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.		061186	1	126

(2) SOCIAL HILL - ROCKPORT(F)

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

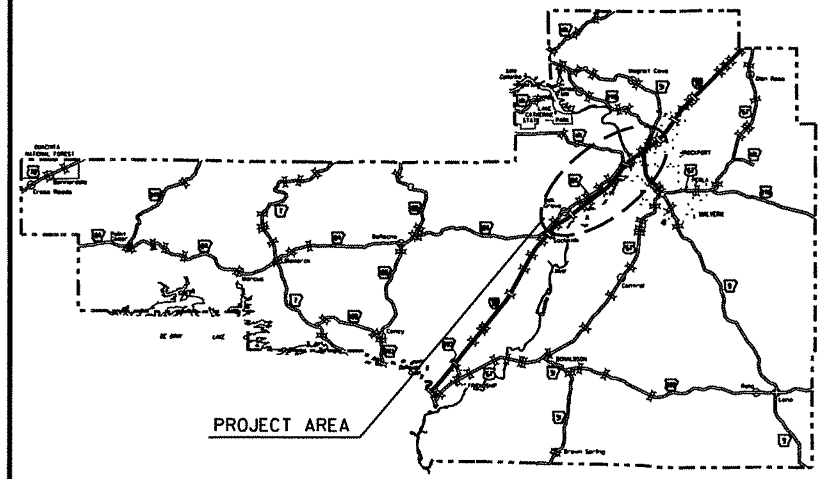
SOCIAL HILL - ROCKPORT (F)

HOT SPRING COUNTY

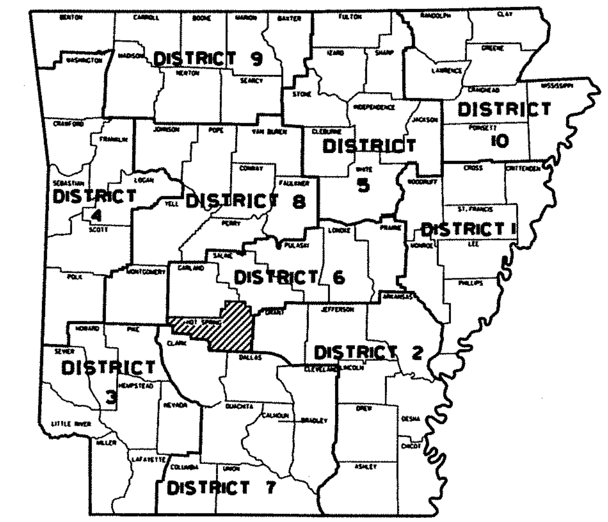
ROUTE 30 SECTION 21

FEDERAL AID PROJ.: IM-30-2(258)92

JOB 061186



HOT SPRING COUNTY

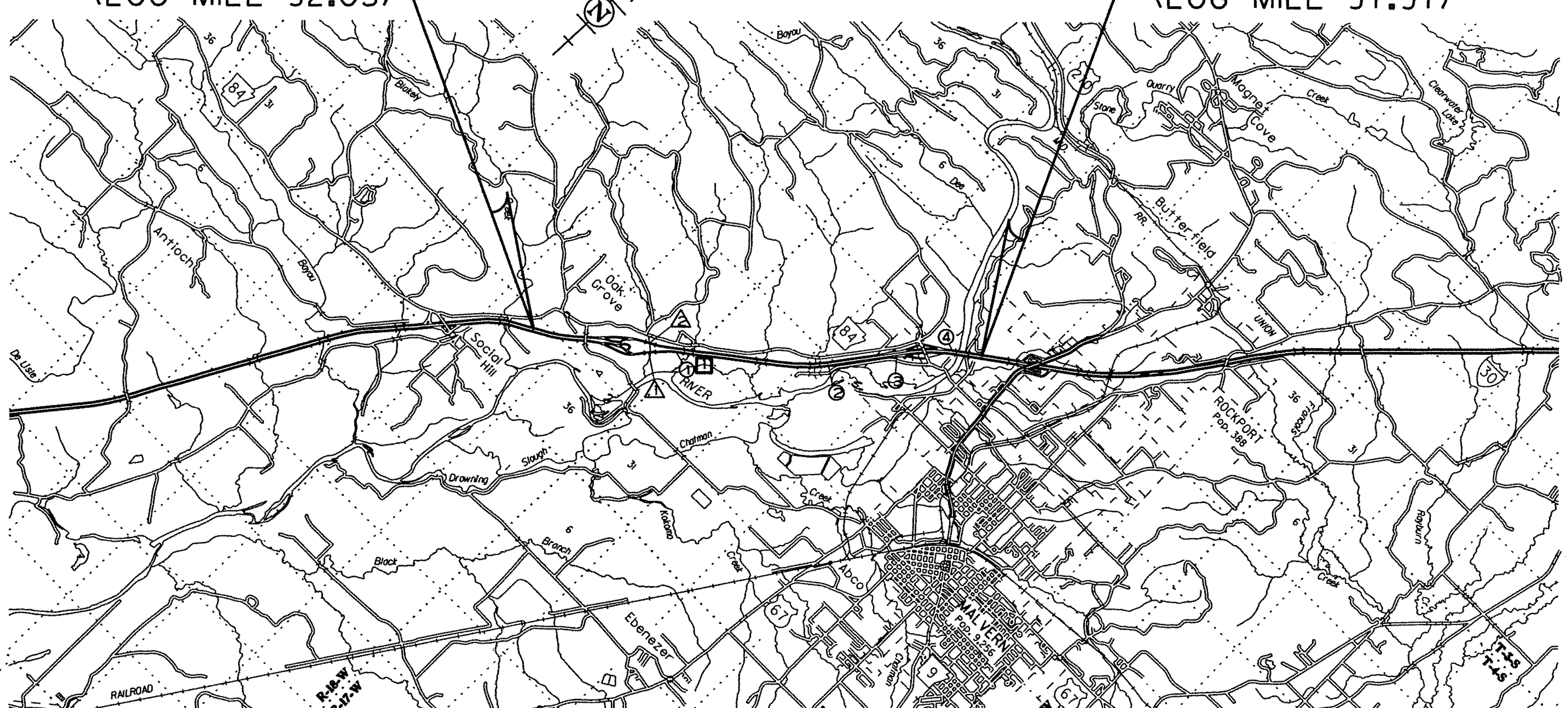


ARK. HWY. DIST. NO. 6

0 1/2 1 2 MILE
BAR SCALE

STA. 4998+50
BEGIN JOB 061186
(LOG MILE 92.05)

STA. 5301+50
END JOB 061186
(LOG MILE 97.97)



STRUCTURES OVER 20'-0" SPAN

1 MEDIAN
STA. 5098+00 IN PLACE
DBL. 12' x 11' x 353' R.C. BOX CULV'T.
(15° LT. FWD. SKEW)
BR. NO. X0112
D.A. 1650 Ac., C = 1.0
RETAIN CULV'T. &
REPLACE WINGWALLS.
SPAN = 28-3 3/4"

EXCEPTIONS TO JOB 061186
(BRIDGES)

△ STA. 5075+11.05 BR. END
207.06' BRIDGE NO. 5027B
39'-0" CLEAR ROADWAY
STA. 5077+18.11 BR. END

△ STA. 5073+05.46 BR. END
197.07' BRIDGE NO. 5027A
39'-0" CLEAR ROADWAY
STA. 5075+02.53 BR. END

TOTAL LENGTH OF EXCEPTIONS
207.06' MEASURED ALONG CENTER
LINE OF RT. MAIN LANES

EQUATIONS (ALONG RT. MAIN LANES)

1. STA. 5093+92.1 BK. = STA. 5092+31.4 AHD.
2. STA. 5186+90.6 BK. = PT 5186+78.5 AHD.
3. STA. 5235+94.3 BK. = PC 5226+81.8 AHD.
4. STA. 5250+59.8 BK. = PT 5250+72.9 AHD.

DESIGN TRAFFIC DATA

DESIGN YEAR ________ 2030
2010 ADT ________ 29000
2030 ADT ________ 37000
2030 DHV ________ 4070
DIRECTIONAL DISTRIBUTION ____ 0.60
TRUCKS ________ 43%
DESIGN SPEED ________ 70 MPH

APPROVED

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 3917 FRANK VOZEL

3/8/12

DEPUTY DIRECTOR
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 34°20'31.6"	N 34°22'04.8"	N 34°23'43.7"
LONGITUDE	W 92°54'26.3"	W 92°51'49.7"	W 92°49'48.2"

NOTE: LENGTH IS COMPUTED ALONG RIGHT MAIN LANES & IS SHOWN FOR INFORMATION ONLY

GROSS LENGTH OF PROJECT	31372.20	FEET OR	5.942	MILES
NET " " ROADWAY	31136.83	"	5.897	"
NET " " BRIDGES	28.31	"	0.005	"
NET " " PROJECT	31165.14	"	5.902	"

P.E. JOB 001727
NON-PART.

R061186.TIT

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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2 INDEX OF SHEETS

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

3-14-12

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(2) GOVERNING SPECIFICATIONS & GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB 061186
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY & WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATE
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
507-1	INSTALLATION OF DOWEL BARS AND TIE BARS
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-2	PIPE CULVERTS
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 061186	APPROACH SLABS AND GUTTERS
JOB 061186	ASPHALT CONCRETE HOT MIX PATCHING OF EXISTING SHOULDERS
JOB 061186	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 061186	BORROW
JOB 061186	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061186	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061186	COORDINATION OF WORK
JOB 061186	COORDINATION WITH UTILITIES
JOB 061186	DROP INLETS ADJUSTED TO GRADE
JOB 061186	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061186	HIGH PERFORMANCE PAVEMENT MARKING
JOB 061186	INTERNET BIDDING
JOB 061186	MAINTENANCE OF TRAFFIC
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JOB 061186	MODULAR GLARE SHIELD
JOB 061186	NESTING SITES OF MIGRATORY BIRDS
JOB 061186	PARTNERING REQUIREMENTS
JOB 061186	PORTABLE CONSTRUCTION LIGHTING
JOB 061186	PROSECUTION AND PROGRESS
JOB 061186	ROADWAY CONSTRUCTION CONTROL
JOB 061186	SCARIFYING CONCRETE PAVEMENT
JOB 061186	SEQUENCE OF CONSTRUCTION
JOB 061186	SHAPING DITCH
JOB 061186	SHEET PILES
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JOB 061186	TRAFFIC CONTROL SUPERVISOR
JOB 061186	TRENCHING AND SHOULDER PREPARATION
JOB 061186	UTILITY ADJUSTMENTS
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JOB 061186	VERY EARLY STRENGTH CONCRETE
JOB 061186	WARM MIX ASPHALT
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JOB 061186	WIRE ROPE SAFETY FENCE (WRSF) SPECIFICATIONS
JOB 061186	WRSF TRAINING WORKSHOP

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. 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.
6. 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.
7. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. THE EXISTING BREAKAWAY SIGN POSTS AND STUBS ARE TO BE RETAINED. THE CONTRACTOR SHALL EXERCISE CAUTION AROUND THE STUBS SO AS TO NOT AFFECT THE ABILITY OF THE SIGN POST TO BREAK AWAY DURING A COLLISION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY BREAK AWAY SIGN POSTS DISCOVERED THAT WILL BE WITHIN THE CONSTRUCTION LIMITS AND CANNOT BE RETAINED. THESE WILL THEN BE REMOVED AND RELOCATED BY DEPARTMENT FORCES PRIOR TO WORK BEGINNING IN THE AREA. ALL OTHER SIGNS SHALL BE MAINTAINED BY THE CONTRACTOR ACCORDING TO SECTION 603.02 (d) OF THE STANDARD SPECIFICATIONS.

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GOVERNING SPECIFICATIONS AND GENERAL NOTES

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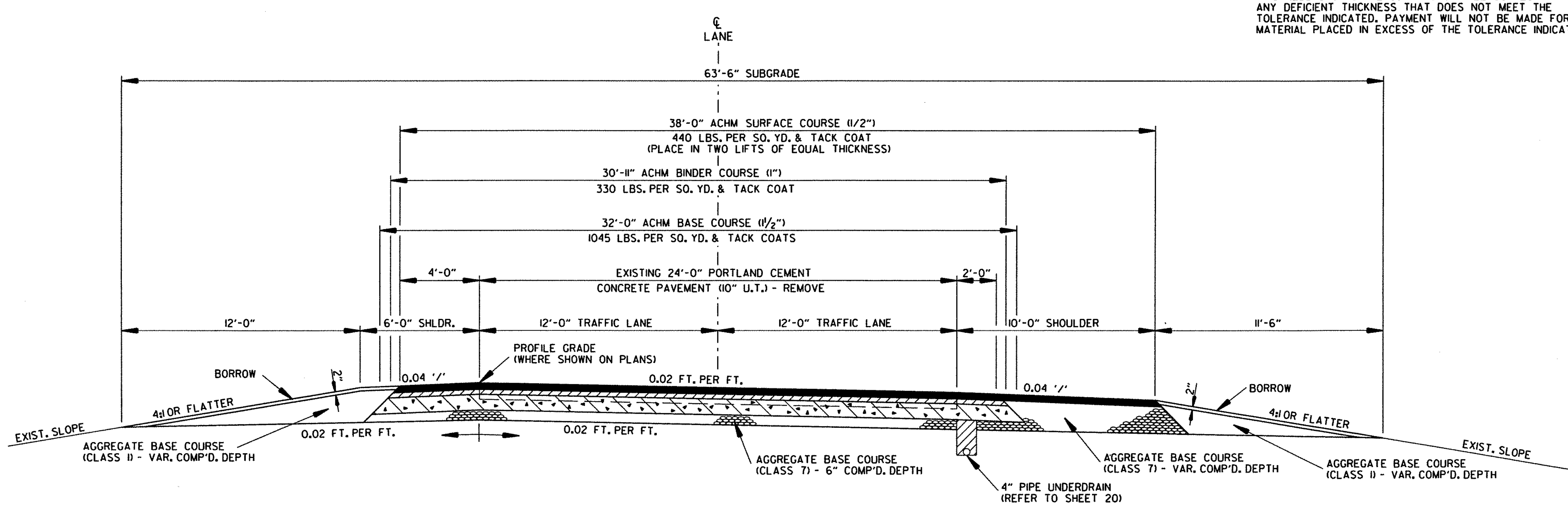
(2) TYPICAL SECTIONS OF IMPROVEMENT

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

3-6-12

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



FULL-DEPTH RECONSTRUCTION - TANGENT SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

LEFT MAIN LANES	RIGHT MAIN LANES
STA. 5069+29.79 TO STA. 5072+68.96	STA. 5069+00.00 TO STA. 5074+74.55
STA. 5075+39.03 TO STA. 5079+50.00	STA. 5077+54.61 TO STA. 5080+68.11
STA. 5249+55.52 TO STA. 5252+92.42	STA. 5249+29.32 TO STA. 5252+92.42

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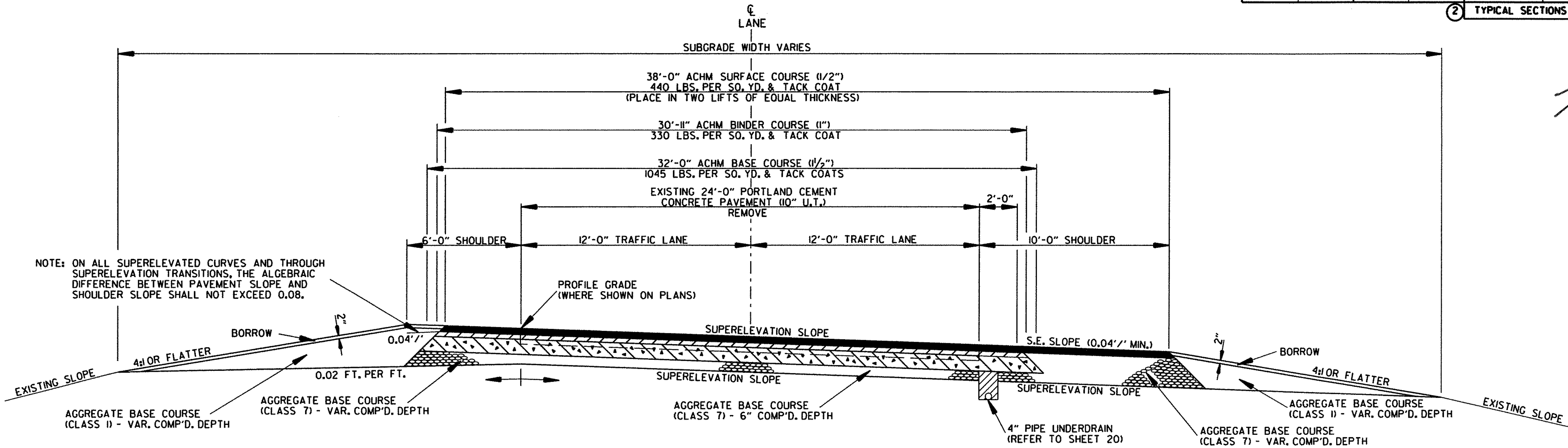
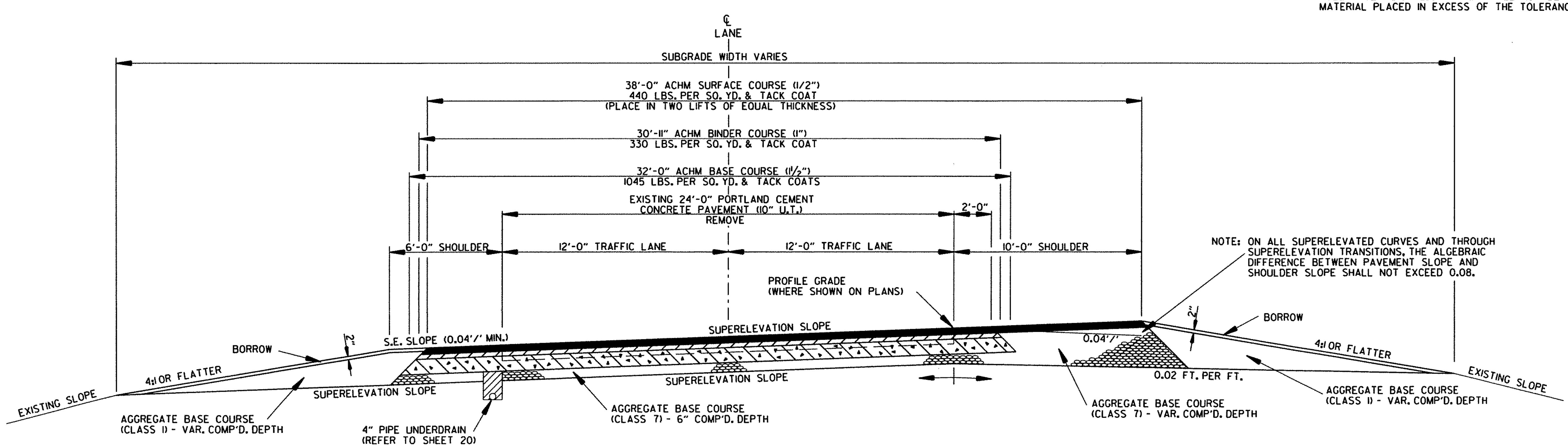
2 TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7665
MICHAEL D. FUGETT
3-6-12



FULL-DEPTH RECONSTRUCTION - SUPERELEVATED CURVE TO RIGHT
(SHOWN IN DIRECTION OF TRAFFIC)
RIGHT MAIN LANES
STA. 5229+21.80 TO STA. 5238+21.80
STA. 5248+00.00 TO STA. 5249+29.32

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



FULL-DEPTH RECONSTRUCTION - SUPERELEVATED CURVE TO LEFT
(SHOWN IN DIRECTION OF TRAFFIC)

LEFT MAIN LANES
STA. 5066+79.76 TO STA. 5069+29.79
STA. 5248+00.00 TO STA. 5249+55.52

RIGHT MAIN LANES
STA. 5080+68.11 TO STA. 5084+50.00

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TYPICAL SECTIONS OF IMPROVEMENT

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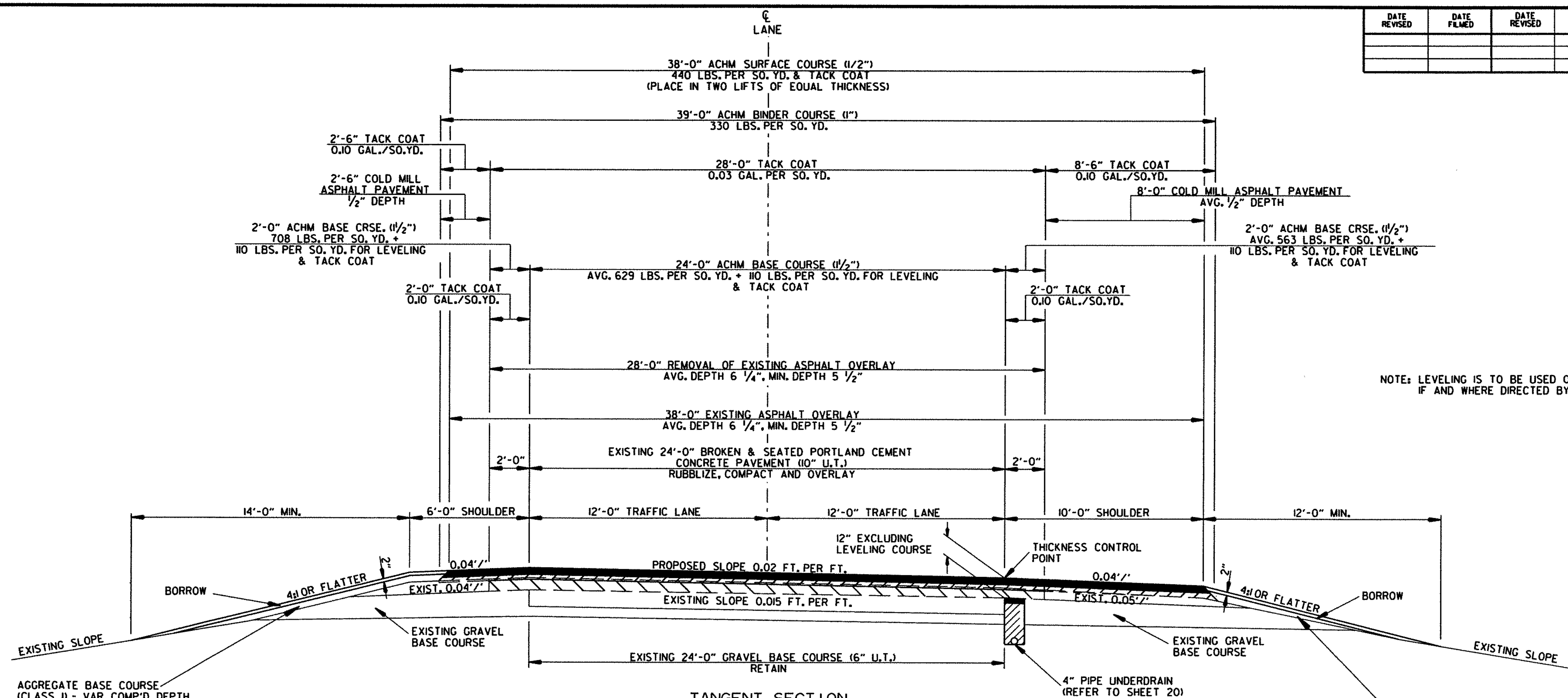
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7685 MICHAEL D. PUGETT

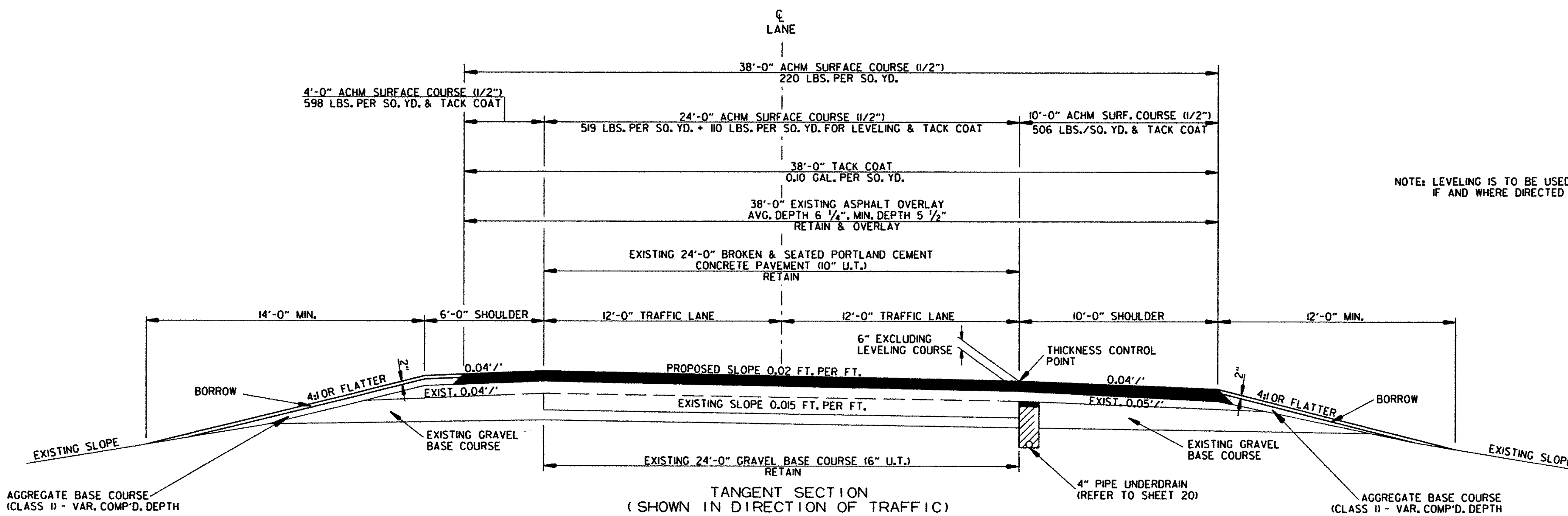
3-6-12



NOTE: LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

TANGENT SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

LEFT MAIN LANES	RIGHT MAIN LANES
STA. 5040+50.00 TO STA. 5054+33.10	STA. 5048+32.20 TO STA. 5058+22.00
STA. 5079+50.00 TO STA. 5082+15.80	STA. 5066+46.00 TO STA. 5069+00.00
STA. 5089+29.30 TO STA. 5183+00.00	STA. 5091+29.90 TO STA. 5154+72.60
STA. 5188+00.00 TO STA. 5194+00.00	STA. 5188+00.00 TO STA. 5194+00.00
STA. 5199+00.00 TO STA. 5227+69.30	STA. 5199+00.00 TO STA. 5227+69.30



NOTE: LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

TANGENT SECTION
(SHOWN IN DIRECTION OF TRAFFIC)
LEFT & RIGHT MAIN LANES
STA. 5183+00.00 TO STA. 5188+00.00
STA. 5194+00.00 TO STA. 5199+00.00

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TYPICAL SECTIONS OF IMPROVEMENT

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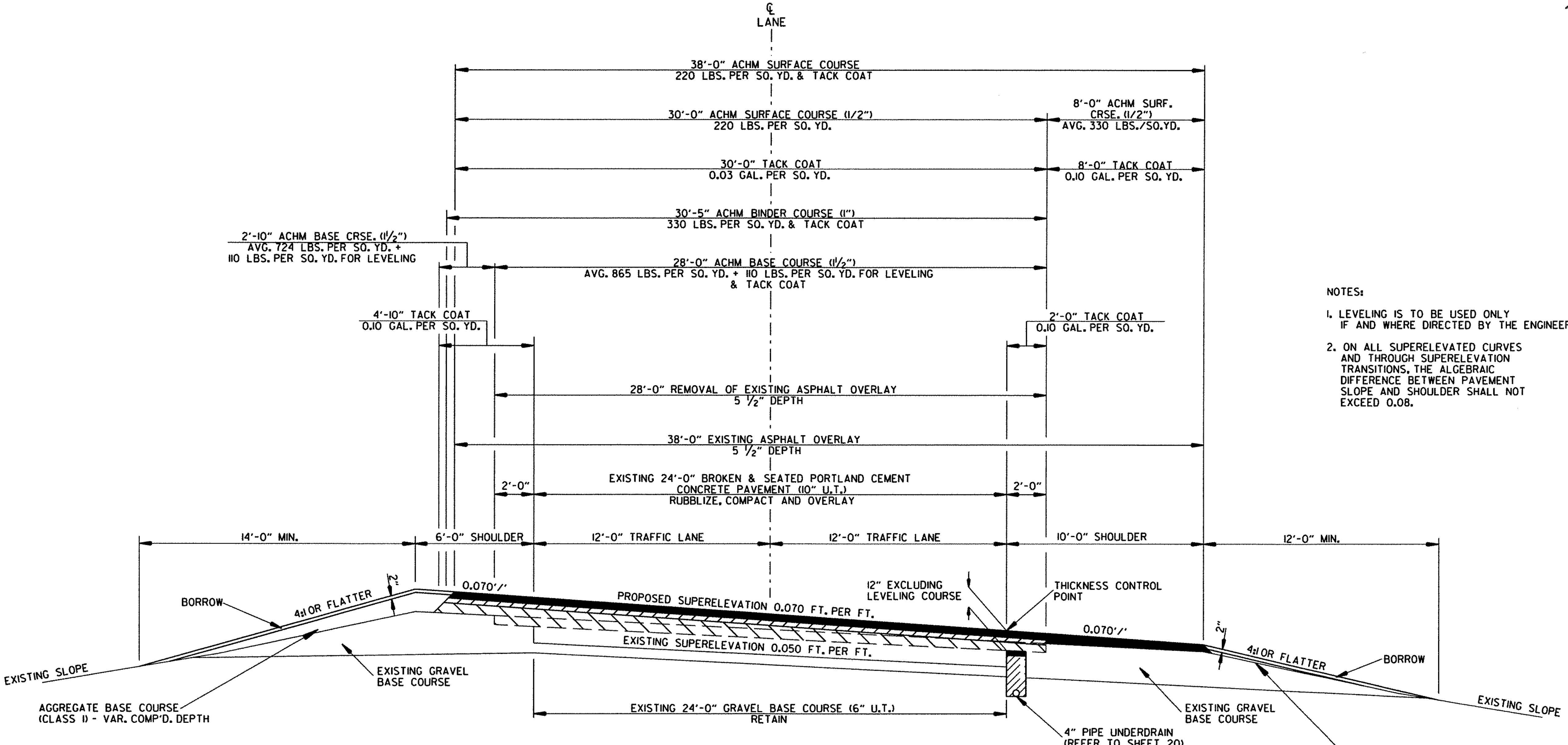
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7695 MICHAEL D. FUGETT

3-6-12



SUPERELEVATION - CURVE TO RIGHT
(SHOWN IN DIRECTION OF TRAFFIC)

RIGHT MAIN LANES
STA. 5040+50.00 TO STA. 5048+32.20

NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
2. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08.

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TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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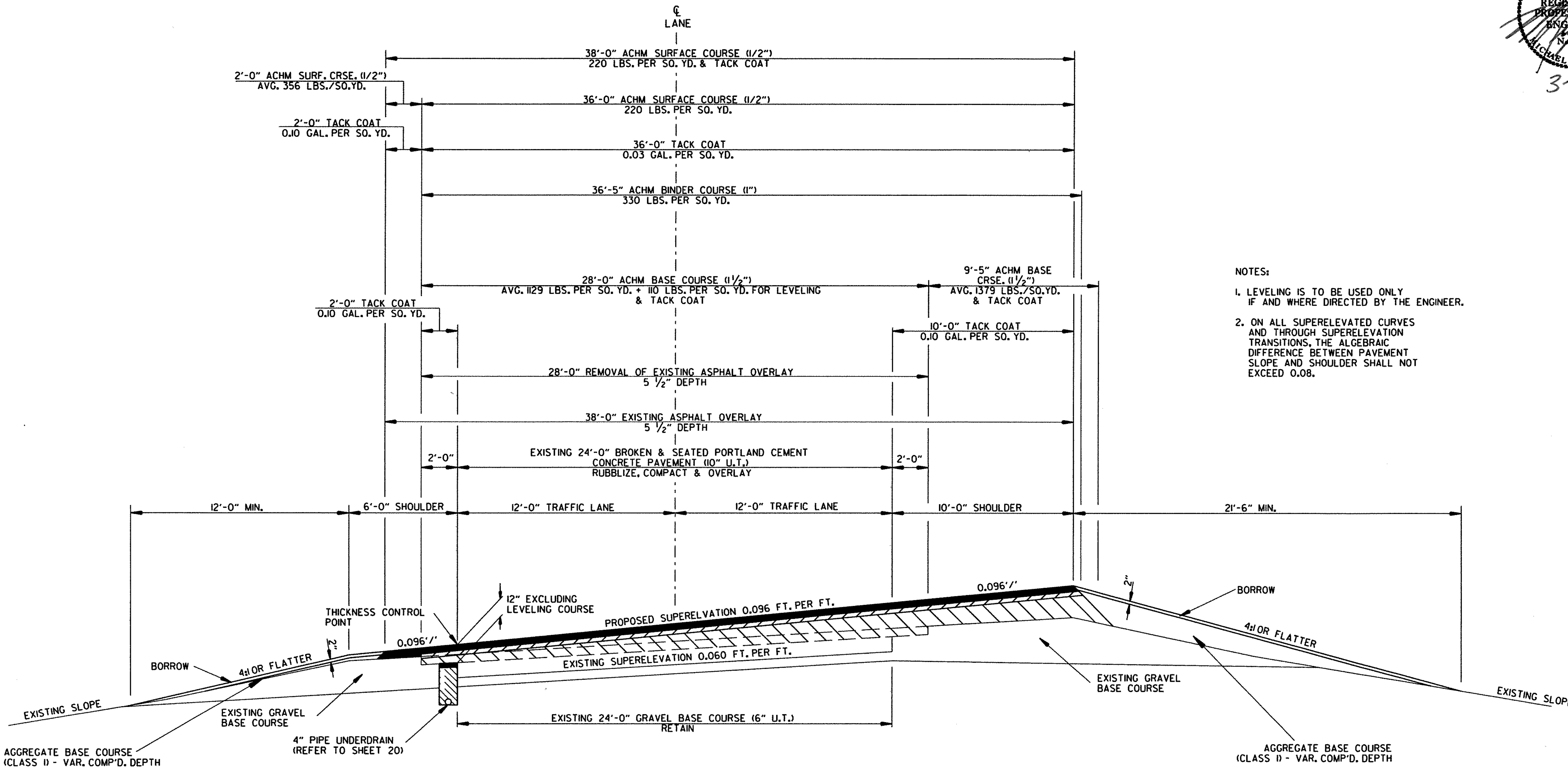
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
2. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08.

SUPERELEVATION - CURVE TO LEFT
(SHOWN IN DIRECTION OF TRAFFIC)

RIGHT MAIN LANES
STA. 5058+22.00 TO STA. 5066+46.00

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TYPICAL SECTIONS OF IMPROVEMENT

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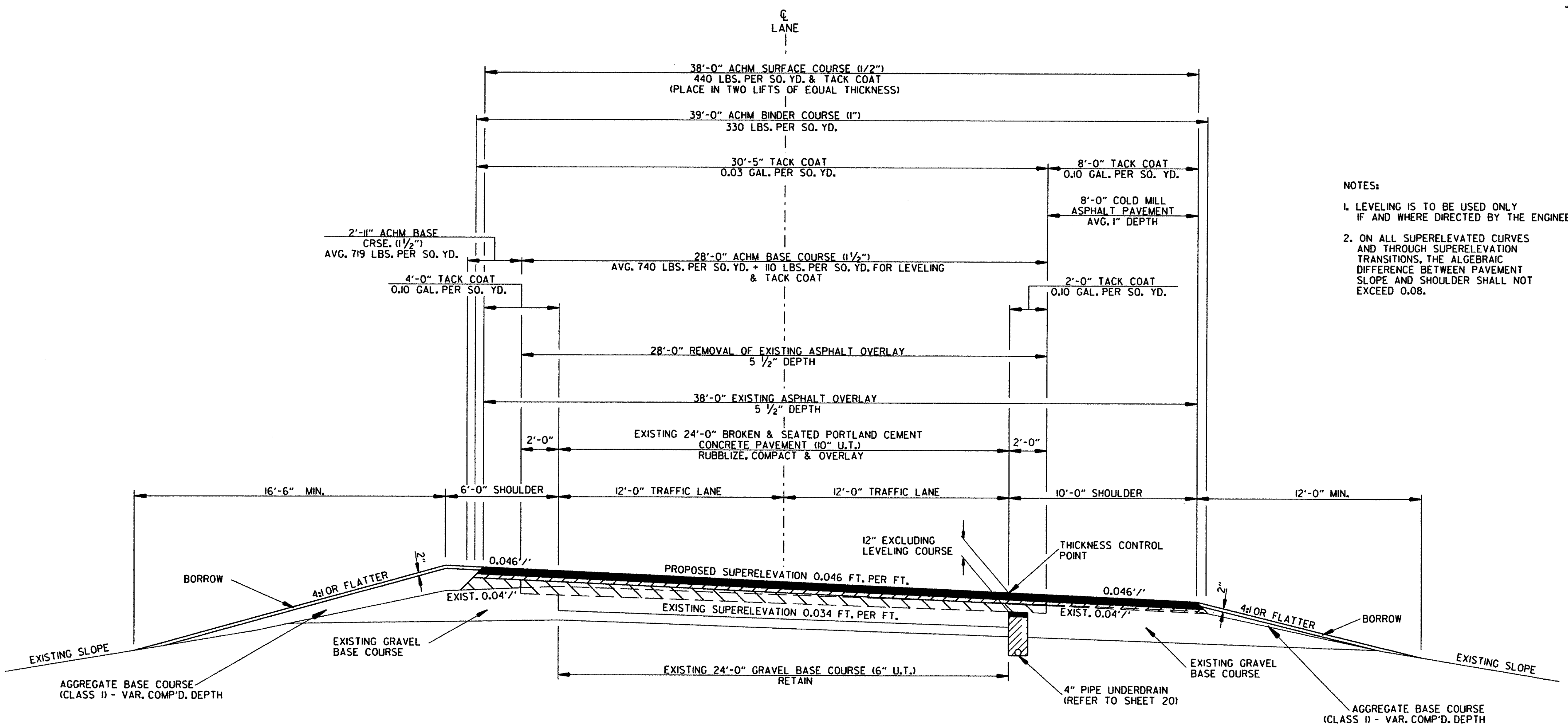
(2) TYPICAL SECTIONS OF IMPROVEMENT

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

3-6-12



SUPERELEVATION - CURVE TO RIGHT
(SHOWN IN DIRECTION OF TRAFFIC)

RIGHT MAIN LANES
STA. 5084+50.00 TO STA. 5091+29.90

NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
2. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08.

12-29-2008 R061186.T01

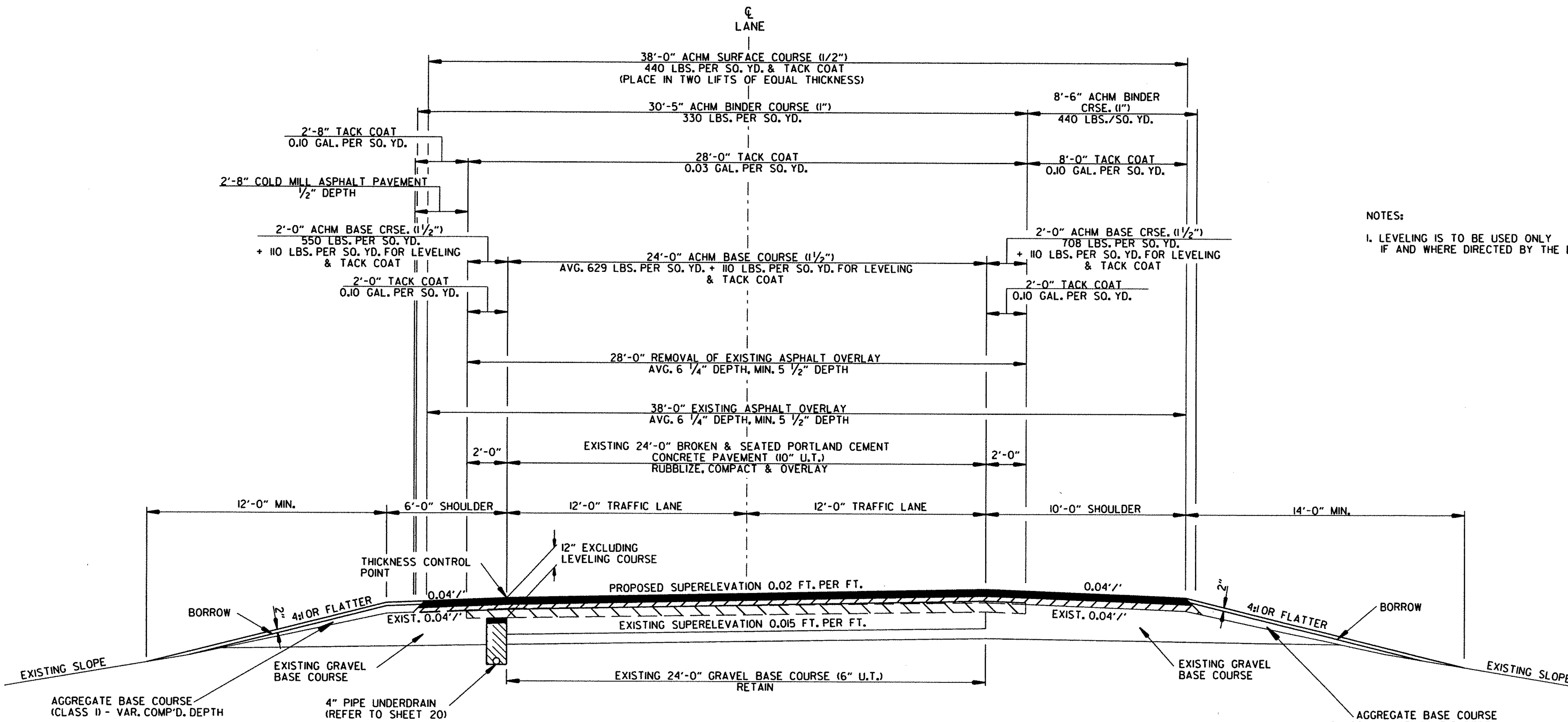
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	10	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

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

3-6-12



SUPERELEVATION - CURVE TO LEFT
(SHOWN IN DIRECTION OF TRAFFIC)

RIGHT MAIN LANES
STA. 5154+72.66 TO STA. 5183+00.00

NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

12-29-2008 R061186.T01

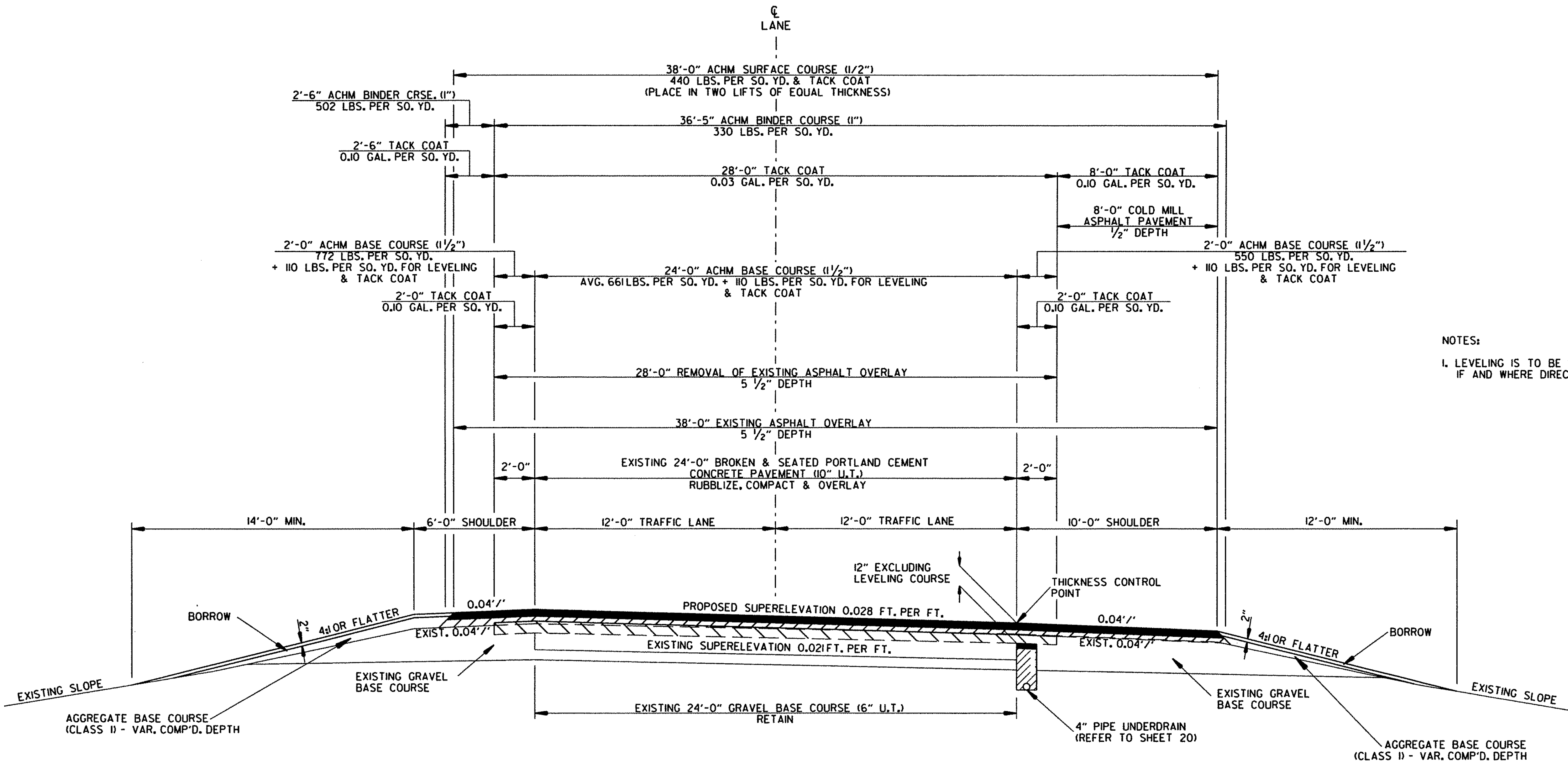
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	11	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT

3-6-12



NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

SUPERELEVATION - CURVE TO RIGHT
(SHOWN IN DIRECTION OF TRAFFIC)
RIGHT MAIN LANES
STA. 5227+69.30 TO STA. 5229+21.80
STA. 5238+21.80 TO STA. 5248+00.00

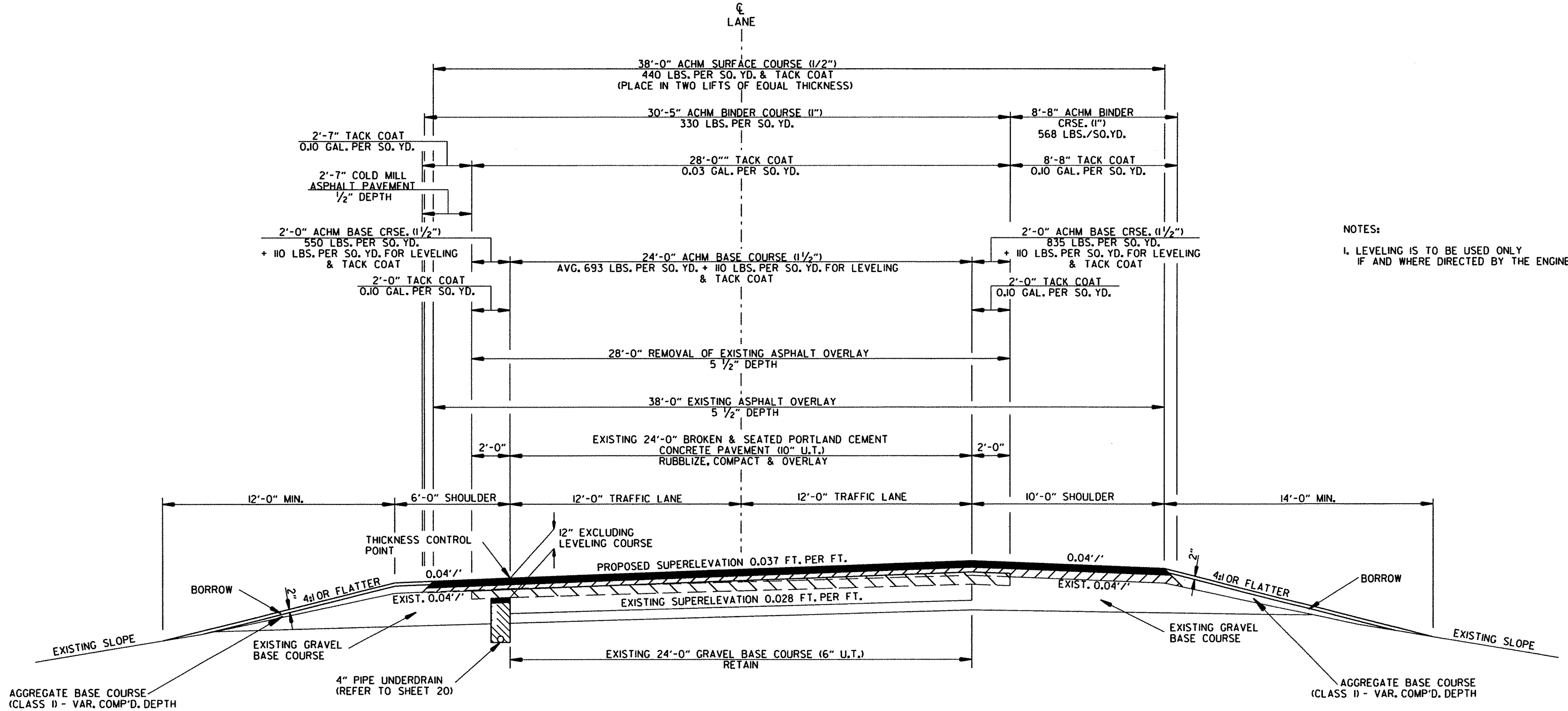
12-29-2008 R061186.T01

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	12	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



SUPERELEVATION - CURVE TO LEFT
(SHOWN IN DIRECTION OF TRAFFIC)
LEFT MAIN LANES
STA. 5054+33.10 TO STA. 5066+79.76

NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

12-29-2008 R061186.T01

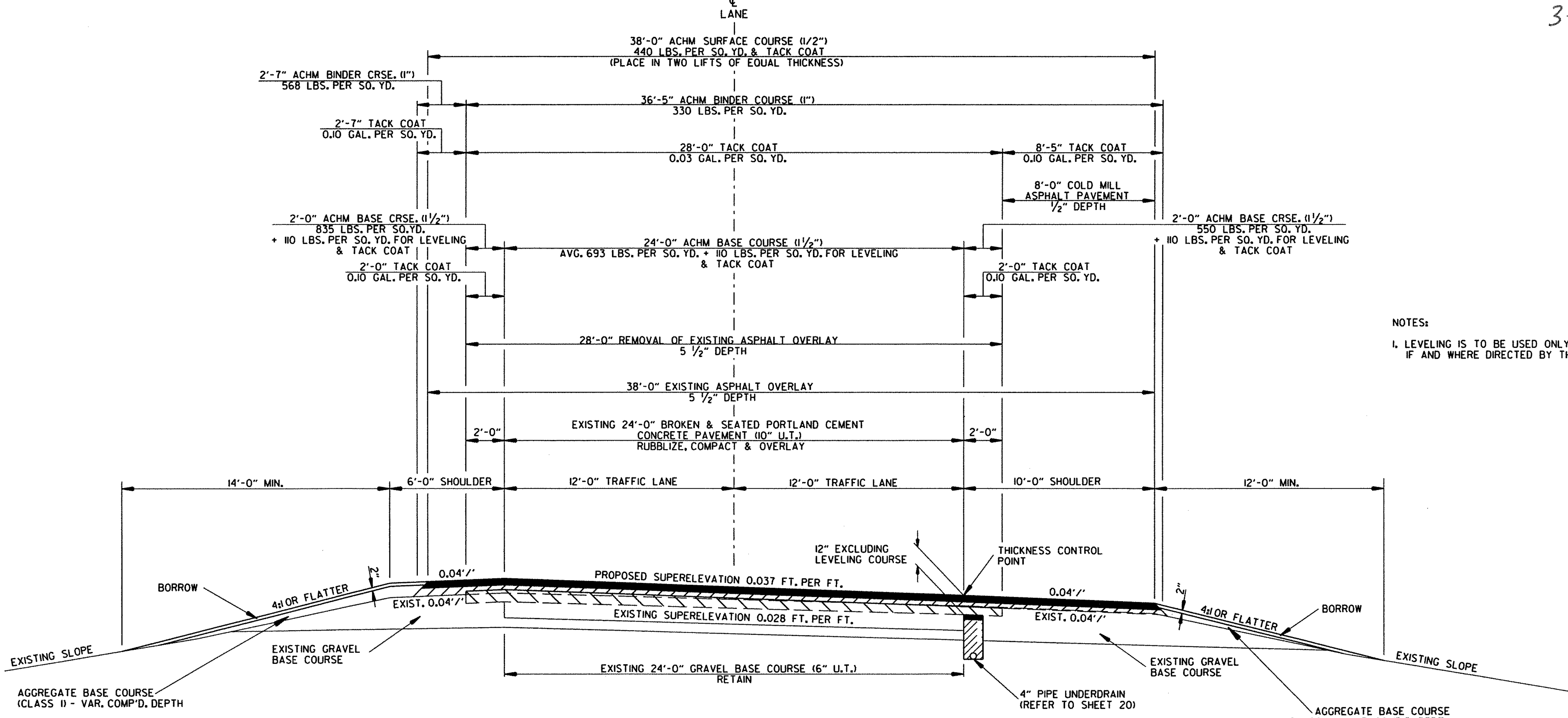
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	13	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

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

3-6-12



SUPERELEVATION - CURVE TO RIGHT
(SHOWN IN DIRECTION OF TRAFFIC)

LEFT MAIN LANES
STA. 5082+15.80 TO STA. 5089+29.30

NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

12-29-2008 R061186.T01

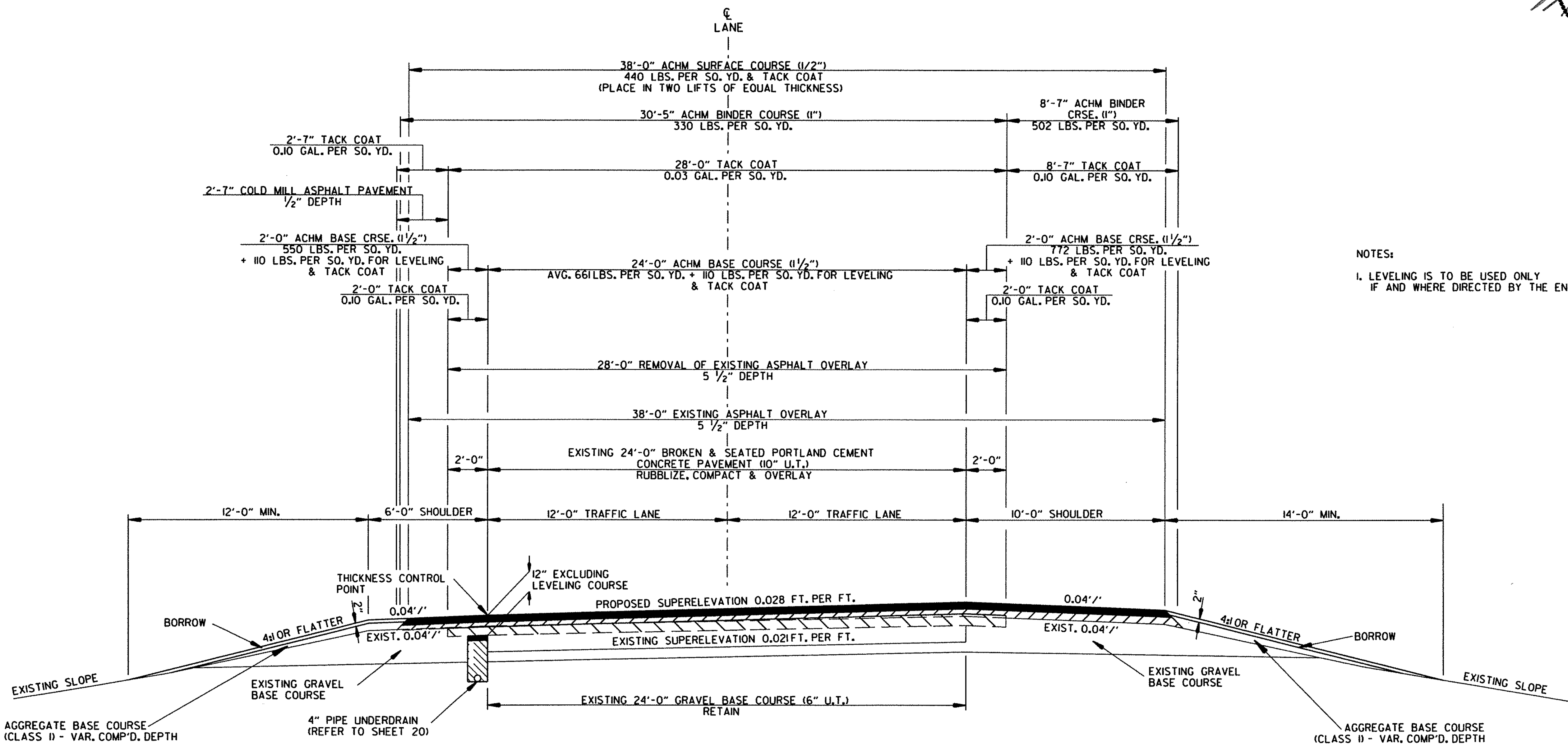
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	14	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

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

3-6-12



NOTES:

1. LEVELING IS TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

SUPERELEVATION - CURVE TO LEFT
(SHOWN IN DIRECTION OF TRAFFIC)

LEFT MAIN LANES
STA. 5227+69.30 TO STA. 5248+00.00

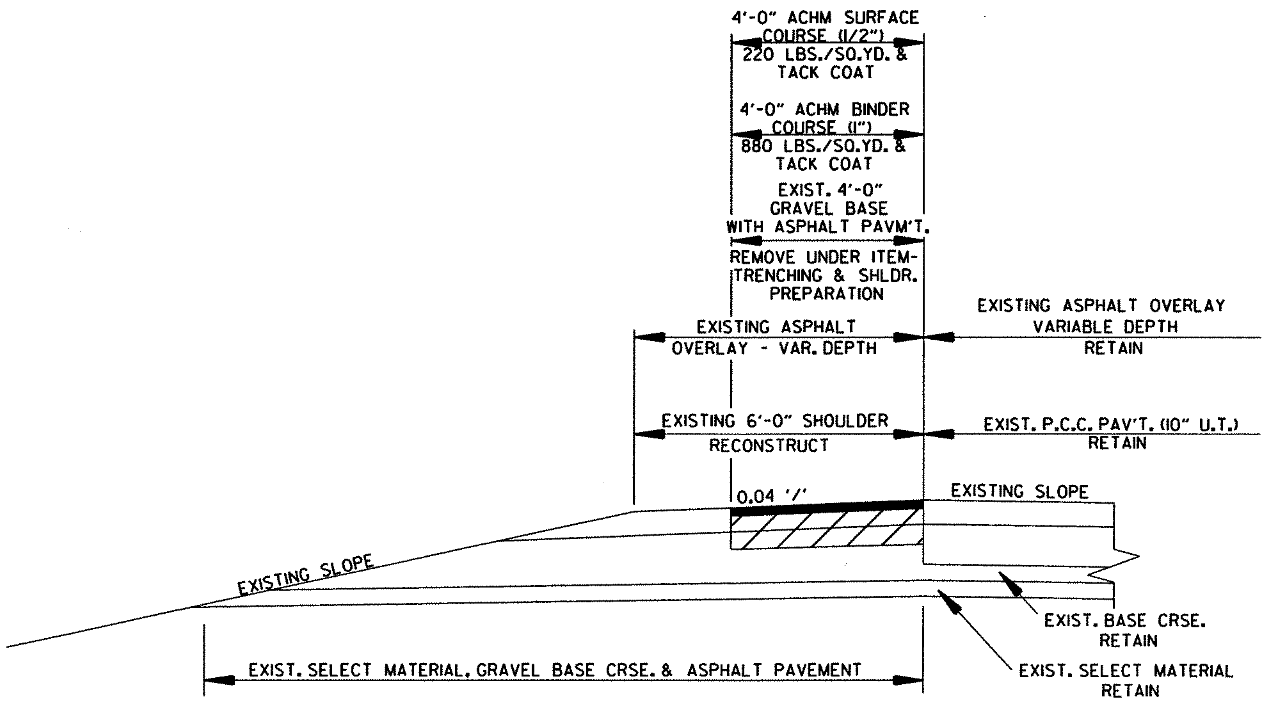
12-29-2008 R061186.T01

TYPICAL SECTIONS OF IMPROVEMENT

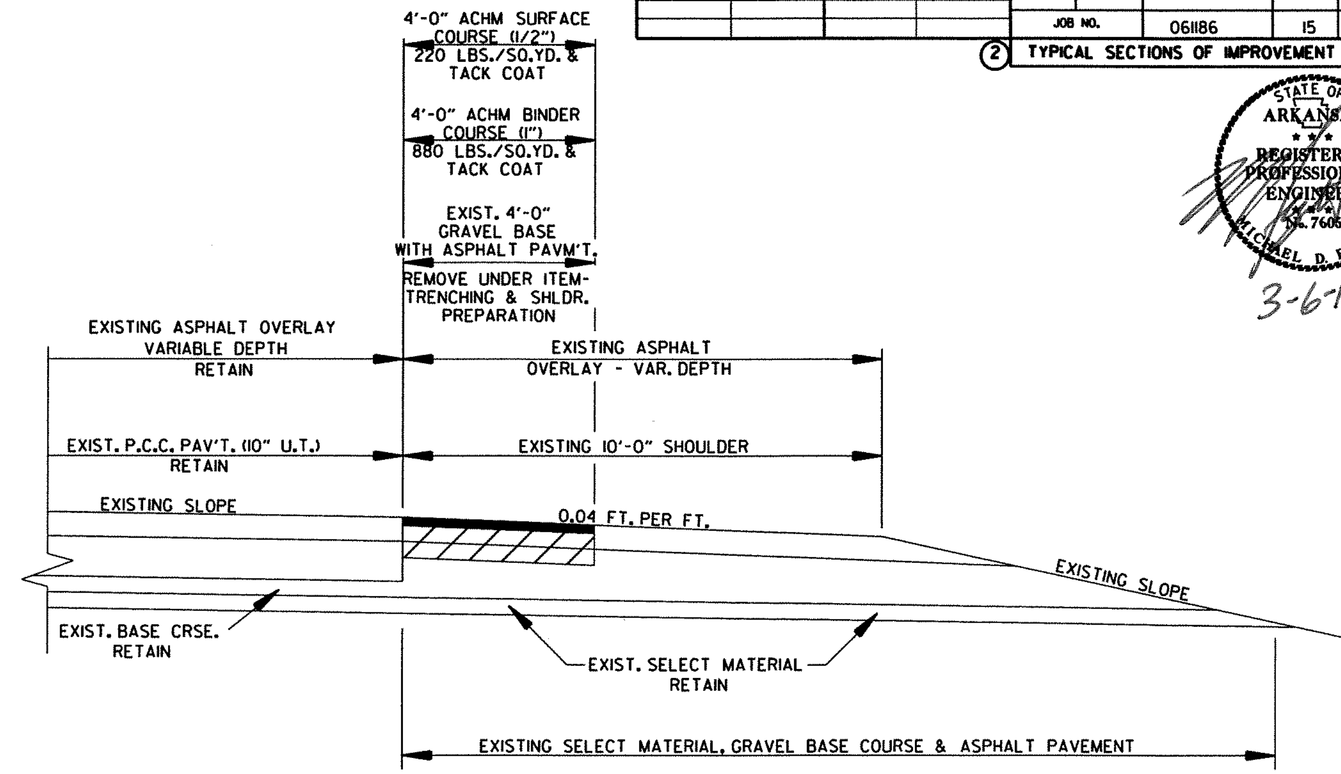
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	15	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

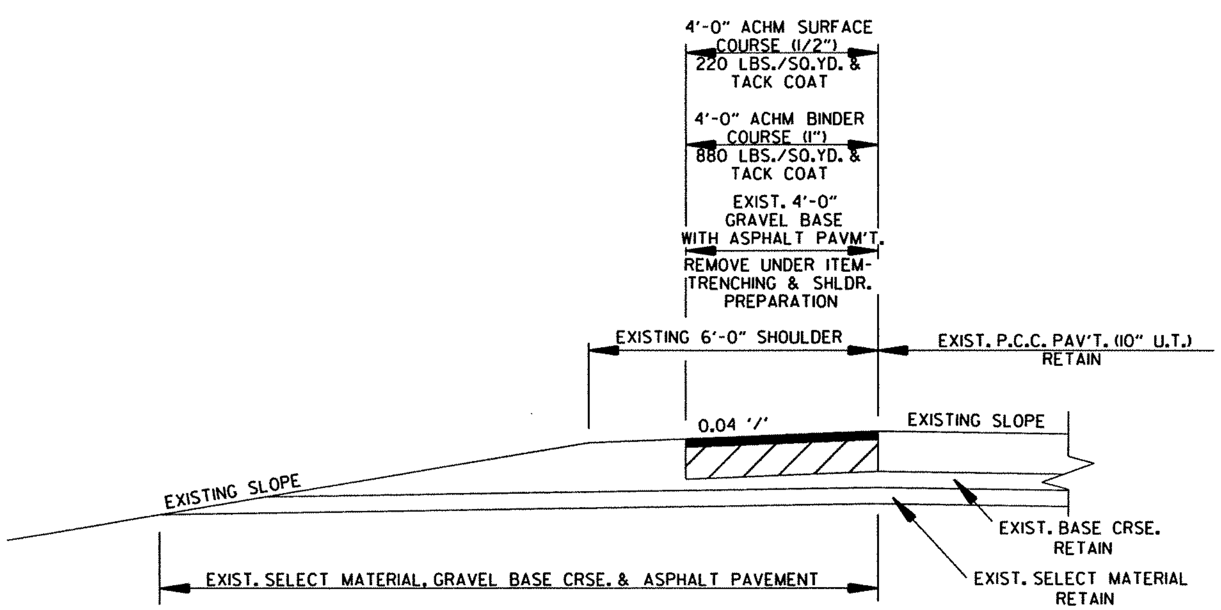
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



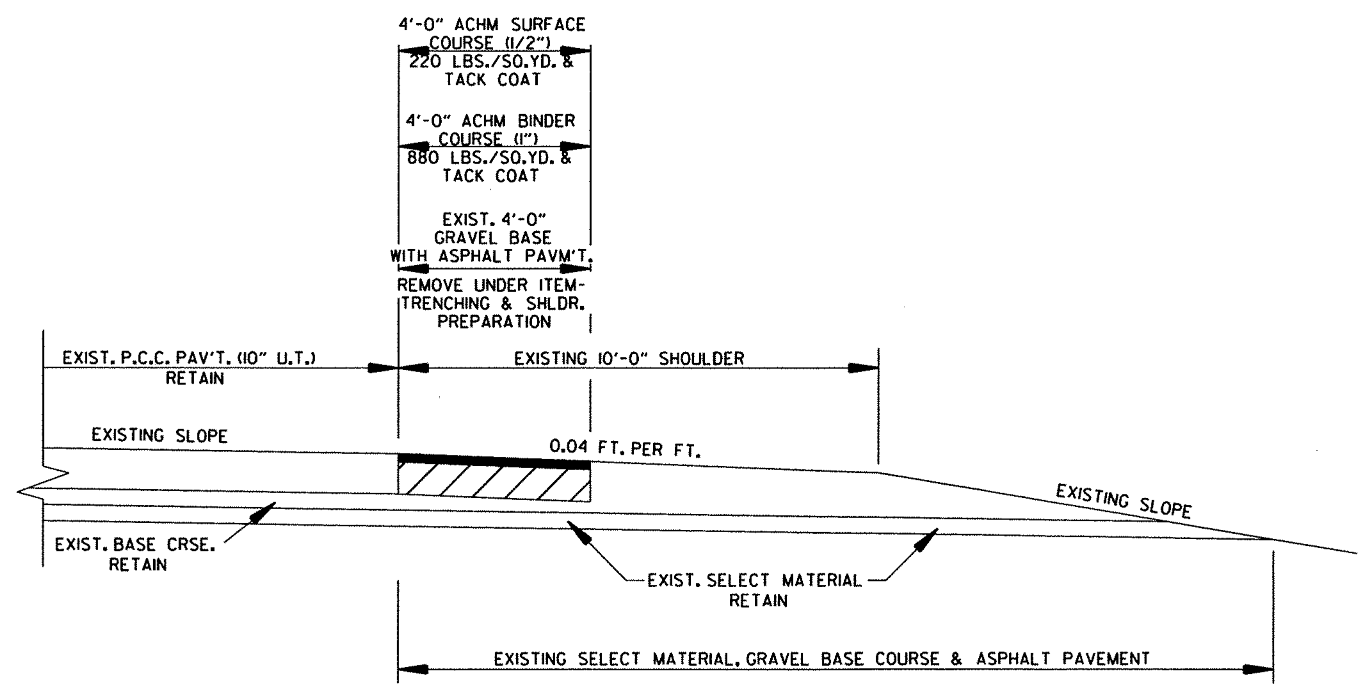
TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC
LEFT MAIN LANES - INSIDE SHOULDER
STA. 5015+76.70 TO STA. 5070+52.30
STA. 5070+78.00 TO STA. 5072+70.46
STA. 5075+37.53 TO STA. 5079+37.53
STA. 5239+50.00 TO STA. 5245+00.00



TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC
LEFT MAIN LANES - OUTSIDE SHOULDER
STA. 5005+00.00 TO STA. 5070+52.30
STA. 5070+78.00 TO STA. 5072+70.46
STA. 5075+37.53 TO STA. 5079+37.53
STA. 5239+50.00 TO STA. 5245+00.00



TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC
LEFT MAIN LANES - INSIDE SHOULDER
STA. 5245+00.00 TO STA. 5250+86.00
STA. 5250+72.90 TO STA. 5265+05.30



TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC
LEFT MAIN LANES - OUTSIDE SHOULDER
STA. 5245+00.00 TO STA. 5250+86.00
STA. 5250+72.90 TO STA. 5275+00.00

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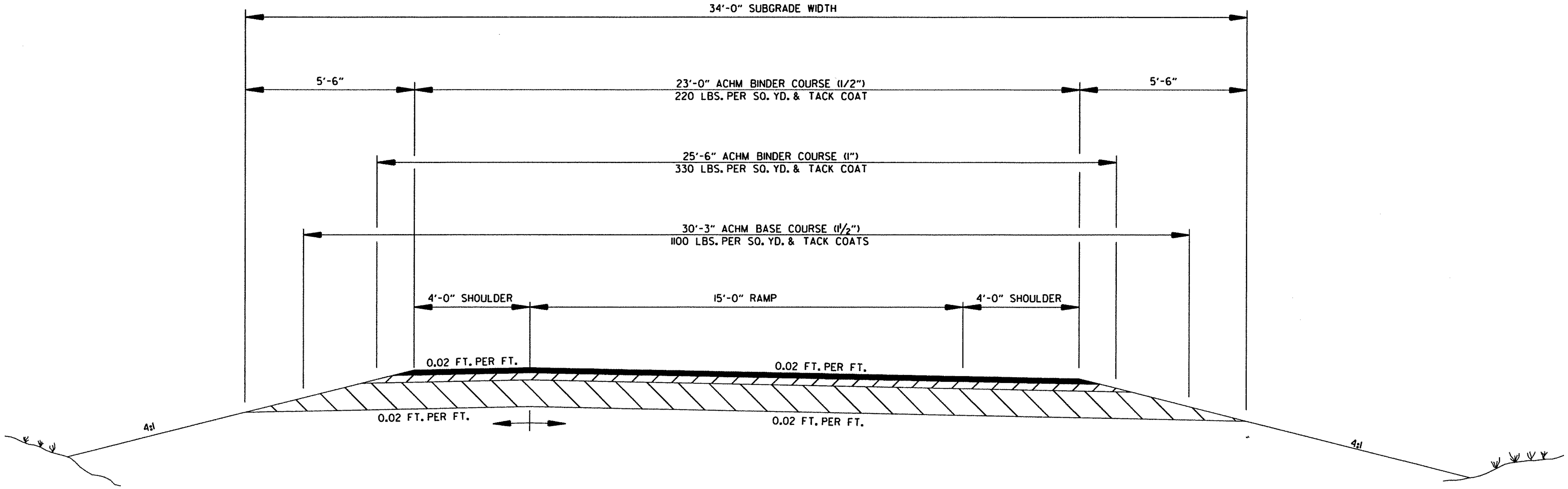
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	16	126

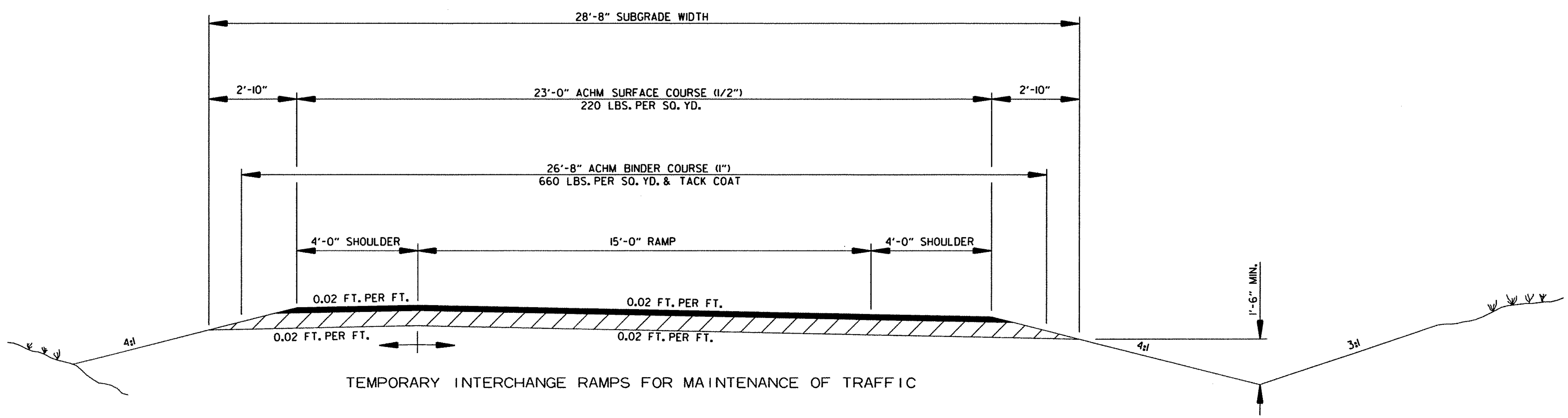
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER MICHAEL D. FUGETT

3-6-12



MAIN LANE CROSSOVER RAMPS FOR MAINTENANCE OF TRAFFIC



TEMPORARY INTERCHANGE RAMPS FOR MAINTENANCE OF TRAFFIC

12-29-2008 R061186.T01

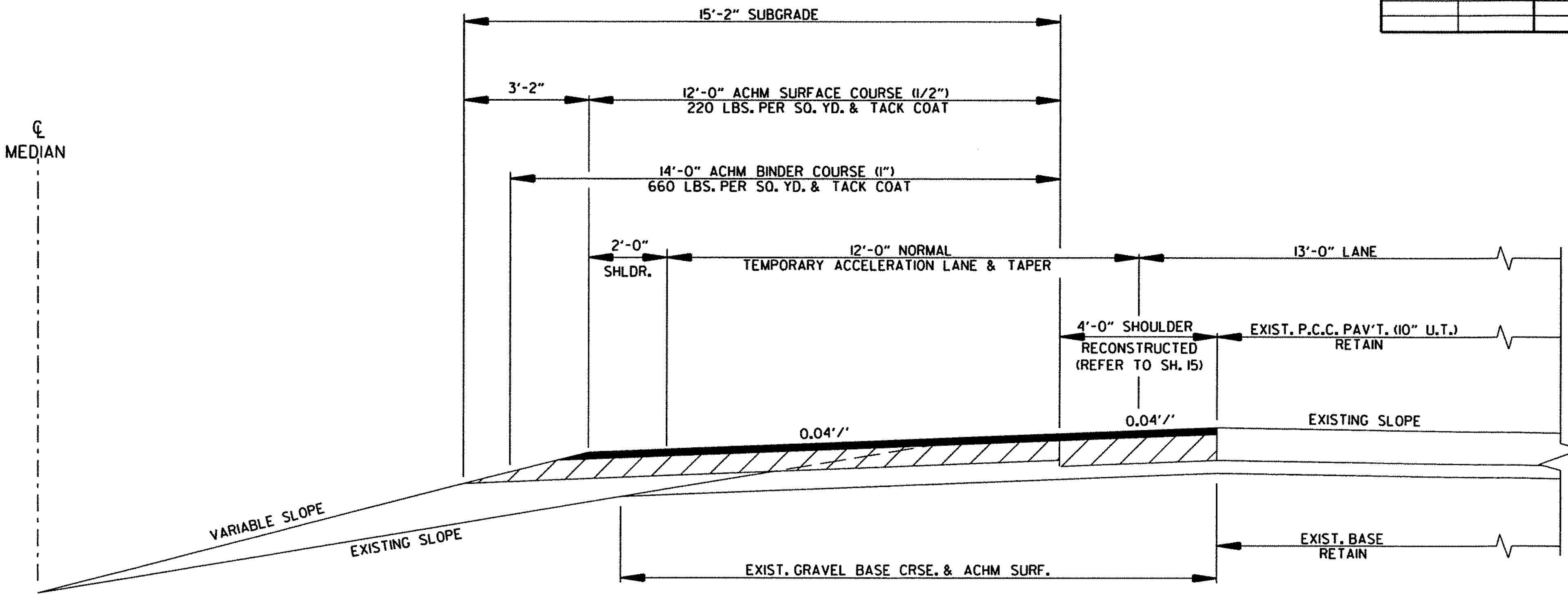
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	17	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

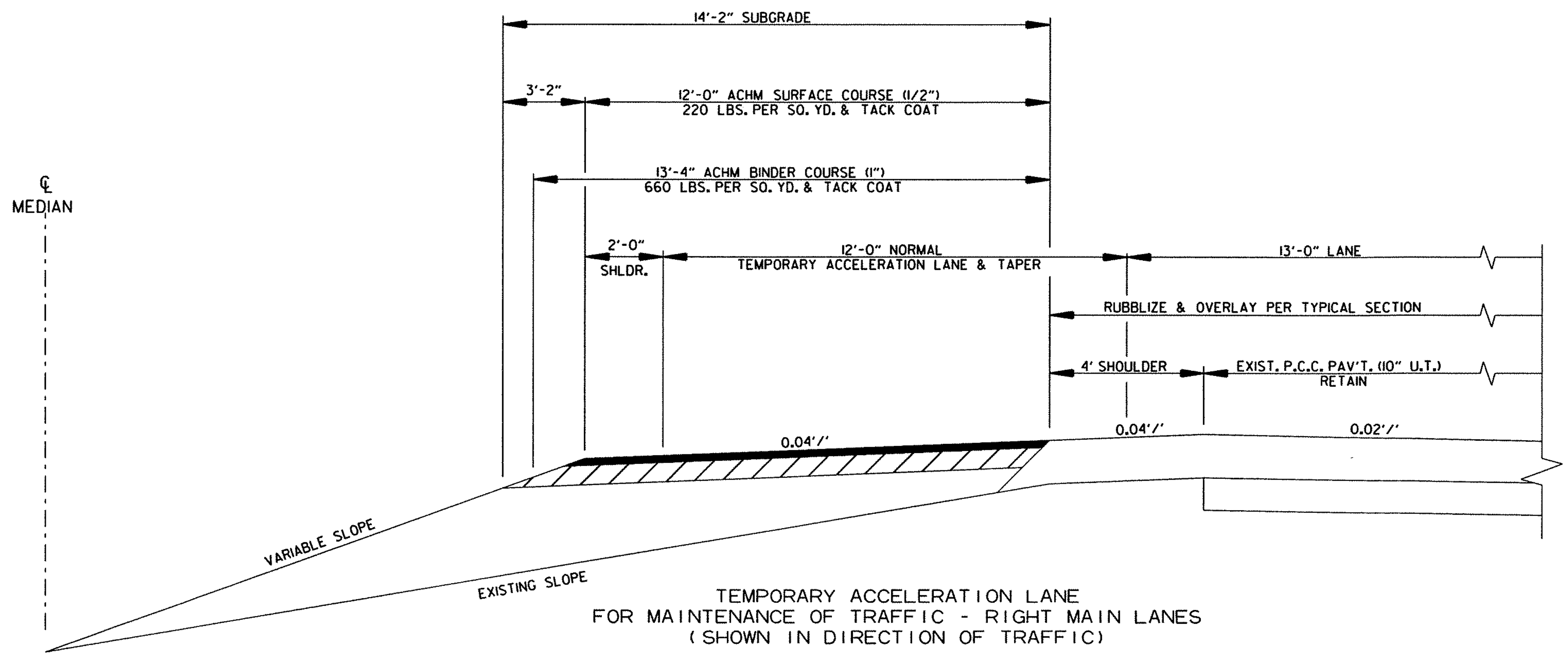
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. PUGETT

3-6-12



TEMPORARY ACCELERATION LANE
FOR MAINTENANCE OF TRAFFIC - LEFT MAIN LANES
(SHOWN IN DIRECTION OF TRAFFIC)

STA. 5245+49.2 TO STA. 5247+58.7 - TEMPORARY RAMP 2A
STA. 5247+58.7 TO STA. 5252+59.1 - TEMPORARY RAMP 2B



TEMPORARY ACCELERATION LANE
FOR MAINTENANCE OF TRAFFIC - RIGHT MAIN LANES
(SHOWN IN DIRECTION OF TRAFFIC)

STA. 5215+58.5 TO STA. 5225+08.5 - TEMPORARY RAMP 4A
STA. 5225+08.5 TO STA. 5229+98.3 - TEMPORARY RAMP 4B

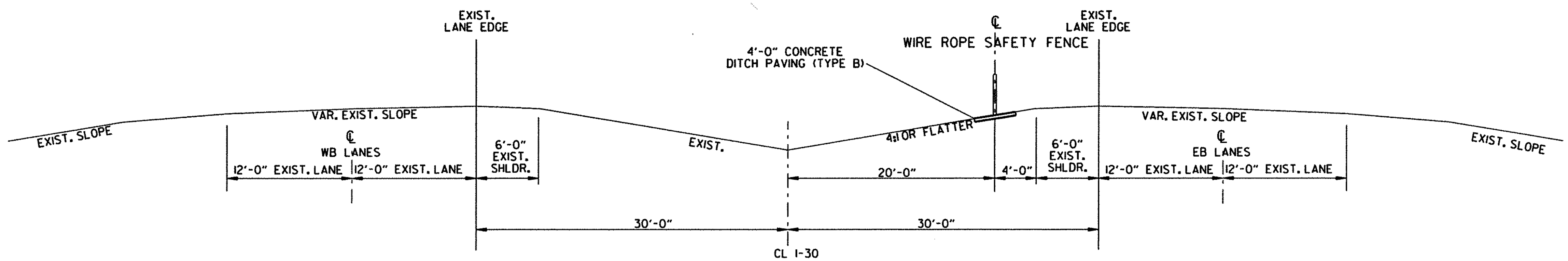
12-29-2008 R061186.T01

TYPICAL SECTIONS OF IMPROVEMENT

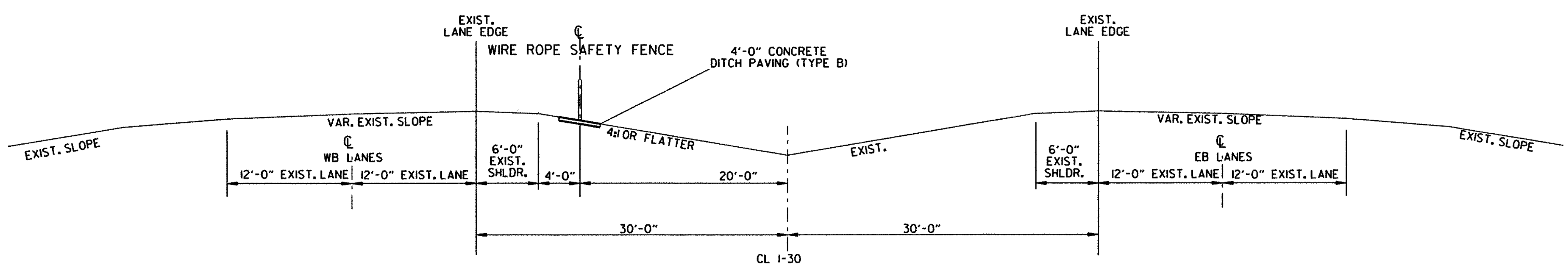
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	18	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-7-12



TYPICAL SECTION OF IMPROVEMENT
WIRE ROPE SAFETY FENCE ON EASTBOUND LANES FORESLOPE



TYPICAL SECTION OF IMPROVEMENT
WIRE ROPE SAFETY FENCE ON WESTBOUND LANES FORESLOPE

r061186.dgn/TYPICAL 02/03/2012

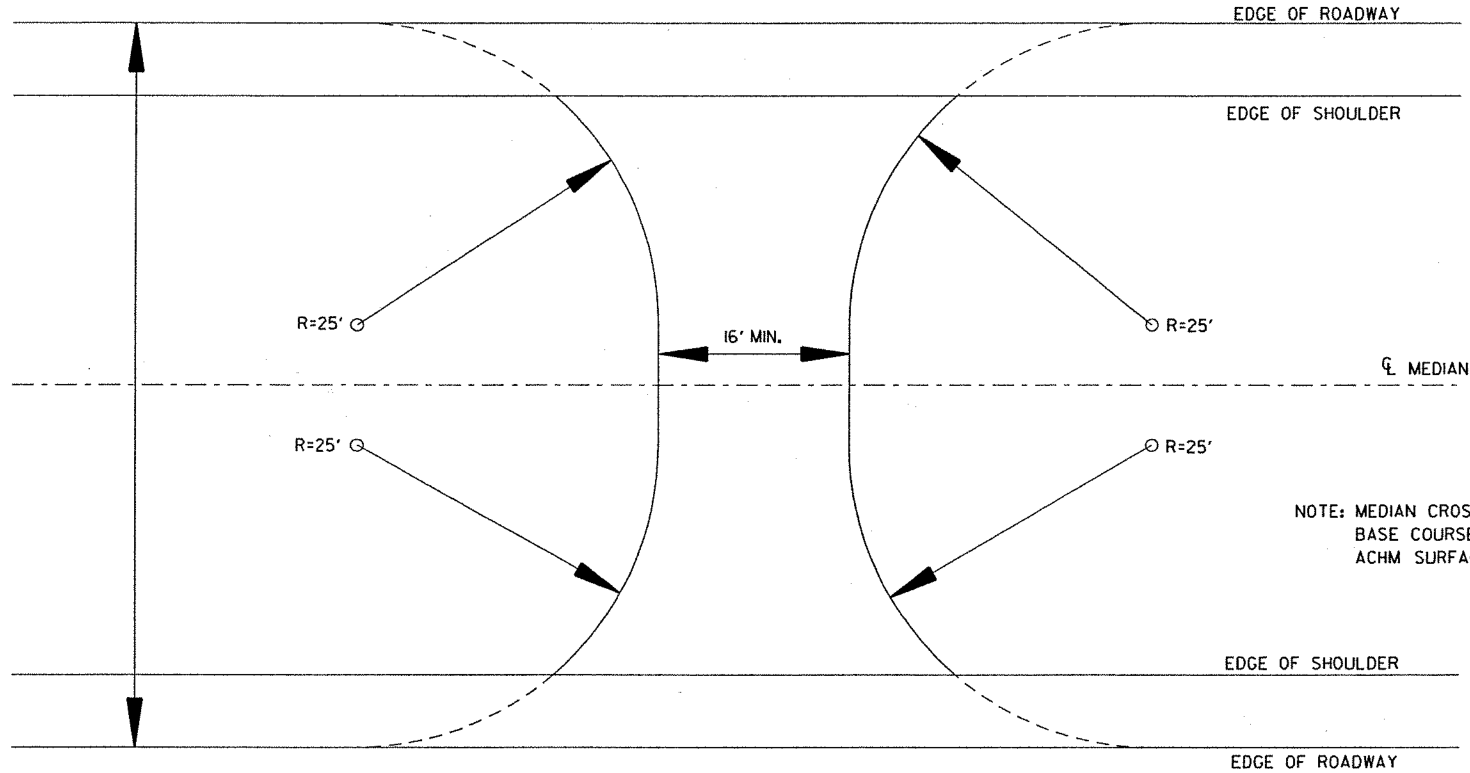
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	19	126

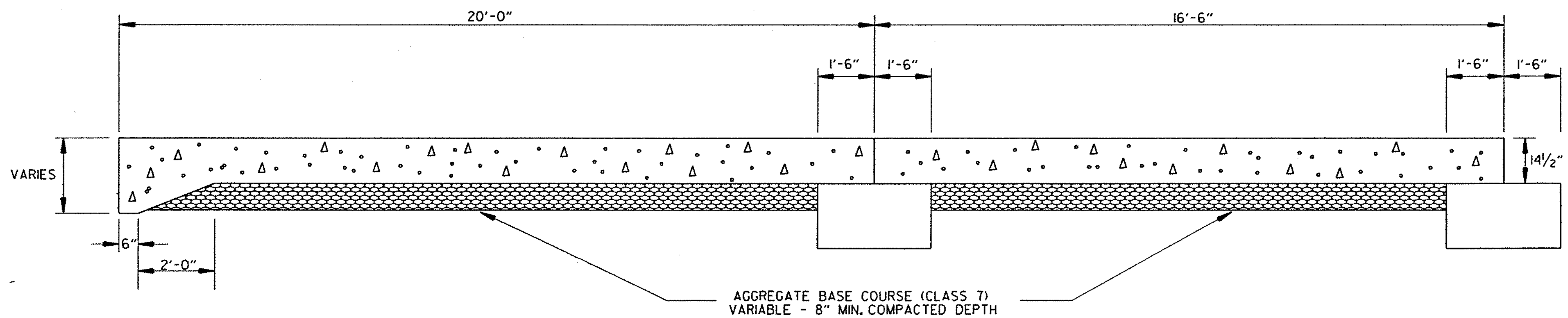
(2) SPECIAL DETAILS

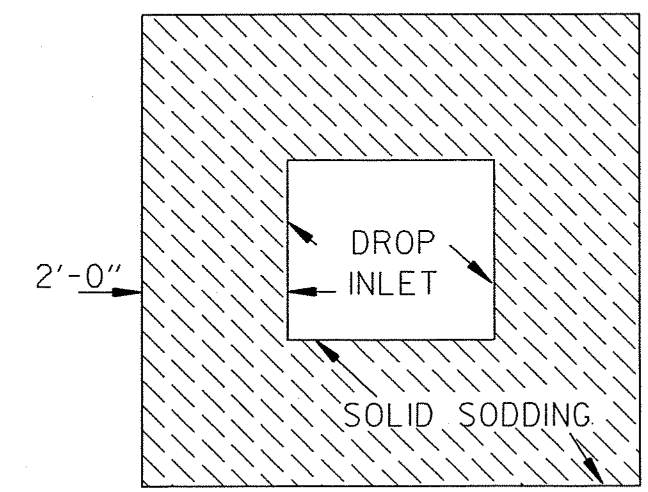
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT

3-6-12



NOTE: MEDIAN CROSSING TO BE CONSTRUCTED OF AGGREGATE BASE COURSE (CLASS 7) - 10½" COMPACTED DEPTH & ACHM SURFACE COURSE (1/2") - 220 LBS. PER SQ. YD.





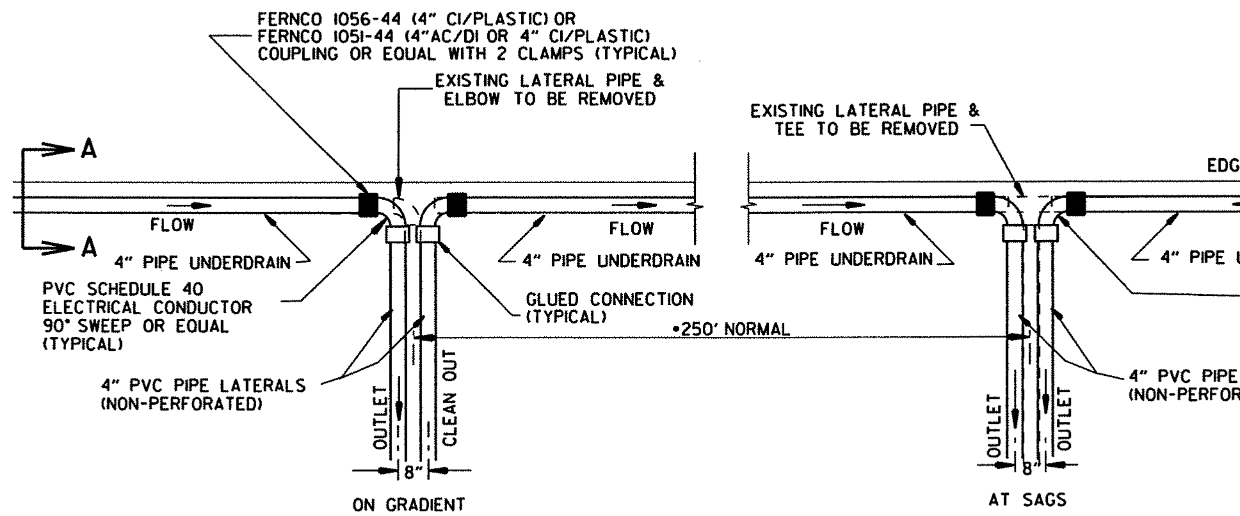
DETAIL FOR SOLID SODDING AROUND DROP INLETS

R061186.D01

12-29-2008

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	20	126

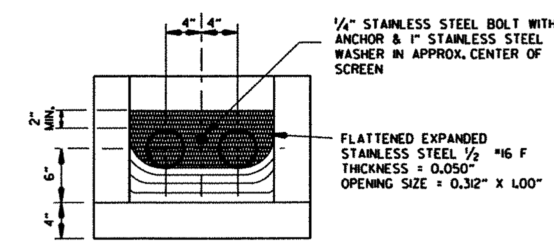
(2) SPECIAL DETAILS



NOTE:
PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE. UNDERDRAIN OUTLET PROTECTORS SHALL BE INSTALLED ON NEW LATERALS. (REFER TO STD. DWG. PU-1.)

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

PLAN DETAIL OF PIPE UNDERDRAIN LATERALS



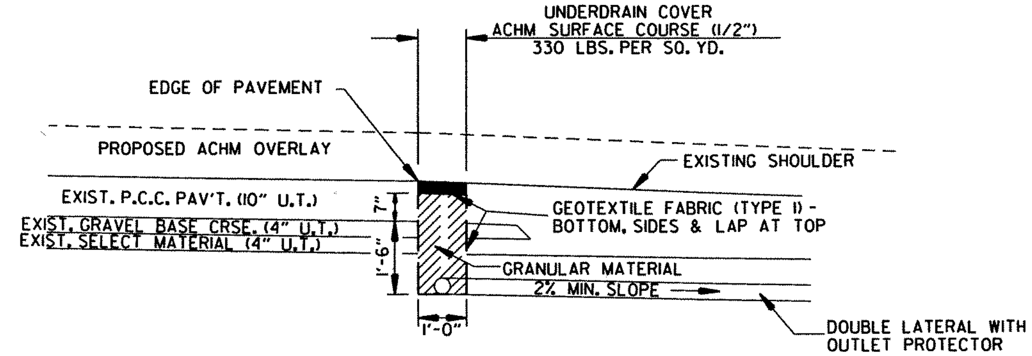
DETAIL OF RODENT SCREEN

NOTES FOR PIPE UNDERDRAINS

1. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."
2. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE I. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
3. 4" PIPE UNDERDRAINS SHALL BE PLACED ON THE LOW SIDE OF SUPERELEVATED ROADWAYS AS SHOWN ON THE TYPICAL SECTIONS. 4" PIPE UNDERDRAINS SHALL BE CONNECTED TO MEDIAN DROP INLETS WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."
4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
5. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAINS OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
6. THE RODENT SCREEN SHOWN HEREON SHALL BE USED IN LIEU OF THE WIRE MESH RODENT SCREEN SHOWN IN STANDARD DRAWING PU-1. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR " 4" PIPE UNDERDRAINS."
7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED, THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1) INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2) INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE. PAYMENT SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS".

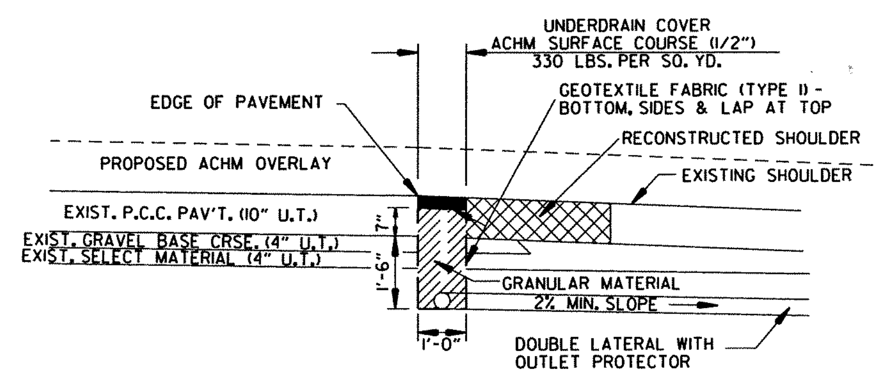
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT

3-6-12

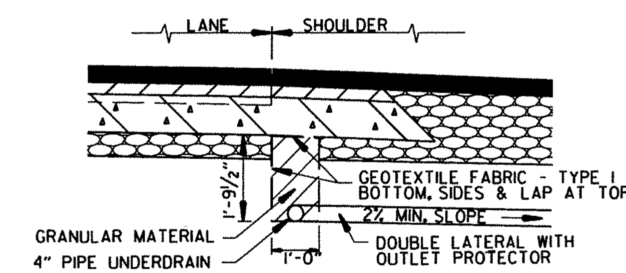


LEFT SHOULDER - LEFT MAIN LANES
STA. 5040+50.00 TO STA. 5052+25.25
STA. 5079+50.00 TO STA. 5090+16.80
STA. 5089+45.10 TO STA. 5186+66.40
STA. 5186+78.50 TO STA. 5230+85.50
STA. 5230+85.50 TO STA. 5235+21.30

RIGHT SHOULDER - RIGHT MAIN LANES
STA. 5040+50.00 TO STA. 5054+49.59
STA. 5084+50.00 TO STA. 5093+92.10
STA. 5092+31.40 TO STA. 5152+97.60
STA. 5187+66.00 TO STA. 5230+61.50
STA. 5230+61.50 TO STA. 5235+94.30
STA. 5226+81.80 TO STA. 5229+21.80
STA. 5238+21.80 TO STA. 5244+33.40
STA. 5244+33.40 TO STA. 5248+00.00



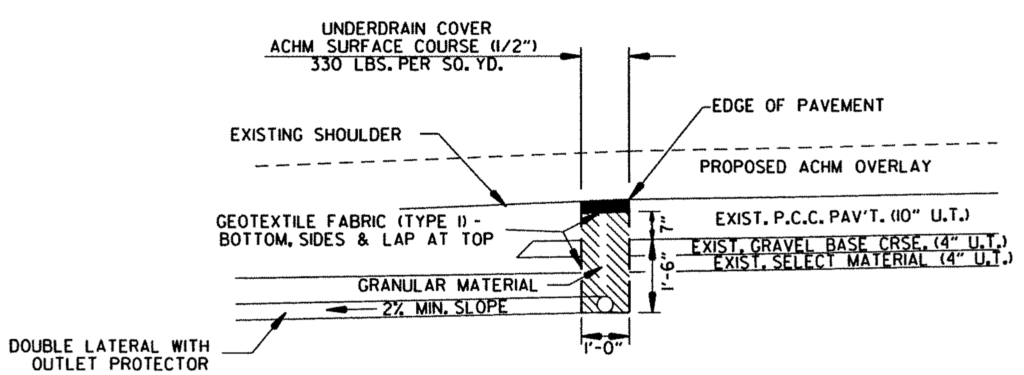
LEFT SHOULDER - LEFT MAIN LANES
STA. 5239+50.00 TO STA. 5246+36.00
STA. 5246+36.00 TO STA. 5248+00.00



RIGHT SHOULDER - RIGHT MAIN LANES
STA. 5070+18.41 TO STA. 5074+74.55
STA. 5077+54.61 TO STA. 5084+50.00
STA. 5229+21.80 TO STA. 5238+21.80
STA. 5248+00.00 TO STA. 5250+59.80
STA. 5250+72.90 TO STA. 5252+92.42

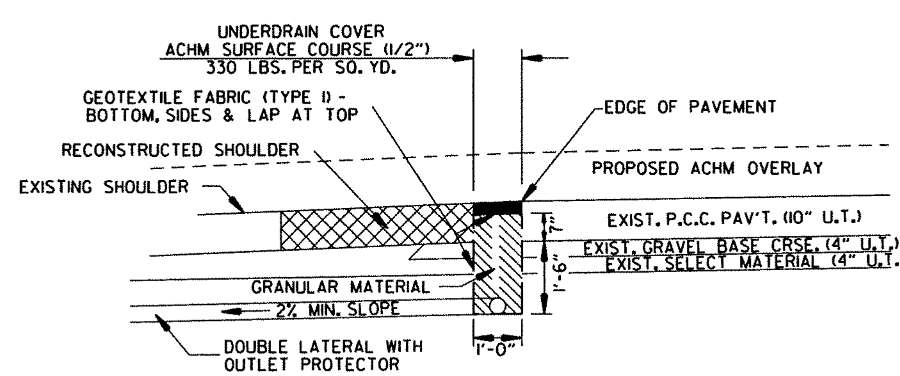
LEFT SHOULDER - LEFT MAIN LANES
STA. 5071+98.35 TO STA. 5072+68.96
STA. 5075+39.03 TO STA. 5079+50.00
STA. 5251+72.90 TO STA. 5252+92.42

NOTE: IN LIEU OF LAPPING GEOTEXTILE FABRIC, THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, UTILIZE AN ALTERNATE METHOD FOR PROVIDING A POSITIVE CLOSURE.

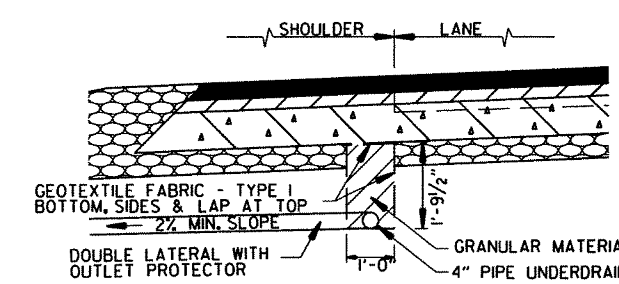


RIGHT SHOULDER - LEFT MAIN LANES
STA. 5052+25.25 TO STA. 5060+85.60
STA. 5060+85.60 TO STA. 5066+79.76
STA. 5235+21.30 TO STA. 5235+94.30
STA. 5226+81.80 TO STA. 5239+50.00

LEFT SHOULDER - RIGHT MAIN LANES
STA. 5054+49.59 TO STA. 5067+30.90
STA. 5067+30.90 TO STA. 5069+00.00
STA. 5152+97.60 TO STA. 5186+90.60
STA. 5186+78.50 TO STA. 5187+66.00



RIGHT SHOULDER - LEFT MAIN LANES
STA. 5239+50.00 TO STA. 5248+00.00



LEFT SHOULDER - RIGHT MAIN LANES
STA. 5069+00.00 TO STA. 5070+18.41

RIGHT SHOULDER - LEFT MAIN LANES
STA. 5066+79.76 TO STA. 5070+52.30
STA. 5070+78.00 TO STA. 5071+98.35
STA. 5248+00.00 TO STA. 5250+86.00
STA. 5250+72.90 TO STA. 5251+72.90

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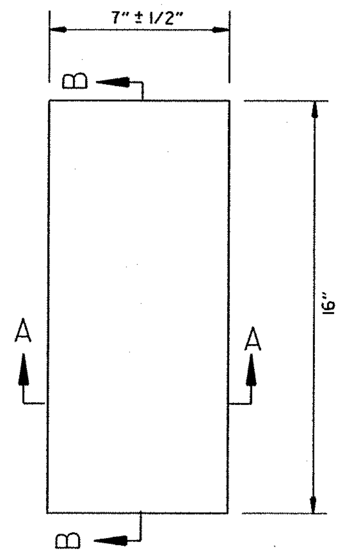
SPECIAL DETAILS

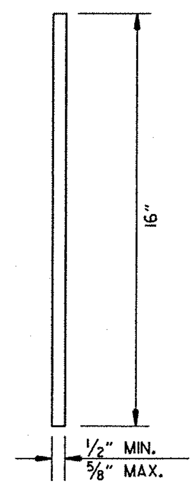
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	21	126

(2) SPECIAL DETAILS

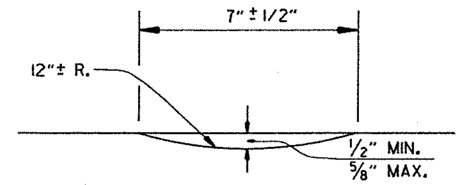
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



PLAN

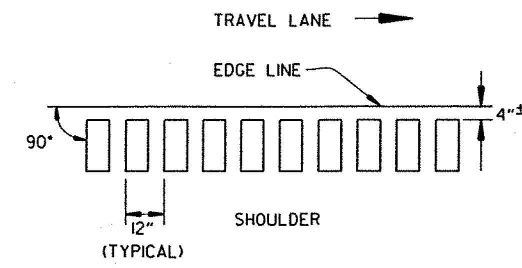


SECTION B-B

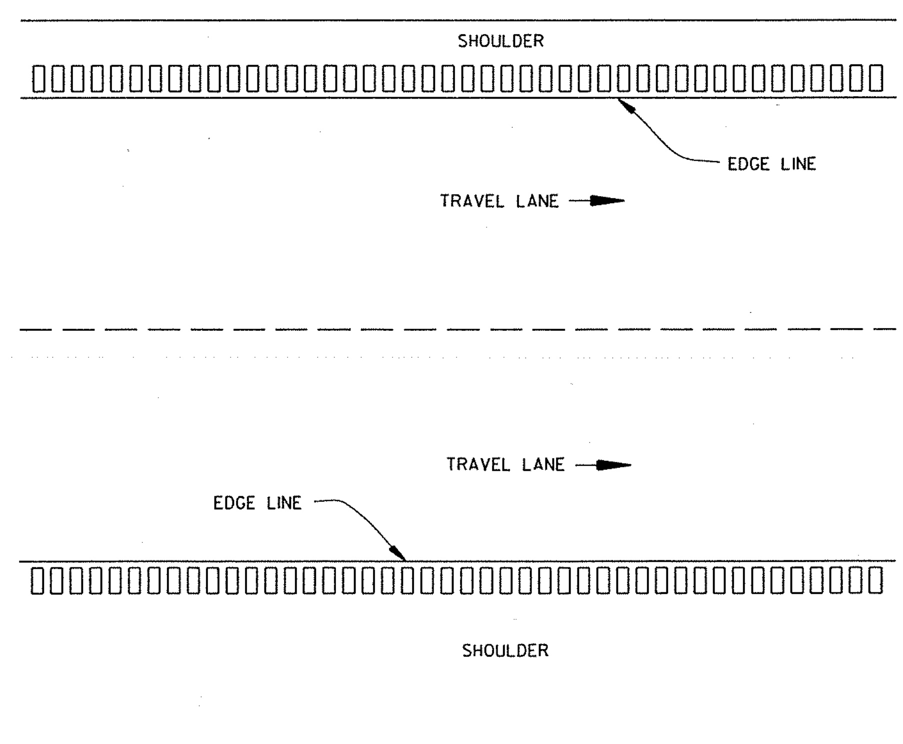


SECTION A-A

DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



PLAN VIEW

NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE.

