"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	1	165
				(2)	CACHE RIVER - WEST (F)			

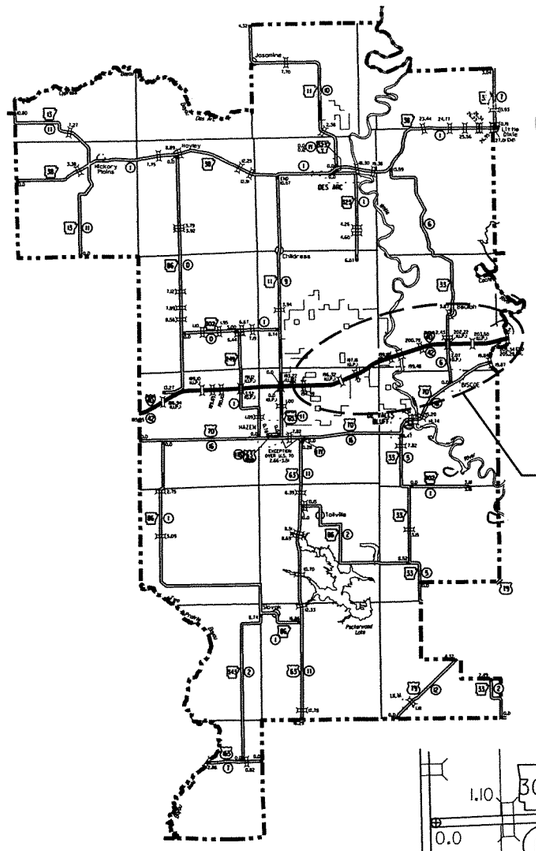
CACHE RIVER - WEST (F)

PRAIRIE COUNTY

ROUTE 40 SECTION 42

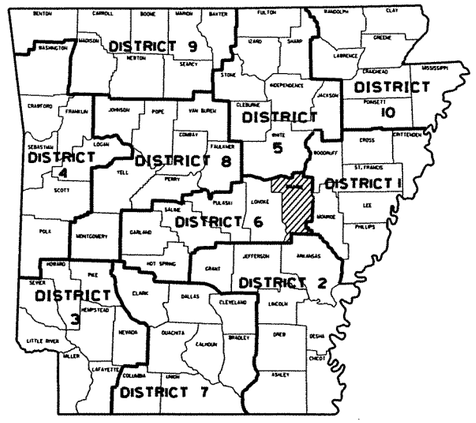
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JOB 061187



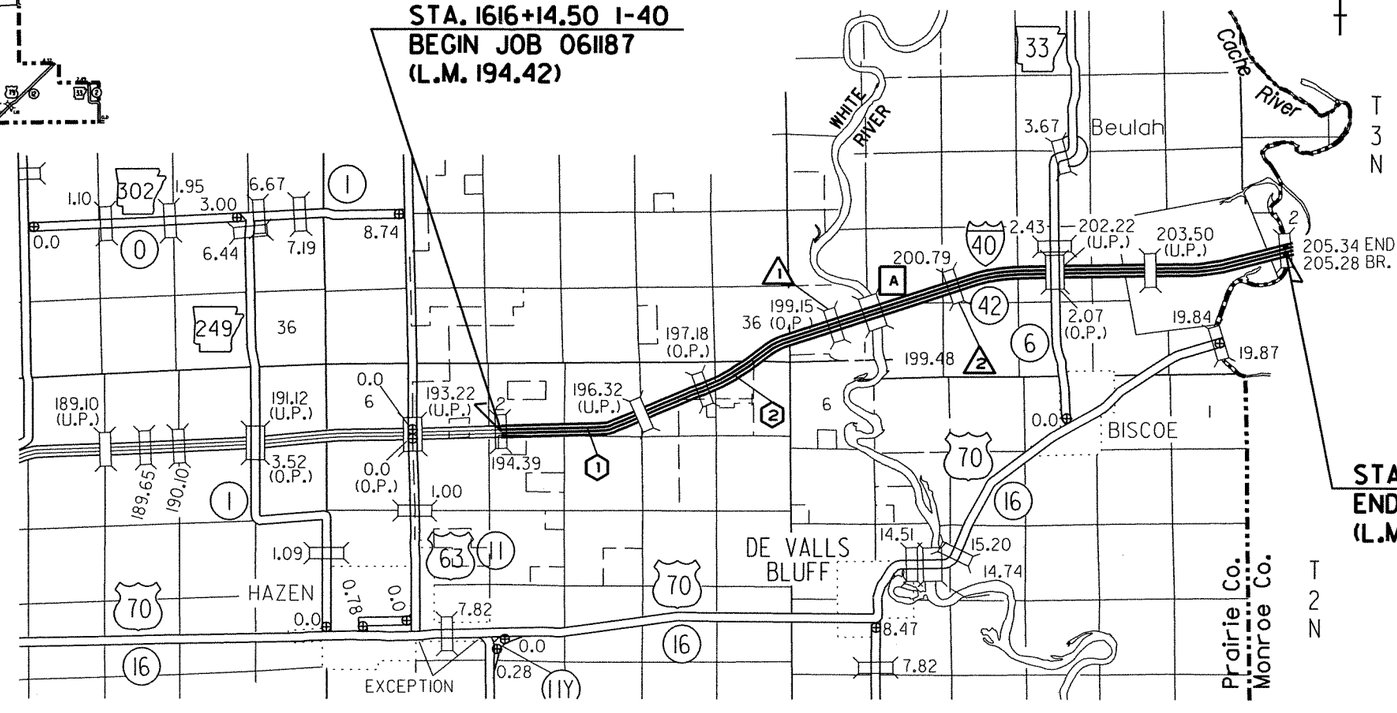
PROJECT LOCATION

PRAIRIE COUNTY



ARK. HWY. DIST. NO. 6

STA. 1616+14.50 I-40
BEGIN JOB 061187
(L.M. 194.42)



STA. 2188+93.90 I-40
END JOB 061187
(L.M. 205.28)

DESIGN TRAFFIC DATA

DESIGN YEAR	2022
2002 ADT	35000
2022 ADT	61400
2022 DHV	6754
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	47%
DESIGN SPEED	70 MPH

EQUATIONS

1. PC STA. 1679+21.6 BK. = STA. 1679+07.7 AHD. ℄ I-40
2. PT. STA. 1799+00.8 BK. = STA. 1798+46.5 AHD. ℄ I-40

EXCEPTIONS

A. STA. 1883+39.75 TO STA. 1910+40.25
LENGTH = 2700.50'
TOTAL EXCEPTIONS = 2700.50'

BRIDGE DATA

1. STA. 1865+74.46 BR. END
254' - 2" CONT. COMP. W-BEAM BRIDGE NO. 6893
2-37' - 0" CL. RDWYS.
STA. 1868+28.63 BR. END

2. STA. 1952+13.42 BR. END
413' - 2" CONT. COMP. W-BEAM BRIDGE NO. 6894
2-37' - 0" CL. RDWYS.
STA. 1956+26.59 BR. END

SCALE: 1" = 1 MILE

LENGTH IS COMPUTED ALONG ℄ MEDIAN & IS SHOWN FOR INFORMATION ONLY

GROSS LENGTH OF PROJECT	57347.60	FEET OR	10.861 MILES
NET LENGTH OF ROADWAY	53979.76	FEET OR	10.223 MILES
NET LENGTH OF BRIDGES	667.34	FEET OR	0.126 MILES
NET LENGTH OF PROJECT	54647.10	FEET OR	10.349 MILES

MID POINT OF PROJECT
LATITUDE 34° 50' 24" N
LONGITUDE 91° 27' 20" W

BEGINNING OF PROJECT
LATITUDE N 34° 49' 08"
LONGITUDE W 91° 32' 45"

END OF PROJECT
LATITUDE N 34° 50' 55"
LONGITUDE W 91° 21' 36"

APPROVED

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 3917 FRANK VOZEL

5/31/11

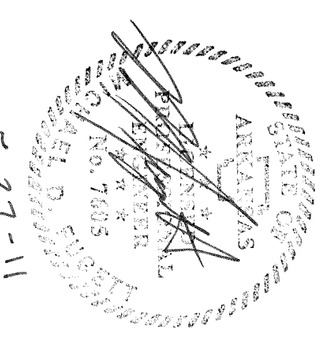
DEPUTY DIRECTOR AND CHIEF ENGINEER

P.E. JOB 001726
NON-PARTICIPATING

02-22-02 title.dgn

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DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	06187	2	165

(2) INDEX OF SHEETS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		061187	2A	165

(2) GOVERNING SPECIFICATIONS & GENERAL NOTES

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 061187
FHWA-1273 ___SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273 ___SUPPLEMENT - WAGE RATE DETERMINATION
100-2 _____MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
103-1 _____DETERMINATION OF DBE PARTICIPATION
105-1 _____CONSTRUCTION CONTROL MARKINGS
105-2 _____EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1 _____WORKER VISIBILITY
108-1 _____LIQUIDATED DAMAGES
110-1 _____PROTECTION OF WATER QUALITY AND WETLANDS
303-1 _____AGGREGATE BASE COURSE
404-1 _____PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1 _____MINERAL AGGREGATES
410-3 _____DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1 _____ASPHALT CONCRETE COLD PLANT MIX
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

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JOB 061187___ASPHALT CONCRETE HOT MIX PATCHING OF EXISTING SHOULDERS
JOB 061187___ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 061187___BORROW
JOB 061187___CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 061187___ELASTOMERIC BEARINGS
JOB 061187___FAST SETTING CEMENT
JOB 061187___GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061187___HIGH PERFORMANCE PAVEMENT MARKING
JOB 061187___MAINTENANCE OF TRAFFIC
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JOB 061187___MOBILIZATION
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JOB 061187___MODULAR GLARE SHIELD
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JOB 061187___RAISING EXISTING STRUCTURE
JOB 061187___REMOVAL AND DISPOSAL OF FENCE
JOB 061187___REMOVAL AND DISPOSAL OF GUARDRAIL
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JOB 061187___PORTABLE CHANGEABLE MESSAGE SIGNS
JOB 061187___PROSECUTION AND PROGRESS
JOB 061187___SOIL STABILIZATION

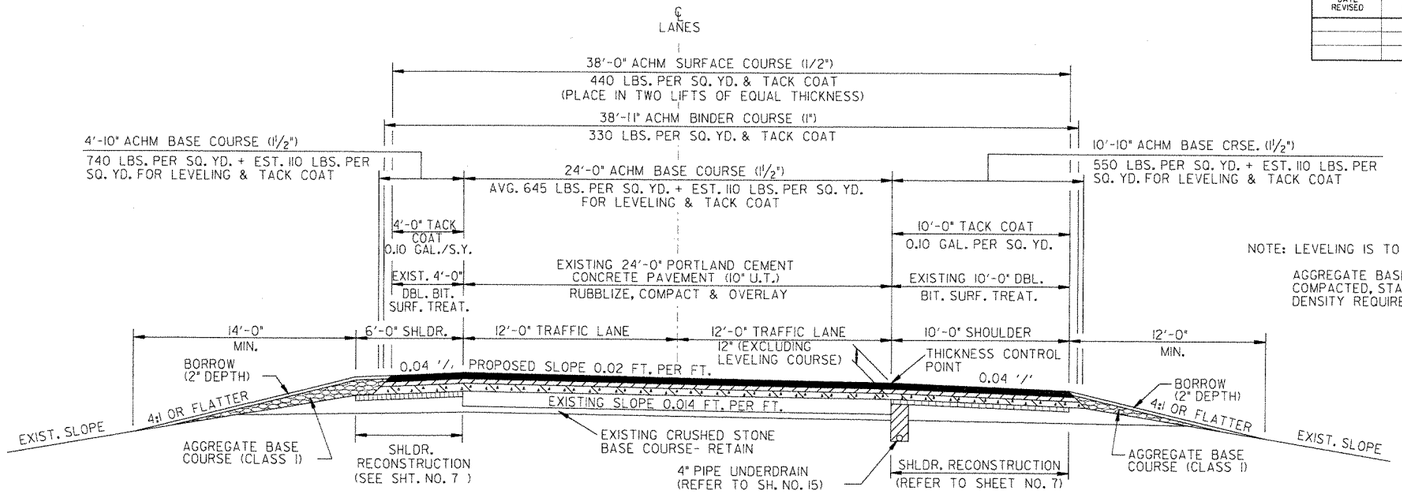
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
8-24-11

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 CONTRACTOR WILL CONTACT ALL FIBER OPTIC COMPANIES INVOLVED ON THIS PROJECT AT LEAST 5 WORKING DAYS BEFORE CONSTRUCTION, INCLUDING REMOVING AND INSTALLING ANY FENCING, AND TAKE EVERY PRECAUTION NECESSARY TO AVOID CONFLICT WITH THE FIBER OPTIC CABLES. THE CONTRACTOR SHALL TELEPHONE ARKANSAS ONE-CALL SYSTEM, INC. AT 800-482-8998 (A 24 HOUR NUMBER) TO DETERMINE THE LOCATION OF THE BURIED FIBER OPTIC CABLES.

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				JOB NO.		061187	3	165

(2) TYPICAL SECTIONS OF IMPROVEMENT



RUBBLIZE & OVERLAY- TANGENT SECTION

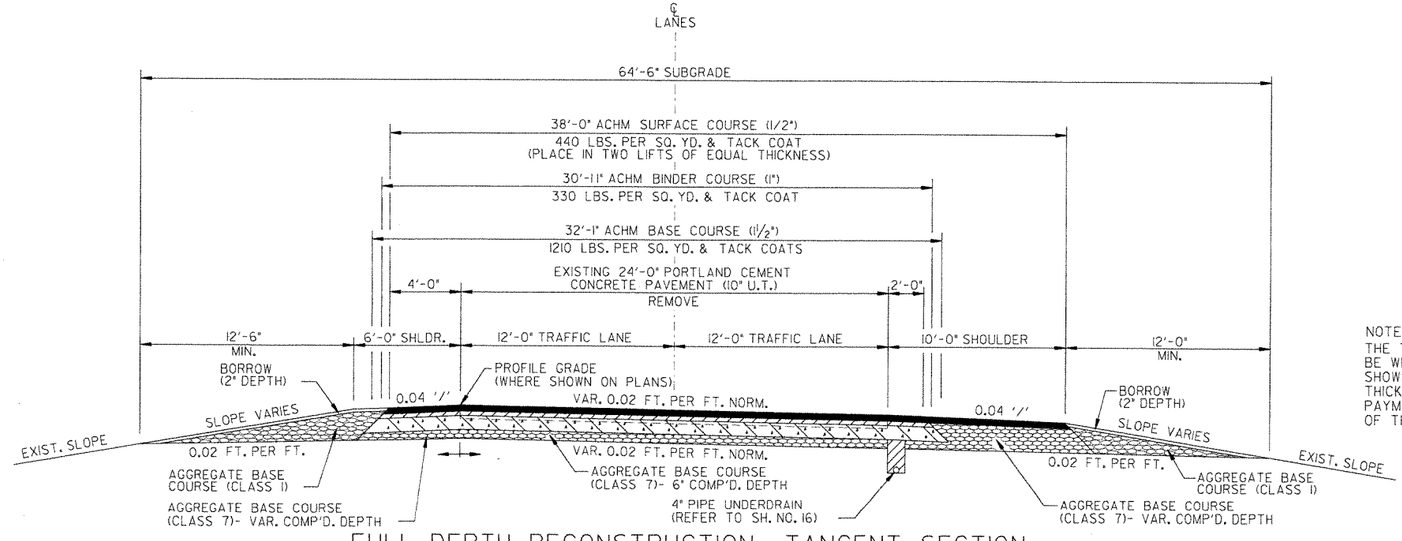
(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1623+75.00 TO STA. 1674+93.10 LT. MAIN LANES
STA. 1701+71.40 TO STA. 1799+00.80 LT. MAIN LANES
STA. 1798+46.50 TO STA. 1809+28.00 LT. MAIN LANES
STA. 2006+21.97 TO STA. 2179+70.00 LT. MAIN LANES

STA. 1623+75.00 TO STA. 1678+25.10 RT. MAIN LANES
STA. 1704+89.50 TO STA. 1769+11.60 RT. MAIN LANES
STA. 1801+09.00 TO STA. 1814+29.40 RT. MAIN LANES
STA. 1990+00.00 TO STA. 2120+87.43 RT. MAIN LANES
STA. 2152+46.16 TO STA. 2179+70.00 RT. MAIN LANES

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

AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 ARE WAIVED.



FULL-DEPTH RECONSTRUCTION- TANGENT SECTION

(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1616+26.75 TO STA. 1623+75.00 LT. MAIN LANES
STA. 2179+70.00 TO STA. 2188+92.40 LT. MAIN LANES

STA. 1616+75.25 TO STA. 1623+75.00 RT. MAIN LANES
STA. 2179+70.00 TO STA. 2188+92.40 RT. MAIN LANES

NOTE:
THE THICKNESS OF AGGREGATE BASE COURSE (CLASS 7) 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.

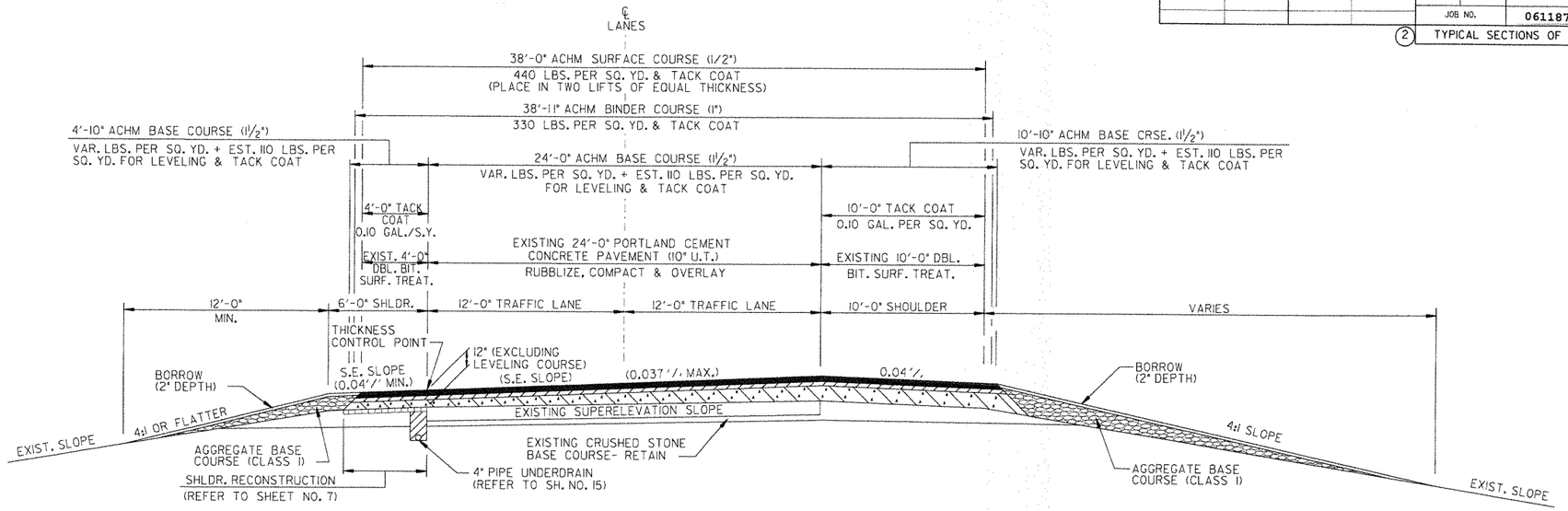
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

02-22-02

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.		061187	4	165

(2) TYPICAL SECTIONS OF IMPROVEMENT



RUBBLIZE & OVERLAY- SUPERELEVATED CURVE TO LEFT

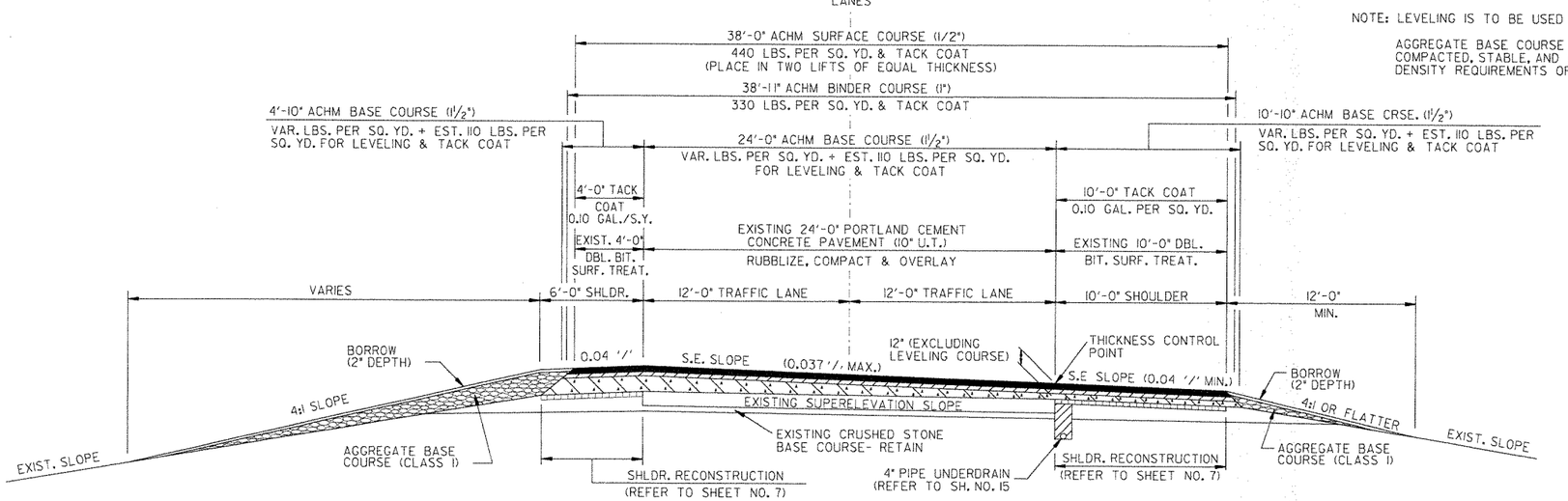
(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1809+28.00 TO STA. 1829+50.00 LT. MAIN LANES
STA. 1974+00.00 TO STA. 2006+21.97 LT. MAIN LANES

STA. 1678+25.10 TO STA. 1679+21.60 RT. MAIN LANES
STA. 1679+07.70 TO STA. 1704+89.50 RT. MAIN LANES
STA. 1769+11.60 TO STA. 1799+00.80 RT. MAIN LANES
STA. 1798+46.50 TO STA. 1801+09.00 RT. MAIN LANES
STA. 2120+87.43 TO STA. 2152+46.16 RT. MAIN LANES

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

AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 ARE WAIVED.



RUBBLIZE & OVERLAY- SUPERELEVATED CURVE TO RIGHT

(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1674+93.10 TO STA. 1679+21.60 LT. MAIN LANES
STA. 1679+07.70 TO STA. 1701+71.40 LT. MAIN LANES

STA. 1814+29.40 TO STA. 1832+00.00 RT. MAIN LANES

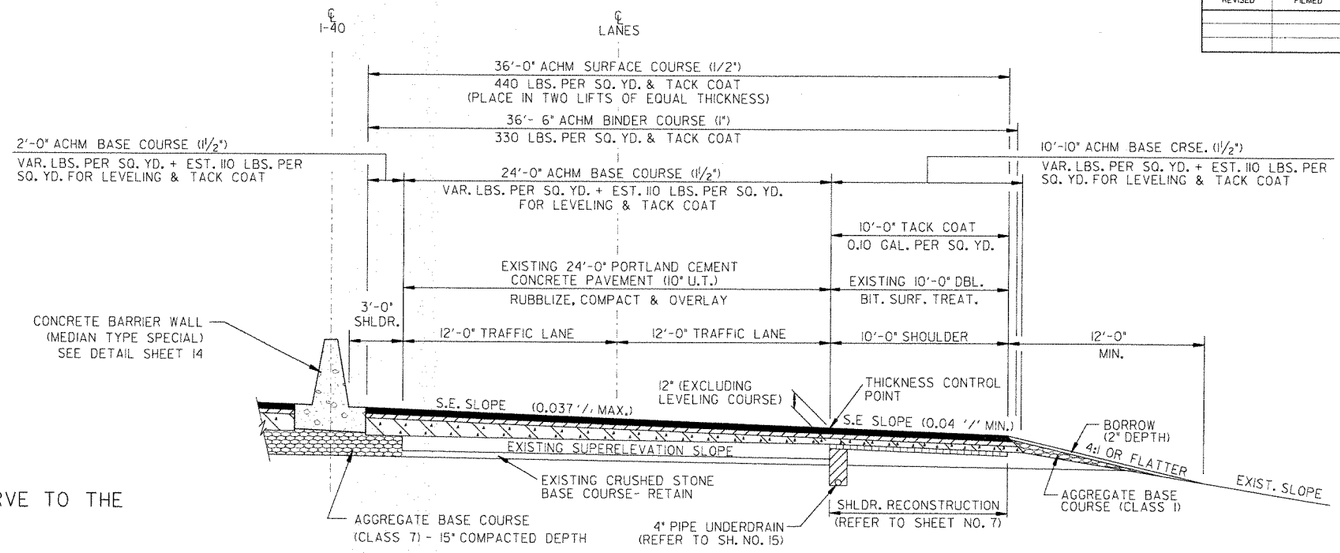
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

02-22-02

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.		061187	5	165

(2) TYPICAL SECTIONS OF IMPROVEMENT



*NOTE:
STATIONS ARE SUPERELEVATED CURVE TO THE LEFT WITH CONC. MEDIAN BARRIER.

RUBBLIZE & OVERLAY- SUPERELEVATED CURVE TO THE RIGHT (W/CONC. MEDIAN BARRIER)

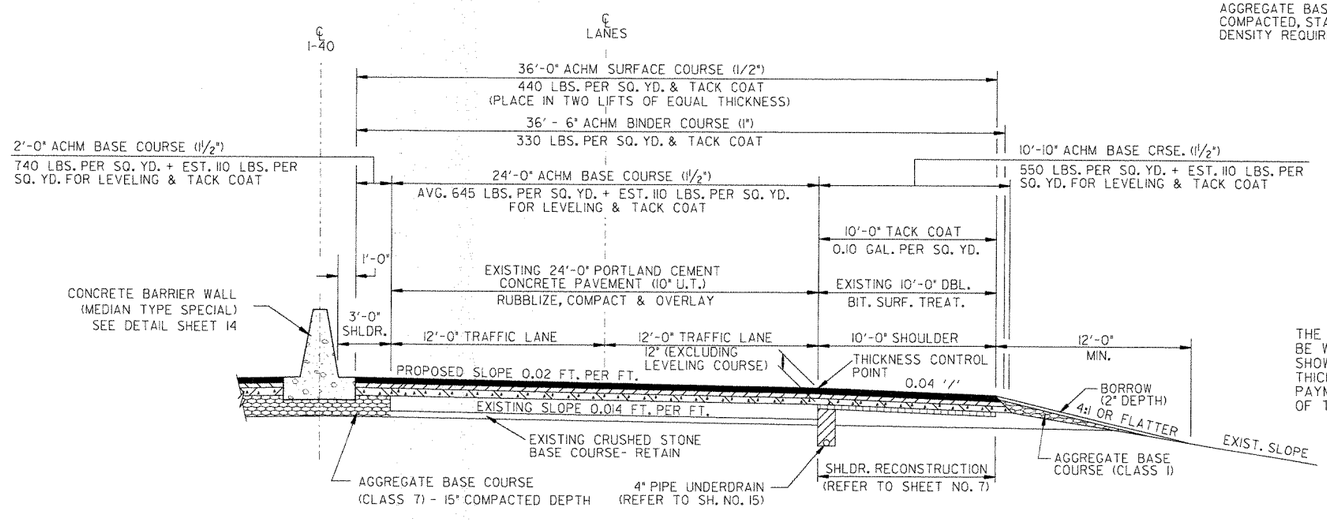
(SHOWN IN DIRECTION OF TRAFFIC)

*STA. 1829+50.00 TO STA. 1832+88.00 LT. MAIN LANES
*STA. 1966+61.41 TO STA. 1979+26.25 LT. MAIN LANES

STA. 1832+00.00 TO STA. 1837+89.40 RT. MAIN LANES

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

AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 ARE WAIVED.



THE THICKNESS OF AGGREGATE BASE COURSE (CLASS 7) 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.

STATE OF ARKANSAS
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MICHAEL BIGGS
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RUBBLIZE & OVERLAY- TANGENT SECTION (W/CONC. MEDIAN BARRIER)

(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1832+88.00 TO STA. 1865+37.96 LT. MAIN LANES
STA. 1920+08.00 TO STA. 1951+76.92 LT. MAIN LANES
STA. 1956+63.09 TO STA. 1966+61.41 LT. MAIN LANES

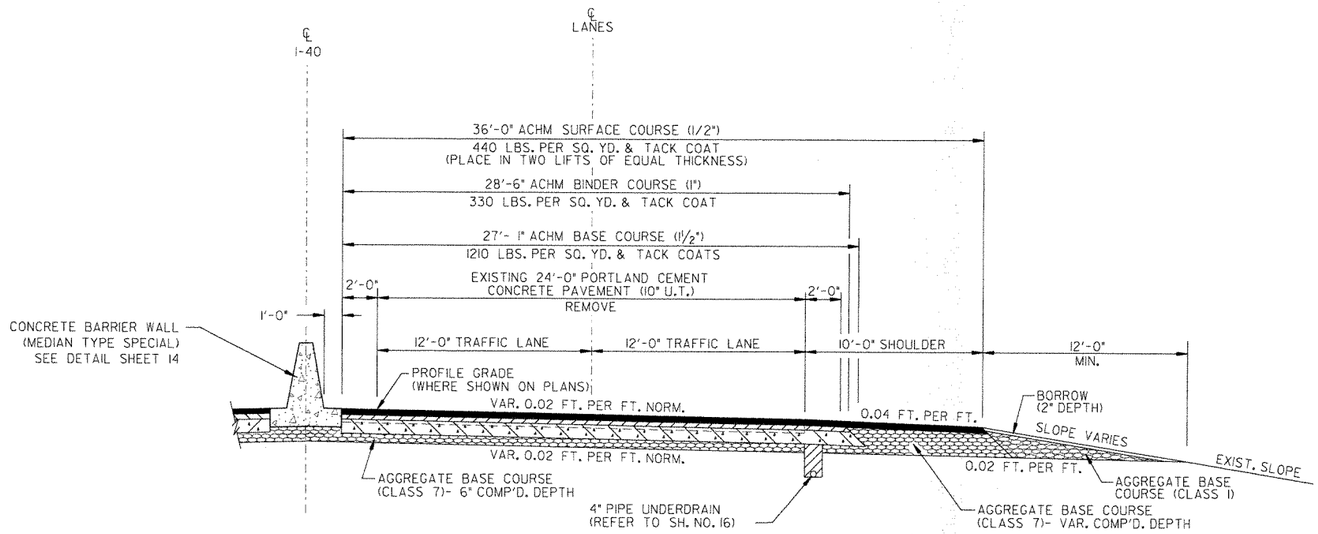
STA. 1837+89.40 TO STA. 1865+37.96 RT. MAIN LANES
STA. 1920+08.00 TO STA. 1951+76.92 RT. MAIN LANES
STA. 1956+63.09 TO STA. 1990+00.00 RT. MAIN LANES

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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.		061187	6	165

(2) TYPICAL SECTIONS OF IMPROVEMENT



FULL-DEPTH RECONSTRUCTION- TANGENT SECTION (W/CONC. MEDIAN BARRIER)
(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1868+65.13 TO STA. 1883+03.25 LT. MAIN LANES
STA. 1910+76.75 TO STA. 1920+08.00 LT. MAIN LANES

STA. 1868+65.13 TO STA. 1883+03.25 RT. MAIN LANES
STA. 1910+76.75 TO STA. 1920+08.00 RT. MAIN LANES

NOTE:
THE THICKNESS OF AGGREGATE BASE COURSE (CLASS 7) 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.

AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 ARE WAIVED.

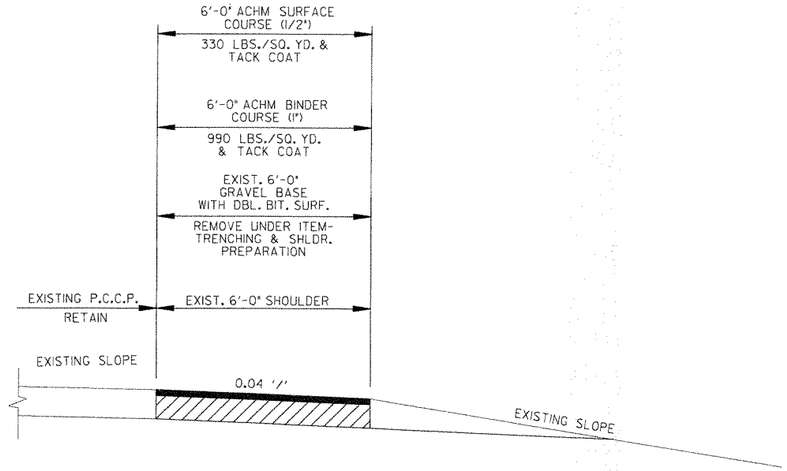
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

02-22-02

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.		061187	7	165

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC

PART 1 RT. LANES - INSIDE SHOULDER

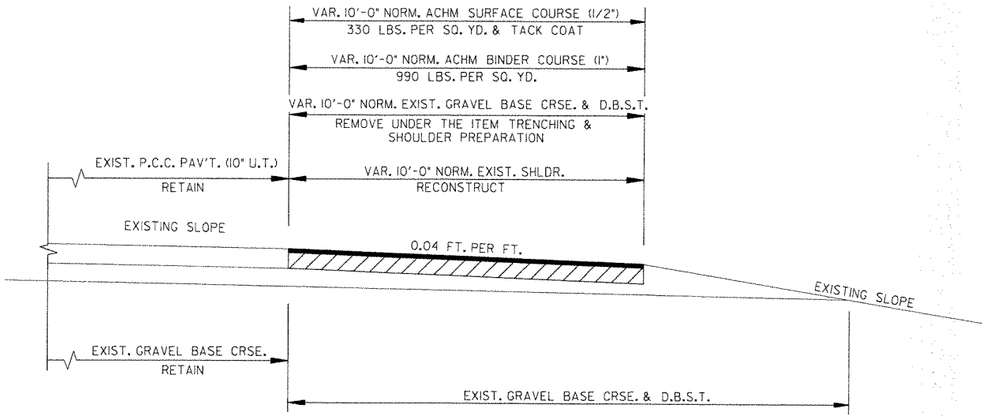
STA. 1616+73.75 TO STA. 1679+21.60
STA. 1679+07.07 TO STA. 1799+00.80
STA. 1798+46.50 TO STA. 1823+00.00

PART 2 RT. LANES - INSIDE SHOULDER

STA. 1983+00.00 TO STA. 2012+00.00

PART 3 RT. LANES - INSIDE SHOULDER

STA. 2012+00.00 TO STA. 2188+57.40



TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC

PART 2 RT. LANES - OUTSIDE SHOULDER

STA. 1823+00.00 TO STA. 1865+45.45
STA. 1868+57.63 TO STA. 1883+04.75
STA. 1910+75.25 TO STA. 1951+83.91
STA. 1956+55.09 TO STA. 1985+00.00

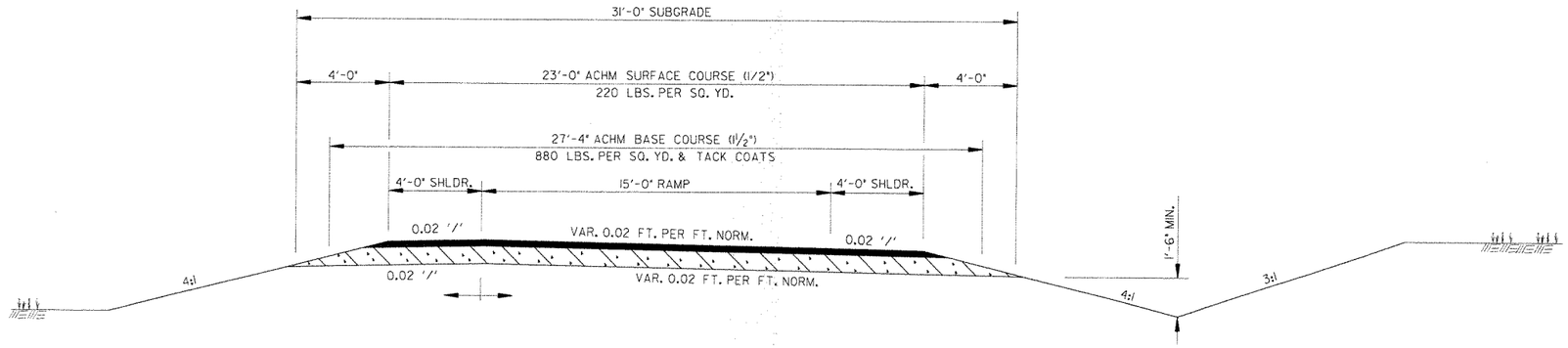
STATE OF ARKANSAS
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No. 9702
MICHAEL BIGGS
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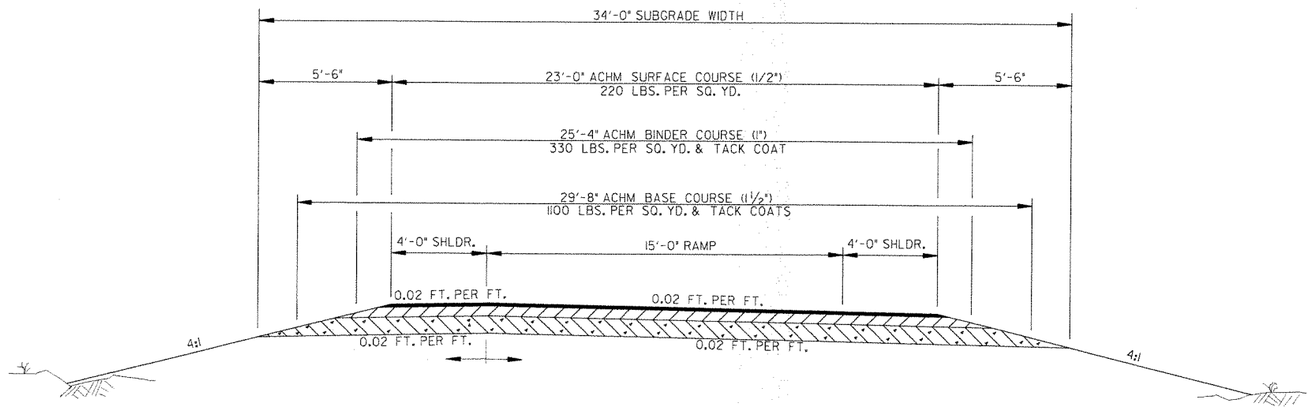
TYPICAL SECTIONS OF IMPROVEMENT

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.		061187	8	165

(2) TYPICAL SECTIONS OF IMPROVEMENT



TEMPORARY INTERCHANGE RAMPS FOR MAINTENANCE OF TRAFFIC



MAIN LANE CROSSOVER RAMPS FOR MAINTENANCE OF TRAFFIC

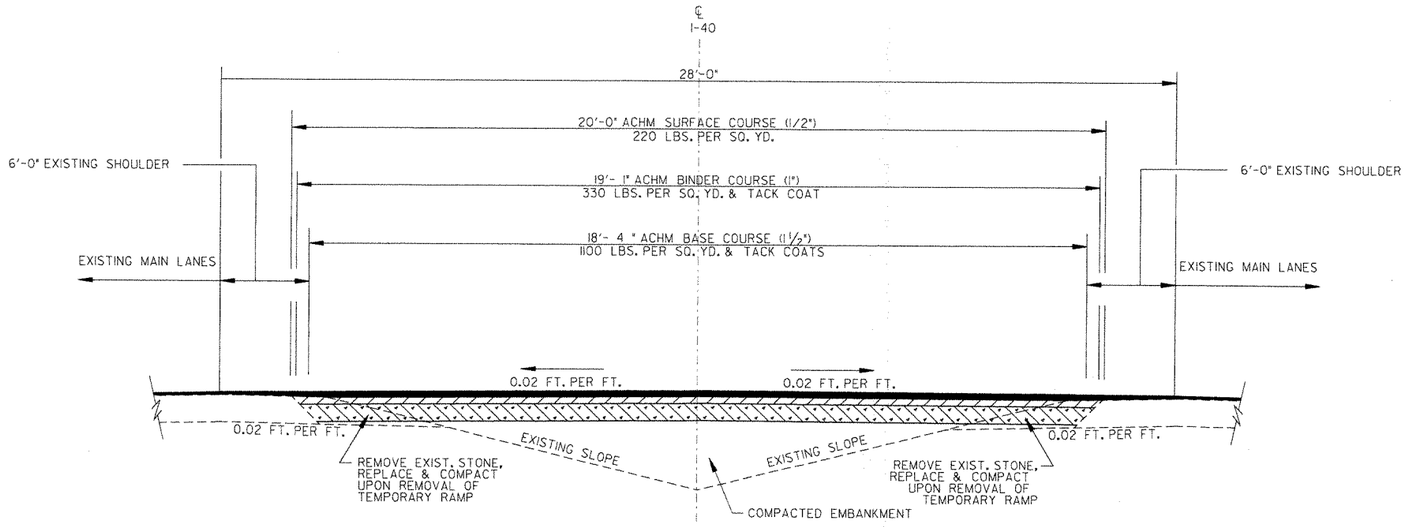
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

02-22-02

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.		061187	9	165

(2) TYPICAL SECTIONS OF IMPROVEMENT



MAIN LANE CROSSOVER RAMPS FOR MAINTENANCE OF TRAFFIC

STA. 2199+00.00 TO 2206+58.29

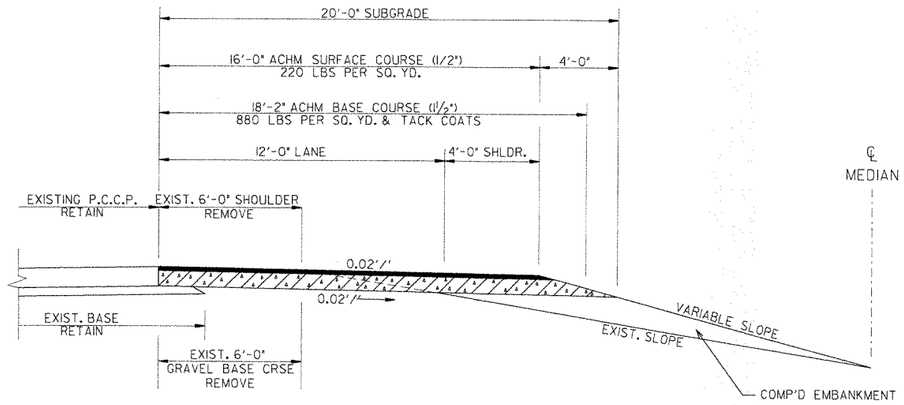
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

02-22-02

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FIL.MED	DATE REVISED	DATE FIL.MED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	10	165

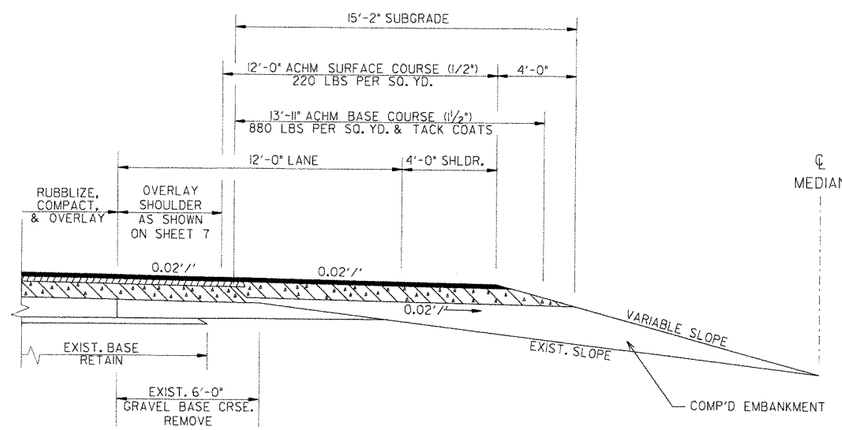
(2) TYPICAL SECTIONS OF IMPROVEMENT



TEMPORARY ACCELERATION/DECELERATION LANE
FOR MAINTENANCE OF TRAFFIC

RIGHT LANES

STA. 2037+82.69 TO STA. 2044+43.00 RT. LANES



TEMPORARY ACCELERATION / DECELERATION LANE
FOR MAINTENANCE OF TRAFFIC

LEFT LANES

STA. 2037+74.87 TO STA. 2056+30.00 LT. LANES

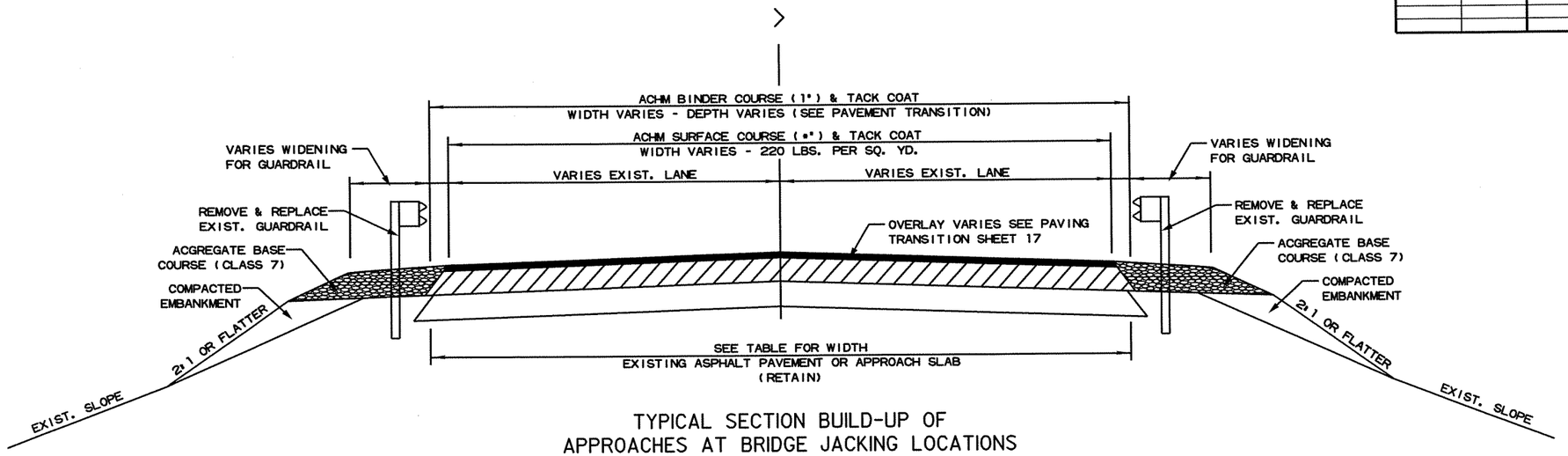
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

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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.		061187	11	165

(2) TYPICAL SECTIONS OF IMPROVEMENT

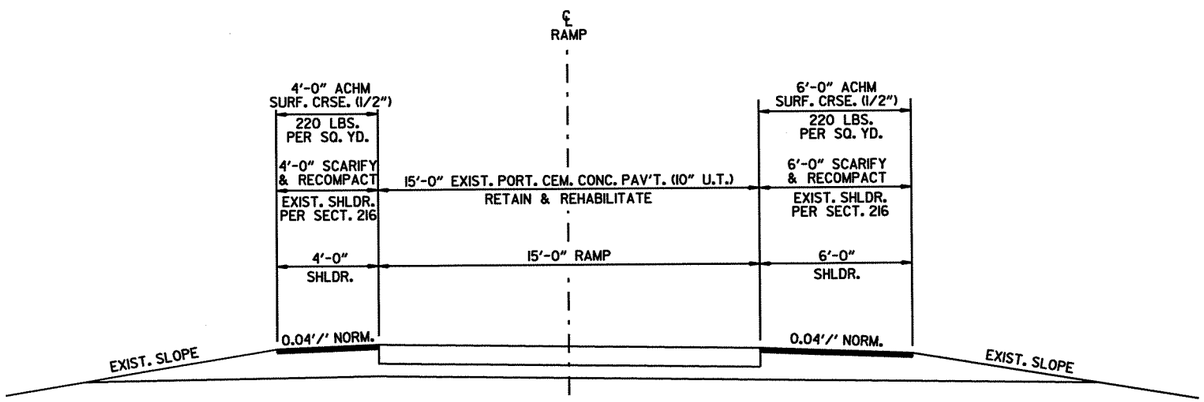


TYPICAL SECTION BUILD-UP OF
APPROACHES AT BRIDGE JACKING LOCATIONS

CROSS ROAD	WIDTH
CO. RD. BRIDGE 3710	18′
CO. RD. BRIDGE 3716	20′

NOTE:
EXISTING APPROACH GUTTERS, DROP INLETS, SPILLWAY PIPE, OUTLETS AND GUARDRAIL TO BE REMOVED. EXISTING TRANSITION WALLS AND ANCHOR POSTS TO BE REMOVED IF PRESENT.
ACCESS CONTROL FENCE TO BE REMOVED AND REPLACED AFTER COMPLETION OF BRIDGE MODIFICATIONS AND BUILD-UP OF APPROACHES. ANY DAMAGE TO FENCE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT NO COST TO THE STATE. CONTROL OF ACCESS TO STATE RIGHT-OF-WAY TO BE MAINTAINED AS DIRECTED BY ENGINEER. ALL COSTS FOR REMOVING AND REPLACING FENCE, ATTACHING TO MODIFIED STRUCTURE AND MAINTAINING ACCESS CONTROL TO BE INCLUDED IN UNIT COST FOR VARIOUS PAY ITEMS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11



PAVEMENT REHABILITATION
RAMPS

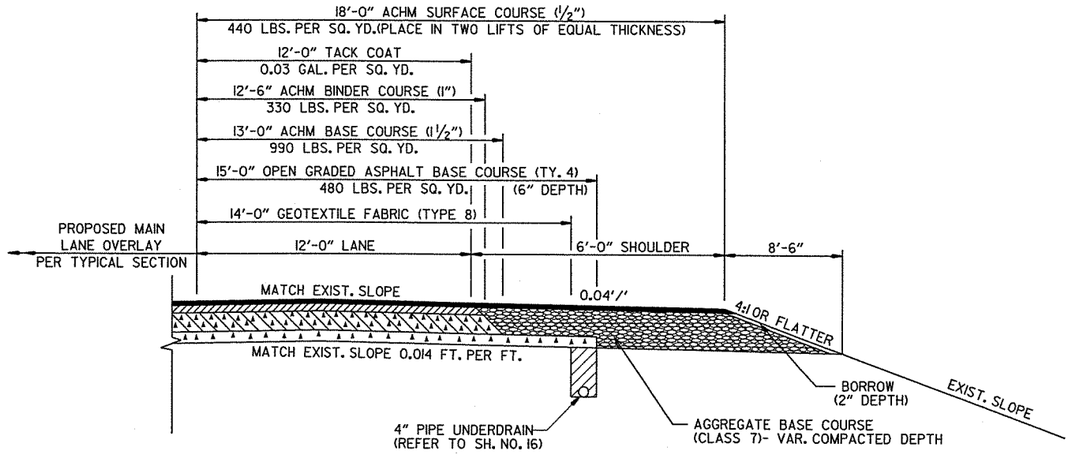
02-22-02

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
8-24-11				6	ARK.			
				JOB NO.		061187	12	165

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
8-24-11

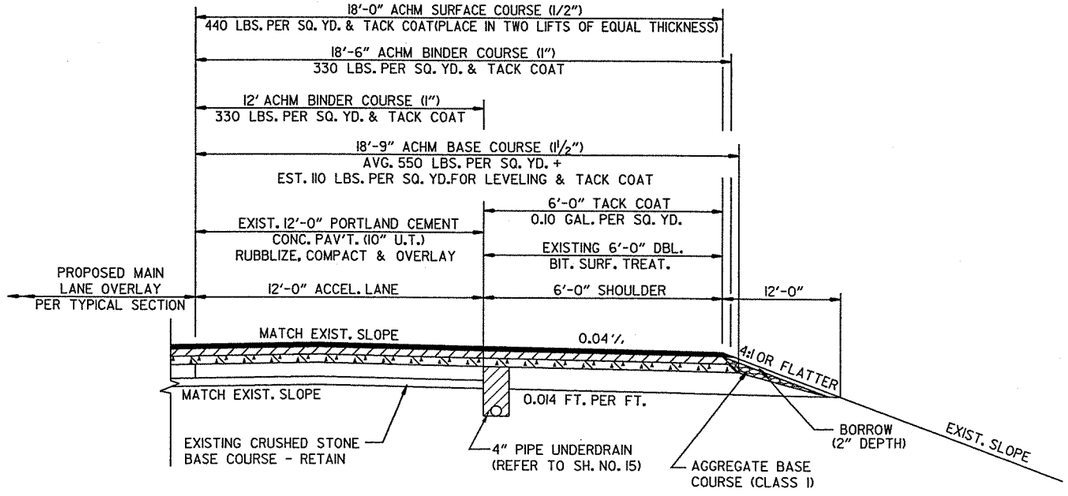


ACCELERATION LANE EXTENSION

NOTE:
DIMENSIONS VARY THROUGH EXISTING & PROPOSED TAPERS.

STA. 1831+65 TO STA. 1840+80 (LT. OF LT. LANES @ REST AREA)
STA. 2006+50 TO STA. 2014+00 (LT. OF LT. LANES @ RAMP "F")

STA. 2046+62 TO STA. 2051+00 (RT. OF RT. LANES @ RAMP "G")



RUBBLIZE AND OVERLAY ACCELERATION LANE

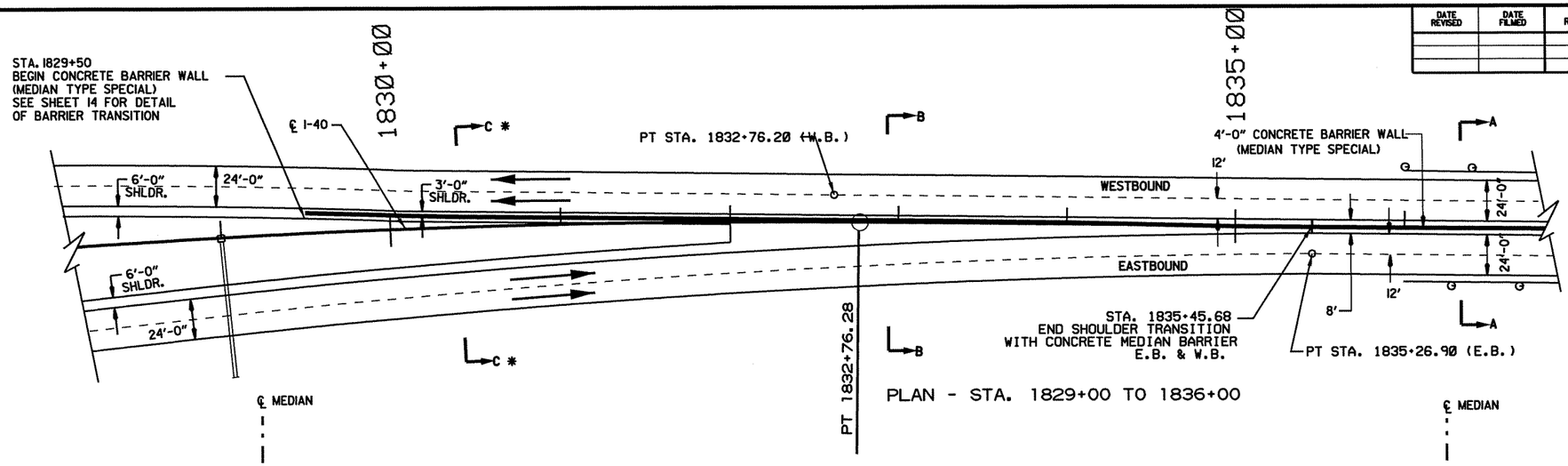
NOTE:
DIMENSIONS VARY THROUGH EXISTING & PROPOSED TAPERS.

STA. 1840+80 TO STA. 1844+77.92 (LT. OF LT. LANES @ REST AREA)
STA. 2014+00 TO STA. 2019+71.90 (LT. OF LT. LANES @ RAMP "F")

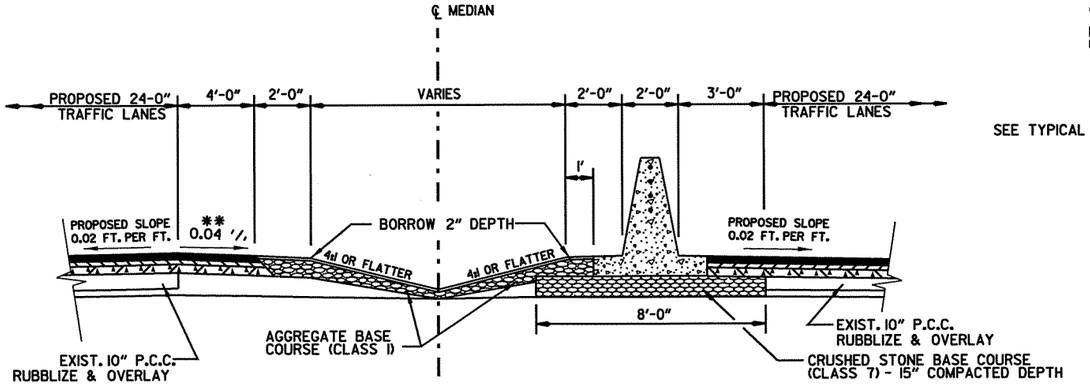
STA. 1857+25.16 TO STA. 1865+37.96 (RT. OF RT. LANES @ REST AREA)
STA. 2036+00 TO STA. 2046+62 (RT. OF RT. LANES @ RAMP "G")

02-22-02

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.		061187	13	165
				(2) SPECIAL DETAILS				



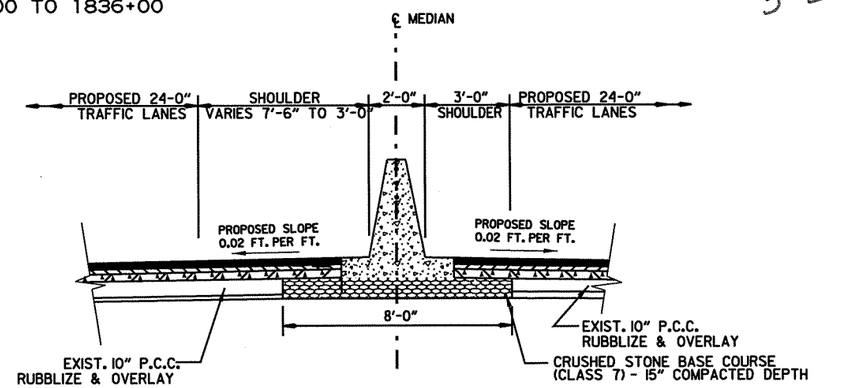
PLAN - STA. 1829+00 TO 1836+00



SECTION C - C
(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1829+50.00 TO STA. 1832+00.00 RT. OF LT. LANES
STA. 1979+26.25 TO STA. 1990+00.00 LT. OF RT. LANES

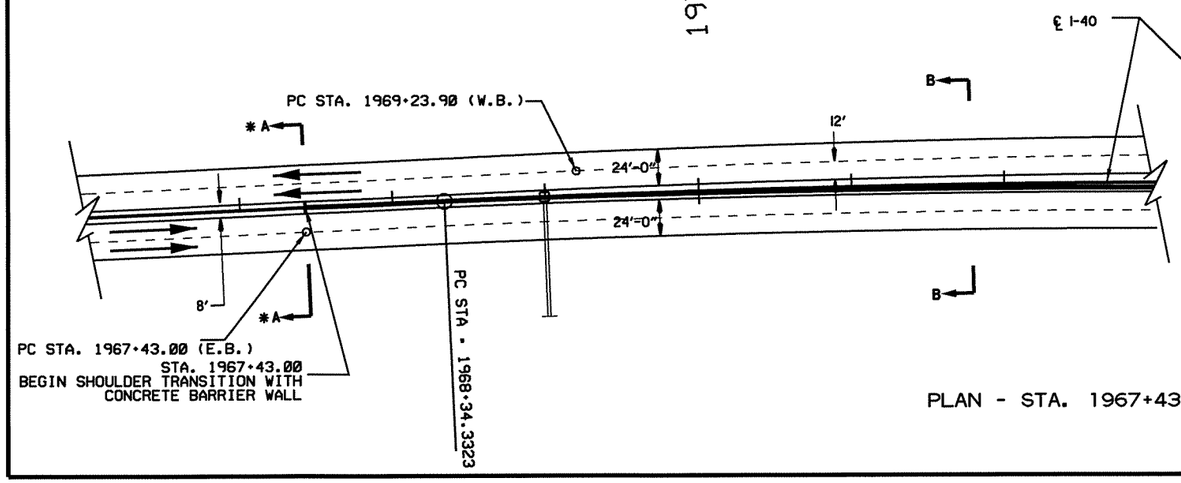
SEE TYPICAL SECTIONS FOR PAVEMENT COURSES.

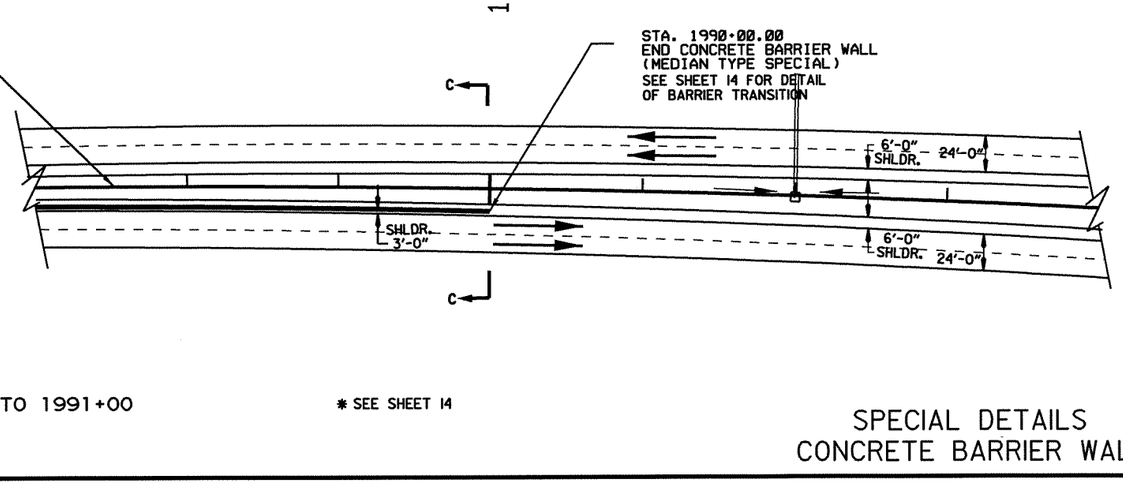


SECTION B - B
(SHOWN IN DIRECTION OF TRAFFIC)

STA. 1832+00.00 TO STA. 1835+45.68 (FOR LT. MAIN LANES)
STA. 1967+43.00 TO STA. 1979+26.25 (FOR RT. MAIN LANES)

** NOTE: LEVELING TO BE USED AS DIRECTED BY THE ENGINEER TO TRANSITION SLOPE FROM 0.04 '/' TO 0.02 '/' AS SHOWN IN SECTION B-B.





PLAN - STA. 1967+43 TO 1991+00

* SEE SHEET 14

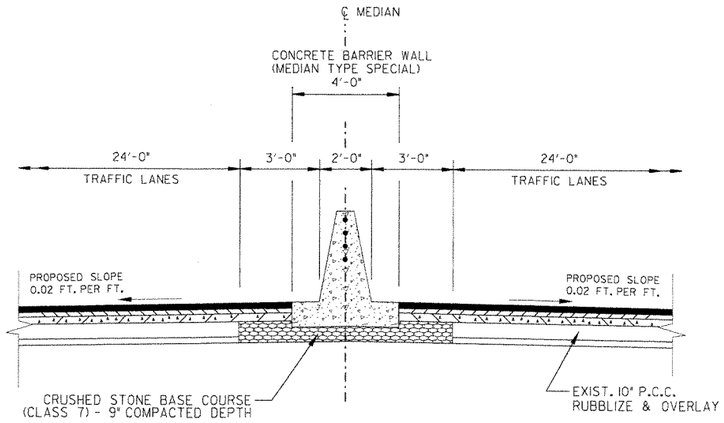
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11

02-22-02 I40 east.dgn

SPECIAL DETAILS
CONCRETE BARRIER WALL

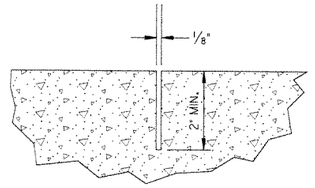
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	14	165

(2) SPECIAL DETAILS

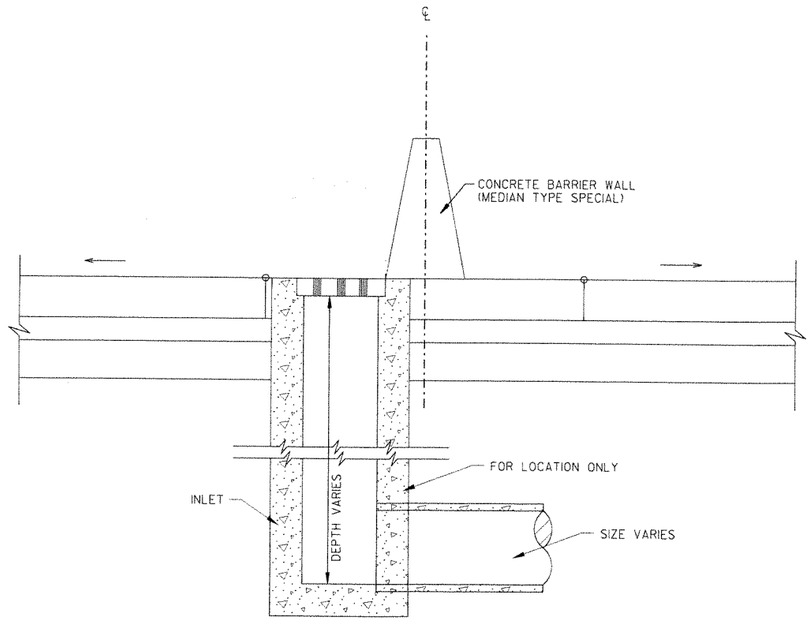


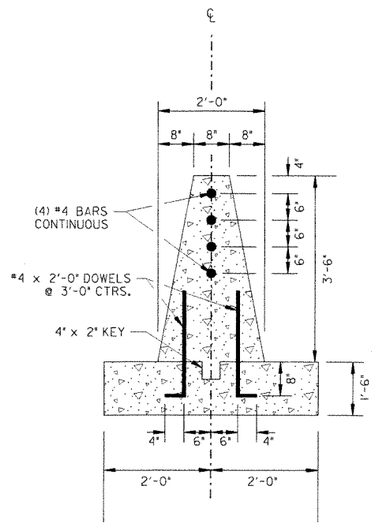
SECTION A - A
SEE SHEET 13

STA.1835+45.68 TO STA. 1967+43.00



CONTRACTION JOINT DETAIL



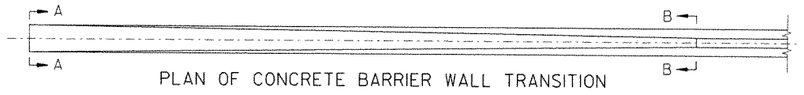


CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)
SECTION A-A

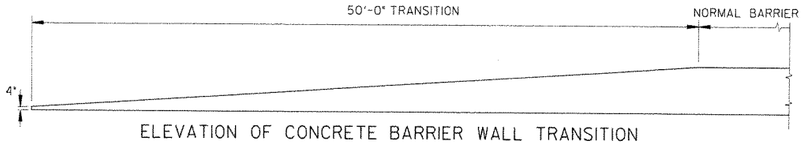
NOTE: SEE BRIDGE PLANS FOR DETAIL TO TRANSITION CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL) TO EXISTING BARRIER WALL AT BRIDGE ENDS

NOTES FOR BARRIER WALL

1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF BARRIER WALL AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONSTRUCTION JOINTS ARE PERMITTED AT 15'-0" MINIMUM SPACING.
4. CONTRACTION JOINTS AND CONSTRUCTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
5. BARRIER TRANSITION WILL BE MEASURED AND PAID FOR AS "CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)."
6. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.



PLAN OF CONCRETE BARRIER WALL TRANSITION



ELEVATION OF CONCRETE BARRIER WALL TRANSITION

DROP INLET TYPE ST

STA.1969+00.00 (MODIFY EXISTING)
STA.1970+11.41
STA.1975+00.00 (MODIFY EXISTING)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

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.		061187	15	165

(2) SPECIAL DETAILS

NOTES FOR PIPE UNDERDRAINS

1. 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.

2. 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." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

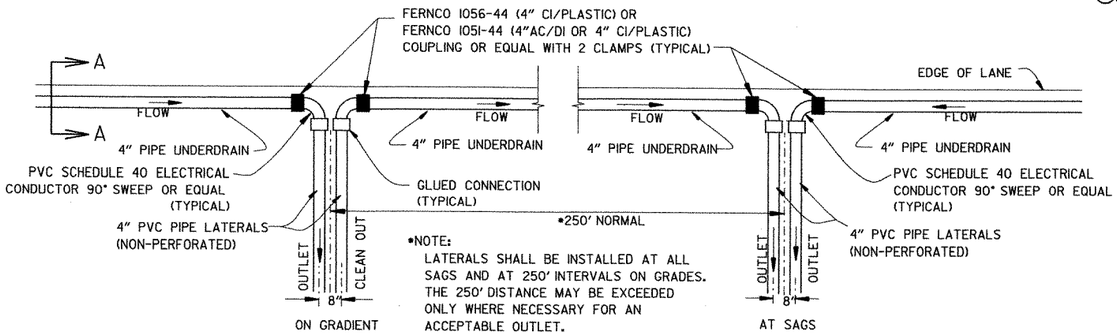
3. 4" PIPE UNDERDRAINS SHALL BE PLACED ON THE LOW SIDE OF SUPERELEVATED ROADWAYS AS SHOWN ON THE TYPICAL SECTIONS. 4" PIPE UNDERDRAINS SHALL BE CONNECTED TO MEDIAN DROP INLETS WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE 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. THE RODENT SCREEN SHOWN HEREON SHALL BE USED IN LIEU OF THE RODENT SCREEN SHOWN ON STANDARD DRAWING PU-1. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. 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 INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

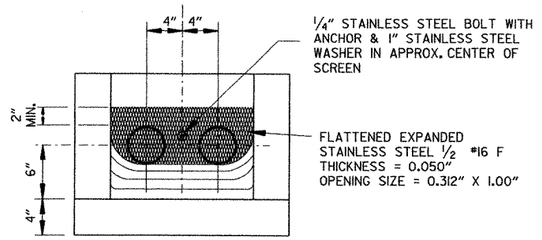
7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED, THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1.) INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2.) INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE. PAYMENT SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."



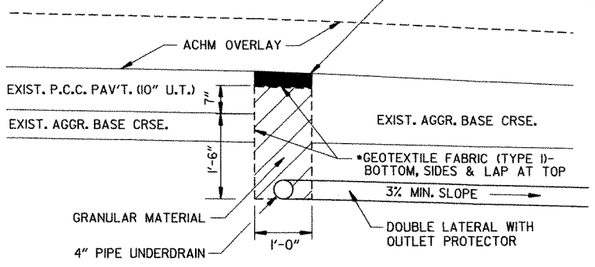
*NOTE:
LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250' INTERVALS ON GRADES. THE 250' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

PLAN DETAIL OF PIPE UNDERDRAIN LATERALS
STA. 1616+14.50 TO STA. 2188+93.90

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 *5.)



DETAIL OF RODENT SCREEN



SECTION A-A

FOR WIDTH OF EXISTING SHOULDER, TRENCH FOR LATERALS SHALL BE BACKFILLED WITH GRANULAR MATERIAL OR AGGREGATE BASE COURSE (CLASS 7). PAYMENT SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

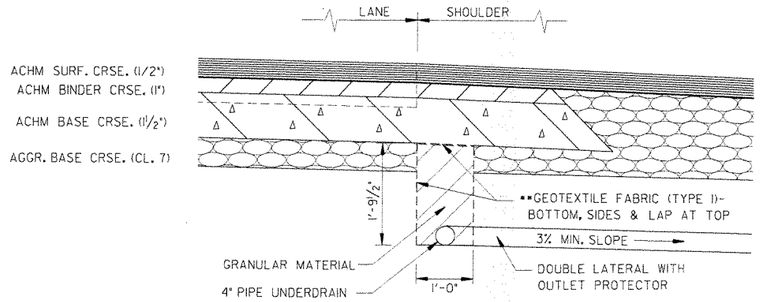
*NOTE: IN LIEU OF LAPPING GEOTEXTILE FABRIC, THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, UTILIZE AN ALTERNATE METHOD FOR PROVIDING A POSITIVE CLOSURE.

PART 1	STA. 1623+75.00 TO STA. 1679+21.60 LT. OF LT. MAIN LANES STA. 1679+07.07 TO STA. 1799+00.80 LT. OF LT. MAIN LANES STA. 1798+46.50 TO STA. 1810+92.71 LT. OF LT. MAIN LANES STA. 1810+92.71 TO STA. 1823+00.00 RT. OF LT. MAIN LANES	STA. 1623+75.00 TO STA. 1679+21.60 RT. OF RT. MAIN LANES STA. 1679+07.07 TO STA. 1679+75.91 RT. OF RT. MAIN LANES STA. 1679+75.91 TO STA. 1703+24.98 LT. OF RT. MAIN LANES STA. 1703+24.98 TO STA. 1770+86.60 RT. OF RT. MAIN LANES STA. 1770+86.60 TO STA. 1799+00.8 LT. OF RT. MAIN LANES STA. 1798+46.50 TO STA. 1799+34.00 LT. OF RT. MAIN LANES STA. 1799+34.00 TO STA. 1823+00.00 RT. OF RT. MAIN LANES
PART 2	STA. 1823+00.00 TO STA. 1831+23.29 RT. OF LT. MAIN LANES STA. 1831+23.29 TO STA. 1865+37.96 LT. OF LT. MAIN LANES STA. 1920+08.00 TO STA. 1951+76.92 LT. OF LT. MAIN LANES STA. 1956+63.09 TO STA. 1968+36.41 LT. OF LT. MAIN LANES STA. 1974+00.00 TO STA. 2004+46.97 RT. OF LT. MAIN LANES STA. 2004+46.97 TO STA. 2006+50.00 LT. OF LT. MAIN LANES	STA. 1823+00.00 TO STA. 1865+37.96 RT. OF RT. MAIN LANES STA. 1920+08.00 TO STA. 1951+76.92 RT. OF RT. MAIN LANES STA. 1956+63.09 TO STA. 2012+00.00 RT. OF RT. MAIN LANES
PART 3	STA. 2014+00.00 TO STA. 2188+57.40 LT. OF LT. MAIN LANES	STA. 2012+00.00 TO STA. 2046+62.00 RT. OF RT. MAIN LANES STA. 2051+00.00 TO STA. 2122+62.43 RT. OF RT. MAIN LANES STA. 2122+62.43 TO STA. 2150+71.16 LT. OF RT. MAIN LANES STA. 2150+71.16 TO STA. 2188+57.40 RT. OF RT. MAIN LANES

SPECIAL DETAILS

02-22-02 140 east.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.		061187	16	165
				(2)	SPECIAL DETAILS			



SECTION A-A W/ FULL DEPTH RECONSTRUCTION

PART 1

STA. 1616+26.75 TO STA. 1623+75.00 LT. OF LT. MAIN LANES

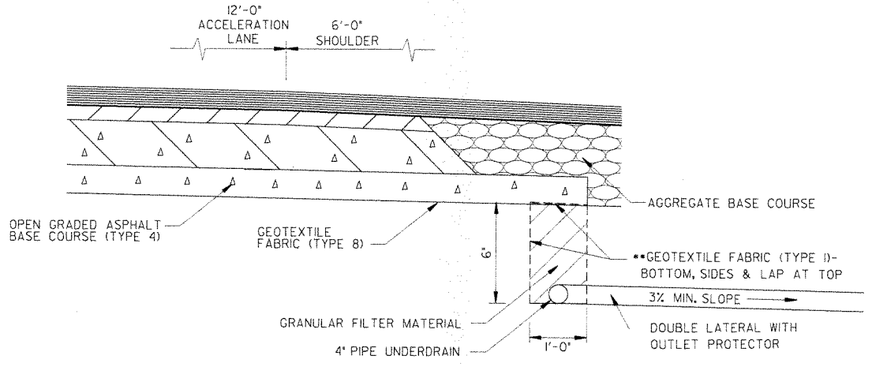
STA. 1616+75.25 TO STA. 1623+75.00 RT. OF RT. MAIN LANES

PART 2

STA. 1868+65.13 TO STA. 1883+03.25 LT. OF LT. MAIN LANES
STA. 1910+76.75 TO STA. 1920+08.00 LT. OF LT. MAIN LANES
STA. 1968+36.41 TO STA. 1974+00.00 RT. OF LT. MAIN LANES

STA. 1868+65.13 TO STA. 1883+03.25 RT. OF RT. MAIN LANES
STA. 1910+76.75 TO STA. 1920+08.00 RT. OF RT. MAIN LANES

**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.



SECTION A-A W/ AUXILIARY LANE CONSTRUCTION

PART 2

STA. 2006+50.00 TO STA. 2012+00.00 LT. OF LT. MAIN LANES

PART 3

STA. 2012+00.00 TO STA. 2014+00.00 LT. OF LT. MAIN LANES

STA. 2046+62.00 TO STA. 2051+00.00 RT. OF RT. MAIN LANES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9702 MICHAEL BIGGS 3/21/02

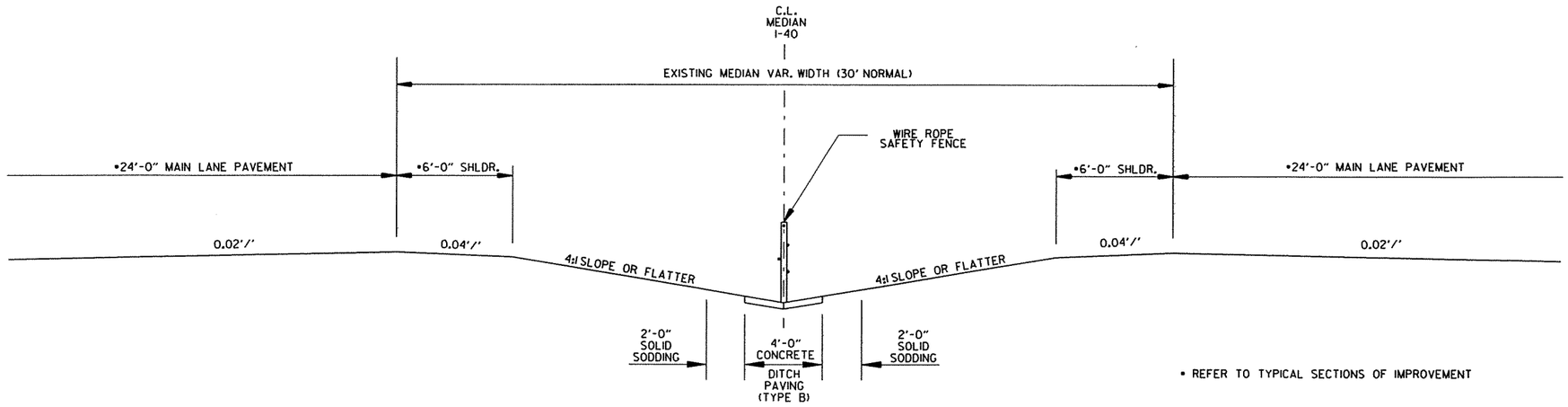
02-22-02 I40 east.dgn

SPECIAL DETAILS

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				6	ARK.			
				JOB NO.		061187	16A	165

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11



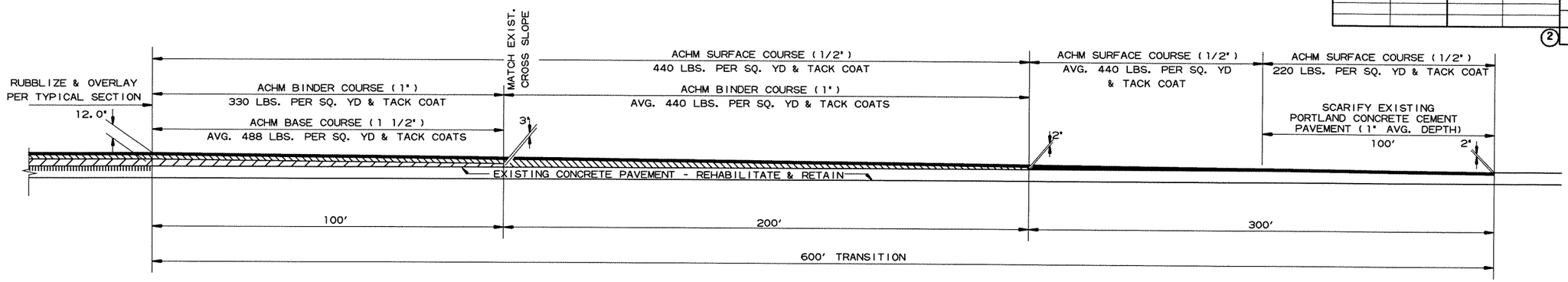
• REFER TO TYPICAL SECTIONS OF IMPROVEMENT

WIRE ROPE SAFETY FENCE DETAIL

SPECIAL DETAILS

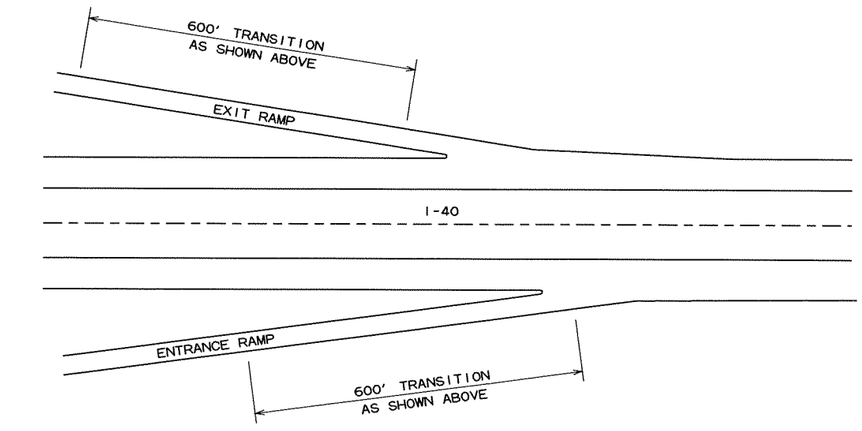
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(2) SPECIAL DETAILS

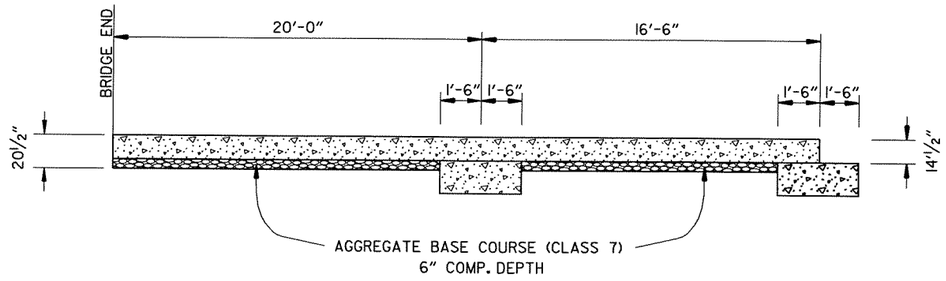


PAVING TRANSITION AT INTERCHANGE RAMPS

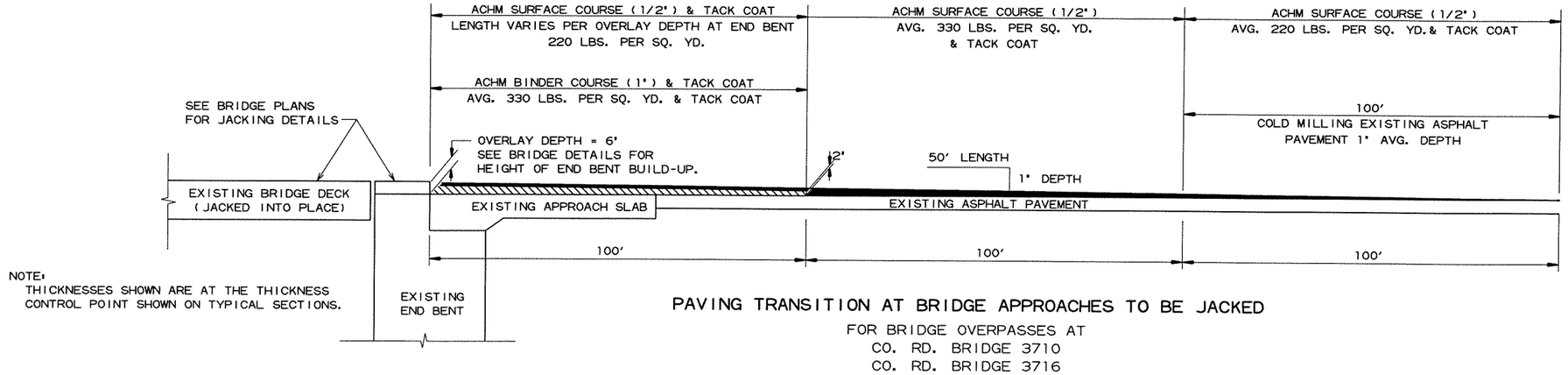
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11



PLAN OF PAVING TRANSITION AT RAMPS



SECTION OF APPROACH SLAB



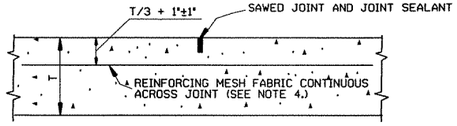
NOTE:
THICKNESSES SHOWN ARE AT THE THICKNESS CONTROL POINT SHOWN ON TYPICAL SECTIONS.

