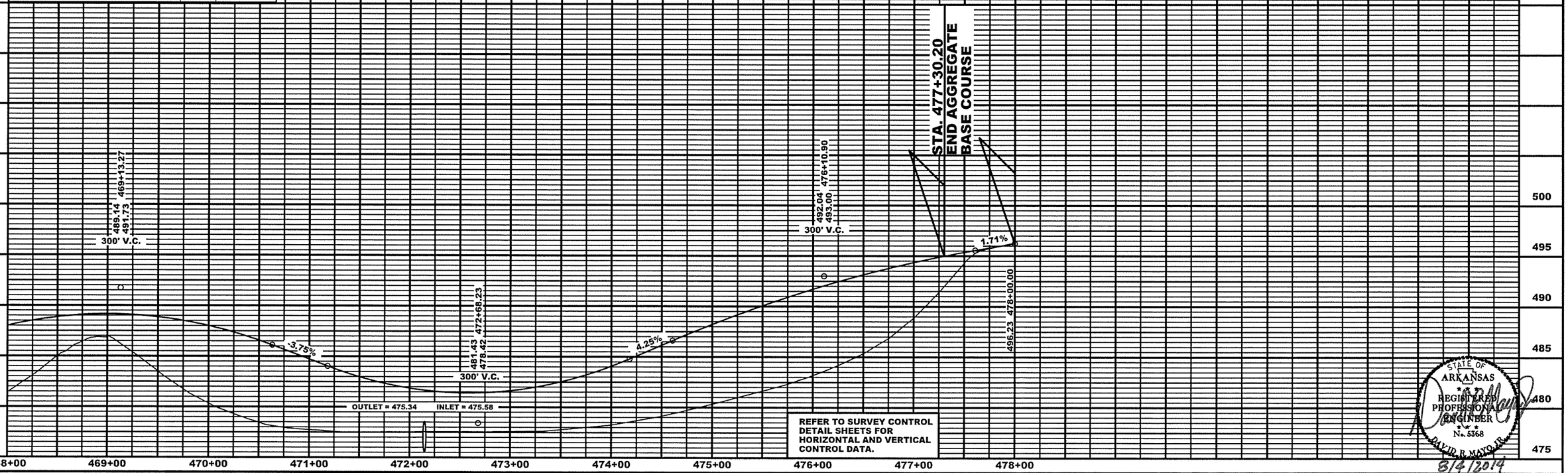
STA. 468+94 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

STA. 471+06 INSTALL
18" X 54' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 80 CU. YDS.

END JOB STA. 478+00.00

SCALE: 1"= 100'

WIRE FENCE REMOVED		4B	6' CHAIN LINK
STA. 469+06 - STA. 470+94	RT. =	'	188'
STA. 470+23 - STA. 470+36	RT. =	13'	'
STA. 470+52 - STA. 476+74	LT. =	622'	'
STA. 471+18 - STA. 471+96	LT. =	'	78'



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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5368
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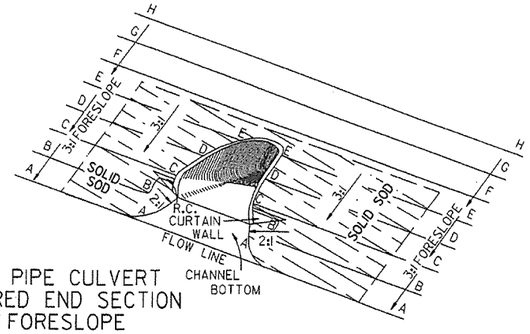
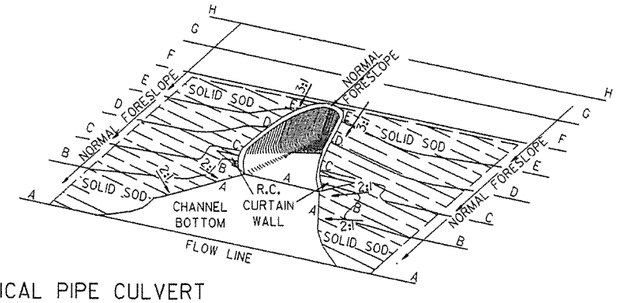
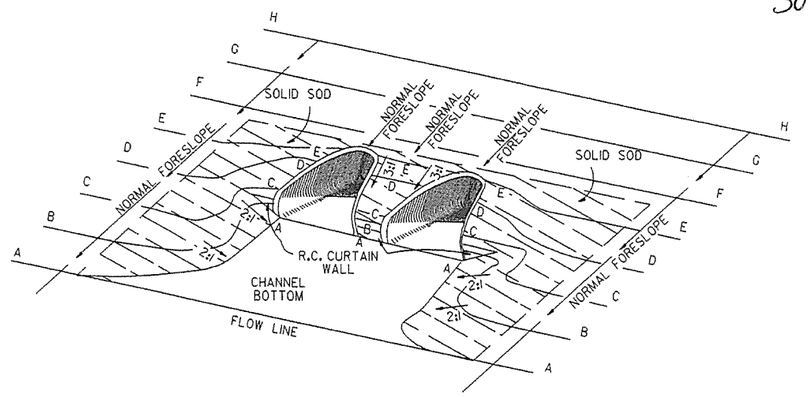


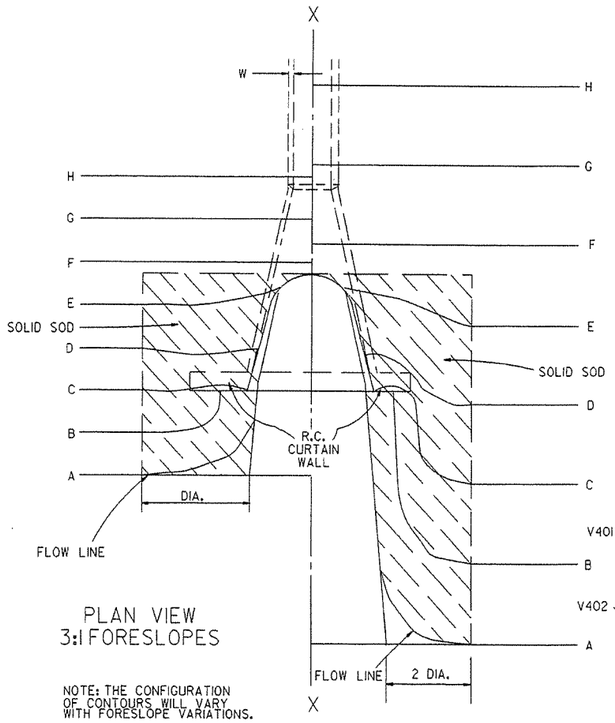
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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



PLAN VIEW
3:1 FORESLOPES

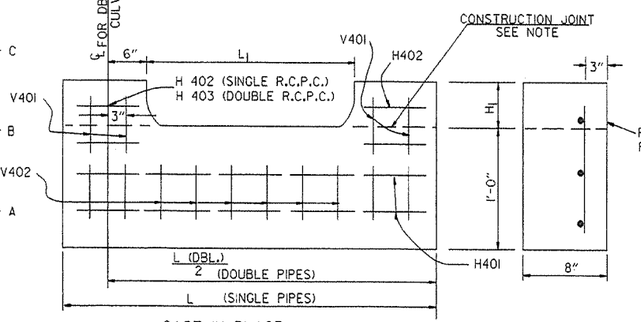
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

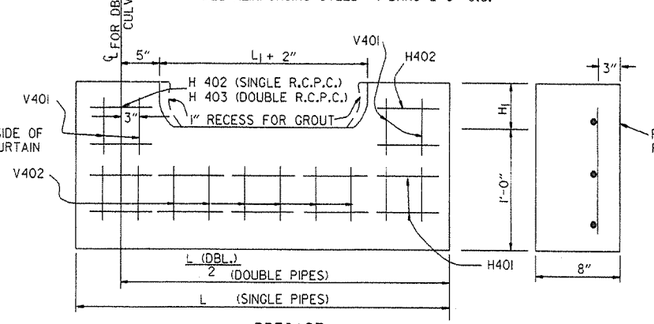
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC. CU. YDS.	SINGLE R.C.P.C. REINF. STEEL LBS.	DOUBLE R.C.P.C. CONC. CU. YDS.	DOUBLE R.C.P.C. REINF. STEEL LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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



CAST-IN-PLACE

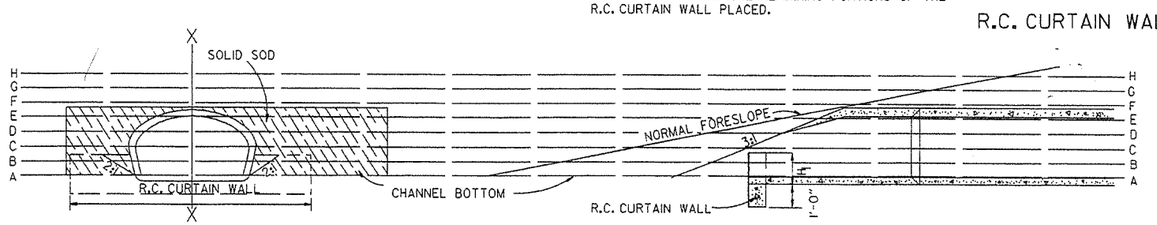
NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



PRECAST

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

R.C. CURTAIN WALL DETAILS



END VIEW

SECTIONAL VIEW "X-X"

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	V401 L	NO.	V402 L	NO.	DOUBLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	H403 L	NO.	V401 L	NO.	V402 L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

SOLID SODDING

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

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

GENERAL NOTES

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

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

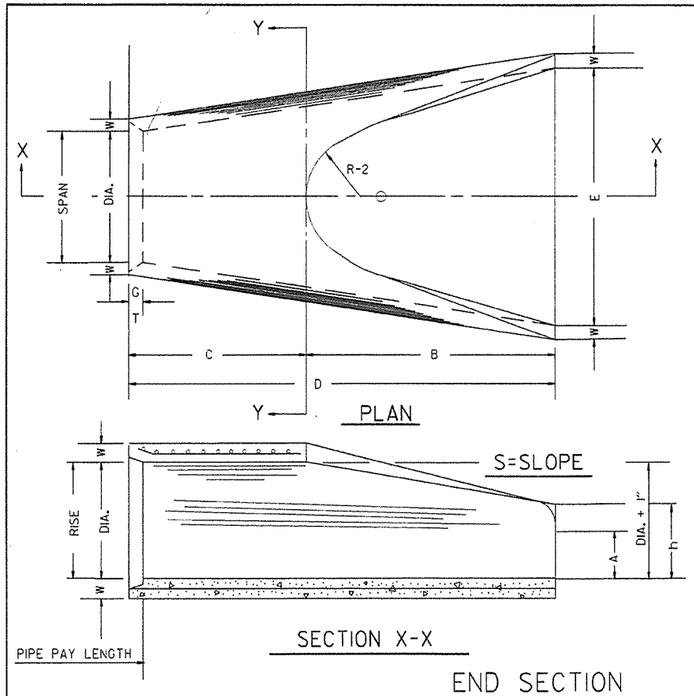
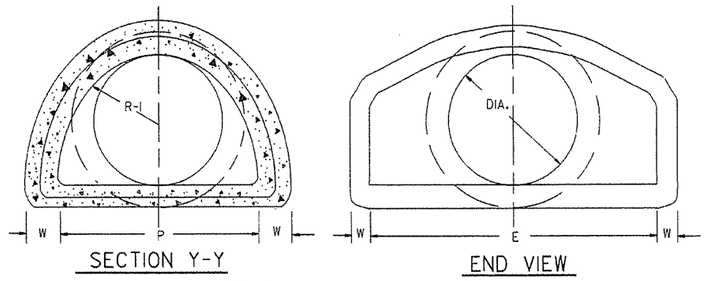


TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. ± 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 13/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 7/8"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅜"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 5/16"	24"	5"	13250	4'-6"



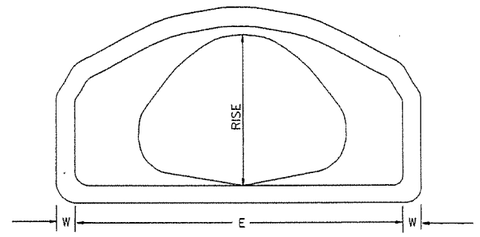
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

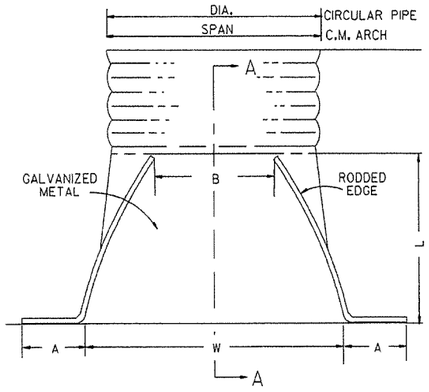
ARCH PIPE

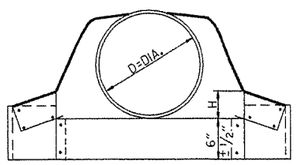
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 11/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 13/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2¼:1

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

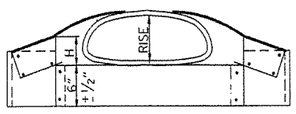


END VIEW
CONCRETE ARCH PIPE





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

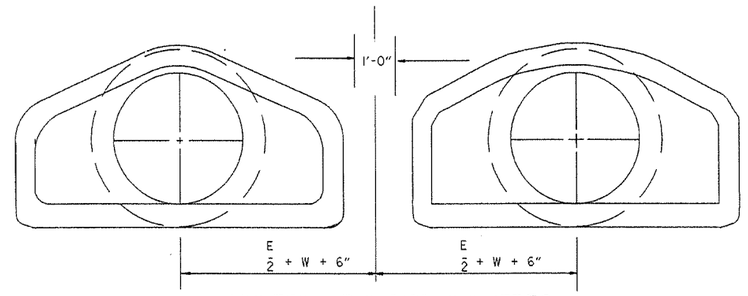
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12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

C.M. ARCH PIPE

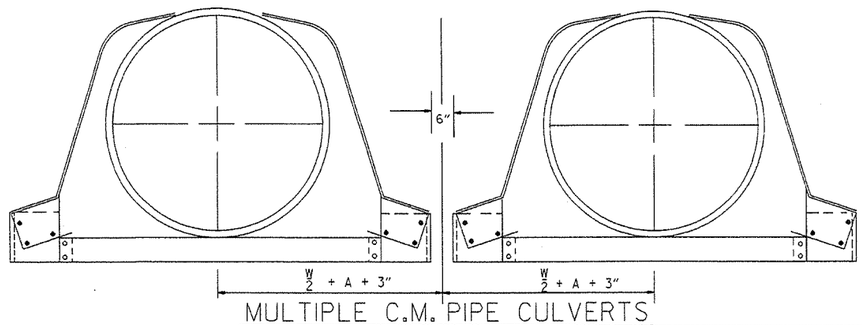
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

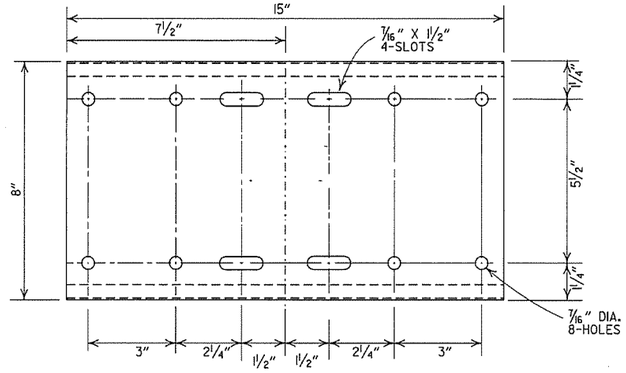


MULTIPLE R.C. PIPE CULVERTS

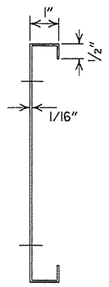


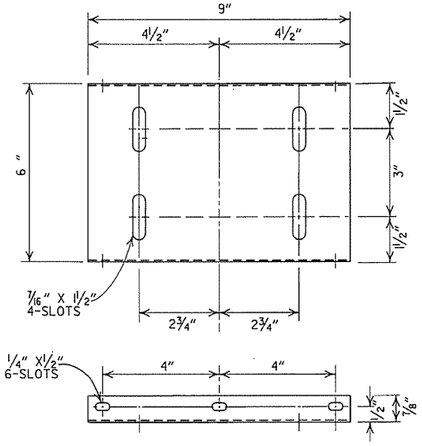
MULTIPLE C.M. PIPE CULVERTS

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

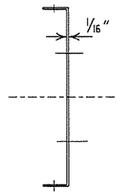


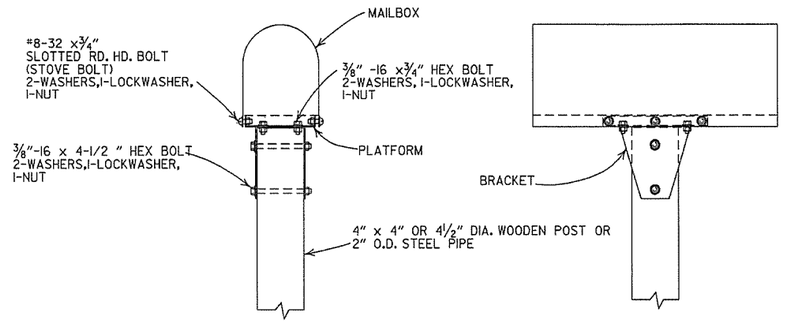
SHELF



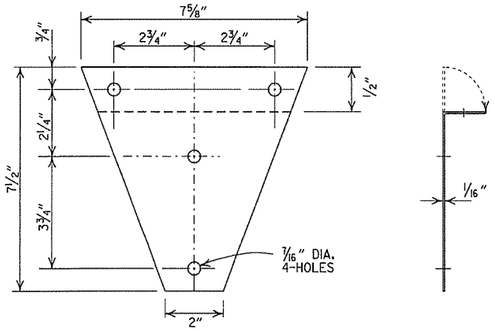


PLATFORM





SINGLE INSTALLATION

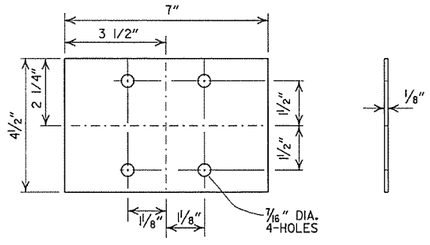


BRACKET

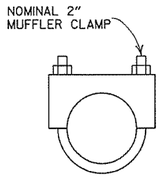
GENERAL NOTES

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

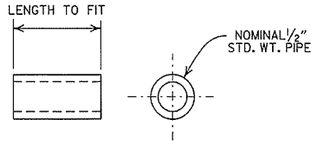
DOUBLE INSTALLATION



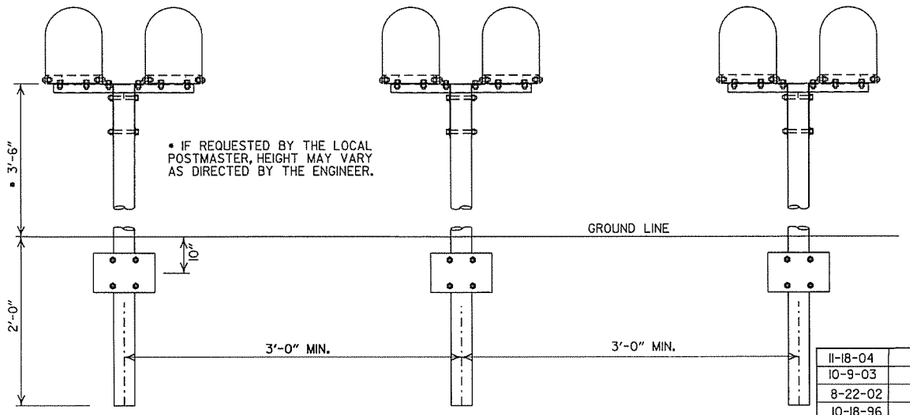
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	20-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

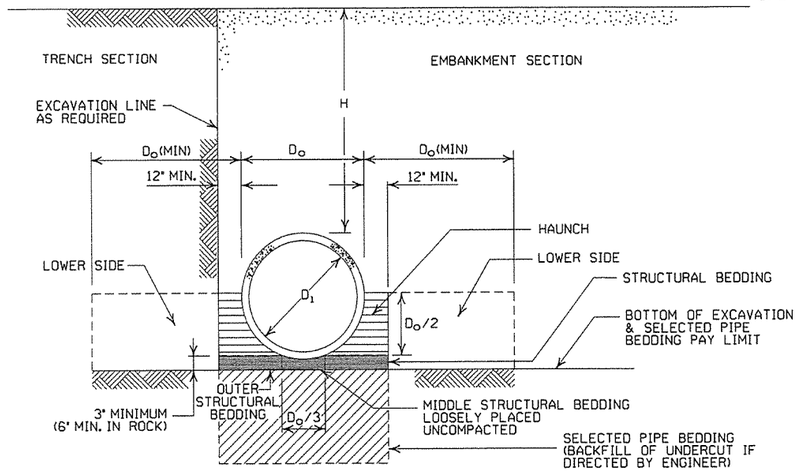
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170. R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CORRUGATED METAL PIPE ARCHES

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

CONSTRUCTION SEQUENCE

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

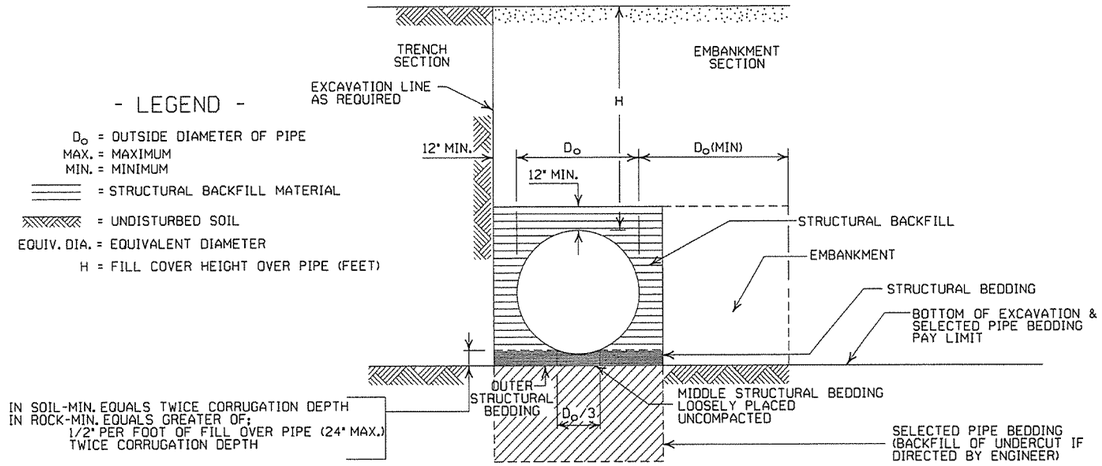
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

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

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

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

SM3 WILL NOT BE ALLOWED.

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

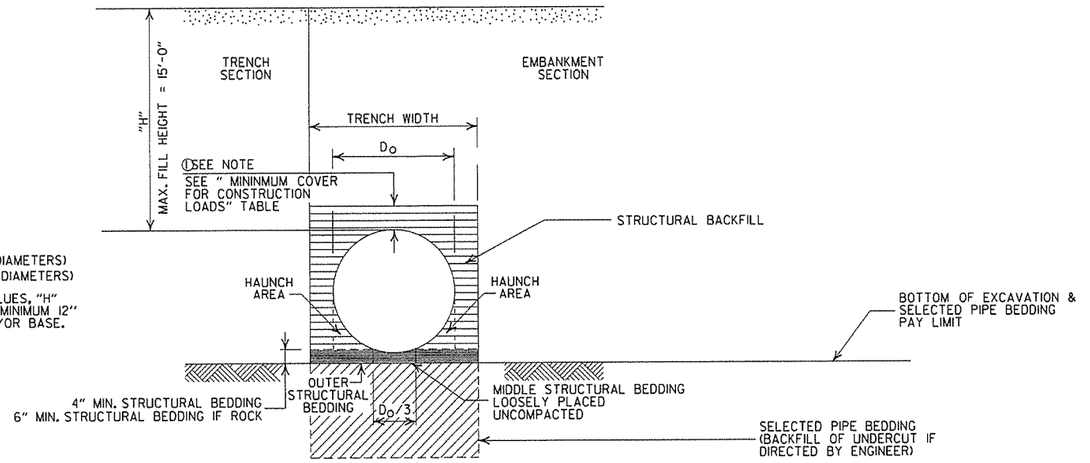
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

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.

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

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

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

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

SM3 WILL NOT BE ALLOWED.

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

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

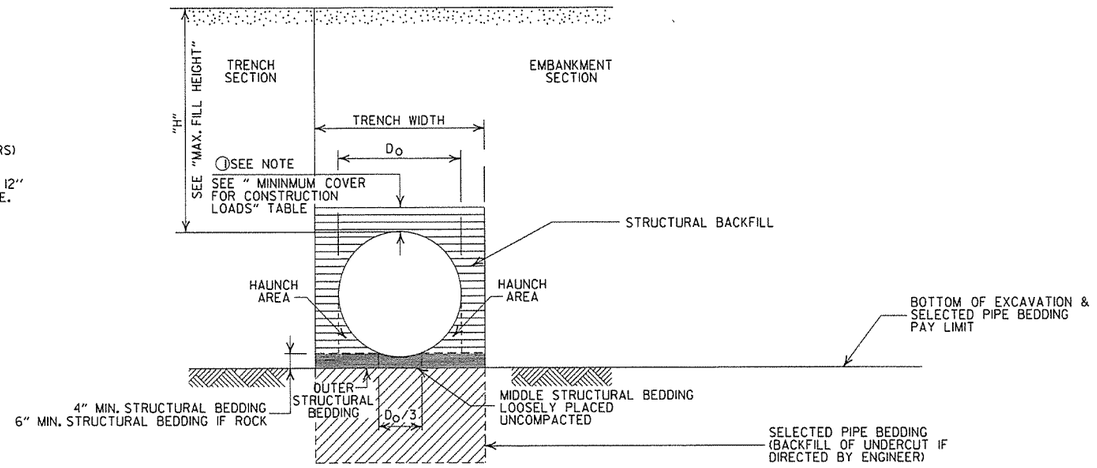
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

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

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT
(PVC F949)

STANDARD DRAWING PCP-2

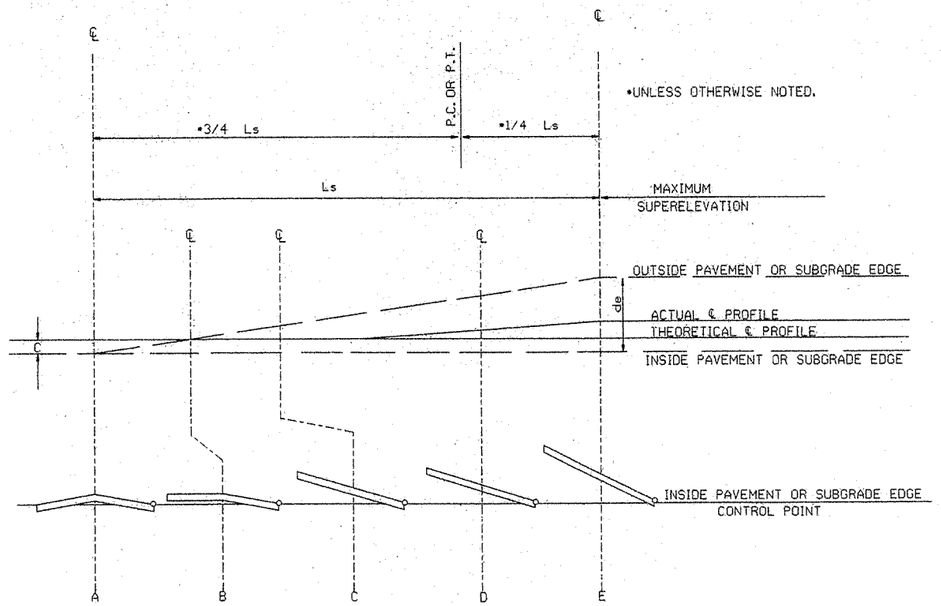
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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

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

ABBREVIATIONS

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



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

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

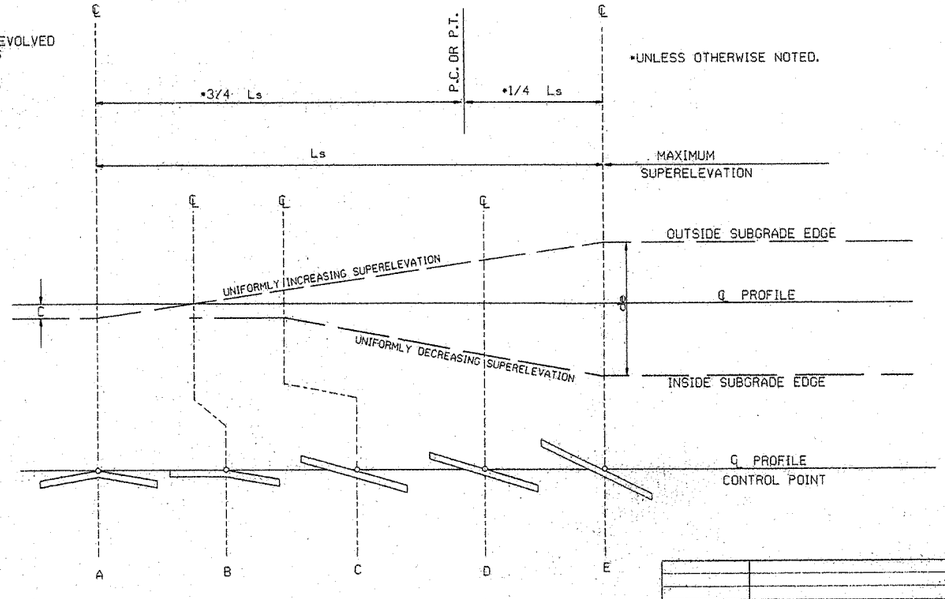
GENERAL NOTES

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

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

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

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

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

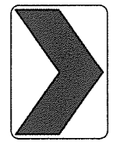
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

R1-1
30"X30"

W1-3
30"X30"
(LT. OR RT.)

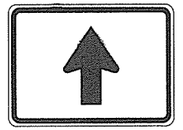


W1-8
18"X24"

W2-5
30"X30"

W3-1
36"X36"

W5-1
36"X36"



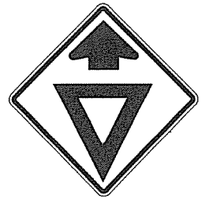
M6-3
21"X15"

R1-2
36"X36"X36"

W1-4
30"X30"
(LT. or RT.)

W2-1
30"X30"

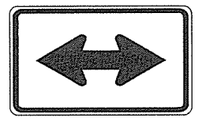
S1-1
36"X36"



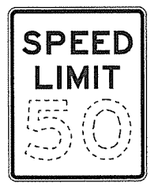
W3-2
36"X36"

County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.



M6-4
21"X15"



R2-1
24"X30"

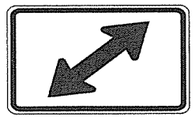
W1-5
30"X30"
(LT. or RT.)

W2-2
30"X30"

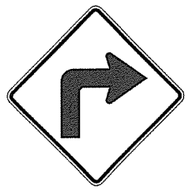
W5-2
36"X36"

W8-3
36"X36"

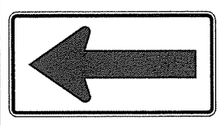
R1-3P
18"X6"



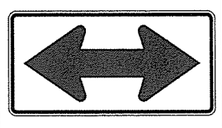
M6-5
21"X15"



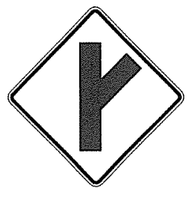
W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"

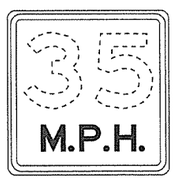


W1-7
48"X24"

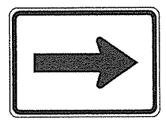


W2-3
30"X30"
(LT. or RT.)

W5-3
36"X36"

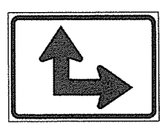


W13-1P
18"X18"

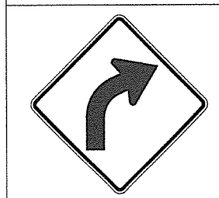


M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.



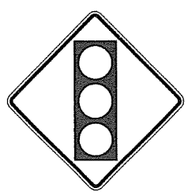
M6-6
21"X15"



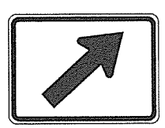
W1-2
30"X30"
(LT. or RT.)