2. THE 1/2" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

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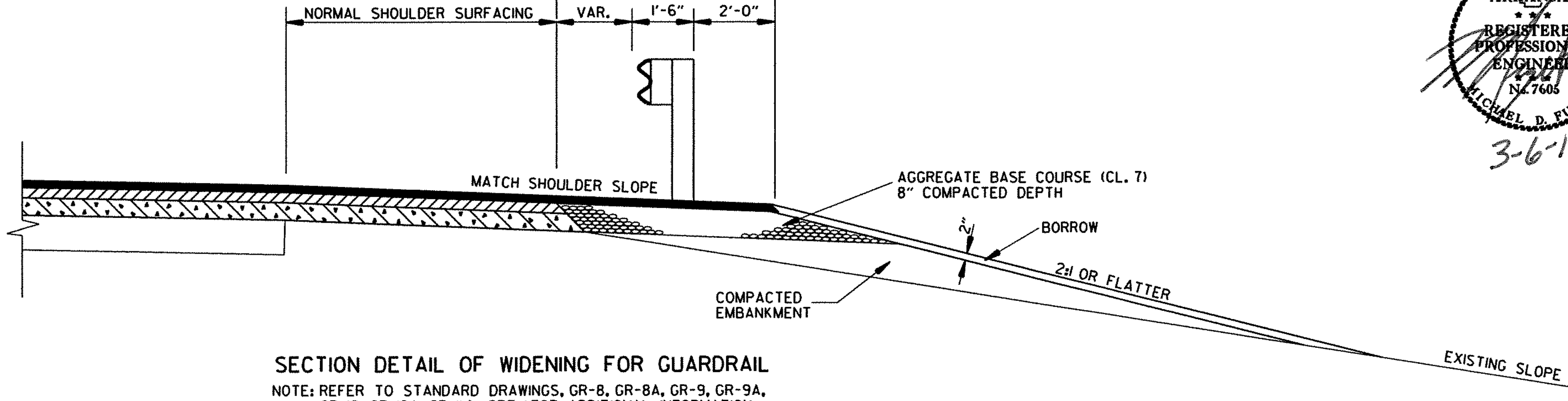
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	22	126

(2) SPECIAL DETAILS

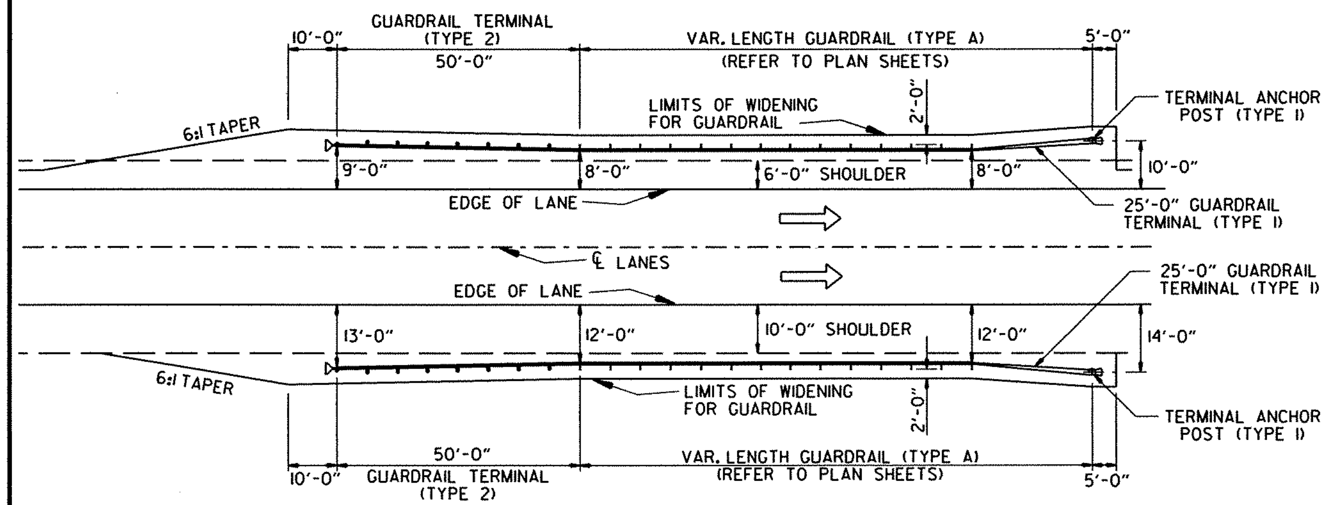
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT

3-6-12



SECTION DETAIL OF WIDENING FOR GUARDRAIL

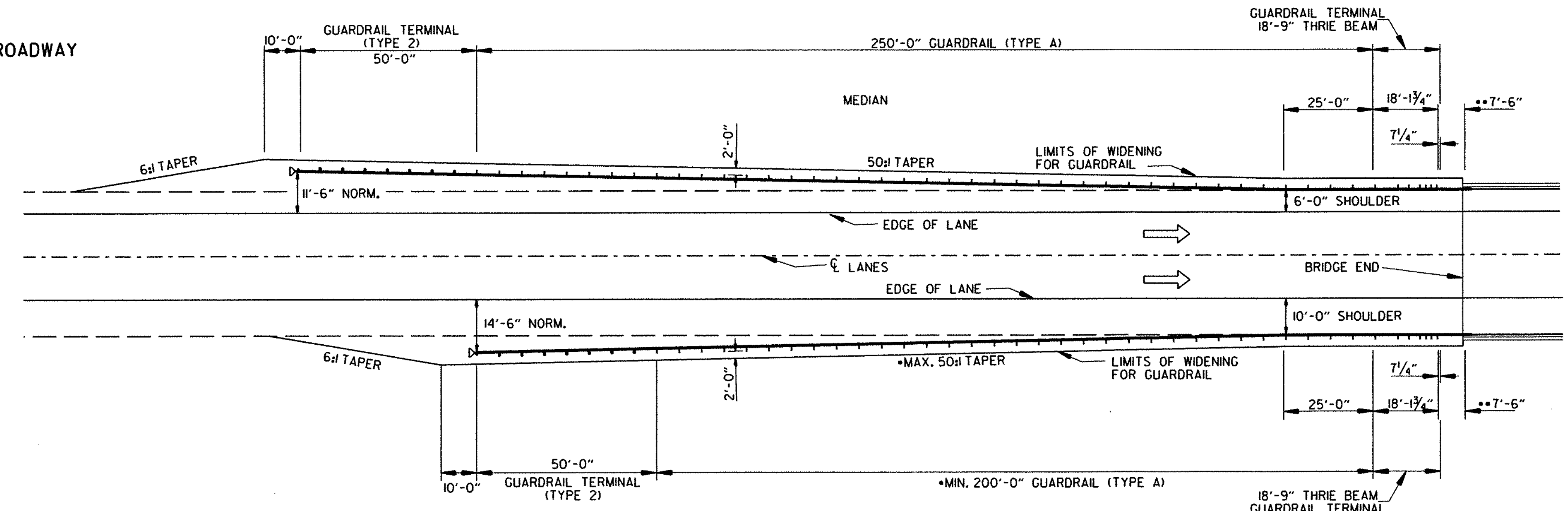
NOTE: REFER TO STANDARD DRAWINGS, GR-8, GR-8A, GR-9, GR-9A, GR-10, GR-10A, GR-11 & GRT-1 FOR ADDITIONAL INFORMATION.



TYPICAL LAYOUT OF GUARDRAIL ALONG ROADWAY

NOTE: LAYOUT OF GUARDRAIL AT CONCRETE PIER PROTECTION SHALL BE AS SHOWN FOR RIGHT SIDE OF BRIDGE.

••NOTE: 7'-6" LENGTH FOR TYPE 'AT' APPROACH GUTTERS, 10'-0" LENGTH FOR TYPE 'PT' APPROACH GUTTERS



•NOTE: WHEN LENGTH OF GUARDRAIL EXCEEDS 200', FLATTEN TAPER TO MAINTAIN 14'-6" OFFSET AT APPROACH END.

TYPICAL LAYOUT OF GUARDRAIL AT BRIDGE ENDS

SPECIAL DETAILS

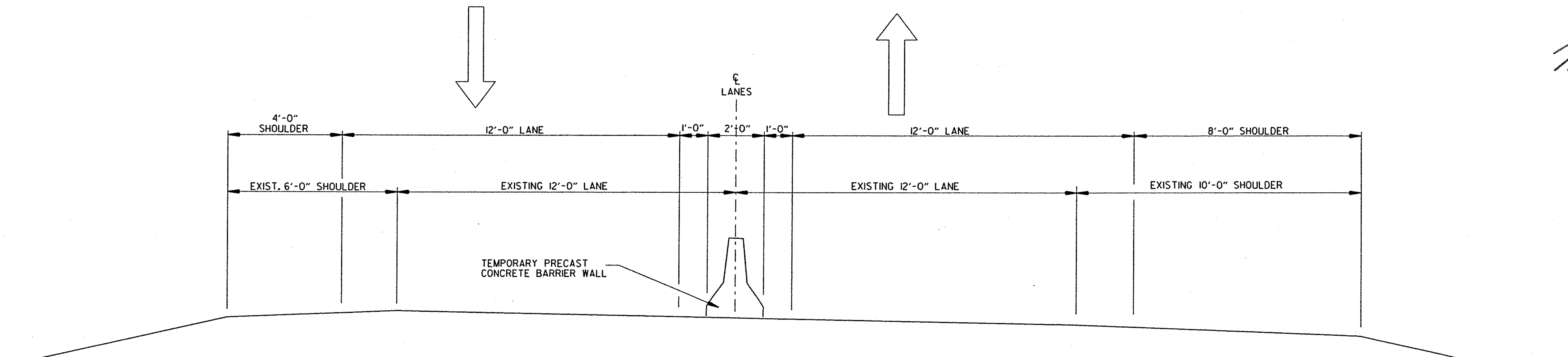
12-29-2008 R061186.D01

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.		061186	23	126

(2) SPECIAL DETAILS

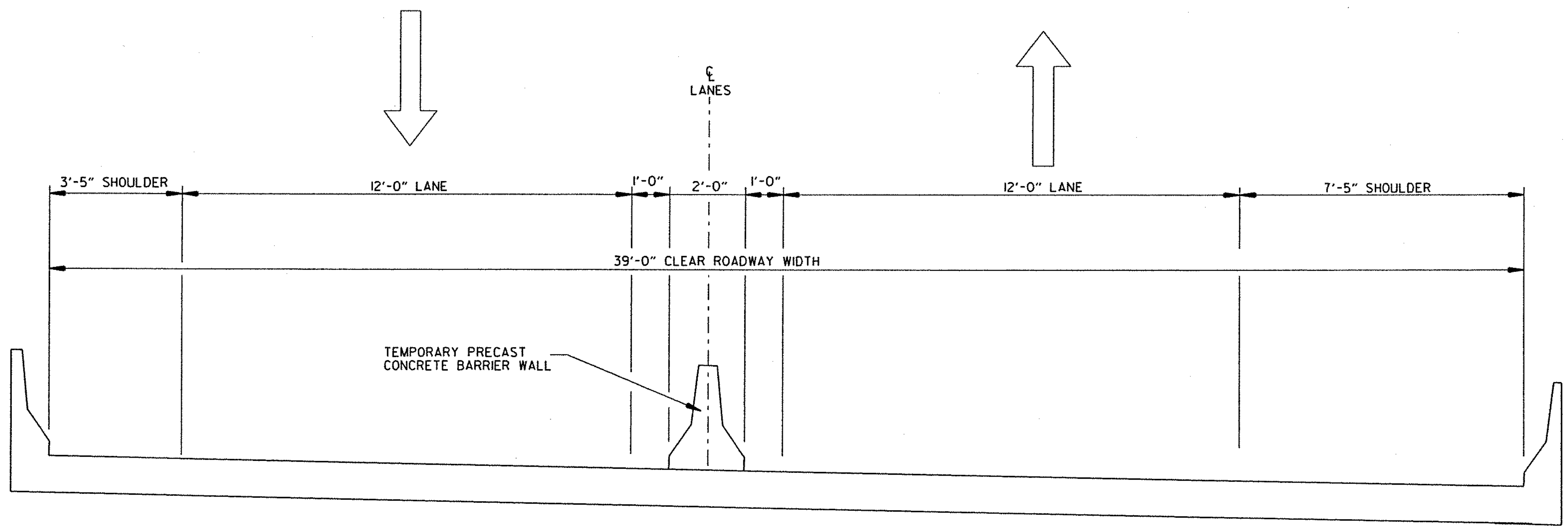
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. PUGETT

3-6-12



LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER FOR MAINTENANCE
OF TRAFFIC FOR PAVEMENT RUBBLIZATION - LEFT MAIN LANES

NOTE:
EXISTING PLOWABLE MARKERS THAT INTERFERE WITH THE PLACEMENT OF PRECAST CONCRETE BARRIERS SHALL BE REMOVED. PAYMENT SHALL BE INCLUDED IN THE PRICE BID FOR FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER.



LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL FOR MAINTENANCE
OF TRAFFIC RUBBLIZATION - LEFT MAIN LANES
BRIDGE 5027A

12-29-2008 R601186.D01

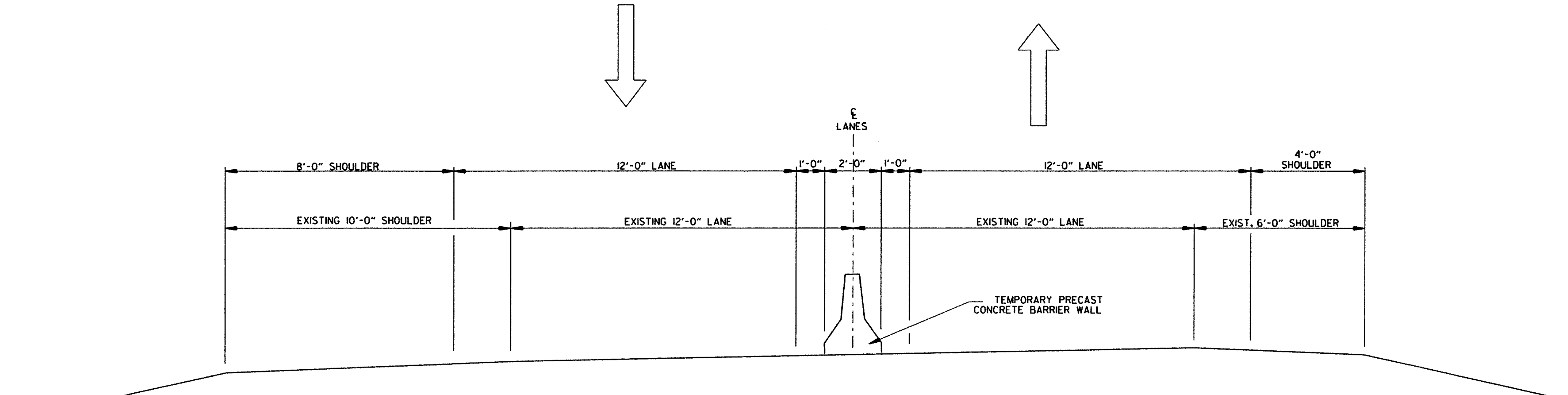
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	24	126

(2) SPECIAL DETAILS

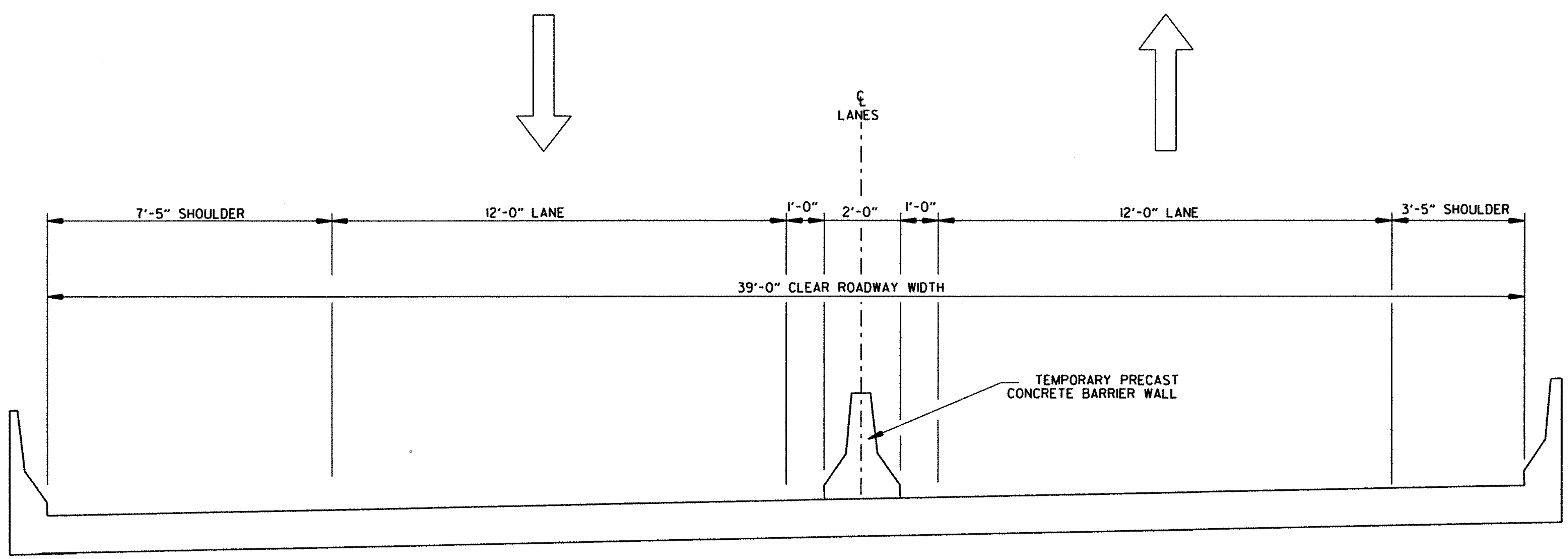
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT

3-6-12



LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER FOR MAINTENANCE OF TRAFFIC FOR PAVEMENT RUBBLIZATION - RIGHT MAIN LANES

NOTE:
EXISTING PLOWABLE MARKERS THAT INTERFERE WITH THE PLACEMENT OF PRECAST CONCRETE BARRIERS SHALL BE REMOVED. PAYMENT SHALL BE INCLUDED IN THE PRICE BID FOR FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER.



LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL FOR MAINTENANCE OF TRAFFIC RUBBLIZATION - RIGHT MAIN LANES
BRIDGE 5027B

12-29-2008 R061186.D01

SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7603
MICHAEL D. FUGETT
3-6-12

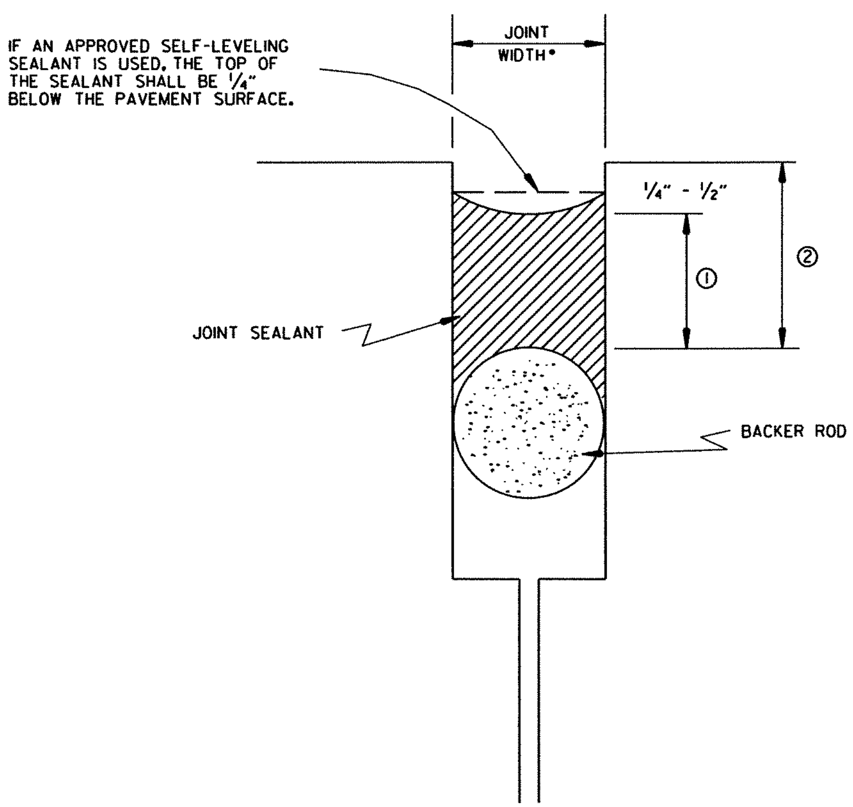
JOINT CONFIGURATION FOR TYPE 3 & 4 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS (1)	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH (2)
	INCHES		
1/4	1/4	3/8	1/2
3/8	1/4	1/2	1/2
1/2	1/4	5/8	1/2
5/8	5/16	3/4	9/16
3/4	3/8	7/8	7/8
7/8	7/16	1	11/16
1	1/2	1 1/4	3/4
1 TO 1 1/2	1/2	1 1/4 +	3/4

NOTE: JOINTS GREATER THAN 1 1/2" IN WIDTH SHALL BE SEALED WITH TYPE 5 JOINT SEALANT.

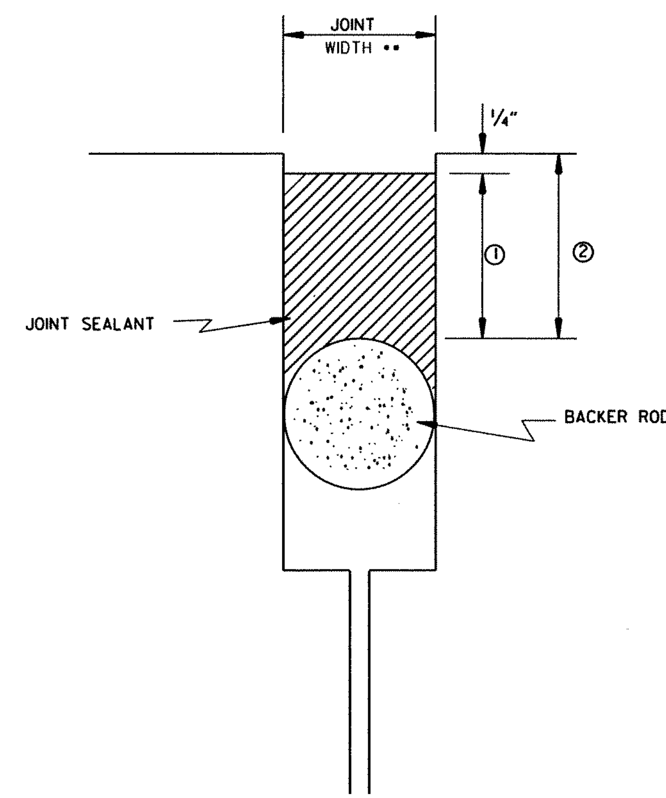
JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	APPROX. WIDTH TO DEPTH RATIO	SEALANT THICKNESS (1)	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH (2)
INCHES		INCHES		
1/4	1:2	1/2	3/8	3/4
3/8		3/4	1/2	1
1/2		1	5/8	1 1/4
5/8		1 1/4	3/4	1 1/2
3/4	1:1.75	1 3/8	7/8	1 5/8
7/8		1 1/2	1	1 3/4
1	1:1.6	1 5/8	1 1/4	1 7/8
1 TO 3		1 5/8 +	1 1/4 +	1 7/8 +



* CONTRACTION JOINTS SHALL BE SAWED TO MIN. WIDTH OF 3/8 ". WARPING & LONGITUDINAL JOINTS SHALL BE SAWED TO MIN. WIDTH OF EXISTING WIDTH + 1/8 " (1/16" ON EACH SIDE).

DETAILS OF TYPE A OR TYPE B JOINT REHABILITATION



** WARPING & LONGITUDINAL JOINTS SHALL BE SAWED TO MIN. WIDTH OF EXISTING WIDTH +1/8" (1/16" ON EACH SIDE).

NOTE: FOR JOINTS WIDER THAN 1 1/2", THE CONTRACTOR SHALL HAVE THE OPTION OF COMPLETELY FILLING THE JOINT IN LIEU OF USING A BACKER ROD.

DETAILS OF TYPE B JOINT REHABILITATION

REFER TO SECTION 509 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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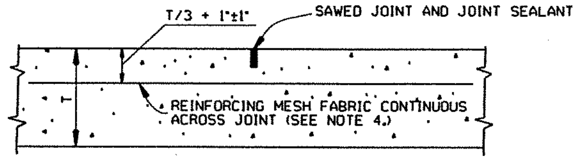
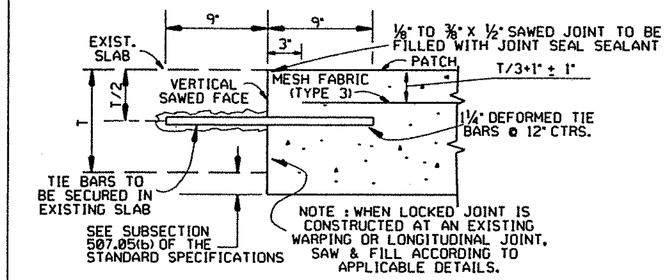
				6	ARK.			
				JOB NO.		061186	26	126

2 SPECIAL DETAILS

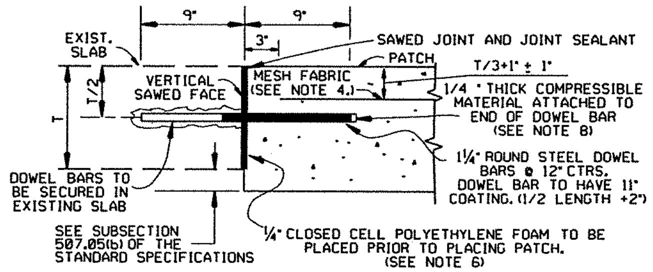


SECTION B-B

WARPING JOINT

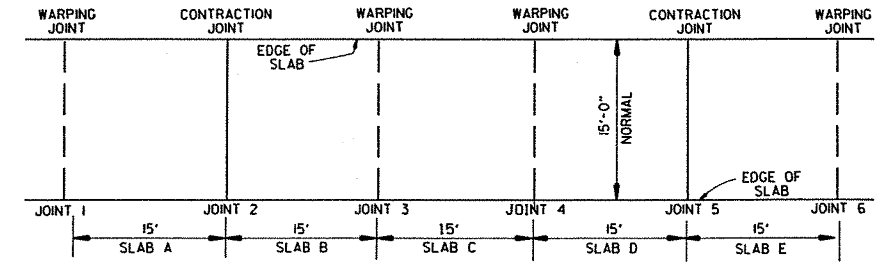


SECTION D-D



SECTION E-E

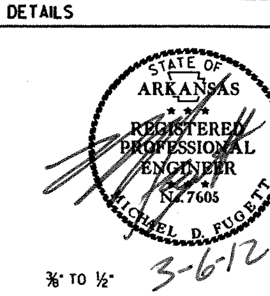
FREE TRANSVERSE JOINT

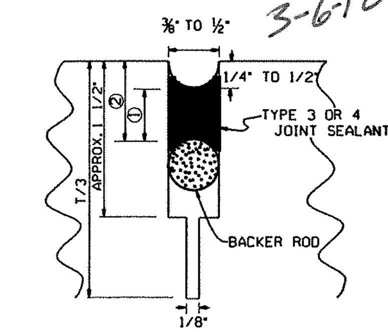


PLAN OF PAVEMENT REPAIR (FULL SLABS)

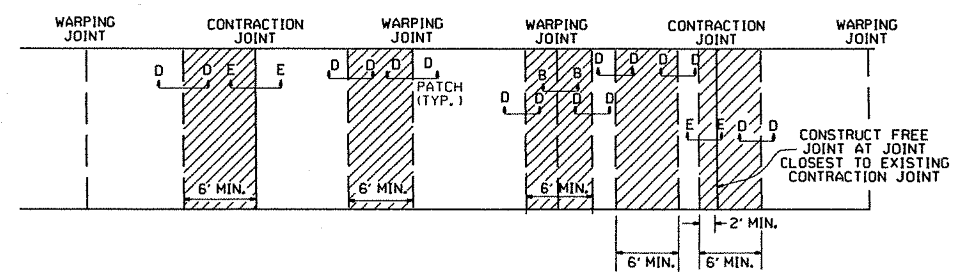
TYPICAL SLAB REPLACEMENT EXAMPLES

SLAB(S) TO BE RECONSTRUCTED	TYPE OF JOINT TO BE CONSTRUCTED					
	JOINT 1	JOINT 2	JOINT 3	JOINT 4	JOINT 5	JOINT 6
A OR D	LOCKED	FREE		LOCKED	FREE	
B OR E		FREE	LOCKED		FREE	LOCKED
A & B OR D & E	LOCKED	CONTRACTION	LOCKED	LOCKED	CONTRACTION	LOCKED
B & C		FREE	WARPING	LOCKED		
B, C & D		FREE	WARPING	WARPING	FREE	
C			LOCKED	LOCKED		

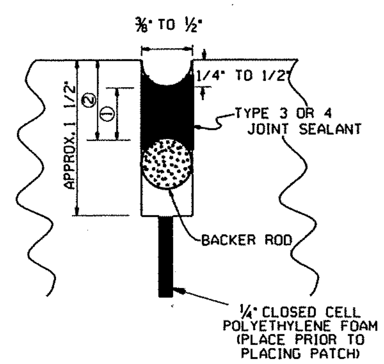




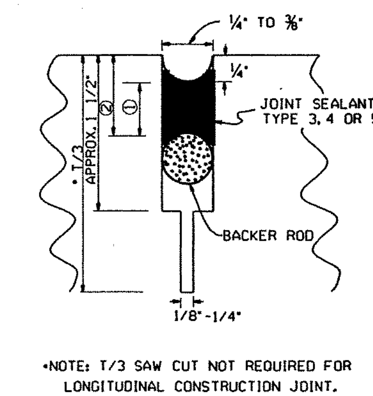
DETAIL OF SAWED CONTRACTION JOINT



PLAN OF PAVEMENT REPAIR (PARTIAL SLABS)

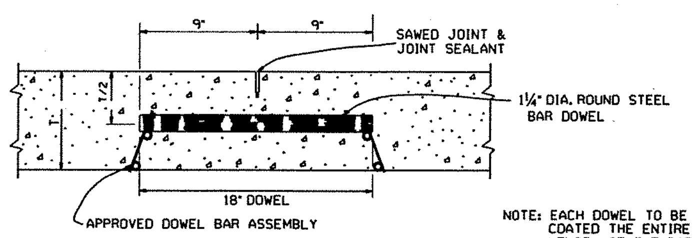


DETAIL OF SAWED FREE TRANSVERSE JOINT



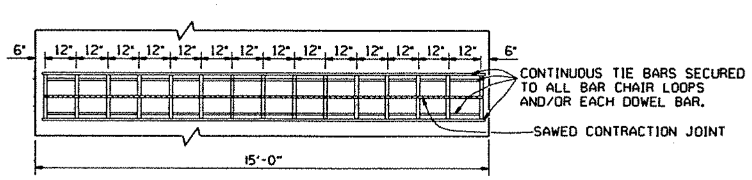
*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED WARPING JOINT



NOTE: EACH DOWEL TO BE COATED THE ENTIRE LENGTH OF THE BAR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

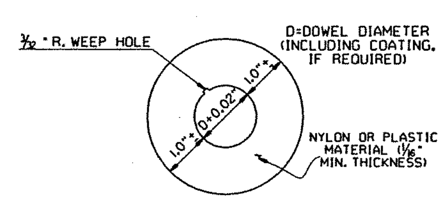
SECTION C-C



15' PAVEMENT
15 DOWELS
PLAN - CONTRACTION JOINT

NOTE: FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12" CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS



DETAIL OF EPOXY RETENTION DISK

NOTE: EPOXY RETENTION DISK SHALL BE SLIPPED TIGHTLY OVER TIE BARS AND FIRMLY AGAINST THE SLAB FACE AFTER INSERTING TIE BAR AND EPOXY INTO HOLE

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	⅝	½

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	½	⅜	¾
⅜	¾	½	1

NOTES FOR PAVEMENT REPAIR

1. EXACT SIZE AND LOCATION OF AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER. ALL PATCHES SHALL EXTEND ACROSS THE FULL WIDTH OF THE SLAB AS SHOWN IN THESE DETAILS.
2. THE FINAL SURFACE FINISH FOR PATCHES SHALL MATCH THAT OF THE EXISTING PAVEMENT.
3. WHEN AREA TO BE REPAIRED INCLUDES AN EXISTING JOINT, THE JOINT SHALL BE RECONSTRUCTED TO THE CONFIGURATION SHOWN IN THESE DETAILS.
4. ALL REPAIRED AREAS SHALL BE REINFORCED WITH MESH FABRIC AS SHOWN. DEPTH OF MESH PLACEMENT SHALL HAVE A TOLERANCE OF ±1 INCH. MESH FABRIC SHALL BE 12 x 12 - W4 x W4 WELDED WIRE FABRIC (MINIMUM WIRE SIZE). LAPS SHALL BE MINIMUM 6" IN EACH DIRECTION. MINIMUM COVER AT EDGES SHALL BE 2".
5. FORMS FOR PAVEMENT REPAIR SHALL BE METAL UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. CLOSED CELL POLYETHYLENE FOAM SHALL BE SECURED TO SAWED FACE OF EXISTING P.C.C. PAVEMENT WITH ADHESIVE OR ADHESIVE TAPE AS APPROVED BY THE ENGINEER AND TRIMMED FLUSH WITH TOP OF EXISTING SLAB TO PREVENT DISPLACEMENT WHEN THE PATCH IS BEING PLACED.
7. WHEN THE PATCH IS PLACED OVER GRANULAR BASE, REMOVE ANY LOOSE BASE MATERIAL, COMPACT REMAINING BASE AS NECESSARY AND PLACE PATCH. WHEN PATCH IS PLACED OVER TREATED BASE, REMOVE ANY LOOSE BASE MATERIAL AND PLACE PATCH.
8. ¼" THICK COMPRESSIBLE MATERIAL SHALL BE ATTACHED TO THE ENDS OF DOWEL BARS AT ALL FREE TRANSVERSE JOINTS (SEE SECTION E-E). THE MATERIAL SHALL BE THE SAME DIAMETER AS THE DOWEL BAR. A PLASTIC CAP OR OTHER TYPE OF DEVICE MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
9. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS ¼" WILL BE ALLOWED FOR THE TILT AND SKEW.

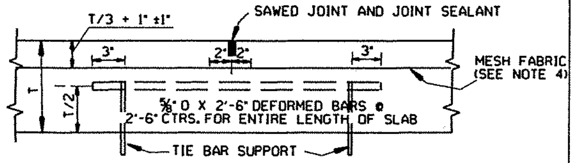
DETAILS OF PORTLAND CEMENT CONCRETE PAVEMENT PATCHING FOR RAMPS

3R.KEP

6-6-97

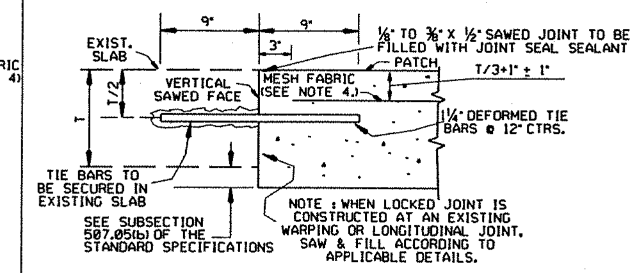
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	27	126

(2) SPECIAL DETAILS



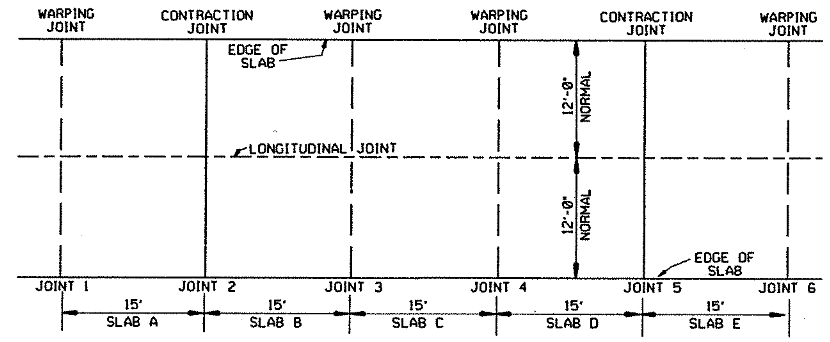
SECTION A-A

TIED LONGITUDINAL JOINT



SECTION D-D

LOCKED JOINT



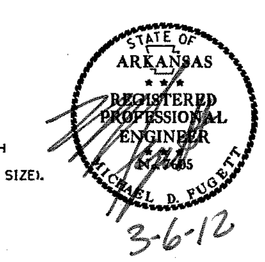
PLAN OF PAVEMENT REPAIR
(FULL SLABS)

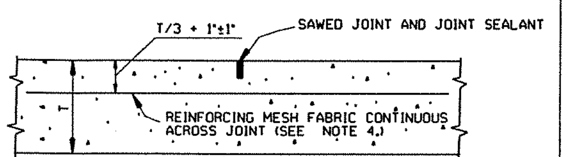
TYPICAL SLAB REPLACEMENT EXAMPLES

SLAB(S) TO BE RECONSTRUCTED	TYPE OF JOINT TO BE CONSTRUCTED					
	JOINT 1	JOINT 2	JOINT 3	JOINT 4	JOINT 5	JOINT 6
A OR D	LOCKED	FREE		LOCKED	FREE	
B OR E		FREE	LOCKED		FREE	LOCKED
A & B OR D & E	LOCKED	CONTRACTION	LOCKED	LOCKED	CONTRACTION	LOCKED
B & C		FREE	WARPING	LOCKED		
B, C & D		FREE	WARPING	WARPING	FREE	
C			LOCKED	LOCKED		

NOTES FOR PAVEMENT REPAIR

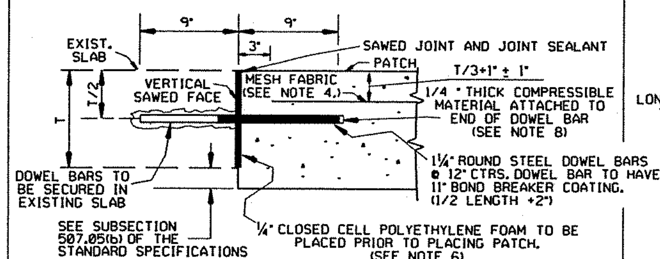
1. EXACT SIZE AND LOCATION OF AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER. ALL PATCHES SHALL EXTEND ACROSS THE FULL WIDTH OF THE SLAB AS SHOWN IN THESE DETAILS.
2. THE FINAL SURFACE FINISH FOR PATCHES SHALL MATCH THAT OF THE EXISTING PAVEMENT.
3. WHEN AREA TO BE REPAIRED INCLUDES AN EXISTING JOINT, THE JOINT SHALL BE RECONSTRUCTED TO THE CONFIGURATION SHOWN IN THESE DETAILS.
4. ALL REPAIRED AREAS SHALL BE REINFORCED WITH MESH FABRIC AS SHOWN. DEPTH OF MESH PLACEMENT SHALL HAVE A TOLERANCE OF ±1 INCH.
MESH FABRIC SHALL BE 12 x 12 - W4 x W4 WELDED WIRE FABRIC (MINIMUM WIRE SIZE). LAPS SHALL BE MINIMUM 6" IN EACH DIRECTION.
5. FORMS FOR PAVEMENT REPAIR SHALL BE METAL UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. CLOSED CELL POLYETHYLENE FOAM SHALL BE SECURED TO SAWED FACE OF EXISTING P.C.C. PAVEMENT WITH ADHESIVE OR ADHESIVE TAPE AS APPROVED BY THE ENGINEER AND TRIMMED FLUSH WITH TOP OF EXISTING SLAB TO PREVENT DISPLACEMENT WHEN THE PATCH IS BEING PLACED.
7. WHEN THE PATCH IS PLACED OVER GRANULAR BASE, REMOVE ANY LOOSE BASE MATERIAL. COMPACT REMAINING BASE AS NECESSARY AND PLACE PATCH. WHEN PATCH IS PLACED OVER TREATED BASE, REMOVE ANY LOOSE BASE MATERIAL AND PLACE PATCH.
8. 1/4" THICK COMPRESSIBLE MATERIAL SHALL BE ATTACHED TO THE ENDS OF DOWEL BARS AT ALL FREE TRANSVERSE JOINTS (SEE SECTION E-E). THE MATERIAL SHALL BE THE SAME DIAMETER AS THE DOWEL BAR. A PLASTIC CAP OR OTHER TYPE OF DEVICE MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
9. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS 1/4" WILL BE ALLOWED FOR THE TILT AND SKEW.





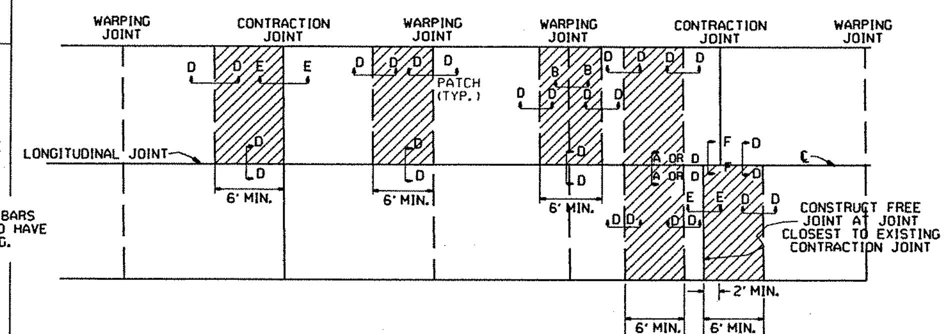
SECTION B-B

WARPING JOINT

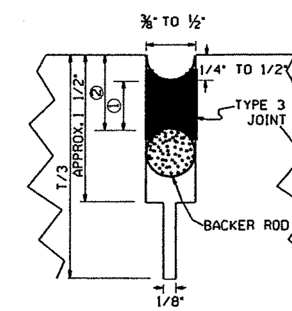


SECTION E-E

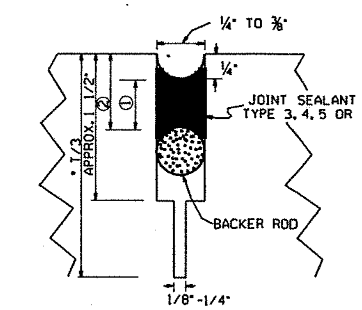
FREE TRANSVERSE JOINT



PLAN OF PAVEMENT REPAIR
(PARTIAL SLABS)

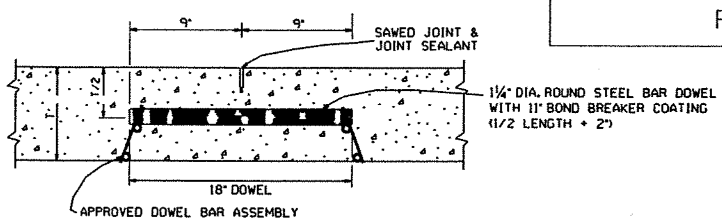


DETAIL OF SAWED CONTRACTION JOINT

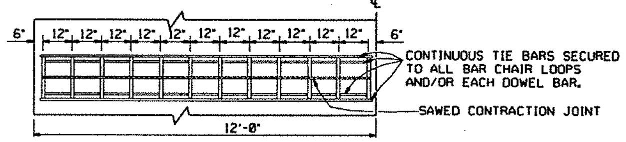


*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED TIED LONGITUDINAL JOINT AND WARPING JOINT



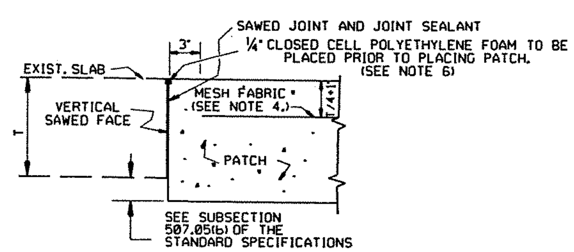
SECTION C-C



ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN - CONTRACTION JOINT

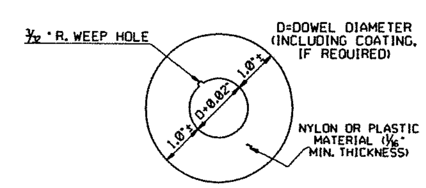
NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 26' PAVEMENT USE 26 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12" CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS



SECTION F-F

FREE LONGITUDINAL JOINT



DETAIL OF EPOXY RETENTION DISK

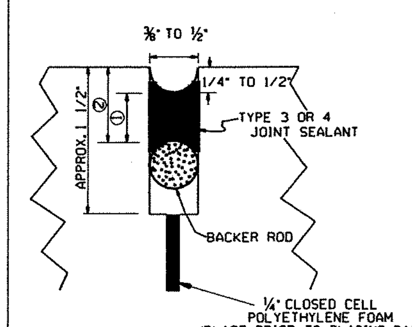
NOTE: EPOXY RETENTION DISK SHALL BE SLIPPED TIGHTLY OVER TIE BARS AND FIRMLY AGAINST THE SLAB FACE AFTER INSERTING TIE BAR AND EPOXY INTO HOLE

JOINT CONFIGURATION FOR
TYPE 3 OR 4 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS (1)	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH (2)
INCHES			
1/4	1/4	3/8	1/2
3/8	1/4	1/2	1/2
1/2	1/4	5/8	1/2

JOINT CONFIGURATION FOR
TYPE 5 OR 7 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS (1)	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH (2)
INCHES			
1/4	1/2	3/8	3/4
3/8	3/4	1/2	1



DETAIL OF SAWED FREE TRANSVERSE & FREE LONGITUDINAL JOINT

DETAILS OF PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (MAIN LANES)

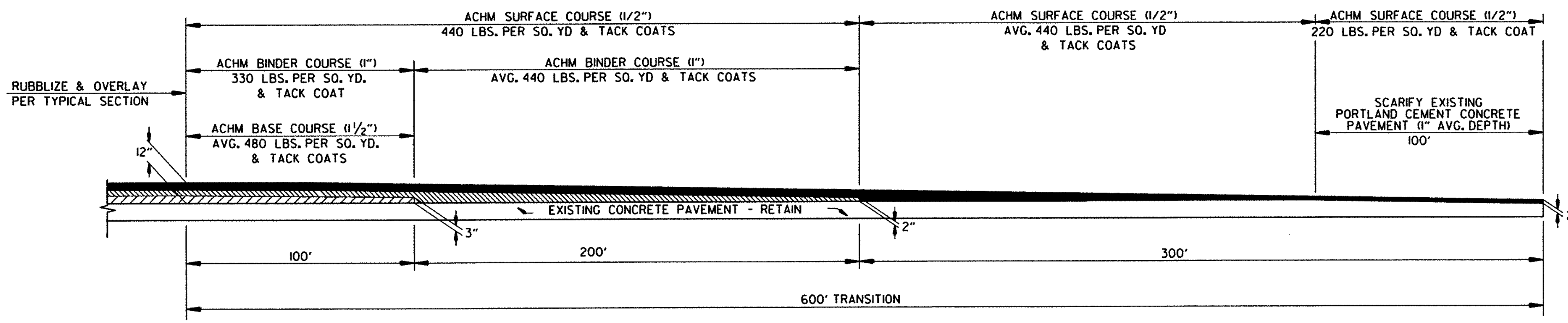
3R.KEP

12-17-97

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.		061186	28	126

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



PAVING TRANSITION AT RAMPS

HWY. 84/171 INTERCHANGE
RAMP 1 - STA. 5230+97.5 TO STA. 5236+97.5
RAMP 4 - STA. 5230+85.5 TO STA. 5236+85.5
RAMP 2 - STA. 5238+00.4 TO STA. 5244+00.4
RAMP 3 - STA. 5240+00.0 TO STA. 5246+00.0

12-29-2008 R061186.D02

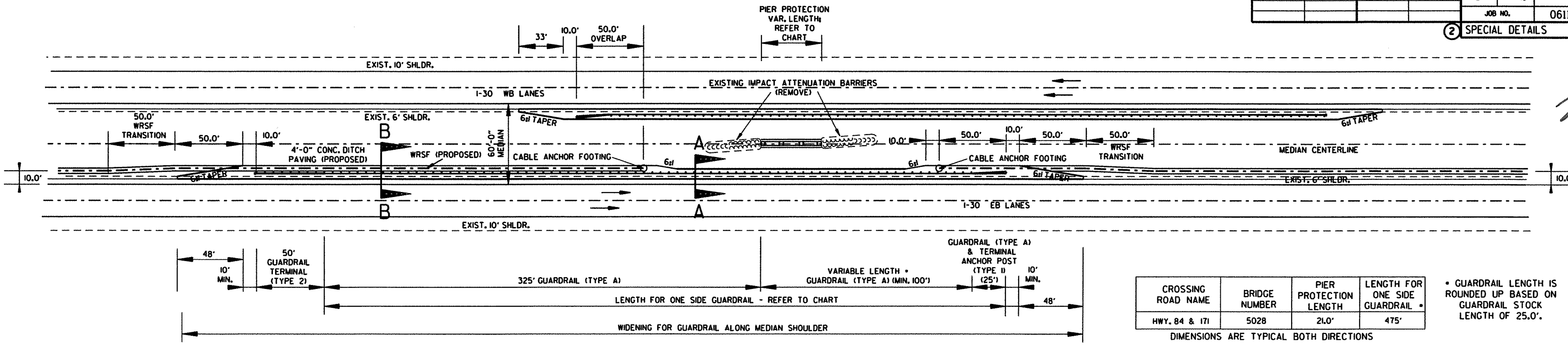
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	29	126

(2) SPECIAL DETAILS

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

3-7-12



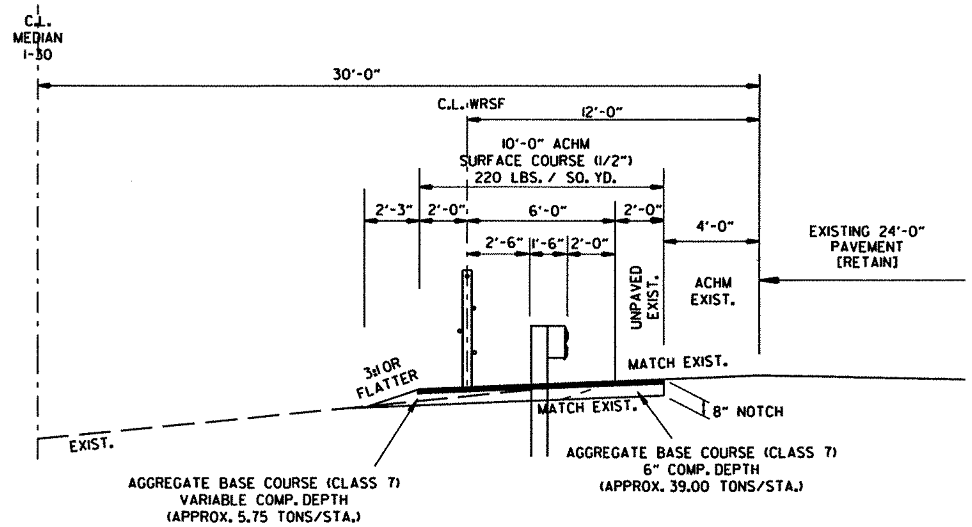
CROSSING ROAD NAME	BRIDGE NUMBER	PIER PROTECTION LENGTH	LENGTH FOR ONE SIDE GUARDRAIL •
HWY. 84 & 171	5028	21.0'	475'

DIMENSIONS ARE TYPICAL BOTH DIRECTIONS

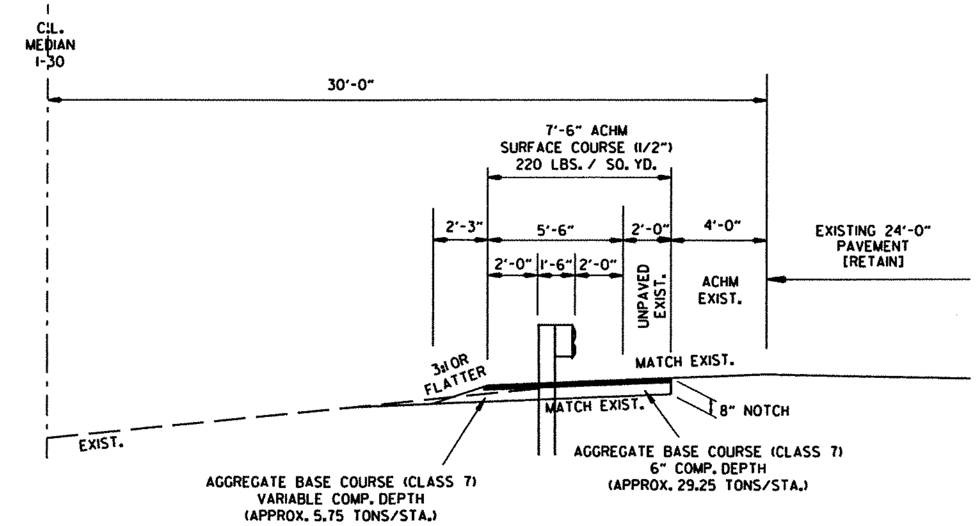
• GUARDRAIL LENGTH IS ROUNDED UP BASED ON GUARDRAIL STOCK LENGTH OF 25.0'.

DETAIL AT OVERPASSES

NOTE: REFER TO PLAN SHEETS FOR PLACEMENT OF WIRE ROPE SAFETY FENCE ON EASTBOUND OR WESTBOUND FORESLOPES.

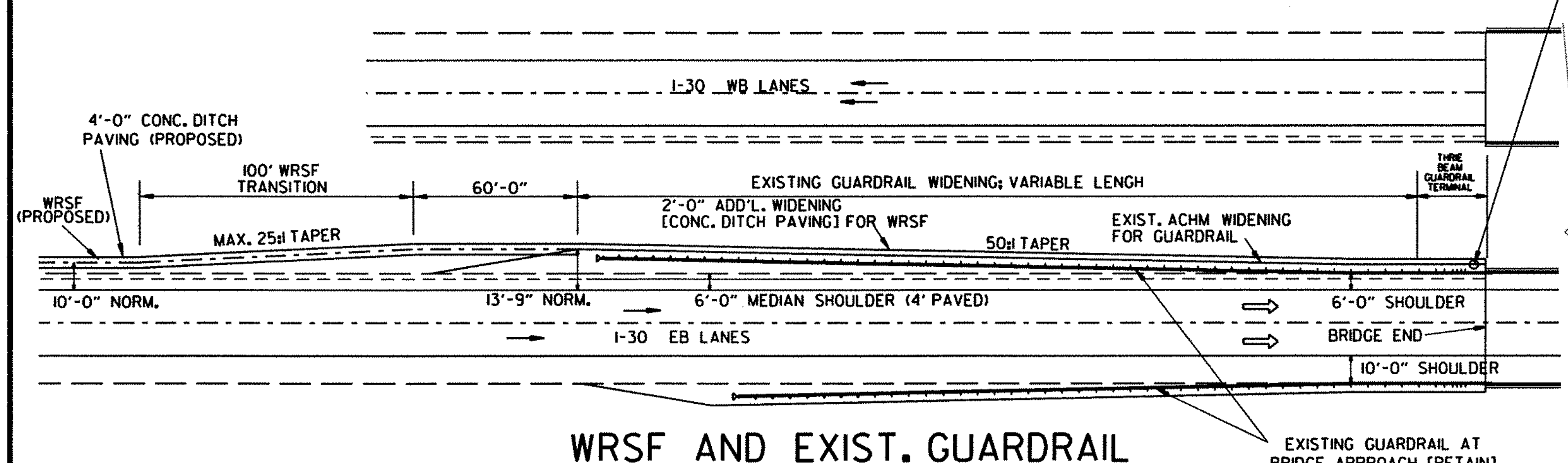


SECTION B-B

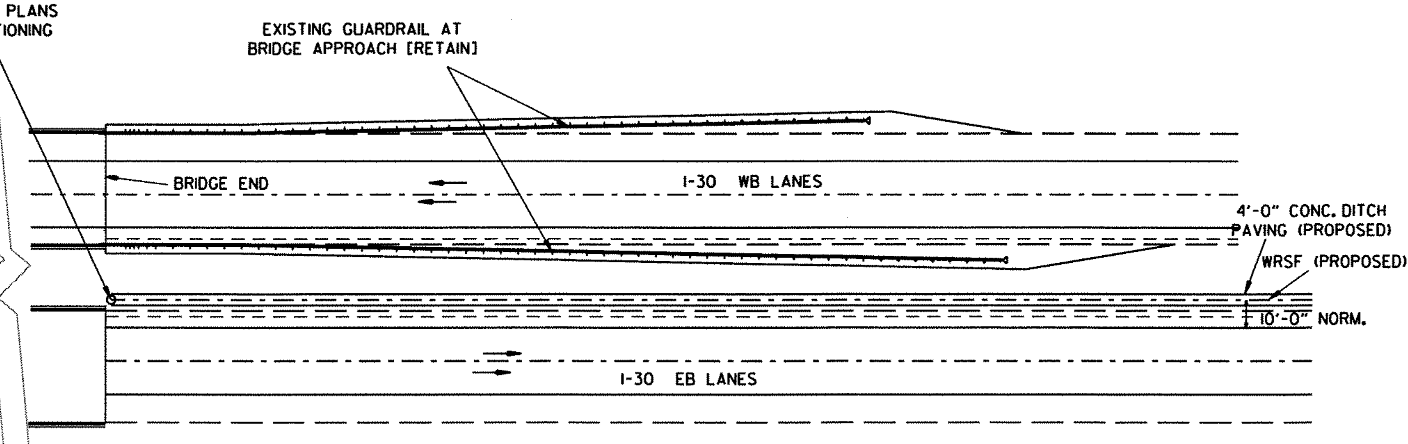


SECTION A-A

WRSF ANCHOR FOOTINGS NEAR TOP OF SLOPE; REFER TO PLANS FOR STATIONING



WRSF AND EXIST. GUARDRAIL ON SAME SIDE OF MEDIAN



WRSF AND EXIST. GUARDRAIL ON OPPOSITE SIDES OF MEDIAN

DETAIL OF WIRE ROPE SAFETY FENCE AT EXISTING BRIDGE ENDS

SPECIAL DETAILS

r061186.dgn/SPEC DET 02/03/2012

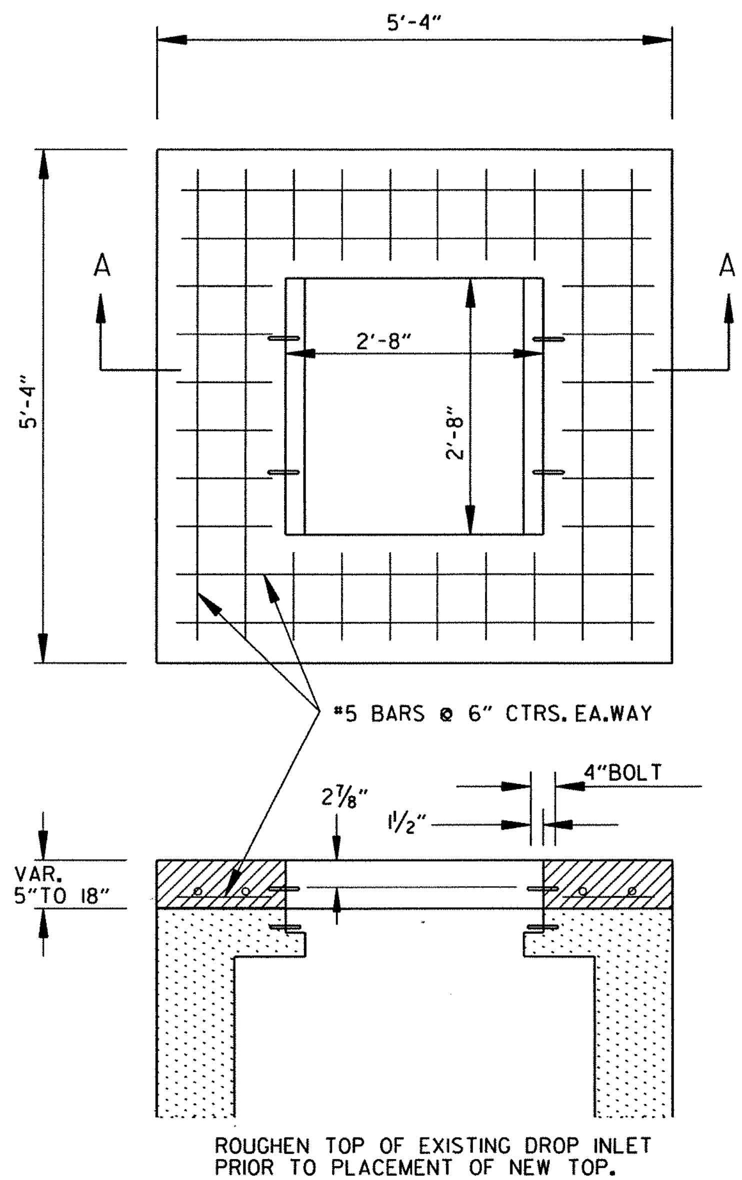
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	30	126

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-7-12

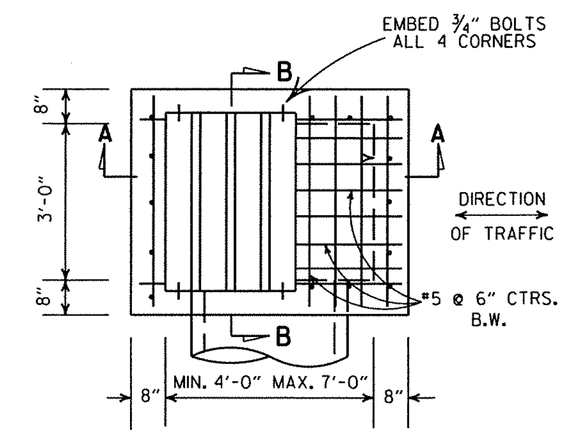
NOTE:

ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER.
LARGER SIZES TO HAVE 2" COVER.

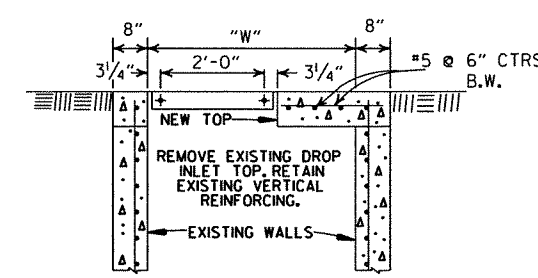


SECTION A-A

ADJUSTING DROP INLET TO GRADE



PLAN



MODIFYING DROP INLETS

02-23-2012 R061186.D02

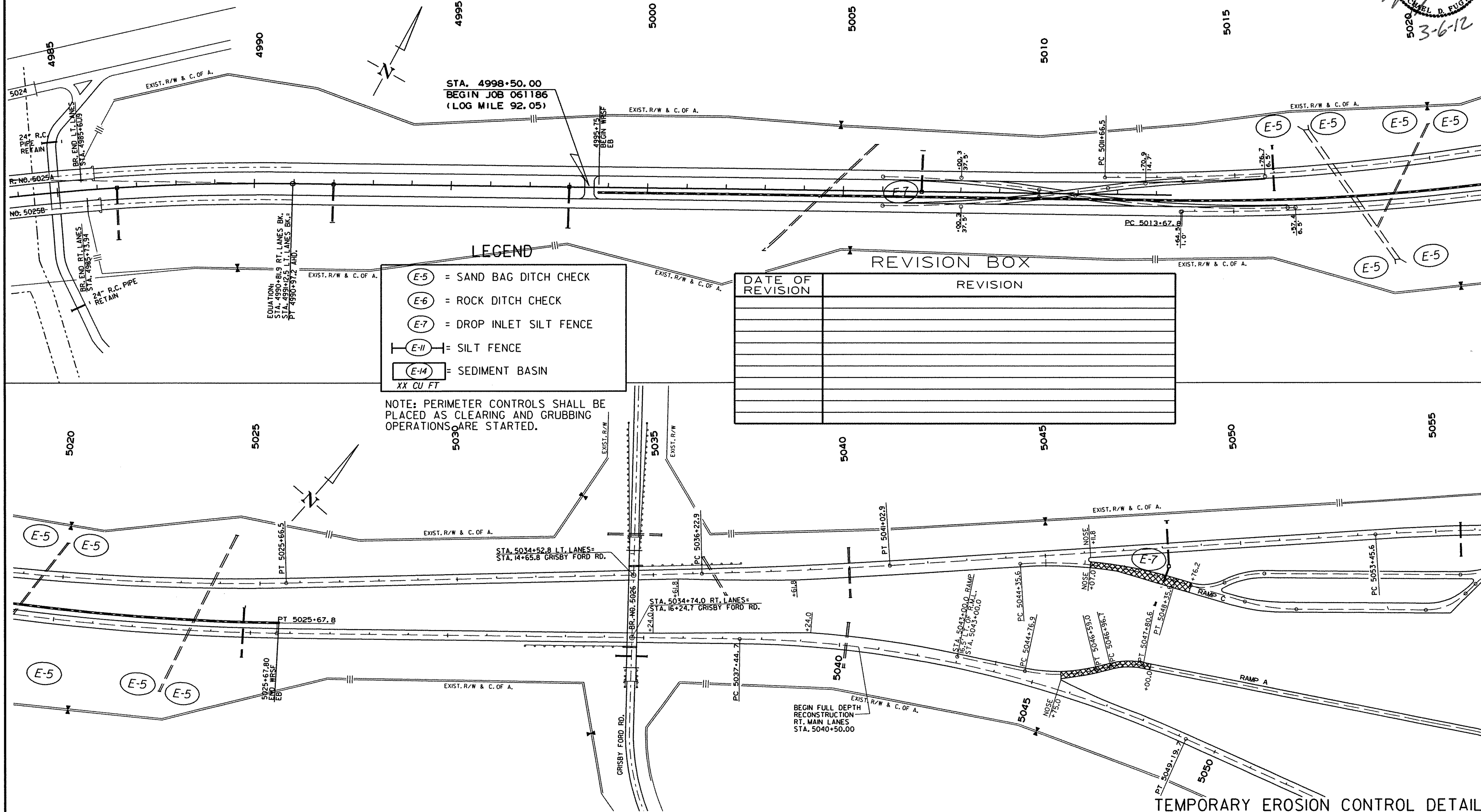
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	061186	31	126

(2) TEMPORARY EROSION CONTROL DETAILS

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

3-6-12



LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
(E-11)	= SILT FENCE
(E-14) XX CU FT	= SEDIMENT BASIN

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISION BOX

DATE OF REVISION	REVISION

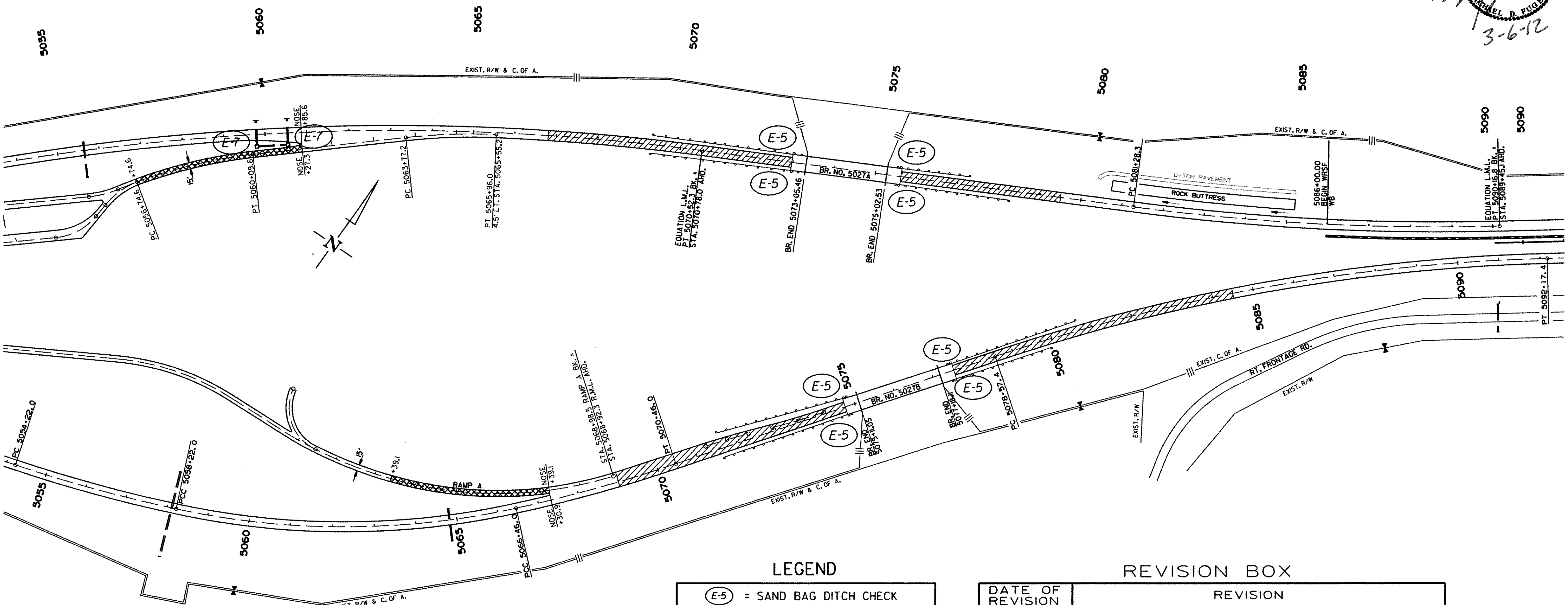
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	32	126

(2) TEMPORARY EROSION CONTROL DETAILS

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

3-6-12



LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
(E-11)	= SILT FENCE
(E-14) XX CU FT	= SEDIMENT BASIN

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISION BOX

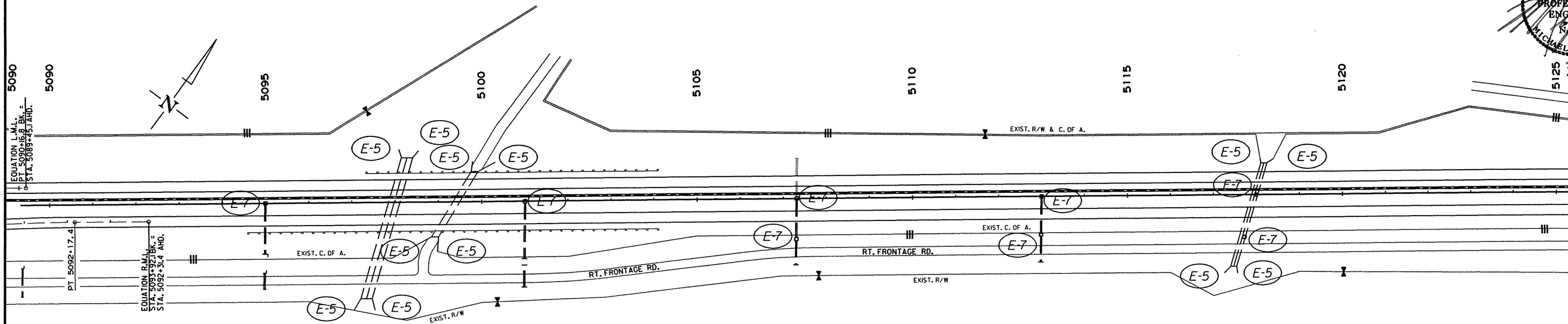
DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	061186	33	126

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



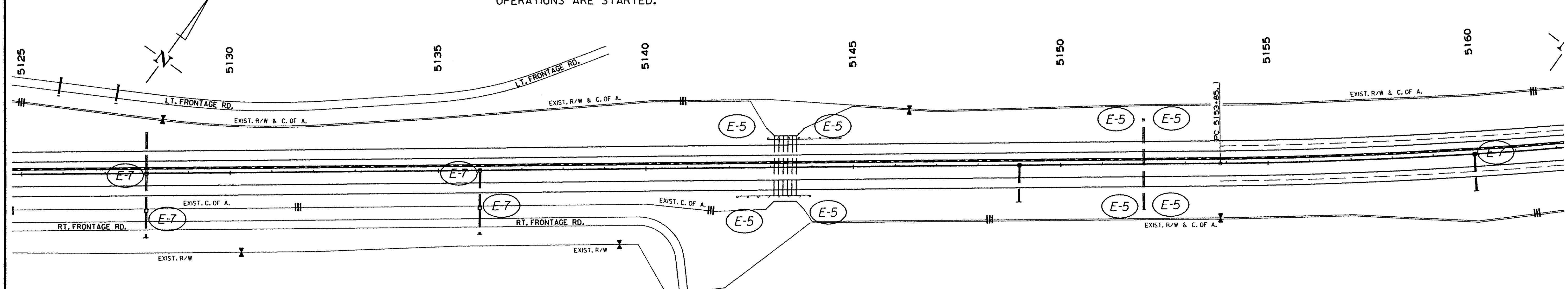
LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
(E-11)	= SILT FENCE
(E-14) XX CU FT	= SEDIMENT BASIN

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISION BOX

DATE OF REVISION	REVISION



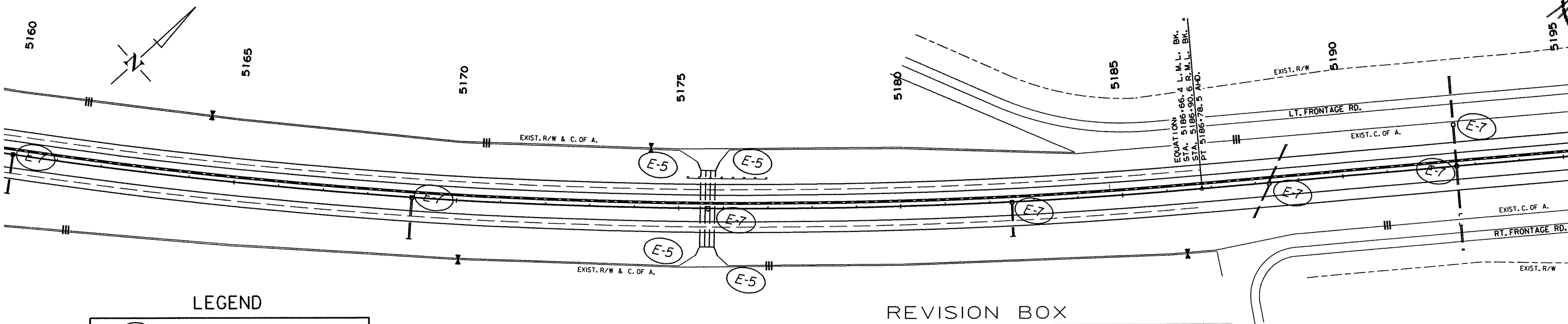
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	34	126

(2) TEMPORARY EROSION CONTROL DETAILS

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

3-6-12



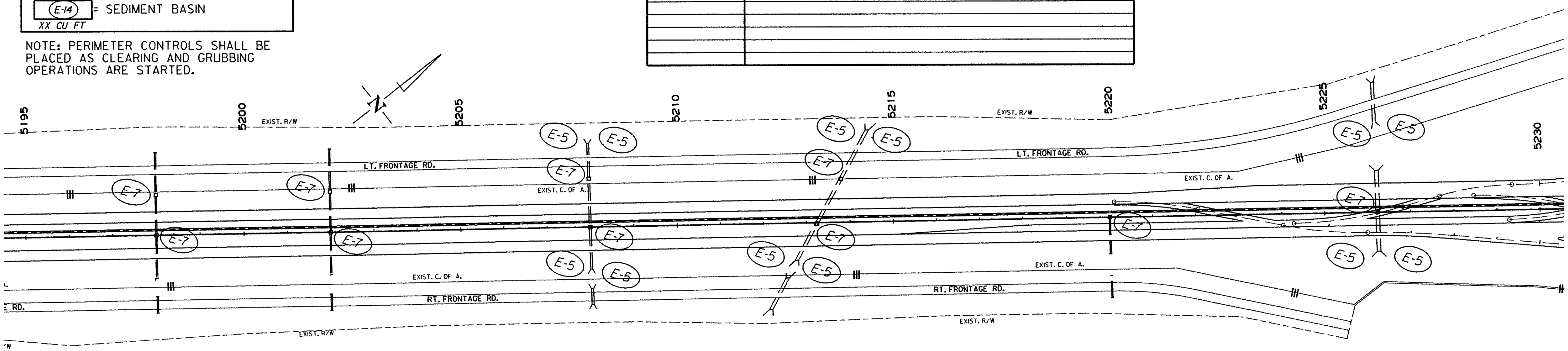
LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN (XX CU FT)

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISION BOX

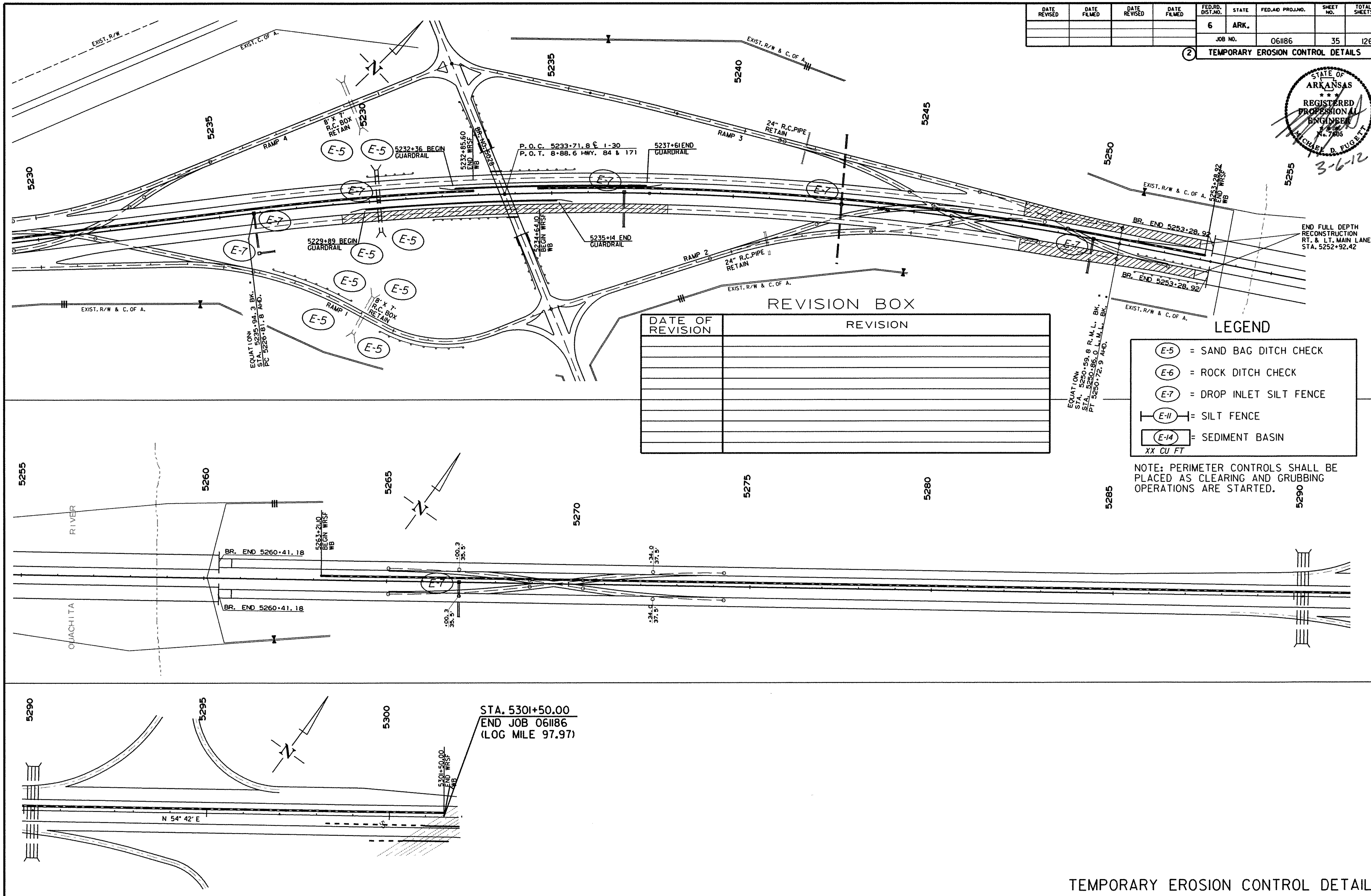
DATE OF REVISION	REVISION



TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	35	126

2 TEMPORARY EROSION CONTROL DETAILS



REVISION BOX

DATE OF REVISION	REVISION

LEGEND

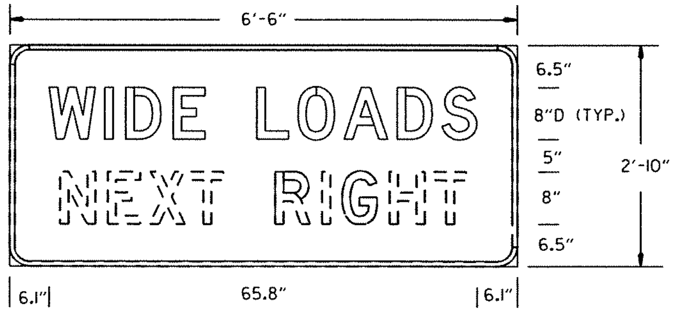
- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

TEMPORARY EROSION CONTROL DETAILS

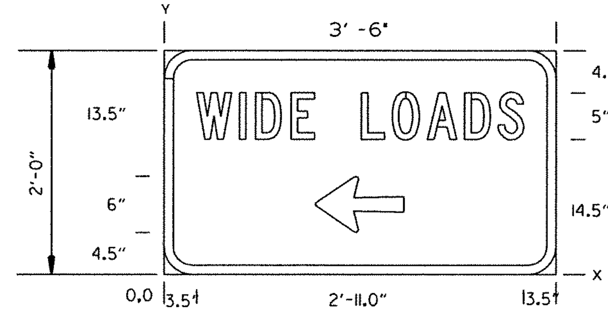
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	36	126

(2) MAINTENANCE OF TRAFFIC



S-1 2 NEEDED AS SHOWN

PLACE SIGNS AS DIRECTED BY THE ENGINEER



S-2

I NEEDED AS SHOWN
I NEEDED ARROW POINTING RIGHT

PLACE SIGNS AS DIRECTED BY THE ENGINEER

NOTES:

1) SPECIAL SIGNS SHALL BE CONSTRUCTED USING (WHITE) TYPE III BACKGROUND WITH (BLACK) TYPE V LEGEND AND BORDER.

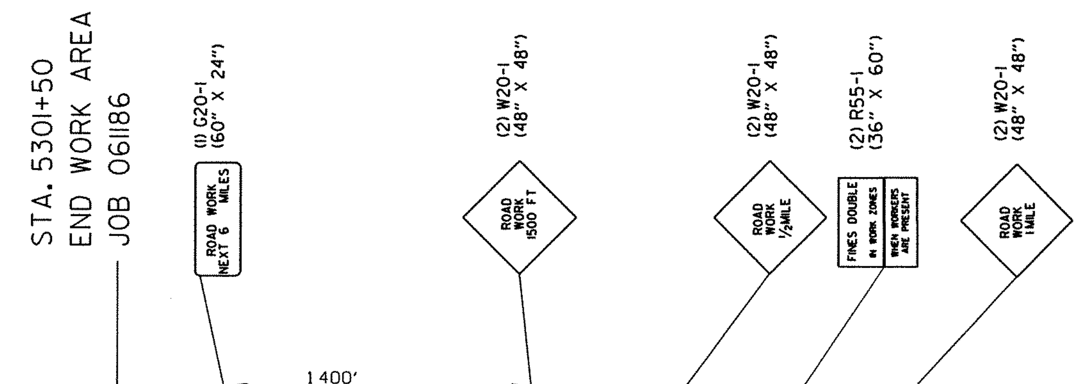
2) PAYMENT FOR MOUNTING THE GUIDE SIGNS ON TEMPORARY SUPPORTS, RELOCATING THE SIGNS AS REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION, AND REMOVING AND DISPOSING OF THE SIGNS WHEN THE PROJECT IS COMPLETED SHALL BE SUBSIDIARY TO SECTION 604, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

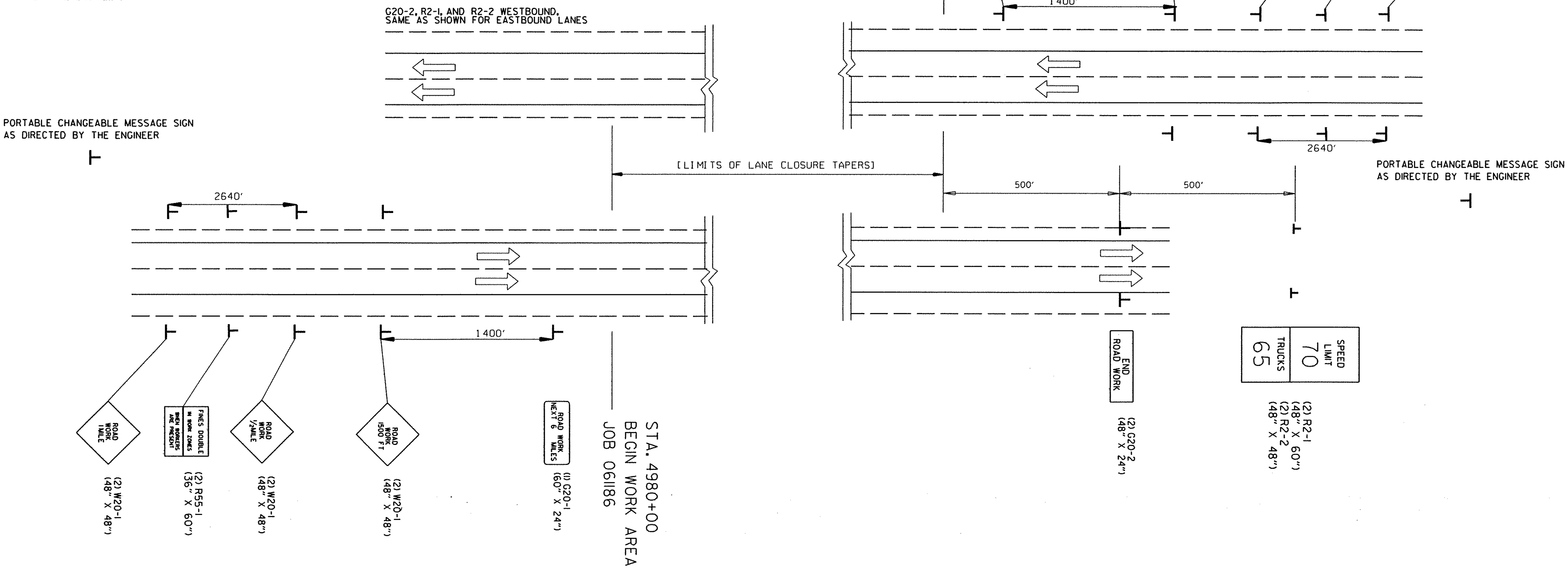
3) EXACT PLACEMENT OF SIGNS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

NOTE :
W20-1 (1/2 MILE) AND (1500 FEET) ADVANCE SIGNS TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS AS WORKING AREA SHIFTS.

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

3-6-12





NOTE :
W20-1 (1/2 MILE) AND (1500 FEET) ADVANCE SIGNS TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS AS WORKING AREA SHIFTS.

ADVANCE SIGNS AT BEGINNING AND END OF JOB ALL STAGES

MAINTENANCE OF TRAFFIC

12-31-2008 R061186.MOT

mot 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	37	126

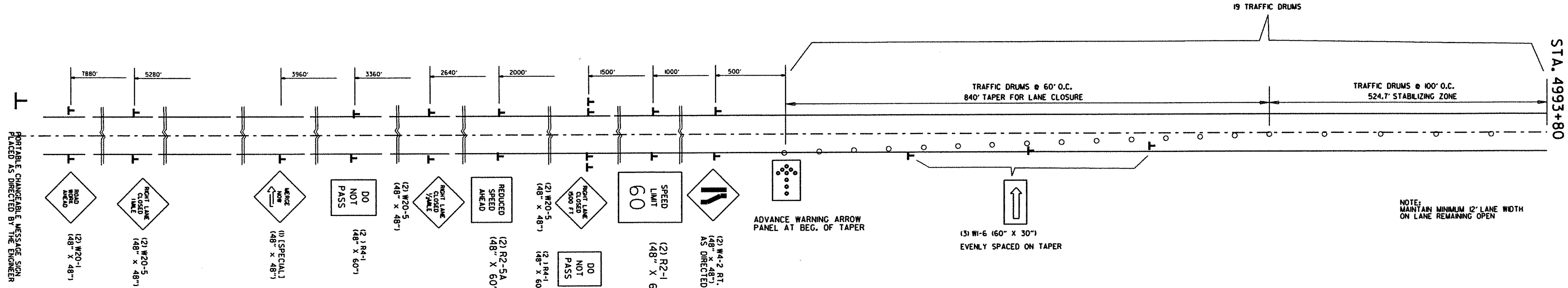
(2) MAINTENANCE OF TRAFFIC

STAGE II-A
REMOVAL OF PERMANENT PAVEMENT MARKINGS
SKIP LANE DIVIDER STA. 4980+00 - STA. 4988+40 = 210 LIN.FT.

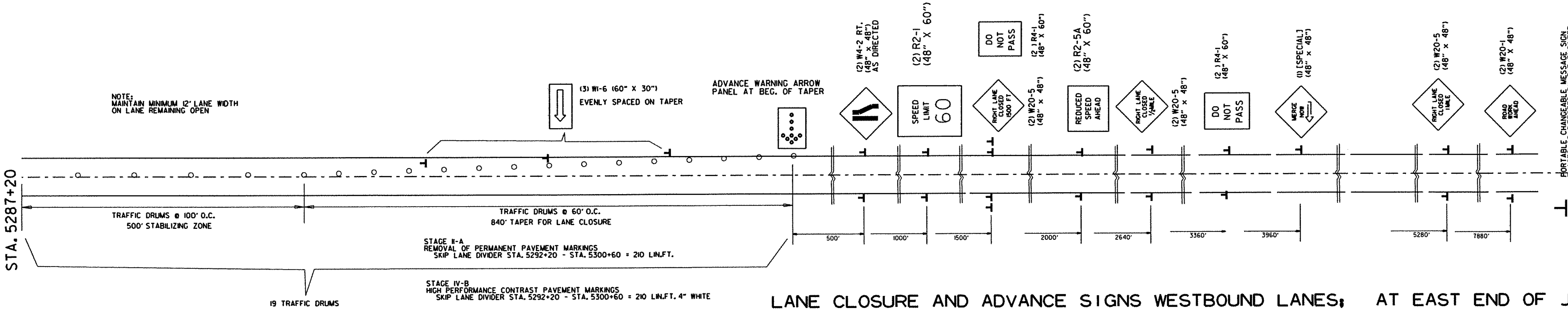
STAGE IV-A
HIGH PERFORMANCE PAVEMENT MARKING
SKIP LANE DIVIDER STA. 4980+00.00 - STA. 4982+51.29 = 63 LIN. FT. 4" WHITE
STA. 4986+09.44 - STA. 4988+40.00 = 58 LIN. FT. 4" WHITE

HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
SKIP LANE DIVIDER STA. 4982+51.29 - STA. 4986+09.44 = 90 LIN. FT. 4" WHITE

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT
3-6-12



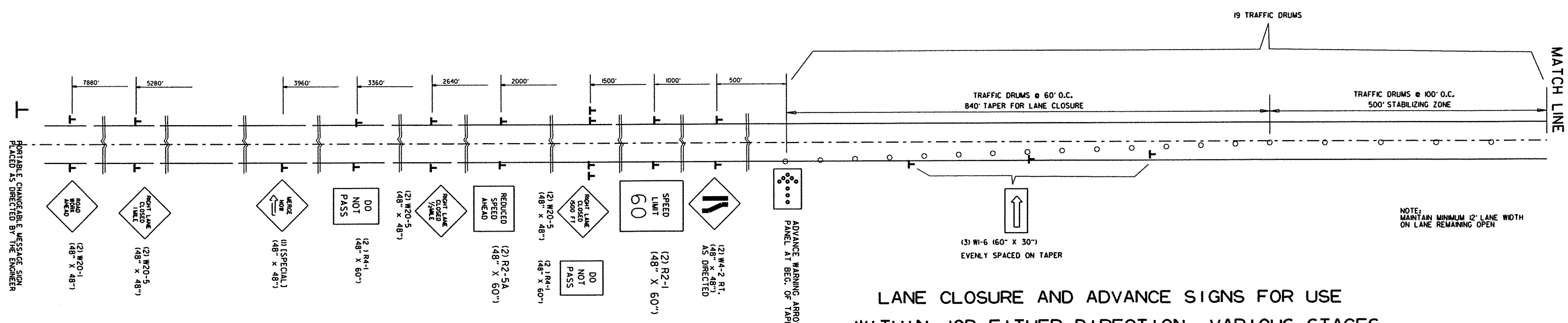
LANE CLOSURE AND ADVANCE SIGNS EASTBOUND LANES; AT WEST END OF JOB



STAGE II-A
REMOVAL OF PERMANENT PAVEMENT MARKINGS
SKIP LANE DIVIDER STA. 5292+20 - STA. 5300+60 = 210 LIN.FT.

STAGE IV-B
HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
SKIP LANE DIVIDER STA. 5292+20 - STA. 5300+60 = 210 LIN.FT. 4" WHITE

LANE CLOSURE AND ADVANCE SIGNS WESTBOUND LANES; AT EAST END OF JOB



LANE CLOSURE AND ADVANCE SIGNS FOR USE WITHIN JOB EITHER DIRECTION, VARIOUS STAGES

MAINTENANCE OF TRAFFIC

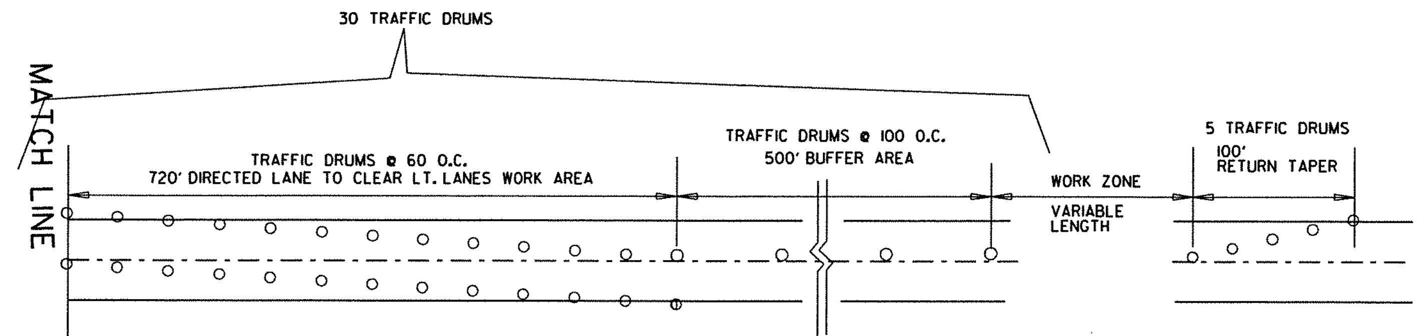
12-31-2008 R061186.MOT

mot 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	38	126

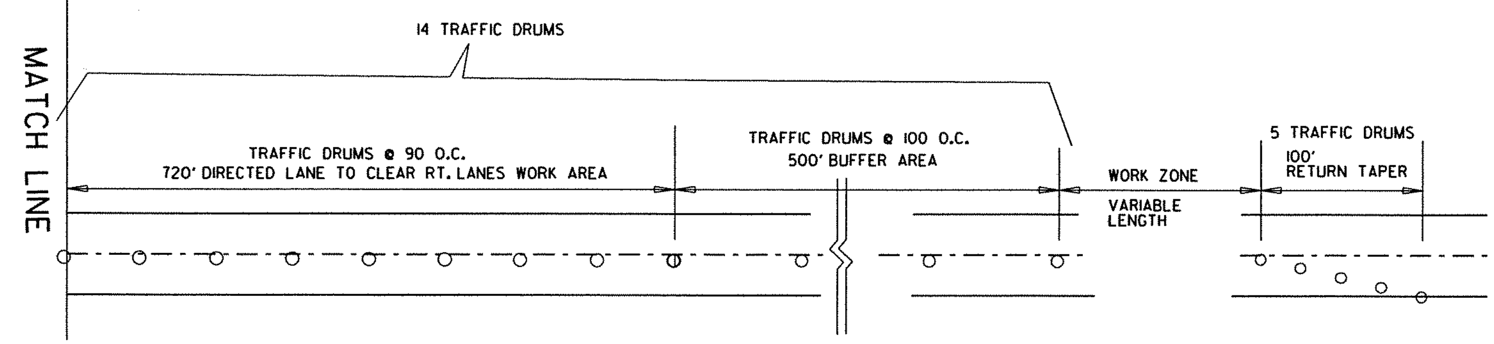
(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



DIVERSION FOR INSIDE LANE WORK ZONE

NOTE:
REFER TO SP-MAINTENANCE OF TRAFFIC FOR LANE CLOSURE LIMITATIONS AND RESTRICTIONS.
QUANTITY OF TRAFFIC DRUMS PROVIDED IN THE CONTRACT IS THE MAXIMUM NUMBER REQUIRED FOR ONE LANE CLOSURE.



DIVERSION FOR OUTSIDE LANE WORK ZONE

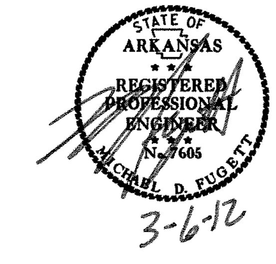
12-31-2008 R061186.MOT

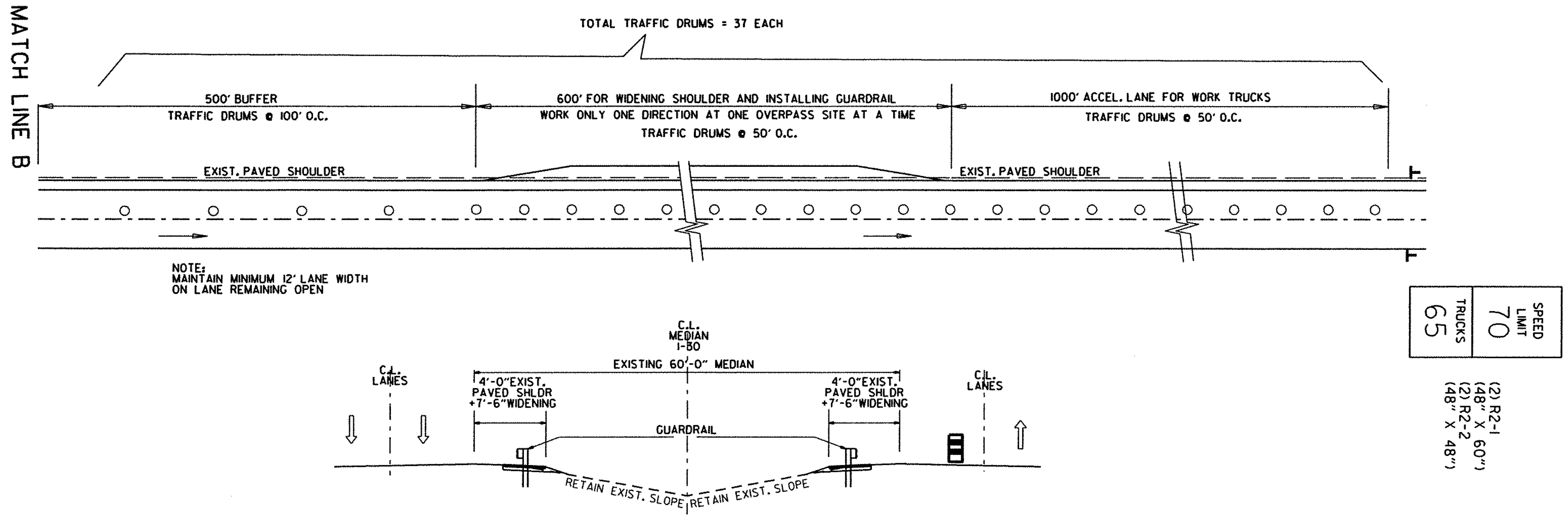
MAINTENANCE OF TRAFFIC ALL STAGES

mot 3

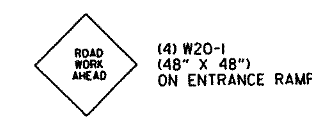
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	39	126

(2) MAINTENANCE OF TRAFFIC

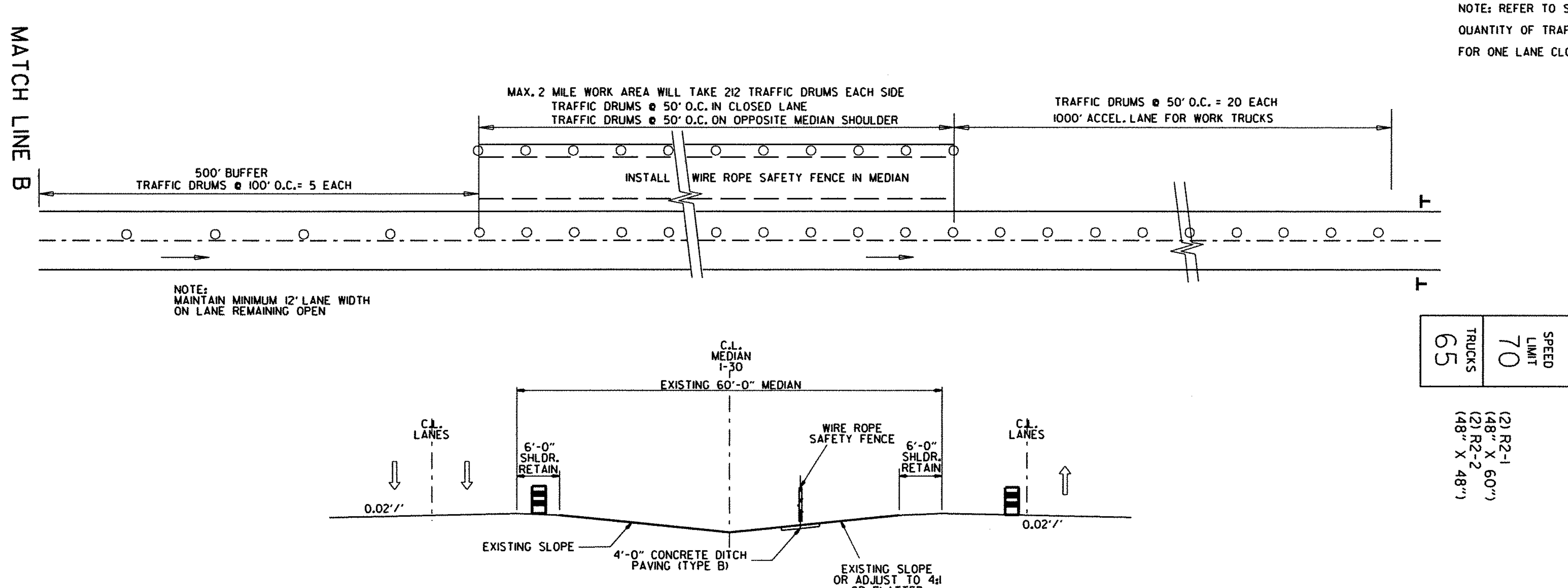




MOVABLE WORK ZONE FOR GUARDRAIL INSTALLATION



NOTE: REFER TO SP-MAINTENANCE OF TRAFFIC FOR LANE CLOSURE LIMITATIONS AND RESTRICTIONS. QUANTITY OF TRAFFIC DRUMS PROVIDED IN THE CONTRACT IS THE MAXIMUM NUMBER REQUIRED FOR ONE LANE CLOSURE.