PAVING TRANSITION AT BRIDGE APPROACHES TO BE JACKED

FOR BRIDGE OVERPASSES AT
CO. RD. BRIDGE 3710
CO. RD. BRIDGE 3716

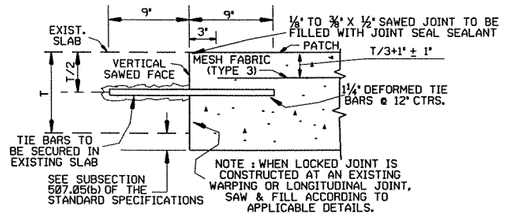
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(2) SPECIAL DETAILS

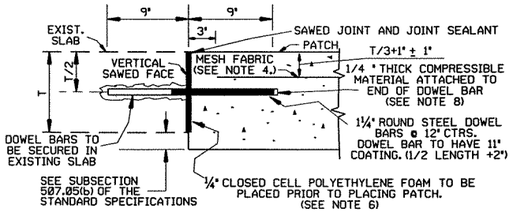


SECTION B-B

WARPING JOINT

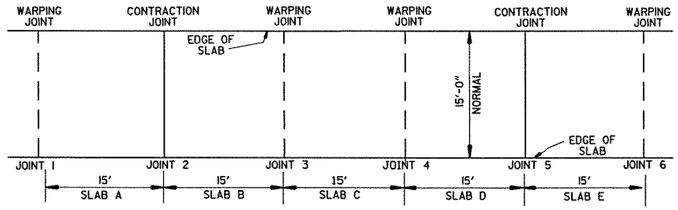


SECTION D-D



SECTION E-E

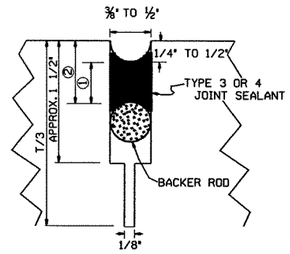
FREE TRANSVERSE JOINT



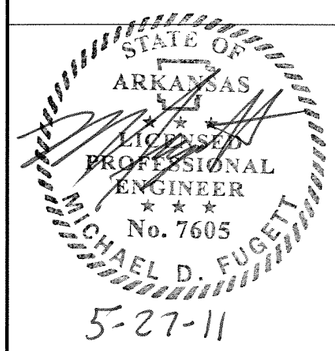
PLAN OF PAVEMENT REPAIR
(FULL SLABS)

TYPICAL SLAB REPLACEMENT EXAMPLES

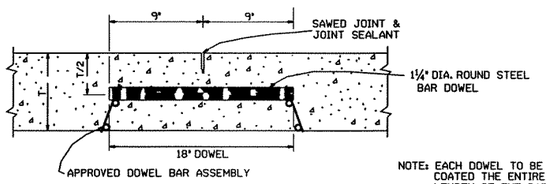
SLAB(S) TO BE RECONSTRUCTED	TYPE OF JOINT TO BE CONSTRUCTED					
	JOINT 1	JOINT 2	JOINT 3	JOINT 4	JOINT 5	JOINT 6
A OR D	LOCKED	FREE		LOCKED	FREE	
B OR E		FREE	LOCKED		FREE	LOCKED
A & B OR D & E	LOCKED	CONTRACTION	LOCKED	LOCKED	CONTRACTION	LOCKED
B & C		FREE	WARPING	LOCKED		
B, C & D		FREE	WARPING	WARPING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



DETAIL OF SAWED CONTRACTION JOINT

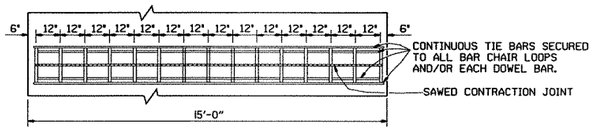


5-27-11



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

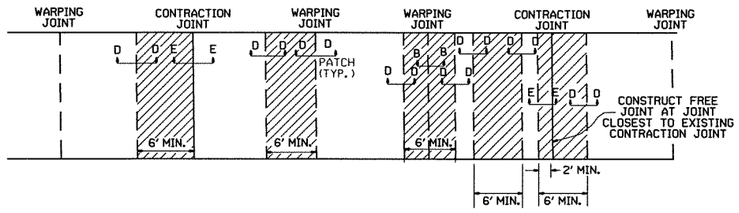
SECTION C-C



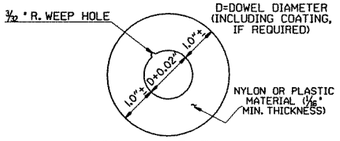
15' PAVEMENT
15 DOWELS
PLAN - CONTRACTION JOINT

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



PLAN OF PAVEMENT REPAIR
(PARTIAL SLABS)



DETAIL OF EPOXY
RETENTION DISK

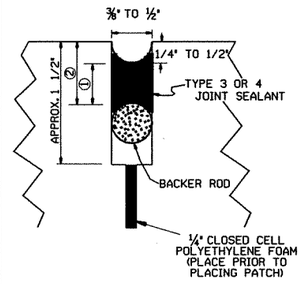
NOTE: EPOXY RETENTION DISK SHALL BE SLIPPED TIGHTLY OVER TIE BARS AND FIRMLY AGAINST THE SLAB FACE AFTER INSERTING TIE BAR AND EPOXY INTO HOLE

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

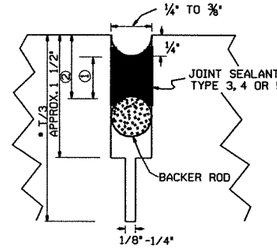
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	⅝	½

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



DETAIL OF SAWED FREE
TRANSVERSE JOINT



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

DETAIL OF SAWED WARPING JOINT

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.

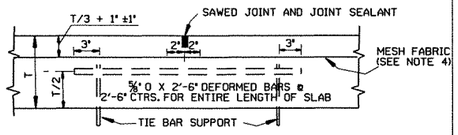
DETAILS OF PORTLAND CEMENT CONCRETE PAVEMENT PATCHING FOR RAMPS

3R.KEP

6-6-97

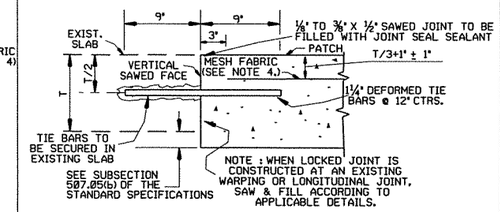
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	19	165

(2) SPECIAL DETAILS



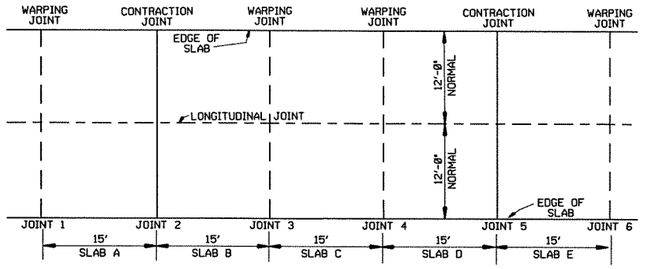
SECTION A-A

TIED LONGITUDINAL JOINT



SECTION D-D

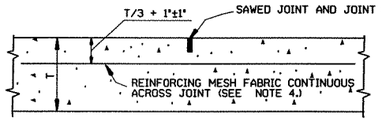
LOCKED JOINT



PLAN OF PAVEMENT REPAIR
(FULL SLABS)

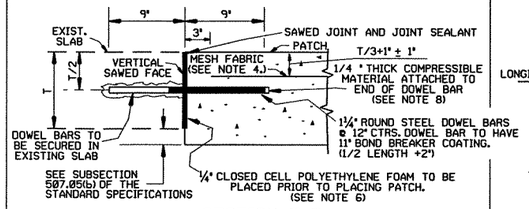
TYPICAL SLAB REPLACEMENT EXAMPLES

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		



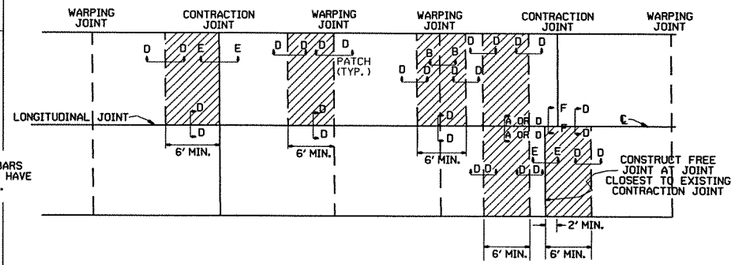
SECTION B-B

WARPING JOINT



SECTION E-E

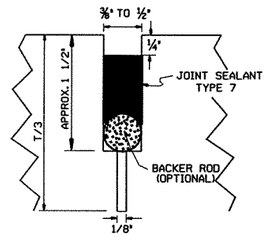
FREE TRANSVERSE JOINT



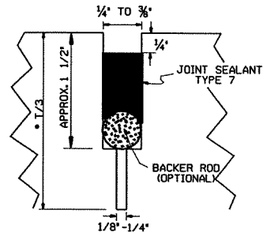
PLAN OF PAVEMENT REPAIR
(PARTIAL SLABS)

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. 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.

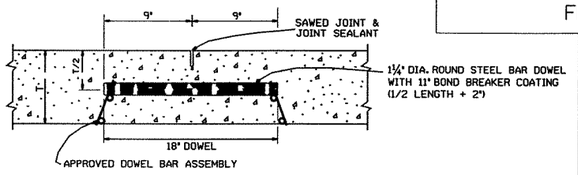


DETAIL OF SAWED CONTRACTION JOINT

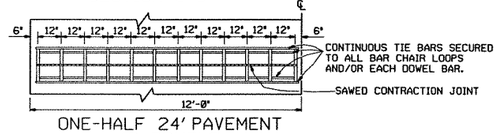


*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED
TIED LONGITUDINAL JOINT
AND WARPING JOINT



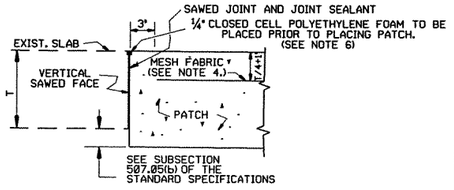
SECTION C-C



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

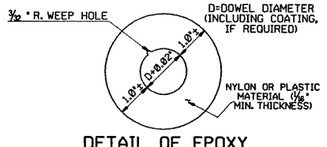
NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 26' PAVEMENT USE 26 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST 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



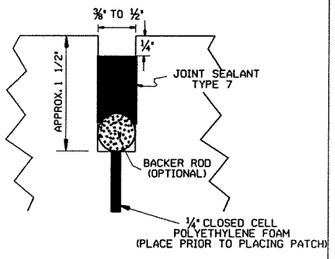
SECTION F-F

FREE LONGITUDINAL JOINT

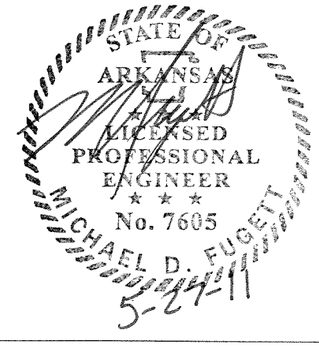


DETAIL OF EPOXY
RETENTION DISK

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



DETAIL OF SAWED FREE TRANSVERSE &
FREE LONGITUDINAL JOINT



DETAILS OF PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (MAIN LANES)

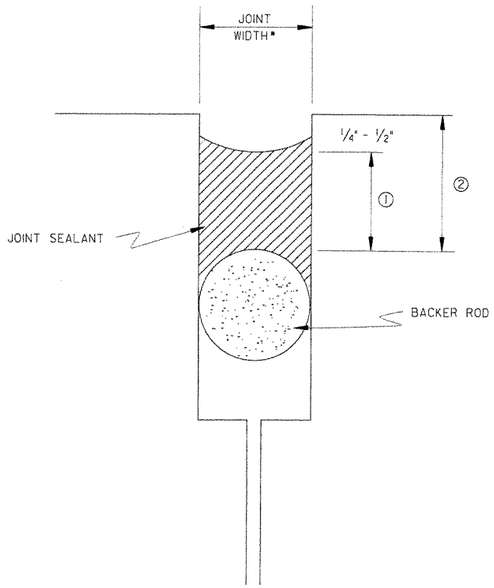
3R.KEP

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.		061187	20	165
				(2)	SPECIAL DETAILS			

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	5/16
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.

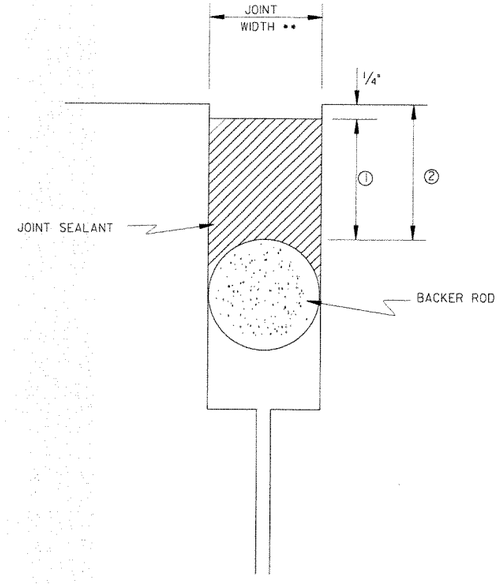


* CONTRACTION JOINTS SHALL BE SAWED TO MIN. WIDTH OF 3/8 ". WARPING & LONGITUDINAL JOINTS SHALL BE SAWED TO MIN. WIDTH OF EXISTING WIDTH + 1/8 " (1/16" ON EACH SIDE).

DETAILS OF TYPE A OR TYPE B JOINT REHABILITATION

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 1/4
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 +



** 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.

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

DETAILS OF TYPE B JOINT REHABILITATION

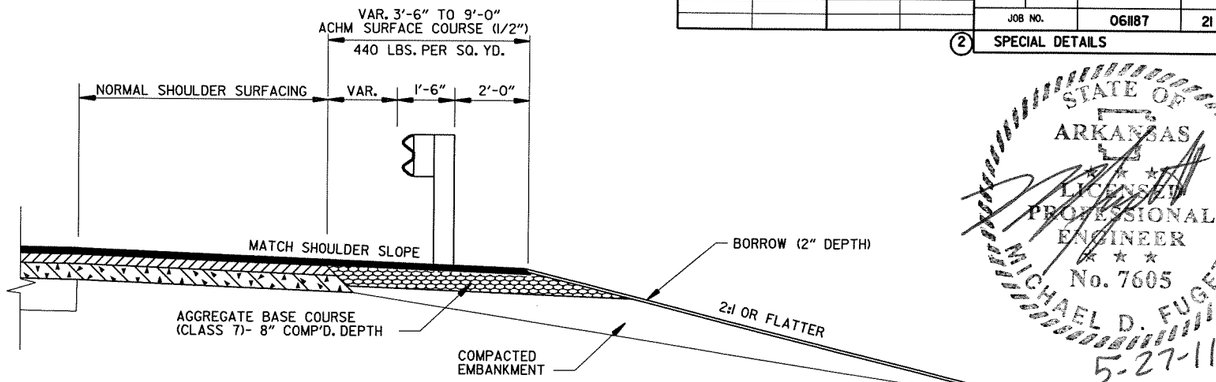
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9702 MICHAEL BIGGS 2/21/02

SPECIAL DETAILS

02-22-02 I40 east.dgn

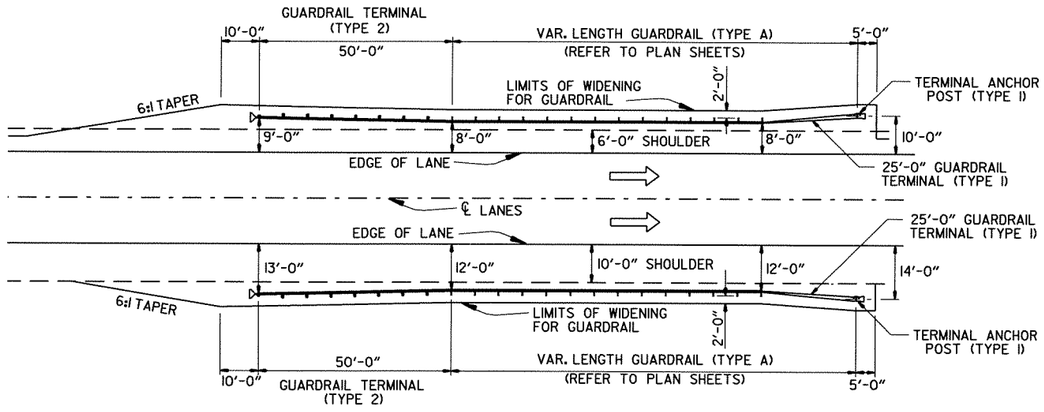
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				6	ARK.			
				JOB NO.		061187	21	165

(2) SPECIAL DETAILS



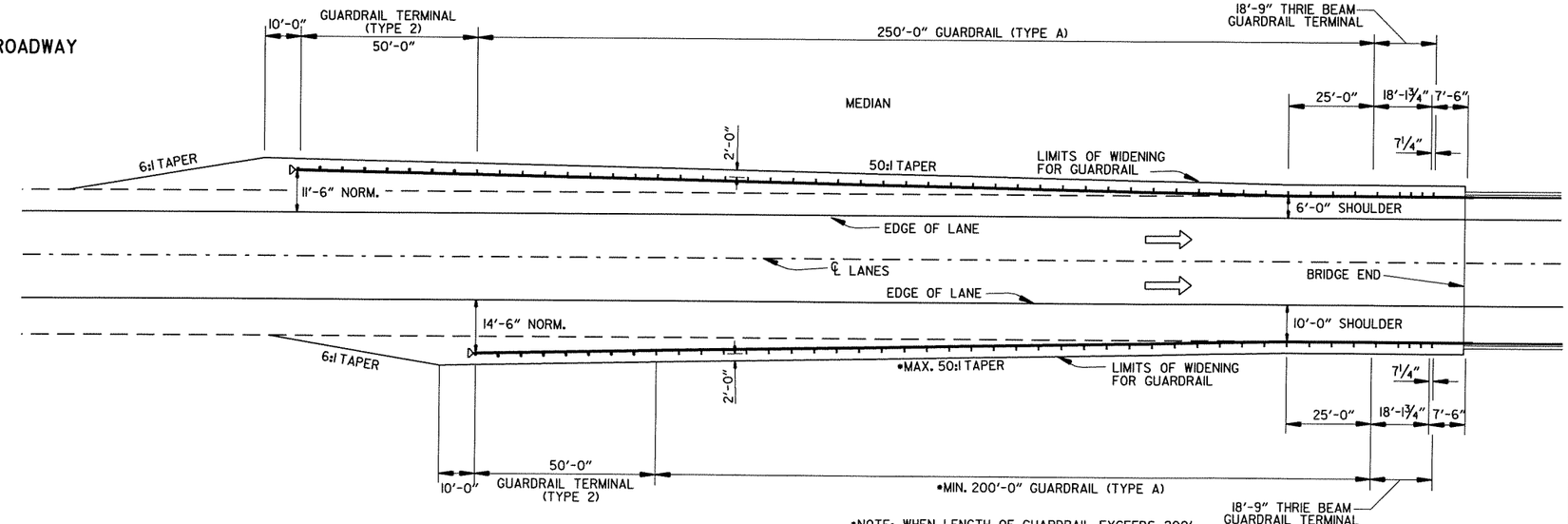
SECTION DETAIL OF WIDENING FOR GUARDRAIL

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 BELOW FOR RIGHT SIDE OF BRIDGE.



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

TYPICAL LAYOUT OF GUARDRAIL AT BRIDGE ENDS

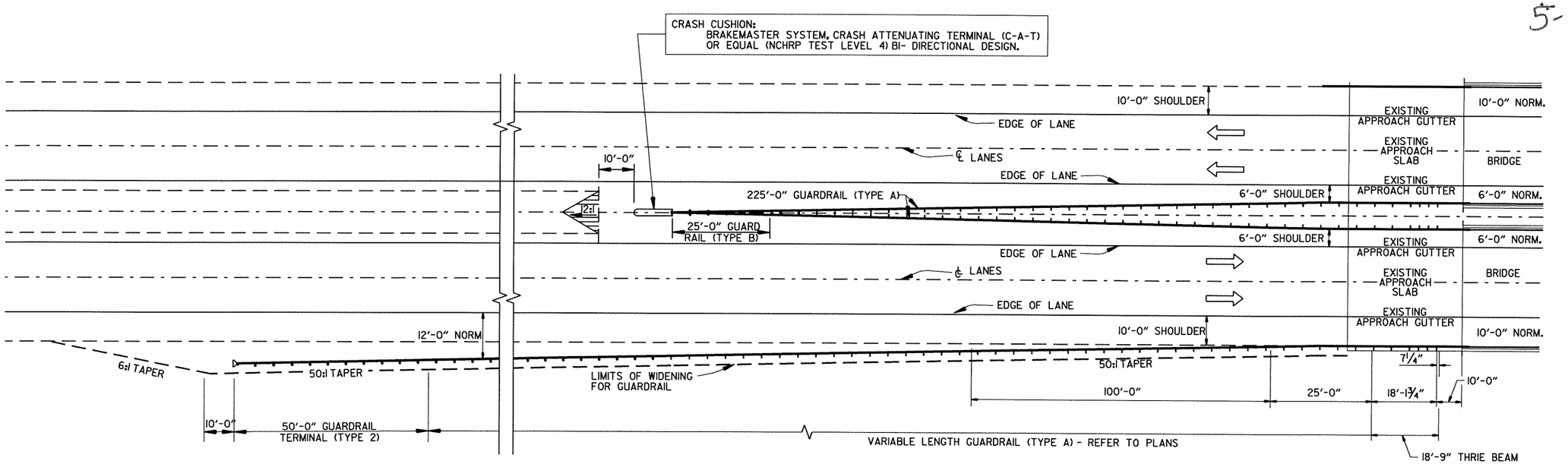
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11

02-22-02 140 east.dgn

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.		061187	22	165
				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11



TYPICAL LAYOUT OF GUARDRAIL AT BRIDGE ENDS

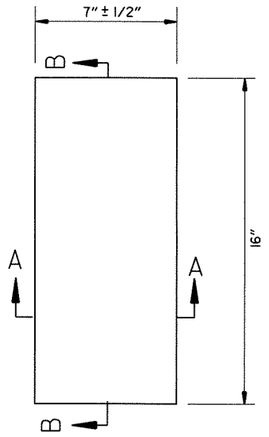
NOTES:

1. REFER TO STANDARD DRAWING GR-8, GR8A, GR-9, GR-9A, GR-10, GR-10A & GR-11 FOR ADDITIONAL INFORMATION
2. THESE DETAILS APPLY TO THE WEST END OF BRIDGES 3717A & B

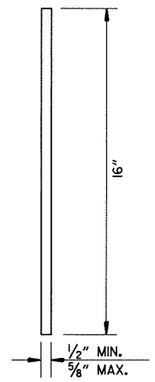
02-22-02 140 east.dgn

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.		061187	23	165

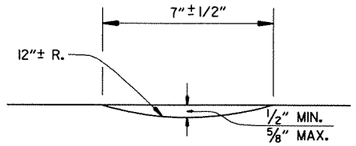
(2) SPECIAL DETAILS



PLAN

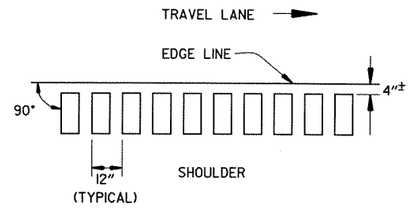


SECTION B-B



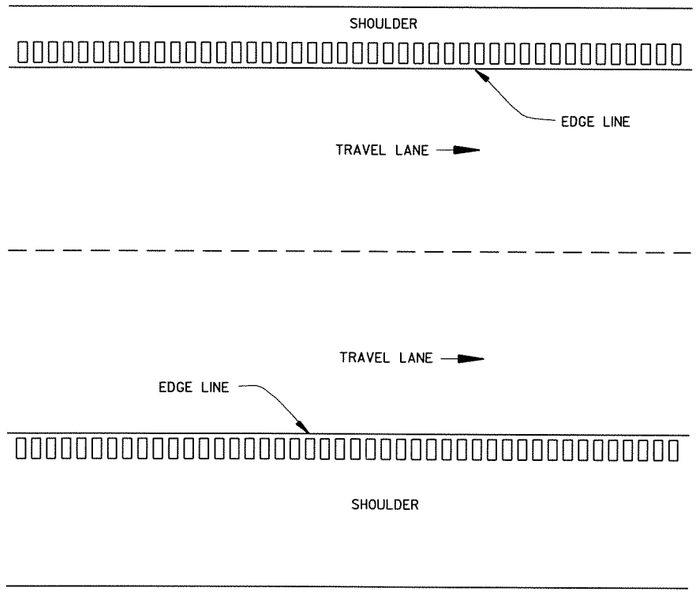
SECTION A-A

DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11



PLAN VIEW

NOTES:

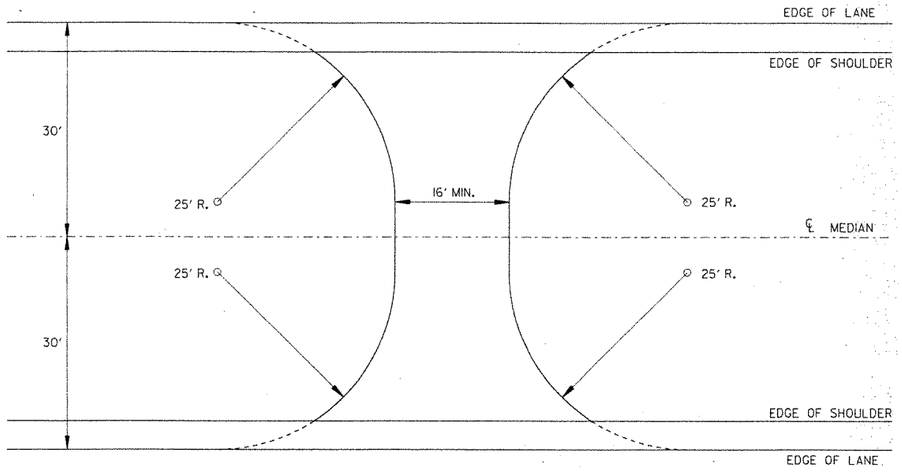
1. ALIGNMENT OF E.B. STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE.
2. THE 1/2" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. REFER TO SPECIAL PROVISION- "RUMBLE STRIPS" FOR ADDITIONAL INFORMATION.

02-22-02 140 east.dgn

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.		061187	24	165

(2) SPECIAL DETAILS



DETAIL OF MEDIAN CROSSING

NOTE: MEDIAN CROSSING TO BE CONSTRUCTED OF AGGREGATE BASE COURSE (CLASS 7)- 11½" COMPACTED DEPTH & ACHM SURFACE COURSE (½")- 220 LBS. PER SQ. YD.

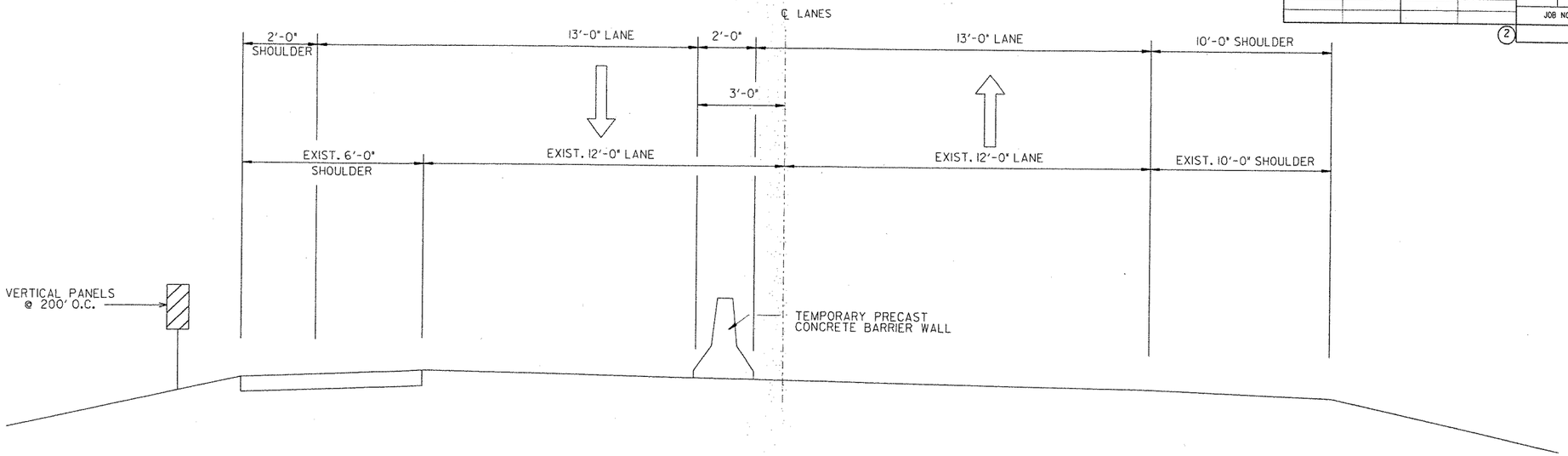
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

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SPECIAL DETAILS

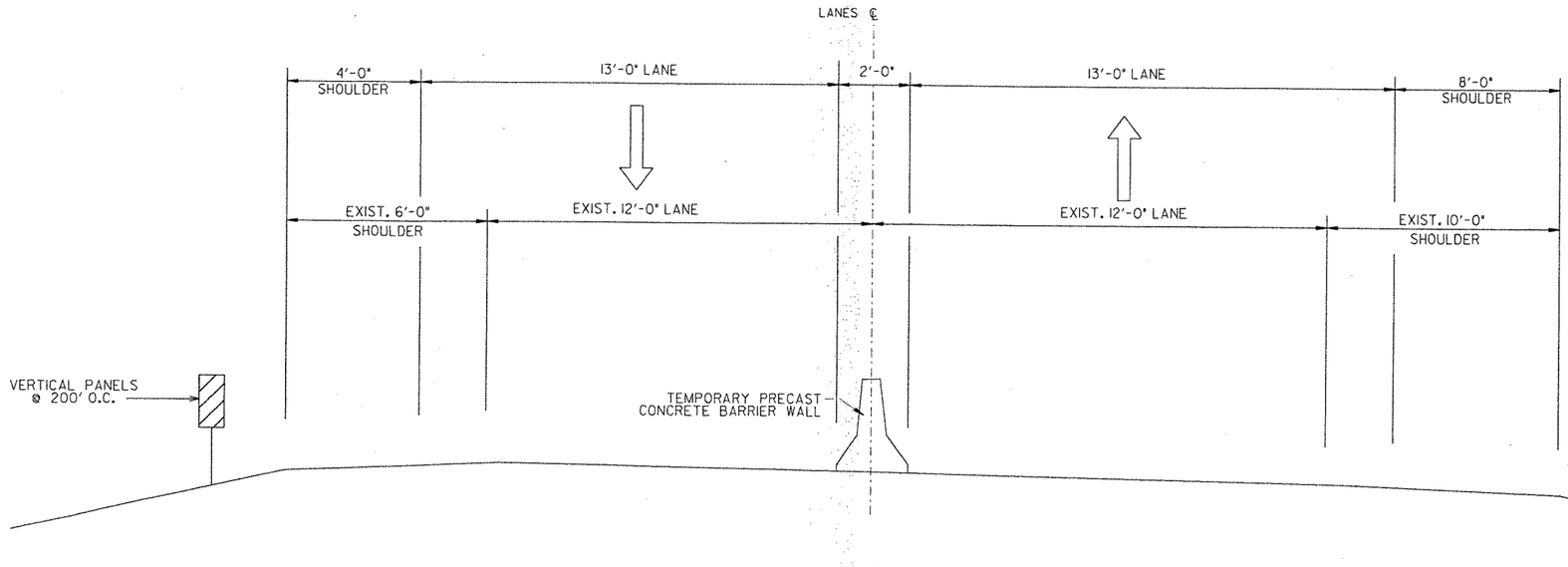
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	25	165

(2) SPECIAL DETAILS



(PART 1, 2, & 3)

LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL
FOR MAINTENANCE OF TRAFFIC- RT. MAIN LANES - STAGE II



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

(PART 1, 2, & 3)

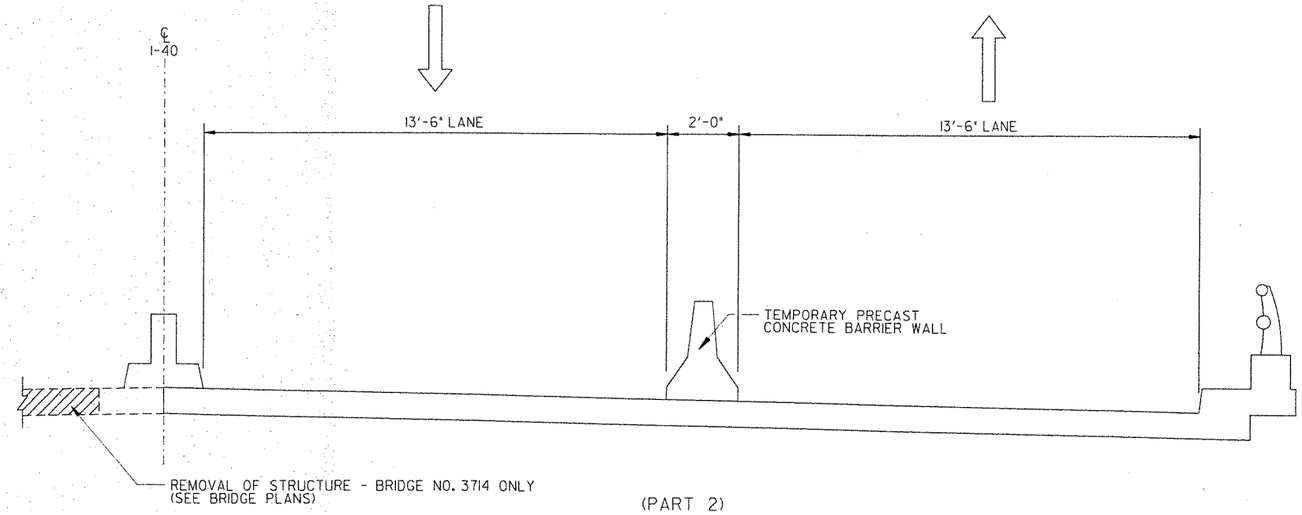
LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL
FOR MAINTENANCE OF TRAFFIC- LT. MAIN LANES - STAGE IV

02-22-02

PART 1, 2 & 3
MAINTENANCE OF TRAFFIC
SPECIAL DETAILS

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.		061187	26	165

(2) SPECIAL DETAILS



(PART 2)

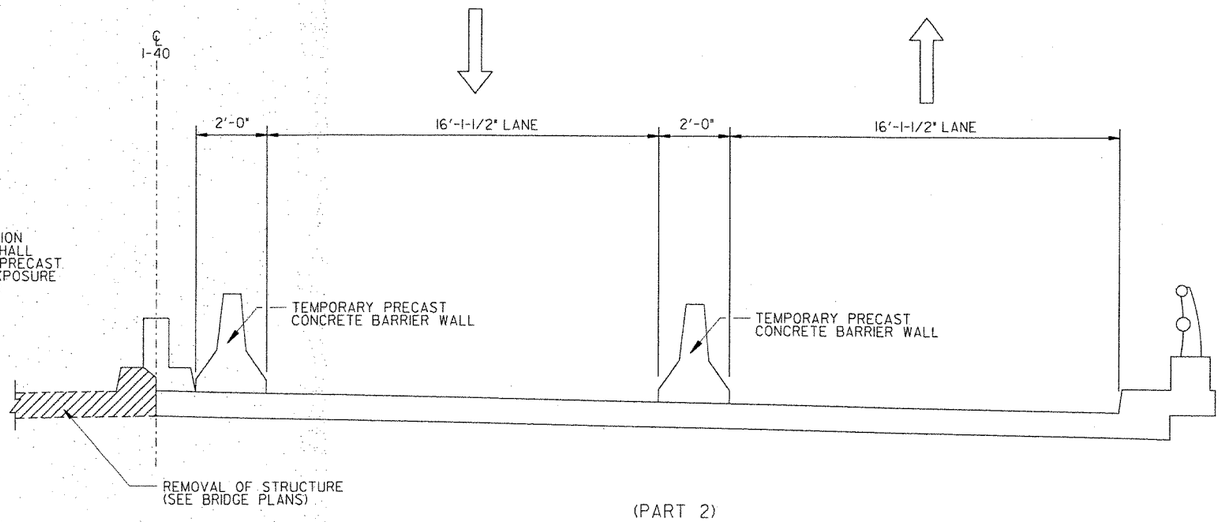
LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL FOR MAINTENANCE OF TRAFFIC RT. LANES-STAGE II

BRIDGE NO. 3714

BRIDGE NO. 3713 (SHOWN IN DIRECTION OF TRAFFIC - STAGES II & IV)

DENOTES REMOVAL OF STRUCTURE

NOTE: FOR STAGE II CONSTRUCTION, A SECTION OF THE EXISTING CONC. MEDIAN BARRIER SHALL BE REMOVED TO ALLOW THE TEMPORARY PRECAST CONC. BARRIER TO BE FLARED WITHOUT EXPOSURE TO ONCOMING TRAFFIC. SEE SHEET 34 FOR MAINTENANCE OF TRAFFIC DETAIL.



(PART 2)

LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL FOR MAINTENANCE OF TRAFFIC RT. LANES-STAGE II

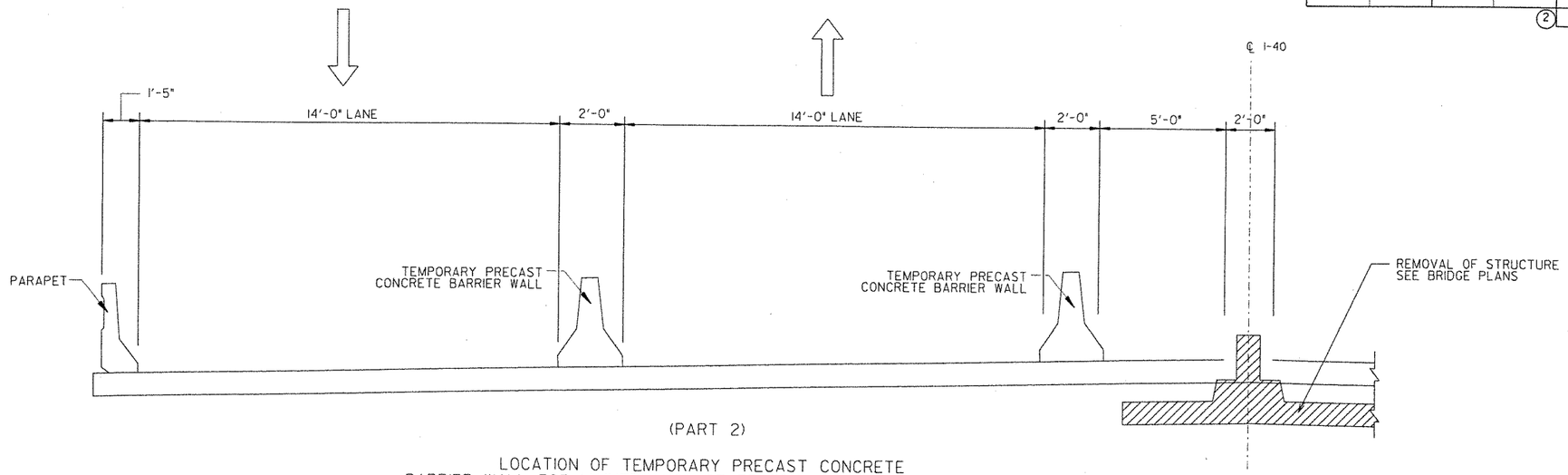
BRIDGE NO. 3712

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

02-22-02

PART 2
MAINTENANCE OF TRAFFIC
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.		061187	27	165
				(2)	SPECIAL DETAILS			

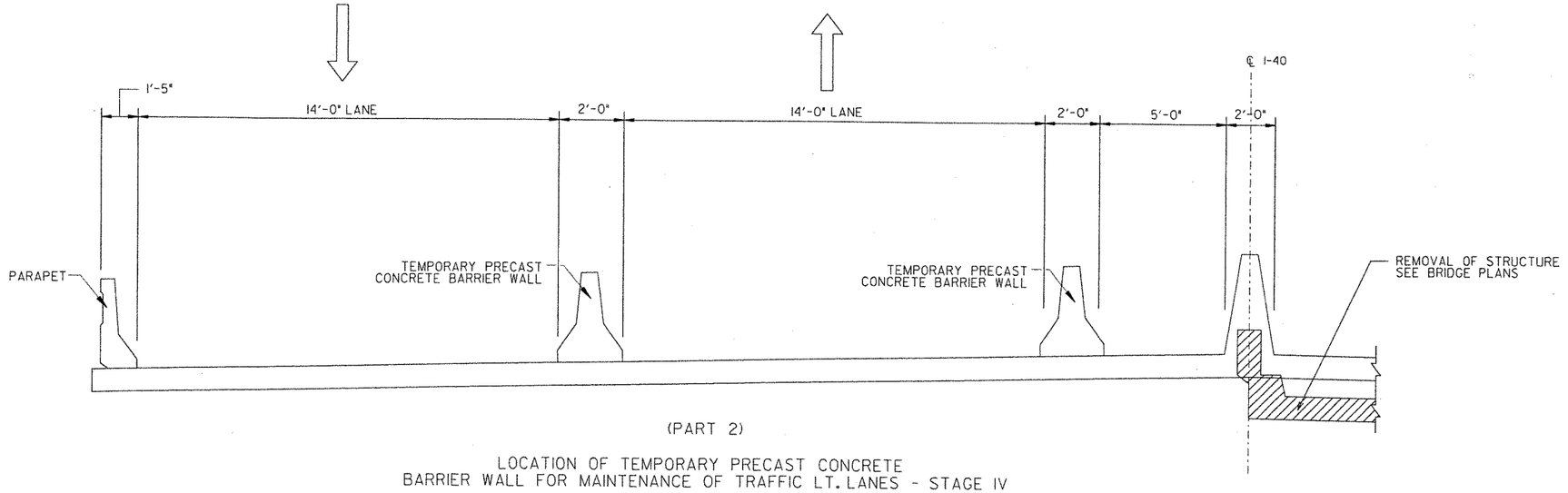


(PART 2)

LOCATION OF TEMPORARY PRECAST CONCRETE
BARRIER WALL FOR MAINTENANCE OF TRAFFIC LT. LANES - STAGE IV

BRIDGE NO. 3714

DENOTES REMOVAL OF STRUCTURE



(PART 2)

LOCATION OF TEMPORARY PRECAST CONCRETE
BARRIER WALL FOR MAINTENANCE OF TRAFFIC LT. LANES - STAGE IV

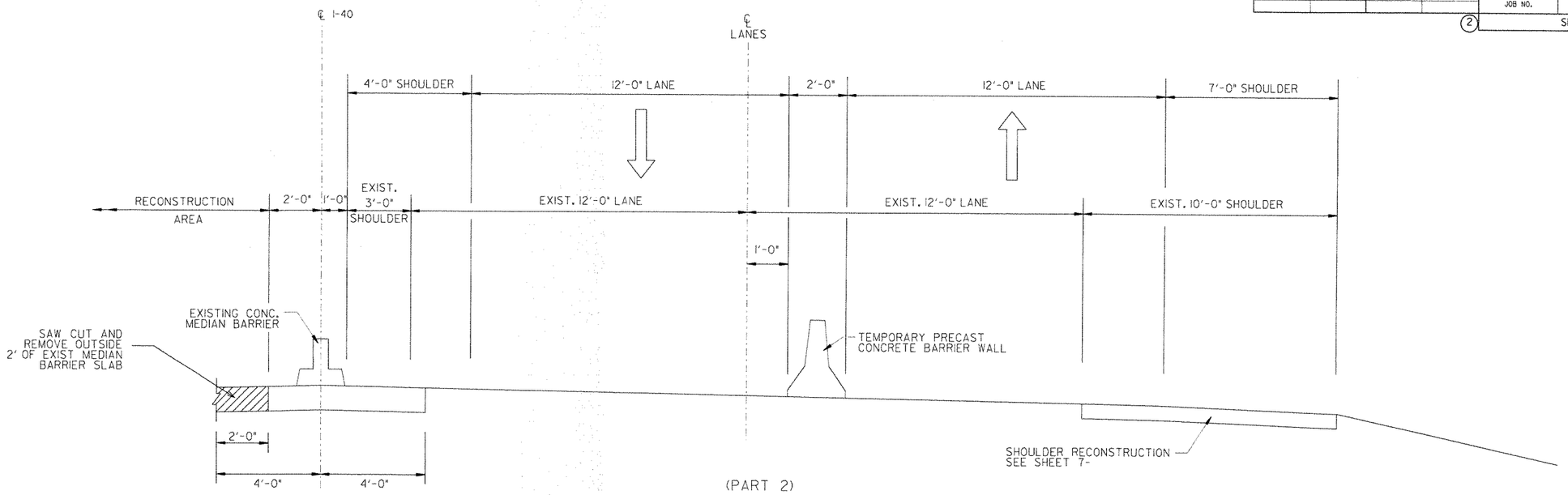
BRIDGE NO. 3712

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

02-22-02

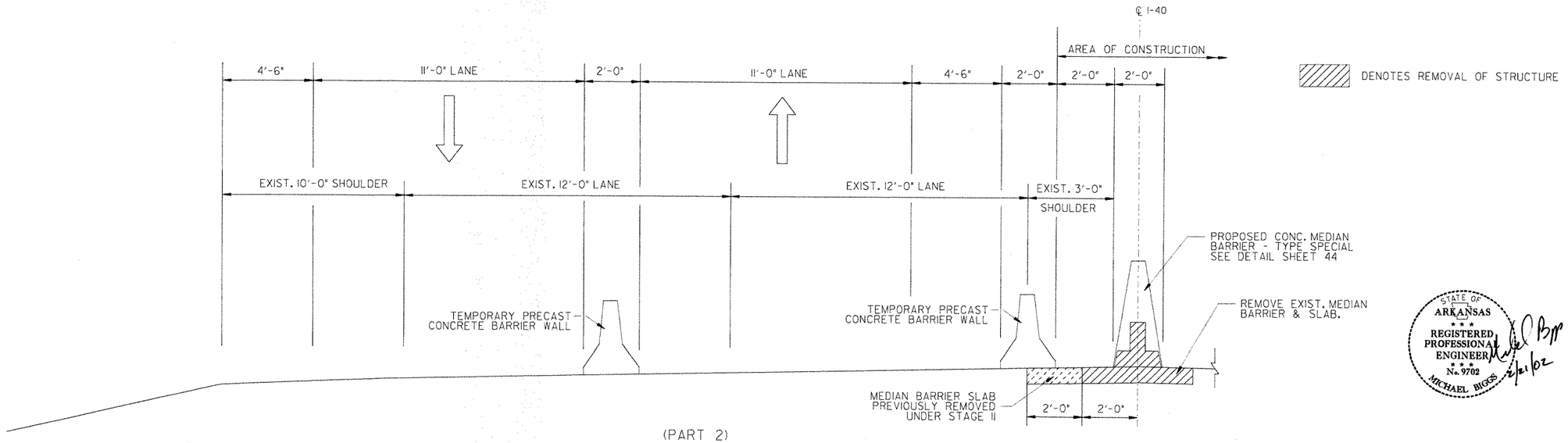
PART 2
MAINTENANCE OF TRAFFIC
SPECIAL DETAILS

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.		061187	28	165
				(2)	SPECIAL DETAILS			



(PART 2)

LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL
FOR MAINTENANCE OF TRAFFIC-RT. MAIN LANES - STAGE II



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

(PART 2)

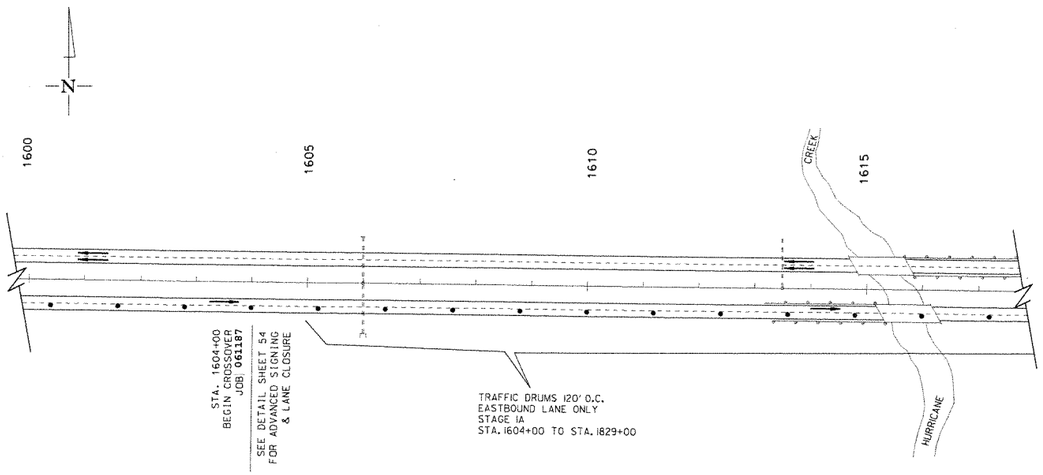
LOCATION OF TEMPORARY PRECAST CONCRETE BARRIER WALL
FOR MAINTENANCE OF TRAFFIC- LT. MAIN LANES - STAGE IV

02-22-02

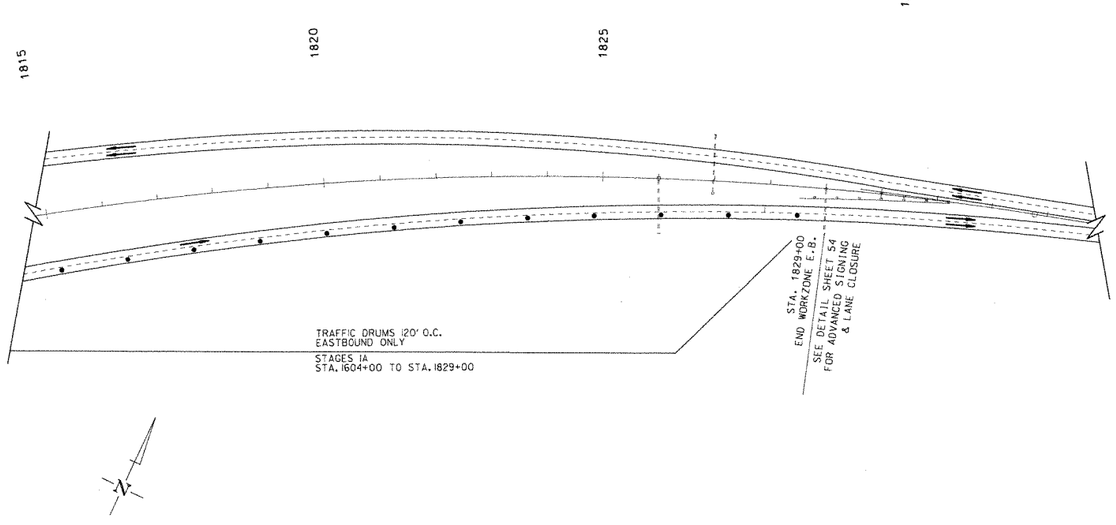
PART 2
MAINTENANCE OF TRAFFIC
SPECIAL DETAILS

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.		061187	29	165

(2) MAINTENANCE OF TRAFFIC



STAGE IA:
- PATCH OUTSIDE EASTBOUND LANE.



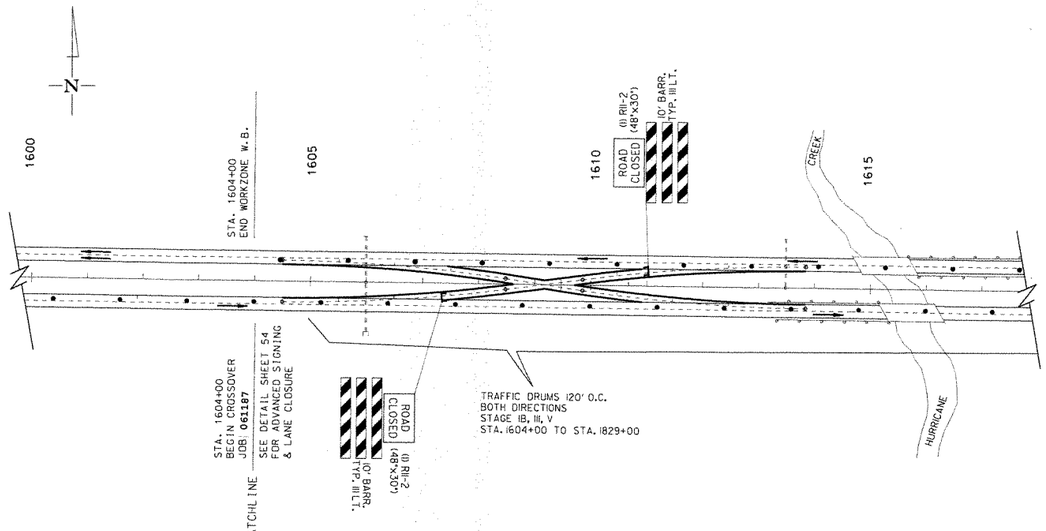
LINE WEIGHTS:
EXISTING ——————
CURRENT CONSTRUCTION ——————
FUTURE CONSTRUCTION - - - - -
REMOVE THIS PHASE — — — — —

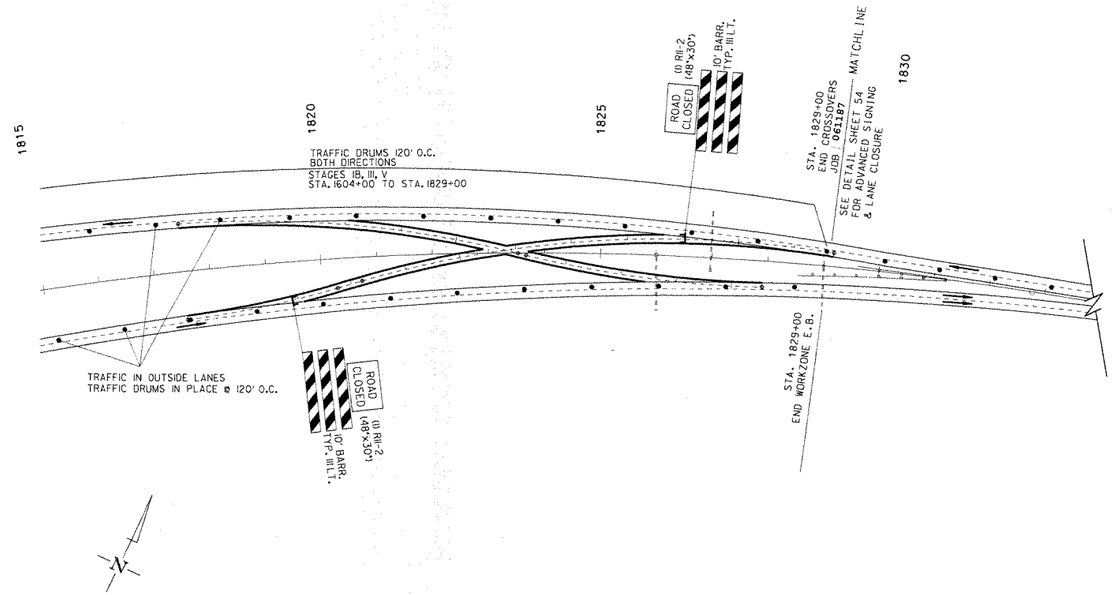
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
5/21/02

PART I
MAINTENANCE OF TRAFFIC
STAGE IA

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.		061187	30	165

(2) MAINTENANCE OF TRAFFIC





STAGE IB:
- RECONSTRUCT INSIDE EASTBOUND SHOULDER & CONSTRUCT CROSSOVER.
- PATCH INSIDE EASTBOUND LANE.

STAGE III:
- RELOCATE PRECAST CONCRETE BARRIER FROM EASTBOUND TO WESTBOUND LANES.

STAGE V:
- REMOVE PRECAST CONCRETE BARRIER.
- REMOVE CROSSOVER @ STA. 1609+00 & RESTORE PAVEMENT MARKING.

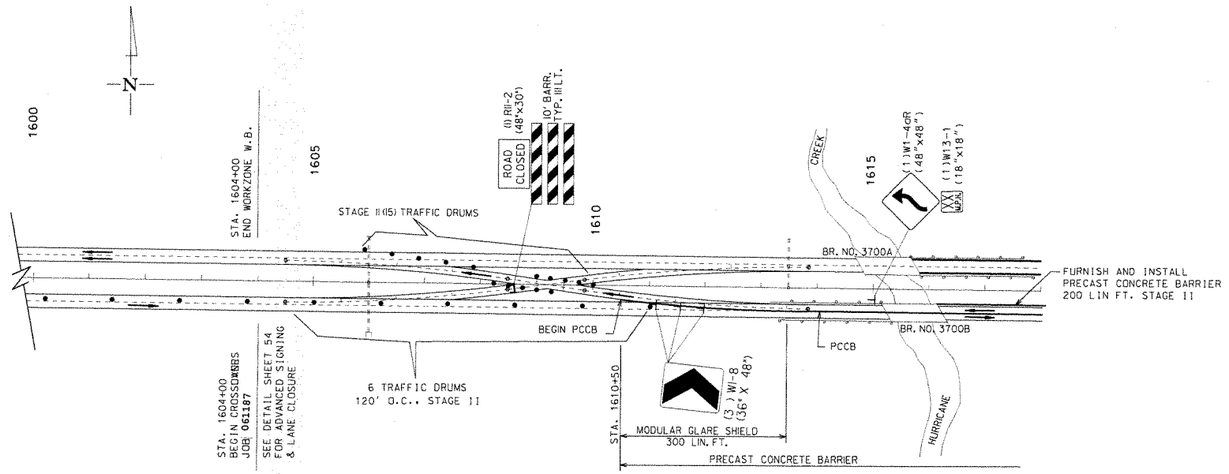
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
6/21/02

PART I
MAINTENANCE OF TRAFFIC
STAGE IB, III, & V

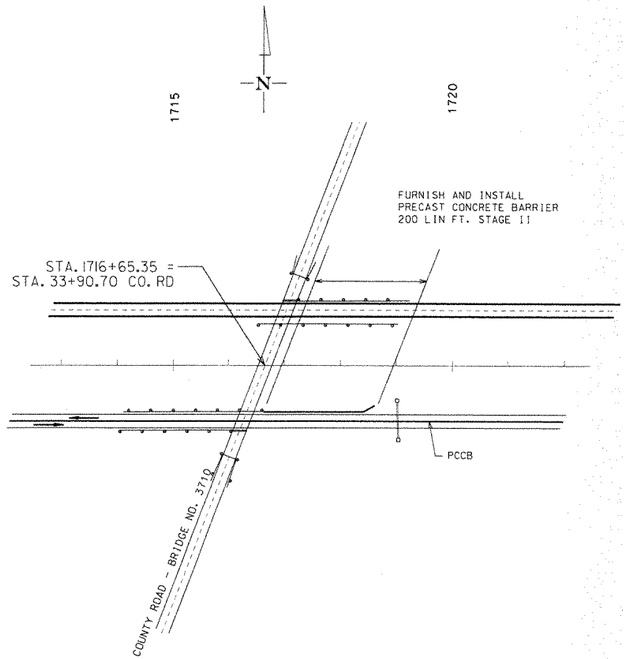
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	31	165

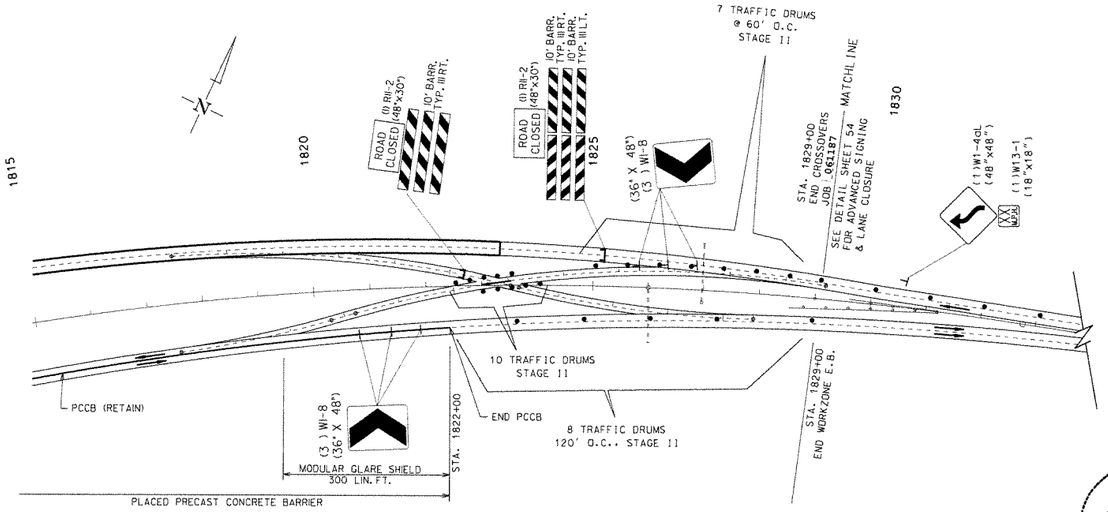
(2) MAINTENANCE OF TRAFFIC



TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

STAGE II:
- INSTALL TEMP. PRECAST CONCRETE BARRIER WALL ON EASTBOUND LANES.
- REROUTE WESTBOUND TRAFFIC THROUGH CROSSOVER AND ON EASTBOUND LANES.
- REBUILD WESTBOUND LANES.





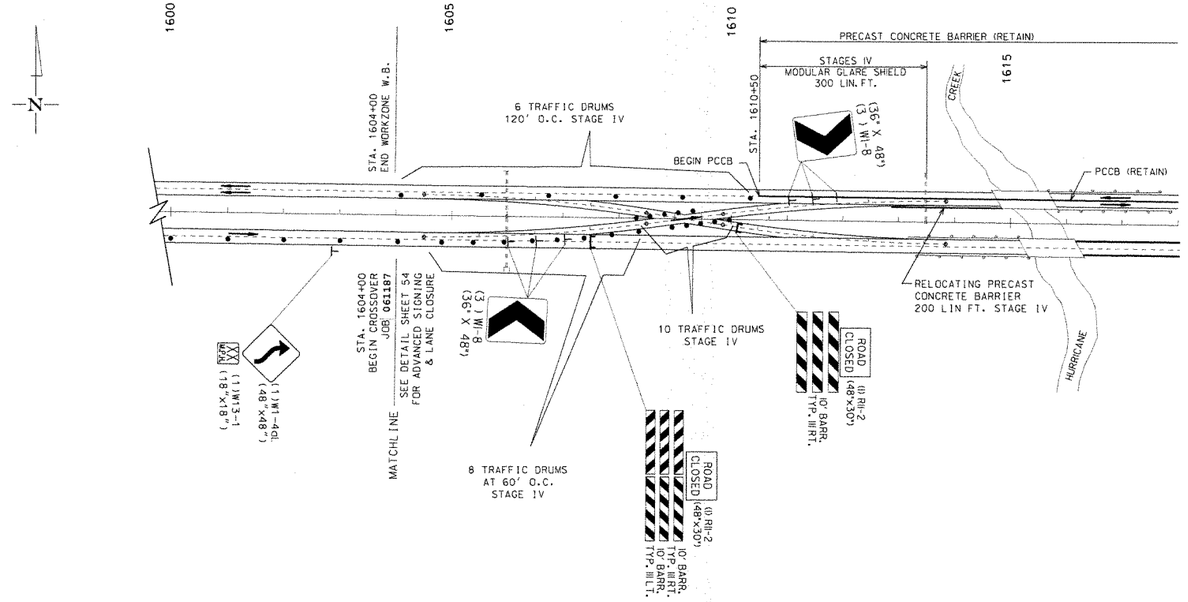
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
4/21/02

PART I
MAINTENANCE OF TRAFFIC
STAGE II

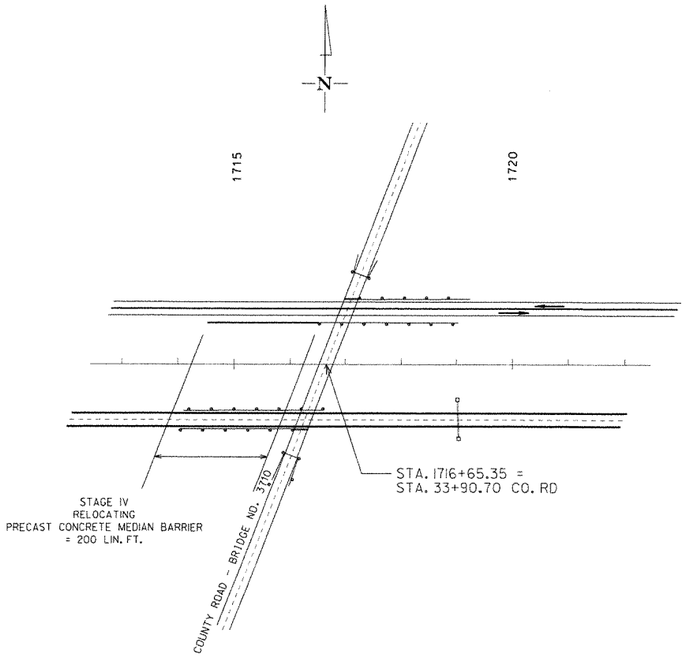
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	32	165

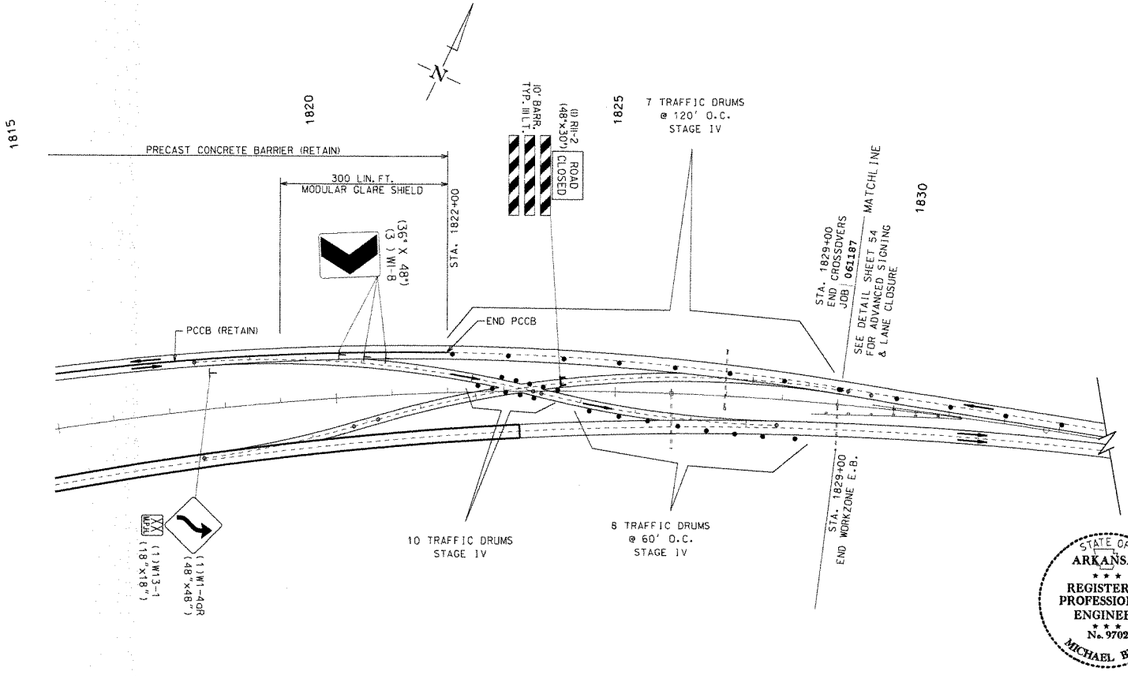
(2) MAINTENANCE OF TRAFFIC



TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

STAGE IV:
- TEMP. PRECAST CONCRETE BARRIER IN PLACE ON WESTBOUND LANES FROM STAGE III.
- REROUTE EASTBOUND TRAFFIC THROUGH CROSSOVER AND ON WESTBOUND LANES.
- REBUILD EASTBOUND LANES.





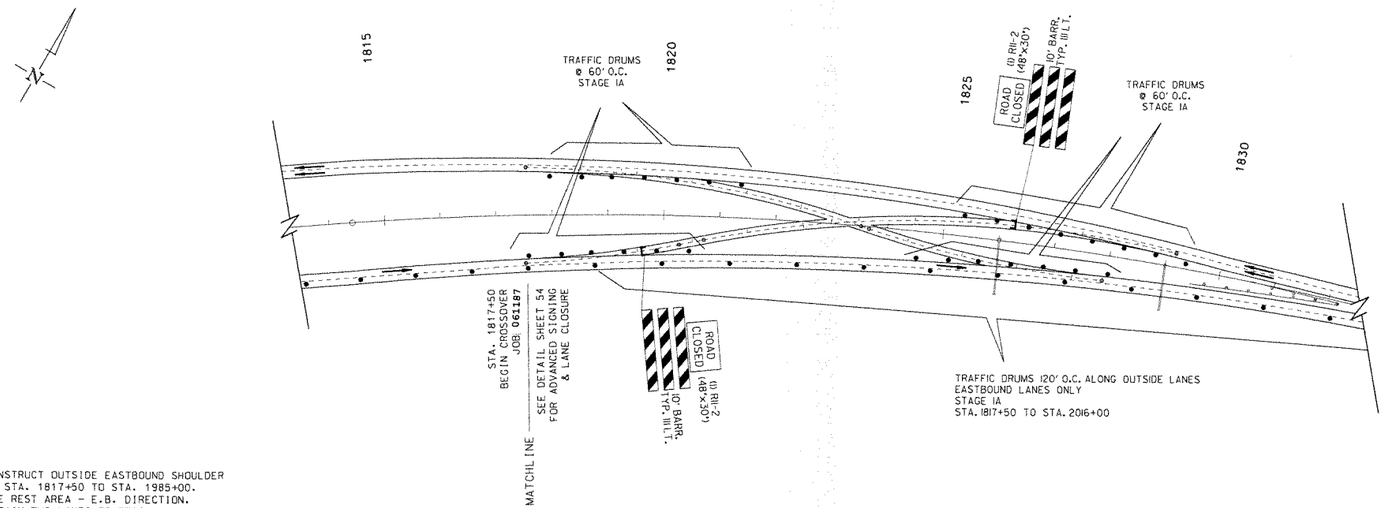
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

PART I
MAINTENANCE OF TRAFFIC
STAGE IV

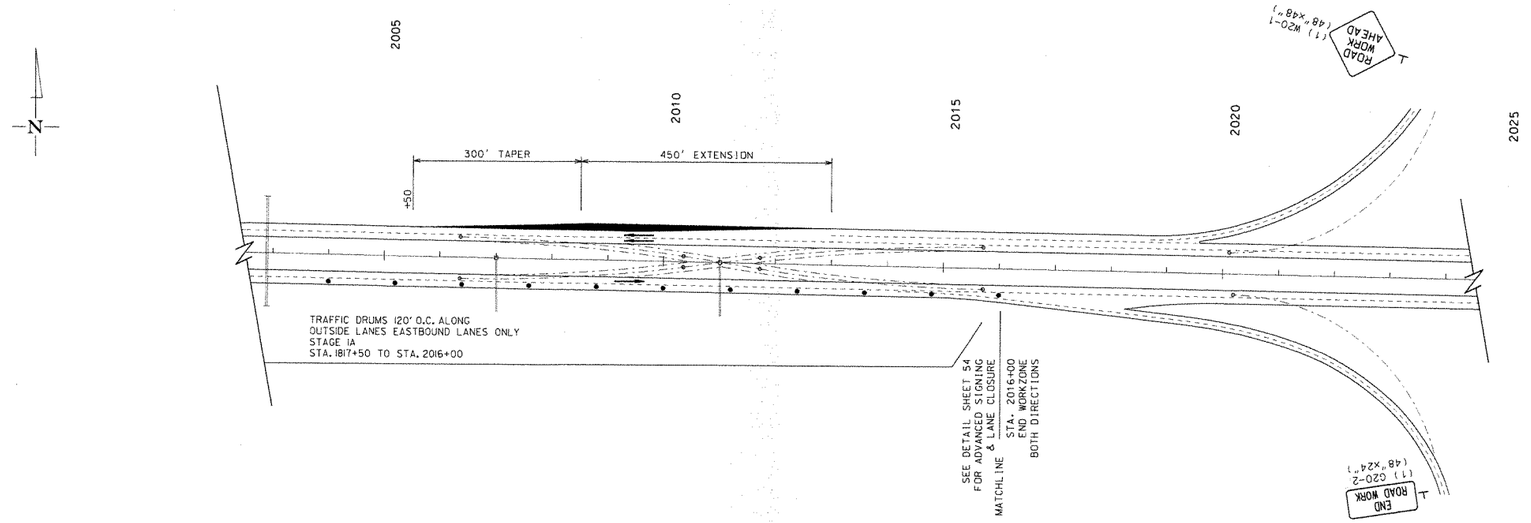
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	33	165

(2) MAINTENANCE OF TRAFFIC



STAGE IA:
- RECONSTRUCT OUTSIDE EASTBOUND SHOULDER FROM STA. 1817+50 TO STA. 1985+00.
- CLOSE REST AREA - E.B. DIRECTION.
- MAINTAIN TWO LANES TRAFFIC W.B.
- PATCH OUTSIDE EASTBOUND LANES FROM STA. 1817+50 TO STA. 2016+00 & BRIDGE DECK OVER WHITE RIVER.

TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

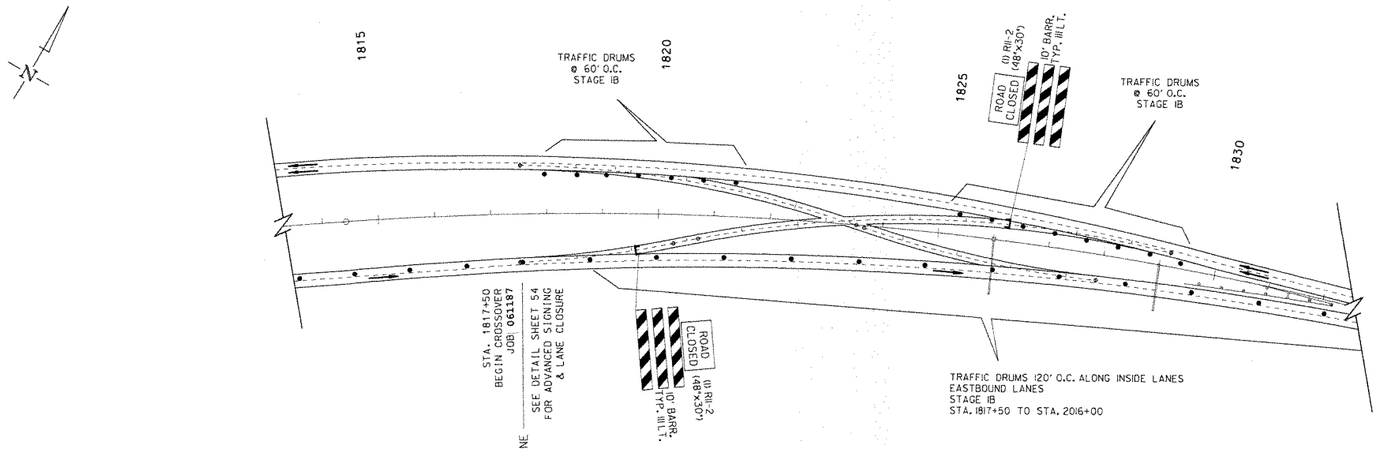


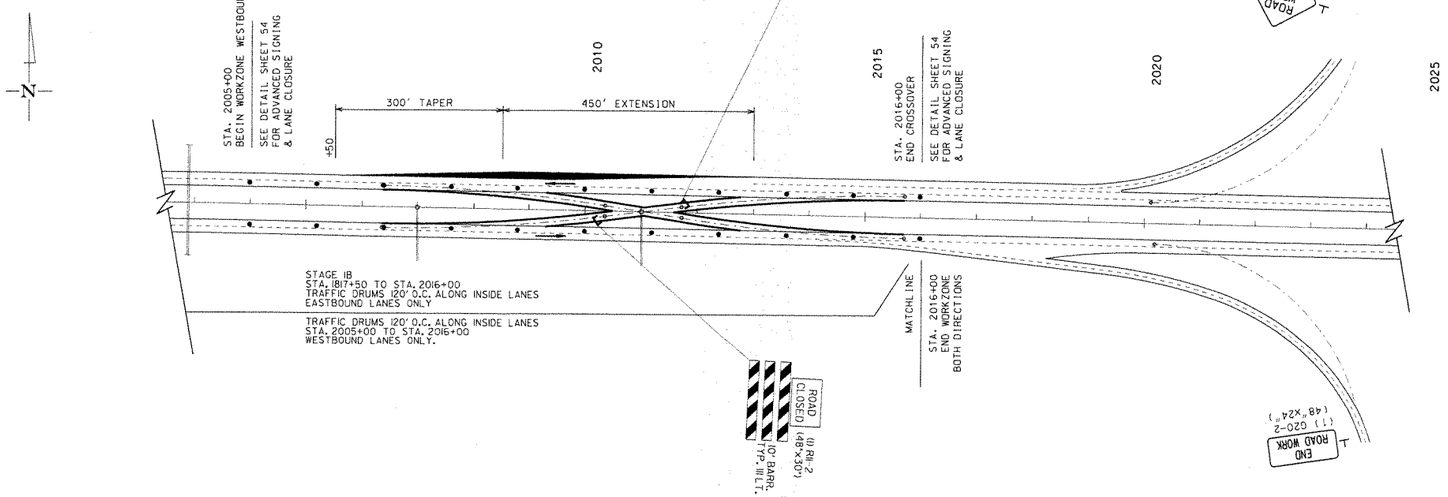
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

PART 2
MAINTENANCE OF TRAFFIC
STAGE IA

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.		061187	34	165
				(2)	MAINTENANCE OF TRAFFIC			





STAGE IB:
- RECONSTRUCT EASTBOUND INSIDE SHOULDER FROM STA. 1983+00 TO STA. 2011+00.
- CONSTRUCT CROSSOVER AT STA. 2011+00.
- PATCH INSIDE EASTBOUND LANES FROM STA. 1817+50 TO STA. 2016+00 & BRIDGE DECK ACROSS WHITE RIVER.