W2-4
30"X30"

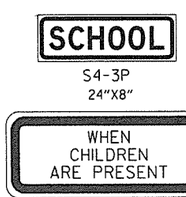
W10-1
36" DIAMETER



W3-3
36"X36"

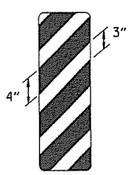


M6-2
21"X15"



S4-3P
24"X8"

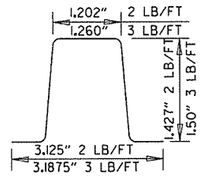
S4-2P
24"X10"



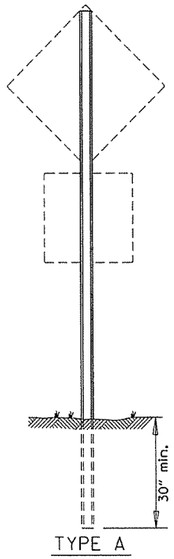
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

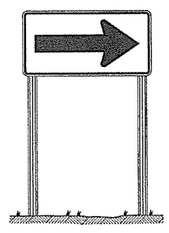


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES

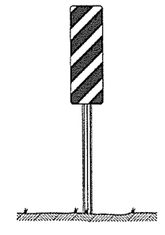


TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B



TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

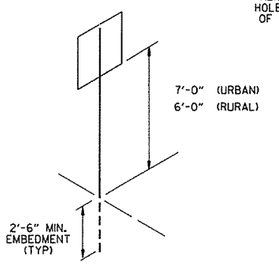
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1& W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED WI-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED W14-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. WT. TYPE "C" ASSEMBLY	500-8-2-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

SUPPORT ASSEMBLIES

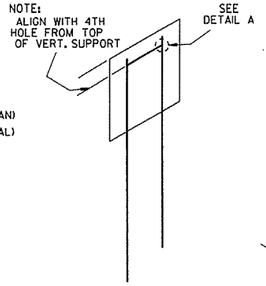
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

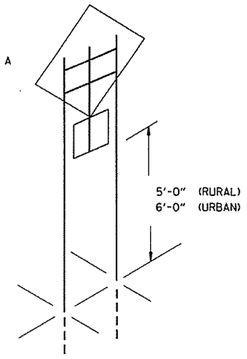
STANDARD DRAWING SHS-1



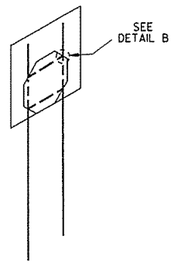
U-1



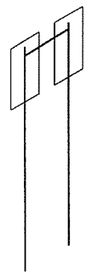
U-2



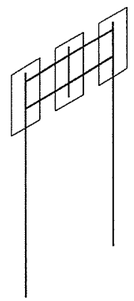
U-2 (A)



U-2 (B)



U-2 (1)



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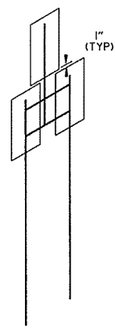
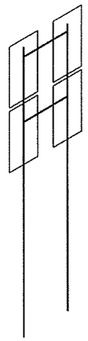


U-2 (3)



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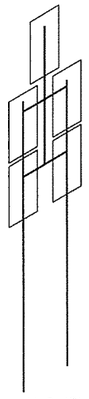

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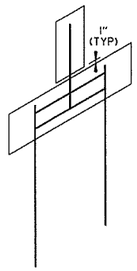

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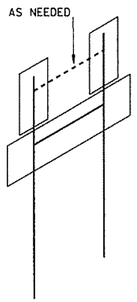
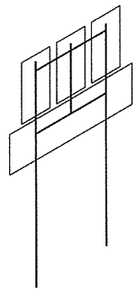
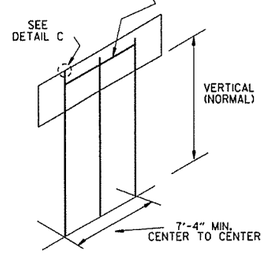


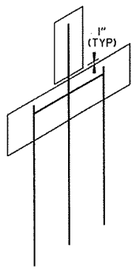
U-2 (7)



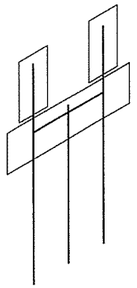
U-2 (8)



U-3



U-3 (1)



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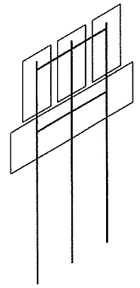
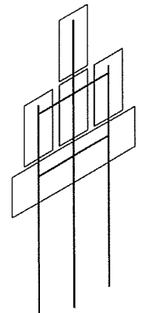
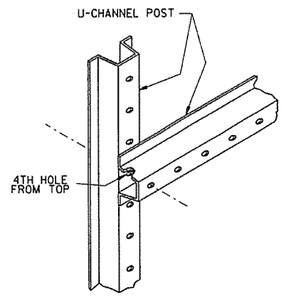


U-3 (3)

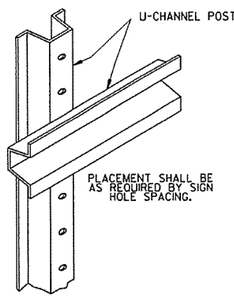


U-3 (4)



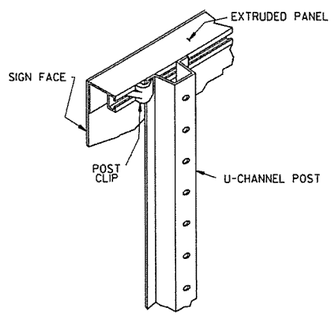
DETAIL A

SHOWING HORIZONTAL BRACE



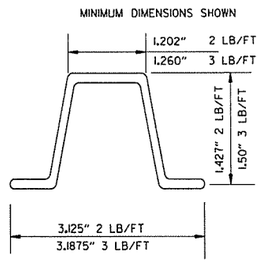
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



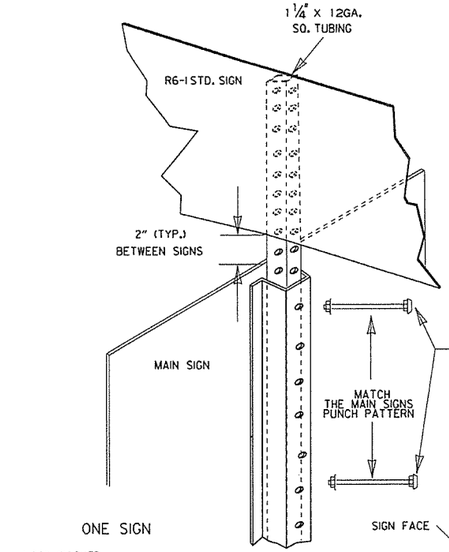
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



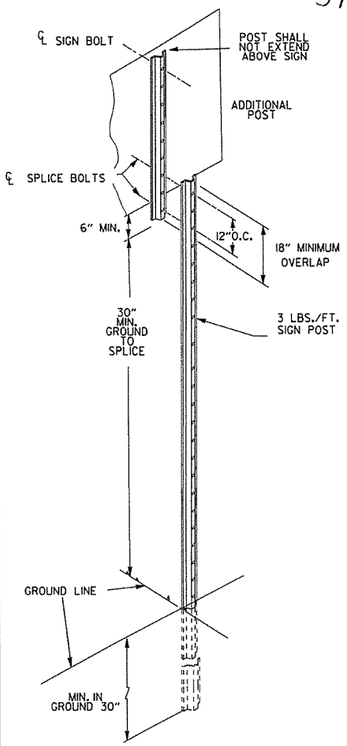
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

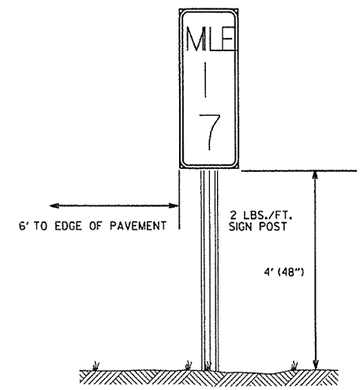
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

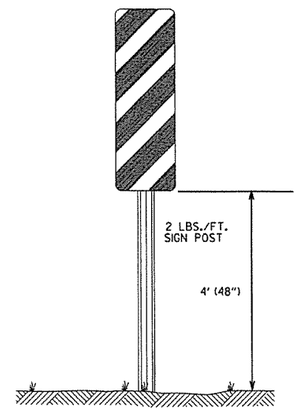
NORMAL INSTALLATIONS WILL REQUIRE $\frac{5}{16}$" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

DATE	REVISION	FILMED
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

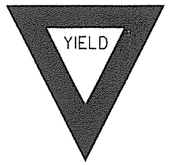
U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2

R1-1

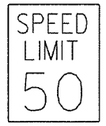
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



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

R2-1



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

R2-5A

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

R2-5C

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

R4-1

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

R4-2

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

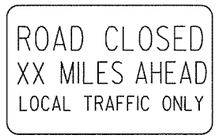
R5-1

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

R11-2

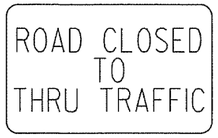
48"X30"

R11-3A



60"X30"

R11-4

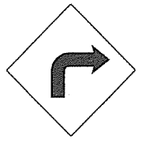


60"X30"

RSP-1

48"X30"

W1-1



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

W1-2

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

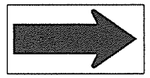
W1-3

STD. 48"X48"

W1-4

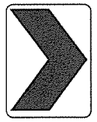
STD. 48"X48"

W1-6



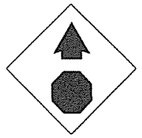
STD. 48"X24"
SPECIAL 60"X30"

W1-8



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

W3-1

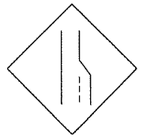


STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

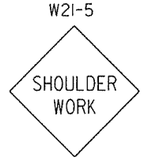
W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

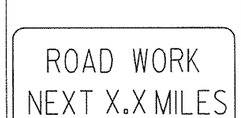
W8-11

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

W8-9

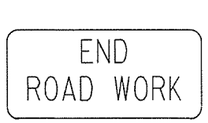
STD. 36"X36"
FWY. 48"X48"

G20-1



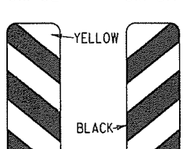
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

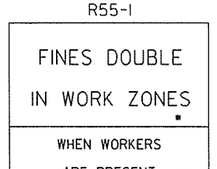
M4-9

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

M4-10

48"X18"

R55-1



36"X60"

* USE 6" C LETTERS

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

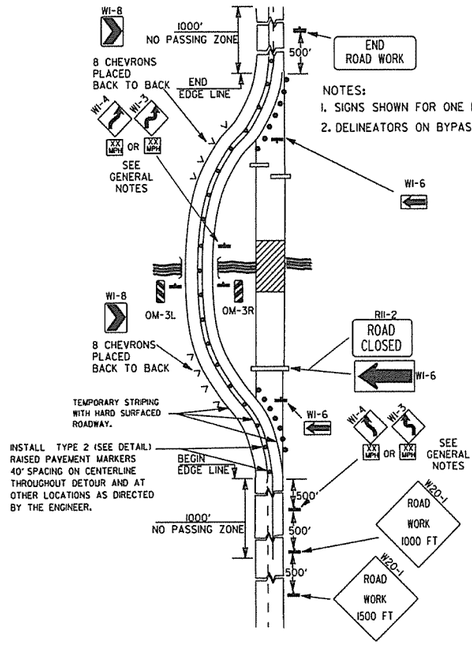
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

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

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

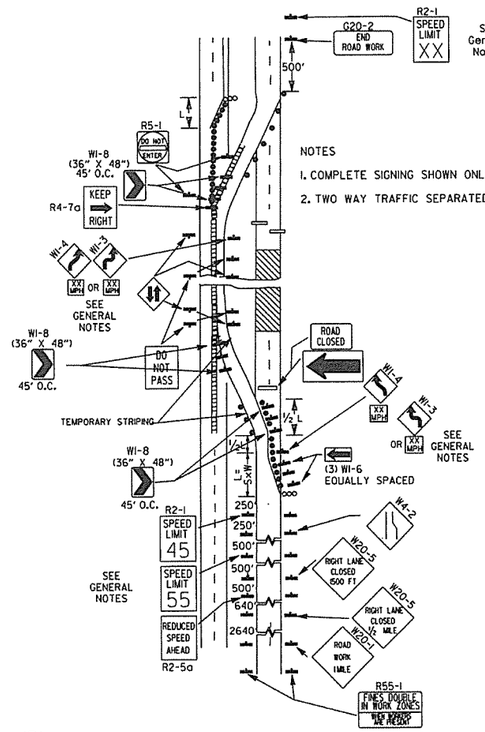
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION



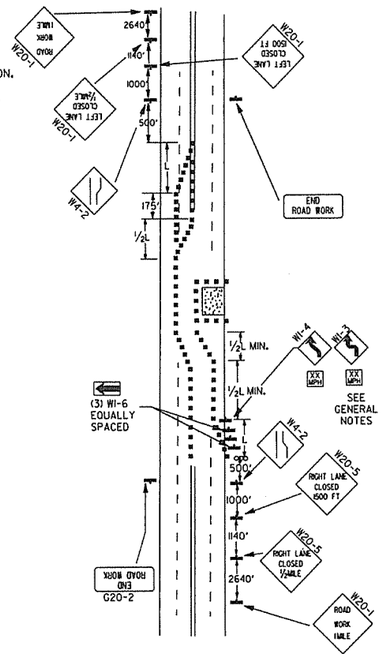
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

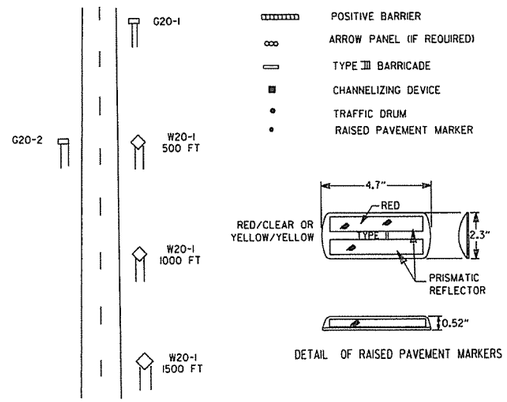


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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



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



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

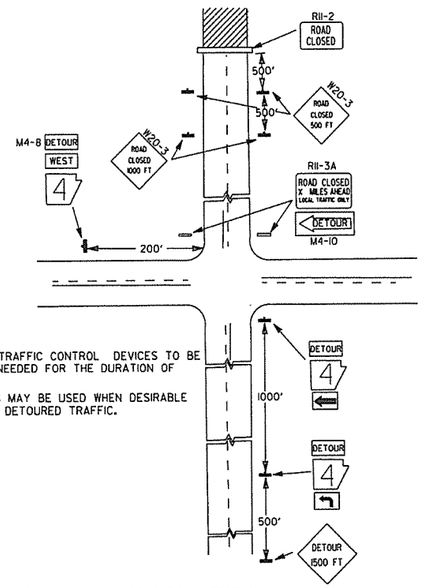
$L = SXW$ FOR SPEEDS OF 45MPH OR MORE.

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

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

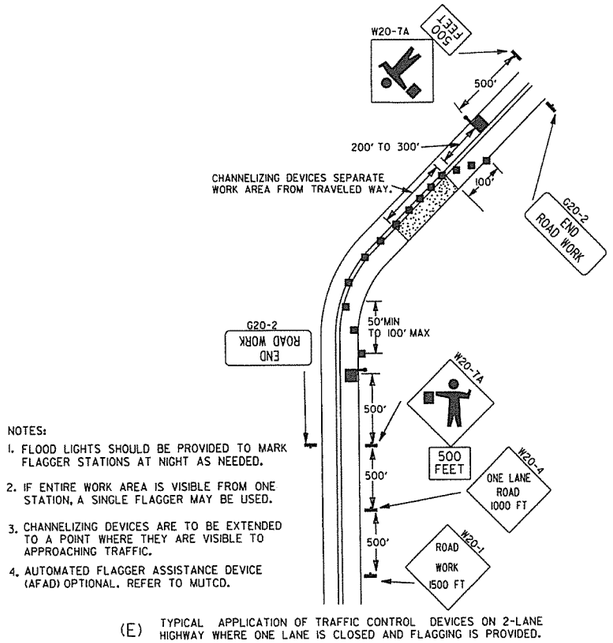
GENERAL NOTES:

1. ADVISORY SPEED POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS, AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.



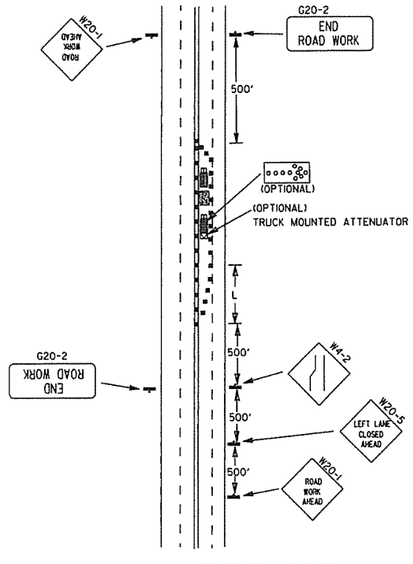
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



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

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



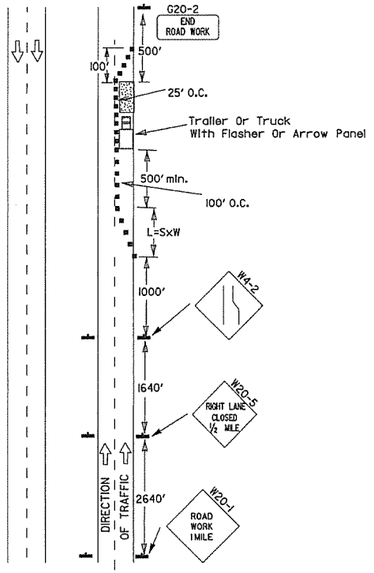
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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

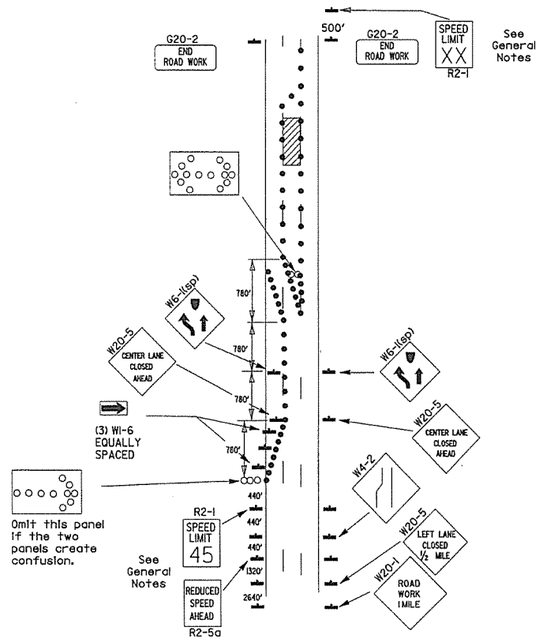
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

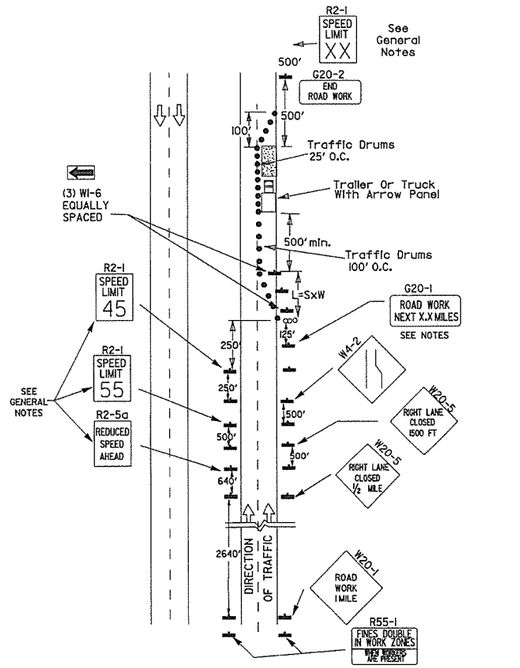
STANDARD DRAWING TC-2



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



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



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

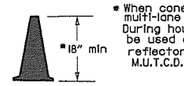
KEY:

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

GENERAL NOTES:

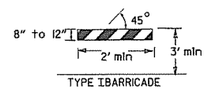
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

Channelizing devices

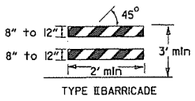


* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

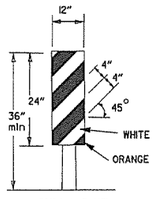
CONES



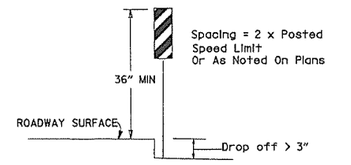
PLASTIC DRUM



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



VERTICAL PANEL PLACEMENT



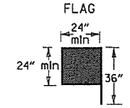
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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

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

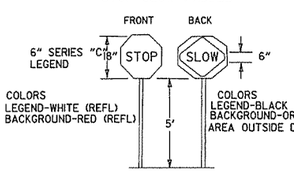
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

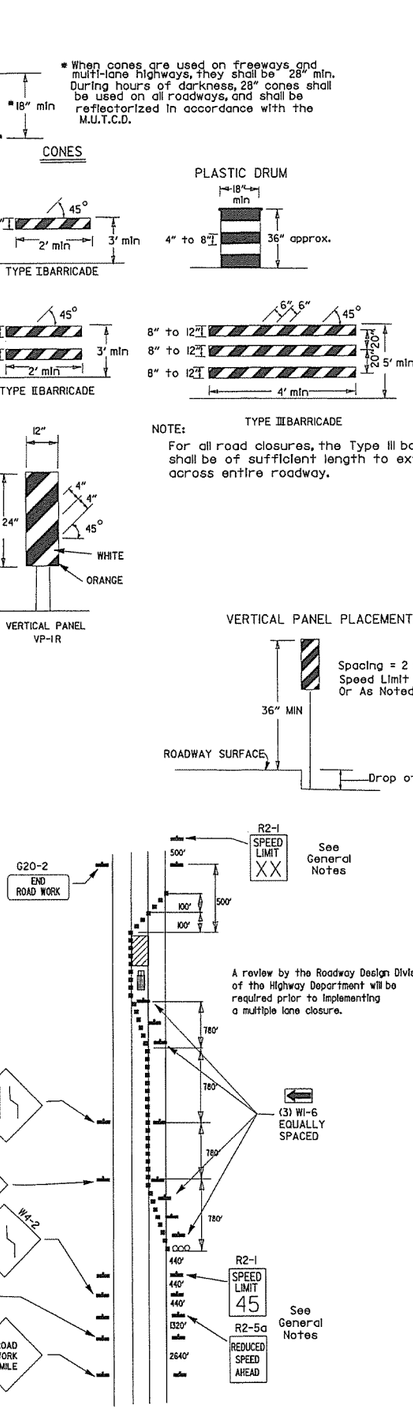
FLAG



Flag shall be of good grade red material

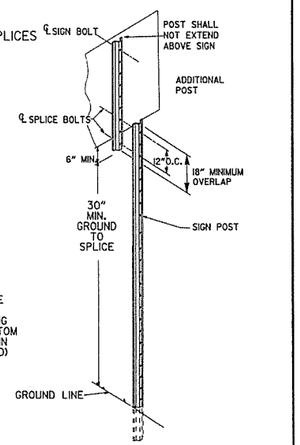
STOP SLOW PADDLE





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

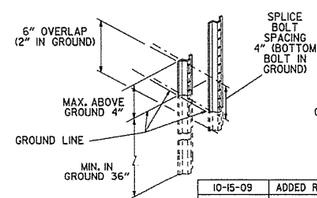
DETAIL OF SPLICES



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

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

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



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

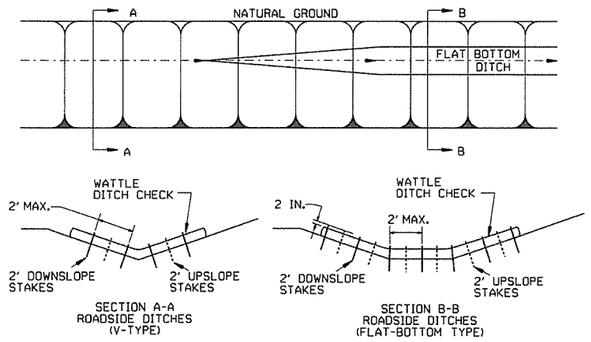
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

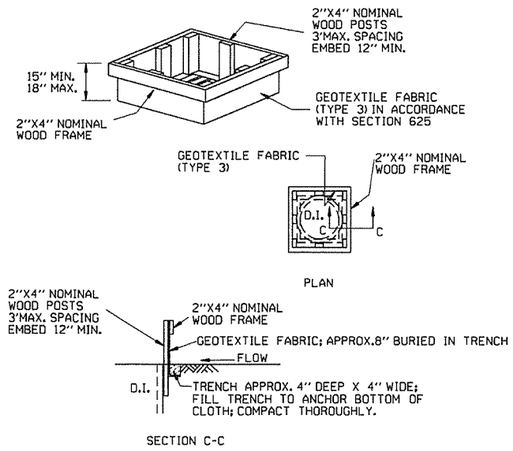
STANDARD DRAWING TC-3

GENERAL NOTES

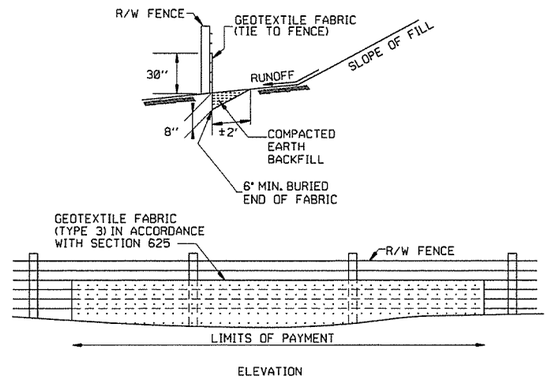
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

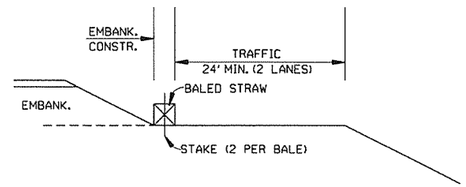
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

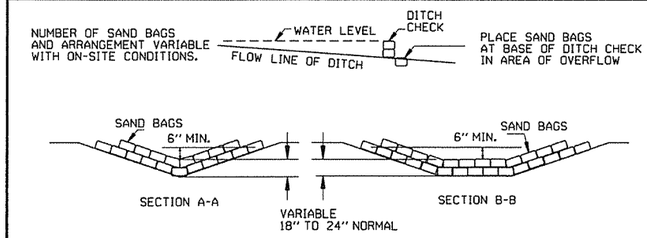
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

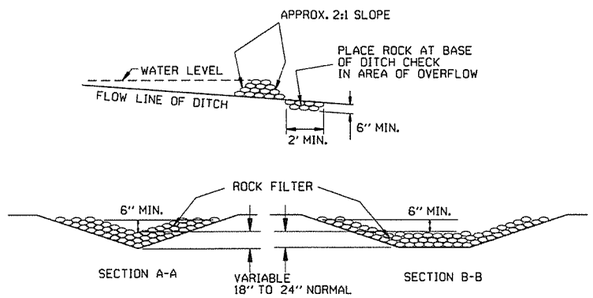
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



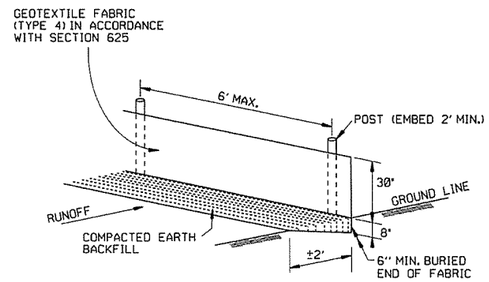
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

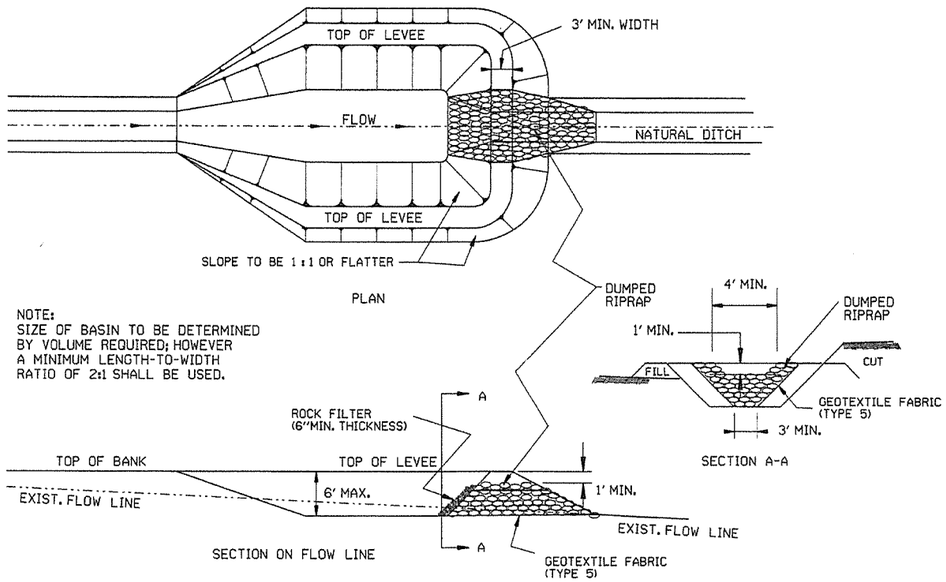
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

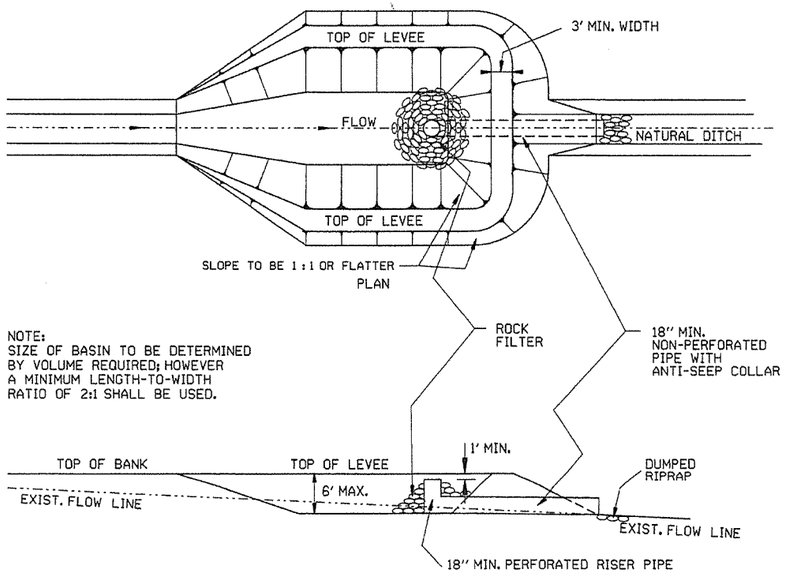
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

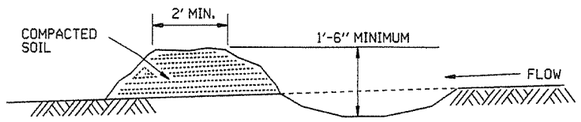
STANDARD DRAWING TEC-1



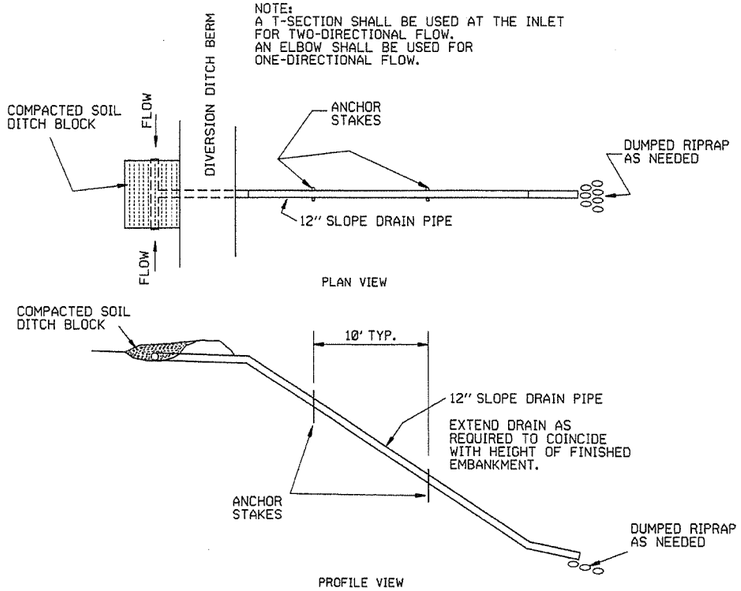
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



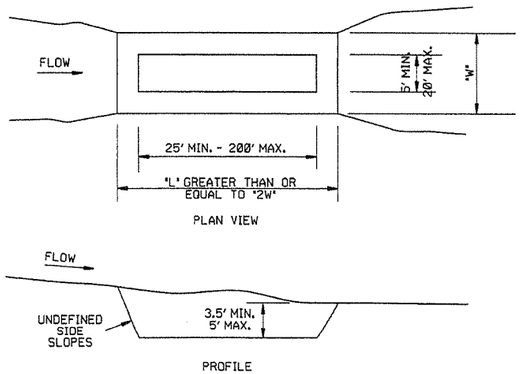
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

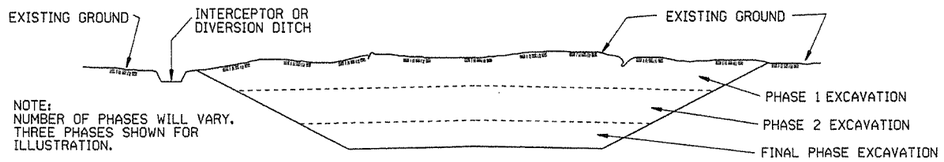
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



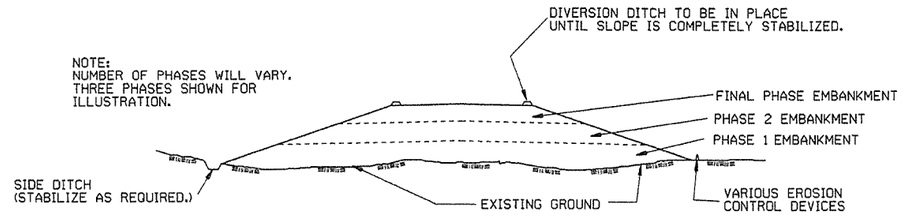
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

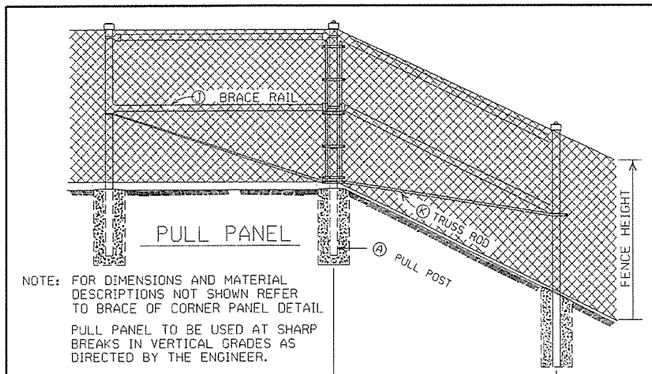
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

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

ARKANSAS STATE HIGHWAY COMMISSION

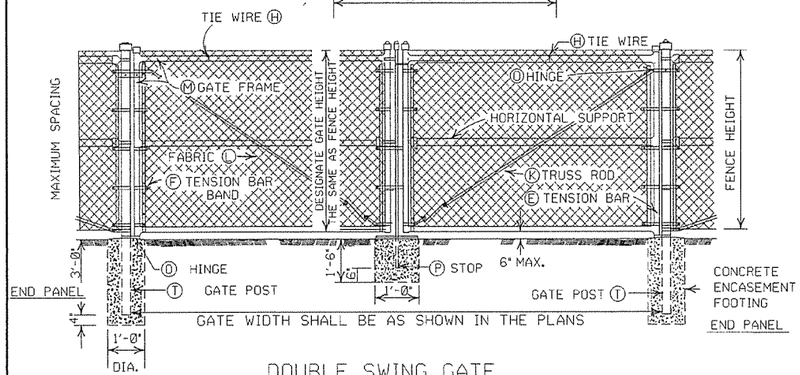
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



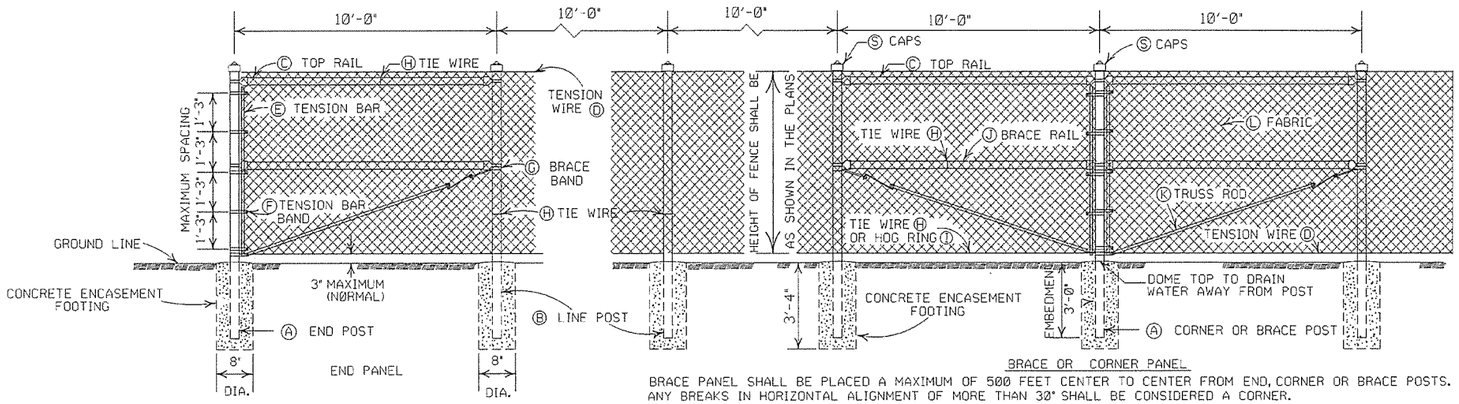
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL.