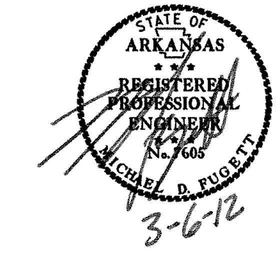
MOVABLE WORK ZONE FOR WRSF INSTALLATION

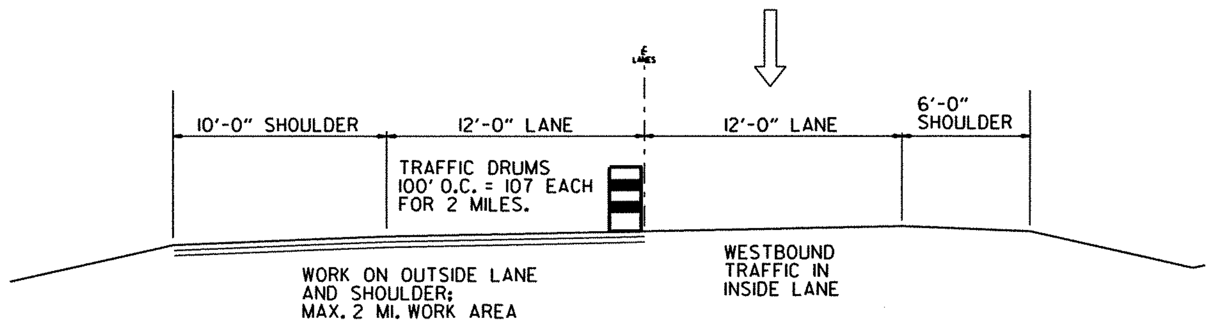
MAINTENANCE OF TRAFFIC
WORK AREAS FOR WRSF

r061186.dgn/MDT 02/03/2012

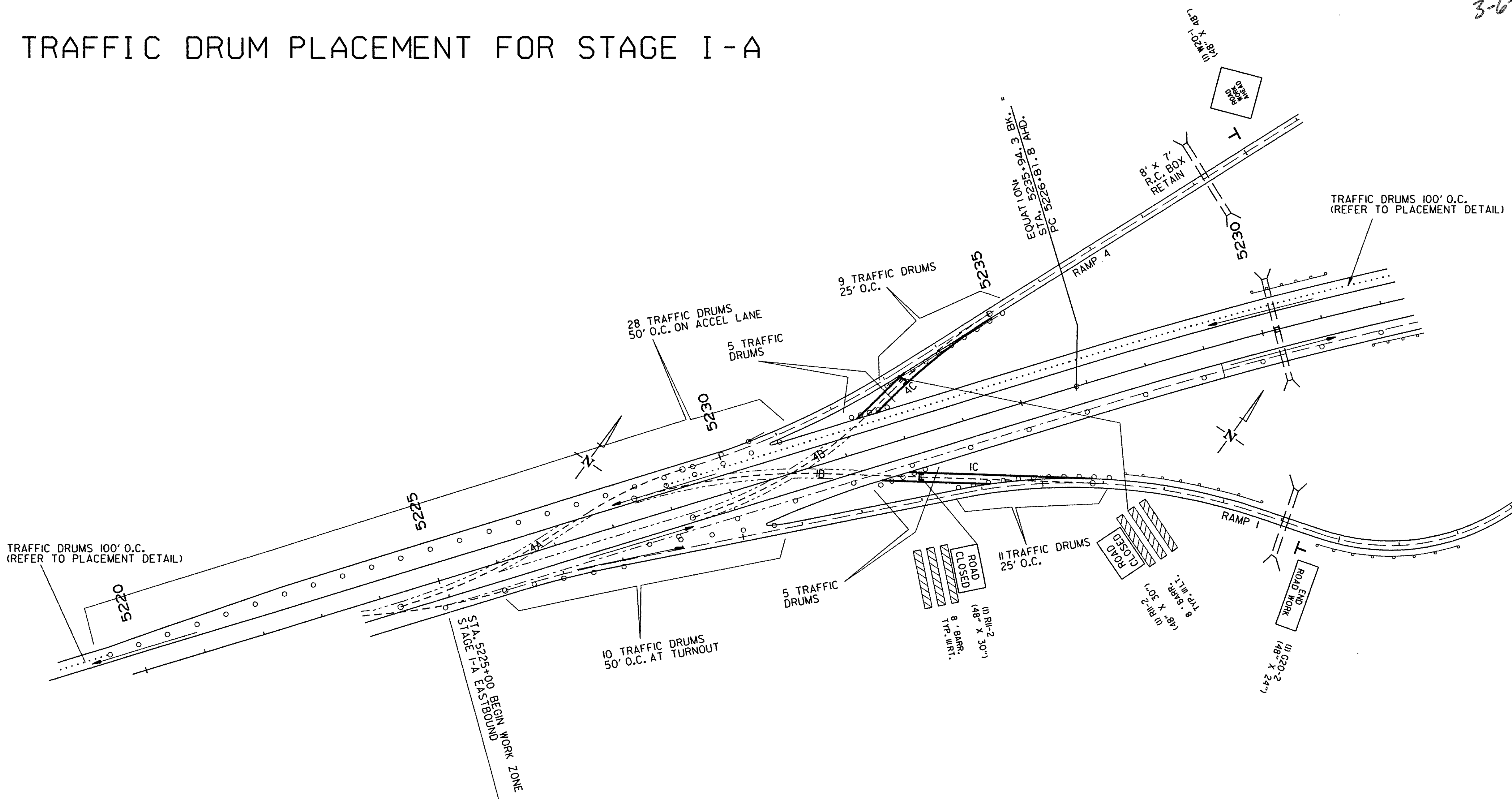
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	40	126

(2) MAINTENANCE OF TRAFFIC





BASIC TRAFFIC DRUM PLACEMENT FOR STAGE I-A



DETAIL AT HWY. 84/171 INTERCHANGE; TEMP. RAMPS 1C & 4C

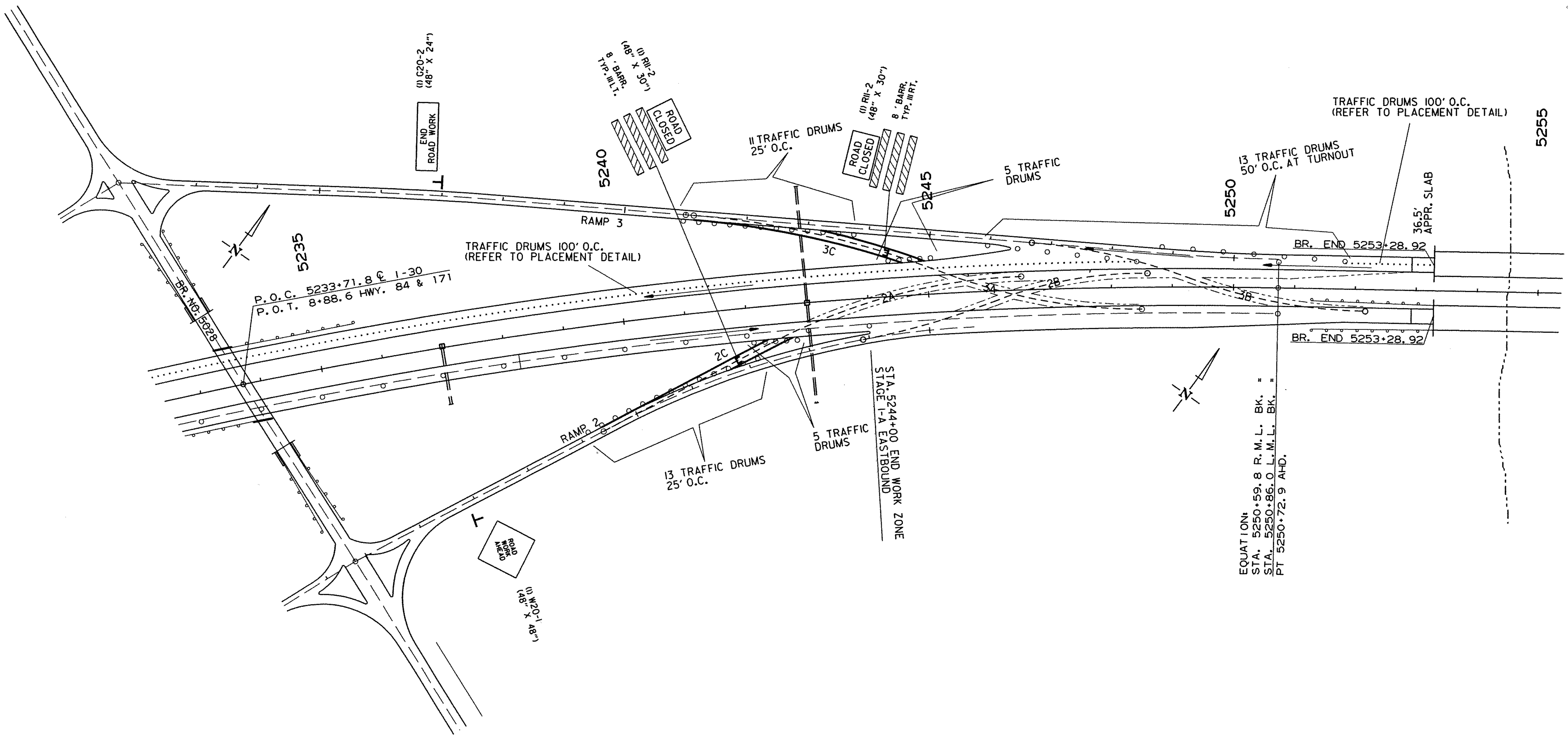
MAINTENANCE OF TRAFFIC
STAGE I-A

12-31-2008 R061186.MOT

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.		061186	41	126

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



DETAIL AT HWY. 84/171 INTERCHANGE; TEMP. RAMPS 2C & 3C

MAINTENANCE OF TRAFFIC

STAGE I-A

12-31-2008 R061186.MOT

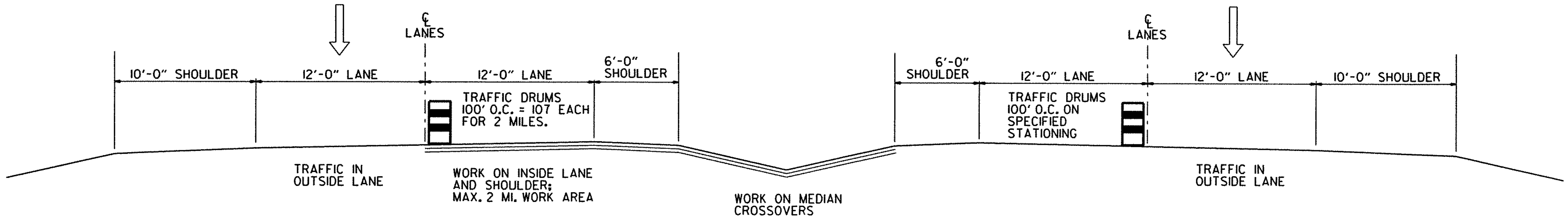
mot 5

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.		061186	42	126

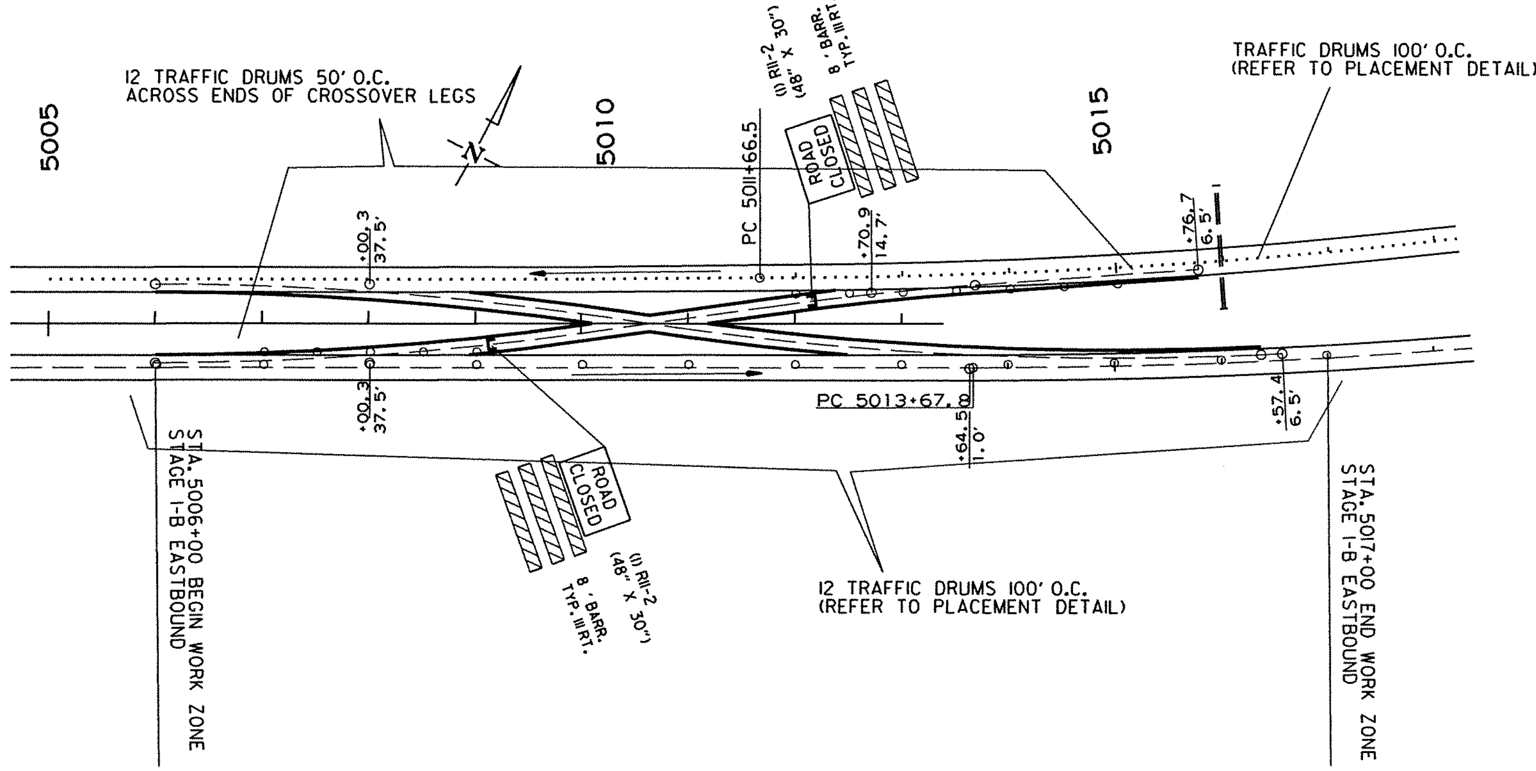
(2) MAINTENANCE OF TRAFFIC

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

3-6-12



BASIC TRAFFIC DRUM PLACEMENT FOR STAGE I-B



CLOSED

SIGN PANELS (4) NEEDED;
ADD TO "REST AREA xx MI. AHEAD" SIGNS

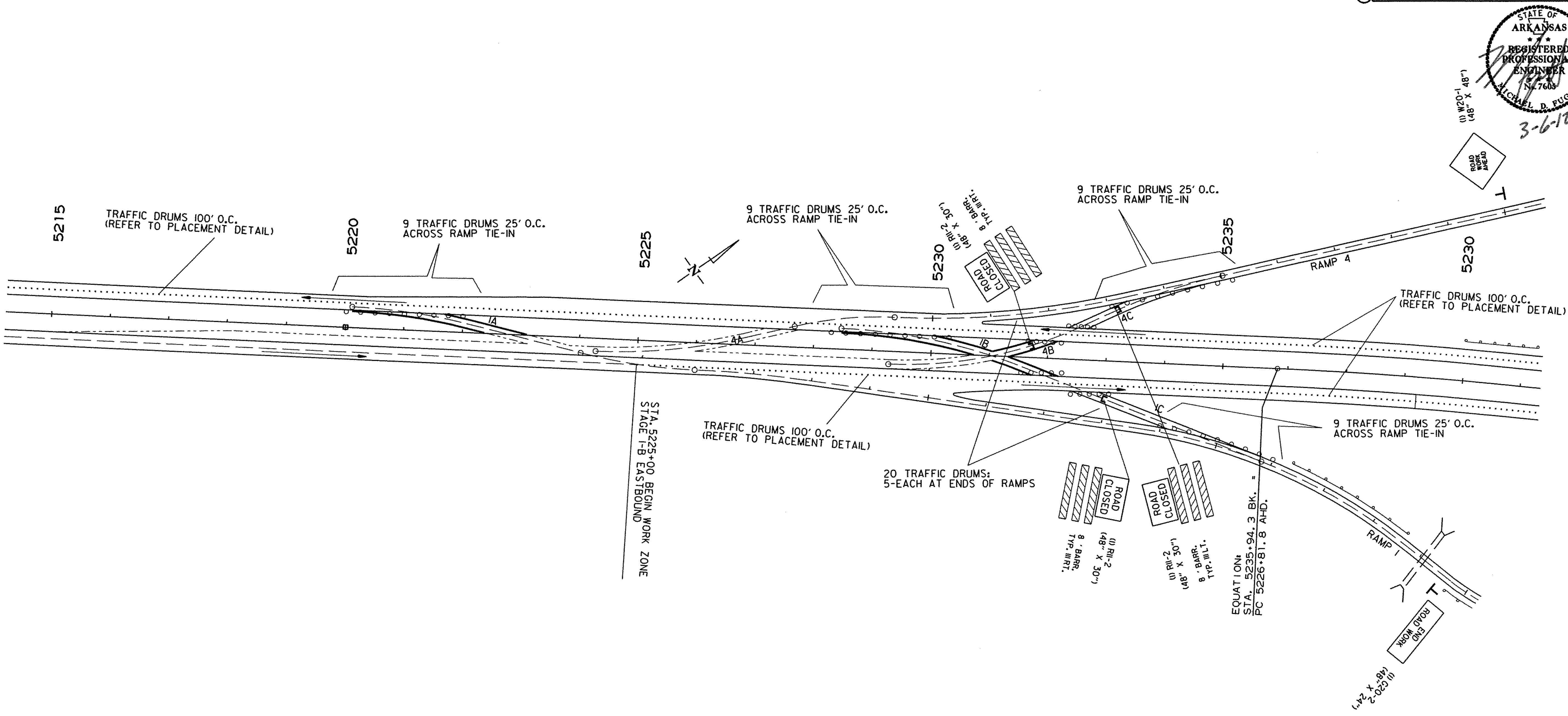
84"x24"; 1.5" RADIUS, 0.6" BORDER 0.4" INDENT
BLACK ON WHITE, SERIES 'D' LETTERING

MAINTENANCE OF TRAFFIC
STAGE I-B

12-31-2008 R061186.MOT

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.		061186	43	126

(2) MAINTENANCE OF TRAFFIC



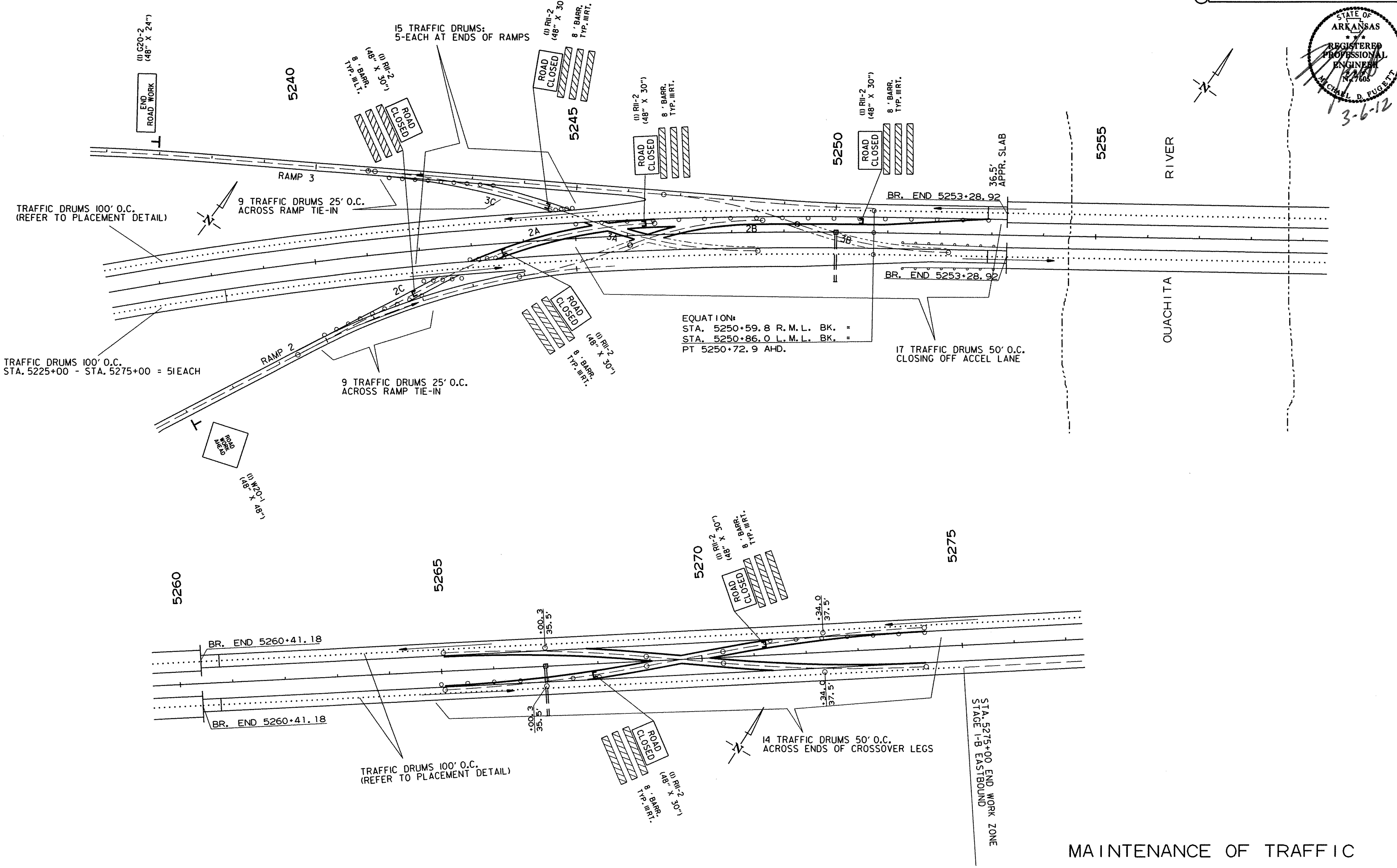
MAINTENANCE OF TRAFFIC

STAGE 1-B

12-31-2008 R061186.MOT

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.		061186	44	126

(2) MAINTENANCE OF TRAFFIC



MAINTENANCE OF TRAFFIC

STAGE I-B

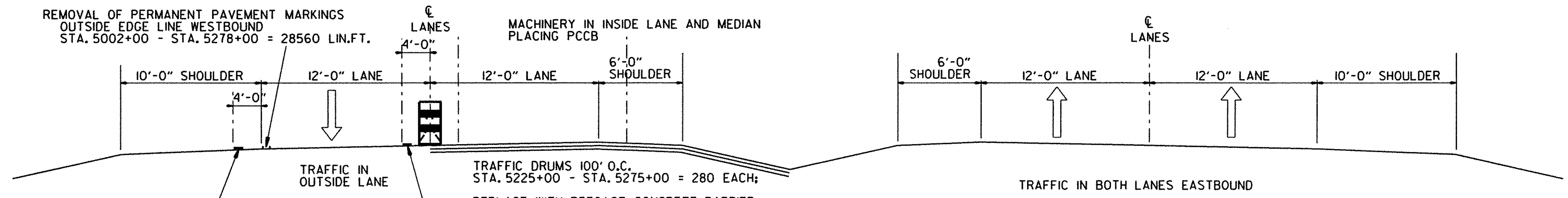
12-31-2008 R061186.MOT

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.		061186	45	126

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12

SHIFT WESTBOUND TRAFFIC ONTO REBUILT SHOULDER; REPLACE OUTSIDE EDGE LINE



CONSTRUCTION PAVEMENT MARKINGS
ON SURFACE OTHER THAN BRIDGES/APPR. SLABS
STA. 5002+00 - STA. 5278+00 = 25783 LIN.FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
BRIDGE 5027A AND OUACHITA RIVER BRIDGE = 2779 LIN.FT.

CONSTRUCTION PAVEMENT MARKINGS
ON SURFACE OTHER THAN BRIDGES/APPR. SLABS
STA. 5002+00 - STA. 5278+00 = 25090 LIN.FT.

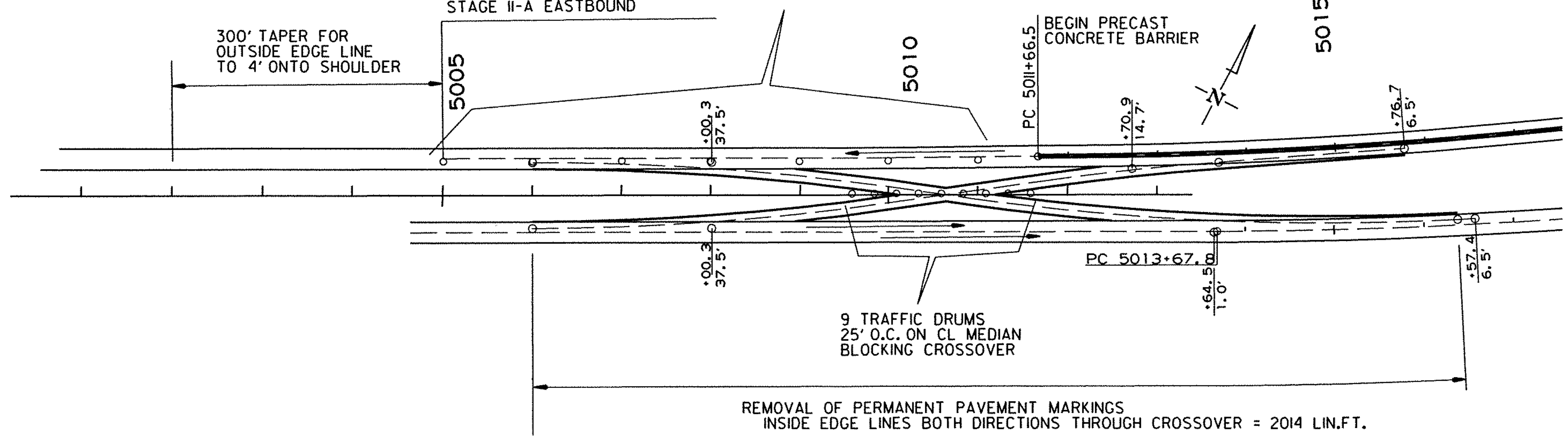
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
BRIDGE 5027A AND OUACHITA RIVER BRIDGE = 2779 LIN.FT.

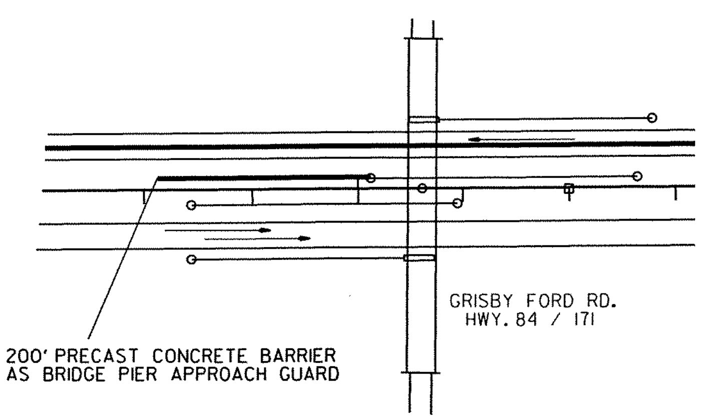
GENERAL DETAIL FOR STAGE II-A (1)

CLOSED

SIGN PANELS (4) NEEDED;
ADD TO "REST AREA xx MI. AHEAD" SIGNS

84"x24"; 1.5" RADIUS, 0.6" BORDER 0.4" INDENT
BLACK ON WHITE, SERIES 'D' LETTERING





REMOVAL OF PERMANENT PAVEMENT MARKINGS
INSIDE EDGE LINES BOTH DIRECTIONS THROUGH CROSSOVER = 2014 LIN.FT.

CONSTRUCTION PAVEMENT MARKINGS
RT. & LT. EDGE LINES ON CROSSOVER = 2493 LIN.FT.

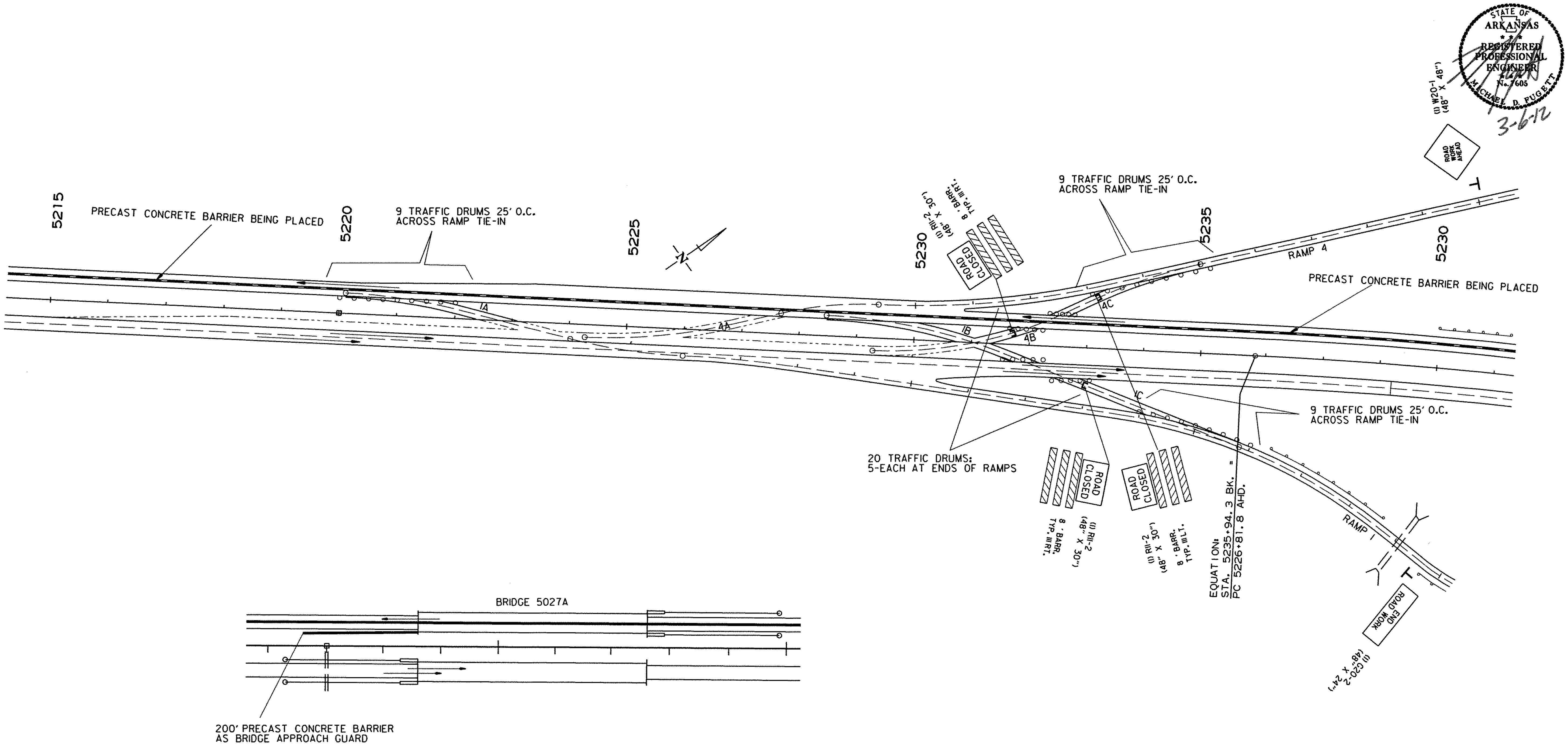
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER
STA. 5011+66.5 - STA. 5268+97 = 26690 LIN.FT.
AS BRIDGE APPROACH GUARD FOR REVERSED TRAFFIC = 400 LIN.FT.
AS BRIDGE PIER GUARD FOR REVERSED TRAFFIC = 400 LIN.FT.

MAINTENANCE OF TRAFFIC
STAGE II-A (1)

12-31-2008 R061186.MOT

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.		061186	46	126

(2) MAINTENANCE OF TRAFFIC



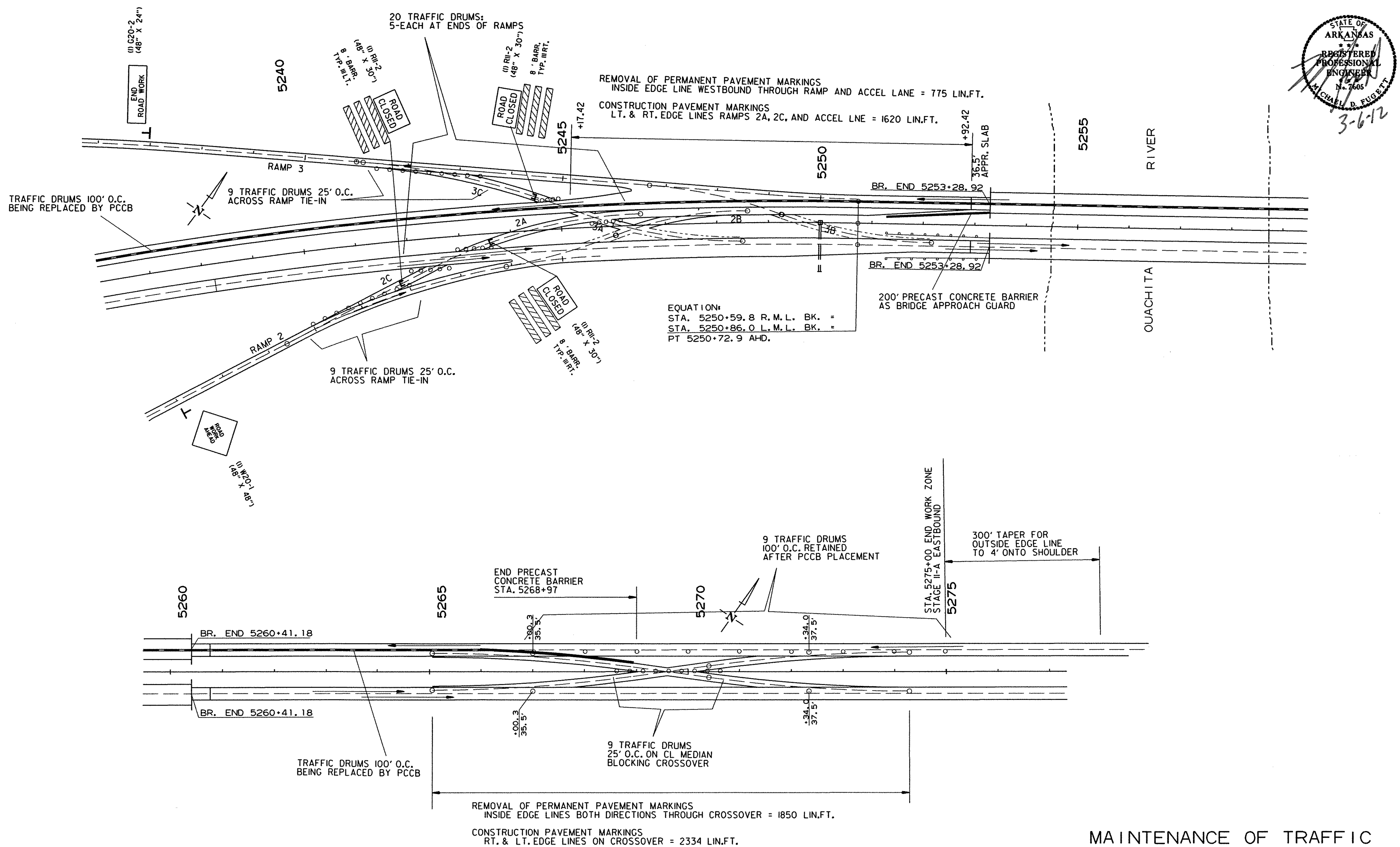
MAINTENANCE OF TRAFFIC

STAGE II-A (1)

12-31-2008 R061186.MOT

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.		061186	47	126

(2) MAINTENANCE OF TRAFFIC



MAINTENANCE OF TRAFFIC
STAGE II-A (1)

12-31-2008 R061186.MOT

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.		061186	48	126

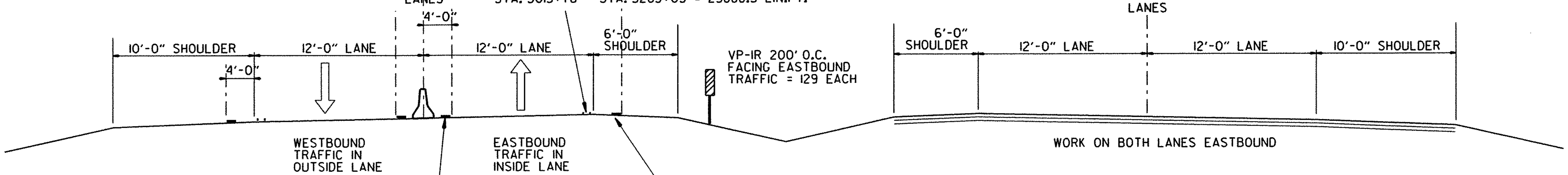
(2) MAINTENANCE OF TRAFFIC

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

3-6-12

SHIFT WESTBOUND TRAFFIC ONTO REBUILT SHOULDER; REPLACE OUTSIDE EDGE LINE

REMOVAL OF PERMANENT PAVEMENT MARKINGS
INSIDE EDGE LINE WESTBOUND
STA. 5015+76 - STA. 5265+05 = 25888.5 LIN.FT.



SHIFTED INSIDE EDGE LINE EASTBOUND (NEXT TO PCCB)

CONSTRUCTION PAVEMENT MARKINGS
ON SURFACE OTHER THAN BRIDGES/APPR. SLABS
STA. 5002+00 - STA. 5278+00 = 19571 LIN.FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
BRIDGE 5027A AND OUACHITA RIVER BRIDGE = 2775 LIN.FT.

SHIFTED OUTSIDE EDGE LINE EASTBOUND

CONSTRUCTION PAVEMENT MARKINGS
ON SURFACE OTHER THAN BRIDGES/APPR. SLABS
STA. 5015+76 - STA. 5265+05 = 23115 LIN.FT.

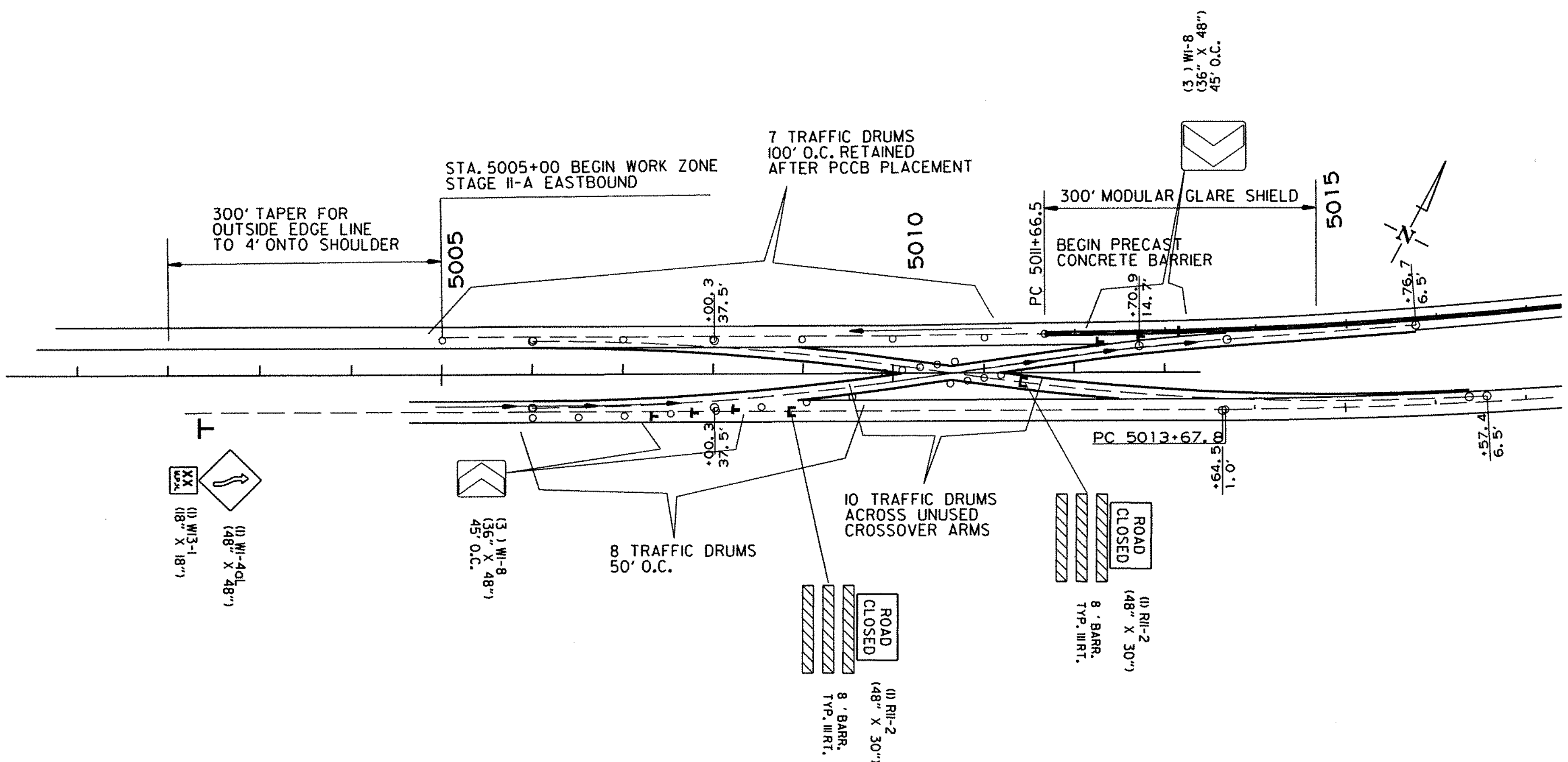
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
BRIDGE 5027A AND OUACHITA RIVER BRIDGE = 2775 LIN.FT.

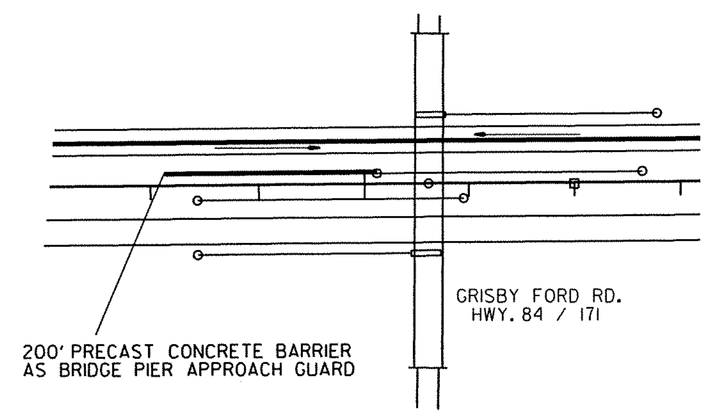
GENERAL DETAIL FOR STAGE II-A (2)

CLOSED

SIGN PANELS (4) NEEDED;
ADD TO "REST AREA xx MI. AHEAD" SIGNS

84"x24"; 1.5" RADIUS, 0.6" BORDER 0.4" INDENT
BLACK ON WHITE, SERIES 'D' LETTERING

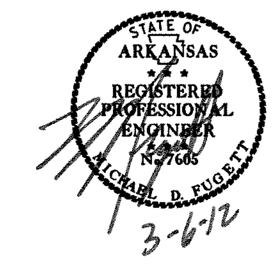


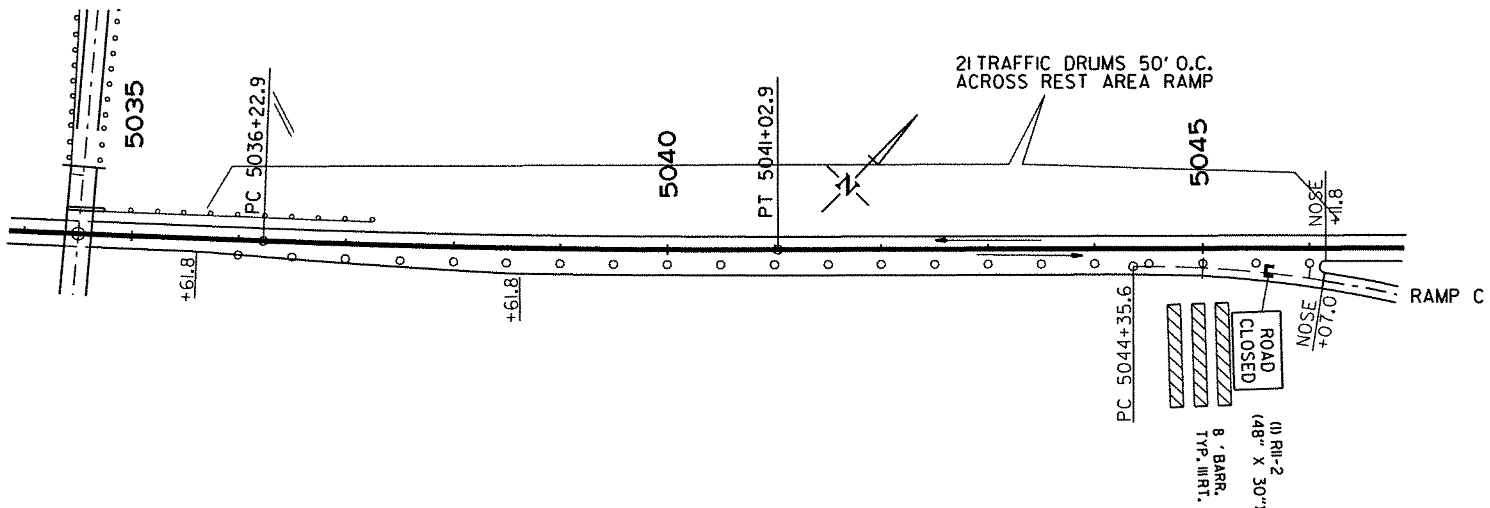


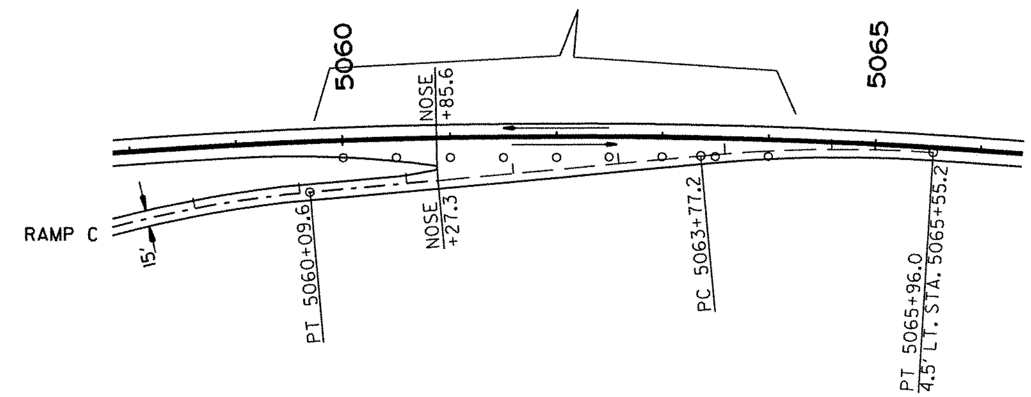
MAINTENANCE OF TRAFFIC
STAGE II-A (2)

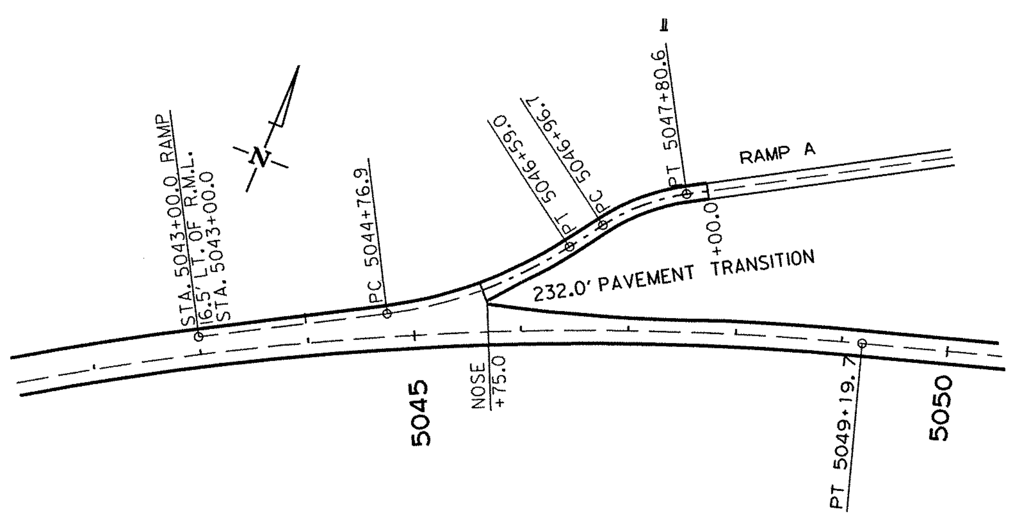
12-31-2008 R061186.MOT

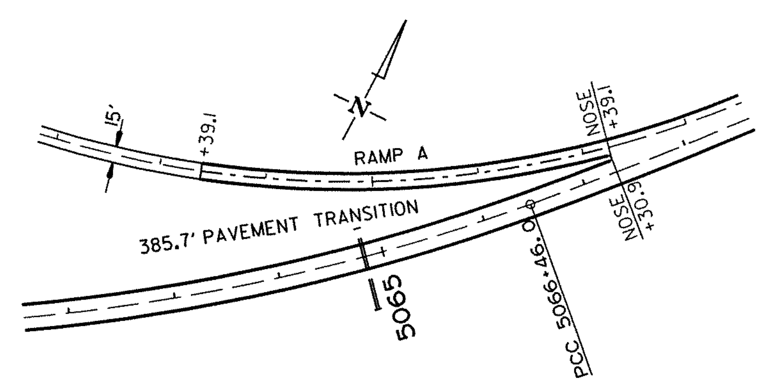
mot 12











CONSTRUCTION PAVEMENT MARKINGS
LT. & RT. EDGE LINES ON PAVEMENT TRANSITIONS, RAMP A = 1236 LIN.FT.

DETAIL AT REST AREA RAMPS

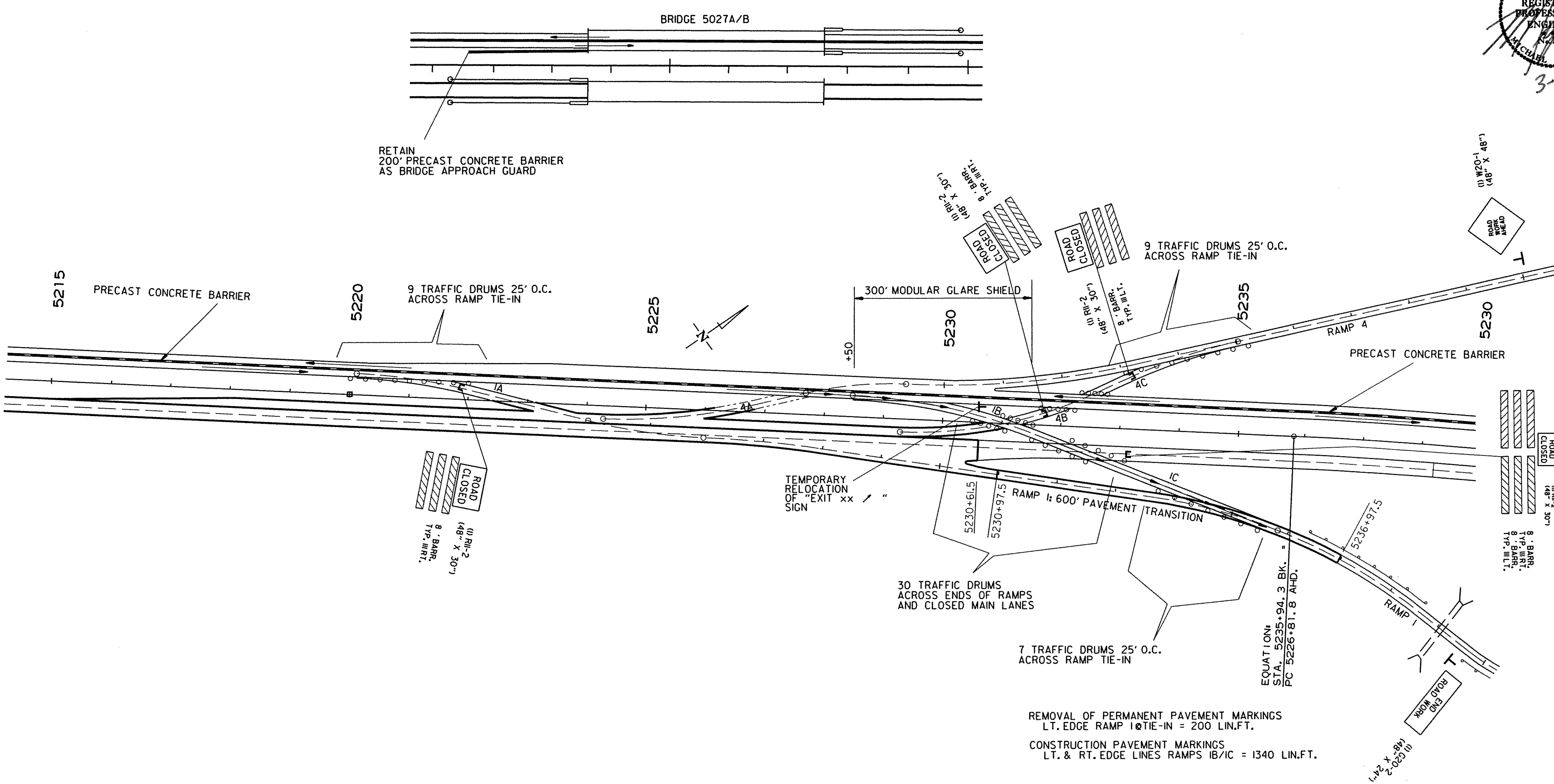
MAINTENANCE OF TRAFFIC

STAGE II-A (2)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	50	126

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT
3-6-12



REMOVAL OF PERMANENT PAVEMENT MARKINGS
LT. EDGE RAMP 1 ℄ TIE-IN = 200 LIN.FT.

CONSTRUCTION PAVEMENT MARKINGS
LT. & RT. EDGE LINES RAMPS 1B/1C = 1340 LIN.FT.

MAINTENANCE OF TRAFFIC

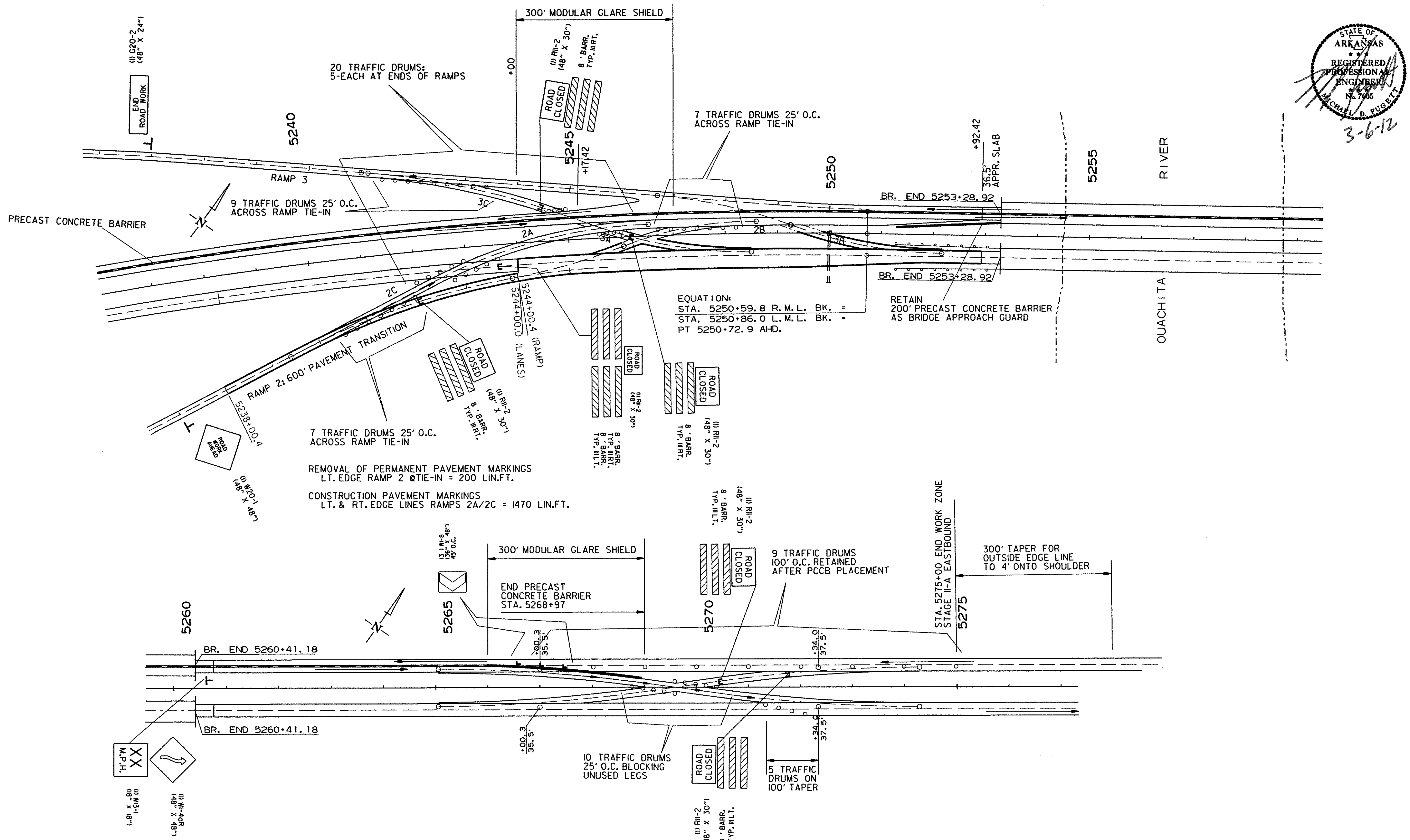
STAGE II-A (2)

12-31-2008 R061186.MOT

mot 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.		061186	51	126

(2) MAINTENANCE OF TRAFFIC



R06II86.MOT
12-31-2008

MAINTENANCE OF TRAFFIC
STAGE II-A (2)

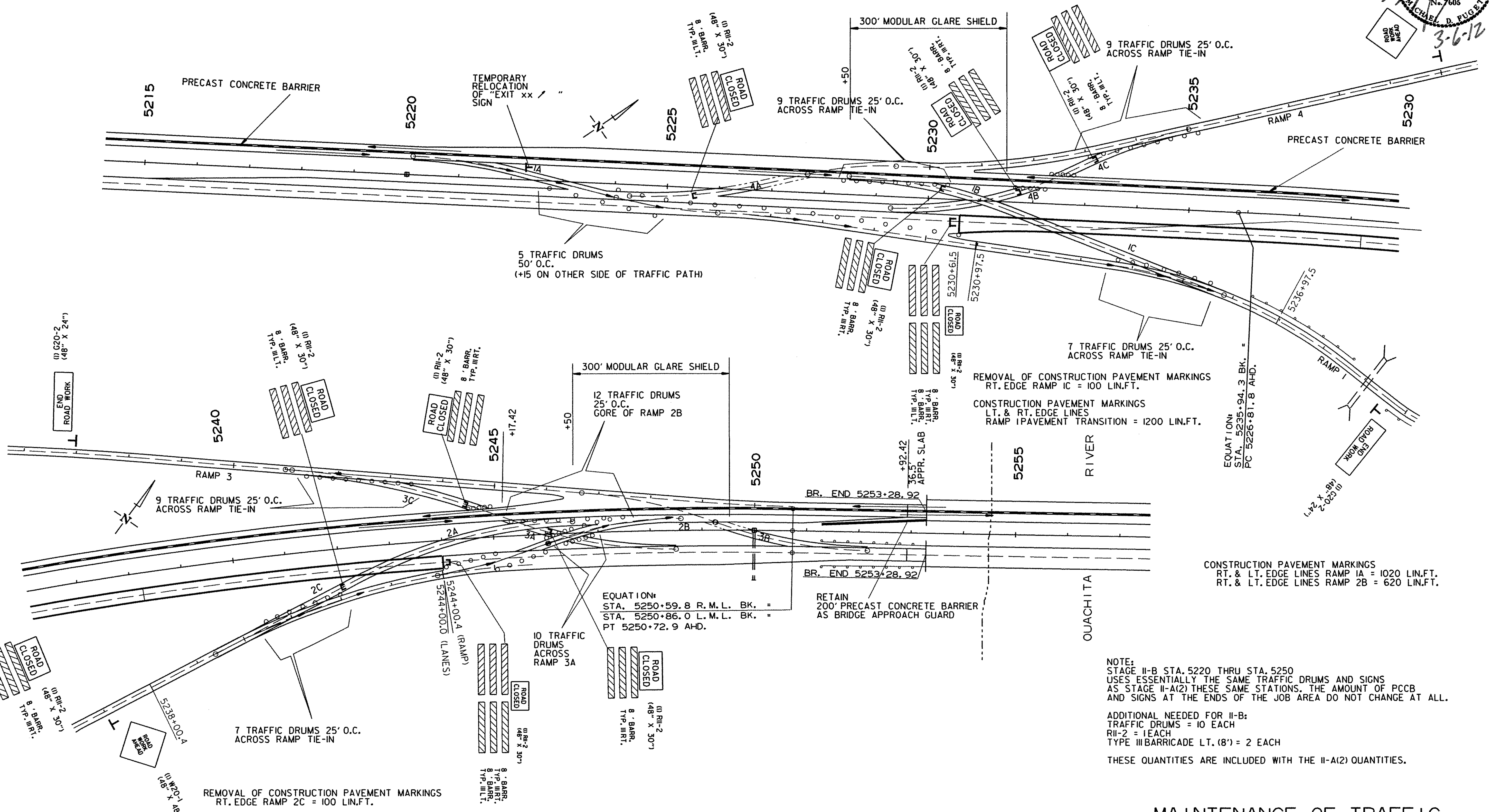
mot 15

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.		061186	52	126

(2) MAINTENANCE OF TRAFFIC

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

3-6-12



CONSTRUCTION PAVEMENT MARKINGS
RT. & LT. EDGE LINES RAMP 1A = 1020 LIN.FT.
RT. & LT. EDGE LINES RAMP 2B = 620 LIN.FT.

NOTE:
STAGE II-B STA. 5220 THRU STA. 5250 USES ESSENTIALLY THE SAME TRAFFIC DRUMS AND SIGNS AS STAGE II-A(2) THESE SAME STATIONS. THE AMOUNT OF PCCB AND SIGNS AT THE ENDS OF THE JOB AREA DO NOT CHANGE AT ALL.

ADDITIONAL NEEDED FOR II-B:
TRAFFIC DRUMS = 10 EACH
R11-2 = 1 EACH
TYPE III BARRICADE LT. (8') = 2 EACH

THESE QUANTITIES ARE INCLUDED WITH THE II-A(2) QUANTITIES.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
RT. EDGE RAMP 2C = 100 LIN.FT.

CONSTRUCTION PAVEMENT MARKINGS
LT.& RT. EDGE LINES RAMP 2 PAVEMENT TRANSITION = 1200 LIN.FT.

MAINTENANCE OF TRAFFIC

STAGE II-B

12-31-2008 R061186.MOT

mot 16

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.		061186	53	126

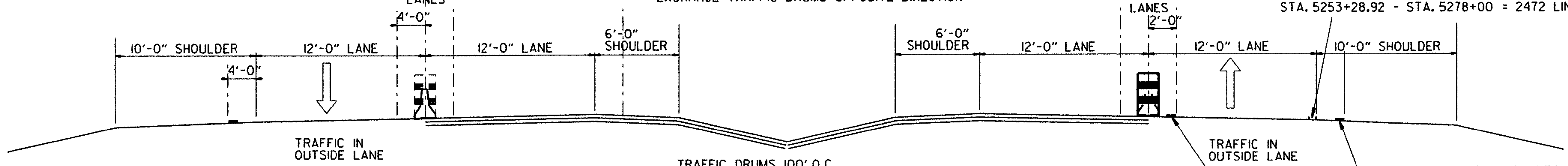
(2) MAINTENANCE OF TRAFFIC

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

3-6-12

MACHINERY IN MEDIAN & INSIDE LANES:
SHIFT PRECAST CONCRETE BARRIER FROM WESTBOUND TO EASTBOUND LANES;
EXCHANGE TRAFFIC DRUMS OPPOSITE DIRECTION

REMOVAL OF PERMANENT PAVEMENT MARKINGS
OUTSIDE EDGE LINE EASTBOUND
STA. 5002+00 - STA. 5040+00 = 3850 LIN.FT.
STA. 5253+28.92 - STA. 5278+00 = 2472 LIN.FT.



TRAFFIC DRUMS 100' O.C.
STA. 5225+00 - STA. 5275+00 = 280 EACH

RELOCATING PRECAST CONCRETE BARRIER
STA. 5011+50 - STA. 5266+97.8 = 26690 LIN.FT.
AS BRIDGE APPROACH GUARD FOR REVERSED TRAFFIC = 400 LIN.FT.
AS BRIDGE PIER GUARD FOR REVERSED TRAFFIC = 400 LIN.FT.

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER
ADDITIONAL NEEDED STA. 5266+97.8 - STA. 5268+97.8 = 200 LIN.FT.

SHIFTED OUTSIDE EDGE LINES EASTBOUND

CONSTRUCTION PAVEMENT MARKINGS
ON SURFACE OTHER THAN BRIDGES/APPR. SLABS
STA. 5002+00 - STA. 5278+00 = 25885 LIN.FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
BRIDGE 5027B AND OUACHITA RIVER BRIDGE = 2788 LIN.FT.

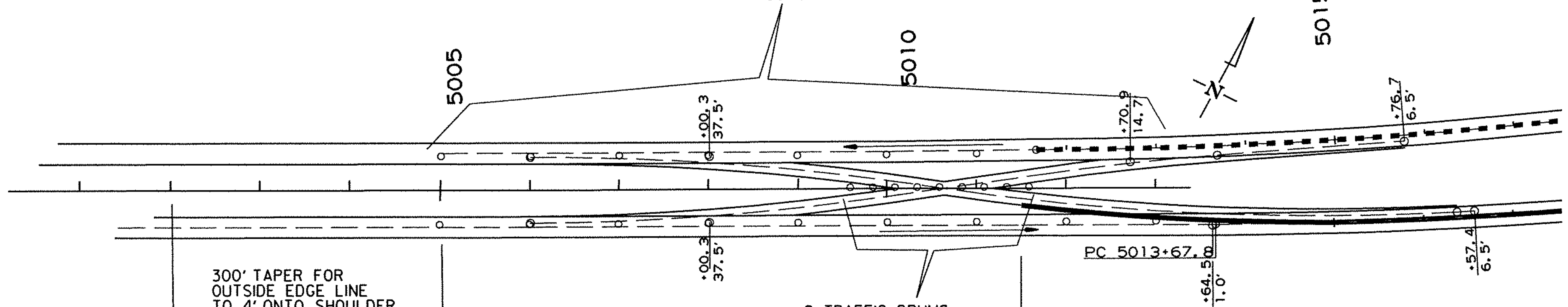
SHIFTED INSIDE EDGE LINES EASTBOUND

CONSTRUCTION PAVEMENT MARKINGS
ON SURFACE OTHER THAN BRIDGES/APPR. SLABS
STA. 5002+00 - STA. 5278+00 = 24056 LIN.FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
BRIDGE 5027B AND OUACHITA RIVER BRIDGE = 2788 LIN.FT.

GENERAL DETAIL FOR STAGE III-A

16 TRAFFIC DRUMS
100' O.C.



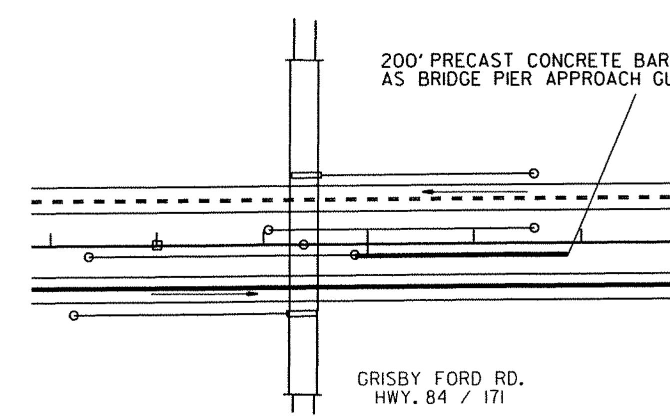
300' TAPER FOR
OUTSIDE EDGE LINE
TO 4' ONTO SHOULDER

STA. 5005+00 BEGIN WORK ZONE
STAGE III-A WESTBOUND

9 TRAFFIC DRUMS
25' O.C. ON CL MEDIAN
BLOCKING CROSSOVER

BEGIN PRECAST
CONCRETE BARRIER
STA. 5011+50

200' PRECAST CONCRETE BARRIER
AS BRIDGE PIER APPROACH GUARD



GRISBY FORD RD.
HWY. 84 / 171

CLOSED

SIGN PANELS (4) NEEDED;
ADD TO "REST AREA xx MI. AHEAD" SIGNS

84"x24"; 1.5" RADIUS, 0.6" BORDER 0.4" INDENT
BLACK ON WHITE, SERIES 'D' LETTERING

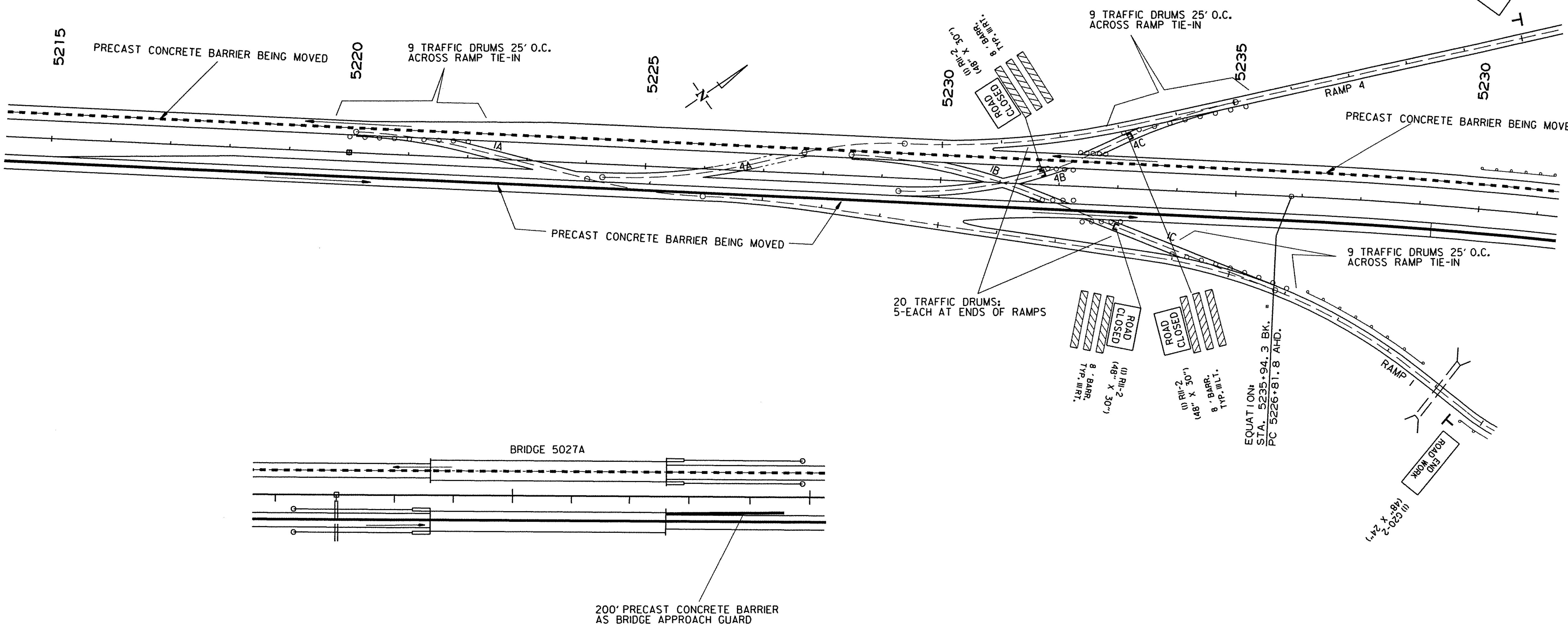
MAINTENANCE OF TRAFFIC
STAGE III-A

12-31-2008 R061186.MOT

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.		061186	54	126

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12



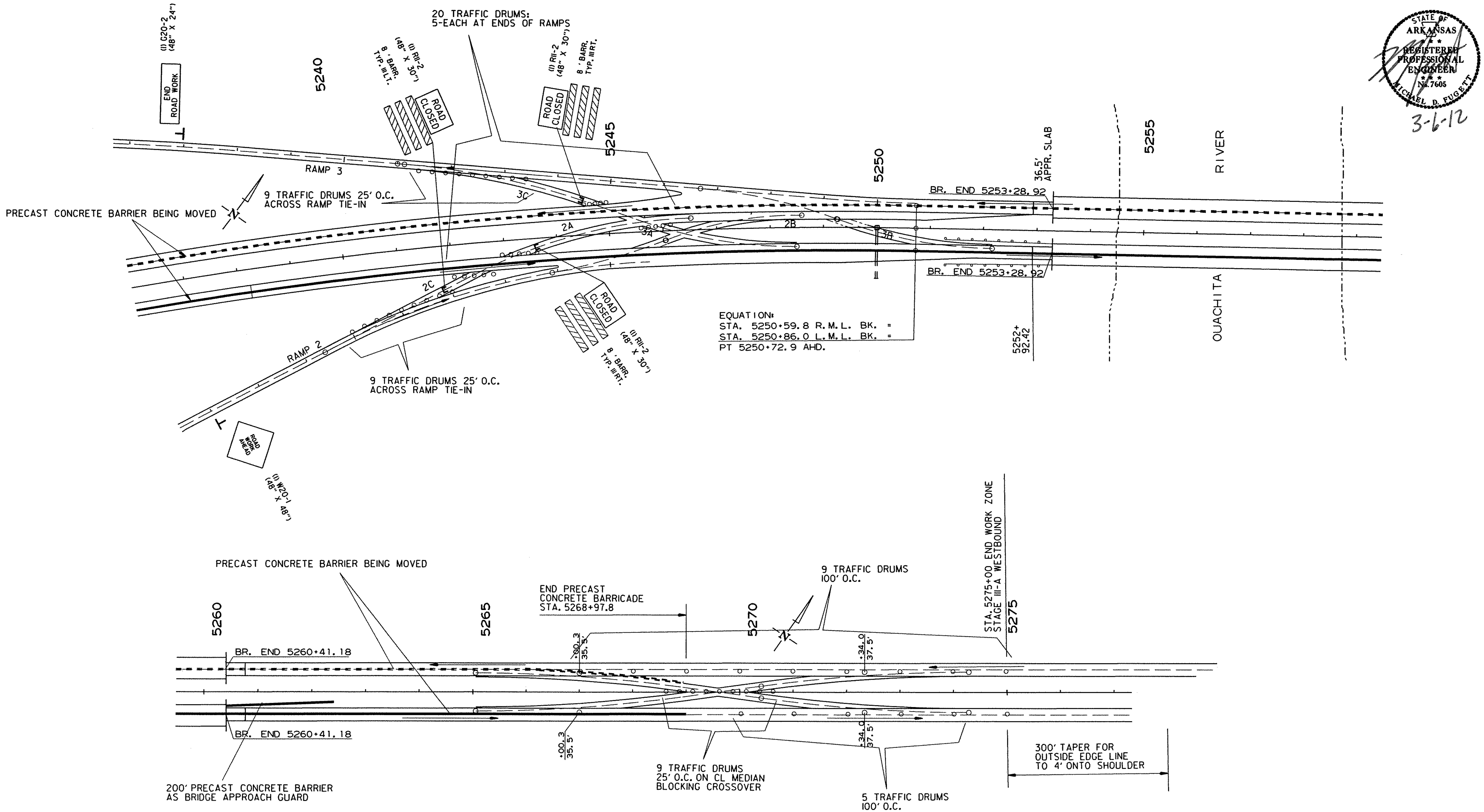
MAINTENANCE OF TRAFFIC

STAGE III-A

12-31-2008 R061186.MOT

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.		061186	55	126

(2) MAINTENANCE OF TRAFFIC



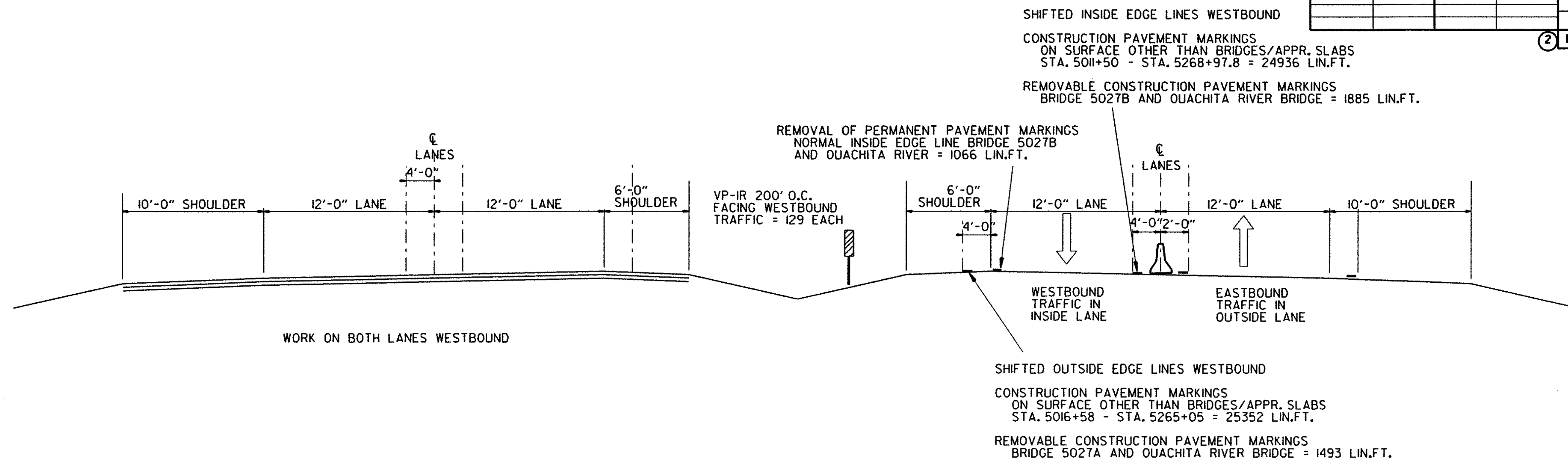
MAINTENANCE OF TRAFFIC
STAGE III-A

12-31-2008 R061186.MOT

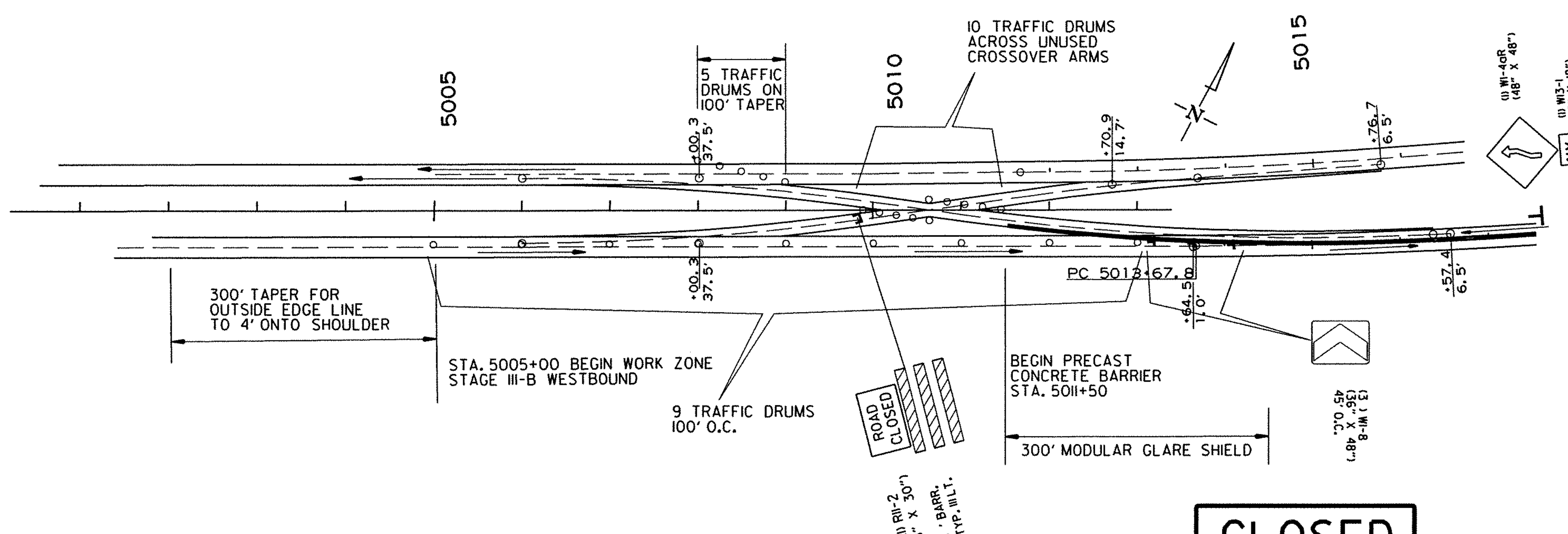
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	56	126

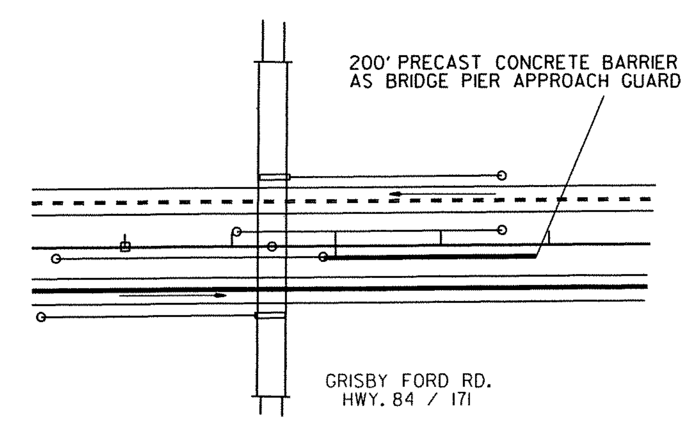
(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER MICHAEL D. FUGETT 3-6-12



GENERAL DETAIL FOR STAGE III-B





CLOSED

SIGN PANELS (4) NEEDED; ADD TO "REST AREA xx MI. AHEAD" SIGNS

84"x24"; 1.5" RADIUS, 0.6" BORDER 0.4" INDENT BLACK ON WHITE, SERIES 'D' LETTERING

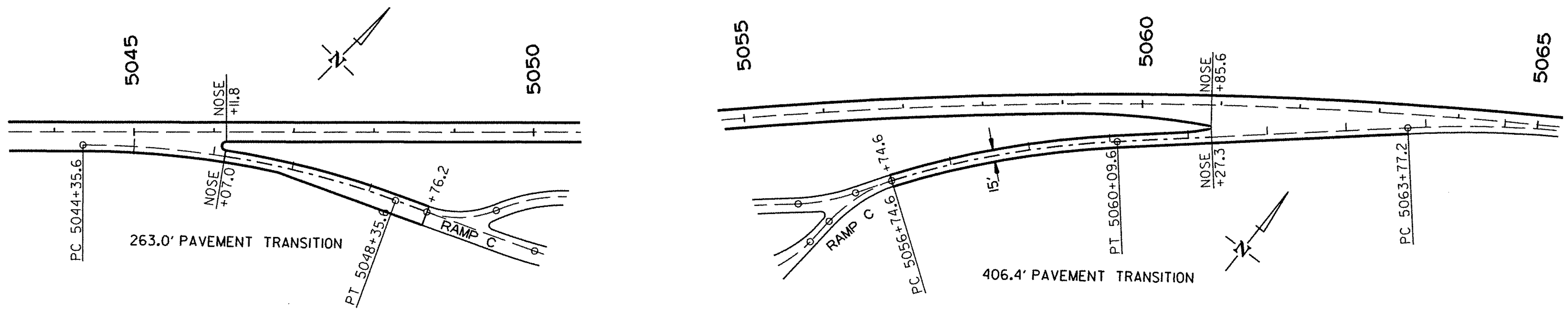
MAINTENANCE OF TRAFFIC
STAGE III-B

12-31-2008 R061186.MOT

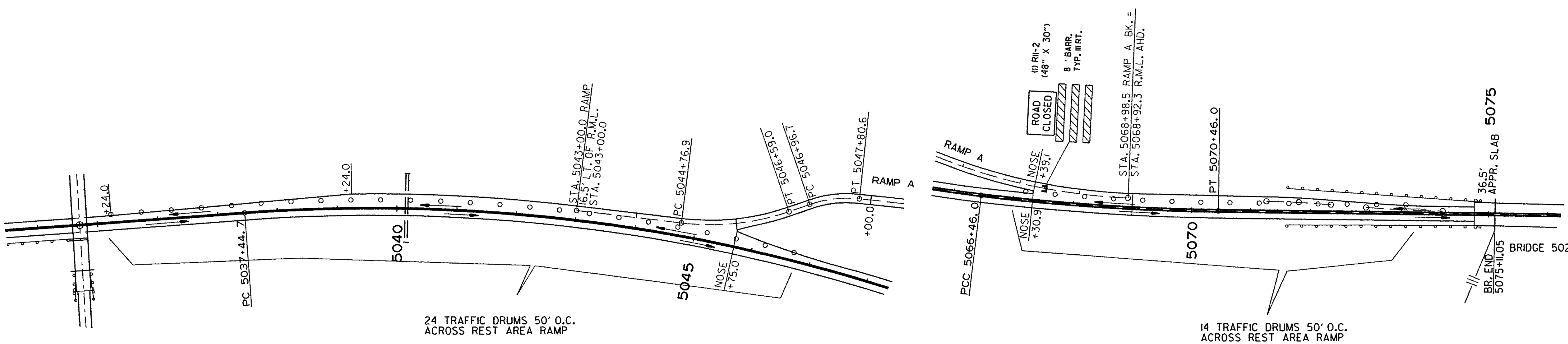
mot 20

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.		061186	57	126

(2) MAINTENANCE OF TRAFFIC



CONSTRUCTION PAVEMENT MARKINGS
LT. & RT. EDGE LINES ON PAVEMENT TRANSITIONS, RAMP C = 1339 LIN.FT.



DETAIL AT REST AREA RAMPS

MAINTENANCE OF TRAFFIC

STAGE III-B

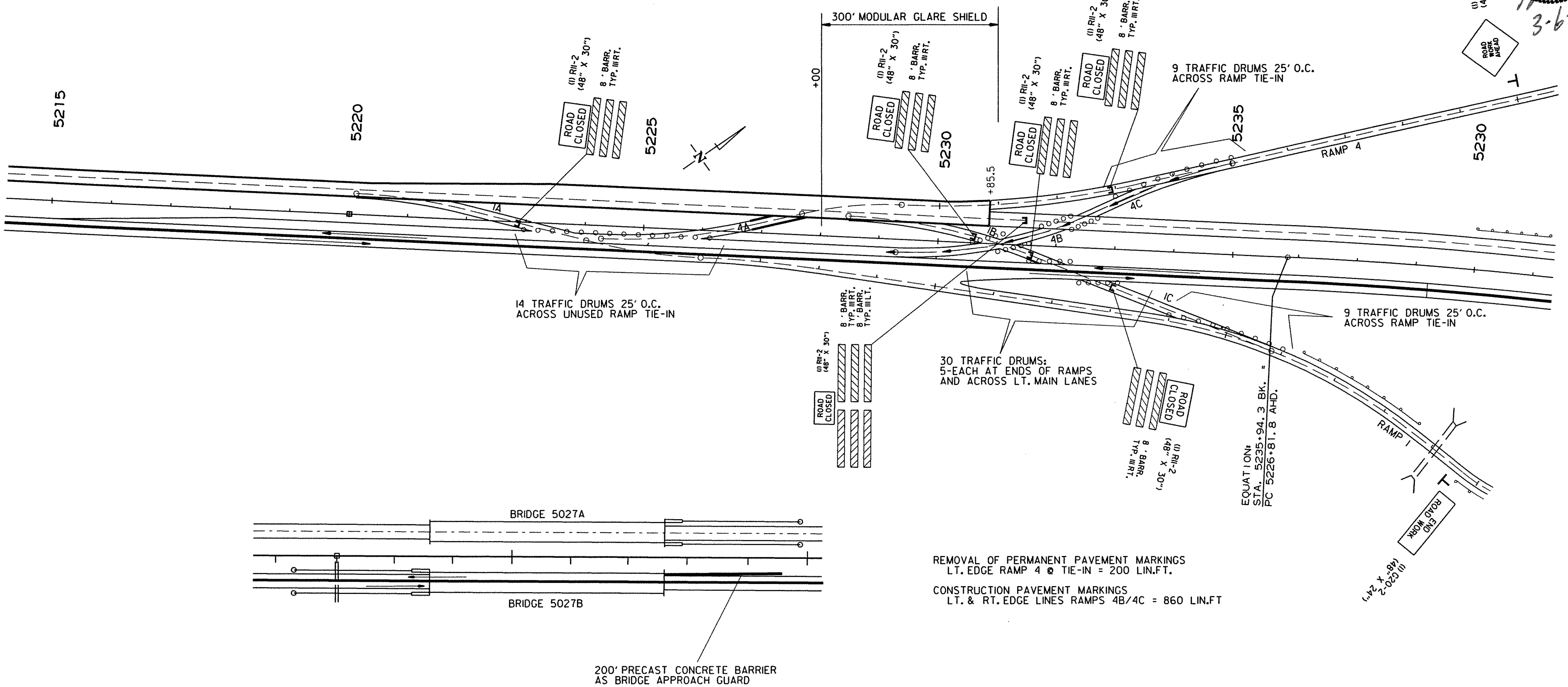
12-31-2008 R061186.MOT

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.		061186	58	126

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER MICHAEL D. PUGETT

3-6-12



REMOVAL OF PERMANENT PAVEMENT MARKINGS
LT. EDGE RAMP 4 @ TIE-IN = 200 LIN.FT.

CONSTRUCTION PAVEMENT MARKINGS
LT. & RT. EDGE LINES RAMPS 4B/4C = 860 LIN.FT

12-31-2008 R061186.MOT

MAINTENANCE OF TRAFFIC

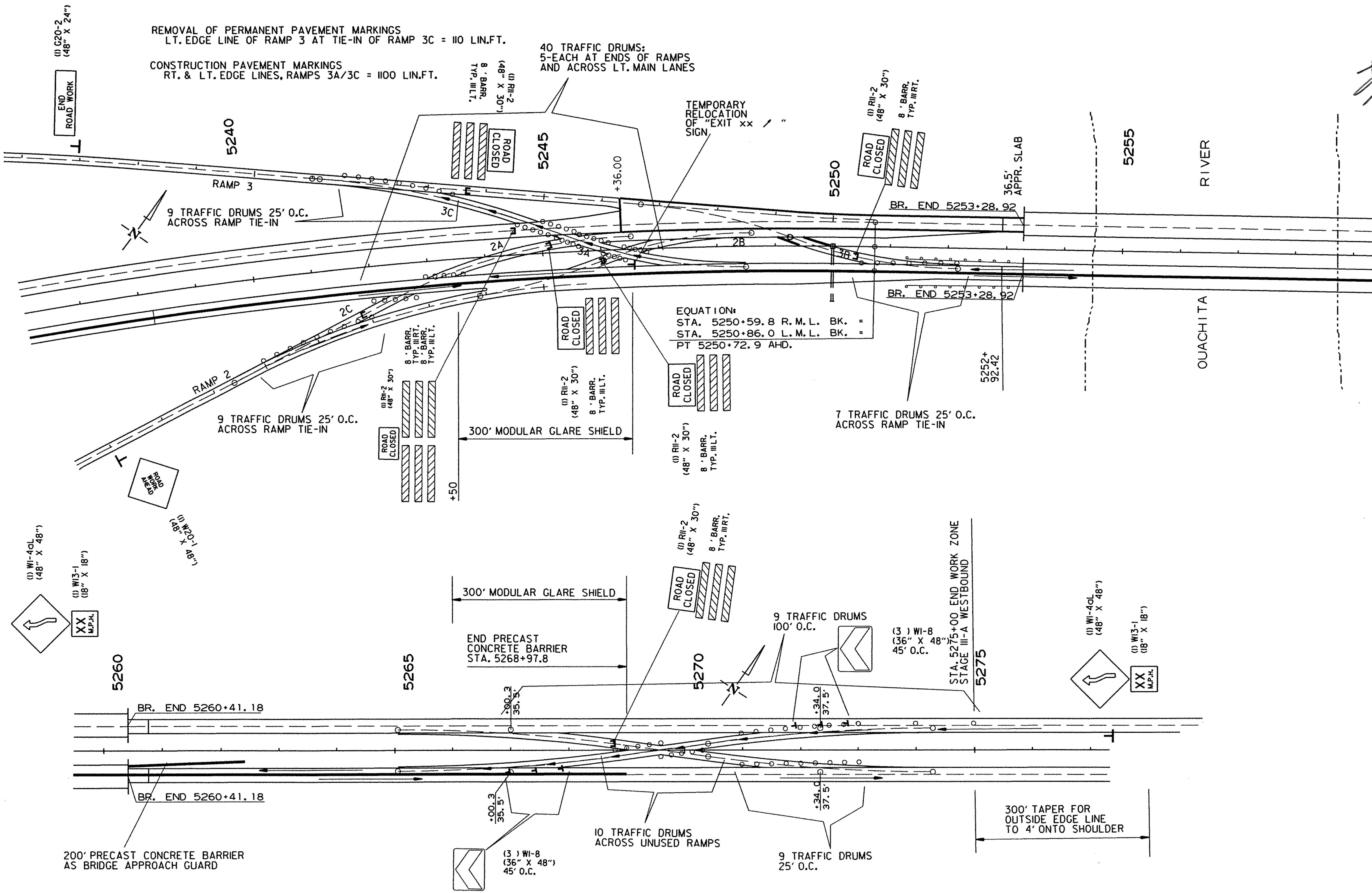
STAGE III-B

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.		061186	59	126

(2) MAINTENANCE OF TRAFFIC

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

3-6-12



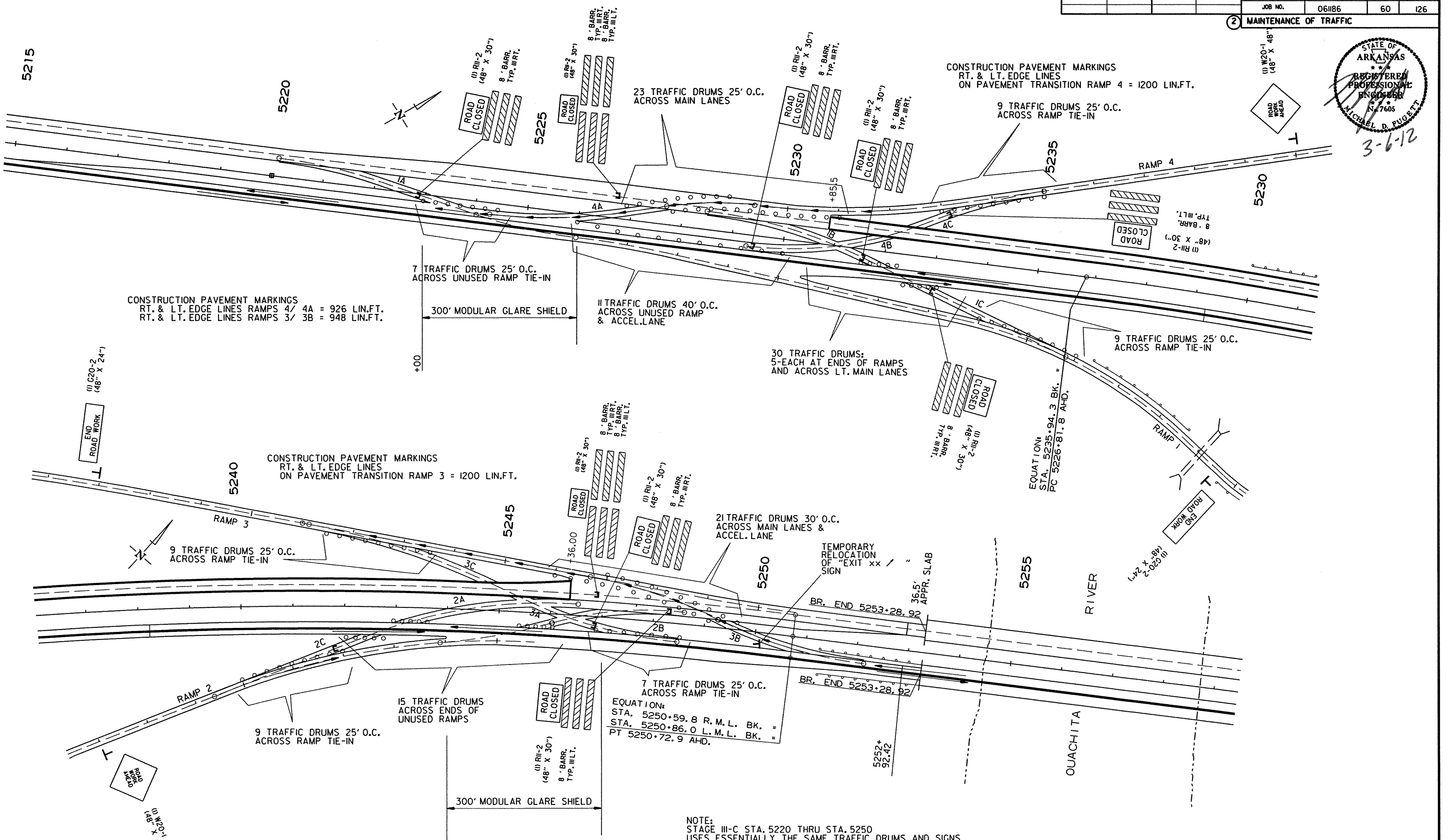
MAINTENANCE OF TRAFFIC
STAGE III-B

R061186.MOT

12-31-2008

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	60	126

2 MAINTENANCE OF TRAFFIC



NOTE:
STAGE III-C STA. 5220 THRU STA. 5250
USES ESSENTIALLY THE SAME TRAFFIC DRUMS AND SIGNS
AS STAGE III-B THESE SAME STATIONS. THE AMOUNT OF PCCB
AND SIGNS AT THE ENDS OF THE JOB AREA DO NOT CHANGE AT ALL.

ADDITIONAL NEEDED FOR III-C:
TRAFFIC DRUMS = 25 EACH

THESE QUANTITIES ARE INCLUDED WITH THE III-B QUANTITIES.

MAINTENANCE OF TRAFFIC

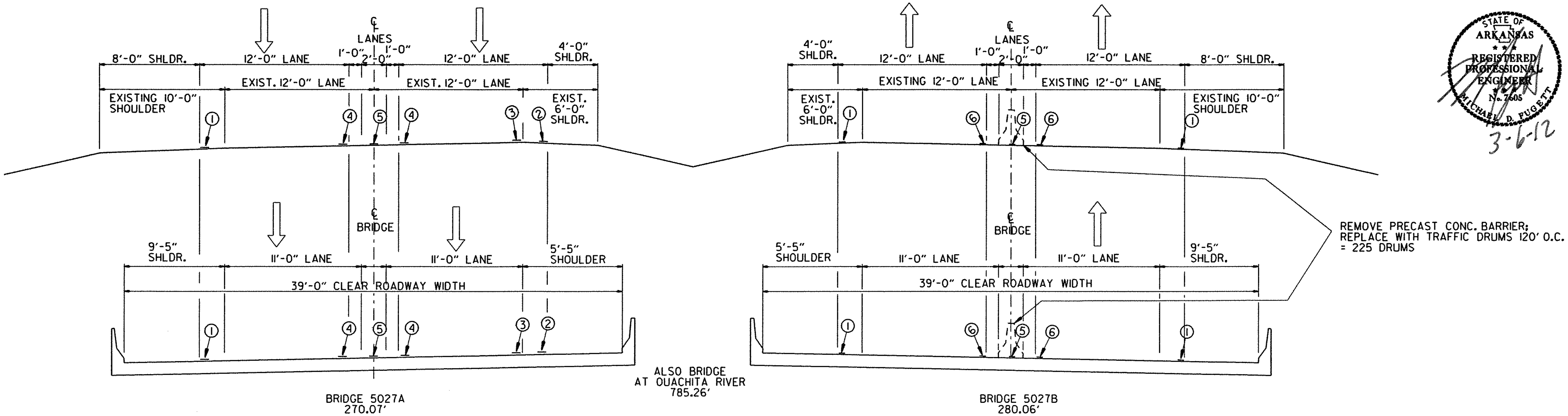
STAGE III-C

12-31-2008 R061186.MOT

mot-24

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.		061186	61	126

(2) MAINTENANCE OF TRAFFIC



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

3-6-12

NOTE: STRIPING ON PCC PAVEMENT STA. 5253+25.82 - STA. 5275
(NORTH OF OUACHITA RIVER BRIDGE)
TO BE SAME MATERIALS AS ON BRIDGE PAVEMENT.

① RETAIN EXISTING REGULAR AND REMOVABLE CONSTRUCTION PAVEMENT MARKINGS ON UN-REBUILT PAVEMENT SURFACES AT ENDS OF WORK AREA IN WESTBOUND LANES AND THROUGHOUT EASTBOUND LANES. INSTALL CPM EDGE LINE THROUGH REBUILT PAVEMENT WB.

CONSTRUCTION PAVEMENT MARKINGS
OUTSIDE EDGE LINE ON WESTBOUND LANES = 22239 LIN.FT.

② REMOVE WHITE "OUTSIDE" EDGE LINE FROM UN-REBUILT PAVEMENT, BOTH PCC AND ACHM.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
ON ACHM PAVEMENT STA. 5015+77 - STA. 5040+50 = 2473 LIN.FT.

③ INSTALL INSIDE EDGE LINE FOR WESTBOUND TRAFFIC ON NORMAL LOCATION; MIXTURE OF REGULAR AND REMOVABLE CONSTRUCTION PAVEMENT MARKINGS DEPENDING ON PAVEMENT SURFACE

CONSTRUCTION PAVEMENT MARKINGS
INSIDE EDGE LINE ON ACHM PAVEMENT STA. 5006+00 - STA. 5253+28.92 = 25418 LIN.FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
INSIDE EDGE LINE ON PCC PAVEMENT ON DECK OF BRIDGE 5027A AND STA. 5253+28.92 - STA. 5274+29 = 2370 LIN.FT.

④ REMOVE YELLOW "INSIDE" EDGE LINE FROM UN-REBUILT PAVEMENT, BOTH PCC AND ACHM.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
ON ACHM PAVEMENT STA. 5011+66.5 - STA. 5040+50 BOTH SIDES OF PCCB SITE = 5767 LIN.FT.

⑤ SKIP LANE DIVIDER ON UN-REBUILT PAVEMENT WHICH HAS BEEN COVERED BY PCCB IS UNDISTURBED. INSTALL NEW SKIPLINE OF REGULAR OR REMOVABLE CONSTRUCTION PAVEMENT MARKINGS.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
ON BRIDGE 5027A DECK = 68 LIN.FT.
ON BRIDGE 5027B DECK = 70 LIN.FT.

CONSTRUCTION PAVEMENT MARKINGS
ON REBUILT SURFACES STA. 5040+50 - STA. 5253+28.92
WESTBOUND LANES = 5490 LIN.FT.
EASTBOUND LANES = 5517 LIN.FT.

⑥ REMOVE DOUBLED "INSIDE" EDGE LINES FROM ACHM AND PCC PAVEMENT

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
BOTH LINES ON ACHM SURFACES = 50503 LIN.FT.

STAGE III-D
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
RT. & LT. EDGE LINES FROM RAMPS 3 & 4 ACROSS MAIN LANES = 1874 LIN.FT.

MAINTENANCE OF TRAFFIC

STAGE III-D

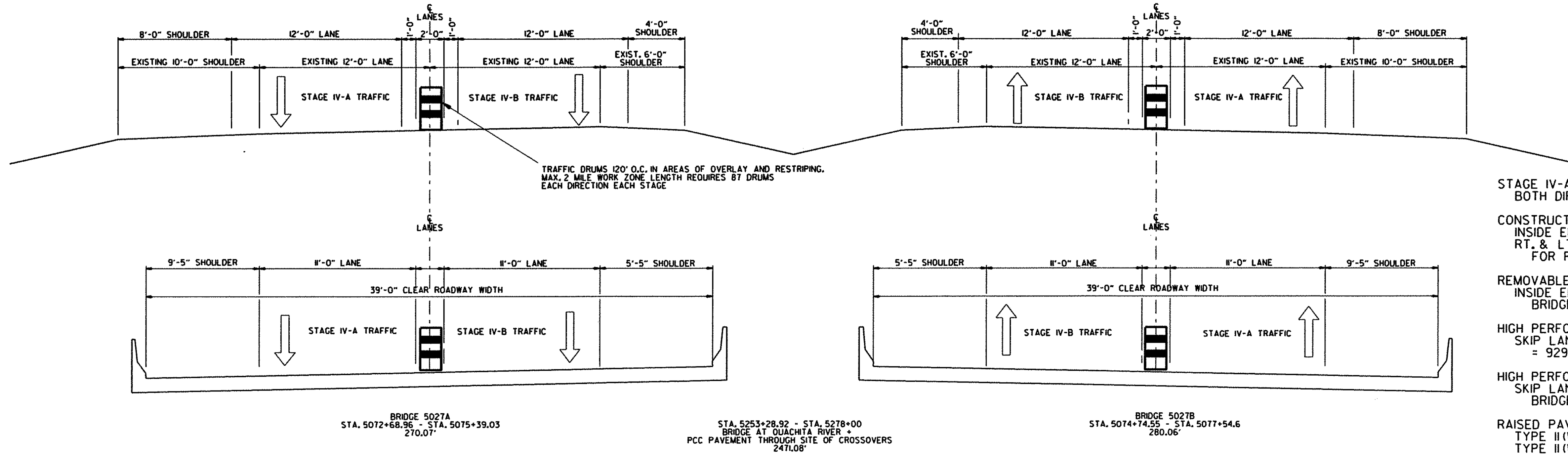
mot 25

12-31-2008 R061186.MOT

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.		061186	62	126

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. PUGETT 3-6-12



STAGE IV-A STRIPING STA. 5002+00 - STA. 5253+28.92
BOTH DIRECTIONS

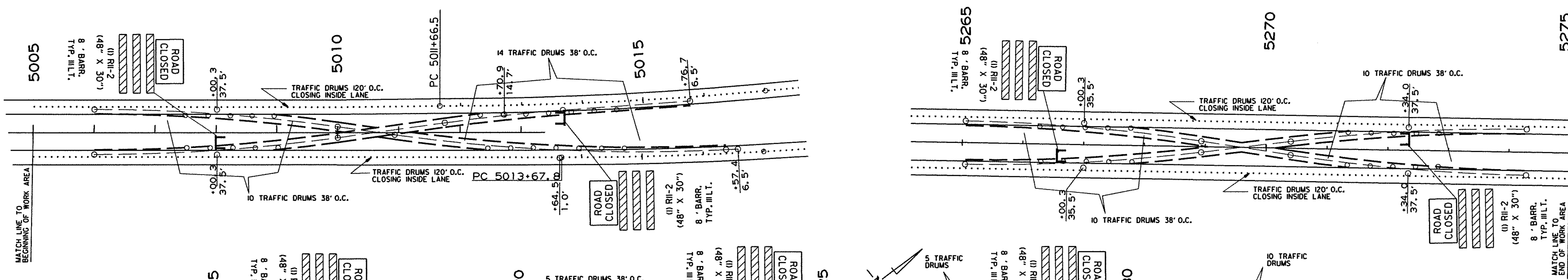
CONSTRUCTION PAVEMENT MARKINGS
INSIDE EDGE LINE ON ACHM SURFACE = 47505 LIN.FT.
RT. & LT. EDGE LINES ON RAMPS
FOR REST AREA = 2575 LIN.FT.