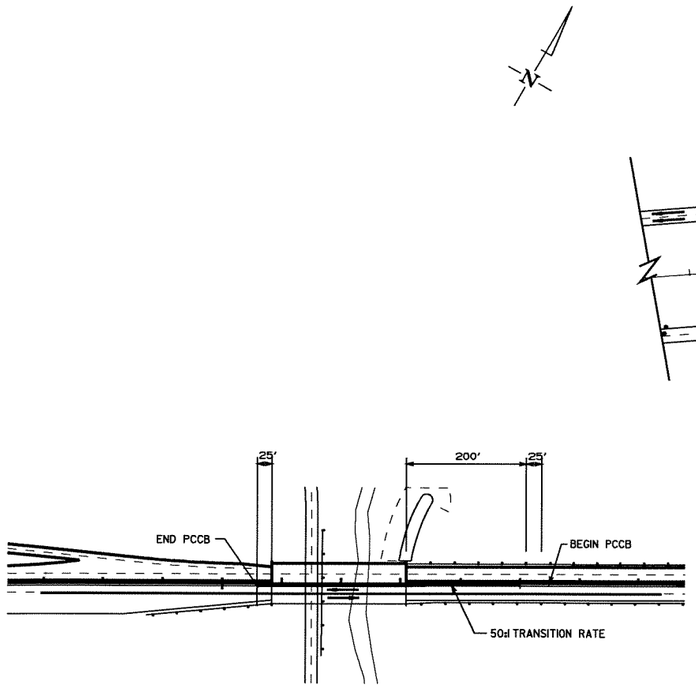
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

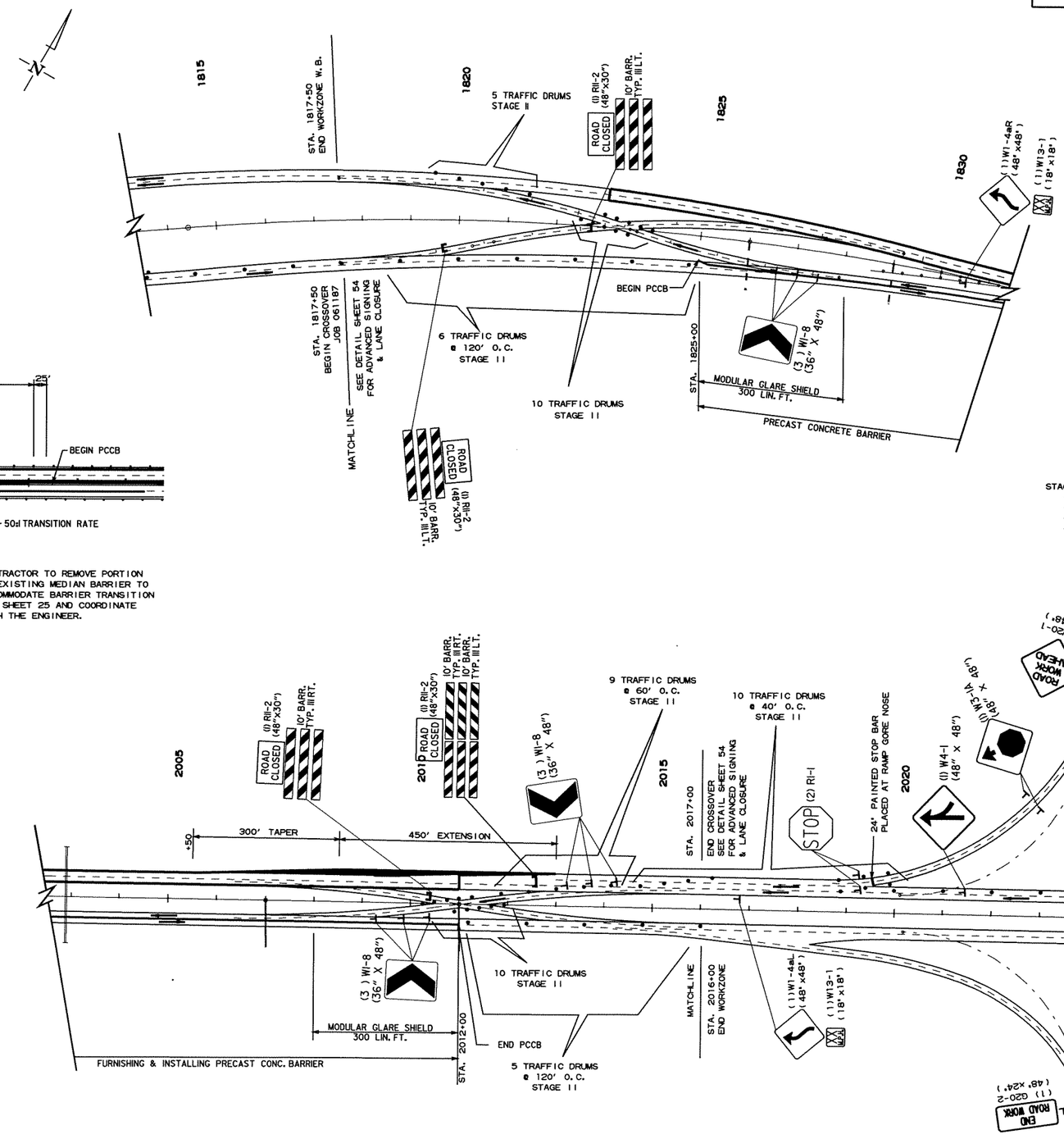
PART 2
MAINTENANCE OF TRAFFIC
STAGE IB

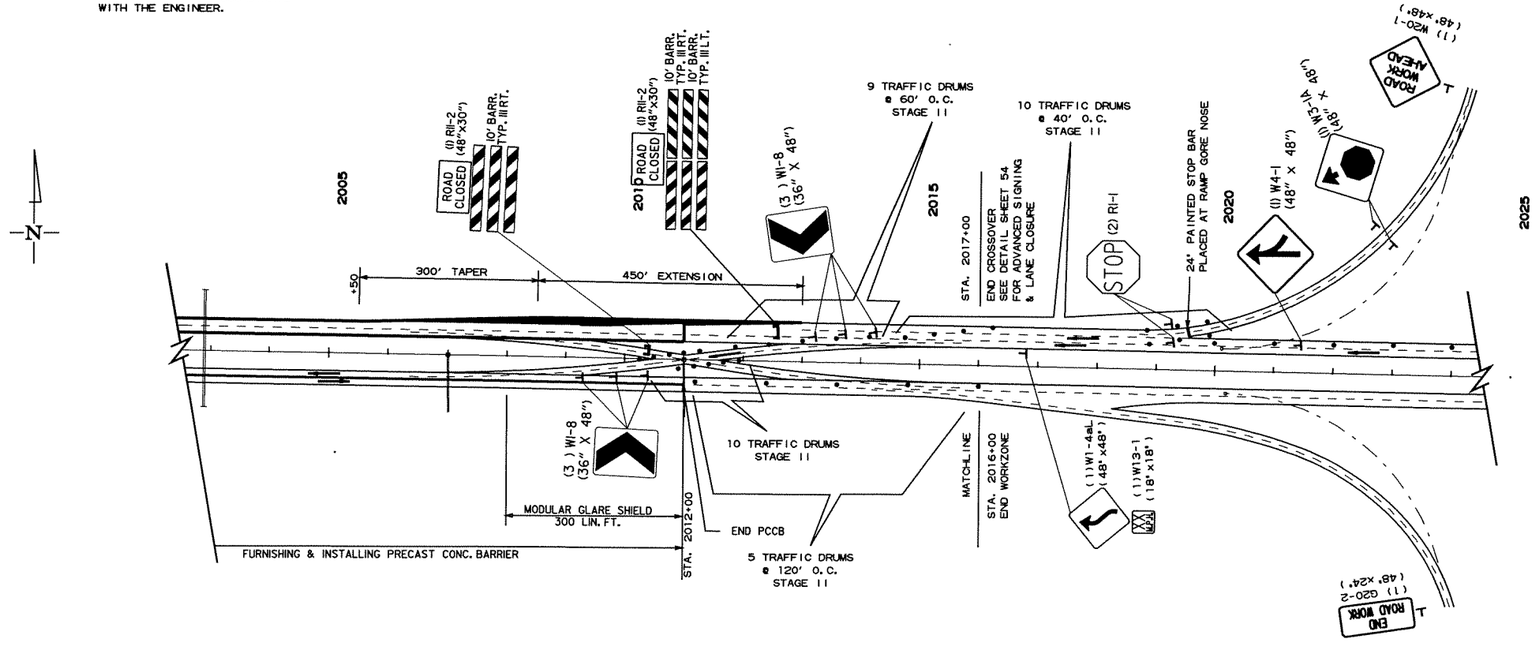
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	35	165

(2) MAINTENANCE OF TRAFFIC



NOTE: CONTRACTOR TO REMOVE PORTION OF EXISTING MEDIAN BARRIER TO ACCOMMODATE BARRIER TRANSITION SEE SHEET 25 AND COORDINATE WITH THE ENGINEER.





STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7607
MICHAEL D. FUGETT
5-27

TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

STAGE II:
- INSTALL TEMP. PRECAST CONCRETE BARRIER WALL ON EASTBOUND LANES.
- REROUTE WESTBOUND TRAFFIC THROUGH CROSSOVER AND ON EASTBOUND LANES.
- REBUILD WESTBOUND LANES.
- RECONSTRUCT PORTIONS OF BRIDGES NO. 3712 & 3714

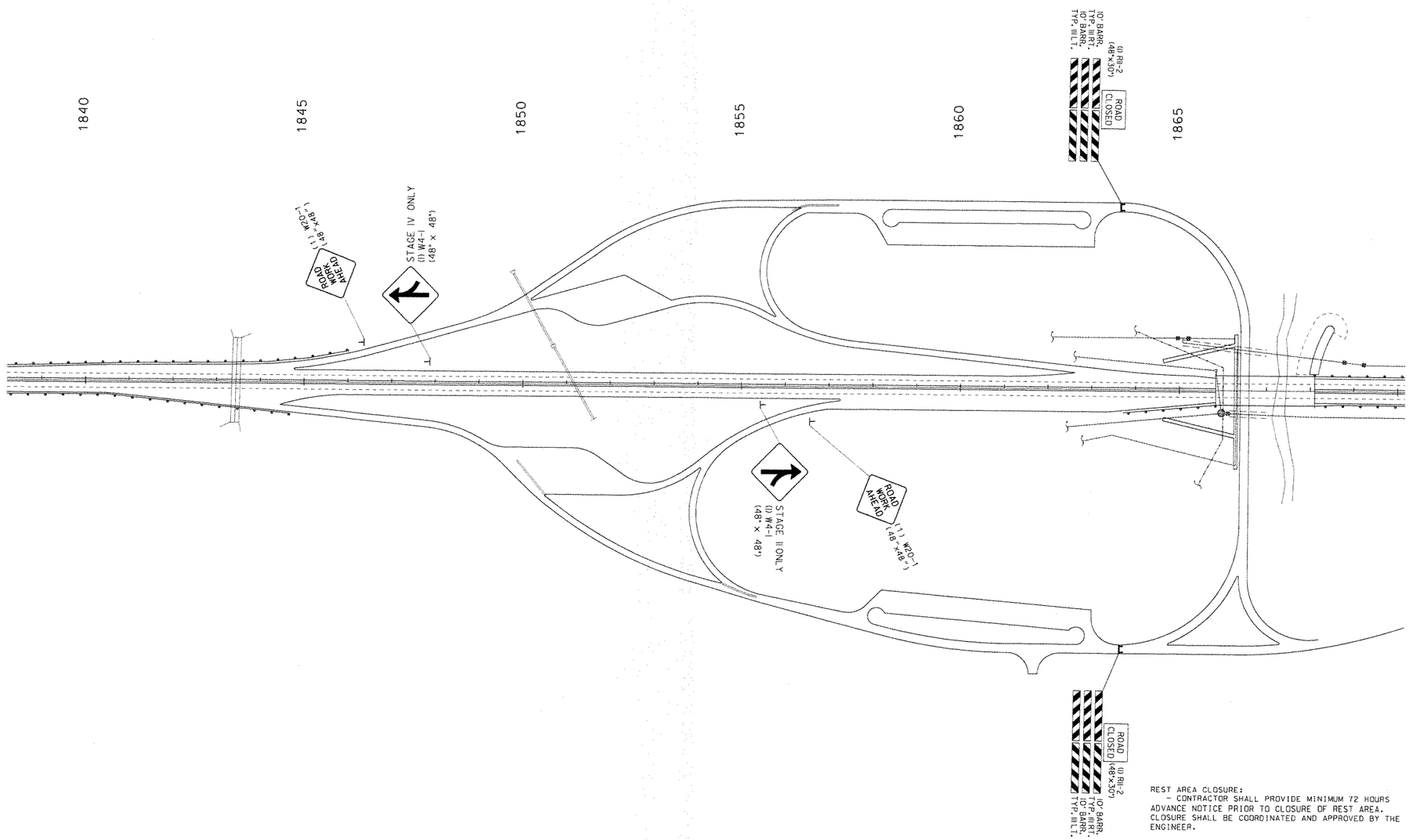
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

PART 2
MAINTENANCE OF TRAFFIC
STAGE II

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.		061187	36	165

(2) MAINTENANCE OF TRAFFIC



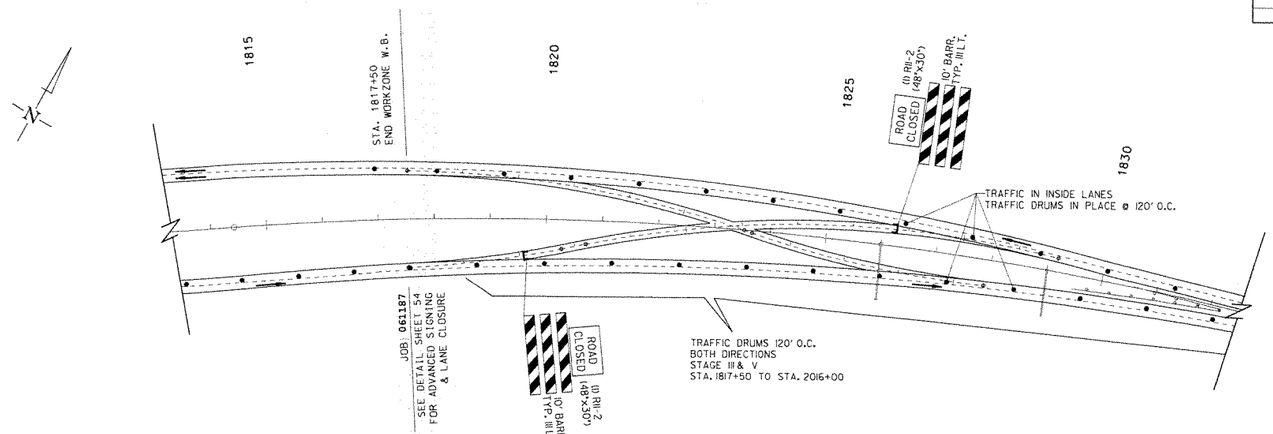
REST AREA CLOSURE:
- CONTRACTOR SHALL PROVIDE MINIMUM 72 HOURS ADVANCE NOTICE PRIOR TO CLOSURE OF REST AREA. CLOSURE SHALL BE COORDINATED AND APPROVED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

PART 2
MAINTENANCE OF TRAFFIC
STAGE I, II, III, IV, & V

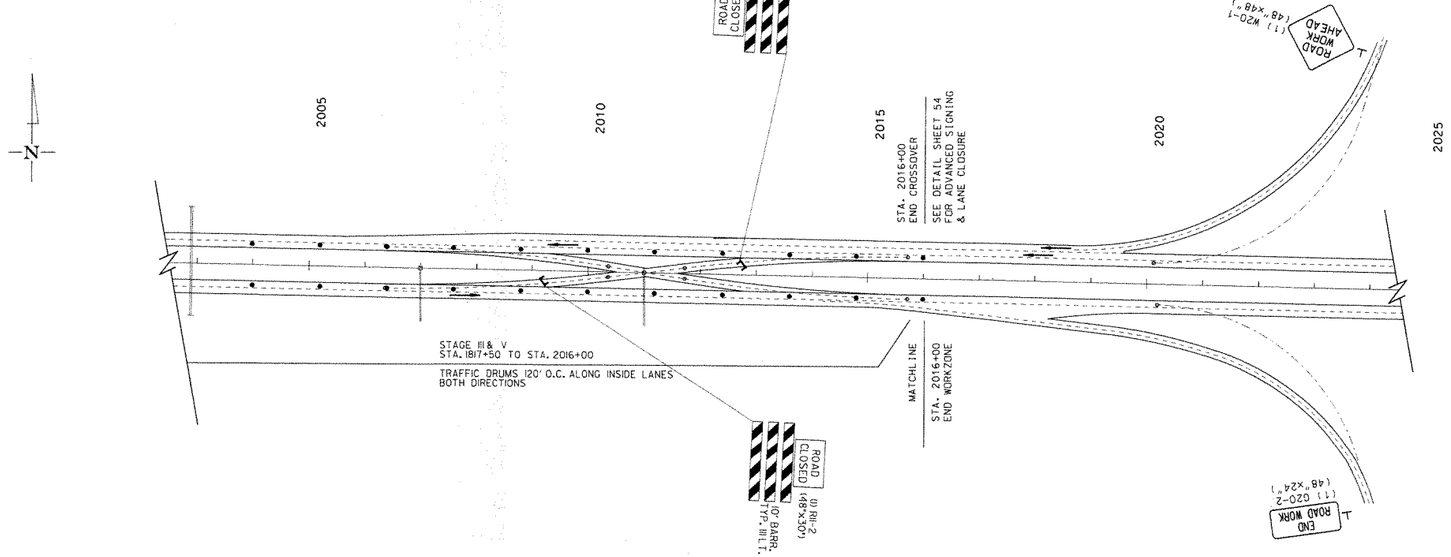
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	37	165
				(2) MAINTENANCE OF TRAFFIC				



TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

STAGE III:
- RELOCATE PRECAST CONCRETE BARRIER FROM EASTBOUND TO WESTBOUND LANES.
- INSTALL PRECAST CONCRETE BARRIER ALONG INSIDE SHOULDER OF WESTBOUND LANES FROM STA. 1823+00 TO STA. 1991+00.

STAGE V:
- REMOVE PRECAST CONCRETE BARRIER.
- REMOVE CROSSOVER AT STA. 1823+00 & RESTORE PAVEMENT MARKING.



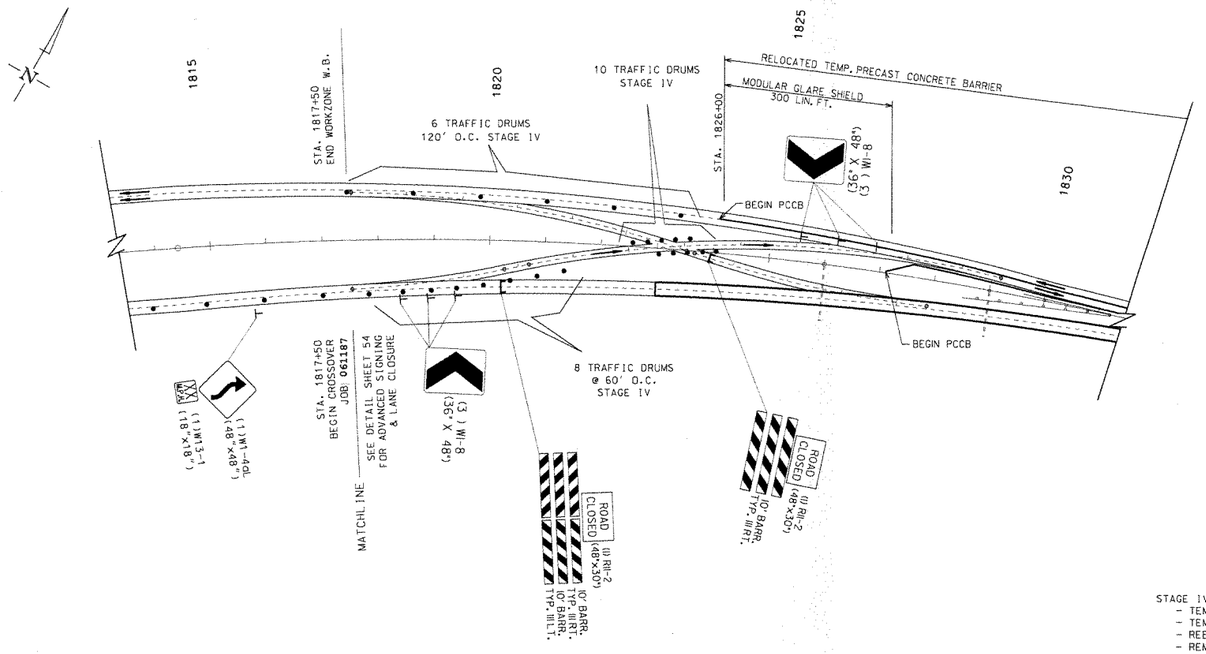
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
7/10/02

PART 2
MAINTENANCE OF TRAFFIC
STAGE III & V

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.		061187	38	165

(2) MAINTENANCE OF TRAFFIC



TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

STAGE IV:
- TEMPORARY PRECAST CONCRETE BARRIER IN PLACE ON WESTBOUND LANES FROM STAGE III.
- TEMPORARY PRECAST CONCRETE BARRIER ALONG INSIDE TRAVEL LANE, IN PLACE FROM 1827+00 TO 1992+00.
- REBUILD EASTBOUND LANES.
- REMOVE AND RECONSTRUCT CONCRETE MEDIAN BARRIER.
- RECONSTRUCT REMAINING PORTION OF BRIDGES NO. 3712 & 3714.

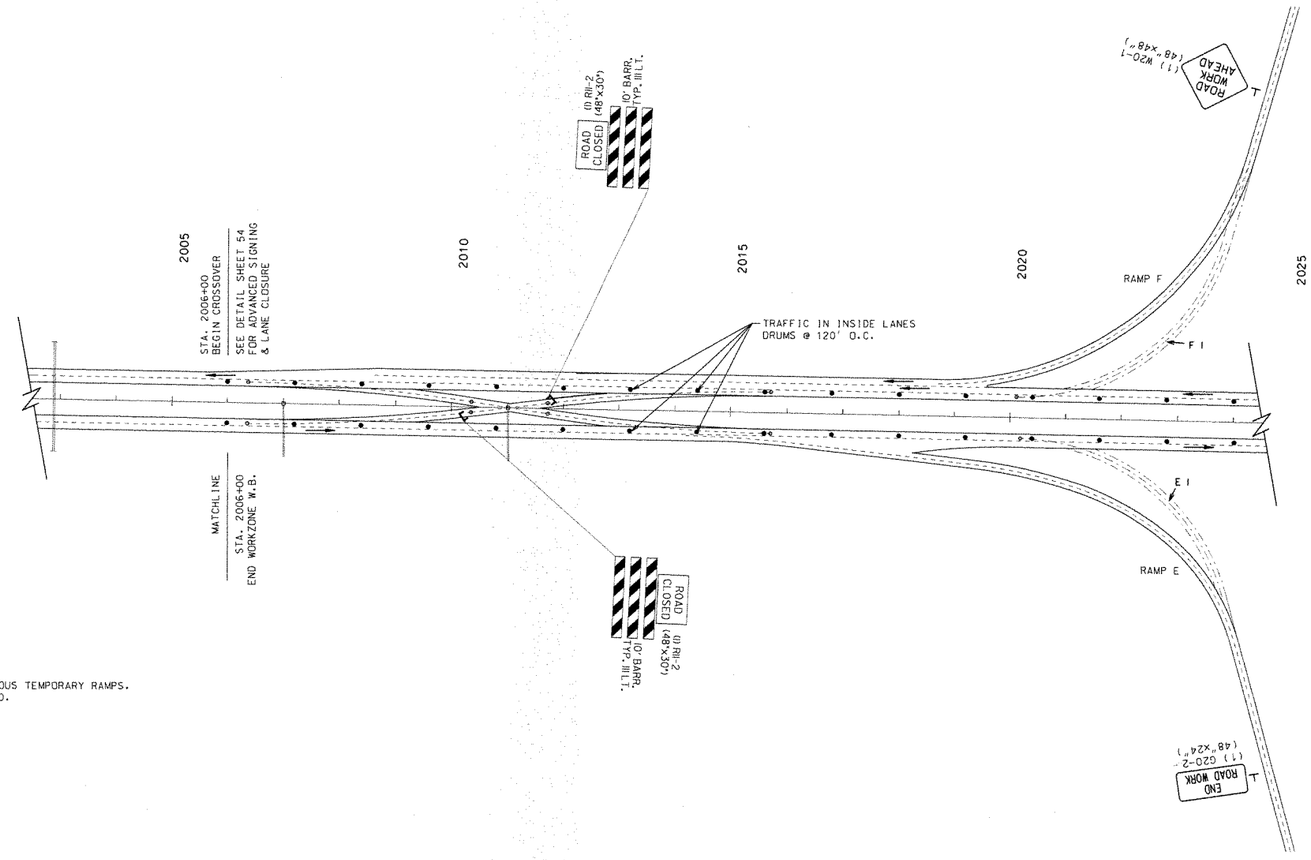
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/2/12

PART 2
MAINTENANCE OF TRAFFIC
STAGE IV

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.		061187	39	165

(2) MAINTENANCE OF TRAFFIC



NOTE:
ADVANCE SIGNS ON RAMPS
REQUIRED ON ALL STAGES.

STAGE IA:
- RECONSTRUCT INSIDE EASTBOUND SHOULDER.
- CONSTRUCT CROSSOVER AT STA. 2203+00 AND VARIOUS TEMPORARY RAMPS.
- CONCRETE PAVEMENT PATCH INSIDE LANE EASTBOUND.

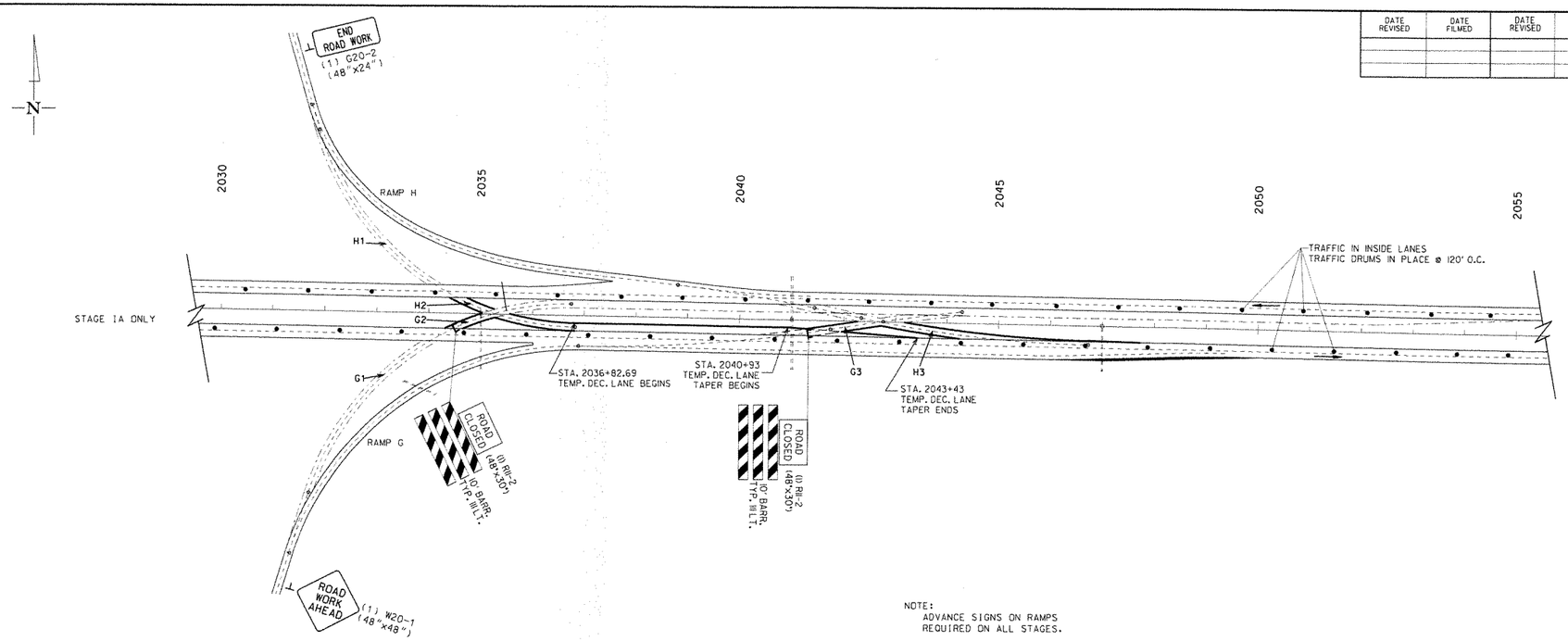
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/22/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE IA

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.		061187	40	165

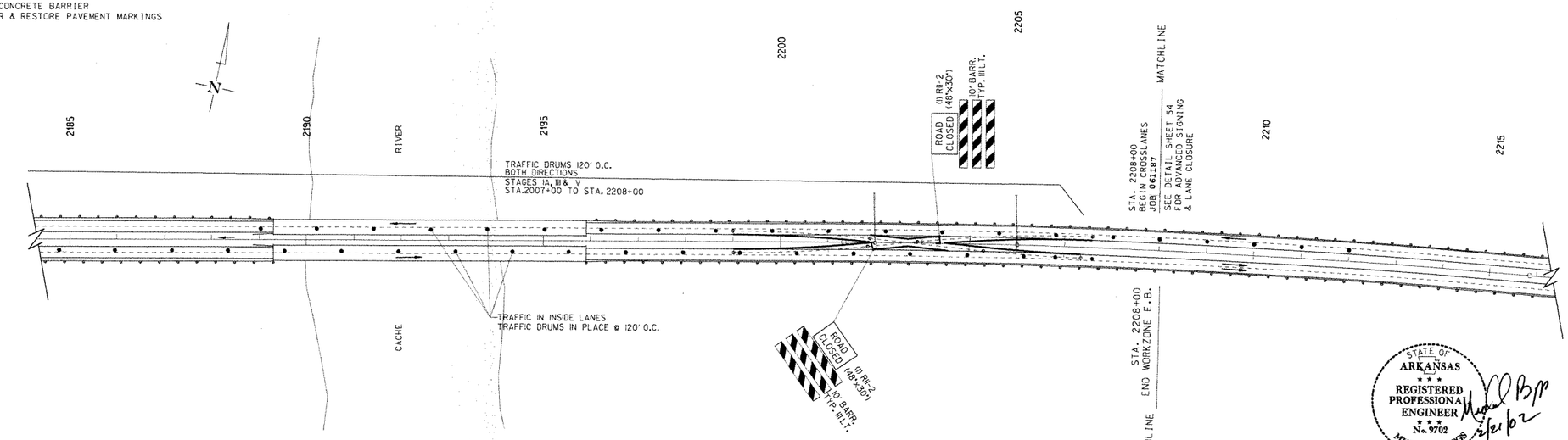
(2) MAINTENANCE OF TRAFFIC



NOTE:
ADVANCE SIGNS ON RAMPS REQUIRED ON ALL STAGES.

STAGE III:
- RELOCATE PRECAST CONCRETE BARRIER FROM EASTBOUND TO WESTBOUND LANES.

STAGE V:
- REMOVE PRECAST CONCRETE BARRIER
- REMOVE CROSSOVER & RESTORE PAVEMENT MARKINGS



LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
7/21/02

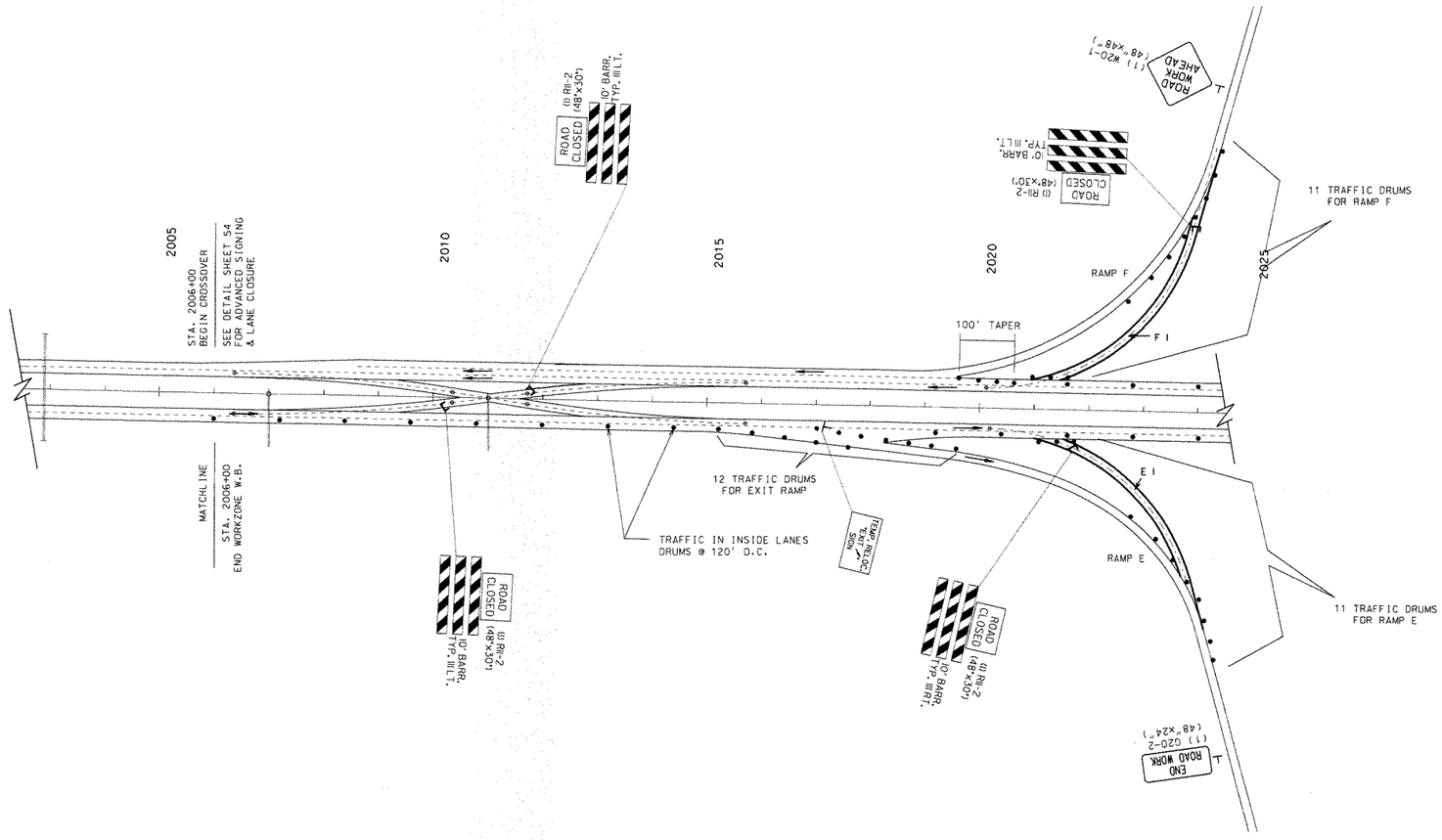
PART 3
MAINTENANCE OF TRAFFIC
STAGE IA, III & V

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.		061187	41	165
				(2)	MAINTENANCE OF TRAFFIC			

STAGE 1B:
- CONSTRUCT VARIOUS TEMP. RAMPS.
- CONCRETE PAVEMENT PATCHING ALONG OUTSIDE LANE EASTBOUND

STAGE VB:
- REMOVE TEMPOPARY RAMPS

TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.



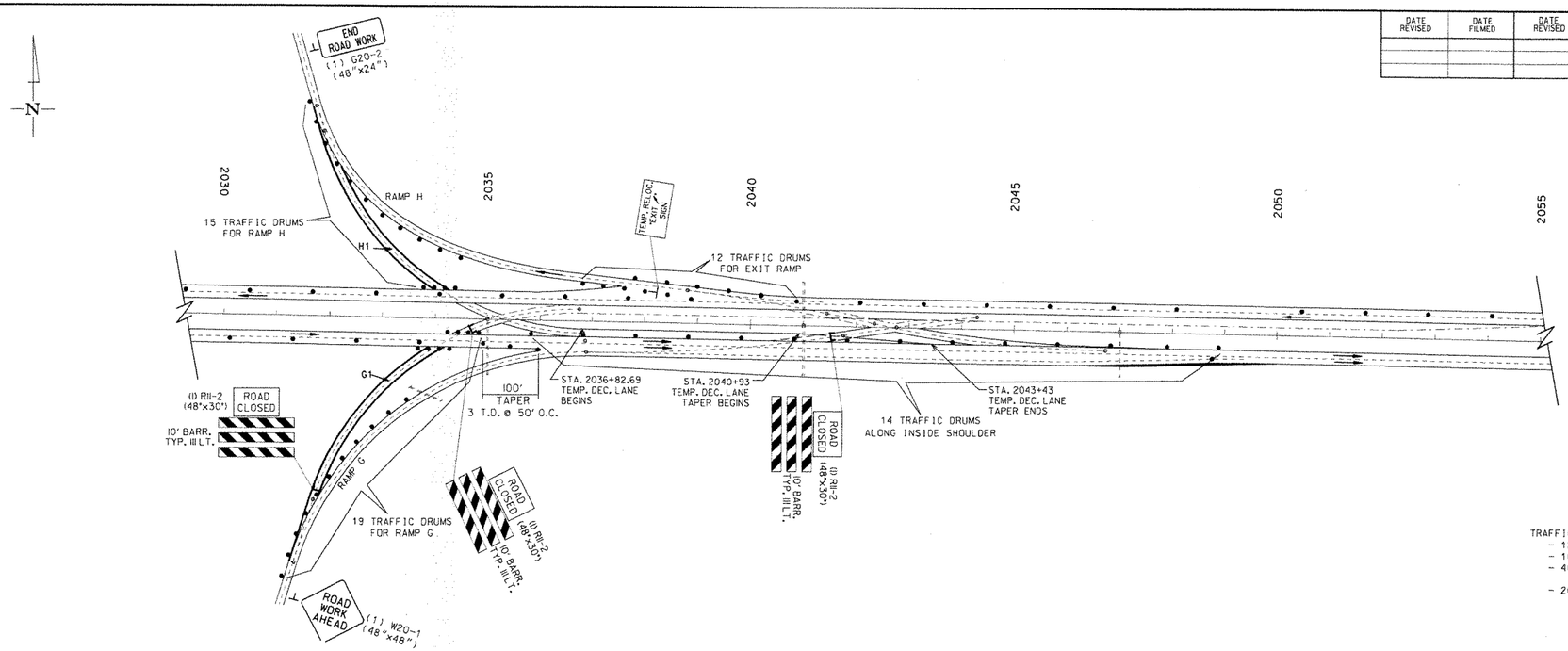
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/24/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE 1B

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.		061187	42	165

(2) MAINTENANCE OF TRAFFIC

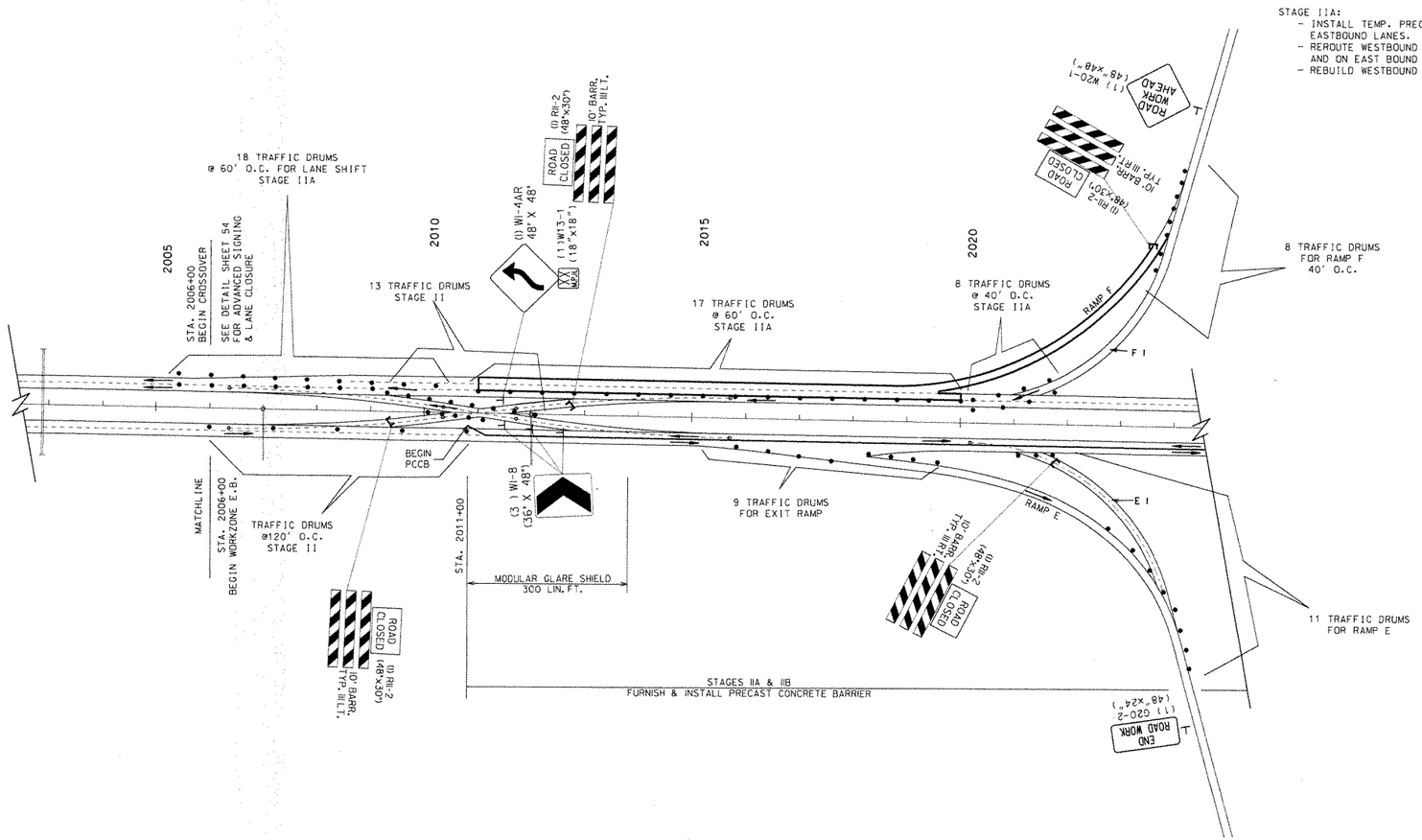


LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE IB

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.		061187	43	165
				(2)	MAINTENANCE OF TRAFFIC			



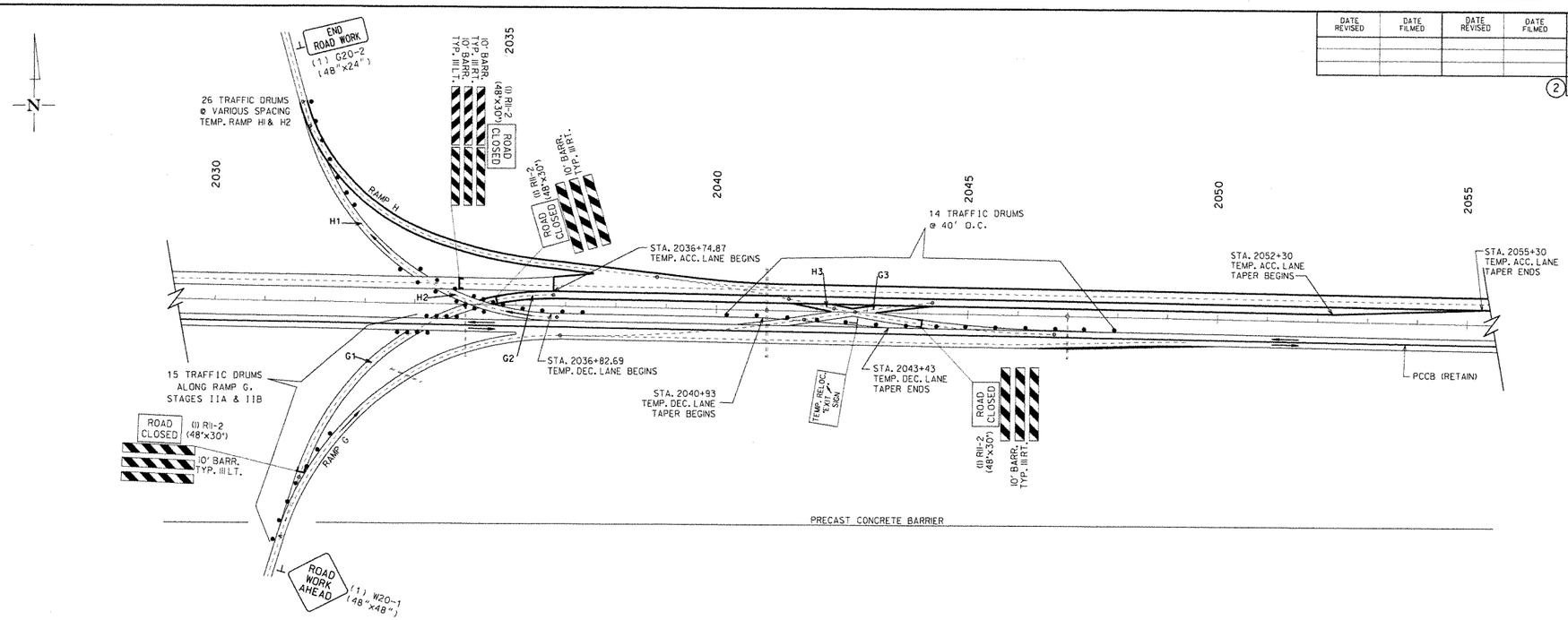
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

PART 3
MAINTENANCE OF TRAFFIC
STAGE IIA

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.		061187	44	165

(2) MAINTENANCE OF TRAFFIC



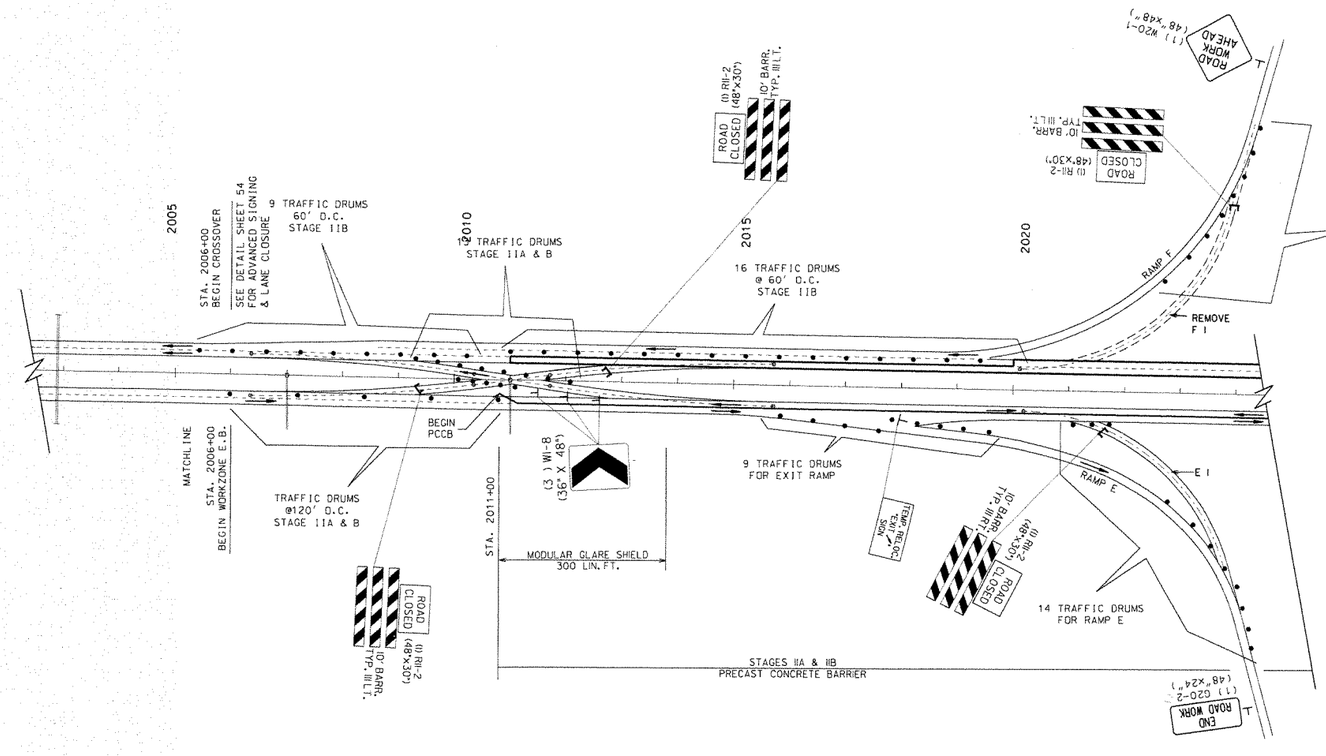
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

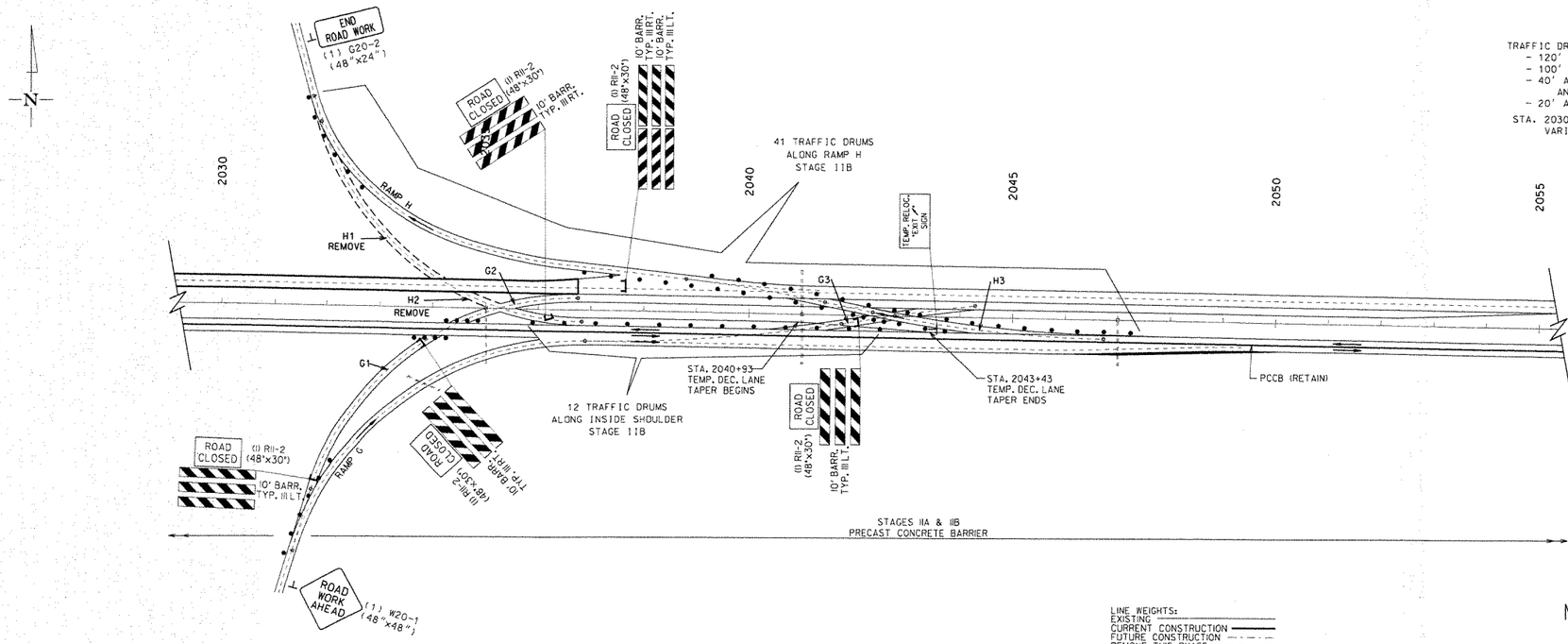
PART 3
MAINTENANCE OF TRAFFIC
STAGE IIA

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.		061187	45	165

(2) MAINTENANCE OF TRAFFIC



STAGE IIB:
- REBUILD REMAINING PORTION OF WESTBOUND LANES AND RAMPS.
- REROUTE RAMP TRAFFIC ON COMPLETED RAMPS / LANES FOR CROSSOVER.



TRAFFIC DRUM NORMAL SPACING:
- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

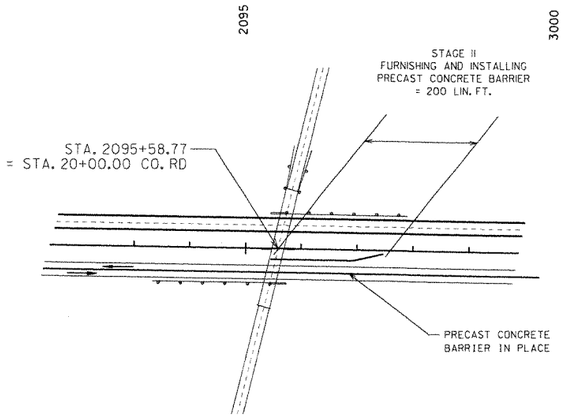
STA. 2030+00 TO 2055+00 TRAFFIC DRUMS AT VARIOUS SPACING = 46 EACH.

LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

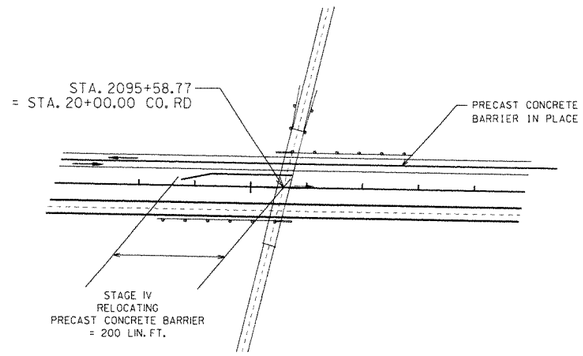
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE IIB

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.		061187	46	165
				(2)	MAINTENANCE OF TRAFFIC			









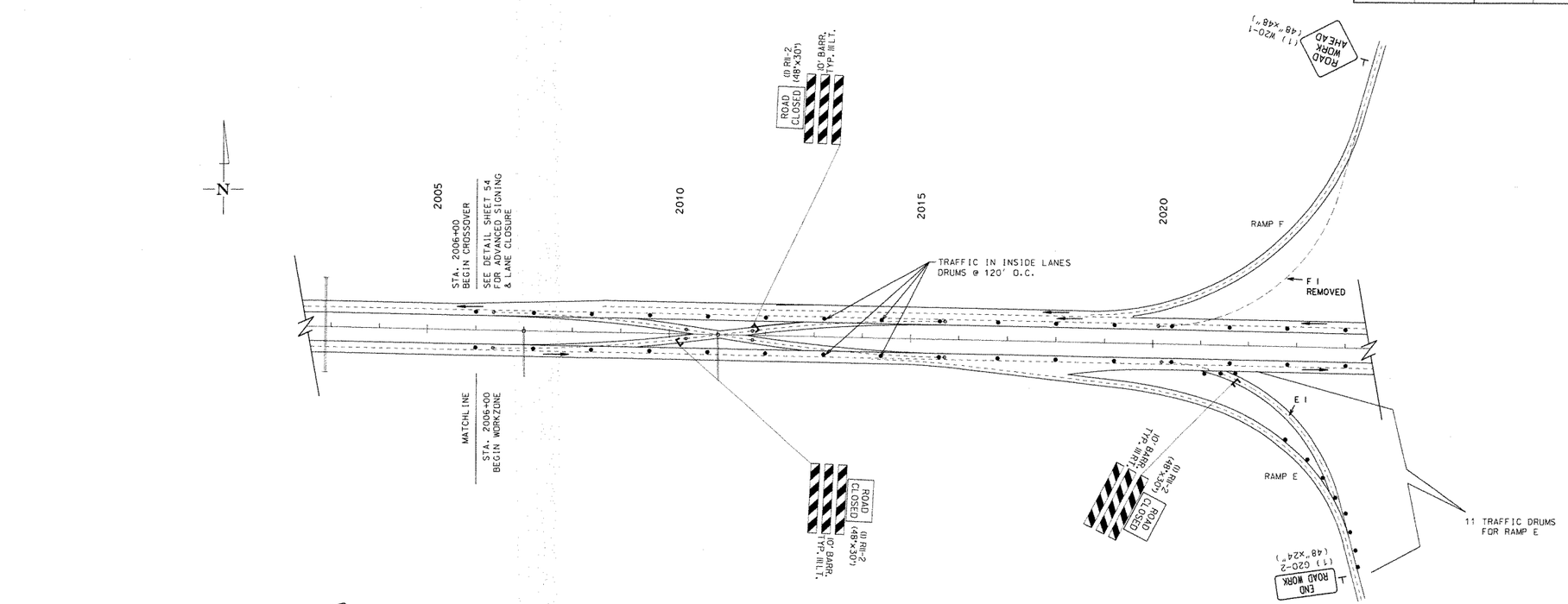
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

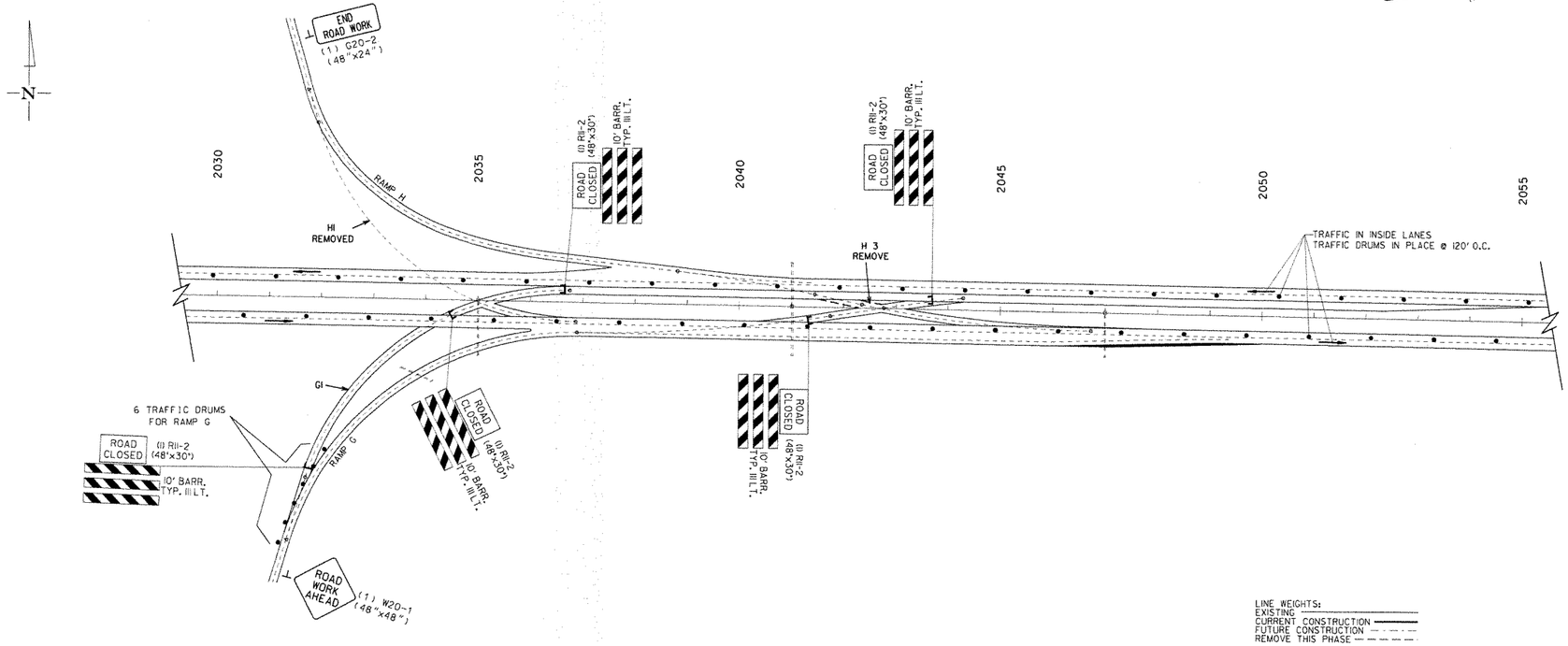
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE II & IV

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.		061187	47	165

(2) MAINTENANCE OF TRAFFIC





STAGE III:
- RELOCATE PRECAST CONCRETE BARRIER FROM EASTBOUND TO WESTBOUND LANES.

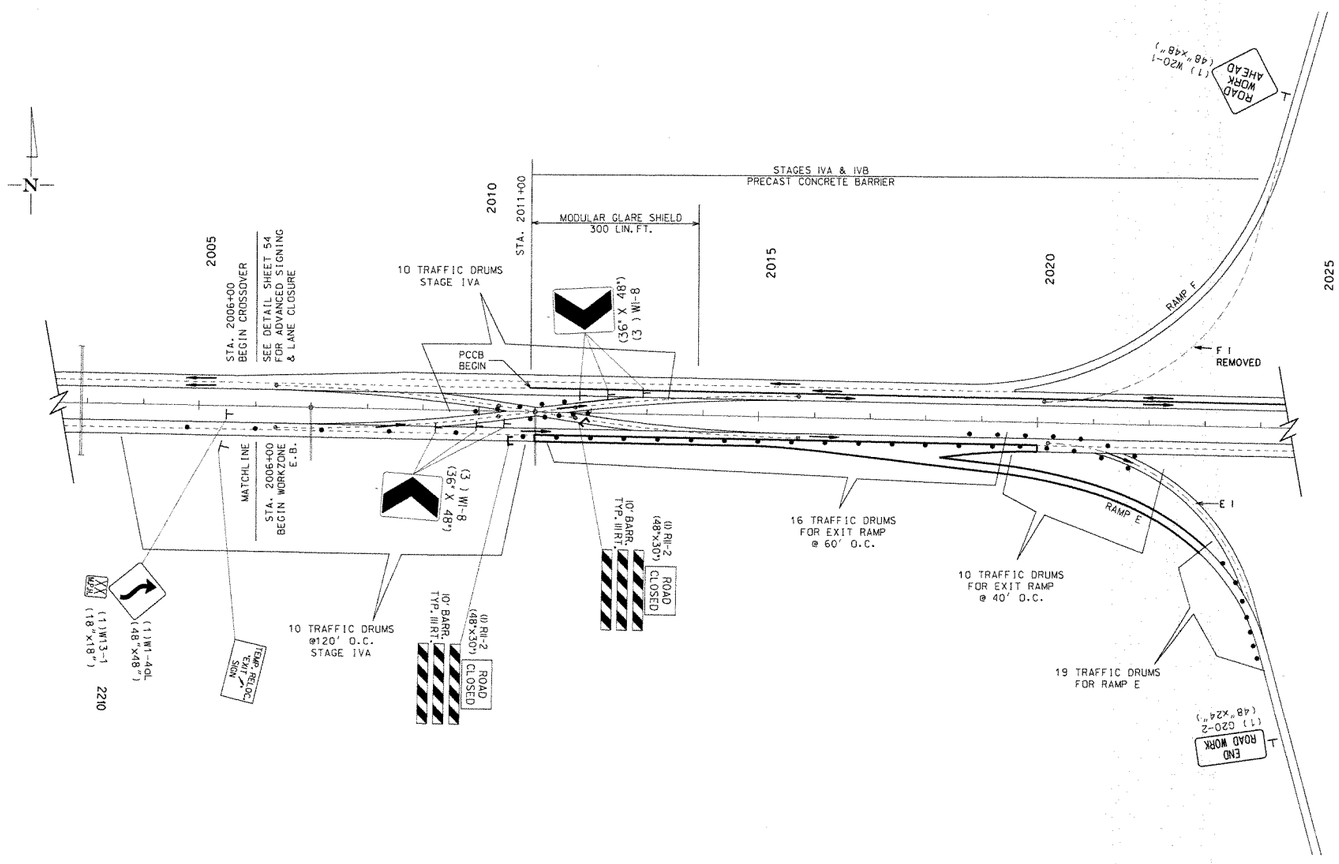
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

PART 3
MAINTENANCE OF TRAFFIC
STAGE III

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.		061187	48	165

(2) MAINTENANCE OF TRAFFIC



STAGE IVA

- TEMP. PRECAST CONCRETE BARRIER INPLACE ALONG WESTBOUND LANES.
- REROUTE EASTBOUND TRAFFIC THROUGH CROSSOVER AND ON WESTBOUND LANES.
- REBUILD EASTBOUND LANE.

TRAFFIC DRUM NORMAL SPACING:

- 120' ON CENTER LINE BETWEEN LANES.
- 100' BLOCKING TEMP. ACCEL LANES.
- 40' ALONG CURVING RAMP SHOULDERS AND DEFINING TURNOUTS.
- 20' ACROSS END OF TEMP. RAMPS.

STA. 2001+00 TO 2030+00 TRAFFIC DRUMS AT VARIOUS SPACING = 39 EACH.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

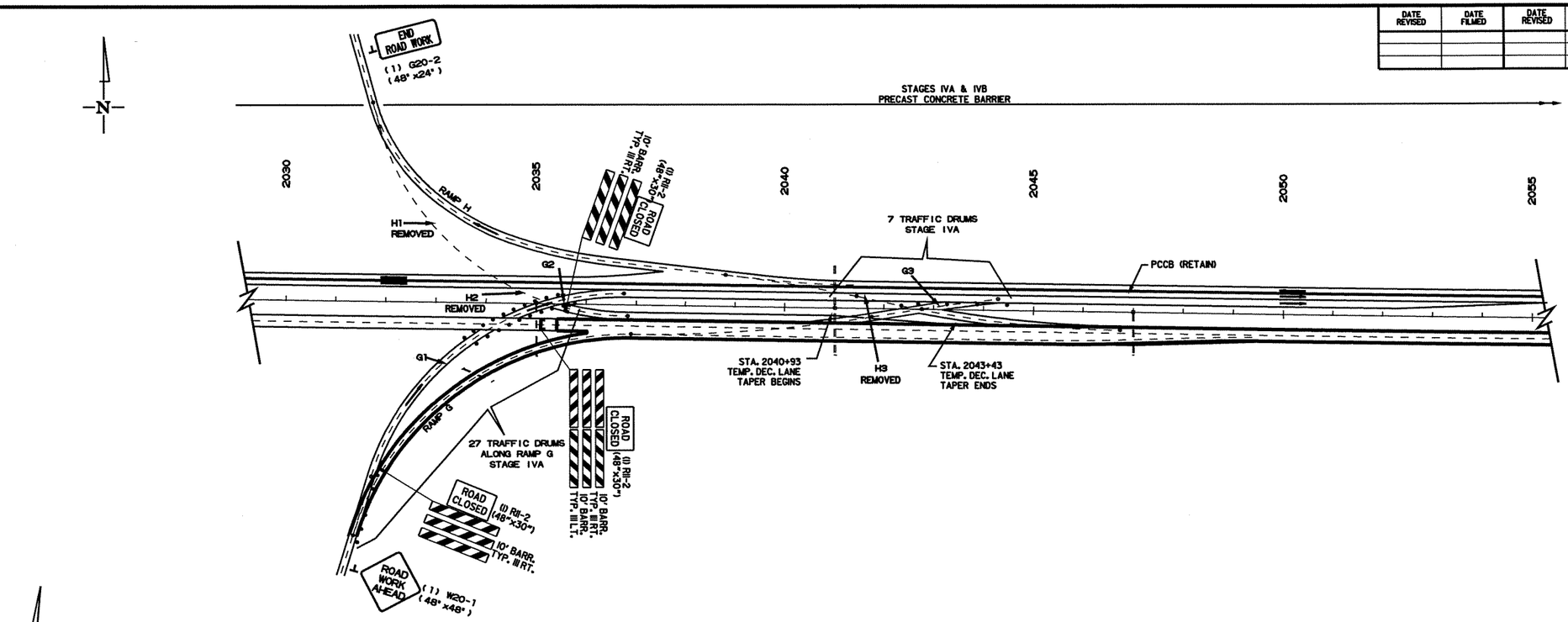
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

PART 3
MAINTENANCE OF TRAFFIC
STAGE IVA

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.		061187	49	165

(2) MAINTENANCE OF TRAFFIC

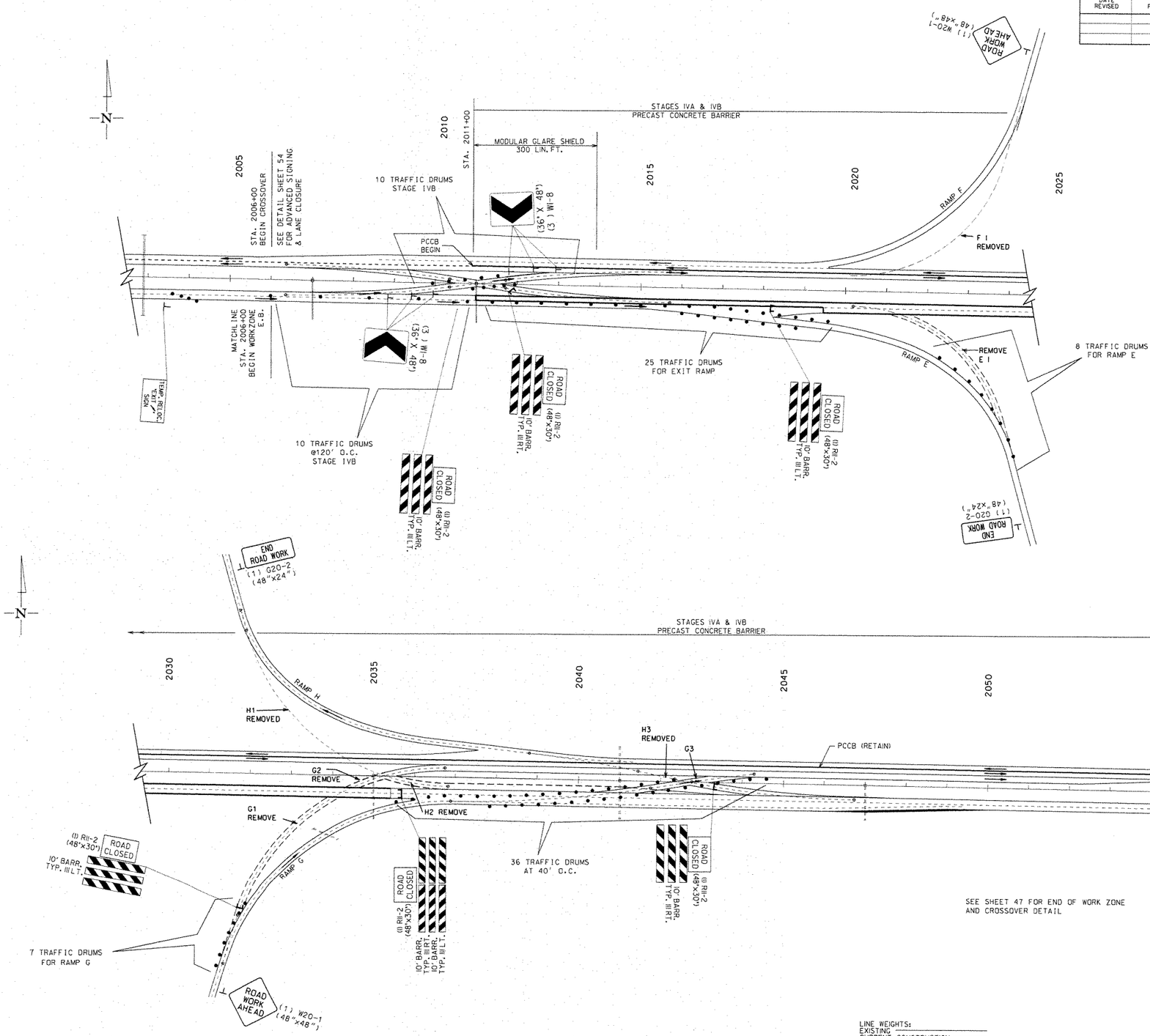
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT



LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

PART 3
MAINTENANCE OF TRAFFIC
STAGE IVA

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.		061187	50	165
				(2)	MAINTENANCE OF TRAFFIC			



STAGE IVB
- REROUTE RAMP TRAFFIC ON COMPLETED RAMPS / LANES TO CROSSOVER.
- REBUILD REMAINING EASTBOUND LANES.

SEE SHEET 47 FOR END OF WORK ZONE AND CROSSOVER DETAIL

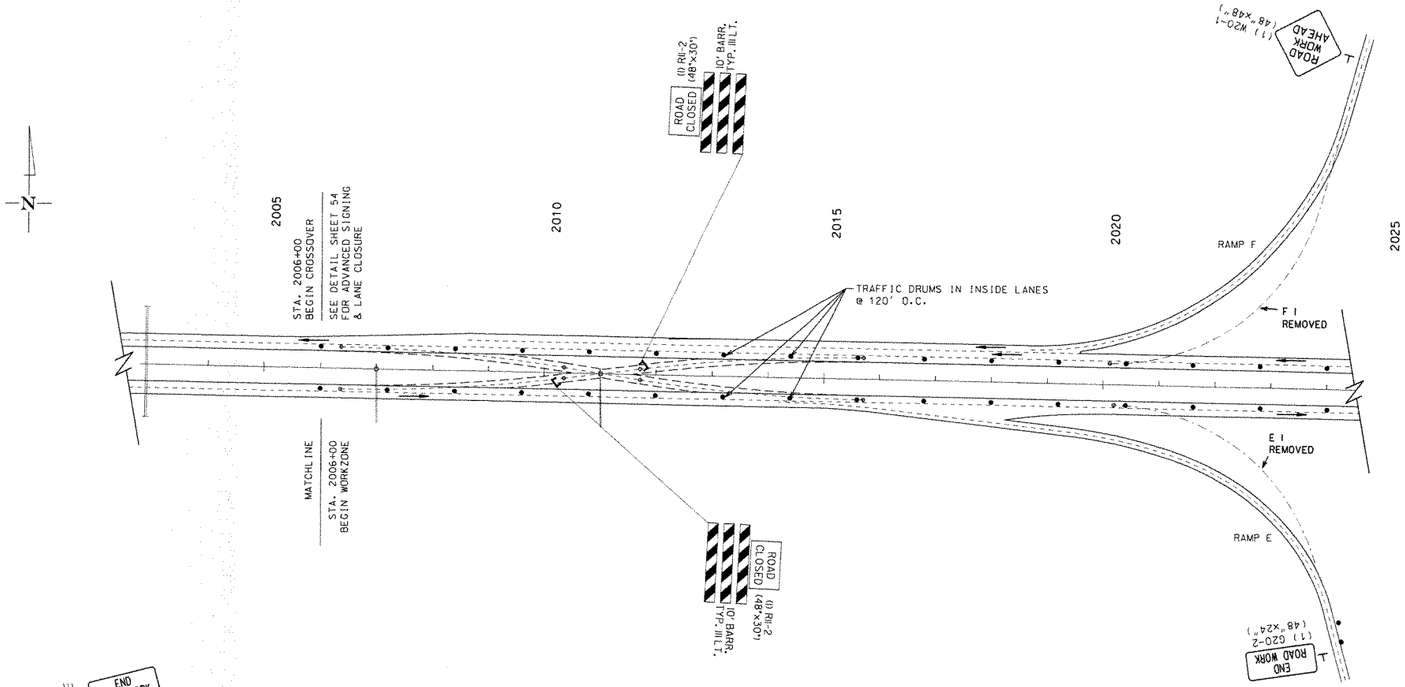
LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/22/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE IVB

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.		061187	51	165

(2) MAINTENANCE OF TRAFFIC



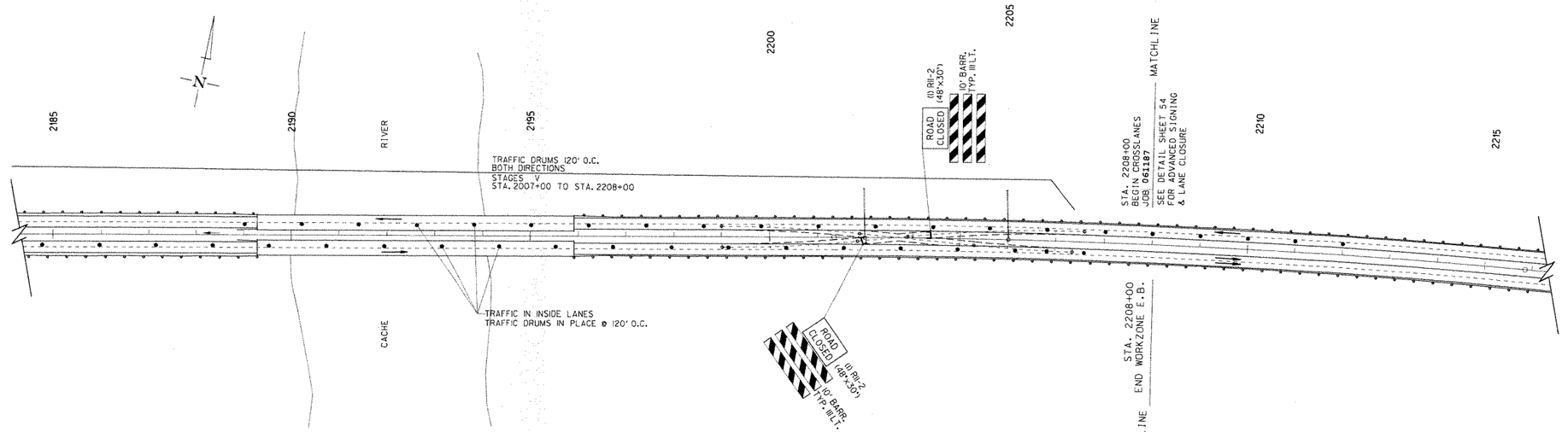
STAGE V:
- REMOVE PRECAST CONCRETE BARRIER.
- REMOVE REMAINING CROSSOVERS AND TEMP. RAMPS.
- RESTORE PAVEMENT MARKING AT CROSSOVER AREAS.

LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL HIGGS
2/21/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE V

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	52	165
				(2)	MAINTENANCE OF TRAFFIC			



LINE WEIGHTS:
EXISTING
CURRENT CONSTRUCTION
FUTURE CONSTRUCTION
REMOVE THIS PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/28/02

PART 3
MAINTENANCE OF TRAFFIC
STAGE V

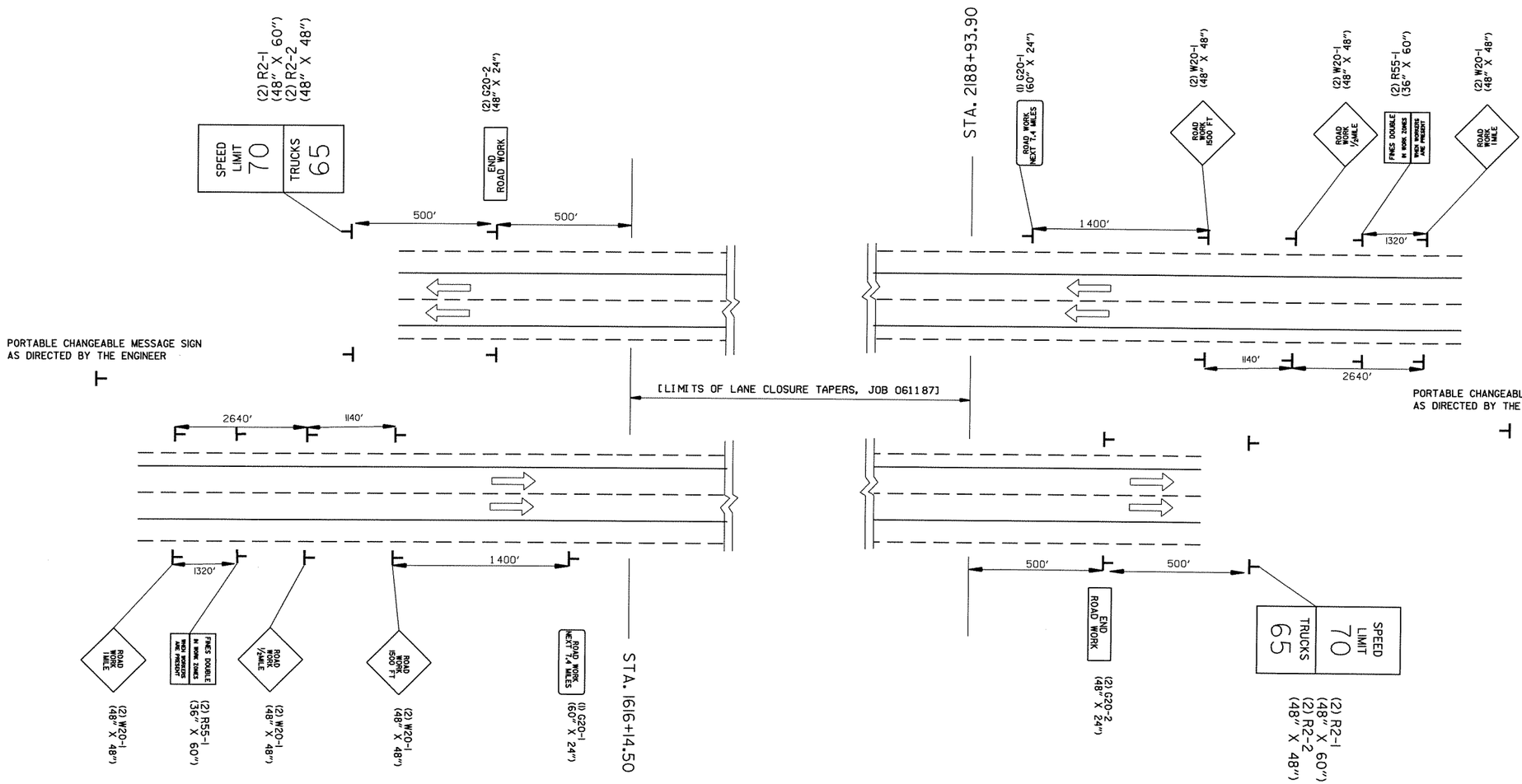
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061187	53	165

(2) MAINTENANCE OF TRAFFIC

NOTE THAT THESE SIGNS MAY BE TEMPORARILY REPLACED BY SOME OF THE ADVANCED SIGNS FOR LANE CLOSURES WHILE WORK IS UNDERWAY IN THESE AREAS.

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



NOTE THAT THESE SIGNS MAY BE TEMPORARILY REPLACED BY SOME OF THE ADVANCED SIGNS FOR LANE CLOSURES WHILE WORK IS UNDERWAY IN THESE AREAS.

ROAD WORK AHEAD — W20-1 (48" X 48")

I-@ RAMP G - HWY. 33 INTERCHANGE
I-@ RAMP F - HWY. 33 INTERCHANGE
I-@ REST AREA - W.B. ENTRANCE RAMP
I-@ REST AREA - E.B. ENTRANCE RAMP

END ROAD WORK — G20-2 (48" X 24")

I-@ RAMP H - HWY. 33 INTERCHANGE
I-@ RAMP E - HWY. 33 INTERCHANGE

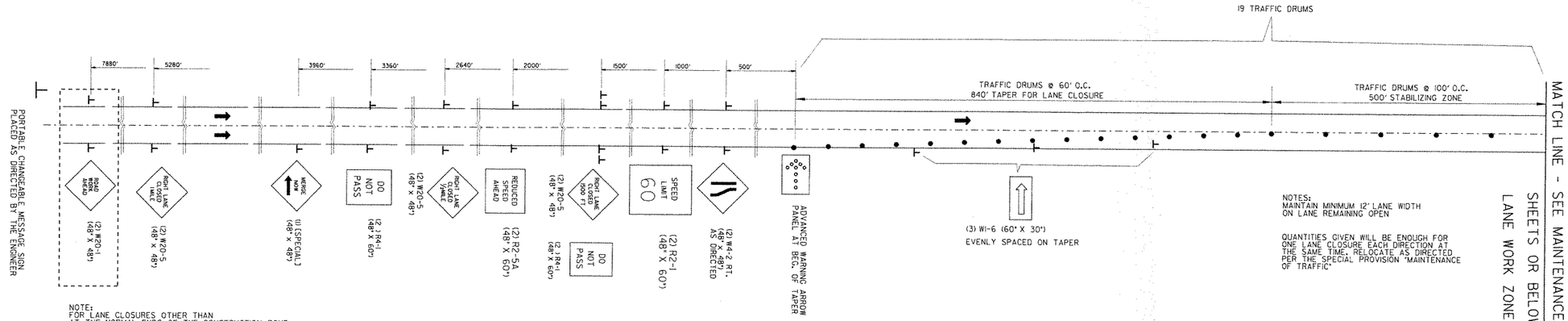
ADVANCE SIGNS AT BEGINNING AND END OF JOB 061187 ALL STAGES

02-22-02 tb80103.mot

MAINTENANCE OF TRAFFIC

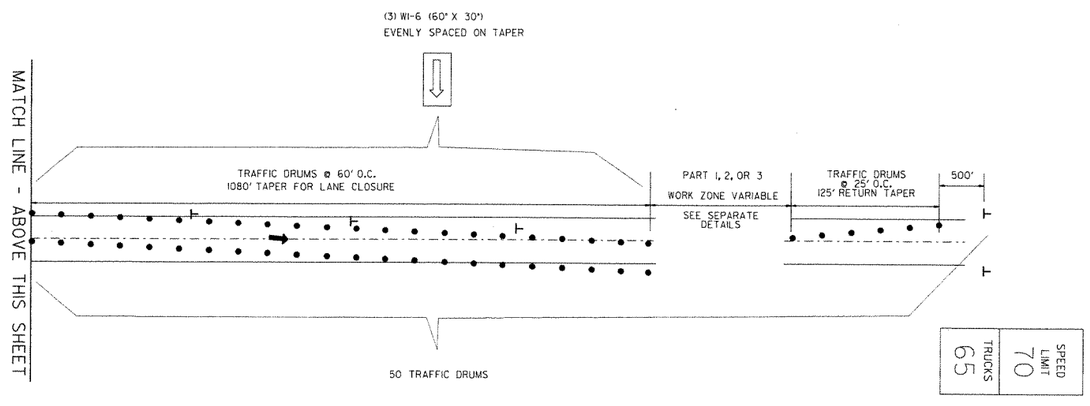
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	54	165

(2) MAINTENANCE OF TRAFFIC



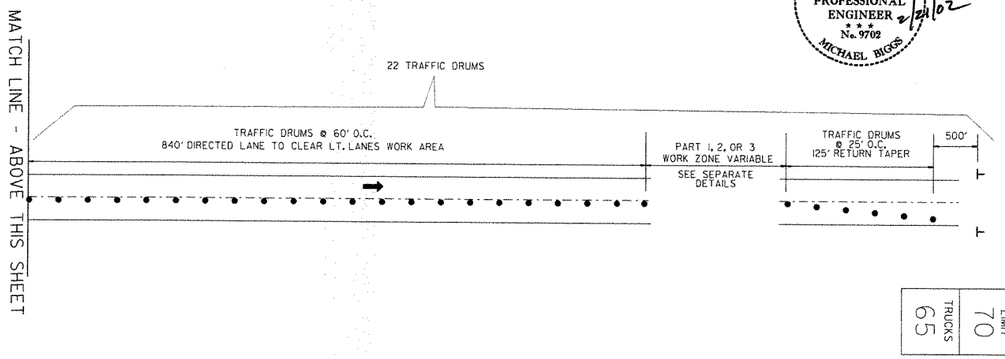
RT. LANE CLOSURE

MATCH LINE - SEE MAINTENANCE OF TRAFFIC SHEETS OR BELOW FOR LEFT LANE WORK ZONE.



DIVERSION FOR LT. LANE WORK ZONE

2 SETS OF THIS NEEDED FOR RUBBLIZE/RESURFACE JOB 061187
PART 1 - STAGE I, II, III, & IV
PART 2 - STAGE IB, II, III, & V
PART 3 - STAGE IA, IIA, IIB, III, IVA, IVB, & V
ONE EACH EASTBOUND AND WESTBOUND



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/22/02

DIVERSION FOR RT. LANE WORK ZONE

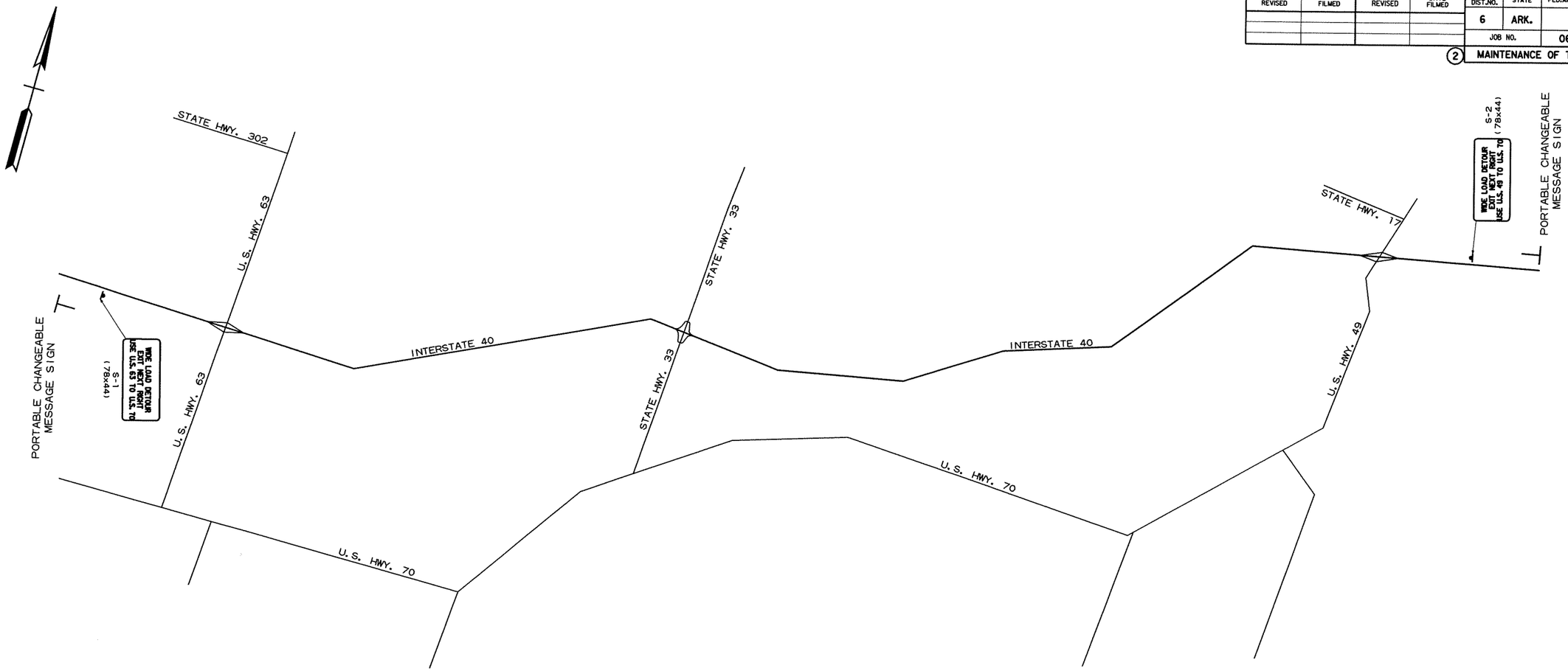
2 SETS OF THIS NEEDED FOR RUBBLIZE/RESURFACE JOB 061187
PART 1 - STAGES II & IV
PART 2 - STAGES IA, II, & IV
PART 3 - STAGES IB, IIA, IIB, IVA, & IVB
ONE EACH EASTBOUND AND WESTBOUND

ADVANCE SIGNS AND LANE CLOSURES ALL STAGES

02-22-02 tb80103.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.		061187	55	165

(2) MAINTENANCE OF TRAFFIC



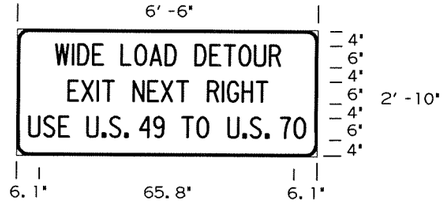
SIGN NUMBER	DESCRIPTION	SIGN SIZE	MAXIMUM NUMBER REQUIRED	SS & 604 SIGN AREA SQ. FT.
S-1	WIDE LOAD DETOUR EXIT NEXT RIGHT USE U.S. 49 TO U.S. 70	(6.5' x 2.83')	1	18.40
S-2	WIDE LOAD DETOUR EXIT NEXT RIGHT USE U.S. 63 TO U.S. 70	(6.5' x 2.83')	1	18.40
	TOTALS FOR JOB 061187			36.80

NOTES:

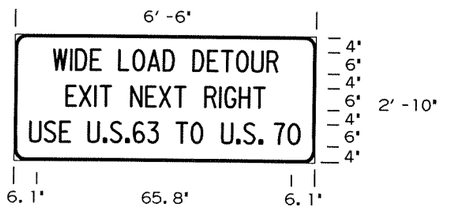
1) SPECIAL SIGNS SHALL BE CONSTRUCTED USING (WHITE) TYPE III BACKGROUND WITH (BLACK) TYPE V LEGEND AND BORDER.

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, 1996 EDITION.

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



S-1

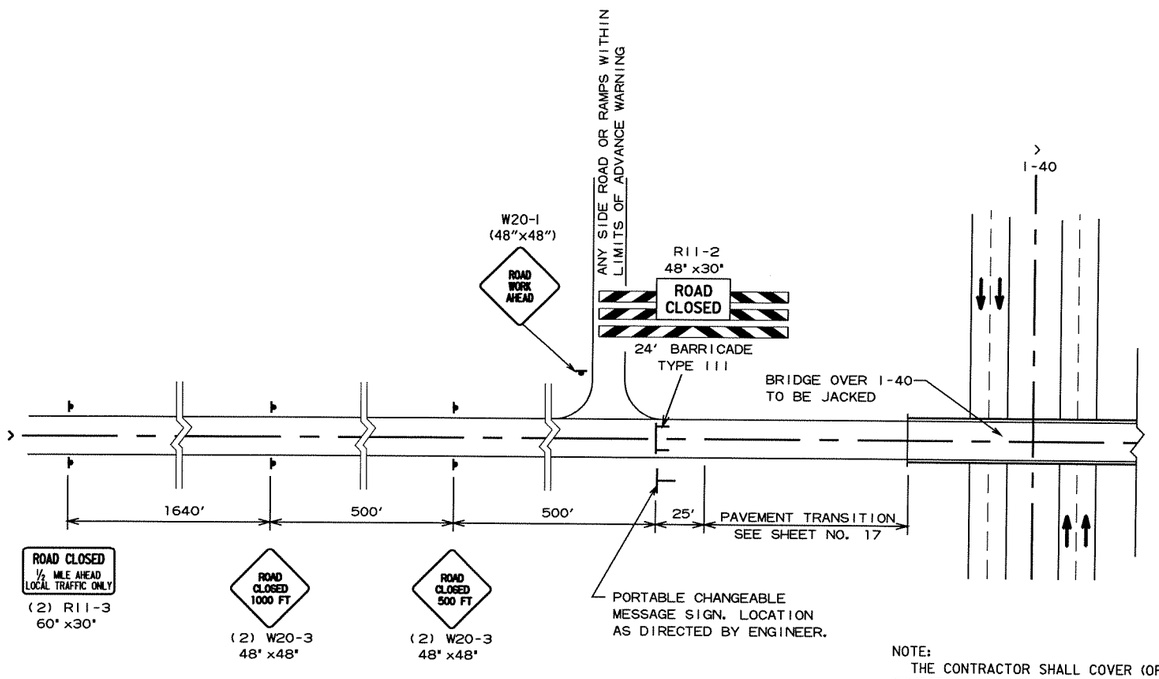


S-2



MAINTENANCE OF TRAFFIC
WIDE LOAD DETOUR AND TEMPORARY SIGNS

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.		061187	56	165
				(2)	MAINTENANCE OF TRAFFIC			



DETAILS FOR ROAD CLOSURE
FOR BRIDGE JACKING

NOTE:
THE CONTRACTOR SHALL COVER (OR REMOVE) ANY SIGNS, EITHER EXISTING OR TEMPORARY FOR TRAFFIC CONTROL, WHICH DO NOT PROPERLY APPLY TO THE ROAD CLOSURE OPERATION. THE COVERED OR REMOVED SIGNS MUST BE RESTORED TO THEIR ORIGINAL LOCATION AND CONDITION UPON COMPLETION OF THE OPERATION.

PORTABLE CHANGEABLE MESSAGE SIGNS TO BE INSTALLED A MINIMUM OF 48 HOURS PRIOR TO BRIDGE CLOSURE WARNING OF CLOSURE DAY.

STAGE II COMPLETION OF APPROACHES TO BE DONE WITH APPROVED LANE CLOSURE AND FLAGGING OPERATIONS AS SHOWN ON STD. DWG'S TC-1, TC-2, TC-3 AND TC-4. SEE S.P., SEQUENCE OF CONSTRUCTION. ALL COSTS TO BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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

02-22-02

MAINTENANCE OF TRAFFIC
BRIDGE JACKING LOCATIONS

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.		Ø61187	57	165

(2) QUANTITIES

REMOVAL & DISPOSAL OF GUARDRAIL

STATION	STATION	LOCATION	LIN. FT.
1616+00.7	1618+00.7	RT. OF LT. LANES	200
1615+77.6	1617+77.6	LT. OF LT. LANES	200
1714+26.5	1716+76.5	RT. OF LT. LANES	250
1714+02.5	1716+02.5	LT. OF LT. LANES	200
1779+70	1781+20	LT. OF LT. LANES	150
1779+53	1781+03	RT. OF LT. LANES	150
1799+39	1800+39	RT. OF LT. LANES	100
1799+79	1800+79	LT. OF LT. LANES	100
1830+87	1832+52	RT. OF LT. LANES	165
1836+00	1844+05	LT. OF LT. LANES	805
1868+22.63	1883+39.75	LT. OF LT. LANES	1517.12
1910+41	1918+21	LT. OF LT. LANES	780
1937+85	1950+50	LT. OF LT. LANES	1265
1956+19	1969+69	LT. OF LT. LANES	1350
1974+71	1982+41	RT. OF LT. LANES	770
1975+40	1986+40	LT. OF LT. LANES	1100
1979+40	1983+00	LT. OF LT. LANES	360
2027+80	2029+80	LT. OF LT. LANES	200
2096+40	2098+40	LT. OF LT. LANES	200
2163+14	2189+29	LT. OF LT. LANES	2615
1717+28.4	1719+28.4	RT. OF RT. LANES	200
1716+54.2	1719+04.2	LT. OF RT. LANES	250
1777+31	1778+81	LT. OF RT. LANES	150
1777+05	1778+55	RT. OF RT. LANES	150
1831+15	1832+15	LT. OF RT. LANES	100
1836+00	1846+40	RT. OF RT. LANES	1040
1868+22.63	1883+39.75	RT. OF RT. LANES	1517.12
1863+80.45	1865+80.45	RT. OF RT. LANES	200
1910+41	1918+01	RT. OF RT. LANES	760
1938+00	1950+50	RT. OF RT. LANES	1250
1956+19	1969+69	RT. OF RT. LANES	1350
1974+71	1982+41	LT. OF RT. LANES	770
1975+40	1983+00	RT. OF RT. LANES	760
2025+80	2027+80	RT. OF RT. LANES	200
2093+35	2095+35	RT. OF RT. LANES	200
2163+14	2189+29	RT. OF RT. LANES	2615
31+56.64	32+12.64	LT. OF CO. RD. @ BRIDGE 3710	56
31+64.32	32+20.32	RT. OF CO. RD. @ BRIDGE 3710	56
35+61.08	36+14.08	LT. OF CO. RD. @ BRIDGE 3710	53
35+68.76	36+21.76	RT. OF CO. RD. @ BRIDGE 3710	53
18+11.1	18+89.1	LT. OF CO. RD. @ BRIDGE 3716	78
18+16.6	18+94.6	RT. OF CO. RD. @ BRIDGE 3716	78
21+05.4	21+83.4	LT. OF CO. RD. @ BRIDGE 3716	78
21+10.9	21+88.9	RT. OF CO. RD. @ BRIDGE 3716	78
2186+44.50	2189+19.50	MEDIAN	525
		ACCESS RD. @ REST AREA UNDER BR. *3712	100
TOTAL			25144.24

* COST SHALL INCLUDE REMOVAL & DISPOSAL OF TYPE 2 TERMINAL

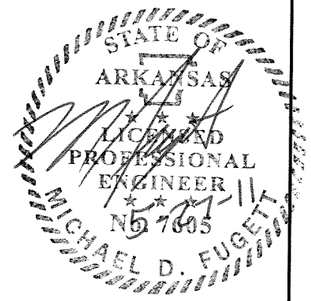
REMOVAL & DISPOSAL OF BARRIER WALL

STATION	STATION	LOCATION	LIN. FT.
1883+13.75	1883+39.75	RT. OF RT. LANES	26
1951+92.91	1952+18.91	RT. OF RT. LANES	26
2027+80	2028+09	RT. OF RT. LANES	29
2095+31	2095+60	RT. OF RT. LANES	29
1910+40.25	1910+66.25	LT. OF LT. LANES	26
1956+20.09	1956+46.09	LT. OF LT. LANES	26
2027+51	2027+80	LT. OF LT. LANES	29
2095+60	2095+89	LT. OF LT. LANES	29
1832+15.00	1865+45.45	MEDIAN	3330.45
1868+57.63	1883+04.75	MEDIAN	1447.12
1910+75.25	1951+83.91	MEDIAN	4108.66
1956+55.09	1974+00.00	MEDIAN	1744.91
2027+61	2027+99	MEDIAN	38
2095+41	2095+79	MEDIAN	38
TOTAL			10927.14

REMOVAL & DISPOSAL OF APPROACH GUTTERS

STATION	STATION	LOCATION	EACH
31+81.48	32+16.48	CO. RD.	2
35+64.92	35+39.92	CO. RD.	2
18+56.86	18+91.86	CO. RD.	1
21+08.14	21+43.14	CO. RD.	1
TOTAL			6

THE REMOVAL AND DISPOSAL OF APPROACH GUTTERS SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE DROP INLETS, SPILLWAY PIPE AND SPILLWAY OUTLETS AS DIRECTED IN SECTION 202.



REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT

STATION	STATION	LOCATION	WIDTH	SQ. YD.
1616+25.25	1623+75.00	RT. MAIN LANES	24	1999.33
1865+57.63	1883+04.75	RT. MAIN LANES	24	4658.99
1910+75.25	1920+08.00	RT. MAIN LANES	24	2487.33
1616+73.75	1623+75.00	LT. MAIN LANES	24	1870.00
1865+57.63	1883+04.75	LT. MAIN LANES	24	4658.99
1910+75.25	1920+08.00	LT. MAIN LANES	24	2487.33
		* ENTIRE PROJECT - AS DIRECTED BY ENGINEER		1000
TOTAL				19161.97

* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

REMOVAL & DISPOSAL OF APPROACH SLABS & GUTTERS

STATION	STATION	LOCATION	EACH
1615+90.25	1616+25.25	LT. LANES	1
1865+45.45	1860+80.45	LT. LANES	1
1868+22.63	1868+57.63	LT. LANES	1
1883+04.75	1883+39.75	LT. LANES	1
1910+40.25	1910+75.25	LT. LANES	1
1951+83.91	1952+18.91	LT. LANES	1
1956+20.09	1955+09	LT. LANES	1
1616+38.75	1616+73.75	RT. LANES	1
1865+45.45	1860+80.45	RT. LANES	1
1868+22.63	1868+57.63	RT. LANES	1
1883+04.75	1883+39.75	RT. LANES	1
1910+40.25	1910+75.25	RT. LANES	1
1951+83.91	1952+18.91	RT. LANES	1
1956+20.09	1955+09	RT. LANES	1
TOTAL			14

THE REMOVAL AND DISPOSAL OF APPROACH SLABS & GUTTERS SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE DROP INLETS, SPILLWAY PIPE AND SPILLWAY OUTLETS AS DIRECTED IN SECTION 202.

REMOVAL & DISPOSAL OF CURB

STATION	STATION	LOCATION	LIN. FT.
20+11.18	20+91.18	WB ENT. RAMP @ REST AREA	160
14+46.14	17+80.14	WB EXIT. RAMP @ REST AREA	668
15+92.57	18+37.57	EB EXIT. RAMP @ REST AREA	490
TOTAL			1318

SANITARY SEWER CROSSING

STATION	LOCATION	10" STEEL ENCASEMENT PIPE LIN. FT.	6" PLASTIC GRAVITY SEWER PIPE LIN. FT.
1865+15	CL MEDIAN	200	200
TOTAL		200	200

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		061187	58	165

(2) QUANTITIES

RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH	RUBBLIZING P.C.C. MAIN LANES AVG. WIDTH	RUBBLIZING P.C.C. SQ. YD.	REMOVAL OF EXIST. ASPH. OVERLAY
			LIN. FT.	FEET		SQ. YD.
1623+75.00	1674+93.10	LT. M. L. - TANGENT	5118.10	24	13648.27	
1674+93.10	1678+43.10	LT. M. L. - SE TRANS.	350.00	24	933.33	
1678+43.10	1679+21.6	LT. M. L. - SE	78.50	24	209.33	
1679+07.70	1698+21.40	LT. M. L. - SE	1913.70	24	5103.20	
1698+21.40	1701+71.40	LT. M. L. - SE TRANS.	350.00	24	933.33	
1701+71.40	1799+00.80	LT. M. L. - TANGENT	9729.40	24	25945.07	
1798+46.5	1809+28.00	LT. M. L. - TANGENT	1081.50	24	2884.00	
1809+28.00	1812+78.00	LT. M. L. - SE TRANS.	350.00	24	933.33	
1812+78.00	1829+38.00	LT. M. L. - SE	1660.00	24	4426.67	
1829+38.00	1832+88.00	LT. M. L. - SE TRANS.	350.00	24	933.33	
1832+88.00	1865+45.45	LT. M. L. - TANGENT	3257.45	24	8686.53	
1920+08.00	1951+83.91	LT. M. L. - TANGENT	3175.91	24	8469.09	
1956+55.09	1966+61.41	LT. M. L. - TANGENT	1006.32	24	2683.52	
1966+61.41	1970+11.41	LT. M. L. - SE TRANS.	350.00	24	933.33	
1970+11.41	2002+71.97	LT. M. L. - SE	3260.56	24	8694.83	
2002+71.97	2006+21.97	LT. M. L. - SE TRANS.	350.00	24	933.33	
2006+21.97	2181+93.90	LT. M. L. - TANGENT	17571.93	24	46858.48	
2181+93.90	2188+57.40	LT. M. L. - TANGENT	663.50	24	1769.33	3111.11
1623+75.00	1678+25.10	RT. M. L. - TANGENT	5450.10	24	14533.60	
1678+25.10	1679+21.6	RT. M. L. - SE TRANS.	96.50	24	257.33	
1679+07.70	1681+61.20	RT. M. L. - SE TRANS.	253.50	24	676.00	
1681+61.20	1701+39.50	RT. M. L. SE	1978.30	24	5275.47	
1701+39.50	1704+89.50	RT. M. L. - SE TRANS.	350.00	24	933.33	
1704+89.50	1769+11.60	RT. M. L. - TANGENT	6422.10	24	17125.60	
1769+11.60	1772+61.60	RT. M. L. - SE TRANS.	350.00	24	933.33	
1772+61.60	1798+13.30	RT. M. L. - SE	2551.70	24	6804.53	
1798+13.30	1799+00.80	RT. M. L. - SE TRANS.	87.50	24	233.33	
1798+46.5	1801+09.00	RT. M. L. - SE TRANS.	262.50	24	700.00	
1801+09.00	1814+29.40	RT. M. L. - TANGENT	1320.40	24	3521.07	
1814+29.40	1817+79.40	RT. M. L. - SE TRANS.	350.00	24	933.33	
1817+79.40	1834+39.40	RT. M. L. - SE	1660.00	24	4426.67	
1834+39.40	1837+89.40	RT. M. L. - SE TRANS.	350.00	24	933.33	
1837+89.40	1865+45.45	RT. M. L. - TANGENT	2756.05	24	7349.47	
1920+08.00	1951+83.91	RT. M. L. - TANGENT	3175.91	24	8469.09	
1956+55.09	2120+87.43	RT. M. L. - TANGENT	16432.34	24	43819.57	
2120+87.43	2124+37.43	RT. M. L. - SE TRANS.	350.00	24	933.33	
2124+37.43	2148+96.16	RT. M. L. - SE	2458.73	24	6556.61	
2148+96.16	2152+46.16	RT. M. L. - SE TRANS.	350.00	24	933.33	
2152+46.16	2181+93.90	RT. M. L. - TANGENT	2947.74	24	7860.64	
2181+93.90	2188+57.40	RT. M. L. - TANGENT	663.50	24	1769.33	3111.11
ENTIRE	PROJECT	EXISTING ACCELERATION LANES			3792.83	
ENTIRE	PROJECT	WESTBOUND MAIN LANES				920.00
		TOTAL	101233.74		273749.42	7142.22

NOTE: REFER TO SPECIAL PROVISION - RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT.

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	LIN. FT.
1616+14.05	1865+37.96	LT. LANES - OUTSIDE SHLDR.	24923.91
1868+65.13	1883+03.25	LT. LANES - OUTSIDE SHLDR.	1438.12
1910+76.75	1951+76.92	LT. LANES - OUTSIDE SHLDR.	4100.17
1956+63.09	2188+57.40	LT. LANES - OUTSIDE SHLDR.	23194.31
1616+37.15	1865+37.96	LT. LANES - INSIDE SHLDR.	24900.81
1868+65.13	1883+03.25	LT. LANES - INSIDE SHLDR.	1438.12
1910+76.75	1951+76.92	LT. LANES - INSIDE SHLDR.	4100.17
1956+63.09	2188+57.40	LT. LANES - INSIDE SHLDR.	23194.31
1616+64.85	1865+37.96	RT. LANES - INSIDE SHLDR.	24873.11
1868+65.13	1883+03.25	RT. LANES - INSIDE SHLDR.	1438.12
1910+76.75	1951+76.92	RT. LANES - INSIDE SHLDR.	4100.17
1956+63.09	2188+57.40	RT. LANES - INSIDE SHLDR.	23194.31
1616+87.95	1865+37.96	RT LANES - OUTSIDE SHLDR.	24850.01
1868+65.13	1883+03.25	RT LANES - OUTSIDE SHLDR.	1438.12
1910+76.75	1951+76.92	RT LANES - OUTSIDE SHLDR.	4100.17
1956+63.09	2188+57.40	RT LANES - OUTSIDE SHLDR.	23194.31
TOTAL			214478.24

ACHM PATCHING OF EXISTING ROADWAY

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

NOTE: QUANTITY ESTIMATED FOR REPLACING FULL DEPTH ASPHALT PATCHES IN THE EXISTING PCC PAVEMENT WHERE DIRECTED BY THE ENGINEER AS SPECIFIED IN SECTION 513 OF THE STANDARD SPECIFICATIONS.

ACHM PATCHING OF EXISTING SHOULDERS

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

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

RAMP SHOULDER REHABILITATION

LOCATION	SCARIFYING & RECOMPACTING SHOULDERS LENGTH	WIDTH	SQ. YD.	ACHM SURFACE COURSE (1/2") LBS. PER SQ. YD.	TON
	LIN.	FEET			
RAMP 'E' - HWY. 33 INTERCHANGE LT. SHLDR	928.38	4.0	412.61	220	45.39
RAMP 'F' - HWY. 33 INTERCHANGE LT. SHLDR	812.94	4.0	361.31	220	39.74
RAMP 'G' - HWY. 33 INTERCHANGE LT. SHLDR	764.58	4.0	339.81	220	37.38
RAMP 'H' - HWY. 33 INTERCHANGE LT. SHLDR	1043.34	4.0	463.71	220	51.01
RAMP 'E' - HWY. 33 INTERCHANGE RT. SHLDR	928.38	6.0	618.92	220	68.08
RAMP 'F' - HWY. 33 INTERCHANGE RT. SHLDR.	812.94	6.0	541.96	220	59.62
RAMP 'G' - HWY. 33 INTERCHANGE RT. SHLDR.	764.58	6.0	509.72	220	56.07
RAMP 'H' - HWY. 33 INTERCHANGE RT. SHLDR.	1043.34	6.0	695.56	220	76.51
TOTAL			3943.60		433.80

NOTE: QUANTITIES SHOWN ABOVE HAVE BEEN CARRIED TO THE 'SUMMARY OF BASE AND SURFACING' QUANTITY BOX.

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

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

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

COLD MILLING ASPHALT PAVEMENT

LOCATION	SQ. YD.
EASTBOUND MAIN LANES - CACHE RIVER BRIDGE APPROACH	3111.11
TOTAL	3111.11

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

8-24-11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		061187	59	165

(2) QUANTITIES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL B. TIGRETT 8-24-11

EROSION CONTROL

STATION	STATION	LOCATION	LIME	SEEDING	MULCH COVER	WATER	SECOND SEEDING APPLICATION
			TON	ACRE		M. GAL.	ACRE
1614+69.50	2189+28.90	RT. OF RT. MAIN LANES	33.46	16.73	16.73	1706.46	16.73
1614+69.51	2189+28.91	LT. OF RT. MAIN LANES	33.34	16.67	16.67	1700.34	16.67
1614+69.53	2189+28.93	RT. OF LT. MAIN LANES	32.38	16.19	16.19	1651.38	16.19
1614+69.54	2189+28.94	LT. OF LT. MAIN LANES	32.76	16.38	16.38	1670.76	16.38
ADDITIONAL FOR EXTENSION OF ACCELERATION LANES			0.68	0.34	0.34	34.68	0.34
* ENTIRE PROJECT - AS DIRECTED BY THE ENGINEER			10.00	5.00	5.00	510.00	5.00
TOTAL			142.62	71.31	71.31	7273.62	71.31

* NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE: WATER - 102.0 M.G. PER ACRE SEEDING
LIME - 2 TON PER ACRE SEEDING

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	TEMPORARY SEEDING	MULCH COVER	WATER	DROP INLET SILT FENCE (E-7)	SILT FENCE (TYPE E-11)	SEDIMENT REMOVAL & DISPOSAL	SOLID SODDING
			ACRE		M. GAL.	LIN. FT.		CU. YD.	SQ. YD.
1604+50.00	1613+84.32	CROSSOVER 1	1.29	1.29	26.32		100		
1817+52.24	1829+16.67	CROSSOVER 2	3.03	3.03	61.81				
2006+36.83	2015+70.85	CROSSOVER 3	1.29	1.29	26.32				
2199+00.00	2206+58.29	CROSSOVER 4	0.52	0.52	10.61		50		
* REST AREA @ BRIDGE #3712							400		
* ACCELERATION LANE EXTENSION			0.18	0.18	3.67		1180		
* ENTIRE PROJECT AS DIRECTED BY ENGINEER					1.26	2160		100	100
TOTAL			6.31	6.31	129.99	2160	1730	100	100

BASIS OF ESTIMATE: WATER = 20.4 M. GAL. PER ACRE OF TEMPORARY SEEDING - 12.6 GAL. PER SQ. YD. FOR SOLID SODDING
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.
* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

EARTHWORK

STATION	STATION	LOCATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CUBIC YARD	
2005+50.00	2013+00.00	I-40 W.B. ACCELERATION LANE EXENSION @ RAMP F	294.44	854.16
2045+61.56	2049+99.56	I-40 W.B. ACCELERATION LANE EXENSION @ RAMP G	171.95	498.83
1604+50.00	1614+84.32	CROSSOVER #1 @ I-40 MEDIAN	*1971.00	950.00
1817+52.24	1829+16.67	CROSSOVER #2 @ I-40 MEDIAN	*1570.00	420.00
2006+36.83	2015+70.85	CROSSOVER #3 @ I-40 MEDIAN	*4122.00	3200.00
2199+00.00	2206+58.29	CROSSOVER #4 @ I-40 MEDIAN	* 849.00	100.00
ENTIRE	PROJECT	FULL DEPTH PAVEMENT AREAS	7930.00	
ENTIRE	PROJECT	BRIDGE JACKING LOCATIONS		450.00
ENTIRE	PROJECT	GUARDRAIL WIDENING LOCATIONS		225.00
ENTIRE	PROJECT	TEMPORARY RAMPS - BISCOE INTERCHANGE	*5608.00	3883.00
TOTAL			22516.39	10580.99

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID FOR AS PLAN QUANTITIES.
ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
* INCLUDES CONSTRUCTION AND REMOVAL QUANTITIES

FENCE

LOG MILE	LOG MILE	LOCATION	REMOVAL & DISPOSAL OF FENCE	WIRE FENCE (TYPE A)	16' VEHICULAR GATE
			LIN. FT.		EACH
194.42	195.13	RT. OF I-40	3772.35	3772.35	1
195.13	196.25	RT. OF I-40	5820.96	5820.96	
196.25	197.37	RT. OF I-40	6921.36	6921.36	2
197.37	198.47	RT. OF I-40	5826.37	5826.37	
198.47	199.03	RT. OF I-40	3054.23	3054.23	1
199.03	199.58	RT. OF I-40	2811.27	2811.27	2
199.58	200.48	RT. OF I-40	5145.90	5145.90	1
200.48	201.84	RT. OF I-40	6253.85	6253.85	2
201.84	202.39	RT. OF I-40	4038.70	4038.70	2
202.39	203.50	RT. OF I-40	6121.65	6121.65	1
203.50	204.62	RT. OF I-40	6542.10	6542.10	1
204.62	205.28	RT. OF I-40	3521.01	3521.01	1
194.42	195.13	LT. OF I-40	3772.35	3772.35	1
195.13	196.25	LT. OF I-40	5820.96	5820.96	
196.25	197.37	LT. OF I-40	6921.36	6921.36	2
197.37	198.47	LT. OF I-40	5826.37	5826.37	
198.47	199.03	LT. OF I-40	3054.23	3054.23	1
199.03	199.58	LT. OF I-40	2811.27	2811.27	2
199.58	200.48	LT. OF I-40	5145.90	5145.90	1
200.48	201.84	LT. OF I-40	6253.85	6253.85	2
201.84	202.39	LT. OF I-40	4038.70	4038.70	2
202.39	203.50	LT. OF I-40	6121.65	6121.65	1
203.50	204.62	LT. OF I-40	6542.10	6542.10	1
204.62	205.28	LT. OF I-40	3521.01	3521.01	1
TOTAL			119659.50	119659.50	28

GEOTEXTILE FABRIC (TYPE 8)

STATION	STATION	LOCATION	LENGTH	AVERAGE WIDTH	GEOTEXTILE FABRIC (TYPE 8)
			FEET		SQ. YD.
2006+50	2009+50	LT. OF LT. LANES (TAPER)	300.00	7.00	233.33
2009+50	2011+00	LT. OF LT. LANES (ACCEL. LANE)	150.00	14.00	233.33
2011+00	2014+00	LT. OF LT. LANES (TAPER)	300.00	7.00	233.33
2046+62	2048+00	RT. OF RT. LANES (TAPER)	138.00	3.75	57.5
2048+00	2051+00	RT. OF RT. LANES (TAPER)	300.00	3.75	125
TOTAL					882.49

PORTLAND CEMENT CONCRETE PAVEMENT PATCHING

LOCATION	REM. & DISP. OF CONCRETE PAVEMENT FOR PATCHING	PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (10" U.T.)	PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (10" U.T.)
	SQ. YD.		
EASTBOUND MAIN LANES - PART 1	4980	4980	
EASTBOUND MAIN LANES - PART 2	477	477	
EASTBOUND MAIN LANES - PART 3	552	552	
* ENTIRE PROJECT - RAMPS	100		100
TOTALS	6109	6009	100

* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS. PORTLAND CEMENT CONCRETE PAVEMENT PATCHING SHALL BE DONE AT LOCATIONS DESIGNATED BY THE ENGINEER.
NO MESH, DOWEL BARS OR TIE BARS REQUIRED IN THE PATCHES THAT ARE TO BE RUBBILIZED.
CONCRETE PATCHING (10" U.T.) FOR RAMPS SHALL FOLLOW REQUIREMENTS OUTLINED FOR SP - VERY EARLY STRENGTH CONCRETE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		061187	60	165

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
8-24-11

BASE & SURFACING - MAIN LANES

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.			AGGREGATE BASE COURSE CLASS 7
				* LEVELING - 110 LBS. PER SQ. YD.			NORMAL															
				AVG. WIDTH	SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	TOTAL TONS	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	GAL.	TON
			LIN. FT.	FEET			FEET					FEET				FEET				FEET			
1616+26.75	1623+75.00	LT. M.L. - TANGENT SECTION (FULL-DEPTH)	748.25				24	1995.33	1210	1207.17	1207.17	24	1995.33	330	329.23	24	1995.33	440	438.97	120	9976.67	299.30	698.37
1623+75.00	1674+93.10	LT. M.L. - TANGENT SECTION	5118.10	24	13648.27	750.65	24	13648.27	645	4401.57	5152.22	24	13648.27	330	2251.96	24	13648.27	440	3002.62	120	68241.33	2047.24	
1674+93.10	1678+43.10	LT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1678+43.10	1698+21.40	LT. M.L. - SUPERELEVATION	1964.40	24	5238.40	288.11	24	5238.40	645	1689.38	1977.49	24	5238.40	330	864.34	24	5238.40	440	1152.45	120	26192.00	785.76	
1698+21.40	1701+71.40	LT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1701+71.40	1809+28.00	LT. M.L. - TANGENT SECTION	10702.10	24	28538.93	1569.64	24	28538.93	645	9203.80	10773.44	24	28538.93	330	4708.92	24	28538.93	440	6278.56	120	142694.67	4280.84	
1809+28.00	1812+78.00	LT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1812+78.00	1829+38.00	LT. M.L. - SUPERELEVATION	1660.00	24	4426.67	243.47	24	4426.67	645	1427.60	1671.07	24	4426.67	330	730.40	24	4426.67	440	973.87	120	22133.33	664.00	
1829+38.00	1832+88.00	LT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1832+88.00	1865+37.96	LT. M.L. - TANGENT SECTION	3249.95	24	8666.53	476.66	24	8666.53	645	2794.96	3271.62	24	8666.53	330	1429.98	24	8666.53	440	1906.64	120	43332.67	1299.98	
1868+65.13	1883+03.25	LT. M.L. - TANGENT SECTION (FULL-DEPTH)	1438.12				24	3834.99	1210	2320.17	2320.17	24	3834.99	330	632.77	24	3834.99	440	843.70	120	19174.93	575.25	1342.25
1910+76.75	1920+08.00	LT. M.L. - TANGENT SECTION (FULL-DEPTH)	931.25				24	2483.33	1210	1502.41	1502.41	24	2483.33	330	409.75	24	2483.33	440	546.33	120	12416.67	372.50	869.17
1920+08.00	1951+76.92	LT. M.L. - TANGENT SECTION	3168.92	24	8450.45	464.77	24	8450.45	645	2725.27	3190.04	24	8450.45	330	1394.32	24	8450.45	440	1859.10	120	42252.27	1267.57	
1956+63.09	1966+61.41	LT. M.L. - TANGENT SECTION	998.32	24	2662.19	146.42	24	2662.19	645	858.56	1004.98	24	2662.19	330	439.26	24	2662.19	440	585.68	120	13310.93	399.33	
1966+61.41	1970+11.41	LT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1970+11.41	2002+71.97	LT. M.L. - SUPERELEVATION	3260.56	24	8694.83	478.22	24	8694.83	645	2804.08	3282.30	24	8694.83	330	1434.65	24	8694.83	440	1912.86	120	43474.13	1304.22	
2002+71.97	2006+21.97	LT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
2006+21.97	2188+93.90	LT. M.L. - TANGENT SECTION	18271.93	24	48725.15	2679.88	24	48725.15	645	15713.86	18393.74	24	48725.15	330	8039.65	24	48725.15	440	10719.53	120	243625.73	7308.77	
1616+75.25	1623+75.00	RT. M.L. - TANGENT SECTION (FULL-DEPTH)	699.75				24	1866.00	1210	1128.93	1128.93	24	1866.00	330	307.89	24	1866.00	440	410.52	120	9330.00	279.90	653.10
1623+75.00	1678+25.10	RT. M.L. - TANGENT SECTION	5450.10	24	14533.60	799.35	24	14533.60	645	4687.09	5486.44	24	14533.60	330	2398.04	24	14533.60	440	3197.39	120	72668.00	2180.04	
1678+25.10	1681+61.20	RT. M.L. - SUPERELEVATION TRANSITION	322.20	24	859.20	47.26	24	859.20	645	277.09	324.35	24	859.20	330	141.77	24	859.20	440	189.02	120	4296.00	128.88	
1681+61.20	1701+39.50	RT. M.L. - SUPERELEVATION	1978.29	24	5275.44	290.15	24	5275.44	645	1701.33	1991.48	24	5275.44	330	870.45	24	5275.44	440	1160.60	120	26377.20	791.32	
1701+39.50	1704+89.50	RT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1704+89.50	1769+11.60	RT. M.L. - TANGENT SECTION	6422.10	24	17125.60	941.91	24	17125.60	645	5523.01	6464.92	24	17125.60	330	2825.72	24	17125.60	440	3767.63	120	85628.00	2568.84	
1769+11.60	1772+61.60	RT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1772+61.60	1798+13.30	RT. M.L. - SUPERELEVATION	2551.69	24	6804.51	374.25	24	6804.51	645	2194.45	2568.70	24	6804.51	330	1122.74	24	6804.51	440	1496.99	120	34022.53	1020.68	
1798+13.30	1801+09.00	RT. M.L. - SUPERELEVATION TRANSITION	241.20	24	643.20	35.38	24	643.20	645	207.43	242.81	24	643.20	330	106.13	24	643.20	440	141.50	120	3216.00	96.48	
1801+09.00	1814+29.40	RT. M.L. - TANGENT SECTION	1320.39	24	3521.04	193.66	24	3521.04	645	1135.54	1329.20	24	3521.04	330	580.97	24	3521.04	440	774.63	120	17605.20	528.16	
1814+29.40	1817+79.40	RT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1817+79.40	1834+39.40	RT. M.L. - SUPERELEVATION	1660.00	24	4426.67	243.47	24	4426.67	645	1427.60	1671.07	24	4426.67	330	730.40	24	4426.67	440	973.87	120	22133.33	664.00	
1834+39.40	1837+89.40	RT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
1837+89.40	1865+37.96	RT. M.L. - TANGENT SECTION	2748.56	24	7329.49	403.12	24	7329.49	645	2363.76	2766.88	24	7329.49	330	1209.37	24	7329.49	440	1612.49	120	36647.47	1099.42	
1868+65.13	1883+03.25	RT. M.L. - TANGENT SECTION (FULL-DEPTH)	1438.12				24	3834.99	1210	2320.17	2320.17	24	3834.99	330	633.00	24	3834.99	440	843.70	120	19174.93	575.25	1342.25
1910+76.75	1920+08.00	RT. M.L. - TANGENT SECTION (FULL-DEPTH)	931.25				24	2483.33	1210	1502.41	1502.41	24	2483.33	330	409.75	24	2483.33	440	546.33	120	12416.67	372.50	869.17
1920+08.00	1951+76.92	RT. M.L. - TANGENT SECTION	3168.92	24	8450.45	464.77	24	8450.45	645	2725.27	3190.04	24	8450.45	330	1394.32	24	8450.45	440	1859.10	120	42252.27	1267.57	
1956+63.09	2120+87.43	RT. M.L. - TANGENT SECTION	16424.34	24	43798.24	2408.90	24	43798.24	645	14124.93	16533.83	24	43798.24	330	7226.71	24	43798.24	440	9635.61	120	218991.20	6569.74	
2120+87.43	2124+37.43	RT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
2124+37.43	2148+96.16	RT. M.L. - SUPERELEVATION	2458.73	24	6556.61	360.61	24	6556.61	645	2114.51	2475.12	24	6556.61	330	1081.84	24	6556.61	440	1442.45	120	32783.07	983.49	
2148+96.16	2152+46.16	RT. M.L. - SUPERELEVATION TRANSITION	350.00	24	933.33	51.33	24	933.33	645	301.00	352.33	24	933.33	330	154.00	24	933.33	440	205.33	120	4666.67	140.00	
2152+46.16	2188+93.90	RT. M.L. - TANGENT SECTION	3647.74	24	9727.31	535.00	24	9727.31	645	3137.06	3672.06	24	9727.31	330	1605.01	24	9727.31	440	2140.01	120	48636.53	1459.10	
1837+79.93	1844+77.92	LT. M.L. - AUXILIARY TAPER	697.99	9.5	736.77	40.52	9.5	736.77	645	237.61	278.13	9.5	736.77	330	121.57	9.5	736.77	440	162.09	47.5	3683.84	110.52	
1860+93.04	1862+61.04	LT. M.L. - AUXILIARY TAPER	168.00	5.0	93.33	5.13	5.0	93.33	645	30.10	35.23	5.0	93.33	330	15.40	5.0	93.33	440	20.53	25.0	466.67	14.00	
1862+61.04	1865+37.96	LT. M.L. - AUXILIARY TAPER	276.91	12.5	384.60	21.15	12.5	384.60	645	124.03	145.18	12.5	384.60	330	63.46	12.5	384.60	440	84.61	62.5	1922.99	57.69	
2011+00.00	2014+00.00	LT. M.L. - AUXILIARY TAPER	300.00	6.0	200.00	11.00	6.0	200.00	645	64.50	75.50	6.0	200.00	330	33.00	6.0	200.00	440	44.00	30.0	1000.00	30.00	
2014+00.00	2019+71.90	LT. M.L. - AUXILIARY LANE	571.90	12.0	762.53	41.94	12.0	762.53	645	245.92	287.86	12.0	762.53	330	125.82	12.0	762.53	440	167.76	60.0	3812.67	114.38	
2019+71.90	2020+57.88	LT. M.L. - AUXILIARY TAPER	85.98	15.4	147.50	8.11	15.4	147.50	645	47.57	55.68	15.4	147.50	330	24.34	15.4	147.50	440	32.45	77.2	737.52	22.13	
2036+86.39	2038+54.39	LT. M.L. - AUXILIARY TAPER	168.00	7.0	130.67	7.19	7.0	130.67	645	42.14	49.33	7.0	130.67	330	21.56	7.0	130.67	440	28.75	35.0	653.33	19.60	
2038+54.39	2042+39.84	LT. M.L. - AUXILIARY TAPER	385.44	14.5	620.99	34.15	14.5	620.99	645	200.27	234.42	14.5	620.99	330	102.46	14.5	620.99	440	136.62	72.5	3104.93	93.15	
1840+46.99	1844+45.27	RT. M.L. - AUXILIARY TAPER	398.27	25.5	1128.43	62.06	25.5	1128.43	645	363.92	425.98	25.5	1128.43	330	186.19	25.5	1128.43	440	248.25	127.5	5642.16	169.26	
1844+45.27	1846+13.27	RT. M.L. - AUXILIARY TAPER	168.00	18.0	336.00	18.48	18.0	336.00	645	108.36	126.84	18.0	336.00	330	55.44	18.0	336.00	440	73.92	90.0	1680.00	50.40	
1857+25.16	1863+33.56	RT. M.L. - AUXILIARY LANE	608.39	24.0	1622.37	89.23	24.0	1622.37	645	523.21	612.44	24.0	1622.37	330	267.69	24.0	1622.37	440	356.92	120.0	8111.87	243.36	
1863+33.56	1865+37.96	RT. M.L. - AUXILIARY TAPER	204.39	12.0	272.52	14.99	12.0	272.52	645	87.89	102.88	12.0	272.52	330	44.97	12.0	272.52	440	59.95	60.0	1362.60	40.88	
2016+06.92	2019+25.54	RT. M.L. - AUXILIARY TAPER	318.61	14.5	513.32	28.23	14.5	513.32	645	165.55	193.78	14.5	513.32	330	84.70	14.5	513.32	440	112.93	72.5	2566.58	77.00	
2019+25.54	2020+93.54	RT. M.L. - AUXILIARY TAPER	168.00	7.0	130.67	7.19	7.0	130.67	645	42.14	49.33	7.0	130.67	330	21.56	7.0	130.67	440	28.75	35.0	653.33	19.60	
2037+01.83	2037+89.86	RT. M.L. - AUXILIARY TAPER	88.02	15.4	150.61	8.28	15.4	150.61	645	48.57	56.85	15.4	150.61	330	24.85	15.4	150.61	440	33.13	77.0	753.06	22.59	
2037+89.86	2046+62.00	RT. M.L. - AUXILIARY LANE	872.14	12.0	1162.85	63.96	12.0	1162.85	645	375.02	438.98	12.0	1162.85	330	191.87	12.0	1162.85	440	255.83	60.0	5814.27	174.43	
2046+62.00	2050+37.40	RT. M.L. - AUXILIARY TAPER	375.39	6.0	250.26	13.76	6.0	250.26	645	80.71	94.47	6.0	250.26	330	41.29	6.0	250.26	440	55.06	30.0	1251.30	37.54	
		**TEMP. PAVING TRANSITION - PART 2								172.00	172.00		1600.00		322.68		3200.00		645.36		10666.68	320.00	
TOTALS					277946.16	15286.98		294444.13		99790.92	115077.90		296044.13		48906.19		297644.13		65423.02		1482887.57	44486.66	5774.31

BASIS OF ESTIMATE:

ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 94.4%, ASPHALT BINDER (PG-76-22) = 5.6%

Nmax = 205

* NOTE: LEVELING QUANTITY IS ESTIMATED. LEVELING IS TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

** NOTE: USE MINIMUM TRANSITION LENGTH OF 25 FEET PER INCH OF OVERLAY THICKNESS. LONGER TRANSITIONS SHALL BE USED WHERE DIRECTED BY THE ENGINEER. TRANSITIONS SHALL BE REMOVED WHEN ADJOINING SEGMENT IS RESURFACED. REMOVAL SHALL BE ALONG A STRAIGHT LINE BY USE OF PAPER OR BY SAWING. PAVEMENT FOR REMOVAL OF SURFACING TRANSITIONS SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. THE CONTRACTOR MAY SUBSTITUTE ASPHALT MEETING THE REQUIREMENTS OF SECTION 415 FOR TEMPORARY TRANSITIONS, BUT PAYMENT SHALL BE MADE FOR ACHM SURFACE COURSE (1/2").

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.		Ø61187	61	165

(2) QUANTITIES

BASE & SURFACING - TRANSITIONS (RAMP SHOULDERS)

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2")							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				TACK COAT						TOTAL GAL.	BORROW	AGGREGATE BASE COURSE (CLASS 1)
				*LEVELING-110 LBS. PER SQ. YD.			NORMAL												0.10 GAL. PER SQ. YD.			0.03 GAL. PER SQ. YD.					
				AVG. WIDTH	SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	TOTAL TONS	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	GAL.	AVG. WIDTH	SQ. YD.	GAL.			
			LIN. FT.	FEET			FEET					FEET				FEET				FEET			FEET				CU. YD.	TON
17+86.18	20+86.18	N-W RAMP @ REST AREA TRANSITION - OUTSIDE SHOULDER	300	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	204.67	20.47	18.42	614.00	18.42	38.89	13.56	28.47
17+86.18	20+86.18	N-W RAMP @ REST AREA TRANSITION - INSIDE SHOULDER	300	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	138.00	13.8	12.42	414.00	12.42	26.22	18.11	38.03
15+32.57	18+32.57	S-W RAMP @ REST AREA TRANSITION- OUTSIDE SHOULDER	300	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	204.67	20.47	18.42	614.00	18.42	38.89	13.56	28.47
15+32.57	18+32.57	S-W RAMP @ REST AREA TRANSITION - INSIDE SHOULDER	300	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	138.00	13.8	12.42	414.00	12.42	26.22	18.11	38.03
14+51.14	20+51.14	N-E RAMP @ REST AREA TRANSITION - OUTSIDE SHOULDER	600	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	409.33	40.93	18.42	1228.00	36.84	77.77	27.11	56.93
14+51.14	20+51.14	N-E RAMP @ REST AREA TRANSITION - INSIDE SHOULDER	600	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	276.00	27.6	12.42	828.00	24.84	52.44	36.22	76.07
14+19.96	17+19.96	S-E RAMP @ REST AREA TRANSITION - OUTSIDE SHOULDER	300	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	204.67	20.47	18.42	614.00	18.42	38.89	13.56	28.47
14+19.96	17+19.96	S-E RAMP @ REST AREA TRANSITION - INSIDE SHOULDER	300	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	138.00	13.8	12.42	414.00	12.42	26.22	18.11	38.03
19+58.91	25+58.91	RAMP F @ HWY. 33 TRANSITION - OUTSIDE SHOULDER	600	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	409.33	40.93	18.42	1228.00	36.84	77.77	27.11	56.93
19+58.91	25+58.91	RAMP F @ HWY. 33 TRANSITION - INSIDE SHOULDER	600	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	276.00	27.6	12.42	828.00	24.84	52.44	36.22	76.07
18+06.23	24+06.23	RAMP E @ HWY. 33 TRANSITION - OUTSIDE SHOULDER	600	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	409.33	40.93	18.42	1228.00	36.84	77.77	27.11	56.93
18+06.23	24+06.23	RAMP E @ HWY. 33 TRANSITION - INSIDE SHOULDER	600	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	276.00	27.6	12.42	828.00	24.84	52.44	36.22	76.07
32+34.36	38+34.36	RAMP H @ HWY. 33 TRANSITION - OUTSIDE SHOULDER	600	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	409.33	40.93	18.42	1228.00	36.84	77.77	27.11	56.93
32+34.36	38+34.36	RAMP H @ HWY. 33 TRANSITION - INSIDE SHOULDER	600	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	276.00	27.6	12.42	828.00	24.84	52.44	36.22	76.07
30+01.10	36+01.10	RAMP G @ HWY. 33 TRANSITION - OUTSIDE SHOULDER	600	6.83	37.94	2.09	6.83	37.94	440	8.35	10.44	6.45	71.67	403.33	14.45	6.00	100	476.67	23.83	6.14	409.33	40.93	18.42	1228.00	36.84	77.77	27.11	56.93
30+01.10	36+01.10	RAMP G @ HWY. 33 TRANSITION - INSIDE SHOULDER	600	4.83	26.83	1.48	4.83	26.83	440	5.9	7.38	4.45	49.44	403.33	9.97	4.00	66.67	476.67	15.89	4.14	276.00	27.6	12.42	828.00	24.84	52.44	36.22	76.07
TOTALS					518.16	28.56		518.16		114.00	142.56		968.88		195.36		1333.36		317.76		4454.66	445.46		13964.00	400.92	846.38	411.66	854.50

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. = 95.5%, ASPH BINDER (PG76-22) = 4.5%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.4%, ASPH BINDER (PG76-22) = 5.6%
Nmax = 205

* NOTE: LEVELING QUANTITY IS ESTIMATED. LEVELING IS TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

BASE AND SURFACING - ACCELERATION LANE EXTENSIONS

STATION	STATION	LOCATION	LENGTH	OPEN GRADED ASPHALT BASE COURSE (TYPE 4)				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				TACK COAT 0.03 GAL./SQ. YD.			AGGREGATE BASE COURSE (CLASS 7)	BORROW
				AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	GALLONS		
			LIN. FT.	FEET				FEET				FEET				FEET				FEET			TON	CU. YD.
2006+50.00	2009+50.00	LT. OF LT. LANES (TAPER)	300.00	7.50	250.00	480	60.00	6.50	216.67	990	107.25	6.25	208.33	330	34.37	6.00	200.00	440	44.00	24.00	800.00	24.00	411.00	8.10
2009+50.00	2010+20.00	LT. OF LT. LANES	70.00	15.00	116.67	480	28.00	13.00	101.11	990	50.05	12.50	97.22	330	16.04	18.00	140.00	440	30.80	48.00	373.33	11.20	95.90	3.78
2010+20.00	2014+00.00	LT. OF LT. LANES (EX. TAPER)	380.00	7.50	316.67	480	76.00	6.50	274.44	990	135.85	6.25	263.89	330	43.54	6.00	253.33	440	55.73	24.00	1013.33	30.40	520.60	10.26
2046+62.00	2048+00.00	RT. OF RT. LANES (TAPER)	138.00	5.04	77.28	480	18.55	3.04	46.61	990	23.07	2.54	38.95	330	6.43	8.04	123.28	440	27.12	19.70	302.07	9.06	189.06	3.73
2048+00.00	2050+35.00	RT. OF RT. LANES	235.00	7.07	184.61	480	44.31	5.07	132.38	990	65.53	4.57	119.33	330	19.69	10.07	262.94	440	57.85	29.85	779.42	23.38	321.95	12.69
2050+35.00	2051+00.00	RT. OF RT. LANES (EX. TAPER)	65.00	5.04	36.40	480	8.74	3.04	21.96	990	10.87	2.57	18.56	330	3.06	8.07	58.28	440	12.82	19.76	142.71	4.28	89.05	1.76
1831+65.00	1834+65.00	LT. OF LT. LANES (TAPER)	300.00	7.50	250.00	480	60.00	6.50	216.67	990	107.25	6.25	208.33	330	34.37	6.00	200.00	440	44.00	24.00	800.00	24.00	411.00	8.10
1834+65.00	1837+40.00	LT. OF LT. LANES	275.00	15.00	458.33	480	110.00	13.00	397.22	990	196.62	12.50	381.94	330	63.02	18.00	550.00	440	121.00	48.00	1466.67	44.00	376.75	14.85
1837+40.00	1840+40.00	LT. OF LT. LANES (EX. TAPER)	300.00	7.50	250.00	480	60.00	6.50	216.67	990	107.25	6.25	208.33	330	34.37	6.00	200.00	440	44.00	24.00	800.00	24.00	411.00	8.10
TOTAL					1939.96		465.60		1623.73		803.74		1544.88		254.89		1987.83		437.32		6477.53	194.32	2826.31	71.37

BASIS OF ESTIMATE: OPEN GRADED ASPHALT BASE COURSE (TYPE 4) - MINERAL AGGREGATE = 97.2%, ASPHALT BINDER (PG 64-22) = 2.8% Nmax = 115
ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 95.5% ASPHALT BINDER (PG 76-22) = 4.5% Nmax = 205
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.5% ASPHALT BINDER (PG 76-22) = 4.5% Nmax = 205
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 94.4% ASPHALT BINDER (PG 76-22) = 5.6% Nmax = 205

SURFACING - MAIN LINE SHOULDER REHABILITATION

STATION	STATION	LOCATION	LENGTH	ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				TACK COAT 0.03 GAL./SQ. YD.			TRENCHING AND SHOULDER PREPARATION
				AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	GALLONS	
			LIN. FEET	FEET				FEET				FEET			STATION
PART 1															
1616+73.75	1679+21.60	INSIDE SHOULDER - RT. M.L.	6247.85	6	4165.23	990	2061.79	6	4165.23	220	458.18	18	12495.70	374.87	62.48
1679+07.07	1799+00.80	INSIDE SHOULDER - RT. M.L.	11993.73	6	7995.82	990	3957.93	6	7995.82	220	879.54	18	23987.45	719.62	119.94
1798+46.50	1823+00.00	INSIDE SHOULDER - RT. M.L.	2453.50	6	1635.67	990	809.66	6	1635.67	220	179.92	18	4907.00	147.21	24.54
PART 2															
1823+00.00	1865+45.45	OUTSIDE SHOULDER - RT. M.L.	4245.45	10	4717.17	990	2335.00	10	4717.17	220	518.89	30	14151.50	424.55	42.45
1868+87.63	1883+04.75	OUTSIDE SHOULDER - RT. M.L.	1447.12	10	1607.91	990	795.92	10	1607.91	220	176.87	30	4823.73	144.71	14.47
1910+75.25	1951+83.91	OUTSIDE SHOULDER - RT. M.L.	4108.66	10	4565.18	990	2259.76	10	4565.18	220	502.17	30	13695.53	410.87	41.09
1956+55.09	1985+00.00	OUTSIDE SHOULDER - RT. M.L.	2844.91	10	3161.01	990	1564.70	10	3161.01	220	347.71	30	9483.03	284.49	28.45
1983+00.00	2012+00.00	INSIDE SHOULDER - RT. M.L.	2900.00	6	1933.33	990	957.00	6	1933.33	220	212.67	18	5800.00	174.00	29.00
PART 3															
2012+00.00	2188+57.40	INSIDE SHOULDER - RT. M.L.	17657.40	6	11771.60	990	5826.94	6	11771.60	220	1294.88	18	35314.80	1059.44	176.57
TOTAL					41552.92		20568.70		41552.92		4570.83		124658.75	3739.76	538.99

BASIS OF ESTIMATE:
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.5% ASPHALT BINDER (PG 76-22) = 4.5%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 94.4% ASPHALT BINDER (PG 76-22) = 5.6%
Nmax = 205

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER 5-27-11 No. 14605 MICHAEL D. FUGETT

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.		Ø61187	62	165

(2) QUANTITIES

BASE AND SURFACING - TRANSITIONS (RAMP MAIN LINE)

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2") LEVELING-110 LBS. PER SQ. YD. AVG. WIDTH			ACHM BASE COURSE (1 1/2") NORMAL AVG. WIDTH				TOTAL TON	ACHM BINDER COURSE (1") AVG. WIDTH				ACHM SURFACE COURSE (1/2") AVG. WIDTH				TACK COAT 0.03 GAL. PER SQ. YD. AVG. WIDTH			SCARIFYING CONCRETE PAVEMENT
			LIN.FT.	FEET	SQ. YD.	TON	FEET	SQ. YD.	LBS. PER SQ. YD.	TON		FEET	SQ. YD.	LBS. PER SQ. YD.	TON	FEET	SQ. YD.	LBS. PER SQ. YD.	TON	FEET	SQ. YD.	GAL.	SQ. YD.
17+86.18	18+36.18	N-W RAMP @ REST AREA TRANSITION	50	15	83.33	4.58	15	83.33	495	20.62	25.20	15	83.33	330	13.75	15	83.33	440	18.33	90	500.00	15.00	
18+36.18	19+36.18	N-W RAMP @ REST AREA TRANSITION	100									15	166.67	440	36.67	15	166.67	440	36.67	60	666.67	20.00	
19+36.18	20+36.18	N-W RAMP @ REST AREA TRANSITION	100													15	166.67	440	36.67	30	333.33	10.00	
20+36.18	20+86.18	N-W RAMP @ REST AREA TRANSITION	50													15	83.33	220	9.17	30	166.67	5.00	83.33
15+32.57	15+82.57	S-W RAMP @ REST AREA TRANSITION	50	15	83.33	4.58	15	83.33	495	20.62	25.20	15	83.33	330	13.75	15	83.33	440	18.33	90	500.00	15.00	83.33
15+82.57	16+82.57	S-W RAMP @ REST AREA TRANSITION	100									15	166.67	440	36.67	15	166.67	440	36.67	60	666.67	20.00	
16+82.57	17+82.57	S-W RAMP @ REST AREA TRANSITION	100													15	166.67	440	36.67	30	333.33	10.00	
17+82.57	18+32.57	S-W RAMP @ REST AREA TRANSITION	50													15	83.33	220	9.17	30	166.67	5.00	
14+51.14	15+51.14	N-E RAMP @ REST AREA TRANSITION	100													15	166.67	220	18.33	30	333.33	10.00	166.67
15+51.14	17+51.14	N-E RAMP @ REST AREA TRANSITION	200													15	333.33	440	73.33	30	666.67	20.00	
17+51+14	19+51.14	N-E RAMP @ REST AREA TRANSITION	200									15	333.33	440	73.33	15	333.33	440	73.33	60	1333.33	40.00	
19+51.14	20+51.14	N-E RAMP @ REST AREA TRANSITION	100	15	166.67	9.17	15	166.67	495	41.25	50.42	15	166.67	330	27.50	15	166.67	440	36.67	90	1000.00	30.00	
14+79.36	15+29.36	S-E RAMP @ REST AREA TRANSITION	50													15	83.33	220	9.17	30	166.67	5.00	83.33
15+29.36	16+29.36	S-E RAMP @ REST AREA TRANSITION	100													15	166.67	440	36.67	30	333.33	10.00	
16+29.36	17+29.36	S-E RAMP @ REST AREA TRANSITION	100									15	166.67	440	36.67	15	166.67	440	36.67	60	666.67	20.00	
17+29.36	17+79.26	S-E RAMP @ REST AREA TRANSITION	50	15	83.33	4.58	15	83.33	495	20.62	25.20	15	83.33	330	13.75	15	83.33	220	9.17	90	500.00	15.00	
19+58.91	20+58.91	RAMP F HWY. 33 RAMP TRANSITION	100	15	166.67	9.17	15	166.67	495	41.25	50.42	15	166.67	330	27.50	15	166.67	440	36.67	90	1000.00	30.00	
20+58.91	22+58.91	RAMP F HWY. 33 RAMP TRANSITION	200									15	333.33	440	73.33	15	333.33	440	73.33	60	1333.33	40.00	
22+58.91	24+58.91	RAMP F HWY. 33 RAMP TRANSITION	200													15	333.33	440	73.33	30	666.67	20.00	
24+58.91	25+58.91	RAMP F HWY. 33 RAMP TRANSITION	100													15	166.67	220	18.33	30	333.33	10.00	166.67
18+06.23	19+06.23	RAMP E HWY. 33 RAMP TRANSITION	100	15	166.67	9.17	15	166.67	495	41.25	50.42	15	166.67	330	27.50	15	166.67	440	36.67	90	1000.00	30.00	
19+06.23	21+06.23	RAMP E HWY. 33 RAMP TRANSITION	200									15	333.33	440	73.33	15	333.33	440	73.33	60	1333.33	40.00	
21+06.23	23+06.23	RAMP E HWY. 33 RAMP TRANSITION	200													15	333.33	440	73.33	30	666.67	20.00	
23+06.23	24+06.23	RAMP E HWY. 33 RAMP TRANSITION	100													15	166.67	220	18.33	30	333.33	10.00	166.67
32+34.36	33+34.36	RAMP H HWY. 33 RAMP TRANSITION	100													15	166.67	220	18.33	30	333.33	10.00	166.67
33+34.36	35+34.36	RAMP H HWY. 33 RAMP TRANSITION	200													15	333.33	440	73.33	30	666.67	20.00	
35+34.36	37+34.36	RAMP H HWY. 33 RAMP TRANSITION	200									15	333.33	440	73.33	15	333.33	440	73.33	60	1333.33	40.00	
37+34.36	38+34.36	RAMP H HWY. 33 RAMP TRANSITION	100	15	166.67	9.17	15	166.67	495	41.25	50.42	15	166.67	330	27.50	15	166.67	440	36.67	90	1000.00	30.00	
30+01.10	31+01.10	RAMP G HWY. 33 RAMP TRANSITION	100													15	166.67	220	18.33	30	333.33	10.00	166.67
31+01.10	33+01.10	RAMP G HWY. 33 RAMP TRANSITION	200													15	333.33	440	73.33	30	666.67	20.00	
33+01.10	35+01.10	RAMP G HWY. 33 RAMP TRANSITION	200									15	333.33	440	73.33	15	333.33	440	73.33	60	1333.33	30.00	
35+01.10	36+01.10	RAMP G HWY. 33 RAMP TRANSITION	100	15	166.67	9.17	15	166.67	495	41.25	50.42	15	166.67	330	27.50	15	166.67	440	36.67	90	1000.00	40.00	
TOTAL					1083.34	59.59		1083.34		268.11	327.70		3250		655.41		6500.00		1301.66		21666.66	650.00	1083.34

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. = 95.5%, ASPH BINDER (PG76-22) = 4.5%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.4%, ASPH BINDER(PG76-22) = 5.6%
Nmax = 205

BASE & SURFACING - BRIDGE JACKING

STATION	STATION	LOCATION	LENGTH	ACHM BINDER COURSE (1") AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	ACHM SURFACE COURSE (1/2") AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	TACK COAT 0.03 GAL. /SQ. YD. AVG. WIDTH	SQ. YD.	GALLONS	AGGREGATE BASE COURSE (CLASS 7) TON/STA.	TON	COLD MILLING EXISTING ASPHALT PAVEMENT
			LIN. FEET	FEET				FEET				FEET					SQ. YD.
29+16.48	30+16.48	COUNTY ROAD @ BR. 3710	100					24	266.67	220	29.33	24	266.67	8.00			266.67
30+16.48	31+16.48	COUNTY ROAD @ BR. 3710	100					24	266.67	330	44.00	24	266.67	8.00	31.11	31.11	
31+16.48	32+16.48	COUNTY ROAD @ BR. 3710	100	24	266.67	275	36.67	24	266.67	220	29.33	48	533.33	16.00	31.11	31.11	
35+64.92	36+64.92	COUNTY ROAD @ BR. 3710	100	24	266.67	275	36.67	24	266.67	220	29.33	48	533.33	16.00	31.11	31.11	
36+64.92	37+64.92	COUNTY ROAD @ BR. 3710	100					24	266.67	330	44.00	24	266.67	8.00	31.11	31.11	
37+64.92	38+64.92	COUNTY ROAD @ BR. 3710	100					24	266.67	220	29.33	24	266.67	8.00			266.67
15+91.86	16+91.86	COUNTY ROAD @ BR. 3716	100					20	222.22	220	24.44	20	222.22	6.67			222.22
16+91.86	17+91.86	COUNTY ROAD @ BR. 3716	100					20	222.22	330	36.67	20	222.22	6.67	31.11	31.11	
17+91.86	18+91.86	COUNTY ROAD @ BR. 3716	100	20	222.22	275	30.56	20	222.22	220	24.44	40	444.44	13.33	31.11	31.11	
21+08.14	22+08.14	COUNTY ROAD @ BR. 3716	100	20	222.22	275	30.56	20	222.22	220	24.44	40	444.44	13.33	31.11	31.11	
22+08.14	23+08.14	COUNTY ROAD @ BR. 3716	100					20	222.22	330	36.67	20	222.22	6.67	31.11	31.11	
23+08.14	24+08.14	COUNTY ROAD @ BR. 3716	100					20	222.22	220	24.44	20	222.22	6.67			222.22
TOTALS					977.78		134.46		2933.34		376.42		3911.10	117.34		248.88	977.78

BASIS OF ESTIMATE:

ACHM BINDER COURSE (1") - MIN. AGG. = 95.5%, ASPH BINDER (PG76-22) = 4.5%
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.4%, ASPH BINDER(PG76-22) = 5.6%
Nmax = 205

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-27-11

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.		Ø61187	63	165

(2) QUANTITIES

BASE AND SURFACING - MAIN LANE SHOULDERS (SHEET 1 OF 2)