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



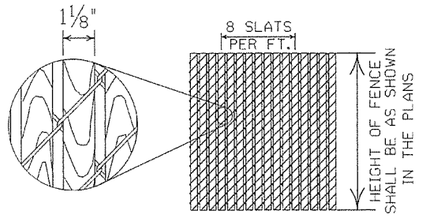
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

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



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

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

GENERAL NOTES:

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

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

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

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

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

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

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

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

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

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

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

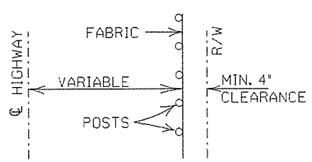
HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS		(C) TOP RAIL			(D) TENSION WIRE		(E) TENSION BAR		(F) TENSION BAR BAND			(G) BRACE BAND	
		SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. LENGTH	SIZE	TIE SPACING	SIZE	LENGTH	SIZE	BOLT SIZE	SPACING	SIZE	BOLT SIZE
6' AND LESS	2½" O.D.	2"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

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL		(K) TRUSS ROD	(L) FABRIC			(M) GATE FRAME		(N) HORIZONTAL SUPPORT		(O) HINGE TYPE	(T) GATE POST	
			SIZE	TIE SPACING		SIZE	MESH	SELVAGE	SIZE	TIE SPACING	SIZE	TIE SPACING	180° SWING	GATE WIDTH 12' AND LESS	GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅝" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

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

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

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

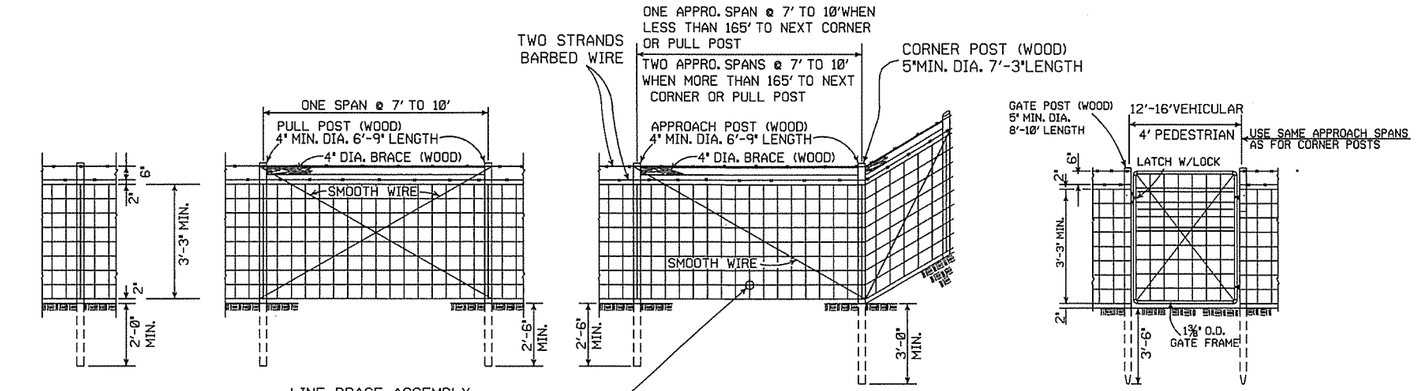
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

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

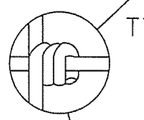
ARKANSAS STATE HIGHWAY COMMISSION

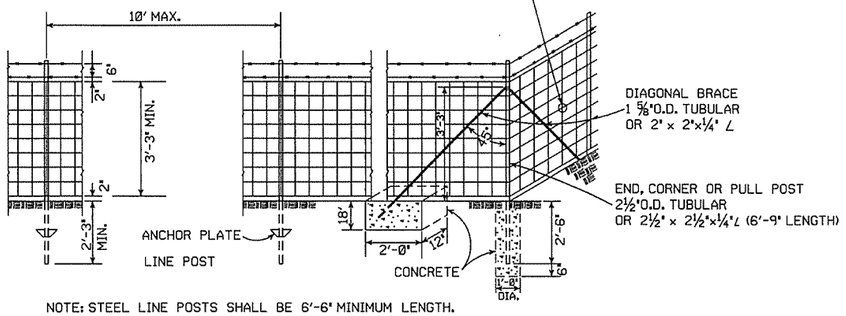
CHAIN LINK FENCE

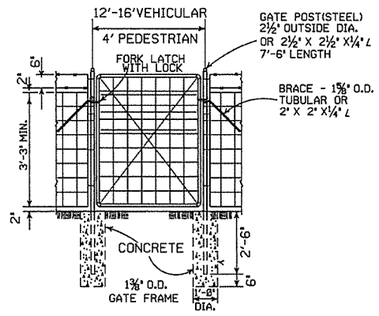
STANDARD DRAWING WF-3



TYPE C FENCE (WOOD POSTS)



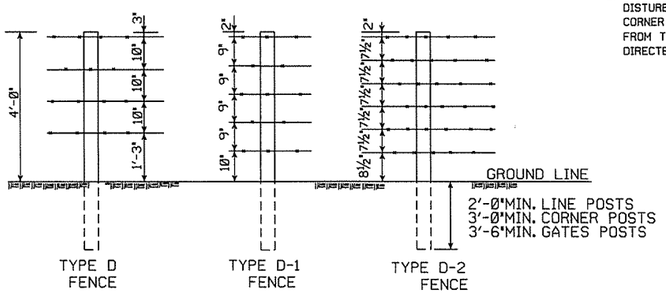




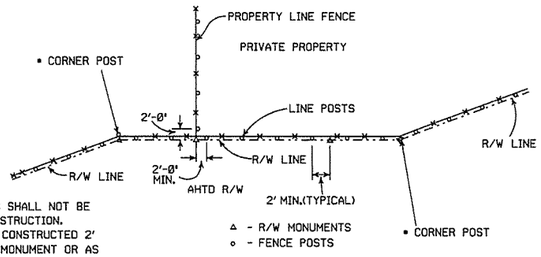
NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

TYPE C FENCE (STEEL POSTS)

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

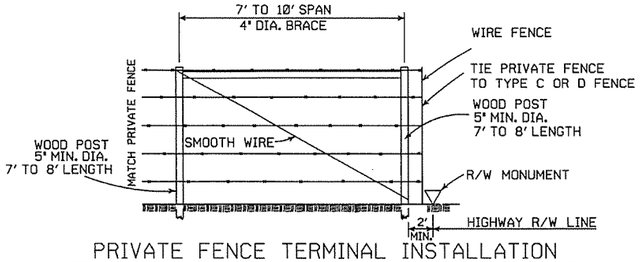


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



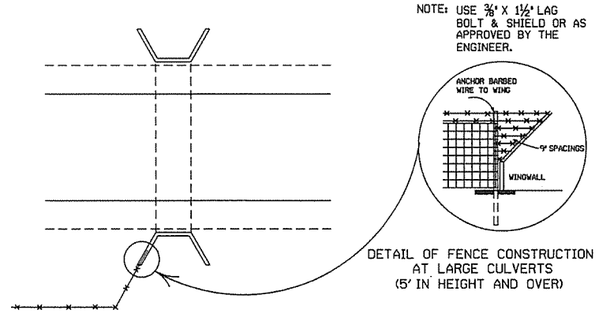
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION

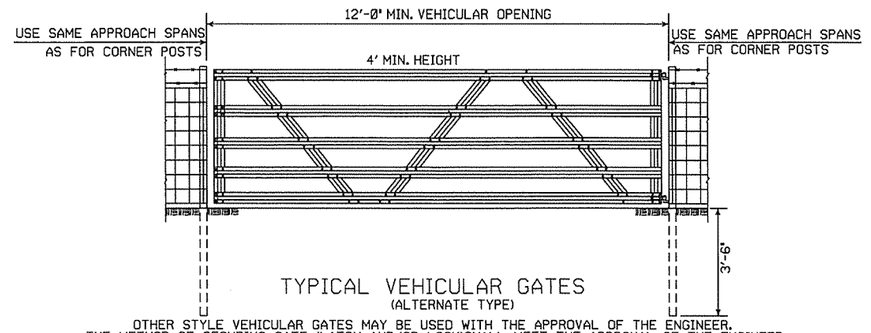


PRIVATE FENCE TERMINAL INSTALLATION

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



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



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

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

GENERAL NOTES:

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

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

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

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

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

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

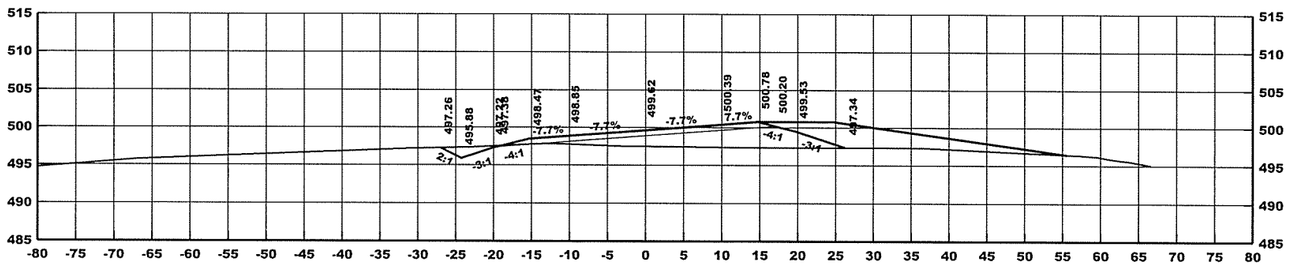
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND	6-2-94
	ADDED CORNER POST NOTES	
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4



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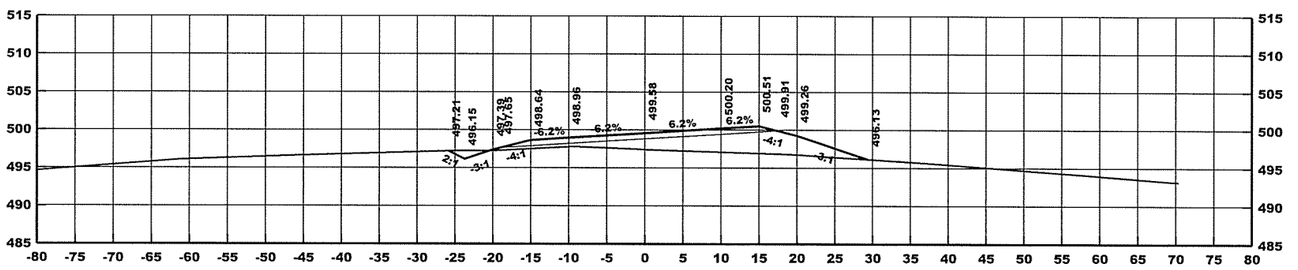
↑ **380+33** →

CONST. APPR. = 45 CU. YDS.
RT. SIDE



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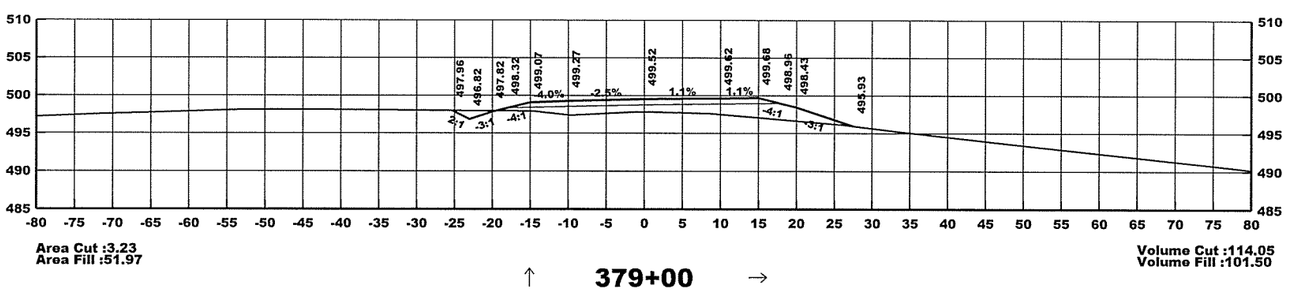
↑ **380+00** →



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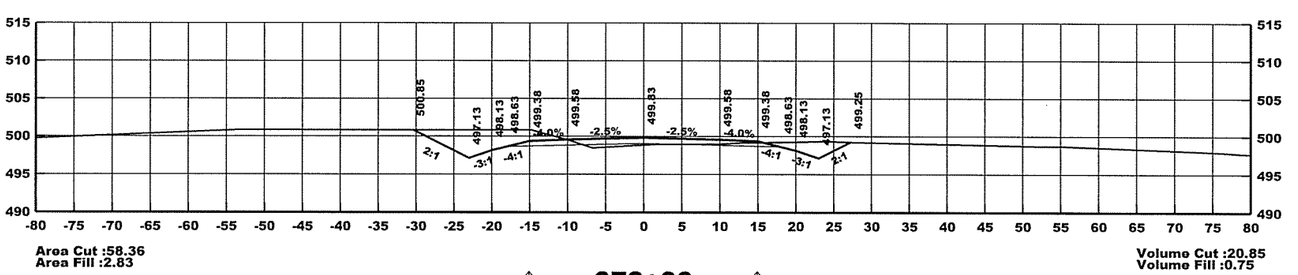
↑ **379+00** →



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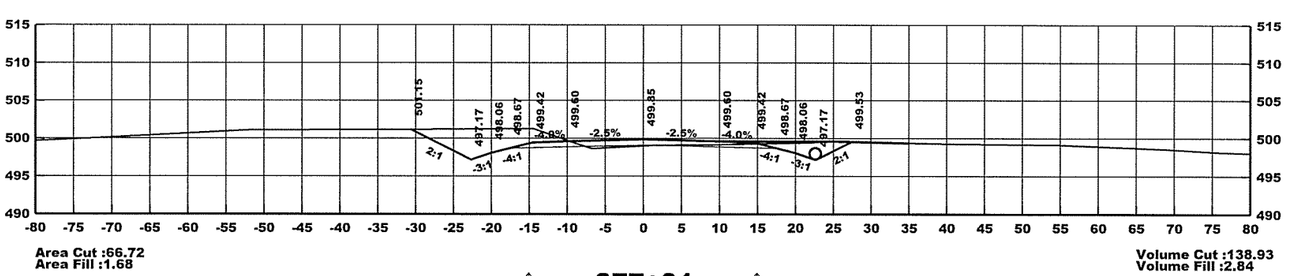
↑ **378+00** ↑



Area Cut :66.72
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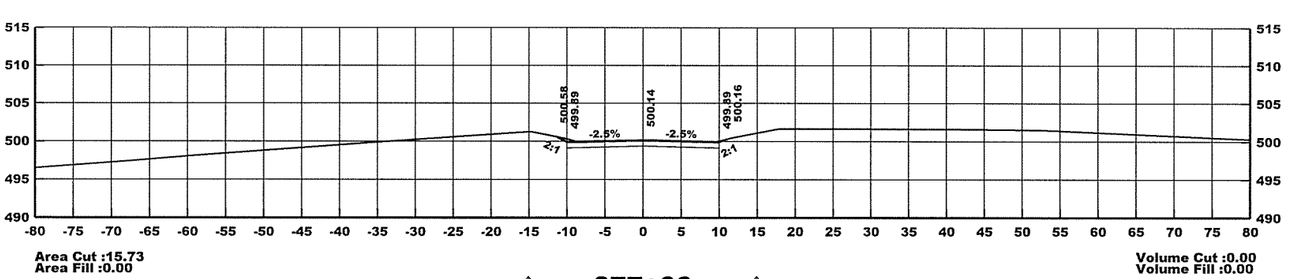
Volume Fill :2.84

↑ **377+91** ↑

INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 20 CU. YDS.



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Volume Cut :0.00
Volume Fill :0.00

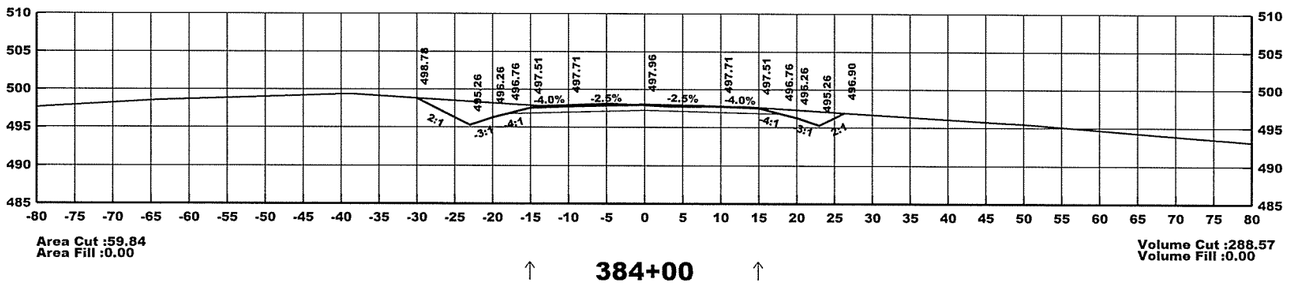
↑ **377+00** ↑

BEGIN JOB FA2808

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	STATE PROJ. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		48	74

4 CROSS SECTIONS

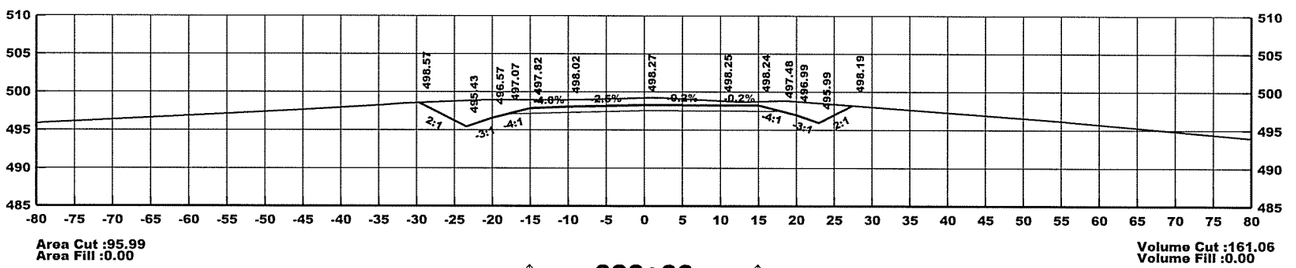
JOB NO. FA2808



Area Cut :59.84
Area Fill :0.00

Volume Cut :288.57
Volume Fill :0.00

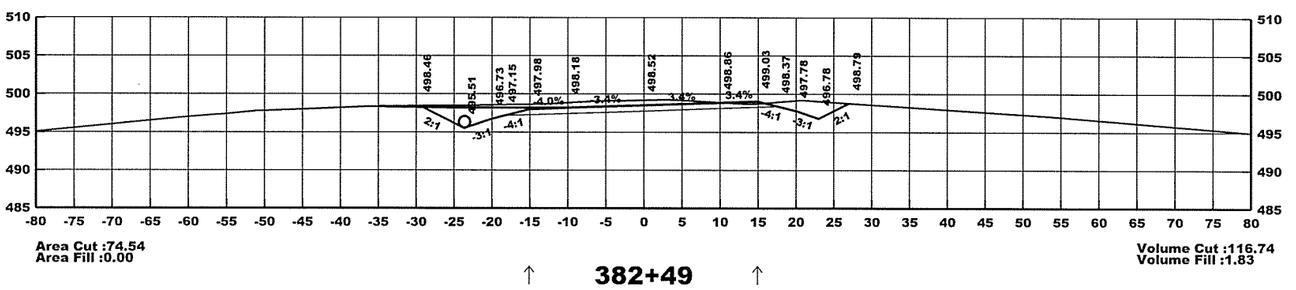
↑ **384+00** ↑



Area Cut :95.99
Area Fill :0.00

Volume Cut :161.06
Volume Fill :0.00

↑ **383+00** ↑

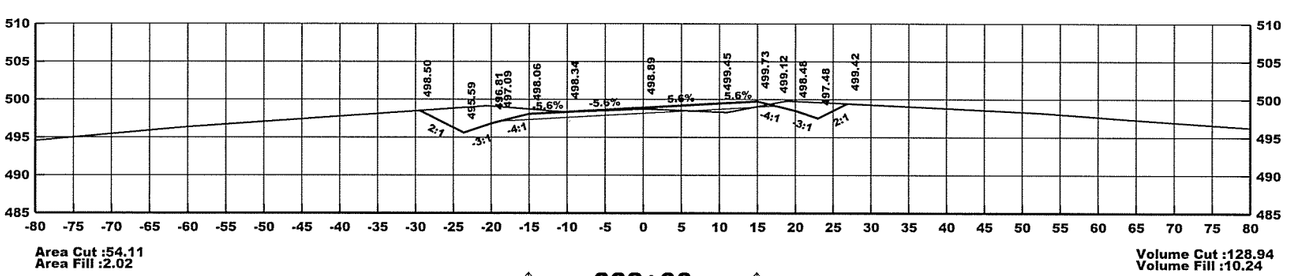


Area Cut :74.54
Area Fill :0.00

Volume Cut :116.74
Volume Fill :1.83

↑ **382+49** ↑

INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

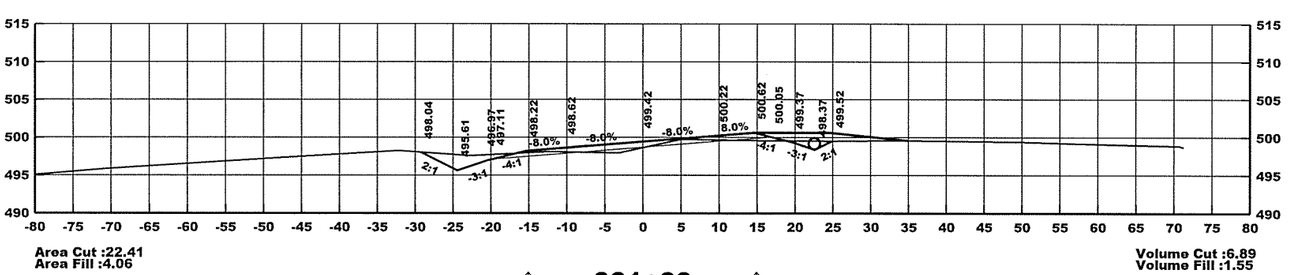


Area Cut :54.11
Area Fill :2.02

Volume Cut :128.94
Volume Fill :10.24

↑ **382+00** ↑

BEGIN DITCH GRADE LEFT SIDE

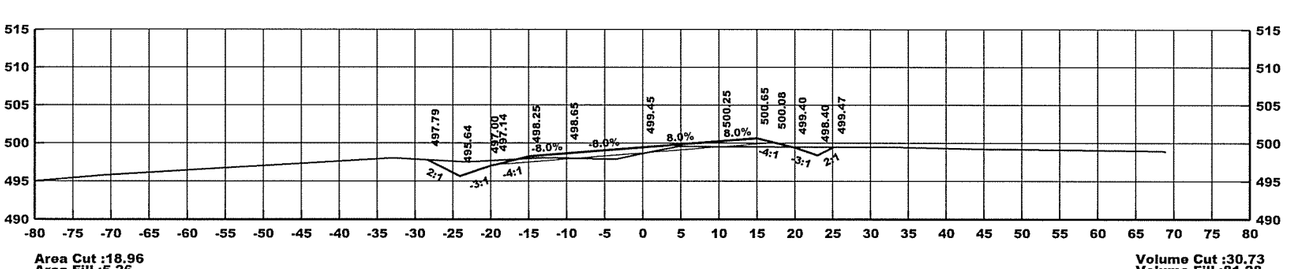


Area Cut :22.41
Area Fill :4.06

Volume Cut :6.89
Volume Fill :1.55

↑ **381+09** ↑

INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.



Area Cut :18.96
Area Fill :5.26

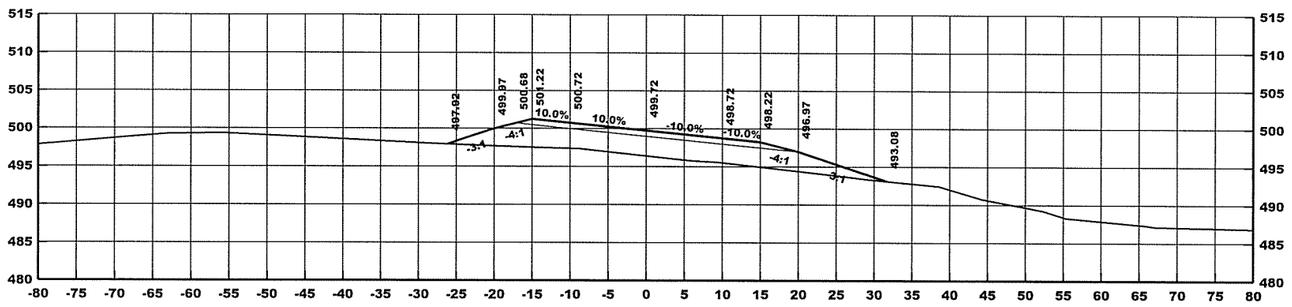
Volume Cut :30.73
Volume Fill :81.28

↑ **381+00** ↕

4 CROSS SECTIONS

DATE REVISED	DATE PLOTTED	DATE REVISED	DATE PLOTTED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA280B	49	74

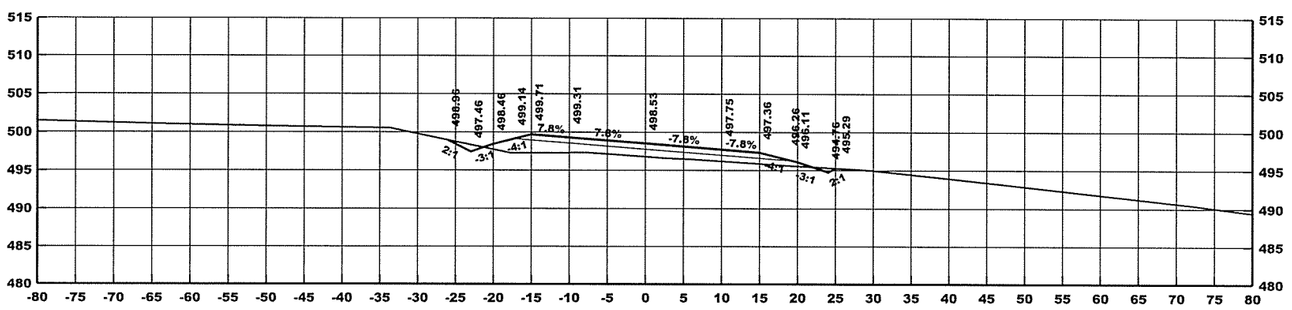
JOB NO.



Area Cut :0.00
Area Fill :126.88

Volume Cut :5.52
Volume Fill :313.47

↓ **387+00** →

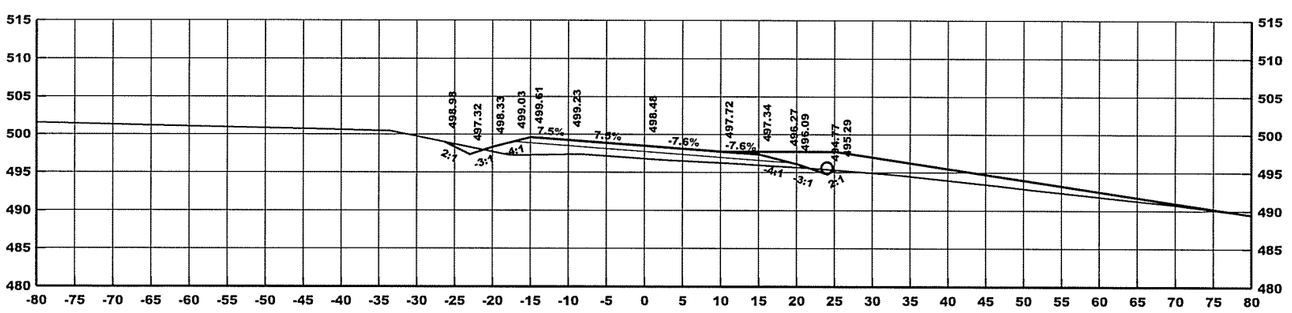


Area Cut :2.98
Area Fill :42.39

Volume Cut :0.73
Volume Fill :9.10

↓ **386+00** ↑

END DITCH GRADE LEFT SIDE

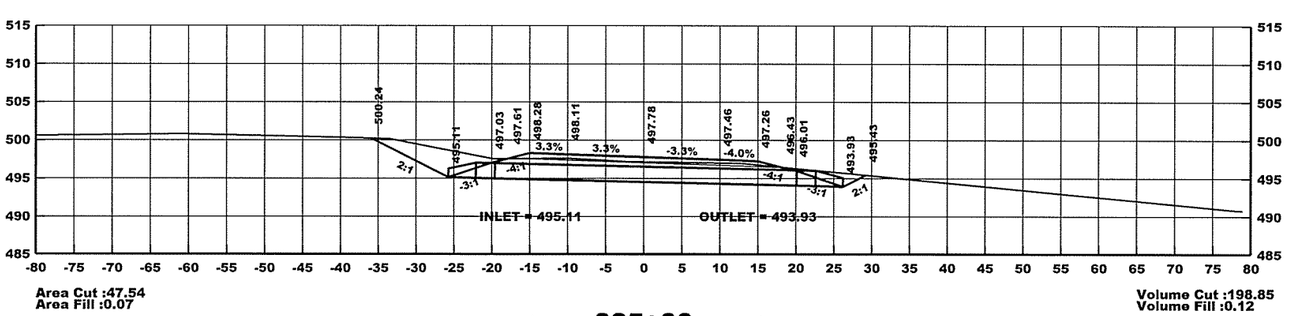


Area Cut :3.57
Area Fill :39.55

Volume Cut :88.96
Volume Fill :68.96

↓ **385+94** ↓

INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 55 CU. YDS.