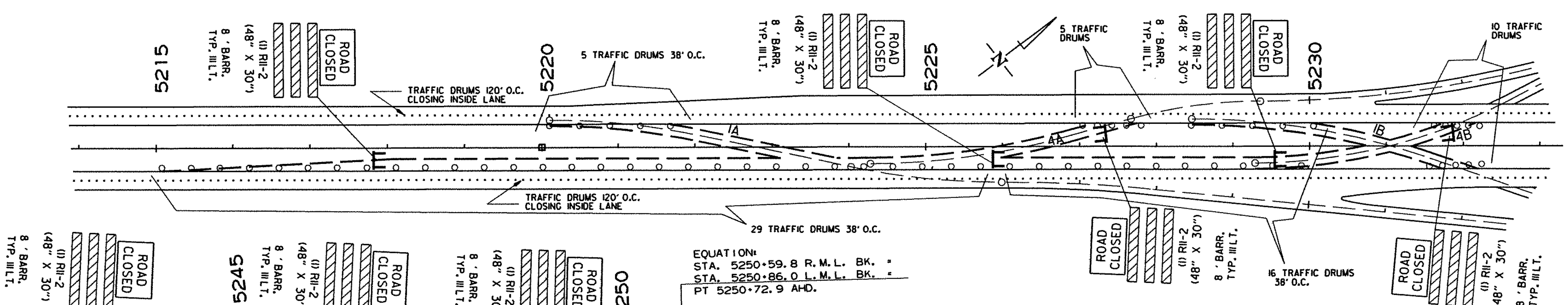
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
INSIDE EDGE LINES ON PCC SURFACE
BRIDGES 5027A & B = 3995 LIN.FT.

HIGH PERFORMANCE PAVEMENT MARKINGS
SKIP LANE DIVIDERS ON ACHM SURFACE
= 9295 LIN.FT. 4" WHITE

HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
SKIP LANE DIVIDERS ON PCC SURFACE
BRIDGES 5027A & B = 3585 LIN.FT. (WHITE)

RAISED PAVEMENT MARKERS ON SKIP LANE DIVIDERS
TYPE II (WHITE/RED) AT EXIT RAMPS = 96 EACH
TYPE II (WHITE/RED) (80' O.C.) = 481 EACH

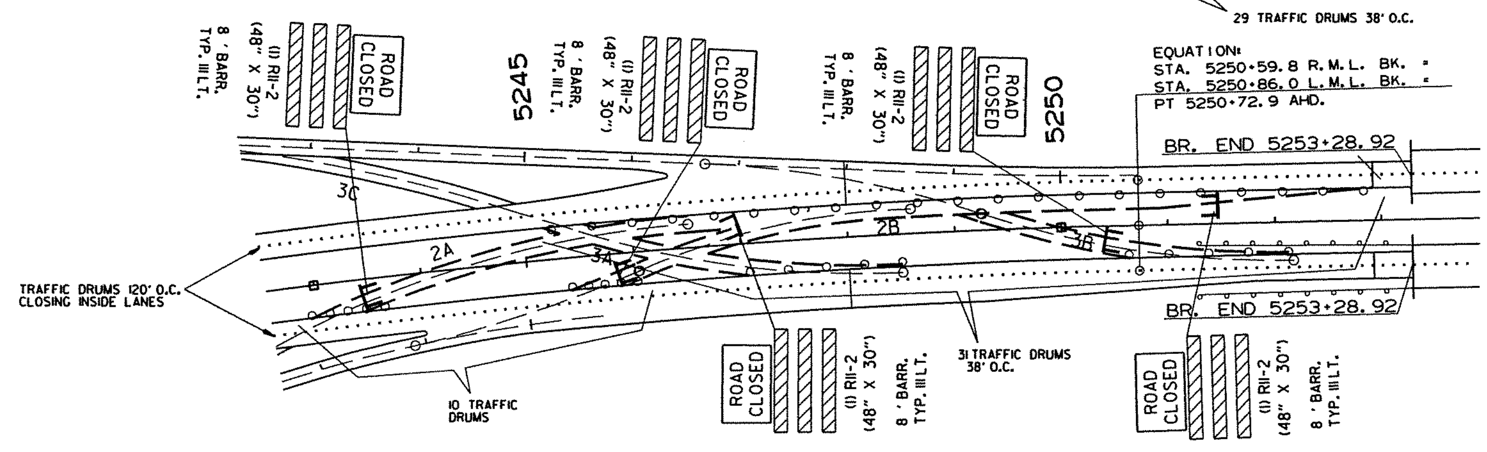




STRIPING AT REST AREA ENTRANCES AND EXITS
REFER TO STANDARD DRAWING PM-2

THERMOPLASTIC PAVEMENT MARKINGS
GORE STRIPING = 1750 LIN.FT. 8' WHITE

RAISED PAVEMENT MARKERS
TYPE II (WHITE/RED) = 240 EACH



STAGE IV-A
CLOSE INSIDE LANE (LIMIT OF 2 MILE WORK ZONE LENGTH)
REMOVE CROSSOVERS AND TEMPORARY RAMPS IN MEDIAN WITHIN EACH WORK ZONE
PLACE FINAL LIFT OF SURFACE COURSE AND CONSTRUCT WIRE ROPE SAFETY FENCE
INSTALL INSIDE EDGE LINE IN CONSTRUCTION PAVEMENT MARKINGS (REMOVABLE CPM ON PCC PAVEMENT)
INSTALL HIGH PERFORMANCE PAVEMENT MARKINGS SKIP LANE DIVIDER (HIGH PERFORMANCE CONTRAST PAVEMENT MARKING ON PCC PAVEMENT)

CLOSED

SIGN PANELS (4) NEEDED;
ADD TO "REST AREA xx MI. AHEAD" SIGNS

84"x24"; 1.5" RADIUS, 0.6" BORDER 0.4" INDENT
BLACK ON WHITE, SERIES 'D' LETTERING

MAINTENANCE OF TRAFFIC

STAGE IV-A

R061186.MOT 12-31-2008

mot 26

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.		061186	63	126

(2) MAINTENANCE OF TRAFFIC

STAGE IV-B
CLOSE OUTSIDE LANE (LIMIT OF 2 MILE WORK ZONE LENGTH)
REMOVE TEMPORARY RAMPS 1C, 2C, 3C, & 4C
PLACE FINAL LIFT OF SURFACE COURSE
INSTALL OUTSIDE EDGE LINE IN CONSTRUCTION PAVEMENT MARKINGS
(REMOVABLE CPM ON PCC PAVEMENT)

STAGE IV-B STRIPING STA. 5002+00 - STA. 5253+28.92 BOTH DIRECTIONS

CONSTRUCTION PAVEMENT MARKINGS
OUTSIDE EDGE LINE ON ACHM SURFACE = 48295 LIN.FT.
RT. & LT. EDGE LINES ON RAMPS FOR INTERCHANGE = 4800 LIN.FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
OUTSIDE EDGE LINES ON PCC SURFACE BRIDGES 5027A & B = 3995 LIN.FT.

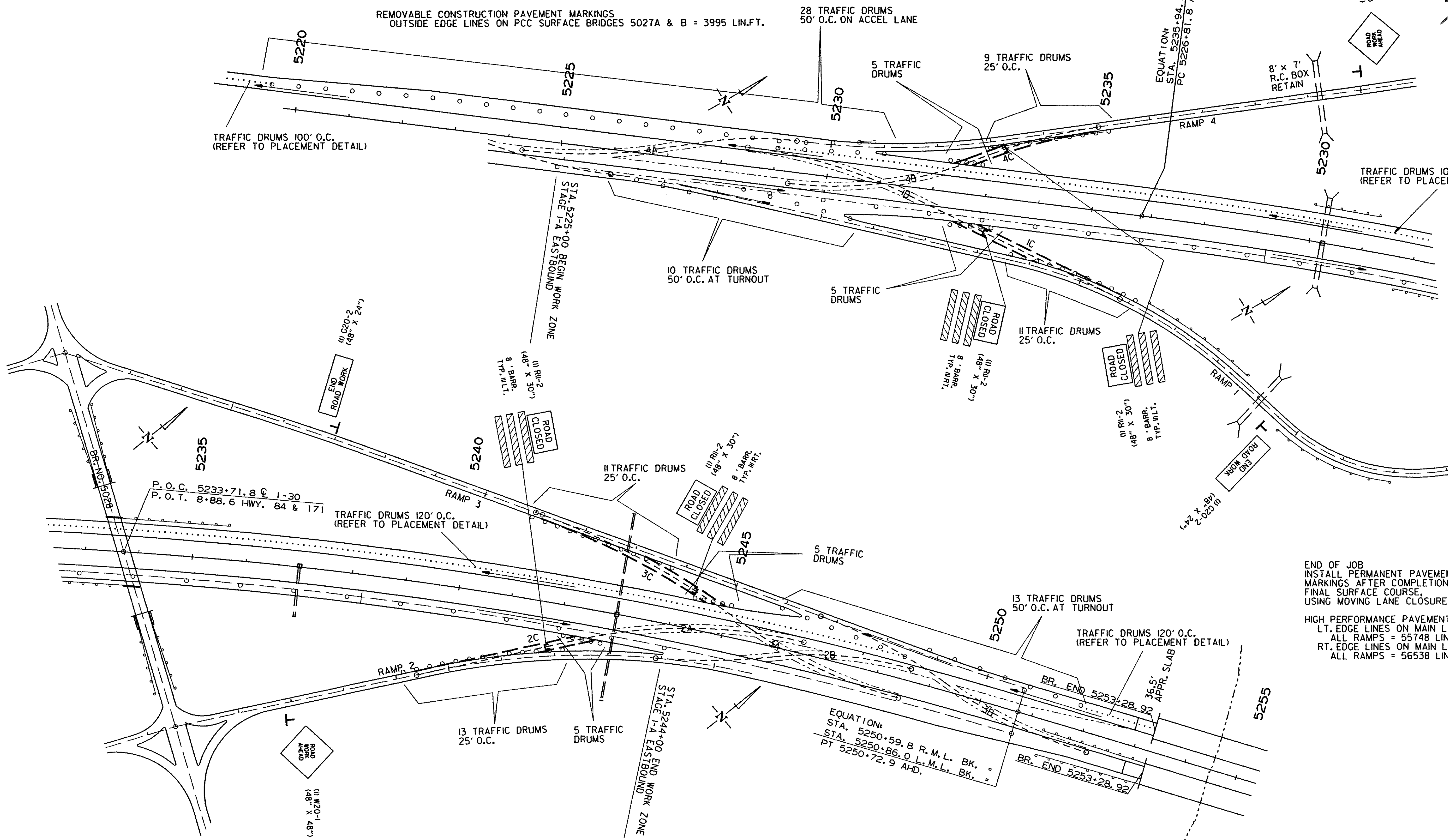
STRIPING AT HWY. 84/171 INTERCHANGE ENTRANCES AND EXITS
REFER TO STANDARD DRAWING PM-2

THERMOPLASTIC PAVEMENT MARKINGS
GORE STRIPING = 1750 LIN.FT. 8' WHITE

RAISED PAVEMENT MARKERS
TYPE II (WHITE/RED) = 240 EACH

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

3-6-12



END OF JOB
INSTALL PERMANENT PAVEMENT MARKINGS AFTER COMPLETION OF FINAL SURFACE COURSE, USING MOVING LANE CLOSURES.

HIGH PERFORMANCE PAVEMENT MARKINGS
LT. EDGE LINES ON MAIN LANES AND ALL RAMPS = 55748 LIN.FT. 4" YELLOW
RT. EDGE LINES ON MAIN LANES AND ALL RAMPS = 56538 LIN.FT. 4" WHITE

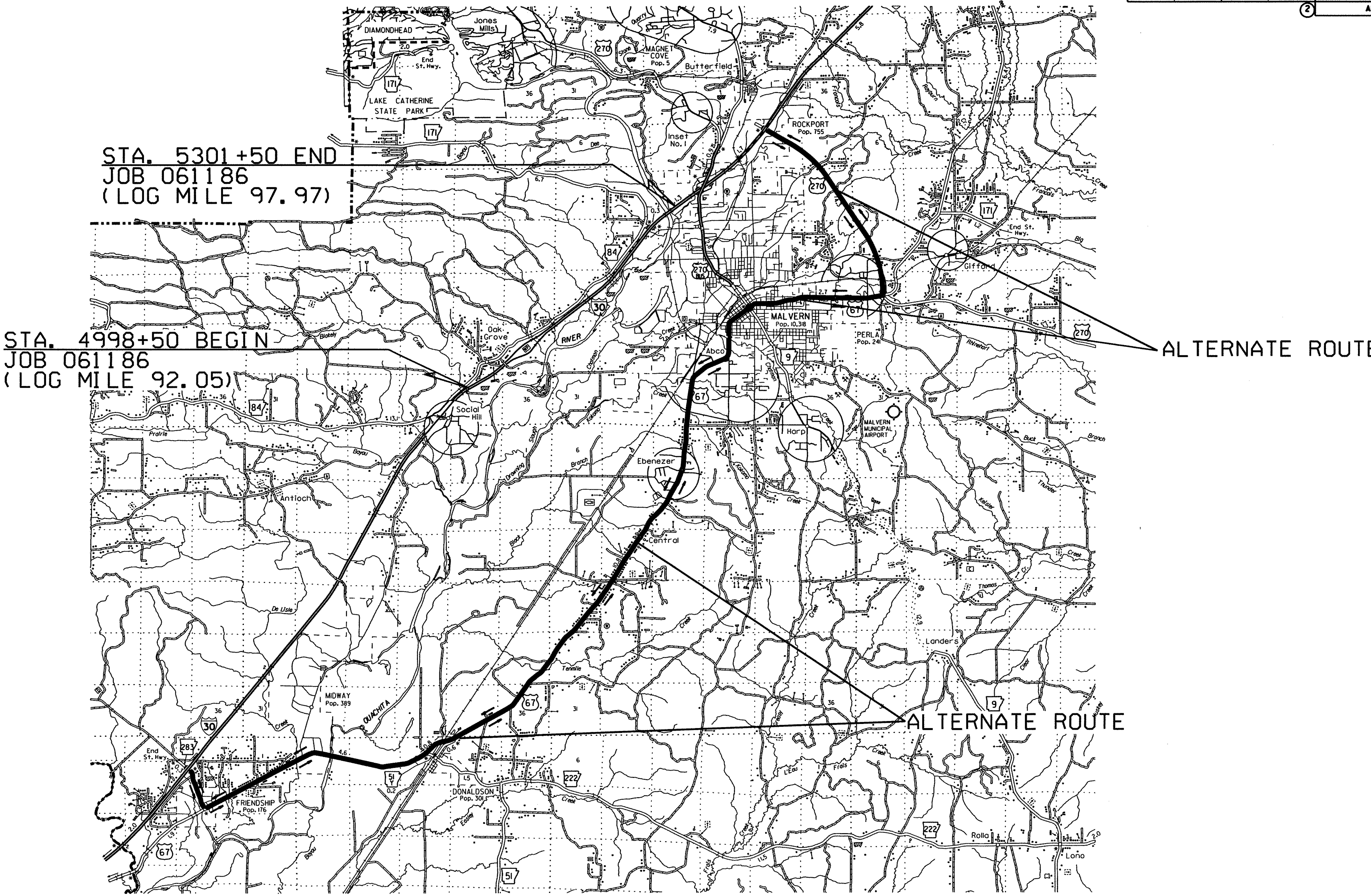
MAINTENANCE OF TRAFFIC
STAGE IV-B

12-31-2008 R061186.MOT

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.	061186	63A	126
				2	ALTERNATE ROUTE DETAIL			

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

3-14-12

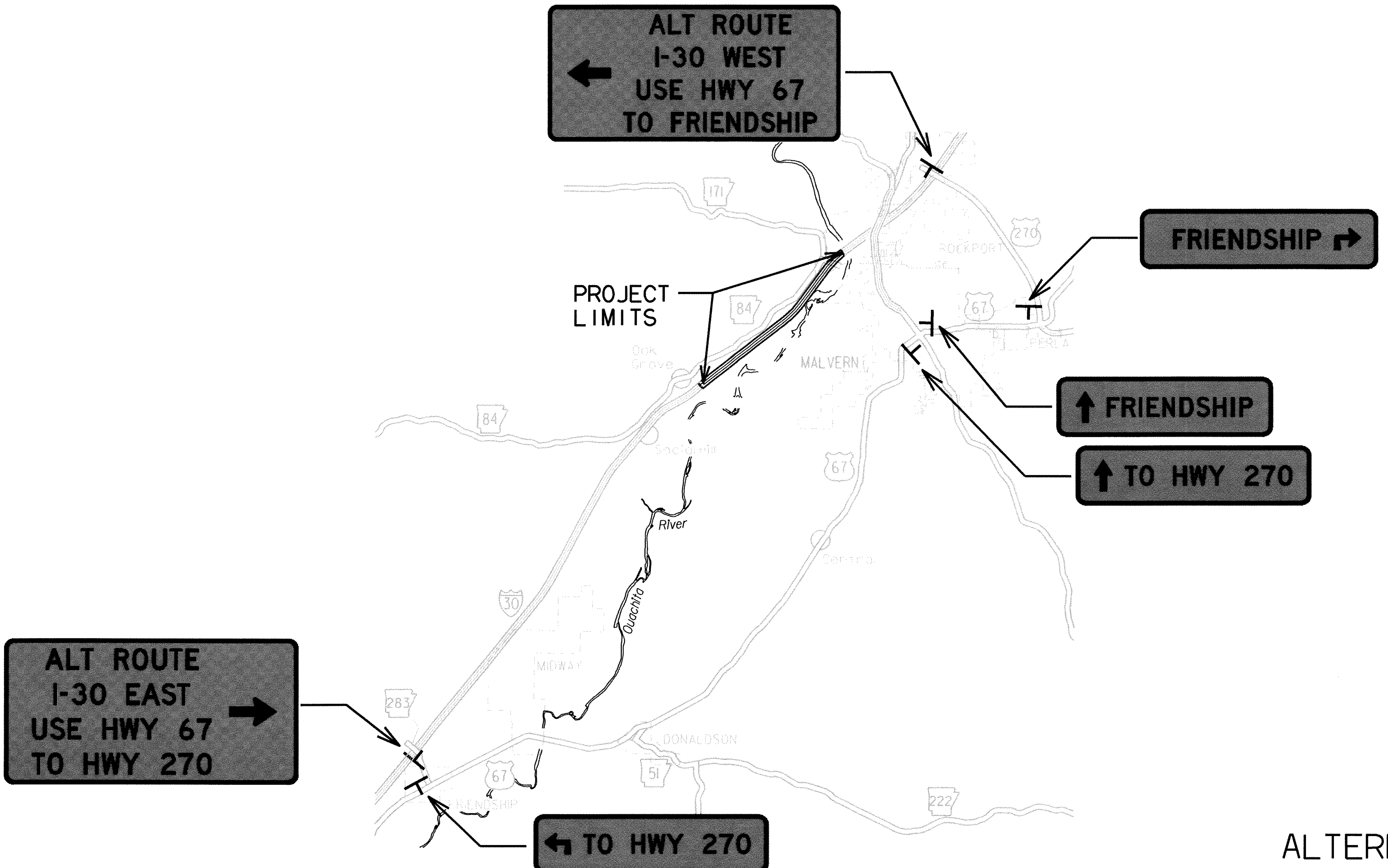


ALTERNATE ROUTE DETAIL

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.	061186	63B	126

(2) ALTERNATE ROUTE SIGNAGE LAYOUT

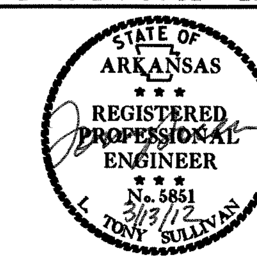
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
L. TONY SULLIVAN
3/13/12

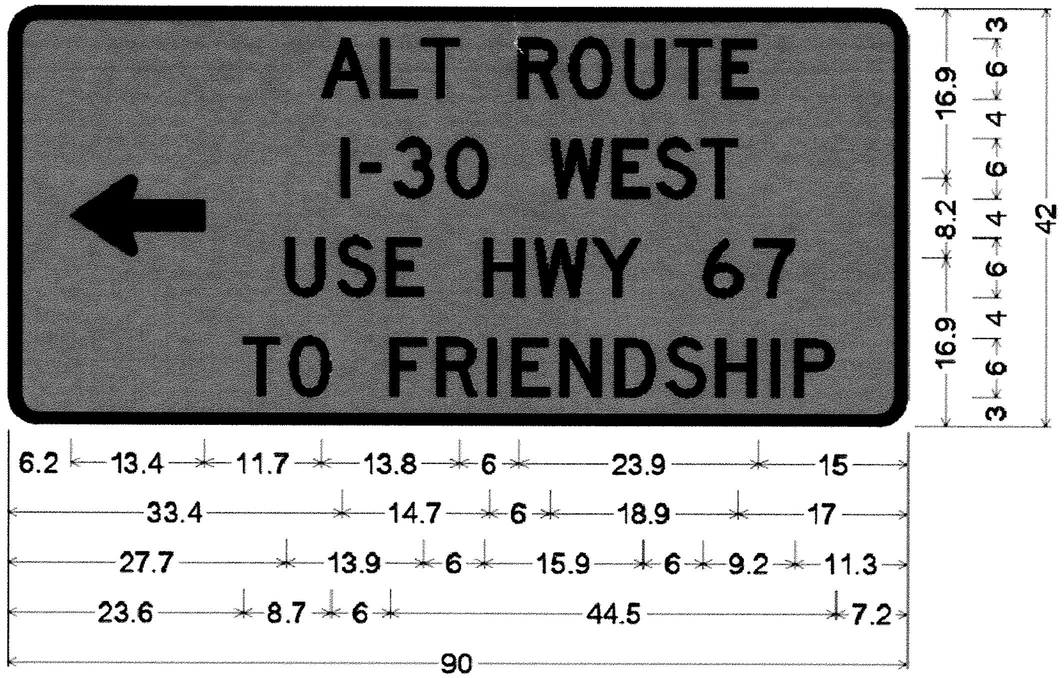


ALTERNATE ROUTE
SIGNAGE LAYOUT

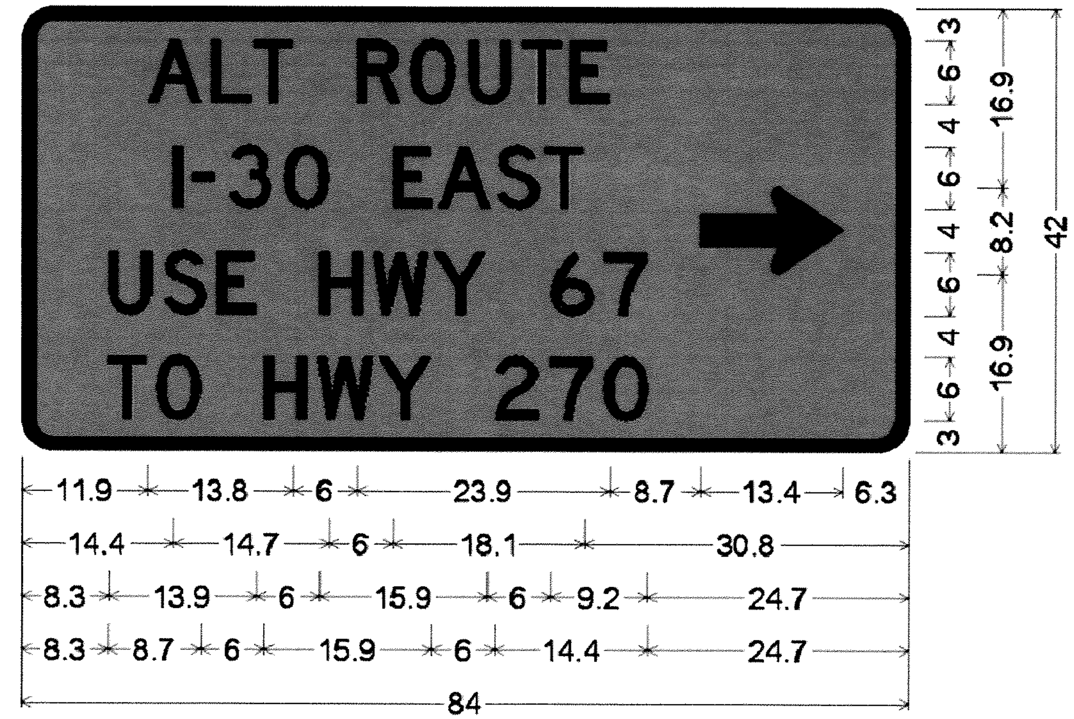
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	63C	176

(2) ALTERNATE ROUTE SIGN DETAILS

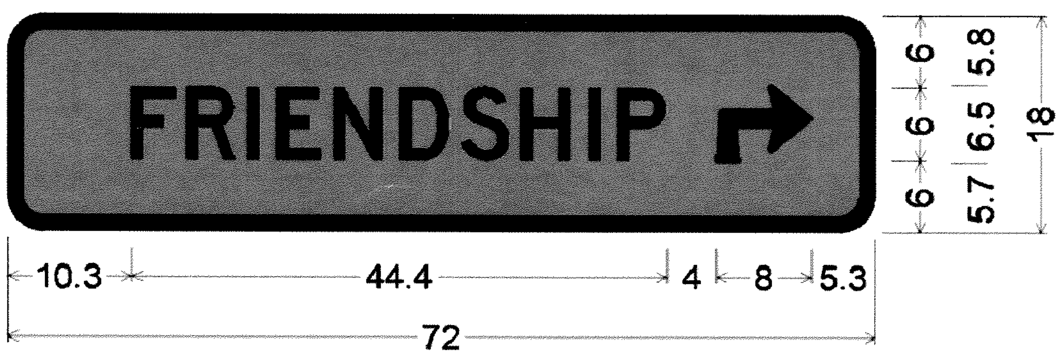




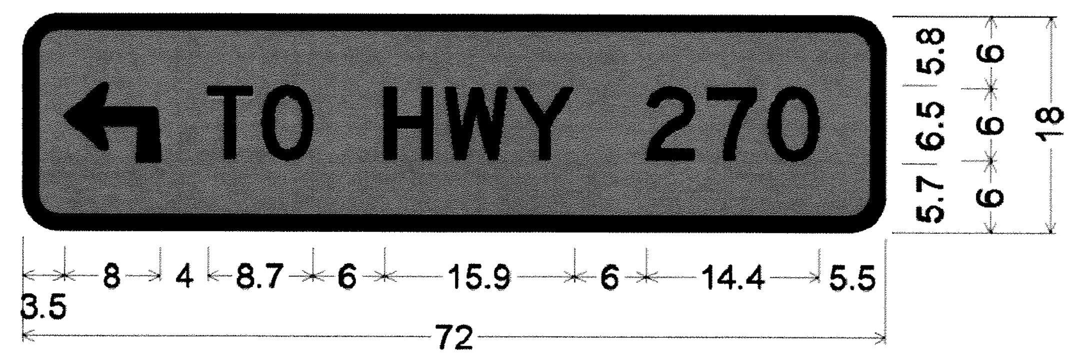
3.0" Radius, 1.3" Border, Black on Orange;
Standard Arrow Custom 13.4" X 8.1" 180°; "ALT ROUTE" D 2K;
"I-30 WEST" D 2K; "USE HWY 67" D 2K;
"TO FRIENDSHIP" D 2K;



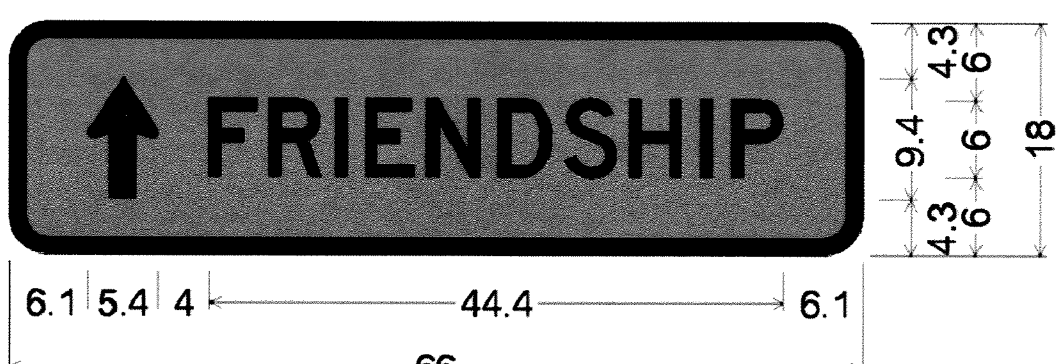
3.0" Radius, 1.3" Border, Black on Orange;
"ALT ROUTE" D 2K; "I-30 EAST" D 2K;
"USE HWY 67" D 2K; "TO HWY 270" D 2K;
Standard Arrow Custom 13.4" X 8.1" 0°;



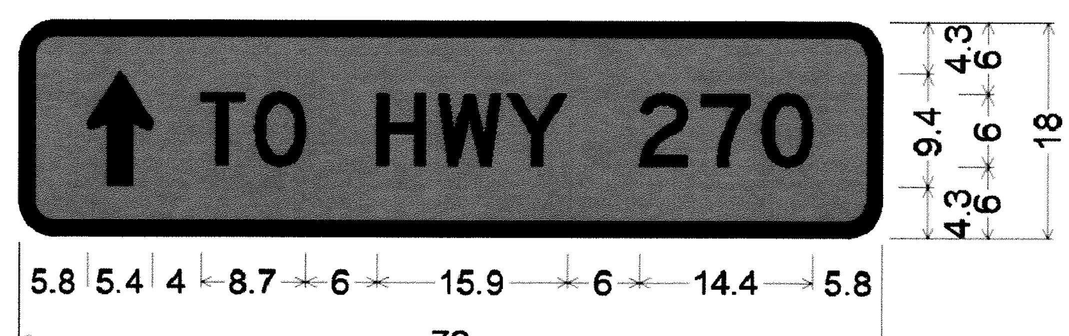
3.0" Radius, 1.3" Border, Black on Orange;
" FRIENDSHIP" D 2K;
90 Deg Advanced Turn Arrow 8.0" X 6.5";



3.0" Radius, 1.3" Border, Black on Orange;
90 Deg Advanced Turn Arrow 8.0" X 6.5";
"TO HWY 270" D 2K;



3.0" Radius, 1.3" Border, Black on Orange;
Standard Arrow Custom 9.4" X 5.4" 90°;
"FRIENDSHIP" D 2K;



3.0" Radius, 1.3" Border, Black on Orange;
Standard Arrow Custom 9.4" X 5.4" 90°;
"TO HWY 270" D 2K;

ALT. ROUTE SIGNING QUANTITY
SIGNS = 86 SQ. FT.

ALTERNATE ROUTE SIGN DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	061186	64	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-14-12

PORTABLE CONSTRUCTION LIGHTING

LOCATION	PORTABLE CONSTRUCTION LIGHTING	
	TOTAL NO. REQUIRED	DAY
ENTIRE PROJECT CROSSOVER LOCATIONS	4	1504
TOTAL	**4**	**1504**

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER or SS/SP NEEDED	DESCRIPTION	SIGN SIZE	STAGE 1 I-A	STAGE 1 I-B	STAGE 2 II-A(1)	STAGE 2 II-A(2) II-B	STAGE 3 III-A	STAGE 3 III-B, III-C	STAGE 3 III-D	STAGE 4 IV-A	STAGE 4 IV-B	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED NO.	TOTAL SIGNS REQUIRED SQ. FT.	VERTICAL PANELS	TRAFFIC DRUMS	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN	BARRICADES (TYPE III) RIGHT	BARRICADES (TYPE III) LEFT	TEMPORARY RELOCATION OF EXISTING SIGNS	MODULAR GLARE SHIELD	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	RELOCATING PRECAST CONCRETE BARRIER
			SQ. FT.-LIN.FT.-EACH											NO.	SQ. FT.	EACH	EACH	DAYS	WEEK	LIN.FT.		EACH		LIN.FT.	
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	4	4	4	4	4	4	4	4	4	64										
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	4	4	4	4	4	4	4	4	4	64										
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	4	4	4	4	4	4	4	4	64										
W20-1	ROAD WORK AHEAD	48"x48"		6	6	6	6	6	6	6	6	6	6	6	96										
G20-2	END ROAD WORK	48"x24"	6	6	6	6	6	6	6	6	6	6	6	6	48										
G20-1	ROAD WORK NEXT 6 MILES	60"x24"	2	2	2	2	2	2	2	2	2	2	2	2	20										
W1-4AR	REVERSE CURVE RT.	48"x48"				1		1					1	1	16										
W1-4AL	REVERSE CURVE LT.	48"x48"				1		1					1	1	16										
W13-1	SPEED LIMIT (ADVISORY)	24"x24"				2		2					2	2	8										
R11-2	ROAD CLOSED	48"x30"	4	12	6	14	6	14		13	4		14	14	140										
SPECIAL	MERGE NOW + ARROW	48"x48"	2	2	1	2	2	2	2	2	2		2	2	32										
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"	4	4	2	4	4	4	4	4	4		4	4	64										
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	4	4	2	4	4	4	4	4	4		4	4	64										
W20-5	RIGHT LANE CLOSED 1500 FEET	48"x48"	4	4	2	4	4	4	4	4	4		4	4	64										
W4-2R	RIGHT LANE CLOSING GRAPHIC	48"x48"	4	4	2	4	4	4	4	4	4		4	4	64										
W1-6	LARGE ARROW	60"x30"	6	6	3	6	6	6	6	6	6		6	6	75										
W1-8	CHEVRONS	36"x48"				9		9					9	9	108										
R4-1	DO NOT PASS	24"x30"	8	8	4	8	8	8	8	8	8		8	8	40										
R55-1	FINES DOUBLE IN WORK ZONES	36"x60"	4	4	4	4	4	4	4	4	4	4	4	4	60										
R2-5A	REDUCED SPEED AHEAD	48"x60"	4	4	2	4	4	4	4	4	4	4	4	4	80										
R2-1	SPEED LIMIT 60 MPH	48"x60"	4	4	2	4	4	4	4	4	4		4	4	80										
R2-1	SPEED LIMIT 70 MPH	48"x60"	4	4	4	4	4	4	4	4	4	4	4	4	80										
R2-2	TRUCKS SPEED LIMIT 65 MPH	48"x48"	4	4	4	4	4	4	4	4	4	4	4	4	64										
S-1	WIDE LOADS NEXT RIGHT	6.5'x2.83'	2	2	2	2	2	2	2	2	2		2	2	37										
S-2	WIDE LOAD DIRECTION ARROW	3.5'x2.0'	2	2	2	2	2	2	2	2	2		2	2	14										
S-3	CLOSED	24"x84"		4	4	4		4	4	4			4	4	56										
	ALTERNATE ROUTE SIGNING		6	6	6	6	6	6	6	6	6	6	6	6	86										
	VERTICAL PANELS RT.					129		129					129			129									
	TRAFFIC DRUMS		298	359	444	274	521	325	38	315	191		521				521								
	TYPE III BARRICADE-RT. (8')		2	10	4	10	4	10			2		10							80					
	TYPE III BARRICADE-LT. (8')		2	2	2	7	2	6		14	2		14								112				
	ADVANCE WARNING ARROW PANEL		2	2	1	2	2	2	2	2	2		2					752							
	PORTABLE CHANGEABLE MESSAGE SIGN		8	8	8	8	8	8	8	8	8		8						432						
	TEMPORARY RELOCATION OF EXISTING SIGNS					2		2					4									4			
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER				27490		200						27690											27690	
	RELOCATING PRECAST CONCRETE BARRIER						27490						27490												27490
	MODULAR GLARE SHIELD					1200		1200					1200										1200		
TOTALS															1604	129	521	752	432	80	112	4	1200	27690	27490

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

NOTE:
THE EXISTING BREAKAWAY SIGN POSTS AND STUBS ARE TO BE RETAINED. THE CONTRACTOR SHALL EXERCISE CAUTION AROUND THE STUBS SO AS TO NOT AFFECT THE ABILITY OF THE SIGN POST TO BREAK AWAY DURING A COLLISION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY BREAK AWAY SIGN POSTS DISCOVERED THAT WILL BE WITHIN THE CONSTRUCTION LIMITS AND CANNOT BE RETAINED. THESE WILL THEN BE REMOVED AND RELOCATED BY DEPARTMENT FORCES PRIOR TO WORK BEGINNING IN THE AREA. ALL OTHER SIGNS SHALL BE MAINTAINED BY THE CONTRACTOR ACCORDING TO SECTION 603.02 (d) OF THE STANDARD SPECIFICATIONS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7603
MICHAEL D. FUGETT
3-6-12

CONSTRUCTION PAVEMENT MARKINGS

DESCRIPTION	STAGE 1		STAGE 2		STAGE 3			STAGE 4		END OF JOB	MAXIMUM NUMBER REQUIRED	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	HIGH PERFORMANCE PAVEMENT MARKINGS		THERMOPLASTIC PAVEMENT MARKINGS	HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
	I-A	I-B	II-A(1)	II-A(2)	III-A	III-B, III-C	III-D	IV-A	IV-B							TYPE II (WHITE/RED	4" WHITE	4" YELLOW	8" WHITE	4" WHITE
	SQ. FT.-LIN.FT.-EACH											LIN.FT.				EACH	LIN.FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS			33619	26289	6322	1376					67606	67606								
CONSTRUCTION PAVEMENT MARKINGS			57320	50772	49941	57861	58664	50080	53095		377733		377733							
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS				200			60617				60817			60817						
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS			5558	5550	5576	3378	2508	3995	3995		30560				30560					
RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED)								817	240		1057					1057				
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4")								9295		56538	65833						65833			
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4")										55748	55748							55748		
THERMOPLASTIC PAVEMENT MARKINGS-WHITE (8")								1750	1750		3500								3500	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS - WHITE (4")								3585			3585									3585
TOTALS												67606	377733	60817	30560	1057	65833	55748	3500	3585

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	061186	66	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7603
MICHAEL D. FUGETT

3-6-12

REMOVAL & DISPOSAL OF GUARDRAIL

STATION	STATION	LOCATION	LIN. FT.
5071+61.05	5075+11.05	LT. OF RIGHT MAIN LANES	350
5071+61.05	5075+11.05	RT. OF RIGHT MAIN LANES	350
5069+30.46	5073+05.46	LT. OF LEFT MAIN LANES	375
5069+30.46	5073+05.46	RT. OF LEFT MAIN LANES	375
5077+18.11	5080+68.11	LT. OF RIGHT MAIN LANES	350
5077+18.11	5079+93.11	RT. OF RIGHT MAIN LANES	275
5075+02.53	5077+02.53	LT. OF LEFT MAIN LANES	200
5075+02.53	5078+02.53	RT. OF LEFT MAIN LANES	300
5097+35.00	5104+10.00	LT. OF RIGHT MAIN LANES	675
5094+60.00	5104+10.00	RT. OF RIGHT MAIN LANES	950
5142+95.00	5144+70.00	LT. OF LEFT MAIN LANES	175
5142+20.00	5143+95.00	RT. OF RIGHT MAIN LANES	175
5175+20.00	5176+95.00	LT. OF LEFT MAIN LANES	175
5229+95.00	5231+20.00	LT. OF LEFT MAIN LANES	125
5231+75.00	5233+75.00	RT. OF RIGHT MAIN LANES	200
5233+65.00	5235+65.00	LT. OF LEFT MAIN LANES	200
5251+29.82	5253+29.82	LT. OF RIGHT MAIN LANES	200
5251+29.82	5253+29.82	RT. OF LEFT MAIN LANES	200
5236+34.00	5238+59.00	LT. OF RIGHT MAIN LANES	225
5239+69.00	5241+94.00	RT. OF RIGHT MAIN LANES	225
TOTAL			6100

NOTE: REMOVAL AND DISPOSAL OF GUARDRAIL TERMINAL (TYPE 2) SHALL BE PAID FOR BY THE LINEAR FOOT AS REMOVAL AND DISPOSAL OF GUARDRAIL.

THE QUANTITY SHOWN ABOVE SHALL INCLUDE REMOVAL AND DISPOSAL OF ANY TERMINAL ANCHOR POSTS.

REMOVAL & DISPOSAL OF CONCRETE PIER PROTECTION

STATION	STATION	LOCATION	LIN. FT.
5233+75.0	5234+06.0	RT. OF RIGHT MAIN LANES	31
5233+34.0	5233+65.0	LT. OF LEFT MAIN LANES	31
5233+61.3	5233+82.3	MEDIAN	42
TOTAL			104

REMOVAL & DISPOSAL OF CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH	WIDTH	
			LIN. FT.	FEET	SQ. YD.
5069+00.00	5074+76.05	RIGHT MAIN LANES	576.05	24	1536.1
5077+53.11	5084+50.00	RIGHT MAIN LANES	696.89	24	1858.4
5229+21.80	5238+21.80	RIGHT MAIN LANES	900.00	24	2400.0
5248+00.00	5252+93.92	RIGHT MAIN LANES	493.92	24	1317.1
5066+79.76	5072+70.46	LEFT MAIN LANES	590.70	24	1575.2
5075+37.53	5079+50.00	LEFT MAIN LANES	412.47	24	1099.9
5248+00.00	5252+93.92	LEFT MAIN LANES	493.92	24	1317.1
TOTAL					11103.8

REMOVAL & DISPOSAL OF APPROACH SLAB & GUTTERS

STATION	STATION	LOCATION	EACH
5074+76.05	5075+11.05	RIGHT MAIN LANES	1
5072+70.46	5073+05.46	LEFT MAIN LANES	1
5076+92.10	5077+27.10	RIGHT MAIN LANES	1
5075+02.53	5075+37.53	LEFT MAIN LANES	1
5252+93.92	5253+28.92	RIGHT MAIN LANES	1
5252+93.92	5253+28.92	LEFT MAIN LANES	1
TOTAL			6

REMOVAL AND DISPOSAL OF UNDERDRAIN COVER

STATION	STATION	LOCATION	LIN. FT.
5040+50.00	5055+02.00	RT. OF RIGHT MAIN LANES	1452
5055+02.00	5067+30.90	LT. OF RIGHT MAIN LANES	1229
5067+30.90	5069+66.00	LT. OF RIGHT MAIN LANES	235
5069+66.00	5074+76.05	RT. OF RIGHT MAIN LANES	510
5077+53.11	5093+92.10	RT. OF RIGHT MAIN LANES	1639
5092+31.40	5153+10.10	RT. OF RIGHT MAIN LANES	6079
5153+10.10	5186+90.60	LT. OF RIGHT MAIN LANES	3381
5186+78.50	5187+53.50	LT. OF RIGHT MAIN LANES	75
5187+53.50	5230+61.50	RT. OF RIGHT MAIN LANES	4308
5230+61.50	5244+33.40	RT. OF RIGHT MAIN LANES	1372
5244+33.40	5252+93.92	RT. OF RIGHT MAIN LANES	861
5040+50.00	5052+25.25	LT. OF LEFT MAIN LANES	1175
5052+25.25	5060+85.60	RT. OF LEFT MAIN LANES	860
5060+85.60	5070+52.30	RT. OF LEFT MAIN LANES	967
5070+78.00	5071+98.35	RT. OF LEFT MAIN LANES	120
5071+98.35	5072+80.46	LT. OF LEFT MAIN LANES	82
5075+37.53	5090+16.80	LT. OF LEFT MAIN LANES	1479
5089+45.10	5186+66.40	LT. OF LEFT MAIN LANES	9721
5186+78.50	5230+85.50	LT. OF LEFT MAIN LANES	4407
5230+85.50	5235+21.30	LT. OF LEFT MAIN LANES	436
5235+21.30	5235+94.30	RT. OF LEFT MAIN LANES	73
5226+81.80	5250+86.00	RT. OF LEFT MAIN LANES	2404
5250+72.90	5251+72.90	RT. OF LEFT MAIN LANES	100
5251+72.90	5252+93.92	LT. OF LEFT MAIN LANES	121
TOTAL			43086

REMOVAL & DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS

STATION	STATION	LOCATION	EACH
5040+50.00	5055+02.00	RT. OF RIGHT MAIN LANES	5
5055+02.00	5067+30.90	LT. OF LEFT MAIN LANES	4
5067+30.90	5069+66.00	LT. OF LEFT MAIN LANES	1
5069+66.00	5074+76.05	RT. OF RIGHT MAIN LANES	2
5077+53.11	5093+92.10	RT. OF RIGHT MAIN LANES	5
5092+31.40	5153+10.10	RT. OF RIGHT MAIN LANES	20
5153+10.10	5186+90.60	LT. OF LEFT MAIN LANES	11
5186+78.50	5187+53.50	LT. OF LEFT MAIN LANES	1
5187+53.50	5230+61.50	RT. OF RIGHT MAIN LANES	14
5230+61.50	5244+33.40	RT. OF RIGHT MAIN LANES	5
5244+33.40	5252+93.92	RT. OF RIGHT MAIN LANES	3
5040+50.00	5052+25.25	LT. OF LEFT MAIN LANES	4
5052+25.25	5060+85.60	RT. OF LEFT MAIN LANES	3
5060+85.60	5070+52.30	RT. OF LEFT MAIN LANES	3
5070+78.00	5071+98.35	RT. OF LEFT MAIN LANES	1
5071+98.35	5072+80.46	LT. OF LEFT MAIN LANES	1
5075+37.53	5090+16.80	LT. OF LEFT MAIN LANES	5
5089+45.10	5186+66.40	LT. OF LEFT MAIN LANES	32
5186+78.50	5230+85.50	LT. OF LEFT MAIN LANES	15
5230+85.50	5235+21.30	LT. OF LEFT MAIN LANES	1
5235+21.30	5235+94.30	LT. OF LEFT MAIN LANES	1
5226+81.80	5250+86.00	RT. OF LEFT MAIN LANES	8
5250+72.90	5251+72.90	RT. OF LEFT MAIN LANES	1
5251+72.90	5252+93.92	LT. OF LEFT MAIN LANES	1
TOTAL			147

REMOVAL & DISPOSAL OF IMPACT ATTENUATION BARRIER

STATION	LOCATION	EACH
5233+55.0	MEDIAN	1
5233+90.0	MEDIAN	1
TOTAL		2

QUANTITIES

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12

EARTHWORK

STATION	STATION	LOCATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
5006+00.0	5016+00.0	MEDIAN - CONSTRUCT TEMPORARY CROSSOVER	567	1334
5265+00.0	5274+29.0	MEDIAN - CONSTRUCT TEMPORARY CROSSOVER	562	1318
5220+10.3	5224+22.3	MEDIAN - CONSTRUCT TEMPORARY RAMP 1A	29	881
5228+46.7	5231+96.9	MEDIAN - CONSTRUCT TEMPORARY RAMP 1B	38	790
5232+66.9	5235+82.7	MEDIAN - CONSTRUCT TEMPORARY RAMP 1C	71	423
5239+39.3	5242+52.1	MEDIAN - CONSTRUCT TEMPORARY RAMP 2C	91	415
5243+19.7	5246+92.4	MEDIAN - CONSTRUCT TEMPORARY RAMP 2A WITH ACCELERATION LANE	38	952
5245+66.6	5252+92.4	MEDIAN - CONSTRUCT TEMPORARY RAMP 2B WITH ACCELERATION LANE & TAPER	115	1011
5241+13.0	5244+78.9	MEDIAN - CONSTRUCT TEMPORARY RAMP 3C	82	563
5245+35.7	5247+57.4	MEDIAN - CONSTRUCT TEMPORARY RAMP 3A	25	137
5248+82.4	5251+18.5	MEDIAN - CONSTRUCT TEMPORARY RAMP 3B	26	493
5215+08.5	5227+46.0	MEDIAN - CONSTRUCT TEMPORARY RAMP 4A WITH ACCELERATION LANE & TAPER	201	1742
5225+97.6	5231+97.1	MEDIAN - CONSTRUCT TEMPORARY RAMP 4B WITH ACCELERATION LANE	83	1235
5232+50.2	5235+00.0	MEDIAN - CONSTRUCT TEMPORARY RAMP 4C	68	312
5006+00.0	5016+00.0	MEDIAN - REMOVAL TEMPORARY CROSSOVER	2200	
5265+00.0	5274+29.0	MEDIAN - REMOVAL TEMPORARY CROSSOVER	2210	
5220+10.3	5224+22.3	MEDIAN - REMOVAL TEMPORARY RAMP 1A	1453	
5228+46.7	5231+96.9	MEDIAN - REMOVAL TEMPORARY RAMP 1B	1304	
5232+66.9	5235+82.7	MEDIAN - REMOVAL TEMPORARY RAMP 1C	698	
5239+39.3	5242+52.1	MEDIAN - REMOVAL TEMPORARY RAMP 2C	684	
5243+19.7	5246+92.4	MEDIAN - REMOVAL TEMPORARY RAMP 2A WITH ACCELERATION LANE	1571	
5245+66.6	5252+92.4	MEDIAN - REMOVAL TEMPORARY RAMP 2B WITH ACCELERATION LANE & TAPER	1668	
5241+13.0	5244+78.9	MEDIAN - REMOVAL TEMPORARY RAMP 3C	928	
5245+35.7	5247+57.4	MEDIAN - REMOVAL TEMPORARY RAMP 3A	226	
5248+82.4	5251+18.5	MEDIAN - REMOVAL TEMPORARY RAMP 3B	813	
5215+08.5	5227+46.0	MEDIAN - REMOVAL TEMPORARY RAMP 4A WITH ACCELERATION LANE & TAPER	2874	
5225+97.6	5231+97.1	MEDIAN - REMOVAL TEMPORARY RAMP 4B WITH ACCELERATION LANE	2037	
5232+50.2	5235+00.0	MEDIAN - REMOVAL TEMPORARY RAMP 4C	514	
ENTIRE	PROJECT	ADD'L. FOR GUARDRAIL - LT. & RT. MAIN LANES		4800
TOTALS			21176	16406

NOTE: QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD. SPECIFICATIONS. THESE QUANTITIES WILL BE PAID FOR AS PLAN QUANTITY.

4" PIPE UNDERDRAINS

STATION	STATION	LOCATION	4" PIPE UNDERDRAINS EDGE DRAINS	LATERALS (NON-PERFORATED)		TOTAL	UNDERDRAIN OUTLET PROTECTORS	UNDERDRAIN VIDEO INSPECTION
			LIN. FT.	NO.	LIN. FT.		EACH	LIN. FT.
5040+50.00	5054+49.59	RT. OF RIGHT MAIN LANES	1400	6	270	1670	6	1670
5054+49.59	5067+30.90	LT. OF RIGHT MAIN LANES	1281	5	225	1506	5	1506
5067+30.90	5070+18.41	LT. OF RIGHT MAIN LANES	288	1	45	333	1	333
5070+18.41	5074+74.55	RT. OF RIGHT MAIN LANES	456	2	90	546	2	546
5077+54.61	5093+92.10	RT. OF RIGHT MAIN LANES	1637	7	315	1952	7	1952
5092+31.40	5152+97.60	RT. OF RIGHT MAIN LANES	6066	24	1080	7146	24	7146
5152+97.60	5186+90.60	LT. OF RIGHT MAIN LANES	3393	14	630	4023	14	4023
5186+78.50	5187+66.00	LT. OF RIGHT MAIN LANES	88	1	45	133	1	133
5187+66.00	5230+61.50	RT. OF RIGHT MAIN LANES	4296	17	765	5061	17	5061
5230+61.50	5235+94.30	RT. OF RIGHT MAIN LANES	533	2	90	623	2	623
5226+81.80	5244+33.40	RT. OF RIGHT MAIN LANES	1752	7	315	2067	7	2067
5244+33.40	5250+59.80	RT. OF RIGHT MAIN LANES	626	3	135	761	3	761
5250+72.90	5252+92.42	RT. OF RIGHT MAIN LANES	220	1	45	265	1	265
5040+50.00	5052+25.25	LT. OF LEFT MAIN LANES	1175	5	225	1400	5	1400
5052+25.25	5060+85.60	RT. OF LEFT MAIN LANES	860	3	135	995	3	995
5060+85.60	5070+52.30	RT. OF LEFT MAIN LANES	967	4	180	1147	4	1147
5070+78.00	5071+98.35	RT. OF LEFT MAIN LANES	120	1	45	165	1	165
5071+98.35	5072+68.96	LT. OF LEFT MAIN LANES	71	1	45	116	1	116
5075+39.03	5090+16.80	LT. OF LEFT MAIN LANES	1478	6	270	1748	6	1748
5089+45.10	5186+66.40	LT. OF LEFT MAIN LANES	9721	39	1755	11476	39	11476
5186+78.50	5230+85.50	LT. OF LEFT MAIN LANES	4407	18	810	5217	18	5217
5230+85.50	5235+21.30	LT. OF LEFT MAIN LANES	436	2	90	526	2	526
5235+21.30	5235+94.30	RT. OF LEFT MAIN LANES	73	1	45	118	1	118
5226+81.80	5250+86.00	RT. OF LEFT MAIN LANES	2404	10	450	2854	10	2854
5250+72.90	5251+72.90	RT. OF LEFT MAIN LANES	100	0	0	100	0	100
5251+72.90	5252+92.42	LT. OF LEFT MAIN LANES	120	1	45	165	1	165
TOTALS			43968	181	8145	52113	181	52113

EROSION CONTROL

STATION	STATION	LOCATION	LIME	SEEDING	MULCH COVER	WATER	SECOND SEEDING APPLICATION
			TON	ACRE		M. GAL.	ACRE
REMOVAL OF TEMPORARY RAMPS & CROSSOVERS			14.00	7.00	7.00	714.0	7.00
* ENTIRE PROJECT - WHERE DIRECTED BY THE ENGINEER.			26.50	13.25	13.25	1351.5	13.25
TOTALS			40.50	20.25	20.25	2065.5	20.25

BASIS OF ESTIMATE:
LIME ....2 TONS / ACRE OF SEEDING
WATER..102.0 M.G. / ACRE OF SEEDING.

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

TEMPORARY CULVERT

STATION	LOCATION	12"	24"
		LIN. FT.	
5010+71	MEDIAN - TEMPORARY CROSSOVER	360	
5222+87	MEDIAN - TEMPORARY RAMP 1A	250	
5226+05	MEDIAN - TEMPORARY RAMP 4A	250	
5243+92	MEDIAN - TEMPORARY RAMP 2A	225	
5246+40	MEDIAN - TEMPORARY RAMP 2B&3A	200	
5249+91	MEDIAN - TEMPORARY RAMP 3B	180	
5269+63	MEDIAN - TEMPORARY CROSSOVER	360	
5241+00	RAMP 2 HWY. 84/171 INTERCHANGE		4
TOTALS		1825	4

UNDERDRAIN COVER

STATION	STATION	LOCATION	LIN. FT.
5040+50.00	5054+49.59	RT. OF RIGHT MAIN LANES	1400
5054+49.59	5067+30.90	LT. OF RIGHT MAIN LANES	1281
5067+30.90	5070+18.41	LT. OF RIGHT MAIN LANES	288
5070+18.41	5074+74.55	RT. OF RIGHT MAIN LANES	456
5077+54.61	5093+92.10	RT. OF RIGHT MAIN LANES	1637
5092+31.40	5152+97.60	RT. OF RIGHT MAIN LANES	6066
5152+97.60	5186+90.60	LT. OF RIGHT MAIN LANES	3393
5186+78.50	5187+66.00	LT. OF RIGHT MAIN LANES	88
5187+66.00	5230+61.50	RT. OF RIGHT MAIN LANES	4296
5230+61.50	5235+94.30	RT. OF RIGHT MAIN LANES	533
5226+81.80	5244+33.40	RT. OF RIGHT MAIN LANES	1752
5244+33.40	5250+59.80	RT. OF RIGHT MAIN LANES	626
5250+72.90	5252+92.42	RT. OF RIGHT MAIN LANES	220
5040+50.00	5052+25.25	LT. OF LEFT MAIN LANES	1175
5052+25.25	5060+85.60	RT. OF LEFT MAIN LANES	860
5060+85.60	5070+52.30	RT. OF LEFT MAIN LANES	967
5070+78.00	5071+98.35	RT. OF LEFT MAIN LANES	120
5071+98.35	5072+68.96	LT. OF LEFT MAIN LANES	71
5075+39.03	5090+16.80	LT. OF LEFT MAIN LANES	1478
5089+45.10	5186+66.40	LT. OF LEFT MAIN LANES	9721
5186+78.50	5230+85.50	LT. OF LEFT MAIN LANES	4407
5230+85.50	5235+21.30	LT. OF LEFT MAIN LANES	436
5235+21.30	5235+94.30	RT. OF LEFT MAIN LANES	73
5226+81.80	5250+86.00	RT. OF LEFT MAIN LANES	2404
5250+72.90	5251+72.90	RT. OF LEFT MAIN LANES	100
5251+72.90	5252+92.42	LT. OF LEFT MAIN LANES	120
TOTAL			43968

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	SILT FENCE (E-11)	DROP INLET SILT FENCE (E-7)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
			ACRE		M. GAL.	BAG	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
TEMPORARY RAMPS & CROSSOVERS			3.50	3.50	71.4						
*ENTIRE PROJECT - WHERE DIRECTED BY THE ENGINEER			13.25	13.25	270.3	1320	500	780	100	100	200
TOTALS			16.75	16.75	341.7	1320	500	780	100	100	200

BASIS OF ESTIMATE:
WATER..20.4 M.G. / ACRE OF TEMPORARY SEEDING.
SAND BAG DITCH CHECKS..................22 BAGS PER LOCATION

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

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	68	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12

REMOVAL OF EXISTING ASPHALT OVERLAY

STATION	STATION	LOCATION	APPROXIMATE AVG. DEPTH	LENGTH	WIDTH	
			INCHES	LIN. FT.	FEET	SQ. YD.
5040+50.00	5044+76.90	RIGHT MAIN LANES & DECELERATION LANE	10.0	426.90	40	1897
5044+76.90	5045+75.00	RIGHT MAIN LANES & DECELERATION LANE	8.0	98.10	26	283
5045+75.00	5067+30.90	RIGHT MAIN LANES	5.5	2155.90	28	6707
5067+30.90	5070+76.05	RIGHT MAIN LANES & ACCELERATION LANE	5.5	345.15	40	1534
5070+76.05	5071+80.90	RIGHT MAIN LANES & ACCELERATION LANE	5.0	104.85	40	466
5071+80.90	5073+68.50	RIGHT MAIN LANES & TAPER	3.0	187.60	34	709
5073+68.50	5074+76.05	RIGHT MAIN LANES	1.0	107.55	28	335
5077+53.11	5081+53.11	RIGHT MAIN LANES	5.5	400.00	28	1244
5081+53.11	5093+92.10	RIGHT MAIN LANES	5.5	1238.99	28	3855
5092+31.40	5183+00.00	RIGHT MAIN LANES	5.5	9068.60	28	28213
5188+00.00	5194+00.00	RIGHT MAIN LANES	5.5	600.00	28	1867
5199+00.00	5226+04.80	RIGHT MAIN LANES	5.5	2704.80	28	8415
5226+04.80	5230+61.50	RIGHT MAIN LANES	5.5	456.70	26	1319
5230+61.50	5235+94.30	RIGHT MAIN LANES	5.5	532.80	28	1658
5226+81.80	5236+50.00	RIGHT MAIN LANES	5.5	968.20	28	3012
5236+50.00	5242+00.00	RIGHT MAIN LANES	3.0	550.00	28	1711
5044+76.90	5045+75.00	EASTBOUND TURNOUT - SOCIAL HILL REST AREA	5.5		VAR.	210
5226+04.80	5230+97.50	RAMP 1 TURNOUT - HWY. 84/171 INTERCHANGE	5.5		VAR.	865
5040+50.00	5046+11.80	LEFT MAIN LANES & ACCELERATION LANE	9.0	561.80	40	2497
5046+11.80	5060+85.60	LEFT MAIN LANES	5.5	1473.80	28	4585
5060+85.60	5065+55.20	LEFT MAIN LANES	5.5	469.60	26	1357
5065+55.20	5068+44.76	LEFT MAIN LANES	5.5	289.56	28	901
5068+44.76	5070+52.30	LEFT MAIN LANES	4.0	207.54	28	646
5070+78.00	5072+70.46	LEFT MAIN LANES	1.5	192.46	28	599
5075+37.53	5079+37.53	LEFT MAIN LANES	3.0	400.00	28	1244
5079+37.53	5090+16.80	LEFT MAIN LANES	5.5	1079.27	28	3358
5089+45.10	5183+00.00	LEFT MAIN LANES	5.5	9354.90	28	29104
5188+00.00	5194+00.00	LEFT MAIN LANES	5.5	600.00	28	1867
5199+00.00	5220+37.00	LEFT MAIN LANES	5.5	2137.00	28	6648
5220+37.00	5223+37.00	LEFT MAIN LANES & TAPER	5.5	300.00	34	1133
5223+37.00	5230+85.50	LEFT MAIN LANES	5.5	748.50	40	3327
5230+85.50	5235+94.30	LEFT MAIN LANES	5.5	508.80	28	1583
5226+81.80	5239+50.00	LEFT MAIN LANES	5.5	1268.20	28	3946
5239+50.00	5245+00.00	LEFT MAIN LANES	3.0	550.00	28	1711
5060+85.60	5065+55.20	WESTBOUND TURNOUT - SOCIAL HILL REST AREA	5.5		VAR.	872
TOTAL						129678

*NOTE: THE APPROXIMATE AVERAGE DEPTH OF EXISTING ASPHALT PAVEMENT TABULATED ABOVE ARE TYPICAL FOR THE LIMITS SHOWN. THIS DATA IS SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE APPROXIMATE AVERAGE DEPTH OF EXISTING ASPHALT PAVEMENT AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH		
5072+34.80	5075+03.55	RT. OF RIGHT MAIN LANES	200	1	1	
5071+84.80	5075+03.55	LT. OF RIGHT MAIN LANES	250	1	1	
5069+04.21	5072+97.96	RT. OF LEFT MAIN LANES	375		1	1
5069+04.21	5072+97.96	LT. OF LEFT MAIN LANES	375		1	1
5077+25.61	5080+19.36	RT. OF RIGHT MAIN LANES	275		1	1
5077+25.61	5080+94.36	LT. OF RIGHT MAIN LANES	350		1	1
5075+10.03	5078+28.78	RT. OF LEFT MAIN LANES	250	1	1	
5075+10.03	5077+78.78	LT. OF LEFT MAIN LANES	200	1	1	
5094+60.00	5104+10.00	RT. OF RIGHT MAIN LANES	900	1		1
5097+35.00	5104+10.00	LT. OF LEFT MAIN LANES	625	1		1
5141+70.00	5143+95.00	RT. OF RIGHT MAIN LANES	175	1		1
5142+95.00	5145+20.00	LT. OF LEFT MAIN LANES	175	1		1
5175+20.00	5177+45.00	LT. OF LEFT MAIN LANES	175	1		1
5229+95.00	5231+70.00	LT. OF LEFT MAIN LANES	125	1		1
5231+06.25	5233+75.00	RT. OF RIGHT MAIN LANES	200	1	1	
5233+65.00	5236+33.75	LT. OF LEFT MAIN LANES	200	1	1	
5250+50.17	5253+18.82	RT. OF RIGHT MAIN LANES	200	1	1	
5250+00.17	5253+18.82	LT. OF RIGHT MAIN LANES	250	1	1	
5236+34.00	5238+59.00	LT. OF RAMP 1 - HWY. 84/171 INTERCHANGE	175	1		1
5239+69.00	5241+94.00	RT. OF RAMP 1 - HWY. 84/171 INTERCHANGE	175	1		1
5229+89.00	5235+14.00	LT. OF RIGHT MAIN LANES	475	1		1
5232+36.00	5237+61.00	RT. OF LEFT MAIN LANES	475	1		1
TOTALS			6600	18	12	14

CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)

STATION	STATION	LOCATION	LIN. FT.
5233+75.0	5234+06.0	RT. OF RIGHT MAIN LANES	31
5233+34.0	5233+65.0	LT. OF LEFT MAIN LANES	31
5233+61.3	5233+82.3	MEDIAN	42
TOTAL			104

IMPACT ATTENUATION BARRIER (TYPE A)

STATION	LOCATION	EACH
5233+55.0	MEDIAN	1
5233+90.0	MEDIAN	1
TOTAL		2

APPROACH SLABS AND GUTTERS

STATION	STATION	LOCATION	APPROACH SLAB	APPROACH GUTTERS TYPE 'AT'	APPROACH GUTTERS TYPE 'PT'	REINFORCING STEEL - RDWY. (GRADE 60)	AGGREGATE BASE CRSE. (CLASS 7)	12" ZINC COATED (GALVANIZED) CORR. STEEL PIPE CULV'T. (16 GAUGE)	DROP INLET (TYPE N2)	CONCRETE SPILLWAY (TYPE A)
			CU. YD.			LBS.	TON	LIN. FT.	EACH	EACH
5074+74.55	5075+11.05	RIGHT MAIN LANES	49.15	30.84		8220.00	46			
5077+18.11	5077+54.61	RIGHT MAIN LANES	49.15	30.84		8220.00	46	78	1	1
5255+92.42	5253+28.92	RIGHT MAIN LANES	49.15		33.41	8667.00	46			
5072+68.96	5073+05.46	LEFT MAIN LANES	49.15	30.84		8220.00	46			
5075+02.53	5075+39.03	LEFT MAIN LANES	49.15	30.84		8220.00	46	78	1	1
5255+92.42	5253+28.92	LEFT MAIN LANES	49.15		33.41	8667.00	46			
TOTALS			294.90	123.36	66.82	50214.00	276	156	2	2

SCARIFYING CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH	WIDTH	SQ. YD.
			FEET		
5048+31.3	5048+76.2	WESTBOUND ENTRANCE RAMP - SOCIAL HILL REST AREA	44.9	16	80
5056+74.6	5057+50.1	WESTBOUND EXIT RAMP - SOCIAL HILL REST AREA	75.5	15	126
5047+62.2	5048+00.0	EASTBOUND EXIT RAMP - SOCIAL HILL REST AREA	37.8	15	63
5063+39.1	5064+05.8	EASTBOUND ENTRANCE RAMP - SOCIAL HILL REST AREA	66.7	15	111
5235+97.5	5236+97.5	HWY. 84 & 171 INTERCHANGE - RAMP 1	100.0	15	167
5238+00.4	5239+00.4	HWY. 84 & 171 INTERCHANGE - RAMP 2	100.0	15	167
5240+00.0	5241+00.0	HWY. 84 & 171 INTERCHANGE - RAMP 3	100.0	15	167
5235+85.5	5236+85.5	HWY. 84 & 171 INTERCHANGE - RAMP 4	100.0	15	167
TOTAL					1048

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
04-20-12				6	ARK.			
				JOB NO.		061186	69	126

2 QUANTITIES

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

4-23-12

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	LIN. FT.
5040+50.00	5074+74.55	RT. SHOULDER - RIGHT MAIN LANES	3425
5077+54.61	5093+92.10	RT. SHOULDER - RIGHT MAIN LANES	1637
5092+31.40	5186+90.60	RT. SHOULDER - RIGHT MAIN LANES	9459
5186+78.50	5230+61.50	RT. SHOULDER - RIGHT MAIN LANES	4383
5230+61.50	5235+94.30	RT. SHOULDER - RIGHT MAIN LANES	533
5226+81.80	5245+33.40	RT. SHOULDER - RIGHT MAIN LANES	1852
5245+33.40	5250+59.80	RT. SHOULDER - RIGHT MAIN LANES	526
5250+72.90	5252+92.42	RT. SHOULDER - RIGHT MAIN LANES	220
5040+50.00	5045+75.00	LT. SHOULDER - RIGHT MAIN LANES	525
5045+75.00	5067+30.90	LT. SHOULDER - RIGHT MAIN LANES	2156
5067+30.90	5074+74.55	LT. SHOULDER - RIGHT MAIN LANES	744
5077+54.61	5093+92.10	LT. SHOULDER - RIGHT MAIN LANES	1637
5092+31.40	5186+90.60	LT. SHOULDER - RIGHT MAIN LANES	9459
5186+78.50	5235+94.30	LT. SHOULDER - RIGHT MAIN LANES	4916
5226+81.80	5250+59.80	LT. SHOULDER - RIGHT MAIN LANES	2378
5250+72.90	5252+92.42	LT. SHOULDER - RIGHT MAIN LANES	220
5040+50.00	5070+52.30	LT. SHOULDER - LEFT MAIN LANES	3002
5070+78.00	5072+68.96	LT. SHOULDER - LEFT MAIN LANES	191
5075+39.03	5090+16.80	LT. SHOULDER - LEFT MAIN LANES	1478
5089+45.10	5186+66.40	LT. SHOULDER - LEFT MAIN LANES	9721
5186+78.50	5230+85.50	LT. SHOULDER - LEFT MAIN LANES	4407
5230+85.50	5235+94.30	LT. SHOULDER - LEFT MAIN LANES	509
5226+81.80	5246+23.60	LT. SHOULDER - LEFT MAIN LANES	1942
5246+23.60	5250+86.00	LT. SHOULDER - LEFT MAIN LANES	462
5250+72.90	5252+92.42	LT. SHOULDER - LEFT MAIN LANES	220
5040+50.00	5046+11.80	RT. SHOULDER - LEFT MAIN LANES	562
5046+11.80	5060+85.60	RT. SHOULDER - LEFT MAIN LANES	1474
5060+85.60	5070+52.30	RT. SHOULDER - LEFT MAIN LANES	967
5070+78.00	5072+68.96	RT. SHOULDER - LEFT MAIN LANES	191
5075+39.03	5090+16.80	RT. SHOULDER - LEFT MAIN LANES	1478
5089+45.10	5186+66.40	RT. SHOULDER - LEFT MAIN LANES	9721
5186+78.50	5235+94.30	RT. SHOULDER - LEFT MAIN LANES	4916
5226+81.80	5250+86.00	RT. SHOULDER - LEFT MAIN LANES	2404
5250+72.90	5252+92.42	RT. SHOULDER - LEFT MAIN LANES	220
TOTAL			87935

ACHM PATCHING OF EXISTING SHOULDERS

LOCATION	TON
ENTIRE PROJECT - AS DIRECTED BY THE ENGINEER	1000
TOTAL	1000

NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SOIL STABILIZATION

LOCATION	TON
ENTIRE PROJECT - AS DIRECTED BY THE ENGINEER	200
TOTAL	200

NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

DROP INLETS MODIFYING OR ADJUSTED TO GRADE

STATION	LOCATION	MODIFYING DROP INLETS	DROP INLETS ADJUSTED TO GRADE	SOLID SODDING	WATER
		EACH	EACH	SQ. YD.	M. GAL
5059+77	RT. OF LEFT MAIN LANES - GORE		1	6.0	0.08
5060+54	RT. OF LEFT MAIN LANES - GORE		1	6.0	0.08
5160+00	MEDIAN	1		6.0	0.08
5169+00	MEDIAN	1		6.0	0.08
5175+67	MEDIAN	1		6.0	0.08
5182+50	MEDIAN		1	6.0	0.08
5236+82	MEDIAN		1	6.0	0.08
5230+30	MEDIAN		1	6.0	0.08
5237+00	MEDIAN	1		6.0	0.08
5243+00	MEDIAN		1	6.0	0.08
TOTALS		4	6	60	0.80

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

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	WIDTH	CONCRETE DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			FEET	FEET	SQ.YD.		M.GAL.
4998+75.00	5025+67.80	RT. OF CL I-30	2693	4	1197	1197	15.1
5086+00.00	5090+16.80	LT. OF CL I-30	417	4	185	185	2.3
5089+45.10	5186+66.40	LT. OF CL I-30	9721	4	4320	4320	54.4
5186+78.50	5235+94.30	LT. OF CL I-30	4916	4	2185	2185	27.5
5226+81.80	5232+85.60	LT. OF CL I-30	604	4	268	268	3.4
5234+64.10	5250+86.00	LT. OF CL I-30	1622	4	721	721	9.1
5250+72.90	5253+28.92	LT. OF CL I-30	256	4	114	114	1.4
5263+21.10	5301+50.00	LT. OF CL I-30	3829	4	1702	1702	21.4
TOTALS					10692	10692	134.6

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

CLEANING AND FILLING JOINTS IN EXISTING CONCRETE PAVEMENT (TYPE 7)

STATION	STATION	LOCATION	TRANSVERSE JOINTS NUMBER	TRANSVERSE JOINTS LENGTH	TOTAL LENGTH
				LIN. FT.	LIN. FT.
5045+73.0	5048+00.0	EASTBOUND EXIT RAMP - REST AREA	15	15	225
5063+39.1	5067+39.1	EASTBOUND ENTRANCE RAMP - REST AREA	27	15	405
5056+74.6	5061+27.3	WESTBOUND EXIT RAMP - REST AREA	30	15	450
5046+07.0	5048+76.2	WESTBOUND ENTRANCE RAMP - REST AREA	18	15	270
5230+97.5	5236+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE	40	15	600
5238+00.4	5244+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE	40	15	600
5240+00.0	5246+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE	40	15	600
5230+85.5	5236+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE	40	15	600
TOTAL					3750

PORTLAND CEMENT CONCRETE PAVEMENT PATCHING

LOCATION	REMOVAL & DISPOSAL OF CONC. PAVM'T. FOR PATCHING	*PORT CEM. CONC. PAVM'T. PATCHING (8" U.T.)	PORT. CEM. CONC. PAVM'T. PATCHING (10" U.T.)
	SQ. YD.		
ENTIRE PROJECT - WHERE DIRECTED BY THE ENGINEER (RAMPS)	206	206	
ENTIRE PROJECT - WHERE DIRECTED BY THE ENGINEER (MAIN LANES)	86		86
TOTALS	292	206	86

NOTE: QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS. PORTLAND CEMENT CONCRETE PAVEMENT PATCHING SHALL BE DONE AT LOCATIONS DESIGNATED BY THE ENGINEER.
* USE VERY EARLY STRENGTH CONCRETE FOR PATCHING RAMPS IN ACCORDANCE WITH SPECIAL PROVISION - VERY EARLY STRENGTH CONCRETE.

WIRE ROPE SAFETY FENCE

STATION	STATION	LOCATION	WIRE ROPE SAFETY FENCE	WRSF ANCHOR*	WRSF MAINTENANCE MATERIALS
			LIN. FT.	EACH	LUMP SUM
4998+75.00	5025+67.80	RT. OF CL I-30	2692.80	2	
5086+00.00	5090+16.80	LT. OF CL I-30	416.80	2	
5089+45.10	5186+66.40	LT. OF CL I-30	9721.30		
5186+78.50	5235+94.30	LT. OF CL I-30	4915.80		
5226+81.80	5232+85.60	LT. OF CL I-30	603.80	2	
5234+64.10	5250+86.00	LT. OF CL I-30	1621.90		
5250+72.90	5253+28.92	LT. OF CL I-30	256.02		
5263+21.10	5301+50.00	LT. OF CL I-30	3828.90	2	
ENTIRE	JOB	LT. & RT. OF CL I-30			1.00
TOTALS			24057.32	8	1.00

* THIS ITEM SHOWN FOR INFORMATION ONLY

JOINT REHABILITATION

STATION	STATION	LOCATION	TYPE A NUMBER OF JOINTS	TYPE A LIN. FT.	TYPE A LINEAR FEET	TYPE B NUMBER OF JOINTS	TYPE B LIN. FT.	TYPE B LINEAR FEET	TYPE D LINEAR FEET
5236+97.5	5244+41.3	RAMP 1 - HWY. 84/171 INTERCHANGE	17	15	255	33	15	495	
5234+91.7	5238+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE	7	15	105	14	15	210	
5231+84.8	5240+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE	18	15	270	36	15	540	
5236+85.5	5242+06.2	RAMP 4 - HWY. 84/171 INTERCHANGE	12	15	180	23	15	345	
*ENTIRE PROJECT - WHERE DIRECTED BY THE ENGINEER									75
TOTALS					810			1590	75

*NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATION.

QUANTITIES

09-30-2011 r061186.dgn

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER MICHAEL D. FUGETT

3-6-12

RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH LIN. FT.	WIDTH FEET	SQ. YD.
5040+50.00	5044+76.90	RIGHT MAIN LANES & DECELERATION LANE	426.90	36	1708
5044+76.90	5045+75.00	RIGHT MAIN LANES & DECELERATION LANE	98.10	24	262
5045+75.00	5067+30.90	RIGHT MAIN LANES	2155.90	24	5749
5067+30.90	5071+80.90	RIGHT MAIN LANES & ACCELERATION LANE	450.00	36	1800
5071+80.90	5073+68.50	RIGHT MAIN LANES & TAPER	187.60	30	625
5073+68.50	5074+76.05	RIGHT MAIN LANES	107.55	24	287
5077+53.11	5093+92.10	RIGHT MAIN LANES	1638.99	24	4371
5092+31.40	5186+90.60	RIGHT MAIN LANES	9459.20	24	25225
5186+78.50	5235+94.30	RIGHT MAIN LANES	4915.80	24	13109
5226+81.80	5244+00.40	RIGHT MAIN LANES	1718.60	24	4583
5244+00.40	5249+00.40	RIGHT MAIN LANES & ACCELERATION LANE	500.00	36	2000
5249+00.40	5251+50.40	RIGHT MAIN LANES & TAPER	250.00	30	833
5251+50.40	5252+55.92	RIGHT MAIN LANES	105.52	24	281
5044+76.90	5045+75.00	EASTBOUND TURNOUT - SOCIAL HILL REST AREA		VAR.	210
5226+04.80	5230+97.50	RAMP 1 TURNOUT - HWY. 84/171 INTERCHANGE		VAR.	865
5040+50.00	5046+11.80	LEFT MAIN LANES & ACCELERATION LANE	561.80	36	2247
5046+11.80	5060+85.60	LEFT MAIN LANES	1473.80	24	3930
5060+85.60	5070+52.30	LEFT MAIN LANES	966.70	24	2578
5070+78.00	5072+70.46	LEFT MAIN LANES	192.46	24	513
5075+37.53	5090+16.80	LEFT MAIN LANES	1479.27	24	3945
5089+45.10	5186+66.40	LEFT MAIN LANES	9721.30	24	25923
5186+78.50	5220+37.00	LEFT MAIN LANES	3358.50	24	8956
5220+37.00	5223+37.00	LEFT MAIN LANES & TAPER	300.00	30	1000
5223+37.00	5230+85.50	LEFT MAIN LANES	748.50	36	2994
5230+85.50	5252+55.92	LEFT MAIN LANES	2170.42	24	5788
5060+85.60	5065+55.20	WESTBOUND TURNOUT - SOCIAL HILL REST AREA		VAR.	872
5246+00.00	5250+73.20	RAMP 3 TURNOUT - HWY. 84/171 INTERCHANGE		VAR.	814
TOTAL					121468

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON
ENTIRE PROJECT - AS DIRECTED BY THE ENGINEER	1000
TOTAL	1000

NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SHAPING DITCH

STATION	STATION	LOCATION	STATION
ENTIRE PROJECT - WHERE DIRECTED BY THE ENGINEER.			10
TOTAL			10

NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU. YD.	
ENTIRE PROJECT	25	25
TOTALS	25	25

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

MOBILE SPEED NOTIFICATION SYSTEM

LOCATION	EACH
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	2
TOTAL	2

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

WIRE FENCE (TYPE A)

LOG MILE	LOG MILE	LOCATION	REMOVAL AND DISPOSAL OF FENCE	WIRE FENCE (TYPE A)	16' VEHICULAR GATE
			LIN. FT.		EACH
92.00	92.72	RT. OF CL I-30	4147.90	4147.90	
92.75	93.50	RT. OF CL I-30	4454.70	4454.70	
93.54	93.94	RT. OF CL I-30	2357.10	2357.10	1
93.96	94.79	RT. OF CL I-30	4397.40	4397.40	
94.80	95.40	RT. OF CL I-30	3211.80	3211.80	
95.41	96.54	RT. OF CL I-30	6917.10	6917.10	
96.55	96.88	RT. OF CL I-30	1824.00	1824.00	
92.00	92.73	LT. OF CL I-30	3901.00	3901.00	
92.75	93.47	LT. OF CL I-30	4002.10	4002.10	1
93.51	94.00	LT. OF CL I-30	2842.90	2842.90	
94.01	94.32	LT. OF CL I-30	1852.30	1852.30	
94.32	94.79	LT. OF CL I-30	2538.10	2538.10	
94.80	95.40	LT. OF CL I-30	3151.40	3151.40	
95.41	96.47	LT. OF CL I-30	6577.00	6577.00	
96.51	96.88	LT. OF CL I-30	2073.60	2073.60	1
TOTALS			54248.40	54248.40	3

BOX CULVERT WINGWALL REPAIR

STATION	LOCATION	REMOVAL & DISPOSAL OF EXISTING WINGS	CLASS S CONCRETE - RDWY.	REINFORCING STEEL - RDWY. (GR 60)	SHEET PILES (PZ-40)	UNCLASSIFIED EXCAVATION	FILTER BLANKET	FOUNDATION PROTECTION RIPRAP
		EACH	CU. YD.	LBS.	LIN. FT.	CU. YD.	SQ. YD.	TON
5099+46	LT. & RT. OF MAIN LANES	4	38.60	1881	4540	99		
SUBTOTALS		4	38.60	1881	4540	99		
STRUCTURES OVER 20'-0" SPAN								
5098+00	LT. & RT. OF MAIN LANES	4	29.90	1482	4336	31	195	312
SUBTOTALS		4	29.90	1482	4336	31	195	312
TOTALS		8	68.50	3363	8876	130	195	312

STRUCTURES

STATION	LOCATION	DESCIPTION	24" REINF. CONC. PIPE CULV'T. (CL. III)	24" F.E.S. FOR R.C. PIPE CULV'T	SOLID SODDING	WATER	STANDARD DRAWING NUMBERS
			LIN. FT.	EACH	SQ. YD.	M. GAL.	
5241+00	RAMP 2 HWY. 84/171 INTERCHANGE	INSTALL 24" PIPE W/ F.E.S.	6	1	19	0.2	FES-1, FES-2, PCC-1
TOTALS			6	1	19	0.2	

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

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS. USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

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.		061186	71	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12

BASE AND SURFACING - MAIN LANE SHOULDER RECONSTRUCTION

STATION	STATION	LOCATION	LENGTH	TRENCHING & SHOULDER PREPARATION	ACHM BINDER COURSE (1") 880 LBS. PER SQ. YD.			ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD.			TACK COAT 0.03 GAL. PER SQ. YD.		
			LIN. FT.	STATION	AVG. WIDTH FEET	SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	GAL.
5015+76.70	5070+52.30	INSIDE SHOULDER - LEFT MAIN LANES	5475.60	54.76	4	2433.6	1071	4	2433.6	268	8	4867.2	146
5070+78.00	5072+70.46	INSIDE SHOULDER - LEFT MAIN LANES	192.46	1.92	4	85.5	38	4	85.5	9	8	171.0	5
5075+37.53	5079+37.53	INSIDE SHOULDER - LEFT MAIN LANES	400.00	4.00	4	177.8	78	4	177.8	20	8	355.6	11
5239+50.00	5250+86.00	INSIDE SHOULDER - LEFT MAIN LANES	1136.00	11.36	4	504.9	222	4	504.9	56	8	1009.8	30
5250+72.90	5265+05.30	INSIDE SHOULDER - LEFT MAIN LANES	1432.40	14.32	4	636.6	280	4	636.6	70	8	1273.2	38
5005+00.00	5070+52.30	OUTSIDE SHOULDER - LEFT MAIN LANES	6552.30	65.52	4	2912.1	1281	4	2912.1	320	8	5824.2	175
5070+78.00	5072+70.46	OUTSIDE SHOULDER - LEFT MAIN LANES	192.46	1.92	4	85.5	38	4	85.5	9	8	171.0	5
5075+37.53	5079+37.53	OUTSIDE SHOULDER - LEFT MAIN LANES	400.00	4.00	4	177.8	78	4	177.8	20	8	355.6	11
5239+50.00	5250+86.00	OUTSIDE SHOULDER - LEFT MAIN LANES	1136.00	11.36	4	504.9	222	4	504.9	56	8	1009.8	30
5250+72.90	5275+00.00	OUTSIDE SHOULDER - LEFT MAIN LANES	2427.10	24.27	4	1078.7	475	4	1078.7	119	8	2157.4	65
TOTALS				193.43		8597.4	3783		8597.4	947		17194.8	516

BASIS OF ESTIMATE: ACHM BINDER COURSE (1") - MIN. AGG. = 95.3%, ASPH. BINDER (PG76-22) = 4.7%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.8%, ASPH. BINDER (PG76-22) = 5.2%
Nmax = 205

BASE AND SURFACING - CROSSOVERS AND TEMPORARY RAMPS FOR MAINTENANCE OF TRAFFIC

STATION	STATION	LOCATION	ACHM BASE COURSE (1 1/2") SQ. YD.	LBS./SQ.YD.	TON	ACHM BINDER COURSE (1") SQ. YD.	LBS./SQ.YD.	TON	ACHM SURFACE COURSE (1/2") SQ. YD.	LBS./SQ.YD.	TON	TACK COAT SQ. YD.	GAL./SQ.YD.	GALLON
5006+00.0	5016+00.0	TEMPORARY CROSSOVER	3779.2	1100	2079	3232.5	330	533	2928.5	220	322	9940.2	0.03	298
5265+00.0	5274+29.0	TEMPORARY CROSSOVER	3593.9	1100	1977	3087.9	330	510	2804.9	220	309	9486.7	0.03	285
5220+10.3	5224+22.3	TEMPORARY RAMP 1A				984.8	660	325	850.1	220	94	1834.9	0.03	55
5228+46.7	5231+96.9	TEMPORARY RAMP 1B				793.8	660	262	687.8	220	76	1481.6	0.03	44
5232+66.9	5235+82.7	TEMPORARY RAMP 1C				652.3	660	215	561.4	220	62	1213.7	0.03	36
5239+39.3	5242+52.1	TEMPORARY RAMP 2C				528.9	660	175	450.4	220	50	979.3	0.03	29
5243+19.7	5246+92.4	TEMPORARY RAMP 2A WITH ACCELERATION LANE				1217.4	660	402	1083.5	220	119	2300.9	0.03	69
5245+66.6	5252+92.4	TEMPORARY RAMP 2B WITH ACCELERATION LANE & TAPER				1697.2	660	560	1510.2	220	166	3207.4	0.03	96
5241+13.0	5244+78.9	TEMPORARY RAMP 3C				709.8	660	234	611.0	220	67	1320.8	0.03	40
5245+35.7	5247+57.4	TEMPORARY RAMP 3A				716.6	660	236	621.2	220	68	1337.8	0.03	40
5248+82.4	5251+18.5	TEMPORARY RAMP 3B				756.2	660	250	654.4	220	72	1410.6	0.03	42
5215+08.5	5227+46.0	TEMPORARY RAMP 4A WITH ACCELERATION LANE & TAPER				2835.8	660	936	2540.4	220	279	5376.2	0.03	161
5225+97.6	5231+97.1	TEMPORARY RAMP 4B WITH ACCELERATION LANE				1770.6	660	584	1593.3	220	175	3363.9	0.03	101
5232+50.2	5235+00.0	TEMPORARY RAMP 4C				470.6	660	155	403.4	220	44	874.0	0.03	26
TOTALS			7373.1		4056	19454.4		5377	17300.5		1903	44128.0		1322

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

BASIS OF ESTIMATE: ACHM BASE COURSE (1 1/2") - MIN. AGG. = 95.5%, ASPH. BINDER (PG76-22) = 4.5%
ACHM BINDER COURSE (1") - MIN. AGG. = 95.3%, ASPH. BINDER (PG76-22) = 4.7%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.8%, ASPH. BINDER (PG76-22) = 5.2%
Nmax = 205

BASE AND SURFACING - RAMPS

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				TACK COAT 0.03 GAL. PER SQ. YD.		
			FEET	AVG. WIDTH FEET	SQ. YD.	LBS./SQ.YD.	TON	AVG. WIDTH FEET	SQ. YD.	LBS./SQ.YD.	TON	AVG. WIDTH FEET	SQ. YD.	LBS./SQ.YD	TON	AVG. WIDTH FEET	SQ. YD.	GALLON
5045+73.0	5046+10.8	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP	37.80	15.0	63.0	480	15	15.0	63.0	330	10	15.0	63.0	440	14	189.0	793.8	24
5046+10.8	5046+86.5	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP	75.70					15.0	126.2	440	28	15.0	126.2	440	28	252.4	2123.0	64
5046+86.5	5047+62.2	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP	75.70									15.0	126.2	440	28	126.2	1061.5	32
5047+62.2	5048+00.0	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP	37.80									15.0	63.0	220	7	63.0	264.6	8
5063+39.1	5064+05.8	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP	66.70									15.0	111.2	220	12	111.2	824.1	25
5064+05.8	5065+39.1	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP	133.30									15.0	222.2	440	49	222.2	3291.0	99
5065+39.1	5066+72.5	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP	133.40					15.0	222.3	440	49	15.0	222.3	440	49	444.6	6590.0	198
5066+72.5	5067+39.1	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP	66.60	15.0	111.0	480	27	15.0	111.0	330	18	15.0	111.0	440	24	333.0	2464.2	74
5046+07.0	5046+51.9	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP	44.90	15.0	74.8	480	18	15.0	74.8	330	12	15.0	74.8	440	16	224.4	1119.5	34
5046+51.9	5047+41.6	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP	89.70					16.0	159.5	440	35	16.0	159.5	440	35	319.0	3179.4	95
5047+41.6	5048+31.3	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP	89.70									16.0	159.5	440	35	159.5	1589.7	48
5048+31.3	5048+76.2	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP	44.90									16.0	79.8	220	9	79.8	398.1	12
5056+74.6	5057+50.1	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP	75.50									15.0	125.8	220	14	125.8	1055.3	32
5057+50.1	5059+01.0	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP	150.90									15.0	251.5	440	55	251.5	4216.8	127
5059+01.0	5060+51.9	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP	150.90					15.0	251.5	440	55	15.0	251.5	440	55	503.0	8433.6	253
5060+51.9	5061+27.3	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP	75.40	15.0	125.7	480	30	15.0	125.7	330	21	15.0	125.7	440	28	377.1	3159.3	95
5230+97.5	5231+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION	100.00	15.0	166.7	480	40	15.0	166.7	330	28	15.0	166.7	440	37	500.1	5556.7	167
5231+97.5	5233+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00					15.0	333.3	440	73	15.0	333.3	440	73	666.6	14813.3	444
5233+97.5	5235+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00									15.0	333.3	440	73	333.3	7406.7	222
5235+97.5	5236+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION	100.00									15.0	166.7	220	18	166.7	1852.2	56
5230+85.5	5231+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION	100.00	15.0	166.7	480	40	15.0	166.7	330	28	15.0	166.7	440	37	500.1	5556.7	167
5231+85.5	5233+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00					15.0	333.3	440	73	15.0	333.3	440	73	666.6	14813.3	444
5233+85.5	5235+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00									15.0	333.3	440	73	333.3	7406.7	222
5235+85.2	5236+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION	100.30									15.0	167.2	220	18	167.2	1863.4	56
5238+00.4	5239+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION	100.00									15.0	166.7	220	18	166.7	1852.2	56
5239+00.4	5241+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00									15.0	333.3	440	73	333.3	7406.7	222
5241+00.4	5243+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00					15.0	333.3	440	73	15.0	333.3	440	73	666.6	14813.3	444
5243+00.4	5244+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION	100.00	15.0	166.7	480	40	15.0	166.7	330	28	15.0	166.7	440	37	500.1	5556.7	167
5240+00.0	5241+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION	100.00									15.0	166.7	220	18	166.7	1852.2	56
5241+00.0	5243+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00									15.0	333.3	440	73	333.3	7406.7	222
5243+00.0	5245+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION	200.00					15.0	333.3	440	73	15.0	333.3	440	73	666.6	14813.3	444
5245+00.0	5246+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION	100.00	15.0	166.7	480	40	15.0	166.7	330	28	15.0	166.7	440	37	500.1	5556.7	167
TOTALS					1041.3		250		3134.0		632		6273.7		1262		159090.7	4776

BASIS OF ESTIMATE: ACHM BASE COURSE (1 1/2") - MIN. AGG. = 95.5%, ASPH. BINDER (PG76-22) = 4.5%
ACHM BINDER COURSE (1") - MIN. AGG. = 95.3%, ASPH. BINDER (PG76-22) = 4.7%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.8%, ASPH. BINDER (PG76-22) = 5.2%
Nmax = 205

09-30-2011 r061186.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	72	126

(2) QUANTITIES

BASE AND SURFACING - RAMP SHOULDERS

STATION	STATION	LOCATION	LENGTH FEET	ACHM BASE COURSE (1 1/2") AVG. WIDTH FEET	ACHM BASE COURSE (1 1/2") SQ. YD.	ACHM BASE COURSE (1 1/2") LBS./SQ.YD.	ACHM BASE COURSE (1 1/2") TON	ACHM BINDER COURSE (1") AVG. WIDTH FEET	ACHM BINDER COURSE (1") SQ. YD.	ACHM BINDER COURSE (1") LBS./SQ.YD.	ACHM BINDER COURSE (1") TON	ACHM SURFACE COURSE (1/2") AVG. WIDTH FEET	ACHM SURFACE COURSE (1/2") SQ. YD.	ACHM SURFACE COURSE (1/2") LBS./SQ.YD	ACHM SURFACE COURSE (1/2") TON	TACK COAT 0.10 GAL. PER SQ. YD. AVG. WIDTH FEET	TACK COAT 0.10 GAL. PER SQ. YD. SQ. YD.	TACK COAT 0.10 GAL. PER SQ. YD. GALLON	TACK COAT 0.03 GAL. PER SQ. YD. AVG. WIDTH FEET	TACK COAT 0.03 GAL. PER SQ. YD. SQ. YD.	TACK COAT 0.03 GAL. PER SQ. YD. GALLON	TACK COAT TOTAL GALLON	BORROW CU. YD.
5045+73.0	5046+10.8	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - RT. SHOULDER	37.80	6.0	25.2	440	6	6.0	25.2	330	4	6.0	25.2	440	6	6.0	25.2	3	18.0	75.6	2	5	6
5046+10.8	5046+86.5	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - RT. SHOULDER	75.70					6.0	50.5	440	11	6.0	50.5	440	11	6.0	50.5	5	12.0	100.9	3	8	12
5046+86.5	5047+62.2	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - RT. SHOULDER	75.70									6.0	50.5	440	11	6.0	50.5	5	6.0	50.5	2	7	12
5047+62.2	5048+00.0	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - RT. SHOULDER	37.80									6.0	25.2	220	3	6.0	25.2	3	6.0	25.2	1	4	6
5063+39.1	5064+05.8	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - RT. SHOULDER	66.70									6.0	44.5	220	5	6.0	44.5	4	6.0	44.5	1	5	11
5064+05.8	5065+39.1	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - RT. SHOULDER	133.30									6.0	88.9	440	20	6.0	88.9	9	6.0	88.9	3	12	21
5065+39.1	5066+72.5	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - RT. SHOULDER	133.40					6.0	88.9	440	20	6.0	88.9	440	20	6.0	88.9	9	12.0	177.9	5	14	21
5066+72.5	5067+39.1	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - RT. SHOULDER	66.60	6.0	44.4	440	10	6.0	44.4	330	7	6.0	44.4	440	10	6.0	44.4	4	18.0	133.2	4	8	11
5046+07.0	5046+51.9	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - RT. SHOULDER	44.90	4.0	20.0	519	5	4.0	20.0	330	3	4.0	20.0	440	4	4.0	20.0	2	12.0	59.9	2	4	7
5046+51.9	5047+41.6	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - RT. SHOULDER	89.70					4.0	39.9	440	9	4.0	39.9	440	9	4.0	39.9	4	8.0	79.7	2	6	14
5047+41.6	5048+31.3	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - RT. SHOULDER	89.70									4.0	39.9	440	9	4.0	39.9	4	4.0	39.9	1	5	14
5048+31.3	5048+76.2	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - RT. SHOULDER	44.90									4.0	20.0	220	2	4.0	20.0	2	4.0	20.0	1	3	7
5056+74.6	5057+50.1	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - RT. SHOULDER	75.50									4.0	33.6	220	4	4.0	33.6	3	4.0	33.6	1	4	12
5057+50.1	5059+01.0	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - RT. SHOULDER	150.90									4.0	67.1	440	15	4.0	67.1	7	4.0	67.1	2	9	24
5059+01.0	5060+51.9	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - RT. SHOULDER	150.90					4.0	67.1	440	15	4.0	67.1	440	15	4.0	67.1	7	8.0	134.1	4	11	24
5060+51.9	5061+27.3	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - RT. SHOULDER	75.40	4.0	33.5	519	9	4.0	33.5	330	6	4.0	33.5	440	7	4.0	33.5	3	12.0	100.5	3	6	12
5230+97.5	5231+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.00	6.0	66.7	440	15	6.0	66.7	330	11	6.0	66.7	440	15	6.0	66.7	7	18.0	200.0	6	13	16
5231+97.5	5233+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00					6.0	133.3	440	29	6.0	133.3	440	29	6.0	133.3	13	12.0	266.7	8	21	32
5233+97.5	5235+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00									6.0	133.3	440	29	6.0	133.3	13	6.0	133.3	4	17	32
5235+97.5	5236+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.00									6.0	66.7	220	7	6.0	66.7	7	6.0	66.7	2	9	16
5236+97.5	5244+41.3	RAMP 1 - HWY. 84/171 INTERCHANGE - RT. SHOULDER	743.80									6.0	495.9			6.0	495.9	50				50	
5230+85.5	5231+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.00	4.0	44.4	519	12	4.0	44.4	330	7	4.0	44.4	440	10	4.0	44.4	4	12.0	133.3	4	8	16
5231+85.5	5233+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00					4.0	88.9	440	20	4.0	88.9	440	20	4.0	88.9	9	8.0	177.8	5	14	32
5233+85.5	5235+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00									4.0	88.9	440	20	4.0	88.9	9	4.0	88.9	3	12	32
5235+85.2	5236+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.30									4.0	44.6	220	5	4.0	44.6	4	4.0	44.6	1	5	16
5236+85.5	5242+06.2	RAMP 4 - HWY. 84/171 INTERCHANGE - RT. SHOULDER	520.70									4.0	231.4			4.0	231.4	23				23	
5234+91.7	5238+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - RT. SHOULDER	308.70									6.0				6.0	205.8	21				21	
5238+00.4	5239+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.00									6.0	66.7	220	7	6.0	66.7	7	6.0	66.7	2	9	16
5239+00.4	5241+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00									6.0	133.3	440	29	6.0	133.3	13	6.0	133.3	4	17	32
5241+00.4	5243+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00					6.0	133.3	440	29	6.0	133.3	440	29	6.0	133.3	13	12.0	266.7	8	21	32
5243+00.4	5244+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.00	6.0	66.7	440	15	6.0	66.7	330	11	6.0	66.7	440	15	6.0	66.7	7	18.0	200.0	6	13	16
5231+84.8	5240+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - RT. SHOULDER	815.20									4.0				4.0	362.3	36				36	
5240+00.0	5241+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.00									4.0	44.4	220	5	4.0	44.4	4	4.0	44.4	1	5	16
5241+00.0	5243+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00									4.0	88.9	440	20	4.0	88.9	9	4.0	88.9	3	12	32
5243+00.0	5245+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	200.00					4.0	88.9	440	20	4.0	88.9	440	20	4.0	88.9	9	8.0	177.8	5	14	32
5245+00.0	5246+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - RT. SHOULDER	100.00	4.0	44.4	519	12	4.0	44.4	330	7	4.0	44.4	440	10	4.0	44.4	4	12.0	133.3	4	8	16
																			0.0				
5045+73.0	5046+10.8	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - LT. SHOULDER	37.80	4.0	16.8	519	4	4.0	16.8	330	3	4.0	16.8	440	4	4.0	16.8	2	12.0	50.4	2	4	6
5046+10.8	5046+86.5	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - LT. SHOULDER	75.70					4.0	33.6	440	7	4.0	33.6	440	7	4.0	33.6	3	8.0	67.3	2	5	12
5046+86.5	5047+62.2	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - LT. SHOULDER	75.70									4.0	33.6	440	7	4.0	33.6	3	4.0	33.6	1	4	12
5047+62.2	5048+00.0	SOCIAL HILL REST AREA - EASTBOUND EXIT RAMP - LT. SHOULDER	37.80									4.0	16.8	220	2	4.0	16.8	2	4.0	16.8	1	3	6
5063+39.1	5064+05.8	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - LT. SHOULDER	66.70									4.0	29.6	220	3	4.0	29.6	3	4.0	29.6	1	4	11
5064+05.8	5065+39.1	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - LT. SHOULDER	133.30									4.0	59.2	440	13	4.0	59.2	6	4.0	59.2	2	8	21
5065+39.1	5066+72.5	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - LT. SHOULDER	133.40					4.0	59.3	440	13	4.0	59.3	440	13	4.0	59.3	6	8.0	118.6	4	10	21
5066+72.5	5067+39.1	SOCIAL HILL REST AREA - EASTBOUND ENTRANCE RAMP - LT. SHOULDER	66.60	4.0	29.6	519	8	4.0	29.6	330	5	4.0	29.6	440	7	4.0	29.6	3	12.0	88.8	3	6	11
5046+07.0	5046+51.9	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - LT. SHOULDER	44.90	6.0	29.9	440	7	6.0	29.9	330	5	6.0	29.9	440	7	6.0	29.9	3	18.0	89.8	3	6	7
5046+51.9	5047+41.6	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - LT. SHOULDER	89.70					6.0	59.8	440	13	6.0	59.8	440	13	6.0	59.8	6	12.0	119.6	4	10	14
5047+41.6	5048+31.3	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - LT. SHOULDER	89.70									6.0	59.8	440	13	6.0	59.8	6	6.0	59.8	2	8	14
5048+31.3	5048+76.2	SOCIAL HILL REST AREA - WESTBOUND ENTRANCE RAMP - LT. SHOULDER	44.90									6.0	29.9	220	3	6.0	29.9	3	6.0	29.9	1	4	7
5056+74.6	5057+50.1	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - LT. SHOULDER	75.50									6.0	50.3	220	6	6.0	50.3	5	6.0	50.3	2	7	12
5057+50.1	5059+01.0	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - LT. SHOULDER	150.90									6.0	100.6	440	22	6.0	100.6	10	6.0	100.6	3	13	24
5059+01.0	5060+51.9	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - LT. SHOULDER	150.90					6.0	100.6	440	22	6.0	100.6	440	22	6.0	100.6	10	12.0	201.2	6	16	24
5060+51.9	5061+27.3	SOCIAL H ILL REST AREA - WESTBOUND EXIT RAMP - LT. SHOULDER	75.40	6.0	50.3	519	13	6.0	50.3	330	8	6.0	50.3	440	11	6.0	50.3	5	18.0	150.8	5	10	12
5230+97.5	5231+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.00	4.0	44.4	519	12	4.0	44.4	330	7	4.0	44.4	440	10	4.0	44.4	4	12.0	133.3	4	8	16
5231+97.5	5233+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00					4.0	88.9	440	20	4.0	88.9	440	20	4.0	88.9	9	8.0	177.8	5	14	32
5233+97.5	5235+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00									4.0	88.9	440	20	4.0	88.9	9	4.0	88.9	3	12	32
5235+97.5	5236+97.5	RAMP 1 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.00									4.0	44.4	220	5	4.0	44.4	4	4.0	44.4	1	5	16
5236+97.5	5244+41.3	RAMP 1 - HWY. 84/171 INTERCHANGE - LT. SHOULDER	743.80									4.0	330.6			4.0	330.6	33				33	
5230+85.5	5231+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.00	6.0	66.7	440	15	6.0	66.7	330	11	6.0	66.7	440	15	6.0	66.7	7	18.0	200.0	6	13	16
5231+85.5	5233+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00					6.0	133.3	440	29	6.0	133.3	440	29	6.0	133.3	13	12.0	266.7	8	21	32
5233+85.5	5235+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00									6.0	133.3	440	29	6.0	133.3	13	6.0	133.3	4	17	32
5235+85.2	5236+85.5	RAMP 4 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.30									6.0	66.9	220	7	6.0	66.9	7	6.0	66.9	2	9	16
5236+85.5	5242+06.2	RAMP 4 - HWY. 84/171 INTERCHANGE - LT. SHOULDER	520.70									6.0	347.1			6.0	347.1	35				35	
5234+91.7	5238+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - LT. SHOULDER	308.70									4.0				4.0	137.2	14				14	
5238+00.4	5239+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.00									4.0	44.4	220	5	4.0	44.4	4	4.0	44.4	1	5	16
5239+00.4	5241+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00									4.0	88.9	440	20	4.0	88.9	9	4.0	88.9	3	12	32
5241+00.4	5243+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00					4.0	88.9	440	20	4.0	88.9	440	20	4.0	88.9	9	8.0	177.8	5	14	32
5243+00.4	5244+00.4	RAMP 2 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.00	4.0	44.4	519	12	4.0	44.4	330	7	4.0	44.4	440	10	4.0	44.4	4	12.0	133.3	4	8	16
5231+84.8	5240+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - LT. SHOULDER	815.20									6.0				6.0	543.5	54				54	
5240+00.0	5241+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.00									6.0	66.7	220	7	6.0	66.7	7	6.0	66.7	2	9	16
5241+00.0	5243+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00									6.0	133.3	440	29	6.0	133.3	13	6.0	133.3	4	17	32
5243+00.0	5245+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	200.00					6.0	133.3	440	29	6.0	133.3	440	29	6.0	133.3	13	12.0	266.7	8	21	32
5245+00.0	5246+00.0	RAMP 3 - HWY. 84/171 INTERCHANGE - TRANSITION - LT. SHOULDER	100.00	6.0	66.7	440	15	6.0	66.7	330	11	6.0	66.7	440	15	6.0	66.7	7	18.0	200.0	6	13	16
TOTALS					694.1		170		2082.6		419		5570.7		844		6819.5	680		6942.6	211	891	1196

BASIS OF ESTIMATE:
ACHM BASE COURSE (1 1/2") - MIN. AGG. = 95.5%, ASPH. BINDER (PG76-22) = 4.5%
ACHM BINDER COURSE (1") - MIN. AGG. = 95.3%, ASPH. BINDER (PG76-22) = 4.7%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.8%, ASPH. BINDER (PG76-22) = 5.2%
Nmax = 205

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGITT
3-6-12

09-30-2011 r061186.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	06186	73	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12