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2")								ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				TACK COAT						BORROW	AGGREGATE BASE COURSE (CLASS 1)	AGGREGATE BASE COURSE (CLASS 7)
				*LEVELING-110 LBS. PER SQ. YD.				NORMAL				TOTAL TONS								0.10 GAL. PER SQ. YD.				0.03 GAL. PER SQ. YD.			TOTAL			
				AVG. WIDTH				AVG. WIDTH		LBS. PER SQ. YD.	TON		AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	GAL.	AVG. WIDTH	SQ. YD.	GAL.				
			LIN. FT	FEET	SQ. YD.	TON		FEET					FEET				FEET				FEET			FEET			CU. YD.	TON	TON
1616+26.75	1623+75.00	INSIDE SHOULDER LT. M.L. (FULL DEPTH)	748.25					4.83	401.56	1210	242.94	242.94	4.45	369.97	330	61.05	4.00	332.56	440	73.16	4.00	332.56	33.26	12.00	997.67	29.93	63.19	90.34	361.99	193.21
1623+75.00	1674+93.10	INSIDE SHOULDER LT. M.L.	5118.10	4.83	2746.71	151.07		4.83	2746.71	740	1016.28	1167.35	4.45	2530.62	330	417.55	4.00	2274.71	440	500.44	4.00	2274.71	227.47	12.00	6824.13	204.72	432.19	617.96	1687.84	
1674+93.10	1678+43.10	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33		4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
1678+43.10	1698+21.40	INSIDE SHOULDER LT. M.L. -MAX. SUPER.	1978.30	4.83	1061.69	58.39		4.83	1061.69	740	392.83	451.22	4.45	978.16	330	161.40	4.00	879.24	440	193.43	4.00	879.24	87.92	12.00	2637.73	79.13	167.05	238.86	652.40	
1698+21.40	1701+71.40	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33		4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
1701+71.40	1809+28.00	INSIDE SHOULDER LT. M.L.	10756.60	4.83	5772.71	317.50		4.83	5772.71	740	2135.90	2453.40	4.45	5318.54	330	877.56	4.00	4780.71	440	1051.76	4.00	4780.71	478.07	12.00	14342.13	430.26	908.33	1298.76	3547.29	
1809+28.00	1812+78.00	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33		4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
1812+78.00	1829+38.00	INSIDE SHOULDER LT. M.L. -MAX. SUPER.	1660.00	4.83	890.87	49.00		4.83	890.87	740	329.62	378.62	4.45	820.78	330	135.43	4.00	737.78	440	162.31	4.00	737.78	73.78	12.00	2213.33	66.40	140.18	200.43	547.43	
1829+38.00	1829+50.00	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	12.00	4.83	6.44	0.35		4.83	6.44	740	2.38	2.73	4.45	5.93	330	0.98	4.00	5.33	440	1.17	4.00	5.33	0.53	12.00	16.00	0.48	1.01	1.45	3.96	
1829+50.00	1832+88.00	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	338.00	2.00	75.11	4.13		2.00	75.11	740	27.79	31.92	2.00	75.11	330	12.39	2.00	75.11	440	16.52	2.00	75.11	7.51	6.00	225.33	6.76	14.27	40.81	111.46	
1832+88.00	1865+37.96	INSIDE SHOULDER LT. M.L.	3249.96	2.00	722.21	39.72		2.00	722.21	740	267.22	306.94	2.00	722.21	330	119.16	2.00	722.21	440	158.89	2.00	722.21	72.22	6.00	2166.64	65.00	137.22	392.40	1071.76	
1868+65.13	1883+03.25	INSIDE SHOULDER LT. M.L. (FULL DEPTH)	1438.12					2.00	319.58	1210	193.35	193.35	2.00	319.58	330	52.73	2.00	319.58	440	70.31	2.00	319.58	31.96	6.00	958.75	28.76	60.72	173.64		805.35
1910+76.75	1920+08.00	INSIDE SHOULDER LT. M.L. (FULL DEPTH)	931.25					2.00	206.94	1210	125.20	125.20	2.00	206.94	330	34.15	2.00	206.94	440	45.53	2.00	206.94	20.69	6.00	620.83	18.62	39.31	112.44		521.50
1920+08.00	1951+76.92	INSIDE SHOULDER LT. M.L.	3168.92	2.00	704.20	38.73		2.00	704.20	740	260.55	299.28	2.00	704.20	330	116.19	2.00	704.20	440	154.92	2.00	704.20	70.42	6.00	2112.61	63.38	133.80	382.62	1045.04	
1956+63.09	1966+61.41	INSIDE SHOULDER LT. M.L.	998.32	2.00	221.85	12.20		2.00	221.85	740	82.08	94.28	2.00	221.85	330	36.61	2.00	221.85	440	48.81	2.00	221.85	22.19	6.00	665.55	19.97	42.16	120.54	329.22	
1966+61.41	1967+43.00	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	81.59	2.00	18.13	1.00		2.00	18.13	740	6.71	7.71	2.00	18.13	330	2.99	2.00	18.13	440	3.99	2.00	18.13	1.81	6.00	54.39	1.63	3.44	9.85	26.91	
1967+43.00	1970+11.41	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	268.41	4.83	144.05	7.92		4.83	144.05	740	53.30	61.22	4.25	126.75	330	20.91	4.25	126.75	440	27.89	4.25	126.75	12.68	12.75	380.25	11.41	24.09	32.41	88.52	
1970+11.41	1979+26.25	INSIDE SHOULDER LT. M.L. -MAX. SUPER.	914.84	4.83	490.96	27.00		4.83	490.96	740	181.66	208.66	4.25	432.01	330	71.28	4.25	432.01	440	95.04	4.25	432.01	43.20	12.75	1296.02	38.88	82.08	110.46	301.69	
1979+26.25	2002+71.97	INSIDE SHOULDER LT. M.L. -MAX. SUPER.	2345.72	4.83	1258.87	69.24		4.83	1258.87	740	465.78	535.02	4.45	1159.83	330	191.37	4.00	1042.54	440	229.36	4.00	1042.54	104.25	6.00	1563.81	46.91	151.16	283.22	773.57	
2002+71.97	2006+21.97	INSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33		4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	6.00	233.33	7.00	22.56	42.26	115.42	
2006+21.97	2188+57.40	INSIDE SHOULDER LT. M.L.	14617.56	4.83	7844.76	431.46		4.83	7844.76	740	2902.56	3334.02	4.45	7227.57	330	1192.55	4.00	6496.69	440	1429.27	4.00	6496.69	649.67	6.00	9745.04	292.35	942.02	1764.94	4820.55	
1616+26.75	1623+75.00	OUTSIDE SHOULDER LT. M.L. (FULL DEPTH)	748.25					2.83	235.28	1210	142.34	142.34	2.45	203.69	330	33.61	2.00	166.28	440	36.58	2.00	166.28	16.63	6.00	498.83	14.96	31.59	67.62	261.89	419.02
1623+75.00	1674+93.10	OUTSIDE SHOULDER LT. M.L.	5118.10	10.83	6158.78	338.73		10.83	6158.78	740	2278.75	2617.48	10.45	5942.68	330	980.54	10.00	5686.78	440	1251.09	10.00	5686.78	568.68	30.00	17060.33	511.81	1080.49	462.52	923.53	
1674+93.10	1678+43.10	OUTSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16		10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1678+43.10	1698+07.50	OUTSIDE SHOULDER LT. M.L. -MAX. SUPER.	1964.40	10.83	2363.83	130.01		10.83	2363.83	740	874.62	1004.63	10.45	2280.89	330	376.35	10.00	2182.67	440	480.19	10.00	2182.67	218.27	30.00	6548.00	196.44	414.71	365.23	3410.20	
1698+07.50	1701+57.50	OUTSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16		10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1701+57.50	1809+28.00	OUTSIDE SHOULDER LT. M.L.	10770.50	10.83	12960.50	712.83		10.83	12960.50	740	4795.39	5508.22	10.45	12505.75	330	2063.45	10.00	11967.22	440	2632.79	10.00	11967.22	1196.72	30.00	35901.67	1077.05	2273.77	973.33	1943.48	
1809+28.00	1812+78.00	OUTSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16		10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1812+78.00	1829+38.00	OUTSIDE SHOULDER LT. M.L. -MAX. SUPER.	1660.00	10.83	1997.53	109.86		10.83	1997.53	740	739.09	848.95	10.45	1927.44	330	318.03	10.00	1844.44	440	405.78	10.00	1844.44	184.44	30.00	5533.33	166.00	350.44	308.64	2881.76	
1829+38.00	1831+65.00	OUTSIDE SHOULDER LT. M.L. - SUPER. TRANS.	227.00	10.83	273.16	15.02		10.83	273.16	740	101.07	116.09	10.45	263.57	330	43.49	10.00	252.22	440	55.49	10.00	252.22	25.22	30.00	756.67	22.70	47.92	42.21	394.07	
1840+80.00	1844+77.92	OUTSIDE SHOULDER LT. M.L. W/AUX. LANE	397.92	6.75	298.44	16.41		6.75	298.44	550	82.07	98.48	6.50	287.39	330	47.42	6.00	265.28	440	58.36	6.75	298.44	18.50	30.00	1326.40	39.79	58.29	35.96	71.80	
1844+77.92	1860+93.04	OUTSIDE SHOULDER LT. M.L.	1615.12	10.83	1943.53	106.89		10.83	1943.53	740	719.11	826.00	10.45	1875.33	330	309.43	10.00	1794.58	440	394.81	10.00	1794.58	179.46	30.00	5383.73	161.51	340.97	145.96	291.44	
1860+93.04	1862+61.04	OUTSIDE SHOULDER LT. M.L. W/AUX. TAPER	168.00	10.83	202.16	11.12		10.83	202.16	740	74.80	85.92	10.45	195.07	330	32.19	10.00	186.67	440	41.07	10.00	186.67	18.67	30.00	560.00	16.80	35.47	15.18	30.31	
1862+61.04	1865+37.96	OUTSIDE SHOULDER LT. M.L. W/AUX. TAPER	276.92	10.83	333.23	18.33		10.83	333.23	740	123.30	141.63	10.45	321.53	330	53.05	10.00	307.69	440	67.69	10.00	307.69	30.77	30.00	923.07	27.69	58.46	25.03	49.97	
1868+65.13	1883+03.25	OUTSIDE SHOULDER LT. M.L. (FULL DEPTH)	1438.12					2.83	452.21	1210	273.59	273.59	2.45	391.49	330	64.60	2.00	319.58	440	70.31	2.00	319.58	31.96	6.00	958.75	28.76	60.72	129.96	503.34	1080.51
1910+76.75	1920+08.00	OUTSIDE SHOULDER LT. M.L. (FULL DEPTH)	931.25					2.83	292.83	1210	177.16	177.16	2.45	253.51	330	41.83	2.00	206.94	440	45.53	2.00	206.94	20.69	6.00	620.83	18.62	39.31	84.16	325.94	699.68
1920+08.00	1951+76.92	OUTSIDE SHOULDER LT. M.L.	3168.92	10.83	3813.27	209.73		10.83	3813.27	740	1410.91	1620.64	10.45	3679.47	330	607.11	10.00	3521.02	440	774.62	10.00	3521.02	352.10	30.00	10563.07	316.89	668.99	286.38	571.81	
1956+63.09	1966+61.41	OUTSIDE SHOULDER LT. M.L.	998.32	10.83	1201.31	66.07		10.83	1201.31	740	444.48	510.55	10.45	1159.16	330	191.26	10.00	1109.24	440	244.03	10.00	1109.24	110.92	30.00	3327.73	99.83	210.75	90.22	180.14	
1966+61.41	1970+11.41	OUTSIDE SHOULDER LT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16		10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1970+11.41	1990+00.00	OUTSIDE SHOULDER LT. M.L. -MAX. SUPER.	1988.59	10.83	2392.94	131.61		10.83	2392.94	740	885.39	1017.00	10.45	2308.97	330	380.98	10.00	2209.54	440	486.1	10.00	2209.54	220.95	30.00	6628.63	198.86	419.81	369.73	3452.19	
1990+00.00	2002+71.97	OUTSIDE SHOULDER LT. M.L. -MAX. SUPER.	1271.97	10.83	1530.60	84.18		10.83	1530.60	740	566.32	650.50	10.45	1476.90	330	243.69	10.00	1413.30	440	310.93	10.00	1413.30	141.33	30.00	4239.90	127.20	268.53	236.49	2208.14	
2002+71.97	2006+50.00	OUTSIDE SHOULDER LT. M.L. - SUPER. TRANS.	378.03	10.83	454.90	25.02		10.83	454.90	740	168.31	193.33	10.45	438.93	330	72.42	10.00	420.03	440	92.41	10.00	420.03	42.00	30.00	1260.10	37.80	79.80	70.29	656.26	
2011+00.00	2014+00.00	OUTSIDE SHOULDER LT. M.L. W/AUX. TAPER	300.00	6.75	225.00	12.38		6.75	225.00	550	61.88	74.26	6.50	216.67	330	35.75	6.00	200.00	440	44	6.00	200.00	20.00	18.50	616.67	18.50	38.50	27.11	54.13	
2014+00.00	2020+57.88	OUTSIDE SHOULDER LT. M.L. W/AUX. LANE	657.88	6.75	493.41	27.14		6.75	493.41	550	135.69	162.83	6.50	475.14	330	78.40	6.00	438.59	440	96.49	6.00	438.59	43.86	18.50	1352.31	40.57	84.43	59.45	118.71	
2020+57.88	2036+86.39	OUTSIDE SHOULDER LT. M.L.	1628.51	10.83	1959.64	107.78		10.83	1959.64	740	725.07	832.85	10.45	1890.88	330	312.00	10.00	1809.46	440	398.08	10.00	1809.46	180.95	30.00	5428.37	162.85	343.80	147.17	293.86	
2036+86.39	2038+54.39	OUTSIDE SHOULDER LT. M.L. W/AUX. LANE	168.00	10.83	202.16	11.12		10.83	202.16	740	74.80	85.92	10.45	195.07	330	32.19	10.00	186.67	440	41.07	10.00	186.67	18.67	30.00	560.00	16.80	35.47	15.18	30.31	
2038+54.39	2042+39.84	OUTSIDE SHOULDER LT. M.L. W/AUX. LANE	385.45	10.83	463.82	25.51		10.83	463.82	740	171.61	197.12	10.45	447.55	330	73.85	10.00	428.28	440	94.22	10.00	428.28	42.83	30.00	1284.83	38.54	81.37	34.83	69.55	
2042+39.84	2188+57.40	OUTSIDE SHOULDER LT. M.L.	14617.56	10.83	17589.80	967.44		10.83	17589.80	740	6508.23	7475.67	10.45	16972.61	330	2800.48	10.00	16241.73	440	3573.18	10.00	16241.73	1624.17	30.00	48725.20	1461.76	3085.93	1320.99	2637.66	
1616+75.25	1623+75.00	INSIDE SHOULDER RT. M.L. (FULL DEPTH)	699.75					4.83	375.53	1210	227.20	227.20	4.45	345.99	330	57.09	4.00	311.00	440	68.42	4.00	311.00	31.10	12.00	933.00	27.99	59.09	84.49	338.52	180.69
1623+75.00	1678+25.10	INSIDE SHOULDER RT. M.L.	5450.10	4.83	2924.89	160.87		4.83	2924.89	740	1082.21	1243.08	4.45	2694.77	330	444.64	4.00	2422.27	440	532.9	4.00	2422.27	242.23	12.00	7266.80	218.00	460.23	658.05	1797.32	
1678+25.10	1681+61.20	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	336.10	4.83	180.37	9.92		4.83	180.37	740	66.74	76.66	4.45	166.18	330	27.42	4.00	149.38	440	32.86	4.00	149.38	14.94	12.00	448.13	13.44	28.38	40.58	110.84	
1681+61.20	1701+39.50	INSIDE SHOULDER RT. M.L. -MAX. SUPER.	1978.30	4.83	1061.69	58.39		4.83	1061.69	740	392.83	451.22	4.45	978.16	330	161.40	4.00	879.24	440	193.43	4.00	879.24	87.92	12.00	2637.73	79.13	167.05	238.86	652.40	
1701+39.50	1704+89.50	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33		4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
1704+89.50	1769+11.60	INSIDE SHOULDER RT. M.L.	6422.10	4.83	3446.53	189.56		4.83	3446.53	740	1275.22	1464.78	4.45	3175.37	330	523.94	4.00	2854.27	440	627.94	4.00	2854.27	285.43	12.00	8562.80	256.88	542.31	775.41	2117.87	
1769+11.60	1772+61.60	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33		4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
1772+61.60	1798+13.30	INSIDE SHOULDER RT. M.L. -MAX. SUPER.	2551.70	4.83	1369.41	75.32		4.83	1369.41	740	506.68	582.00	4.45	1261.67	330	208.18	4.00	1134.09	440	249.5	4.00	1134.09	113.41	12.00	3402.27	102.07	215.48	308.09	841.49	
1798+13.30	1801+09.00	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	295.70	4.83	158.69	8.73		4.83	158.69	740	58.72	67.45	4.45	146.21	330	24.12	4.00	131.42	440	28.91	4.00	131.42	13.14	12.00	394.27	11.83	24.97	35.70	97.52	
1801+09.00	1814+29.40	INSIDE SHOULDER RT. M.L.	1320.40	4.83	708.61	38.97		4.83	708.61	740	262.19	301.16	4.45	652.86	330	107.72	4.00	586.84	440	129.1	4.00	586.84	58.68	12.00	1760.53	52.82	111.50	159.43	435.44	
1814+29.40	1817+79.40	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33		4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
1817+79.40	1832+00.00	INSIDE SHOULDER RT. M.L. -MAX. SUPER.	1420.60	4.83	762.39	41.93		4.83	762.39	740	282.08	324.01	4.45	702.41	330	115.90	4.00	631.38	440	138.9	4.00	631.38	63.14	12.00	1894.13	56.82	119.96	171.52	468.48	
1832+00.00	1834+39.40	INSIDE SHOULDER RT. M.L. -MAX. SUPER.	239.40	2.00	53.20	2.93		2.00	53.20	740	19.68	22.61	2.00	53.20	330	8.78	2.00	53.20	440	11.7	2.00	53.20	5.32	6.00	159.60	4.79	10.11	28.91	78.95	
1834+39.39	1835+45.68	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	106.29	4.25	50.19	2.76		4.25	50.19	740	18.57	21.33	4.25	50.19	330	8.28	4.25	50.19	440	11.04	4.25	50.19	5.02	12.75	150.58	4.52	9.54	12.83	35.05	
1834+39.40	1837+89.40	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	2.00	77.78	4.28		2.00	77.78	740	28.78	33.06	2.00	77.78	330	12.83	2.00	77.78	440	17.11	2.00	77.78	7.78	6.00	233.33	7.00	14.78	42.26	115.42	
1837+89.40	1865+37.96	INSIDE SHOULDER RT. M.L.	2748.56	2.00	610.79	33.59		2.00	610.79	740	225.99	259.58	2.00	610.79	330	100.78	2.00	610.79	440	134.37	2.00	610.79	61.08	6.00	1832.37	54.97	116.05	331.86	906.41	
1868+65.13	1883+03.25	INSIDE SHOULDER RT. M.L. (FULL DEPTH)	1438.12					2.00	319.58	1210	193.35	193.35	2.00	319.58	330	52.73	2.00	319.58	440	70.31	2.00	319.58	31.96	6.00	958.75	28.76	60.72	173.64		805.35
1910+76.75	1920+08.00	INSIDE SHOULDER RT. M.L. (FULL DEPTH)	931.25					2.00	206.94	1210	125.20	125.20	2.00	206.94	330	34.15	2.00	206.94	440	45.53	2.00	206.94	20.69	6.00	620.83	18.62	39.31	112.44		521.50
1920+08.00	1951+76.92	INSIDE SHOULDER RT. M.L.	3168.92	2.00	704.20	38.73		2.00	704.20	740	260.55	299.28	2.00	704.20	330	116.19	2.00	704.20	440	154.92	2.00	704.20	70.42	6.00	2112.61	63.38	133.80	382.62	1045.04	

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

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.		Ø61187	64	165

(2) QUANTITIES

CONT'D FROM PREVIOUS SHEET

BASE AND SURFACING - MAIN LANE SHOULDERS (SHEET 2 OF 2)

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2") *LEVELING-110 LBS. PER SQ. YD. AVG. WIDTH			NORMAL AVG. WIDTH		LBS. PER SQ. YD.	TON	TOTAL TONS	ACHM BINDER COURSE (1") AVG. WIDTH		LBS. PER SQ. YD.	TON	ACHM SURFACE COURSE (1/2") AVG. WIDTH		LBS. PER SQ. YD.	TON	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)	AGGREGATE BASE COURSE (CLASS 7)
			LIN. FT	FEET	SQ. YD.	TON	FEET	SQ. YD.	SQ. YD.			FEET	SQ. YD.	SQ. YD.		FEET	SQ. YD.	SQ. YD.		FEET	SQ. YD.	GAL.	FEET	SQ. YD.	GAL.		CU. YD.	TON	TON
1956+63.08	1990+00.00	INSIDE SHOULDER RT. M.L.	3336.92	2.00	741.54	40.78	2.00	741.54	740	274.37	315.15	2.00	741.54	330	122.35	2.00	741.54	440	163.14	2.00	741.54	74.15	6.00	2224.61	66.74	140.89	402.90	1100.44	
1990+00.00	2120+87.43	INSIDE SHOULDER RT. M.L.	13087.43	4.83	7023.59	386.30	4.83	7023.59	740	2598.73	2985.03	4.45	6471.01	330	1067.72	4.00	5816.64	440	1279.66	4.00	5816.64	581.66	12.00	17449.91	523.50	1105.16	1580.19	4315.94	
2120+87.43	2124+37.43	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33	4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
2124+37.43	2148+96.16	INSIDE SHOULDER RT. M.L. -MAX. SUPER.	2458.73	4.83	1319.52	72.57	4.83	1319.52	740	488.22	560.79	4.45	1215.71	330	200.59	4.00	1092.77	440	240.41	4.00	1092.77	109.28	12.00	3278.31	98.35	207.63	296.87	810.83	
2148+96.16	2152+46.16	INSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	4.83	187.83	10.33	4.83	187.83	740	69.50	79.83	4.45	173.06	330	28.55	4.00	155.56	440	34.22	4.00	155.56	15.56	12.00	466.67	14.00	29.56	42.26	115.42	
2152+46.16	2188+57.40	INSIDE SHOULDER RT. M.L.	3611.24	4.83	1938.03	106.59	4.83	1938.03	740	717.07	823.66	4.45	1785.56	330	294.62	4.00	1605.00	440	353.1	4.00	1605.00	160.50	12.00	4814.99	144.45	304.95	436.02	1190.91	
1616+75.25	1623+75.00	OUTSIDE SHOULDER RT. M.L. (FULL DEPTH)	699.75				2.83	220.03	1210	133.12	133.12	2.45	190.49	330	31.43	2.00	155.50	440	34.21	2.00	155.50	15.55	6.00	466.50	14.00	29.55	63.24	244.91	391.86
1623+75.00	1678+25.10	OUTSIDE SHOULDER RT. M.L.	5450.10	10.83	6558.29	360.71	10.83	6558.29	740	2426.57	2787.28	10.45	6328.17	330	1044.15	10.00	6055.67	440	1332.25	10.00	6055.67	605.57	30.00	18167.00	545.01	1150.58	492.53	983.44	
1678+25.10	1681+61.20	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	336.10	10.83	404.44	22.24	10.83	404.44	740	149.64	171.88	10.45	390.25	330	64.39	10.00	373.44	440	82.16	10.00	373.44	37.34	30.00	1120.33	33.61	70.95	62.49	583.47	
1681+61.20	1701+39.50	OUTSIDE SHOULDER RT. M.L. -MAX. SUPER.	1978.30	10.83	2380.55	130.93	10.83	2380.55	740	880.80	1011.73	10.45	2297.03	330	379.01	10.00	2198.11	440	483.58	10.00	2198.11	219.81	30.00	6594.33	197.83	417.64	367.82	3434.33	
1701+39.50	1704+89.50	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16	10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1704+89.50	1769+11.60	OUTSIDE SHOULDER RT. M.L.	6422.10	10.83	7727.93	425.04	10.83	7727.93	740	2859.33	3284.37	10.45	7456.77	330	1230.37	10.00	7135.67	440	1569.85	10.00	7135.67	713.57	30.00	21407.00	642.21	1355.78	580.37	1158.83	
1769+11.60	1772+61.60	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16	10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1772+61.60	1798+13.30	OUTSIDE SHOULDER RT. M.L. -MAX. SUPER.	2551.70	10.83	3070.55	168.88	10.83	3070.55	740	1136.10	1304.98	10.45	2962.81	330	488.86	10.00	2835.22	440	623.75	10.00	2835.22	283.52	30.00	8505.67	255.17	538.69	474.43	4429.75	
1798+13.30	1801+09.00	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	295.70	10.83	355.83	19.57	10.83	355.83	740	131.66	151.23	10.45	343.34	330	56.65	10.00	328.56	440	72.28	10.00	328.56	32.86	30.00	985.67	29.57	62.43	54.98	513.34	
1801+09.00	1814+29.40	OUTSIDE SHOULDER RT. M.L.	1320.40	10.83	1588.88	87.39	10.83	1588.88	740	587.89	675.28	10.45	1533.13	330	252.97	10.00	1467.11	440	322.76	10.00	1467.11	146.71	30.00	4401.33	132.04	278.75	119.33	238.26	
1814+29.40	1817+79.40	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16	10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1817+79.40	1832+00.00	OUTSIDE SHOULDER RT. M.L. -MAX. SUPER.	1420.60	10.83	1709.46	94.02	10.83	1709.46	740	632.50	726.52	10.45	1649.47	330	272.16	10.00	1578.44	440	347.26	10.00	1578.44	157.84	30.00	4735.33	142.06	299.90	264.13	2466.16	
1832+00.00	1834+39.40	OUTSIDE SHOULDER RT. M.L. -MAX. SUPER.	239.40	10.83	288.08	15.84	10.83	288.08	740	106.59	122.43	10.45	277.97	330	45.87	10.00	266.00	440	58.52	10.00	266.00	26.60	30.00	798.00	23.94	50.54	44.51	415.60	
1834+39.40	1837+89.40	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16	10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
1837+89.40	1840+46.99	OUTSIDE SHOULDER RT. M.L.	257.59	10.83	309.97	17.05	10.83	309.97	740	114.69	131.74	10.45	299.09	330	49.35	10.00	286.21	440	62.97	10.00	286.21	28.62	30.00	858.63	25.76	54.38	23.28	46.48	
1840+46.99	1844+45.27	OUTSIDE SHOULDER RT. M.L. W/AUX. TAPER	398.28	10.83	479.26	26.36	10.83	479.26	740	177.33	203.69	10.45	462.45	330	76.30	10.00	442.53	440	97.36	10.00	442.53	44.25	30.00	1327.60	39.83	84.08	35.99	71.87	
1844+45.27	1846+13.27	OUTSIDE SHOULDER RT. M.L. W/AUX. TAPER	168.00	10.83	202.16	11.12	10.83	202.16	740	74.80	85.92	10.45	195.07	330	32.19	10.00	186.67	440	41.07	10.00	186.67	18.67	30.00	560.00	16.80	35.47	15.18	30.31	
1846+13.27	1857+25.16	OUTSIDE SHOULDER RT. M.L.	1111.89	10.83	1337.97	73.59	10.83	1337.97	740	495.05	568.64	10.45	1291.03	330	213.02	10.00	1235.43	440	271.79	10.00	1235.43	123.54	30.00	3706.30	111.19	234.73	100.48	200.63	
1857+25.16	1863+33.56	OUTSIDE SHOULDER RT. M.L. W/AUX. LANE	608.40	6.75	456.30	25.10	6.75	456.30	550	125.48	150.58	6.50	439.40	330	72.50	6.00	405.60	440	89.23	6.00	405.60	40.56	18.50	1250.60	37.52	78.08	54.98	109.78	
1863+33.56	1865+37.96	OUTSIDE SHOULDER RT. M.L. W/AUX. TAPER	204.40	6.75	153.30	8.43	6.75	153.30	550	42.16	50.59	6.50	147.62	330	24.36	6.00	136.27	440	29.98	6.00	136.27	13.63	18.50	420.16	12.60	26.23	18.47	36.88	
1868+65.13	1883+03.25	OUTSIDE SHOULDER RT. M.L. (FULL DEPTH)	1438.12				2.83	452.21	1210	273.59	273.59	2.45	391.49	330	64.60	2.00	319.58	440	70.31	2.00	319.58	31.96	6.00	958.75	28.76	60.72	129.96	503.34	1080.51
1910+76.75	1920+08.00	OUTSIDE SHOULDER RT. M.L. (FULL DEPTH)	931.25				2.83	292.83	1210	177.16	177.16	2.45	253.51	330	41.83	2.00	206.94	440	45.53	2.00	206.94	20.69	6.00	620.83	18.62	39.31	84.16	325.94	699.68
1920+08.00	1951+76.92	OUTSIDE SHOULDER RT. M.L.	3168.92	10.83	3813.27	209.73	10.83	3813.27	740	1410.91	1620.64	10.45	3679.47	330	607.11	10.00	3521.02	440	774.62	10.00	3521.02	352.10	30.00	10563.07	316.89	668.99	286.38	571.81	
1956+63.08	1974+00.00	OUTSIDE SHOULDER RT. M.L.	1736.92	10.83	2090.09	114.95	10.83	2090.09	740	773.33	888.28	10.45	2016.76	330	332.77	10.00	1929.91	440	424.58	10.00	1929.91	192.99	30.00	5789.73	173.69	366.68	156.97	313.42	
1974+00.00	2016+06.92	OUTSIDE SHOULDER RT. M.L.	4206.92	10.83	5062.33	278.43	10.83	5062.33	740	1873.06	2151.49	10.45	4884.70	330	805.98	10.00	4674.36	440	1028.36	10.00	4674.36	467.44	30.00	14023.07	420.69	888.13	380.18	759.12	
2016+06.92	2019+25.54	OUTSIDE SHOULDER RT. M.L. W/AUX. TAPER	318.62	10.83	383.41	21.09	10.83	383.41	740	141.86	162.95	10.45	369.95	330	61.04	10.00	354.02	440	77.88	10.00	354.02	35.40	30.00	1062.07	31.86	67.26	28.79	57.49	
2019+25.54	2020+93.54	OUTSIDE SHOULDER RT. M.L. W/AUX. TAPER	168.00	10.83	202.16	11.12	10.83	202.16	740	74.80	85.92	10.45	195.07	330	32.19	10.00	186.67	440	41.07	10.00	186.67	18.67	30.00	560.00	16.80	35.47	15.18	30.31	
2020+93.54	2037+01.83	OUTSIDE SHOULDER RT. M.L.	1608.29	10.83	1935.31	106.44	10.83	1935.31	740	716.06	822.50	10.45	1867.40	330	308.12	10.00	1786.99	440	393.14	10.00	1786.99	178.70	30.00	5360.97	160.83	339.53	145.34	290.21	
2037+01.83	2046+62.00	OUTSIDE SHOULDER RT. M.L. W/AUX. LANE	960.17	6.75	720.13	39.61	6.75	720.13	550	198.04	237.65	6.50	693.46	330	114.42	6.00	640.11	440	140.82	6.00	640.11	64.01	18.50	1973.68	59.21	123.22	86.77	173.26	
2046+62.00	2049+62.00	OUTSIDE SHOULDER RT. M.L. W/AUX. TAPER	300.00	6.75	225.00	12.38	6.75	225.00	550	61.88	74.26	6.50	216.67	330	35.75	6.00	200.00	440	44	6.00	200.00	20.00	18.50	616.67	18.50	38.50	27.11	54.13	
2051+00.00	2120+87.43	OUTSIDE SHOULDER RT. M.L.	6987.43	10.83	8408.21	462.45	10.83	8408.21	740	3111.04	3573.49	10.45	8113.18	330	1338.67	10.00	7763.81	440	1708.04	10.00	7763.81	776.38	30.00	23291.43	698.74	1475.12	631.46	1260.84	
2120+87.43	2124+37.43	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16	10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
2124+37.43	2148+96.16	OUTSIDE SHOULDER RT. M.L. -MAX. SUPER.	2458.73	10.83	2958.67	162.73	10.83	2958.67	740	1094.71	1257.44	10.45	2854.86	330	471.05	10.00	2731.92	440	601.02	10.00	2731.92	273.19	30.00	8195.77	245.87	519.06	457.14	4268.36	
2148+96.16	2152+46.16	OUTSIDE SHOULDER RT. M.L. - SUPER. TRANS.	350.00	10.83	421.17	23.16	10.83	421.17	740	155.83	178.99	10.45	406.39	330	67.05	10.00	388.89	440	85.56	10.00	388.89	38.89	30.00	1166.67	35.00	73.89	65.07	607.60	
2152+46.16	2188+57.40	OUTSIDE SHOULDER RT. M.L.	3611.24	10.83	4345.53	239.00	10.83	4345.53	740	1607.85	1846.85	10.45	4193.05	330	691.85	10.00	4012.49	440	882.75	10.00	4012.49	401.25	30.00	12037.47	361.12	762.37	326.35	651.63	
1615+90.25	1619+78.90	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #3709A	339.65														210.51	440	46.31								88.15		109.60
1615+90.25	1619+29.90	RT. OF LT. LANES - G.RAIL WIDEN @ BR. #3709A	389.65														183.09	440	40.28								72.63		98.78
1615+90.25	1719+28.0	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #3710	339.65														210.51	440	46.31								88.15		109.60
1779+49.00	1782+03.00	RT. OF LT. LANES - G.RAIL WIDEN	254.00														160.75	440	35.37								78.42		81.22
1779+65.00	1782+19.00	LT. OF LT. LANES - G.RAIL WIDEN	254.00														160.75	440	35.37								78.42		81.22
1834+91.00	1846+45.00	LT. OF LT. LANES - G.RAIL WIDEN	1154.00														710.75	440	156.37								346.76		360.22
1868+28.63	1883+39.75	LT. OF LT. LANES - G.RAIL WIDEN	1511.12														923.46	440	203.16								450.54		468.45
1910+40.25	1919+54.90	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #3713	914.65														609.82	440	134.16								258.31		316.60
1938+98.77	1952+13.42	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #6894	1314.65														915.38	440	201.38								388.52		475.00
1952+26.59	1966+91.24	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #6894	1464.65														984.82	440	216.66								418.11		511.00
1975+35.00	1987+39.00	LT. OF LT. LANES - G.RAIL WIDEN	1204.00														741.31	440	163.09								361.66		375.72
2027+80.00	2031+19.65	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #3710	339.65														210.51	440	46.31								88.15		109.60
2096+29.00	2099+68.65	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #3710	339.65														210.51	440	46.31								88.15		109.60
2161+54.25	2188+93.90	LT. OF LT. LANES - G.RAIL WIDEN @ BR. #3717A	2739.65														1870.24	440	411.45								795.41		970.00
1615+90.25	1719+28.0	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #3710	339.65														210.51	440	46.31								88.15		109.60
1775+96.00	1778+50.00	RT. OF RT. LANES - G.RAIL WIDEN	254.00														160.75	440	35.37								78.42		81.22
1776+22.00	1778+76.00	LT. OF RT. LANES - G.RAIL WIDEN	254.00														160.75	440	35.37								78.42		81.22
1835+01.00	1844+10.00	RT. OF RT. LANES - G.RAIL WIDEN	909.00														557.97	440	122.75								272.22		282.72
1862+34.81	1865+74.46	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #6893	339.65														210.51	440	46.31								88.15		109.60
1868+28.63	1883+39.75	RT. OF RT. LANES - G.RAIL WIDEN	1511.12														923.46	440	203.16								450.54		468.45
1910+40.25	1919+54.90	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #3713	914.65														609.82	440	134.16								258.31		316.60
1938+48.77	1952+13.42	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #6894	1364.65														880.65	440	193.74								373.72		457.00
1952+26.59	1966+91.24	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #6894	1464.65														984.82	440	216.66								418.11		511.00
1974+41.00	1983+05.00	RT. OF RT. LANES - G.RAIL WIDEN	864.00														533.53	440	117.38								260.29		270.32
2024+40.35	2027+80.00	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #3715	339.65														210.51	440	46.31								88.15		109.60
2091+95.35	2095+35	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #3715	339.65														210.51	440	46.31								88.15		109.60
2161+54.25	2188+93.90	RT. OF RT. LANES - G.RAIL WIDEN @ BR. #3717B	2739.65														1870.24	440	411.45								795.41		970.00
		TEMP. PAVING TRANSITION - PART 2								64.80	64.80		496.68		100.16		933.36		188.24		3111.12	93.32		3111.12	93.32	186.64			
TOTAL					165017.24	9075.88		168792.76		63161.11	72236.99		161419.77		26652.42		168176.06		36981.64		154760.54	15246.95		447116.64	13413.42	28660.37	30955.90	84527.67	15452.40

BASIS OF ESTIMATE:

ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 94.4%, ASPHALT BINDER (PG-76-22) = 5.6%

Nmax = 205

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N.7605
MICHAEL D. FUGETT

5-27-11

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.		Ø61187	65	165

(2) QUANTITIES

BASE AND SURFACING - CROSSOVERS & TEMP. RAMPS

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2") NORMAL				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				TACK COAT 0.10 GAL./SQ. YD.			TACK COAT 0.03 GAL./SQ. YD.			TOTAL GALLONS
				AVG. WIDTH FEET	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	GALLONS	AVG. WIDTH FEET	SQ. YD.	GALLONS	
10+00.00	12+92.92	DETOUR 1 RT. LANE	292.92	14.83	482.67	1100	265.47	12.67	412.37	330	68.04	11.50	374.29	220	41.17	14.83	482.67	48.27	31.33	1269.32	38.08	86.35
12+92.92	16+45.36	DETOUR 1 RT. LANE	352.44	29.66	1161.49	1100	638.82	25.33	991.92	330	163.67	23.00	900.68	220	99.07	29.66	1161.49	116.15	62.66	3054.48	91.63	207.78
16+45.36	19+38.26	DETOUR 1 RT. LANE	292.9	14.83	482.63	1100	265.45	12.67	412.34	330	68.04	11.50	374.26	220	41.17	14.83	482.63	48.26	31.33	1269.23	38.08	86.34
10+00.00	12+92.92	DETOUR 1 LT. LANE	292.92	14.83	482.67	1100	265.47	12.67	412.37	330	68.04	11.50	374.29	220	41.17	14.83	482.67	48.27	31.33	1269.32	38.08	86.35
12+92.92	14+15.77	DETOUR 1 LT. LANE	122.85	29.66	404.86	1100	222.67	25.33	345.75	330	57.05	23.00	313.95	220	34.53	29.66	404.86	40.49	62.66	1064.70	31.94	72.43
14+15.77	14+68.08	DETOUR 1 LT. LANE	52.31	14.83	86.20	1100	47.41	12.67	73.64	330	12.15	11.50	66.84	220	7.35	14.83	86.20	8.62	31.33	226.68	6.80	15.42
14+70.19	15+22.51	DETOUR 1 LT. LANE	52.32	14.83	86.21	1100	47.42	12.67	73.65	330	12.15	11.50	66.85	220	7.35	14.83	86.21	8.62	31.33	226.72	6.80	15.42
15+22.51	16+45.36	DETOUR 1 LT. LANE	122.85	29.66	404.86	1100	222.67	25.33	345.75	330	57.05	23.00	313.95	220	34.53	29.66	404.86	40.49	62.66	1064.70	31.94	72.43
16+45.36	19+38.26	DETOUR 1 LT. LANE	292.9	14.83	482.63	1100	265.45	12.67	412.34	330	68.04	11.50	374.26	220	41.17	14.83	482.63	48.26	31.33	1269.23	38.08	86.34
																						0.00
																						0.00
10+00.00	12+21.76	DETOUR 2 RT. LANE	221.76	14.83	365.41	1100	200.98	12.67	312.19	330	51.51	11.50	283.36	220	31.17	14.83	365.41	36.54	31.33	960.96	28.83	65.37
12+21.76	18+19.73	DETOUR 2 RT. LANE	597.97	29.66	1970.64	1100	1083.85	25.33	1682.95	330	277.69	23.00	1528.15	220	168.10	29.66	1970.64	197.06	62.66	5182.41	155.47	352.53
18+19.73	21+70.00	DETOUR 2 RT. LANE	350.27	14.83	577.17	1100	317.44	12.67	493.10	330	81.36	11.50	447.57	220	49.23	14.83	577.17	57.72	31.33	1517.84	45.54	103.26
																						0.00
10+00.00	13+07.71	DETOUR 2 LT. LANE	307.71	14.83	507.04	1100	278.87	12.67	433.19	330	71.48	11.50	393.19	220	43.25	14.83	507.04	50.70	31.33	1333.41	40.00	90.70
13+07.71	15+38.37	DETOUR 2 LT. LANE	230.66	29.66	760.15	1100	418.08	25.33	649.18	330	107.11	23.00	589.45	220	64.84	29.66	760.15	76.02	62.66	1999.05	59.97	135.99
15+38.37	15+85.90	DETOUR 2 LT. LANE	47.53	14.83	78.32	1100	43.08	12.67	66.91	330	11.04	11.50	60.73	220	6.68	14.83	78.32	7.83	31.33	205.96	6.18	14.01
15+88.12	16+40.36	DETOUR 2 LT. LANE	52.24	14.83	86.08	1100	47.34	12.67	73.54	330	12.13	11.50	66.75	220	7.34	14.83	86.08	8.61	31.33	226.37	6.79	15.40
16+40.36	18+49.67	DETOUR 2 LT. LANE	209.31	29.66	689.79	1100	379.38	25.33	589.09	330	97.20	23.00	534.90	220	58.84	29.66	689.79	68.98	62.66	1814.02	54.42	123.40
18+49.67	20+49.92	DETOUR 2 LT. LANE	200.25	14.83	329.97	1100	181.48	12.67	281.91	330	46.52	11.50	255.88	220	28.15	14.83	329.97	33.00	31.33	867.75	26.03	59.03
																						0.00
10+00.00	12+93.48	DETOUR 3 RT. LANE	293.48	14.83	483.59	1100	265.97	12.67	413.15	330	68.17	11.50	375.00	220	41.25	14.83	483.59	48.36	31.33	1271.75	38.15	86.51
12+93.48	16+45.61	DETOUR 3 RT. LANE	352.13	29.66	1160.46	1100	638.25	25.33	991.05	330	163.52	23.00	899.89	220	98.99	29.66	1160.46	116.05	62.66	3051.79	91.55	207.60
16+45.61	19+38.66	DETOUR 3 RT. LANE	293.05	14.83	482.88	1100	265.58	12.67	412.55	330	68.07	11.50	374.45	220	41.19	14.83	482.88	48.29	31.33	1269.88	38.10	86.39
10+00.00	12+93.48	DETOUR 3 LT. LANE	293.48	14.83	483.59	1100	265.97	12.67	413.15	330	68.17	11.50	375.00	220	41.25	14.83	483.59	48.36	31.33	1271.75	38.15	86.51
12+93.48	14+15.81	DETOUR 3 LT. LANE	122.33	29.66	403.15	1100	221.73	25.33	344.29	330	56.81	23.00	312.62	220	34.39	29.66	403.15	40.32	62.66	1060.19	31.81	72.13
14+15.81	14+68.41	DETOUR 3 LT. LANE	52.6	14.83	86.67	1100	47.67	12.67	74.05	330	12.22	11.50	67.21	220	7.39	14.83	86.67	8.67	31.33	227.93	6.84	15.51
14+70.52	15+23.12	DETOUR 3 LT. LANE	52.6	14.83	86.67	1100	47.67	12.67	74.05	330	12.22	11.50	67.21	220	7.39	14.83	86.67	8.67	31.33	227.93	6.84	15.51
15+23.12	16+45.61	DETOUR 3 LT. LANE	122.49	29.66	403.67	1100	222.02	25.33	344.74	330	56.88	23.00	313.03	220	34.43	29.66	403.67	40.37	62.66	1061.58	31.85	72.22
16+45.61	19+38.66	DETOUR 3 LT. LANE	293.05	14.83	482.88	1100	265.58	12.67	412.55	330	68.07	11.50	374.45	220	41.19	14.83	482.88	48.29	31.33	1269.88	38.10	86.39
10+00.00	17+58.60	CROSSOVER #4	758.60	18.25	1538.27	1100	846.05	19.08	1608.23	330	265.36	20.00	1685.78	220	185.44	18.25	1538.27	153.83	19.54	4941.01	148.23	302.06
10+83.91	11+34.78	TEMP. RAMP F	50.87	13.66	77.21	880	33.97					11.50	65.00	220	7.15	13.66	77.21	7.72	17.49	142.27	4.27	11.99
11+34.78	15+38.11	TEMP. RAMP F	403.33	27.33	1224.78	880	538.90					23.00	1030.73	220	113.38	27.33	1224.78	122.48	35.00	2255.96	67.68	190.16
15+38.11	16+69.22	TEMP. RAMP F	131.11	13.66	199.00	880	87.56					11.50	167.53	220	18.43	13.66	199.00	19.90	17.49	366.67	11.00	30.90
10+83.91	11+34.78	TEMP. RAMPE	50.87	13.66	77.21	880	33.97					11.50	65.00	220	7.15	13.66	77.21	7.72	17.49	142.27	4.27	11.99
11+34.78	14+78.25	TEMP. RAMPE	343.47	27.33	1043.00	880	458.92					23.00	877.76	220	96.55	27.33	1043.00	104.30	35.00	1921.14	57.63	161.93
14+78.25	15+83.78	TEMP. RAMPE	105.53	13.66	160.17	880	70.47					11.50	134.84	220	14.83	13.66	160.17	16.02	17.49	295.13	8.85	24.87
10+00.00	12+19.74	TEMP. RAMP H	219.74	27.33	667.28	880	293.60					23.00	561.56	220	61.77	27.33	667.28	66.73	35.00	1229.08	36.87	103.60
12+19.74	12+50.67	TEMP. RAMP H	30.93	13.66	46.94	880	20.65					11.50	39.52	220	4.35	13.66	46.94	4.69	17.49	86.50	2.60	7.29
12+73.21	12+97.78	TEMP. RAMP H	24.57	13.66	37.29	880	16.41					11.50	31.39	220	3.45	13.66	37.29	3.73	17.49	68.71	2.06	5.79
12+97.78	15+95.59	TEMP. RAMP H	297.81	27.33	904.35	880	397.91					23.00	761.07	220	83.72	27.33	904.35	90.44	35.00	1665.75	49.97	140.41
15+95.59	17+18.28	TEMP. RAMP H	122.69	13.66	186.22	880	81.94					11.50	156.77	220	17.24	13.66	186.22	18.62	17.49	343.12	10.29	28.91
10+00.00	11+22.01	TEMP. RAMP G	122.01	27.33	370.50	880	163.02					23.00	311.80	220	34.30	27.33	370.50	37.05	35.00	682.44	20.47	57.52
11.22.01	11+47.20	TEMP. RAMP G	25.19	13.66	38.23	880	16.82					11.50	32.19	220	3.54	13.66	38.23	3.82	17.49	70.45	2.11	5.93
11+51.75	11+72.18	TEMP. RAMP G	20.43	13.66	31.01	880	13.64					11.50	26.11	220	2.87	13.66	31.01	3.10	17.49	57.14	1.71	4.81
11+72.18	12+19.74	TEMP. RAMP G	47.56	27.33	144.42	880	63.54					23.00	121.54	220	13.37	27.33	144.42	14.44	35.00	266.02	7.98	22.42
12+19.74	12+50.67	TEMP. RAMP G	30.93	13.66	46.94	880	20.65					11.50	39.52	220	4.35	13.66	46.94	4.69	17.49	86.50	2.60	7.29
12+73.21	12+97.78	TEMP. RAMP G	24.57	13.66	37.29	880	16.41					11.50	31.39	220	3.45	13.66	37.29	3.73	17.49	68.71	2.06	5.79
12+97.78	16+60.87	TEMP. RAMP G	363.09	27.33	1102.58	880	485.14					23.00	927.90	220	102.07	27.33	1102.58	110.26	35.00	2030.88	60.93	171.19
16+60.87	17+92.37	TEMP. RAMP G	131.5	13.66	199.59	880	87.82					11.50	168.03	220	18.48	13.66	199.59	19.96	17.49	367.76	11.03	30.99
2036+82.98	2040+92.75	TEMP. DECEL LANE	409.77	13.91	633.32	880	278.66					12.00	546.36	220	60.10	13.91	633.32	63.33	17.91	1180.14	35.40	98.73
2040+92.75	2043+42.75	TEMP. DECEL LANE	250	6.95	193.06	880	84.95					6.00	166.67	220	18.33	6.95	193.06	19.31	8.95	360.00	10.80	30.11
2036+75.01	2052+29.62	TEMP. ACCEL LANE	1554.61	18.16	3136.86	880	1380.22					16.00	2763.75	220	304.01	18.16	3136.86	313.69	23.49	8902.34	177.07	490.76
2052+29.62	2055+29.62	TEMP. ACCEL LANE	300	9.08	302.67	880	133.17					8.00	266.67	220	29.33	9.08	302.67	30.27	11.75	569.00	17.07	47.34
TOTALS					25910.54		13056.16		13150.00		2169.76		21457.10		2360.24		25910.54	2591.10		60533.82	1819.00	4410.10

BASIS OF ESTIMATE:

ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 94.4%, ASPHALT BINDER (PG-76-22) = 5.6%

Nmax = 205

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
5-24-11
No. 7605
MICHAEL D. FUGETT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		Ø61187	66	165

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
8-24-11

SUMMARY OF BASE & SURFACING MATERIALS

LOCATION	AGGREGATE BASE COURSE (CLASS 1)	AGGREGATE BASE COURSE (CLASS 7)	ACHM BASE COURSE (1 1/2")	ACHM BINDER COURSE (1")	ACHM SURFACE COURSE (1/2")	OPEN GRADED ASPHALT BASE COURSE (TYPE4)	TACK COAT	BORROW	COLD MILLING ASPHALT PAVEMENT	SCARIFYING CONCRETE PAVEMENT	SCARIFYING & RECOMPACTING SHOULDERS	TRENCHING & SHOULDER PREPARATION
	TON						GAL.	CU. YD.	SQ. YD.			STATION
BASE & SURFACING - MAIN LANE - ASPHALT		5774.31	115077.90	48906.19	65423.02		44486.66					
BASE & SURFACING - MAIN LANE SHOULDERS	84527.67	15452.40	72236.99	26652.42	36981.64		28660.37	30955.90				
BASE & SURFACING - TRANSITIONS (RAMP MAIN LINE)			327.70	655.41	1301.66		650.00			1083.34		
BASE & SURFACING - TRANSITIONS (RAMP SHOULDERS)	864.50		142.56	195.36	317.76		846.38	411.66				
BASE & SURFACING - ACCELERATION LANE EXTENSION		2826.31	803.74	254.89	437.32	465.60	194.32	71.37				
BASE & SURFACING - BRIDGE JACKINGS		248.88		134.46	376.42		117.34		977.78			
BASE & SURFACING - CROSSOVERS & TEMP. RAMPS			13056.16	2169.76	2360.24		4410.10					
MAIN LINE SHOULDER REHABILITATION				20568.70	4570.83		3739.76					538.99
RAMP SHOULDER REHABILITATION					433.80						3943.60	
APPROACH SLABS		398.16										
TOTAL	85392.17	24700.06	201645.05	99537.19	112202.69	465.60	83104.93	31438.93	977.78	1083.34	3943.60	538.99

BASIS OF ESTIMATE: OPEN GRADED ASPHALT BASE COURSE (TYPE 4) - MINERAL AGGREGATE = 97.2%, ASPHALT BINDER (PG-64-22) = 2.8% Nmax=115
ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5% Nmax=205
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.5%, ASPHALT BINDER (PG-76-22) = 4.5% Nmax=205
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 94.4%, ASPHALT BINDER (PG-76-22) = 5.6% Nmax=205

CONSTRUCTION PAVEMENT MARKINGS & PERMANENT PAVEMENT MARKINGS

DESCRIPTION	PART 1					PART 2					PART 3					BRIDGE JACKING		TOTAL QUANTITY REQUIRED	UNIT
	STAGE I	STAGE II	STAGE III	STAGE IV	STAGE V	STAGE I	STAGE II	STAGE III	STAGE IV	STAGE V	STAGE I	STAGE II	STAGE III	STAGE IV	STAGE V	BR. #3710	BR. #3716		
	LIN. FT. - EACH																		
REMOVAL OF PERMANENT PAVEMENT MARKINGS	20526.25					35300.00					17693.90							73520.15	LIN. FT.
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS										7173.68								7173.68	LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	28654.25	46516.50		46409.50	82596.00	39056.00	42525.00		38041.45	64252.64	26033.90	38227.80		42211.28	76655.60			571179.92	LIN. FT.
RAISED PAVEMENT MARKERS (TYPE I)		258		258	1042		236		236	972		221		221	144			3588	EACH
RAISED PAVEMENT MARKERS (TYPE II)										172					172			344	EACH
HIGH PERFORMANCE PAVEMENT MARKINGS WHITE (4")					41298.00					31256.32					36287.80			108842.12	LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS YELLOW (4")					41298.00					31006.32					36667.80			108972.12	LIN. FT.
HIGH PERFORMANCE CONTRAST PAV'T MARKING (YELLOW) (4")					363.00				3586.84	3586.84						700.00	440.00	8676.68	LIN. FT.
HIGH PERFORMANCE CONTRAST PAV'T MARKING (WHITE) (4")					453.00				4483.55	4483.55								9420.10	LIN. FT.
PERMANENT PAVEMENT MARKING TAPE (WHITE, 4", TYPE 3)					10324.50					7656.58					8846.95			26828.03	LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (8")										1750.00					1750.00			3500.00	LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")																2400.00	2400.00	4800.00	LIN. FT.

NOTE: ALL NEW ASPHALT SURFACES SHALL HAVE A MINIMUM CURE PERIOD OF 14 DAYS PRIOR TO INSTALLING HIGH PERFORMANCE PAVEMENT MARKINGS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISION SPECIFICATIONS FOR HIGH PERFORMANCE PAVEMENT MARKINGS.

NOTE: THERMOPLASTIC PAVEMENT MARKINGS MAY BE SUBSTITUTED FOR HIGH PERFORMANCE PAVEMENT MARKINGS AT INTERSECTIONS, ISLANDS, TURNOUTS AND OTHER SIMILAR LOCATIONS AS 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
8-24-11				6	ARK.			
				JOB NO.		061187	67	165

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
8-24-11

MOBILE SPEED NOTIFICATION SYSTEM

LOCATION	EACH
ENTIRE PROJECT - AS DIRECTED BY THE ENGINEER	2
TOTAL	2

ADVANCE WARNING SIGNS AND DEVICES - PART 1

SIGN NUMBER	DECRIPTION	SIGN SIZE	STAGE IA	STAGE IB	STAGE II	STAGE III	STAGE IV	STAGE IVA	STAGE IVB	TOTAL NUMBER REQUIRED (EACH)	TOTAL SIGNS REQUIRED (SQ. FT.)	
R2-1	SPEED LIMIT 60	48" x 60"	2	4	4	4	4	4	4	4	80	
R2-1	SPEED LIMIT 70	48" x 60"	2	4	4	4	4	4	4	4	80	
R2-2	TRUCKS 65	48" x 48"	2	4	4	4	4	4	4	4	64	
R2-5A	REDUCED SPEED AHEAD	48" x 60"	2	4	4	4	4	4	4	4	80	
R4-1	DO NOT PASS	48" x 60"	4	8	8	8	8	8	8	8	160	
R11-2	ROAD CLOSED	48" x 30"	2	4	3	4	3	4	4	4	40	
W1-4aL	SHIFT	48" x 48"			1		1			1	16	
W1-4aR	SHIFT	48" x 48"			1		1			1	16	
W1-6	ARROW	60" x 30"	6	12	9	12	9	12	12	12	150	
W1-8	MODULAR GLARE SHIELD	36" x 48"			9		9			9	108	
W4-2 RT.	LANES MERGE	48" x 48"	2	4	4	4	4	4	4	4	64	
W13-1	XXX M.P.H.	18" x 18"			2		2			2	4.5	
W20-1	ROAD WORK AHEAD	48" x 48"	2	4	4	4	4	4	4	4	64	
W20-5	RIGHT LANE CLOSED 1 MILE	48" x 48"	2	4	4	4	4	4	4	4	64	
W20-5	RIGHT LANE CLOSED*MILE	48" x 48"	2	4	4	4	4	4	4	4	64	
W20-5	RIGHT LANE CLOSED 1500 FT	48" x 48"	2	4	4	4	4	4	4	4	64	
SPECIAL	MERGE NOW	48" x 48"	1	2	2	2	2	2	2	2	32	
											1150.5	
												UNIT
ADVANCE WARNING ARROW PANEL			1	2	2	2	2	2	2	2		EACH
TYPE III BARRICADE RT. (10')					20		20			20		LIN. FT.
TYPE III BARRICADE LT. (10')				40	20	40	20	40	40	40		LIN. FT.
TRAFFIC DRUMS			257	514	148	514	152	514	442	514		EACH
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER					21550					21550		LIN. FT.
RELOCATE PRECAST CONCRETE BARRIER							21550			21550		LIN. FT.
MODULAR GLARE SHIELD					600		600			600		LIN. FT.
VERTICAL PANELS					106		106			106		EACH

ADVANCE WARNING SIGNS AND DEVICES - PART 2

SIGN NUMBER	DECRIPTION	SIGN SIZE	STAGE IA	STAGE IB	STAGE II	STAGE III	STAGE IV	STAGE IVA	STAGE IVB	TOTAL NUMBER REQUIRED (EACH)	TOTAL SIGNS REQUIRED (SQ. FT.)	
R1-1	STOP	48" x 48"			2					2	32	
R2-1	SPEED LIMIT 60	48" x 60	2	4	4	4	4	4	4	4	80	
R2-1	SPEED LIMIT 70	48" x 60	2	4	4	4	4	4	4	4	80	
R2-2	TRUCKS 65	48" x 48	2	4	4	4	4	4	4	4	64	
R2-5A	REDUCED SPEED AHEAD	48" x 60	2	4	4	4	4	4	4	4	80	
R4-1	DO NOT PASS	48" x 60	2	8	8	8	8	8	8	8	160	
R11-2	ROAD CLOSED	48" x 30	4	4	4	4	3	4	4	4	40	
W1-4aL	SHIFT	48" x 48"			1		1			1	16	
W1-4aR	SHIFT	48" x 48"			1		1			1	16	
W1-6	ARROW	60" x 30	3	12	9	12	9	6	12	12	150	
W1-8	MODULAR GLARE SHIELD	36" x 48"			9		9			9	108	
W3-1A	STOP AHEAD	48" x 48"			1					1	16	
W4-1	RAMP MERGE	48" x 48"			2		2			2	32	
W4-2 RT.	LANES MERGE	48" x 48	2	4	4	4	4	4	4	4	64	
W13-1	XXX M.P.H.	18" x 18"			2		2			2	4.5	
W20-1	ROAD WORK AHEAD	48" x 48	2	4	4	4	4	4	4	4	64	
W20-5	RIGHT LANE CLOSED 1 MILE	48" x 48	2	4	4	4	4	4	4	4	64	
W20-5	RIGHT LANE CLOSED*MILE	48" x 48	2	4	4	4	4	4	4	4	64	
W20-5	RIGHT LANE CLOSED 1500 FT	48" x 48	2	4	4	4	4	4	4	4	64	
SPECIAL	MERGE NOW	48" x 48	1	2	2	2	2	2	2	2	32	
											1230.5	
												UNIT
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (24")					15					15		LIN. FT.
MODULAR GLARE SHIELD					600		600			600		LIN. FT.
ADVANCE WARNING ARROW PANEL			1	2	2	2	2	2	2	2		EACH
TYPE III BARRICADE RT. (10')					30		20			30		LIN. FT.
TYPE III BARRICADE LT. (10')			20	40	20	40	20	40	40	40		LIN. FT.
TRAFFIC DRUMS			234	327	165	468	143	468	412	468		EACH
FURNISH AND INSTALL PRECAST CONCRETE BARRIER					18700		16500			35200		LIN. FT.
RELOCATE PRECAST CONCRETE BARRIER							18500			18500		LIN. FT.
VERTICAL PANELS					99		99			99		EACH

MAINTENANCE OF TRAFFIC ITEMS

LOCATION	MOTORIST ASSISTANCE PATROL	PORTABLE HIGHWAY ADVISORY RADIO ASSEMBLY	PORTABLE CONSTRUCTION LIGHTING		PORTABLE CAMERA ASSEMBLY
			TOTAL NO. REQUIRED	DAY	
	LUMP SUM	EACH			EACH
ENTIRE PROJECT	1.00				
ENTIRE PROJECT - CARLISLE, HAZEN, BISCOE, BRINKLEY EXITS		4			
ENTIRE PROJECT - CROSSOVER LOCATIONS AND TEMPORARY RAMPS			4	940	
ENTIRE PROJECT - WHERE DIRECTED BY THE ENGINEER					4
TOTAL	1.00	4		940	4

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		Ø61187	68	165

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14,7605
MICHAEL D. FUGETT
8-24-11

ADVANCE WARNING SIGNS AND DEVICES - PART 3

SIGN NUMBER	DECRIPTION	SIGN SIZE	STAGE IA	STAGE IB	STAGE IIA	STAGE IIB	STAGE III	STAGE IVA	STAGE IVB	STAGE VA	STAGE VB	TOTAL NUMBER REQUIRED (EACH)	TOTAL SIGNS REQUIRED (SQ. FT.)
R2-1	SPEED LIMIT 60	48" x 60	4	4	4	4	4	4	4	4	4	4	80
R2-1	SPEED LIMIT 70	48" x 60	4	4	4	4	4	4	4	4	4	4	80
R2-2	TRUCKS 65	48" x 48	4	4	4	4	4	4	4	4	4	4	64
R2-5A	REDUCED SPEED AHEAD	48" x 60	4	4	4	4	4	4	4	4	4	4	80
R4-1	DO NOT PASS	48" x 60	8	8	8	8	8	8	8	8	8	8	160
R11-2	ROAD CLOSED	48" x 30	6	9	10	10	10	6	7	7	7	10	100
W1-4aL	SHIFT	48" x 48"			1	1		1	1			1	16
W1-4aR	SHIFT	48" x 48"			1	1		1	1			1	16
W1-6	ARROW	60" x 30	12	12	12	12	12	12	12	12	12	12	150
W1-8	MODULAR GLARE SHIELD	36" x 48"			9	9		9	9			9	108
W4-2 RT.	LANES MERGE	48" x 48	4	4	4	4	4	4	4	4	4	4	64
W13-1	XXX M.P.H.	18" x 18"			2	2		2	2			2	4.5
W20-1	ROAD WORK AHEAD	48" x 48	4	4	4	4	4	4	4	4	4	4	64
W20-5	RIGHT LANE CLOSED 1 MILE	48" x 48	4	4	4	4	4	4	4	4	4	4	64
W20-5	RIGHT LANE CLOSED*MILE	48" x 48	4	4	4	4	4	4	4	4	4	4	64
W20-5	RIGHT LANE CLOSED 1500 FT	48" x 48	4	4	4	4	4	4	4	4	4	4	64
SPECIAL	MERGE NOW	48" x 48	2	2	2	2	2	2	2	2	2	2	32
													1210.5

											UNIT
MODULAR GLARE SHIELD			600	600		600	600			600		LIN. FT.
ADVANCE WARNING ARROW PANEL	2	2	2	2	2	2	2	2	2	2		EACH
TYPE III BARRICADE RT. (10')		10	70	50	10	50	30			70		LIN. FT.
TYPE III BARRICADE LT. (10')	60	80	50	60	90	20	50	70	70	90		LIN. FT.
TRAFFIC DRUMS	476	400	277	275	491	229	226	476	420	491		EACH
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			19300	19300						19300		LIN. FT.
RELOCATE PRECAST CONCRETE BARRIER						19300	19300			19300		LIN. FT.
TEMPORARY RELOCATION OF SIGNS		2				1	1			2		EACH
VERTICAL PANELS			95			95				95		EACH

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	PIER PROTECTION (TYPE A)	CONCRETE BARRIER (MEDIAN TYPE SPECIAL)
			LIN. FT.	
1715+99.61	1716+26.61	RT. OF RT. LANES	27	
2027+80	2028+09	RT. OF RT. LANES	29	
2095+35	2095+64	RT. OF RT. LANES	29	
1717+04.09	1717+31.09	LT. OF LT. LANES	27	
2027+51	2027+80	LT. OF LT. LANES	29	
2096+11	2096+30	LT. OF LT. LANES	29	
1716+30.91	1716+47.91	MEDIAN	17	
1716+82.79	1716+99.79	MEDIAN	17	
1829+50.00	1865+37.96	MEDIAN		3587.96
1868+65.13	1883+03.25	MEDIAN		1438.12
1910+76.75	1951+76.92	MEDIAN		4100.17
1956+63.09	1990+00.00	MEDIAN		3336.91
2027+80	2027+99	MEDIAN	38	
2095+49.3	2095+68.3	MEDIAN	38	
TOTAL			280	12463.16

ADVANCE WARNING SIGNS AND DEVICES SUMMARY

SIGN NUMBER	DECRIPTION	SIGN SIZE	ENTIRE PROJECT	PART 1	PART 2	PART 3	BRIDGE JACKING	TOTAL NUMBER REQUIRED (EACH)	TOTAL SIGNS (SQ. FT.)
G20-1	ROAD WORK XX MILES	60"X24"	2					2	20
G20-2	END ROAD WORK	48"X24"	6					6	48
R1-1	STOP	48" x 48"			2			2	32
R2-1	SPEED LIMIT XX	48"X60"	4	8	8	8		28	560
R2-2	TRUCKS XX	48"X48"	4	4	4	4		16	256
R2-5A	REDUCED SPEED AHEAD	48"X60"		4	4	4		12	240
R4-1	DO NOT PASS	48"X60"		8	8	8		24	480
R11-2	ROAD CLOSED	48"X30"		4	4	10	2	20	200
R11-3	ROAD CLOSED*MILE AHEAD LOCAL TRAFFIC ONLY	60"X30"					4	4	50
R55-1	DBL. FINES IN WORK ZONES	36"X60"	4					4	60
W1-4aL	LANE SHIFT LT.	48"X48"		1	1	1		3	48
W1-4aR	LANE SHIFT RT.	48"X48"		1	1	1		3	48
W1-6	LARGE ARROW ONE-WAY	60"X30"		12	12	12		36	450
W1-8	MODULAR GLARE SHIELD	36"X48"		9	9	9		27	324
W3-1A	STOP AHEAD	48"X48"			1			1	16
W4-1	RAMP MERGE	48"X48"			2			2	32
W4-2 RT.	LANES MERGE	48"X48"		4	4	4		12	192
W13-1	XX M.P.H.	18"X18"		2	2	2		6	13.5
W20-1	ROAD WORK XX MILE (FT.) (AHEAD)	48"X48"	16	4	4	4	2	30	480
W20-3	ROAD CLOSED XX FT.	48"X48"					8	8	128
W20-5	RIGHT LANE CLOSED XX MILE (FT.)	48"X48"		12	12	12		36	576
SPECIAL	MERGE NOW	48"X48"		2	2	2		6	96
S-1	WIDE LOAD DETOUR EXIT NEXT RIGHT USE U.S. 49 TO U.S. 70	78"X34"	1					1	18.4
S-2	WIDE LOAD DETOUR EXIT NEXT RIGHT USE U.S. 63 TO U.S. 70	78"X34"	1					1	18.4

								QUANTITY REQUIRED	UNIT
SIGNS								4386.3	SQ. FT.
ADVANCE WARNING ARROW PANEL		2	2	2		4		3500	DAYS
TYPE III BARRICADE (10') LT.		40	40	90		130		130	LIN. FT.
TYPE III BARRICADE (10') RT.		20	30	70		90		90	LIN. FT.
TYPE III BARRICADE (24')					48	48		48	LIN. FT.
TRAFFIC DRUMS		514	468	491		1005		1005	EACH
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		21550	35200	19300		56750		56750	LIN. FT.
RELOCATE PRECAST CONCRETE BARRIER		21550	18500	19300		40050		40050	LIN. FT.
PORTABLE CHANGEABLE MESSAGE SIGN	6				2	8		218	WEEK
MODULAR GLARE SHIELD		600	600	600		1800		1800	LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (24")			15			15		15	LIN. FT.
TEMPORARY RELOCATION OF EXISTING SIGNS				2		2		2	EACH
VERTICAL PANELS		106	99	95		201		201	EACH

JOINT REHABILITATION

LOCATION	TYPE A NUMBER OF JOINTS	TYPE A LENGTH FEET	TYPE A TOTAL LENGTH LIN. FT.	TYPE B NUMBER OF JOINTS	TYPE B LENGTH FEET	TYPE B TOTAL LENGTH LIN. FT.	TYPE D LENGTH LIN. FT.
RAMP E @ HWY. 33 INTERCHANGE	21	15	315	43	15	645	
RAMP F @ HWY. 33 INTERCHANGE	18	15	270	37	15	555	
RAMP G @ HWY. 33 INTERCHANGE	17	15	255	35	15	525	
RAMP H @ HWY. 33 INTERCHANGE	23	15	345	47	15	705	
*ENTIRE PROJECT - RAMPS AS DIRECTED							1000
TOTAL			1185			2430	1000

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

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

LOCATION	TRANSVERSE JOINTS NUMBER OF JOINTS	TRANSVERSE JOINTS LENGTH FEET	TOTAL LENGTH LIN. FT.
RAMP E @ HWY. 33 INTERCHANGE	42	15	630
RAMP F @ HWY. 33 INTERCHANGE	42	15	630
RAMP G @ HWY. 33 INTERCHANGE	42	15	630
RAMP H @ HWY. 33 INTERCHANGE	42	15	630
TOTAL	168		2520

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		061187	69	165

(2) QUANTITIES

4" PIPE UNDERDRAINS

STATION	STATION	LOCATION	UNDERDRAIN COVER	4" PIPE UNDERDRAINS				UNDERDRAIN OUTLET PROTECTORS	UNDERDRAIN VIDEO INSPECTION
				EDGE DRAINS	LATERALS (NON-PERFORATED)		TOTAL		
			LIN. FT.	LIN. FT.	NO.	LIN. FT.		EACH	LIN. FT.
1616+26.75	1623+75.00	LT. OF LT. LANES	748	748	3	144	892	3	892
1623+75.00	1679+21.60	LT. OF LT. LANES	5547	5547	23	1104	6651	23	6651
1679+07.07	1799+00.80	LT. OF LT. LANES	11994	11994	48	2304	14298	48	14298
1798+46.50	1810+92.71	LT. OF LT. LANES	1246	1246	5	240	1486	5	1486
1810+92.71	1823+00.00	RT. OF LT. LANES	1207	1207	5	240	1447	5	1447
1616+75.25	1623+75.00	RT. OF RT. LANES	700	700	3	144	844	3	844
1623+75.00	1679+21.60	RT. OF RT. LANES	5547	5547	23	1104	6651	23	6651
1679+07.07	1679+75.91	RT. OF RT. LANES	69	69	1	48	117	1	117
1679+75.91	1703+24.98	LT. OF RT. LANES	2349	2349	10	480	2829	10	2829
1703+24.98	1770+86.60	RT. OF RT. LANES	6762	6762	28	1344	8106	28	8106
1770+86.60	1799+00.80	LT. OF RT. LANES	2814	2814	12	576	3390	12	3390
1798+46.50	1799+34.00	LT. OF RT. LANES	88	88	1	48	136	1	136
1799+34.00	1823+00.00	RT. OF RT. LANES	2366	2366	10	480	2846	10	2846
PART 2									
1823+00.00	1831+23.29	RT. OF LT. LANES	823	823	4	192	1015	4	1015
1831+23.29	1865+37.96	LT. OF LT. LANES	3415	3415	14	672	4087	14	4087
1868+65.13	1883+03.25	LT. OF LT. LANES	1438	1438	6	288	1726	6	1726
1910+76.75	1920+08.00	LT. OF LT. LANES	931	931	4	192	1123	4	1123
1920+08.00	1951+76.92	LT. OF LT. LANES	3169	3169	13	624	3793	13	3793
1956+63.09	1968+36.41	LT. OF LT. LANES	1173	1173	5	240	1413	5	1413
1968+36.41	1974+00.00	RT. OF LT. LANES	564	564	3	144	708	3	708
1974+00.00	2004+46.97	RT. OF LT. LANES	3047	3047	13	624	3671	13	3671
2004+46.97	2006+50.00	LT. OF LT. LANES	203	203	1	48	251	1	251
2006+50.00	2012+00.00	LT. OF LT. LANES	550	550	3	144	694	3	694
1823+00.00	1865+37.96	RT. OF RT. LANES	4238	4238	17	816	5054	17	5054
1868+65.13	1883+03.25	RT. OF RT. LANES	1438	1438	6	288	1726	6	1726
1910+76.75	1920+08.00	RT. OF RT. LANES	931	931	4	192	1123	4	1123
1920+08.00	1951+76.92	RT. OF RT. LANES	3169	3169	13	624	3793	13	3793
1956+63.09	2012+00.00	RT. OF RT. LANES	5537	5537	23	1104	6641	23	6641
PART 3									
2012+00.00	2014+00.00	LT. OF LT. LANES	200	200	1	48	248	1	248
2014+00.00	2188+57.40	LT. OF LT. LANES	17457	17457	70	3360	20817	70	20817
2012+00.00	2046+62.00	RT. OF RT. LANES	3462	3462	14	672	4134	14	4134
2046+62.00	2051+00.00	RT. OF RT. LANES	438	438	2	96	534	2	534
2051+00.00	2122+62.43	RT. OF RT. LANES	7162	7162	29	1392	8554	29	8554
2122+62.43	2150+71.16	LT. OF RT. LANES	2809	2809	12	576	3385	12	3385
2150+71.16	2188+57.40	RT. OF RT. LANES	3786	3786	16	768	4554	16	4554
TOTAL			107377	107377	445	21360	128737	445	128737

CONCRETE DITCH PAVING (TYPE B)

LOCATION	SQ. YD.
ACCESS RD. @ REST AREA UNDER BR. #3712	40
TOTAL	40

SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU. YD.	
ENTIRE PROJECT - AS DIRECTED BY THE ENGINEER	25	25
TOTAL	25	25

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

STONE BACKFILL

STATION	STATION	LOCATION	TON
ENTIRE	PROJECT	IF AND WHERE DIRECTED BY THE ENGINEER	2000
TOTAL			2000

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

SOIL STABILIZATION

STATION	STATION	LOCATION	TON
ENTIRE	PROJECT	IF AND WHERE DIRECTED BY THE ENGINEER	100
TOTAL			100

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

APPROACH SLABS AND GUTTERS

STATION	STATION	LOCATION	APPROACH SLABS	APPROACH GUTTERS						REINFORCING STEEL - RDWY. (GRADE 60)	AGGREGATE BASE COURSE (CLASS 7)	CONCRETE SPILLWAY (TYPE A)	TYPE N1 DROP INLET	12" ZINC COATED (GALV.) CORR. STEEL PIPE 16 GA.
				TYPE C	TYPE SPECIAL 1 (13 1/2" CURB)	TYPE SPECIAL 2 (19 1/2" CURB)	TYPE SPECIAL 3 (AT MEDIAN)	TYPE SPECIAL 4 (TRANS MEDIAN)	TYPE SPECIAL 5 (13 1/2" CURB)					
			CUBIC YARD							LBS.	TON	EACH	EACH	LIN. FT.
1615+90.25	1616+26.75	BR. 3709A @ HURRICANE CREEK - LT. M.L.	49.15						38.10	9143	49.77			
1616+38.75	1616+75.25	BR. 3709B @ HURRICANE CREEK - RT. M.L.	49.15						38.10	9143	49.77			
1865+37.96	1865+74.46	BR. 6893 @ WHITE RIVER RELIEF - LT. & RT. M.L.	98.30	36.12			19.38			15019	49.77			
1868+28.63	1868+65.13	BR. 6893 @ WHITE RIVER RELIEF - LT. & RT. M.L.	98.30	36.12			19.38			15019	49.77			
1883+03.25	1883+39.75	BR. 3713 @ WHITE RIVER - LT. & RT. M.L.	98.30			19.62		18.88		15380	49.77			
1910+40.25	1910+76.75	BR. 3713 @ WHITE RIVER - LT. & RT. M.L.	98.30			19.62		18.88		15380	49.77			
1951+76.92	1952+13.42	BR. 6894 @ WHITE RIVER RELIEF - LT. & RT. M.L.	98.30	36.12			19.38			15019	49.77			
1956+26.59	1956+63.09	BR. 6894 @ WHITE RIVER RELIEF - LT. & RT. M.L.	98.30	36.12			19.38			15019	49.77			
31+79.98	32+16.48	COUNTY RD. @ BR. 3710			16.24					1824		2	2	100
35+64.92	36+01.42	COUNTY RD. @ BR. 3710			16.24					1824		2	2	100
18+55.36	18+91.86	COUNTY RD. @ BR. 3716			16.24					1824		2	2	100
21+08.14	21+44.64	COUNTY RD. @ BR. 3716			16.24					1824		2	2	100
TOTALS			688.10	144.48	64.96	39.24	77.52	37.76	76.20	116418	398.16	8	8	400

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

8-24-11

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.		061187	69A	165

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-27-11

REMOVAL AND DISPOSAL ITEMS

STATION	STATION	DESCRIPTION	CONCRETE DITCH PAVING	WIRE ROPE SAFETY FENCE
			SQ.YD	LIN. FT.
2123+99.50	2185+77.50	C.L. MEDIAN	2746	6178
TOTALS			2746	6178

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	WIDTH	CONCRETE DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			FEET	FEET	SQ.YD.		M.GAL.
2123+99.50	2185+77.50	C.L. MEDIAN	6178.0	4	2746	2746	34.6
TOTALS					2746	2746	34.6

BASIS OF ESTIMATE:

WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

WIRE ROPE SAFETY FENCE

STATION	STATION	LOCATION	WIRE ROPE SAFETY FENCE	WIRE ROPE SAFETY FENCE MAINTENANCE MATERIALS	WRSF ANCHOR *
			LIN. FT.	LUMP SUM	EACH
2123+99.50	2185+77.50	C.L. MEDIAN	6178.0		2
ENTIRE PROJECT				1.00	
TOTALS			6178	1.00	2

* THIS ITEM SHOWN FOR INFORMATION ONLY.

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.		Ø61187	7Ø	165

(2) QUANTITIES

STRUCTURES

STATION	LOCATION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24" LIN. FT.	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 24" EACH	TEMPORARY CULVERTS 18" LIN. FT.	DROP INLET (TYPE ST) EACH	MODIFYING DROP INLETS EACH	SOLID SODDING SQ. YDS.	WATER M. GAL.	STANDARD DRAWINGS
1609+17.00	CL I-40 MEDIAN			230					
1823+40.00	CL I-40 MEDIAN			380					
1969+00.00	LT. OF RT. LANES					1			
1970+11.41	LT. OF RT. LANES	60	1		1		12	0.15	FES-1, FES-2, PCC-1
1975+00.00	CL I-40 MEDIAN					1			
2012+00.00	CL I-40 MEDIAN			180					
2043+71.00	CL I-40 MEDIAN			240					
2205+00.00	CL I-40 MEDIAN			170					
TOTAL		60	1	1200	1	2	12	0.15	

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

IMPACT ATTENUATION BARRIER (TYPE A)

STATION	LOCATION	IMPACT ATTENUATION BARRIERS (TYPE A) EACH	REMOVAL & DISPOSAL OF IMPACT ATTENUATION BARRIERS EACH
1716+30.91	LT. OF RT. LANES	1	
1716+99.79	RT. OF RT. LANES	1	
2027+80	MEDIAN	1	1
2027+99	MEDIAN	1	1
2095+49.3	MEDIAN	1	1
2095+68.3	MEDIAN	1	1
TOTAL		6	4

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL TYPE A LIN. FT.	GUARDRAIL TYPE B LIN. FT.	GUARDRAIL TERMINAL (TYPE 2) EACH	TERMINAL ANCHOR POSTS (TYPE 1) EACH	THRIE BEAM GUARDRAIL TERMINAL EACH	CRASH CUSHION EACH
1615+77.00	1618+45.15	LT. OF LT. LANES	200		1		1	
1616+00.00	1619+18.25	RT. OF LT. LANES	250		1		1	
1717+30.49	1719+98.64	LT. OF LT. LANES	200		1		1	
1779+70	1781+70	LT. OF LT. LANES	150		1	1		
1779+53	1781+53	RT. OF LT. LANES	150		1	1		
1799+39	1800+89	RT. OF LT. LANES	100		1	1		
1799+79	1801+29	LT. OF LT. LANES	100		1	1		
1829+97.5	1832+15.6	RT. OF LT. LANES	150		1	1		
1835+55	1844+05	LT. OF LT. LANES	800		1	1		
1868+28.03	1883+40.35	LT. OF LT. LANES	1475				2	
1910+39.65	1918+82.80	LT. OF LT. LANES	775		1		1	
1939+95.85	1952+14.0	LT. OF LT. LANES	1200			1	1	
1956+26.00	1970+44.15	LT. OF LT. LANES	1350		1		1	
1973+99.40	1982+42.55	RT. OF LT. LANES	775		1		1	
1974+90	1983+00	LT. OF LT. LANES	760		1	1		
2027+79.4	2030+47.6	LT. OF LT. LANES	200		1		1	
2096+29.4	2098+97.6	LT. OF LT. LANES	200		1		1	
2162+86.4	2189+29.5	LT. OF LT. LANES	2625			1	1	
1713+32.06	1716+00.21	RT. OF RT. LANES	200		1		1	
1776+81	1778+81	LT. OF RT. LANES	150		1	1		
1776+55	1778+55	RT. OF RT. LANES	150		1	1		
1830+47.5	1832+15.6	LT. OF RT. LANES	100		1	1		
1835+40	1846+40	RT. OF RT. LANES	1050		1	1		
1868+28.03	1883+40.35	RT. OF RT. LANES	1475				2	
1863+09.90	1865+78.05	RT. OF RT. LANES	200		1		1	
1910+39.65	1918+32.80	RT. OF RT. LANES	775			1	1	
1938+95.85	1952+14.0	RT. OF RT. LANES	1250		1		1	
1956+26.00	1969+94.15	RT. OF RT. LANES	1350			1	1	
1973+99.40	1982+42.55	LT. OF RT. LANES	775		1		1	
1975+40	1986+90	RT. OF RT. LANES	1100		1	1		
2025+12.5	2027+80.6	RT. OF RT. LANES	200		1		1	
2092+67.5	2095+35.6	RT. OF RT. LANES	200		1		1	
2162+36.4	2189+29.5	RT. OF RT. LANES	2625		1		1	
31+20.09	32+13.24	RT. OF CO. ROAD @ BR. #3710	75			1	1	
31+27.77	32+20.92	LT. OF CO. ROAD @ BR. #3710	75			1	1	
35+60.48	36+53.63	RT. OF CO. ROAD @ BR. #3710	75			1	1	
35+68.16	36+61.31	LT. OF CO. ROAD @ BR. #3710	75			1	1	
17+96.6	18+89.7	LT. OF CO. ROAD @ BR. #3716	75			1	1	
18+02.1	18+95.2	RT. OF CO. ROAD @ BR. #3716	75			1	1	
21+04.8	21+98.0	LT. OF CO. ROAD @ BR. #3716	75			1	1	
21+10.3	22+03.5	RT. OF CO. ROAD @ BR. #3716	75			1	1	
		ACCESS RD @ REST AREA UNDER BR. #3712	100					
2186+25.75	2189+19.50	MEDIAN	450	25			2	1
TOTALS			24210	25	27	24	33	1

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
No. 7665
5-27-11

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
1			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		71	165
JOB NO.		061187		
06893, 06894, 03710, 03716		QUANTITIES		43655

SCHEDULE OF BRIDGE QUANTITIES-JOB NO. 061187 ~~B60114~~

BRIDGE NO.	CODE NO.	BRIDGE NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	SP & 205	801	802	802	803	804	804	805	805	805	805	807	SP & 807	SP & 808	812	SP & 821	SP JOB 061187 ~~B60114~~	SP JOB 061187 ~~B60114~~
				ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. -)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL -BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	CONCRETE PILING (16" OCT. OR 14" SQ.)	CONCRETE PILING (18" SQ.)	TEST PILE (16" OCT. OR 14" SQ.)	TEST PILE (18" SQ.)	STRUCTURAL STEEL IN BEAM SPANS (M270, GR. 50W)	STRUCTURAL STEEL FOR MODIFICATION OF EXISTING BRIDGE STRUCTURE (M270, GR. 50W)	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BR. NO. -)	RAISING EXISTING STRUCTURE (BR. NO. -)	ARMORED JOINT WITH NEOPRENE STRIP SEAL
				UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	LB.	CU. IN.	EA.	LUMP SUM	LUMP SUM	LIN. FT.
06893	X471	WHITE RIVER RELIEF (WEST)	BENT NOS. 1 & 6				89.34		.7	10,052		935		60		796		6,971.3				
			BENTS NOS. 2 & 5				44.38			4,968			880					10,456.9				
			BENTS NOS. 3 & 4			338	160.48			21,600			930		35			10,456.9				
			252'-0" CONT. COMP. W-BEAM UNIT					553.50	49.8		134,900					368,274						
			EXISTING BRIDGE NO. 3712 (Site no. 1)		1																	
			TOTAL FOR BRIDGE NO. 6893			338	294.2	553.5	50.5	36,620	134,900	935	1,810	60	35	369,070		27,885.1	1			160
06894	X071	WHITE RIVER RELIEF (EAST)	BENT NOS. 1 & 10				86.46		.7	9937		900		100		796		9,649.9				
			BENTS NOS. 2, 3, 4, 5, 6, 7, 8, & 9			836	618.64			82,253			4,445		40			46,464.0				
			411'-0" CONT. COMP. W-BEAM UNIT					903.40	81.2		224,600					462,474						
			EXISTING BRIDGE NO. 3714 (Site no. 2)		1																	
			TOTAL FOR BRIDGE NO. 6894			836	705.1	903.4	81.9	92,190	224,600	900	4,445	100	40	463,270		56,113.9	1			160
3710	X771	COUNTY ROAD	BRIDGE NO. 3710														7,520			1	1	
3716	X771	COUNTY ROAD	BRIDGE NO. 3716														5,990			1	1	
			TOTAL FOR JOB NO. 061187 ~~B60114~~			1,174	999.3	1456.9	132.4	128,810	359,500	1,835	6,255	160	75	832,340	13,510	83,999	2			320

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B60114X1.01
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03
BRIDGE NO. 06893 & 06894 03710 & 03716 DRAWING NO. 43655

SUMMARY OF QUANTITIES (SHEET 1 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF APPROACH GUTTERS	6	EACH
202	REMOVAL AND DISPOSAL OF APPROACH SLABS AND GUTTERS	14	EACH
SP & 202	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT	19162	SQ. YD.
202	REMOVAL AND DISPOSAL OF BARRIER WALL	10927	LIN. FT.
SP	REMOVAL AND DISPOSAL OF GUARDRAIL	25144	LIN. FT.
202	REMOVAL AND DISPOSAL OF IMPACT ATTENUATION BARRIER	4	EACH
SP & 202	REMOVAL AND DISPOSAL OF FENCE	119660	LIN. FT.
202	REMOVAL AND DISPOSAL OF CURB	1318	LIN. FT.
SP & 210	BORROW	31439	CU. YD.
210	COMPACTED EMBANKMENT	10581	CU. YD.
210	UNCLASSIFIED EXCAVATION	22516	CU. YD.
SP & 215	TRENCHING AND SHOULDER PREPARATION	538.99	STATION
216	SCARIFYING AND RECOMPACTING SHOULDERS	3944	SQ. YD.
SS & 303	AGGREGATE BASE COURSE (CLASS 1)	85392	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	24700	TON
401	TACK COAT	83105	GAL.
SP, SS & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	192571	TON
SP, SS & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")	9074	TON
SP, SS & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	95058	TON
SP, SS & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")	4479	TON
SP, SS & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	105920	TON
SP, SS & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	6283	TON
412	COLD MILLING ASPHALT PAVEMENT	4089	SQ. YD.
SP, SS & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	200	TON
SP, SS & 415	ACHM PATCHING OF EXISTING ROADWAY	200	TON
SP	ACHM PATCHING OF EXISTING SHOULDERS	200	TON
SS & 417	MINERAL AGGREGATE IN OPEN GRADED ASPHALT BASE COURSE (TYPE 4)	453	TON
SS & 417	ASPHALT BINDER (PG 64-22) IN OPEN GRADED ASPHALT BASE COURSE (TYPE 4)	13	TON
SP & 504	APPROACH GUTTERS	440.16	CU. YD.
SP & 504	APPROACH SLABS	688.10	CU. YD.
SP, SS & 507	PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (10" UNIFORM THICKNESS)	6109	SQ. YD.
507	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT FOR PATCHING	6109	SQ. YD.
509	JOINT REHABILITATION (TYPE A)	1185	LIN. FT.
509	JOINT REHABILITATION (TYPE B)	2430	LIN. FT.
509	JOINT REHABILITATION (TYPE D)	1000	LIN. FT.
512	CLEANING AND FILLING JOINTS IN EXISTING CONCRETE PAVEMENT (TYPE 7)	2520	LIN. FT.
513	REMOVAL OF EXISTING ASPHALT OVERLAY	7142	SQ. YD.
513	RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT	273749	SQ. YD.
SP & 601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
602	FURNISHING FIELD LABORATORY	1	EACH
SP & 603	TRAFFIC CONTROL SUPERVISOR	1.00	LUMP SUM
603	18" TEMPORARY CULVERT	1200	LIN. FT.
SP, SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SP, SS & 604	ADVANCE WARNING ARROW PANEL	3500	DAYS
SS & 604	BARRICADES	268	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS	571180	LIN. FT.
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	56750	LIN. FT.
SP, SS & 604	PORTABLE CHANGEABLE MESSAGE SIGN	218	WEEK
SS & 604	RELOCATING PRECAST CONCRETE BARRIER	40050	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	7174	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	73520	LIN. FT.
SS & 604	TRAFFIC DRUMS	1005	EACH
SS & 604	SIGNS	4386	SQ. FT.
SS & 604	VERTICAL PANELS	201	EACH
605	CONCRETE DITCH PAVING (TYPE B)	2786	SQ. YD.
606	SELECTED PIPE BACKFILL	25	CU. YD.
606	SELECTED PIPE BEDDING	25	CU. YD.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERT (CLASS III)	60	LIN. FT.
606	24" FLARED END SECTION FOR REINFORCED CONCRETE PIPE CULVERT	1	EACH
606	12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	400	LIN. FT.
609	DROP INLETS (TYPE N1)	8	EACH
609	DROP INLETS (TYPE ST)	1	EACH
640	MODIFYING DROP INLETS	2	EACH
611	4" PIPE UNDERDRAINS	128737	LIN. FT.
611	UNDERDRAIN VIDEO INSPECTION	128737	LIN. FT.
611	UNDERDRAIN OUTLET PROTECTORS	445	EACH
611	UNDERDRAIN COVER	107377	LIN. FT.
614	CONCRETE SPILLWAY (TYPE A)	8	EACH
SS & 617	GUARDRAIL (TYPE A)	24210	LIN. FT.
SS & 617	GUARDRAIL (TYPE B)	25	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)	24	EACH
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	27	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	33	EACH
SP & 619	WIRE FENCE (TYPE A)	119860	LIN. FT.
• 619	16' STEEL GATES - ALTERNATE NO. 1	28	EACH
• 619	16' ALUMINUM GATES - ALTERNATE NO. 2	28	EACH
620	LIME	143	TON
620	MULCH COVER	77.62	ACRE
SP & 620	SEEDING	71.31	ACRE
SS & 620	WATER	7438.4	M. GAL.
621	DROP INLET SILT FENCE	2160	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL	100	CU. YD.
621	SILT FENCE	1730	LIN. FT.
621	TEMPORARY SEEDING	6.31	ACRE
SP & 623	SECOND SEEDING APPLICATION	71.31	ACRE
624	SOLID SODDING	2858	SQ. YD.
625	GEOTEXTILE FABRIC (TYPE B)	882	SQ. YD.
631	CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)	280	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)	12463	LIN. FT.
SP & 635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	214478	LIN. FT.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (24")	15	LIN. FT.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	4800	LIN. FT.
• SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") - ALT. NO. 1	108842	LIN. FT.
• SP	HIGH PERFORMANCE MARKING TAPE WHITE (4") - ALT. NO.2	108842	LIN. FT.
• SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") - ALT. NO. 1	108972	LIN. FT.
• SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") - ALT. NO. 2	108972	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	3500	LIN. FT.
• SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST MARKING TAPE YELLOW (4") - ALT. NO.1	8677	LIN. FT.
• SP	HIGH PERFORMANCE CONTRAST MARKING TAPE YELLOW (4") - ALT. NO. 2	8677	LIN. FT.
• SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST MARKING TAPE WHITE (4") - ALT. NO.1	9420	LIN. FT.
• SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4") - ALT. NO. 2	9420	LIN. FT.
720	PERMANENT PAVEMENT MARKING TAPE (WHITE, 4", TYPE 3)	26828	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	3932	EACH
SP & 202	REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE	6178	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING	2746	SQ. YD.
SS & 731	IMPACT ATTENUATION BARRIER (TYPE A)	6	EACH
SS & 732	CRASH CUSHION	1	EACH
804	REINFORCING STEEL - ROADWAY (GRADE 60)	116418	POUNDS
SP	SCARIFYING CONCRETE PAVEMENT	1083	SQ. YD.
SP	MODULAR GLARE SHIELD	1800	LIN. FT.
SP	TEMPORARY RELOCATION OF EXISTING SIGNS	2	EACH
SP	10" STEEL ENCASEMENT PIPE	200	LIN. FT.
SP	6" PLASTIC GRAVITY SEWER PIPE	200	LIN. FT.
SP	MOBILE SPEED NOTIFICATION SYSTEM	2	EACH
SP	WIRE ROPE SAFETY FENCE	6178	LIN. FT.
SP	WIRE ROPE SAFETY FENCE MAINTENANCE MATERIALS	1.00	LUMP SUM
SP	MOTORIST ASSISTANCE PATROL	1.00	LUMP SUM
SP	PORTABLE HIGHWAY ADVISORY RADIO ASSEMBLY	4	EACH
SP	PORTABLE CONSTRUCTION LIGHTING	940	DAY
SP	PORTABLE CAMERA ASSEMBLY	4	EACH
SP & 210	SOIL STABILIZATION	100	TON
207	STONE BACKFILL	2000	TON

• DENOTES ALTERNATE BID ITEMS



8-24-11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FEDERAL DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.	061187	72	165

(2) SUMMARY OF QUANTITIES (SHEET 1 OF 2)

SUMMARY OF QUANTITIES (1 OF 2)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-11				6	ARK.			
				JOB NO.		061187	73	165

(2) SUMMARY OF QUANTITIES & REVISIONS (2 OF 2)

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

8-24-11

SUMMARY OF QUANTITIES - STRUCTURES OVER 20' SPAN

ITEM NUMBER	ITEM	QUANTITY	UNIT
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
SP & 205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
SP & 205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	1174	CU. YD.
802	CLASS S CONCRETE - BRIDGE	999.3	CU. YD.
802	CLASS S(AE) CONCRETE - BRIDGE	1456.9	CU. YD.
803	CLASS I PROTECTIVE SURFACE TREATMENT	132.4	GAL.
804	REINFORCING STEEL-BRIDGE (GRADE 60)	128810	LB.
804	EPOXY COATED REINFORCING STEEL (GRADE 60)	359500	LB.
805	CONCRETE PILING (16" OCT. OR 14" SQ.)	1835	LIN. FT.
805	CONCRETE PILING (18" SQ.)	6255	LIN. FT.
805	TEST PILE (16" OCT. OR 14" SQ.)	160	LIN. FT.
805	TEST PILE (18" SQ.)	75	LIN. FT.
807	STRUCTURAL STEEL IN BEAM SPANS (M270 - GR50W)	832340	LB.
SP & 807	STRUCTURAL STEEL FOR MODIFICATION OF EXISTING BRIDGE STRUCTURE (M270 - GR50W)	13510	LB.
SP & 808	ELASTOMERIC BEARINGS	83999	CU. IN.
812	BRIDGE NAME PLATE (TYPE D)	2	EA.
SP & 821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BR. NO. 03710)	1.00	LUMP SUM
SP & 821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BR. NO. 03716)	1.00	LUMP SUM
SP	RAISING EXISTING STRUCTURE (BR. NO. 03710)	1.00	LUMP SUM
SP	RAISING EXISTING STRUCTURE (BR. NO. 03716)	1.00	LUMP SUM
SP	ARMORED JOINT WITH NEOPRENE STRIP SEAL	320	LIN. FT.