Area Cut :47.54
Area Fill :0.07

Volume Cut :198.85
Volume Fill :0.12

→ **385+00** →

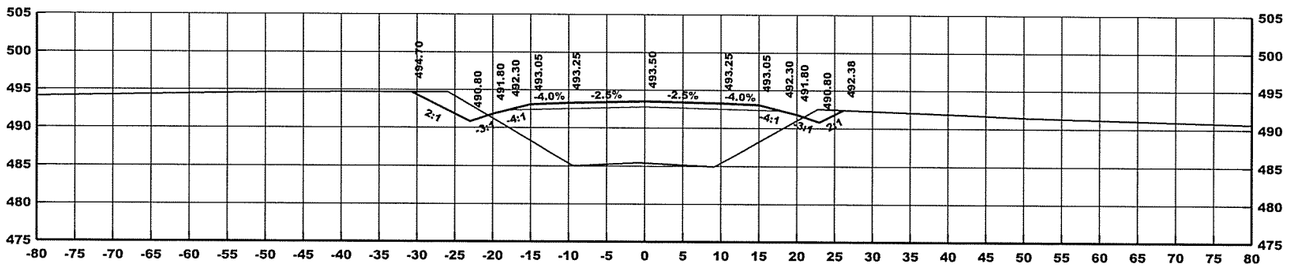
CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = NA Q25 = NA
24" RCP (CL. III)(TYPE 3 BEDDING) = 40 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 46 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

4 CROSS SECTIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	FA2808	50	74

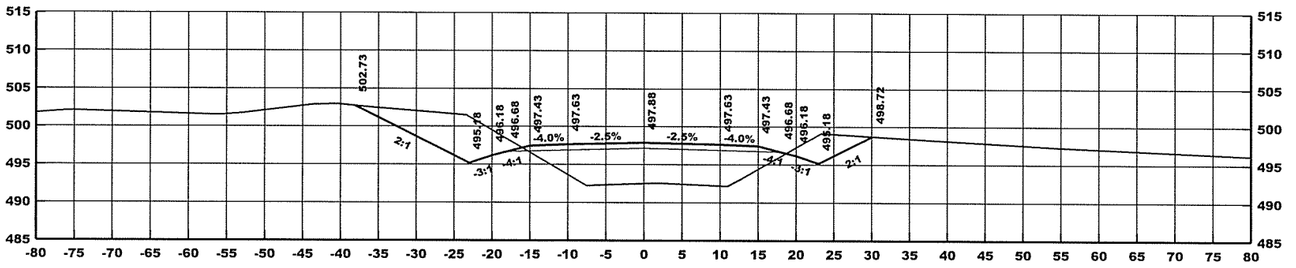
JOB NO.



Area Cut :19.86
Area Fill :230.57

Volume Cut :204.75
Volume Fill :654.26

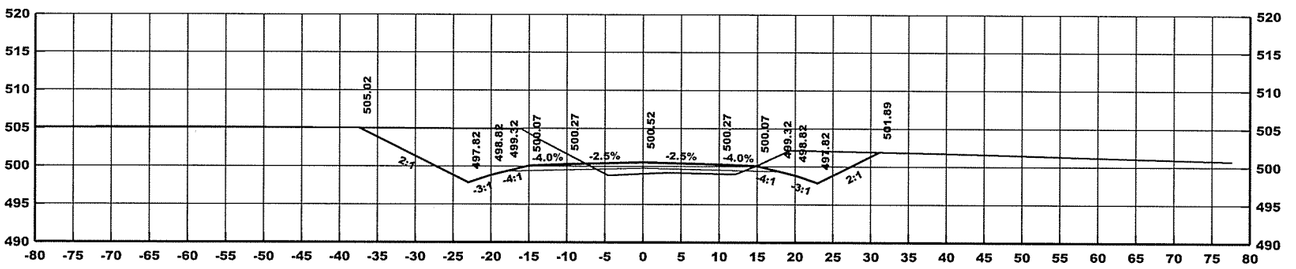
↑ **392+00** ↑



Area Cut :90.71
Area Fill :122.74

Volume Cut :463.96
Volume Fill :248.30

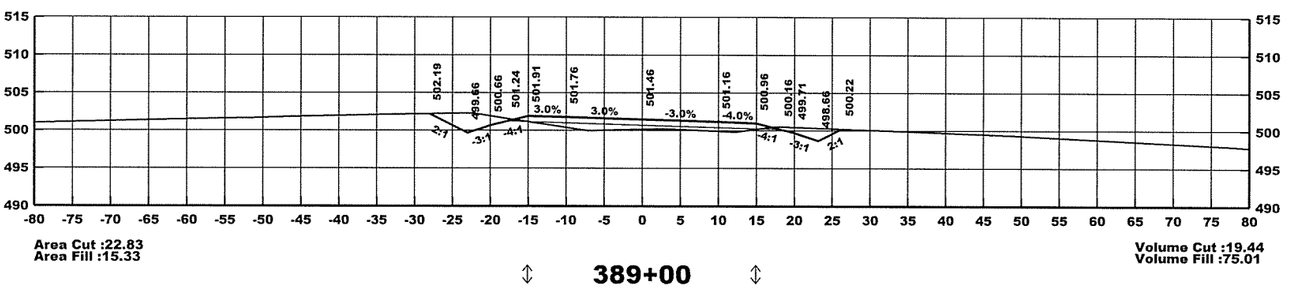
↑ **391+00** ↑



Area Cut :159.83
Area Fill :11.35

Volume Cut :338.26
Volume Fill :49.40

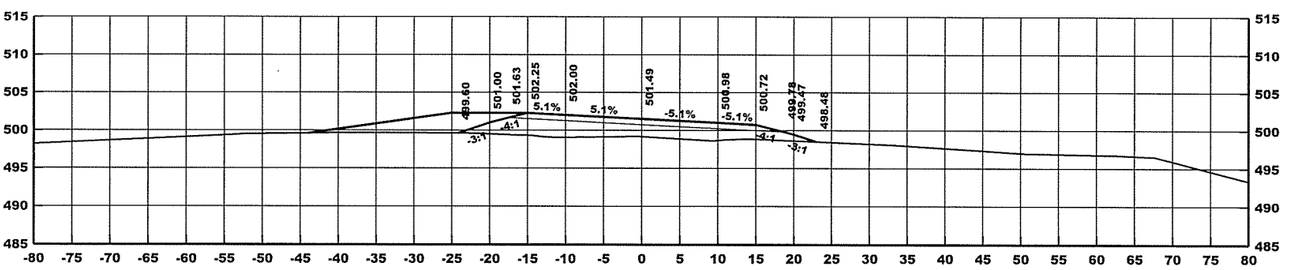
↑ **390+00** ↑



Area Cut :22.83
Area Fill :15.33

Volume Cut :19.44
Volume Fill :75.01

↕ **389+00** ↕

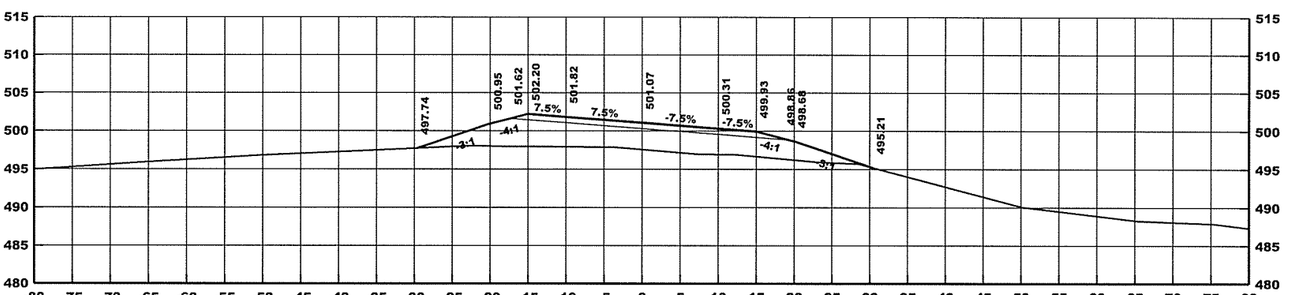


Area Cut :0.00
Area Fill :72.72

Volume Cut :0.00
Volume Fill :212.66

← **388+54** ↓

CONST. APPR. = 30 CU. YDS.
LT. SIDE



Area Cut :0.00
Area Fill :139.94

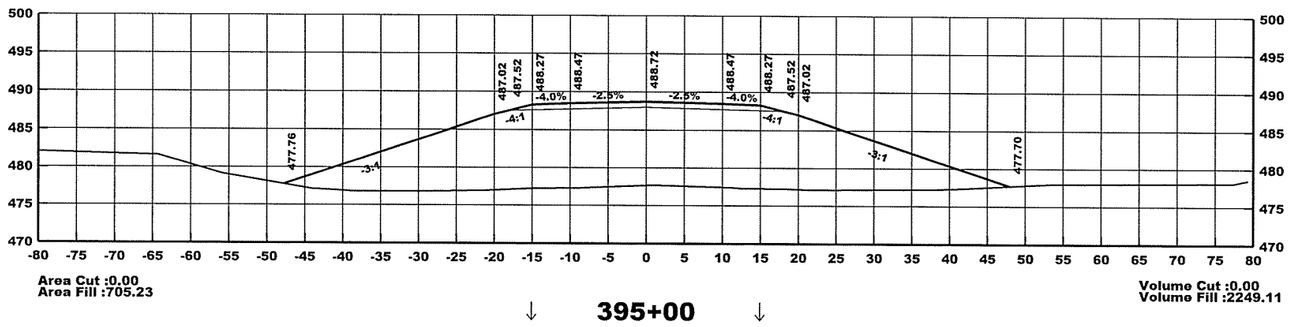
Volume Cut :0.00
Volume Fill :494.12

← **388+00** →

DATE REVISED	DATE FILMED	DATE REVISED	DATE PLOTED	FED.RD. DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		51	74

JOB NO. FA2808

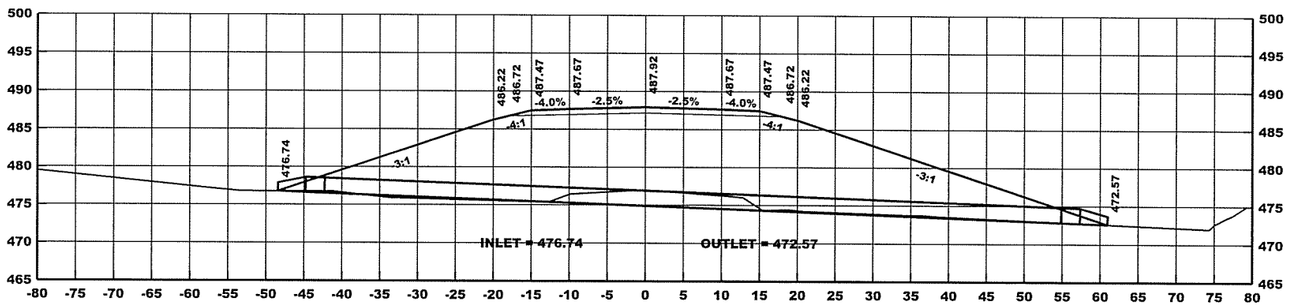
4 CROSS SECTIONS



Area Cut :0.00
Area Fill :705.23

Volume Cut :0.00
Volume Fill :2249.11

↓ **395+00** ↓

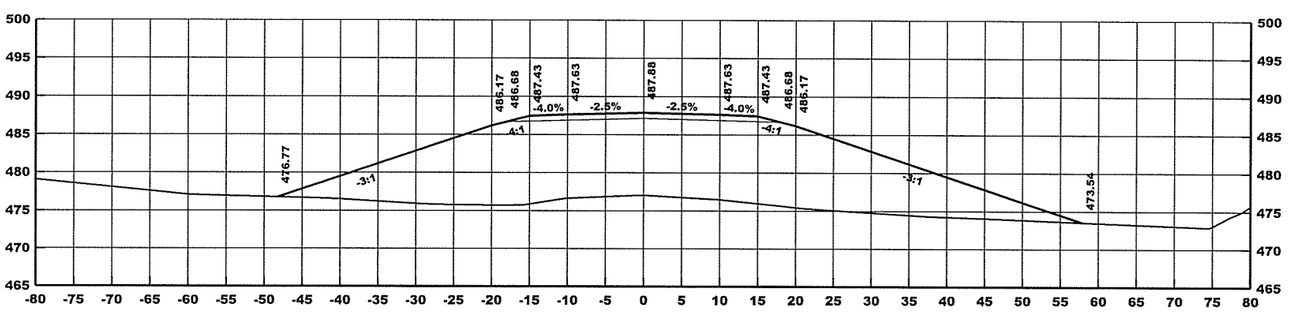


Area Cut :0.00
Area Fill :832.14

Volume Cut :0.00
Volume Fill :625.29

→ **394+21** →

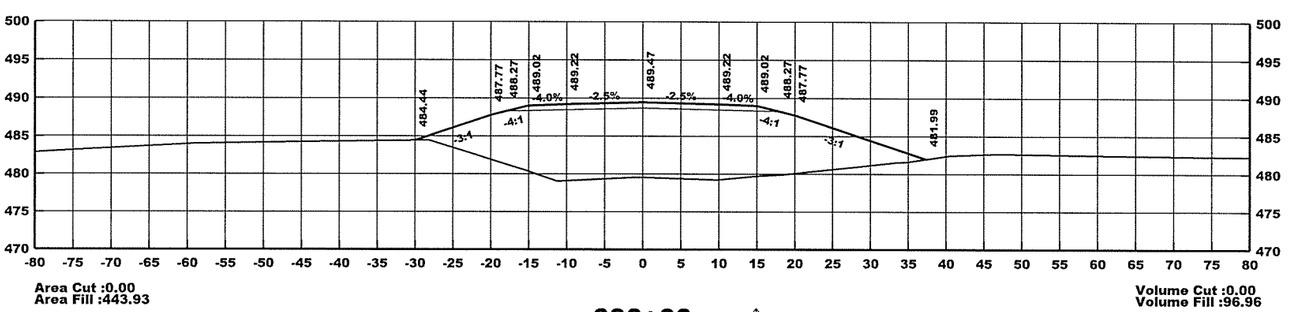
CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 6 ACRES Q25 = 9 CFS
24" RCP (CL. III)(TYPE 3 BEDDING) = 98 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 104 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH



Area Cut :0.00
Area Fill :775.75

Volume Cut :0.00
Volume Fill :2258.67

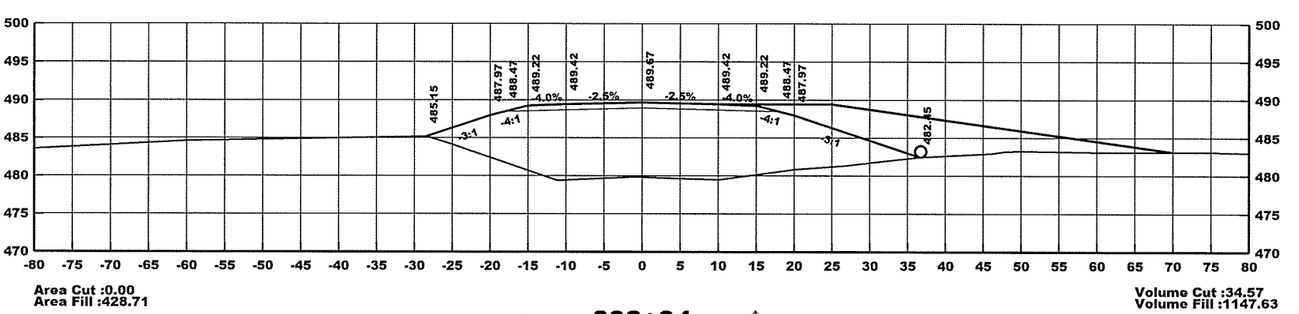
↑ **394+00** →



Area Cut :0.00
Area Fill :443.93

Volume Cut :0.00
Volume Fill :96.96

← **393+00** ↑



Area Cut :0.00
Area Fill :428.71

Volume Cut :34.57
Volume Fill :1147.63

← **392+94** ↑

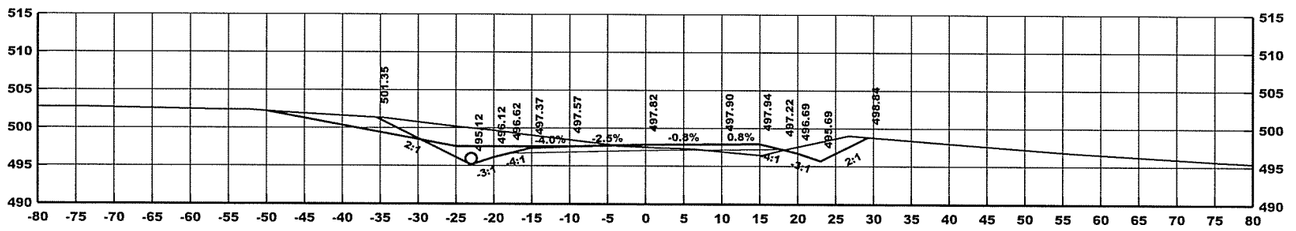
INSTALL
18" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 110 CU. YDS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

4 CROSS SECTIONS

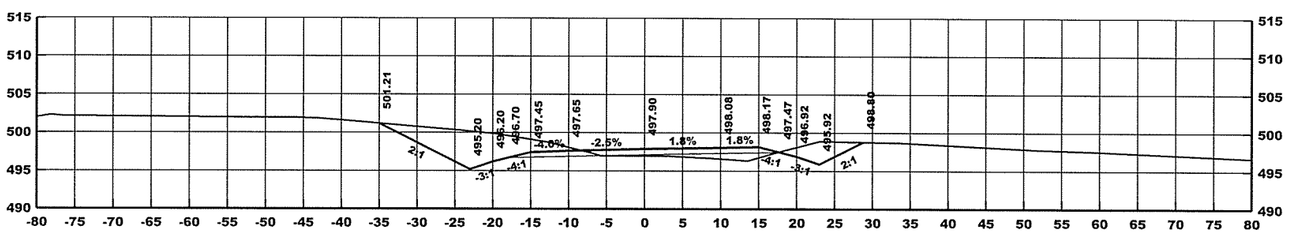
DESIGN DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		52	74

JOB NO. FA2808

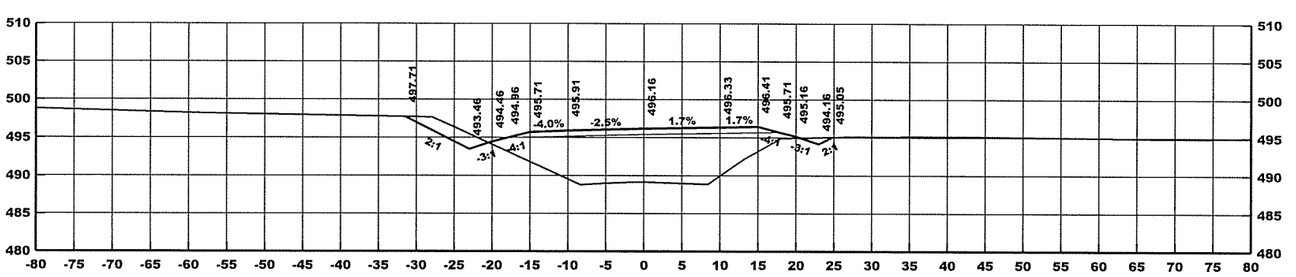


↑ **398+26** ↑

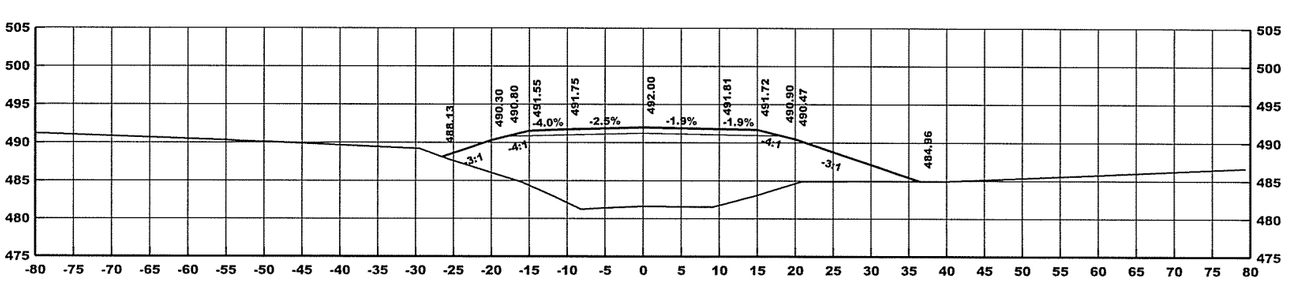
INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR.
COMP. EMBK. = 15 CU. YDS.
UNCL. EXCAV. = 15 CU. YDS.



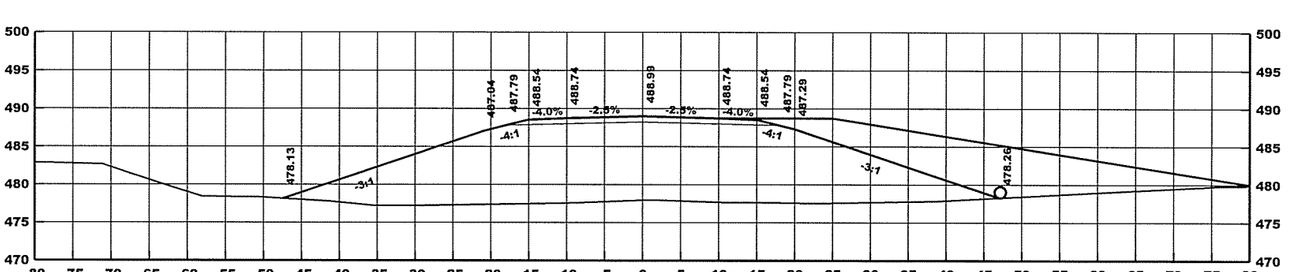
↕ **398+00** ↕



↓ **397+00** ↓



↓ **396+00** ↓



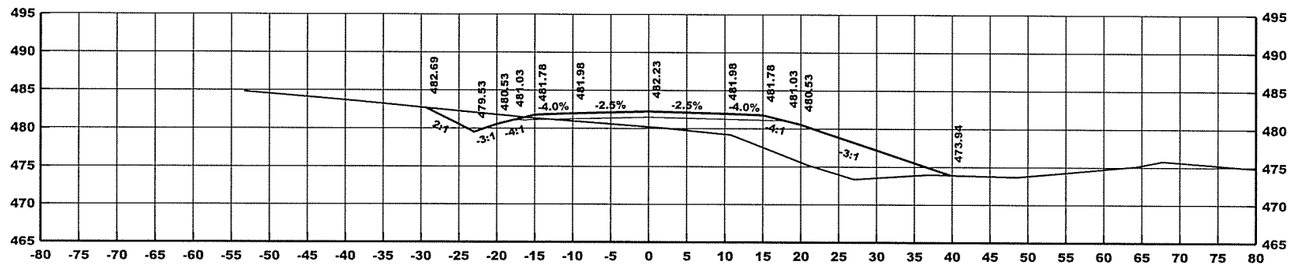
↓ **395+10** ↓

INSTALL
18" X 60' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 170 CU. YDS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		53	74

4 CROSS SECTIONS

JOB NO. FA2808

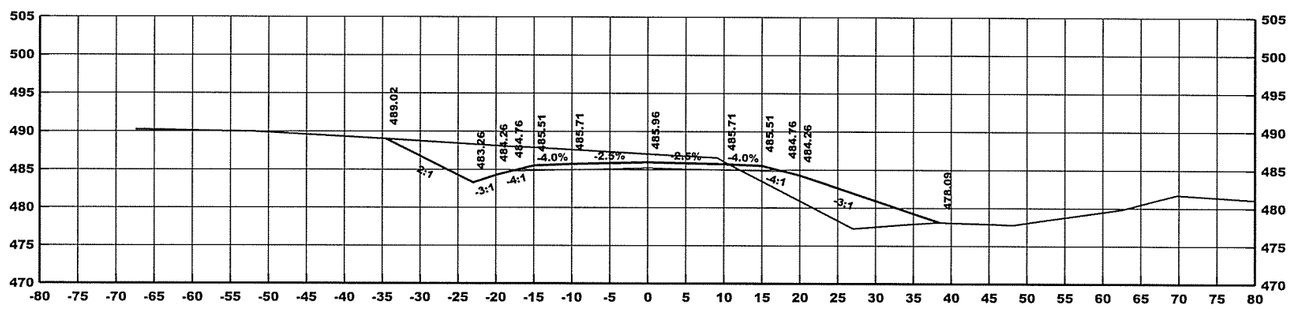


Area Cut :17.29
Area Fill :123.47

Volume Cut :242.98
Volume Fill :356.09

403+00

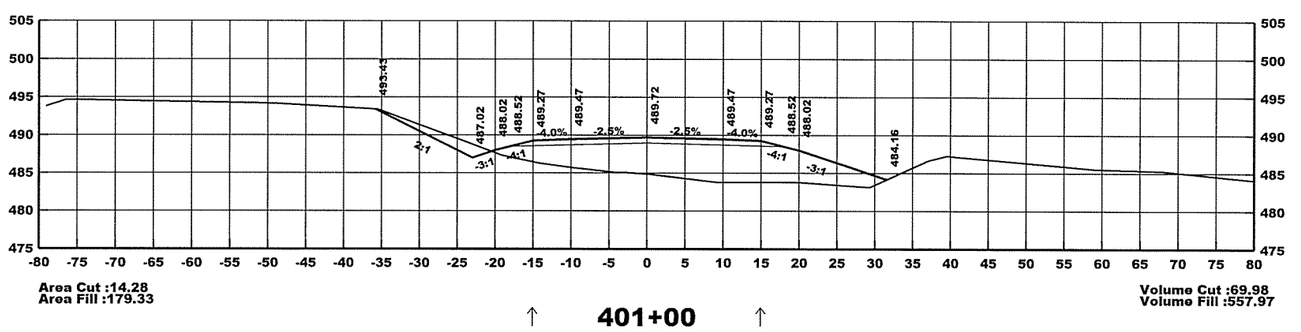
BEGIN DITCH GRADE LEFT SIDE



Area Cut :113.92
Area Fill :68.82

Volume Cut :237.40
Volume Fill :459.55

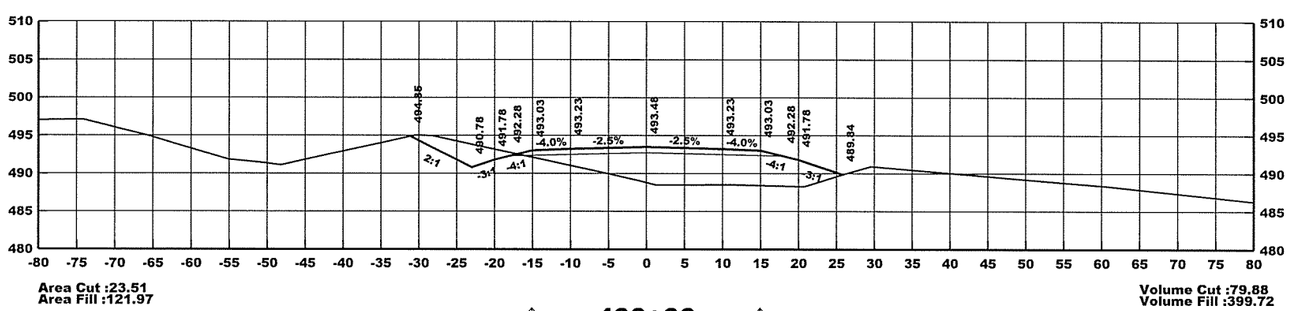
402+00



Area Cut :14.28
Area Fill :179.33

Volume Cut :69.98
Volume Fill :557.97

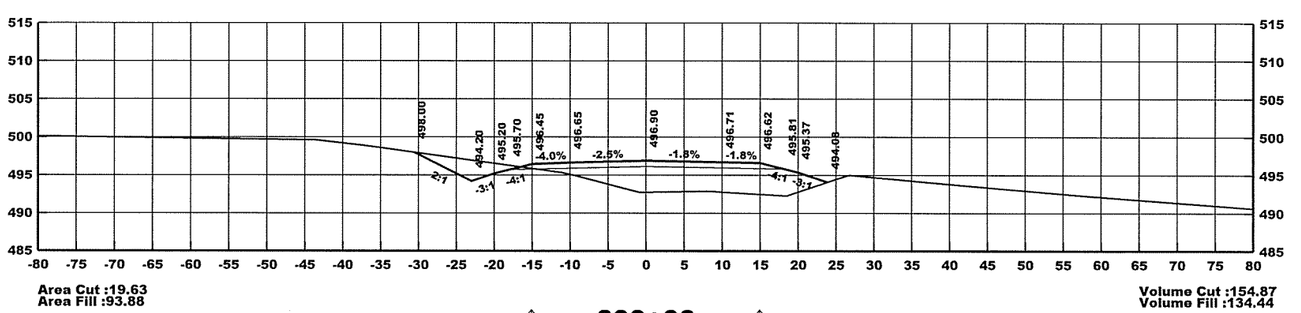
401+00



Area Cut :23.51
Area Fill :121.97

Volume Cut :79.88
Volume Fill :399.72

400+00



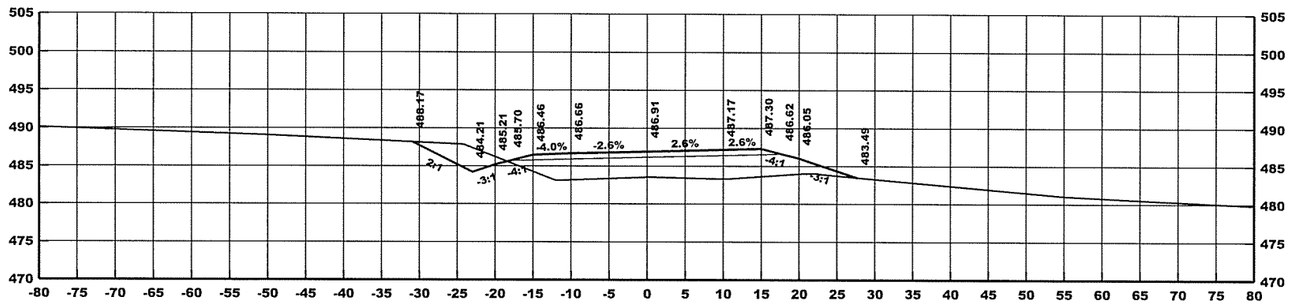
Area Cut :19.63
Area Fill :93.88

Volume Cut :154.87
Volume Fill :134.44

399+00

4 CROSS SECTIONS

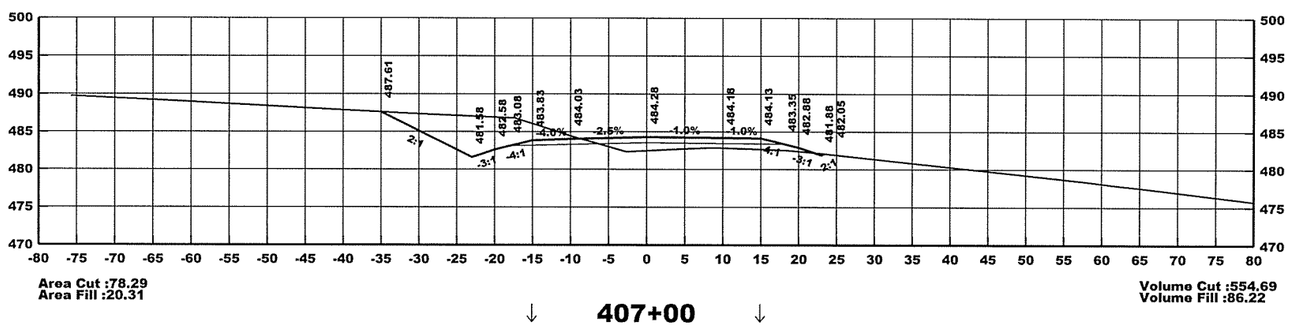
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA2808	54	74