ACHM BASE COURSE - RIGHT MAIN LANES

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2") *LEVELING - 110 LBS. PER SQ. YD.			NORMAL				TOTAL	TACK COAT 0.10 GAL. PER SQ. YD.			0.03 GAL. PER SQ. YD.			TOTAL GALLON	AGGREGATE BASE COURSE (CLASS 1)		(CLASS 7)	
			LIN. FT.	AVG. WIDTH FEET	SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	LBS. PER SQ. YD.	TON	TONS	AVG. WIDTH FEET	SQ. YD.	GALLON	AVG. WIDTH FEET	SQ. YD.	GALLON		TONS/STA.	TON	TONS/STA.	TON
5040+50.00	5045+75.00	RT. MAIN LANES - FULL SUPERELEVATION	525.00	40.00	2333.3	128	40.00	2333.3	865	1009	1137	4.00	233.3	23	40.00	2333.3	70	93				
5040+50.00	5045+75.00	RT. MAIN LANES - FULL SUPERELEVATION	525.00	2.00	116.7	6	2.83	165.1	724	60	66	2.83	165.1	17	2.83	165.1	5	22				
5045+75.00	5048+32.20	RT. MAIN LANES - SUPERELEVATION TRANSITION	257.20	28.00	800.2	44	28.00	800.2	747	299	343	4.00	114.3	11	28.00	800.2	24	35				
5045+75.00	5048+32.20	RT. MAIN LANES - SUPERELEVATION TRANSITION	257.20	2.00	57.2	3	2.83	80.9	716	29	32	2.83	80.9	8	2.83	80.9	2	10				
5051+82.20	5053+72.00	RT. MAIN LANES	189.80	24.00	506.1	28	24.00	506.1	629	159	187				24.00	506.1	15	15				
5051+82.20	5053+72.00	RT. MAIN LANES	189.80	2.00	42.2	2	2.00	42.2	708	15	17	2.00	42.2	4	2.00	42.2	1	5				
5051+82.20	5053+72.00	RT. MAIN LANES	189.80	2.00	42.2	2	2.00	42.2	563	12	14	2.00	42.2	4	2.00	42.2	1	5				
5053+72.00	5058+22.00	RT. MAIN LANES - SUPERELEVATION TRANSITION	450.00	24.00	1200.0	66	24.00	1200.0	879	527	593				24.00	1200.0	36	36				
5053+72.00	5058+22.00	RT. MAIN LANES - SUPERELEVATION TRANSITION	450.00	2.00	100.0	6	2.00	100.0	879	44	50	2.00	100.0	10	2.00	100.0	3	13				
5053+72.00	5058+22.00	RT. MAIN LANES - SUPERELEVATION TRANSITION	450.00	2.00	100.0	6	2.00	100.0	971	49	55	2.00	100.0	10	2.00	100.0	3	13				
5058+22.00	5066+46.00	RT. MAIN LANES - FULL SUPERELEVATION	824.00	28.00	2563.6	141	28.00	2563.6	1129	1447	1588	4.00	366.2	37	28.00	2563.6	77	114				
5058+22.00	5066+46.00	RT. MAIN LANES - FULL SUPERELEVATION	824.00	2.00	183.1	10	9.42	862.5	1379	595	605	8.00	732.4	73	9.42	862.5	26	99				
5066+46.00	5067+30.90	RT. MAIN LANES - SUPERELEVATION TRANSITION	84.90	24.00	226.4	12	24.00	226.4	879	100	112				24.00	226.4	7	7				
5066+46.00	5067+30.90	RT. MAIN LANES - SUPERELEVATION TRANSITION	84.90	2.00	18.9	1	2.00	18.9	879	8	9	2.00	18.9	2	2.00	18.9	1	3				
5066+46.00	5067+30.90	RT. MAIN LANES - SUPERELEVATION TRANSITION	84.90	2.00	18.9	1	2.00	18.9	971	9	10	2.00	18.9	2	2.00	18.9	1	3				
5067+30.90	5069+00.00	RT. MAIN LANES - SUPERELEVATION TRANSITION	169.10	36.00	676.4	37	36.00	676.4	879	297	334				36.00	676.4	20	20				
5067+30.90	5069+00.00	RT. MAIN LANES - SUPERELEVATION TRANSITION	169.10	2.00	37.6	2	2.00	37.6	879	17	19	2.00	37.6	4	2.00	37.6	1	5				
5067+30.90	5069+00.00	RT. MAIN LANES - SUPERELEVATION TRANSITION	169.10	2.00	37.6	2	2.00	37.6	971	18	20	2.00	37.6	4	2.00	37.6	1	5				
5069+00.00	5070+96.00	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	196.00				44.00	958.2	1045	501	501				88.00	1916.4	57	57	127.87	251	205.72	403
5070+96.00	5071+26.80	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION	30.80				44.00	150.6	1045	79	79				88.00	301.2	9	9	127.87	39	205.72	63
5071+26.80	5074+26.80	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION	300.00				38.00	1266.7	1045	662	662				76.00	2533.3	76	76	127.87	384	205.72	617
5074+26.80	5074+74.55	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION	47.75				32.00	169.8	1045	89	89				64.00	339.6	10	10	127.87	61	205.72	98
5077+54.61	5080+68.11	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	313.50				32.00	1114.7	1045	582	582				64.00	2229.3	67	67	162.01	508	219.37	688
5080+68.11	5084+50.00	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - FULL SUPERELEVATION	381.89				32.00	1357.8	1045	709	709				64.00	2715.7	81	81	196.16	749	233.02	890
5084+50.00	5091+29.90	RT. MAIN LANES - FULL SUPERELEVATION	679.90	28.00	2115.2	116	28.00	2115.2	740	783	899	4.00	302.2	30	28.00	2115.2	63	93				
5084+50.00	5091+29.90	RT. MAIN LANES - FULL SUPERELEVATION	679.90				2.93	221.3	719	80	80	2.00	151.1	15	2.93	221.3	7	22				
5091+29.90	5093+92.10	RT. MAIN LANES - SUPERELEVATION TRANSITION	262.20	24.00	699.2	38	24.00	699.2	685	239	277				24.00	699.2	21	21				
5091+29.90	5093+92.10	RT. MAIN LANES - SUPERELEVATION TRANSITION	262.20	2.00	58.3	3	2.00	58.3	685	20	23	2.00	58.3	6	2.00	58.3	2	8				
5091+29.90	5093+92.10	RT. MAIN LANES - SUPERELEVATION TRANSITION	262.20	2.00	58.3	3	2.00	58.3	641	19	22	2.00	58.3	6	2.00	58.3	2	8				
5092+31.40	5093+19.20	RT. MAIN LANES - SUPERELEVATION TRANSITION	87.80	24.00	234.1	13	24.00	234.1	685	80	93				24.00	234.1	7	7				
5092+31.40	5093+19.20	RT. MAIN LANES - SUPERELEVATION TRANSITION	87.80	2.00	19.5	1	2.00	19.5	685	7	8	2.00	19.5	2	2.00	19.5	1	3				
5092+31.40	5093+19.20	RT. MAIN LANES - SUPERELEVATION TRANSITION	87.80	2.00	19.5	1	2.00	19.5	641	6	7	2.00	19.5	2	2.00	19.5	1	3				
5093+19.20	5151+22.60	RT. MAIN LANES	5803.40	24.00	15475.7	851	24.00	15475.7	629	4867	5718				24.00	15475.7	464	464				
5093+19.20	5151+22.60	RT. MAIN LANES	5803.40	2.00	1289.6	71	2.00	1289.6	708	457	528	2.00	1289.6	129	2.00	1289.6	39	168				
5093+19.20	5151+22.60	RT. MAIN LANES	5803.40	2.00	1289.6	71	2.00	1289.6	563	363	434	2.00	1289.6	129	2.00	1289.6	39	168				
5151+22.60	5154+72.60	RT. MAIN LANES - SUPERELEVATION TRANSITION	350.00	24.00	933.3	51	24.00	933.3	629	294	345				24.00	933.3	28	28				
5151+22.60	5154+72.60	RT. MAIN LANES - SUPERELEVATION TRANSITION	350.00	2.00	77.8	4	2.00	77.8	629	24	28	2.00	77.8	8	2.00	77.8	2	10				
5151+22.60	5154+72.60	RT. MAIN LANES - SUPERELEVATION TRANSITION	350.00	2.00	77.8	4	2.00	77.8	636	25	29	2.00	77.8	8	2.00	77.8	2	10				
5154+72.66	5183+00.00	RT. MAIN LANES - FULL SUPERELEVATION	2827.34	24.00	7539.6	415	24.00	7539.6	629	2371	2786				24.00	7539.6	226	226				
5154+72.66	5183+00.00	RT. MAIN LANES - FULL SUPERELEVATION	2827.34	2.00	628.3	35	2.00	628.3	550	173	208	2.00	628.3	63	2.00	628.3	19	82				
5154+72.66	5183+00.00	RT. MAIN LANES - FULL SUPERELEVATION	2827.34	2.00	628.3	35	2.00	628.3	708	222	257	2.00	628.3	63	2.00	628.3	19	82				
5188+00.00	5194+00.00	RT. MAIN LANES	600.00	24.00	1600.0	88	24.00	1600.0	629	503	591				24.00	1600.0	48	48				
5188+00.00	5194+00.00	RT. MAIN LANES	600.00	2.00	133.3	7	2.00	133.3	708	47	54	2.00	133.3	13	2.00	133.3	4	17				
5188+00.00	5194+00.00	RT. MAIN LANES	600.00	2.00	133.3	7	2.00	133.3	563	38	45	2.00	133.3	13	2.00	133.3	4	17				
5199+00.00	5233+31.80	RT. MAIN LANES	3431.80	24.00	9151.5	503	24.00	9151.5	629	2878	3381				24.00	9151.5	275	275				
5200+00.00	5233+31.80	RT. MAIN LANES	3331.80	2.00	740.4	41	2.00	740.4	708	262	303	2.00	740.4	74	2.00	740.4	22	96				
5200+00.00	5233+31.80	RT. MAIN LANES	3331.80	2.00	740.4	41	2.00	740.4	563	208	249	2.00	740.4	74	2.00	740.4	22	96				
5233+31.80	5235+94.30	RT. MAIN LANES - SUPERELEVATION TRANSITION	262.50	24.00	700.0	39	24.00	700.0	645	226	265				24.00	700.0	21	21				
5233+31.80	5235+94.30	RT. MAIN LANES - SUPERELEVATION TRANSITION	262.50	2.00	58.3	3	2.00	58.3	740	22	25	2.00	58.3	6	2.00	58.3	2	8				
5233+31.80	5235+94.30	RT. MAIN LANES - SUPERELEVATION TRANSITION	262.50	2.00	58.3	3	2.00	58.3	557	16	19	2.00	58.3	6	2.00	58.3	2	8				
5226+81.80	5227+69.30	RT. MAIN LANES - SUPERELEVATION TRANSITION	87.50	24.00	233.3	13	24.00	233.3	645	75	88				24.00	233.3	7	7				
5226+81.80	5227+69.30	RT. MAIN LANES - SUPERELEVATION TRANSITION	87.50	2.00	19.4	1	2.00	19.4	740	7	8	2.00	19.4	2	2.00	19.4	1	3				
5226+81.80	5227+69.30	RT. MAIN LANES - SUPERELEVATION TRANSITION	87.50	2.00	19.4	1	2.00	19.4	557	5	6	2.00	19.4	2	2.00	19.4	1	3				
5227+69.30	5229+21.80	RT. MAIN LANES - FULL SUPERELEVATION	152.50	24.00	406.7	22	24.00	406.7	661	134	156				24.00	406.7	12	12				
5227+69.30	5229+21.80	RT. MAIN LANES - FULL SUPERELEVATION	152.50	2.00	33.9	2	2.00	33.9	772	13	15	2.00	33.9	3	2.00	33.9	1	4				
5227+69.30	5229+21.80	RT. MAIN LANES - FULL SUPERELEVATION	152.50	2.00	33.9	2	2.00	33.9	550	9	11	2.00	33.9	3	2.00	33.9	1	4				
5229+21.80	5238+21.80	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - FULL SUPERELEVATION	900.00				32.00	3200.0	1045	1672	1672				64.00	6400.0	192	192	196.16	1765	233.02	2097
5238+21.80	5244+00.40	RT. MAIN LANES - FULL SUPERELEVATION	578.60	24.00	1542.9	85	24.00	1542.9	661	510	595				24.00	1542.9	46	46				
5238+21.80	5244+00.40	RT. MAIN LANES - FULL SUPERELEVATION	578.60	2.00	128.6	7	2.00	128.6	772	50	57	2.00	128.6	13	2.00	128.6	4	17				
5238+21.80	5244+00.40	RT. MAIN LANES - FULL SUPERELEVATION	578.60	2.00	128.6	7	2.00	128.6	550	35	42	2.00	128.6	13	2.00	128.6	4	17				
5244+00.40	5248+00.00	RT. MAIN LANES - FULL SUPERELEVATION	399.60	36.00	1598.4	88	36.00	1598.4	661	528	616				24.00	1065.6	32	32				
5244+00.40	5248+00.00	RT. MAIN LANES - FULL SUPERELEVATION	399.60	2.00	88.8	5	2.00	88.8	772	34	39	2.00	88.8	9	2.00	88.8	3	12				
5244+00.40	5248+00.00	RT. MAIN LANES - FULL SUPERELEVATION	399.60	2.00	88.8	5	2.00	88.8	550	24	29	2.00	88.8	9	2.00	88.8	3	12				
5248+00.00	5249+29.32	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - FULL SUPERELEVATION	129.32				44.00	632.2	1045	330	330				88.00	1264.5	38	38	196.16	254	233.02	301
5249+29.32	5250+59.80	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	130.48				44.00	637.9	1045	333	333				88.00	1275.8	38	38	162.01	211	219.37	286
5250+72.90	5251+50.40	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	77.50				38.00	327.2	1045	171	171				76.00	654.4	20	20	162.01	126	219.37	170
5251+50.40	5252+92.42	RT. MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	142.02				32.00	505.0	1045	264	264				64.00	1009.9	30	30	162.01	230	219.37	312
5044+76.90	5045+75.00	EASTBOUND EXIT RAMP - REST AREA - TURN OUT	98.10	VAR.	336.4	19	VAR.	336.4	865	145	164				VAR.	732.8	22	22				
5226+04.80	5230+97.00	HWY. 84/171 INTERCHANGE - RAMP 1 - TURNOUT	492.20	VAR.	816.7	45	VAR.	816.7	629	257	302				VAR.	1633.4	49	49				
TOTALS					58995.8	3243		70288.7		26142	29385		9095.3	910		81289.0	2440	3350		4578		5925

BASIS OF ESTIMATE: ACHM BASE COURSE (1 1/2") - MIN. AGG. = 95.5%, ASPH. BINDER (PG76-22) = 4.5%
Nmax = 205

* NOTE: LEVELING QUANTITY IS ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS. LEVELING IS TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

09-30-2011 r06186.dgn

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	74	126

2 QUANTITIES

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

3-6-12

ACHM BASE COURSE - LEFT MAIN LANES

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2")								TACK COAT							AGGREGATE BASE COURSE			
				*LEVELING - 110 LBS. PER SQ. YD.			NORMAL					0.10 GAL. PER SQ. YD.			0.03 GAL. PER SQ. YD.			TOTAL GALLON	(CLASS 1)		(CLASS 7)	
				AVG. WIDTH			AVG. WIDTH		LBS. PER		TOTAL	AVG. WIDTH			AVG. WIDTH							
			LIN. FT.	FEET	SQ. YD.	TON	FEET	SQ. YD.	SQ. YD.	TON	TONS	FEET	SQ. YD.	GALLON	FEET	SQ. YD.	GALLON		TONS/STA.	TON	TONS/STA.	TON
5040+50.00	5046+11.80	LEFT MAIN LANES	561.80	36.00	2247.2	124	36.00	2247.2	629	707	831				36.00	2247.2	67	67				
5040+50.00	5046+11.80	LEFT MAIN LANES	561.80	2.00	124.8	7	2.00	124.8	708	44	51	2.00	124.8	12	2.00	124.8	4	16				
5040+50.00	5046+11.80	LEFT MAIN LANES	561.80	2.00	124.8	7	2.00	124.8	563	35	42	2.00	124.8	12	2.00	124.8	4	16				
5046+11.80	5050+83.10	LEFT MAIN LANES	471.30	24.00	1256.8	69	24.00	1256.8	629	395	464				24.00	1256.8	38	38				
5046+11.80	5050+83.10	LEFT MAIN LANES	471.30	2.00	104.7	6	2.00	104.7	708	37	43	2.00	104.7	10	2.00	104.7	3	13				
5046+11.80	5050+83.10	LEFT MAIN LANES	471.30	2.00	104.7	6	2.00	104.7	563	29	35	2.00	104.7	10	2.00	104.7	3	13				
5050+83.10	5054+33.10	LEFT MAIN LANES - SUPERELEVATION TRANSITION	350.00	24.00	933.3	51	24.00	933.3	629	294	345				24.00	933.3	28	28				
5050+83.10	5054+33.10	LEFT MAIN LANES - SUPERELEVATION TRANSITION	350.00	2.00	77.8	4	2.00	77.8	708	28	32	2.00	77.8	8	2.00	77.8	2	10				
5050+83.10	5054+33.10	LEFT MAIN LANES - SUPERELEVATION TRANSITION	350.00	2.00	77.8	4	2.00	77.8	563	22	26	2.00	77.8	8	2.00	77.8	2	10				
5054+33.10	5066+79.76	LEFT MAIN LANES - FULL SUPERELEVATION	1246.66	24.00	3324.4	183	24.00	3324.4	693	1152	1335				24.00	3324.4	100	100				
5054+33.10	5066+79.76	LEFT MAIN LANES - FULL SUPERELEVATION	1246.66	2.00	277.0	15	2.00	277.0	550	76	91	2.00	277.0	28	2.00	277.0	8	36				
5054+33.10	5066+79.76	LEFT MAIN LANES - FULL SUPERELEVATION	1246.66	2.00	277.0	15	2.00	277.0	835	116	131	2.00	277.0	28	2.00	277.0	8	36				
5066+79.76	5069+29.79	LEFT MAIN LANES - FULL DEPTH RECONSTRUCTION - FULL SUPERELEVATION	250.03				32.00	889.0	1045	465	465				64.00	1778.0	53	53	196.16	490	233.02	583
5069+29.79	5072+68.96	LEFT MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	313.47				32.00	1114.6	1045	582	582				64.00	2229.1	67	67	196.16	615	233.02	730
5075+39.03	5079+50.00	LEFT MAIN LANES - FULL DEPTH RECONSTRUCTION	410.97				32.00	1461.2	1045	763	763				64.00	2922.5	88	88	196.16	806	233.02	958
5079+50.00	5082+15.80	LEFT MAIN LANES - SUPERELEVATION TRANSITION	265.80	24.00	708.8	39	24.00	708.8	629	223	262				24.00	708.8	21	21				
5079+50.00	5082+15.80	LEFT MAIN LANES - SUPERELEVATION TRANSITION	265.80	2.00	59.1	3	2.00	59.1	708	21	24	2.00	59.1	6	2.00	59.1	2	8				
5079+50.00	5082+15.80	LEFT MAIN LANES - SUPERELEVATION TRANSITION	265.80	2.00	59.1	3	2.00	59.1	563	17	20	2.00	59.1	6	2.00	59.1	2	8				
5082+15.80	5089+29.30	LEFT MAIN LANES - FULL SUPERELEVATION	713.50	24.00	1902.7	105	24.00	1902.7	693	659	764				24.00	1902.7	57	57				
5082+15.80	5089+29.30	LEFT MAIN LANES - FULL SUPERELEVATION	713.50	2.00	158.6	9	2.00	158.6	835	66	75	2.00	158.6	16	2.00	158.6	5	21				
5082+15.80	5089+29.30	LEFT MAIN LANES - FULL SUPERELEVATION	713.50	2.00	158.6	9	2.00	158.6	550	44	53	2.00	158.6	16	2.00	158.6	5	21				
5089+29.30	5090+16.80	LEFT MAIN LANES - SUPERELEVATION TRANSITION	87.50	24.00	233.3	13	24.00	233.3	629	73	86				24.00	233.3	7	7				
5089+29.30	5090+16.80	LEFT MAIN LANES - SUPERELEVATION TRANSITION	87.50	2.00	19.4	1	2.00	19.4	708	7	8	2.00	19.4	2	2.00	19.4	1	3				
5089+29.30	5090+16.80	LEFT MAIN LANES - SUPERELEVATION TRANSITION	87.50	2.00	19.4	1	2.00	19.4	563	5	6	2.00	19.4	2	2.00	19.4	1	3				
5089+45.10	5092+07.60	LEFT MAIN LANES - SUPERELEVATION TRANSITION	262.50	24.00	700.0	39	24.00	700.0	629	220	259				24.00	700.0	21	21				
5089+45.10	5092+07.60	LEFT MAIN LANES - SUPERELEVATION TRANSITION	262.50	2.00	58.3	3	2.00	58.3	708	21	24	2.00	58.3	6	2.00	58.3	2	8				
5089+45.10	5092+07.60	LEFT MAIN LANES - SUPERELEVATION TRANSITION	262.50	2.00	58.3	3	2.00	58.3	563	16	19	2.00	58.3	6	2.00	58.3	2	8				
5092+07.60	5183+00.00	LEFT MAIN LANES	9092.40	24.00	24246.4	1334	24.00	24246.4	629	7625	8959			0	24.00	24246.4	727	727				
5092+07.60	5183+00.00	LEFT MAIN LANES	9092.40	2.00	2020.5	111	2.00	2020.5	708	715	826	2.00	2020.5	202	2.00	2020.5	61	263				
5092+07.60	5183+00.00	LEFT MAIN LANES	9092.40	2.00	2020.5	111	2.00	2020.5	563	569	680	2.00	2020.5	202	2.00	2020.5	61	263				
5188+00.00	5194+00.00	LEFT MAIN LANES	600.00	24.00	1600.0	88	24.00	1600.0	629	503	591				24.00	1600.0	48	48				
5188+00.00	5194+00.00	LEFT MAIN LANES	600.00	2.00	133.3	7	2.00	133.3	708	47	54	2.00	133.3	13	2.00	133.3	4	17				
5188+00.00	5194+00.00	LEFT MAIN LANES	600.00	2.00	133.3	7	2.00	133.3	563	38	45	2.00	133.3	13	2.00	133.3	4	17				
5199+00.00	5220+37.00	LEFT MAIN LANES	2137.00	24.00	5698.7	313	24.00	5698.7	629	1792	2105				24.00	5698.7	171	171				
5199+00.00	5220+37.00	LEFT MAIN LANES	2137.00	2.00	474.9	26	2.00	474.9	708	168	194	2.00	474.9	47	2.00	474.9	14	61				
5199+00.00	5220+37.00	LEFT MAIN LANES	2137.00	2.00	474.9	26	2.00	474.9	563	134	160	2.00	474.9	47	2.00	474.9	14	61				
5220+37.00	5223+37.00	LEFT MAIN LANES	300.00	30.00	1000.0	55	30.00	1000.0	629	315	370				30.00	1000.0	30	30				
5220+37.00	5223+37.00	LEFT MAIN LANES	300.00	2.00	66.7	4	2.00	66.7	708	24	28	2.00	66.7	7	2.00	66.7	2	9				
5220+37.00	5223+37.00	LEFT MAIN LANES	300.00	2.00	66.7	4	2.00	66.7	563	19	23	2.00	66.7	7	2.00	66.7	2	9				
5223+37.00	5230+85.50	LEFT MAIN LANES	748.50	36.00	2994.0	165	36.00	2994.0	629	942	1107				36.00	2994.0	90	90				
5223+37.00	5230+85.50	LEFT MAIN LANES	748.50	2.00	166.3	9	2.00	166.3	708	59	68	2.00	166.3	17	2.00	166.3	5	22				
5223+37.00	5230+85.50	LEFT MAIN LANES	748.50	2.00	166.3	9	2.00	166.3	563	47	56	2.00	166.3	17	2.00	166.3	5	22				
5230+85.50	5233+31.80	LEFT MAIN LANES	246.30	24.00	656.8	36	24.00	656.8	629	207	243				24.00	656.8	20	20				
5230+85.50	5233+31.80	LEFT MAIN LANES	246.30	2.00	54.7	3	2.00	54.7	708	19	22	2.00	54.7	5	2.00	54.7	2	7				
5230+85.50	5233+31.80	LEFT MAIN LANES	246.30	2.00	54.7	3	2.00	54.7	563	15	18	2.00	54.7	5	2.00	54.7	2	7				
5233+31.80	5235+94.30	LEFT MAIN LANES - SUPERELEVATION TRANSITION	262.50	24.00	700.0	39	24.00	700.0	629	220	259				24.00	700.0	21	21				
5233+31.80	5235+94.30	LEFT MAIN LANES - SUPERELEVATION TRANSITION	262.50	2.00	58.3	3	2.00	58.3	708	21	24	2.00	58.3	6	2.00	58.3	2	8				
5233+31.80	5235+94.30	LEFT MAIN LANES - SUPERELEVATION TRANSITION	262.50	2.00	58.3	3	2.00	58.3	563	16	19	2.00	58.3	6	2.00	58.3	2	8				
5226+81.80	5227+69.30	LEFT MAIN LANES - SUPERELEVATION TRANSITION	87.50	24.00	233.3	13	24.00	233.3	629	73	86				24.00	233.3	7	7				
5226+81.80	5227+69.30	LEFT MAIN LANES - SUPERELEVATION TRANSITION	87.50	2.00	19.4	1	2.00	19.4	708	7	8	2.00	19.4	2	2.00	19.4	1	3				
5226+81.80	5227+69.30	LEFT MAIN LANES - SUPERELEVATION TRANSITION	87.50	2.00	19.4	1	2.00	19.4	563	5	6	2.00	19.4	2	2.00	19.4	1	3				
5227+69.30	5248+00.00	LEFT MAIN LANES - FULL SUPERELEVATION	2030.70	24.00	5415.2	298	24.00	5415.2	661	1790	2088				24.00	5415.2	162	162				
5227+69.30	5248+00.00	LEFT MAIN LANES - FULL SUPERELEVATION	2030.70	2.00	451.3	25	2.00	451.3	550	124	149	2.00	451.3	45	2.00	451.3	14	59				
5227+69.30	5248+00.00	LEFT MAIN LANES - FULL SUPERELEVATION	2030.70	2.00	451.3	25	2.00	451.3	772	174	199	2.00	451.3	45	2.00	451.3	14	59				
5248+00.00	5249+55.52	LEFT MAIN LANES - FULL DEPTH RECONSTRUCTION - FULL SUPERELEVATION	155.52				32.00	553.0	1045	289	289				64.00	1105.9	33	33	196.16	305	233.02	362
5249+55.52	5250+86.00	LEFT MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	130.48				32.00	463.9	1045	242	242				64.00	927.9	28	28	196.16	256	233.02	304
5250+72.90	5252+92.42	LEFT MAIN LANES - FULL DEPTH RECONSTRUCTION - SUPERELEVATION TRANSITION	219.52				32.00	780.5	1045	408	408				64.00	1561.0	47	47	196.16	431	233.02	512
5060+85.60	5065+55.20	WESTBOUND EXIT RAMP - REST AREA - TURNOUT	469.60	VAR.	894.7	49	VAR.	894.7	693	310	359				VAR.	1789.4	54	54				
5246+00.00	5250+73.20	HWY. 84/171 INTERCHANGE - RAMP 3 - TURNOUT	473.20	VAR.	837.3	46	VAR.	837.3	661	277	323				VAR.	1674.6	50	50				
TOTALS					64233.1	3533		69495.3		23311	26844		8650.2	864		76489.5	2299	3163		2903		3449

BASIS OF ESTIMATE: ACHM BASE COURSE (1 1/2") - MIN. AGG. = 95.5%, ASPH. BINDER (PG76-22) = 4.5%
Nmax = 205

* NOTE: LEVELING QUANTITY IS ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS. LEVELING IS TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	061186	75	126

(2) QUANTITIES

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

3-6-12

ACHM BINDER COURSE - RIGHT MAIN LANES

STATION	STATION	LOCATION	LENGTH	COLD MILLING ASPHALT PAVEMENT		ACHM BINDER COURSE (1")				TACK COAT						
										0.10 GAL. PER SQ. YD.			0.03 GAL. PER SQ. YD.			TOTAL GALLON
			LIN. FT.	WIDTH FEET	SQ. YD.	AVG. WIDTH FEET	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	GALLON	AVG. WIDTH FEET	SQ. YD.	GALLON	
5040+50.00	5048+32.20	RT. MAIN LANES	782.20			36.42	3165.3	330	522				36.42	3165.3	95	95
5040+50.00	5048+32.20	RT. MAIN LANES	782.20			30.42	2643.8	330	436				30.42	2643.8	79	79
5048+32.20	5058+22.00	RT. MAIN LANES	989.80	2.50	274.9					2.50	274.9	27				27
5048+32.20	5058+22.00	RT. MAIN LANES	989.80	8.00	879.8					8.50	934.8	93				93
5048+32.20	5058+22.00	RT. MAIN LANES	989.80			39.00	4289.1	330	708				39.00	4289.1	129	129
5058+22.00	5066+46.00	RT. MAIN LANES	824.00			36.42	3334.5	330	550				36.42	3334.5	100	100
5066+46.00	5067+30.90	RT. MAIN LANES	84.90	2.50	23.6					2.50	23.6	2				2
5066+46.00	5067+30.90	RT. MAIN LANES	84.90	8.00	75.5					8.50	80.2	8				8
5066+46.00	5067+30.90	RT. MAIN LANES	84.90			39.00	367.9	330	61				39.00	367.9	11	11
5067+30.90	5069+00.00	RT. MAIN LANES	169.10	2.50	47.0					2.50	47.0	5				5
5067+30.90	5069+00.00	RT. MAIN LANES	169.10	8.00	150.3					8.50	159.7	16				16
5067+30.90	5069+00.00	RT. MAIN LANES	169.10			39.00	732.8	330	121				39.00	732.8	22	22
5069+00.00	5071+26.80	RT. MAIN LANES	226.80			36.92	930.4	330	154				36.92	930.4	28	28
5071+26.80	5074+26.80	RT. MAIN LANES	300.00			33.92	1130.7	330	187				33.92	1130.7	34	34
5074+26.80	5074+74.55	RT. MAIN LANES	47.75			30.92	164.0	330	27				30.92	164.0	5	5
5077+54.61	5084+50.00	RT. MAIN LANES	695.39			30.92	2389.1	330	394				30.92	2389.1	72	72
5084+50.00	5091+29.90	RT. MAIN LANES	679.90	8.00	604.4	39.00	2946.2	330	486	8.00	604.4	60	30.42	2298.1	69	129
5091+29.90	5093+92.10	RT. MAIN LANES	262.20	2.50	72.8					2.50	72.8	7				7
5091+29.90	5093+92.10	RT. MAIN LANES	262.20	8.00	233.1					8.50	247.6	25				25
5091+29.90	5093+92.10	RT. MAIN LANES	262.20			39.00	1136.2	330	187				39.00	1136.2	34	34
5092+31.40	5154+72.60	RT. MAIN LANES	6241.20	2.50	1733.7					2.50	1733.7	173				173
5092+31.40	5154+72.60	RT. MAIN LANES	6241.20	8.00	5547.7					8.50	5894.5	589				589
5092+31.40	5154+72.60	RT. MAIN LANES	6241.20			39.00	27045.2	330	4462				39.00	27045.2	811	811
5154+72.60	5183+00.00	RT. MAIN LANES	2827.40	2.67	838.8					2.67	838.8	84				84
5154+72.60	5183+00.00	RT. MAIN LANES	2827.40			30.42	9556.6	330	1577				28.00	8796.4	264	264
5154+72.60	5183+00.00	RT. MAIN LANES	2827.40			8.50	2670.3	440	587	8.00	2513.2	251				251
5188+00.00	5194+00.00	RT. MAIN LANES	600.00	2.50	166.7			330		2.50	166.7	17				17
5188+00.00	5194+00.00	RT. MAIN LANES	600.00	8.00	533.3					8.50	566.7	57				57
5188+00.00	5194+00.00	RT. MAIN LANES	600.00			39.00	2600.0	330	429				28.00	1866.7	56	56
5199+00.00	5227+69.30	RT. MAIN LANES	3791.80	2.50	1053.3					2.50	1053.3	105				105
5199+00.00	5227+69.30	RT. MAIN LANES	3791.80	8.00	3370.5					8.50	3581.1	358				358
5199+00.00	5227+69.30	RT. MAIN LANES	3791.80			39.00	16431.1	330	2711				28.00	11796.7	354	354
5227+69.30	5229+21.80	RT. MAIN LANES	152.50			2.50	42.4	502	11	2.50	42.4	4				4
5227+69.30	5229+21.80	RT. MAIN LANES	152.50			36.42	617.1	330	102	8.00	135.6	14	28.00	474.4	14	28
5229+21.80	5238+21.80	RT. MAIN LANES	900.00			30.92	3092.0	330	510				30.92	3092.0	93	93
5238+21.80	5244+00.40	RT. MAIN LANES	578.60			2.50	160.7	502	40	2.50	160.7	16				16
5238+21.80	5244+00.40	RT. MAIN LANES	578.60	8.00	514.3	36.42	2341.4	330	386	8.00	514.3	51	28.00	1800.1	54	105
5244+00.40	5248+00.00	RT. MAIN LANES	399.60			2.50	111.0	502	28	2.50	111.0	11				11
5244+00.40	5248+00.00	RT. MAIN LANES	399.60	8.00	355.2	44.42	1972.2	330	325	8.00	355.2	36	28.00	1243.2	37	73
5248+00.00	5249+79.32	RT. MAIN LANES	179.32			46.92	934.9	330	154				46.92	934.9	28	28
5249+79.32	5251+40.40	RT. MAIN LANES	161.08			38.92	696.6	330	115				38.92	696.6	21	21
5251+40.40	5252+92.42	RT. MAIN LANES	152.02			30.92	522.3	330	86				30.92	522.3	16	16
5044+76.90	5045+75.00	EASTBOUND EXIT RAMP - REST AREA - TURN OUT	98.10			VAR.	336.4	330	56				VAR.	336.4	10	10
5226+04.80	5230+97.00	HWY. 84/171 INTERCHANGE - RAMP 1 - TURNOUT	492.20			VAR.	816.7	330	135				VAR.	816.7	25	25
TOTALS					16474.9		93176.9		15547		20112.2	2009		82003.5	2461	4470

BASIS OF ESTIMATE: ACHM BINDER COURSE (1") - MIN. AGG. = 95.3%, ASPH. BINDER (PG76-22) = 4.7%
Nmax = 205

ACHM BINDER COURSE - LEFT MAIN LANES

STATION	STATION	LOCATION	LENGTH	COLD MILL ASPHALT PAVEMENT		ACHM BINDER COURSE (1")				TACK COAT						
										0.10 GAL. PER SQ. YD.			0.03 GAL. PER SQ. YD.			TOTAL GALLON
			LIN. FT.	WIDTH FEET	SQ. YD.	AVG. WIDTH FEET	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	GALLON	AVG. WIDTH FEET	SQ. YD.	GALLON	
5040+50.00	5046+11.80	LT. MAIN LANE	561.80	2.50	156.1					2.50	156.1	16				16
5040+50.00	5046+11.80	LT. MAIN LANE	561.80	4.00	249.7	49.00	3058.7	330	505	4.00	249.7	25	28.00	1747.8	52	77
5046+11.80	5054+33.10	LT. MAIN LANE	821.30	2.50	228.1					2.50	228.1	23				23
5040+50.00	5054+33.10	LT. MAIN LANE	1383.10	8.00	1229.4	39.00	5993.4	330	989	8.50	1306.3	131	28.00	4303.0	129	260
5054+33.10	5066+79.76	LT. MAIN LANE	1246.66	2.58	357.4	30.42	4213.7	330	695	2.58	357.4	36	28.00	3878.5	116	152
5054+33.10	5066+79.76	LT. MAIN LANE	1246.66			8.67	1200.9	568	341	8.67	1200.9	120				120
5066+79.76	5079+50.00	LT. MAIN LANE	974.47			30.92	3347.8	330	552				30.92	3347.8	100	100
5079+50.00	5082+15.80	LT. MAIN LANE	265.80	2.50	73.8					2.50	73.8	7				7
5079+50.00	5082+15.80	LT. MAIN LANE	265.80	8.00	236.3	39.00	1151.8	330	190	8.50	251.0	25	28.00	826.9	25	50
5082+15.80	5089+29.30	LT. MAIN LANE	713.50			2.58	204.5	568	58	2.58	204.5	20				20
5082+15.80	5089+29.30	LT. MAIN LANE	713.50	8.00	634.2	36.42	2887.3	330	476	8.42	667.5	67	28.00	2219.8	67	134
5089+29.30	5090+16.80	LT. MAIN LANE	87.50	2.50	24.3					2.50	24.3	2				2
5089+29.30	5090+16.80	LT. MAIN LANE	87.50	8.00	77.8	39.00	379.2	330	63	8.00	77.8	8	28.00	272.2	8	16
5089+45.10	5092+07.60	LT. MAIN LANE	262.50	2.50	72.9					2.50	72.9	7				7
5089+45.10	5092+07.60	LT. MAIN LANE	262.50	8.00	233.3	39.00	1137.5	330	188	8.00	233.3	23	28.00	816.7	25	48
5092+07.60	5183+00.00	LT. MAIN LANE	9092.40	2.50	2525.7					2.50	2525.7	253				253
5092+07.60	5183+00.00	LT. MAIN LANE	9092.40	8.00	8082.1	39.00	39400.4	330	6501	8.50	8587.3	859	28.00	28287.5	849	1708
5188+00.00	5194+00.00	LT. MAIN LANE	600.00	2.50	166.7					2.50	166.7	17				17
5188+00.00	5194+00.00	LT. MAIN LANE	600.00	8.00	533.3	39.00	2600.0	330	429	8.50	566.7	57	28.00	1866.7	56	113
5199+00.00	5220+37.00	LT. MAIN LANE	2137.00	2.50	593.6					2.50	593.6	59				59
5199+00.00	5220+37.00	LT. MAIN LANE	2137.00	8.00	1899.6	39.00	9260.3	330	1528	8.50	2018.3	202	28.00	6648.4	199	401
5220+37.00	5223+37.00	LT. MAIN LANE	300.00	2.50	83.3					2.50	83.3	8				8
5220+37.00	5223+37.00	LT. MAIN LANE	300.00	8.00	266.7	39.00	1300.0	330	215	8.50	283.3	28	28.00	933.3	28	56
5223+37.00	5230+85.50	LT. MAIN LANE	748.50	2.50	207.9					2.50	207.9	21				21
5223+37.00	5230+85.50	LT. MAIN LANE	748.50	6.00	499.0	44.00	3659.3	330	604	6.50	540.6	54	34.00	2827.7	85	139
5230+85.50	5233+31.80	LT. MAIN LANE	246.30	2.50	68.4					2.50	68.4	7				7
5230+85.50	5233+31.80	LT. MAIN LANE	246.30	4.00	109.5	49.00	1341.0	330	221	4.00	109.5	11	40.00	1094.7	33	44
5233+31.80	5235+94.30	LT. MAIN LANE	262.50	2.50	72.9					2.50	72.9	7				7
5233+31.80	5235+94.30	LT. MAIN LANE	262.50	8.00	233.3	39.00	1137.5	330	188	8.50	247.9	25	28.00	816.7	25	50
5226+81.80	5227+69.30	LT. MAIN LANE	87.50	2.50	24.3					2.50	24.3	2				2
5226+81.80	5227+69.30	LT. MAIN LANE	87.50	8.00	77.8	39.00	379.2	330	63	8.50	82.6	8	28.00	272.2	8	16
5227+69.30	5248+00.00	LT. MAIN LANE	2030.70	2.58	582.1	30.42	6863.8	330	1133	2.58	582.1	58	28.00	6317.7	190	248
5227+69.30	5248+00.00	LT. MAIN LANE	2030.70			8.58	1935.9	502	486	8.58	1935.9	194				194
5248+00.00	5250+86.00	LT. MAIN LANE	286.00			30.92	982.6	330	162				30.92	982.6	29	29
5250+72.90	5252+92.42	LT. MAIN LANE	219.52			30.92	754.2	330	124				30.92	754.2	23	23
5060+85.60	5065+55.20	WESTBOUND EXIT RAMP - REST AREA - TURNOUT	469.60			VAR.	894.7	330	148				VAR.	894.7	27	27
5246+00.00	5250+73.20	HWY. 84/171 INTERCHANGE - RAMP 3 - TURNOUT	473.20			VAR.	837.3	330	138				VAR.	837.3	25	25
TOTALS					19599.5		94921.0		15997		23800.6	2380		69946.4	2099	4479

BASIS OF ESTIMATE: ACHM BINDER COURSE (1") - MIN. AGG. = 95.3%, ASPH. BINDER (PG76-22) = 4.7%
Nmax = 205

09-30-2011 r061186.dgn

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	76	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-6-12

ACHM SURFACE COURSE - RIGHT MAIN LANES

STATION	STATION	LOCATION	LENGTH	ACHM SURFACE COURSE (1/2") LEVELING - 110 LBS. PER SQ. YD. AVG. WIDTH			NORMAL AVG. WIDTH				TOTAL	TACK COAT 0.10 GAL. PER SQ. YD. AVG. WIDTH			0.03 GAL. PER SQ. YD. AVG. WIDTH			TOTAL	BORROW	AGGREGATE BASE COURSE CLASS I
			LIN. FT.	FEET	SQ. YD.	TON	FEET	SQ. YD.	LBS. PER SQ. YD.	TON	TON	FEET	SQ. YD.	GALLON	FEET	SQ. YD.	GALLON	GALLON	CU. YD.	TON
5040+50.00	5048+32.20	RT. MAIN LANES	782.20				30.00	2607.3	220	287	287				30.00	2607.3	78	78		
5040+50.00	5048+32.20	RT. MAIN LANES	782.20				8.00	695.3	330	115	115	8.00	695.3	70				70		
5040+50.00	5048+32.20	RT. MAIN LANES	782.20				38.00	3302.6	220	363	363				38.00	3302.6	99	99	135	461
5048+32.20	5058+22.00	RT. MAIN LANES	989.80				38.00	4179.2	440	919	919				72.00	7918.4	238	238	171	411
5058+22.00	5066+46.00	RT. MAIN LANES	824.00				2.00	183.1	356	33	33	2.00	183.1	18				18		
5058+22.00	5066+46.00	RT. MAIN LANES	824.00				36.00	3296.0	220	363	363				30.00	2746.7	82	82		
5058+22.00	5066+46.00	RT. MAIN LANES	824.00				38.00	3479.1	220	383	383				38.00	3479.1	104	104	142	848
5066+46.00	5067+30.90	RT. MAIN LANES	84.90				38.00	358.5	440	79	79				76.00	716.9	22	22	15	35
5067+30.90	5071+26.80	RT. MAIN LANES	395.90				46.00	2023.5	440	445	445				92.00	4047.0	121	121	68	165
5071+26.80	5074+26.80	RT. MAIN LANES	300.00				42.00	1400.0	440	308	308				84.00	2800.0	84	84	44	
5074+26.80	5074+74.55	RT. MAIN LANES	47.75				38.00	201.6	440	44	44				76.00	403.2	12	12	7	
5077+54.61	5093+92.10	RT. MAIN LANES	1637.49				38.00	6913.8	440	1521	1521				72.00	13099.9	393	393	238	
5092+31.40	5183+00.00	RT. MAIN LANES	9068.60				38.00	38289.6	440	8424	8424				72.00	72548.8	2176	2176	1567	3769
5183+00.00	5188+00.00	RT. MAIN LANES - OVERLAY	512.10	24.00	1365.6	75	24.00	1365.6	519	354	429	24.00	1365.6	137	24.00	1365.6	41	178		
5183+00.00	5188+00.00	RT. MAIN LANES - OVERLAY	512.10	4.00	227.6	13	4.00	227.6	598	68	81	4.00	227.6	23	4.00	227.6	7	30	89	213
5183+00.00	5188+00.00	RT. MAIN LANES - OVERLAY	512.10	10.00	569.0	31	10.00	569.0	506	144	175	10.00	569.0	57	10.00	569.0	17	74	89	213
5183+00.00	5188+00.00	RT. MAIN LANES	512.10				38.00	2162.2	220	238	238									
5188+00.00	5194+00.00	RT. MAIN LANES	600.00				38.00	2533.3	440	557	557				72.00	4800.0	144	144	104	249
5194+00.00	5199+00.00	RT. MAIN LANES - OVERLAY	500.00	24.00	1333.3	73	24.00	1333.3	519	346	419	24.00	1333.3	133	24.00	1333.3	40	173		
5194+00.00	5199+00.00	RT. MAIN LANES - OVERLAY	500.00	4.00	222.2	12	4.00	222.2	598	66	78	4.00	222.2	22	4.00	222.2	7	29	86	208
5194+00.00	5199+00.00	RT. MAIN LANES - OVERLAY	500.00	10.00	555.6	31	10.00	555.6	506	141	172	10.00	555.6	56	10.00	555.6	17	73	86	208
5194+00.00	5199+00.00	RT. MAIN LANES	500.00				38.00	2111.1	220	232	232									
5199+00.00	5235+94.30	RT. MAIN LANES	3694.30				38.00	15598.2	440	3432	3432				72.00	29554.4	887	887	639	1535
5226+81.80	5244+00.40	RT. MAIN LANES	1718.60				38.00	7256.3	440	1596	1596				72.00	13748.8	412	412	297	789
5244+00.40	5250+00.40	RT. MAIN LANES	600.00				46.00	3066.7	440	675	675				92.00	6133.3	184	184	104	275
5250+00.40	5252+50.40	RT. MAIN LANES	250.00				42.00	1166.7	440	257	257				84.00	2333.3	70	70	43	115
5252+50.40	5252+92.42	RT. MAIN LANES	42.02				38.00	177.4	440	39	39				76.00	354.8	11	11	7	19
5044+76.90	5045+75.00	EASTBOUND EXIT RAMP - REST AREA - TURN OUT	98.10				VAR.	336.4	440	74	74				VAR.	672.80	20	20		
5226+04.80	5230+97.00	HWY. 84/171 INTERCHANGE - RAMP 1 - TURNOUT	492.20				VAR.	816.7	440	180	180				VAR.	1633.40	49	49		
TOTALS					4273.3	235		106427.9		21683	21918		5151.7	516		177174.0	5315	5831	3931	9513

BASIS OF ESTIMATE: ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.8%, ASPH. BINDER (PG76-22) = 5.2%
Nmax = 205

ACHM SURFACE COURSE - LEFT MAIN LANES

STATION	STATION	LOCATION	LENGTH	ACHM SURFACE COURSE (1/2") LEVELING - 110 LBS. PER SQ. YD. AVG. WIDTH			NORMAL AVG. WIDTH				TOTAL	TACK COAT 0.10 GAL. PER SQ. YD. AVG. WIDTH			0.03 GAL. PER SQ. YD. AVG. WIDTH			TOTAL	BORROW	AGGREGATE BASE COURSE (CLASS 1)	(CLASS 7)
			LIN. FT.	FEET	SQ. YD.	TON	FEET	SQ. YD.	LBS. PER SQ. YD.	TON	TON	FEET	SQ. YD.	GALLON	FEET	SQ. YD.	GALLON	GALLON	CU. YD.	TON	
5040+50.00	5046+11.80	LT. MAIN LANES	561.80				46.00	2871.4	440	632	632				92.00	5742.8	172	172	97	233	
5046+11.80	5054+33.10	LT. MAIN LANES	821.30				38.00	3467.7	440	763	763				76.00	6935.4	208	208	142	341	
5054+33.10	5072+68.96	LT. MAIN LANES	1835.86				38.00	7751.4	440	1705	1705				76.00	15502.8	465	465	317	830	
5075+39.03	5090+16.80	LT. MAIN LANES	1477.77				38.00	6239.5	440	1373	1373				76.00	12478.9	374	374	214		
5089+45.10	5183+00.00	LT. MAIN LANES	9354.90				38.00	39498.5	440	8690	8690				76.00	78996.9	2370	2370	1617	3888	
5183+00.00	5188+00.00	LT. MAIN LANES - OVERLAY	487.90	24.00	1301.1	72	24.00	1301.1	519	338	410	24.00	1301.1	130	24.00	1301.1	39	169			
5183+00.00	5188+00.00	LT. MAIN LANES - OVERLAY	487.90	4.00	216.8	12	4.00	216.8	598	65	77	4.00	216.8	22	4.00	216.8	7	29	97	203	
5183+00.00	5188+00.00	LT. MAIN LANES - OVERLAY	487.90	10.00	542.1	30	10.00	542.1	506	137	167	10.00	542.1	54	10.00	542.1	16	70	84	203	
5183+00.00	5188+00.00	LT. MAIN LANES	487.90				38.00	2060.0	220	227	227				38.00	2060.0	62	62			
5188+00.00	5194+00.00	LT. MAIN LANES	600.00				38.00	2533.3	440	557	557				76.00	5066.7	152	152	104	249	
5194+00.00	5199+00.00	LT. MAIN LANES - OVERLAY	500.00	24.00	1333.3	73	24.00	1333.3	519	346	419	24.00	1333.3	133	24.00	1333.3	40	173			
5194+00.00	5199+00.00	LT. MAIN LANES - OVERLAY	500.00	4.00	222.2	12	4.00	222.2	598	66	78	4.00	222.2	22	4.00	222.2	7	29	86	208	
5194+00.00	5199+00.00	LT. MAIN LANES - OVERLAY	500.00	10.00	555.6	31	10.00	555.6	506	141	172	10.00	555.6	56	10.00	555.6	17	73	86	208	
5194+00.00	5199+00.00	LT. MAIN LANES	500.00				38.00	2111.1	220	232	232				38.00	2111.1	63	63			
5199+00.00	5223+37.00	LT. MAIN LANES	2437.00				38.00	10289.6	440	2264	2264				38.00	10289.6	309	309	421	1013	
5220+37.00	5223+37.00	LT. MAIN LANES	300.00				42.00	1400.0	440	308	308				84.00	2800.0	84	84	52	125	
5223+37.00	5230+85.50	LT. MAIN LANES	748.50				46.00	3825.7	440	842	842				92.00	7651.3	230	230	129	311	
5230+85.50	5235+94.30	LT. MAIN LANES	508.80				38.00	2148.3	440	473	473				76.00	4296.5	129	129	88	211	
5226+81.80	5250+86.00	LT. MAIN LANES	2404.20				38.00	10151.1	440	2233	2233				76.00	20302.1	609	609	416	999	
5250+72.90	5252+92.42	LT. MAIN LANES	219.52				38.00	926.9	440	204	204				76.00	1853.7	56	56	38	91	
5060+85.60	5065+55.20	WESTBOUND EXIT RAMP - REST AREA - TURNOUT	469.60				VAR.	894.7	440	197	197				VAR.	1789.4	54	54	81	195	
5246+00.00	5250+73.20	HWY. 84/171 INTERCHANGE - RAMP 3 - TURNOUT	473.20				VAR.	837.3	440	184	184				VAR.	1674.6	50	50	82	197	
4998+50.00		MEDIAN CROSSING	VAR.				VAR.	74.0	220	8	8										45
*ENTIRE PROJECT - ADDITIONAL FOR GUARDRAIL - LT. & RT. MAIN LANES							VAR.	4961.9	440	1092	1092				VAR.	9923.8	298	298			2727
TOTALS					4171.1	230	628.0	106213.5		23077	23307		4171.1	417		193646.7	5811	6228	4151	9505	2772

BASIS OF ESTIMATE: ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.8%, ASPH. BINDER (PG76-22) = 5.2%
Nmax = 205
*NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SUMMARY OF BASE AND SURFACING QUANTITIES

LOCATION	TRENCHING & SHOULDER PREPERATION	COLD MILLING ASPHALT PAVEMENT	ACHM BASE COURSE (1 1/2")	ACHM BINDER COURSE (1")	ACHM SURFACE COURSE (1/2")	TACK COAT	BORROW	AGGREGATE BASE COURSE (CLASS 1)	(CLASS 7)
	STATION	SQ. YD.	TON	TON	TON	GALLON	CU. YD.	TON	TON
ACHM BASE COURSE - RIGHT MAIN LANES			29385			3350		4578	5925
ACHM BASE COURSE - LEFT MAIN LANES			26844			3163		2903	3449
ACHM BINDER COURSE - RIGHT MAIN LANES		16474.9		15547		4470			
ACHM BINDER COURSE - LEFT MAIN LANES		19599.5		15997		4479			
ACHM SURFACE COURSE - RIGHT MAIN LANES					21918	5831	3931	9513	
ACHM SURFACE COURSE - LEFT MAIN LANES					23307	6228	4151	9505	2772
BASE AND SURFACING - MAIN LANE SHOULDER RECONSTRUCTION	193.43			3783	947	516			
BASE AND SURFACING - CROSSOVERS AND TEMPORARY RAMPS FOR MAINTENANCE OF TRAFFIC			4056	5377	1903	1322			
BASE AND SURFACING - RAMPS			250	632	1262	4776			
BASE AND SURFACING - RAMP SHOULDERS			170	419	844	891	1196		
TOTALS	193.43	36074.4	60705	41755	50181	35026	9278	26499	12146

BASIS OF ESTIMATE:
ACHM BASE COURSE (1 1/2") - MIN. AGG. = 95.5%, ASPH. BINDER (PG76-22) = 4.5%
ACHM BINDER COURSE (1") - MIN. AGG. = 95.3%, ASPH. BINDER (PG76-22) = 4.7%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.8%, ASPH. BINDER (PG76-22) = 5.2%
Nmax = 205

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QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
4-20-12				6	ARK.			
				JOB NO.		061186	77	126

(2) SUMMARY OF QUANTITIES & REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
4-23-12

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS	6	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT	11104	SQ. YD.
202	REMOVAL AND DISPOSAL OF EXISTING WINGS	8	EACH
202	REMOVAL AND DISPOSAL OF FENCE	54248	LIN. FT.
202	REMOVAL AND DISPOSAL OF GUARDRAIL	6100	LIN. FT.
202	REMOVAL AND DISPOSAL OF IMPACT ATTENUATION BARRIER	2	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE PIER PROTECTION	104	LIN. FT.
202	REMOVAL AND DISPOSAL OF UNDERDRAIN COVER	43086	LIN. FT.
202	REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS	147	EACH
SP & 210	SOIL STABILIZATION	200	TON
SP & 210	BORROW	9278	CU. YD.
210	COMPACTED EMBANKMENT	16406	CU. YD.
210	UNCLASSIFIED EXCAVATION	21306	CU. YD.
SP & 215	TRENCHING AND SHOULDER PREPARATION	193	STATION
SS & 303	AGGREGATE BASE COURSE (CLASS 1)	26499	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	12422	TON
401	TACK COAT	35026	GALLON
SP, SS & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	57973	TON
SP, SS & 405	ASPHALT BINDER (PG76-22) IN ACHM BASE COURSE (1 1/2")	2732	TON
SP, SS & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	39793	TON
SP, SS & 406	ASPHALT BINDER (PG76-22) IN ACHM BINDER COURSE (1")	1962	TON
SP, SS & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	47572	TON
SP, SS & 407	ASPHALT BINDER (PG76-22) IN ACHM SURFACE COURSE (1/2")	2609	TON
412	COLD MILLING ASPHALT PAVEMENT	36074	SQ. YD.
SP, SS & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	1000	TON
SP & 504	APPROACH GUTTERS	190.18	CU. YD.
SP & 504	APPROACH SLABS	294.90	CU. YD.
SP, SS & 507	PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (8" UNIFORM THICKNESS)	206	SQ. YD.
SP, SS & 507	PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (10" UNIFORM THICKNESS)	86	SQ. YD.
507	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT FOR PATCHING	292	SQ. YD.
509	JOINT REHABILITATION (TYPE A)	810	LIN. FT.
509	JOINT REHABILITATION (TYPE B)	1590	LIN. FT.
509	JOINT REHABILITATION (TYPE D)	75	LIN. FT.
512	CLEANING AND FILLING JOINTS IN EXISTING CONCRETE PAVEMENT (TYPE 7)	3750	LIN. FT.
513	RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT	121468	SQ. YD.
513	REMOVAL OF EXISTING ASPHALT OVERLAY	129678	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SP & 603	TRAFFIC CONTROL SUPERVISOR	1.00	LUMP SUM
SP, SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	12" TEMPORARY CULVERT	1825	LIN. FT.
603	24" TEMPORARY CULVERT	4	LIN. FT.
SS & 604	SIGNS	1604	SQ. FT.
SS & 604	BARRICADES	192	LIN. FT.
SS & 604	TRAFFIC DRUMS	521	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	67606	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS	377733	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	30560	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	60817	LIN. FT.
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	27690	LIN. FT.
SP, SS & 604	ADVANCE WARNING ARROW PANEL	752	DAY
SP, SS & 604	PORTABLE CHANGEABLE MESSAGE SIGN	432	WEEK
SS & 604	VERTICAL PANELS	129	EACH
SS & 604	RELOCATING PRECAST CONCRETE BARRIER	27490	LIN. FT.
605	CONCRETE DITCH PAVING (TYPE B)	10692	SQ. YD.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	6	LIN. FT.
606	24" FLARED END SECTIONS FOR PIPE CULVERTS	1	EACH
606	SELECTED PIPE BEDDING	25	CU. YD.
606	SELECTED PIPE BACKFILL	25	CU. YD.
606	12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	156	LIN. FT.
609	DROP INLETS (TYPE N2)	2	EACH
SP & 610	DROP INLETS ADJUSTED TO GRADE	6	EACH
611	UNDERDRAIN COVER	43968	LIN. FT.
611	4" PIPE UNDERDRAINS	52113	LIN. FT.
611	UNDERDRAIN OUTLET PROTECTORS	181	EACH
611	UNDERDRAIN VIDEO INSPECTION	52113	LIN. FT.
614	CONCRETE SPILLWAY (TYPE A)	2	EACH
SS & 617	GUARDRAIL (TYPE A)	6600	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	18	EACH
SS & 617	TERMINAL ANCHOR POST (TYPE 1)	14	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	12	EACH
619	WIRE FENCE (TYPE A)	54248	LIN. FT.
* 619	16' STEEL GATES (ALTERNATE NO. 1)	3	EACH
* 619	16' ALUMINUM GATES (ALTERNATE NO. 2)	3	EACH
620	LIME	41	TON
620	MULCH COVER	37.00	ACRE
620	SEEDING	20.25	ACRE
SS & 620	WATER	2542.8	M. GALLON
621	SAND BAG DITCH CHECKS	1320	BAG
621	DROP INLET SILT FENCE	780	LIN. FT.
621	SEDIMENT BASIN	100	CU. YD.
621	SILT FENCE	500	LIN. FT.
621	OBLITERATION OF SEDIMENT BASIN	100	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	200	CU. YD.
621	TEMPORARY SEEDING	16.75	ACRE
623	SECOND SEEDING APPLICATION	20.25	ACRE
624	SOLID SODDING	10771	SQ. YD.
631	CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)	104	LIN. FT.
SP & 635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
640	MODIFYING DROP INLETS	4	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	87935	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	3500	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	65833	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	65833	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") (ALTERNATE NO. 1)	55748	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") (ALTERNATE NO. 2)	55748	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	3585	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	3585	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	1057	EACH
SS & 731	IMPACT ATTENUATION BARRIER (TYPE A)	2	EACH
802	CLASS S CONCRETE - ROADWAY	38.60	CU. YD.
SS & 804	REINFORCING STEEL - ROADWAY (GRADE 60)	52095	LBS.
SP & 811	SHEET PILES (PZ-40)	4540	LIN. FT.
SP	ACHM PATCHING OF EXISTING SHOULDERS	1000	TON
SP	MODULAR GLARE SHIELD	1200	LIN. FT.
SP	SCARIFYING CONCRETE PAVEMENT	1048	SQ. YD.
SP	SHAPING DITCH	10	STATION
SP	TEMPORARY RELOCATION OF EXISTING SIGNS	4	EACH
SP	WIRE ROPE SAFETY FENCE	24057	LIN. FT.
SP	WIRE ROPE SAFETY FENCE MAINTENANCE MATERIALS	1.00	LUMP SUM
SP	MOBILE SPEED NOTIFICATION SYSTEM	2	EACH
SP	PORTABLE CONSTRUCTION LIGHTING	1504	DAY
	STRUCTURES OVER 20'-0" SPAN		
802	CLASS S CONCRETE - ROADWAY	29.90	CU. YD.
SS & 804	REINFORCING STEEL - ROADWAY (GRADE 60)	1482	LBS.
SP & 811	SHEET PILES (PZ-40)	4336	LIN. FT.
816	FILTER BLANKET	195	SQ. YD.
816	FOUNDATION PROTECTION RIPRAP	312	TON

*DENOTES ALTERNATE BID ITEMS.

REVISION

DATE	REVISION	SHEET NO.
4/20/2012	REVISED SOIL STABILIZATION QUANTITY	69,77

SUMMARY OF QUANTITIES & REVISIONS

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.		061186	78	126

(2) SUPERELEVATION RATES & TRANSITION LIMITS

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

3-6-12

SUPERELEVATION RATES & TRANSITION LIMITS

STATION	STATION	LOCATION	PAVEMENT TRANSITION SLOPE FT. PER FT.		
			FROM	MAX	TO
5034+82.20	5038+32.20	RIGHT MAIN LANES	-0.020		-0.070
5038+32.20	5048+32.20	RIGHT MAIN LANES		-0.070	
5048+32.20	5051+82.20	RIGHT MAIN LANES	-0.070		-0.020
5053+72.00	5058+22.00	RIGHT MAIN LANES	-0.020		+0.096
5058+22.00	5066+46.00	RIGHT MAIN LANES		+0.096	
5066+46.00	5070+96.00	RIGHT MAIN LANES	+0.096		-0.020
5077+18.11	5080+68.11	RIGHT MAIN LANES	-0.020		-0.046
5080+68.11	5091+29.90	RIGHT MAIN LANES		-0.046	
5091+29.90	5093+19.20	RIGHT MAIN LANES	-0.046		-0.020
5151+22.60	5154+72.60	RIGHT MAIN LANES	-0.020		+0.020
5154+72.60	5186+03.10	RIGHT MAIN LANES		+0.020	
5186+03.10	5189+41.00	RIGHT MAIN LANES	+0.020		-0.020
5233+31.80	5227+69.30	RIGHT MAIN LANES	-0.020		-0.028
5227+69.30	5249+29.32	RIGHT MAIN LANES		-0.028	
5249+29.32	5252+92.42	RIGHT MAIN LANES	-0.028		-0.020
5050+83.10	5054+33.10	LEFT MAIN LANES	-0.020		+0.037
5054+33.10	5069+29.79	LEFT MAIN LANES		+0.037	
5069+29.76	5073+05.46	LEFT MAIN LANES	+0.037		-0.020
5078+65.80	5082+15.80	LEFT MAIN LANES	-0.020		-0.037
5082+15.80	5089+29.30	LEFT MAIN LANES		-0.037	
5089+29.30	5092+07.60	LEFT MAIN LANES	-0.037		-0.020
5233+31.80	5227+69.30	LEFT MAIN LANES	-0.020		+0.028
5227+69.30	5249+55.52	LEFT MAIN LANES		+0.028	
5249+55.52	5252+92.42	LEFT MAIN LANES	+0.028		-0.020

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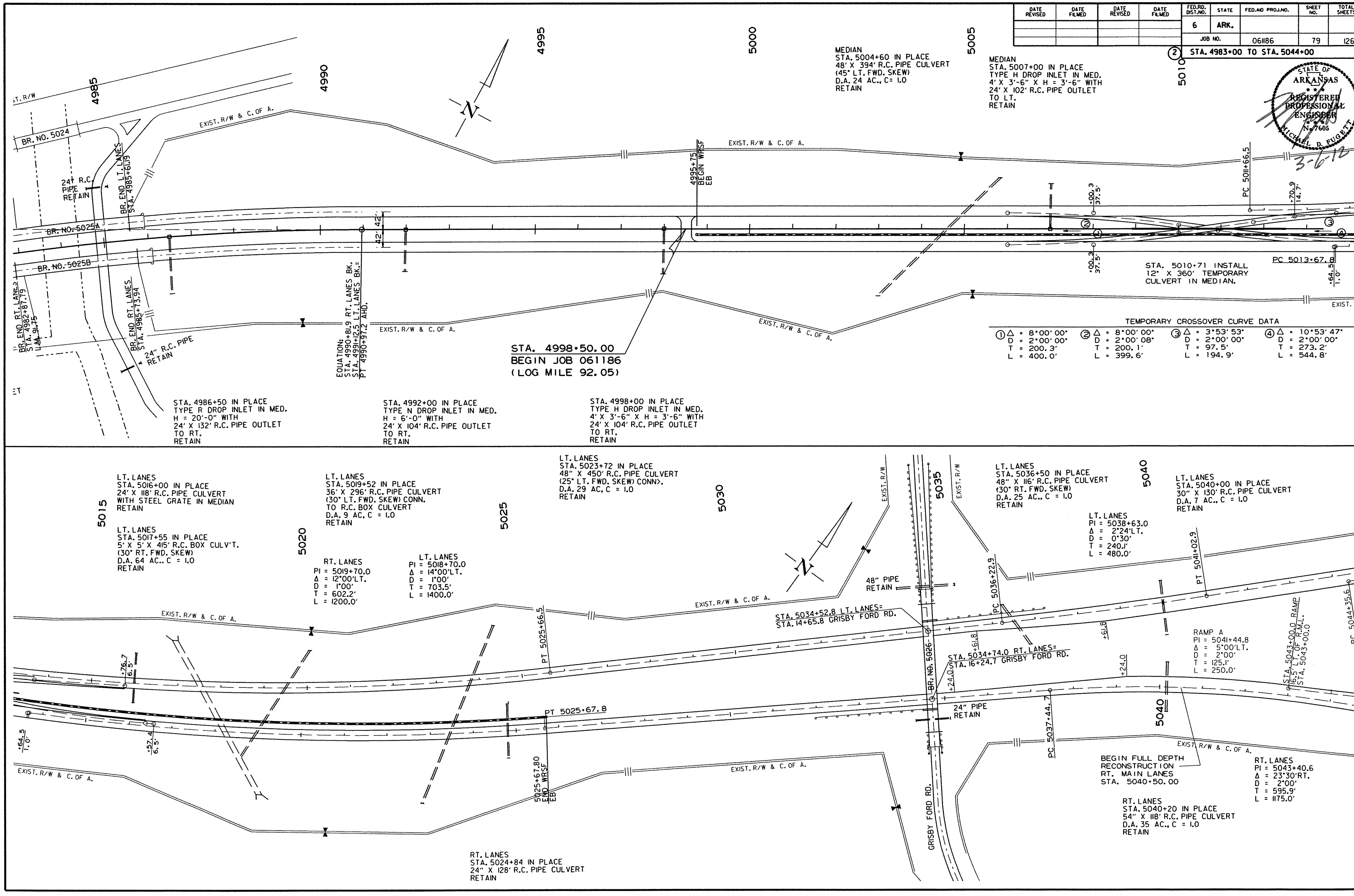
SUPERELEVATION RATES & TRANSITION LIMITS

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.		061186	79	126

(2) STA. 4983+00 TO STA. 5044+00



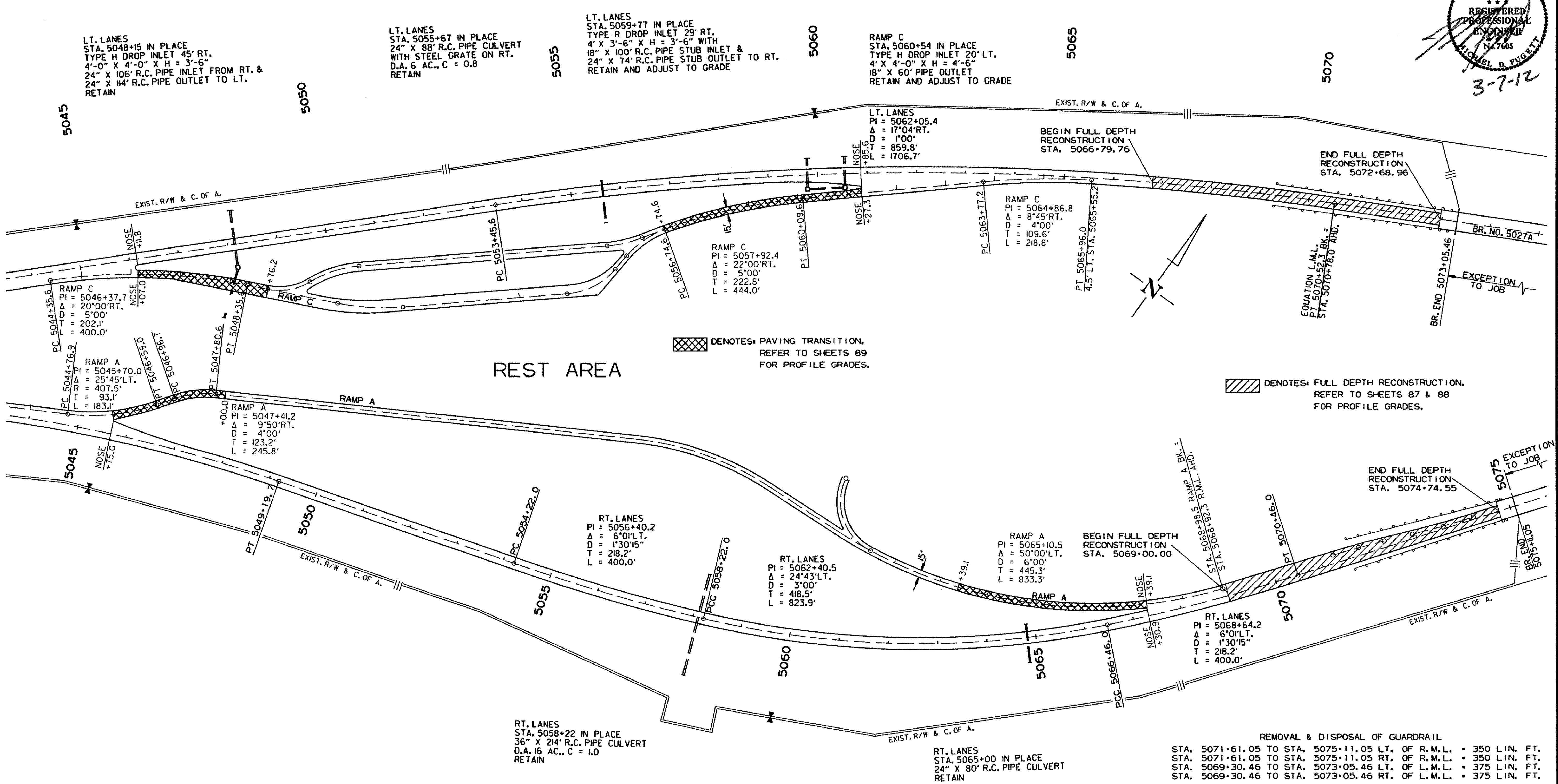
12-31-2008 R061186.P01

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.		061186	80	126

(2) STA. 5044+00 TO STA. 5075+00

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

3-7-12



REMOVAL & DISPOSAL OF GUARDRAIL

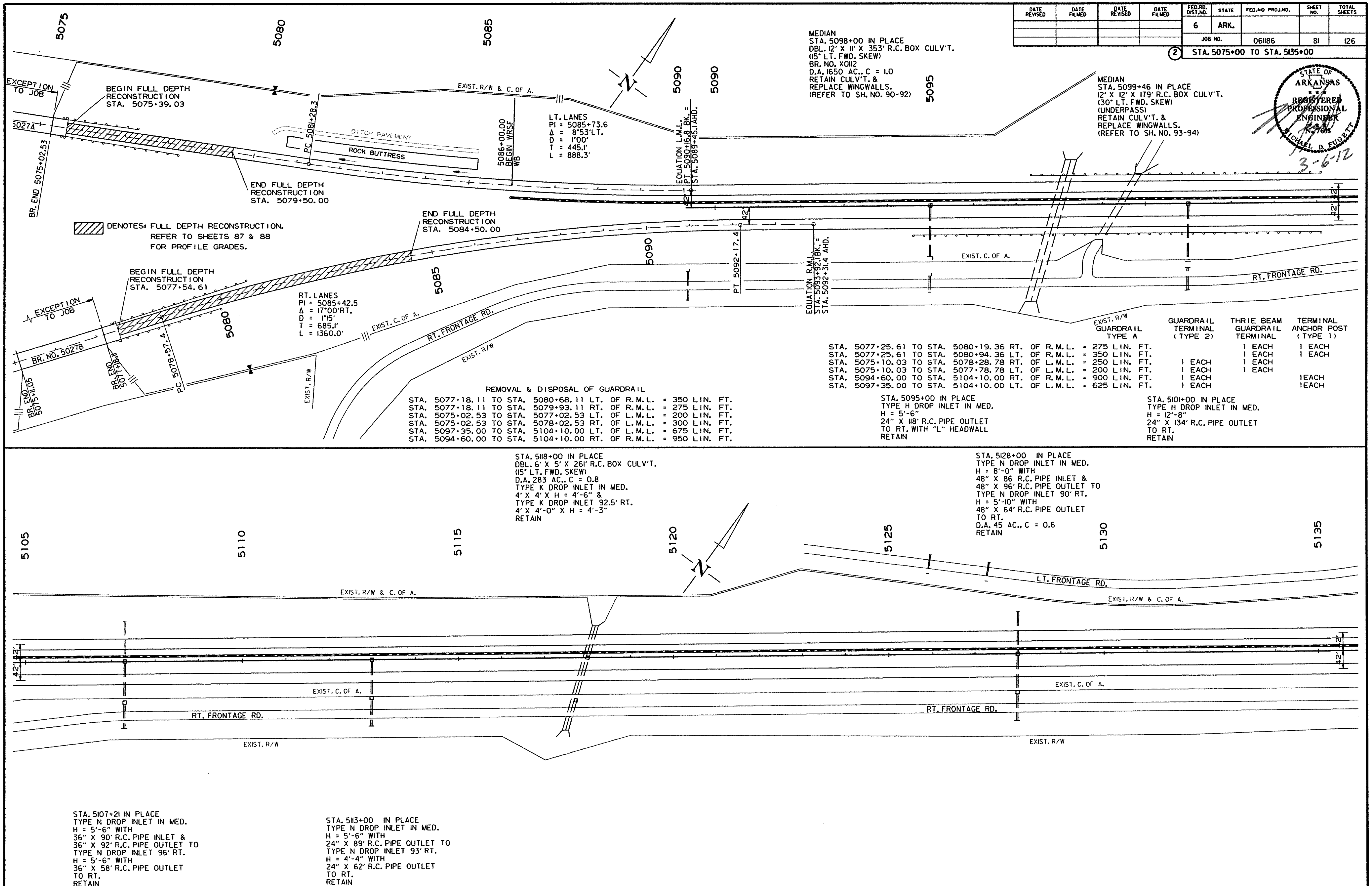
STA. 5071+61.05 TO STA. 5075+11.05 LT. OF R.M.L. = 350 LIN. FT.
STA. 5071+61.05 TO STA. 5075+11.05 RT. OF R.M.L. = 350 LIN. FT.
STA. 5069+30.46 TO STA. 5073+05.46 LT. OF L.M.L. = 375 LIN. FT.
STA. 5069+30.46 TO STA. 5073+05.46 RT. OF L.M.L. = 375 LIN. FT.

	GUARDRAIL TYPE A	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
STA. 5072+34.80 TO STA. 5075+03.55 RT. OF R.M.L.	= 200 LIN. FT.	1 EACH	1 EACH	
STA. 5071+84.80 TO STA. 5075+03.55 LT. OF R.M.L.	= 250 LIN. FT.	1 EACH	1 EACH	
STA. 5069+04.21 TO STA. 5072+97.96 RT. OF L.M.L.	= 375 LIN. FT.		1 EACH	1 EACH
STA. 5069+04.21 TO STA. 5072+97.96 LT. OF L.M.L.	= 375 LIN. FT.		1 EACH	1 EACH

12-31-2008 R06I186.P01

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.		061186	81	126

(2) STA. 5075+00 TO STA. 5135+00



	GUARDRAIL TYPE A	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
STA. 5077+25.61 TO STA. 5080+19.36 RT. OF R.M.L.	= 275 LIN. FT.		1 EACH	1 EACH
STA. 5077+25.61 TO STA. 5080+94.36 LT. OF R.M.L.	= 350 LIN. FT.		1 EACH	1 EACH
STA. 5075+10.03 TO STA. 5078+28.78 RT. OF L.M.L.	= 250 LIN. FT.	1 EACH	1 EACH	
STA. 5075+10.03 TO STA. 5077+78.78 LT. OF L.M.L.	= 200 LIN. FT.	1 EACH	1 EACH	
STA. 5094+60.00 TO STA. 5104+10.00 RT. OF R.M.L.	= 900 LIN. FT.	1 EACH		1EACH
STA. 5097+35.00 TO STA. 5104+10.00 LT. OF L.M.L.	= 625 LIN. FT.	1 EACH		1EACH

REMOVAL & DISPOSAL OF GUARDRAIL

STA. 5077+18.11 TO STA. 5080+68.11 LT. OF R.M.L.	= 350 LIN. FT.
STA. 5077+18.11 TO STA. 5079+93.11 RT. OF R.M.L.	= 275 LIN. FT.
STA. 5075+02.53 TO STA. 5077+02.53 LT. OF L.M.L.	= 200 LIN. FT.
STA. 5075+02.53 TO STA. 5078+02.53 RT. OF L.M.L.	= 300 LIN. FT.
STA. 5097+35.00 TO STA. 5104+10.00 LT. OF L.M.L.	= 675 LIN. FT.
STA. 5094+60.00 TO STA. 5104+10.00 RT. OF R.M.L.	= 950 LIN. FT.

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	82	126

(2) STA. 5135+00 TO STA. 5197+00

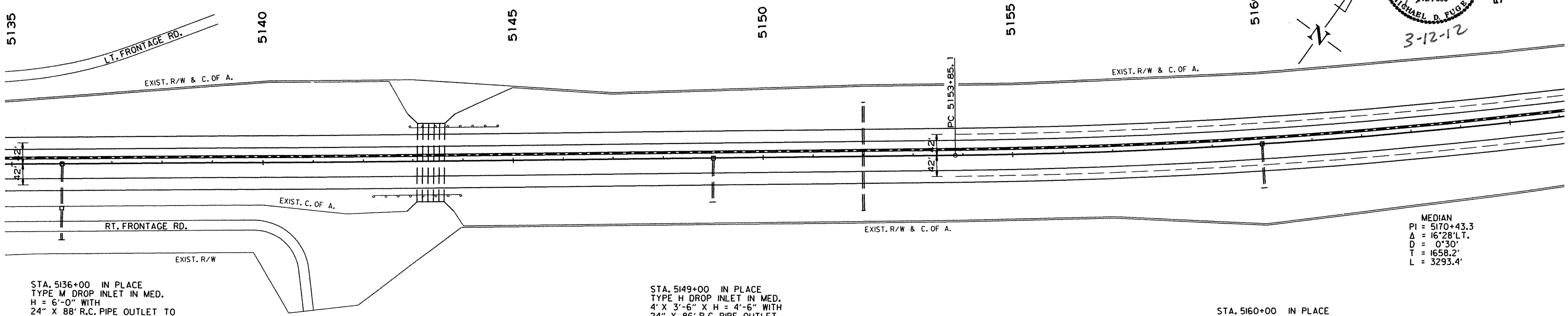
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
3-12-12

MEDIAN
STA. 5143+45 IN PLACE QUINTUPLE
10' X 8' X 164' R.C. BOX CULV'T.
(SPAN = 54.67')
D.A. 2110 AC., C = 0.8
RETAIN

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 5142+95.00 TO STA. 5144+70.00 LT. OF L.M.L. = 175 LIN. FT.
STA. 5142+20.00 TO STA. 5143+95.00 RT. OF R.M.L. = 175 LIN. FT.

STA. 5152+00 IN PLACE
36" X 218' R.C. PIPE CULVERT
D.A. 26 AC., C = 0.6
RETAIN

	GUARDRAIL TYPE A	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 5141+70.00 TO STA. 5143+95.00 RT. OF R.M.L. =	175 LIN. FT.	1 EACH	1 EACH
STA. 5142+95.00 TO STA. 5145+20.00 LT. OF L.M.L. =	175 LIN. FT.	1 EACH	1 EACH



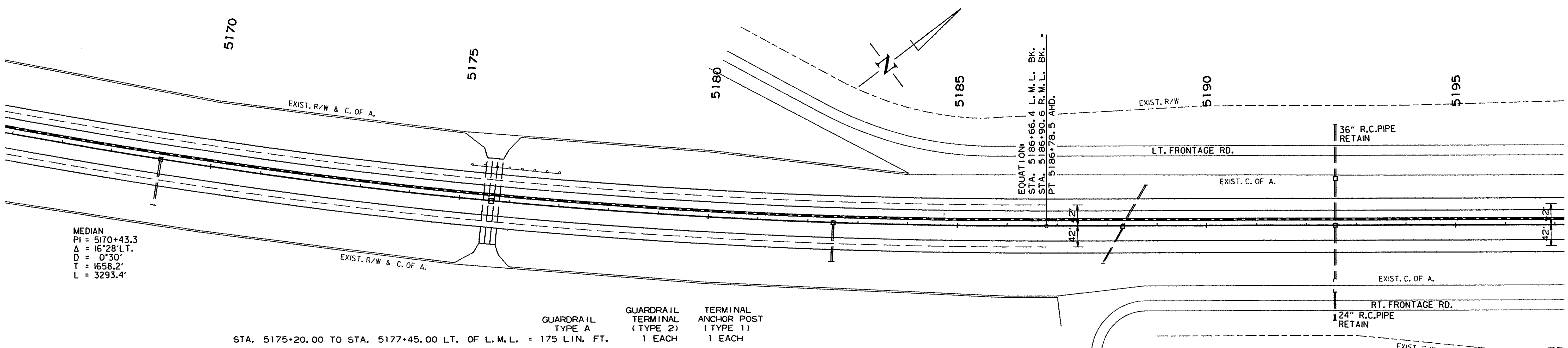
MEDIAN
PI = 5170+43.3
Δ = 16°28'LT.
D = 0°30'
T = 1658.2'
L = 3293.4'

STA. 5136+00 IN PLACE
TYPE M DROP INLET IN MED.
H = 6'-0" WITH
24" X 88' R.C. PIPE OUTLET TO
TYPE H DROP INLET 92' RT.
H = 4'-4" WITH
24" X 62' R.C. PIPE OUTLET
TO RT.
RETAIN

STA. 5149+00 IN PLACE
TYPE H DROP INLET IN MED.
4' X 3'-6" X H = 4'-6" WITH
24" X 86' R.C. PIPE OUTLET
TO RT.
RETAIN

STA. 5160+00 IN PLACE
TYPE H DROP INLET IN MED.
4' X 3'-6" X H = 3'-6" WITH
24" X 86' R.C. PIPE OUTLET
TO RT.
RETAIN, MODIFY AND ADJUST TO GRADE

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 5175+20.00 TO STA. 5176+95.00 LT. OF L.M.L. = 175 LIN. FT.



MEDIAN
PI = 5170+43.3
Δ = 16°28'LT.
D = 0°30'
T = 1658.2'
L = 3293.4'

	GUARDRAIL TYPE A	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 5175+20.00 TO STA. 5177+45.00 LT. OF L.M.L. =	175 LIN. FT.	1 EACH	1 EACH

STA. 5169+00 IN PLACE
TYPE H DROP INLET IN MED.
4' X 3'-6" X H = 3'-6" WITH
24" X 90' R.C. PIPE OUTLET
TO RT.
RETAIN, MODIFY AND ADJUST TO GRADE

STA. 5175+67 IN PLACE TRIPLE
10' X 8' X 172' R.C. BOX CULV'T.
(SPAN = 33.00')
D.A. 1920 AC., C = 0.8
TYPE K DROP INLET IN MEDIAN
4'-0" X 4'-0" X 2'-2"
RETAIN, MODIFY AND ADJUST TO GRADE

STA. 5182+50 IN PLACE
TYPE H DROP INLET 6' RT.
4' X 3'-6" X H = 3'-1" WITH
24" X 74' R.C. PIPE OUTLET
TO RT.
RETAIN AND ADJUST TO GRADE

STA. 5188+33 IN PLACE
TYPE H DROP INLET IN MEDIAN 8' RT.
4' X 5'-6" X H = 4'-4" WITH
36" X 92' R.C. PIPE INLET &
(30° LT. FWD. SKEW)
36" X 80' R.C. PIPE OUTLET
TO RT.
(30° LT. FWD. SKEW)
RETAIN

STA. 5192+60 IN PLACE
TYPE H DROP INLET IN MEDIAN 8' RT.
4' X 3'-6" X H = 5'-4"
TYPE E JUNCTION BOX WITH STEEL
GRATE ASSEMBLY 90' LT. OF MEDIAN
H = 4'-6"
24" X 86' R.C. PIPE INLET &
24" X 104' R.C. PIPE OUTLET TO RT.
WITH "L" HEADWALLS RT.
RETAIN

12-31-2008 R061186.P01

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.		061186	83	126

(2) STA. 5197+00 TO STA. 5250+00

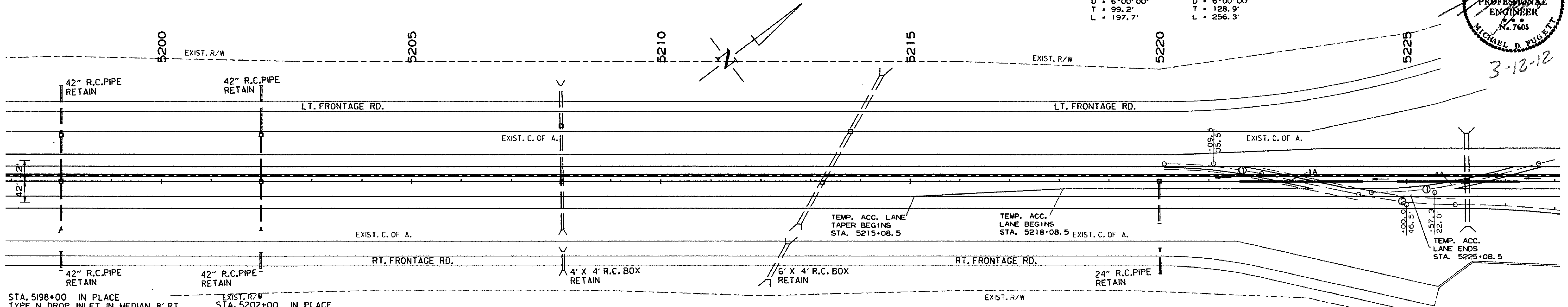
STA. 5226+28 COVER DROP INLET AS DIRECTED BY THE ENGINEER PRIOR TO CONSTRUCTION OF TEMPORARY RAMP. REMOVE COVER WHEN TEMPORARY RAMP IS REMOVED. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

TEMPORARY RAMP 1A CURVE DATA
(1)(2)Δ = 11°51'36"
D = 6°00'00"
T = 99.2'
L = 197.7'

TEMPORARY RAMP 4A CURVE DATA
(1)Δ = 15°22'35"
D = 6°00'00"
T = 128.9'
L = 256.3'

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

3-12-12



STA. 5198+00 IN PLACE
TYPE N DROP INLET IN MEDIAN 8' RT.
H = 6'-0"
TYPE E JUNCTION BOX WITH STEEL GRATE ASSEMBLY 90' LT. OF MEDIAN
H= 4'-6"
42" X 90' R.C. PIPE INLET &
42" X 94' R.C. PIPE OUTLET TO RT. WITH "L" HEADWALLS LT. & RT.
D.A. 16 AC., C = 1.0
RETAIN

STA. 5202+00 IN PLACE
TYPE H DROP INLET IN MEDIAN 7' RT.
4' X 5'-6" X H = 5'-0"
TYPE E JUNCTION BOX WITH STEEL GRATE ASSEMBLY 90' LT. OF MEDIAN
H = 4'-6"
42" X 90' R.C. PIPE INLET &
42" X 92' R.C. PIPE OUTLET TO RT.
D.A. 19.5 AC., C = 1.0
RETAIN

STA. 5208+00 IN PLACE
4' X 4' X 290' R.C. BOX CULV'T.
D.A. 42 AC., C = 1.0
TYPE K DROP INLET 100' LT.
4'-0" X 3'-0" X 2'-4" &
TYPE N DROP INLET 5' RT.
H = 5'-4"
RETAIN

STA. 5213+06 IN PLACE
6' X 4' X 341' R.C. BOX CULV'T. (30° LT. FWD. SKEW)
D.A. 70 AC., C = 1.0
TYPE K DROP INLET 96' LT.
4'-0" X 3'-0" X 2'-6" &
TYPE K DROP INLET 1' RT.
4' X 3'-0" X H = 4'-11"
RETAIN

STA. 5220+00 IN PLACE
TYPE H DROP INLET IN MEDIAN
4' X 3'-6" X H = 3'-6"
24" X 82' R.C. PIPE OUTLET TO RT.
RETAIN

STA. 5222+87 INSTALL 12" X 250' TEMPORARY CULVERT IN MEDIAN.

STA. 5226+05 INSTALL 12" X 250' TEMPORARY CULVERT IN MEDIAN.

STA. 5226+28 IN PLACE
6' X 4' X 187' R.C. BOX CULV'T.
D.A. 70 AC., C = 1.0
TYPE K DROP INLET IN MEDIAN
4'-0" X 4'-0" X 4'-0"
RETAIN

	GUARDRAIL TYPE A	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARD RAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
~~STA. 5229+95.00 TO STA. 5231+70.00 LT. OF L.M.L.~~	= 125 LIN. FT.	1 EACH		1 EACH
~~STA. 5231+06.25 TO STA. 5233+75.00 RT. OF R.M.L.~~	= 200 LIN. FT.	1 EACH	1 EACH	
~~STA. 5233+65.00 TO STA. 5236+33.75 LT. OF L.M.L.~~	= 200 LIN. FT.	1 EACH	1 EACH	
~~STA. 5236+34.00 TO STA. 5238+59.00 LT. OF R.M.L.~~	= 175 LIN. FT.	1 EACH		1 EACH
~~STA. 5239+69.00 TO STA. 5241+94.00 RT. OF R.M.L.~~	= 175 LIN. FT.	1 EACH		1 EACH

TEMPORARY RAMP 2A CURVE DATA
(1)Δ = 25°36'05"
D = 6°00'00"
T = 217.0'
L = 426.7'

TEMPORARY RAMP 2B CURVE DATA
(1)Δ = 11°01'55"
D = 5°00'00"
T = 110.7'
L = 220.6'
(2)Δ = 22°03'59"
D = 8°30'00"
T = 131.4'
L = 259.6'

TEMPORARY RAMP 3A CURVE DATA
(1)Δ = 19°55'44"
D = 6°30'00"
T = 154.9'
L = 306.6'

TEMPORARY RAMP 3B CURVE DATA
(1)Δ = 15°44'50"
D = 6°00'00"
T = 132.1'
L = 262.5'

TEMPORARY RAMP 3C CURVE DATA
(1)Δ = 14°52'31"
D = 4°00'00"
T = 187.0'
L = 371.9'

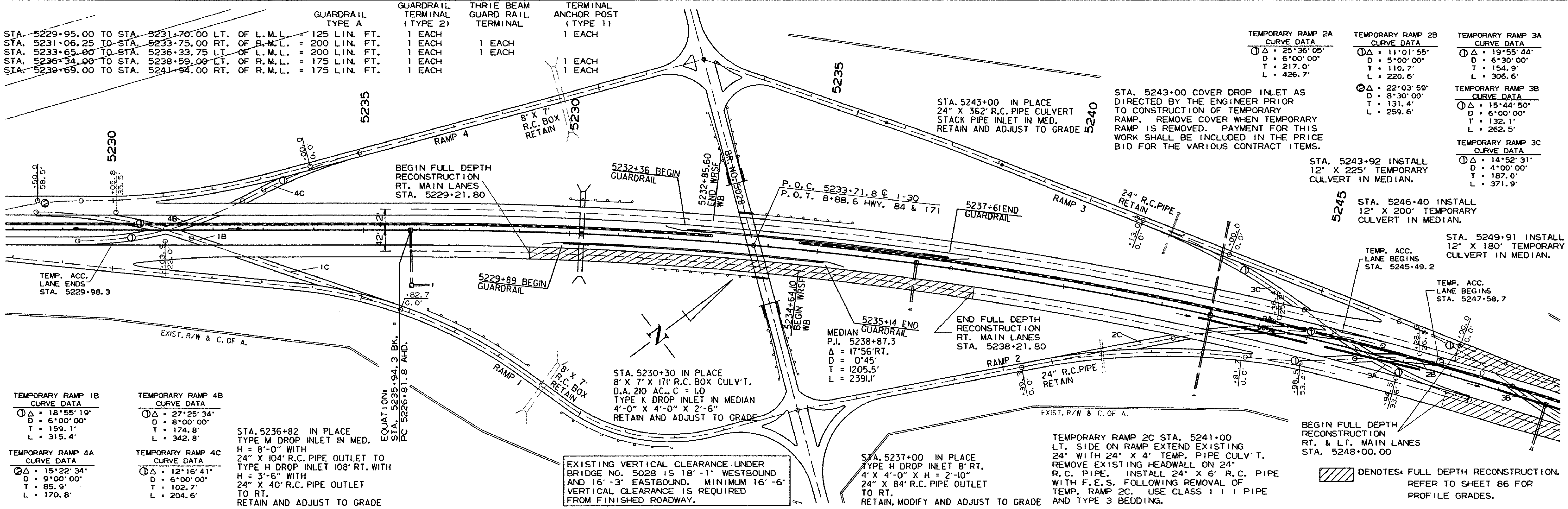
STA. 5243+00 IN PLACE
24" X 362' R.C. PIPE CULVERT STACK PIPE INLET IN MED.
RETAIN AND ADJUST TO GRADE

STA. 5243+00 COVER DROP INLET AS DIRECTED BY THE ENGINEER PRIOR TO CONSTRUCTION OF TEMPORARY RAMP. REMOVE COVER WHEN TEMPORARY RAMP IS REMOVED. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

STA. 5243+92 INSTALL 12" X 225' TEMPORARY CULVERT IN MEDIAN.

STA. 5246+40 INSTALL 12" X 200' TEMPORARY CULVERT IN MEDIAN.

STA. 5249+91 INSTALL 12" X 180' TEMPORARY CULVERT IN MEDIAN.



TEMPORARY RAMP 1B CURVE DATA
(1)Δ = 18°55'19"
D = 6°00'00"
T = 159.1'
L = 315.4'

TEMPORARY RAMP 4B CURVE DATA
(1)Δ = 27°25'34"
D = 8°00'00"
T = 174.8'
L = 342.8'

TEMPORARY RAMP 4A CURVE DATA
(2)Δ = 15°22'34"
D = 9°00'00"
T = 85.9'
L = 170.8'

TEMPORARY RAMP 4C CURVE DATA
(1)Δ = 12°16'41"
D = 6°00'00"
T = 102.7'
L = 204.6'

STA. 5236+82 IN PLACE
TYPE M DROP INLET IN MED.
H = 8'-0" WITH
24" X 104' R.C. PIPE OUTLET TO
TYPE H DROP INLET 108' RT. WITH
H = 3'-6" WITH
24" X 40' R.C. PIPE OUTLET TO RT.
RETAIN AND ADJUST TO GRADE

STA. 5230+30 IN PLACE
8' X 7' X 171' R.C. BOX CULV'T.
D.A. 210 AC., C = 1.0
TYPE K DROP INLET IN MEDIAN
4'-0" X 4'-0" X 2'-6"
RETAIN AND ADJUST TO GRADE

EXISTING VERTICAL CLEARANCE UNDER BRIDGE NO. 5028 IS 18'-1" WESTBOUND AND 16'-3" EASTBOUND. MINIMUM 16'-6" VERTICAL CLEARANCE IS REQUIRED FROM FINISHED ROADWAY.

STA. 5237+00 IN PLACE
TYPE H DROP INLET 8' RT.
4' X 4'-0" X H = 2'-10"
24" X 84' R.C. PIPE OUTLET TO RT.
RETAIN, MODIFY AND ADJUST TO GRADE

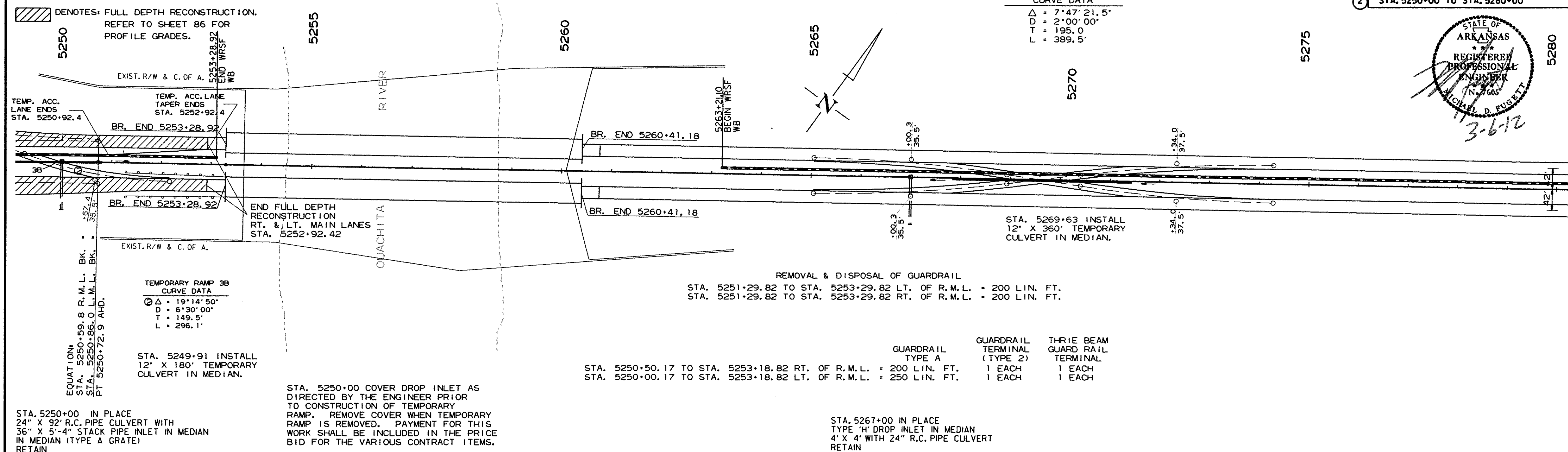
TEMPORARY RAMP 2C STA. 5241+00 LT. SIDE ON RAMP EXTEND EXISTING 24" WITH 24" X 4' TEMP. PIPE CULV'T. REMOVE EXISTING HEADWALL ON 24" R.C. PIPE. INSTALL 24" X 6' R.C. PIPE WITH F.E.S. FOLLOWING REMOVAL OF TEMP. RAMP 2C. USE CLASS III PIPE AND TYPE 3 BEDDING.

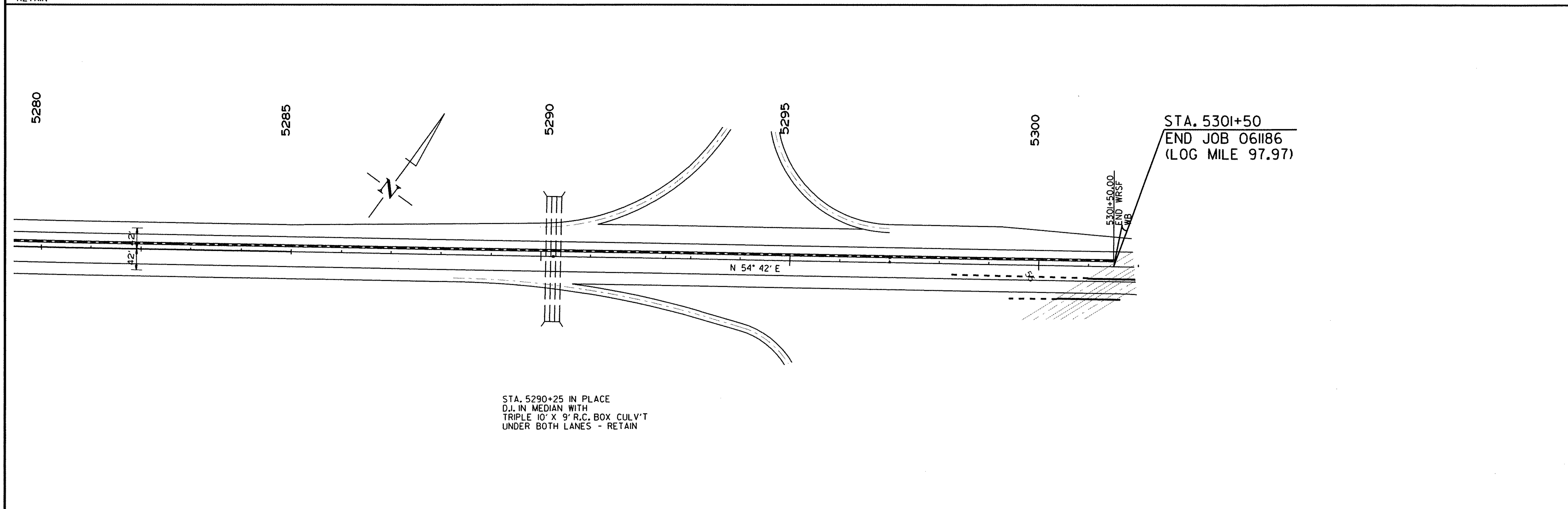
DENOTES: FULL DEPTH RECONSTRUCTION. REFER TO SHEET 86 FOR PROFILE GRADES.

12-31-2008 R061186.P01

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.		061186	84	126

(2) STA. 5250+00 TO STA. 5280+00





12-31-2008 R061186.P01

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.		061186	85	126

2 HWY. 84/171 INTERCHANGE LAYOUT

REMOVAL & DISPOSAL OF GUARDRAIL

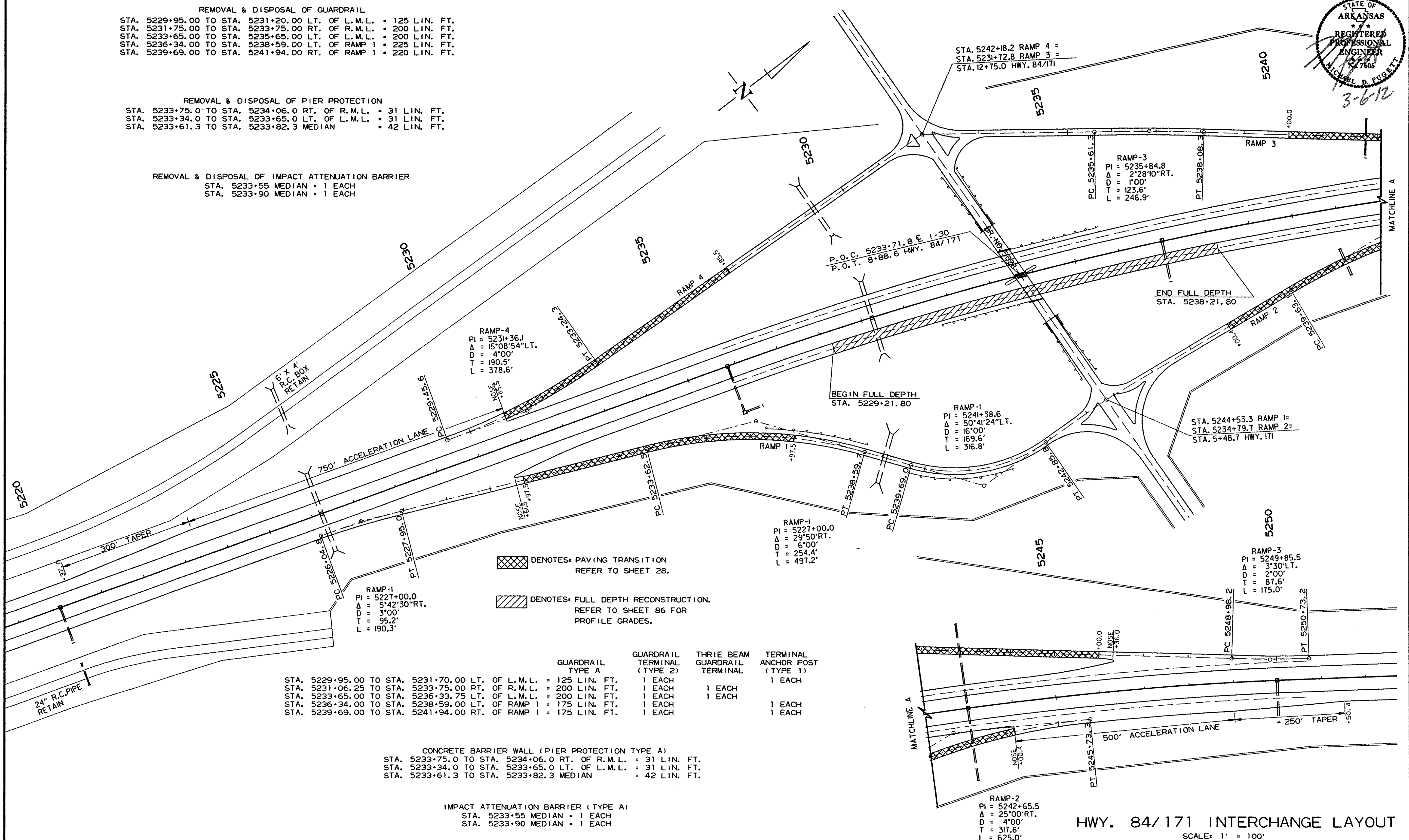
STA. 5229+95.00 TO STA. 5231+20.00 LT. OF L.M.L. = 125 LIN. FT.
STA. 5231+75.00 TO STA. 5233+75.00 RT. OF R.M.L. = 200 LIN. FT.
STA. 5233+65.00 TO STA. 5235+65.00 LT. OF L.M.L. = 200 LIN. FT.
STA. 5236+34.00 TO STA. 5238+59.00 LT. OF RAMP 1 = 225 LIN. FT.
STA. 5239+69.00 TO STA. 5241+94.00 RT. OF RAMP 1 = 220 LIN. FT.

REMOVAL & DISPOSAL OF PIER PROTECTION

STA. 5233+75.0 TO STA. 5234+06.0 RT. OF R.M.L. = 31 LIN. FT.
STA. 5233+34.0 TO STA. 5233+65.0 LT. OF L.M.L. = 31 LIN. FT.
STA. 5233+61.3 TO STA. 5233+82.3 MEDIAN = 42 LIN. FT.

REMOVAL & DISPOSAL OF IMPACT ATTENUATION BARRIER

STA. 5233+55 MEDIAN = 1 EACH
STA. 5233+90 MEDIAN = 1 EACH



DENOTES: PAVING TRANSITION REFER TO SHEET 28.

DENOTES: FULL DEPTH RECONSTRUCTION. REFER TO SHEET 86 FOR PROFILE GRADES.

	GUARDRAIL TYPE A	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
STA. 5229+95.00 TO STA. 5231+70.00 LT. OF L.M.L.	= 125 LIN. FT.	1 EACH		1 EACH
STA. 5231+06.25 TO STA. 5233+75.00 RT. OF R.M.L.	= 200 LIN. FT.	1 EACH	1 EACH	
STA. 5233+65.00 TO STA. 5236+33.75 LT. OF L.M.L.	= 200 LIN. FT.	1 EACH	1 EACH	
STA. 5236+34.00 TO STA. 5238+59.00 LT. OF RAMP 1	= 175 LIN. FT.	1 EACH		1 EACH
STA. 5239+69.00 TO STA. 5241+94.00 RT. OF RAMP 1	= 175 LIN. FT.	1 EACH		1 EACH

CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)

STA. 5233+75.0 TO STA. 5234+06.0 RT. OF R.M.L. = 31 LIN. FT.
STA. 5233+34.0 TO STA. 5233+65.0 LT. OF L.M.L. = 31 LIN. FT.
STA. 5233+61.3 TO STA. 5233+82.3 MEDIAN = 42 LIN. FT.