REVISIONS

DATE	REVISION	SHEET NO.
8-24-11	REVISED MOT, SEQUENCE, HAR AND PORTABLE CAMERAS SPECIAL PROVISIONS.	
	ADDED "SOIL STABILIZATION" SPECIAL PROVISION	2A, 59, 60, 66, 67,
	REVISED EARTHWORK, FURNISH AND INSTALL PRECAST CONC. BARRIER, RELOCATE PRECAST CONC. BARRIER QUANTITIES.	68, 69, 72 & 73
	REVISED ACHM BINDER COURSE AND RUBBLIZING QUANTITIES.	
	ADDED STONE BACKFILL AND SOIL STABILIZATION 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.		061187	74	165

(2) SUPERELEVATION RATES & TRANSITION LIMITS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
NO. 5803
MICHAEL D. FUGETT

SUPERELEVATION RATES AND TRANSITION LIMITS

STATION	STATION	LOCATION	PAVEMENT TRANSITION SLOPE (FT. PER FT.)		
			FROM	MAX.	TO
1674+93.10	1678+43.10	LT. MAIN LANES	-0.02		-0.037
1678+43.10	1698+21.40	LT. MAIN LANES		-0.037	
1698+21.40	1701+71.40	LT. MAIN LANES	-0.037		-0.02
1809+28.00	1812+78.00	LT. MAIN LANES	-0.02		+0.037
1812+78.00	1829+38.00	LT. MAIN LANES		+0.037	
1829+38.00	1832+88.00	LT. MAIN LANES	+0.037		-0.02
1966+61.41	1970+11.41	LT. MAIN LANES	-0.02		+0.02
1970+11.41	2002+71.97	LT. MAIN LANES		+0.02	
2002+71.97	2006+21.97	LT. MAIN LANES	+0.02		-0.02
1678+25.10	1681+61.20	RT. MAIN LANES	-0.02		+0.037
1681+61.20	1701+39.50	RT. MAIN LANES		+0.037	
1701+39.50	1704+89.50	RT. MAIN LANES	+0.037		-0.02
1769+11.60	1772+61.60	RT. MAIN LANES	-0.02		+0.02
1772+61.60	1798+13.30	RT. MAIN LANES		+0.02	
1798+13.30	1801+09.00	RT. MAIN LANES	+0.02		-0.02
1814+29.40	1817+79.40	RT. MAIN LANES	-0.02		-0.037
1817+79.40	1834+39.40	RT. MAIN LANES		-0.037	
1834+39.40	1837+89.40	RT. MAIN LANES	-0.037		-0.02
2120+87.43	2124+37.43	RT. MAIN LANES	-0.02		+0.02
2124+37.43	2148+96.16	RT. MAIN LANES		+0.02	
2148+96.16	2152+46.16	RT. MAIN LANES	+0.02		-0.02

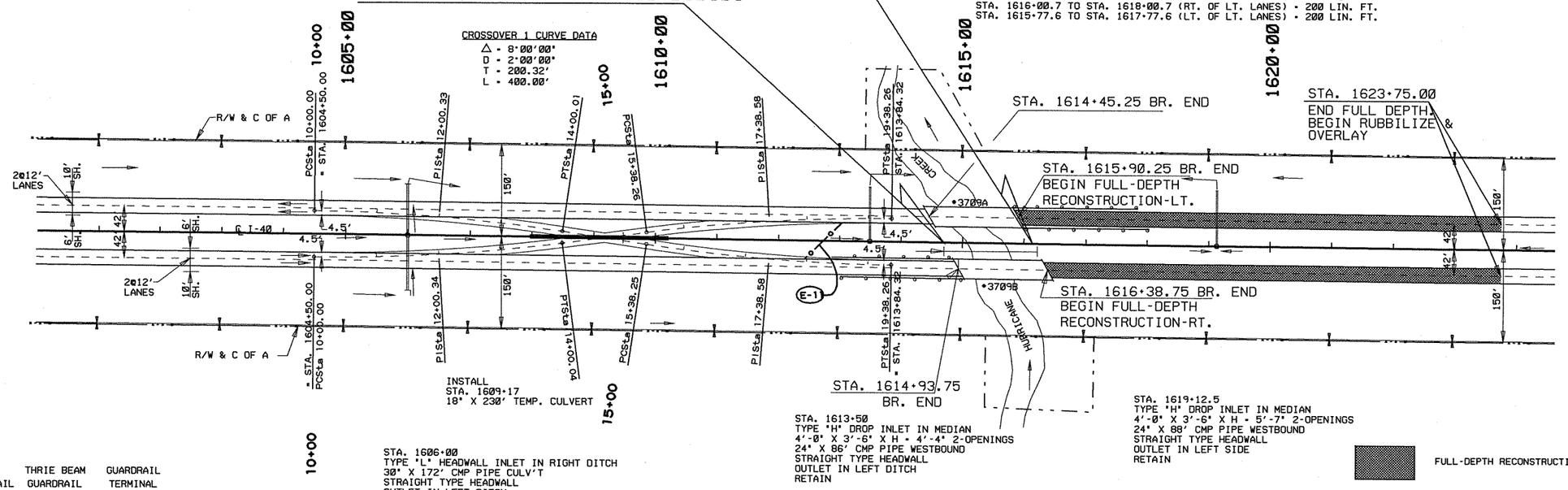
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	75	165

(2) PLAN STA. BEGIN PROJECT - 1654+00

STA. 1616+14.50 - BEGIN JOB B60114

STA. 1614+69.50 - END JOB B60106

REMOVAL AND DISPOSAL OF GUARD RAIL
STA. 1616+00.7 TO STA. 1618+00.7 (RT. OF LT. LANES) - 200 LIN. FT.
STA. 1615+77.6 TO STA. 1617+77.6 (LT. OF LT. LANES) - 200 LIN. FT.



INSTALL
STA. 1609+17
18" X 230' TEMP. CULVERT

STA. 1606+00
TYPE 'L' HEADWALL INLET IN RIGHT DITCH
30" X 172' CMP PIPE CULV'T
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT DITCH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 4'-1" X H - 4'-1" 1-OPENING
DA - 37.4 AC
C - 0.25
RETAIN

STA. 1613+50
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H - 4'-4" 2-OPENINGS
24" X 86' CMP PIPE WESTBOUND
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT DITCH
RETAIN

STA. 1619+12.5
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H - 5'-7" 2-OPENINGS
24" X 88' CMP PIPE WESTBOUND
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT SIDE
RETAIN

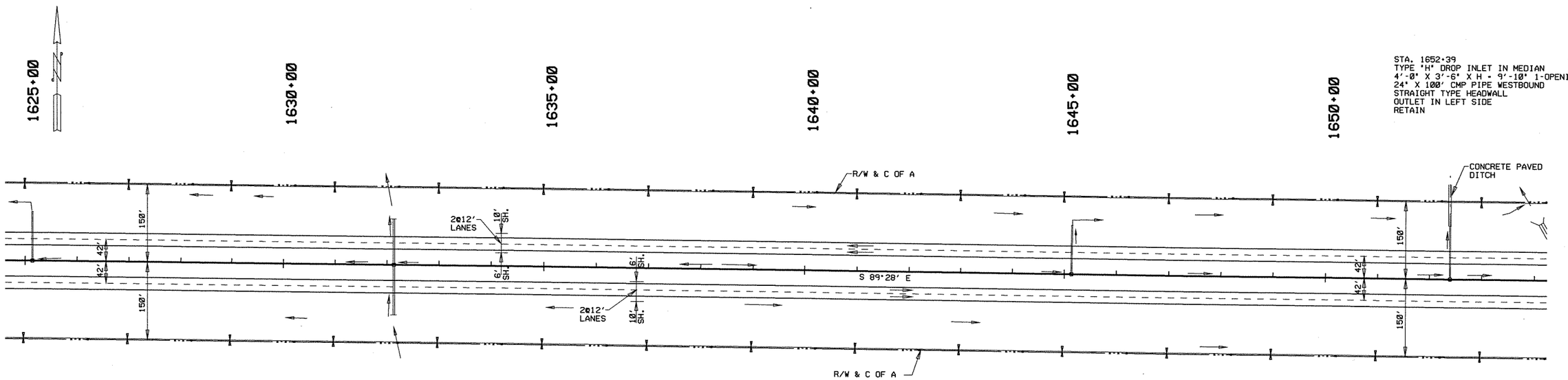
	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
STA. 1615+77.00 TO STA. 1618+45.15 (LT. OF LT. LANES) -	200 LIN. FT.	1 EA.	
STA. 1616+00.10 TO STA. 1619+18.25 (RT. OF LT. LANES) -	250 LIN. FT.	1 EA.	

REMOVAL AND DISPOSAL OF APPROACH SLABS AND GUTTERS
STA. 1615+90.25 TO STA. 1616+25.25 (LT. LANES) - 1 EA.
STA. 1616+38.75 TO STA. 1616+73.75 (RT. LANES) - 1 EA.

REMOVAL OF EXISTING PORTLAND CEMENT CONC. PAVEMENT
STA. 1616+25.25 TO STA. 1623+75.00 (LT. LANES) - 1999.3 S.Y.
STA. 1616+73.75 TO STA. 1623+75.00 (RT. LANES) - 1870.0 S.Y.

FULL-DEPTH RECONSTRUCTION

E-1 SILT FENCE



STA. 1652+39
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H - 9'-10" 1-OPENING
24" X 100' CMP PIPE WESTBOUND
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT SIDE
RETAIN

STA. 1625+12.5
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H - 6'-10" 1-OPENING
24" X 92' CMP PIPE WESTBOUND
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT SIDE
RETAIN

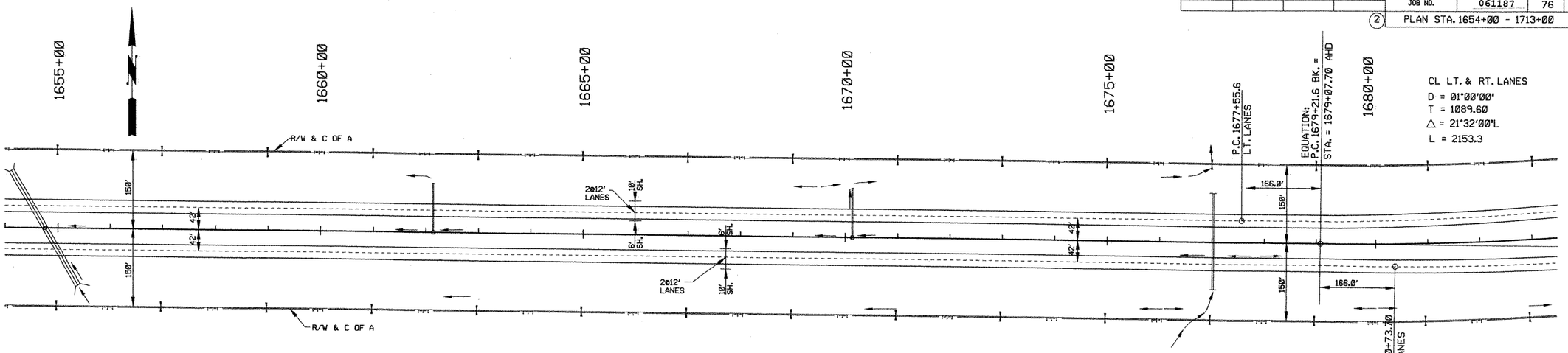
STA. 1632+12.6
STRAIGHT TYPE HEADWALLS
36" X 184' CMP PIPE CULV'T
INLET IN RIGHT SIDE
OUTLET IN LEFT SIDE
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 4'-8" X H - 8'-2" 1-OPENING
DA - 17.4 AC.
C - 0.45
RETAIN

STA. 1645+12.7
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H - 4'-1" 1-OPENING
24" X 92' CMP PIPE WESTBOUND
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT SIDE
RETAIN

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7665
MICHAEL D. FUGATE

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.		061187	76	165

(2) PLAN STA. 1654+00 - 1713+00

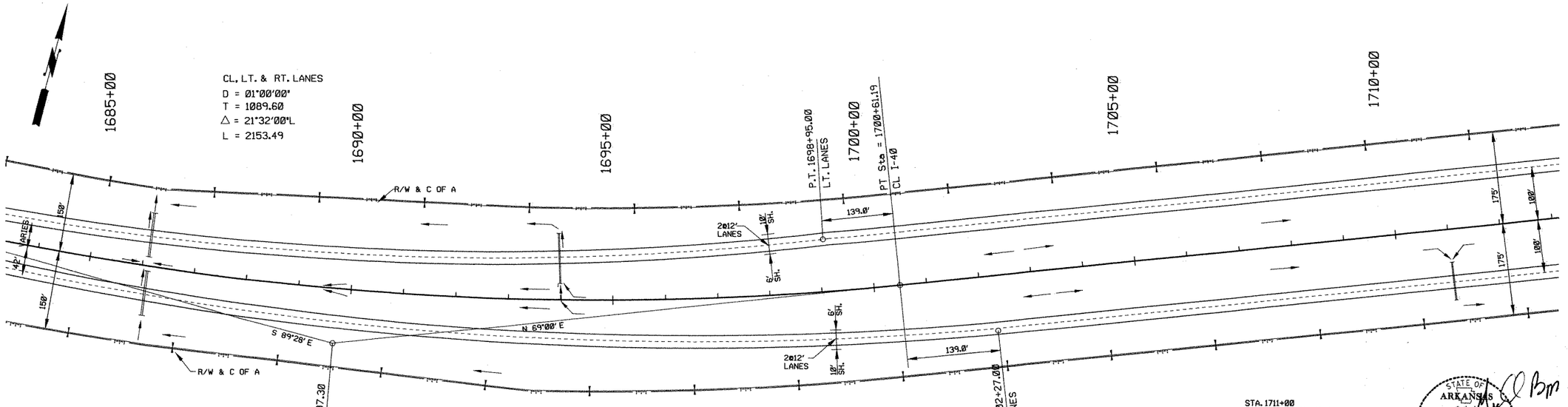


STA. 1654+74
DOUBLE 30° SKEW
BOX CULVERT 5' X 5' X 252'
INLET IN RIGHT SIDE
OUTLET IN LEFT SIDE
TYPE 'K' DROP INLET IN MEDIAN
4'-0" X 2'-0" X H = 12'-2" 2-OPENINGS
DA = 516.9 AC
C = 0.25
RETAIN

STA. 1662+13
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H = 4'-1" 1-OPENING
24" X 92' CMP PIPE WESTBOUND
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT SIDE
RETAIN

STA. 1670+13
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H = 4'-1" 1-OPENING
24" X 92' CMP PIPE WESTBOUND
STRAIGHT TYPE HEADWALL
OUTLET IN LEFT SIDE
RETAIN

STA. 1677+30
STRAIGHT TYPE HEADWALLS
36" X 184' CMP PIPE CULV'T
INLET IN RIGHT SIDE
OUTLET IN LEFT SIDE
DA = 46.7 AC
C = 0.30
RETAIN



STA. 1686+13
STRAIGHT TYPE HEADWALLS
36" X 84' CMP PIPE WESTBOUND
36" X 84' CMP PIPE EASTBOUND-(36" STEEL GRATE ON LT.)
INLET IN RIGHT SIDE
OUTLET IN LEFT SIDE
DA = 34.2 AC
C = 0.35
RETAIN

PI Sta = 1689+97.30

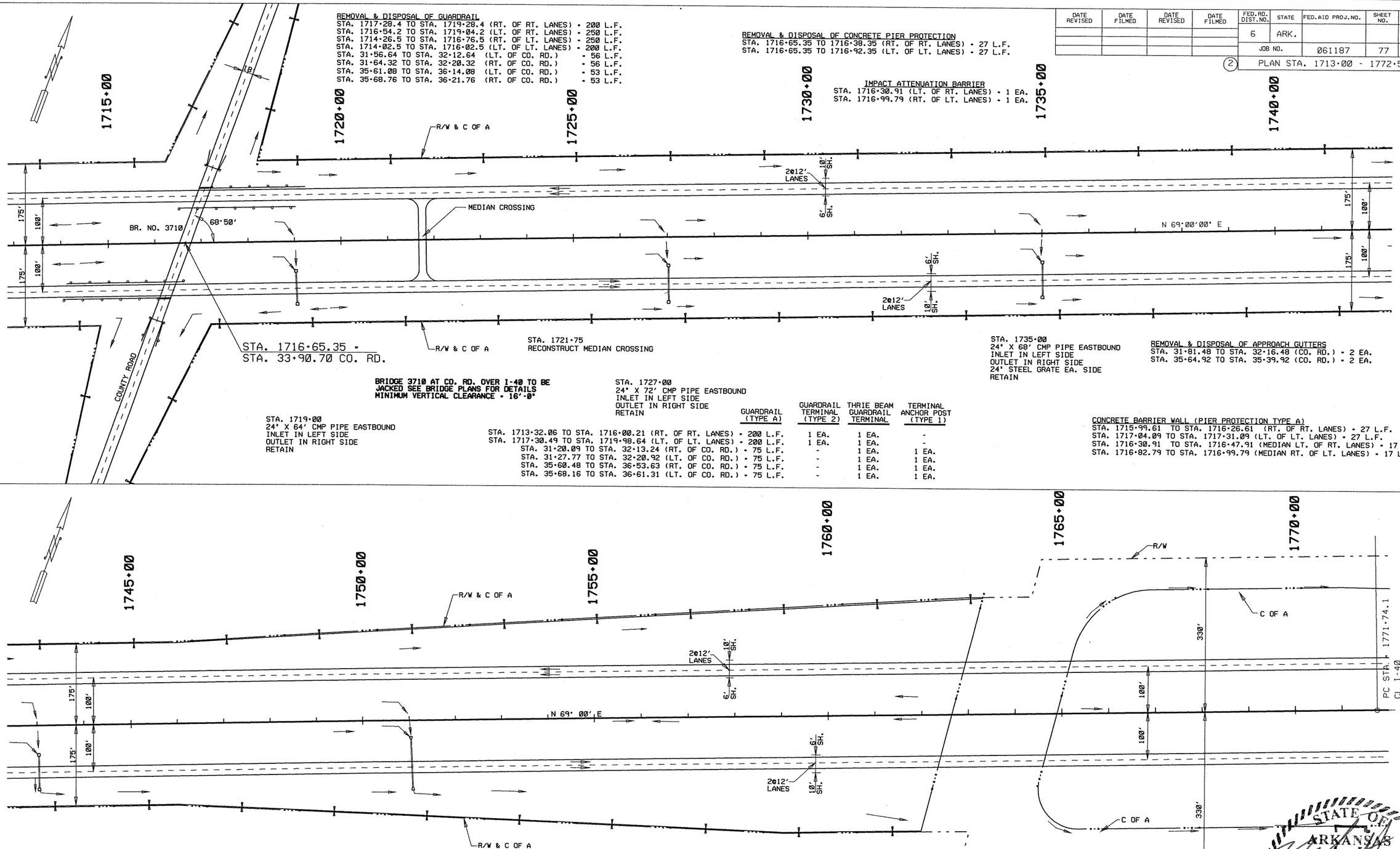
STA. 1694+00
L & STRAIGHT TYPE HEADWALLS
24" X 96' CMP PIPE WESTBOUND
INLET IN RIGHT SIDE
OUTLET IN LEFT SIDE
RETAIN

STA. 1711+00
STRAIGHT TYPE HEADWALLS
24" X 72' CMP PIPE EASTBOUND
INLET IN LEFT SIDE
OUTLET IN RIGHT SIDE
24" STEEL GRATE EACH SIDE
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
5/10/02

TANGENT

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.		061187	77	165
				(2)	PLAN STA. 1713+00 - 1772+50			



REMOVAL & DISPOSAL OF GUARDRAIL
STA. 1717+28.4 TO STA. 1719+28.4 (RT. OF RT. LANES) - 200 L.F.
STA. 1716+54.2 TO STA. 1719+04.2 (LT. OF RT. LANES) - 250 L.F.
STA. 1714+26.5 TO STA. 1716+76.5 (RT. OF LT. LANES) - 250 L.F.
STA. 1714+02.5 TO STA. 1716+02.5 (LT. OF LT. LANES) - 200 L.F.
STA. 31+56.64 TO STA. 32+12.64 (LT. OF CO. RD.) - 56 L.F.
STA. 31+64.32 TO STA. 32+20.32 (RT. OF CO. RD.) - 56 L.F.
STA. 35+61.08 TO STA. 36+14.08 (LT. OF CO. RD.) - 53 L.F.
STA. 35+68.76 TO STA. 36+21.76 (RT. OF CO. RD.) - 53 L.F.

REMOVAL & DISPOSAL OF CONCRETE PIER PROTECTION
STA. 1716+65.35 TO 1716+38.35 (RT. OF RT. LANES) - 27 L.F.
STA. 1716+65.35 TO 1716+92.35 (LT. OF LT. LANES) - 27 L.F.

IMPACT ATTENUATION BARRIER
STA. 1716+30.91 (LT. OF RT. LANES) - 1 EA.
STA. 1716+99.79 (RT. OF LT. LANES) - 1 EA.

STA. 1719+00
24' X 64' CMP PIPE EASTBOUND
INLET IN LEFT SIDE
OUTLET IN RIGHT SIDE
RETAIN

BRIDGE 3710 AT CO. RD. OVER I-40 TO BE JACKED SEE BRIDGE PLANS FOR DETAILS
MINIMUM VERTICAL CLEARANCE - 16'-0"

STA. 1721+75
RECONSTRUCT MEDIAN CROSSING

STA. 1727+00
24' X 72' CMP PIPE EASTBOUND
INLET IN LEFT SIDE
OUTLET IN RIGHT SIDE
RETAIN

	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
STA. 1713+32.06 TO STA. 1716+00.21 (RT. OF RT. LANES) - 200 L.F.		1 EA.	1 EA.	-
STA. 1717+30.49 TO STA. 1719+98.64 (LT. OF LT. LANES) - 200 L.F.		1 EA.	1 EA.	-
STA. 31+20.09 TO STA. 32+13.24 (RT. OF CO. RD.) - 75 L.F.		-	1 EA.	1 EA.
STA. 31+27.77 TO STA. 32+20.92 (LT. OF CO. RD.) - 75 L.F.		-	1 EA.	1 EA.
STA. 35+60.48 TO STA. 36+53.63 (RT. OF CO. RD.) - 75 L.F.		-	1 EA.	1 EA.
STA. 35+68.16 TO STA. 36+61.31 (LT. OF CO. RD.) - 75 L.F.		-	1 EA.	1 EA.

STA. 1735+00
24' X 68' CMP PIPE EASTBOUND
INLET IN LEFT SIDE
OUTLET IN RIGHT SIDE
24' STEEL GRATE EA. SIDE
RETAIN

REMOVAL & DISPOSAL OF APPROACH GUTTERS
STA. 31+81.48 TO STA. 32+16.48 (CO. RD.) - 2 EA.
STA. 35+64.92 TO STA. 35+99.92 (CO. RD.) - 2 EA.

CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)
STA. 1715+99.61 TO STA. 1716+26.61 (RT. OF RT. LANES) - 27 L.F.
STA. 1717+04.09 TO STA. 1717+31.09 (LT. OF LT. LANES) - 27 L.F.
STA. 1716+30.91 TO STA. 1716+47.91 (MEDIAN LT. OF RT. LANES) - 17 L.F.
STA. 1716+82.79 TO STA. 1716+99.79 (MEDIAN RT. OF LT. LANES) - 17 L.F.

STA. 1743+00
24" X 68' CMP PIPE EASTBOUND
INLET LEFT SIDE
OUTLET IN RIGHT SIDE
24" STEEL GRATE EACH SIDE
RETAIN

STA. 1751+00
L & STRAIGHT TYPE HEADWALLS
24" X 102' CMP PIPE W/ F.E.S. EASTBOUND
INLET IN LEFT SIDE
OUTLET IN RIGHT SIDE
RETAIN

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

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.		061187	78	165

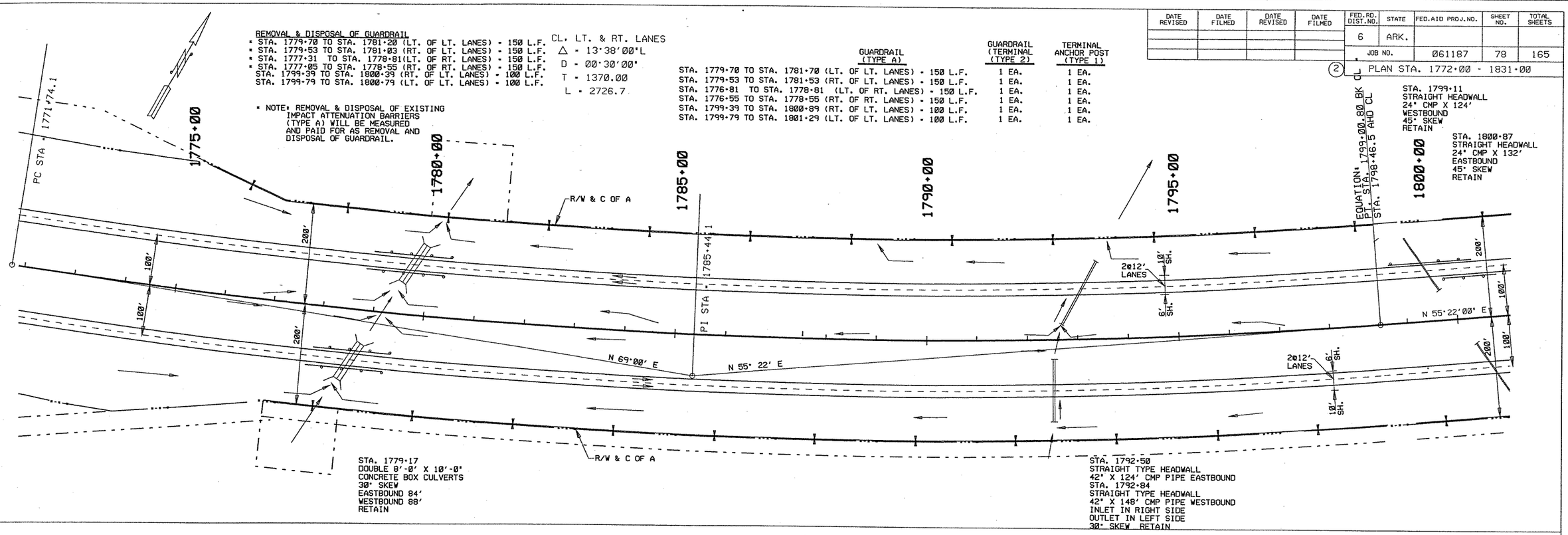
(2) PLAN STA. 1772+00 - 1831+00

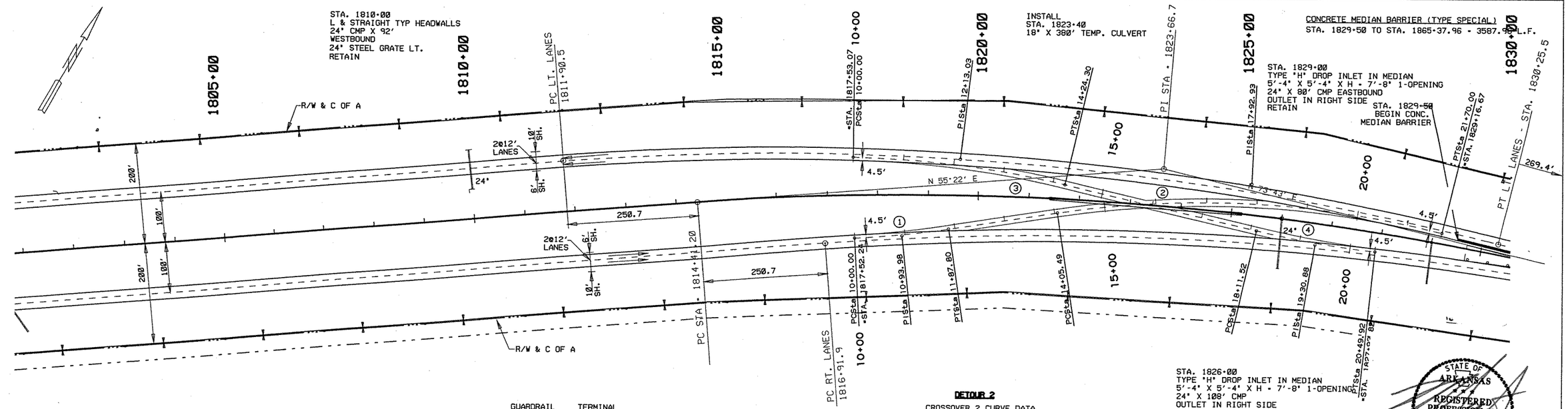
REMOVAL & DISPOSAL OF GUARDRAIL
- STA. 1779+70 TO STA. 1781+20 (LT. OF LT. LANES) - 150 L.F.
- STA. 1779+53 TO STA. 1781+03 (RT. OF LT. LANES) - 150 L.F.
- STA. 1777+31 TO STA. 1778+81(LT. OF RT. LANES) - 150 L.F.
- STA. 1777+05 TO STA. 1778+55 (RT. OF RT. LANES) - 150 L.F.
STA. 1799+39 TO STA. 1800+39 (RT. OF LT. LANES) - 100 L.F.
STA. 1799+79 TO STA. 1800+79 (LT. OF LT. LANES) - 100 L.F.

CL, LT. & RT. LANES
△ = 13°38'00"L
D = 00°30'00"
T = 1370.00
L = 2726.7

- NOTE: REMOVAL & DISPOSAL OF EXISTING IMPACT ATTENUATION BARRIERS (TYPE A) WILL BE MEASURED AND PAID FOR AS REMOVAL AND DISPOSAL OF GUARDRAIL.

	GUARDRAIL (TYPE A)	GUARDRAIL (TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 1779+70 TO STA. 1781+70 (LT. OF LT. LANES) - 150 L.F.		1 EA.	1 EA.
STA. 1779+53 TO STA. 1781+53 (RT. OF LT. LANES) - 150 L.F.		1 EA.	1 EA.
STA. 1776+81 TO STA. 1778+81 (LT. OF RT. LANES) - 150 L.F.		1 EA.	1 EA.
STA. 1776+55 TO STA. 1778+55 (RT. OF RT. LANES) - 150 L.F.		1 EA.	1 EA.
STA. 1799+39 TO STA. 1800+89 (RT. OF LT. LANES) - 100 L.F.		1 EA.	1 EA.
STA. 1799+79 TO STA. 1801+29 (LT. OF LT. LANES) - 100 L.F.		1 EA.	1 EA.





	GUARDRAIL (TYPE A)	GUARDRAIL (TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 1829+97.5 TO STA. 1832+15.6 (RT. OF LT. LANES) - 150 L.F.		1 EA.	1 EA.
STA. 1830+47.5 TO STA. 1832+15.6 (LT. OF RT. LANES) - 100 L.F.		1 EA.	1 EA.

CL, LT. & RT. LANES
△ = 18°21'00"R
D = 1°00'00"
T = 925.5
L = 1835.0

DETOUR 2

CROSSOVER 2 CURVE DATA

①	③
△ = 5°38'01" LT	△ = 12°43'40" RT
D = 3°00'00"	D = 3°00'00"
T = 93.81'	T = 213.03'
L = 187.80'	L = 424.30'
②	④
△ = 22°55'37" RT	△ = 7°08'25" LT
D = 3°00'00"	D = 3°00'00"
T = 387.44'	T = 116.78'
L = 764.51'	L = 238.39'

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 1830+87 TO STA. 1832+52 (RT. OF LT. LANES) - 165 L.F.
STA. 1831+15 TO STA. 1832+15 (LT. OF RT. LANES) - 100 L.F.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-27-11

TAB 00

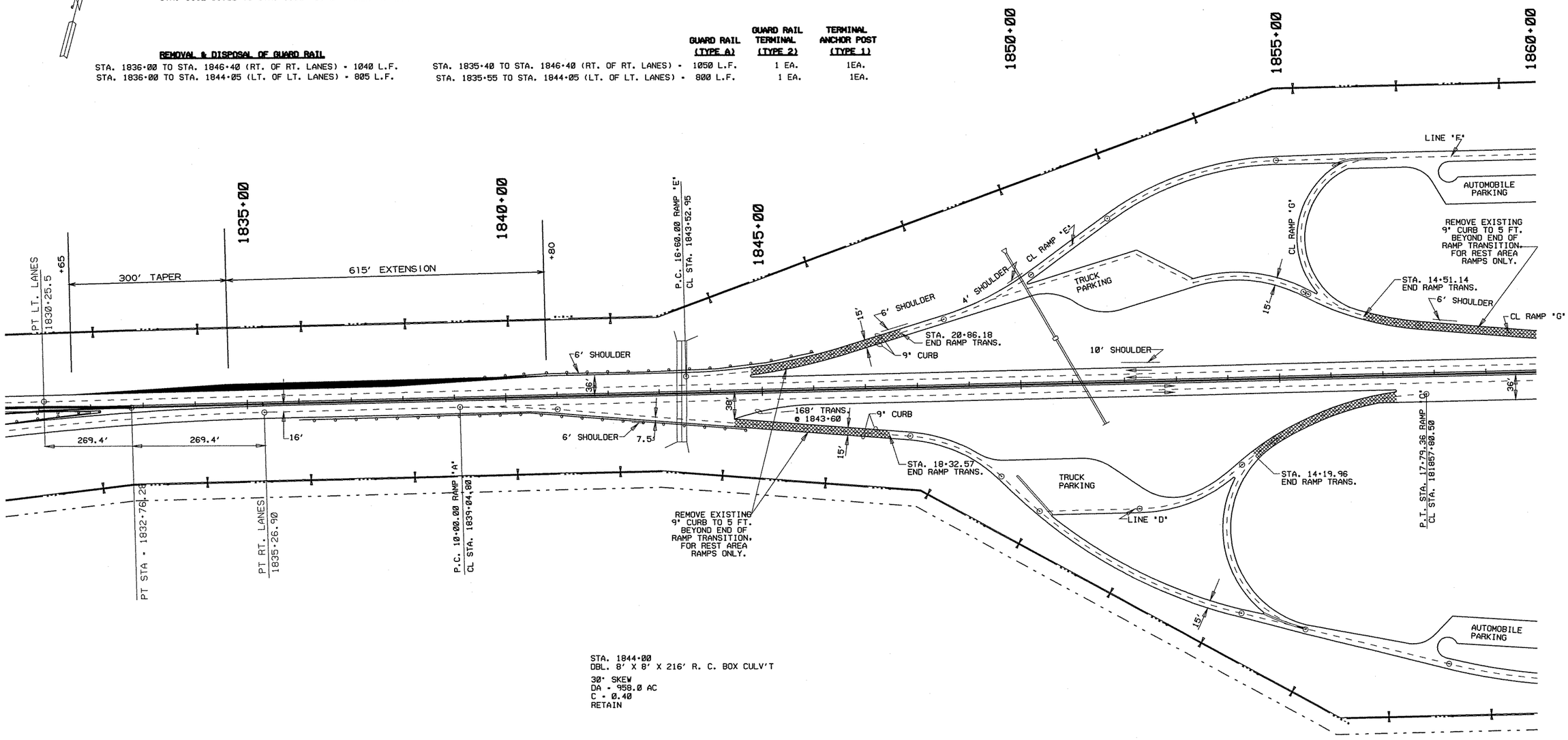
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061187	79	165
				(2)	PLAN STA. 1831+00 - 1861+00			

REMOVAL & DISPOSAL OF CONCRETE MEDIAN BARRIER
STA. 1832+15.00 TO STA. 1865+45.45 = 3330.45 L.F.

REMOVAL & DISPOSAL OF GUARD RAIL
STA. 1836+00 TO STA. 1846+40 (RT. OF RT. LANES) = 1040 L.F.
STA. 1836+00 TO STA. 1844+05 (LT. OF LT. LANES) = 805 L.F.

STA. 1835+40 TO STA. 1846+40 (RT. OF RT. LANES) =
STA. 1835+55 TO STA. 1844+05 (LT. OF LT. LANES) =

	GUARD RAIL (TYPE A)	GUARD RAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
	1050 L.F.	1 EA.	1EA.
	800 L.F.	1 EA.	1EA.



STA. 1844+00
DBL. 8' X 8' X 216' R. C. BOX CULV'T
30° SKEW
DA = 958.0 AC
C = 0.40
RETAIN

STA. 1850+00
42" X 188' RCP PIPE CULV'T
30° RT. FWD. SKEW

STA. 1851+20
42" X 188' RCP PIPE CULV'T
30° RT. FWD. SKEW
DA = 63.0 AC
C = 0.35
RETAIN

RAMP TRANSITION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
5-27-11
No. 7605
MICHAEL D. FUGETT

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.		061187	80	165
				(2)	PLAN STA. 1861+00 - 1890+50			

STA. 1865+80.45 - STA. 1868+22.63 IN PLACE BR. NO. 3712
242'-2 1/8" X 2 @ 37' CLEAR ROADWAY BRIDGE CONSISTING OF A
5 SPAN CONCRETE DECK WITH CONCRETE PILINGS.
REMOVE AS EXISTING BRIDGE STRUCTURE - 1.00 LUMP SUM

STA. 1865+74.46 - STA. 1868+28.63 CONSTRUCT
254'-2" X 2 @ 37' CLEAR ROADWAY BRIDGE NO. 6893
252' CONT. COMP. W - BEAM

STA. 1874+25
36" X 204' RCP PIPE CULV'T
STRAIGHT TYPE HEADWALLS
RETAIN

REMOVAL & DISPOSAL OF APPROACH SLABS & GUTTERS

STA. 1865+45.45 TO STA. 1860+80.45 (RT. LANES) - 1 EA
STA. 1868+22.63 TO STA. 1868+57.63 (RT. LANES) - 1 EA
STA. 1883+04.75 TO STA. 1883+39.75 (RT. LANES) - 1 EA
STA. 1865+45.45 TO STA. 1860+80.45 (LT. LANES) - 1 EA
STA. 1868+22.63 TO STA. 1868+57.63 (LT. LANES) - 1 EA
STA. 1883+04.75 TO STA. 1883+39.75 (LT. LANES) - 1 EA

REMOVAL & DISPOSAL OF GUARD RAIL

STA. 1868+22.63 TO STA. 1883+39.75 (RT. OF RT. LANES) - 1517.12 LIN. FT.
STA. 1868+22.63 TO STA. 1883+39.75 (LT. OF LT. LANES) - 1517.12 LIN. FT.
STA. 1863+80.45 TO STA. 1865+80.45 (RT. OF RT. LANES) - 200 LIN. FT.
ACCESS RD. @ REST AREA UNDER BR. #3712 - 100 LIN. FT.

REMOVAL OF EXISTING PORTLAND CEMENT CONC. PARAPET WALL

STA. 1883+13.75 TO STA. 1883+39.75 (RT. OF RT. LANES) - 1 EA.

REMOVAL & DISPOSAL OF CONC. PAVEMENT

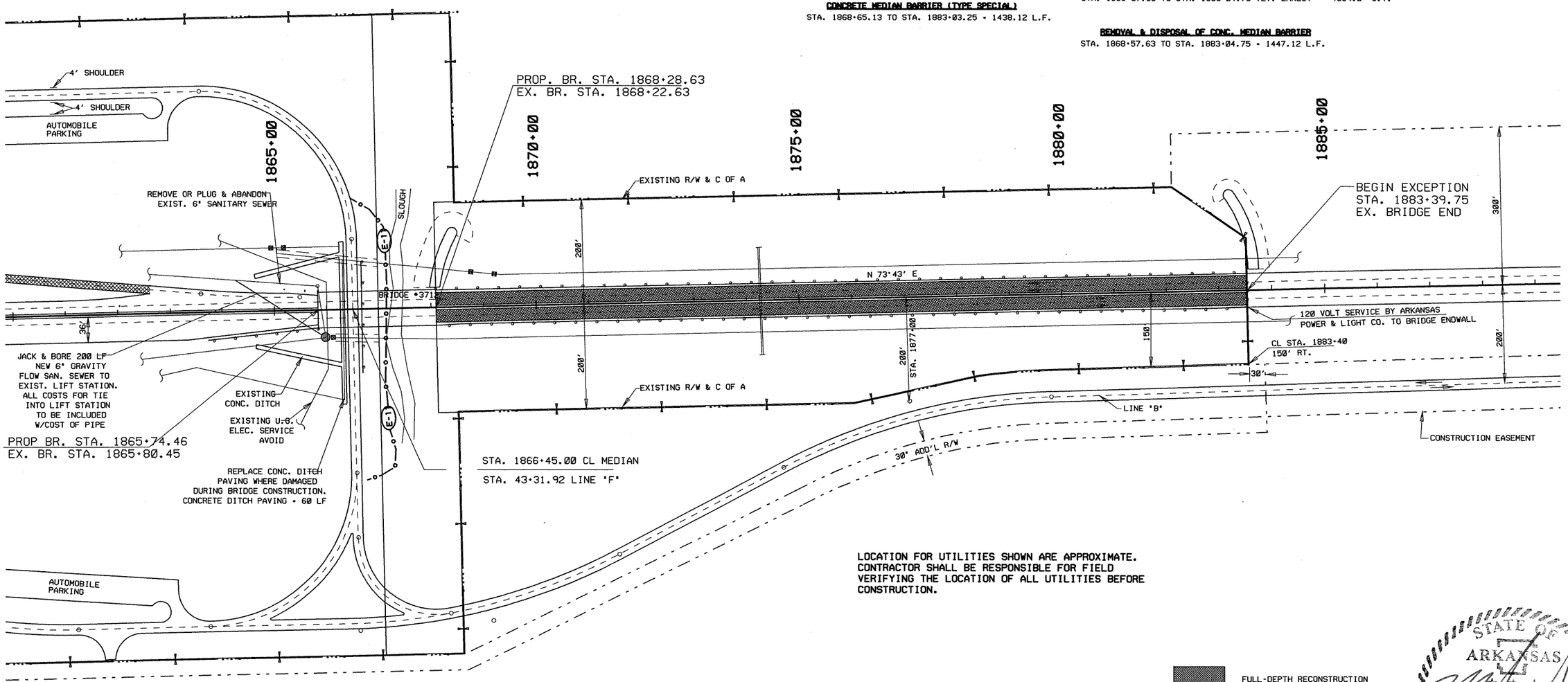
STA. 1865+57.63 TO STA. 1883+04.75 (RT. LANES) - 4659.0 S.Y.
STA. 1865+57.63 TO STA. 1883+04.75 (LT. LANES) - 4659.0 S.Y.

CONCRETE MEDIAN BARRIER (TYPE SPECIAL)

STA. 1868+65.13 TO STA. 1883+03.25 - 1438.12 L.F.

REMOVAL & DISPOSAL OF CONC. MEDIAN BARRIER

STA. 1868+57.63 TO STA. 1883+04.75 - 1447.12 L.F.



LOCATION FOR UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION OF ALL UTILITIES BEFORE CONSTRUCTION.

	GUARD RAIL (TYPE A)	THRIE BEAM GUARD RAIL TERMINAL	GUARD RAIL TERMINAL (TYPE 2)
STA. 1868+28.03 TO STA. 1883+40.35 (LT. OF LT. LANES) -	1,475 LF.	2 EA	-
STA. 1868+28.03 TO STA. 1883+40.35 (RT. OF RT. LANES) -	1,475 LF.	2 EA	-
STA. 1863+09.90 TO STA. 1865+78.05 (RT. OF RT. LANES) -	200 LF.	1 EA	1 EA
ACCESS RD. @ REST AREA UNDER BR. #3712 -	100 LF.		

FULL-DEPTH RECONSTRUCTION

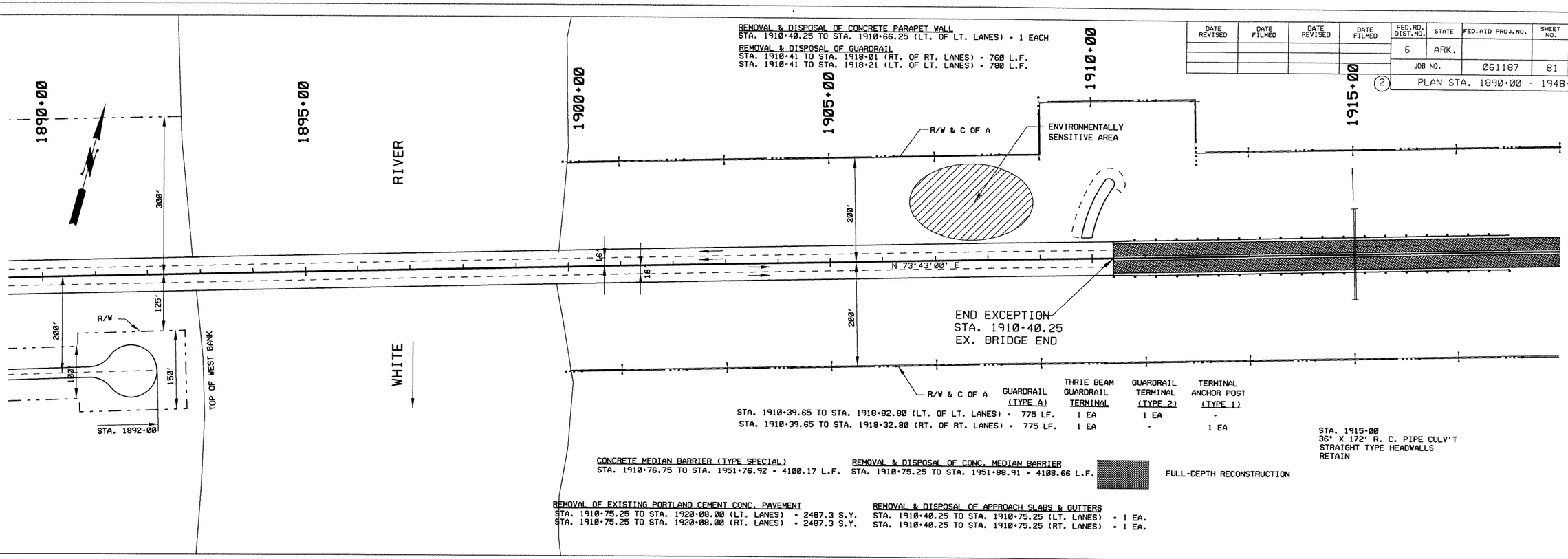
RAMP TRANSITION

SLOUGH CREEK - FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A (5 C.F.S./ PERENNIAL) STREAM. THE STREAM ELEVATIONS ARE ____ . SEE SUBSECTION 110.06(C) FOR THE STANDARD SPECIFICATIONS REGARDING CONSTRUCTION OF TEMPORARY FILLS WITHIN (5 C.F.S. PERENNIAL) STREAM LIMITS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
No. 9703
11-11

—o—(E-1)—o— SILT FENCE

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.		061187	81	165
				(2)	PLAN STA. 1890+00 - 1948+50			



REMOVAL & DISPOSAL OF CONCRETE PARAPET WALL
STA. 1910+40.25 TO STA. 1910+66.25 (LT. OF LT. LANES) - 1 EACH

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 1910+41 TO STA. 1918+01 (RT. OF RT. LANES) - 760 L.F.
STA. 1910+41 TO STA. 1918+21 (LT. OF LT. LANES) - 780 L.F.

	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 1910+39.65 TO STA. 1918+82.80 (LT. OF LT. LANES) -	775 LF.	1 EA	1 EA	-
STA. 1910+39.65 TO STA. 1918+32.80 (RT. OF RT. LANES) -	775 LF.	1 EA	-	1 EA

STA. 1915+00
36" X 172' R. C. PIPE CULV'T
STRAIGHT TYPE HEADWALLS
RETAIN

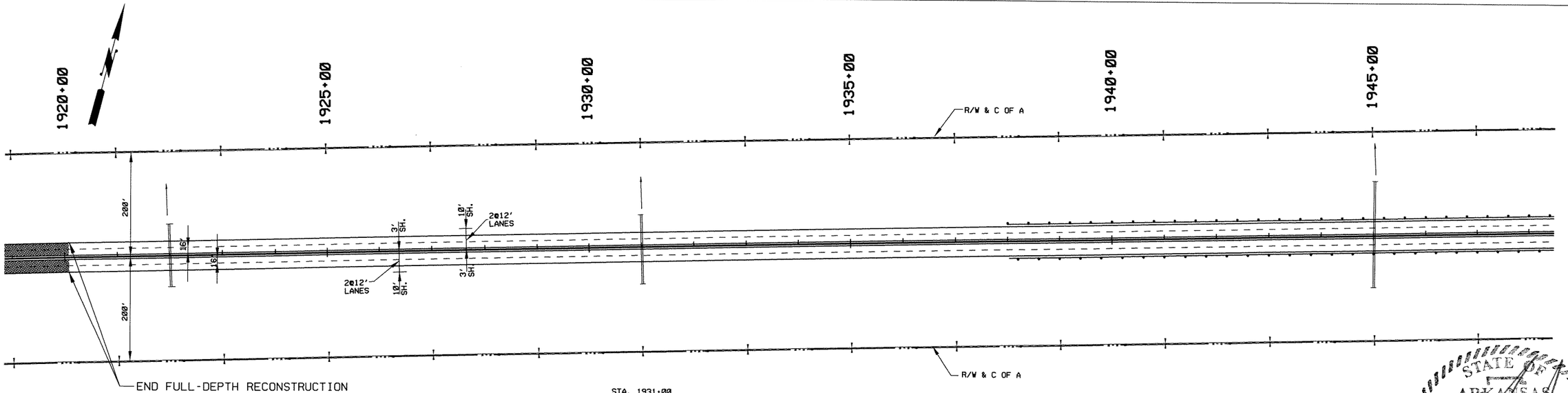
CONCRETE MEDIAN BARRIER (TYPE SPECIAL)
STA. 1910+76.75 TO STA. 1951+76.92 - 4100.17 L.F.

REMOVAL & DISPOSAL OF CONC. MEDIAN BARRIER
STA. 1910+75.25 TO STA. 1951+88.91 - 4108.66 L.F.

FULL-DEPTH RECONSTRUCTION

REMOVAL OF EXISTING PORTLAND CEMENT CONC. PAVEMENT
STA. 1910+75.25 TO STA. 1920+08.00 (LT. LANES) - 2487.3 S.Y.
STA. 1910+75.25 TO STA. 1920+08.00 (RT. LANES) - 2487.3 S.Y.

REMOVAL & DISPOSAL OF APPROACH SLABS & GUTTERS
STA. 1910+40.25 TO STA. 1910+75.25 (LT. LANES) - 1 EA.
STA. 1910+40.25 TO STA. 1910+75.25 (RT. LANES) - 1 EA.



END FULL-DEPTH RECONSTRUCTION
STA. 1920+08.00
BEGIN RUBBLIZE & OVERLAY

STA. 1922+00
36" X 120' R. C. PIPE CULV'T
STRAIGHT TYPE HEADWALLS
RETAIN

STA. 1931+00
36" X 132' R.C. PIPE CULV'T
STRAIGHT TYPE HEADWALLS
RETAIN

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 1938+00 TO STA. 1950+50 (RT. OF RT. LANES) - 1250 L.F.
STA. 1937+85 TO STA. 1950+50 (LT. OF LT. LANES) - 1265 L.F.

STA. 1945+00
36' X 202' R. C. PIPE CULV'T
STRAIGHT TYPE HEADWALLS
RETAIN

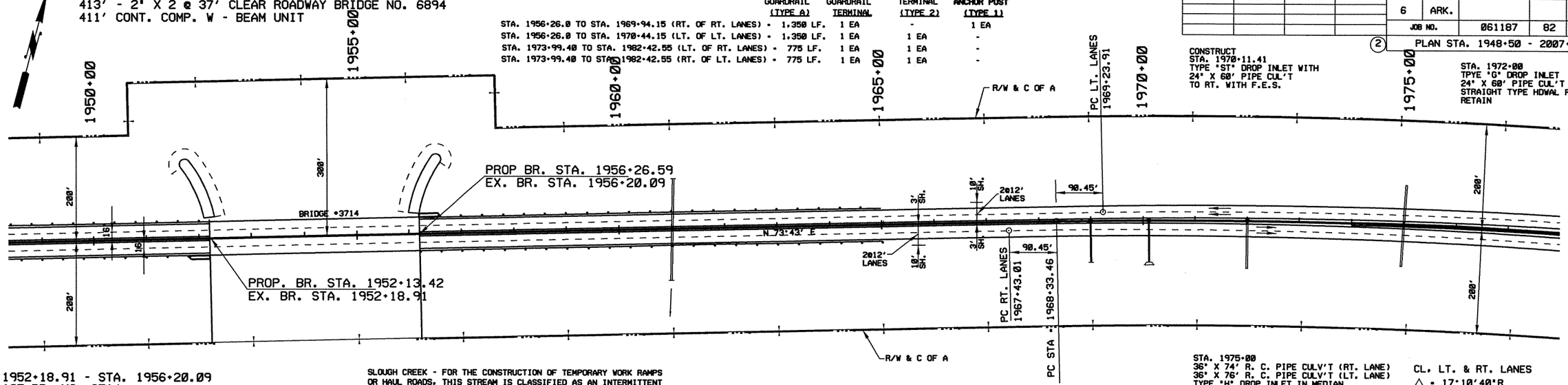
	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 1939+95.85 TO STA. 1952+14.0 (LT. OF LT. LANES) -	1,200 LF.	1 EA	-	1 EA
STA. 1938+95.85 TO STA. 1952+14.0 (RT. OF RT. LANES) -	1,250 LF.	1 EA	1 EA	-

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-11

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.		061187	82	165
				(2) PLAN STA. 1948+50 - 2007+50				

STA. 1952+13.42 TO STA. 1956+26.59 CONSTRUCT
413' - 2' X 2 @ 37' CLEAR ROADWAY BRIDGE NO. 6894
411' CONT. COMP. W - BEAM UNIT

	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 1956+26.0 TO STA. 1969+94.15 (RT. OF RT. LANES) -	1,350 LF.	1 EA	-	1 EA
STA. 1956+26.0 TO STA. 1970+44.15 (LT. OF LT. LANES) -	1,350 LF.	1 EA	1 EA	-
STA. 1973+99.40 TO STA. 1982+42.55 (LT. OF RT. LANES) -	775 LF.	1 EA	1 EA	-
STA. 1973+99.40 TO STA. 1982+42.55 (RT. OF LT. LANES) -	775 LF.	1 EA	1 EA	-



CONSTRUCT
STA. 1970+11.41
TYPE 'ST' DROP INLET WITH
24" X 60' PIPE CUL'T
TO RT. WITH F.E.S.

STA. 1972+00
TPYE 'G' DROP INLET
24" X 60' PIPE CUL'T
STRAIGHT TYPE HDWAL RT.
RETAIN

STA. 1952+18.91 - STA. 1956+20.09
IN PLACE BR. NO. 3714
402' - 2 1/4" X 2 - 29'-0" CLEAR ROADWAY BRIDGE
CONSISTING OF A 8 SPAN CONCRETE DECK WITH
CONCRETE PILINGS. REMOVE AS EXISTING BRIDGE
STRUCTURE - 1.00 LUMP SUM

SLOUGH CREEK - FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATIONS ARE 175.0 .

REMOVAL & DISPOSAL OF CONCRETE PARAPET WALL
STA. 1951+92.91 TO STA. 1952+18.91 (RT. OF RT. LANES) - 1 EA.
STA. 1956+20.09 TO STA. 1956+46.09 (LT. OF LT. LANES) - 1 EA.

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 1956+19 TO STA. 1969+69 (RT. OF RT. LANES) - 1350 L.F.
STA. 1956+19 TO STA. 1969+69 (LT. OF LT. LANES) - 1350 L.F.
STA. 1974+71 TO STA. 1982+41 (LT. OF RT. LANES) - 770 L.F.
STA. 1974+71 TO STA. 1982+41 (RT. OF LT. LANES) - 770 L.F.

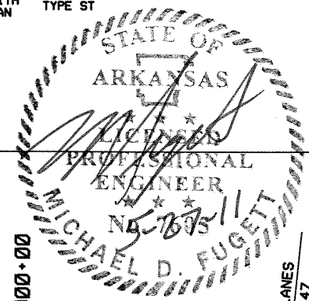
STA. 1961+00
36" X 194' R.C. PIPE CULV'T
STRAIGHT TYPE HEADWALLS
RETAIN

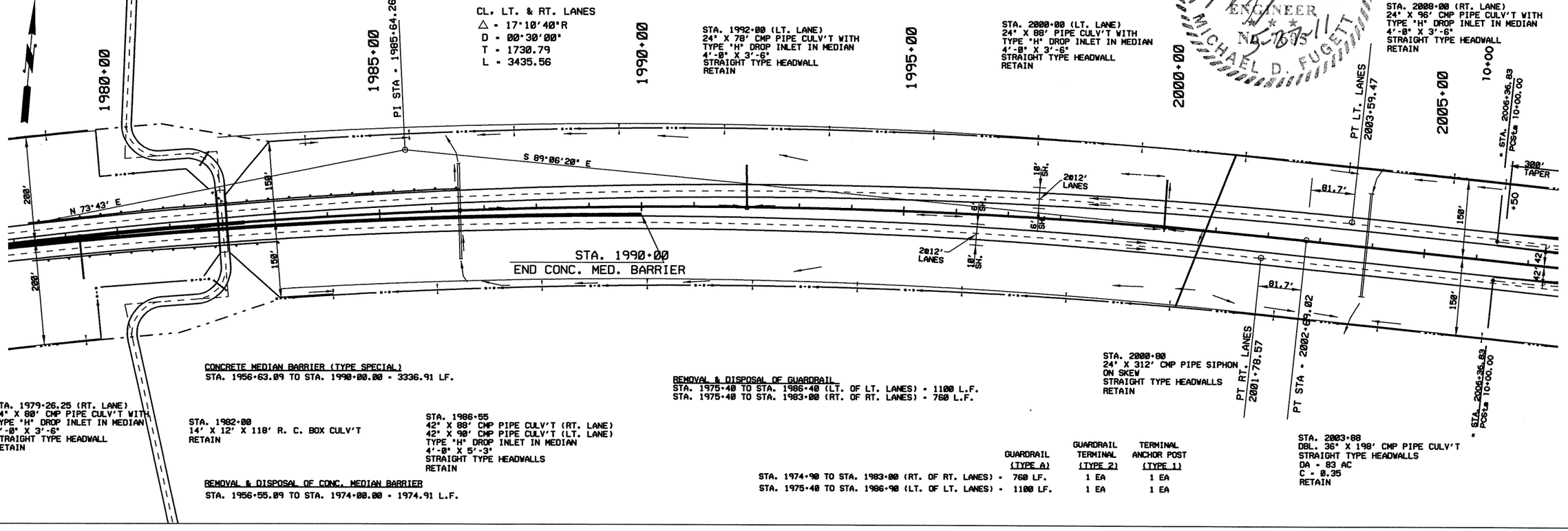
REMOVAL & DISPOSAL OF APPROACH SLABS & GUTTERS
STA. 1951+83.91 TO STA. 1952+18.91 (LT. LANES) - 1 EA.
STA. 1951+83.91 TO STA. 1952+18.91 (RT. LANES) - 1 EA.
STA. 1956+20.09 TO STA. 1955+09 (RT. LANES) - 1 EA.
STA. 1956+20.09 TO STA. 1955+09 (LT. LANES) - 1 EA.

STA. 1969+00
24" X 76' RCP PIPE CULV'T WITH
TYPE 'G' DROP INLET IN MEDIAN
STRAIGHT TYPE HEADWALLS
RETAIN PIPE CULVERT
MODIFY DROP INLET TO
TYPE ST

STA. 1975+00
36" X 74' R. C. PIPE CULV'T (RT. LANE)
36" X 76' R. C. PIPE CULV'T (LT. LANE)
TYPE "H" DROP INLET IN MEDIAN
STRAIGHT TYPE HEADWALLS
RETAIN PIPE CULVERT
MODIFY DROP INLET TO
TYPE ST

CL, LT. & RT. LANES
△ - 17°10'40"R
D - 00°30'00"
T - 1730.79
L - 3435.56





CL, LT. & RT. LANES
△ - 17°10'40"R
D - 00°30'00"
T - 1730.79
L - 3435.56

STA. 1992+00 (LT. LANE)
24" X 78' CMP PIPE CULV'T WITH
TYPE "H" DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2000+00 (LT. LANE)
24" X 88' PIPE CULV'T WITH
TYPE "H" DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2000+00
24" X 312' CMP PIPE SIPHON
ON SKEW
STRAIGHT TYPE HEADWALLS
RETAIN

STA. 2000+00 (RT. LANE)
24" X 96' CMP PIPE CULV'T WITH
TYPE "H" DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2003+88
DBL. 36" X 198' CMP PIPE CULV'T
STRAIGHT TYPE HEADWALLS
DA - 83 AC
C - 0.35
RETAIN

STA. 1979+26.25 (RT. LANE)
24" X 80' CMP PIPE CULV'T WITH
TYPE "H" DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
RETAIN

STA. 1982+00
14' X 12' X 118' R. C. BOX CULV'T
RETAIN

STA. 1986+55
42" X 88' CMP PIPE CULV'T (RT. LANE)
42" X 90' CMP PIPE CULV'T (LT. LANE)
TYPE "H" DROP INLET IN MEDIAN
4'-0" X 5'-3"
STRAIGHT TYPE HEADWALLS
RETAIN

CONCRETE MEDIAN BARRIER (TYPE SPECIAL)
STA. 1956+63.09 TO STA. 1990+00.00 - 3336.91 LF.

REMOVAL & DISPOSAL OF CONC. MEDIAN BARRIER
STA. 1956+55.09 TO STA. 1974+00.00 - 1974.91 L.F.

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 1975+40 TO STA. 1986+40 (LT. OF LT. LANES) - 1100 L.F.
STA. 1975+40 TO STA. 1983+00 (RT. OF RT. LANES) - 760 L.F.

	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 1974+90 TO STA. 1983+00 (RT. OF RT. LANES) -	760 LF.	1 EA	1 EA
STA. 1975+40 TO STA. 1986+90 (LT. OF LT. LANES) -	1100 LF.	1 EA	1 EA

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.		061187	83	165
				(2)	PLAN STA. 2007+50 - 2037+00			

IMPACT ATTENUATION BARRIER (TYPE A)
STA. 2027+80 (MEDIAN) - 1 EA.
STA. 2027+99 (MEDIAN) - 1 EA.

REMOVAL & DISPOSAL OF IMPACT ATTENUATION BARRIERS
STA. 2027+80 (MEDIAN) - 2 EA.

REMOVAL & DISPOSAL OF CONCRETE PIER PROTECTION
STA. 2027+80 TO 2028+18 (MEDIAN) - 38 LF.
STA. 2027+80 TO STA. 2028+09 (RT. OF RT. LANES) - 29 LF.
STA. 2027+51 TO STA. 2027+80 (LT. OF LT. LANES) - 29 LF.

CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)
STA. 2027+80 TO STA. 2027+99 (MEDIAN) - 38 LF.
STA. 2027+80 TO STA. 2028+09 (RT. OF RT. LANES) - 29 LF.
STA. 2027+51 TO STA. 2027+80 (LT. OF LT. LANES) - 29 LF.

DENOTES ACCELERATION LANE EXTENSION.

STA. 2026+90
24' X 90' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 5'-3"
STRAIGHT TYPE HEADWALL
RETAIN

CROSSOVER 3 CURVE DATA
Δ - 8°00'00"
D - 2°00'00"
T - 200.53'
L - 400.41'

300' TAPER
450' EXTENSION
R/W & C OF A
PISta 12+00.53
2010+00
PTSta 14+00.42
15+00
PCSta 15+38.25
PISta 17+38.78
2015+00
PTSta 19+38.66
= STA. 2015+70.85
19+39
P.C. 18+70.00 RAMP "F"
CL STA. 2018+70.00
2020+00
= STA. 2020+11.29
PTSta 10+00.00
TEMP. RAMP F1
Δ - 75°06'15"
D - 15°00'09"
T - 293.60'
L - 500.61'
STA. 25+58.91
END RAMP TRANS.
RAMP "F"
15'
24'
ENVIRONMENTALLY SENSITIVE AREA
PTSta 15+00.61
2025+00
HWY 33
F1
36'
7.5'
42'
42'
S 89°06'20" E
BRIDGE NO. 3715
38'
168' TRANS.
7.5'
E1
STA. 2027+80.52 CL I-40
= STA. 20+00 HWY 33
IMPACT ATTEN. BARRIER
PISta 12+00.54
R/W & C OF A
PTSta 14+00.42
PCSta 15+38.25
PISta 17+38.78
P.C. 14+40.00 RAMP "E"
CL STA. 2014+40.00
PTSta 19+38.66
= STA. 2015+70.85
= STA. 2020+19.37
PTSta 10+00.00
PTSta 14+92.72
PTSta 16+69.07
STA. 24+06.23
END RAMP TRANS.
RAMP "E"
15'
STA. 30+01.09
END RAMP TRANS.
RAMP "G"
R/W & C OF A
15'
TEMP. RAMP G1
Δ - 73°34'46"
D - 10°59'50"
T - 389.61'
L - 669.07'
STA. 2036+82.98
BEGIN TEMP. DEC. LANE
= STA. 2036+82.98
PTSta 10+00.00

R/W & C OF A
15'
STA. 32+34.36
END RAMP TRANS.
RAMP "H"
PTSta 16+68.11
2030+00
2035+00
STA. 2036+75.01
BEGIN TEMP. ACCEL. LANE
= STA. 2036+75.01
PTSta 10+00.00
TEMP. RAMP H1
Δ - 73°28'26"
D - 10°59'50"
T - 388.86'
L - 668.11'
10' SH.
2012' LANES
6' SH.
6' SH.
62
H2
10' SH.
2012' LANES
G1

STA. 2008+00 (RT. LANE)
24' X 96' CMP PIPE CULVERT WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2012+00 (RT. LANE)
24' X 96' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
RETAIN

COVER EXIST. DROP INLET AS APPROVED BY ENGINEER. INSTALL 18" X 180' TEMP. CULVERT.

REMOVE TEMP. CULVERT AND COVER UPON DETOUR REMOVAL. PAYMENT FOR REMOVAL OF COVER SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

NOTE: A MINIMUM VERTICAL CLEARANCE OF 16'-0" SHALL BE REQUIRED BETWEEN BRIDGE #3715 & THE FINAL OVERLAY.
EXIST. CLEARANCE EB - 17.79' @ NW & 17.89' @ NE CORNERS
17.56' @ SW & 17.56' @ SE CORNERS
EXIST. CLEARANCE WB - 17.89' @ NW & 17.92' @ NE CORNERS
17.59' @ SW & 17.68' @ SE CORNERS

TEMP. RAMP E1
Δ - 73°55'12"
D - 15°00'09"
T - 287.37'
L - 492.72'

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 2025+80 TO STA. 2027+80 (RT. OF RT. LANES) - 200 LIN. FT.
STA. 2027+80 TO STA. 2029+80 (LT. OF LT. LANES) - 200 LIN. FT.

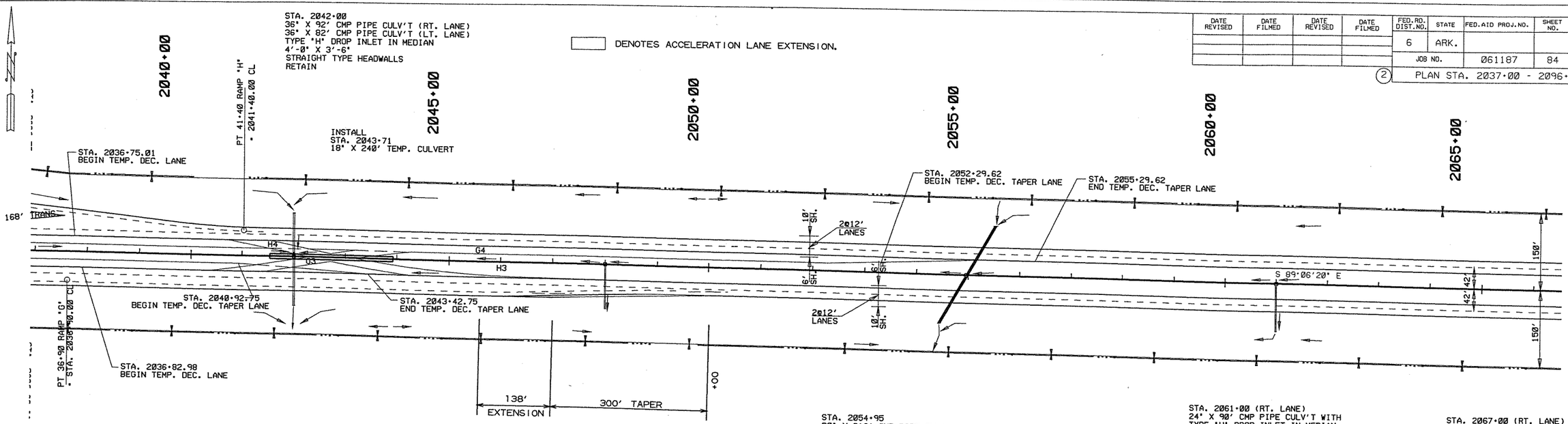
	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
STA. 2025+12.5 TO STA. 2027+80.6 (RT. OF RT. LANES)	200 LF.	1 EA	1 EA
STA. 2027+79.4 TO STA. 2030+47.6 (LT. OF LT. LANES)	200 LF.	1 EA	1 EA

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
5-29-11
NO. 7605
MICHAEL D. FUGETT

STA. 33+50 (RAMP G)
24' X 140' CMP PIPE CULV'T
(45° SKEW)
STRAIGHT TYPE HEADWALL
DA - 8.6 AC
C - 0.35
RETAIN

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.		061187	84	165

(2) PLAN STA. 2037+00 - 2096+00



TEMPORARY RAMP CURVE DATA

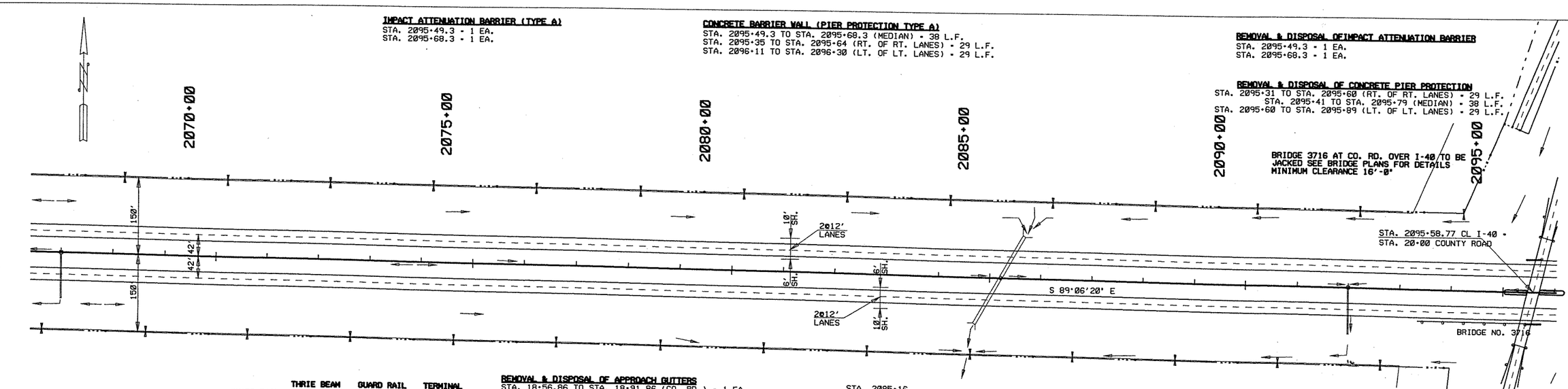
G3	Δ - 9°44'58"	H3	Δ - 11°02'45"
	D - 2°00'00"		D - 2°30'00"
	T - 244.35'		T - 221.62'
	L - 487.52'		L - 441.87'
G4	Δ - 3°04'48"	H4	Δ - 5°20'15"
	D - 2°00'00"		D - 2°00'00"
	T - 77.03'		T - 133.55'
	L - 154.01'		L - 266.90'

STA. 2048+00 (RT. LANE)
24' X 84' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
MODIFIED DROP INLET
RETAIN

STA. 2054+95
30" X 216' CMP PIPE CULV'T
30" X 106' CMP PIPE CULV'T (RT. LANE)
30" X 106' CMP PIPE CULV'T (LT. LANE)
TYPE 'H' DROP INLET IN MEDIAN
(30° SKEW) (4'-0" X 4'-1")
STRAIGHT TYPE HEADWALL
DA - 24 AC
C - 0.35
RETAIN

STA. 2061+00 (RT. LANE)
24" X 90' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6"
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2067+00 (RT. LANE)
24" X 88' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H - 4'-1"
STRAIGHT TYPE HEADWALL
RETAIN



IMPACT ATTENUATION BARRIER (TYPE A)
STA. 2095+49.3 - 1 EA.
STA. 2095+68.3 - 1 EA.

CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)
STA. 2095+49.3 TO STA. 2095+68.3 (MEDIAN) - 38 L.F.
STA. 2095+35 TO STA. 2095+64 (RT. OF RT. LANES) - 29 L.F.
STA. 2096+11 TO STA. 2096+30 (LT. OF LT. LANES) - 29 L.F.

REMOVAL & DISPOSAL OFIMPACT ATTENUATION BARRIER
STA. 2095+49.3 - 1 EA.
STA. 2095+68.3 - 1 EA.

REMOVAL & DISPOSAL OF CONCRETE PIER PROTECTION
STA. 2095+31 TO STA. 2095+60 (RT. OF RT. LANES) - 29 L.F.
STA. 2095+41 TO STA. 2095+79 (MEDIAN) - 38 L.F.
STA. 2095+60 TO STA. 2095+89 (LT. OF LT. LANES) - 29 L.F.