Area Cut :21.09
Area Fill :105.24

Volume Cut :184.03
Volume Fill :232.50

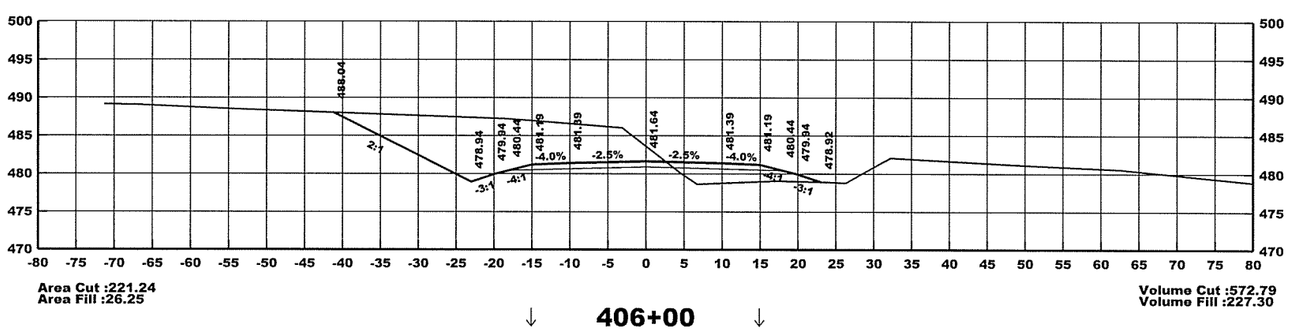
↓ **408+00** →



Area Cut :78.29
Area Fill :20.31

Volume Cut :554.69
Volume Fill :86.22

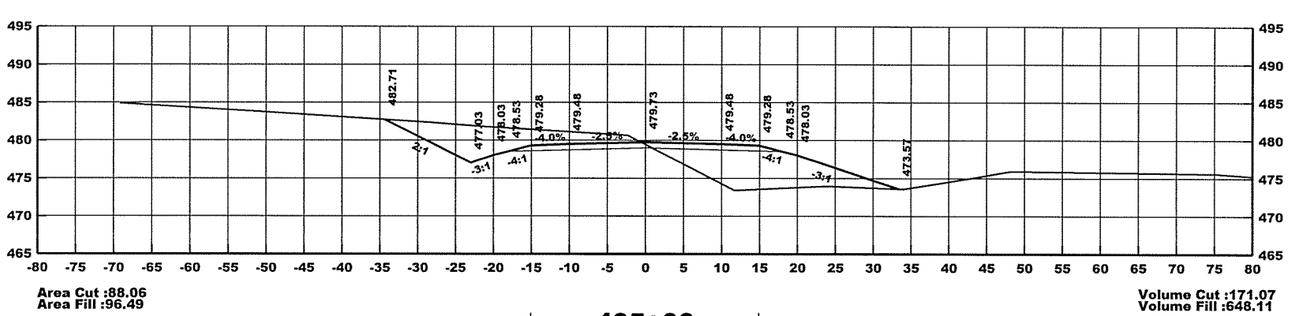
↓ **407+00** ↓



Area Cut :221.24
Area Fill :26.25

Volume Cut :572.79
Volume Fill :227.30

↓ **406+00** ↓

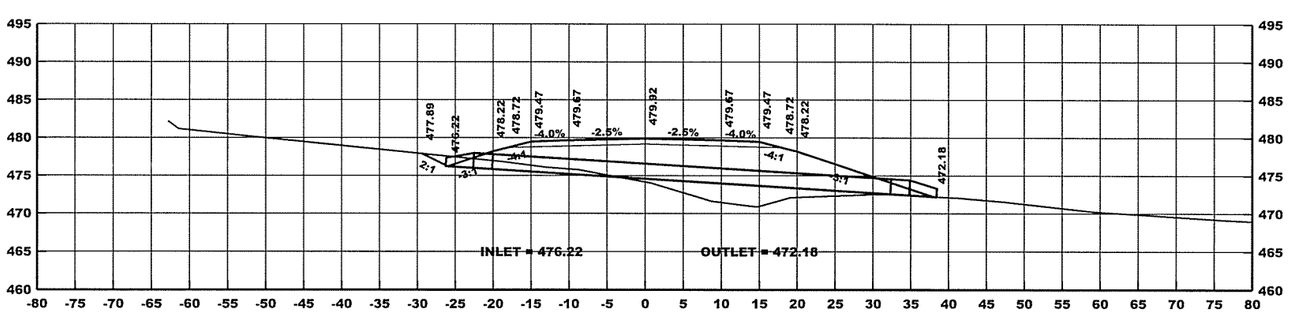


Area Cut :88.06
Area Fill :96.49

Volume Cut :171.07
Volume Fill :648.11

↓ **405+00** ↓

END DITCH GRADE LEFT SIDE



Area Cut :4.32
Area Fill :253.49

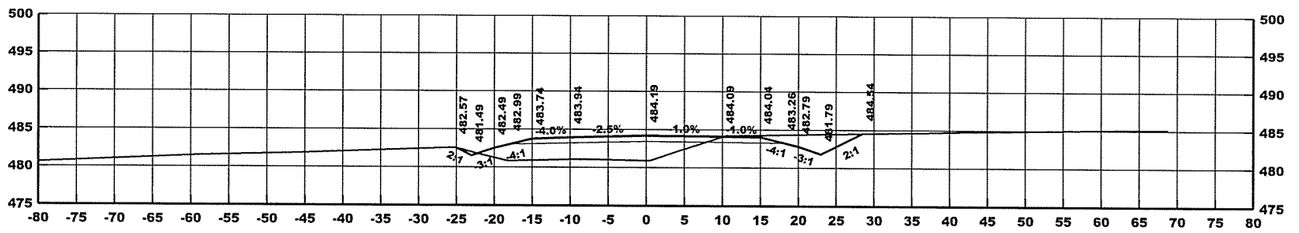
Volume Cut :40.02
Volume Fill :698.06

→ **404+00** →

CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 4 ACRES Q25 = 5 CFS
24" RCP (CL. III)(TYPE 3 BEDDING) = 54 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 58 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID PROJ.NO.	6
				STATE	ARK.
				JOB NO.	FA2808
				SHEET NO.	55
				TOTAL SHEETS	74

4 CROSS SECTIONS

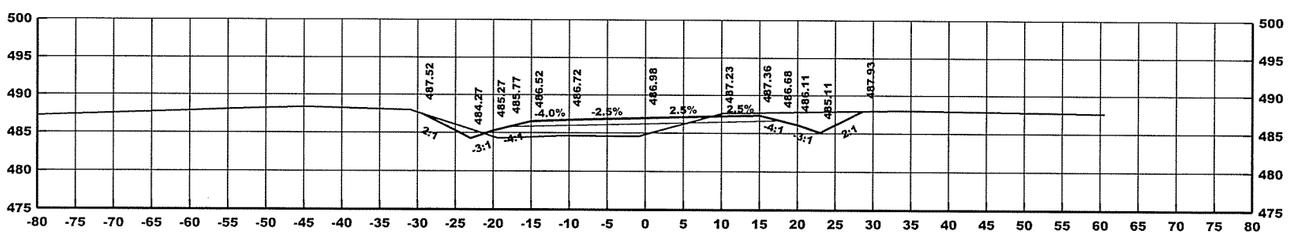


Area Cut :25.25
Area Fill :56.04

Volume Cut :107.75
Volume Fill :163.89

↑ **412+00** ↑

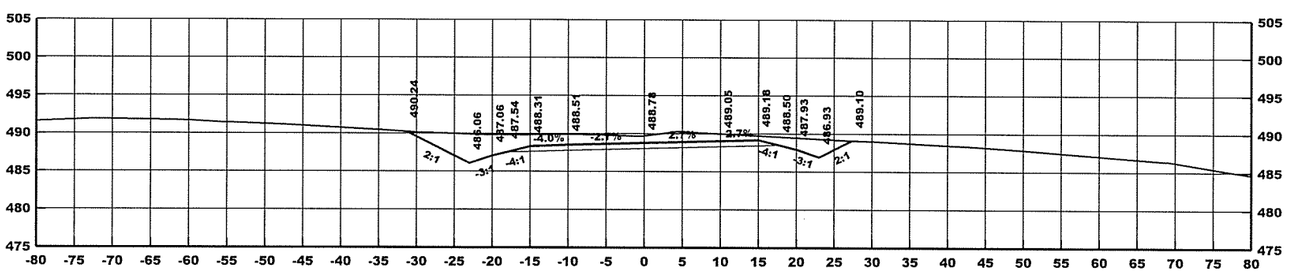
BEGIN DITCH GRADE RIGHT SIDE



Area Cut :32.94
Area Fill :32.46

Volume Cut :265.99
Volume Fill :60.12

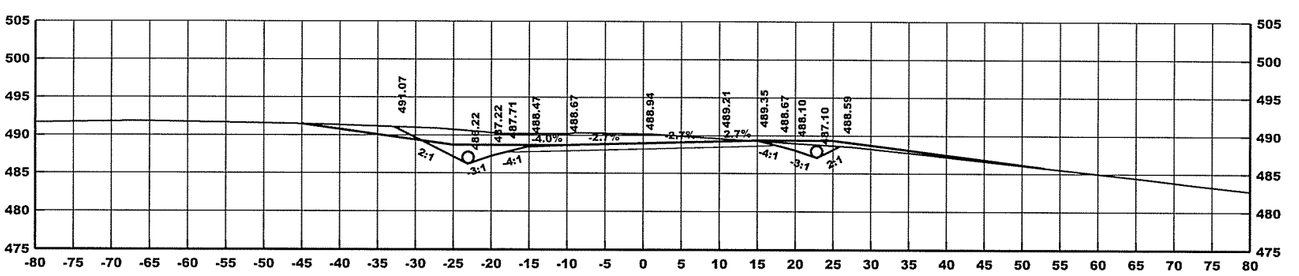
↑ **411+00** ↑



Area Cut :110.70
Area Fill :0.00

Volume Cut :158.61
Volume Fill :0.00

↑ **410+00** ↑

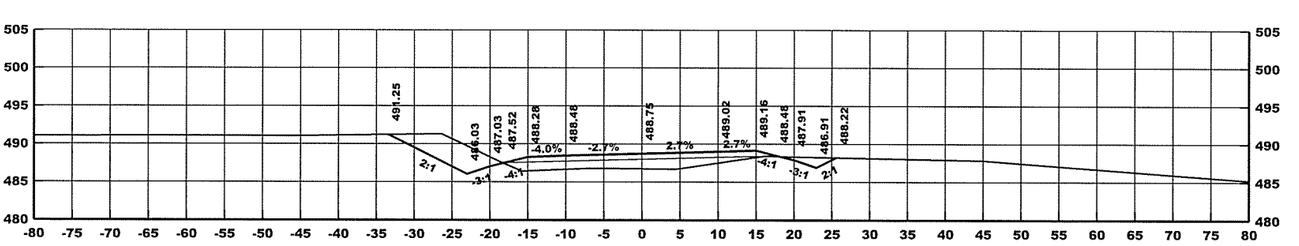


Area Cut :108.92
Area Fill :0.00

Volume Cut :166.62
Volume Fill :38.14

↕ **409+61** ↕

INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR.
COMP. EMBK. = 20 CU. YDS.
UNCL. EXCAV. = 10 CU. YDS.
18" X 64' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 35 CU. YDS.



Area Cut :38.58
Area Fill :33.76

Volume Cut :110.51
Volume Fill :257.41

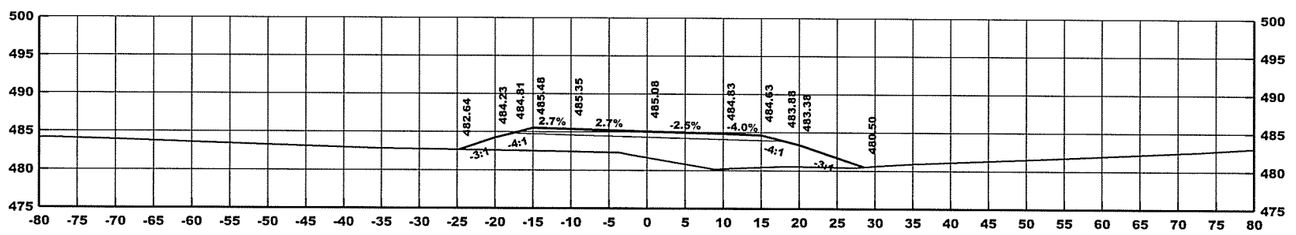
↓ **409+00** ↓

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

4 CROSS SECTIONS

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		56	74

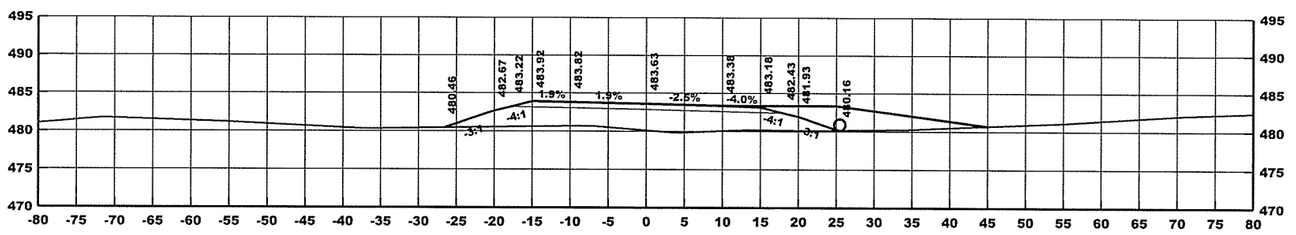
JOB NO. FA2808



Area Cut :0.00
Area Fill :129.51

Volume Cut :0.00
Volume Fill :205.98

↓ **415+00** ↓

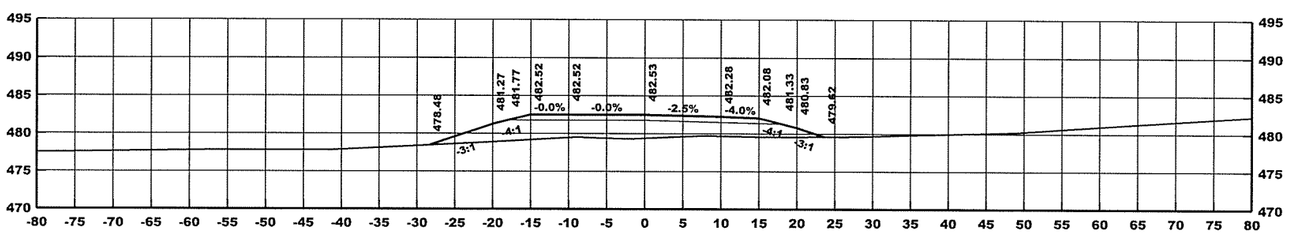


Area Cut :0.00
Area Fill :112.30

Volume Cut :0.00
Volume Fill :211.08

↓ **414+54** ↓

INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 40 CU. YDS.

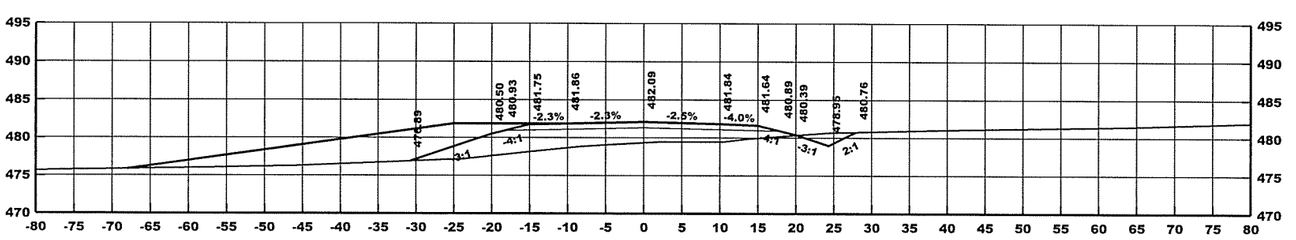


Area Cut :0.00
Area Fill :98.79

Volume Cut :7.73
Volume Fill :222.26

← **414+00** ↓

END DITCH GRADE RIGHT SIDE

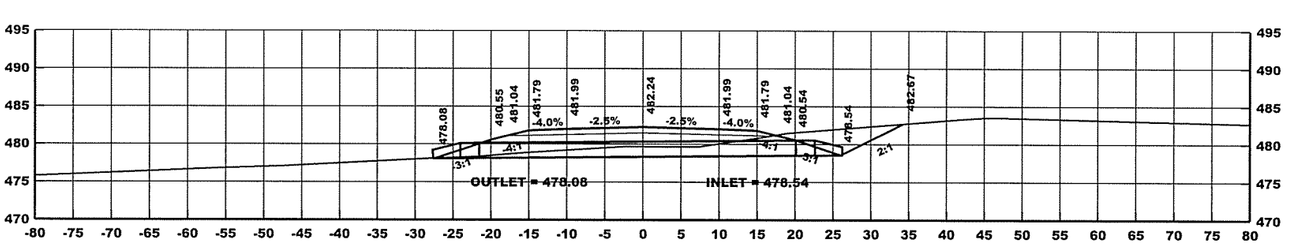


Area Cut :6.73
Area Fill :94.80

Volume Cut :25.16
Volume Fill :115.79

← **413+38** ↓

CONST. APPR. = 90 CU. YDS.
LT. SIDE



Area Cut :29.02
Area Fill :69.75

Volume Cut :100.50
Volume Fill :232.94

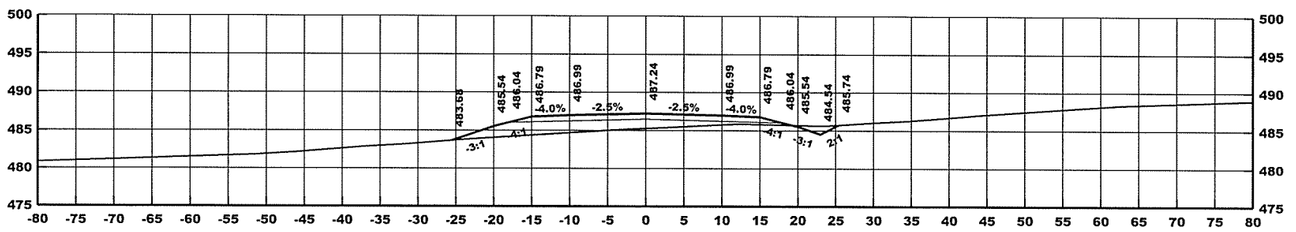
← **413+00** ←

CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 4 ACRES Q25 = 6 CFS
24" RCP (CL. III)(TYPE 3 BEDDING) = 42 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 48 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

4 CROSS SECTIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DESIGN DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		57	74

JOB NO. FA2808

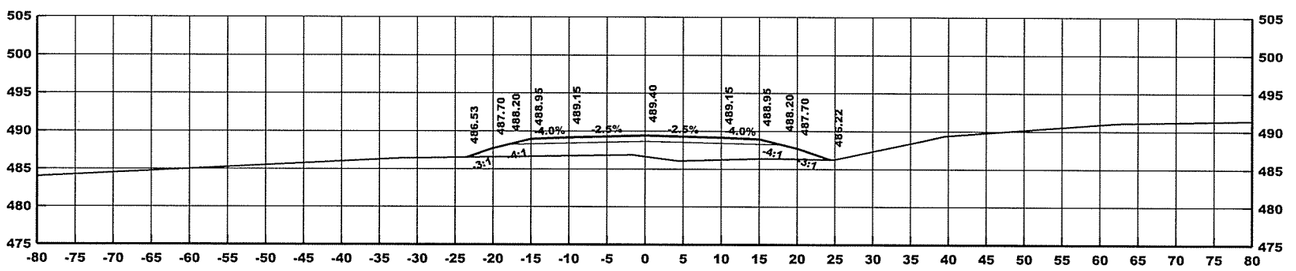


Area Cut :3.24
Area Fill :45.87

Volume Cut :6.00
Volume Fill :233.54

← **420+00** ↑

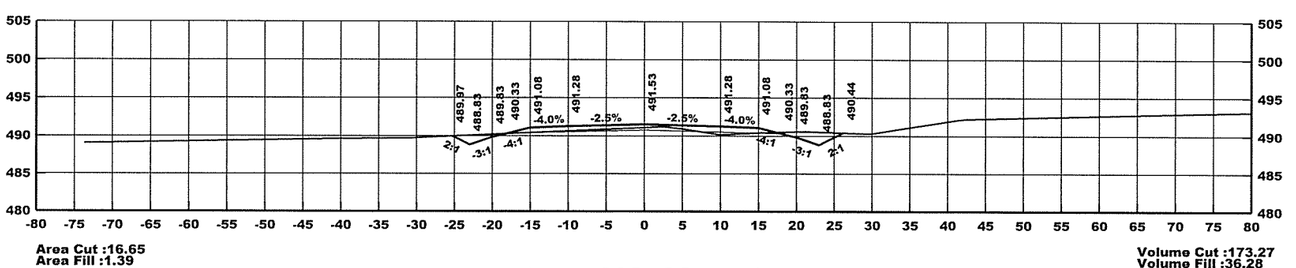
BEGIN DITCH GRADE RIGHT SIDE



Area Cut :0.00
Area Fill :80.23

Volume Cut :30.83
Volume Fill :151.15

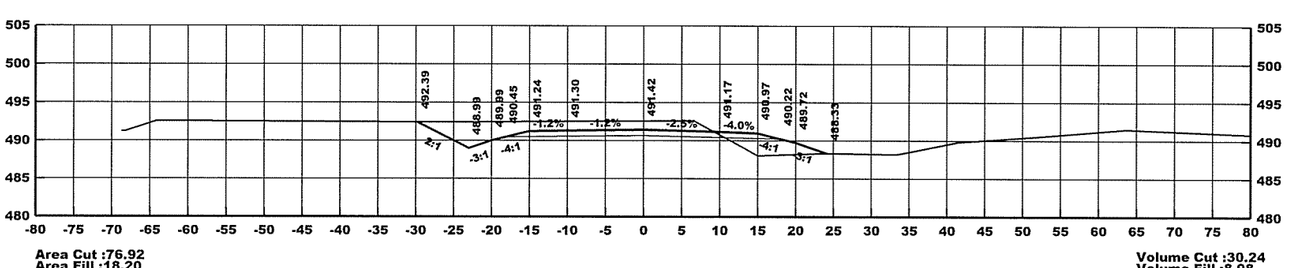
← **419+00** ↑



Area Cut :16.65
Area Fill :1.39

Volume Cut :173.27
Volume Fill :36.28

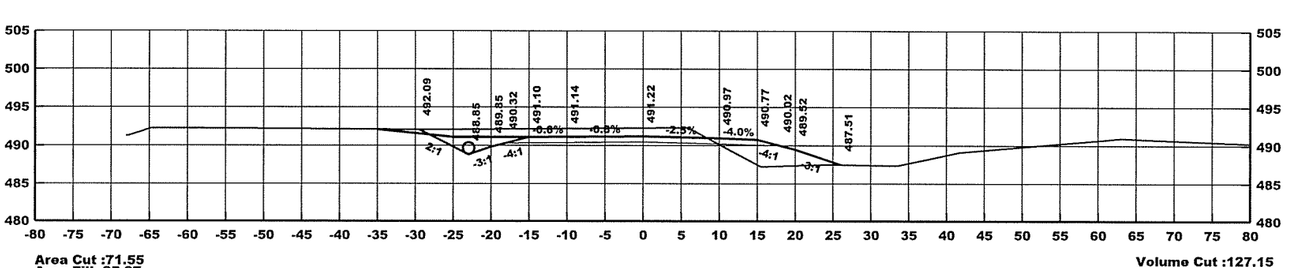
↑ **418+00** ↕



Area Cut :76.92
Area Fill :18.20

Volume Cut :30.24
Volume Fill :8.98

↕ **417+00** ↓

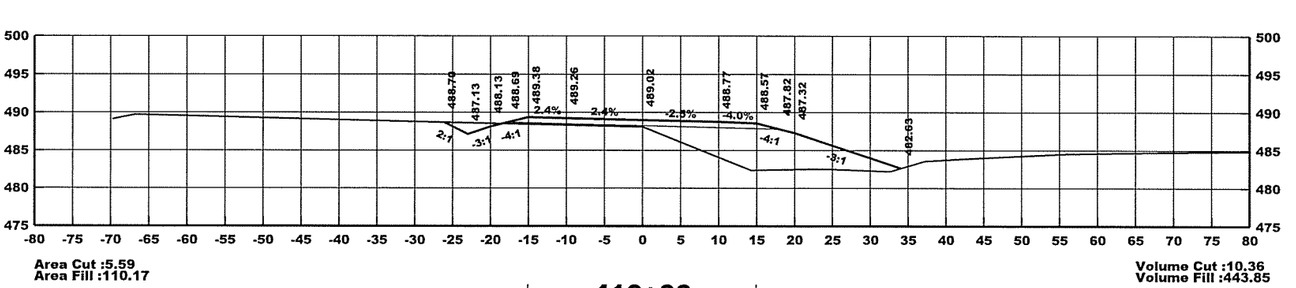


Area Cut :71.55
Area Fill :25.87

Volume Cut :127.15
Volume Fill :224.22

↓ **416+89** ↓

INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.



Area Cut :5.59
Area Fill :110.17

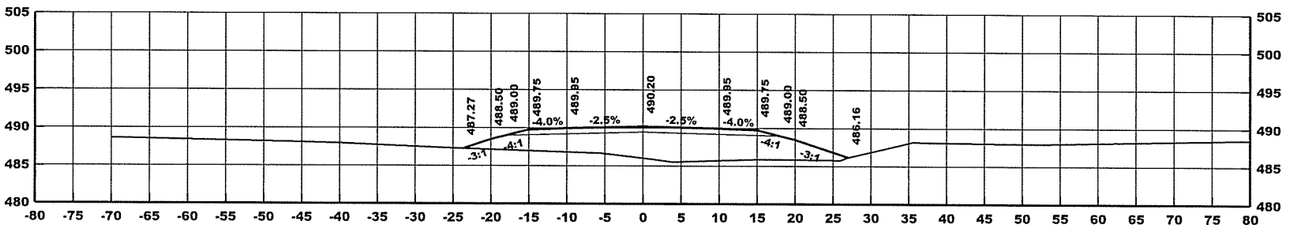
Volume Cut :10.36
Volume Fill :443.85

↓ **416+00** ↓

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		58	74

4 CROSS SECTIONS

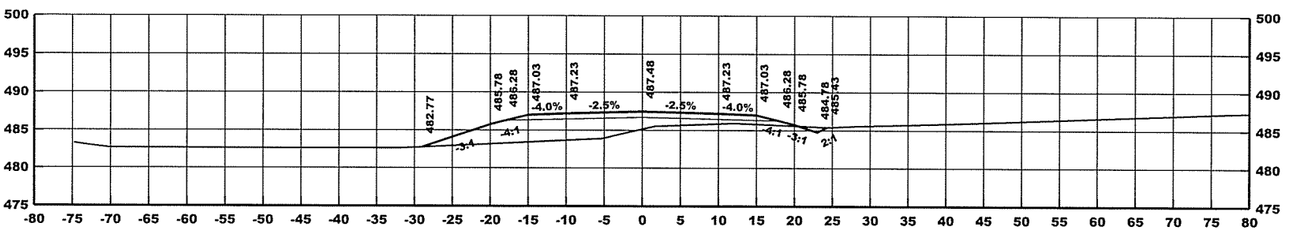
JOB NO. FA2808



Area Cut :0.00
Area Fill :130.37

Volume Cut :2.43
Volume Fill :386.84

↓ **422+00** ↓

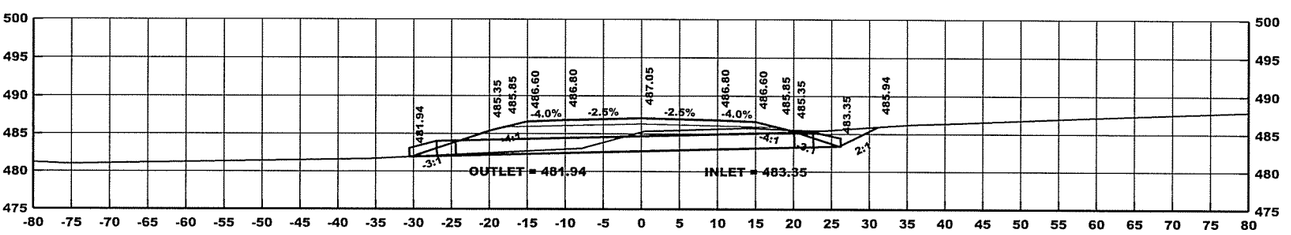


Area Cut :1.31
Area Fill :78.52

Volume Cut :12.70
Volume Fill :145.91

← **421+00** ↓

END DITCH GRADE RIGHT SIDE

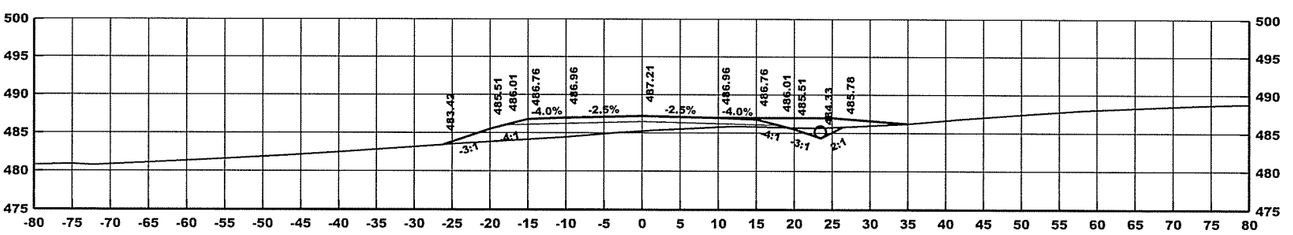


Area Cut :12.40
Area Fill :79.06

Volume Cut :12.95
Volume Fill :97.49

← **420+50** ←

CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 3 ACRES Q25 = 4 CFS
24" RCP (CL. III)(TYPE 3 BEDDING) = 46 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 50 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

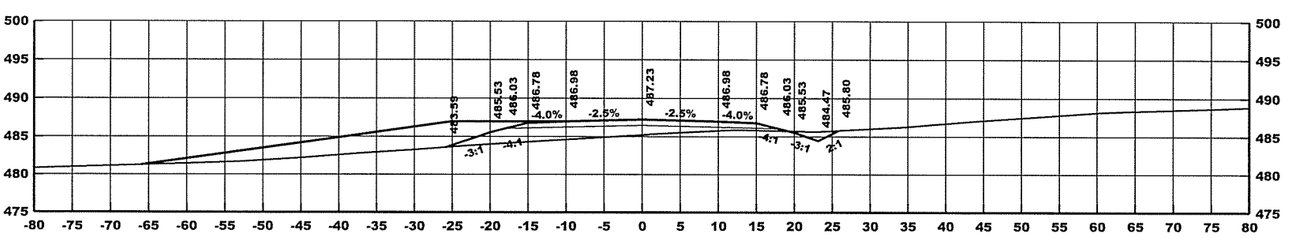


Area Cut :4.65
Area Fill :49.34

Volume Cut :0.94
Volume Fill :10.74

← **420+09** ↑

INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 20 CU. YDS.



Area Cut :3.77
Area Fill :47.33

Volume Cut :0.39
Volume Fill :5.18

← **420+03** ↑

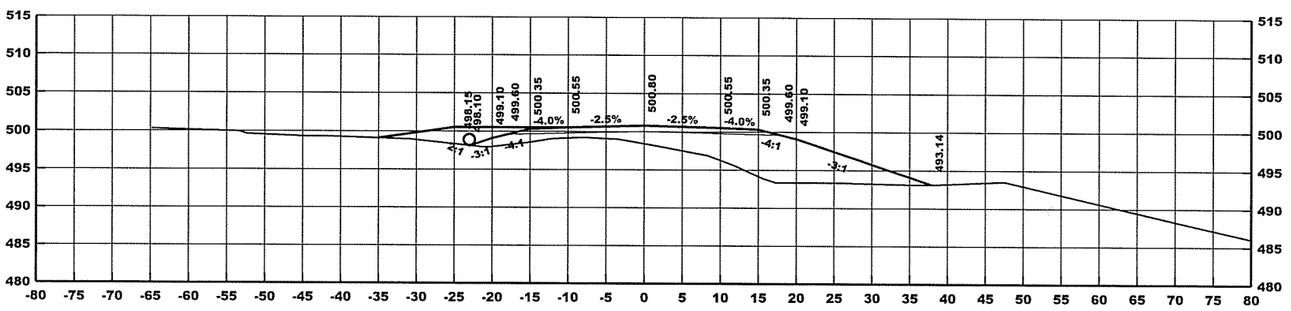
CONST. APPR. = 65 CU. YDS.
LT. SIDE

4 CROSS SECTIONS

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	FA2808	59	74

JOB NO.

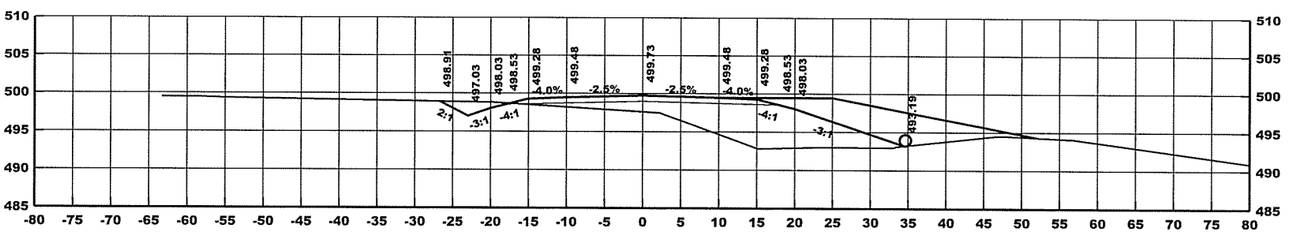


Area Cut :0.00
Area Fill :149.47

Volume Cut :7.60
Volume Fill :245.09

↓ **424+67** →

INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 25 CU. YDS.

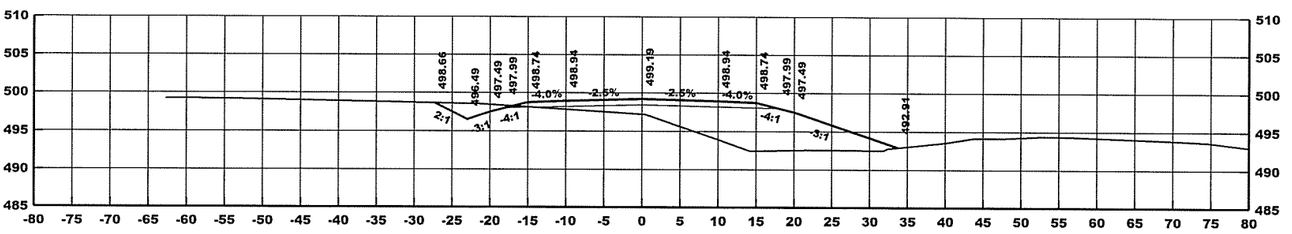


Area Cut :8.54
Area Fill :126.26

Volume Cut :6.92
Volume Fill :88.04

↓ **424+19** ↓

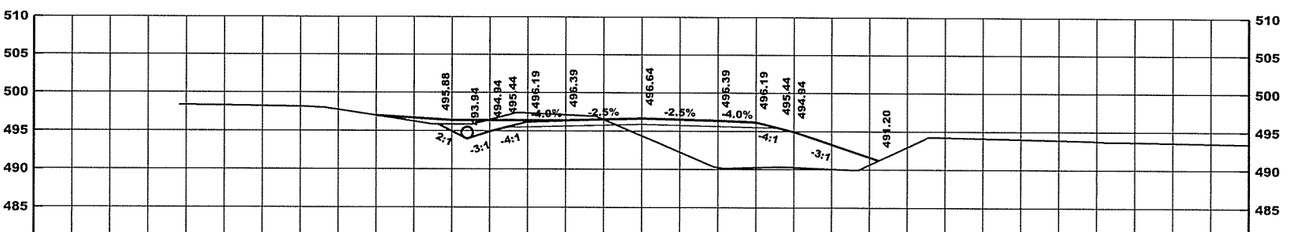
INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 65 CU. YDS.