IMPACT ATTENUATION BARRIER (TYPE A)

STA. 5233+55 MEDIAN = 1 EACH
STA. 5233+90 MEDIAN = 1 EACH

HWY. 84/171 INTERCHANGE LAYOUT

SCALE: 1" = 100'

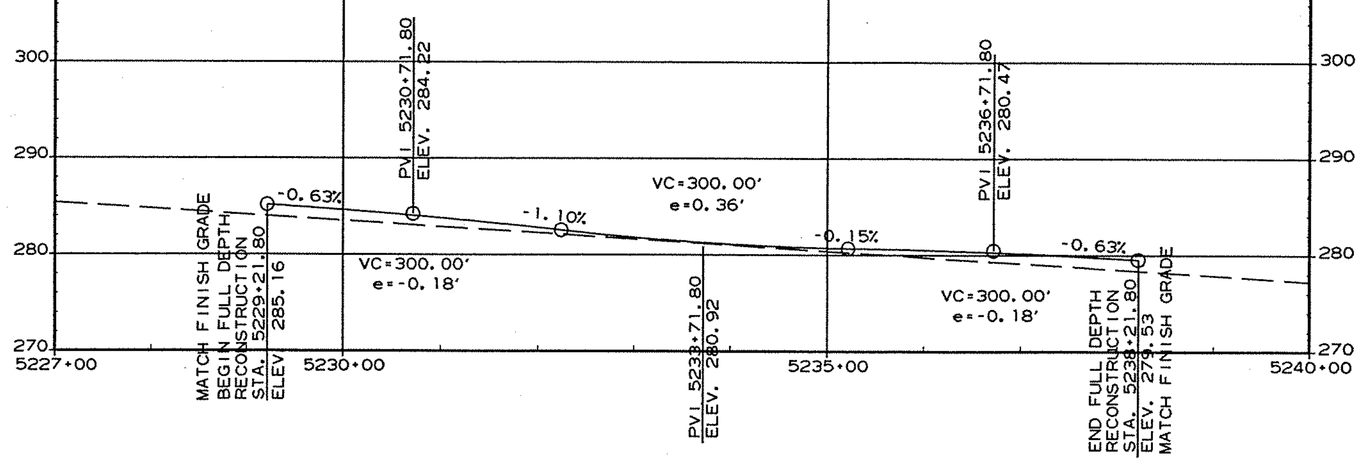
12-31-2008 R061186.INT

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.		061186	86	126

(2) PROFILE GRADES

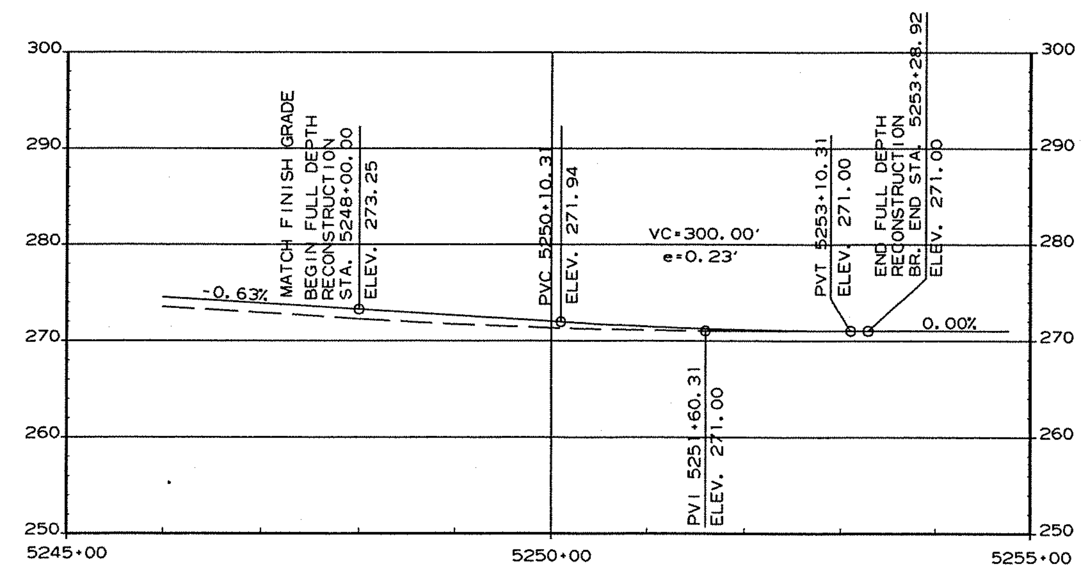
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT

3-6-12



RIGHT MAIN LANES

NOTE: EXISTING VERTICAL CLEARANCE UNDER BRIDGE NO. 5028 IS 16'-3" EASTBOUND. MINIMUM 16'-6" VERTICAL CLEARANCE IS REQUIRED FROM FINISHED ROADWAY. PROFILE GRADE SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER TO PROVIDE 16'-6" MINIMUM CLEARANCE AND TO MATCH FINISHED ROADWAY.



RIGHT & LEFT MAIN LANES

NOTE: PROFILE GRADES SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MATCH FINISHED ROADWAY.

12-31-2008 R061186.PRI

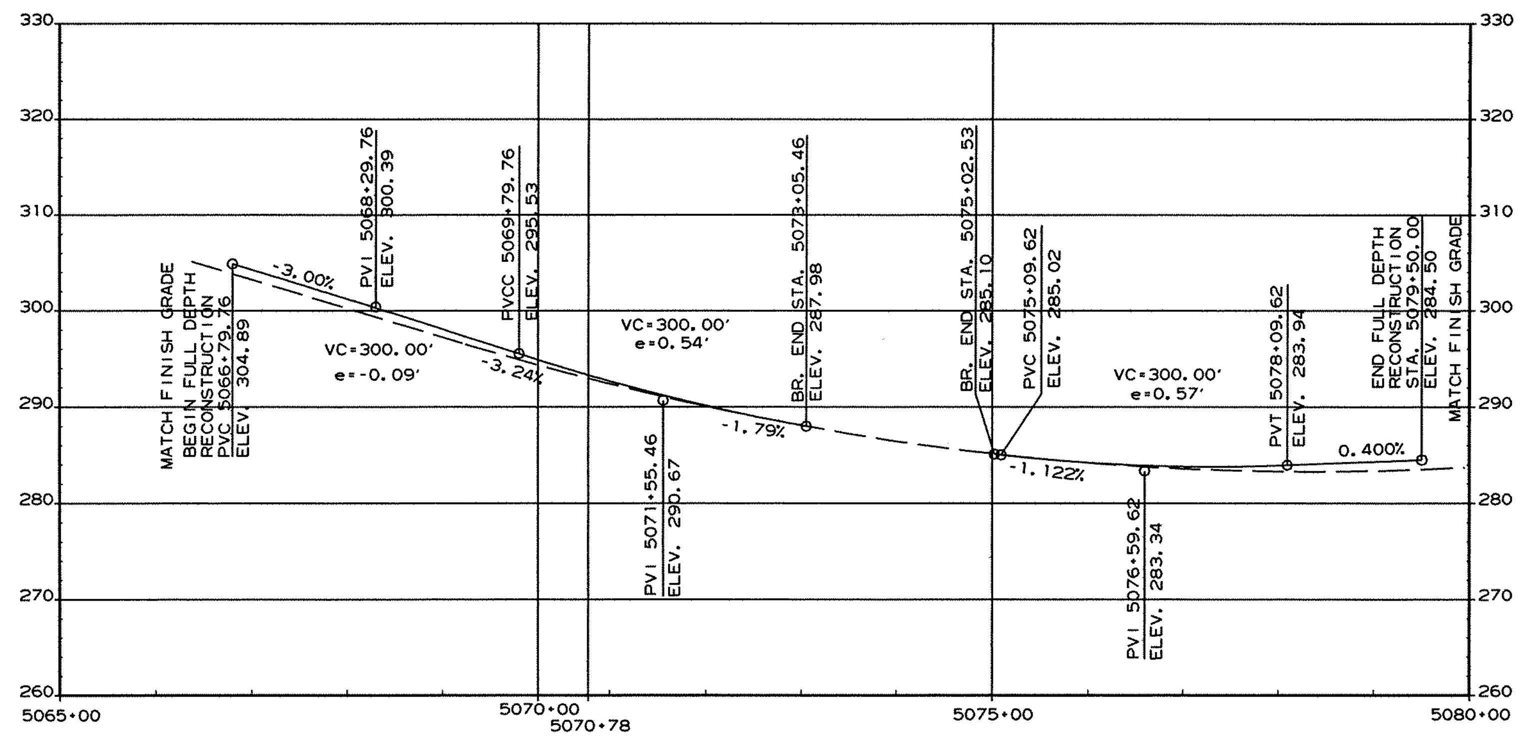
PROFILE GRADES

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.		061186	87	126

(2) PROFILE GRADES

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

3-6-12



LEFT MAIN LANES

NOTE: PROFILE GRADES SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MATCH FINISHED ROADWAY.

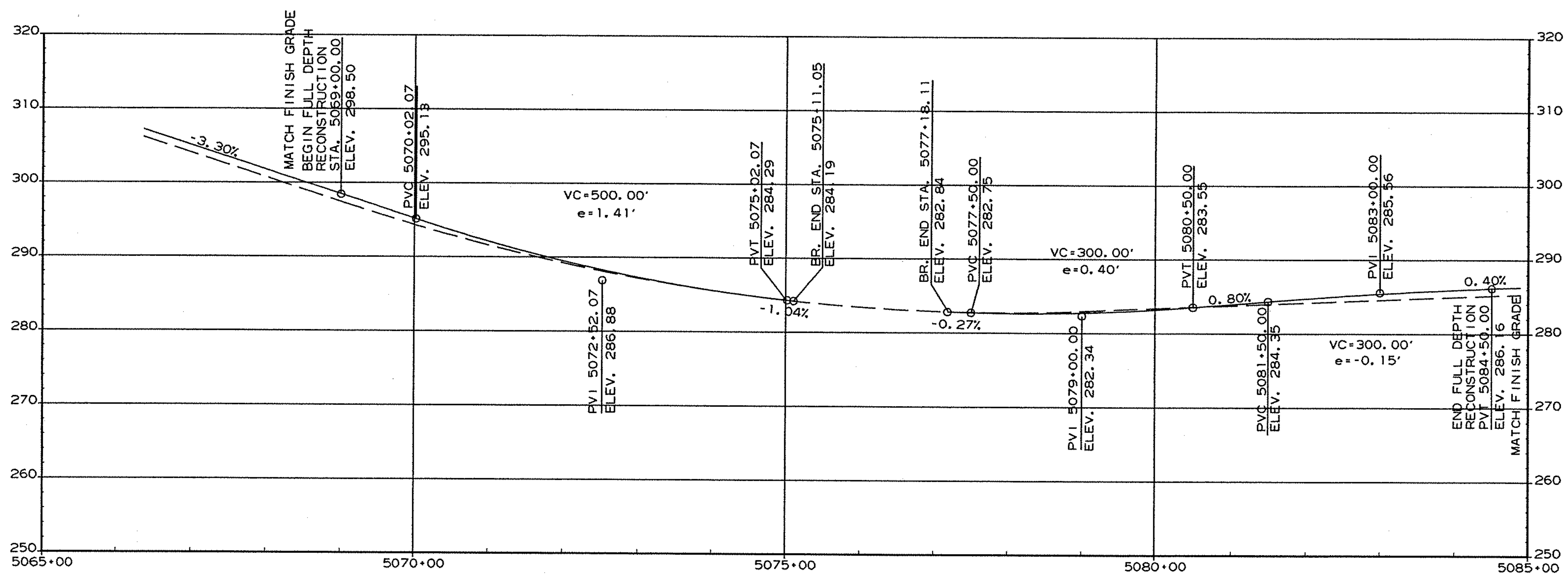
12-31-2008 R061186.PRI

PROFILE GRADES

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.		061186	88	126

(2) PROFILE GRADES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
3-6-12



RIGHT MAIN LANES

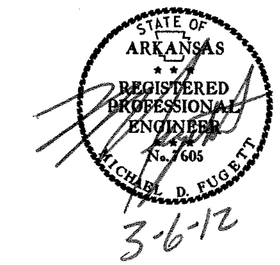
NOTE: PROFILE GRADES SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MATCH FINISHED ROADWAY.

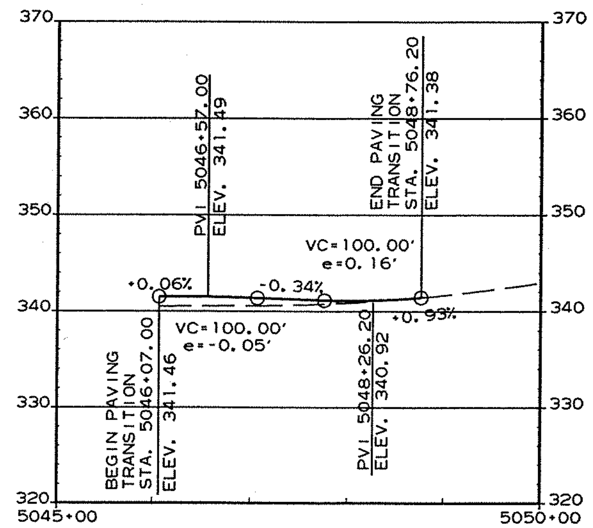
12-31-2008 R061186.PRI

PROFILE GRADES

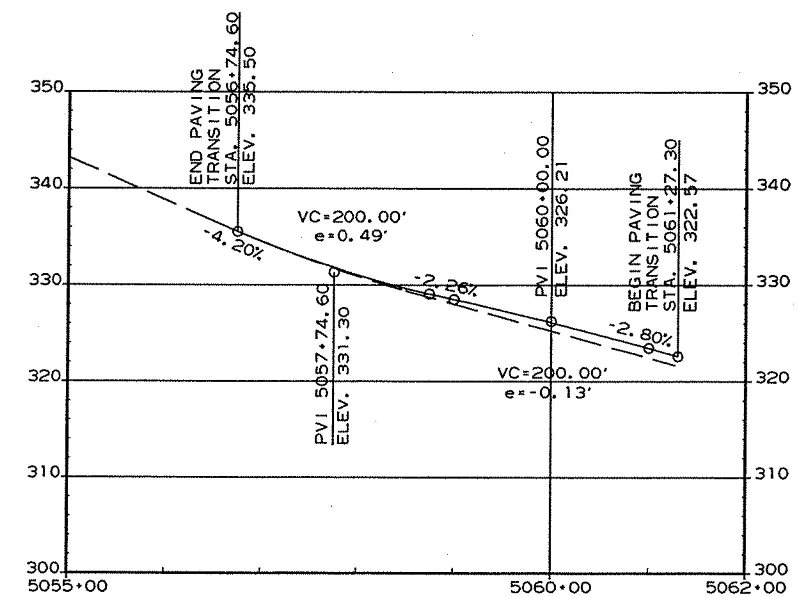
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			-
					JOB NO.	061186	89	126

(2) PROFILE GRADES

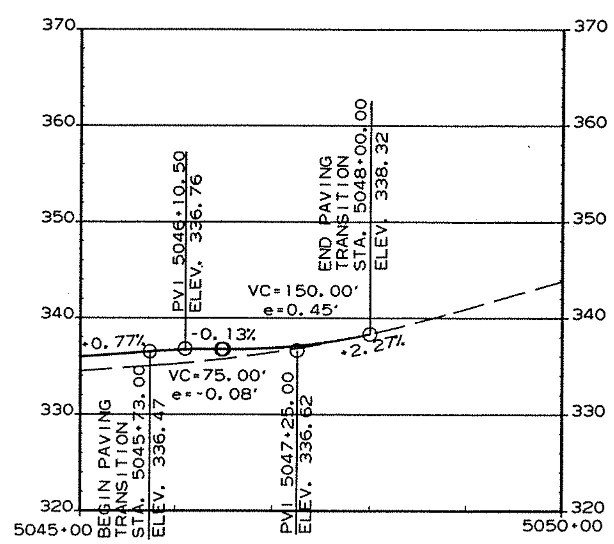




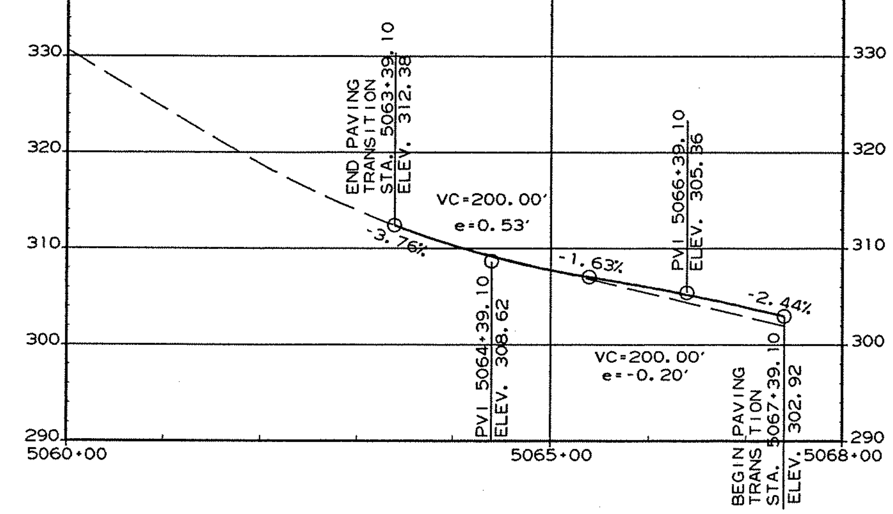
WESTBOUND ENTRANCE RAMP - SOCIAL HILL REST AREA



WESTBOUND EXIT RAMP - SOCIAL HILL REST AREA



EASTBOUND EXIT RAMP - SOCIAL HILL REST AREA

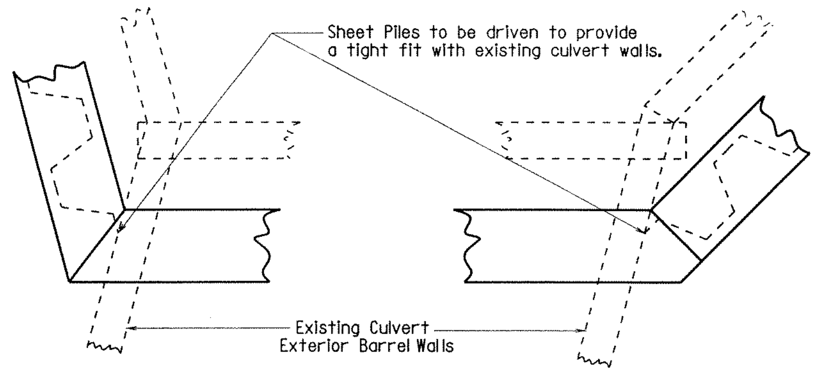


EASTBOUND ENTRANCE RAMP - SOCIAL HILL REST AREA

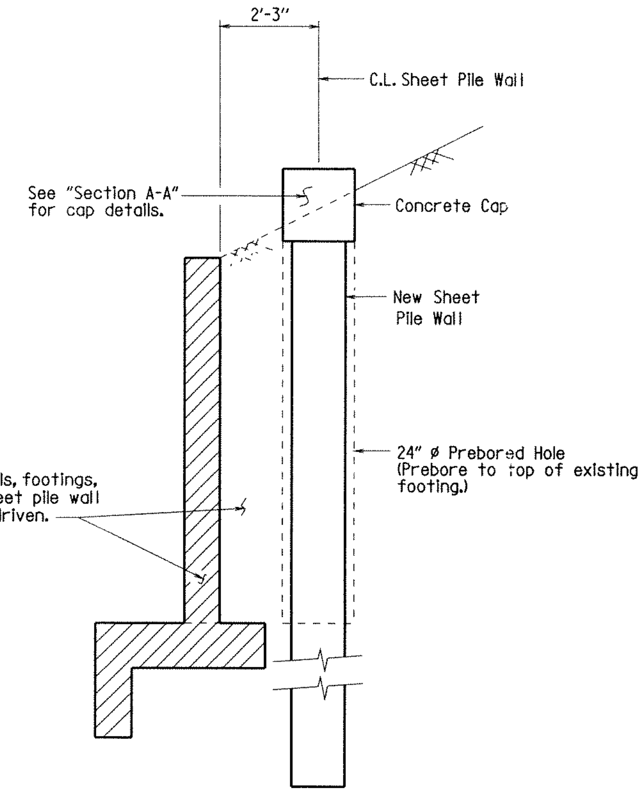
12-31-2008 R061186.PRI

PROFILE GRADES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	90	126
				(1) X0112		Wingwall Repair		51028

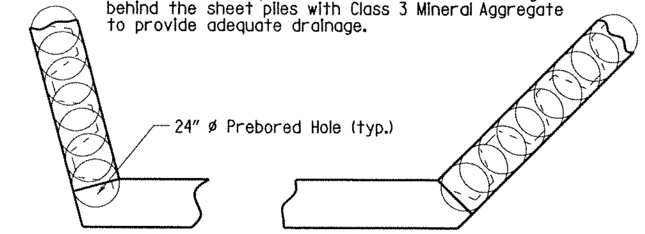


DETAIL X
No Scale

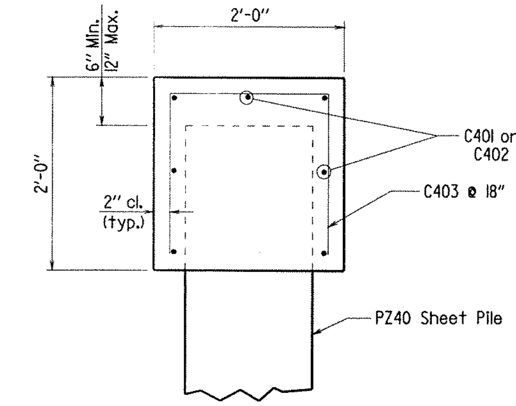


SECTION B-B
No Scale

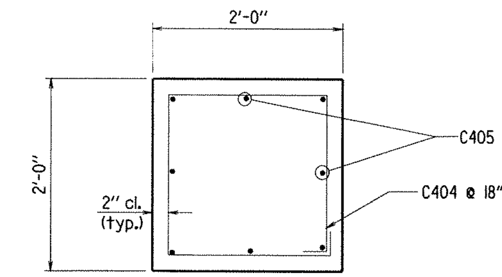
NOTE: Prebore 24" ø holes before driving sheet piles at inlet end of culvert. Each hole shall overlap the adjacent hole to provide a trench for backfilling behind the sheet piles with Class 3 Mineral Aggregate to provide adequate drainage.



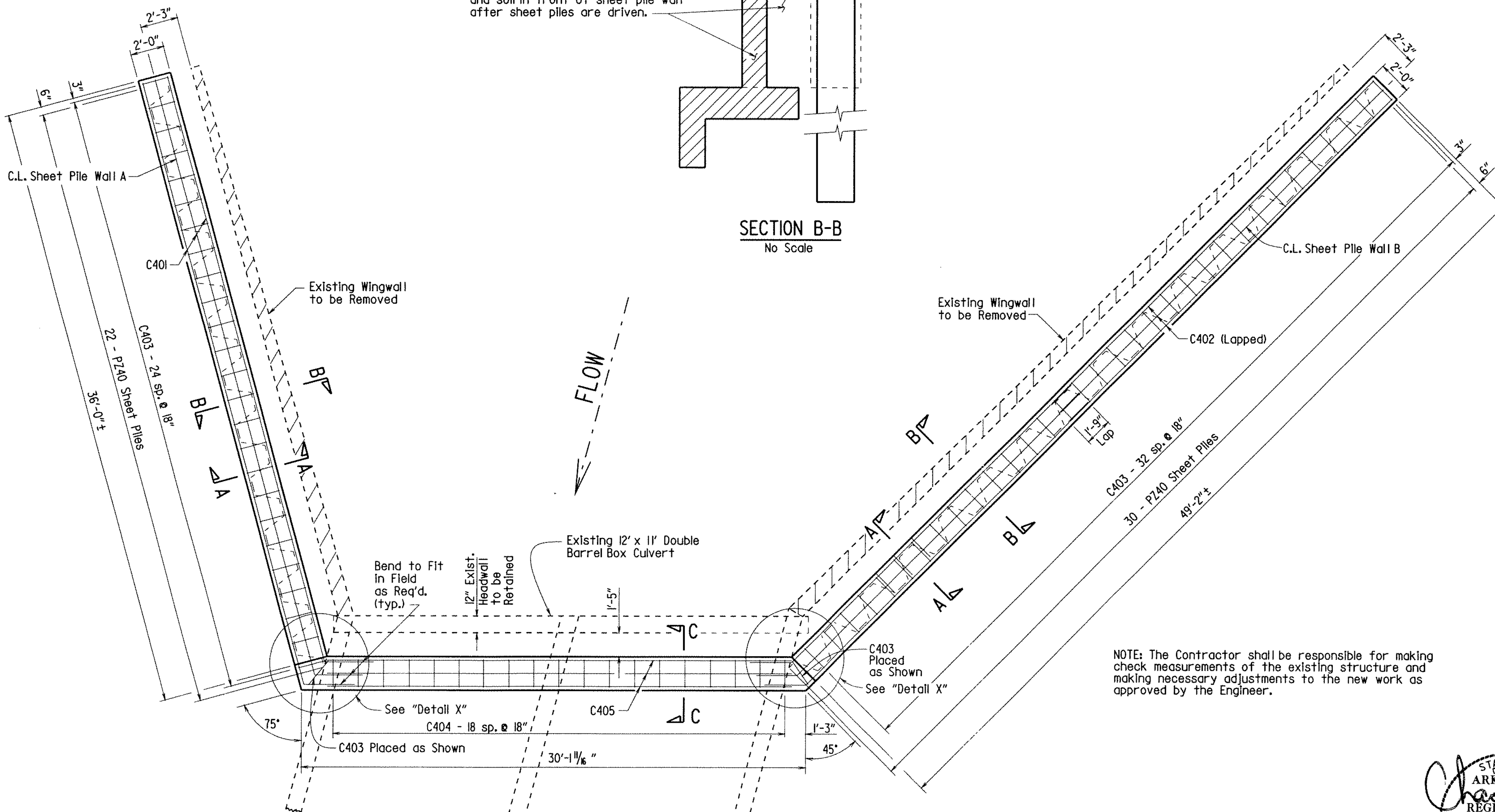
PREBORING DIAGRAM
¼" = 1'-0"



SECTION A-A
1" = 1'-0"



SECTION C-C
1" = 1'-0"



PLAN - INLET END
¼" = 1'-0"

BAR LIST FOR INLET END

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
C401	7	39'-4"	Str.	
C402	14	26'-10"	Str.	
C403	60	4'-10"	2"	C403: 1'-8" × 1'-8"
C404	19	7'-0"	2"	C404: 1'-8" × 1'-8", 4½" (typ.)
C405	8	27'-9"	Str.	

NOTE: The Contractor shall be responsible for making check measurements of the existing structure and making necessary adjustments to the new work as approved by the Engineer.

SHEET 1 OF 3

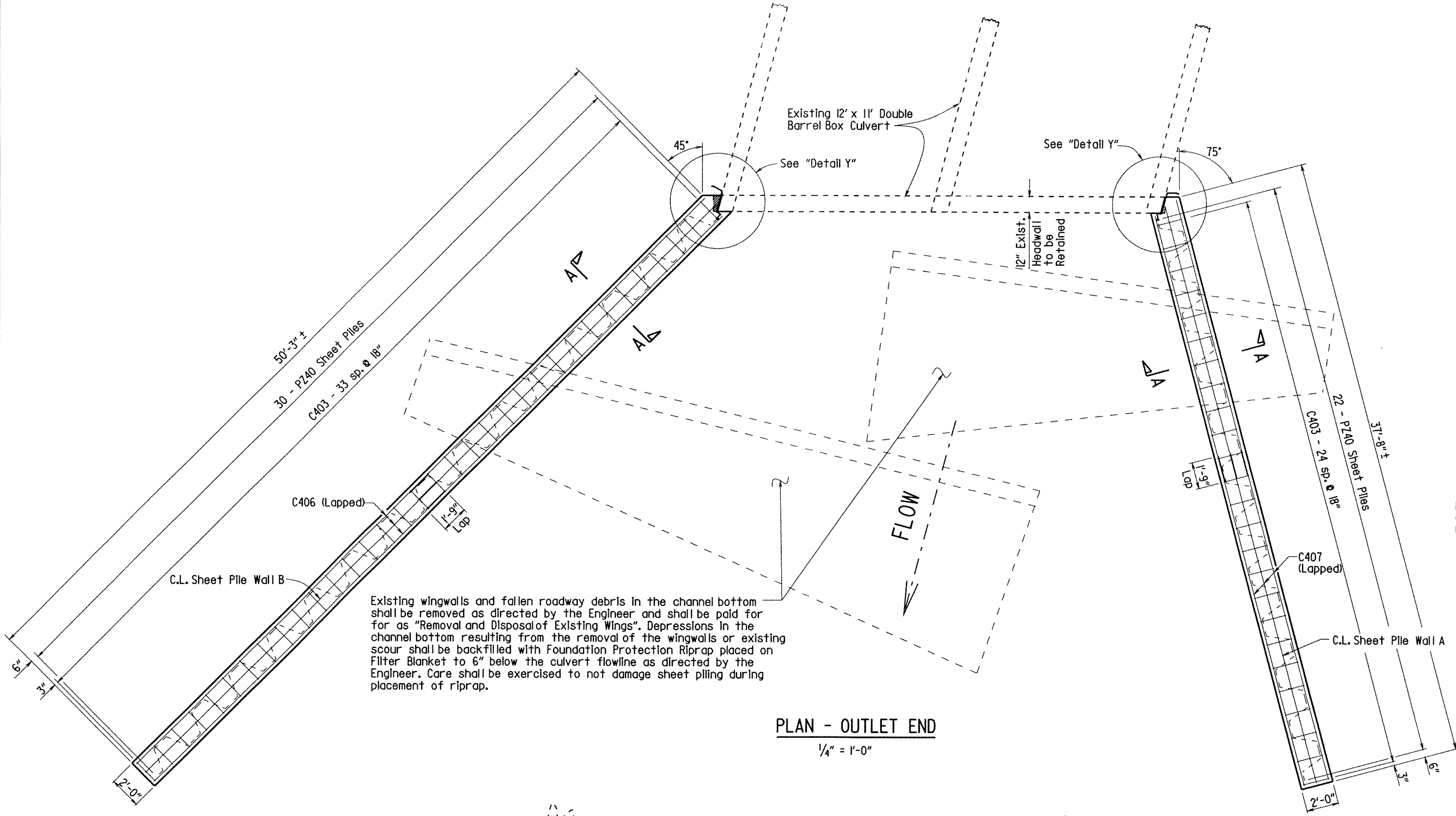
DETAILS OF CULVERT WING RECONSTRUCTION
LEE CREEK (LOGMILE 93.95)
HOT SPRING COUNTY

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 4337 CHARLES P. BRAND
4/12/10
BRIDGE ENGINEER

ROUTE 30 SEC. 21
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: AMS. DATE: 3/3/10 FILENAME: b061186xl_wing.dgn
CHECKED BY: KWY DATE: 4-12-10 SCALE: As Noted
DESIGNED BY: PGT DATE: 3-10
BRIDGE NO. X0112 DRAWING NO. 51028

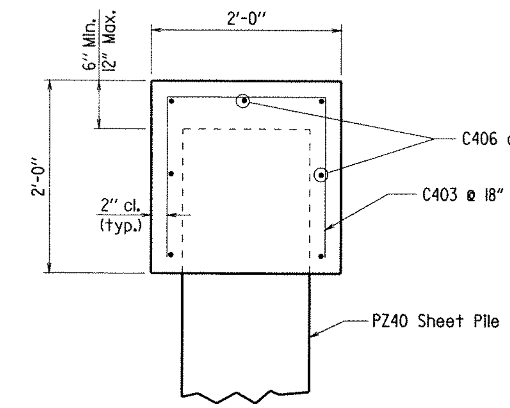
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	91	126
				①	X0112	Wingwall Repair		51029



Existing wingwalls and fallen roadway debris in the channel bottom shall be removed as directed by the Engineer and shall be paid for for as "Removal and Disposal of Existing Wings". Depressions in the channel bottom resulting from the removal of the wingwalls or existing scour shall be backfilled with Foundation Protection Riprap placed on Filter Blanket to 6" below the culvert flowline as directed by the Engineer. Care shall be exercised to not damage sheet piling during placement of riprap.

PLAN - OUTLET END

1/4" = 1'-0"



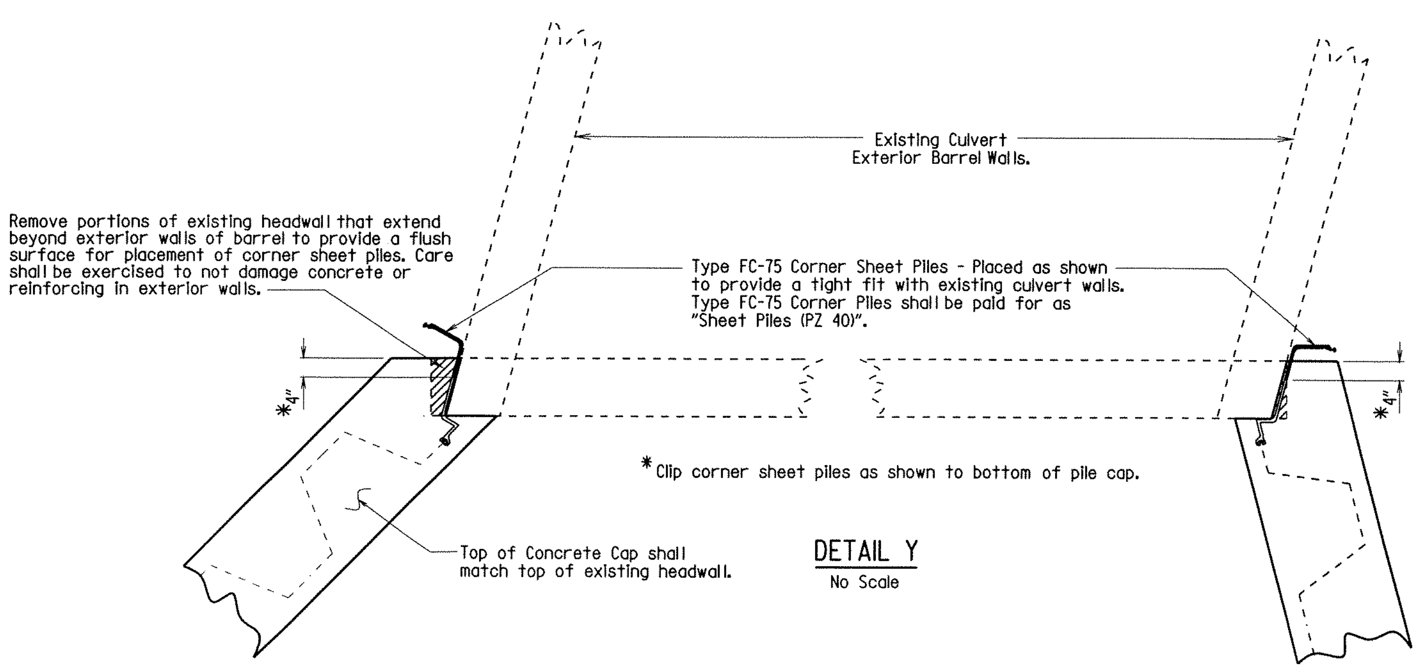
SECTION A-A

1" = 1'-0"

NOTE: The Contractor shall be responsible for making check measurements of the existing structure and making necessary adjustments to the new work.

BAR LIST FOR OUTLET END

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagram (Dimensions are out to out of bars.)
C403	59	4'-10"	2"	1'-8" / 1'-8" / C403
C406	14	26'-0"	Str.	
C407	14	19'-6"	Str.	



*Clip corner sheet piles as shown to bottom of pile cap.

DETAIL Y

No Scale

SHEET 2 OF 3

DETAILS OF CULVERT WING RECONSTRUCTION
LEE CREEK (LOGMILE 93.95)
HOT SPRING COUNTY

ROUTE 30 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

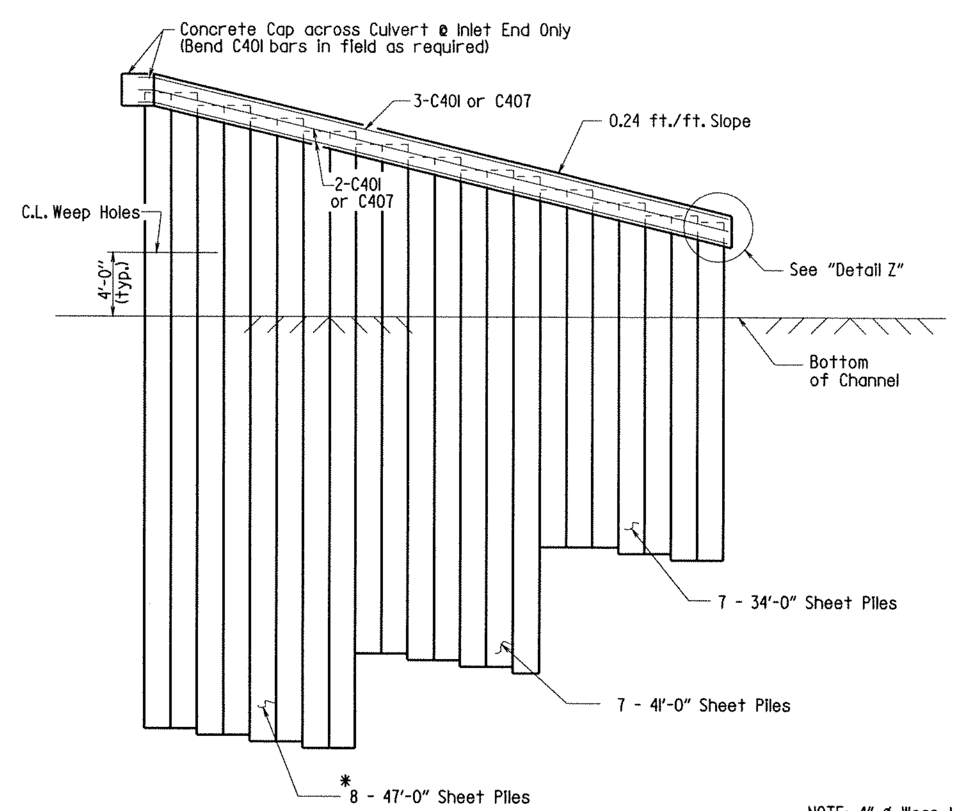
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 4337 CHARLES P. BRAND

4/12/10

BRIDGE ENGINEER

DRAWN BY: AMS. DATE: 3/3/10 FILENAME: b061186x1_wing.dgn
CHECKED BY: KWY DATE: 4-6-10 SCALE: As Noted
DESIGNED BY: PGT DATE: 3-10
BRIDGE NO. X0112 DRAWING NO. 51029

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	92	126
				(1) X0112		Wingwall Repair		51030

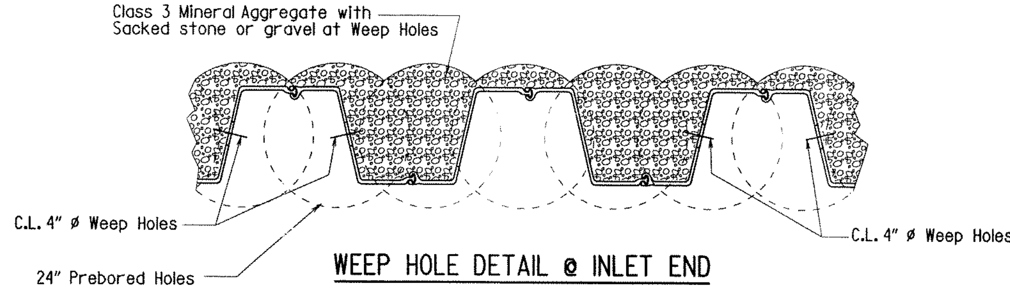


ELEVATION OF SHEET PILE WALL A

No Scale

*Additional 47'-0" FC-75 Corner Sheet Pile Req'd. @ Outlet End

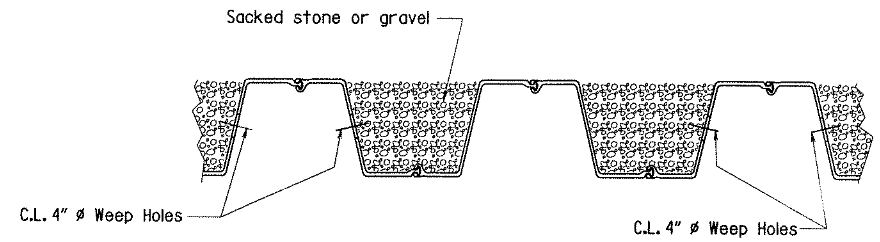
NOTE: 4" ø Weep Holes to be cut into both webs of every other corrugation. See weep hole details.



WEEP HOLE DETAIL @ INLET END

No Scale

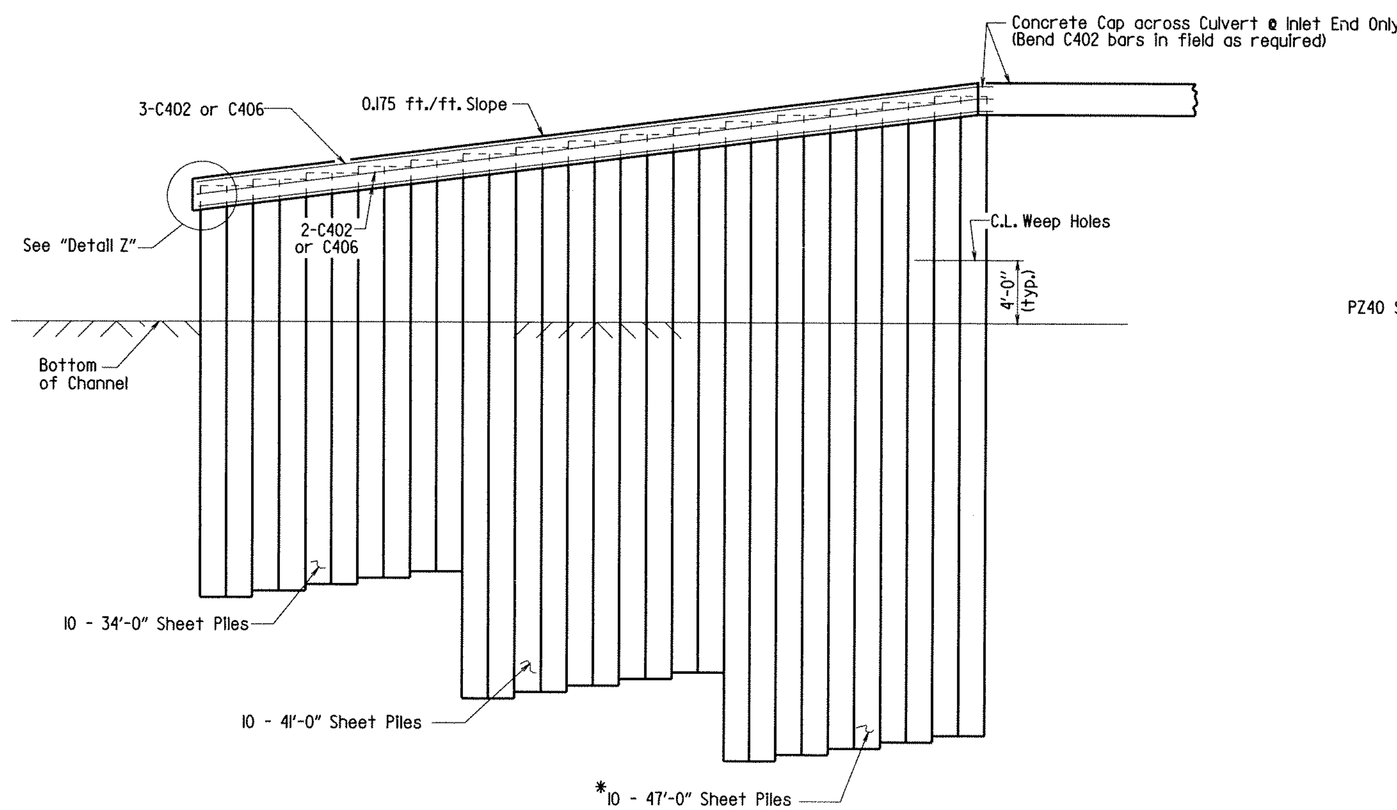
NOTE: Place 6 cu. ft. of sacked stone or gravel at each weep hole. Sacked stone or gravel will not be paid for separately but will be considered subsidiary to other items.



NOTE: Any excavation required at outlet end to place sacked stone or gravel for weep holes will not be paid for directly, but shall be considered incidental to the item "Sheet Piles (PZ40)".

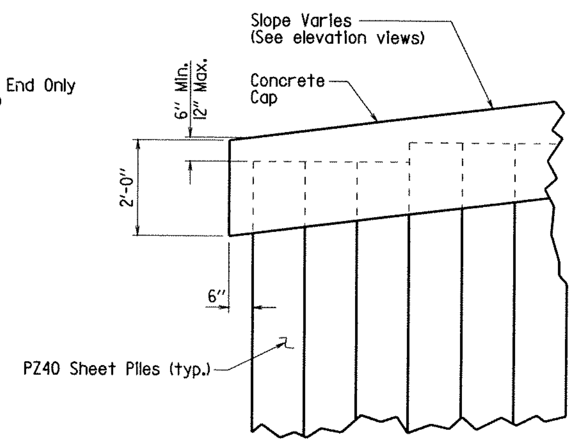
WEEP HOLE DETAIL @ OUTLET END

No Scale



ELEVATION OF SHEET PILE WALL B

No Scale



DETAIL Z

No Scale

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable supplemental specifications and special provisions. Section and subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, (2002 Edition) with current interim specifications.

MATERIALS AND STRENGTHS:

Class S Concrete	$f'c$ = 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Sheet Piling (AASHTO M270, Gr. 50)	Fy = 50,000 psi

All concrete shall be Class S and shall be poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

PROPOSED WORK @ INLET END: The proposed work consists of preboring 24 inch diameter holes that shall overlap each adjacent hole to provide a trench for backfilling. The prebored holes shall extend to the top of the existing footings. If sheet piles are set in prebored holes and backfilled prior to driving, the Contractor shall ensure that the sheet piles will remain plumb and that lateral shifting of the piles will be prevented. The existing wingwalls and attached footings shall be removed after the new work is completed. A concrete cap shall be poured along the top of the sheet pile walls and across the top of the existing culvert.

PROPOSED WORK @ OUTLET END: The proposed work consists of driving sheet piles and backfilling eroded embankment behind walls with Class 3 Mineral Aggregate. A concrete cap shall be poured along the top of the sheet pile walls. The existing wingwalls shall be removed and Foundation Protection Riprap on Filter Blanket placed in the channel bottom to fill the existing scour hole and depression left by removal of the existing wingwalls.

SHEET PILING: Sheet piling shall conform to AASHTO M270, Gr. 50 and shall be Bethlehem PZ40 hot-rolled sections, or approved equal, and shall be driven with an approved air, steam, diesel or vibratory hammer to achieve the minimum lengths shown. Refer to Section 811 of the Standard Specifications. Sheet piling shall be painted in accordance with subsection 811.03. Sheet piling shall be driven to provide a tight fit with existing culvert walls. Prebored holes used at the inlet end shall not be paid for directly, but shall be considered subsidiary to the item "Sheet Piles (PZ40)".

BACKFILLING: Backfill behind sheet pile walls with Class 3 Mineral Aggregate to provide adequate drainage. See Section 403 of the Standard Specifications. Sacked stone or gravel shall be placed at the elevation of the weep holes before backfilling is complete. Prior to backfilling the trench behind the sheet piles at the inlet end, all loose material shall be removed. Class 3 Mineral Aggregate shall not be paid for directly, but shall be considered subsidiary to the item "Sheet Piles (PZ40)".

REMOVAL AND SALVAGE: Existing wingwalls and attached footings at the inlet end shall be removed, and backfilled and compacted to the general level of the surrounding ground after painting is completed. Material used for backfill shall be of the same quality as that removed and shall be reasonably free from large or frozen lumps, wood, or other extraneous material.

Existing wingwalls and roadway debris at the outlet end which have fallen into the channel shall be removed. Care shall be exercised during removal of these materials to ensure the remaining structure is not damaged. Any damage to the remaining structure shall be repaired or replaced at no cost to the Department. Final elevations and dimensions are to be determined in the field.

Removal and disposal of existing wingwalls, footings, and roadway debris, and backfill and compaction of the holes from footing removal at the inlet end will be paid for in accordance with Section 202. All material removed from the existing structure shall become the property of the Contractor.

SHEET 3 OF 3

DETAILS OF CULVERT WING RECONSTRUCTION
LEE CREEK (LOGMILE 93.95)
HOT SPRING COUNTY

ROUTE 30 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

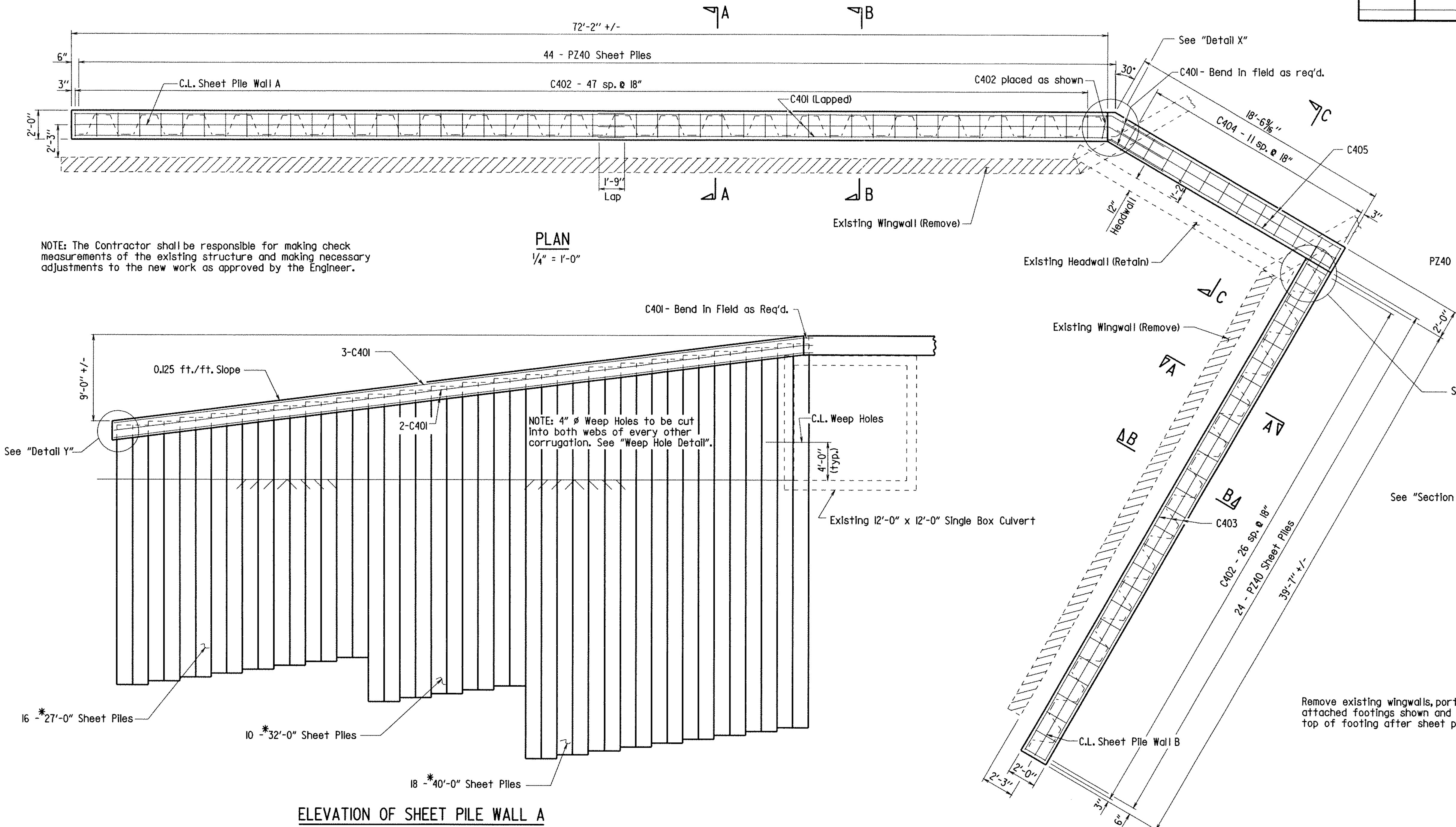
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 4337 CHARLES P. BRAND

4/12/10

BRIDGE ENGINEER

DRAWN BY: AMS. DATE: 3/3/10 FILENAME: b061186xl_wing.dgn
CHECKED BY: KWY DATE: 4-12-10 SCALE: As Noted
DESIGNED BY: PGT DATE: 3-10

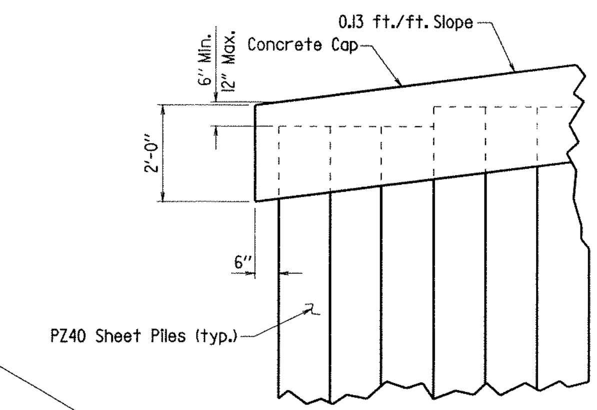
BRIDGE NO. X0112 DRAWING NO. 51030



NOTE: The Contractor shall be responsible for making check measurements of the existing structure and making necessary adjustments to the new work as approved by the Engineer.

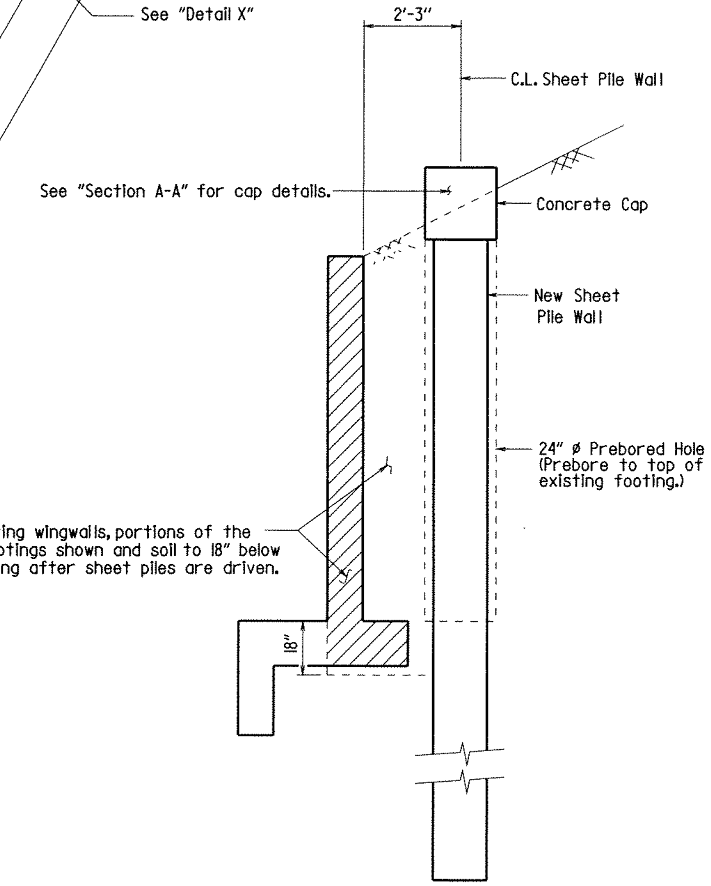
ELEVATION OF SHEET PILE WALL A

No Scale



DETAIL Y

No Scale



SECTION B-B

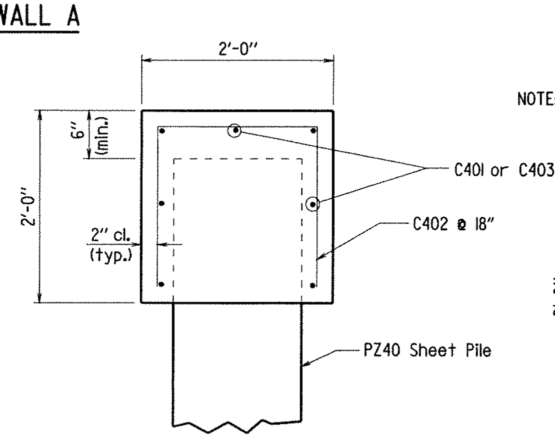
No Scale

*Splices may be required to maintain minimum vertical clearance during installation from existing overhead transmission lines as specified in Special Provision Job 061186 "Utility Coordination". Splices in adjacent sheet piles shall be staggered no less than three feet (measured vertically), see "Sheet Pile Splice Details" on Dwg. No. 51032.

BAR LIST PER CULVERT END

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
C401	14	38'-3"	Str.	
C402	76	4'-10"	2"	
C403	7	40'-0"	Str.	
C404	12	7'-0"	2"	
C405	8	17'-8"	Str.	

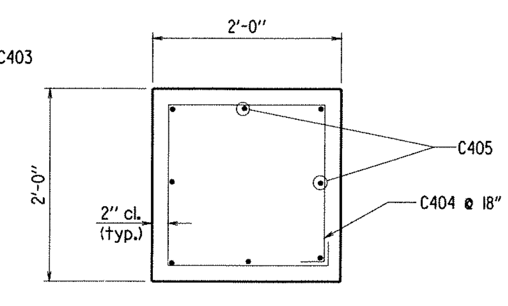
1'-8" 1'-8" 1'-8" 1'-8" 4 1/2" (typ.)
C402 C404



SECTION A-A

1" = 1'-0"

NOTE: For "Detail X", "Weep Hole Detail" and General Notes, see Sheet 2 of 2.



SECTION C-C

1" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 4337 CHARLES P. BRAND 4/12/10

BRIDGE ENGINEER

SHEET 1 OF 2

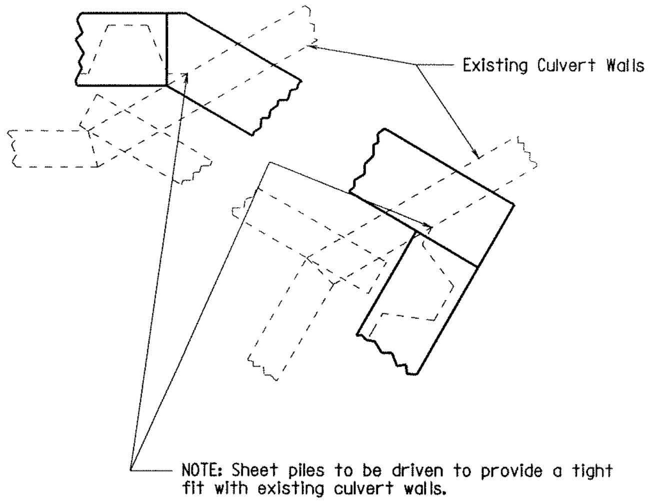
DETAILS OF CULVERT WING RECONSTRUCTION
LOCAL ROAD (LOGMILE 93.98)
HOT SPRING COUNTY
ROUTE 30 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

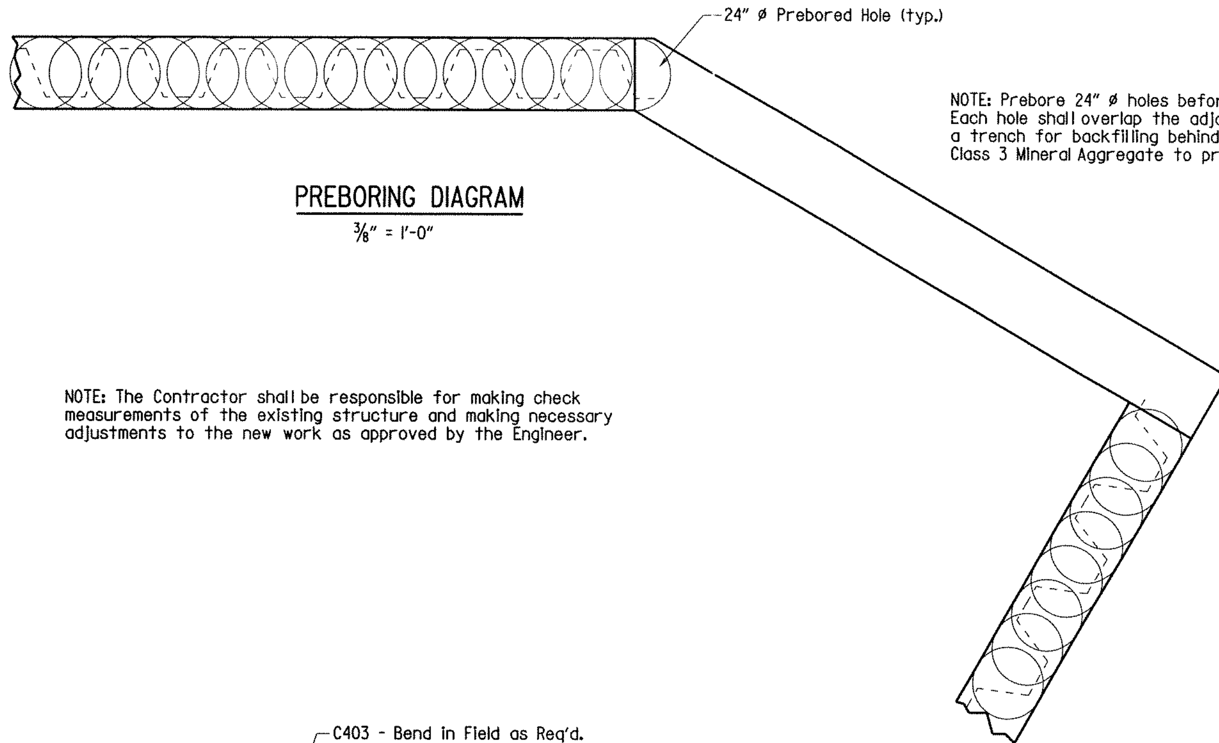
LITTLE ROCK, ARK.

DRAWN BY: KY DATE: 3-1-10 FILENAME: b061186x2_wing.dgn
CHECKED BY: AMS DATE: 4/12/10 SCALE: as noted
DESIGNED BY: CMA DATE: 2-02
BRIDGE NO. DRAWING NO. 51031

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061186	94	126
						WING REPAIR		51032



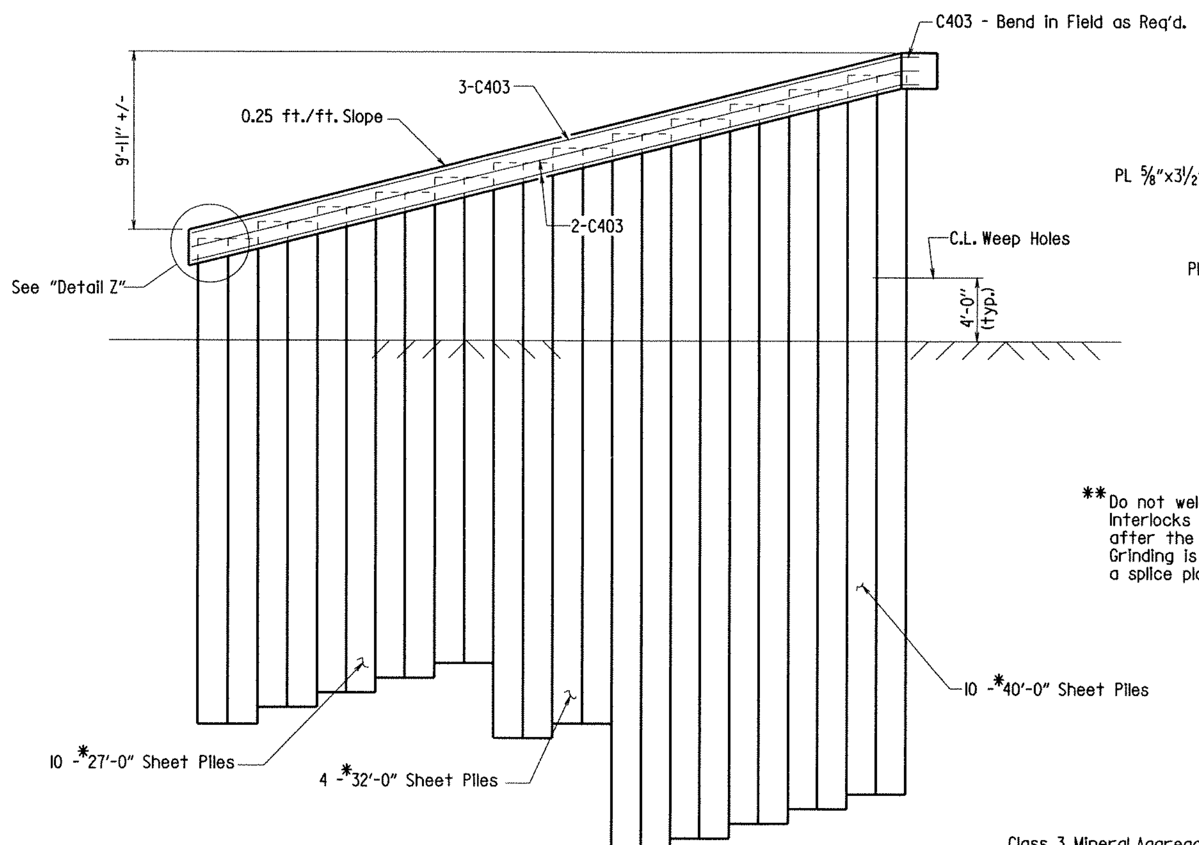
DETAIL X
No Scale



PREBORING DIAGRAM
3/8" = 1'-0"

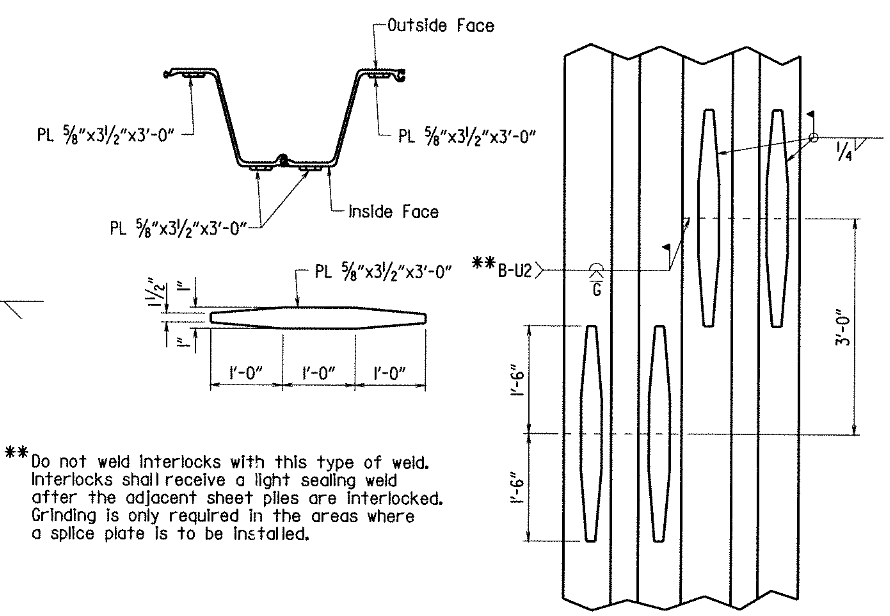
NOTE: Prebore 24" ø holes before driving sheet piles. Each hole shall overlap the adjacent hole to provide a trench for backfilling behind the sheet piles with Class 3 Mineral Aggregate to provide adequate drainage.

NOTE: The Contractor shall be responsible for making check measurements of the existing structure and making necessary adjustments to the new work as approved by the Engineer.



ELEVATION OF SHEET PILE WALL B
No Scale

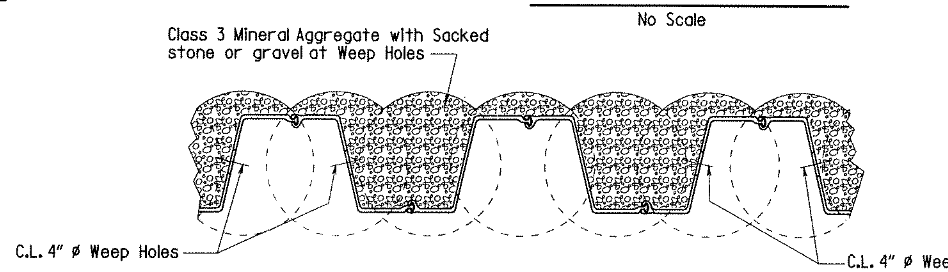
*Splices may be required to maintain minimum vertical clearance during installation from existing overhead transmission lines as specified in Special Provision Job 061186 "Utility Coordination". Splices in adjacent sheet piles shall be staggered no less than three feet (measured vertically), see "Sheet Pile Splice Details".



**Do not weld interlocks with this type of weld. Interlocks shall receive a light sealing weld after the adjacent sheet piles are interlocked. Grinding is only required in the areas where a splice plate is to be installed.

NOTE: Welds shown are typical for each sheet pile and splice plate. Splice plates shall be AASHTO M270 (Gr. 50) and will not be paid for separately but shall be considered incidental to the item "Sheet Piles (PZ40)". Sheet piles shall be ordered to their full-length and cut in the field. Individual pieces shall be match-marked to ensure correct realignment prior to welding. No additional payment will be made for cut-off or build-up.

SHEET PILE SPLICE DETAILS
No Scale



WEEP HOLE DETAIL
No Scale

NOTE: Place 6 cu. ft. of sacked stone or gravel at each weep hole. Sacked stone or gravel will not be paid for separately but will be considered subsidiary to other items.

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable supplemental specifications and special provisions. Section and subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, (1996 Edition) with current interim specifications.

MATERIALS AND STRENGTHS:

Class S Concrete	f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Sheet Piling (AASHTO M270, Gr. 50)	Fy = 50,000 psi

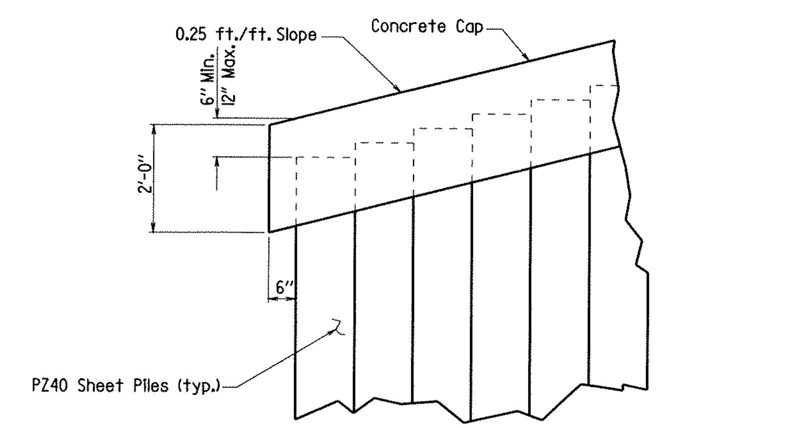
All concrete shall be Class S and shall be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

PROPOSED WORK: The proposed work consists of preboring 24 inch diameter holes that shall overlap each adjacent hole to provide a trench for backfilling. The prebored holes shall extend to the top of the existing footings. If sheet piles are set in prebored holes and backfilled prior to driving, the Contractor shall ensure that the sheet piles will remain plumb and that lateral shifting of the piles will be prevented. The existing wingwalls and portions of the attached footings shall be removed after sheet piles are driven. A concrete cap shall be poured along the top of the sheet pile walls and across the top of the existing culvert at each culvert end.

SHEET PILING: Sheet piling shall conform to AASHTO M270, Gr. 50 and shall be Bethlehem PZ40 hot-rolled sections, or approved equal, and shall be driven with an approved air, steam, diesel or vibratory hammer to achieve the minimum lengths shown. Refer to Section 811 of the Standard Specifications. Sheet piling shall be painted in accordance with subsection 811.03. Sheet piling shall be driven to provide a tight fit with existing culvert walls. The prebored holes shall not be paid for directly but shall be considered subsidiary to the item "Sheet Piles (PZ40)".

BACKFILLING: Backfill behind sheet pile walls with Class 3 Mineral Aggregate to provide adequate drainage. See Section 403 of the Standard Specifications. Sacked stone or gravel shall be placed at the elevation of the weep holes before backfilling is complete. Prior to backfilling the trench behind the sheet piles, all loose material shall be removed. Class 3 Mineral Aggregate shall not be paid for directly but shall be considered subsidiary to the item "Sheet Piles (PZ40)".

REMOVAL AND SALVAGE: All material removed from the existing structure shall become the property of the Contractor. Existing wingwalls and portions of the existing footing shall be removed, and backfilled and compacted to the general level of the surrounding ground after painting is completed. Material used for backfill shall be of the same quality as that removed and shall be reasonably free from large or frozen lumps, wood, or other extraneous material. Care shall be exercised during removal of the existing concrete and soil to ensure the remaining structure and existing pavement is not damaged. Any damage to the remaining structure shall be repaired or replaced at no cost to the Department. Final elevations and dimensions are to be determined in the field. The removal and disposal of the existing wings and backfill and compaction of the holes from footing removal will be paid for in accordance with Section 202 of the Standard Specifications.



DETAIL Z
No Scale

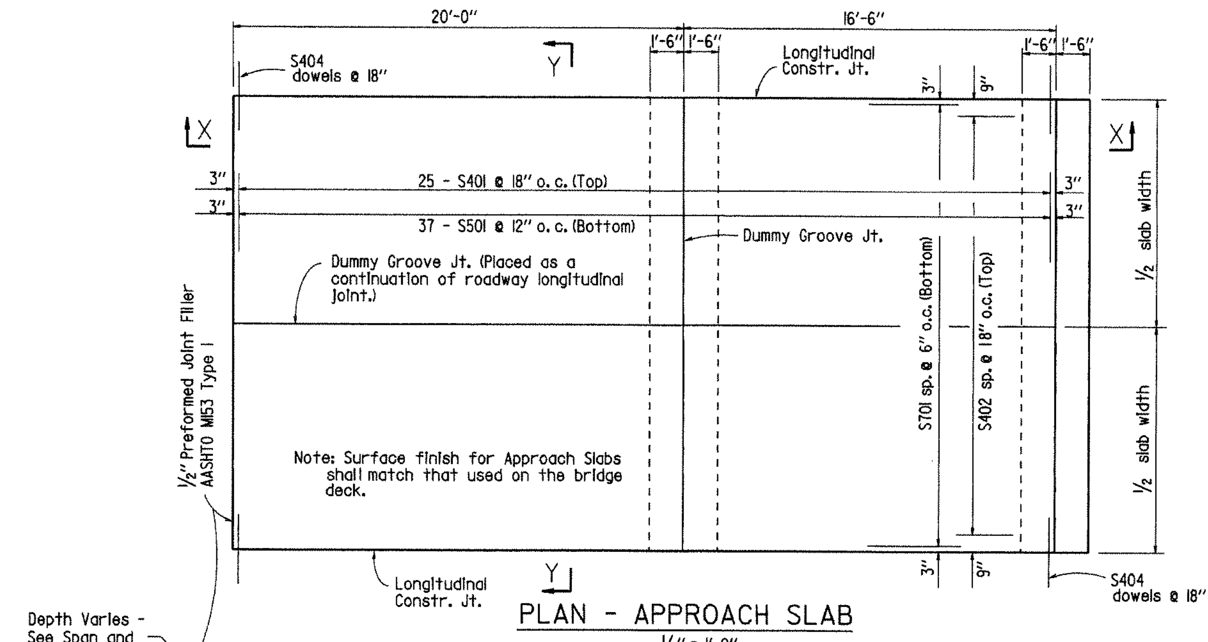
SHEET 2 OF 2
DETAILS OF CULVERT WING RECONSTRUCTION
LOCAL ROAD (LOGMILE 93.98)
HOT SPRING COUNTY
ROUTE 30 SEC. 21
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 4837 CHARLES P. BRAND
4/13/10
BRIDGE ENGINEER

DRAWN BY: KY	DATE: 3-2-10	FILENAME: b061186x2_wing.dgn	
CHECKED BY: AMS	DATE: 4/12/10	SCALE: as noted	
DESIGNED BY: CMM	DATE: 2-02		
BRIDGE NO.		DRAWING NO. 51032	

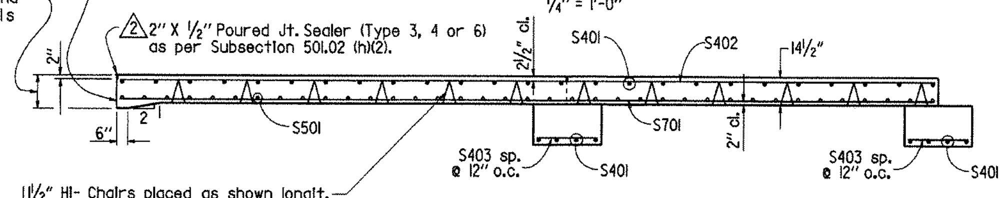
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		95	
07-14-2010				JOB NO.				

1 APPROACH SLAB - 2018



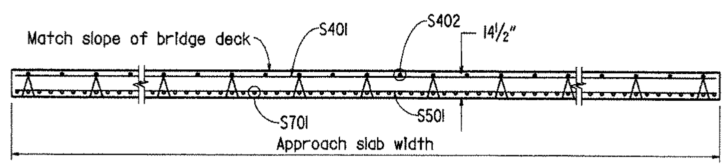
PLAN - APPROACH SLAB

¼" = 1'-0"



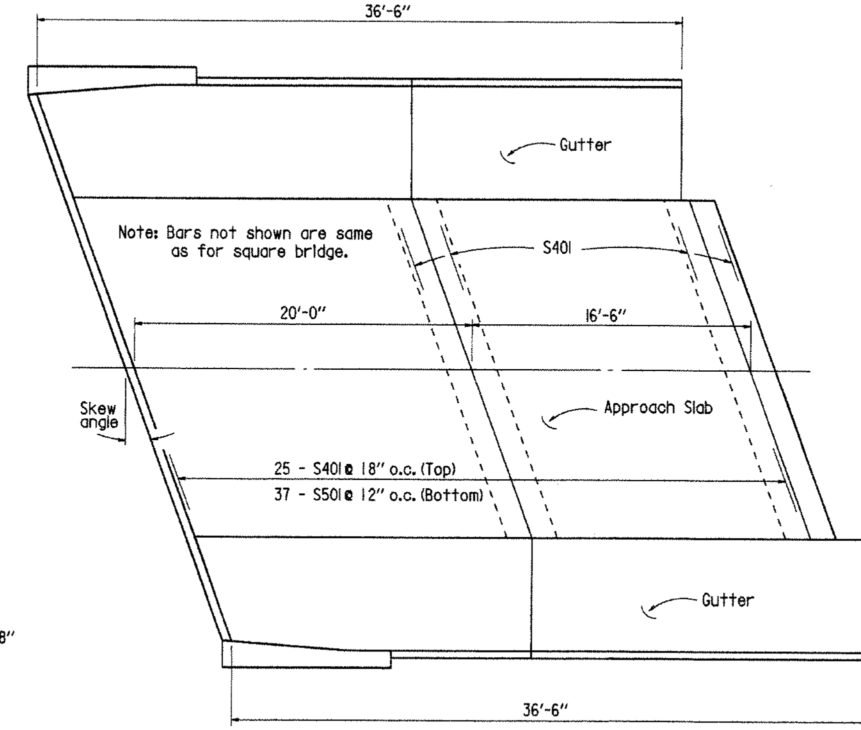
SECTION X - X

N.T.S.



SECTION Y - Y

N.T.S.



PLAN VIEW SHOWING APPROACH FOR SKEWED BRIDGE

3/16" = 1'-0"

BAR LISTS

(Square & Skewed Slabs)

	Mark	No. Req'd.	Length Square	Length Skewed
15'-0" slab width	S401	33	14'-8"	14'-8" (secant skew angle)
	S402	10	36'-2"	
	S403	* 30	2'-8"	
	S404	* 50	3'-0"	
	S501	37	14'-8"	14'-8" (secant skew angle)
	S701	30	36'-2"	
24'-0" slab width	S401	33	23'-8"	23'-8" (secant skew angle)
	S402	16	36'-2"	
	S403	* 48	2'-8"	
	S404	* 50	3'-0"	
	S501	37	23'-8"	23'-8" (secant skew angle)
	S701	48	36'-2"	
36'-0" slab width	S401	33	35'-8"	35'-8" (secant skew angle)
	S402	24	36'-2"	
	S403	* 72	2'-8"	
	S404	* 50	3'-0"	
	S501	37	35'-8"	35'-8" (secant skew angle)
	S701	72	36'-2"	

* Varies with skew angle. The number shown is for square bridges.

GENERAL NOTES

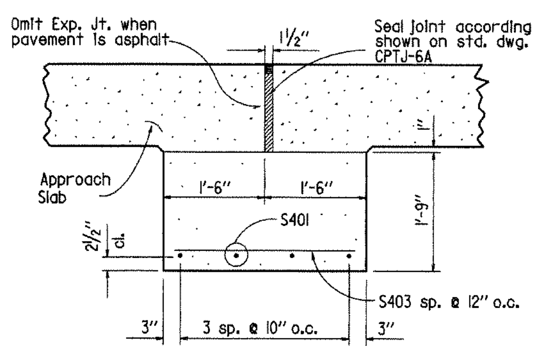
Concrete shall be Class S (AE) (f'c = 4,000 psi).

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Slabs will be measured and paid for in accordance with Section 504 of the Standard Specifications.

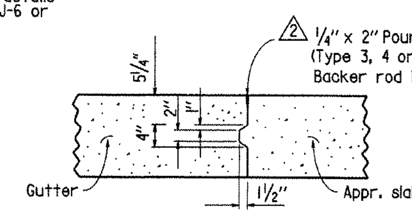
1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

2 Added joint sealer type 07-14-2010 By MJT Ck. By: CJF 07-14-2010



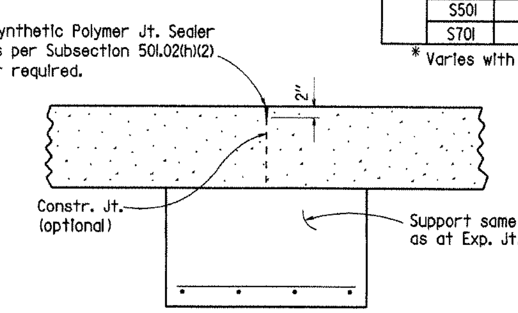
DETAILS OF SUPPORT AT EXPANSION JOINT

¾" = 1'-0"



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

¾" = 1'-0"



DETAILS OF DUMMY GROOVED JOINT

¾" = 1'-0"

TABLE OF QUANTITIES FOR ONE SQUARE APPROACH SLAB

Slab Width	Reinforcing Steel	Concrete (Cu. Yds.)
15'-0"	3502 lb.	30.72
24'-0"	5556 lb.	49.15
36'-0"	8294 lb.	73.73

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF APPROACH SLAB

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2018.STD

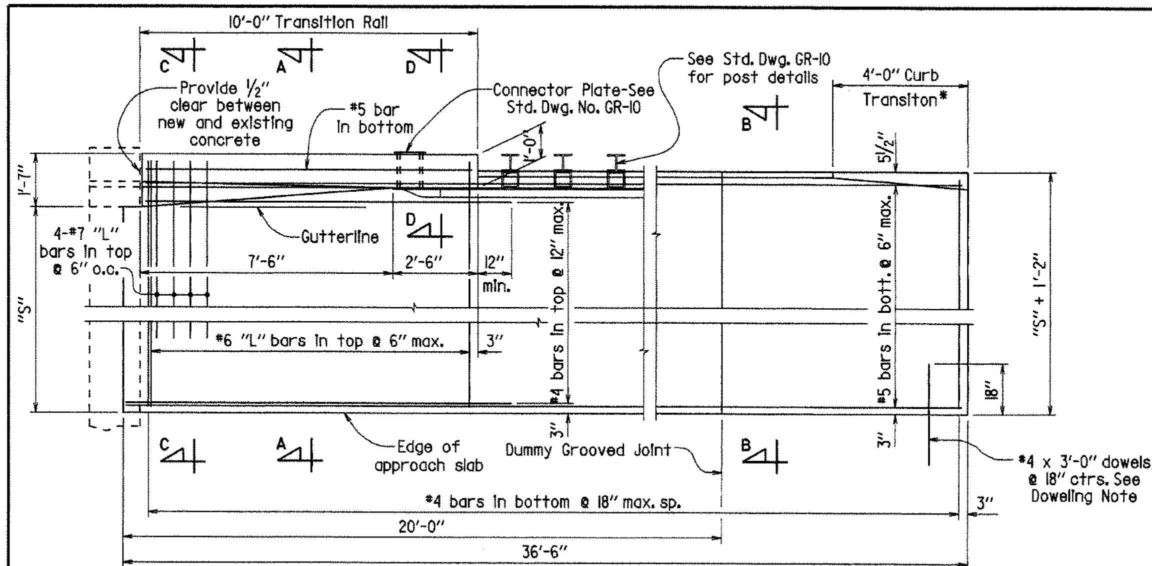
CHECKED BY: CJF DATE: 4-10-2003 SCALE: AS SHOWN

DESIGNED BY: Std. DATE:

BRIDGE NO. DRAWING NO. 2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		96	
07-14-2010				JOB NO.				

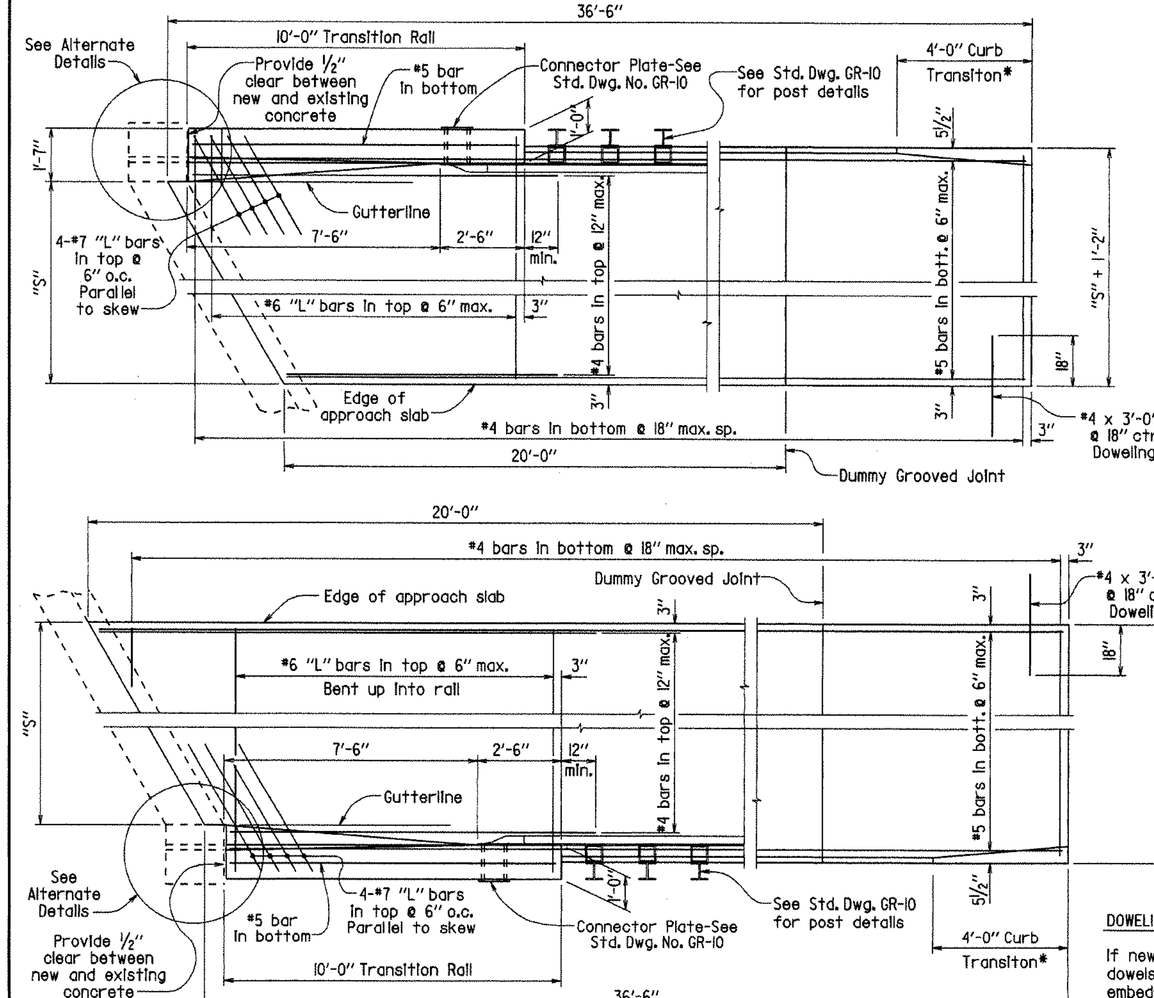
1 TYPE PT APPR. GUTTER - 2091



PLAN - SQUARE BRIDGES

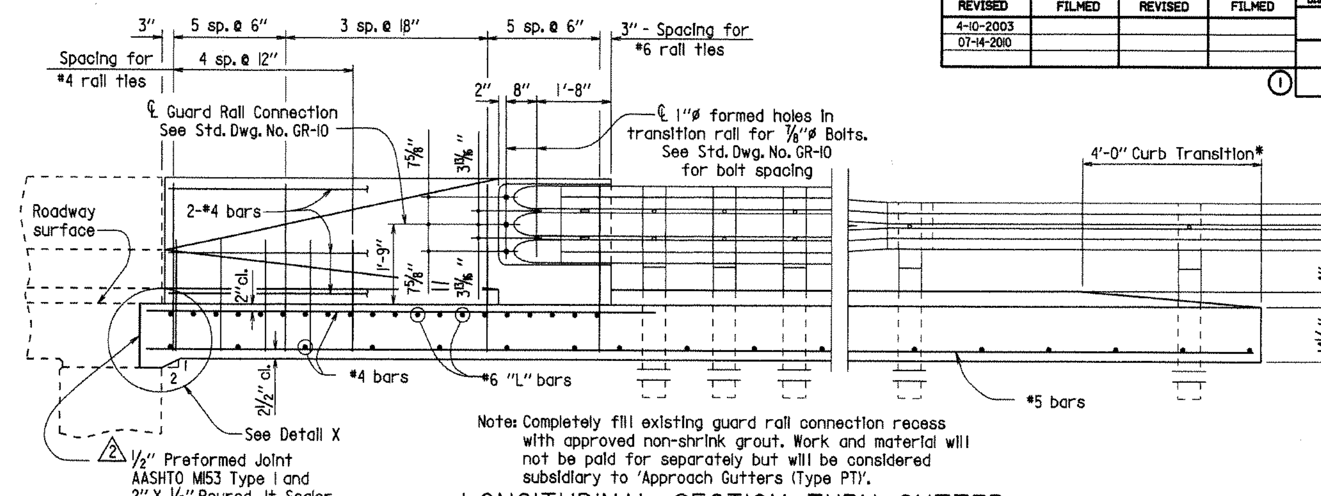
Scale: 3/8" = 1'-0"

'S' = Distance from gutterline to edge of approach slab.



PLAN - SKEWED BRIDGES

Scale: 3/8" = 1'-0"

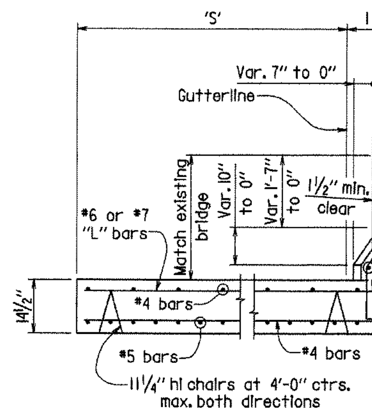


LONGITUDINAL SECTION THRU GUTTER

Scale: 1/2" = 1'-0"

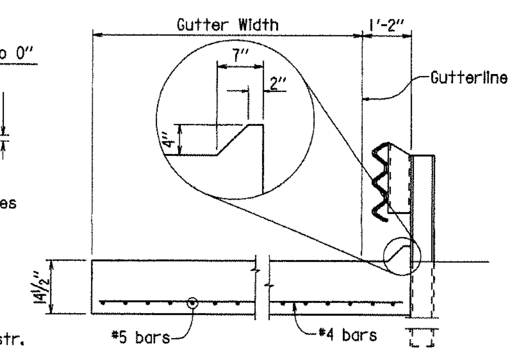
* Construct curb with height-transition as shown if drop inlet is not used at end of gutter.

Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.



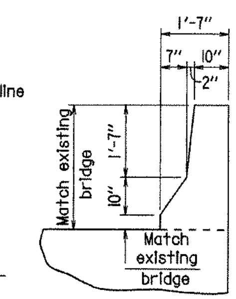
SECTION A-A

Scale: 1/2" = 1'-0"



SECTION B-B

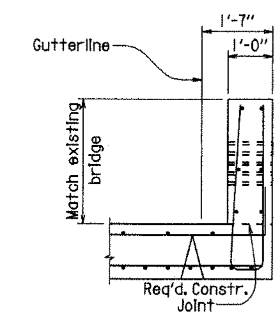
Scale: 1/2= 1'-0"



SECTION C-C

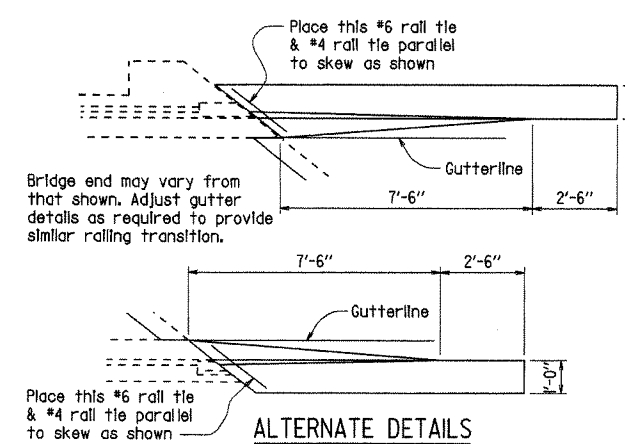
At End of Transition Rail

Scale: 1/2" = 1'-0"



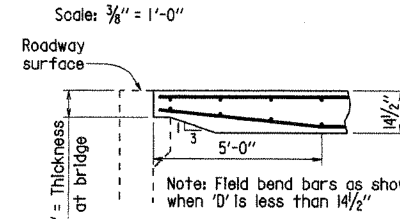
SECTION D-D

Scale: 1/2" = 1'-0"



ALTERNATE DETAILS

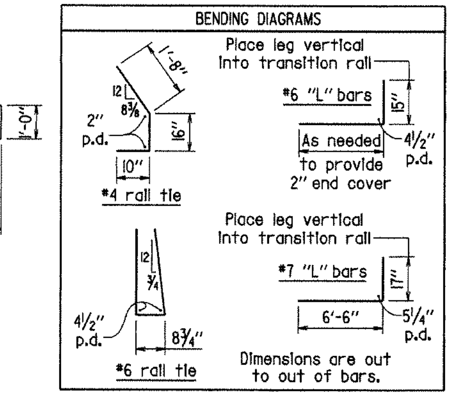
Scale: 3/8" = 1'-0"



DETAIL X

Scale: 3/8" = 1'-0"

BENDING DIAGRAMS



DOWELING NOTE

If new approach slab is used, place dowels into approach slab using 18" embedment.

If existing approach slab is retained, dowels shall be drilled and grouted 18" into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to 'Approach Gutters (Type PT)'.

GENERAL NOTES

Concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi.) Fabricate bar lengths to provide 2" minumum cover at each end.

Approach gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

2 Added joint sealer type 07-14-2010 by MJT Checked by: CJF 7-14-2010

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

'S'	Concrete	Reinforcing Steel
5'-6"	12.49 cu.yd.	1227 lb.
5'-9"	12.91 cu.yd.	1276 lb.
6'-0"	13.34 cu.yd.	1296 lb.
9'-6"	19.23 cu.yd.	1746 lb.
9'-9"	19.65 cu.yd.	1795 lb.
10'-0"	20.07 cu.yd.	1815 lb.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF STANDARD TYPE 'PT' APPROACH GUTTERS (BRIDGES WITH CONCRETE PARAPET RAILING)

ROUTE SEC.

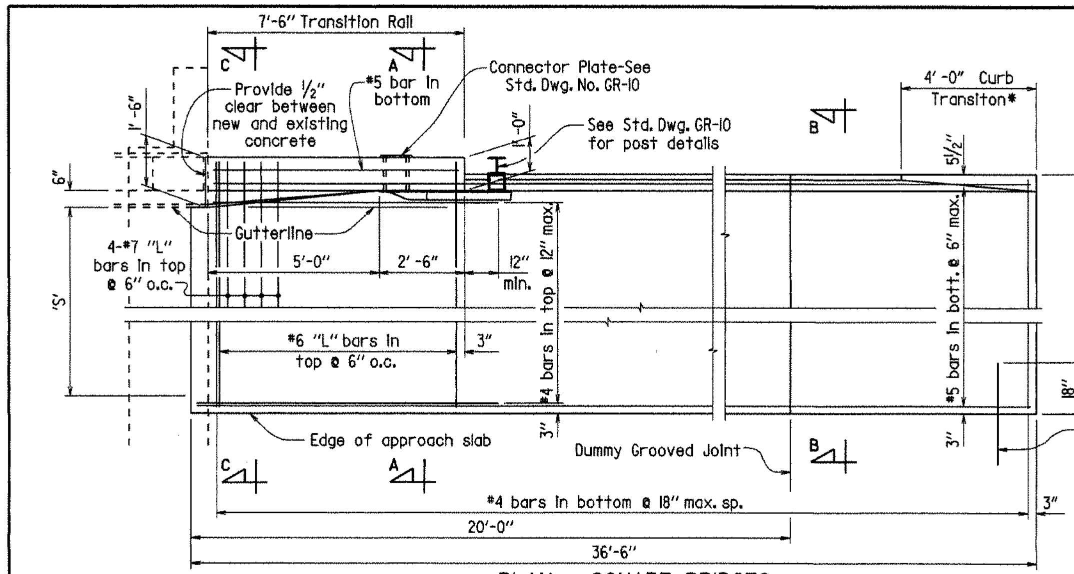
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2091.STD
CHECKED BY: CJF DATE: 4-10-2003 SCALE: AS NOTED
DESIGNED BY: STD. DATE:
BRIDGE NO. DRAWING NO. 2091

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		97	
07-14-2010				JOB NO.				

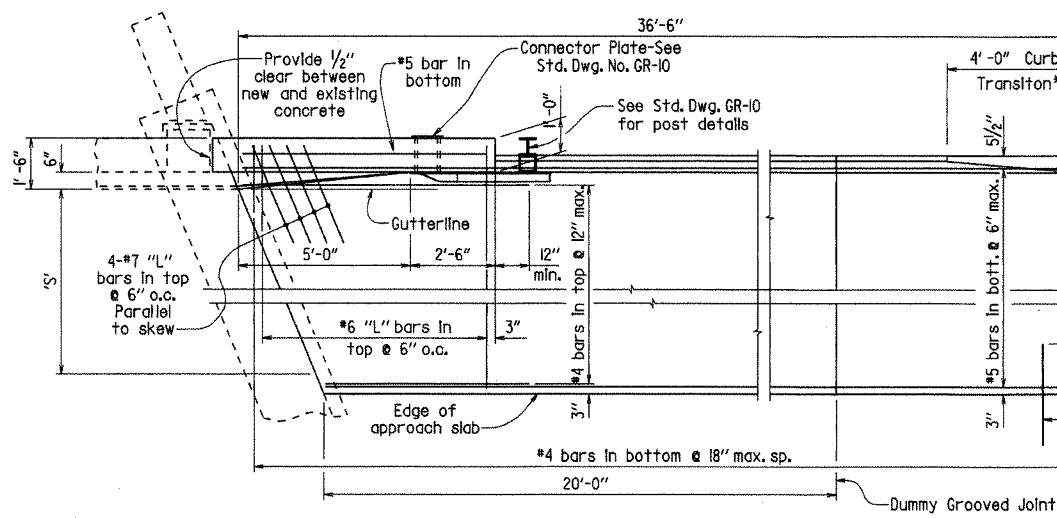
TYPE AT APPR. GUTTER - 2092

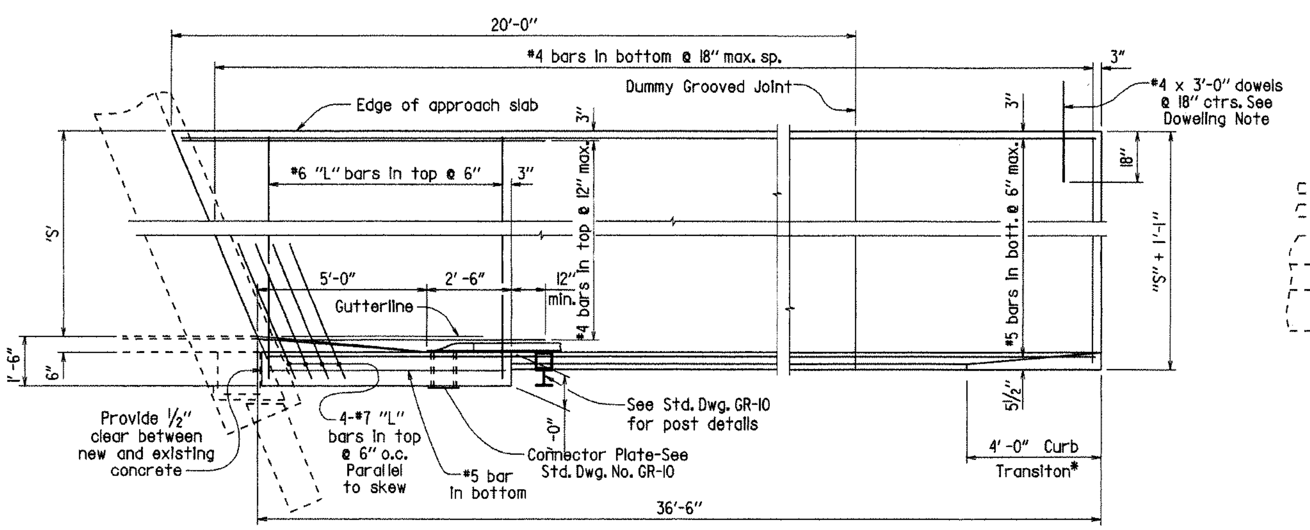


PLAN - SQUARE BRIDGES

Scale: 3/8" = 1'-0"

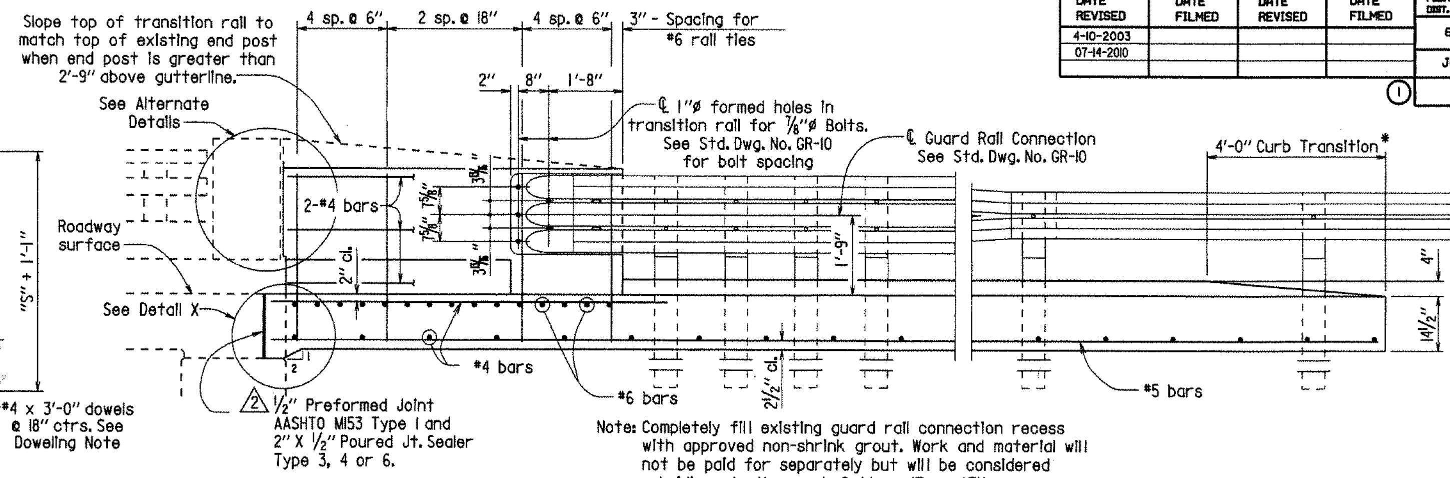
'S' = Distance from gutterline to edge of approach slab.





PLAN - SKEWED BRIDGES

Scale: 3/8" = 1'-0"



Note: Completely fill existing guard rail connection recess with approved non-shrink grout. Work and material will not be paid for separately but will be considered subsidiary to 'Approach Gutters (Type AT)'.

LONGITUDINAL SECTION THRU GUTTER

Scale: 1/2" = 1'-0"

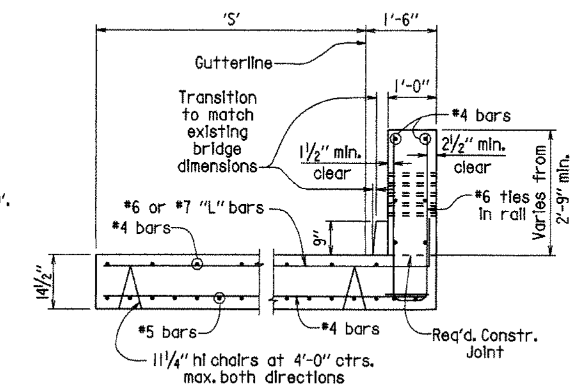
* Construct curb with height-transition as shown if drop inlet is not used at end of gutter.

Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

DOWELING NOTE

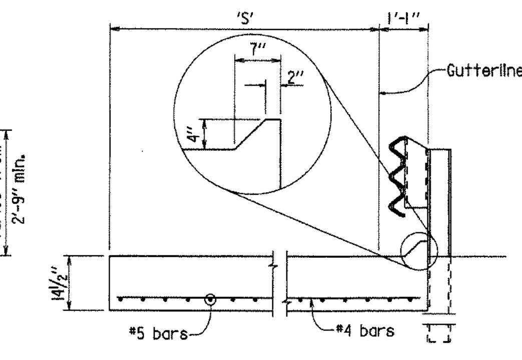
If new approach slab is used, place dowels into approach slab using 18" embedment.

If existing approach slab is retained, dowels shall be drilled and grouted 18" into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to 'Approach Gutters (Type AT)'.



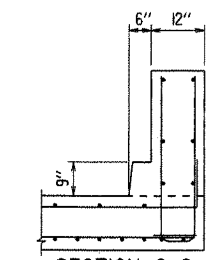
SECTION A-A

Scale: 1/2" = 1'-0"



SECTION B-B

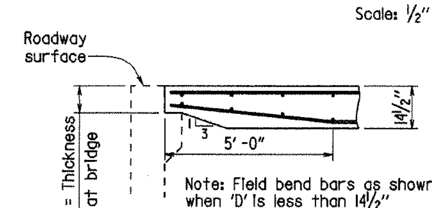
Scale: 1/2= 1'-0"



SECTION C-C

At end of Transtion Rail

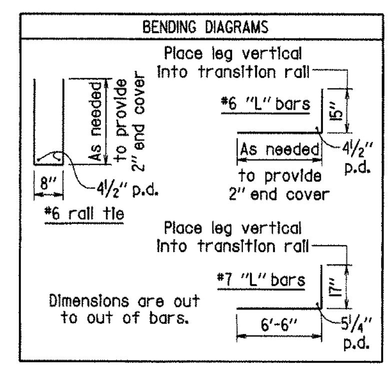
Scale: 1/2" = 1'-0"

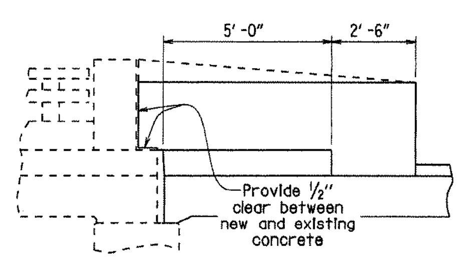


Note: Field bend bars as shown when 'D' is less than 14 1/2"

DETAIL X

Scale: 3/8" = 1'-0"





Bridge end may vary from that shown. Adjust gutter details as required to provide similar railing transition.