BRIDGE 3716 AT CO. RD. OVER I-40 TO BE JACKED SEE BRIDGE PLANS FOR DETAILS
MINIMUM CLEARANCE 16'-8"

	GUARD RAIL (TYPE A)	THRIE BEAM GUARD RAIL TERMINAL	GUARD RAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 2092+67.5 TO STA. 2095+35.6 (RT. OF RT. LANES)	- 200 LF.	1 EA	1 EA	-
STA. 2096+29.4 TO STA. 2098+97.6 (LT. OF LT. LANES)	- 200 LF.	1 EA	1 EA	-
STA. 17+96.6 TO STA. 18+89.7 (LT. - CO. ROAD)	- 75 LF.	1 EA	-	1 EA
STA. 18+02.1 TO STA. 18+95.2 (RT. - CO. ROAD)	- 75 LF.	1 EA	-	1 EA
STA. 21+04.8 TO STA. 21+98.0 (LT. - CO. ROAD)	- 75 LF.	1 EA	-	1-EA
STA. 21+10.3 TO STA. 22+03.5 (RT. - CO. ROAD)	- 75 LF.	1 EA	-	1 EA

REMOVAL & DISPOSAL OF APPROACH GUTTERS
STA. 18+56.86 TO STA. 18+91.86 (CO. RD.) - 1 EA.
STA. 21+08.14 TO STA. 21+43.14 (CO. RD.) - 1 EA.

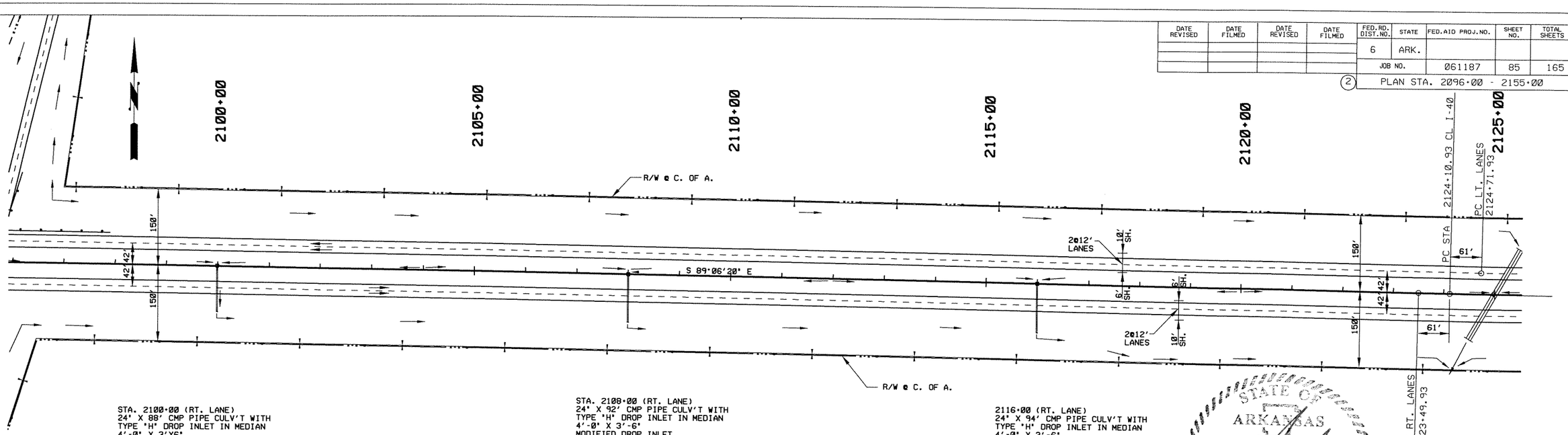
REMOVAL & DISPOSAL OF GUARD RAIL
STA. 2093+35 TO STA. 2095+35 (RT. OF RT. LANES) - 200 L.F.
STA. 2093+40 TO STA. 2098+40 (LT. OF LT. LANES) - 200 L.F.
STA. 18+11.1 TO STA. 18+89.1 (LT. - CO. ROAD) - 78 LF.
STA. 18+16.6 TO STA. 18+94.6 (RT. - CO. ROAD) - 78 LF.
STA. 21+05.4 TO STA. 21+83.4 (LT. - CO. ROAD) - 78 LF.
STA. 21+10.9 TO STA. 21+88.9 (RT. - CO. ROAD) - 78 LF.

STA. 2085+16
6' X 5' X 195' R. C. BOX CULV'T
TYPE 'K' DROP INLET IN MEDIAN
(30° SKEW) (4'-0" X 2'-0")
L AND STRAIGHT TYPE HEADWALLS
RETAIN

STA. 2092+00 (RT. LANE)
24" X 88' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6" X H - 3' X 11'
STRAIGHT TYPE HEADWALL
TERM. AN. POST
• 1 EA.
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-27-11

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.		061187	85	165
				(2)	PLAN STA. 2096+00 - 2155+00			



STA. 2100+00 (RT. LANE)
24' X 88' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0' X 3'X6'
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALL
RETAIN

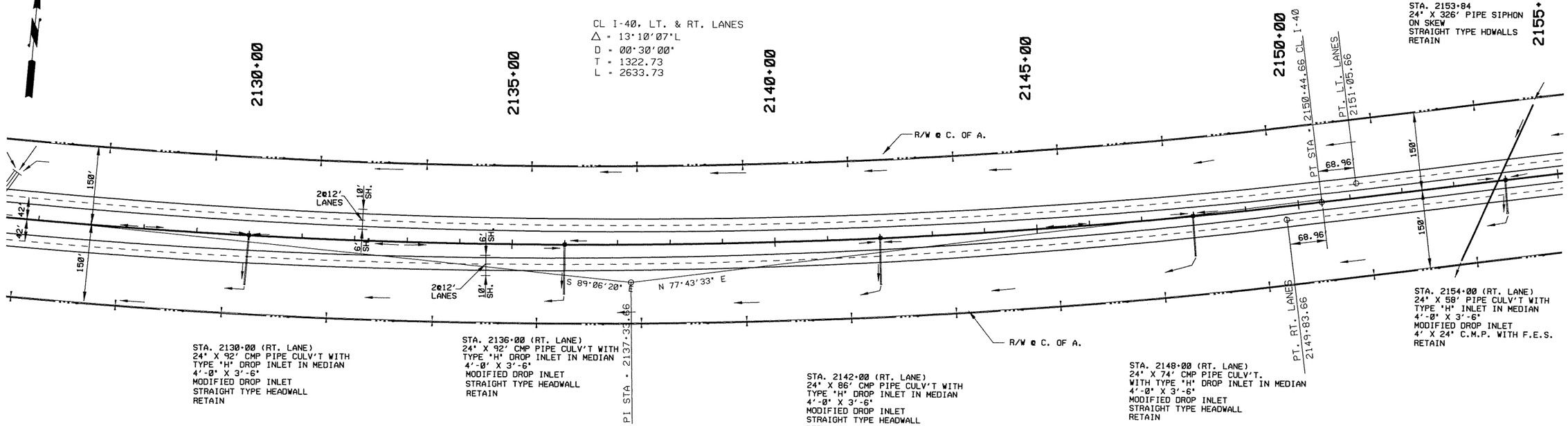
STA. 2108+00 (RT. LANE)
24' X 92' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0' X 3'-6'
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALL
RETAIN

2116+00 (RT. LANE)
24' X 94' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0' X 3'-6'
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALL
RETAIN

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
5-27-11
No. 9695
MICHAEL D. FUGETT

STA. 2125+00
DBL. 5' X 3' X 202' R. C. BOX CULV'T
TYPE 'K' DROP INLET IN MEDIAN
(30° SKEW) (4'-0" X 2'-0")
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALLS
DA = 118 AC
C = 0.35
RETAIN

CL I-40, LT. & RT. LANES
△ = 13°10'07"L
D = 00°30'00"
T = 1322.73
L = 2633.73



STA. 2130+00 (RT. LANE)
24' X 92' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0' X 3'-6'
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2136+00 (RT. LANE)
24' X 92' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0' X 3'-6'
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2142+00 (RT. LANE)
24' X 86' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0' X 3'-6'
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2148+00 (RT. LANE)
24' X 74' CMP PIPE CULV'T.
WITH TYPE 'H' DROP INLET IN MEDIAN
4'-0' X 3'-6'
MODIFIED DROP INLET
STRAIGHT TYPE HEADWALL
RETAIN

STA. 2153+84
24' X 326' PIPE SIPHON
ON SKEW
STRAIGHT TYPE HDWALLS
RETAIN

STA. 2154+00 (RT. LANE)
24' X 58' PIPE CULV'T WITH
TYPE 'H' INLET IN MEDIAN
4'-0' X 3'-6'
MODIFIED DROP INLET
4' X 24' C.M.P. WITH F.E.S.
RETAIN

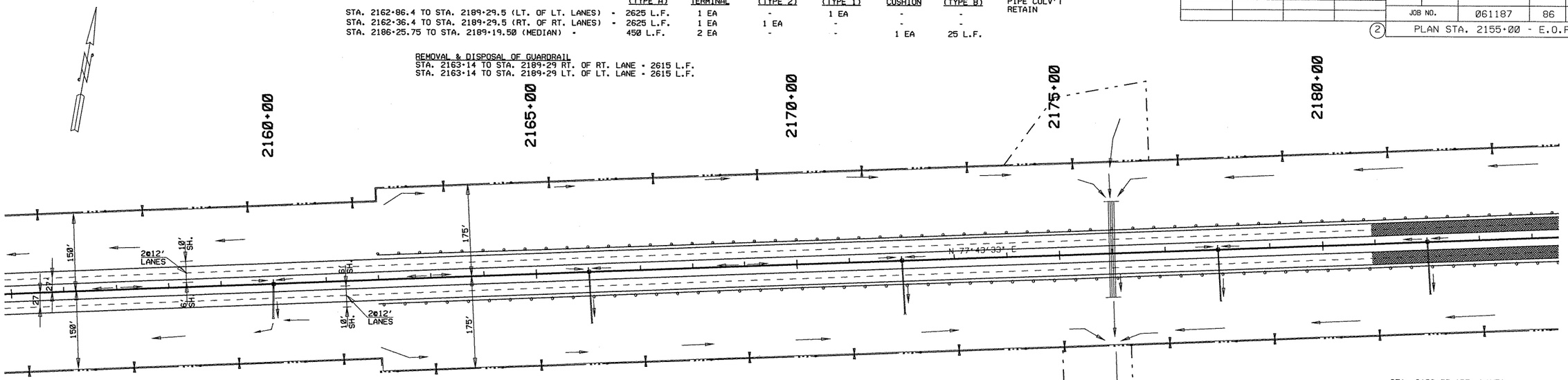
	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)	CRASH CUSHION	GUARDRAIL (TYPE B)
STA. 2162+86.4 TO STA. 2189+29.5 (LT. OF LT. LANES) -	2625 L.F.	1 EA	-	1 EA	-	-
STA. 2162+36.4 TO STA. 2189+29.5 (RT. OF RT. LANES) -	2625 L.F.	1 EA	1 EA	-	-	-
STA. 2186+25.75 TO STA. 2189+19.50 (MEDIAN) -	450 L.F.	2 EA	-	-	1 EA	25 L.F.

STA. 2176+00
TRIPLE 42" X 216'
PIPE CULV'T
RETAIN

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.		061187	86	165

(2) PLAN STA. 2155+00 - E.O.P.

REMOVAL & DISPOSAL OF GUARDRAIL
STA. 2163+14 TO STA. 2189+29 RT. OF RT. LANE - 2615 L.F.
STA. 2163+14 TO STA. 2189+29 LT. OF LT. LANE - 2615 L.F.



STA. 2160+00 IN PLACE (RT. LANE)
24" X 62' CMP PIPE CULV'T WITH
TYPE 'H' DROP INLET IN MEDIAN
4'-0" X 3'-6"
MODIFIED DROP INLET
RETAIN

STA. 2166+00 (RT. LANE)
18" X 96' CMP PIPE SPILLWAY WITH
TYPE 'R' DROP INLET IN MEDIAN
RETAIN

STA. 2172+00 (RT. LANE)
18" X 98' CMP PIPE SPILLWAY WITH
TYPE 'R' DROP INLET IN MEDIAN
RETAIN

STA. 2178+00 (RT. LANE)
18" X 96' CMP PIPE SPILLWAY WITH
TYPE 'R' DROP INLET IN MEDIAN
RETAIN

STA. 2182+00 (RT. LANE)
18" X 98' CMP PIPE SPILLWAY
WITH TYPE 'R' DROP INLET
IN MEDIAN
RETAIN

DENOTES EXISTING ASPHALT OVERLAY TRANSITIONS FROM JOB R10023 -TO BE REMOVED FROM STA. 2181+93.90 TO STA. 2188+93.90
(REMOVAL - APPROX. 6222.22 SY)

REMOVAL & DISPOSAL OF CRASH CUSHION
STA. 2186+44.50 (MED.) - 1 EA. (TYPE D)

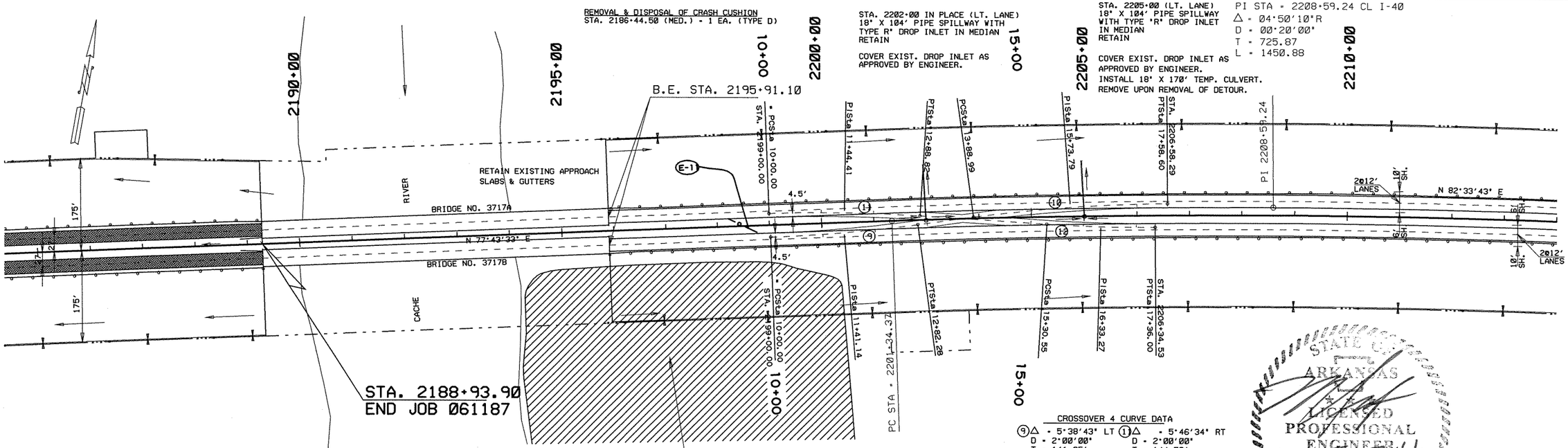
STA. 2202+00 IN PLACE (LT. LANE)
18" X 104' PIPE SPILLWAY WITH
TYPE R' DROP INLET IN MEDIAN
RETAIN

COVER EXIST. DROP INLET AS
APPROVED BY ENGINEER.

STA. 2205+00 (LT. LANE)
18" X 104' PIPE SPILLWAY
WITH TYPE 'R' DROP INLET
IN MEDIAN
RETAIN

COVER EXIST. DROP INLET AS
APPROVED BY ENGINEER.
INSTALL 18" X 170' TEMP. CULVERT.
REMOVE UPON REMOVAL OF DETOUR.

PI STA = 2208+59.24 CL I-40
△ = 04°50'10"R
D = 00°20'00"
T = 725.87
L = 1450.88



REMOVAL & DISPOSAL OF GUARDRAIL
STA. 2186+44.50 TO STA. 2189+19.50 MEDIAN - 525 L.F. (500 L.F. TYPE A + 25 L.F. TYPE B)

ENVIRONMENTALLY SENSITIVE AREA

CROSSOVER 4 CURVE DATA

(9) △ - 5°38'43" LT	(11) △ - 5°46'34" RT
D - 2°00'00"	D - 2°00'00"
T - 141.25'	T - 144.53'
L - 282.28'	L - 288.82'
(10) △ - 7°23'30" RT	(12) △ - 4°6'31" LT
D - 2°00'00"	D - 2°00'00"
T - 185.06'	T - 102.77'
L - 369.61'	L - 205.45'

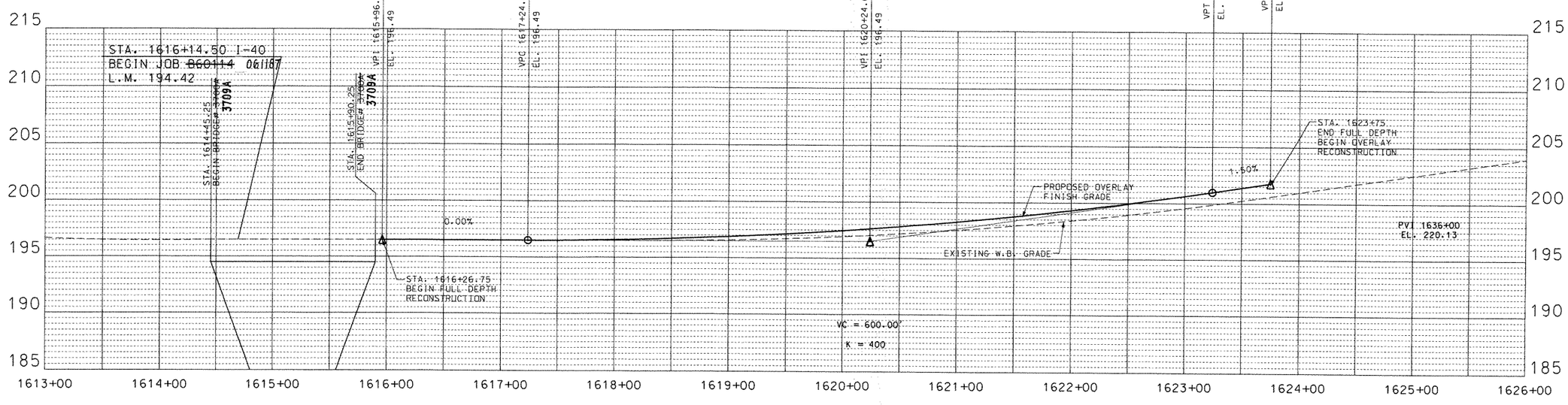
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
5-27-21
No. 7605
MICHAEL D. FUGETT

E-1 SILT FENCE

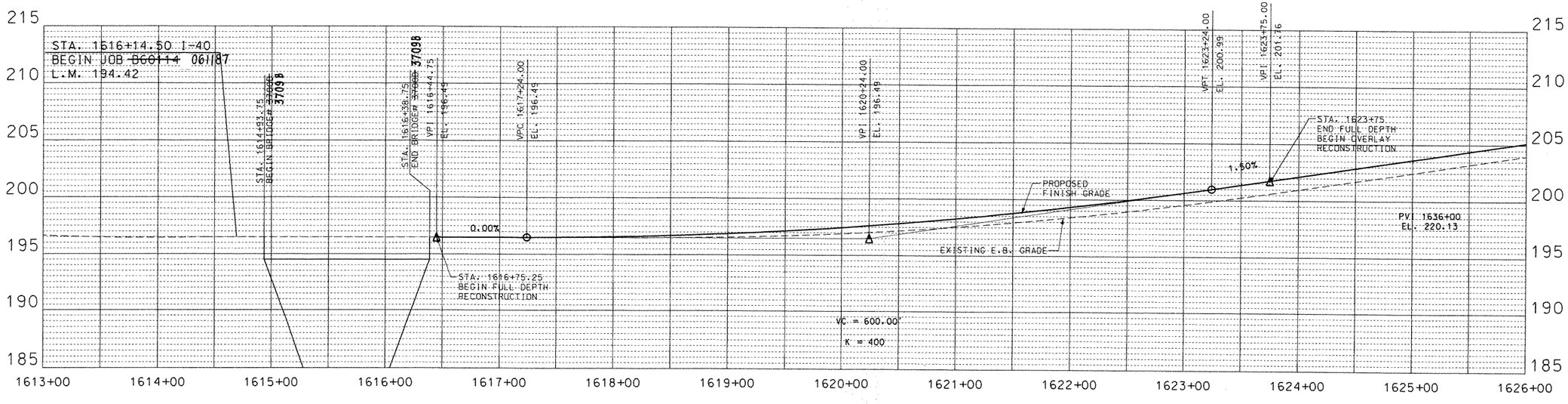
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		87	165
JOB NO.	061187			

(2) PROFILE GRADE @ BRIDGE



I-40 @ HURRICANE CREEK BRIDGE (W.B.)



I-40 @ HURRICANE CREEK BRIDGE (E.B.)

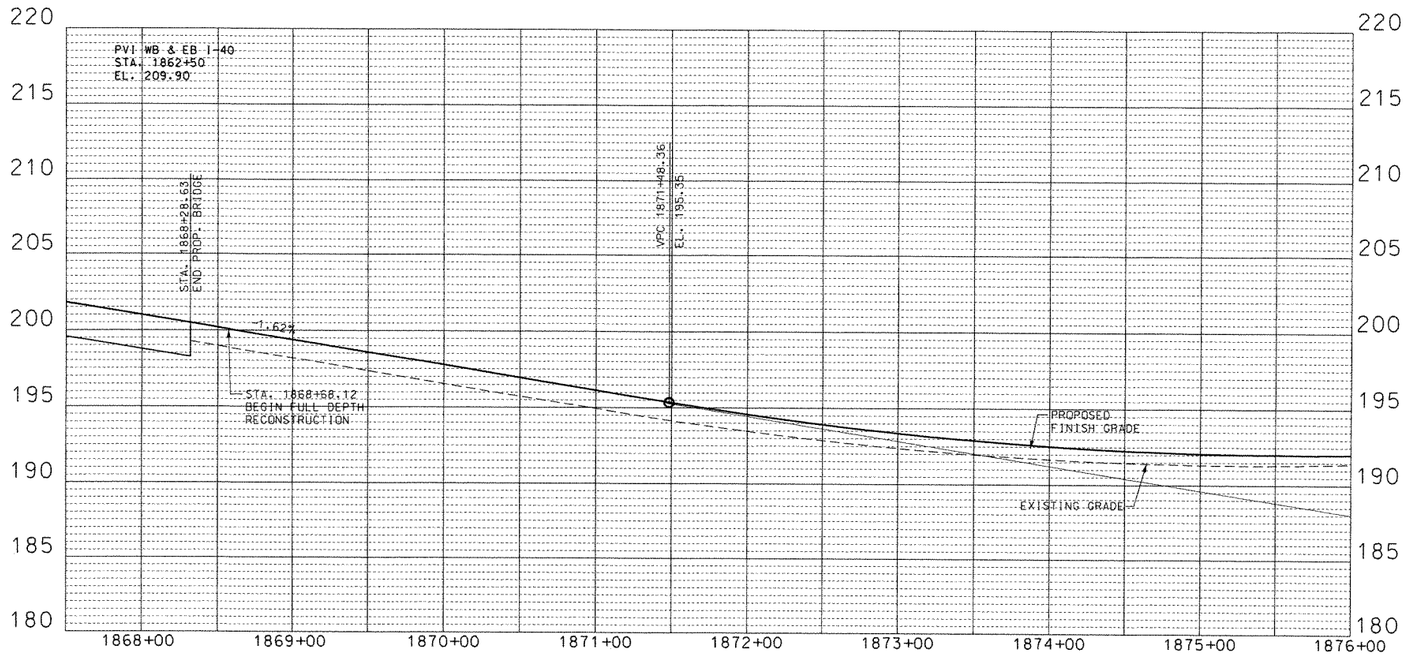
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/24/02

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		88	165
JOB NO.		061187		

(2) PROFILE GRADE @ BRIDGE

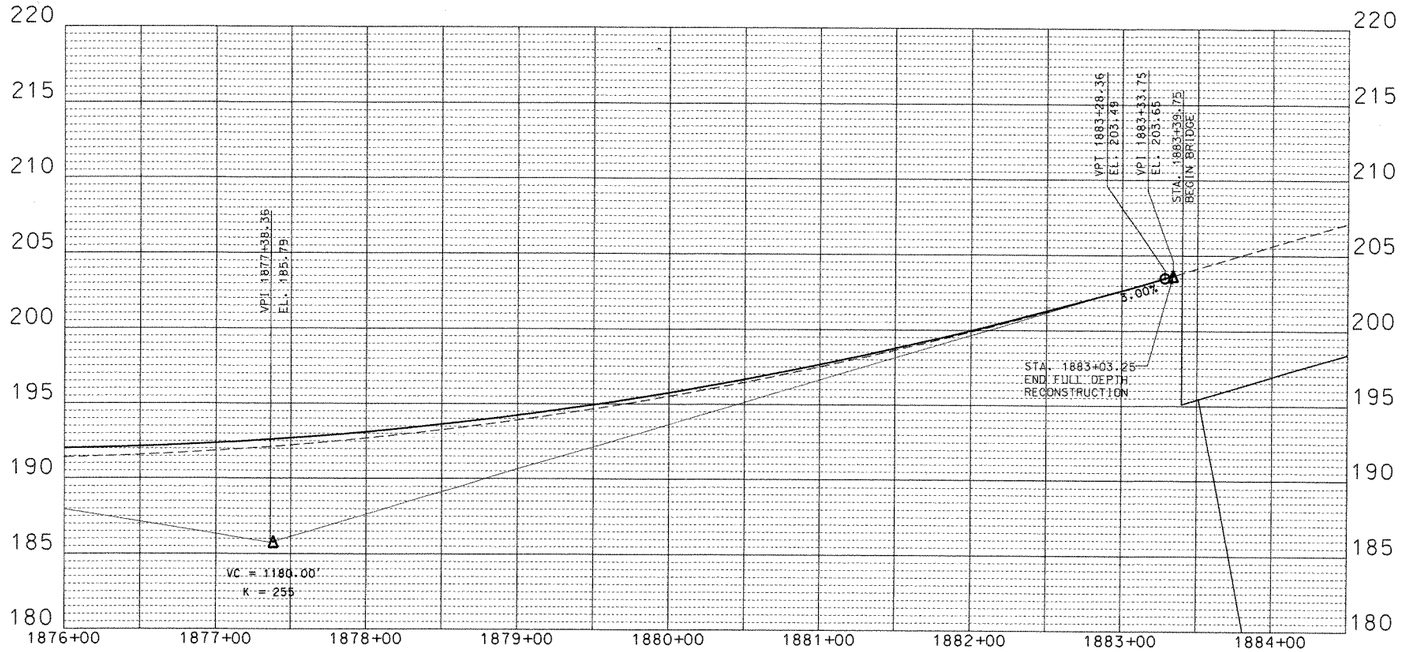
NOTE: AN ELEV. OF 209.90 WAS USED AT PVI STA. 1862+50 TO ACCOUNT FOR THE OVERLAY THICKNESS OF 12". PLUS CORRECTION OF EXISTING BRIDGE CROSS SLOPE FOR BRIDGE NO. 3712.



E.B. & W.B.I-40 @ WHITE RIVER BRIDGE

MATCHLINE- SEE BELOW

MATCHLINE- SEE ABOVE



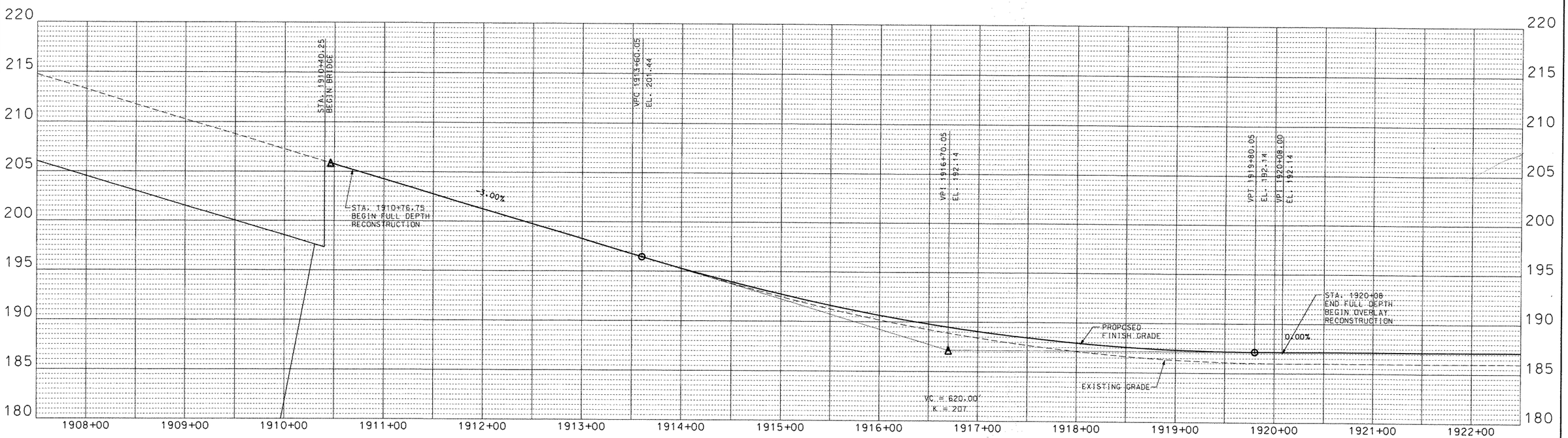
E.B. & W.B.I-40 @ WHITE RIVER BRIDGE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/21/02

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		89	165
JOB NO.		061187		

(2) PROFILE GRADE @ BRIDGE

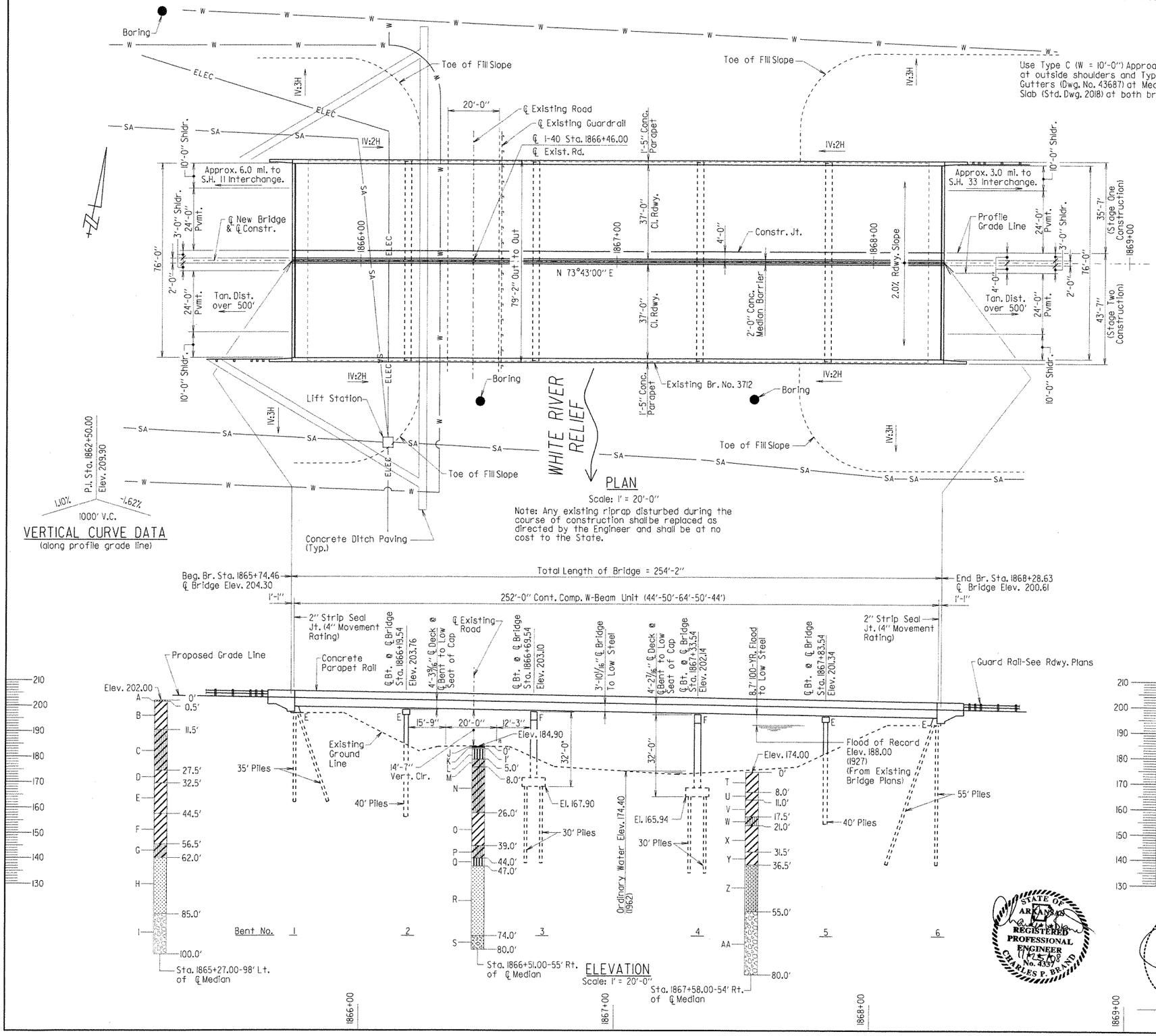


E.B. & W.B. I-40 @ WHITE RIVER BRIDGE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9702
MICHAEL BIGGS
2/7/02

For R/W Data-See Rdwy. Plans

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		90	165
				JOB NO.		061187		
				①	06893	LAYOUT		43656



PLAN

Scale: 1" = 20'-0"

Note: Any existing riprap disturbed during the course of construction shall be replaced as directed by the Engineer and shall be at no cost to the State.

Use Type C (W = 10'-0") Approach Gutters (Std. Dwg. 2016C) at outside shoulders and Type "Special 3" Approach Gutters (Dwg. No. 43687) at Median with Approach Slab (Std. Dwg. 2018) at both bridge ends.

VERTICAL CURVE DATA
(along profile grade line)

ELEVATION

Scale: 1" = 20'-0"

GENERAL NOTES

BENCH MARK: Elevations and stations are assumed to be the same as shown on the original plans. The original layout shows the elevation at the top of the deck and offset 4' either side of centerline of existing bridge to be at Elev. 202.94 at Sta. 1865+80.45 (Beg. of Br. 3712).

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 Specification unless otherwise noted in the Plans.

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

LIVE LOADING: HS20 & Military — METHOD OF DESIGN: Load Factor
SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c= 4,000 psi
Class S Concrete (substructure)	f'c= 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy= 60,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy= 36,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy= 50,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

PILING: Piling for Bents 1, and 6 shall be 16" oct. or 14" square precast concrete and shall be driven to a minimum safe bearing capacity of 44 tons per pile. Piles in end bents to be driven after embankment to bottom of cap is in place. Piles in bents 2, 3, 4, and 5 shall be 18" square precast concrete and shall be driven to a minimum safe bearing capacity of 60 tons per pile. Piles in bents 2 thru 5 shall be driven to a minimum penetration of 20' below natural ground or bottom of footing. All piling shall be driven with an approved air, stream or diesel hammer. Lengths of piling shown are for estimating quantities only. Actual lengths to be determined in the field. Drive one 35' test pile in Bent 3 and one 60' test pile in Bent 6.

BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

SURFACE TREATMENT: A Class 1 Protective treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

DETAIL DRAWINGS:	DRAWING NO.
252' Cont. Comp. W-Beam Unit	43664-43668
End Bents	43660-43661
Int. Bents	43662-43663

△ REMOVAL AND SALVAGE: Existing Bridge No. 3712 shall be removed in accordance with Secton 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor with the exception of the Bridge Rail and Posts which shall be retained by the District.

MAINTENANCE OF TRAFFIC: See Details of Construction Sequence (Dwg. No. 43659) Also, see roadway plans for additional maintenance of Traffic sequencing.

△ Denotes a responsibility of PE Seal dated 11/25/08

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9337
CHARLES P. BRAND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/7/03
BRIDGE ENGINEER

SHEET 1 OF 2

LAYOUT OF BRIDGE OVER WHITE RIVER RELIEF (WEST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B6011 4X1.LI
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06893 DRAWING NO. 43656

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		91	165
				JOB NO.		061187		
				① 06893		LAYOUT		43657

BORING LEGEND

A-Loose brown fine sandy silt w/organics (fill)
B-Stiff gray and tan clay w/rootlets and ferrous staining and nodules
-very stiff below 4 ft.
-mottled reddish tan, gray and tan below 8 ft.
C-Very stiff reddish tan silty clay w/very thin bedded tan silt laminations and ferrous staining
-fewer silt laminations below 18 ft.
D-Very stiff light gray clay w/red laminations and ferrous staining.
E-Stiff gray clay w/ferrous stains and dark gray seams.
F-Very stiff brownish gray and tan clay w/ferrous staining and nodules.
G-Very stiff dark bluish gray silty clay.
H-Dense gray silty fine sand w/occasional lignite partings and inclusions.
I-Very dense tan and gray fine to coarse gravel w/fine to coarse sand, weakly cemented.
J-5 inches: Asphalt
K-7 inches: Crushed Stone
L-Dense reddish tan fine sandy silt (fill)
-w/some clay below 3 ft.
M-Very stiff gray silty clay w/decayed organics.
N-Stiff gray and tan silty clay w/ferrous nodules and stains
-w/reddish tan below 10 ft-very stiff below 12 ft.-w/reddish tan silty fine sand seams below 16 ft.
-gray below 20 ft.
O-Very stiff dark gray clay w/ferrous nodules and stains.
P-Firm to stiff bluish gray silty clay w/ferrous staining.
Q-Median dense dark gray fine sandy silt, slightly clayey
R-Dense gray fine sand, slightly silty w/lignite partings.
S-Dense tan and gray fine to coarse sand and fine gravel.
T-Firm to stiff brown and gray clay w/ferrous nodules and organics.
U-Firm tan, gray and brown fine sandy clay w/ferrous nodules.
V-Stiff mottled tan, gray and reddish tan clay w/ferrous nodules.
W-Stiff reddish tan silty clay-water encountered at 17.5 ft.
X-Stiff to very stiff gray clay w/occasional ferrous nodules and stains.
Y-Stiff gray fine sandy clay w/lignite partings.
Z-Dense gray silty fine sand w/occasional lignite partings.
AA-Dense tan and gray fine to coarse gravel w/fine to coarse sand.

"N" VALUES

Sta. 1865+27.00'
98 Lt. ℄ Median

0.5-1.5,	N=0
4.0-5.0,	N=14
7.0-8.0,	N=30
12.0-13.0,	N=50/11"
19.0-20.0,	N=36
24.0-25.0,	N=15
39.0-40.0,	N=30
64.0-65.0,	N=50/6"
69.0-70.0,	N=50/9"
73.0-74.0,	N=50/6"
79.0-80.0,	N=50/5"
84.0-85.0,	N=50/6"
89.0-90.0,	N=50/0"
94.0-95.0,	N=50/2"
99.0-100.0,	N=50/2"

"N" VALUES

Sta. 1866+51.00
55' Rt. ℄ Median

0.5-1.5,	N=0
2.0-3.0,	N=33
4.0-5.0	N=32
9.0-10	N=24
19.0-20.0,	N=22
24.0-25.0,	N=16
29.0-30.0,	N=26
34.0-35.0,	N=23
39.0-40.0,	N=22
44.0-45.0,	N=22
49.0-50.0,	N=17
54.0-55.0,	N=50/9"
59.0-60.0,	N=50/6"
64.0-65.0,	N=50/6"
69.0-70.0,	N=50/5"
74.0-75.0,	N=50/5"
79.0-80.0	N=50/2"

"N" VALUES

Sta. 1867+58.00
54' Rt. ℄ Median

0.5-1.5	N=0
19.0-20.0,	N=11
39.0-40.0,	N=49
44.0-45.0,	N=50/10"
49.0-50.0,	N=50/9"
54.0-55.0,	N=50/7"
59.0-60.0,	N=50/1"
64.0-65.0,	N=50/3"
69.0-70.0,	N=50/2"
74.0-75.0,	N=50/2"
79.0-80.0	N=50/2"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
2/21/02
JOHN O. ALLEN
BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE
OVER WHITE RIVER RELIEF (WEST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY

ROUTE I-40 SEC. 41
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 01-24-02 FILENAME: B6011 4XL.GN
CHECKED BY: K.C. DATE: 01-24-02 SCALE: As Noted
DESIGNED BY: J.A. DATE: 01-24-02

BRIDGE NO. 06893 DRAWING NO. 43657

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.				
JOB No.		061187	92	165	
3712		LAYOUT	43658		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	[illegible]			
		G718	---	36	165

19

Note: Roadway cross slope (.0139 ft/ft) and shoulder cross slope to be transitioned to the Bridge cross slope (.0109 ft/ft) in the Approach Slabs.

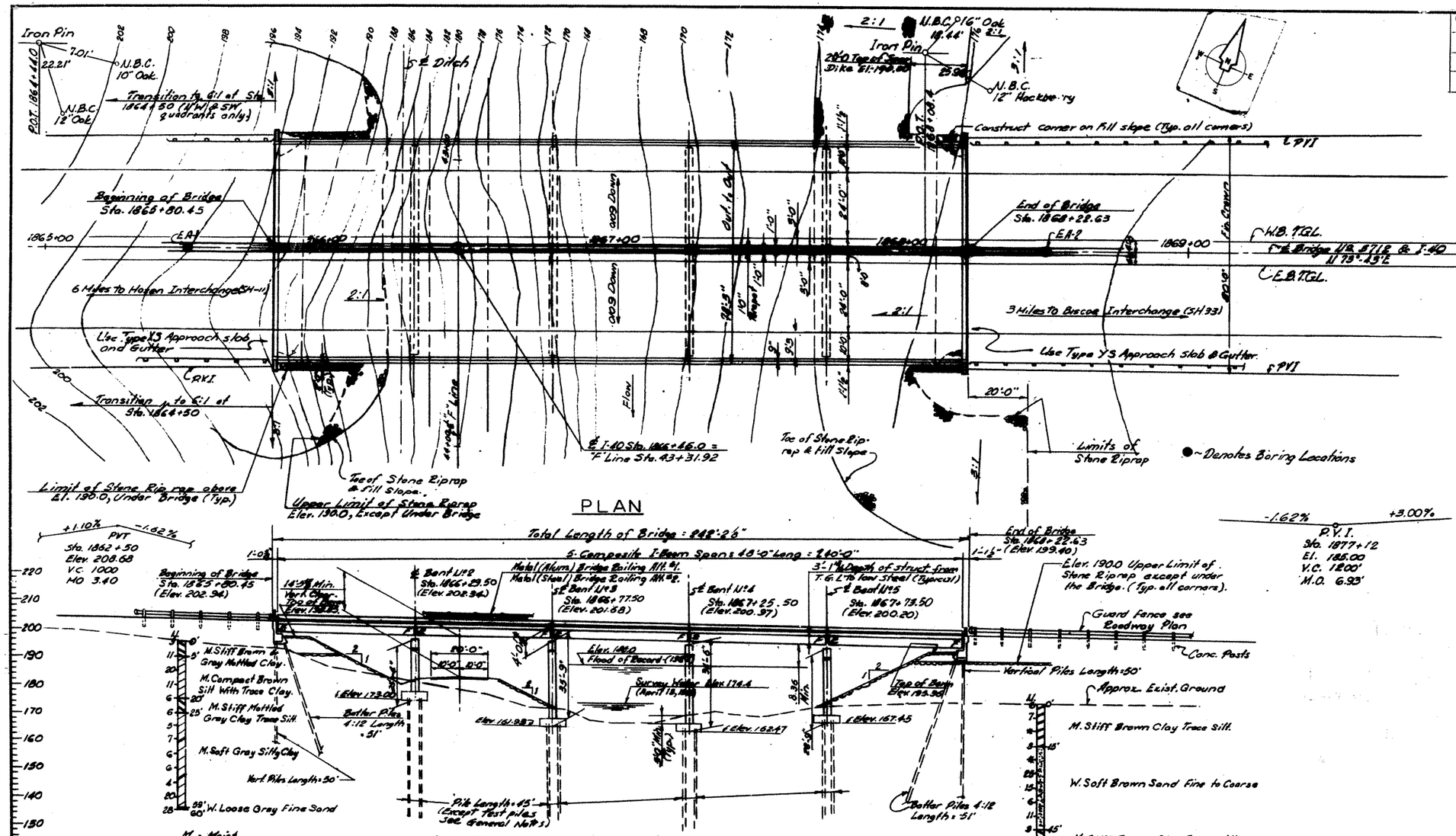
Median curb height to be transitioned from 9" (Roadway) to 18" (Bridge) in the App. Slab.

Roadway Elevations shown thus ( ) are top of slab elevations at the theoretical grade line.

Vertical Dimensions are from top of slab at theo. grade line to low side of cap and from low side of cap to bottom of footing.

Vertical Dimensions from top of slab at theo. grade line to low side of cap includes ½" for Bearing Pads

PLAN



ELEVATION

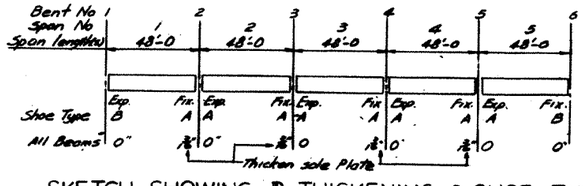
PVT
Sta. 1862+50
Elev. 208.68
V.C. 1000
M.O. 3.40

P.V.I.
Sta. 1877+12
El. 185.00
V.C. 1200'
M.O. 6.93'

Span No. ① ② ③ ④ ⑤

Note: Drains to be placed in all Spans except No. 2

Bent No. ① ② ③ ④ ⑤ ⑥



SKETCH SHOWING ℄ THICKENING & SHOE TYPES
Scale: None

GENERAL NOTES

Specifications:

Arkansas State Highway Commision Standard Specifications for Highway Construction adopted December 9, 1959.

Design Loading:

H S20-44 A.A.S.H.O. 1961 & Special Interstate Loading: 2- 24,000 lb. Axles at 4'-0" centers.

Allowable Strasses:

Class A Concrete (n=18)	840 #/in²
Class S Concrete (n=10)	1,200 #/in²
Reinforcing Steel	20,000 #/in²
Structural Steel (A-36)	20,000 #/in²

All Piles to be 16" Octagonal Precast Concrete Piles.

Piles in End Bents to be driven after the Embankment is in place to subgrade.

Lengths of Piling Shown are for Estimating Purposes only: Actual lengths to be determined in the Field.

Drive one 50' Test Pile in Bents No. 2 and No. 4.

All Piles to be driven to a minimum bearing of 36 ton/pile.

All piles to be driven with an approved air, steam or diesel hammer.

All piles shall have a minimum depth of penetration into existing ground of 10'-0

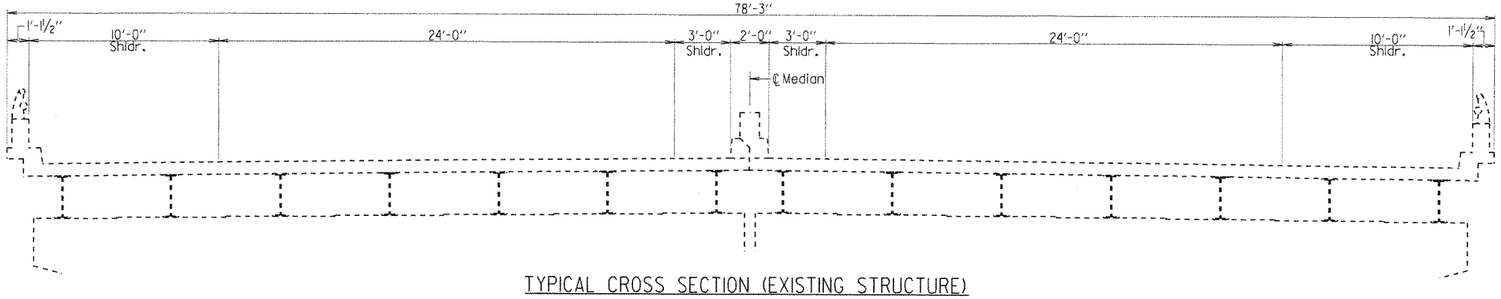
REFERENCES

For Details of stone Riprap See Dwg No. 501
For Approach Slab & Gutter Details see Dwg # AS6-1
For Superstructure details see Dwg # WRS-2 & Dwg # 169908
For End Bent Details see Dwg # WRS-3
For Intermediate Bent details see Dwg # WRS-4
For Precast concrete pile details see Dwg # 2382
For Right of way see Roadway plans
For Details of Spur Dike see Sht. # 20 & 6

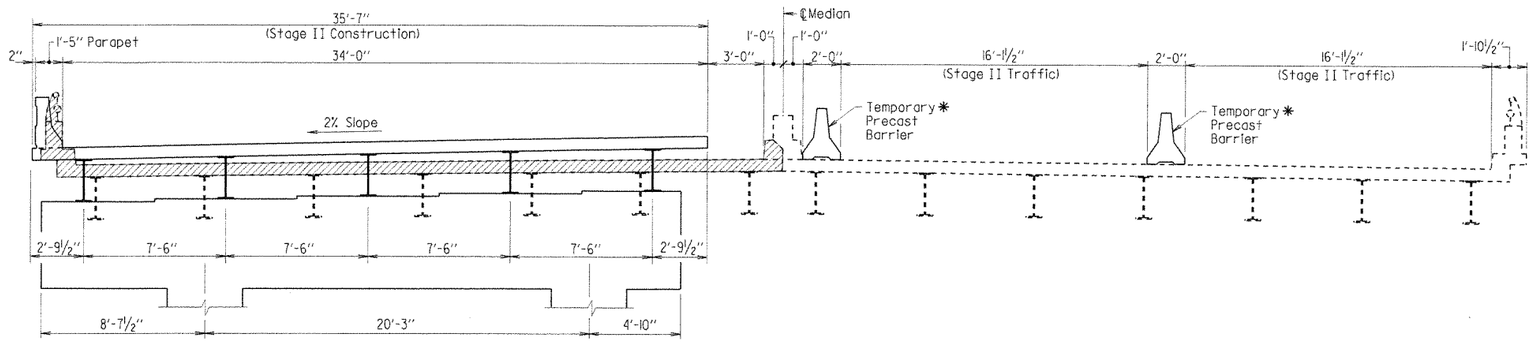
FOR INFORMATION ONLY!

ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK ARKANSAS	
INTERSTATE ROUTE 40 SECTION	
LAYOUT OF WHITE RIVER RELIEF	
AT STA I-40 - 1866+45	
BRIDGE NO. 3712	SCALE 1" = 20'
43658	DATE
AHD Dwg. No. 13183	
DRAWING NO. WRS-1	BLAIVELT ENGINEERING CO. CONSULTING ENGINEERS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		93	165
				JOB NO.		061187		
				① 06893		CONST. SEQ.		43659

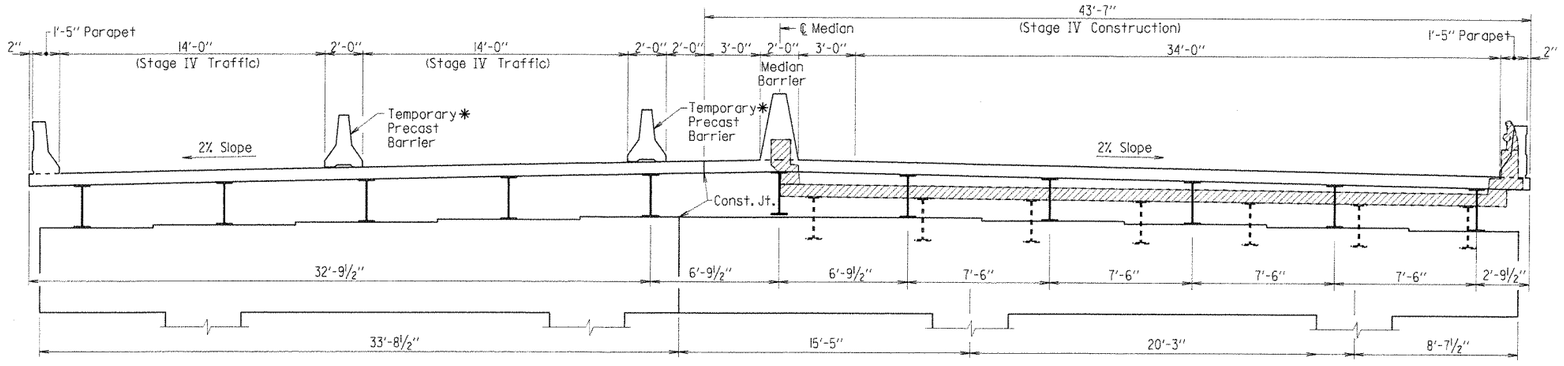


TYPICAL CROSS SECTION (EXISTING STRUCTURE)



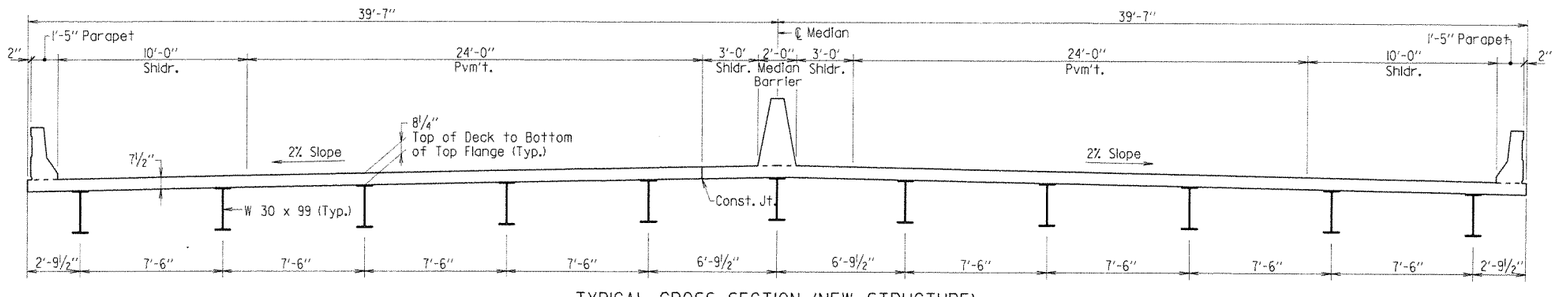
TYPICAL CROSS SECTION (STAGE II CONSTRUCTION)

▨ Denotes: Removal of Structure



TYPICAL CROSS SECTION (STAGE IV CONSTRUCTION)

▨ Denotes: Removal of Structure



TYPICAL CROSS SECTION (NEW STRUCTURE)

Note:
See Roadway Plans for complete list of Construction Stages.

✱ Denotes: Temporary Precast Barrier to be connected to existing and new bridge decks as shown on Std. Dwg. TC-4

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03
BRIDGE ENGINEER

DETAILS OF CONSTRUCTION SEQUENCE WHITE RIVER RELIEF (WEST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

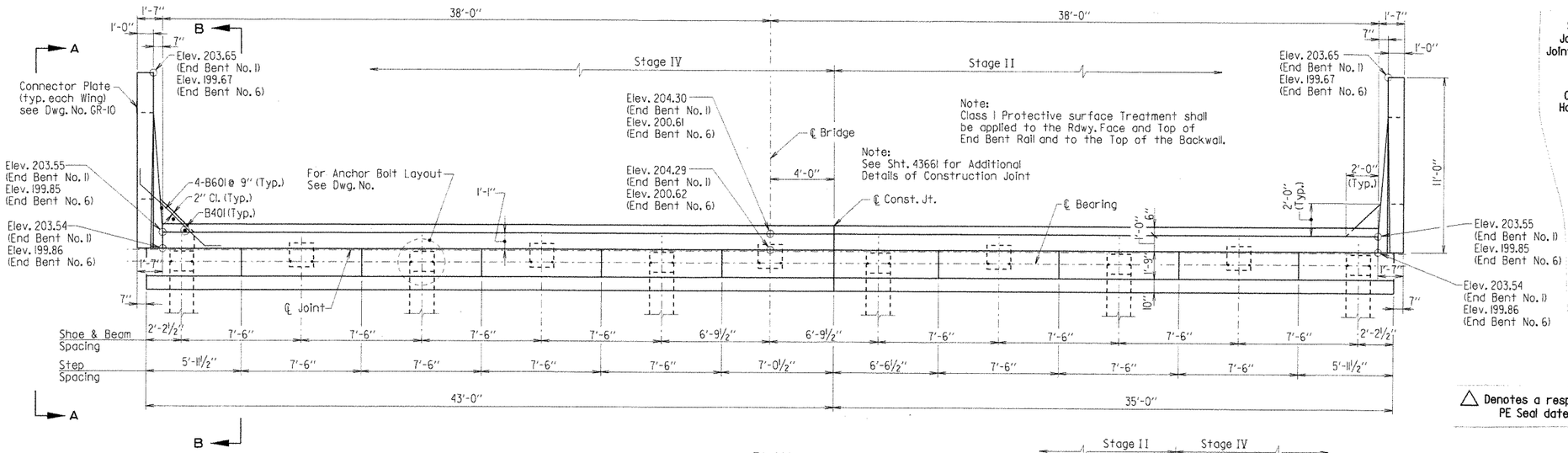
ARKANSAS STATE HIGHWAY COMMISSION

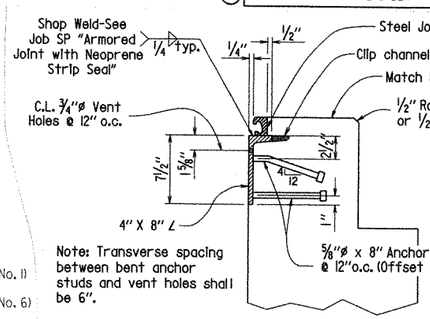
LITTLE ROCK, ARK.

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CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06893 DRAWING NO. 43659

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		94	165
				JOB NO.		061187		
				1	06893	END BENT		43660





Note: Transverse spacing between bent anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 43667.

DETAIL Z △
No Scale

△ Denotes a responsibility of PE Seal dated 11/25/08

GENERAL NOTES

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

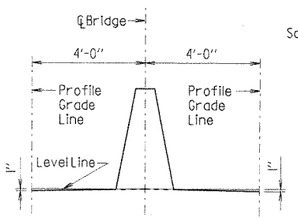
All reinforcing steel shall conform to AASHTO M31 or M53, Gr. 60.

Backwall shall not be poured before girders are in place.

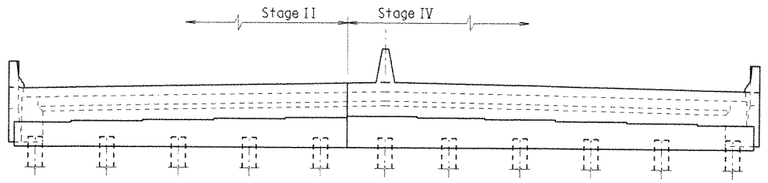
Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)".

If anchor bolts are drilled into cap, top reinforcing bars shall be properly spaced to avoid damage.

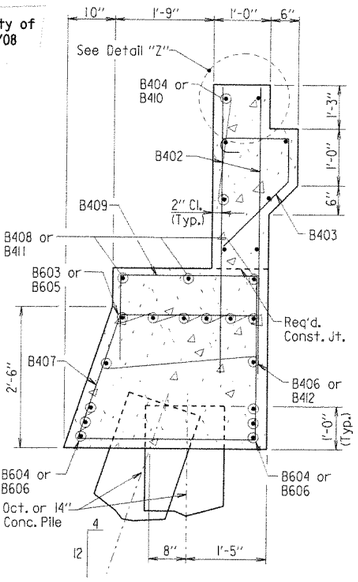
For additional information, see Layout.



PLAN
Scale: 1/4" = 1'-0"

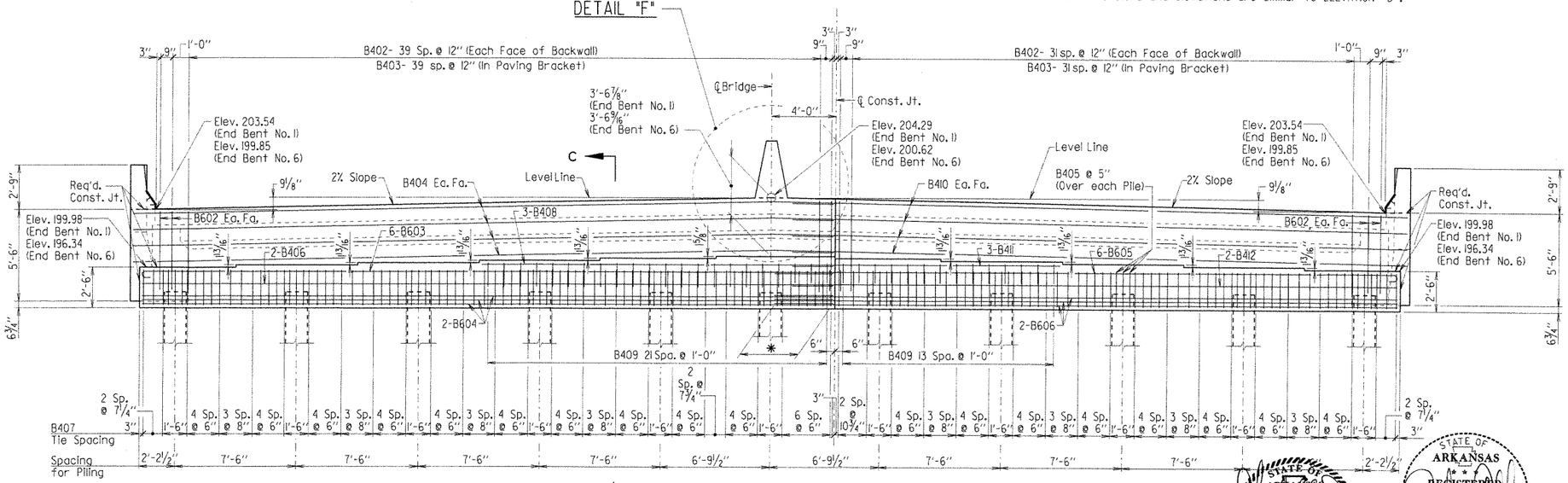


ELEVATION "E"
N.T.S.
Looking Forward End Bent No. 6
Note: All dimensions and elevations are similar to ELEVATION "D".



SECTION C-C
Scale: 3/4" = 1'-0"

DETAIL "F"



ELEVATION "D"
Scale: 1/4" = 1'-0"
Looking Back End Bent No. 1

✱ Denotes: Lap No. 4 Bars 2'-6" Min.
Lap No. 6 Bars 3'-7" Min.

STATE OF ARKANSAS CHARLES P. BRAND 11-25-08 No. 4337 REGISTERED PROFESSIONAL ENGINEER

STATE OF ARKANSAS JOHN O. ALLEN 4/17/03 No. 10819 REGISTERED PROFESSIONAL ENGINEER
BRIDGE ENGINEER

SHEET 1 OF 2

DETAILS OF END BENTS NO. 1 & 6 WHITE RIVER RELIEF (WEST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

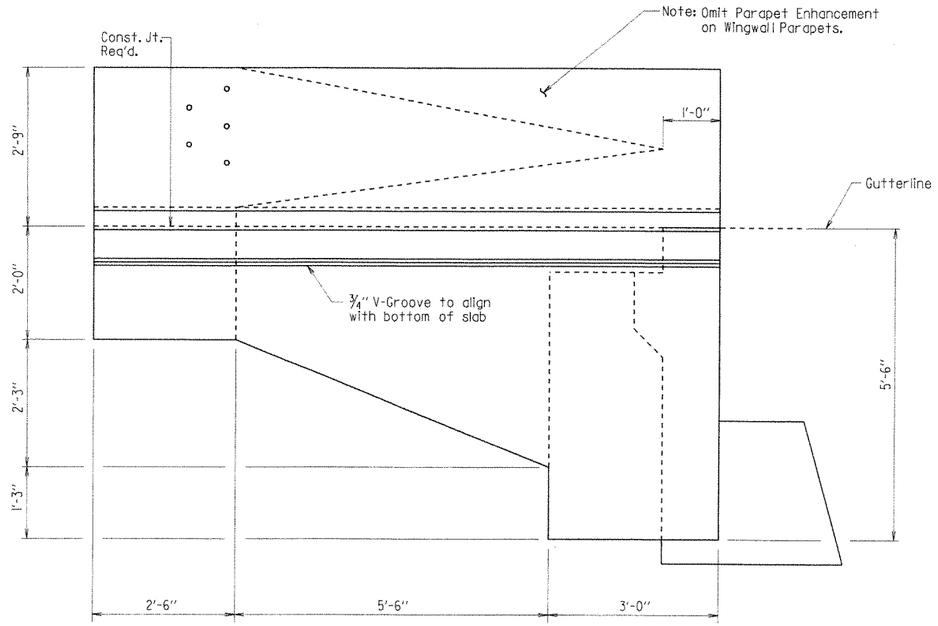
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

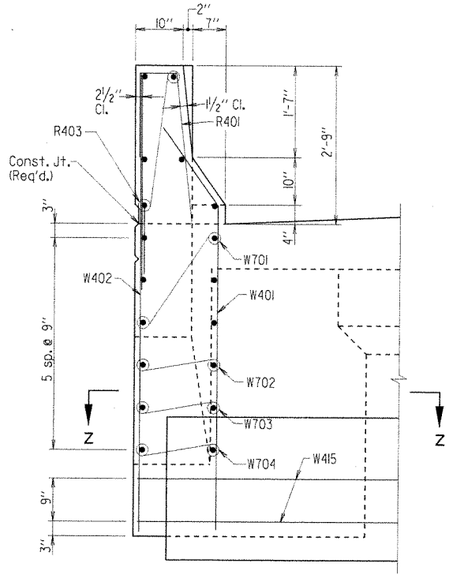
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CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06893 DRAWING NO. 43660

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061187		
				①	06893	END BENT		43661



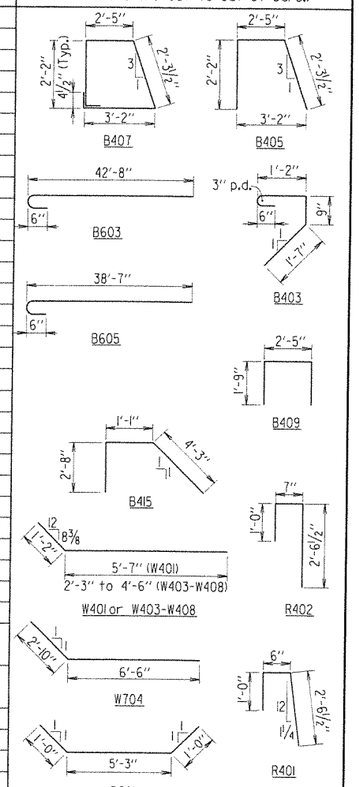
VIEW A-A
N.T.S.

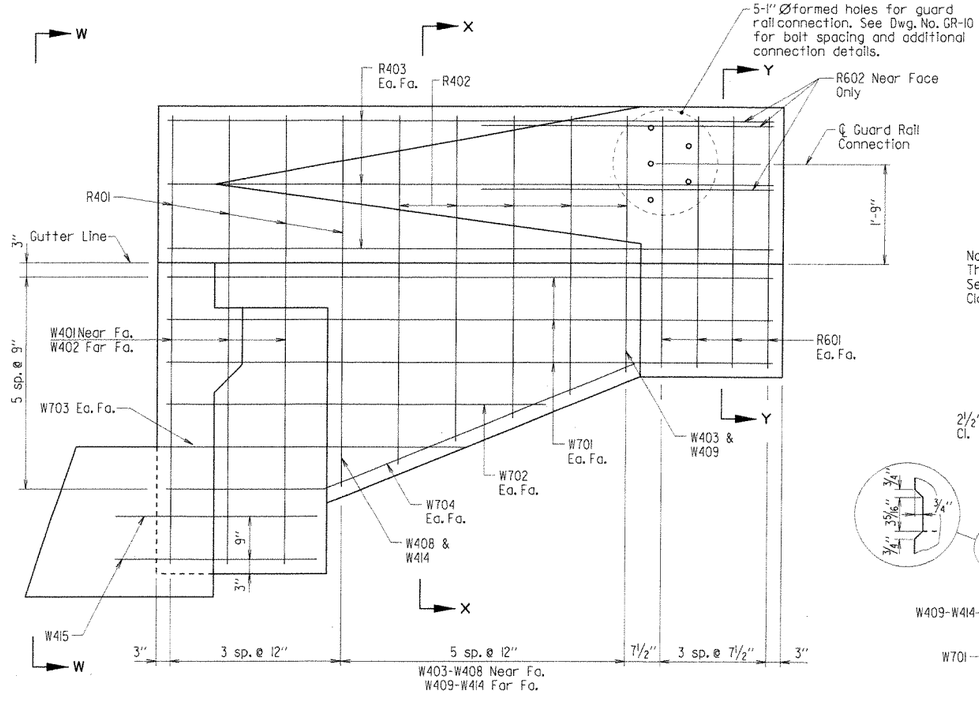


VIEW W-W
N.T.S.

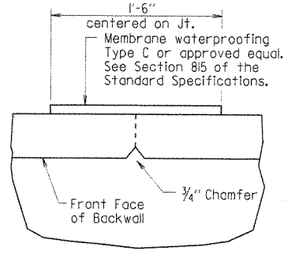
BAR LIST PER END BENT

MARK	NO. REQ'D.	LENGTH	Pin. Dia.	BENDING DIAGRAMS (Dimensions are out to out of bars.)
B401	6	3'-11"	str.	
B402	148	5'-6"	str.	
B403	74	3'-11"	2"	
B404	8	43'-3"	str.	
B405	33	6'-9"	2"	
B406	2	42'-8"	str.	
B407	123	10'-5"	2"	
B408	3	21'-8"	str.	
B409	36	5'-9"	2"	
B410	8	38'-1"	str.	
B411	3	16'-7"	str.	
B412	2	37'-6"	str.	
B601	8	7'-3"	4 1/2"	
B602	8	5'-6"	str.	
B603	6	43'-4"	4 1/2"	
B604	6	42'-8"	str.	
B605	6	39'-3"	4 1/2"	
B606	6	38'-7"	str.	
R401	8	3'-11"	2"	
R402	10	4'-0"	2"	
R403	12	10'-8"	str.	
R601	16	4'-5"	str.	
R602	6	5'-0"	str.	
W401	6	6'-9"	2"	
W402	6	7'-11"	str.	
W403 to W408	2 ea.	3'-5" to 5'-8"	2"	
W409 to W414	2 ea.	4'-6" to 6'-9"	str.	
W415	4	7'-11"	str.	
W701	12	10'-8"	str.	
W702	4	6'-11"	str.	
W703	4	5'-1"	str.	
W704	4	9'-4"	5 1/4"	



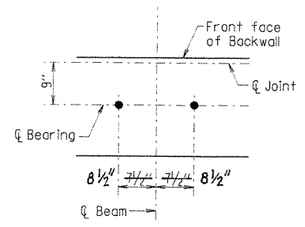


SECTION B-B
N.T.S.

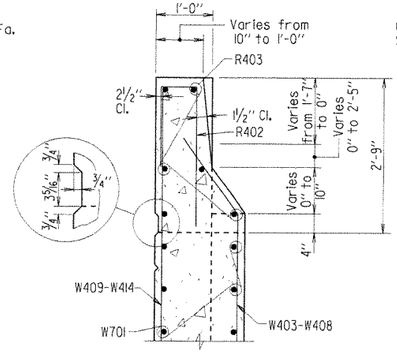


CONSTRUCTION JOINT DETAIL
N.T.S.

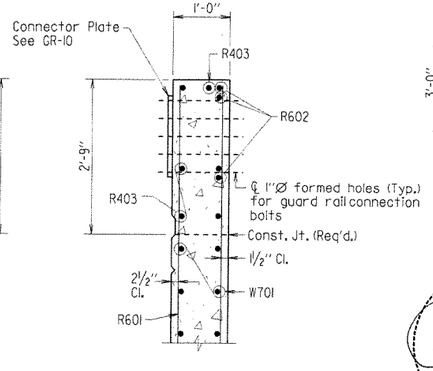
Note:
The Membrane Waterproofing Will Not Be Paid For Separately, But Will Be Considered Subsidiary To Class 'S' Concrete-Bridge



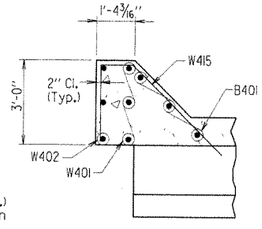
TYPICAL ANCHOR BOLT LAYOUT
Note: N.T.S.
For Details of Elastomeric Bearings, see Dwg. No. 43669



SECTION X-X
N.T.S.



SECTION Y-Y
N.T.S.



SECTION Z-Z
N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03
BRIDGE ENGINEER

SHEET 2 OF 2

DETAILS OF END BENTS NO. 1 & 6 WHITE RIVER RELIEF (WEST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

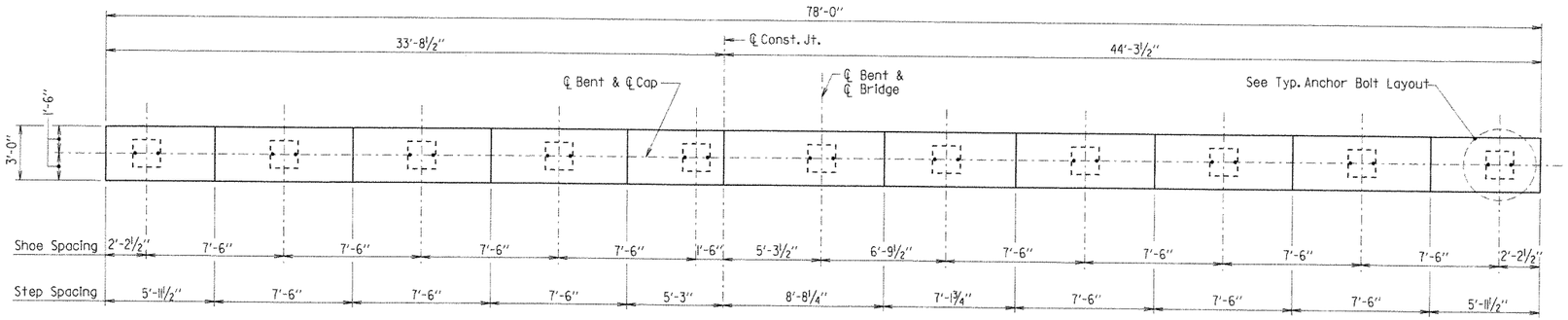
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

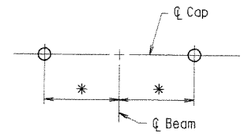
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CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06893 DRAWING NO. 43661

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061187		
				① 06893		INT. BENTS		43662



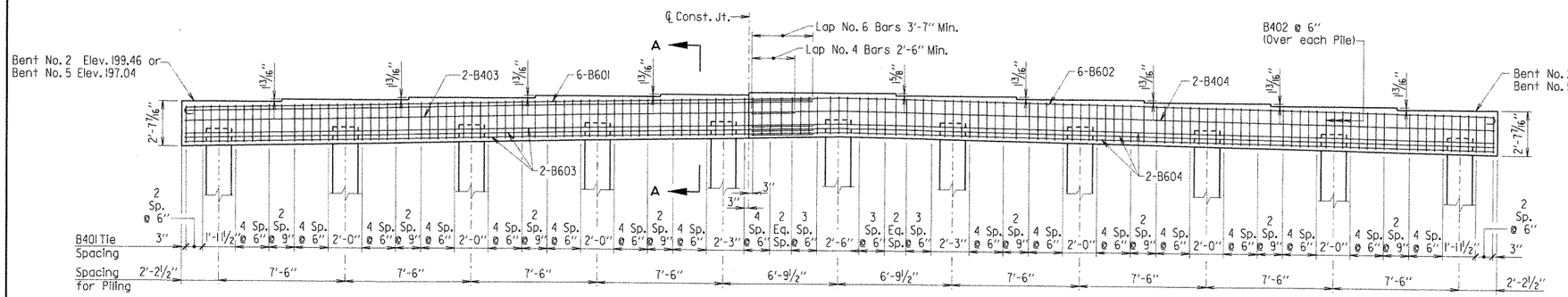
PLAN
N.T.S.



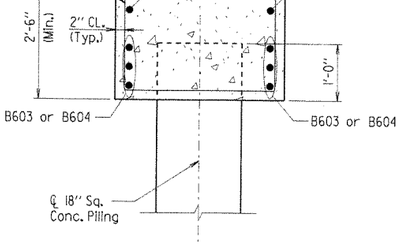
TYPICAL ANCHOR BOLT LAYOUT
N.T.S.

✳ Denotes:
8½"-Bents No. 2 & 5

Note:
For Details of Elastomeric Bearings, see Dwg. No. 43669

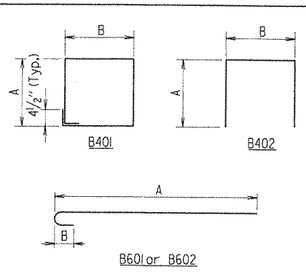


ELEVATION
N.T.S.



SECTION A-A
Scale : ¾" = 1'-0"

MARK	NO. REQ'D.	LENGTH	A	B	Pin. Dia.	BENDING DIAGRAMS (Dimensions are out to out of bars.)
B401	112	10'-0"	2'-2"	2'-8"	2"	
B402	33	6'-10"	2'-2"	2'-8"	2"	
B403	2	36'-3"			Str.	
B404	2	44'-0"			Str.	
B601	6	38'-0"	37'-4"	6"	4½"	
B602	6	44'-8"	44'-0"	6"	4½"	
B603	6	37'-4"			Str.	
B604	6	44'-0"			Str.	



GENERAL NOTES

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

All reinforcing steel shall conform to AASHTO M31 or M53, Gr. 60.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly spaced to avoid damage.

For additional information, see Layout.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
2/21/02
JOHN Q. ALLEN

BRIDGE ENGINEER

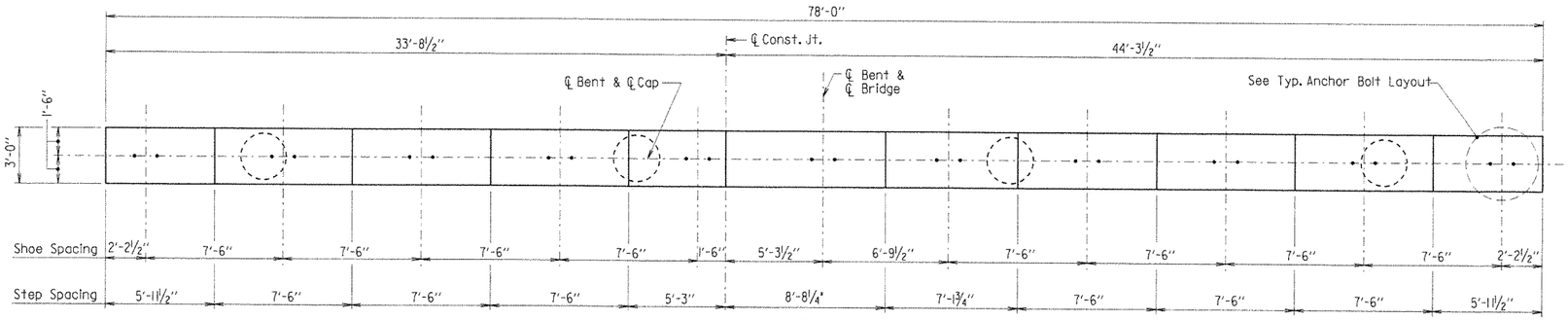
DETAILS OF INT. BENTS NO. 2 AND 5
WHITE RIVER RELIEF (WEST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

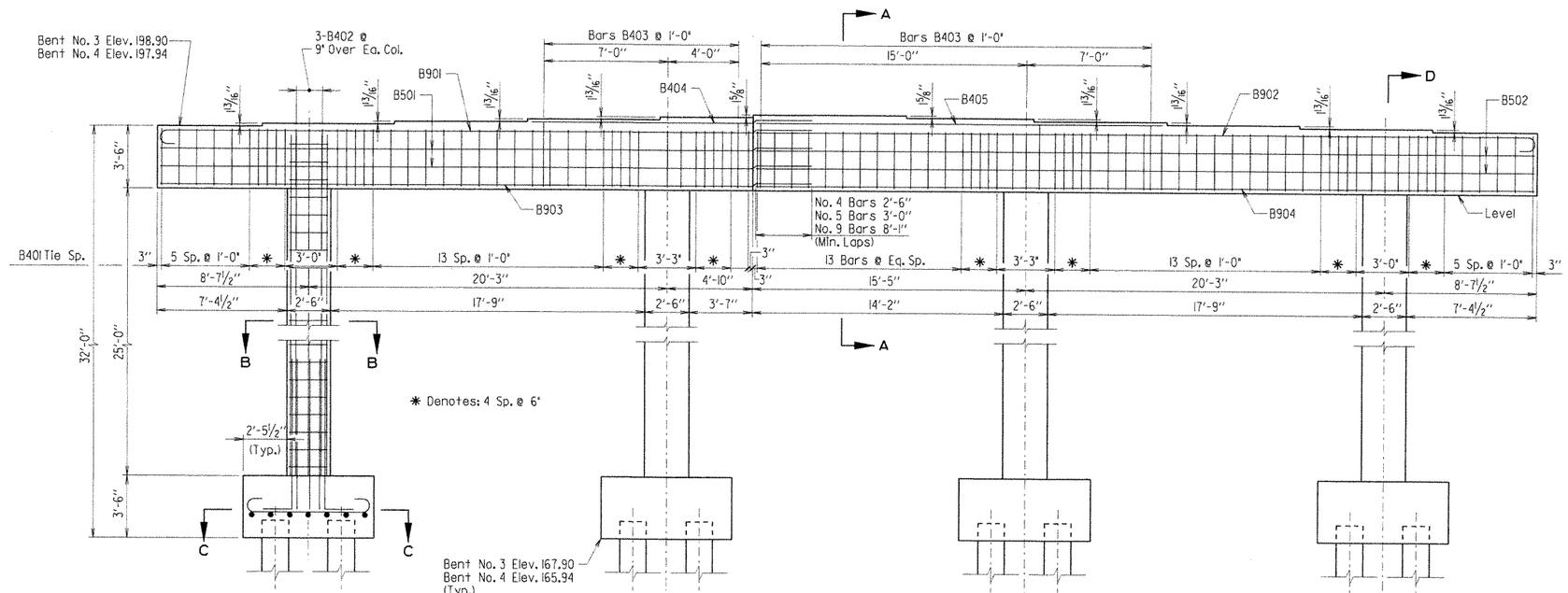
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CHECKED BY: K.C. DATE: 01-24-02 SCALE: As Noted
DESIGNED BY: J.A. DATE: 01-24-02

BRIDGE NO. 06893 DRAWING NO. 43662

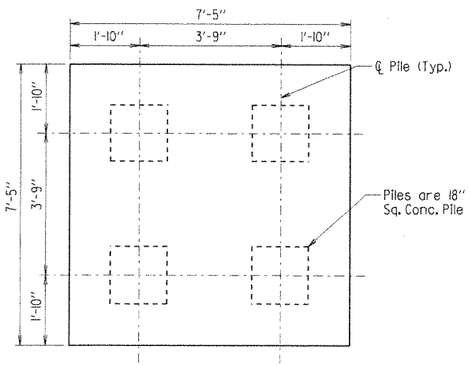
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061187		
				①	06893	INT. BENTS		43663



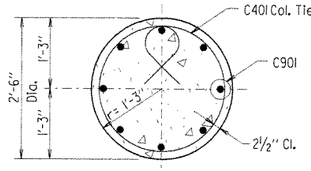
PLAN
N.T.S.