Area Cut :11.12
Area Fill :123.97

Volume Cut :46.51
Volume Fill :263.61

↓ **424+00** ↓

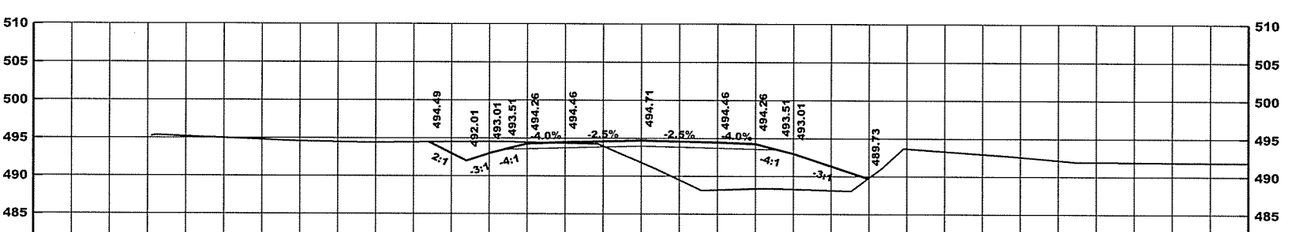


Area Cut :32.18
Area Fill :121.46

Volume Cut :43.96
Volume Fill :194.84

↓ **423+42** ↓

INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 20 CU. YDS.



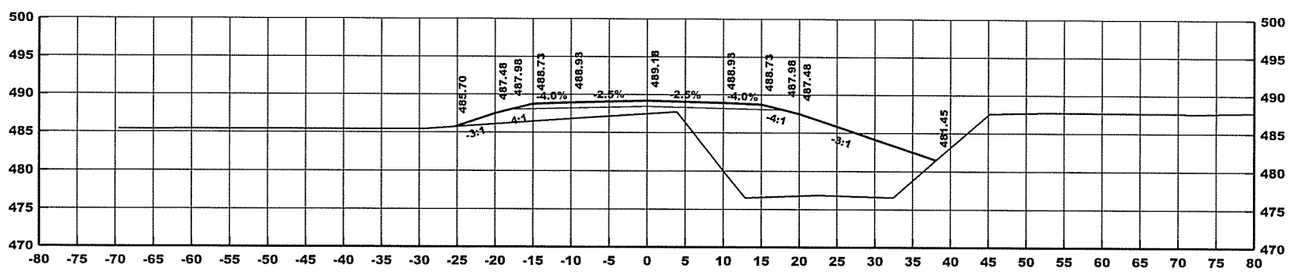
Area Cut :24.34
Area Fill :129.05

Volume Cut :45.08
Volume Fill :480.41

↓ **423+00** ↓

DATE REVISED	DATE PLOTTED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA2808	60	74

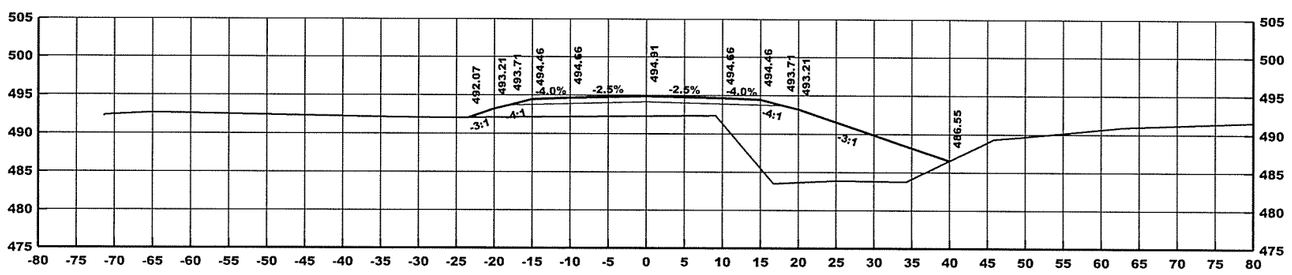
4 CROSS SECTIONS



Area Cut :0.00
Area Fill :296.69

Volume Cut :0.00
Volume Fill :997.14

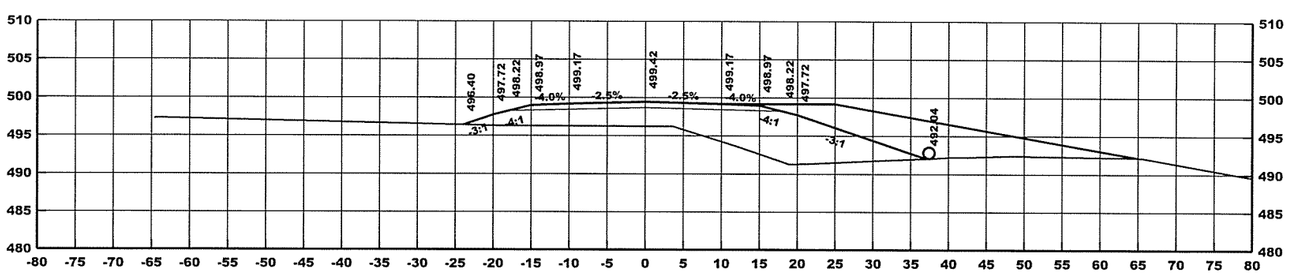
← **428+00** ↑



Area Cut :0.00
Area Fill :241.77

Volume Cut :0.00
Volume Fill :737.70

↑ **427+00** ↑

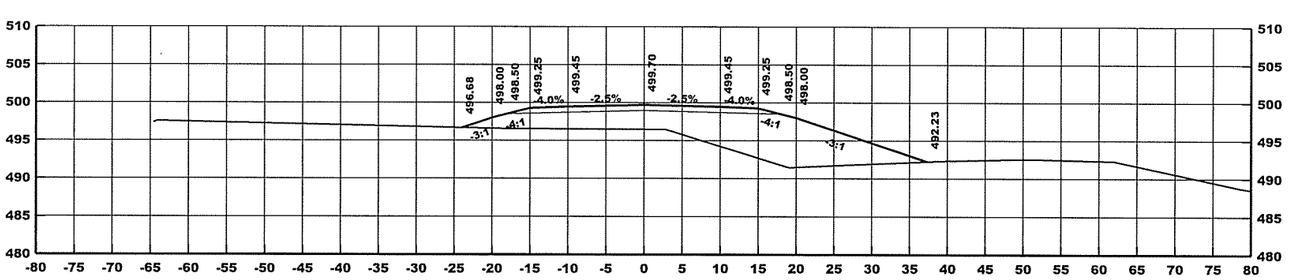


Area Cut :0.00
Area Fill :186.57

Volume Cut :0.00
Volume Fill :49.15

↑ **426+07** ↑

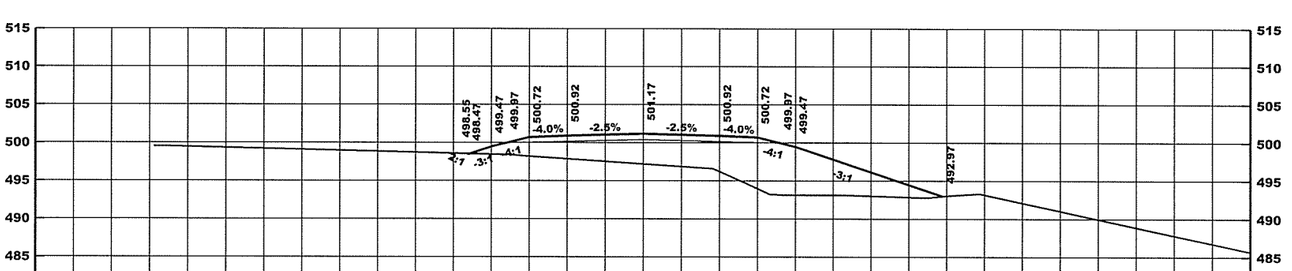
INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 100 CU. YDS.



Area Cut :0.00
Area Fill :192.60

Volume Cut :0.03
Volume Fill :729.79

↑ **426+00** ↑

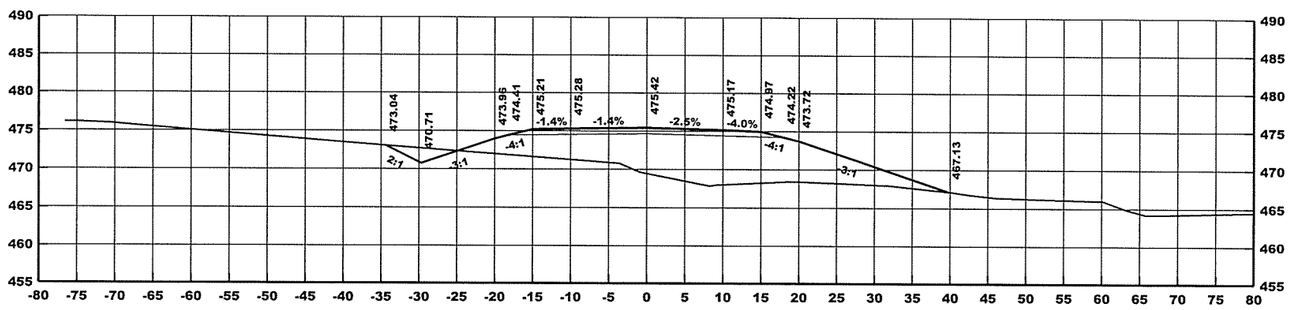


Area Cut :0.02
Area Fill :201.48

Volume Cut :0.01
Volume Fill :214.47

↕ **425+00** ↑

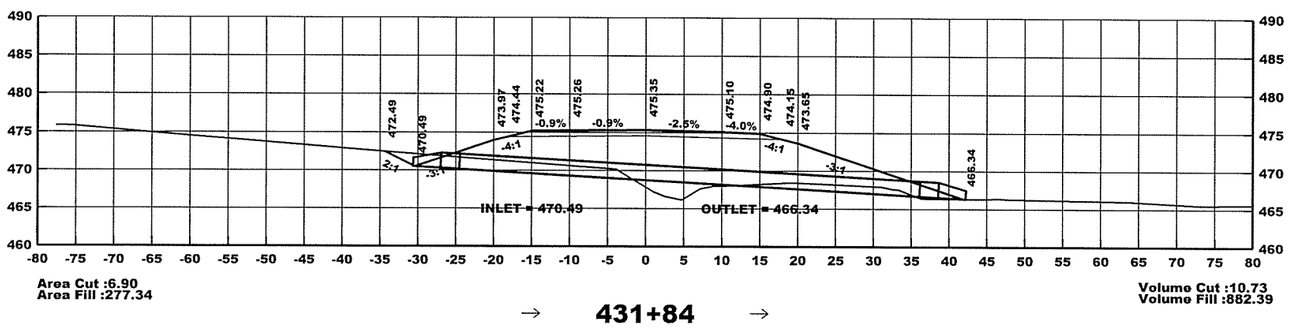
						DATE REVISED	
						DATE FILMED	
						DATE REVISED	
						DATE FILMED	
4	CROSS SECTIONS	JOB NO.	FA2808	61	74	FED.RD. DIST.NO. 6	STATE ARK.
						FED.AID PROJ.NO.	
						SHEET NO.	
						TOTAL SHEETS	



Area Cut :9.44
Area Fill :242.68

Volume Cut :4.84
Volume Fill :154.08

↓ **432+00** →

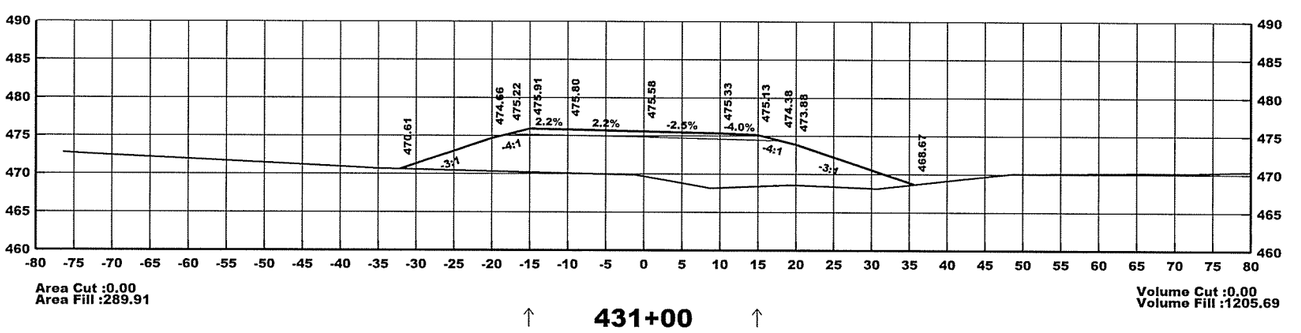


Area Cut :6.90
Area Fill :277.34

Volume Cut :10.73
Volume Fill :882.39

→ **431+84** →

CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 12 ACRES Q25 = 16 CFS
24" RCP (CL. III)(TYPE 3 BEDDING) = 62 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 68 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

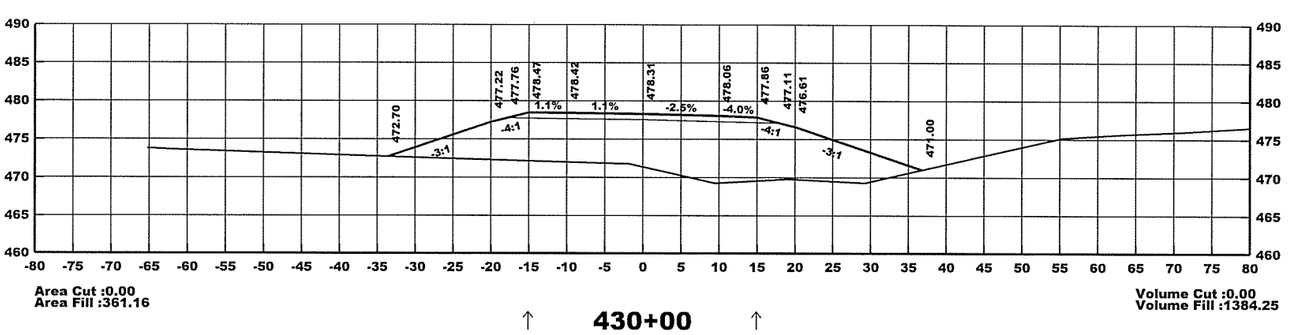


Area Cut :0.00
Area Fill :289.91

Volume Cut :0.00
Volume Fill :1205.69

↑ **431+00** ↑

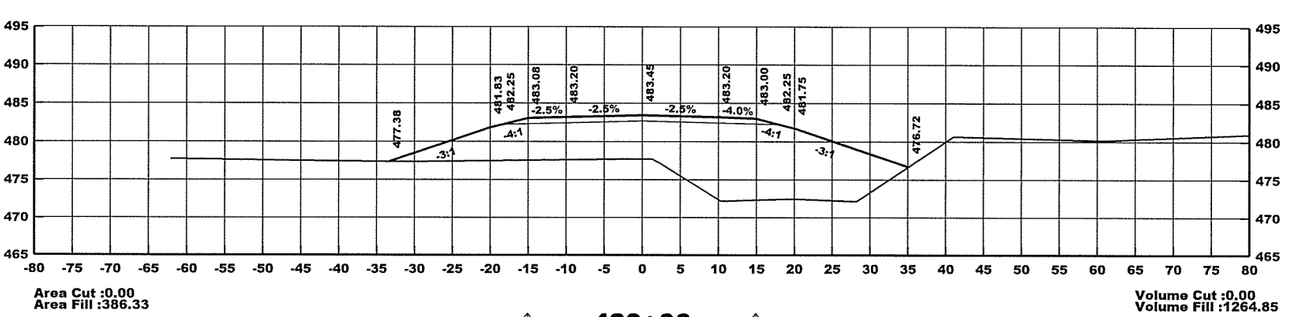
BEGIN DITCH GRADE LEFT SIDE



Area Cut :0.00
Area Fill :361.16

Volume Cut :0.00
Volume Fill :1384.25

↑ **430+00** ↑

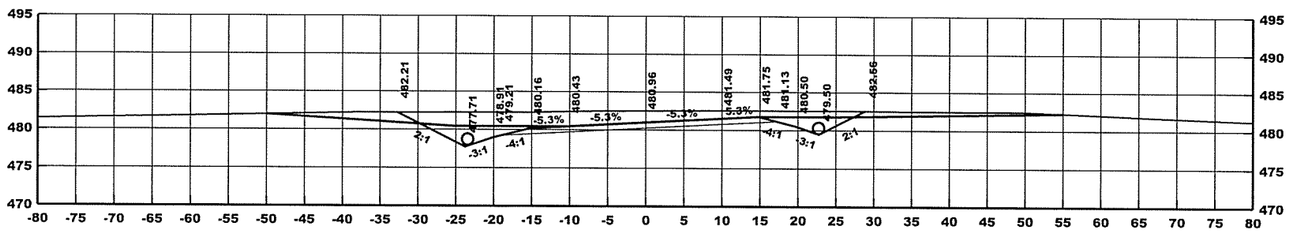


Area Cut :0.00
Area Fill :386.33

Volume Cut :0.00
Volume Fill :1264.85

↑ **429+00** ↑

							DATE REVISED	
							DATE FILMED	
							DATE REVISED	
							DATE FILMED	
4	CROSS SECTIONS						FEDERAL DIST. NO.	6
		JOB NO.					STATE	ARK.
							FED.AID PROJ.NO.	FA2808
							SHEET NO.	62
							TOTAL SHEETS	74

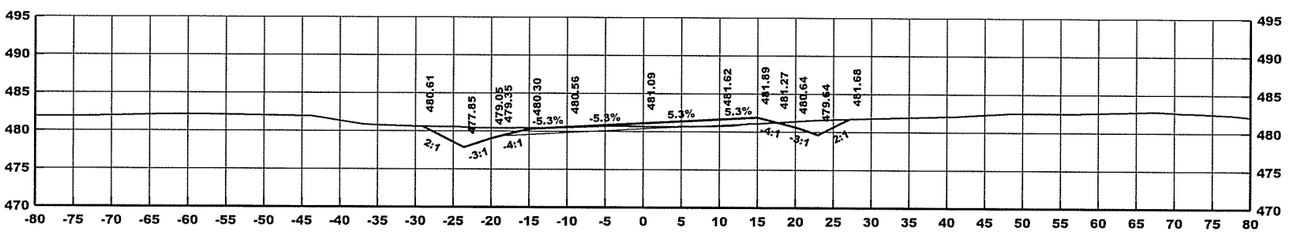


Area Cut :141.84
Area Fill :0.00

Volume Cut :66.93
Volume Fill :0.31

↑ **436+20** ↑

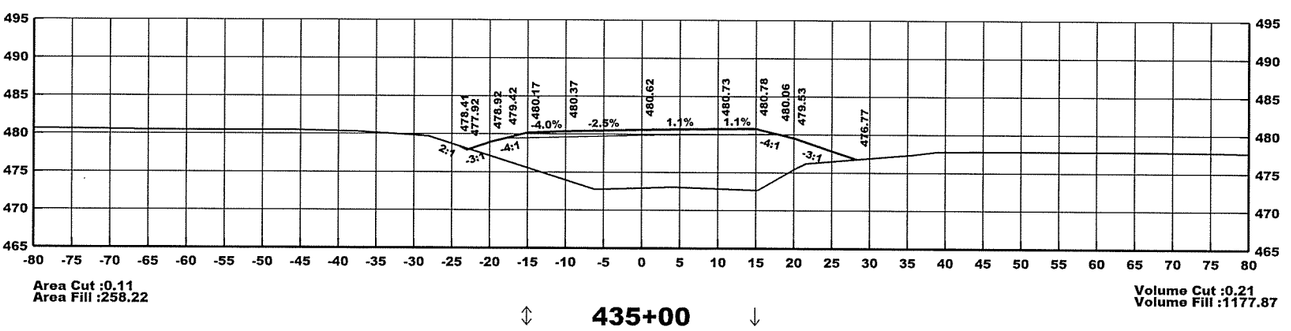
INSTALL
18" X 60' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR.
COMP. EMBK. = 40 CU. YDS.
UNCL. EXCAV. = 15 CU. YDS.
18" X 64' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR.
COMP. EMBK. = 30 CU. YDS.
UNCL. EXCAV. = 15 CU. YDS.



Area Cut :38.87
Area Fill :0.83

Volume Cut :72.19
Volume Fill :479.72

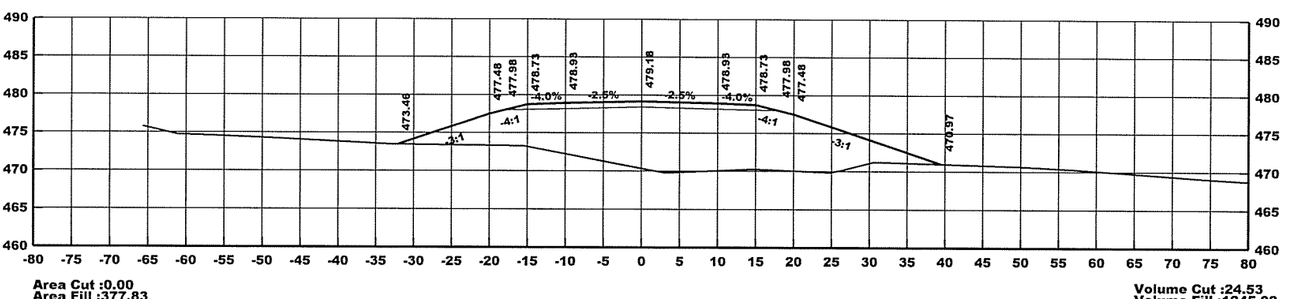
↑ **436+00** ↕



Area Cut :0.11
Area Fill :258.22

Volume Cut :0.21
Volume Fill :1177.87

↕ **435+00** ↓

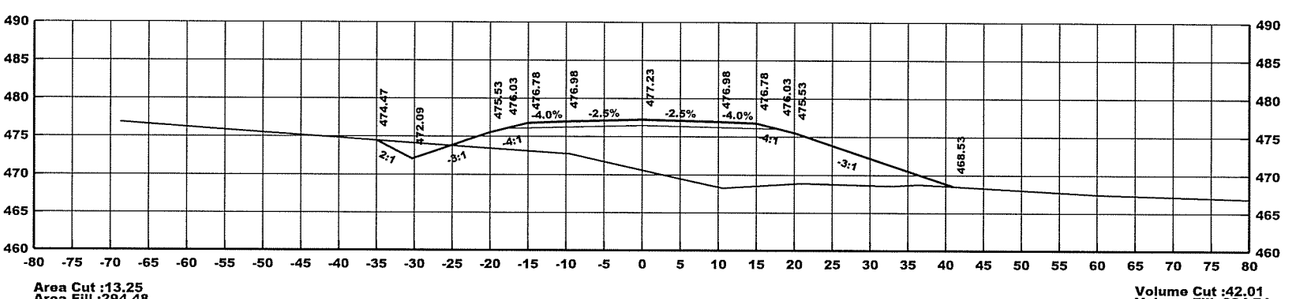


Area Cut :0.00
Area Fill :377.83

Volume Cut :24.53
Volume Fill :1245.02

↓ **434+00** →

END DITCH GRADE LEFT SIDE



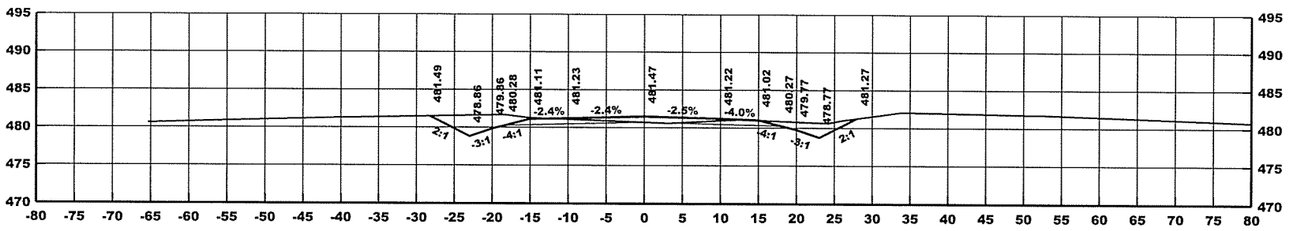
Area Cut :13.25
Area Fill :294.48

Volume Cut :42.01
Volume Fill :994.74

↓ **433+00** →

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA2808	63	74

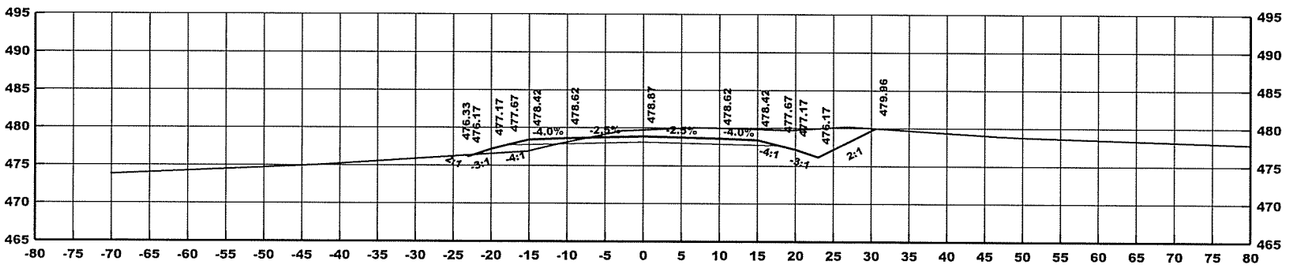
4 CROSS SECTIONS



Area Cut :44.07
Area Fill :0.15

Volume Cut :223.15
Volume Fill :12.47

↓ **440+00** ↓

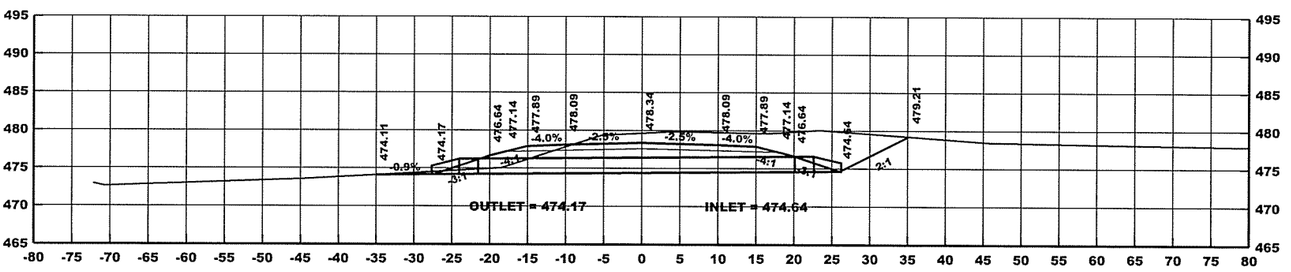


Area Cut :76.43
Area Fill :6.59

Volume Cut :177.97
Volume Fill :20.12

↓ **439+00** ↓

END DITCH GRADE RIGHT SIDE

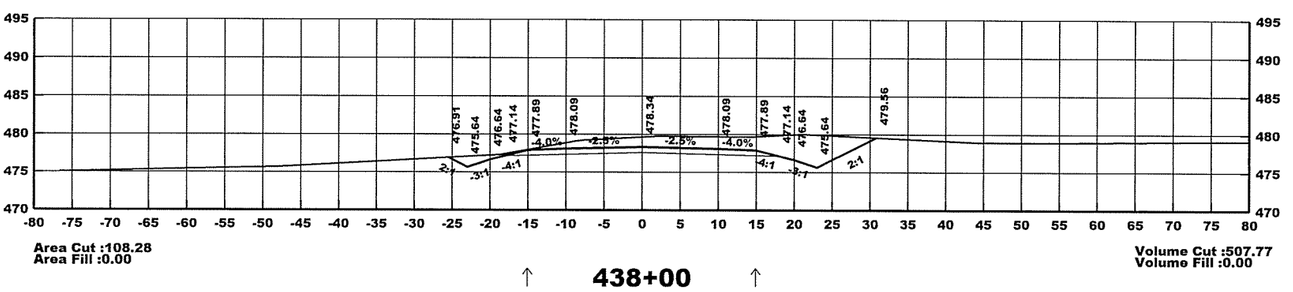


Area Cut :115.78
Area Fill :15.15

Volume Cut :207.47
Volume Fill :14.02

← **438+50** ←

CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = NA Q25 = NA
24" RCP (CL. III)(TYPE 3 BEDDING) = 42 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 48 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