ALTERNATE DETAILS

No Scale

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

'S'	Concrete	Reinforcing Steel
5'-6"	12.06 cu.yd.	1091 lb.
9'-6"	18.78 cu.yd.	1573 lb.

GENERAL NOTES

Concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi.) Fabricate bar lengths to provide 2" minumum cover at each end.

Approach gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

1. Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

2. Added joint sealer type 07-14-2010 by MJT Checked by: CJF 7-14-2010

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF STANDARD TYPE 'AT' APPROACH GUTTERS (BRIDGES WITH 6" CURB WIDTH & TYPE A RAILING)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

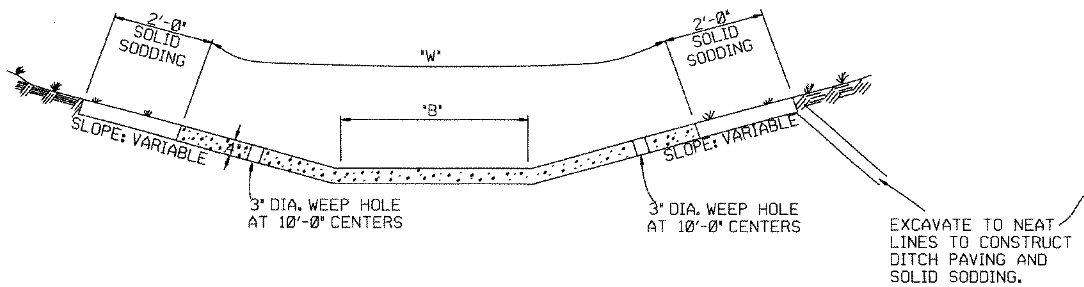
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2092.STD

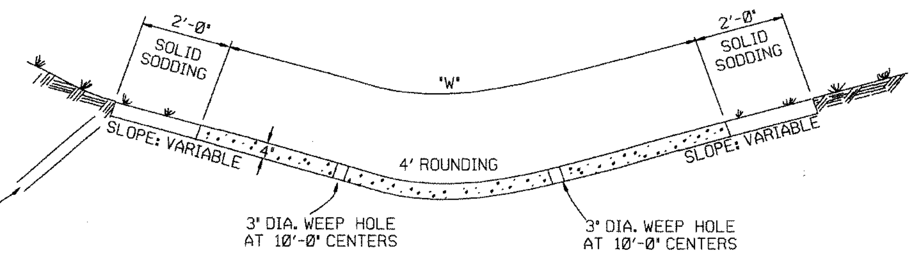
CHECKED BY: CJF DATE: 4-10-2003 SCALE: AS NOTED

DESIGNED BY: STD. DATE:

BRIDGE NO. DRAWING NO. 2092



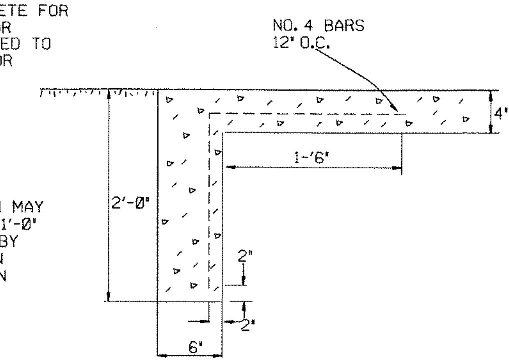
TYPE A



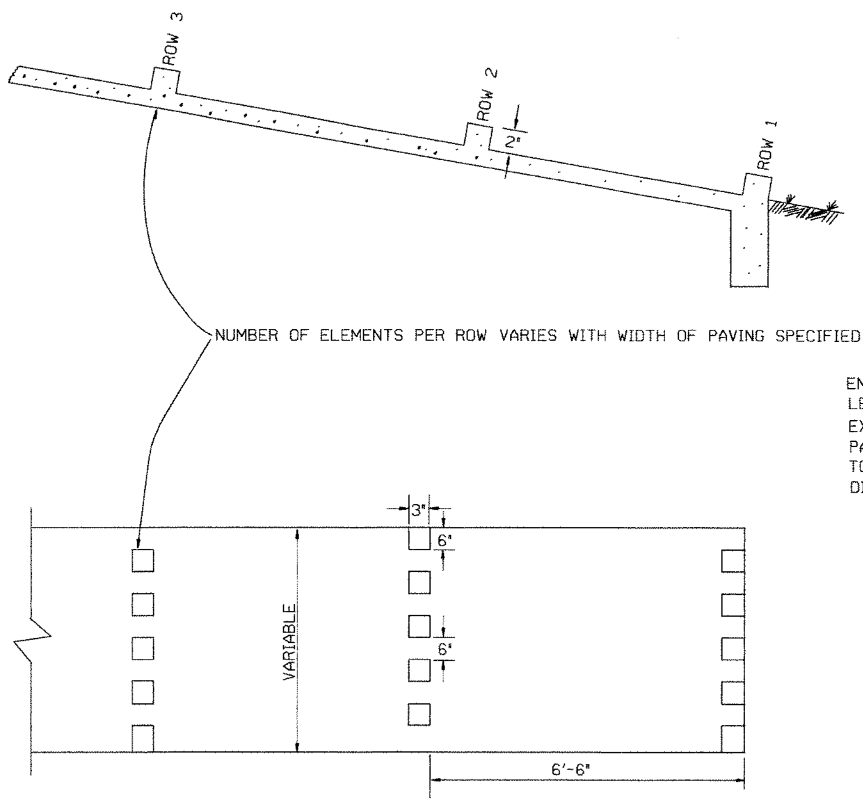
TYPE B

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

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



TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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

ENERGY DISSIPATORS

(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

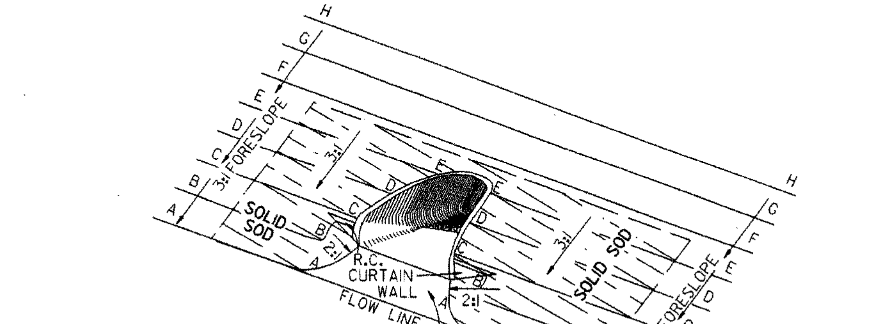
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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

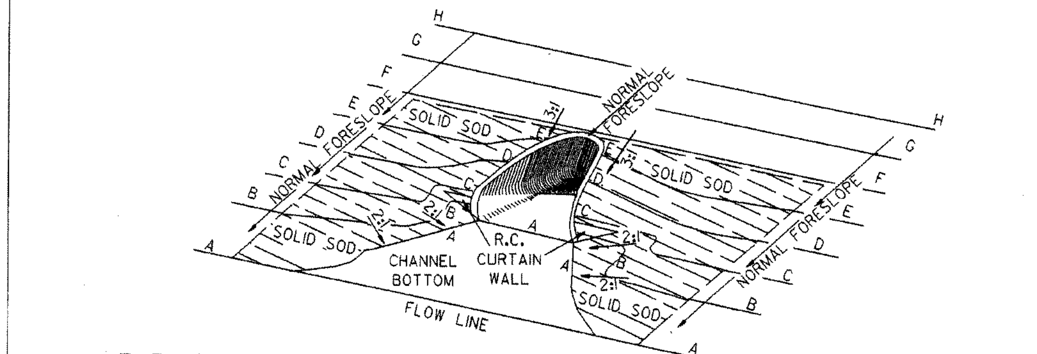
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

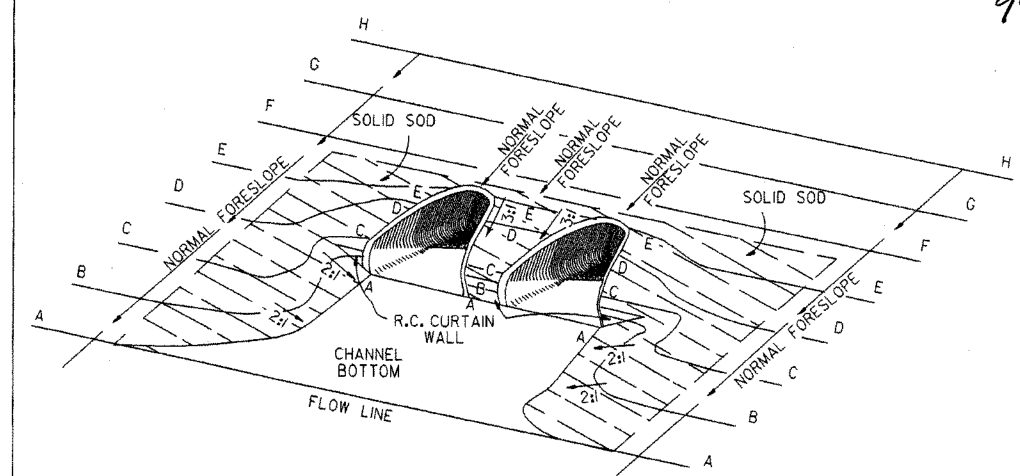
STANDARD DRAWING CDP-1



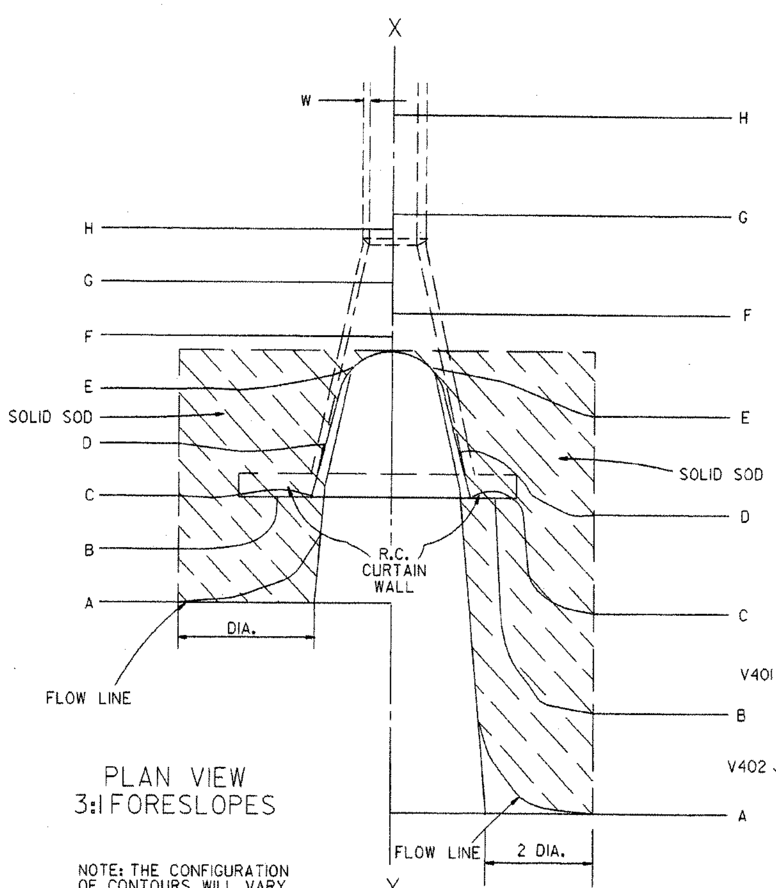
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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



PLAN VIEW
3:1 FORESLOPES

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

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

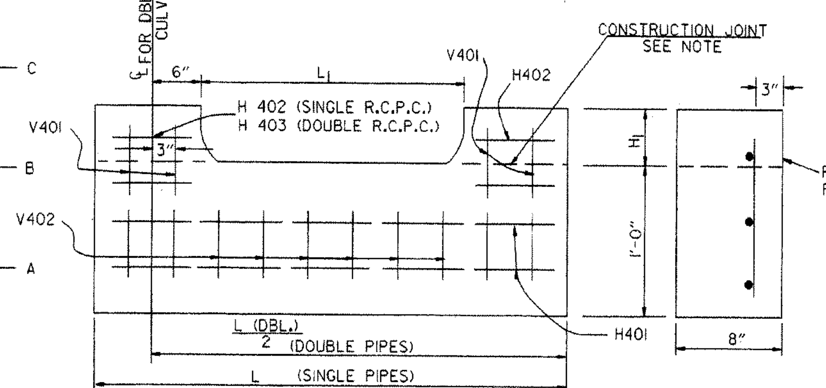
PIPE DIA.	H_1	L_1	L	L (DBL.) / 2	SINGLE R.C.P.C. CONC. CU. YDS.	SINGLE R.C.P.C. REINF. STEEL LBS.	DOUBLE R.C.P.C. CONC. CU. YDS.	DOUBLE R.C.P.C. REINF. STEEL LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67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

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 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

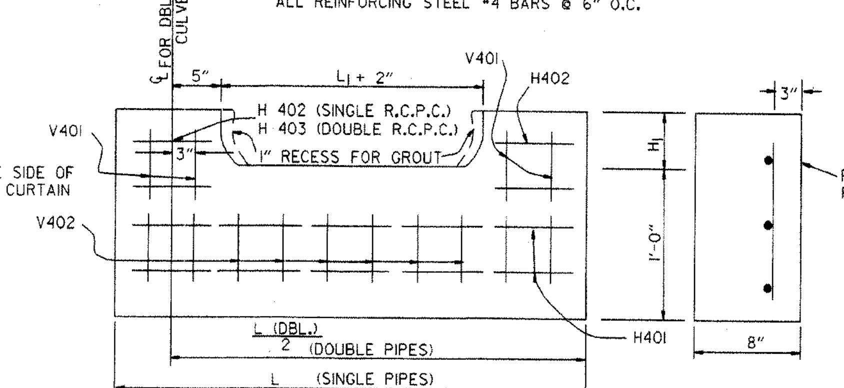
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



CAST-IN-PLACE

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

R.C. CURTAIN WALL DETAILS



PRECAST

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

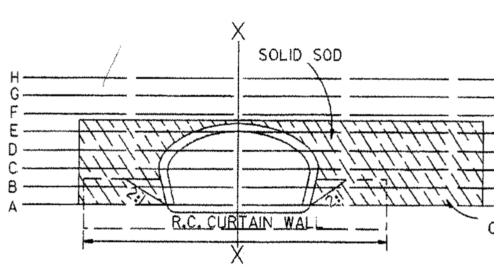
SOLID SODDING

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

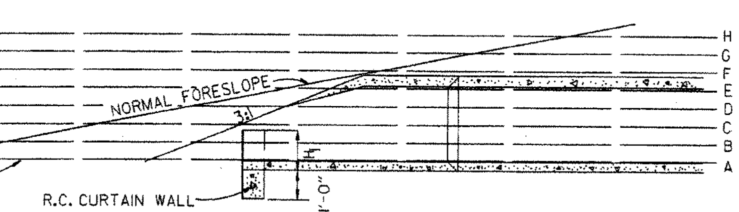
NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

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



END VIEW



SECTIONAL VIEW "X-X"

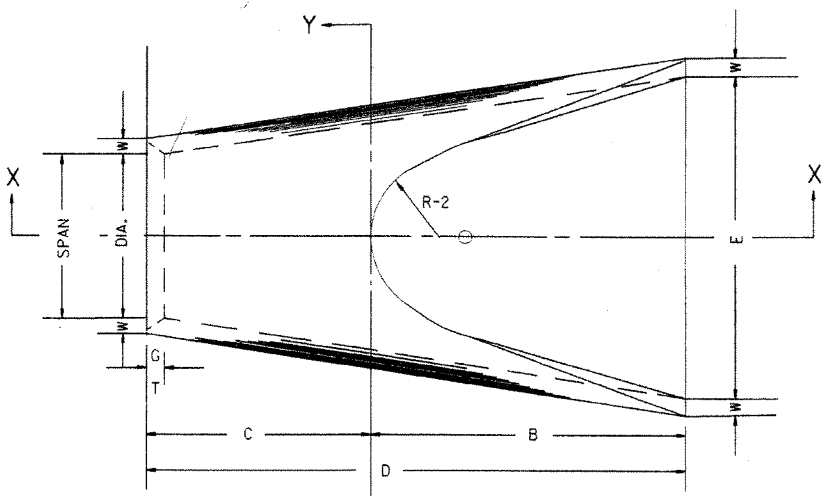
DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	10-18-96
10-12-95	CORRECTED SPELLING	
11-3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72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

ARKANSAS STATE HIGHWAY COMMISSION

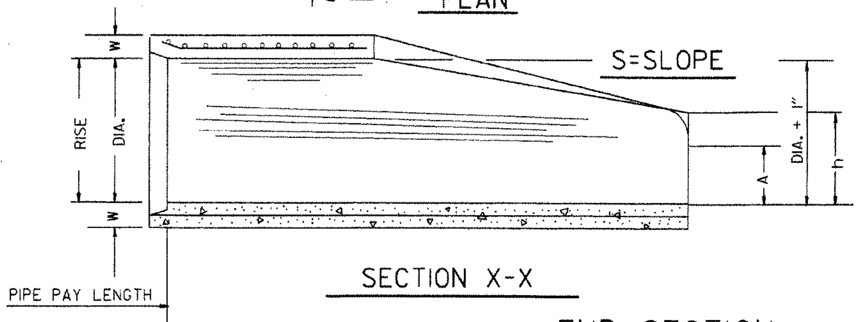
FLARED END SECTION

STANDARD DRAWING FES-1

100



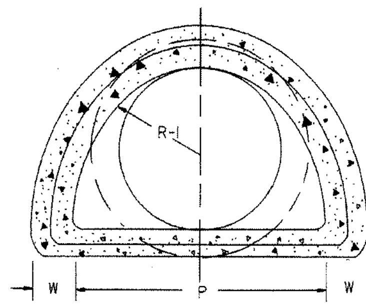
PLAN



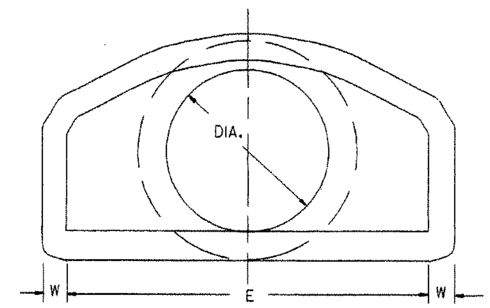
SECTION X-X

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 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"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 7/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 1/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 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 15/16"	24"	5"	13250	4'-6"



SECTION Y-Y



END VIEW

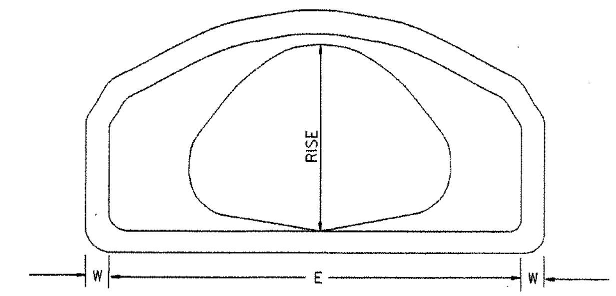
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

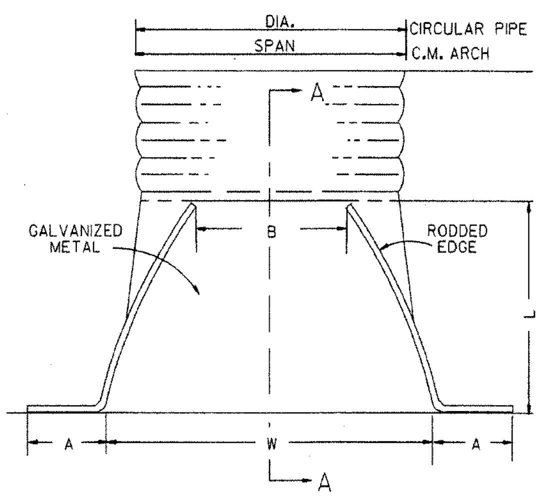
ARCH PIPE

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"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 13/16"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 13/16"	20"	3"	2 1/2:1
36	43 3/4	44	26 5/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 5/16"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 5/16	31	4 1/2"	11 1/2"	4'-7"	1-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 5/16"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4 3/4"	2 1/4:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2 1/4:1

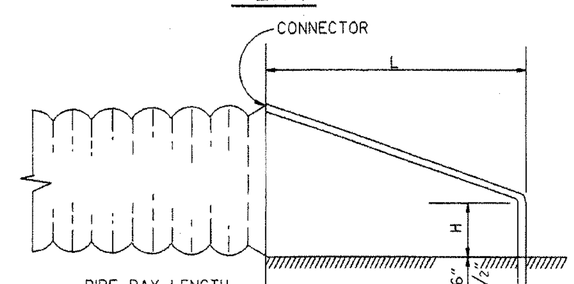
* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



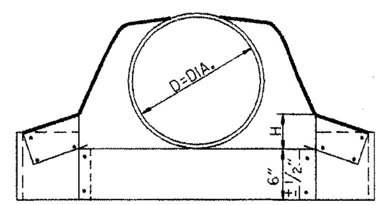
END VIEW
CONCRETE ARCH PIPE



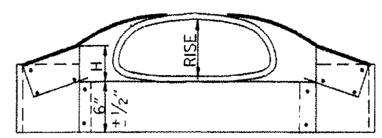
PLAN



SECTION A-A



CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

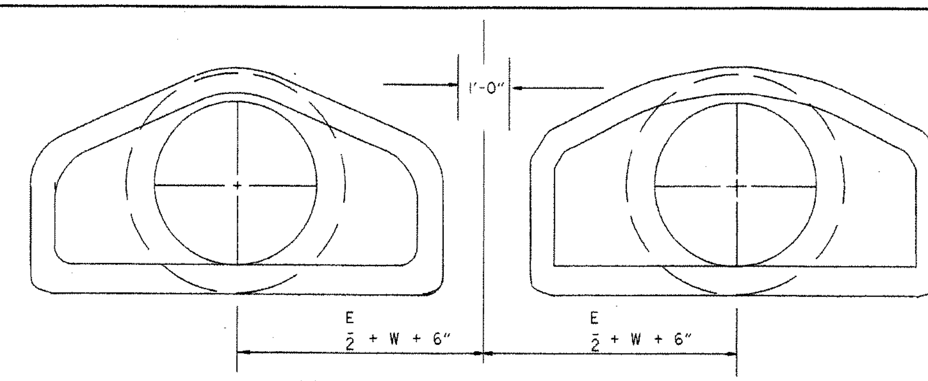
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2 1/2:1
15	16	7	8	6	26	30	2 1/2:1
18	16	8	10	6	31	36	2 1/2:1
21	16	9	12	6	36	42	2 1/2:1
24	16	10	13	6	41	48	2 1/2:1
30	14	12	16	8	51	60	2 1/2:1
36	14	14	19	9	60	72	2 1/2:1
42	12	16	22	11	69	84	2 1/2:1
48	12	18	27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

C.M. ARCH PIPE

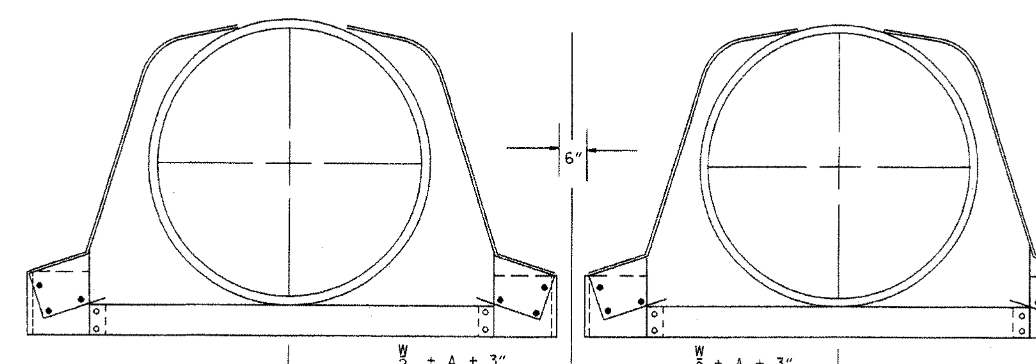
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33	13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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

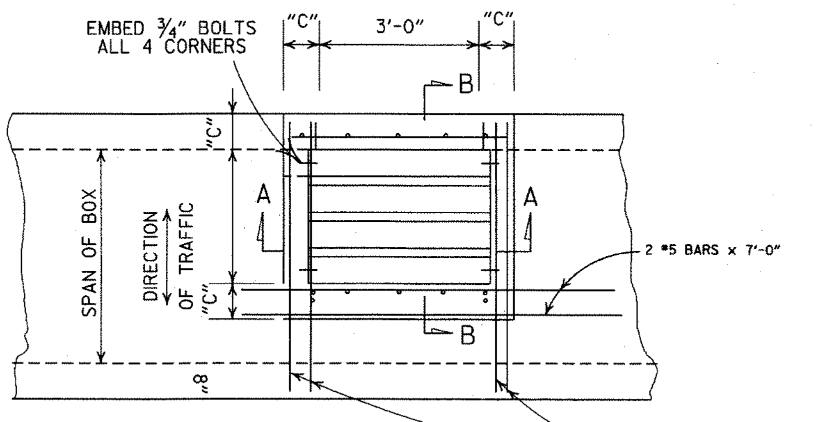
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74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

ARKANSAS STATE HIGHWAY COMMISION

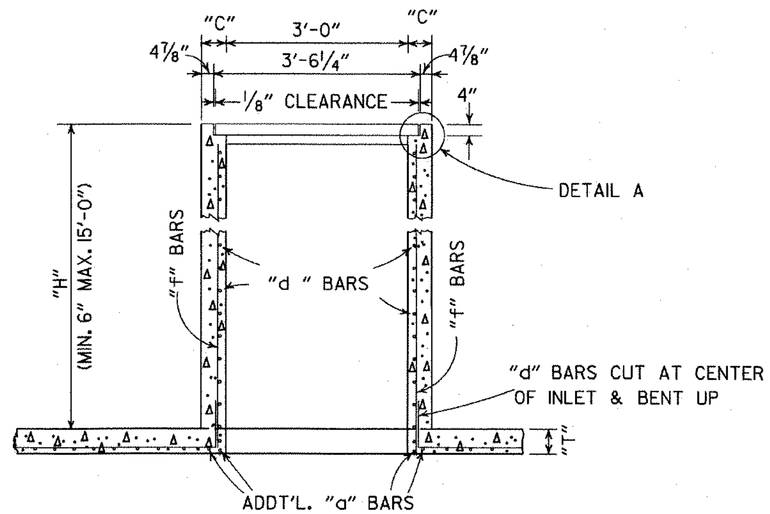
FLARED END SECTION

STANDARD DRAWING FES-2

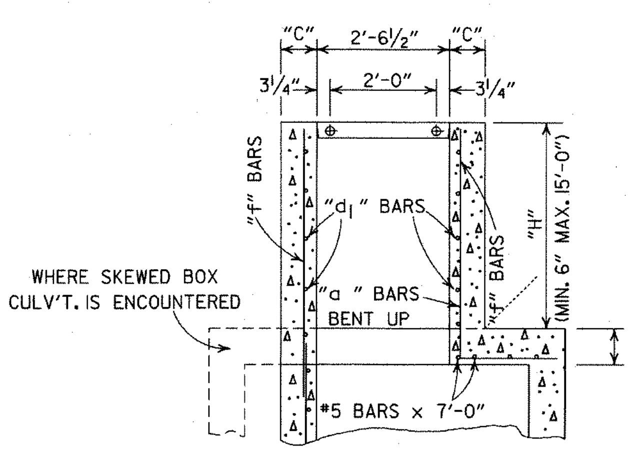
stdfes2.dgn



PLAN



SECTION A-A



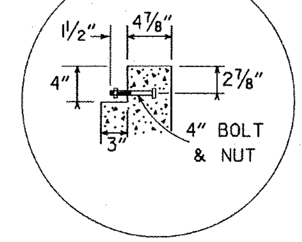
SECTION B-B

NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

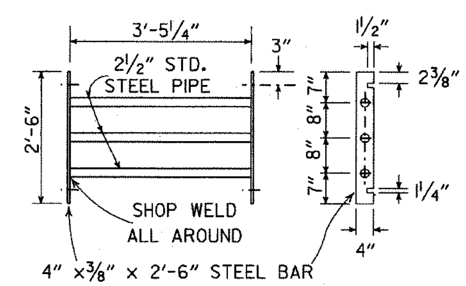
DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM"

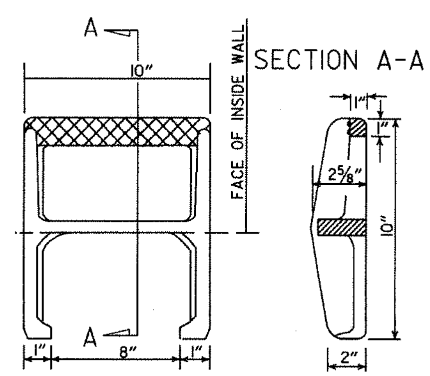
FOR REINFORCED CONC. BOX CULVERTS



DETAIL A



GRATE DETAIL



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

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

DETAIL OF STEP FOR DROP INLET

GENERAL NOTES:

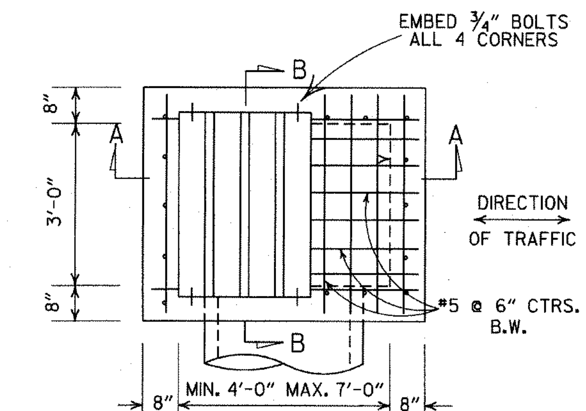
1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1 1/2" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TABLE OF "W" DIMENSIONS

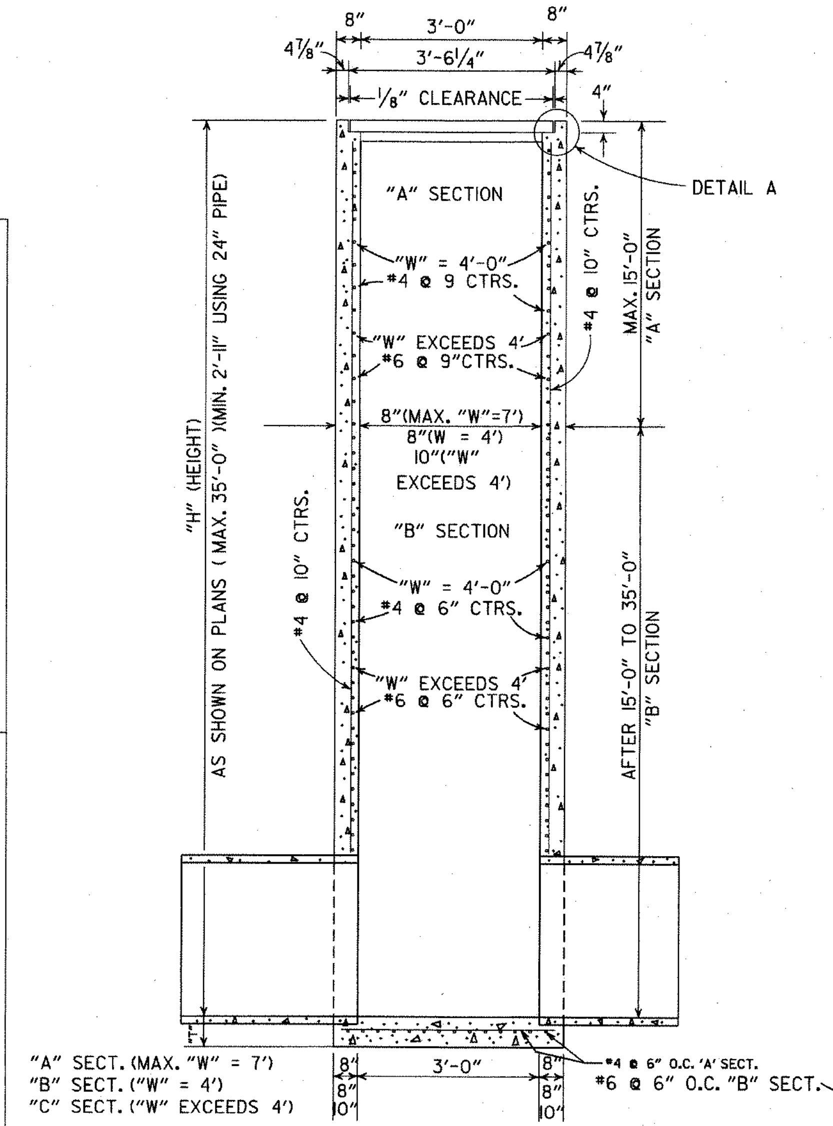
100A

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

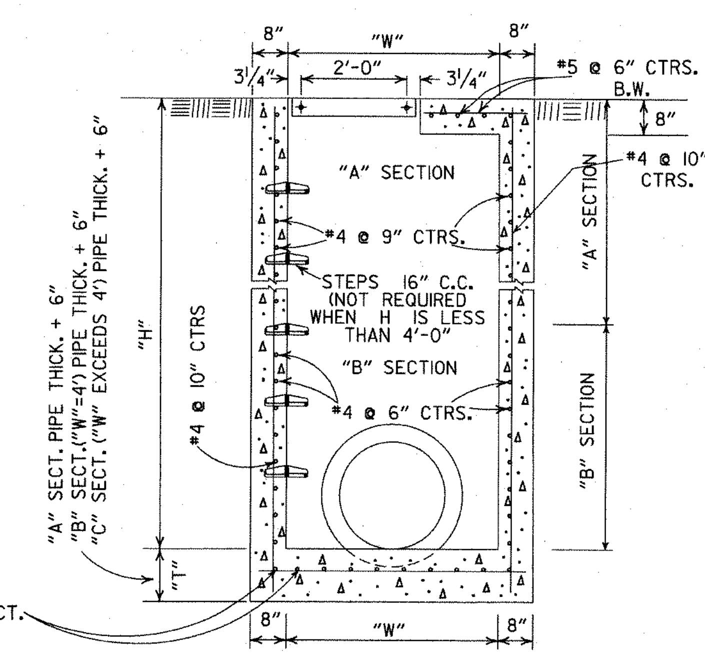
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



PLAN



SECTION B-B



SECTION A-A

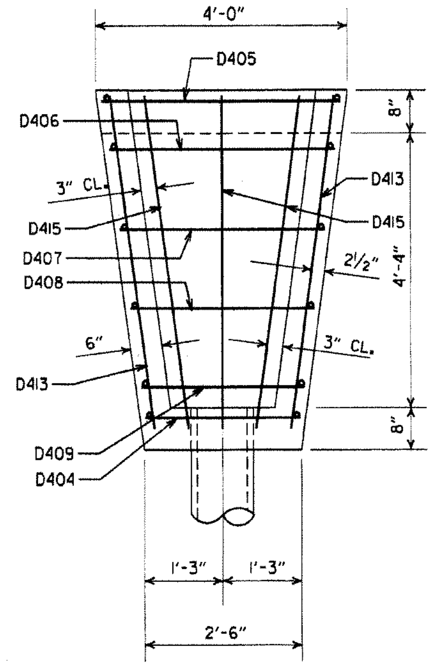
DROP INLET(TYPE RM)

8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72
REVISED		DATE FILMED

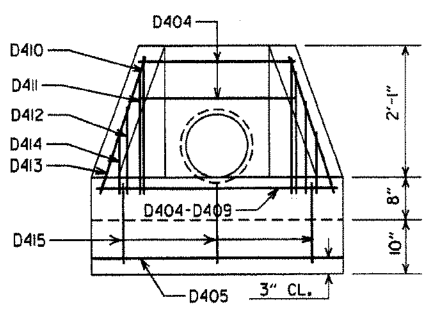
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

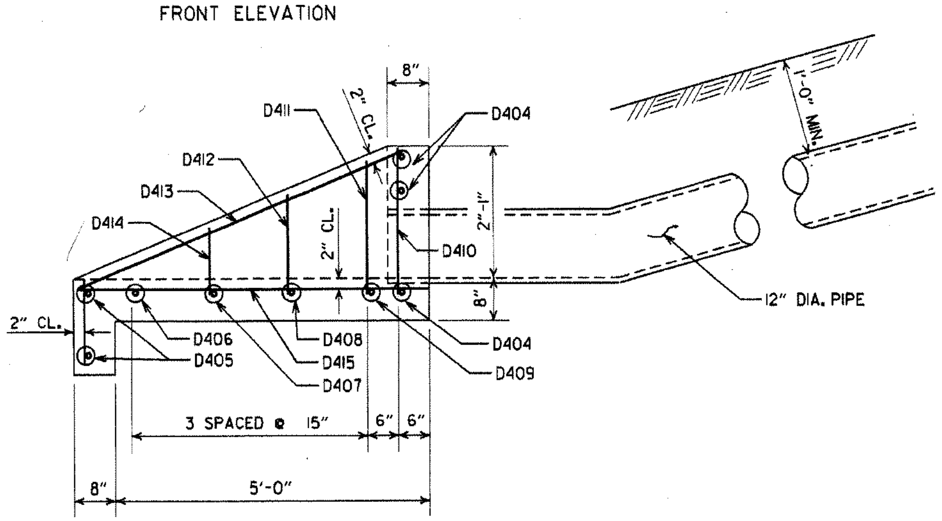
STANDARD DRAWING FPC-9D



PLAN



FRONT ELEVATION

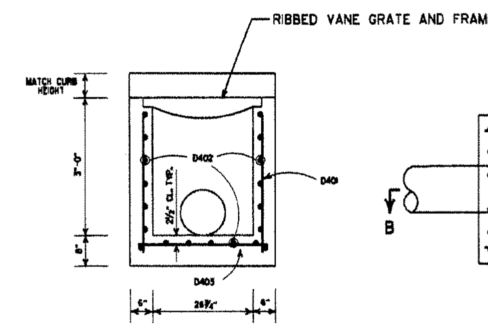


SIDE ELEVATION
CONCRETE SPILLWAY

DETAILS OF CONCRETE SPILLWAY (TYPE A)

BAR LIST (CONCRETE SPILLWAY)

MARK	NO. REQ'D.	LENGTH	BENDING DIAGRAM
D404	3	2'-2"	5'-4" / 1'-2" / 2" P.D. / D415
D405	2	3'-8"	
D406	1	3'-5"	
D407	1	3'-1"	
D408	1	2'-9"	
D409	1	2'-5"	
D410	2	2'-5"	
D411	2	2'-2"	
D412	2	1'-9"	
D413	2	5'-6"	
D414	2	1'-2"	
D415	3	6'-5"	

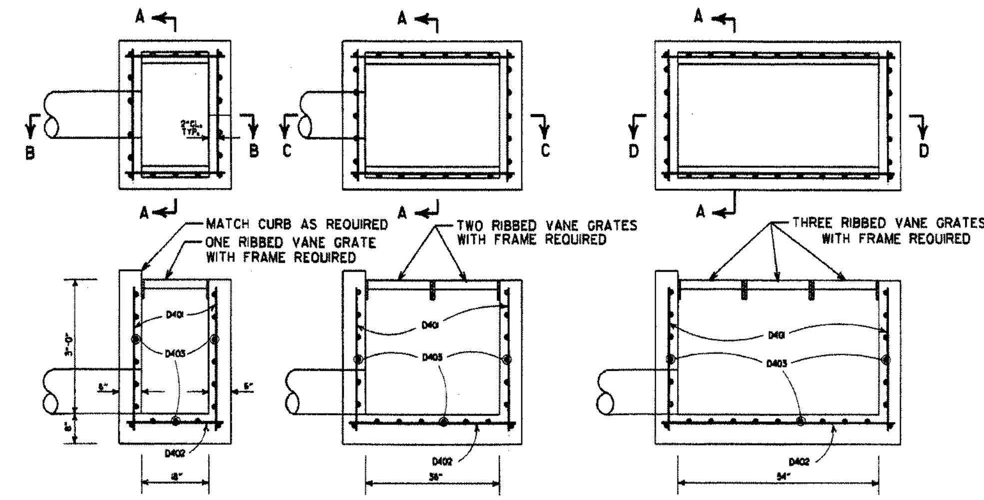


SECTION A-A

BAR LIST (DROP INLET)

MARK	TYPE N-1		TYPE N-2		TYPE N-3	
	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
D401	20	3'-0"	26	3'-0"	32	3'-0"
D402	19	2'-2"	19	3'-8"	19	5'-2"
D403	17	2'-11"	20	2'-11"	23	2'-11"

ALL BARS #4 @ 6" SPACING



SECTION B-B
DETAILS OF DROP INLET (TYPE N-1)

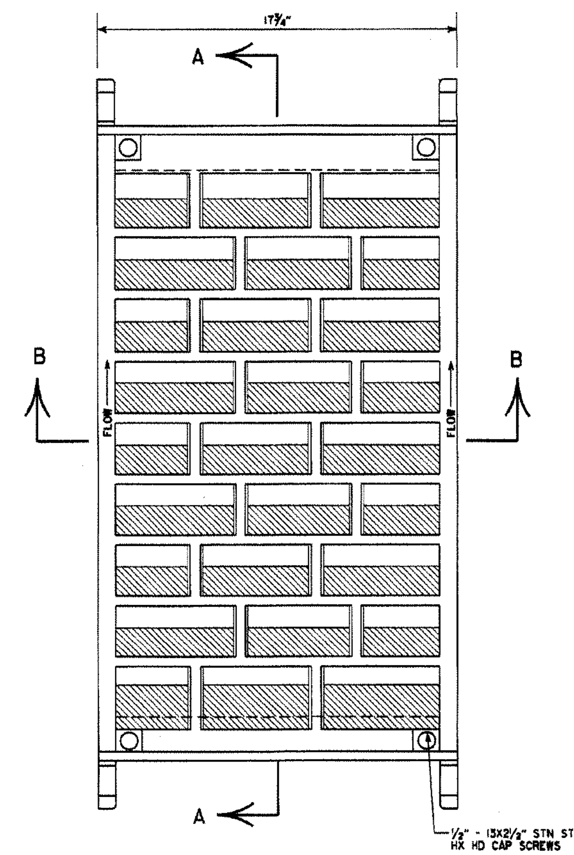
SECTION C-C
DETAILS OF DROP INLET (TYPE N-2)

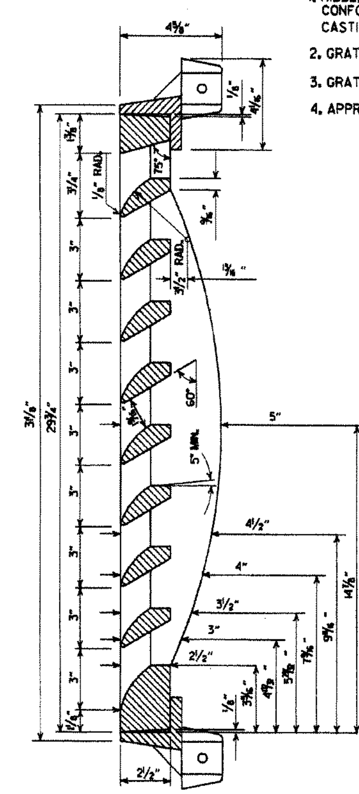
SECTION D-D
DETAILS OF DROP INLET (TYPE N-3)

DETAILS OF DROP INLET

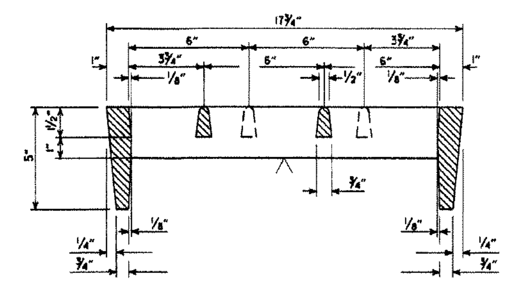
GENERAL NOTES (GRATE & FRAME)

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

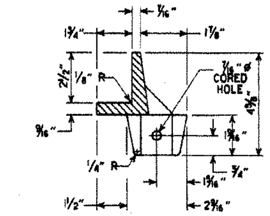




SECTION A-A



SECTION B-B



SECTION THRU FRAME

DETAILS OF RIBBED VANE GRATE AND FRAME

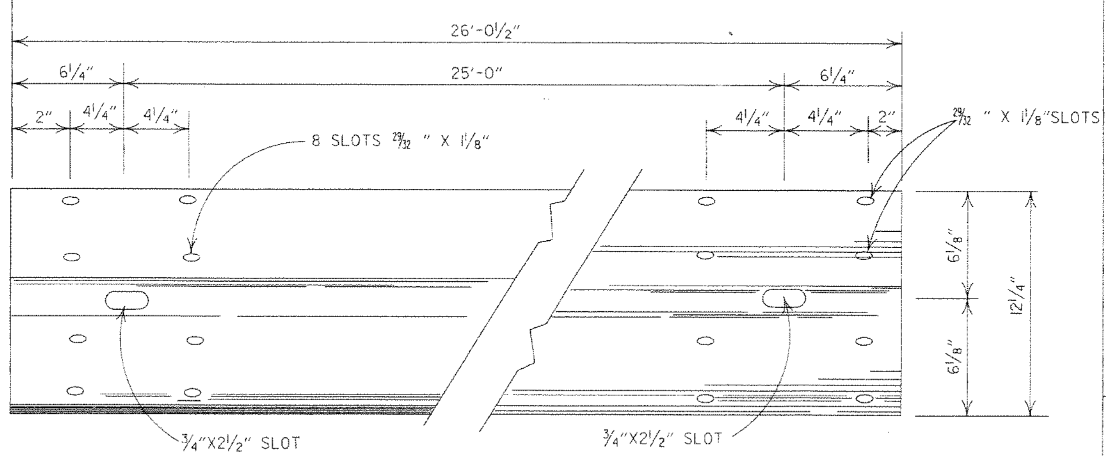
DATE REVISED	DATE FILMED	DESCRIPTION
7-02-98	7-2-98	REVISED SECT. A-A DETAIL OF DROP INLET & ADDED AASHTO REF. TO NOTE 1, REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
8-15-91		ISSUED

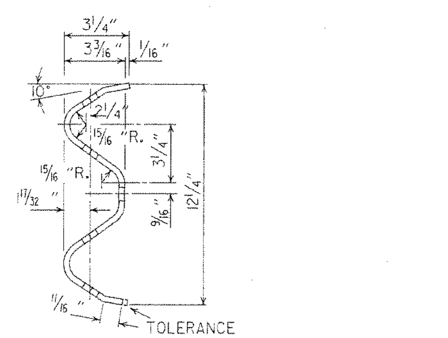
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS AND SPILLWAY OUTLET

STANDARD DRAWING FPC-9N

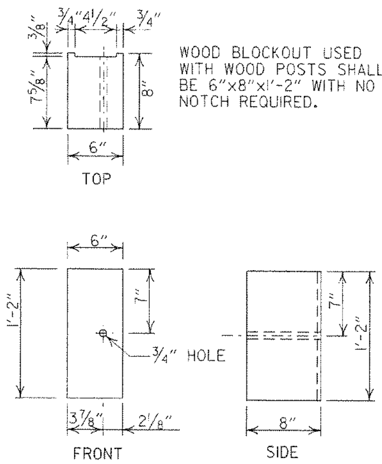
102



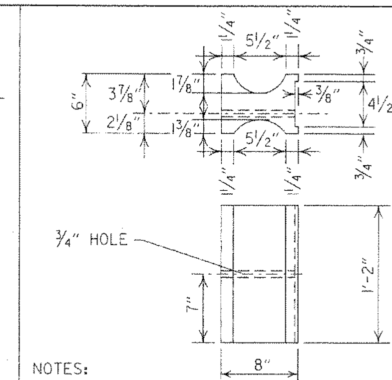


DETAILS OF W-BEAM GUARD RAIL

RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



WOOD BLOCKOUT (W-BEAM)

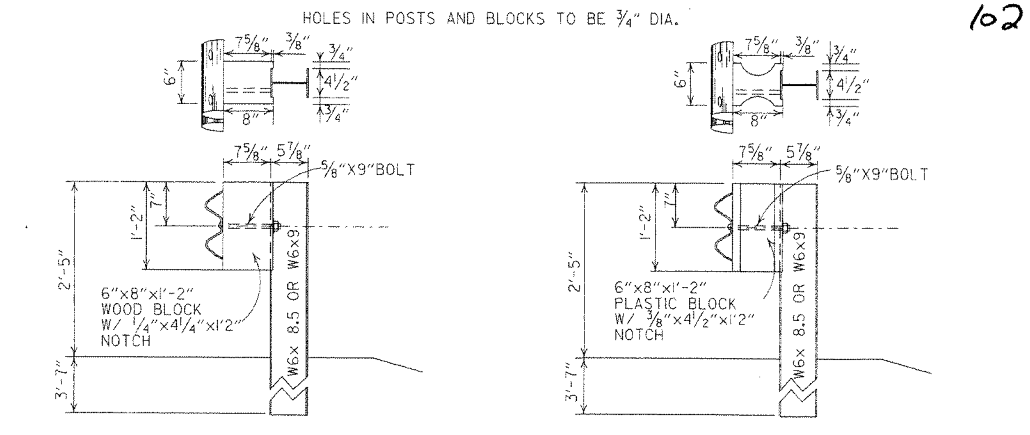


NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)

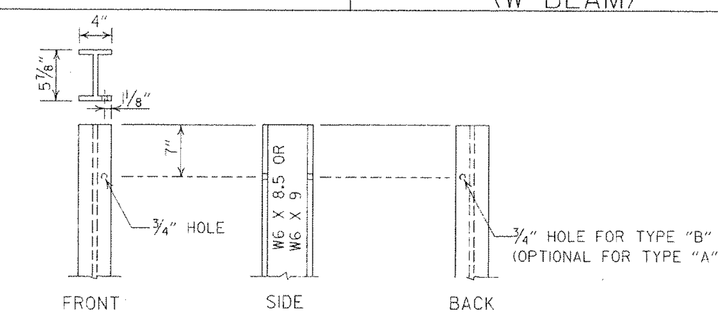
HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



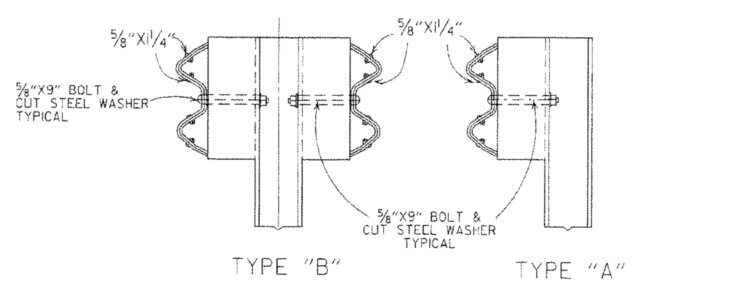
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

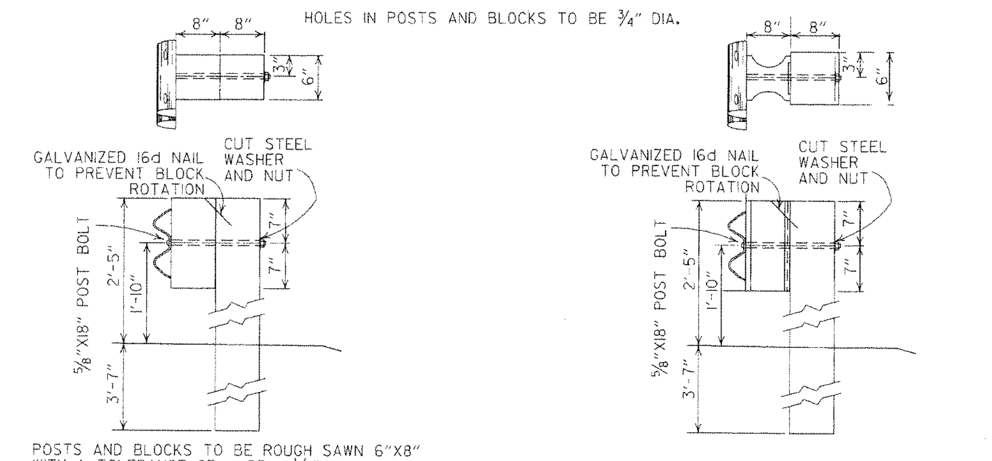


STEEL POST



DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

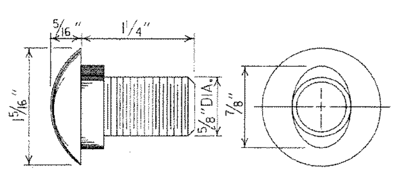


POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS

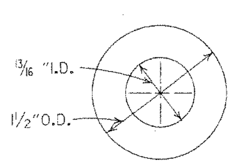
PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

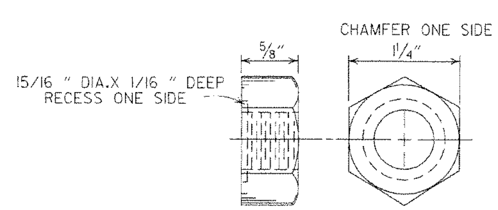


SPLICE BOLT

POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER



NUT

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

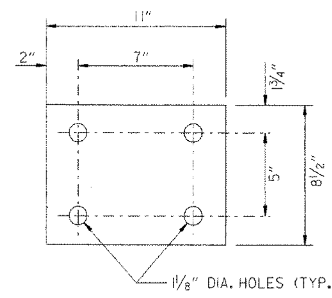
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES&POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87
DATE	REVISION	DATE FILM

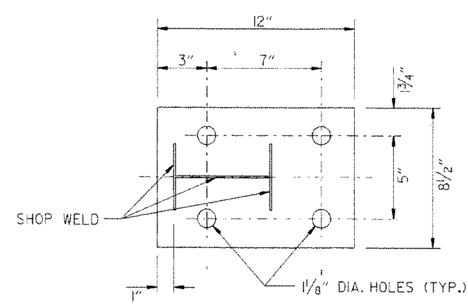
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8

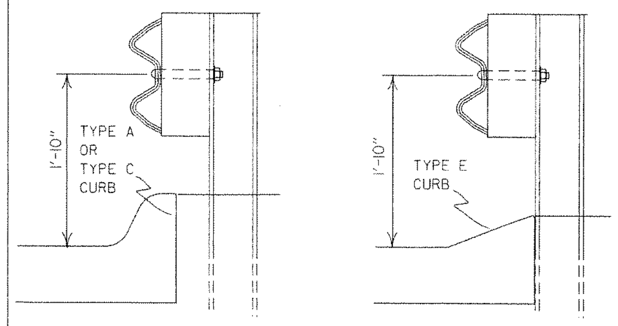


WASHER PLATE



BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.



FOR DESIGN SPEEDS OF 50 MPH OR LESS

ALIGN FACE OF GUARD RAIL WITH FACE OF CURB.

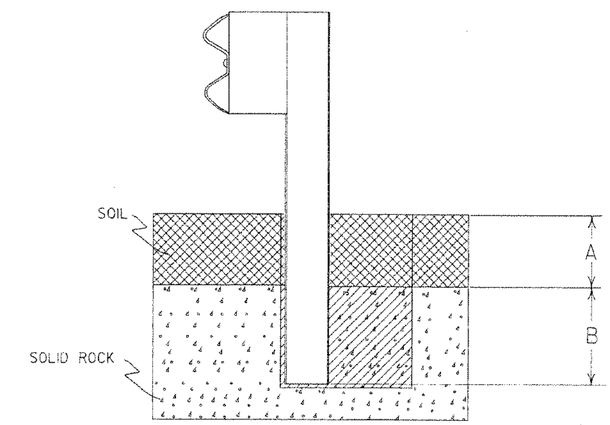
FOR DESIGN SPEEDS OF 55 MPH OR MORE

PLACE GUARD RAIL POSTS AGAINST BACK OF CURB.

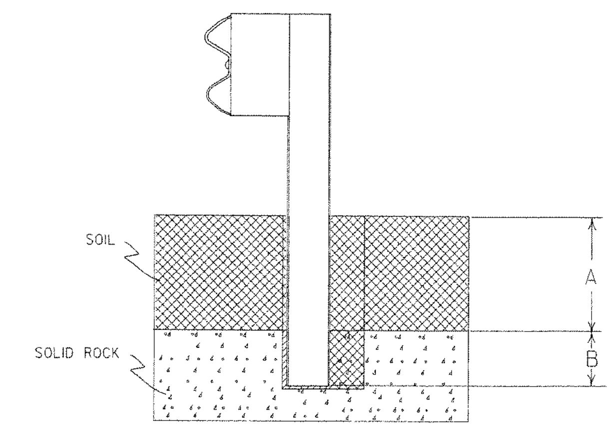
DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.

Case 1

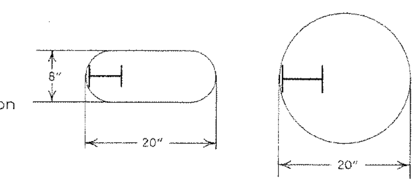


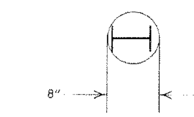
Case 2



Plan View Steel Posts

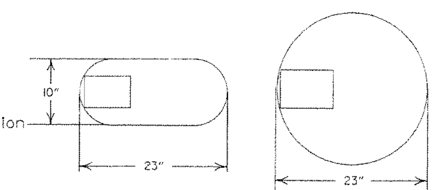
Either hole configuration acceptable

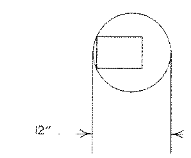




Plan View Wood Posts

Either hole configuration acceptable





Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

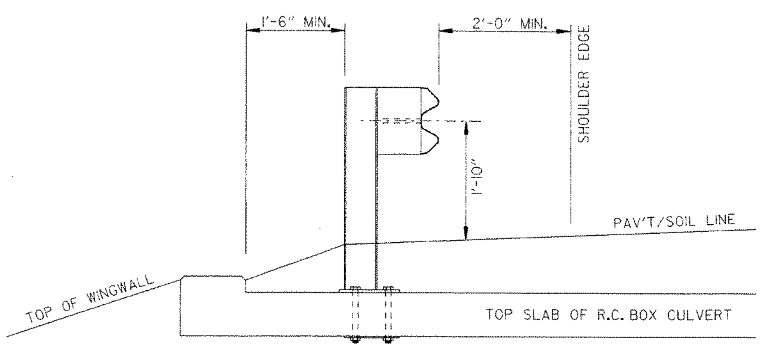
Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

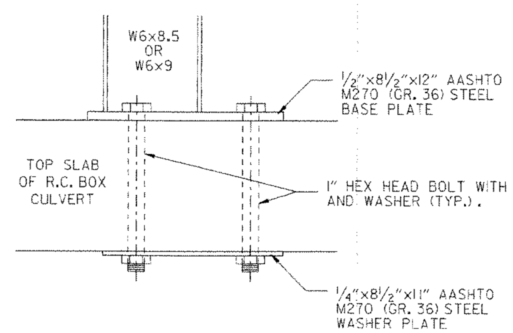
Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

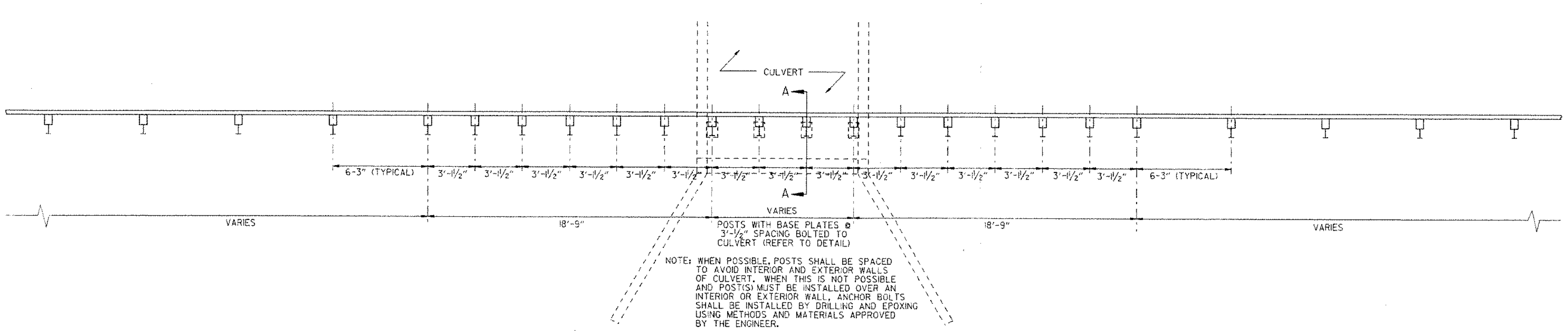
DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



SECTION A-A



DETAIL OF CONNECTION



PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DWG. GR-8.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULV'T. DELETED DET. OF STEEL LINE POST CONN.& ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-5-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
7-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87

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GUARD RAIL DETAILS

STANDARD DRAWING GR-8A

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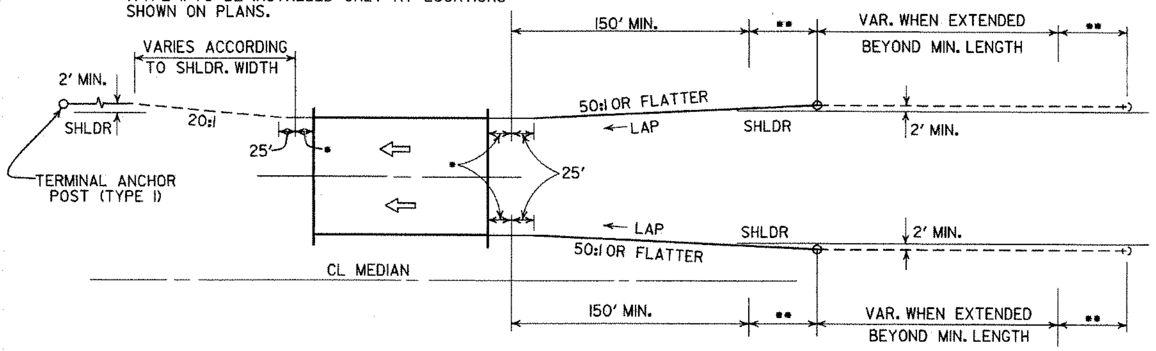
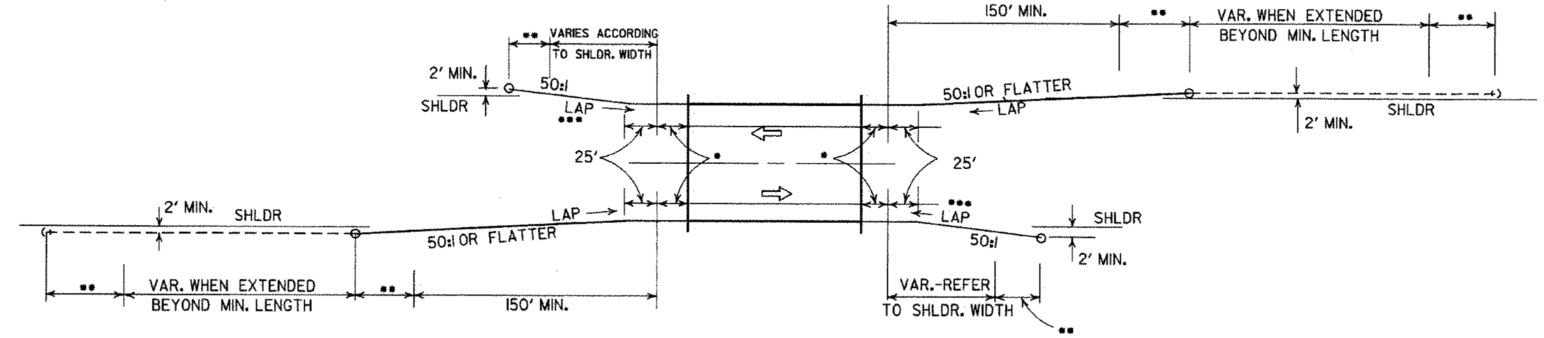
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

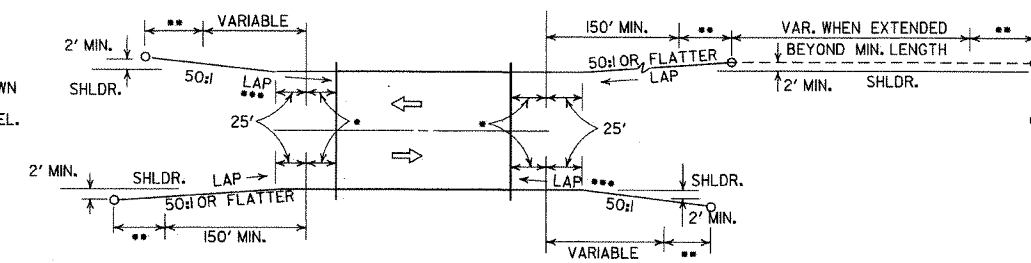
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

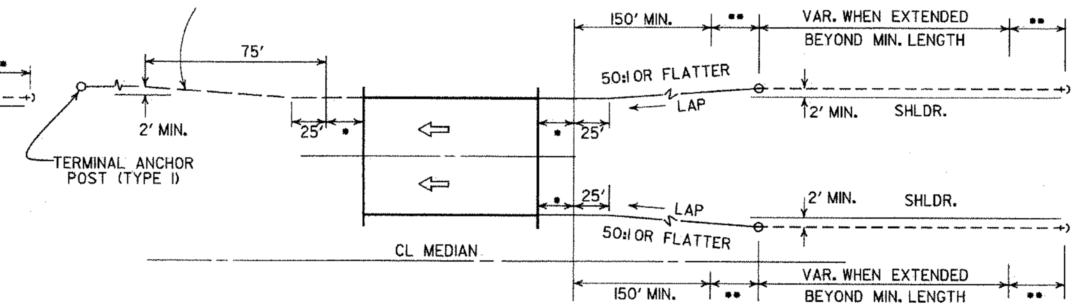
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

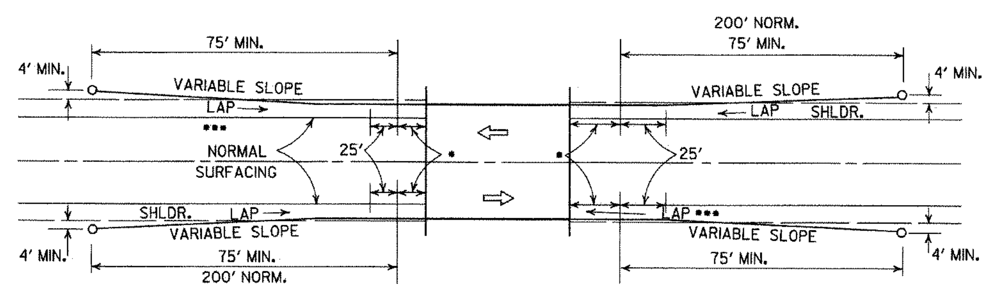
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

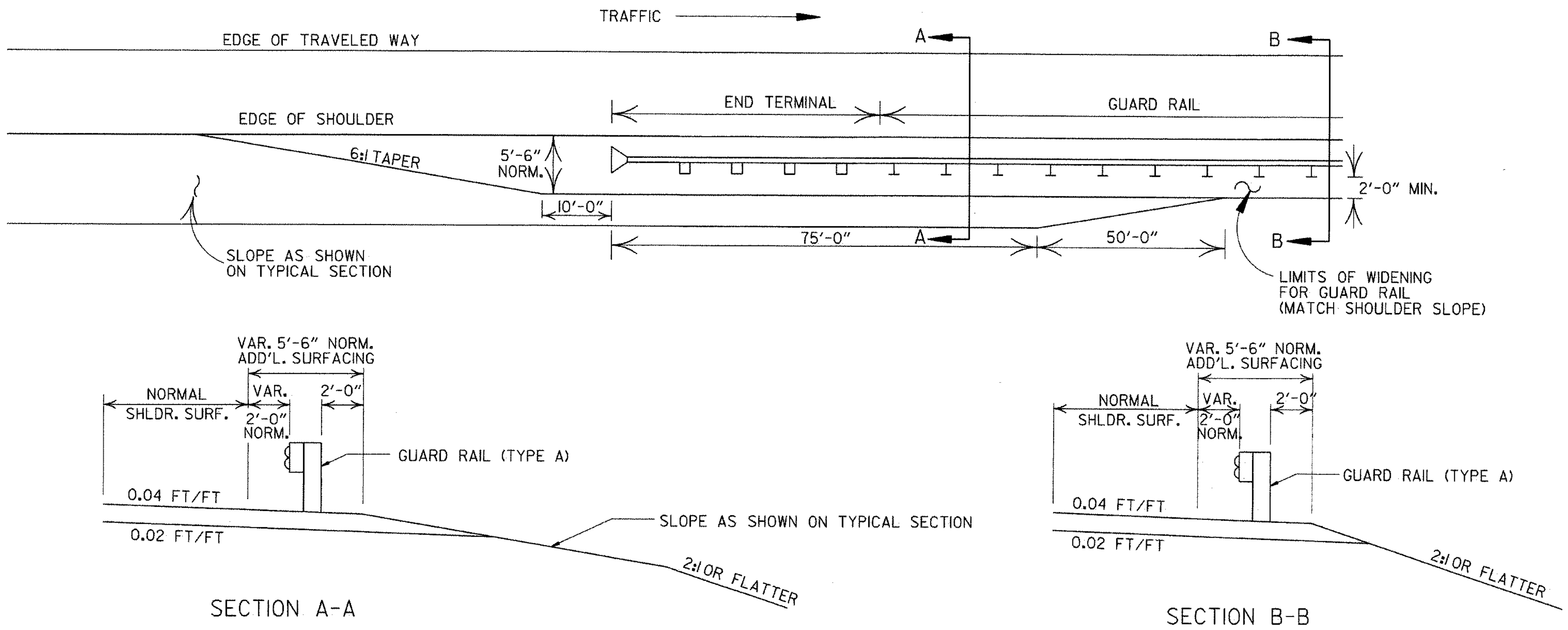
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

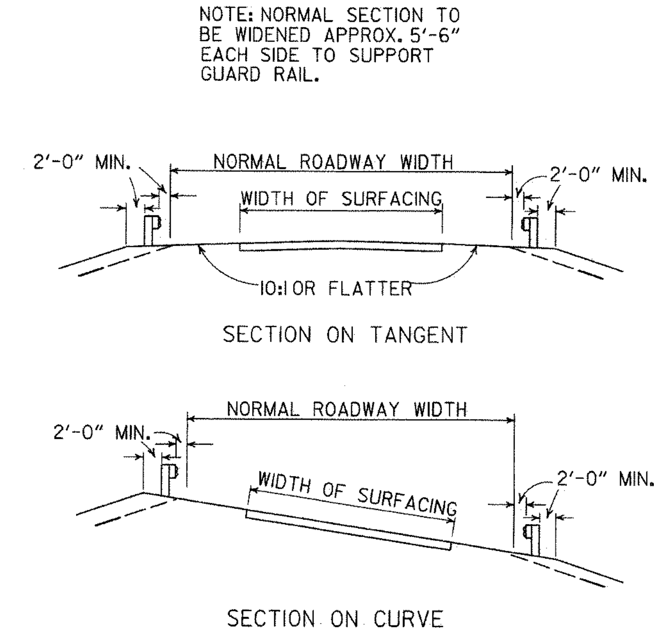
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

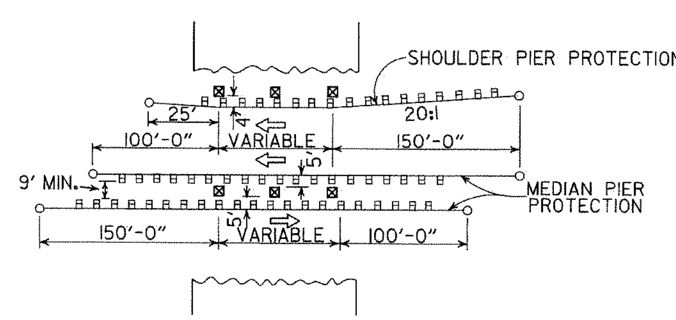
STANDARD DRAWING GR-9



DETAILS OF WIDENING FOR GUARD RAIL



DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



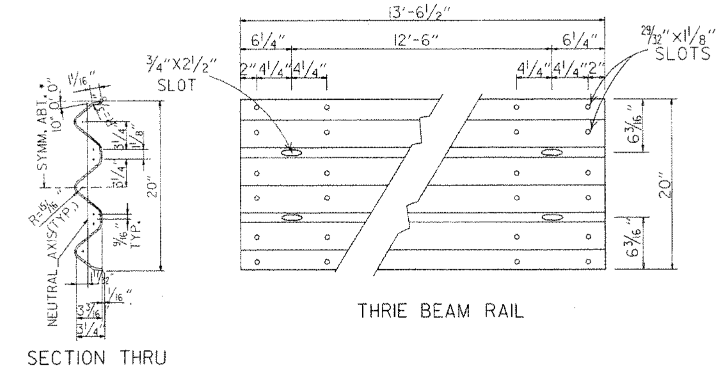
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

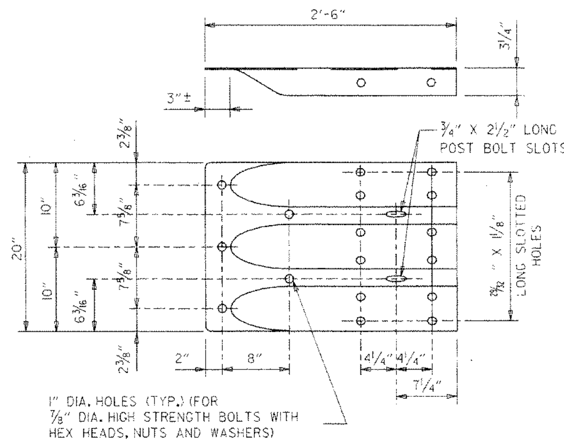
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A

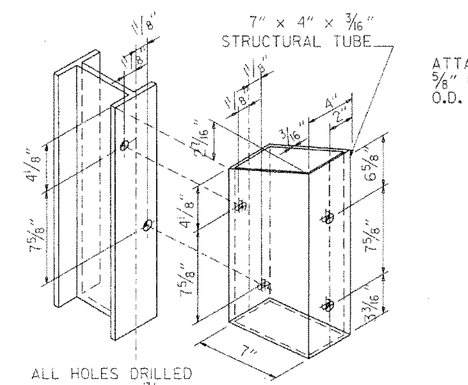


SECTION THRU THRIE BEAM RAIL

THRIE BEAM RAIL

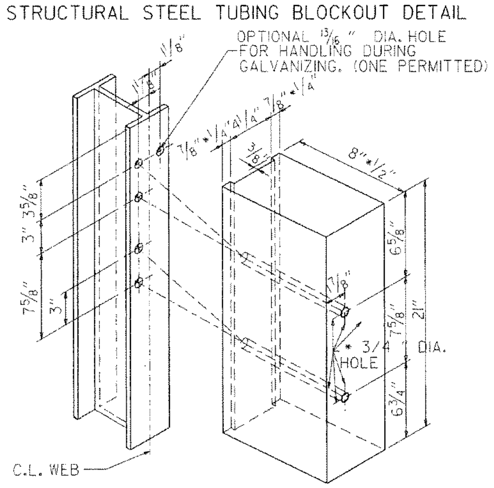


SPECIAL END SHOE



ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

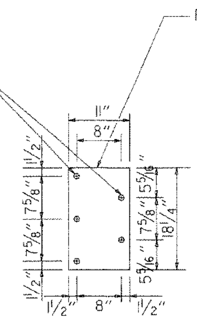
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES ¹³⁄₁₆" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

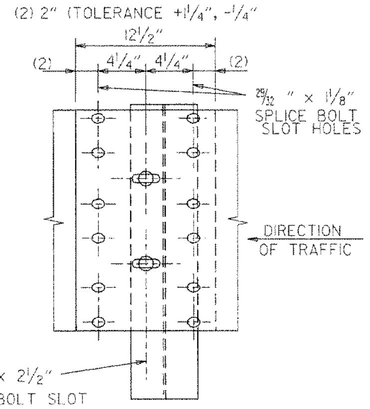
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



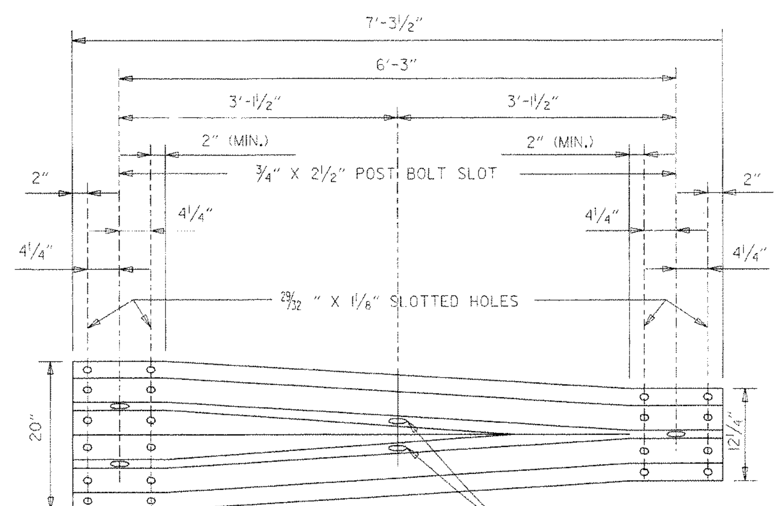
CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.

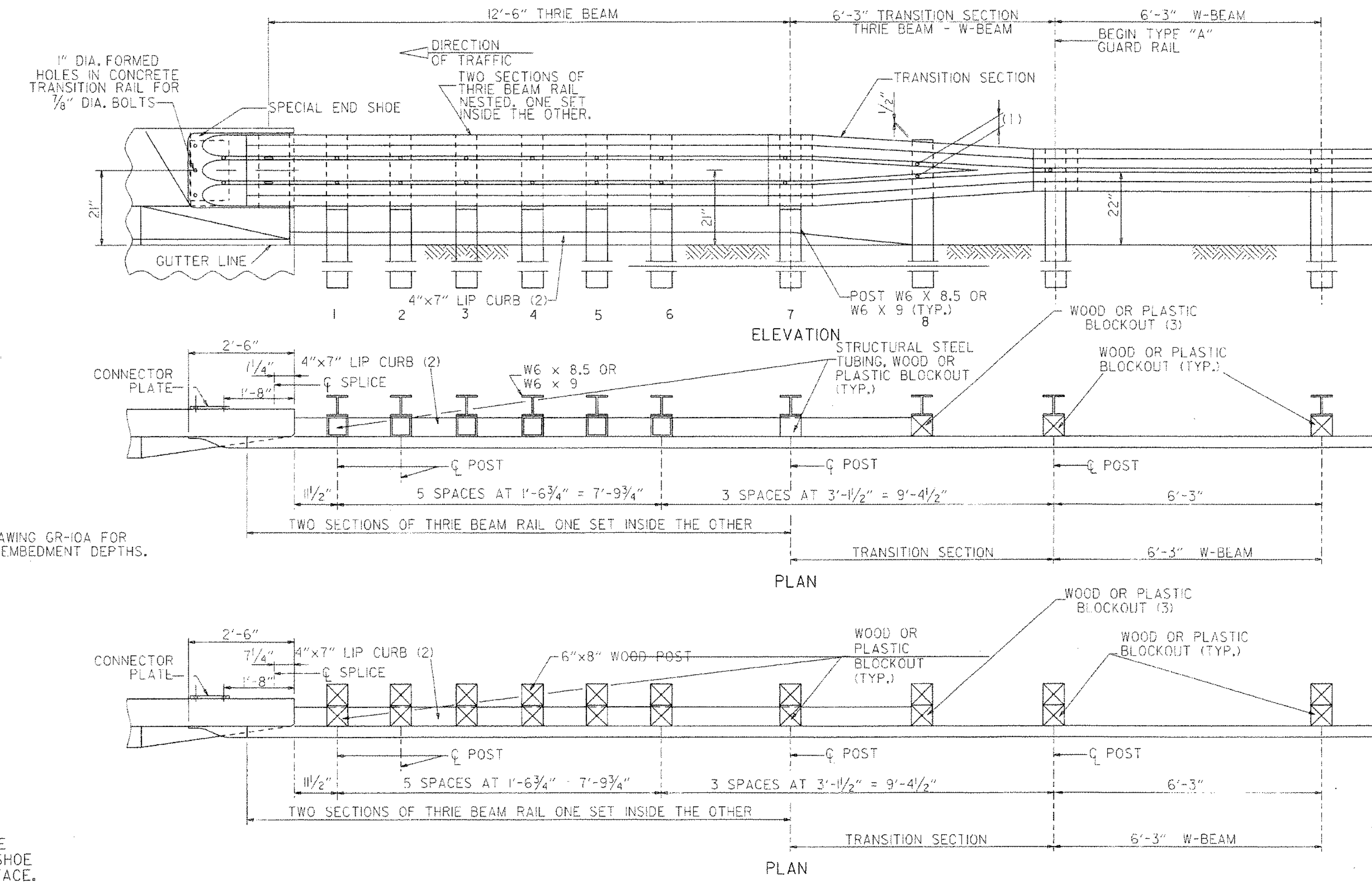
NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.



THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION



(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 (1350 f) SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

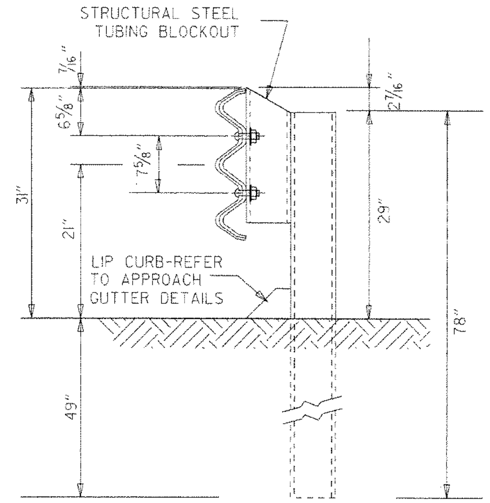
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

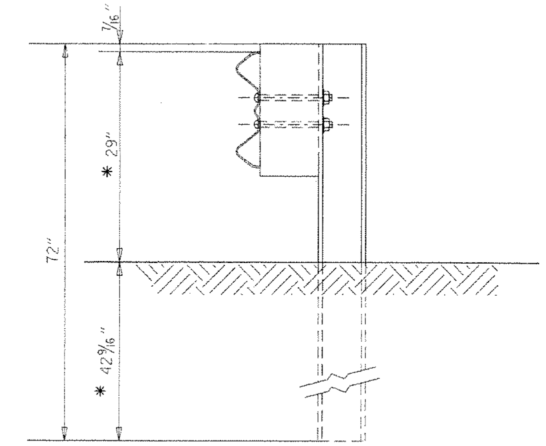
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

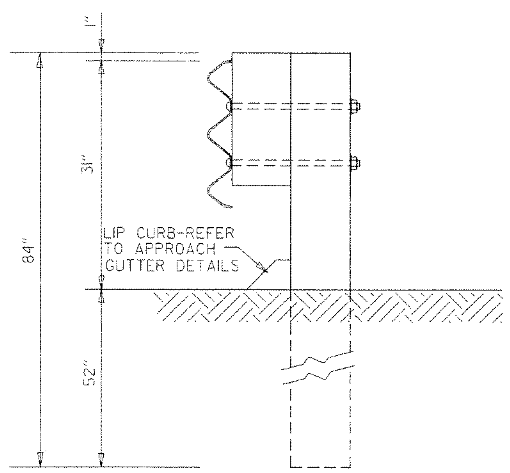


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

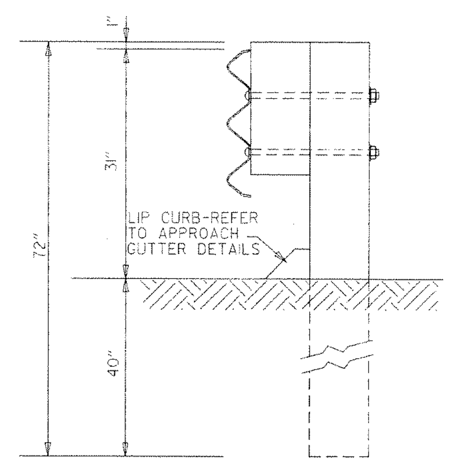


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

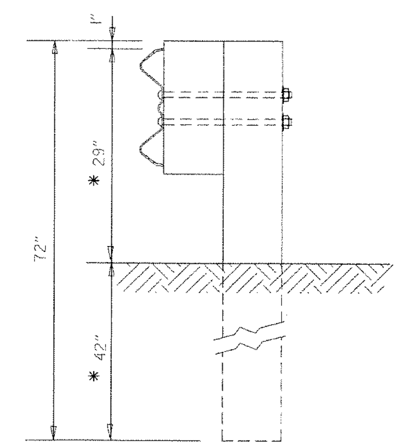
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

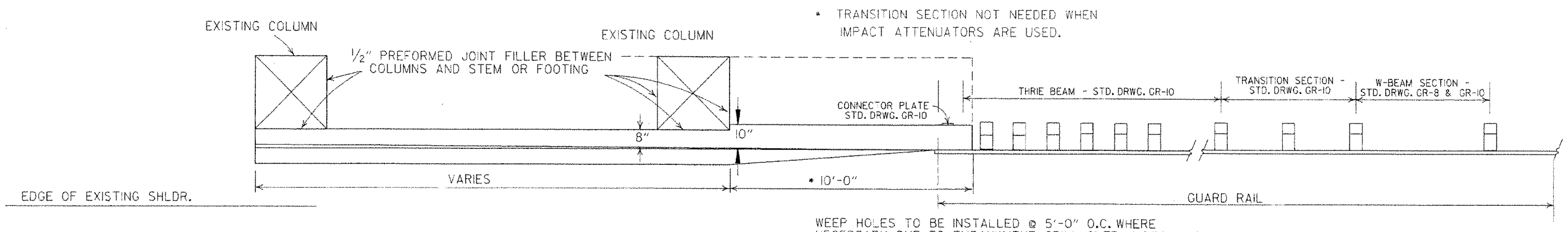
DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

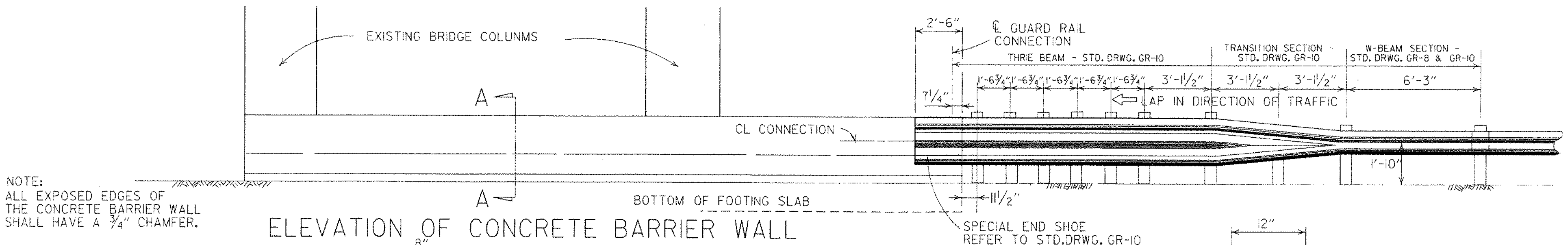
• TRANSITION SECTION NOT NEEDED WHEN IMPACT ATTENUATORS ARE USED.



WEEP HOLES TO BE INSTALLED @ 5'-0" O.C. WHERE NECESSARY DUE TO EMBANKMENT SPILL-OVER UNDER BRIDGES

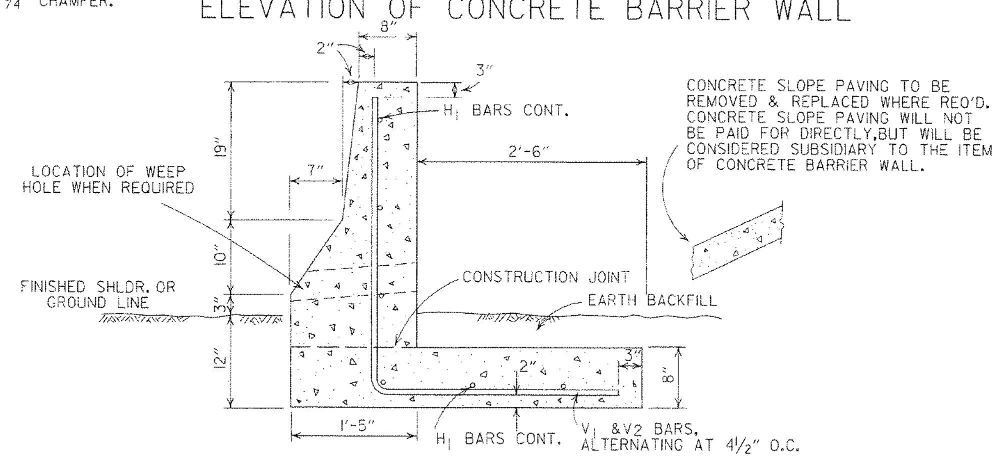
AT LEAST ONE 1/2" JOINT SHALL BE CONSTRUCTED IN THE CONCRETE BARRIER WALL. JOINTS SHALL BE EQUALLY SPACED AT A MAXIMUM OF 25'-0" O.C. FILL JOINT WITH PREFORMED JOINT FILLER.

PLAN OF CONCRETE BARRIER WALL

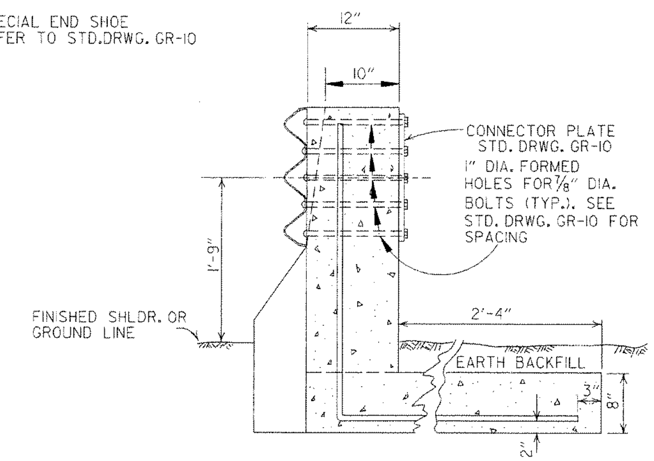


NOTE:
ALL EXPOSED EDGES OF THE CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.

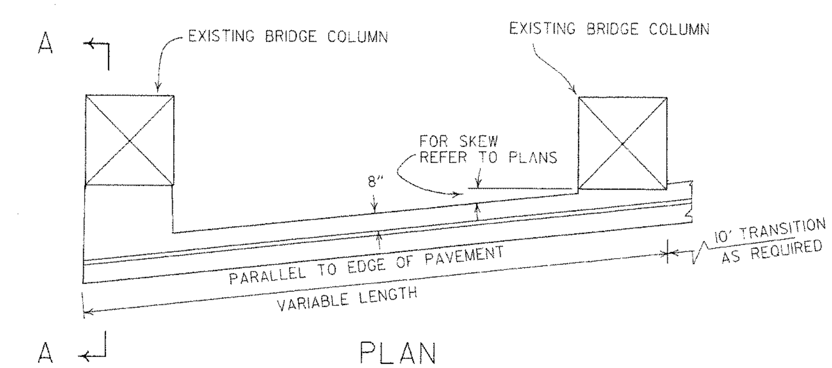
ELEVATION OF CONCRETE BARRIER WALL



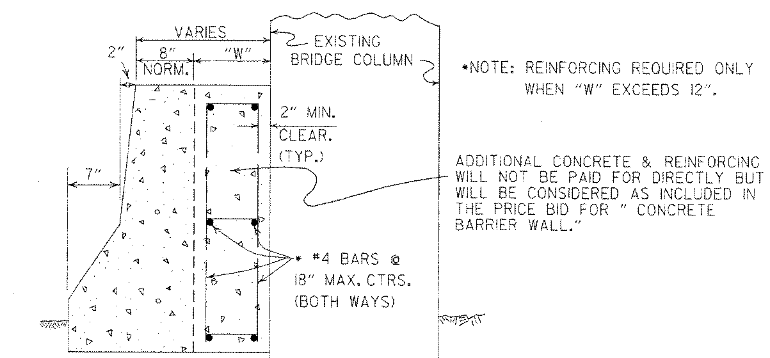
SECTION A-A



SECTION THRU CONNECTION



PLAN



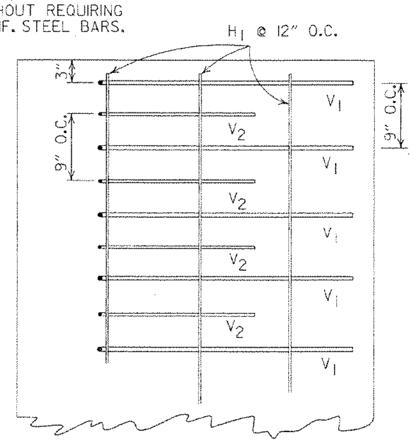
•NOTE: REINFORCING REQUIRED ONLY WHEN "W" EXCEEDS 12".

ADDITIONAL CONCRETE & REINFORCING WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED AS INCLUDED IN THE PRICE BID FOR " CONCRETE BARRIER WALL."

SECTION A-A

DETAILS OF CONCRETE BARRIER WALL WHEN PIERS ARE SKEWED TO ROADWAY

IF FOR ANY REASON IT IS NECESSARY TO CONSTRUCT THE FOOTING AT A LOWER ELEVATION THAN IS SHOWN, THE STEM MAY BE LENGTHENED 1'-0" BETWEEN FIN. SHLDR. AND TOP OF FOOTING WITHOUT REQUIRING HEAVIER REINF. STEEL BARS.

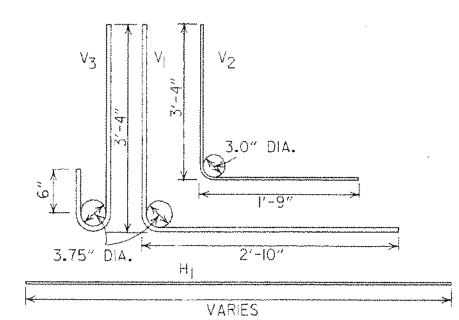


PLAN OF REINFORCING STEEL IN FOOTING

BAR LIST

MARK	NO.	SIZE	LENGTH
V1		#5	6'-2 1/4"
V2		#4	5'-1"
V3		#5	4'-1 1/8"
H1	6	4	VAR.

THE V3 BARS SHALL BE USED IN PLACE OF THE V1 & V2 BARS IN FRONT OF PIERS.



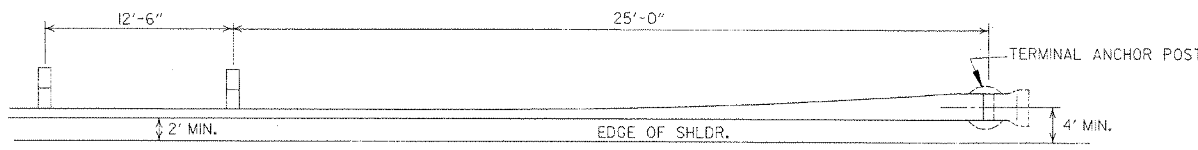
BEND DIAGRAMS

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
8-22-02	REV. SECTION A-A OF DETAILS OF CONCRETE BARRIER WALL	
6-29-00	MOVED DIMENSION LINE	
5-18-00	ADDED NOTE	
3-30-00	REVISED TO INCLUDE THRIE BEAM	
6-2-94	ADDED TRANSITION SECTION NOTE	
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED DRAWING PLAN CONC. BARR.	8-15-91
2-16-89	ADDED SKEWED DETAILS	594-2-16-89
7-14-88	CHANGED TITLE	
10-9-87	REDRAWN & REVISED	

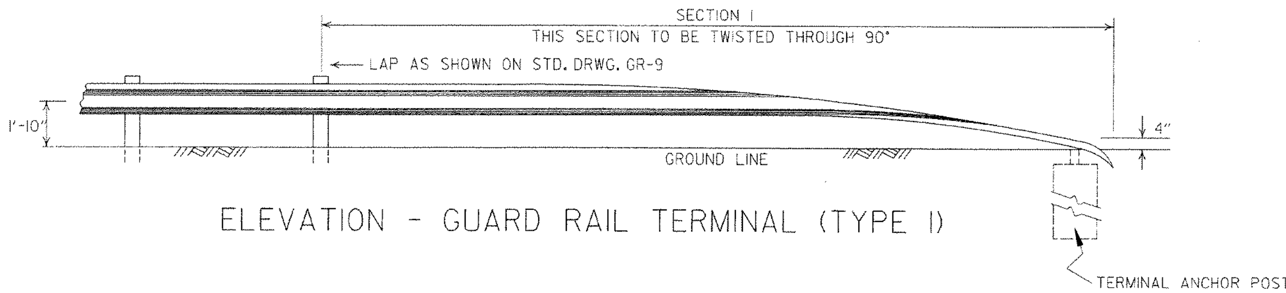
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE BARRIER WALL
(PIER PROTECTION TYPE A)

STANDARD DRAWING GR-11

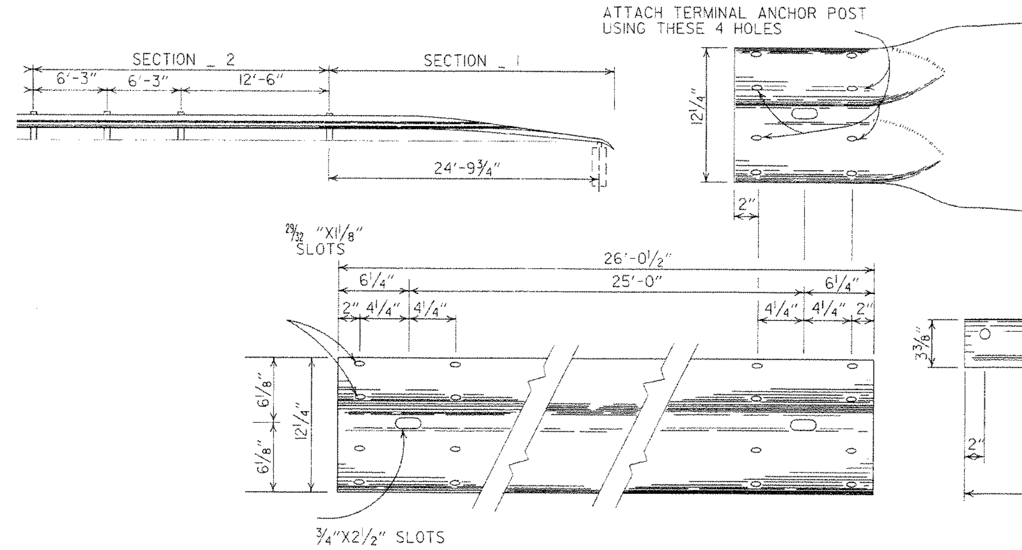


PLAN - GUARD RAIL TERMINAL (TYPE I)

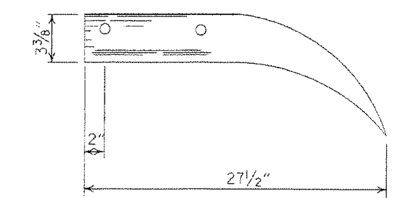


ELEVATION - GUARD RAIL TERMINAL (TYPE I)

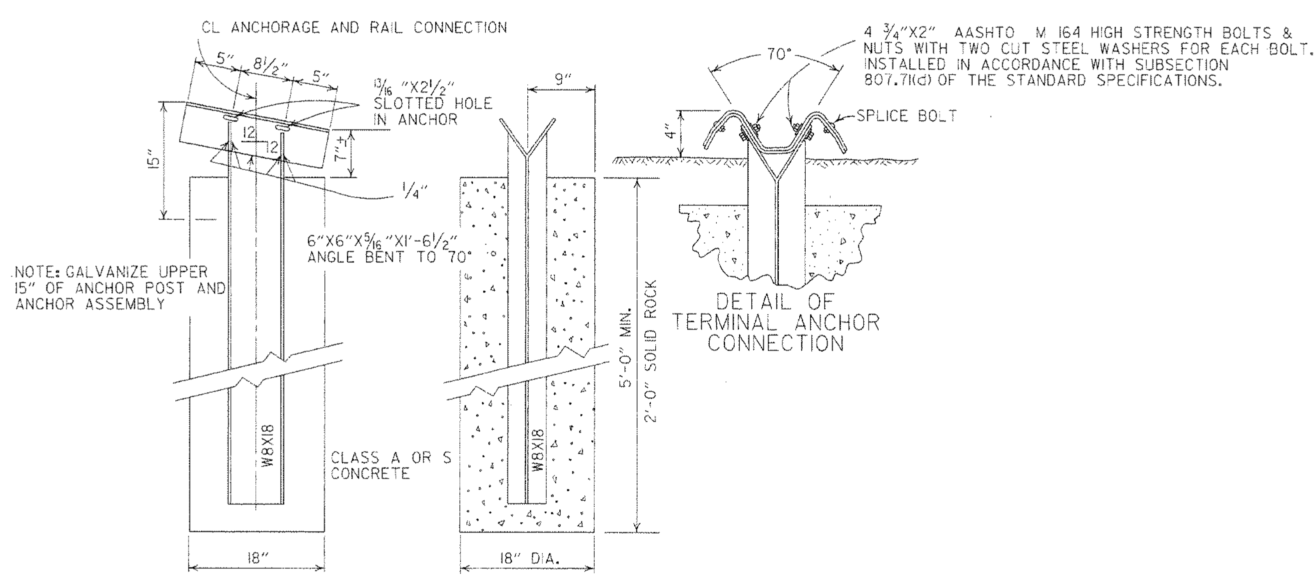
NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION 1



TERMINAL SECTION



NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

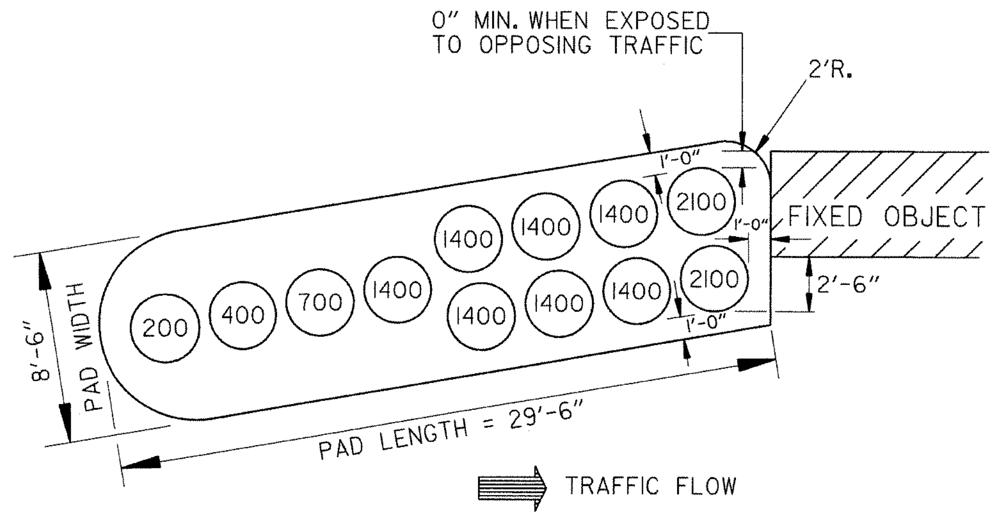
DETAIL OF TERMINAL ANCHOR POST (TYPE I)

7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
6-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-3-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-1-92	DRAWN & ISSUED	10-1-92
DATE	REVISION	DATE FILM

ARKANSAS STATE HIGHWAY COMMISSION

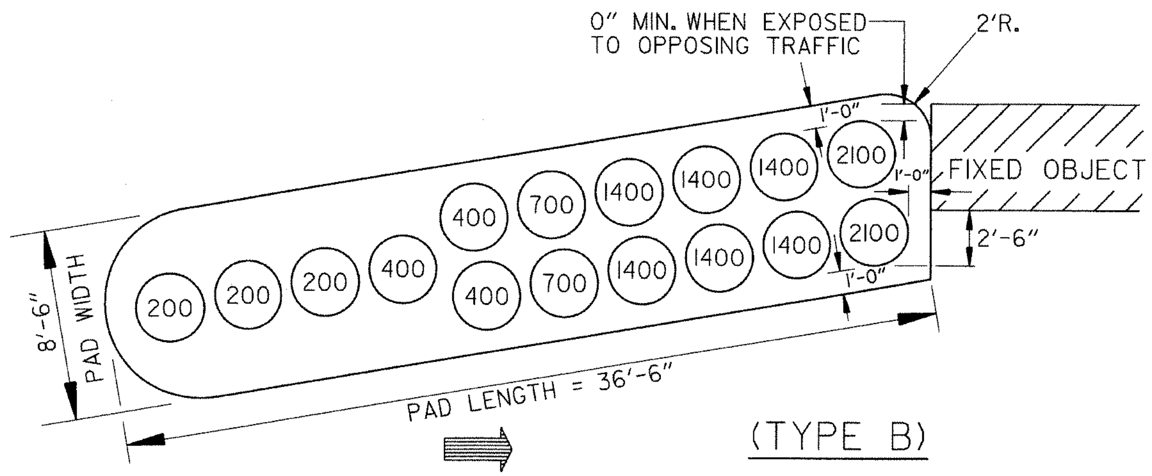
GUARD RAIL DETAILS

STANDARD DRAWING GRT-1



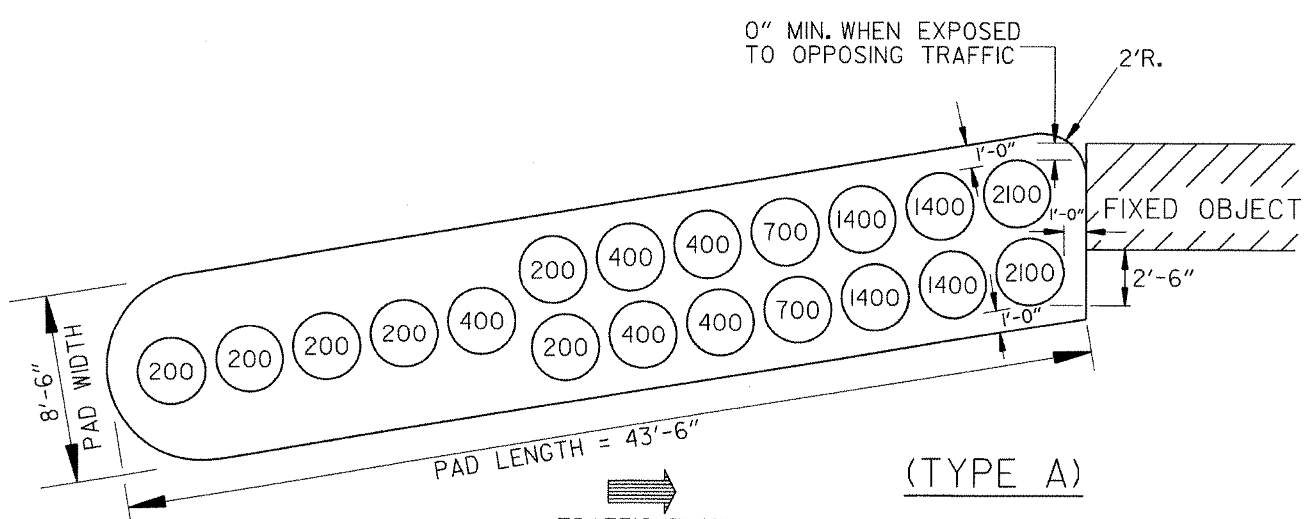
(TYPE C)

BARRIER LENGTH = 27'-6"
DESIGN IMPACT SPEED = 50 M.P.H.= 73.3 fps



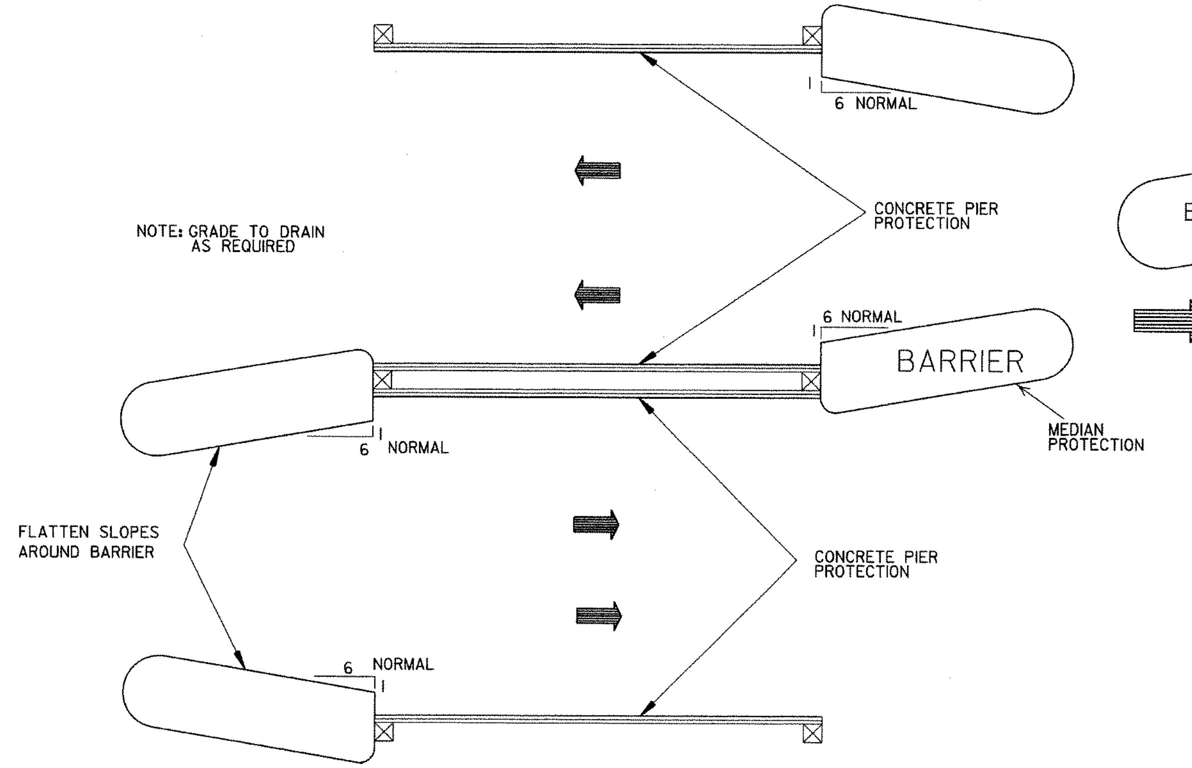
(TYPE B)

BARRIER LENGTH = 34'-6"
DESIGN IMPACT SPEED = 60 M.P.H.= 88 fps

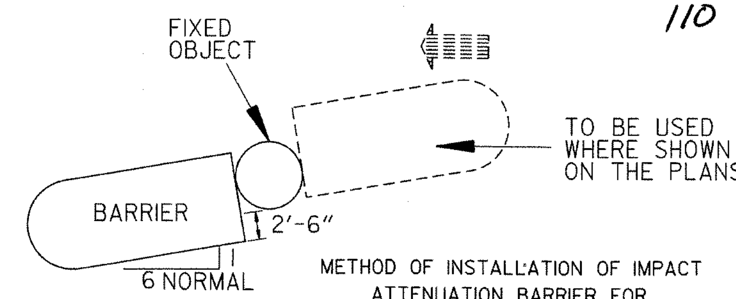


(TYPE A)

BARRIER LENGTH = 41'-6"
DESIGN IMPACT SPEED = 70 M.P.H.= 103 fps



METHOD OF INSTALLATION OF IMPACT ATTENUATION BARRIER FOR PIER PROTECTION



METHOD OF INSTALLATION OF IMPACT ATTENUATION BARRIER FOR SHIELDING INDIVIDUAL HAZARDS

GENERAL NOTES

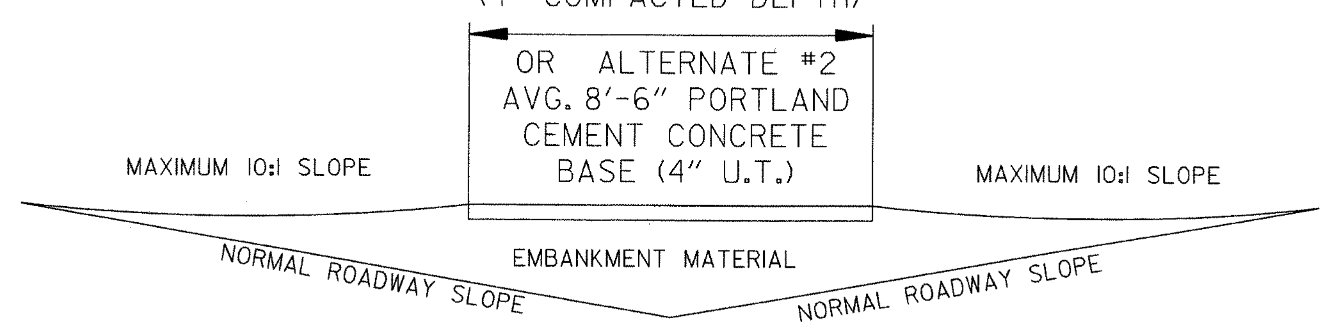
1. DIMENSIONS SHOWN ARE TO TOP OF PLASTIC MODULES.
2. SPACING BETWEEN PLASTIC MODULES SHALL NOT EXCEED 6" AT THE TOP.
3. PLASTIC MODULES SHALL MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

APPROXIMATE QUANTITIES PER PAD

TYPE	ALTERNATE #1 AGGR. BASE COURSE	ALTERNATE #1 A.C.H.M. SURFACE COURSE	ALTERNATE #2 P.C.CONC. BASE (4"U.T.)
	TONS	TONS	SQ.YDS.
A	9.7	4.6	41.6
B	8.1	3.8	34.9
C	6.6	3.1	28.3

NOTE: APPROXIMATE QUANTITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. PAYMENT TO BE INCLUDED IN UNIT PRICE BID FOR IMPACT ATTENUATION BARRIER.

ALTERNATE #1
AVG. 8'-6" A.C.H.M. SURF. COURSE(1/2")
220 LBS. PER SQ. YD. &
AGGREGATE BASE COURSE
(4" COMPACTED DEPTH)



DETAIL OF BARRIER PAD

NOTE: BARRIER PAD TO BE SKEWED TOWARD ONCOMING TRAFFIC A MAXIMUM OF 6:1 WITH 6:1 BEING NORMAL

DATE	REVISION	DATE FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-29-07	REVISED TY. A & TY. C ARRAYS	
11-19-98	REVISED FIXED OBJECT	
11-18-98	REV. NOTES & TYPE A MOD. WTS.	
10-18-96	REDRAWN	
7-15-88	CONFORMED TO 1988 SPECS	
7-29-87	REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

IMPACT ATTENUATION BARRIER

STANDARD DRAWING IB-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	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	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.

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

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

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

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

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

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

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

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)(I).

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.

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

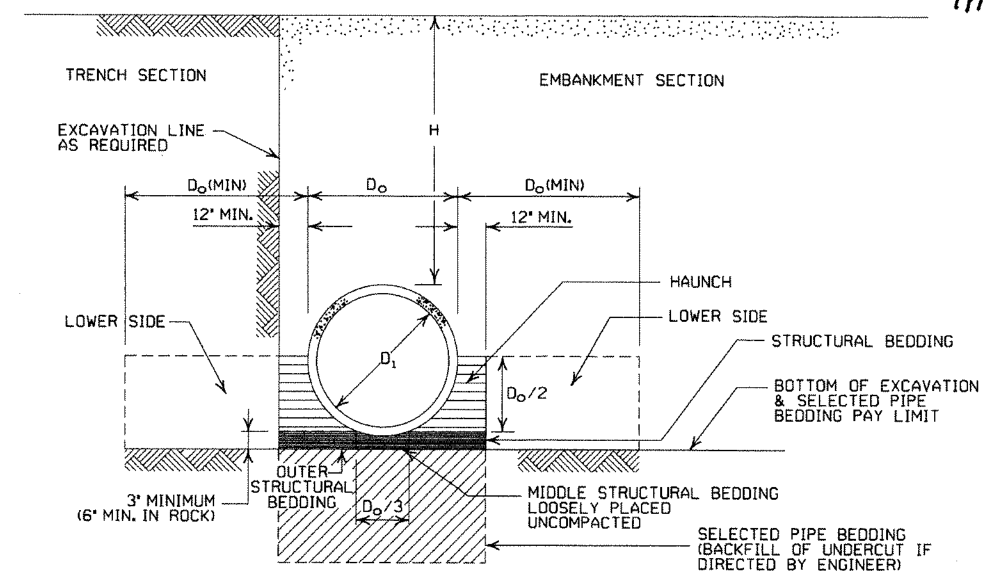
INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

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

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

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

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 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
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 (INCHES) 0.060	0.075	0.105	0.135	0.164
		2⅔ 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: MIN. THICKNESS REQUIRED INCHES	STEEL: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	STEEL: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM: MIN. THICKNESS REQUIRED INCHES	ALUMINUM: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2⅔ 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			

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	MIN. THICKNESS REQUIRED INCHES	MIN. HEIGHT INSTALLATION TYPE 2	MIN. HEIGHT INSTALLATION TYPE 1	MAX. HEIGHT INSTALLATION TYPE 2	MAX. HEIGHT INSTALLATION TYPE 1
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				
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

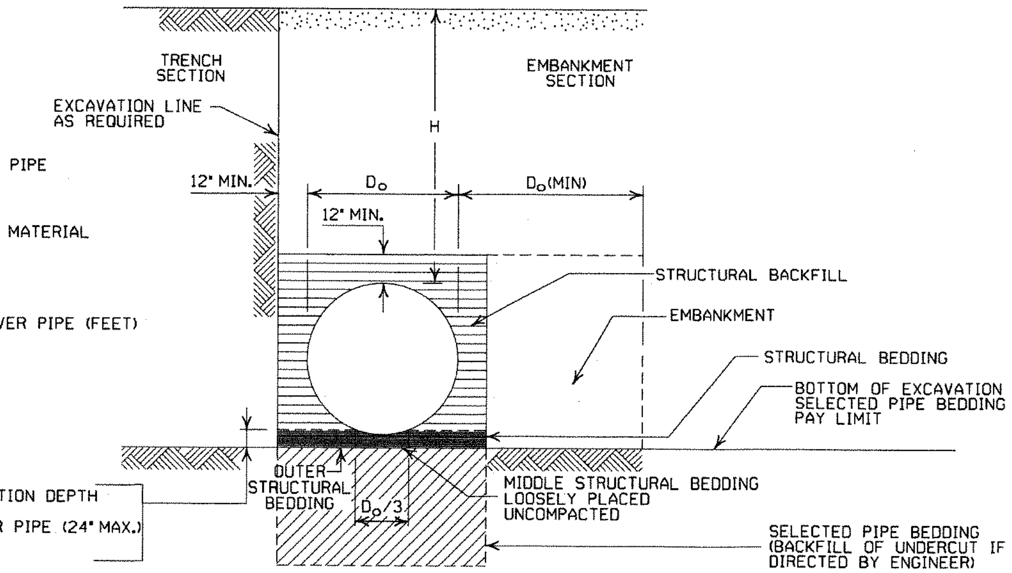
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

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



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 (2003 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
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

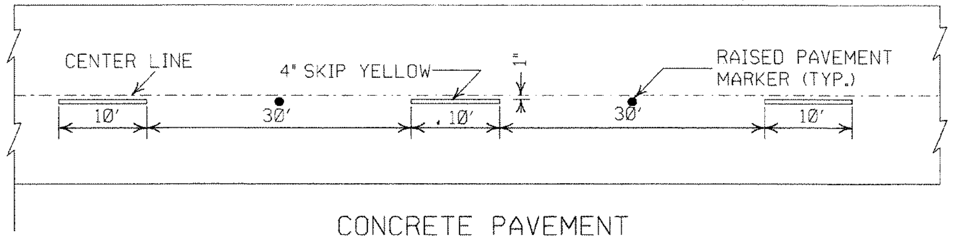
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

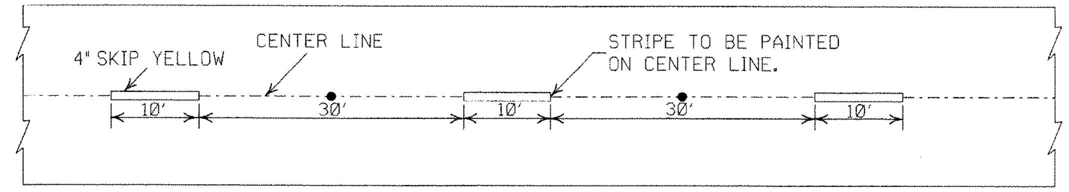
STANDARD DRAWING PCM-1

NOTES:

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

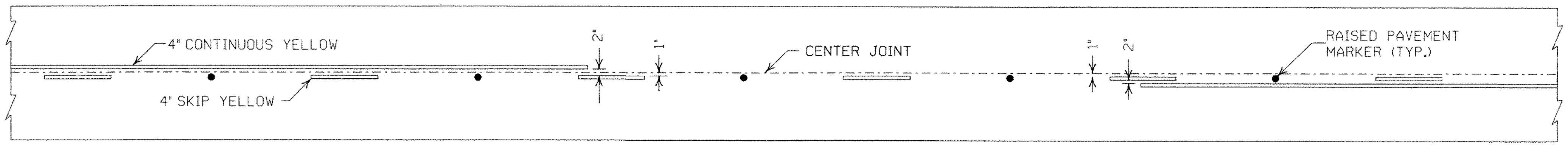


CONCRETE PAVEMENT

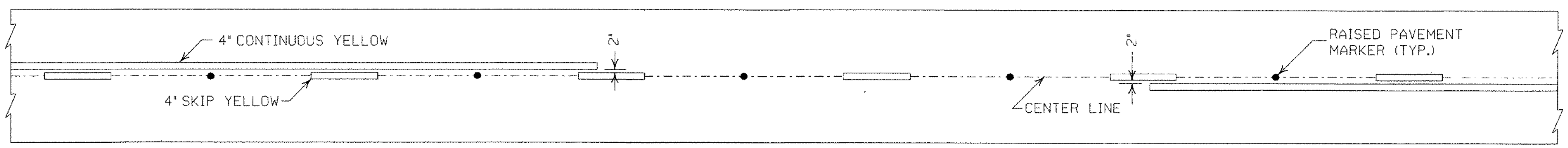


ASPHALT PAVEMENT

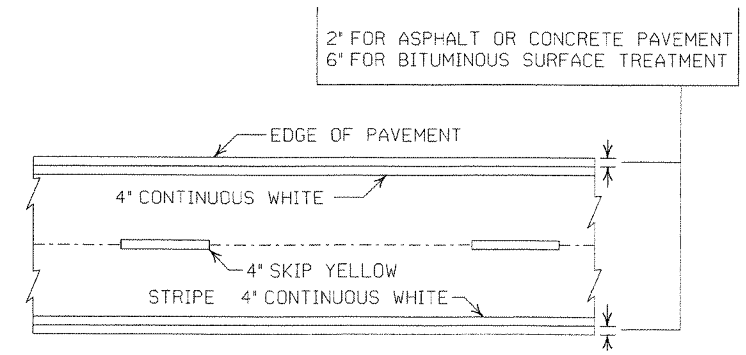
BROKEN LINE STRIPING



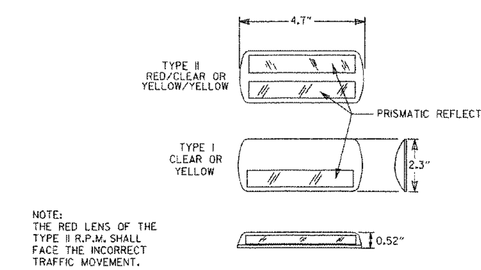
SOLID LINE STRIPING ON CONCRETE PAVEMENT



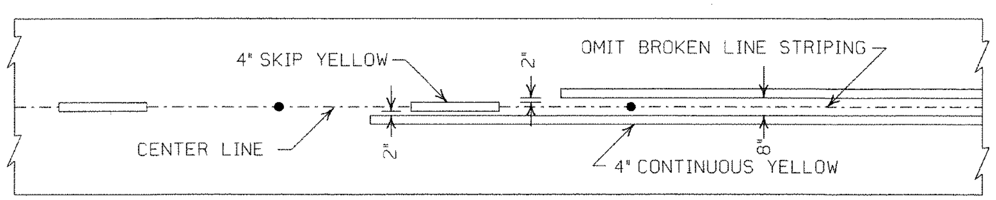
SOLID LINE STRIPING ON ASPHALT PAVEMENT



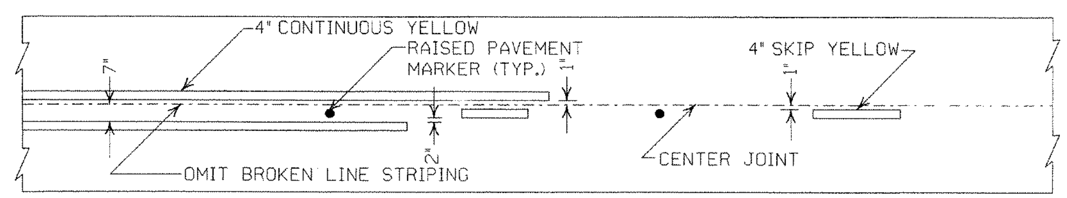
PAVEMENT EDGE LINE MARKING



DETAIL OF STANDARD RAISED PAVEMENT MARKERS



ASPHALT PAVEMENT



CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

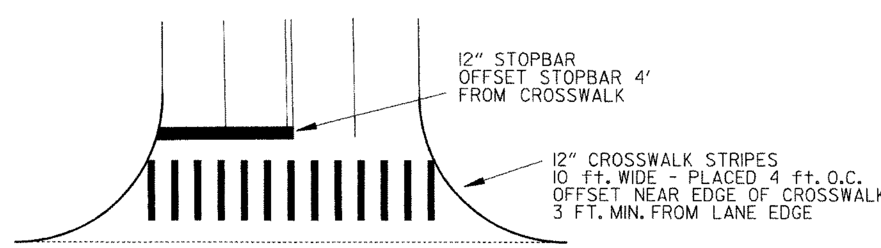
GENERAL NOTES:

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

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

NOTE:

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



CROSSWALK AND STOPBAR DETAILS

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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

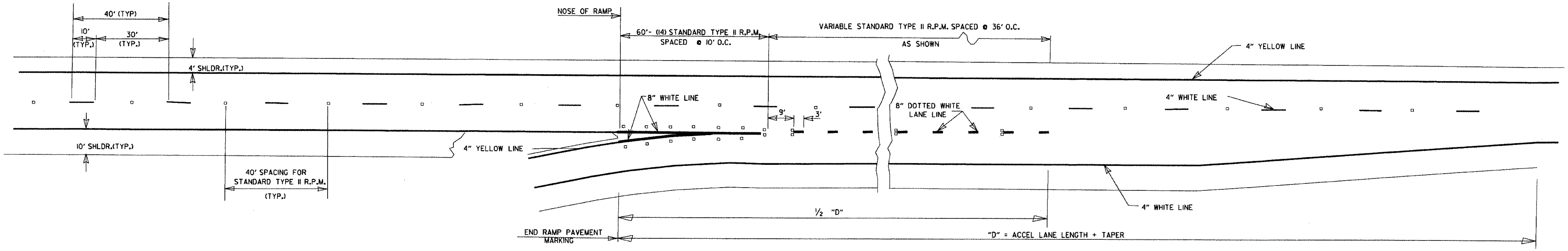
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

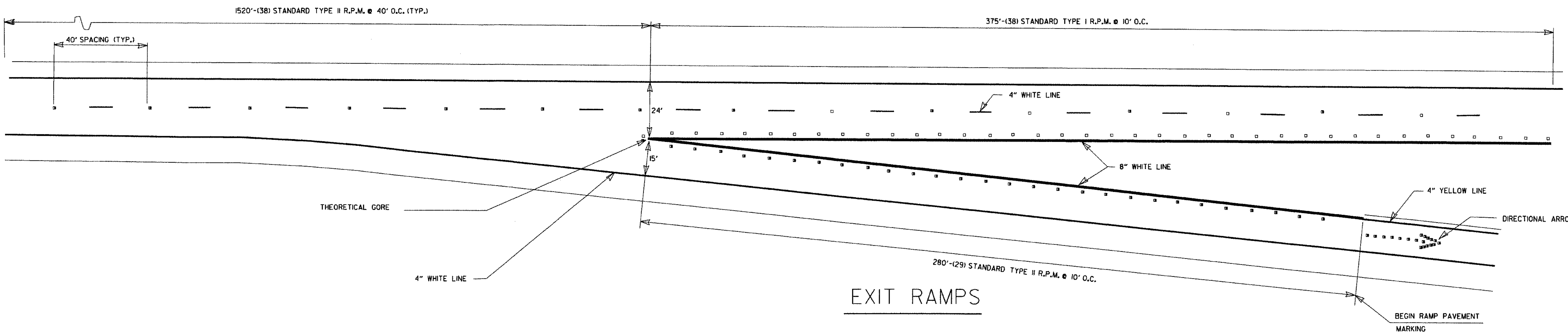
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

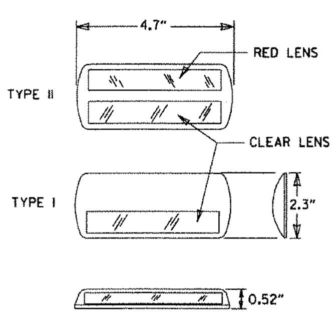
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

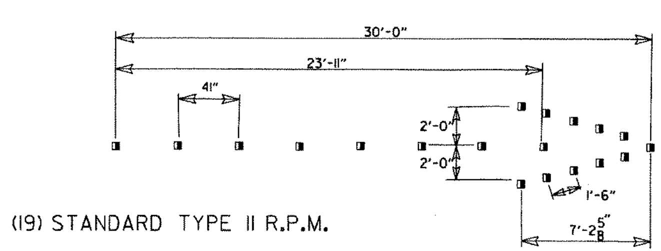


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



DIRECTIONAL ARROWS

GENERAL NOTES:

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

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

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

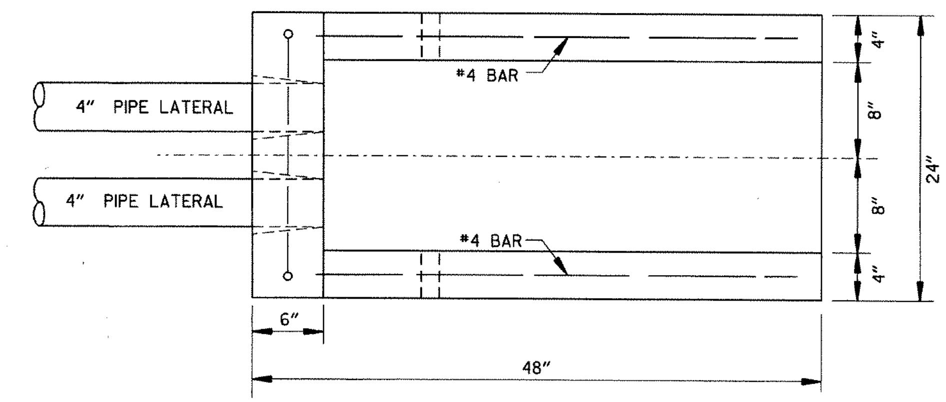
DATE	REVISION	FILMED
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

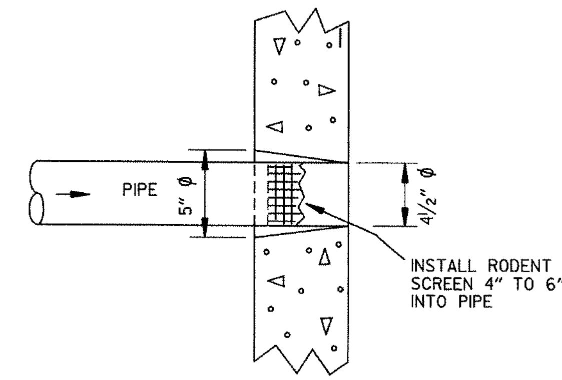
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

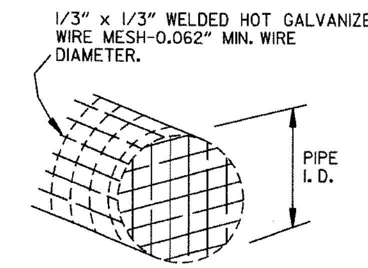
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF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



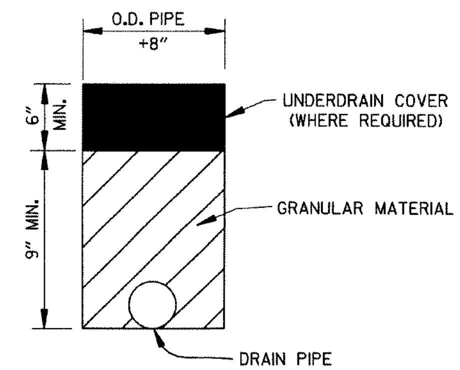
PLAN VIEW

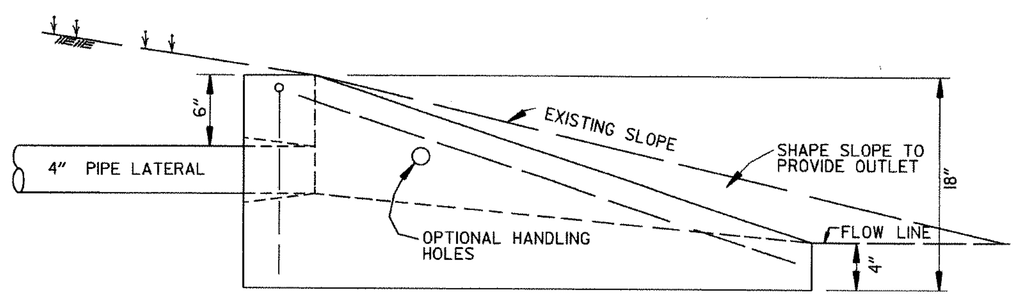


DETAIL OF HOLE FOR 4" PIPE

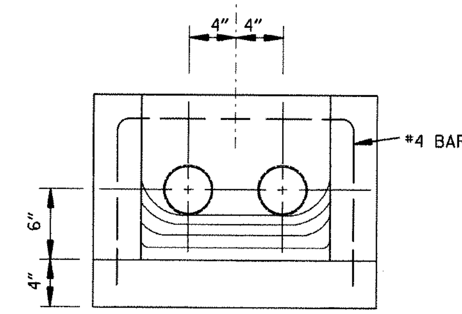


DETAIL OF RODENT SCREEN



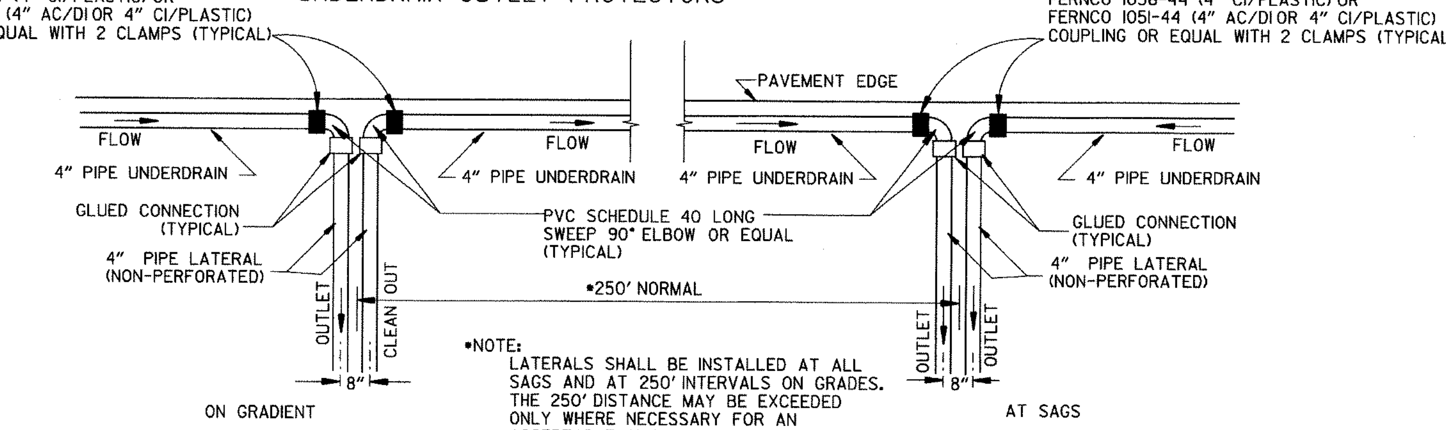


SIDE VIEW



FRONT VIEW

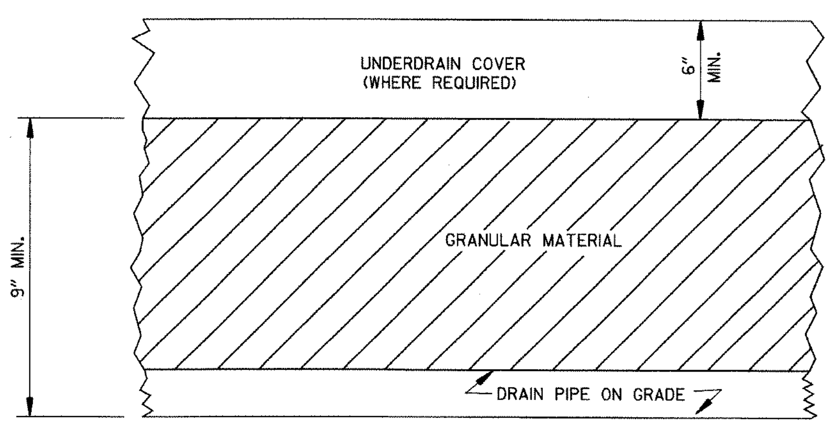
UNDERDRAIN OUTLET PROTECTORS



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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



DETAILS OF PIPE UNDERDRAIN

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

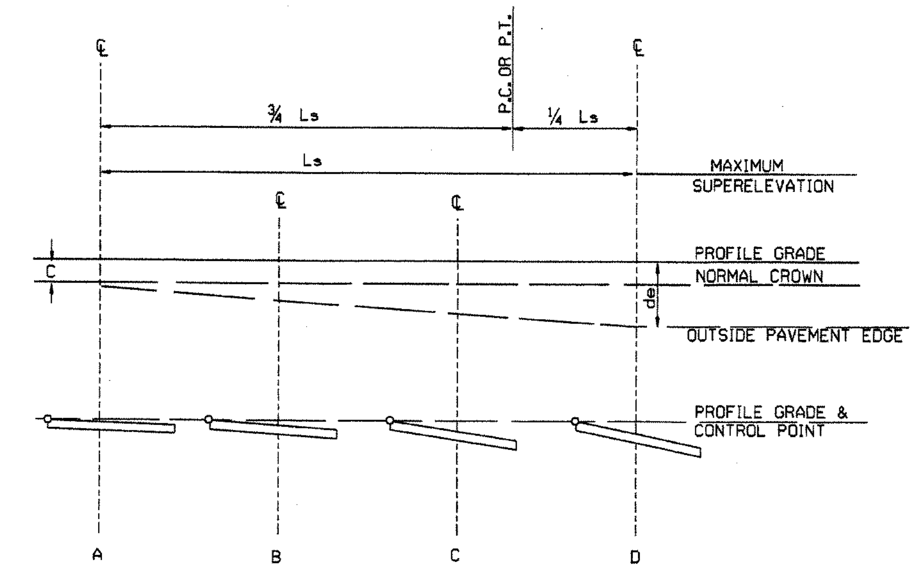
7-20-95 INSTD.PU1

SUPERELEVATION TABLE FOR ONE - 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
0° 15′	N.C.	150	250	N.C.	175	250
0° 30′	N.C.			N.C.		
0° 45′	N.C.			N.C.		
1° 00′	N.C.			N.C.		
1° 15′	N.C.			R.C.		
1° 30′	N.C.			0.021		
1° 45′	N.C.			0.025		
2° 00′	R.C.			0.028		
2° 15′	R.C.			0.031		
2° 30′	0.021			0.034		
2° 45′	0.023			0.037		
3° 00′	0.025			0.040		
3° 15′	0.027			0.043		
3° 30′	0.029			0.046		
3° 45′	0.031			0.049		
4° 00′	0.033			0.051		
4° 30′	0.037			0.056		
5° 00′	0.040			0.061		
5° 30′	0.043			0.066	185	
6° 00′	0.046			0.070	190	
6° 30′	0.050			0.074	200	300
7° 00′	0.053			0.078	210	
7° 30′	0.056			0.081	215	
8° 00′	0.058			0.084	220	
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	300			
17° 00′	0.091	200				
18° 00′	0.093	205				
19° 00′	0.095	210				
20° 00′	0.097	215				
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′		

DEGREE OF CURVE	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
0° 15′	N.C.	200	300	N.C.	225	350
0° 30′	N.C.			N.C.		
0° 45′	R.C.			0.022		
1° 00′	0.021			0.026		
1° 15′	0.026			0.032		
1° 30′	0.031			0.037		
1° 45′	0.036			0.043		
2° 00′	0.040			0.048		
2° 15′	0.045			0.053		
2° 30′	0.049			0.058		
2° 45′	0.053			0.063		
3° 00′	0.057			0.067	230	
3° 15′	0.061			0.072	245	
3° 30′	0.065	205		0.076	255	
3° 45′	0.069	215		0.080	265	
4° 00′	0.072	225		0.083	270	
4° 30′	0.078	240		0.087	280	400
5° 00′	0.083	250		0.091	295	
5° 30′	0.088	260	350	0.094	300	
6° 00′	0.092	270		0.096	305	
6° 30′	0.095	280		0.100	315	
7° 00′	0.098	285				
7° 30′	0.099	290				
8° 00′	0.100	290				
	D MAX = 8° 15′			D MAX = 6° 30′		

DEGREE OF CURVE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.	250	350	N.C.	250	350	N.C.	275	350
0° 30′	N.C.			N.C.			N.C.		
0° 45′	0.023			0.025			0.028		
1° 00′	0.030			0.033			0.037		
1° 15′	0.037			0.041			0.046		
1° 30′	0.043			0.048			0.054		
1° 45′	0.049			0.055			0.062		
2° 00′	0.055			0.062			0.070		
2° 15′	0.061			0.069	265		0.078	300	400
2° 30′	0.067			0.075	280		0.085	315	
2° 45′	0.072			0.081	300	400	0.091	335	
3° 00′	0.077	260		0.087	315		0.096	350	450
3° 15′	0.082	275		0.090	325		0.098	360	
3° 30′	0.086	285	400	0.095	340		0.100	360	
3° 45′	0.090	295		0.097	345				
4° 00′	0.093	305		0.099	350				
4° 30′	0.096	315							
5° 00′	0.098	320							
	D MAX = 5° 15′			D MAX = 4° 15′			D MAX = 3° 30′		



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

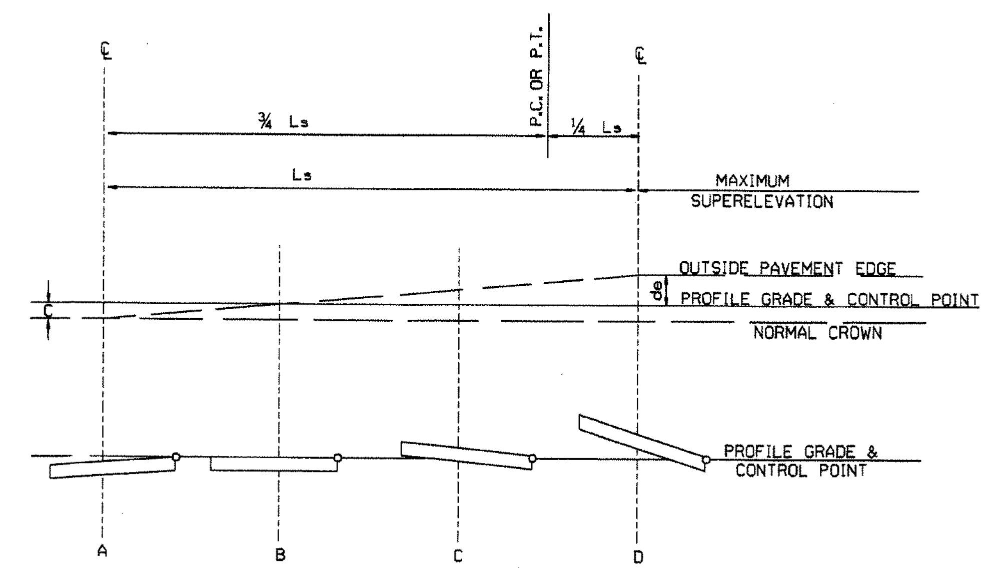
ABBREVIATIONS

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

GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

Sign	Legend	Sizes
R1-1	STOP	STANDARD 30"X30"; EXPRESSWAY 36"X36"; SPECIAL 48"X48"
R1-2	YIELD	STD. 36"X36"X36"; EXPWY. 48"X48"X48"; FWY. 60"X60"X60"
R2-1	SPEED LIMIT 50	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R2-5A	REDUCED SPEED AHEAD	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R2-5C	SPEED ZONE AHEAD	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R4-1	DO NOT PASS	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R4-2	PASS WITH CARE	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R5-1	DO NOT ENTER	STD. 30"X30"; EXPWY. 36"X36"; SPECIAL 48"X48"
R11-2	ROAD CLOSED	48"X30"
R11-3A	ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	60"X30"
R11-4	ROAD CLOSED TO THRU TRAFFIC	60"X30"
RSP-1	SHOULDER CLOSED	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	ROAD NARROWS	STD. 36"X36"; SPECIAL 48"X48"
W6-3		EXPWY. 36"X36"; SPECIAL 48"X48"
W8-7	LOOSE GRAVEL	EXPWY. 36"X36"; FWY. 48"X48"
W9-2	LANE ENDS MERGE RIGHT	STD. 36"X36"; FWY. 48"X48"
W13-1	XX M.P.H.	STD. 24"X24"
W20-1	ROAD WORK XXXX	STD. 48"X48"
W20-2	DETOUR XXXX	STD. 48"X48"
W20-3	ROAD CLOSED XXXX	STD. 48"X48"
W20-4	ONE LANE ROAD XXXX	STD. 48"X48"
W20-5	RIGHT LANE CLOSED XXXX	STD. 48"X48"
W20-7a	500 FEET (W16-2, 18" x 24")	STD. 36"X36"; FWY. 48"X48"
W21-2	FRESH OIL	STD. 30"X30"; SPECIAL 36"X36"
W21-5	SHOULDER WORK	STD. 30"X30"; SPECIAL 36"X36"
W24-1		STD. 36"X36"
W1-4b		STD. 48"X48"
R56-1	CONTROLLED ACCESS HWY. NO EXIT	STD. 18"X18"
W8-11	UNEVEN LANES	STD. 36"X36"; FWY. 48"X48"
W8-9	LOW SHOULDER	STD. 36"X36"; FWY. 48"X48"
G20-1	ROAD WORK NEXT X.X MILES	60"X24"
G20-2	END ROAD WORK	48"X24"
OM-3L, OM-3R	YELLOW; BLACK	12"X36"
M4-9	DETOUR	STD. 30"X24"; SPECIAL 48"X36"; SPECIAL 60"X48"
M4-10	DETOUR	48"X18"
R55-1	FINES DOUBLE IN WORK ZONES •; WHEN WORKERS ARE PRESENT ••	36"X60"

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

ADVANCE DISTANCES (XXXX)

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

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

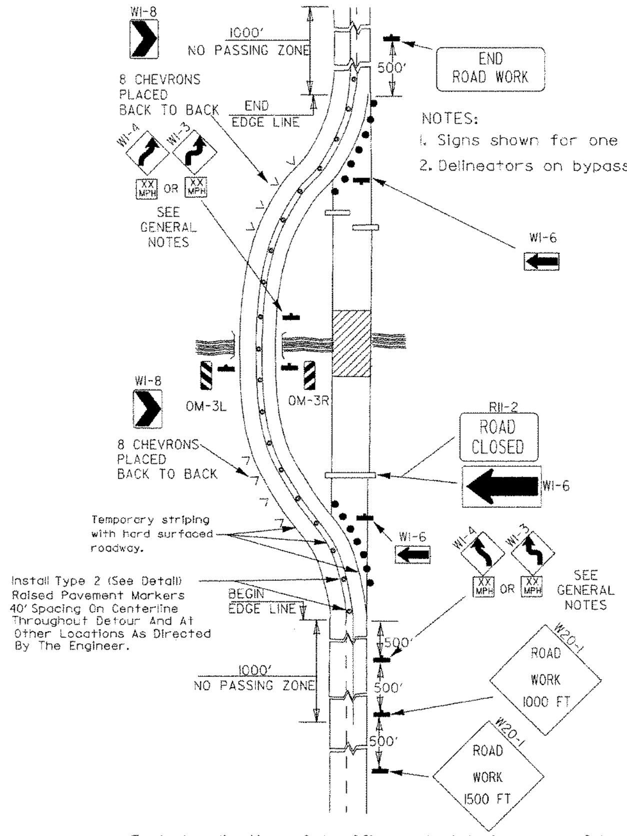
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
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

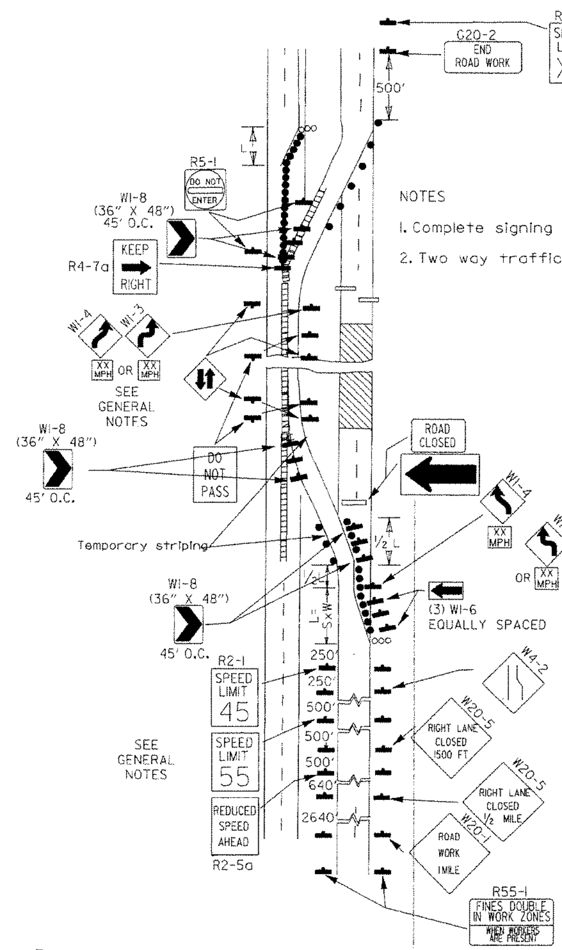
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



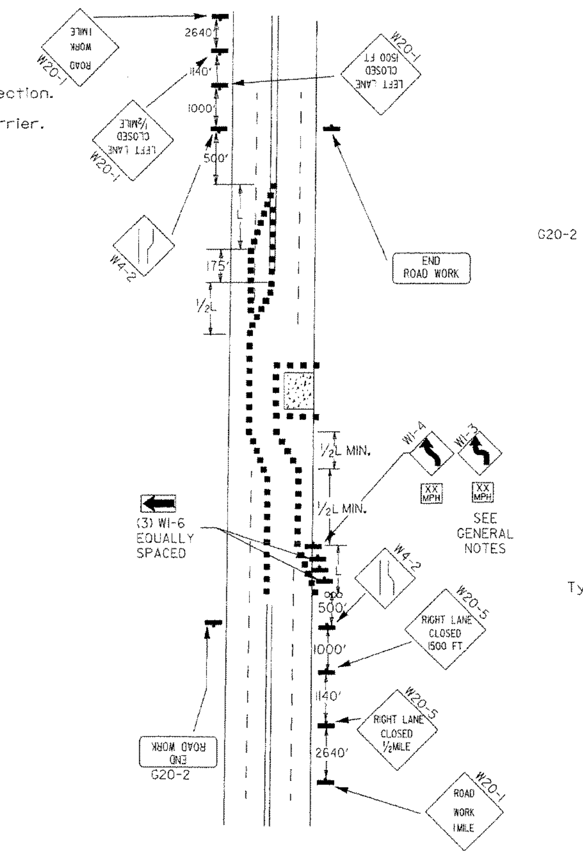
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

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

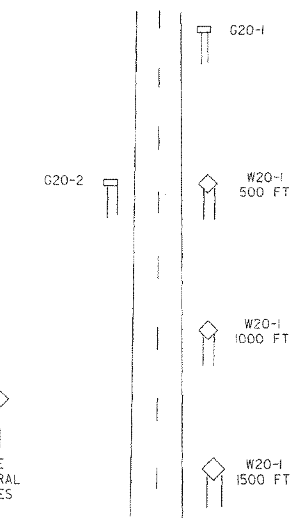


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

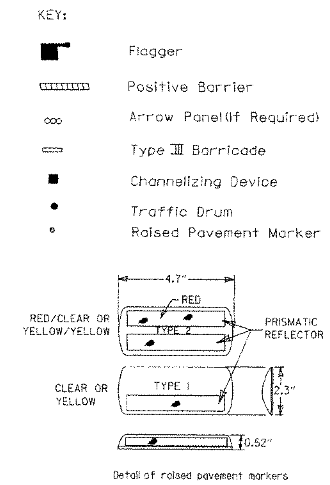
(B) Typical application - 4-lane divided roadway where one roadway is closed.



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



Typical advance warning sign placement



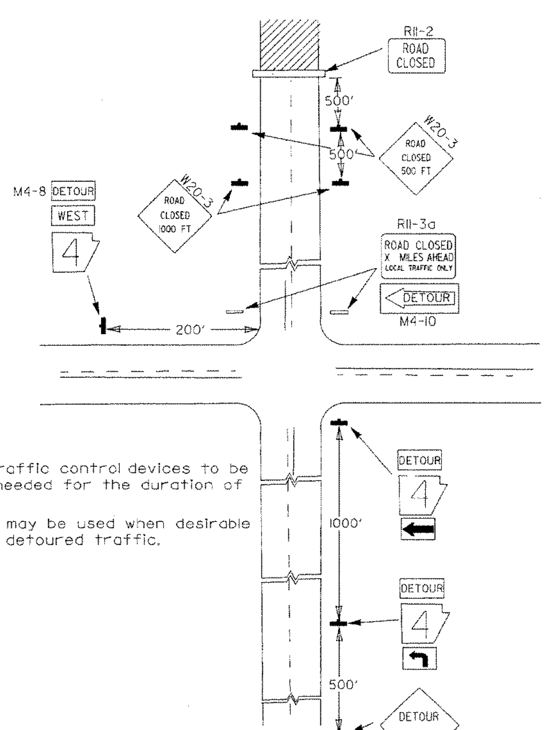
Taper formulae:

$L = S \times W$ for speeds of 45mph or more.

$L = \frac{WS^2}{60}$ for speeds of 40mph or less.

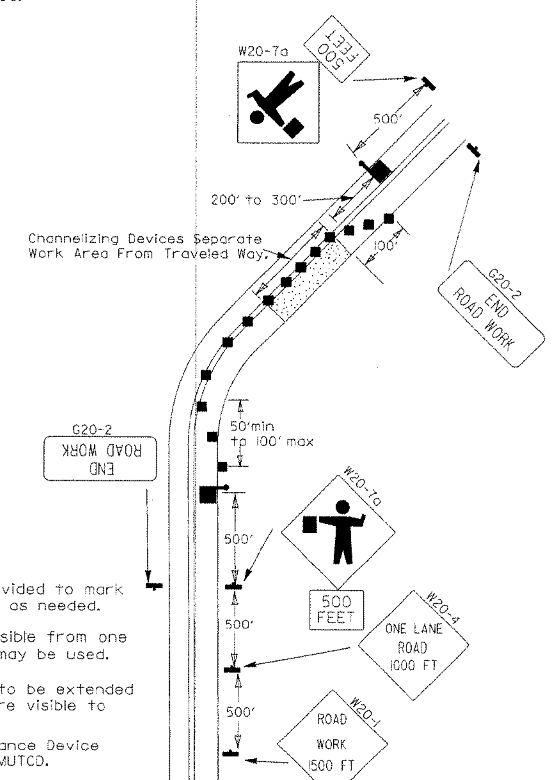
Where:
L= Minimum length of taper.
S= Numerical value of posted speed limit prior to work or 85th percentile speed.
W= Width of offset.

GENERAL NOTES:
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



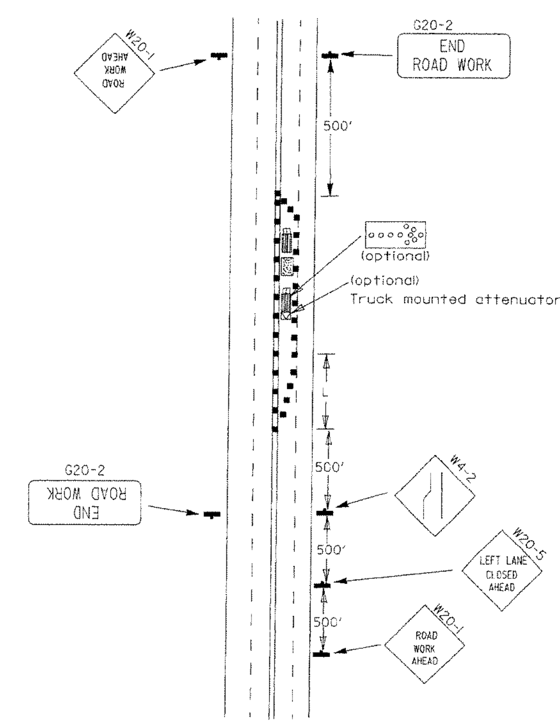
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

(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.



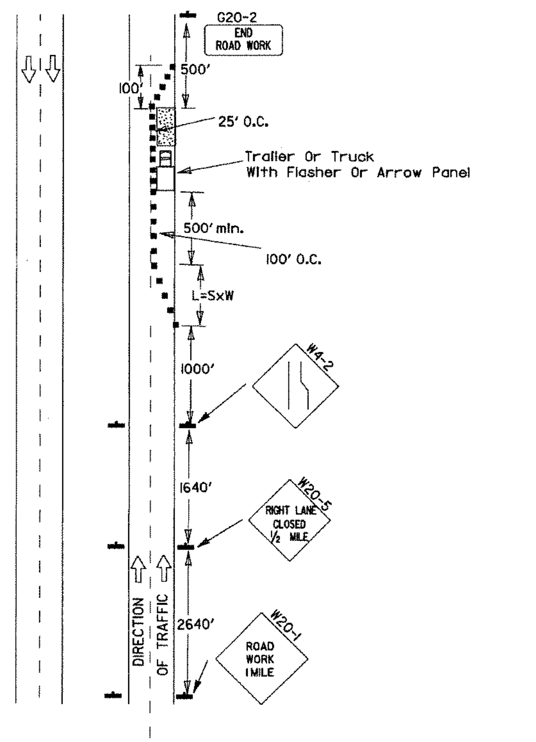
(F) Typical application - 4-lane undivided roadway with inside lane closed.

DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

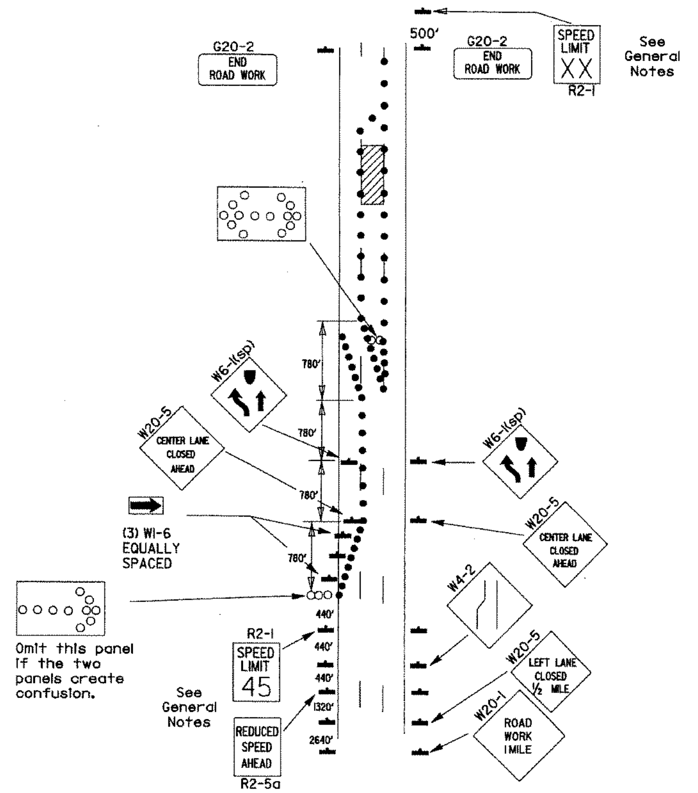
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

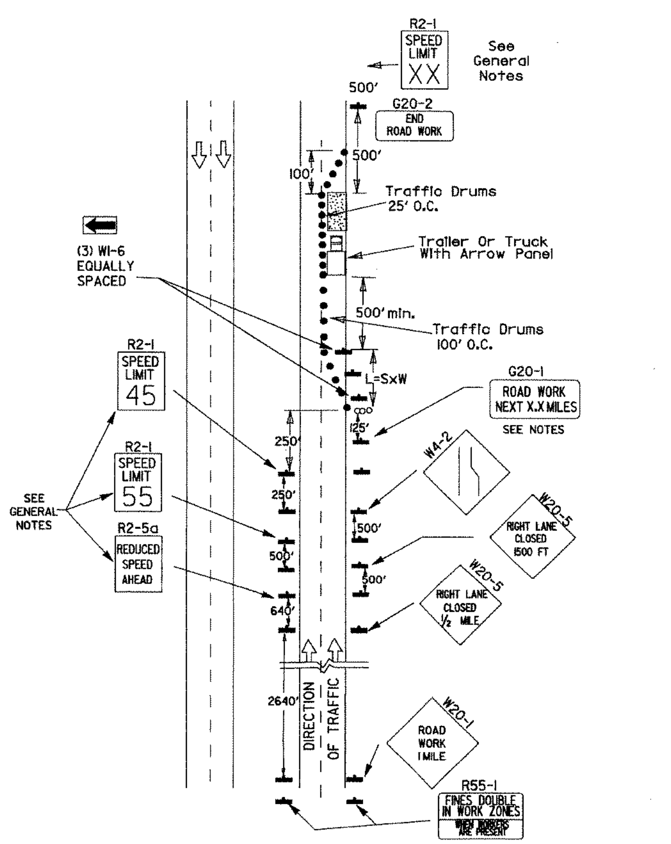
STANDARD DRAWING TC 2



(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.

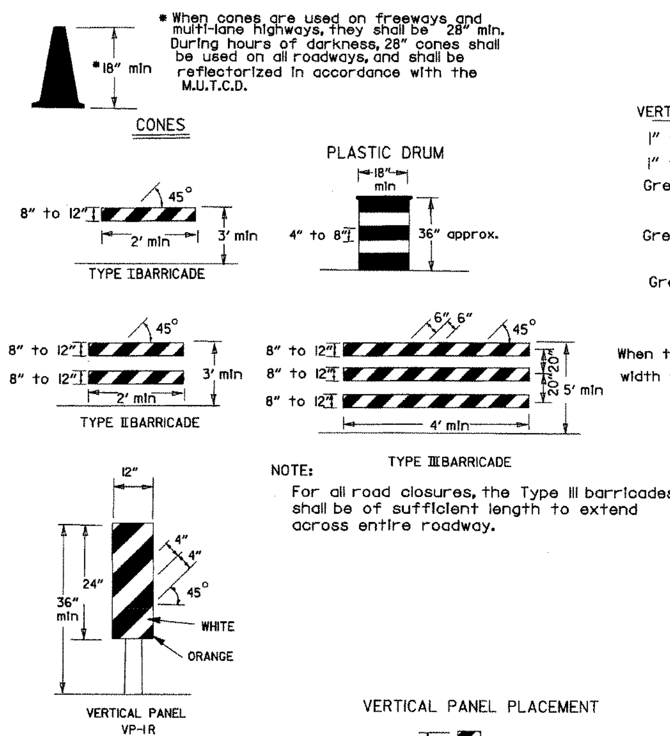
KEY:

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

GENERAL NOTES:

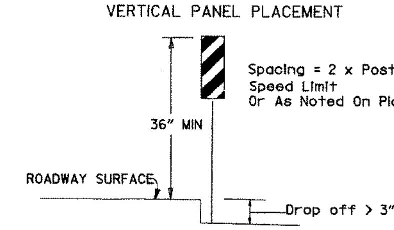
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional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



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

VERTICAL PANEL PLACEMENT



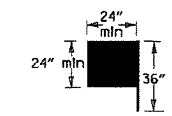
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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.

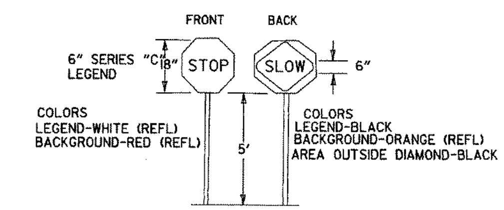
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

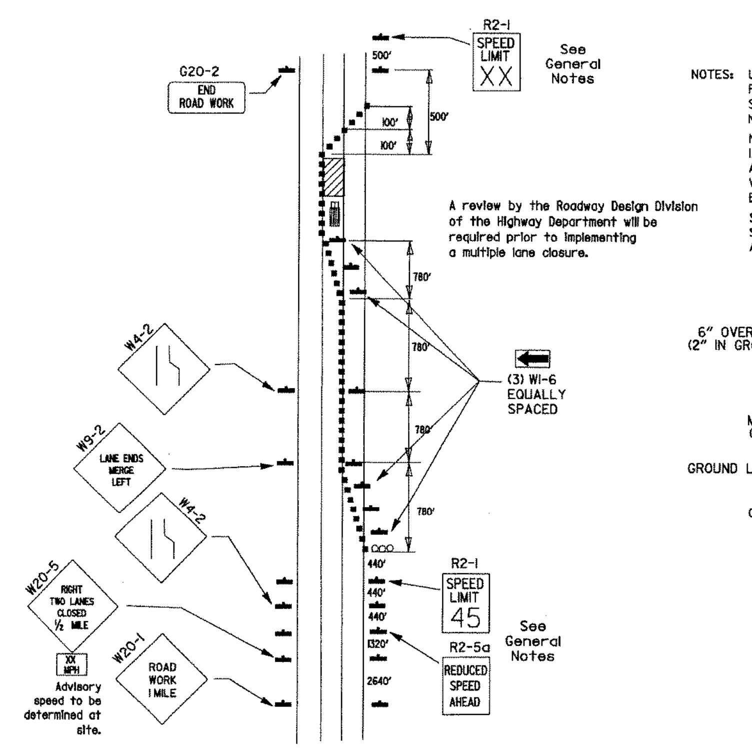
FLAG



Flag shall be of good grade red material

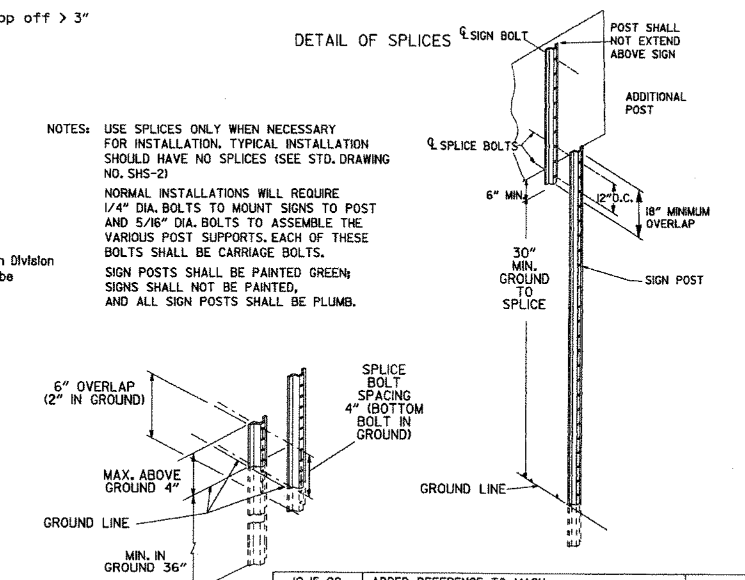
STOP SLOW PADDLE





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

DETAIL OF SPLICES



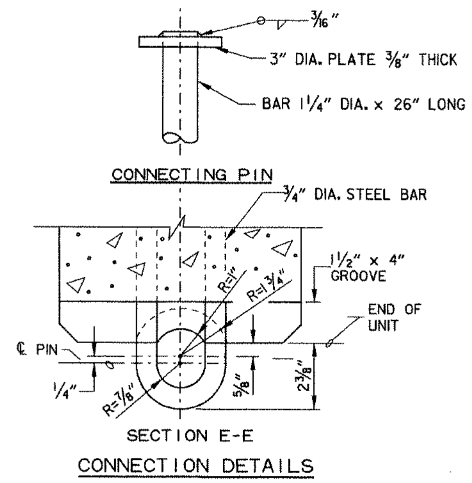
NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)
NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE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

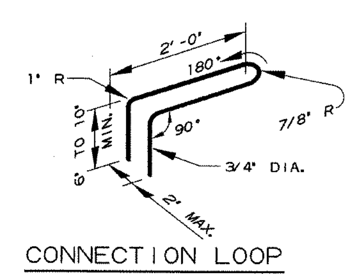
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED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

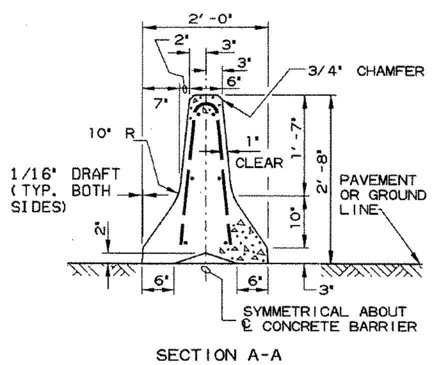
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-3

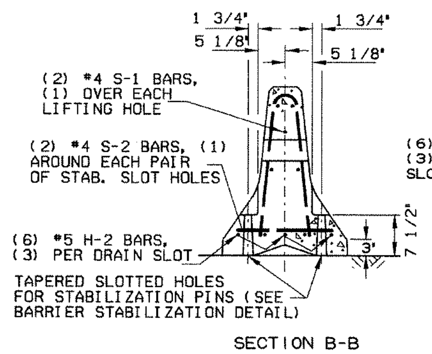
REINFORCING BAR TABLE PER BARRIER UNIT

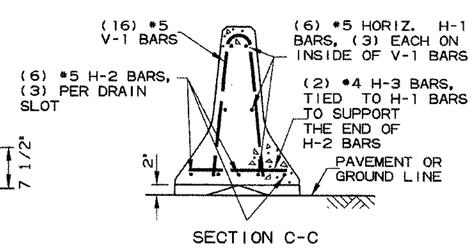
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5"; LIFTING HOLE; 90°; 3 3/8" R
S-2	HORIZ.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

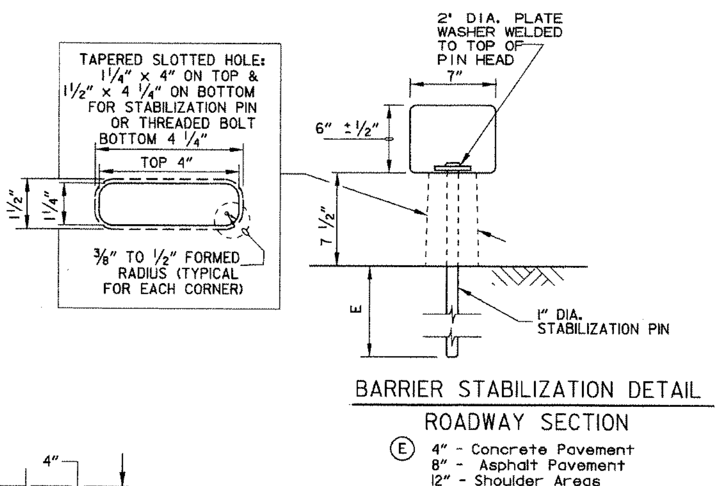


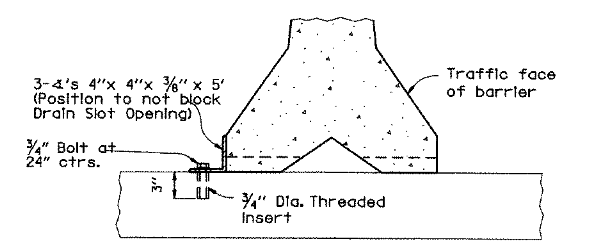






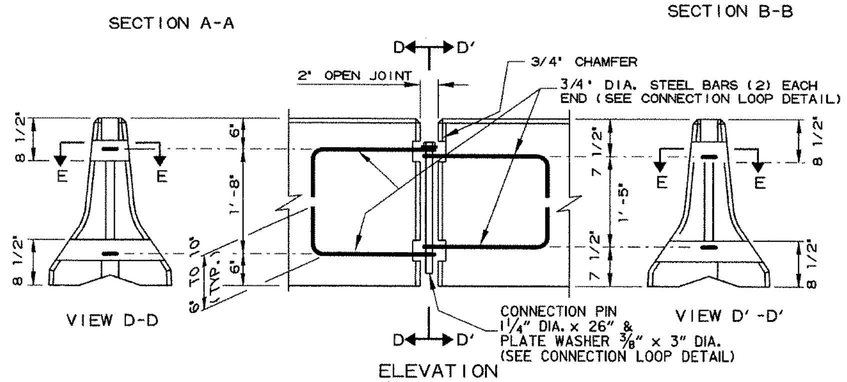


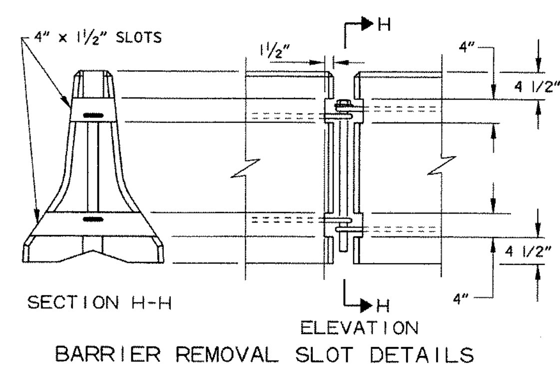


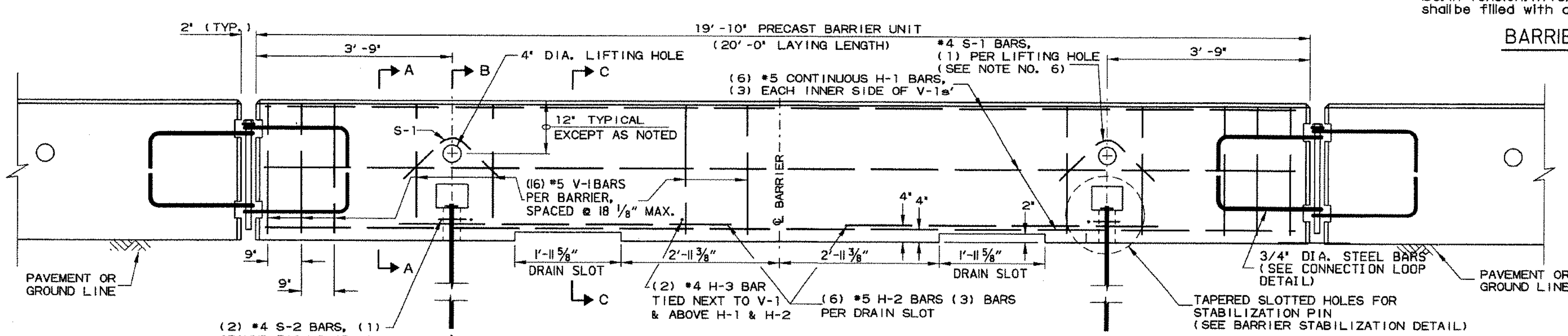


NOTE: 3/4" Threaded inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved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

BARRIER STABILIZATION DETAIL
BRIDGE DECKS







ELEVATION - TYPICAL BARRIER
MASS: 3.9 tons PER PANEL

General Notes

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

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

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

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

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

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

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

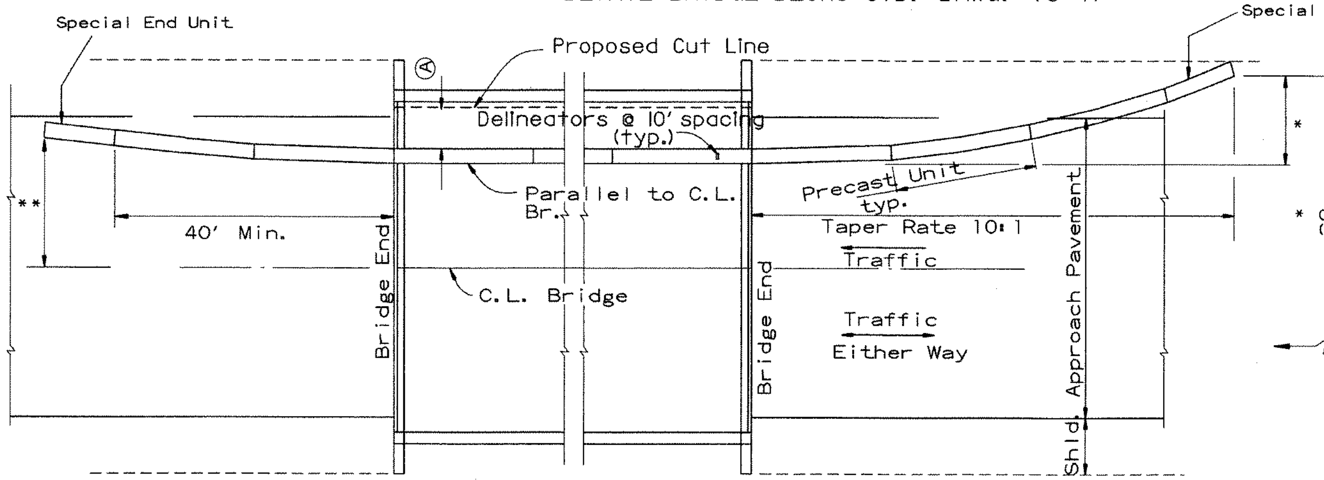
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

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

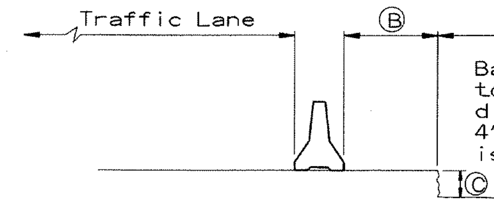


* Offset Distance (See Table)

BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

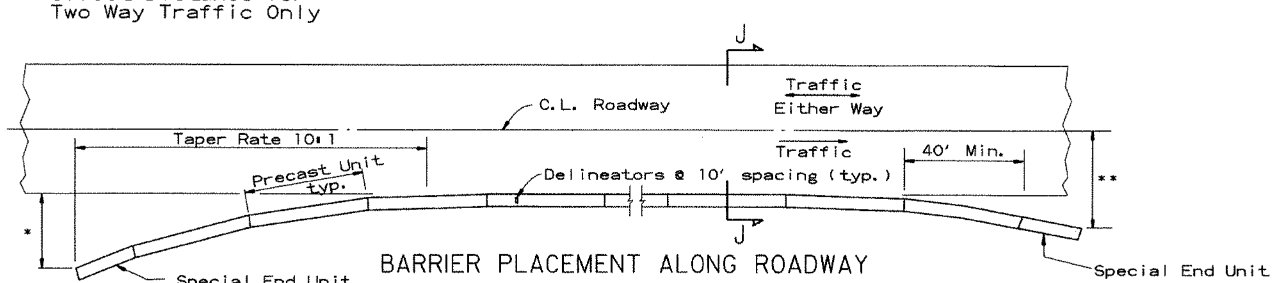
** Offset Distance for Two Way Traffic Only



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

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

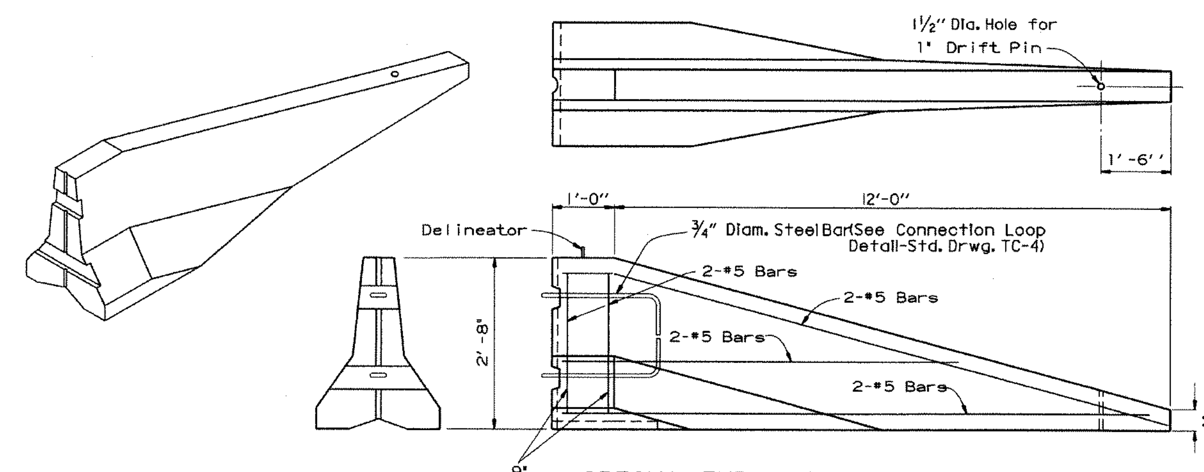
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

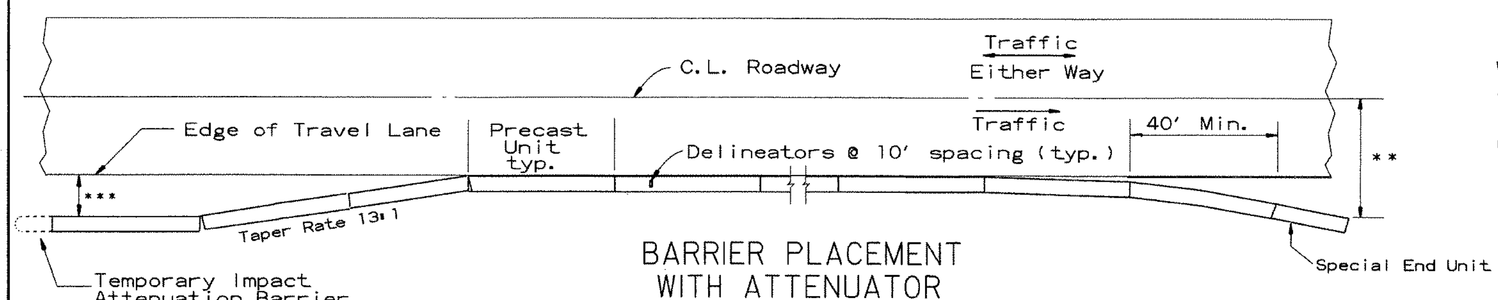
Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

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



SPECIAL END UNIT

No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

* * Offset Distance For Two Way Traffic Only

General Notes

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

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

ARKANSAS STATE HIGHWAY COMMISSION

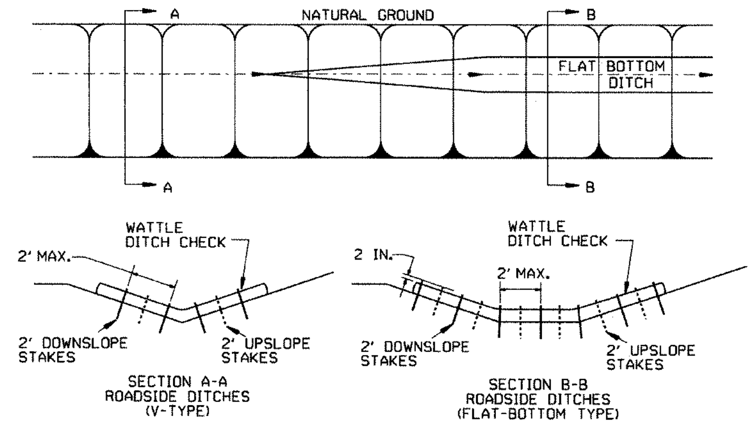
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-5

WATTLE DITCH CHECK (E-1)

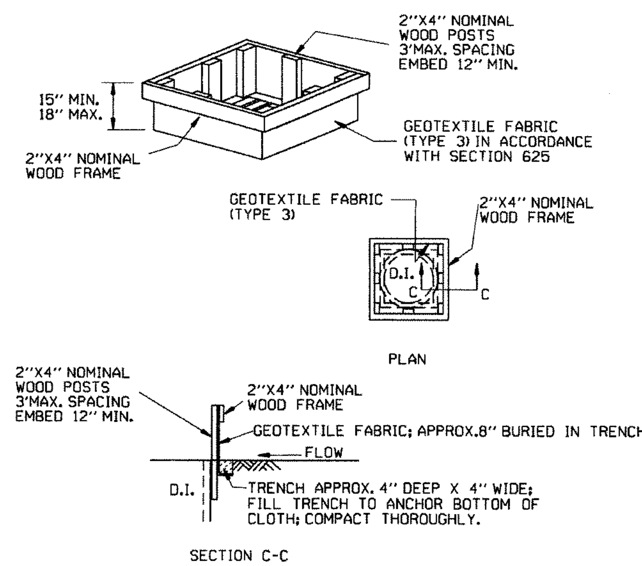
GENERAL NOTES

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



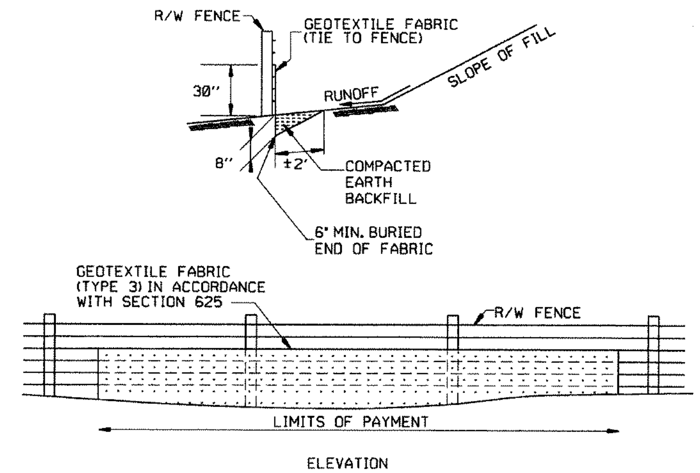
WATTLE DITCH CHECK (E-1)

DROP INLET SILT FENCE (E-7)



DROP INLET SILT FENCE (E-7)

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



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

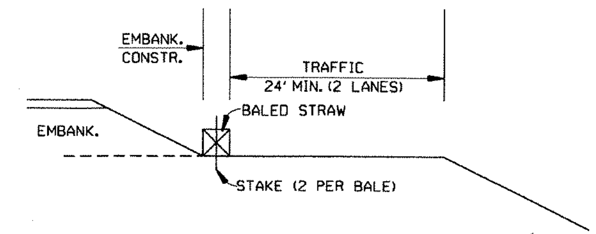
GENERAL NOTES

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.

BALED STRAW FILTER BARRIER (E-2)

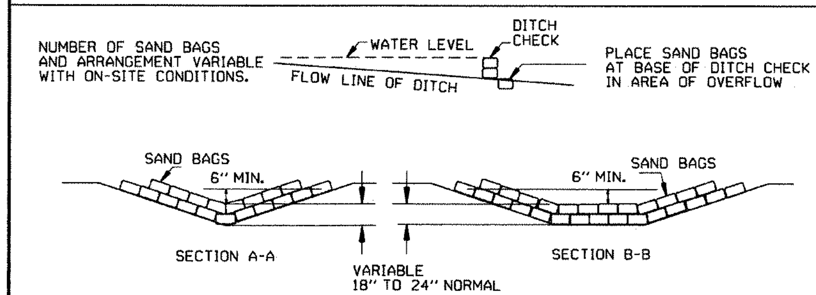
GENERAL NOTES

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.



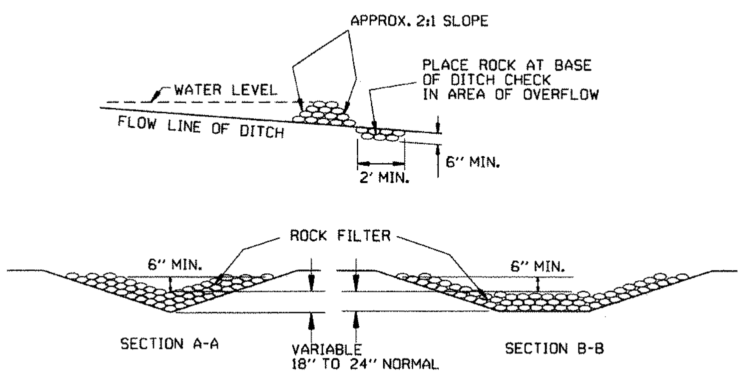
BALED STRAW FILTER BARRIER (E-2)

SAND BAG DITCH CHECK (E-5)



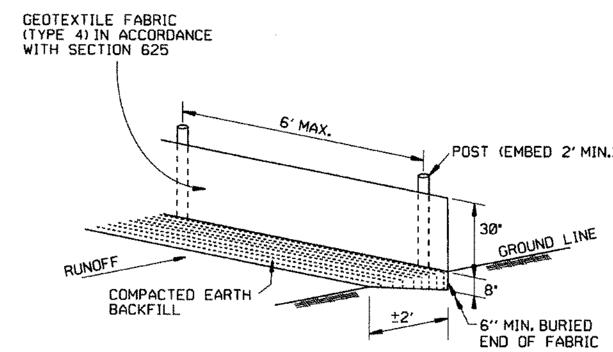
SAND BAG DITCH CHECK (E-5)

ROCK DITCH CHECK (E-6)



ROCK DITCH CHECK (E-6)

SILT FENCE (E-11)



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

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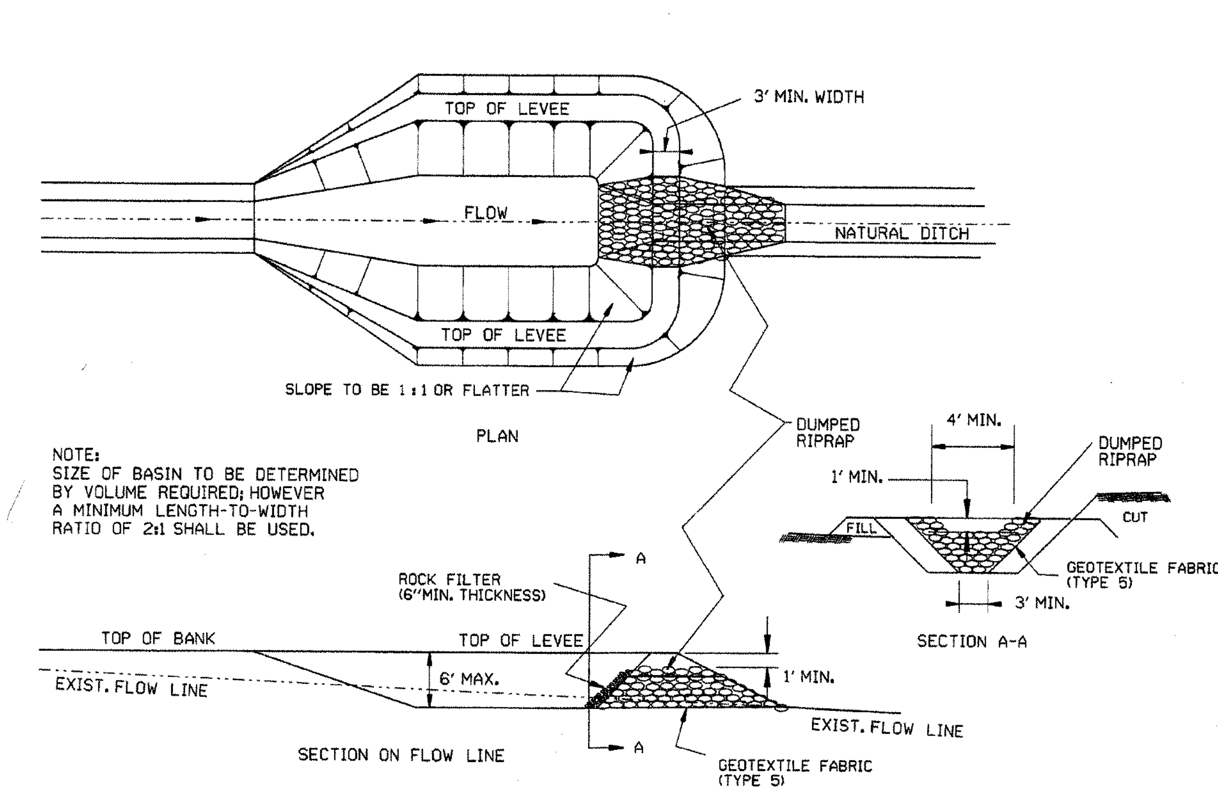
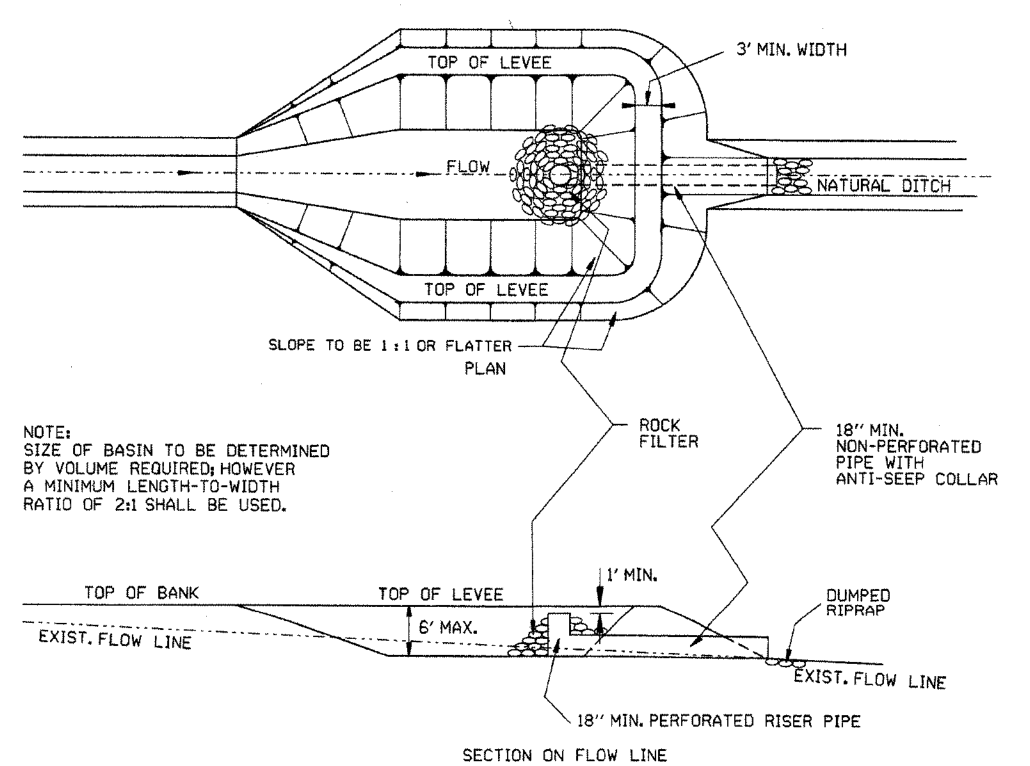


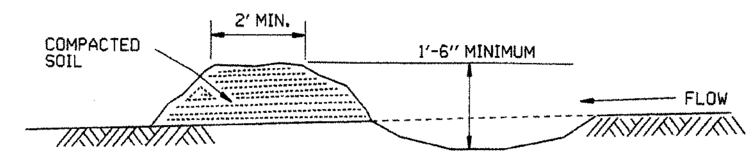
NOTE:
SIZE OF BASIN TO BE DETERMINED BY VOLUME REQUIRED; HOWEVER A MINIMUM LENGTH-TO-WIDTH RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



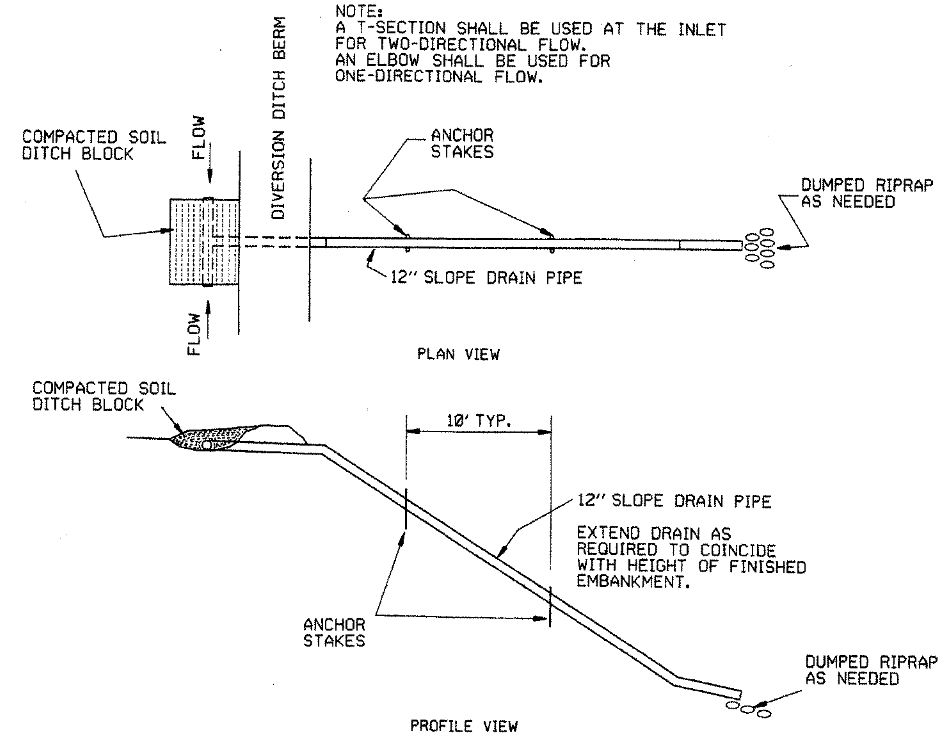
NOTE:
SIZE OF BASIN TO BE DETERMINED BY VOLUME REQUIRED; HOWEVER A MINIMUM LENGTH-TO-WIDTH RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH PIPE OUTLET (E-10)

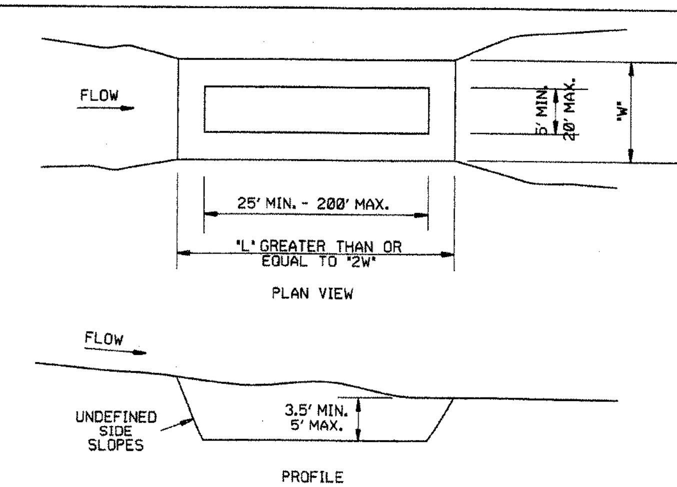


DIVERSION DITCH (E-8)

NOTE:
A T-SECTION SHALL BE USED AT THE INLET FOR TWO-DIRECTIONAL FLOW. AN ELBOW SHALL BE USED FOR ONE-DIRECTIONAL FLOW.



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

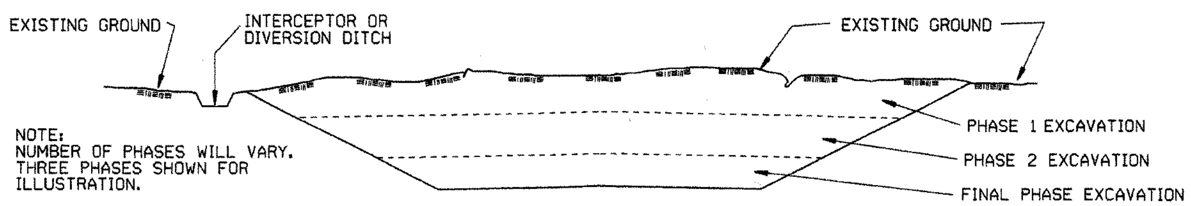
STANDARD DRAWING TEC-2

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



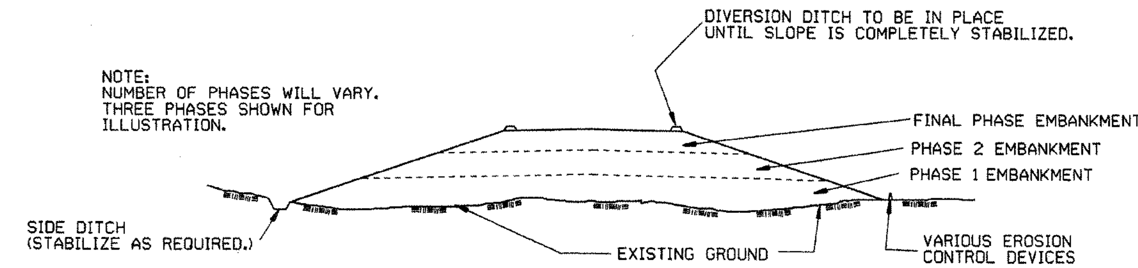
GENERAL NOTE

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

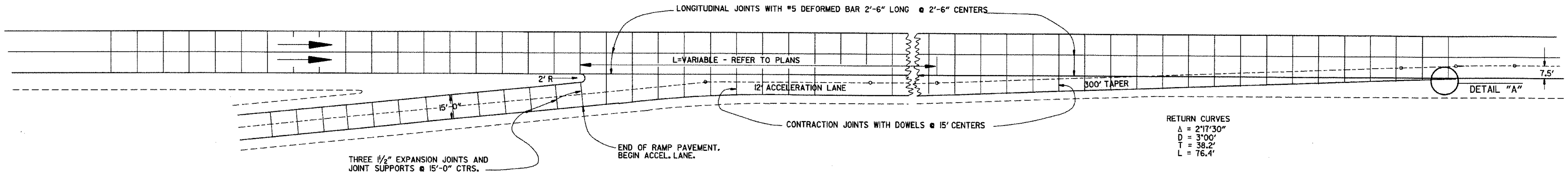
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

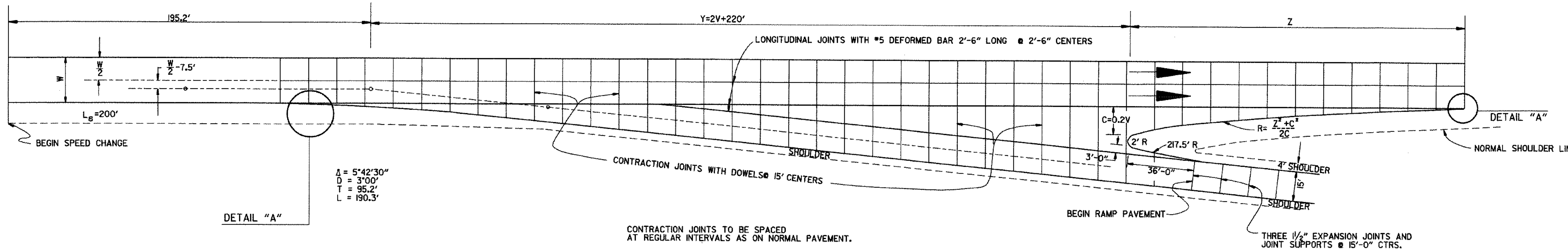
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



ENTRANCE RAMP

NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.

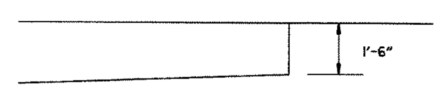


CONTRACTION JOINTS TO BE SPACED AT REGULAR INTERVALS AS ON NORMAL PAVEMENT.

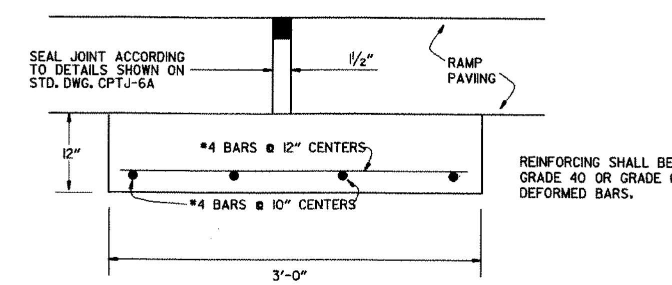
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED.
THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL A & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM'D TO 1988 SPECIFICATIONS	65C-7-15-88
3-2-81	ISSUED	511-10-2-72
DATE	REVISION	DATE FILM'D

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

STANDARD DRAWING TR-1A

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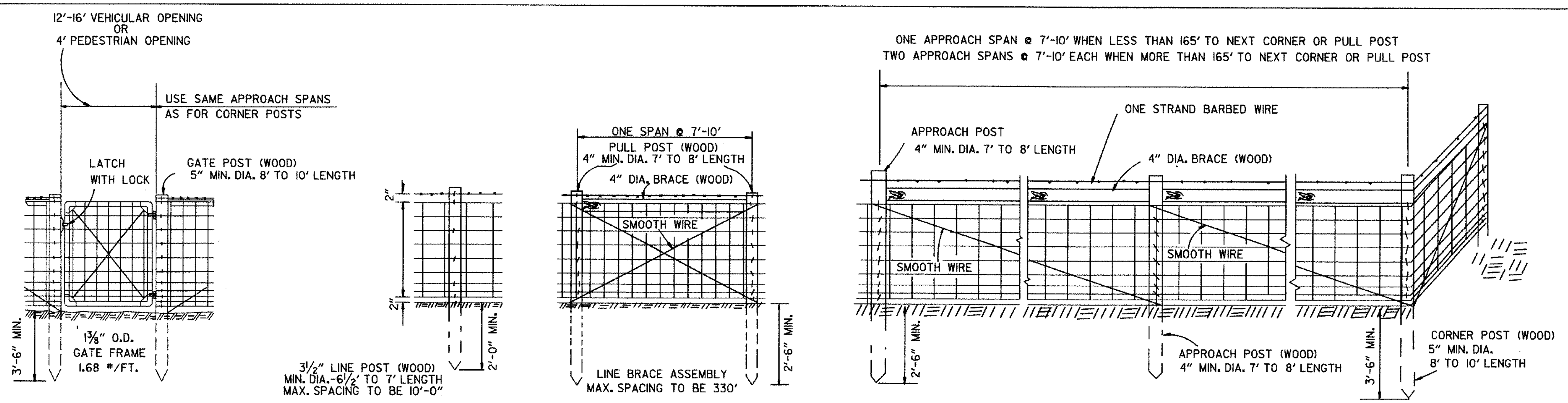
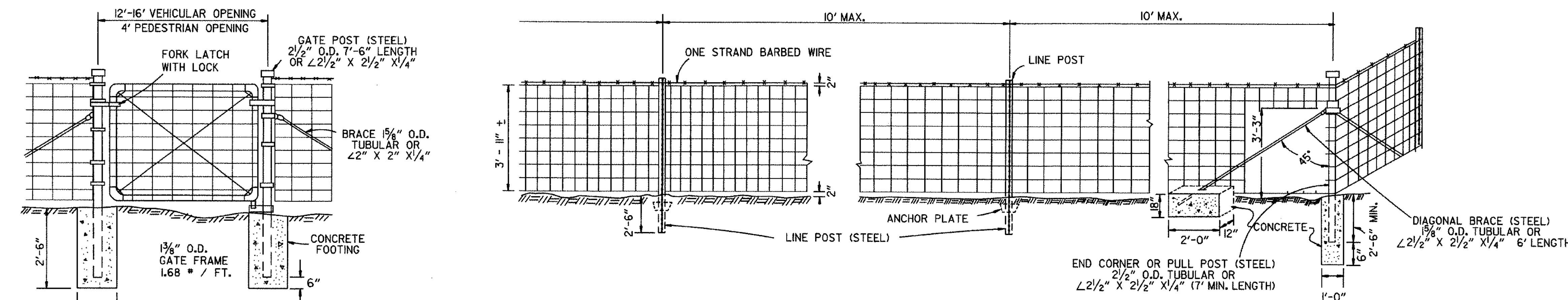


NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)



TYPE A FENCE (STEEL POSTS)

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.

TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

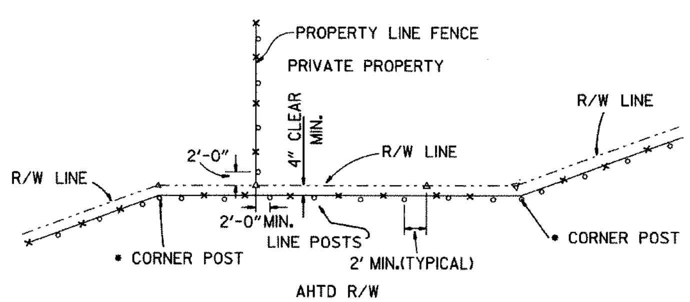
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF WOOD LINE POSTS OF 7' LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

GATE HINGES AND LATCHES WITH LOCKS TO BE OF A TYPE APPROVED BY THE ENGINEER. DRIVEWAY GATES, EITHER SINGLE 12' OR 16' OR DOUBLE 6' TO 8' OPENINGS 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 BY MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON THE 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 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 SUFFIEICNT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO THE BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

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.

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 WIRE A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

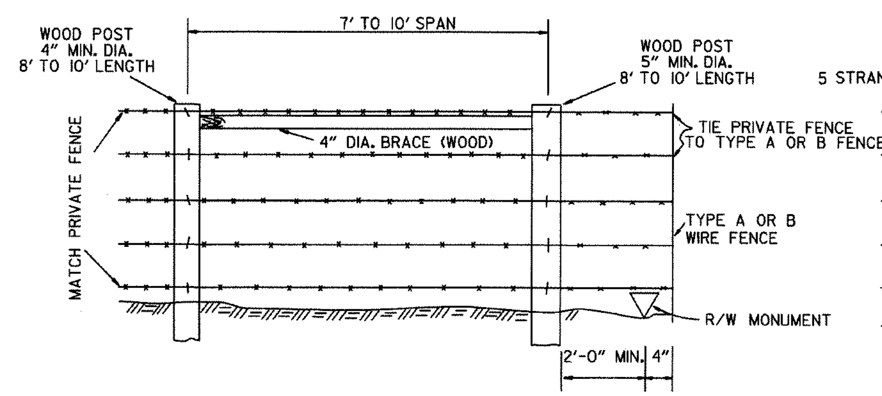


•NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

△ - R/W MONUMENTS

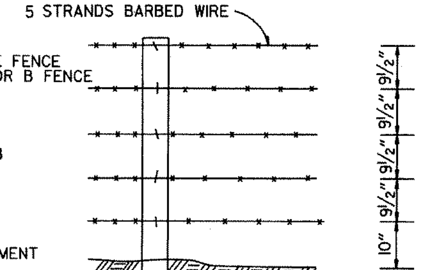
∘ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



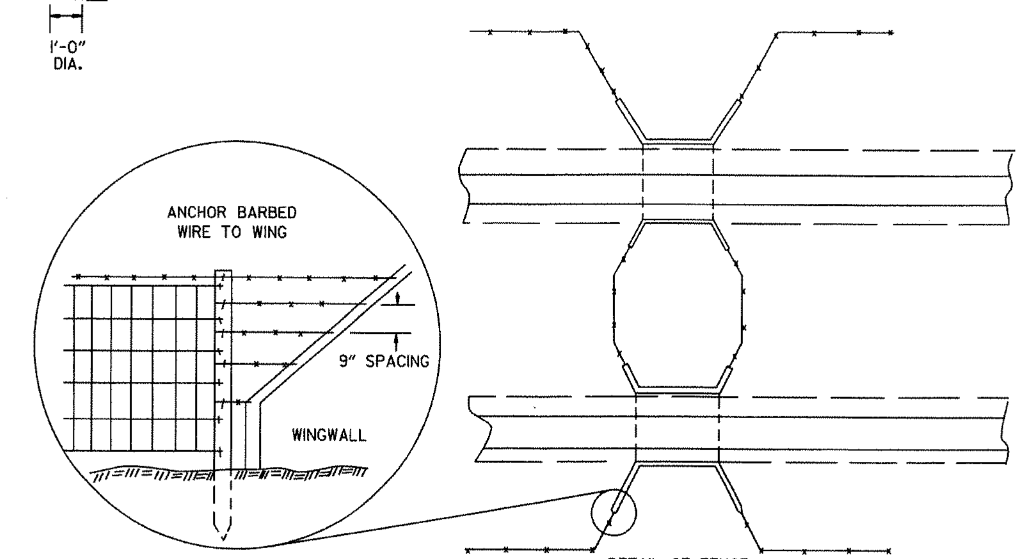
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

PRIVATE FENCE TERMINAL INSTALLATION



SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

TYPE B FENCE



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

DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1