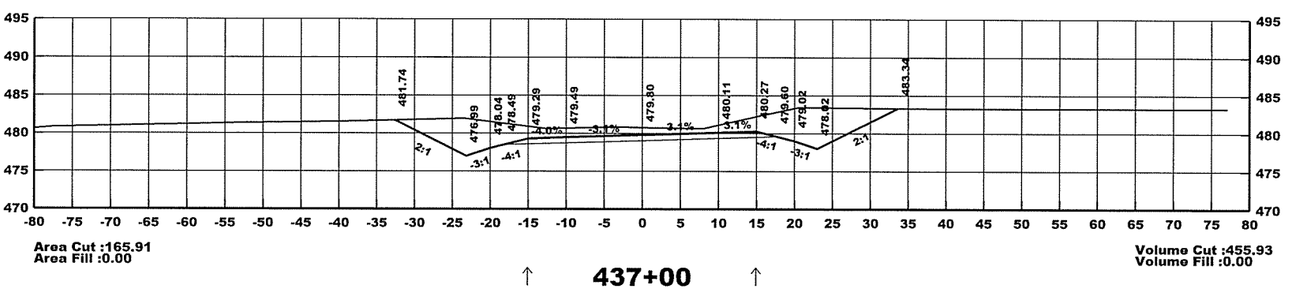


Area Cut :108.28
Area Fill :0.00

Volume Cut :507.77
Volume Fill :0.00

↑ **438+00** ↑

BEGIN DITCH GRADE RIGHT SIDE



Area Cut :165.91
Area Fill :0.00

Volume Cut :455.93
Volume Fill :0.00

↑ **437+00** ↑

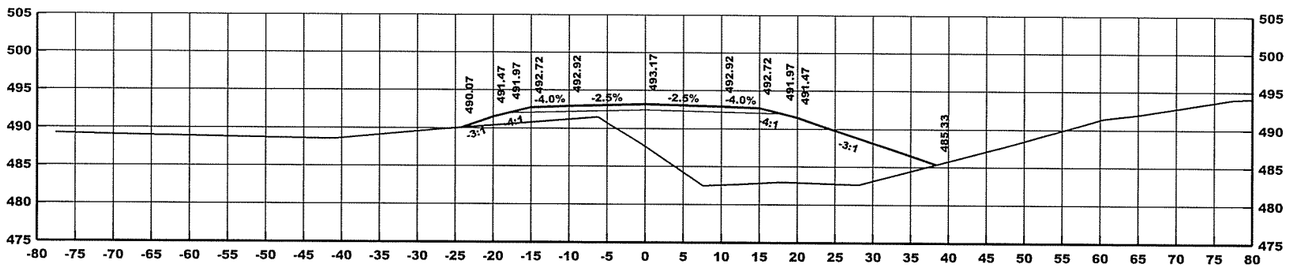
↑ **436+30** ↑

CONST. APPR. = 10 CU. YDS.
LT. SIDE

4 CROSS SECTIONS

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		64	74

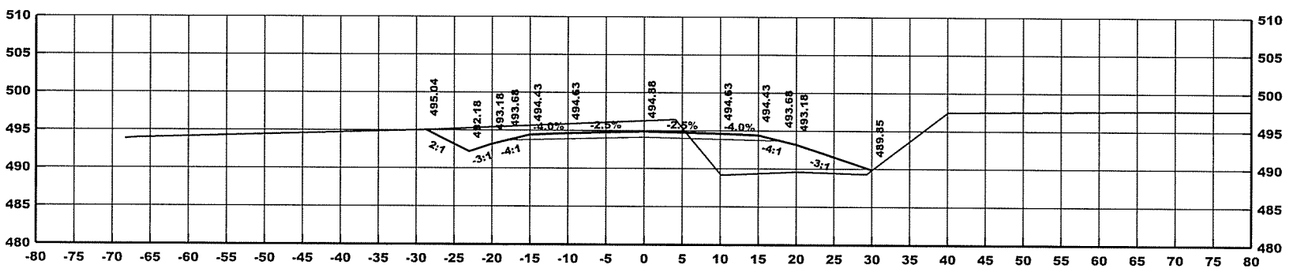
JOB NO. FA2808



Area Cut :0.00
Area Fill :296.90

Volume Cut :125.89
Volume Fill :685.07

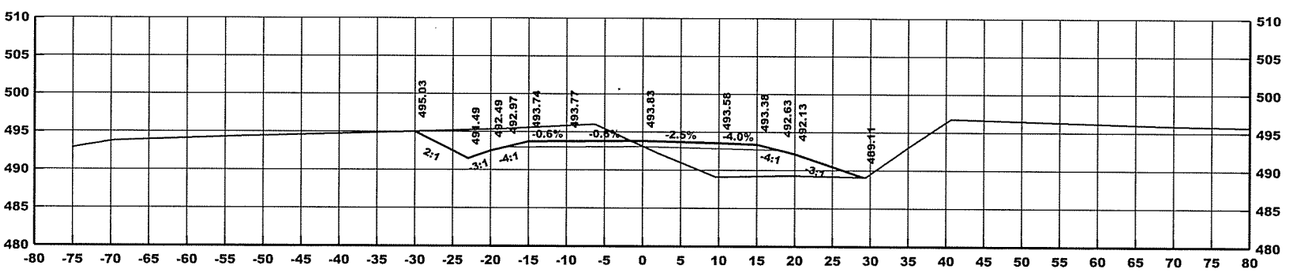
← **445+00** ↑



Area Cut :67.98
Area Fill :73.04

Volume Cut :254.30
Volume Fill :258.78

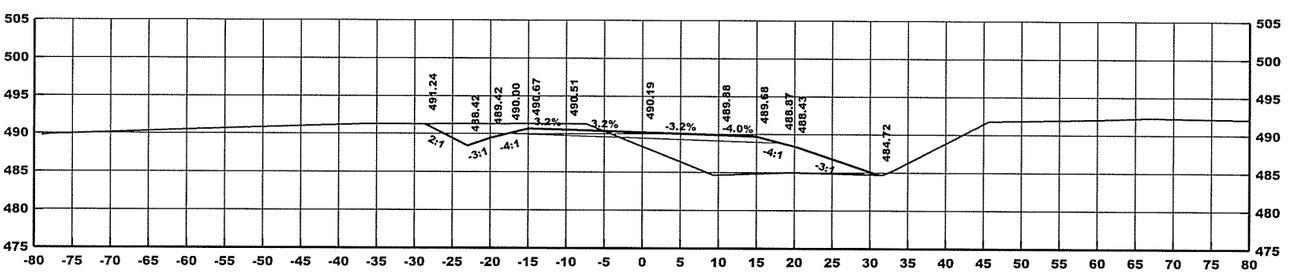
↓ **444+00** ↕



Area Cut :69.34
Area Fill :66.70

Volume Cut :197.52
Volume Fill :291.90

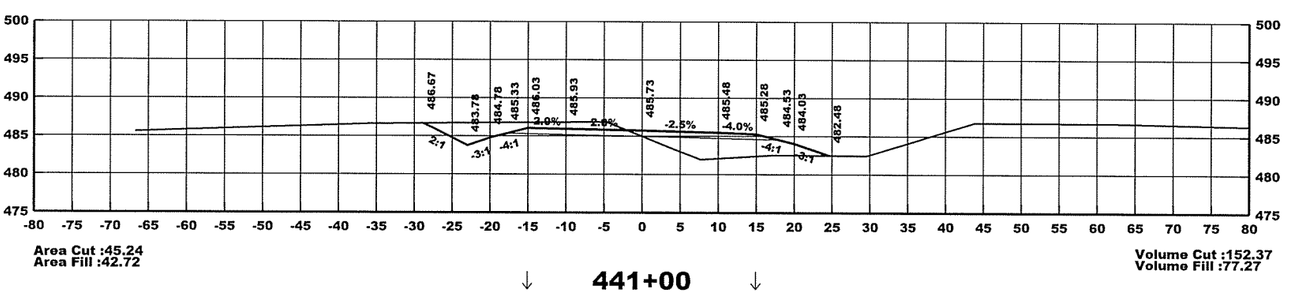
↓ **443+00** ↓



Area Cut :37.32
Area Fill :90.93

Volume Cut :152.88
Volume Fill :247.49

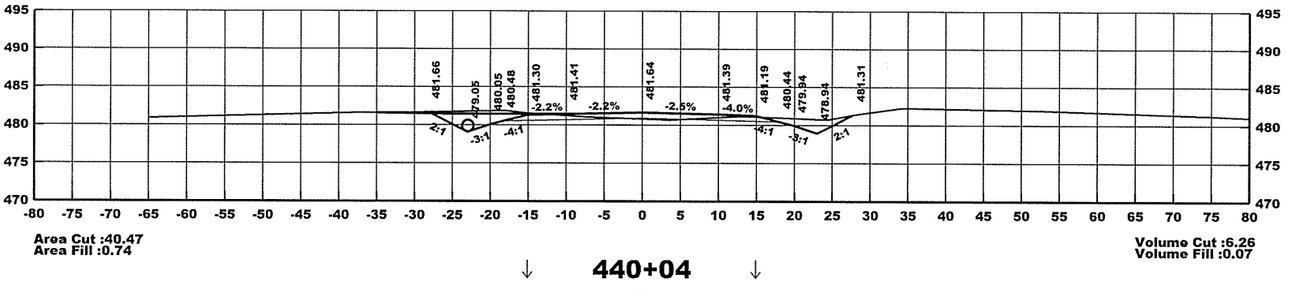
↓ **442+00** ↓



Area Cut :45.24
Area Fill :42.72

Volume Cut :152.37
Volume Fill :77.27

↓ **441+00** ↓



Area Cut :40.47
Area Fill :0.74

Volume Cut :6.26
Volume Fill :0.07

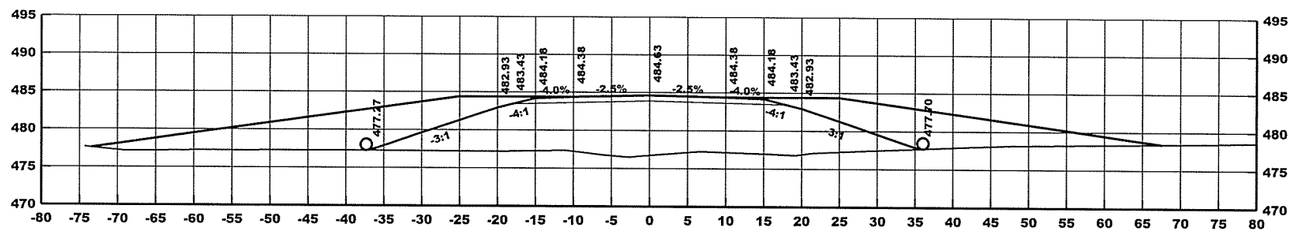
↓ **440+04** ↓

INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA2808	65	74

4 CROSS SECTIONS

JOB NO.

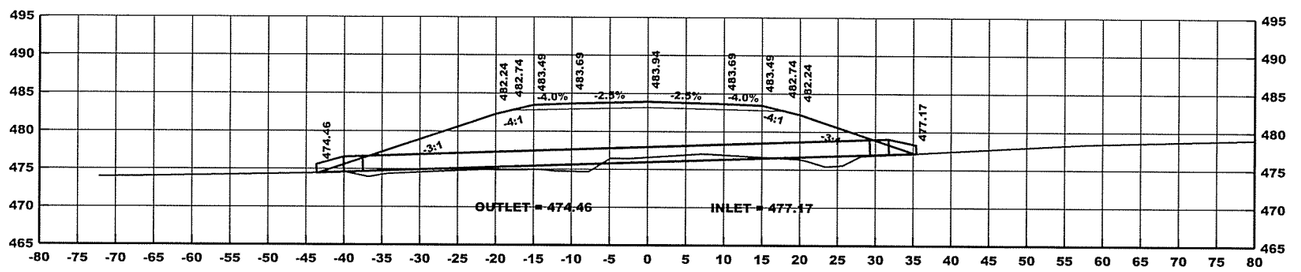


Area Cut :0.00
Area Fill :358.85

Volume Cut :0.00
Volume Fill :959.14

← **448+97** ↓

INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 100 CU. YDS.
18" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 105 CU. YDS.

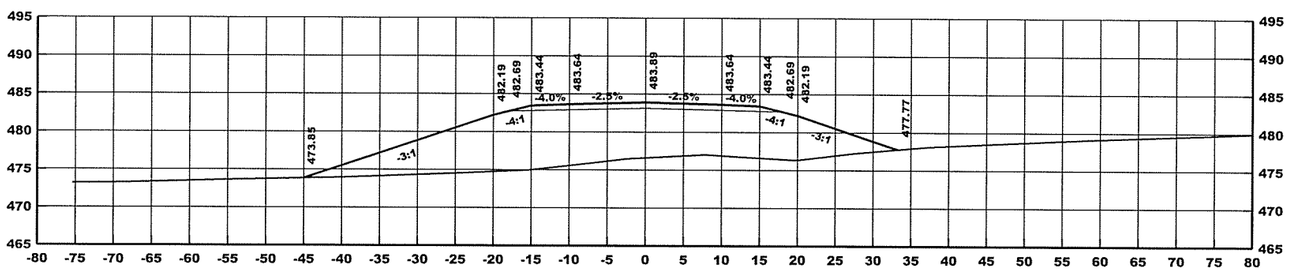


Area Cut :0.00
Area Fill :414.19

Volume Cut :0.00
Volume Fill :452.35

← **448+30** ←

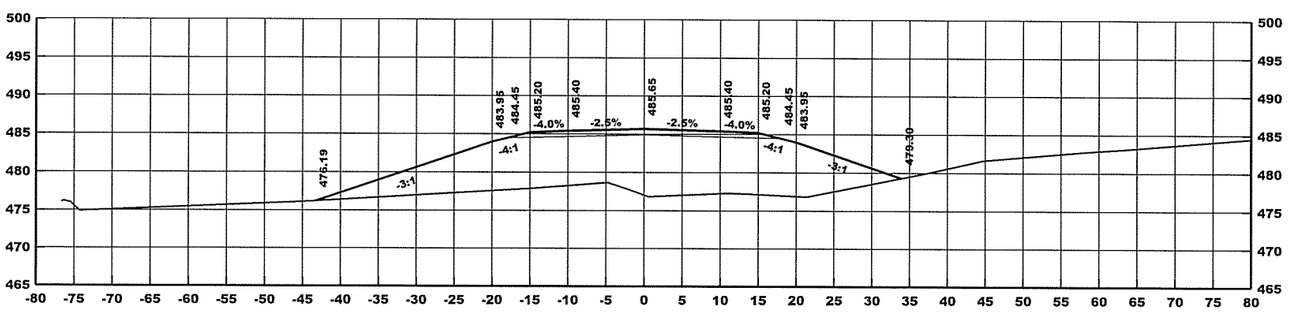
CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 8 ACRES Q25 = 11 CFS
24" RCP (CL. III)(TYPE 3 BEDDING) = 68 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 72 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH



Area Cut :0.00
Area Fill :400.04

Volume Cut :0.00
Volume Fill :1496.83

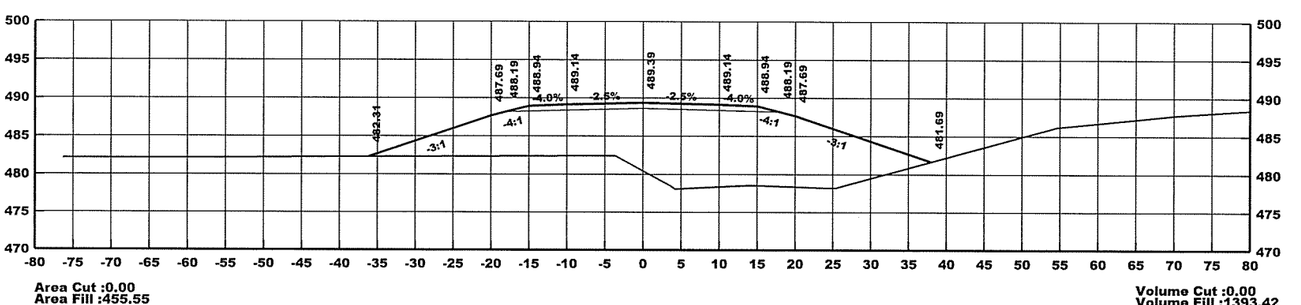
← **448+00** ↑



Area Cut :0.00
Area Fill :408.25

Volume Cut :0.00
Volume Fill :1599.63

← **447+00** ↑



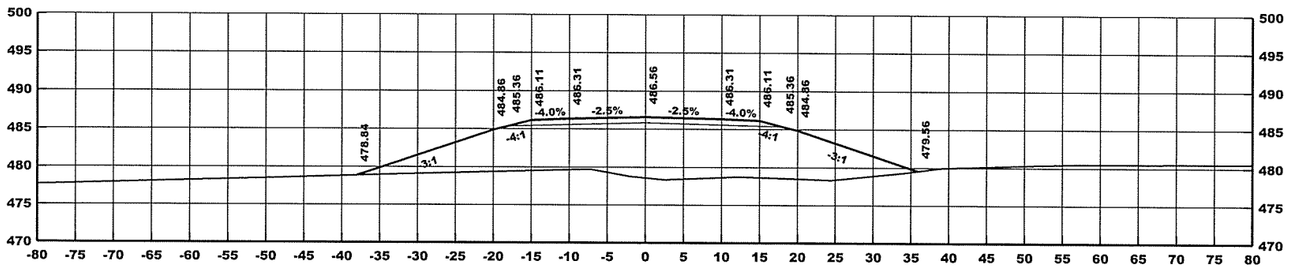
Area Cut :0.00
Area Fill :455.55

Volume Cut :0.00
Volume Fill :1393.42

← **446+00** ↑

DATE REVISED	DATE PLATED	DATE REVISED	DATE PLATED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA2808	66	74

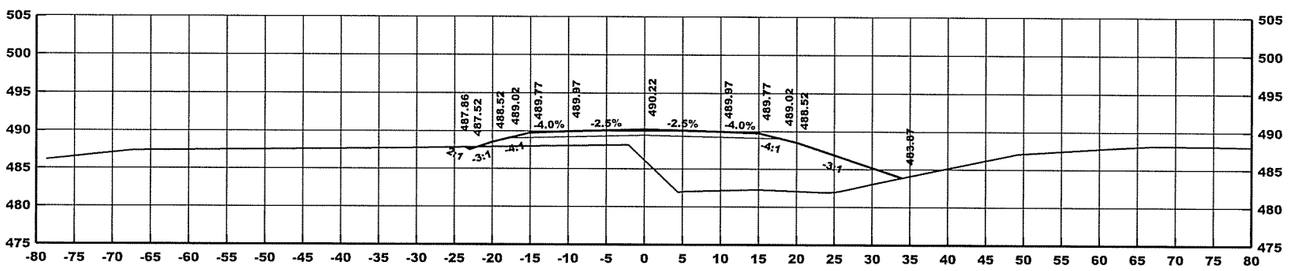
4 CROSS SECTIONS



Area Cut :0.00
Area Fill :366.48

Volume Cut :0.56
Volume Fill :1065.36

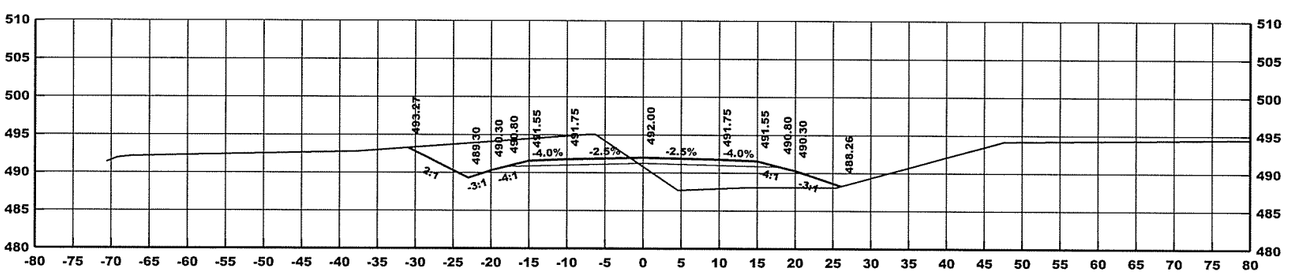
← **454+00** ↑



Area Cut :0.30
Area Fill :208.82

Volume Cut :173.06
Volume Fill :501.05

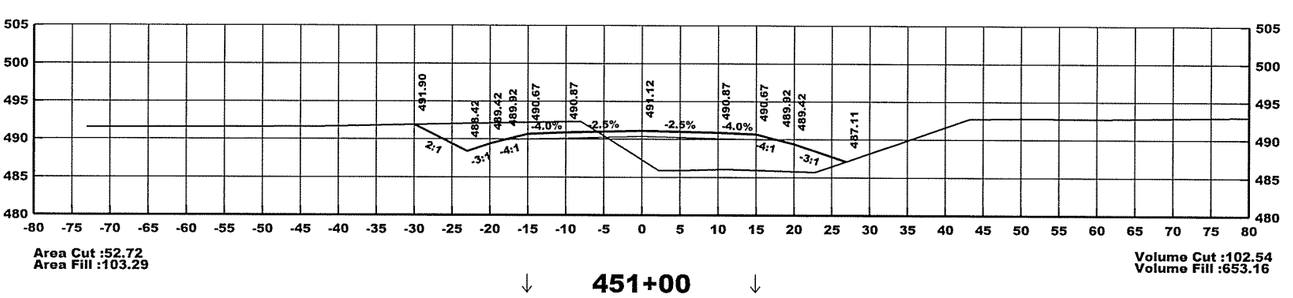
↑ **453+00** ↑



Area Cut :93.15
Area Fill :61.75

Volume Cut :270.13
Volume Fill :305.63

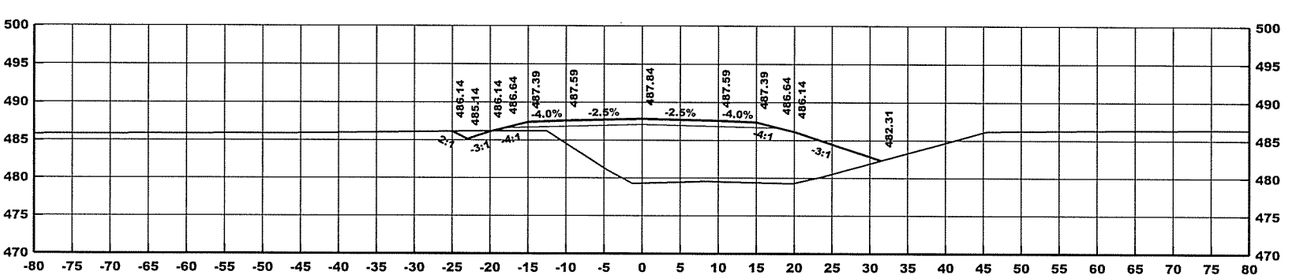
↕ **452+00** ↕



Area Cut :52.72
Area Fill :103.29

Volume Cut :102.54
Volume Fill :653.16

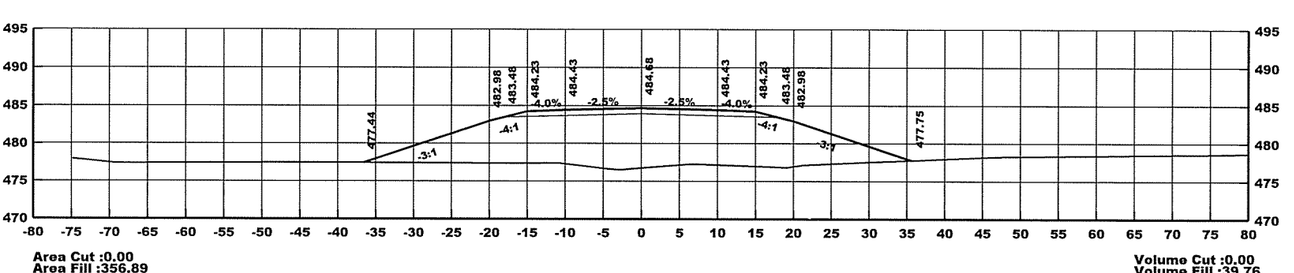
↓ **451+00** ↓



Area Cut :2.65
Area Fill :249.42

Volume Cut :4.92
Volume Fill :1122.79

↓ **450+00** ↓

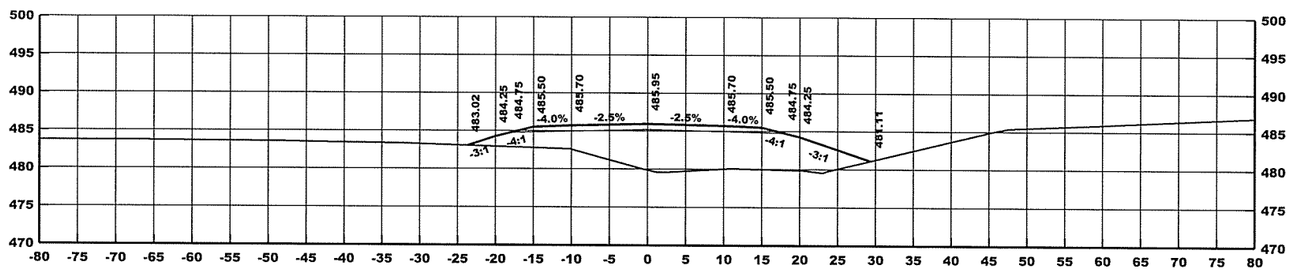


Area Cut :0.00
Area Fill :356.89

Volume Cut :0.00
Volume Fill :39.76

← **449+00** ↓

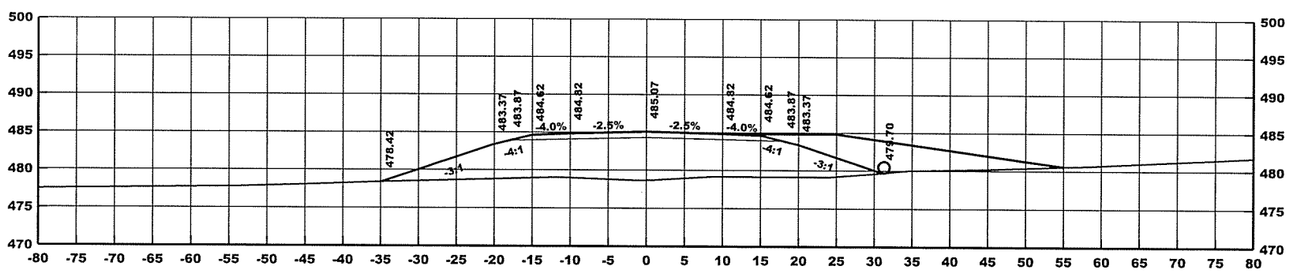
						DATE REVISED	
						DATE FILMED	
						DATE REVISED	
						DATE FILMED	
4	CROSS SECTIONS	JOB NO.	FA2808	STATE	ARK.	FED.ROAD DIST.NO.	6
				FED.AID PROJ.NO.		SHEET NO.	67
						TOTAL SHEETS	74



Area Cut :0.00
Area Fill :186.99

Volume Cut :0.00
Volume Fill :531.90

↓ **456+00** ↓

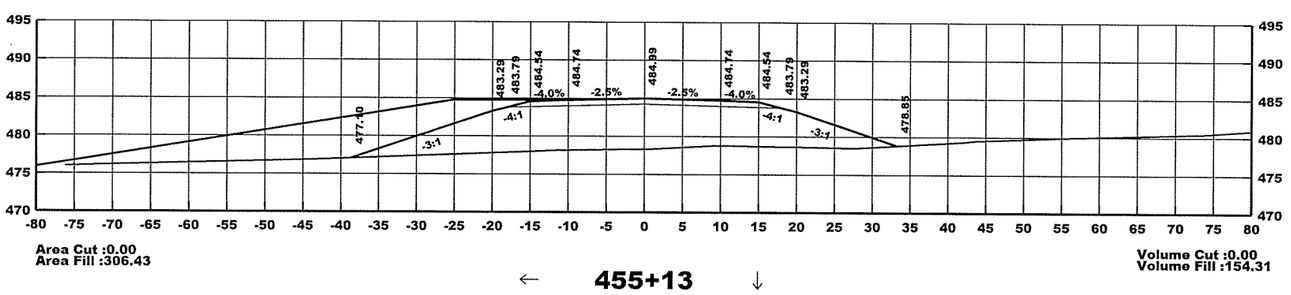


Area Cut :0.00
Area Fill :261.81

Volume Cut :0.00
Volume Fill :242.03

← **455+36** ↓

INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 70 CU. YDS.

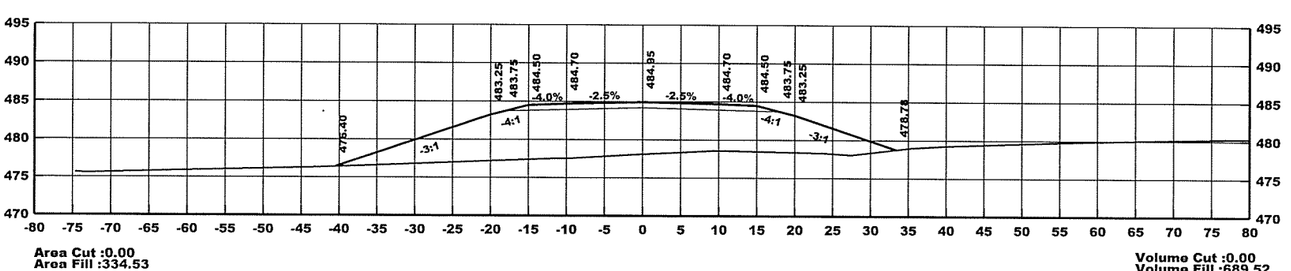


Area Cut :0.00
Area Fill :306.43

Volume Cut :0.00
Volume Fill :154.31

← **455+13** ↓

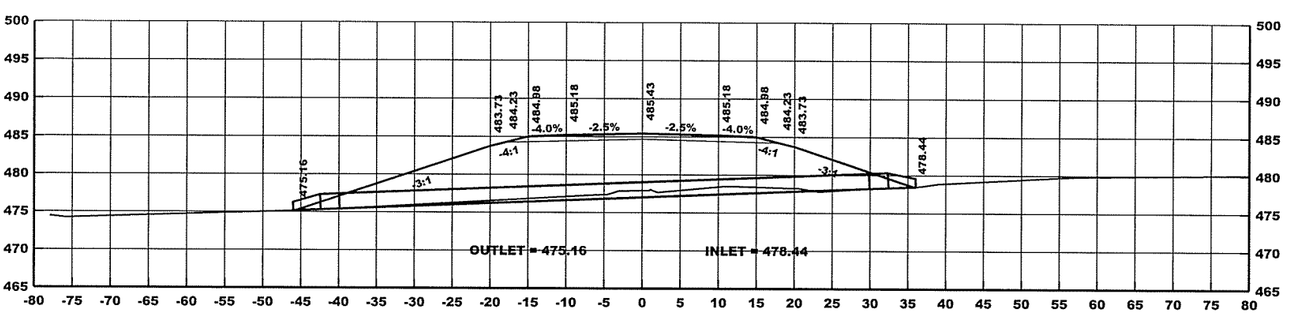
CONST. APPR. = 120 CU. YDS.
LT. SIDE



Area Cut :0.00
Area Fill :334.53

Volume Cut :0.00
Volume Fill :689.52

← **455+00** ↓



Area Cut :0.00
Area Fill :410.15

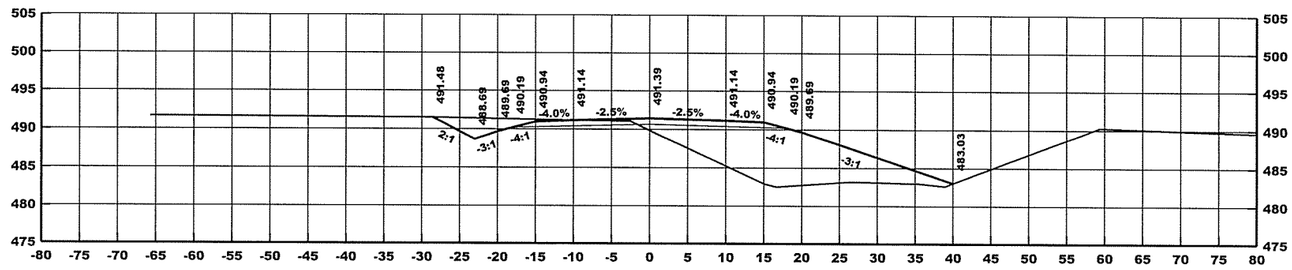
Volume Cut :0.00
Volume Fill :719.10

← **454+50** ←

CONSTRUCT
24" PIPE CULVERT
CROSS DRAIN
D.A. = 9 ACRES Q25 = 12 CFS
24" RCP (CL. III)(TYPE 3 BEDDING) = 70 LIN. FT.
24" CMP OR PLASTIC (TYPE 2 BEDDING) = 76 LIN. FT.
24" FES ON LT. AND RT. = 2 EACH

DATE REVISED							
DATE FILMED							
DATE REVISED							
DATE FILMED							
FED.RD. DIST.NO.	6						
JOB NO.	ARK.						
STATE							
FED.AID PROJ.NO.	FA2808						
SHEET NO.	68						
TOTAL SHEETS	74						

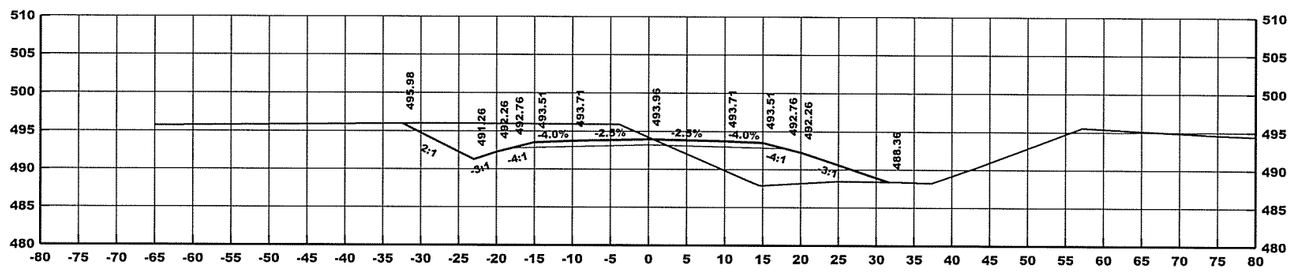
4 CROSS SECTIONS



Area Cut :28.78
Area Fill :165.89

Volume Cut :226.24
Volume Fill :452.02

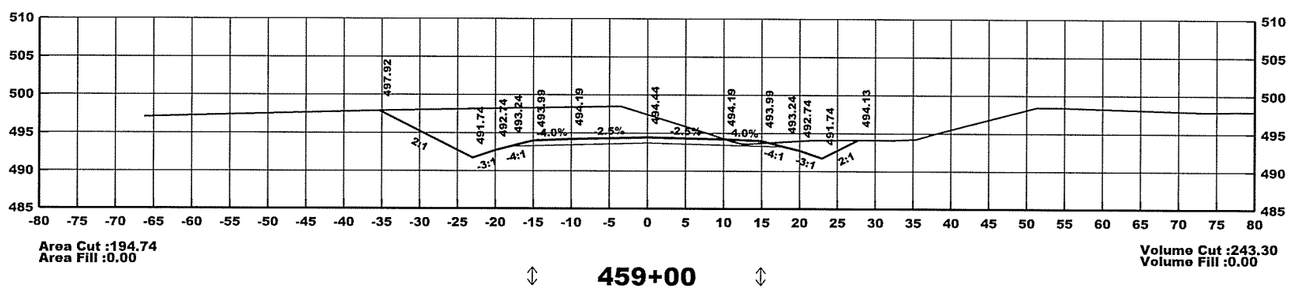
↑ **461+00** ↑



Area Cut :93.39
Area Fill :78.20

Volume Cut :533.58
Volume Fill :144.81

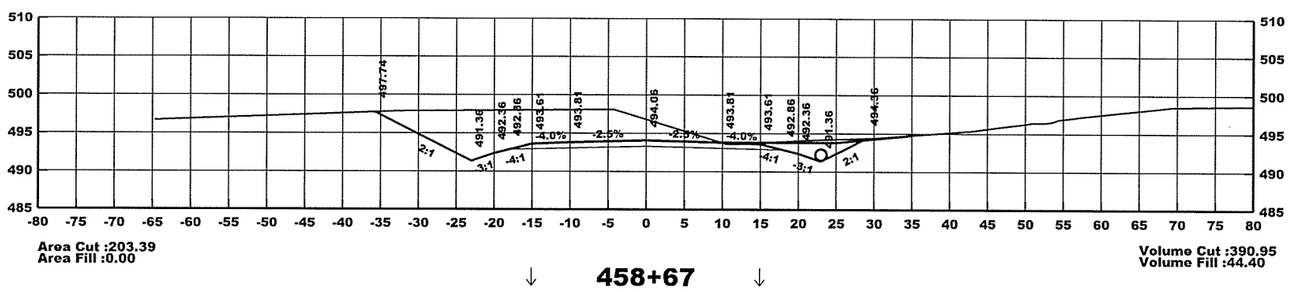
↑ **460+00** ↑



Area Cut :194.74
Area Fill :0.00

Volume Cut :243.30
Volume Fill :0.00

↕ **459+00** ↕

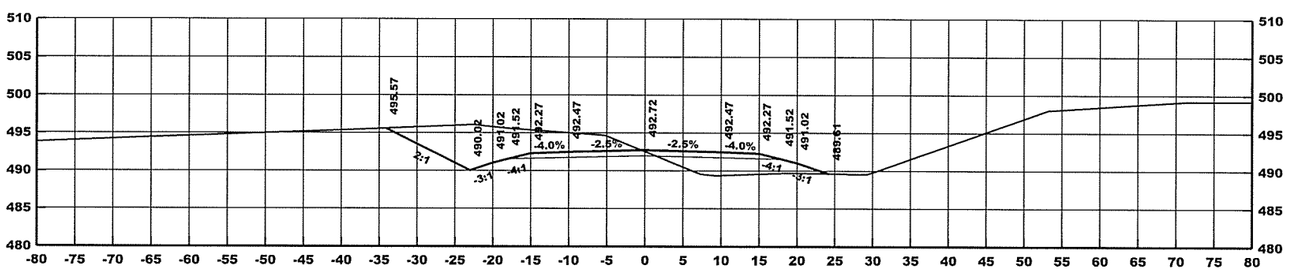


Area Cut :203.39
Area Fill :0.00

Volume Cut :390.95
Volume Fill :44.40

↓ **458+67** ↓

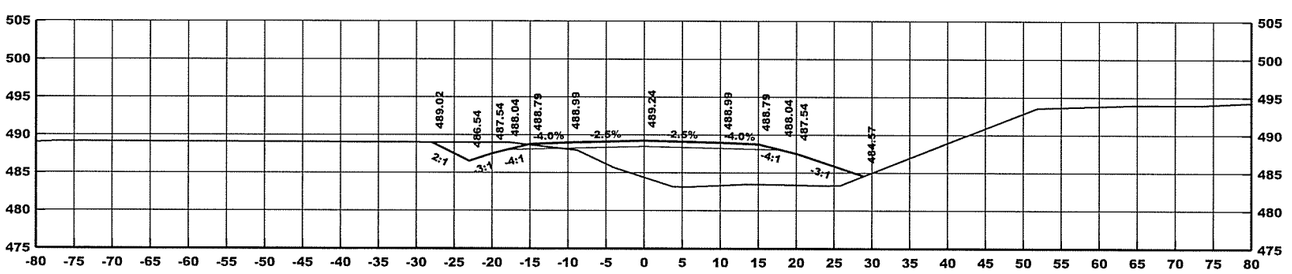
INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.



Area Cut :111.70
Area Fill :35.79

Volume Cut :239.84
Volume Fill :324.34

↓ **458+00** ↓

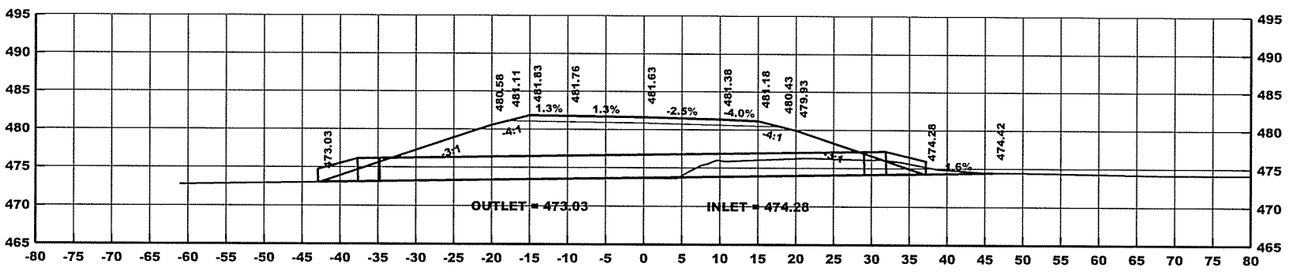


Area Cut :17.81
Area Fill :139.36

Volume Cut :32.98
Volume Fill :604.34

↓ **457+00** ↓

						DATE REVISED	
						DATE FILMED	
						DATE REVISED	
						DATE FILMED	
4 CROSS SECTIONS						FED.RD. DIST.NO.	6
						STATE	ARK.
						FED.AID PROJ.NO.	FA2808
						SHEET NO.	69
						TOTAL SHEETS	74
						JOB NO.	

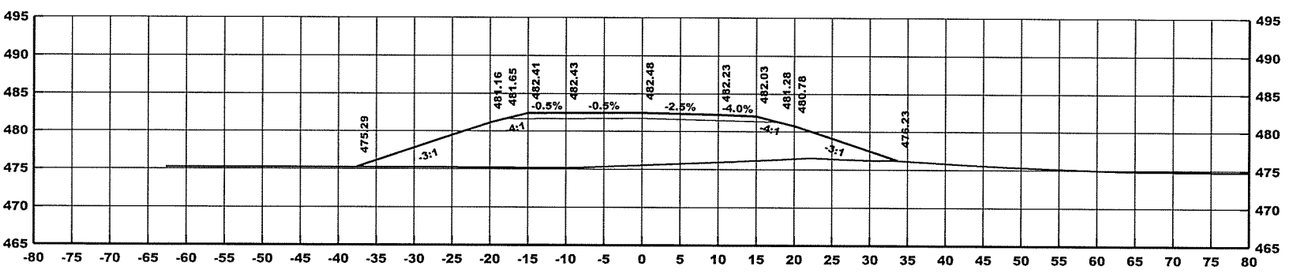


Area Cut :6.34
Area Fill :359.63

Volume Cut :6.11
Volume Fill :653.33

← **464+52** ←

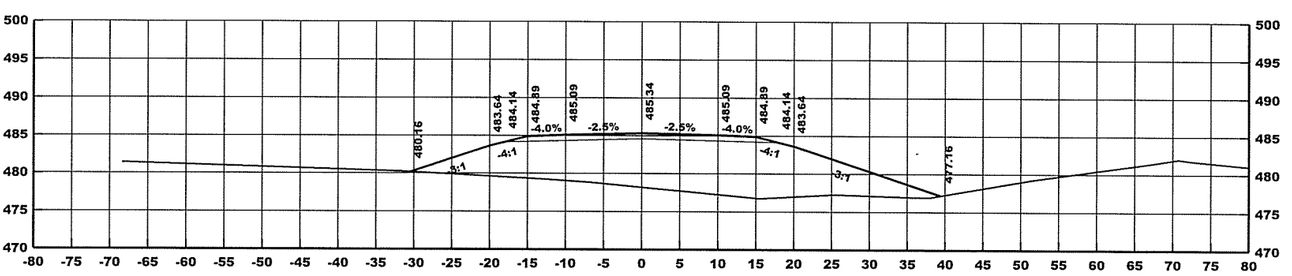
CONSTRUCT
36" PIPE CULVERT
CROSS DRAIN
D.A. = 38 ACRES Q25 = 43 CFS
36" RCP (CL. III)(TYPE 3 BEDDING) = 64 LIN. FT.
36" CMP OR PLASTIC (TYPE 2 BEDDING) = 70 LIN. FT.
36" FES ON LT. AND RT. = 2 EACH



Area Cut :0.00
Area Fill :318.83

Volume Cut :0.00
Volume Fill :1204.37

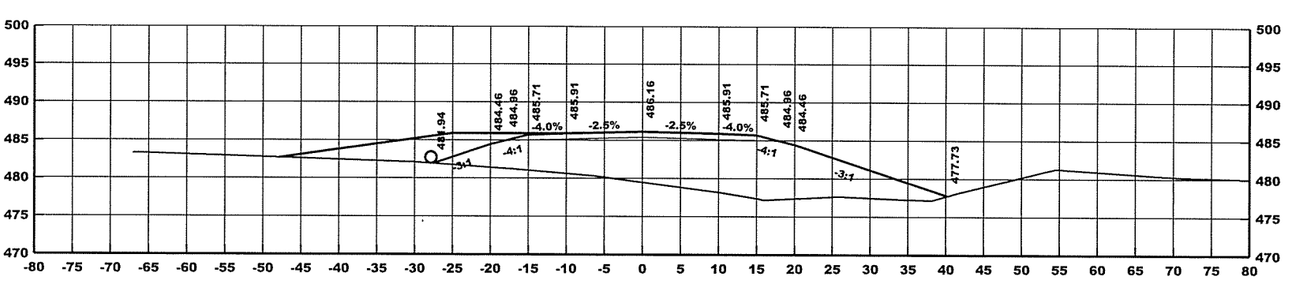
← **464+00** →



Area Cut :0.00
Area Fill :331.53

Volume Cut :0.00
Volume Fill :323.59

↑ **463+00** ↑

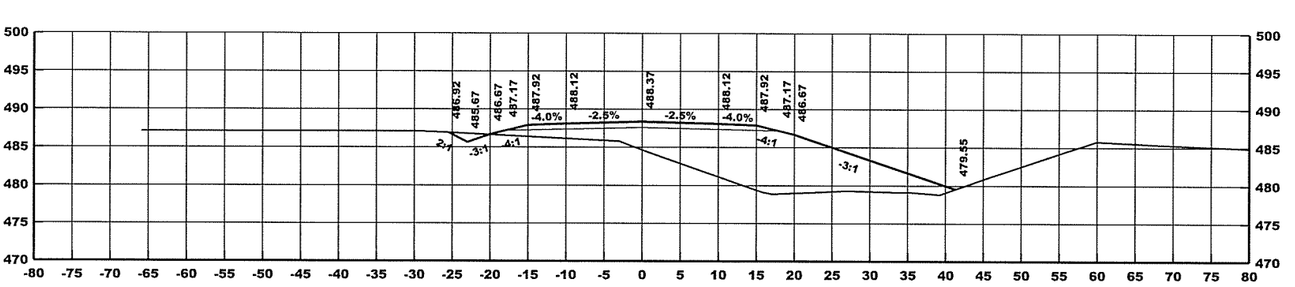


Area Cut :0.00
Area Fill :315.65

Volume Cut :4.17
Volume Fill :740.04

↑ **462+73** ↑

INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 45 CU. YDS.



Area Cut :3.08
Area Fill :231.78

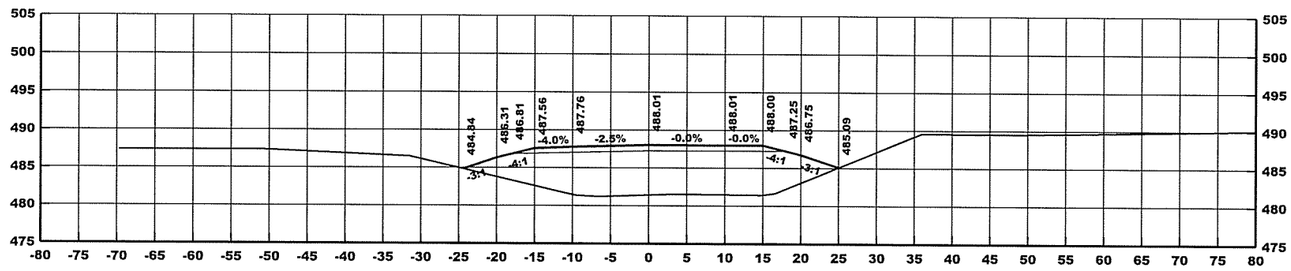
Volume Cut :59.01
Volume Fill :736.43

↑ **462+00** ↑

4 CROSS SECTIONS

DATE REVISED	
DATE FILMED	
DATE REVISED	
DATE FILMED	
FED.RD. DIST.NO.	6
STATE	ARK.
FED.AID PROJ.NO.	FA2808
SHEET NO.	70
TOTAL SHEETS	74
JOB NO.	

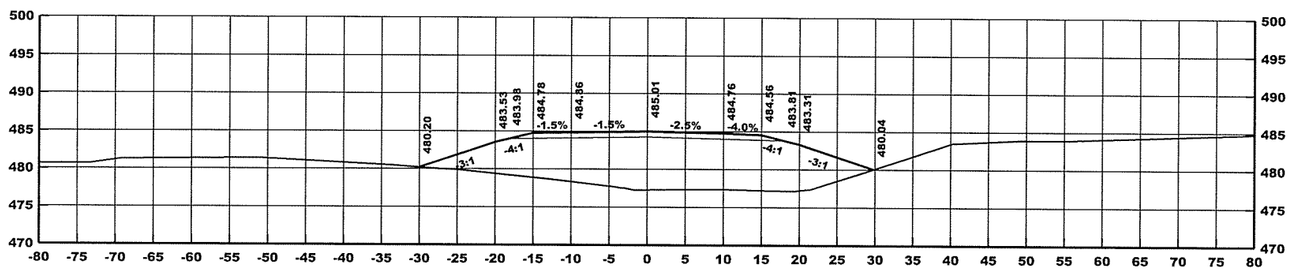
56135.9



Area Cut :0.00
Area Fill :227.46

Volume Cut :0.00
Volume Fill :979.49

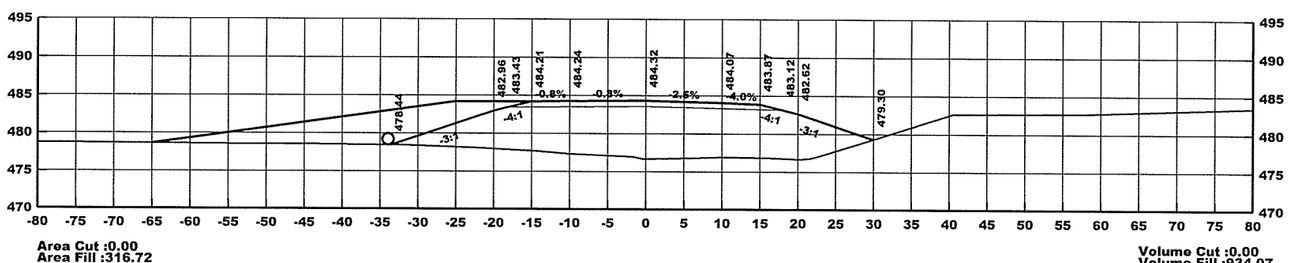
↓ **468+00** ↓



Area Cut :0.00
Area Fill :301.47

Volume Cut :0.00
Volume Fill :251.85

↓ **467+00** ↓

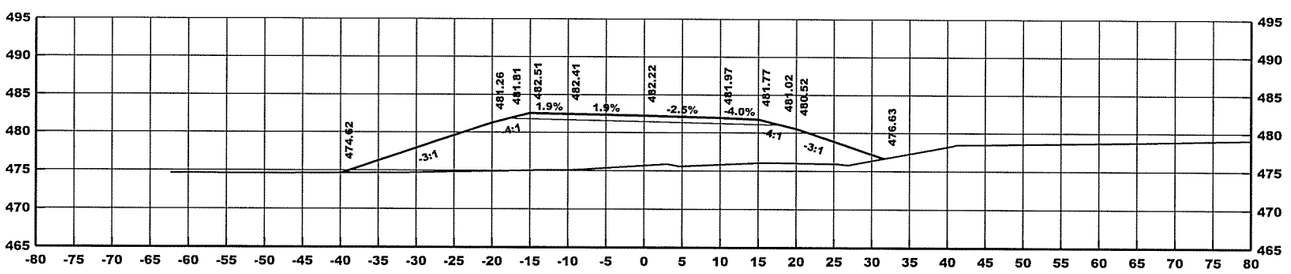


Area Cut :0.00
Area Fill :316.72

Volume Cut :0.00
Volume Fill :934.07

↓ **466+78** ↓

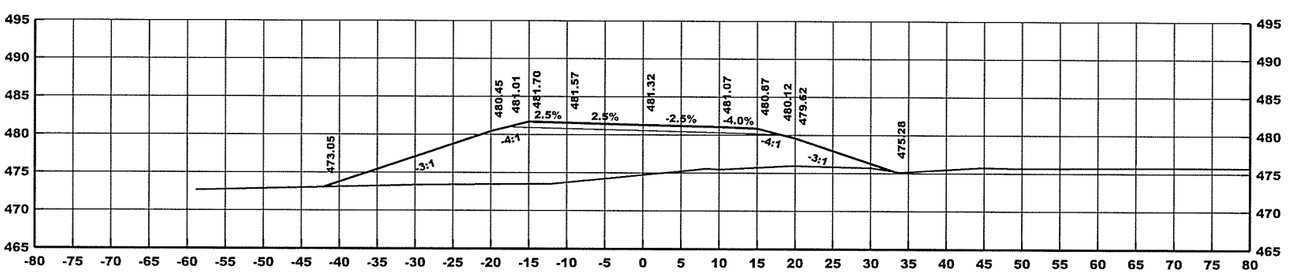
INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 85 CU. YDS.



Area Cut :0.00
Area Fill :329.94

Volume Cut :0.00
Volume Fill :1228.24

← **466+00** ↓



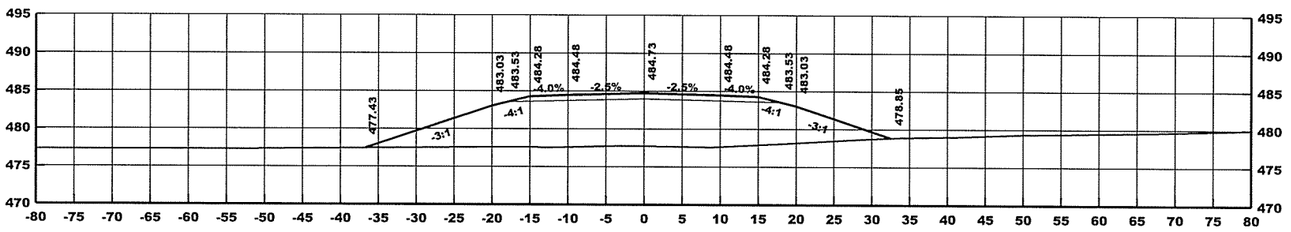
Area Cut :0.00
Area Fill :333.30

Volume Cut :5.64
Volume Fill :615.94

← **465+00** ↓

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA2808	71	74

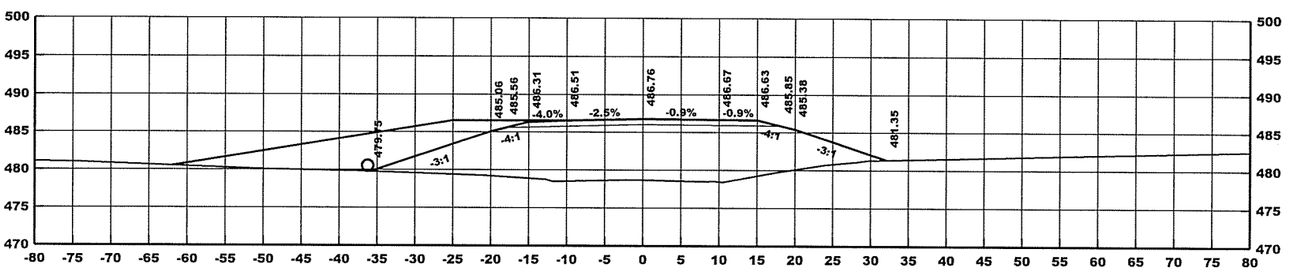
4 CROSS SECTIONS



Area Cut :0.00
Area Fill :315.92

Volume Cut :0.00
Volume Fill :698.05

← **471+00** ↑

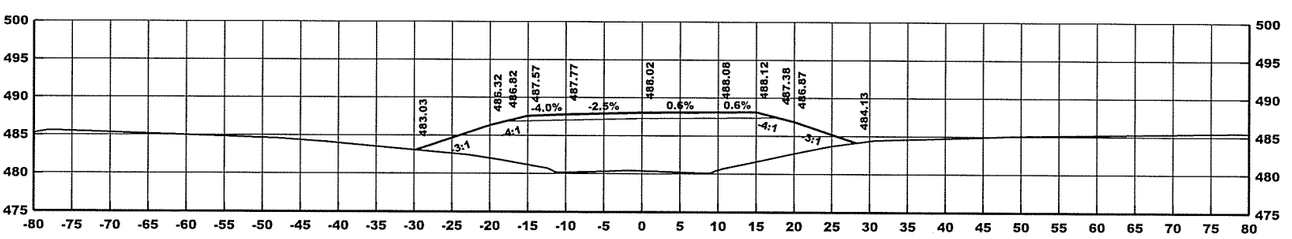


Area Cut :0.00
Area Fill :357.20

Volume Cut :0.00
Volume Fill :528.62

↑ **470+44** ↑

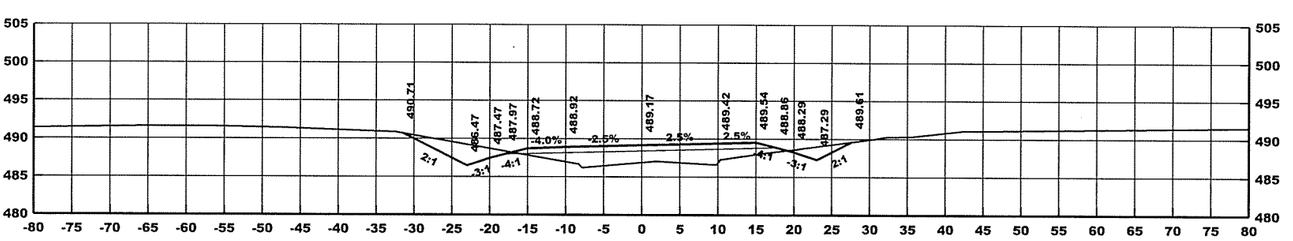
INSTALL
18" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPR. = 100 CU. YDS.



Area Cut :0.00
Area Fill :291.57

Volume Cut :50.02
Volume Fill :623.68

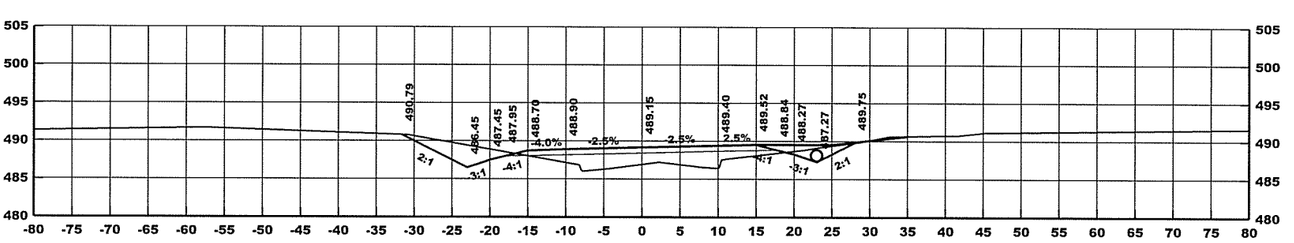
↑ **470+00** ↑



Area Cut :27.01
Area Fill :45.22

Volume Cut :6.41
Volume Fill :9.95

↕ **469+00** ↕



Area Cut :30.65
Area Fill :44.32

Volume Cut :53.36
Volume Fill :473.09

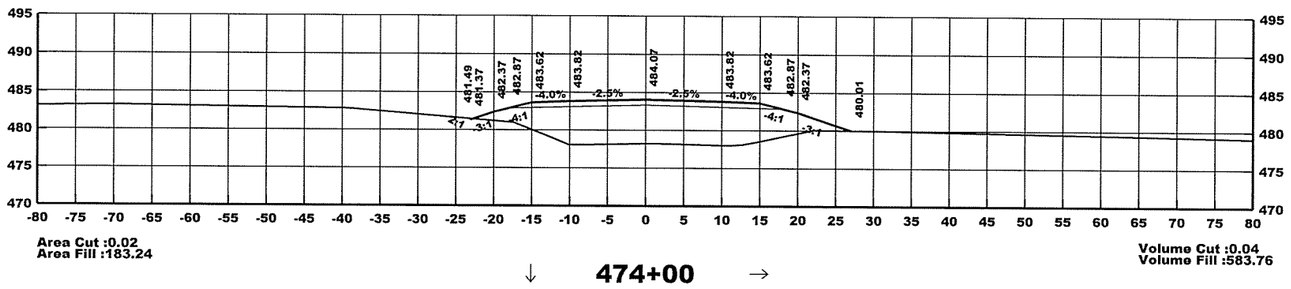
↓ **468+94** ↓

INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 15 CU. YDS.

4 CROSS SECTIONS

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA280B	72	74

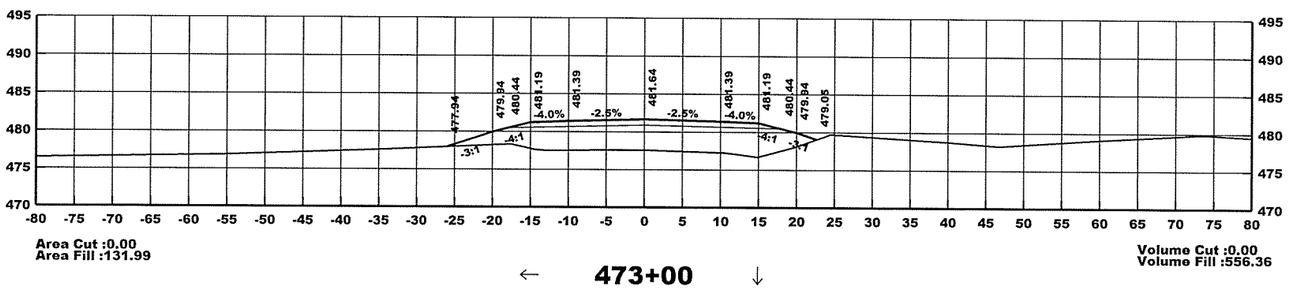
JOB NO.



Area Cut :0.02
Area Fill :183.24

Volume Cut :0.04
Volume Fill :583.76

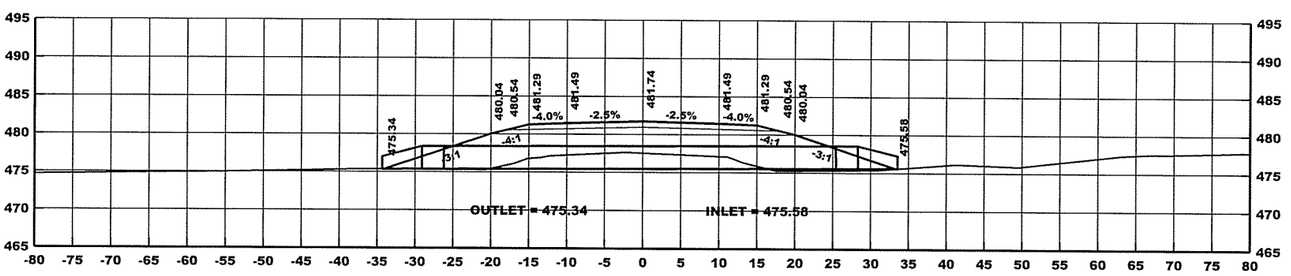
↓ **474+00** →



Area Cut :0.00
Area Fill :131.99

Volume Cut :0.00
Volume Fill :556.36

← **473+00** ↓

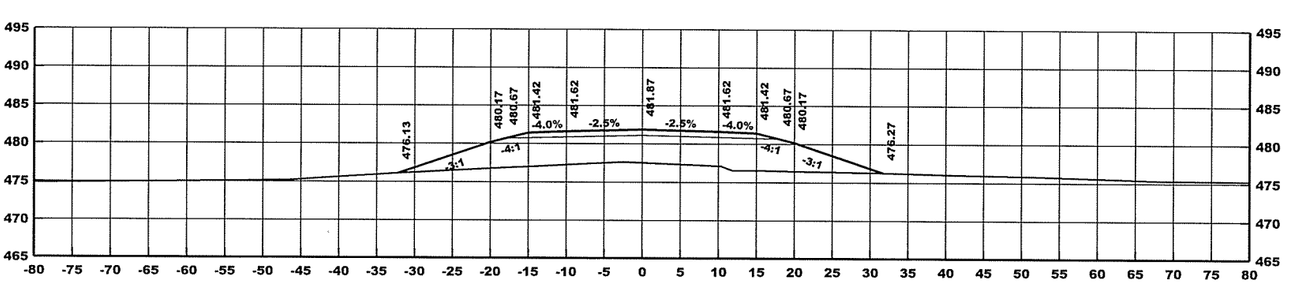


Area Cut :0.00
Area Fill :221.46

Volume Cut :0.00
Volume Fill :114.90

← **472+15** ←

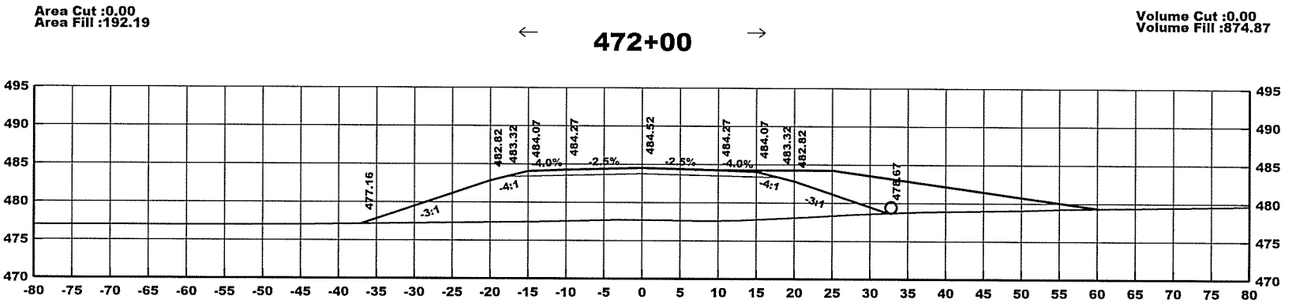
CONSTRUCT
36" PIPE CULVERT
CROSS DRAIN
D.A. = 38 ACRES Q25 = 40 CFS
36" RCP (CL. III)(TYPE 3 BEDDING) = 52 LIN. FT.
36" CMP OR PLASTIC (TYPE 2 BEDDING) = 58 LIN. FT.
36" FES ON LT. AND RT. = 2 EACH



Area Cut :0.00
Area Fill :192.19

Volume Cut :0.00
Volume Fill :874.87

← **472+00** →



Area Cut :0.00
Area Fill :310.39

Volume Cut :0.00
Volume Fill :69.59

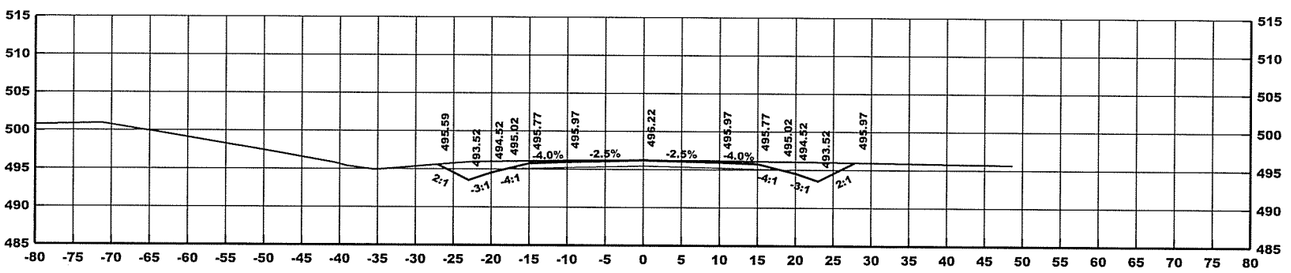
← **471+06** ↑

INSTALL
18" X 54' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPR. = 80 CU. YDS.

DATE REVISED	DATE PLOTTED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		73	74
				JOB NO.		FA2808		

4 CROSS SECTIONS

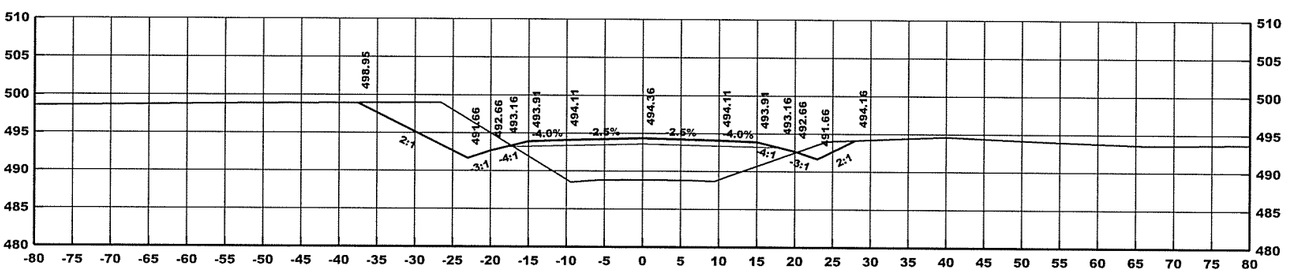
END JOB FA2808



Area Cut :61.03
Area Fill :0.00

Volume Cut :247.47
Volume Fill :248.75

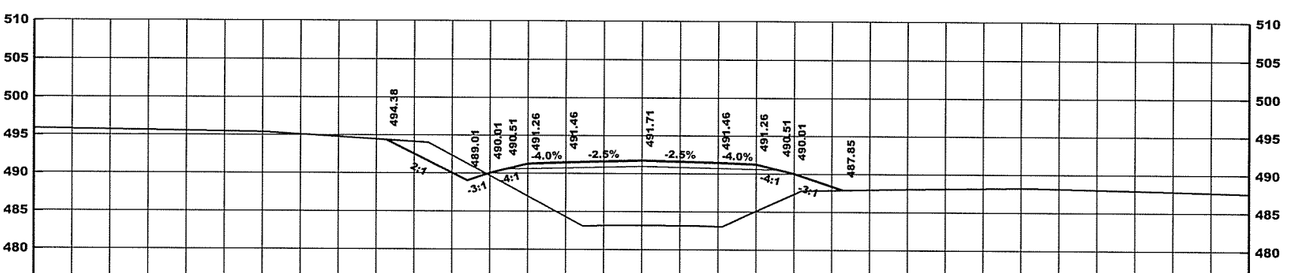
↓ **478+00** ↓



Area Cut :72.61
Area Fill :134.33

Volume Cut :175.01
Volume Fill :712.56

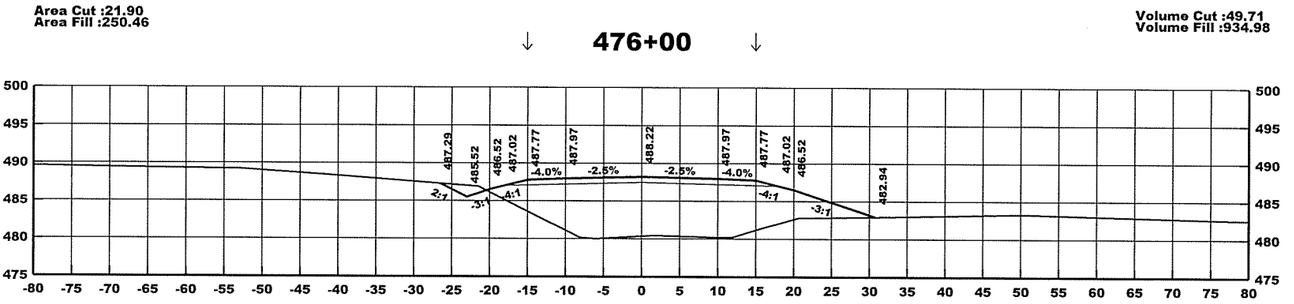
↓ **477+00** ↓



Area Cut :21.90
Area Fill :250.46

Volume Cut :49.71
Volume Fill :934.98

↓ **476+00** ↓



Area Cut :4.95
Area Fill :254.43

Volume Cut :9.21
Volume Fill :810.50

↓ **475+00** ↓

						DATE REVISED	
						DATE FILMED	
						DATE REVISED	
						DATE FILMED	
4	CROSS SECTIONS	JOB NO.	FA2808	74	74	FED.RD. DIST.NO.	6
						STATE	ARK.
						FED.AID PROJ.NO.	
						SHEET NO.	
						TOTAL SHEETS	