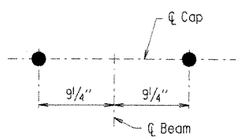
ELEVATION
N.T.S.



SECTION C-C
N.T.S.

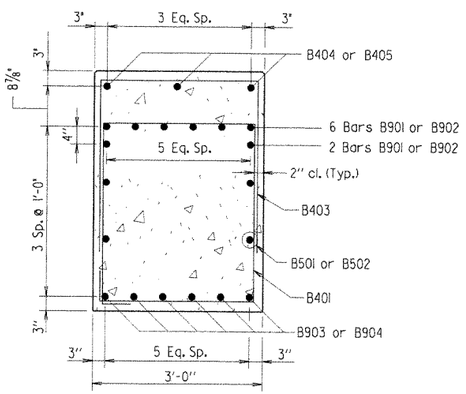


SECTION B-B
N.T.S.



TYPICAL ANCHOR BOLT LAYOUT
N.T.S.

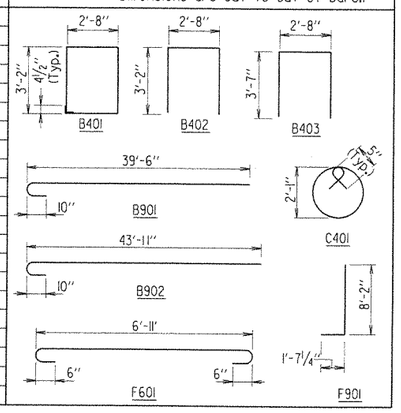
Note:
For Details of Elastomeric Bearings, see Dwg. No. 43669



SECTION A-A
N.T.S.

BAR LIST (PER BENT)

MARK	NO. REQ'D.	LENGTH	Pin. Dia.	BENDING DIAGRAMS (Dimensions are out to out of bars.)
B401	88	12'-0"	2"	
B402	12	8'-10"	2"	
B403	35	9'-8"	2"	
B404	3	14'-3"	str.	
B405	3	23'-0"	str.	
B501	4	35'-8"	str.	
B502	4	43'-11"	str.	
B901	8	40'-11"	9"	
B902	8	45'-2"	9"	
B903	6	39'-8"	str.	
B904	6	43'-11"	str.	
C401	112	7'-7"	3"	
C901	32	28'-0"	str.	
F601	56	8'-3"	4½"	
F901	32	9'-6"	9"	



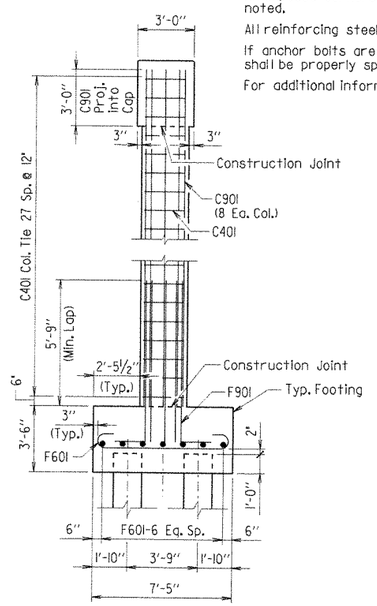
GENERAL NOTES

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

All reinforcing steel shall conform to AASHTO M31 or M53, Gr. 60.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly spaced to avoid damage.

For additional information, see Layout.



SECTION D-D
N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
2/21/02
JOHN Q. ALLEN
BRIDGE ENGINEER

DETAILS OF INT. BENTS NO. 3 AND 4
WHITE RIVER RELIEF (WEST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

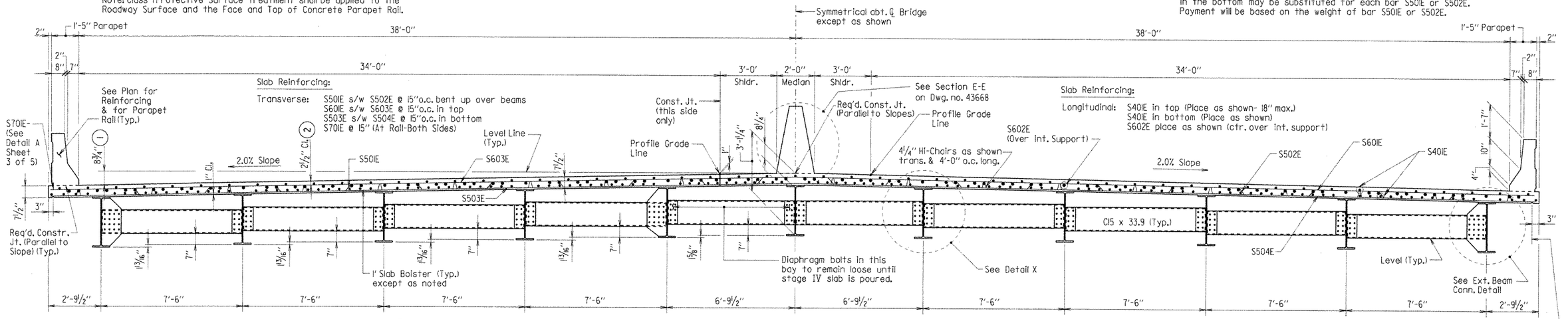
DRAWN BY: R.P. DATE: 01-24-02 FILENAME: B60114X1.B4
CHECKED BY: J.A. DATE: 01-24-02 SCALE: As Noted
DESIGNED BY: K.C. DATE: 01-24-02

BRIDGE NO. 06893 DRAWING NO. 43663

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		98	165
				JOB NO.		061187		
				① 06893		CONT. W-BM. UNIT		43664

Note: Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail.

Note: One epoxy coated #5 bar in the top and one epoxy #5 bar in the bottom may be substituted for each bar S501E or S502E. Payment will be based on the weight of bar S501E or S502E.

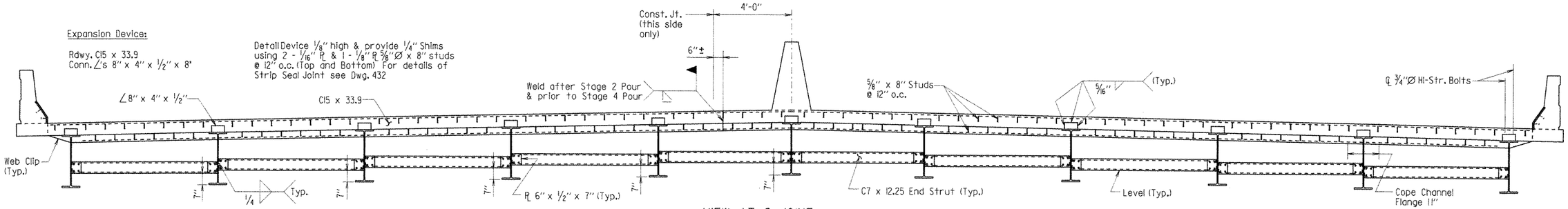


① Gutter Line to ℄ Bridge

② Tolerance Minus = ¼"
Plus: Equal to amount of slab thickening used to meet slab thickness tolerance
See Adjustment For Slab Thickness Tolerance.

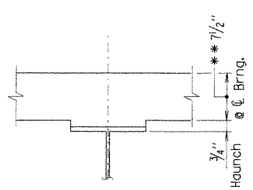
SECTION NEAR MIDSPAN

N.T.S.



VIEW AT ℄ JOINT

N.T.S.
Strip Seal Joint at End Bents (Typ.)



Note: Haunch is required. Slab may be thickened and/or the haunch thickened to maintain slab tolerance.

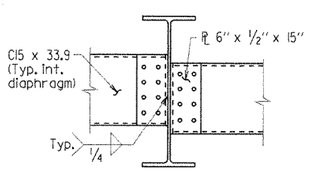
*** Thickness as detailed on Span Drawings. Tolerance is minus ¼" and plus 1".

Note: No increase in concrete andstructural steel quantities will be made to meet slab tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

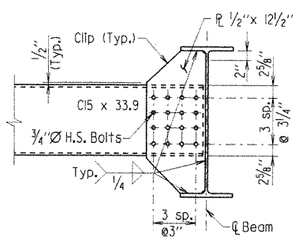
ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

N.T.S.



DETAIL X

N.T.S.



DIAPHRAGM CONNECTIONS AT EXTERIOR BEAMS

N.T.S.

Note: Bolts in Diaphragm Connections shall be properly installed and tightened in accordance with Subsection 807.71 of the Standard Specifications.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
2/1/02
JOHN Q. ALLEN

BRIDGE ENGINEER

SHEET 1 OF 5

DETAILS OF 252' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (WEST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

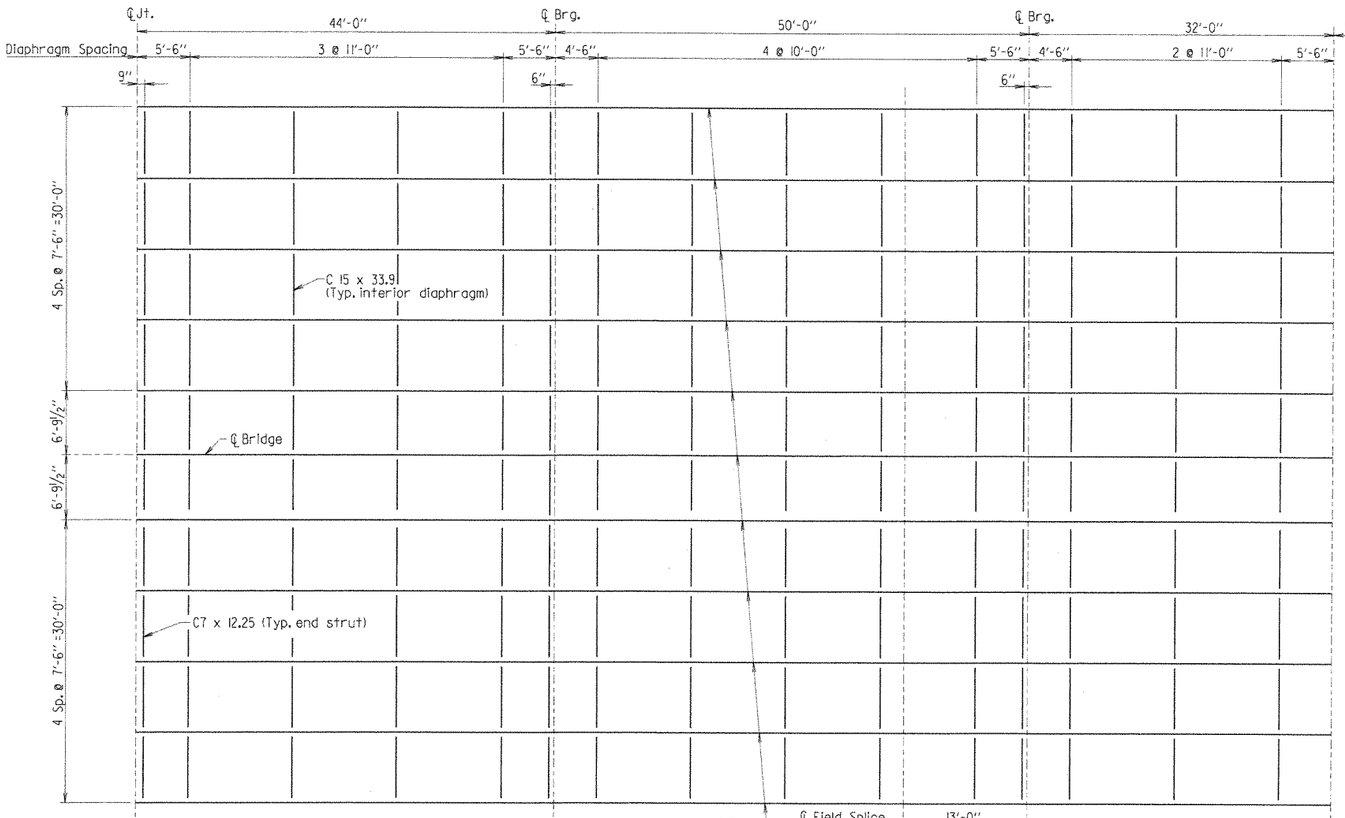
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: P.J.	DATE: 01-24-02	FILENAME:	B60114X1.SI
CHECKED BY: K.C.	DATE: 01-24-02	SCALE:	As Noted
DESIGNED BY: J.A.	DATE: 01-24-02		

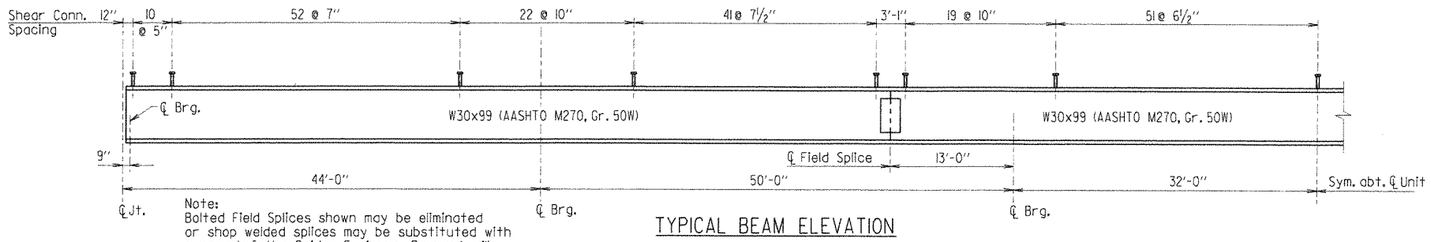
BRIDGE NO. 06893 DRAWING NO. 43664

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		99	165
				JOB NO.		061187		
				① 06893		CONT. W-BM. UNIT		43665



HALF FRAMING PLAN

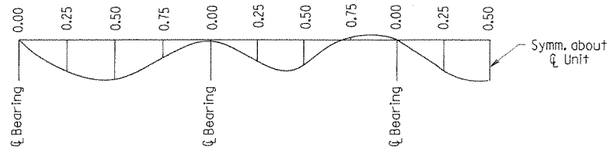
N.T.S.



Note:
Bolted Field Splices shown may be eliminated or shop welded splices may be substituted with approval of the ~~Bridge~~ Engineer. Payment will be made on the basis of the Plan Quantities.

TYPICAL BEAM ELEVATION

N.T.S.



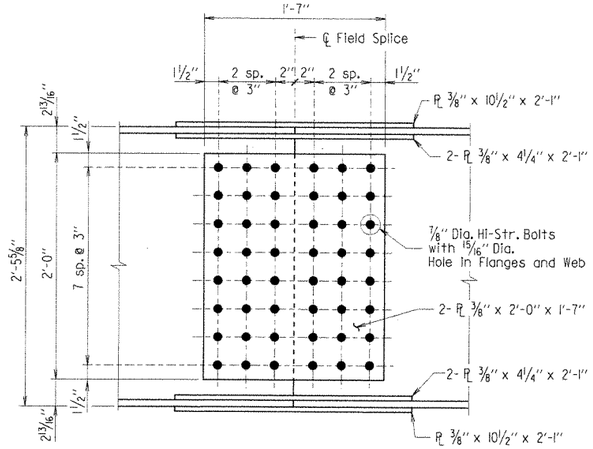
DEAD LOAD DEFLECTIONS DIAGRAM

N.T.S.

Camber for Dead Load Deflection plus Vertical Curve ¼" tolerance. Deflections shown are from a chord from Centerline Bearing to Centerline Bearing. Vertical Curve Corrections not included. Negative Sign (-) indicates point above Chord.

DEAD LOAD DEFLECTIONS (INCHES)

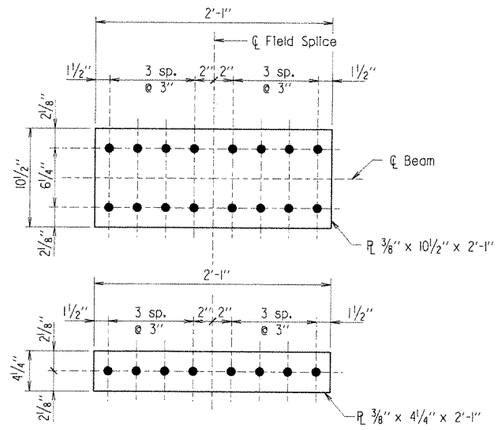
Span	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Parapet	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
1	0	0.000	0.000	0.000	0.000	0.000	0.000
	0. 25	0.027	0.027	0.227	0.202	0.290	0.265
	0.50	0.033	0.033	0.282	0.252	0.360	0.330
	0.75	0.018	0.018	0.155	0.138	0.198	0.181
2	0	0.000	0.000	0.000	0.000	0.000	0.000
	0. 25	0.003	0.003	0.026	0.023	0.033	0.030
	0.50	0.006	0.006	0.052	0.047	0.066	0.061
	0.75	-0.003	-0.003	-0.024	-0.021	-0.031	-0.028
3	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.25	0.061	0.061	0.516	0.460	0.660	0.604
	0.50	0.098	0.098	0.825	0.736	1.056	0.967



Note: All Field Splice Plates to be AASHTO M270,Gr.50W.

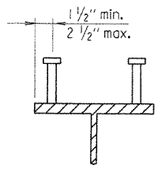
DETAILS FIELD SPLICE (TYP.)

N.T.S.



FLANGE SPLICE PLATES

N.T.S.



SHEAR CONNECTOR DETAIL

N.T.S.

Stud Shear Connectors shown shall be ⅞"Ø x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. ¾"Ø studs may be used in place of the ⅞"Ø studs shown, at the ratio of 1.361-3/4" Ø studs in place of one ⅞"Ø stud. ⅞"Ø studs will be used as basis for measurement of structural steel in sheer connectors. Maximum stud spacing = 24".

TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03
BRIDGE ENGINEER

SHEET 2 OF 5

DETAILS OF
252' CONT. COMP. W-BEAM UNIT
WHITE RIVER RELIEF (WEST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41

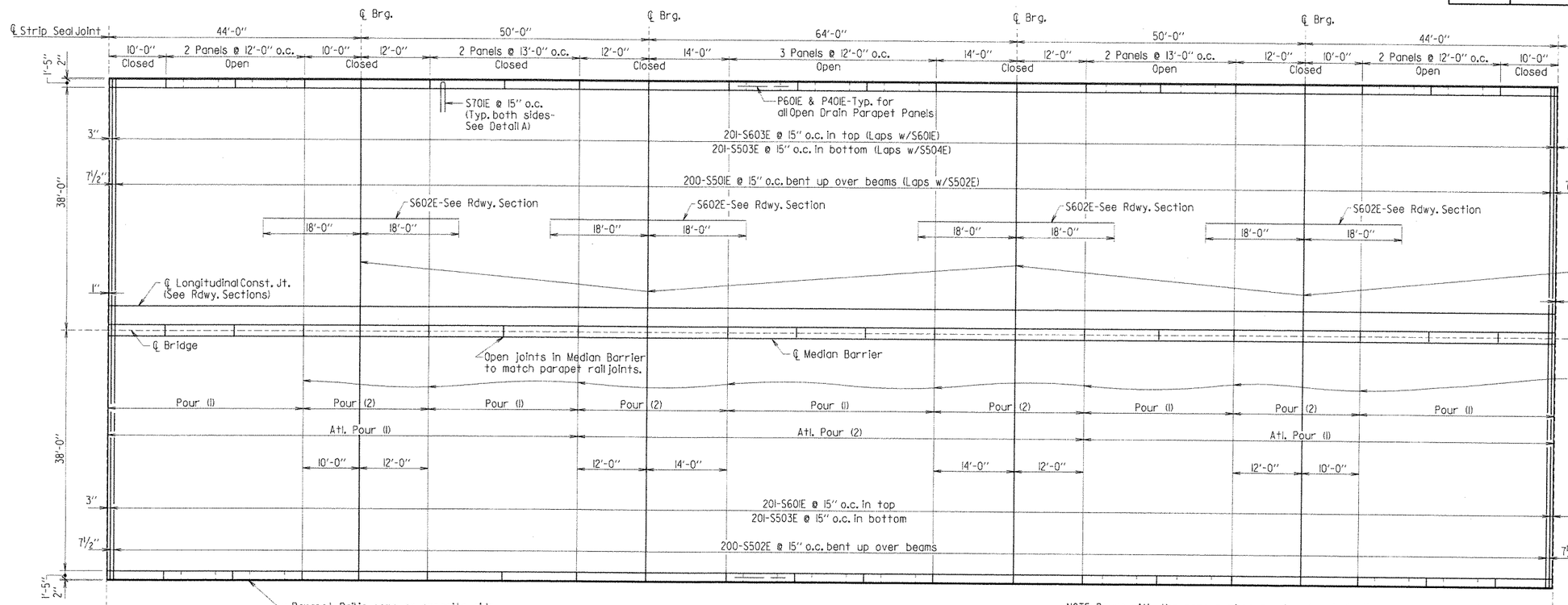
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B60II4XI.S2
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06893 DRAWING NO. 43665

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		100	165
				JOB NO.		061187		
				06893		CONT. W-BM. UNIT		43666

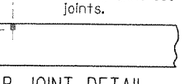
✱ Align as shown with parapet open joints at gutterline.



PLAN & DIAGRAM OF POURING SEQUENCE

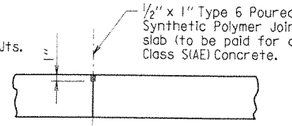
N.T.S.

NOTE: Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the ~~Bridge~~ Engineer.



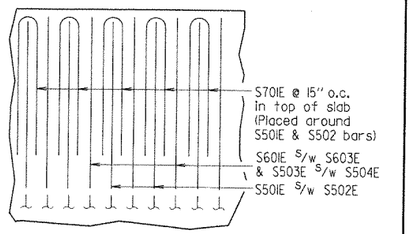
SLAB JOINT DETAIL

N.T.S.



LONGITUDINAL JOINT DETAIL

N.T.S.



DETAIL A

N.T.S.

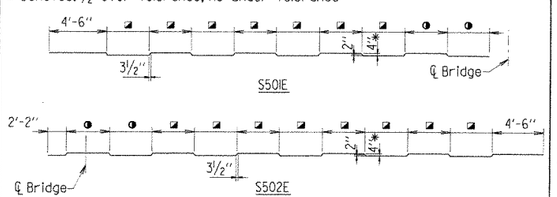
BAR LIST

MK	No. Required	Length	Pin Dia.
S401E	1267	37'-9"	Str.
S501E	200	38'-11"	3"
S502E	200	45'-2"	3"
S503E	201	37'-9"	Str.
S504E	201	43'-2"	Str.
S601E	201	43'-2"	Str.
S602E	380	36'-0"	Str.
S603E	201	38'-6"	Str.
S701E	402	11'-8"	6½"
P401E	560	6'-4"	2"
P402E	560	5'-6"	2"
P403E	108	5'-10"	2"
P404E	108	3'-2"	2"
P405E	56	11'-8"	Str.
P406E	16	12'-8"	Str.
P407E	40	9'-8"	Str.
P408E	40	11'-8"	Str.
P409E	40	12'-8"	Str.
P410E	20	13'-8"	Str.
P601E	70	11'-8"	Str.
P602E	20	12'-8"	Str.
R401E	376	8'-8"	2"
R402E	376	7'-3"	2"
R403E	32	9'-8"	Str.
R404E	88	11'-8"	Str.
R405E	32	12'-8"	Str.
R406E	16	13'-8"	Str.

Bending Diagram (Dimensions are out of out of bars.)

◪ Denotes: 3'-9" ◑ Denotes: 3'-4¾"

✱ Denotes: ½" over tolerance, no under tolerance



GENERAL NOTES:

Governing specifications are the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

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

All concrete shall be poured and screeded off prior to initial set. The concrete deck shall be finished in accordance with section 802.19 Class 5 of the Standard Specifications. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection of the railing.

Concrete in bridge superstructure shall be placed and consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60. The reinforcing is to be accuracy located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "Reinforcing Steel-Bridge".

All stud shear connectors shall be granular flux filled, solid fluxed or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

Field connections shall be bolted with ¾" high strength bolts unless otherwise noted. Bolt holes shall be 13/16" dia. except that 15/16" dia. holes may be used for connection of expansion devices, diaphragms and end struts if a washer is used under both the nut and head of the bolt.

Diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring of the concrete deck.

Flange splice plates shallbe cut and fabricated so that the primary direction of rolling is parallel to the direction of main tensile and/or compressive stresses.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before any fabrication is begun. Structural shapes of equal or greater strength may be substituted for shapes shown if approval is obtained from the ~~Bridge~~ Engineer. Payment will be made on the basis of shapes shown.

All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price per pound bid for "Structural Steel in Beam Spans (M270, Gr.50W) unless otherwise noted. M270, Gr. 50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with Subsection 807.84(e) of the Standard Specifications unless otherwise noted. Structural Steel completely embedded in concrete may be AASHTO M270, Gr. 36.

All beams shall be blocked in their true position in the shop. The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in this position and this information shall become a part of the permanent record of the job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60° F. A tolerance of 1/4" is allowed for camber.

Beams are considered main load carrying members and shall meet the longitudinal Charpy V-Notch test specified in Section 807.05. The Charpy V-Notch test will not be required on field splice plates. All welding shall conform to Subsection 807.26. Welded connections shall be 5/16" fillet shop welds unless otherwise noted. All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If the Contractor or Erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with formal request to the ~~Bridge~~ Engineer for approval.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4-17-03

BRIDGE ENGINEER

Design Specifications: AASHTO 2002 with Interim Specifications

Live loading: HS20 & Military Method of Design: Load Factor

Live Load:	Interior Beam	Exterior Beam
A. To W-Beam	704 plf + 1.3 (Wt./Ft. of W-Bm.)	614 plf + 1.3 (Wt./Ft. of W-Bm.)
B. To Composite Beam		
Closed Parapets	287 plf ✱✱	287 plf ✱✱
Open Parapets	279 plf ✱✱	279 plf ✱✱
Live Load: To each composite beam	1.364 wheels + impact	1.256 wheels + impact

✱✱ Includes 152 plf future wearing surface

Materials Strengths:

Class S(AE) Concrete (N=8)	f'c	= 4,000 p.s.i.
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy	= 60,000 p.s.i.
Structural Steel (AASHTO M270, Gr.36)	Fy	= 36,000 p.s.i.
Structural Steel (AASHTO M270, Gr. 50W)	Fy	= 50,000 p.s.i.

SHEET 3 OF 5

DETAILS OF 252' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (WEST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

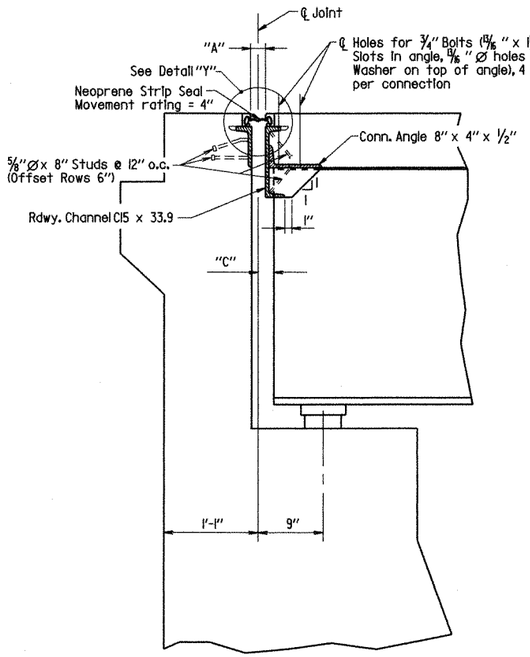
DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B60114X1.S3

CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted

DESIGNED BY: J.A. DATE: 04-17-03

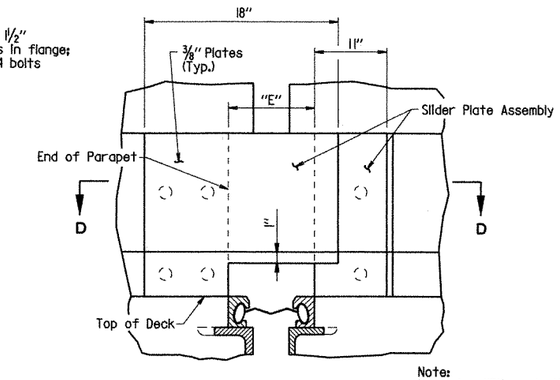
BRIDGE NO. 06893 DRAWING NO. 43666

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		101	165
				JOB NO.		061187		
				(1) 06893		CONT. UNIT	43667	



SECTION THRU JOINT AT END BENTS

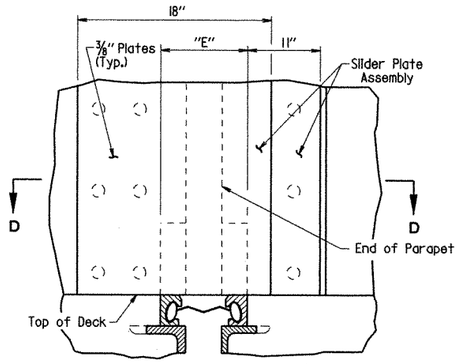
N.T.S.



SECTION "B-B"

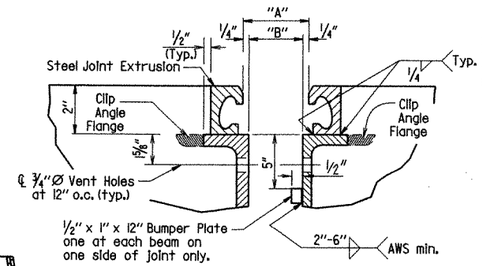
N.T.S.

Note:
Dimension "E" equals the width of opening in parapet at curb to allow for removal or repair of joint.



SECTION "C-C"

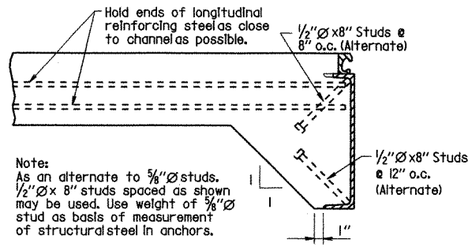
N.T.S.



DETAIL "Y"

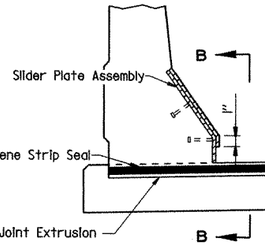
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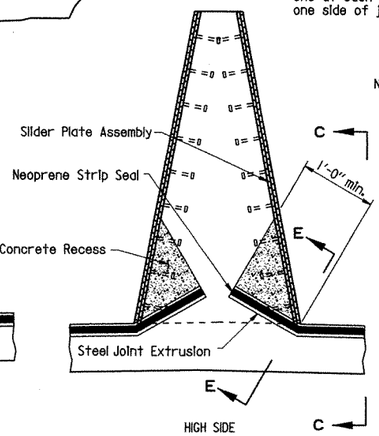
Note: Concrete shall be hand packed under the joint armor in each span.



ANCHOR DETAILS

N.T.S.





DETAIL OF NEOPRENE SEAL AT GUTTER

Scale: 1½" = 1'-0"

GENERAL NOTES

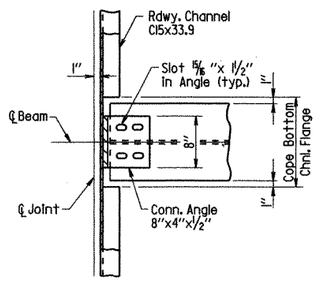
EXPANSION NEOPRENE STRIP SEAL: The expansion device shall provide a movement of 4" as shown in the "STRIP SEAL JOINT DATA" table. The expansion joint shall be capable of sealing the deck surface and parapet area to prevent moisture and other contaminants from descending through the joint.

Details of proposed slider plate assembly shall be submitted to and approved by the Engineer prior to the fabrication of any structural steel at the expansion device.

All structural steel shall be AASHTO M 270, Grade 36 unless otherwise noted. All exposed surfaces are to be cleaned in accordance with subsection 820.05(b), and then painted as directed in section 638, or as approved by the Engineer. Painting will not be paid for directly, but will be considered subsidiary to Structural Steel in Beam Spans (M270, GR. 50W). Structural steel completely embedded in concrete need not be painted.

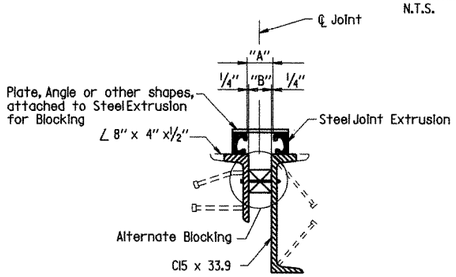
All structural steel, except for the steel extrusion for the strip seal, shall be paid for as "STRUCTURAL STEEL IN BEAM SPANS (M270, GR50W)". The steel extrusion and neoprene strip seal shall be paid for in accordance with Special Provision Job 061187 "ARMORED JOINT WITH NEOPRENE STRIP SEAL".

EXPANSION DEVICE INSTALLATION AT END BENTS:
The concrete span pour shall be placed before the end bent backwall concrete is placed. After beams or girders are erected the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature and grade, and the backwall constructed.



TYPICAL CHANNEL CONNECTION

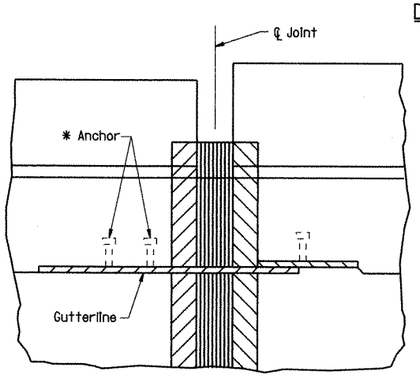
N.T.S.



DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

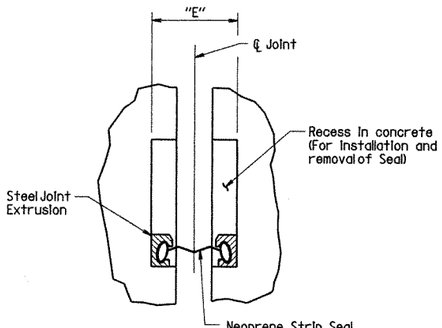
N.T.S.

Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension shown and the blocking details shall be shown on the Shop Drawings. The blocking shall not be removed until the Slab on one side is complete. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet. Removal shall be just before pouring the second side of the joint, as directed by the Engineer.



SECTION "D-D" AT END BENTS

N.T.S.



SECTION "E-E"

N.T.S.

STRIP SEAL JOINT DATA

Bent No(s).	Movement Rating (inch)	"A" Width Perpendicular to Joint at 24 Hour Average Temperature ** of :			"B" Width Perpendicular to Joint at 24 Hour Average Temperature ** of :			"C" Perpendicular to Joint at 24 Hour Average Temperature of 60° F
		40° F	60° F	80° F	40° F	60° F	80° F	
1 and 6	4"	2 11/16"	2½"	2 5/16"	2 3/16"	2"	1 13/16"	2½"

** The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature.

* Denotes:
The method of attachment of the slider plate assembly or similar device must be such that it may be removed in order to provide for future replacement of the neoprene seal.

Note:
Details of joint turn-up at Gutterline are general and show basic design controls only. See SP Job 061187, 'Armored Joint with Neoprene Strip Seal.'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
11/3/08
CHARLES P. BRAND

BRIDGE ENGINEER

SHEET 4 OF 5

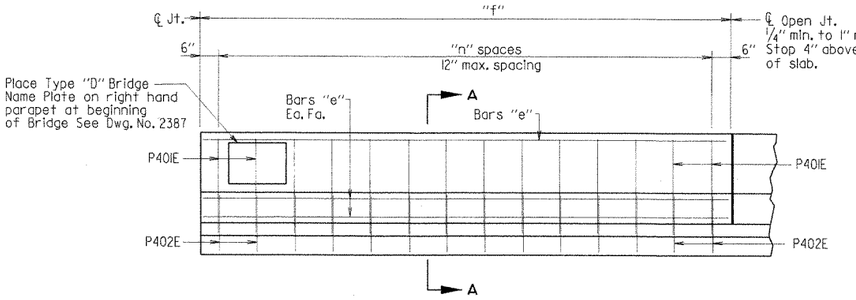
DETAILS OF
252' CONT. COMP. W-BEAM UNIT
WHITE RIVER RELIEF (WEST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: J.R.P DATE: 11-18-08 FILENAME: B60814XL.S4
CHECKED BY: J.G.T DATE: 11-25-08 SCALE: As Noted
DESIGNED BY: J.G.T DATE: 11-08

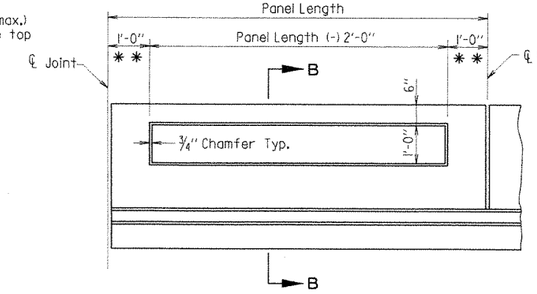
BRIDGE NO. 06893 DRAWING NO. 43667

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		102	165
				JOB NO.		061187		
				(1)	06893	CONT. W-BM. UNIT		43668



ELEVATION OF TYPICAL PARAPET RAIL-CLOSED PANEL

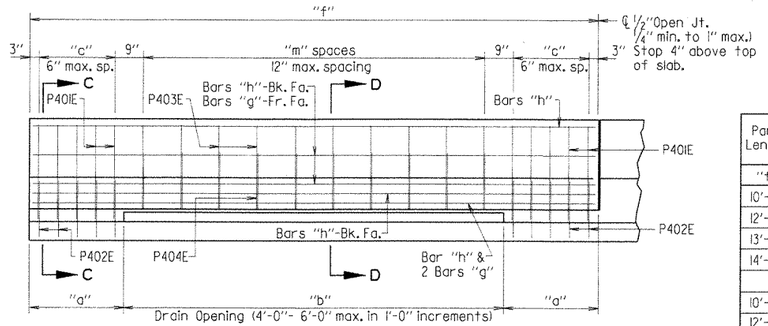
(As viewed from roadway side of parapet)
Scale: 1/2" = 1'-0"



PARAPET ENHANCEMENT DETAILS

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

** Denotes: Panel inset may be made continuous if slip forms are used.

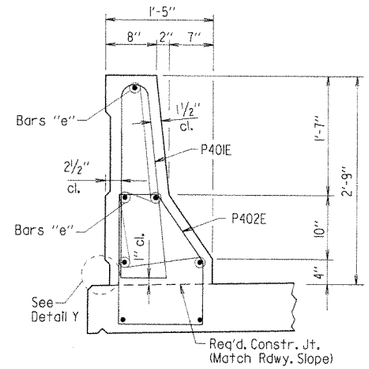


ELEVATION OF TYPICAL PARAPET RAIL-OPEN PANEL

(As viewed from roadway side of parapet)
Scale: 1/2" = 1'-0"

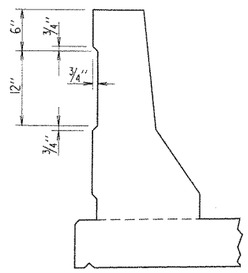
TABLE OF PARAPET VARIABLES

Panel Length	Closed Parapet Panel			Open Parapet Panel					
"f"	"n"	"d"	"e"	"a"	"b"	"c"	"m"	"g"	"h"
10'-0"	9	—	P407E	—	—	—	—	—	—
12'-0"	11	—	P408E	3'-0"	6'-0"	5	5	P405E	P601E
13'-0"	12	—	P409E	3'-6"	6'-0"	6	5	P406E	P602E
14'-0"	13	—	P410E	—	—	—	—	—	—
Median Barrier Panel									
10'-0"	14	R403E	—	—	—	—	—	—	—
12'-0"	17	R404E	—	—	—	—	—	—	—
13'-0"	18	R405E	—	—	—	—	—	—	—
14'-0"	20	R406E	—	—	—	—	—	—	—



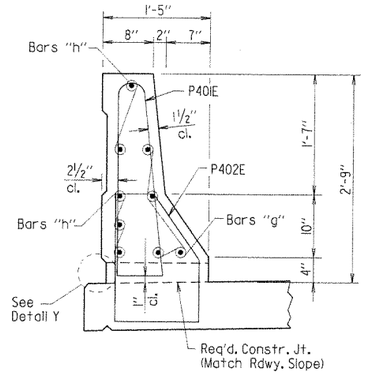
SECTION A-A

Scale: 1"=1'-0"



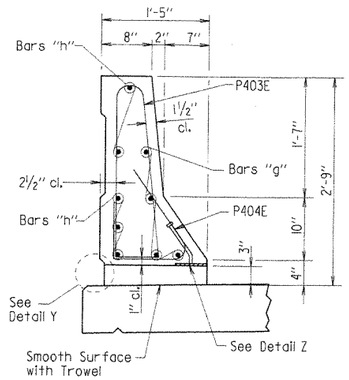
SECTION B-B

Scale: 1"=1'-0"



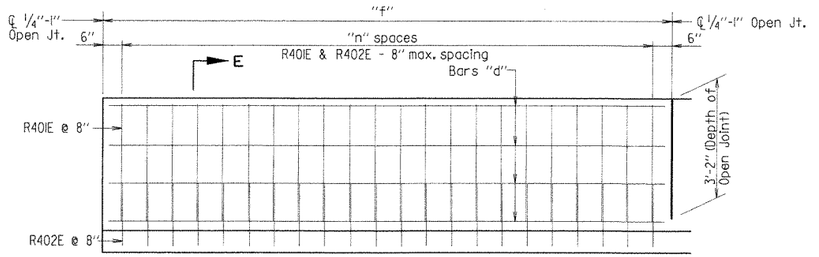
SECTION C-C

Scale: 1"=1'-0"



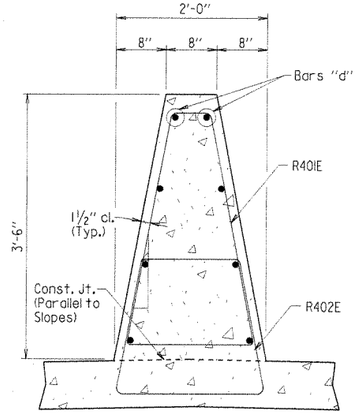
SECTION D-D

Scale: 1"=1'-0"



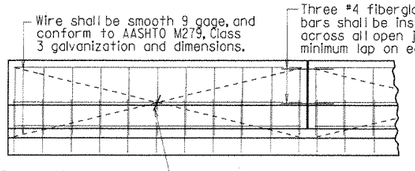
DETAILS OF MEDIAN RAIL

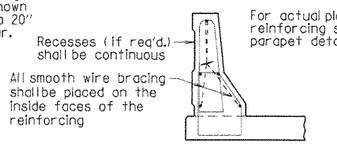
N.T.S.



SECTION E-E

Scale: 1"=1'-0"



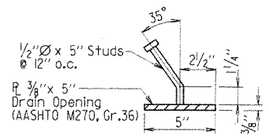


All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Sprayed Finish, in place of Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

N.T.S.

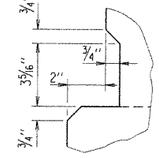


DETAIL Z

N.T.S.

Note:
Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plates shall be measured and paid for as Sturctural Steel in Steel in Beam Spans (M270, Gr. 50W)

The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly but will be considered subsidiary to Structural Steel in Beam Spans (M270, Gr.50W).



DETAIL Y

N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03

BRIDGE ENGINEER

SHEET 5 OF 5

DETAILS OF 252' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (WEST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

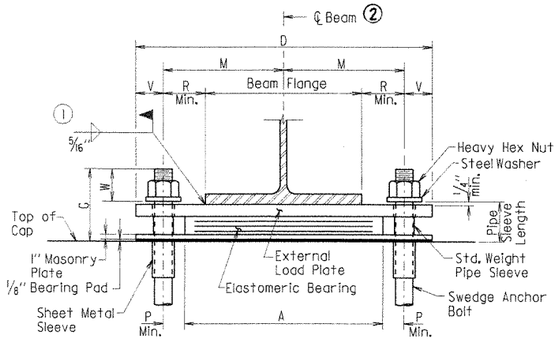
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B60II4X1.S5
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06893 DRAWING NO. 43668

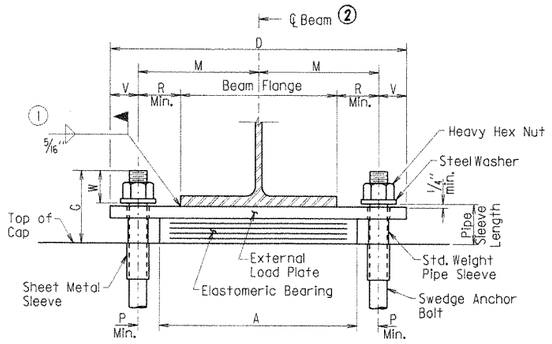
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		103	165
				JOB NO.		061187		
				① 06893		ELASTO. BRGS.		43669



FRONT "A" VIEW

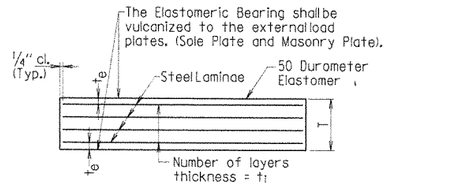
① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

△ ② C.L. *Elastomeric pad shall be aligned with C.L. Beam or C.L. Girder.*



FRONT "B" VIEW

① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

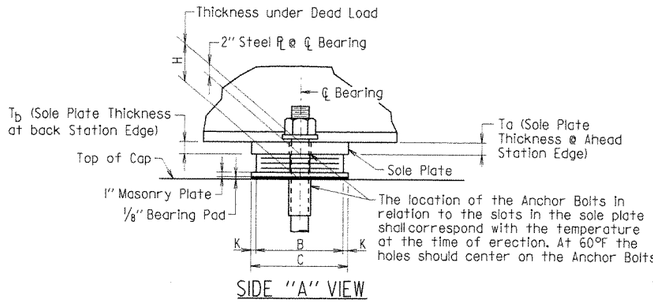


t_e = thickness of elastomer cover on top and bottom of pad
t_j = thickness of elastomer between steel laminae
N = number of elastomer layers of thickness t_j

ELASTOMERIC BEARING

TABLE OF DESIGN VARIABLES △

ANCHOR BOLT DIAMETER	PIPE SLEEVE NOMINAL DIAMETER	SHEET METAL SLEEVE DIA.	STANDARD WASHER SIZE (O.D.)	MINIMUM EMBEDMENT LENGTH	SLOT WIDTH "F"	P Min.	R Min.	V	W
1¼"	1¼"	3"	2½"	12"	2" Ø	2"	2¼"	2½"	2¼"
2"	2½"	4"	3¾"	20"	3⅛" Ø	2¾"	3"	3¼"	3"



SIDE "A" VIEW

Note:
Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurate set and fixed using a QPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the item "Structural Steel in Beam Spans, (M270, Gr. 50W)"

GENERAL NOTES

△ **Elastomeric Bearings shall conform to Section 808 and SP Job 061187 "Elastomeric Bearings" and shall be paid for at the unit price bid for "Elastomeric Bearings". Long duration testing of random lot samples as specified in subsection 808.05 is not required.**

External load plates (sole plate and masonry plate) shall conform to AASHTO M270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M232, Class C or AASHTO M298, Class 50.

External load plates *and masonry plates* shall be completely fabricated (including bevel and bolts holes and all shop welding) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Section 808.03. Other surfaces shall be blast cleaned in accordance with subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washer and Nuts shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".

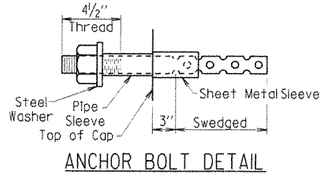
All external load plates, masonry plates, and 1/8" Bearing pads will not be paid for separately but will be included in the unit price bid for "Elastomeric Bearings".

Bearings with masonry plates and 1/8" bearing pads shall be firmly seated in accordance with Subsection 807.66 of the Standard Specifications. This work and material shall be considered subsidiary to the item "Elastomeric Bearings" and shall not be paid for directly.

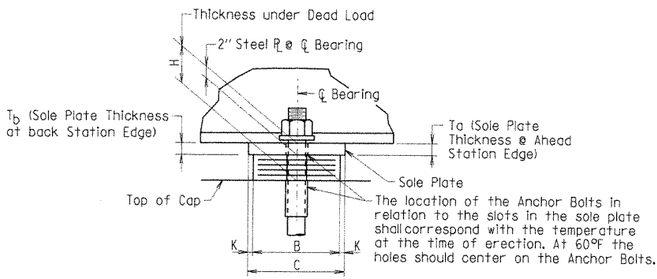
PLAN "A" VIEW

PLAN "B" VIEW

Note:
Unless otherwise approved by the Engineer, welding of the external load plate at the expansion bearings to the girder will be allowed only when: 1) the appoximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



ANCHOR BOLT DETAIL



SIDE "B" VIEW

TABLE OF FABRICATOR VARIABLES △

BRIDGE NO.	LOCATION: BENT NO(S).	LOCATION: BEAM OR GIRDER NO.	BEARING TYPE	BEARING	NO. of BEARINGS EACH BENT	* MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD: A	B	N	t_j	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE: C	D	E	F	K	M	T_a	T_b	ANCHOR BOLT: ANCHOR BOLT (Ø x L)	GRADE	PIPE SLEEVE SIZE (Ø x L)	SHEET METAL SLEEVE SIZE (Ø x L)	STEEL WASHER SIZE (O.D.)
06893	1	ALL	EXP	A	11	63	8⅛"	5⅝"	13"	10"	3	½"	¼"	4 @ 12 GA.	2⅞16"	11"	22"	4"	2"	½"	8½"	1⅝"	2⅛"	1¼" X 21"	55	1¼" X 5⅝"	3" X 6"	2½"
	2	ALL	EXP	A	11	110	8⅛"	5½"	13"	15"	3	½"	¼"	4 @ 12 GA.	2⅞16"	16"	22"	3½"	2"	½"	8½"	1⅝"	2⅜"	1¼" X 21"	55	1¼" X 5¾"	3" X 6"	2½"
	3	ALL	FIX	B	11	125	7¾"	4⅜"	13"	15"	3	½"	¼"	4 @ 12 GA.	2⅞16"	16"	25"	3⅛"	3⅛"	½"	9¼"	1⅞"	2⅛"	2" X 28"	55	2½" X 4⅛"	4" X 6"	3¾"
	4	ALL	FIX	B	11	125	7¾"	4⅜"	13"	15"	3	½"	¼"	4 @ 12 GA.	2⅞16"	16"	25"	3⅛"	3⅛"	½"	9¼"	1⅞"	2⅛"	2" X 28"	55	2½" X 4⅛"	4" X 6"	3¾"
	5	ALL	EXP	A	11	110	8⅛"	5½"	13"	15"	3	½"	¼"	4 @ 12 GA.	2⅞16"	16"	22"	3½"	2"	½"	8½"	1⅞"	2⅛"	1¼" X 21"	55	1¼" X 5¾"	3" X 6"	2½"
	6	ALL	EXP	A	11	63	8⅛"	5⅝"	13"	10"	3	½"	¼"	4 @ 12 GA.	2⅞16"	11"	22"	4"	2"	½"	8½"	1⅝"	2⅛"	1¼" X 21"	55	1¼" X 5⅝"	3" X 6"	2½"

* Maximum Design Load = Service Load (kips)





BRIDGE ENGINEER

△ Denotes a responsibility of PE Seal dated 11/25/08

DETAILS OF ELASTOMERIC BEARINGS
WHITE RIVER RELIEF (WEST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: PJ DATE: 04-17-03 FILENAME: B60II4XI.BRG
CHECKED BY: J.A. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: K.C. DATE: 04-17-03

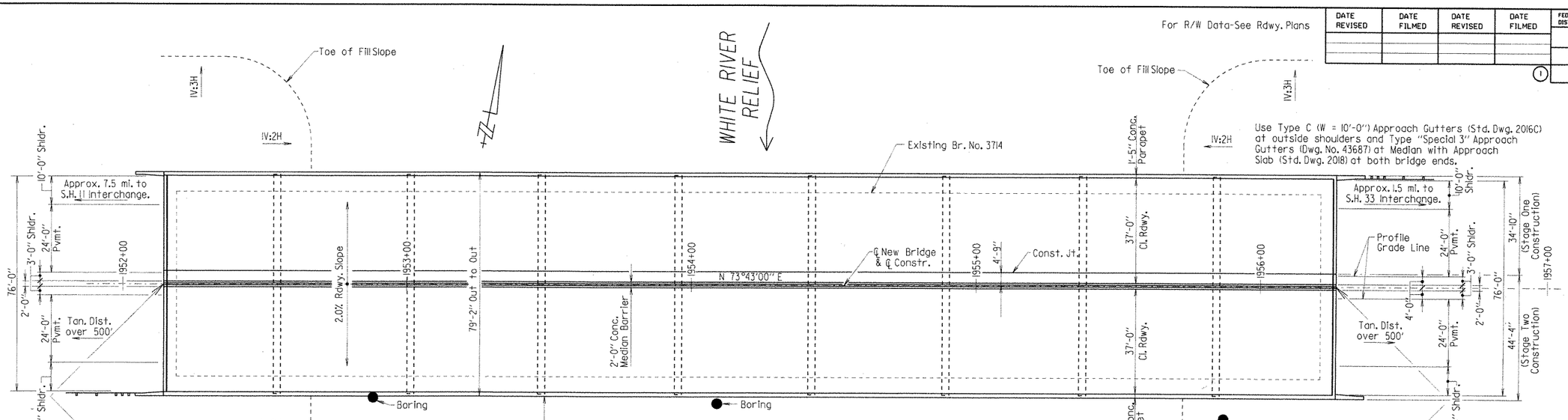
BRIDGE NO. 06893 DRAWING NO. 43669

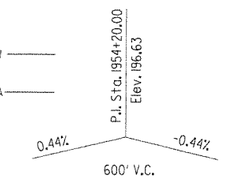
For R/W Data-See Rdwy. Plans

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

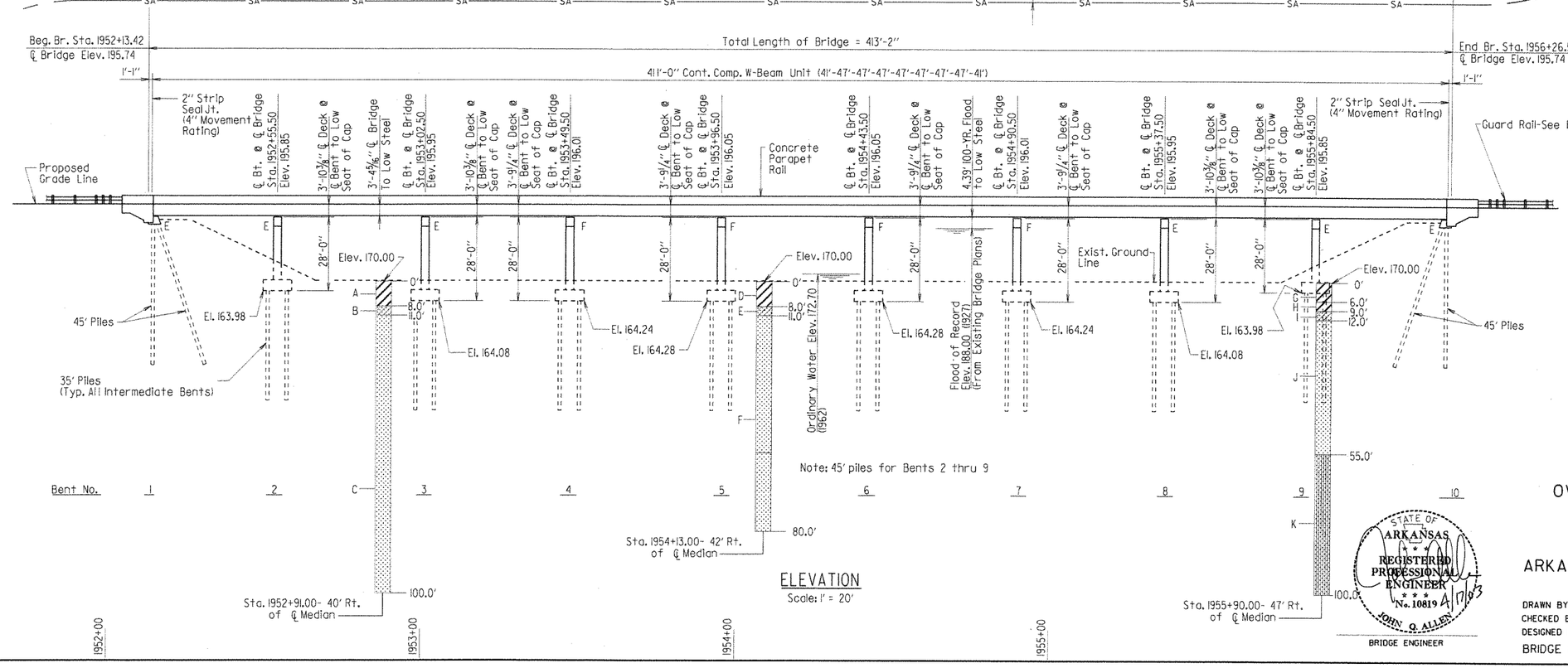
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		184	165
JOB NO.		061187		
1	06894	LAYOUT		43670

Use Type C (W = 10'-0") Approach Gutters (Std. Dwg. 2016C) at outside shoulders and Type "Special 3" Approach Gutters (Dwg. No. 43687) at Median with Approach Slab (Std. Dwg. 2018) at both bridge ends.





VERTICAL CURVE DATA
(along profile grade line)



ELEVATION
Scale: 1" = 20'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
BRIDGE ENGINEER

SHEET 1 OF 2

LAYOUT OF BRIDGE OVER WHITE RIVER RELIEF (EAST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B60114X2.LI
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06894 DRAWING NO. 43670

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		105	165
				JOB NO.		061187		
				(1) 06894		LAYOUT		43671

BORING LEGEND

A-Firm gray and brown clay, slightly sandy w/ferrous stains.
B-Loose gray clayey fine sand w/ferrous staining.
C-Loose gray fine sand w/ferrous staining
-medium dense at 18 to 28 ft.
-dense at 18 to 28 ft.
-dense below 28 ft.
-w/some organics below 48 ft.
-w/gravel seams at 66 to 67 ft.
-w/fine gravel seam 83 ft.
-w/fine gravel seam at 91 ft..
D-Firm gray and brown clay, slightly sandy w/ferrous staining and nodules
-stiff below 4 ft.
-w/more sand below 6.5 ft.
E-Loose gray clayey sand.
F-Loose gray fine sand
-medium dense at 12 to 28 ft.
-less silty below 19 ft.
-dense below 28 ft.
-w/some lignite partings below 32 ft.
G-Dense gray fine sand
-w/thin bedded gravel partings, seams and layers at 67 to 69 ft.
H-Firm brown and gray clay w/ferrous staining
I-Stiff to firm gray and brown fine sandy clay
J-Loose to medium dense clayey fine sand w/ferrous staining
K-Loose gray fine sand w/ferrous staining
-medium dense at 18 to 28 ft.
-dense below 28 ft.
-w/trace fine gravel below 40 ft.
L-Dense gray fine sand
-w/frequent gravel seams at 67 to 68 ft
-gravel seam at 83 to 84 ft.
-gravel seam at 92 ft.

"N" VALUES

Sta. 1952+91.00' 40' Rt.
℄ Median

0.5-1.5,	N=0
12.0-13.0,	N=8
19.0-20.0,	N=20
24.0-25.0,	N=22
29.0-30.0,	N=50/10"
34.0-35.0,	N=50/10"
39.0-40.0,	N=30
44.0-45.0,	N=50/10"
49.0-50.0,	N=50/8"
54.0-55.0,	N=50/8"
59.0-60.0,	N=50/8"
64.0-65.0,	N=50/8"
69.0-70.0,	N=50/7"
74.0-75.0,	N=50/7"
79.0-80.0,	N=50/6"
84.0-85.0,	N=50/5"
89.0-90.0,	N=50/5"
94.0-95.0,	N=50/4"
99.0-100.0,	N=50/4"

"N" VALUES

Sta. 1954+13.00-42' Rt.
℄ Median

0.5-1.5,	N=0
12.0-13.0,	N=9
19.0-20.0,	N=14
24.0-25.0,	N=16
29.0-30.0,	N=35
34.0-35.0,	N=40
39.0-40.0,	N=25
44.0-45.0,	N=44
49.0-50.0,	N=50
54.0-55.0,	N=50/10"
59.0-60.0,	N=50/10"
64.0-65.0,	N=50/10"
69.0-70.0,	N=50/9"
74.0-75.0,	N=50/8"
79.0-80.0	N=50/8"

"N" VALUES

Sta. 1955+90.00-47' Rt.
℄ Median

0.5-1.5,	N=0
12.0-13.0,	N=9
19.0-20.0,	N=16
24.0-25.0,	N=16
29.0-30.0,	N=42
34.0-35.0,	N=34
39.0-40.0,	N=42
44.0-45.0,	N=40
49.0-50.0,	N=50/11"
54.0-55.0,	N=50/10"
59.0-60.0,	N=50
64.0-65.0,	N=50/11"
69.0-70.0,	N=50/9"
74.0-75.0,	N=50/9"
79.0-80.0,	N=50/8"
84.0-85.0,	N=50/6"
89.0-90.0,	N=50/6"
94.0-95.0,	N=50/8"
99.0-100.0,	N=50/8"

GENERAL NOTES

BENCH MARK: Elevations and stations are assumed to be the same as shown on the original plans. The original layout shows the elevation at the top of the deck and offset 4' either side of centerline of existing bridge to be at Elev. 194.44' at Sta. 1952+18.91 (Beg. of Br. 6894).

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 Specification unless otherwise noted in the Plans.

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

LIVE LOADING: HS20 & Military — METHOD OF DESIGN: Load Factor
SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c= 4,000 psi
Class S Concrete (substructure)	f'c= 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy= 60,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy= 36,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy= 50,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

PILING: Piling for Bents 1, and 10 shall be 16" oct. or 14" square precast concrete and shall be driven to a minimum safe bearing capacity of 44 tons per pile. Piles in end bents to be driven after embankment to bottom of cap is in place. Piles in bents 2 thru 9 shall be 18" square precast concrete and shall be driven to a minimum safe bearing capacity of 60 tons per pile. Piles in bents 2 thru 9 shall be driven to a minimum penetration of 20' below bottom of footing. All piling shall be driven with an approved air, stream or diesel hammer. Lengths of piling shown are for estimating quantities only. Actual lengths to be determined in the field. Drive one 40' test pile in Bent 5 and one 50' test pile in Bents 1 and 10.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

SURFACE TREATMENT: A Class 1 Protective treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

DETAIL DRAWINGS:	DRAWING NO.
41' Cont. Comp. W-Beam Unit	43667-43681
End Bents	43674-43675
Int. Bents	43676

△ REMOVAL AND SALVAGE: Existing Bridge No. 3714 shall be removed in accordance with Secton 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor with the exception of the Bridge Rail and Posts which shall be retained by the District.

MAINTENANCE OF TRAFFIC: See Details of Construction Sequence (Dwg. No. 43659) Also, see roadway plans for additional maintenance of Traffic sequencing.

△ Denotes a responsibility of PE Seal dated 11/25/08

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4357
CHARLES P. BRAND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
BRIDGE ENGINEER

SHEET 2 OF 2

LAYOUT OF BRIDGE OVER WHITE RIVER RELIEF (EAST)

CACHE RIVER-WEST (F)
PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B6011 4X2.GN
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06894 DRAWING NO. 43671

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			106	165
JOB No.	061187				
3714	LAYOUT			43672	

PLAN

ELEVATION

Notes: Roadway cross slope (-0.039 ft/ft) to be transitioned to the Bridge cross slope (-0.010 ft/ft) in the approach slabs.
Median curb height to be transition from 9" (Roadway) to 12" (Bridge) in the approach slab.
Roadway Elevations shown thus ( ) are Top of slab elevation at T.G.L.
Spur Dike Riprap quantities are included with the structure.
Use Type "A" Exp. or fixed shoes at all Intermediate Bents #2 thru #8.
Use Type "B" Fixed shoes at End Bents #1 & #9.
No thickening of pile tips required.
Drains to be placed in all spans.

PVI WB & EB
Sta. 1954+20
Elev. 195.40
V.C. = 600'
M.O. = 0.66
+0.44 % −0.44 %

Total length of Bridge = 402'-2½"
8 Composite I-Beam Spans 50'-0" Long = 400'-0"

Beginning of Bridge Sta. 1952+18.91 (El. 194.44)
End of Bridge Sta. 1956+21.09 (El. 194.44)

Bent No. 2 Sta. 1952+70 (El. 194.58)
Bent No. 3 Sta. 1953+20 (El. 194.67)
Bent No. 4 Sta. 1953+70 (El. 194.72)
Bent No. 5 Sta. 1954+20 (El. 194.74)
Bent No. 6 Sta. 1954+70 (El. 194.72)
Bent No. 7 Sta. 1955+20 (El. 194.67)
Bent No. 8 Sta. 1955+70 (El. 194.58)

Metal (Alum.) Bridge Railing – Alt #1
Metal (Steel) Bridge Railing – Alt #2

Guard Fence see Roby Plan
Beam El. 190.46
Flood of Record El. 188.0 (1927)
Water El. 172.7 (May 4, 1962)
Approx. Exist. Ground
Vertical Piles Length = 50'
Stone Riprap
Elev. 190.0 Upper Limit of Stone Riprap except under the Bridge (Typ. all corner)
Conc. Bent (Typ.)
El. 163.68
El. 163.77
El. 163.82
El. 163.84
El. 163.82
El. 163.77
El. 163.68
3'-0" Min. (Typ.)
3'-4" Min. Cl.
Batter Piles 4:12 Length = 51'
Pushed
Soft Brown Moist Silt and Clay. Lt. f. sand
Silty: ... wet Fine sand
Loose: ... wet Med. Fine Sand
Med. Soft Brown Gray Moist Silt and Clay, fr. f. sand
Loose Gray wet Med. Fine sand
All Piles in Bent Nos 2 thru 8 = 45' Long (Except Test Piles see General Notes)
51'

N - Number of Blows per 1.0 ft on 2" O.D. Shelby sample spoon
● Denotes Boring Locations
* From T&L to low side of Cap, includes ½" for Brg. pad (Typ. all Int. Bents)
# From T&L to low steel.

Spans 1 2 3 4 5 6 7 8
Bent Nos (1) (2) (3) (4) (5) (6) (7) (8) (9)

1952+00 1953+00 1954+00 1955+00 1956+00

REFERENCES

For Superstructure Details see Dwg No. BRS-2
For Details of Stone Riprap see Std. No. SD-1
For Details of Spur Dike see Std. #6 & #23
For End Bent Details see Dwg #- BRS-3
For Int. Bent Details see Dwg #- BRS-4
For Prestressed Concrete Pile Details see Dwg # 2882
For Approach Slab & Gutter Details see Dwg # ASG-1
For Right of way see Roadway Plans
For Summary of Bridge Quantities see Dwg # SQ-1

GENERAL NOTES

Specifications:
Arkansas State Highway Commission Standard Specifications for Highway Construction adopted Dec. 9, 1959
Design Loading
M 320-44 A.A.S.H.O 1961 & Special Interstate Loading: 2-24,000 lb. Axles at 4'-0 Centers
Allowable Stresses:

Class A Concrete (n=15)	840 #/□"
Class S Concrete (n=10)	1,200 #/□"
Reinforcing Steel	20,000 #/□"
Structural Steel (A-36)	20,000 #/□"

All Piles to be 16" Octagonal Precast concrete Piles
Piles in End Bents to be driven after the Embankment is in place to subgrade.
Lengths of Piling shown are for Estimating Purposes only. Actual lengths to be determined in the field.
Drive one 50' Test Pile in Bents No. 2, 4, 6 & 8
All Piles to be driven to a Minimum Bearing of 36 Ton/pile.
All Piles to be driven with an Approved air, steam or diesel hammer
All Piles shall have a minimum depth of penetration into existing ground of 10'-0

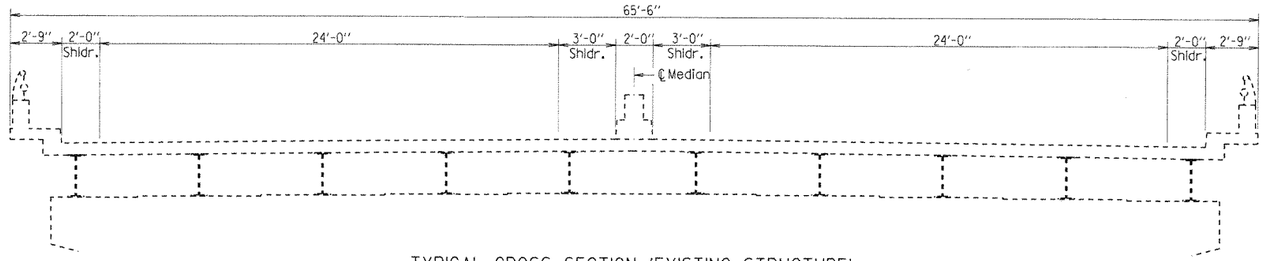
FOR INFORMATION ONLY!

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
INTERSTATE ROUTE 40 SECTION
LAYOUT OF WHITE RIVER RELIEF
AT STA. 1954+20

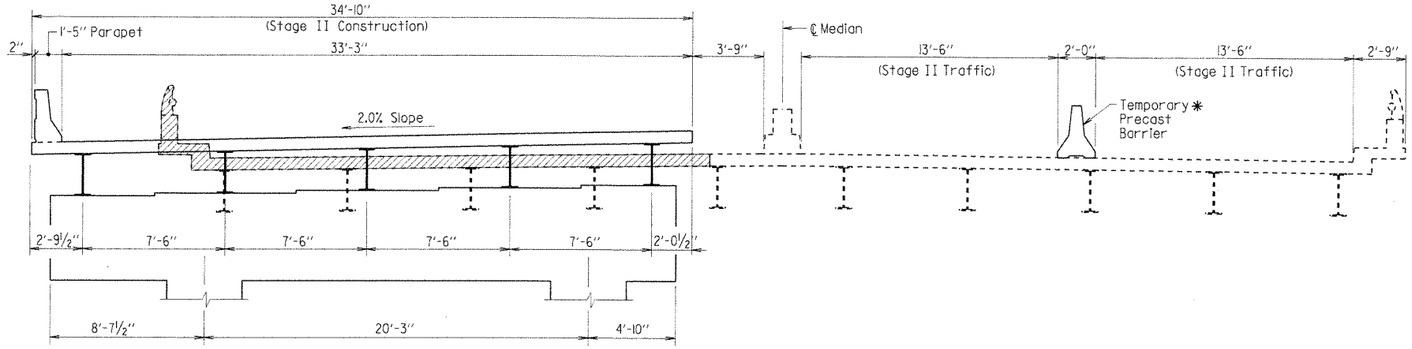
BRIDGE NO. 3714 AND DWG. NO 43672	SCALE 1"=20' DATE	BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS
DRAWING NO. ERS-1		

200-79

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		107	165
				JOB NO.		061187		
				(1)	06894	CONST. SEQ.		43673

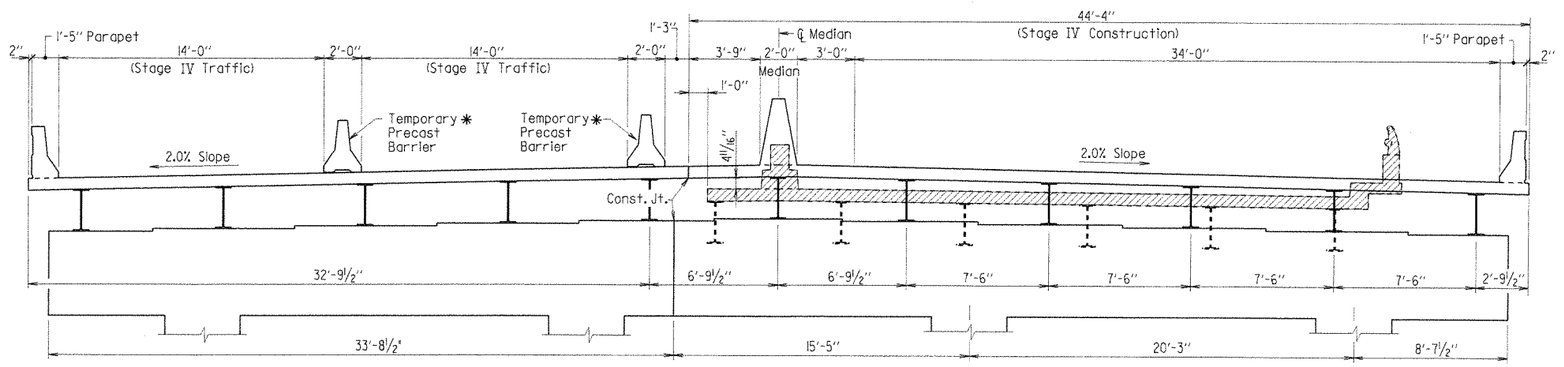


TYPICAL CROSS SECTION (EXISTING STRUCTURE)



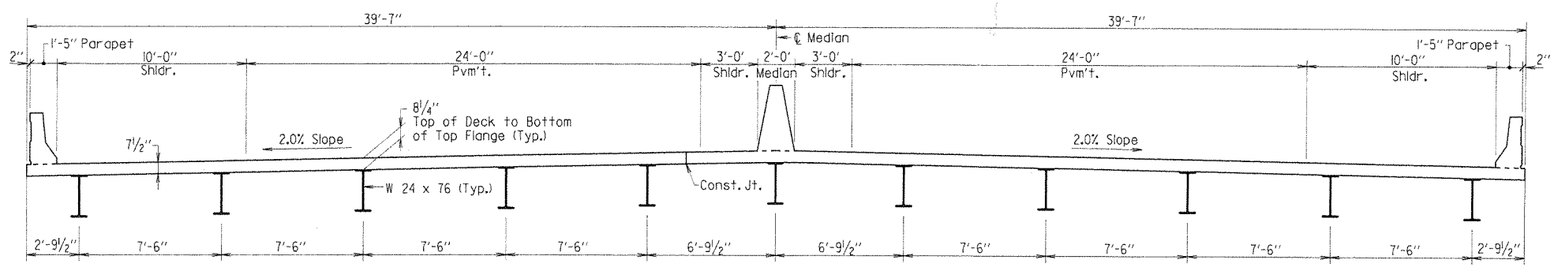
TYPICAL CROSS SECTION (STAGE II CONSTRUCTION)

▨ Denotes: Removal of Structure



TYPICAL CROSS SECTION (STAGE IV CONSTRUCTION)

▨ Denotes: Removal of Structure



TYPICAL CROSS SECTION (NEW STRUCTURE)

Note:
See Roadway Plans for complete list of Construction Stages.

✱ Denotes: Temporary Precast Barrier to be connected to existing and new bridge decks as shown on Std. Dwg. TC-4

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03
BRIDGE ENGINEER

DETAILS OF CONSTRUCTION SEQUENCE WHITE RIVER RELIEF (EAST) CASHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

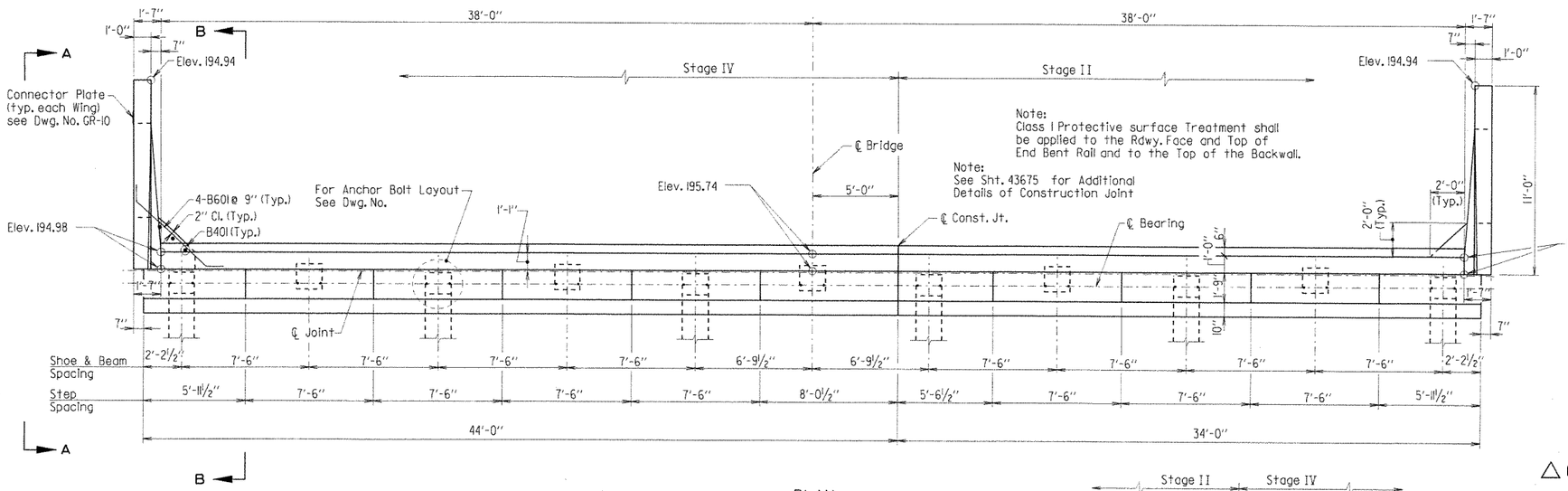
ARKANSAS STATE HIGHWAY COMMISSION

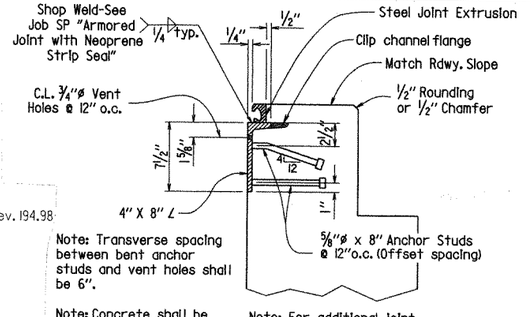
LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B60II4X2.CS
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06894 DRAWING NO. 43673

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		108	165
				JOB NO.		061187		
				①	06894	END BENT		43674





DETAIL Z △
No Scale

△ Denotes a responsibility of PE Seal dated 11/25/08

GENERAL NOTES

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

All reinforcing steel shall conform to AASHTO M31 or M53, Gr. 60.

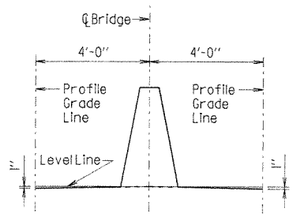
Backwall shall not be poured before girders are in place.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)".

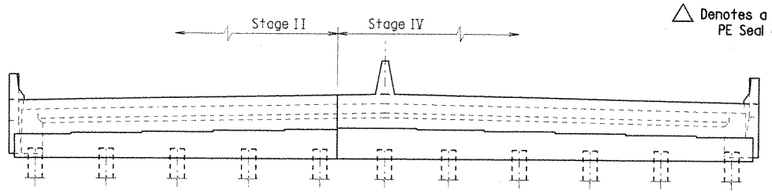
If anchor bolts are drilled into cap, top reinforcing bars shall be properly spaced to avoid damage.

For additional information, see Layout.

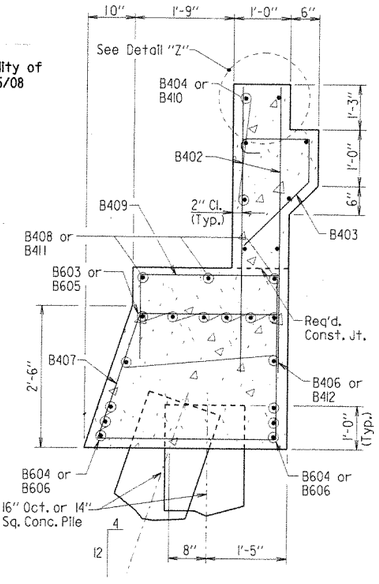
PLAN
Scale: ¼" = 1'-0"



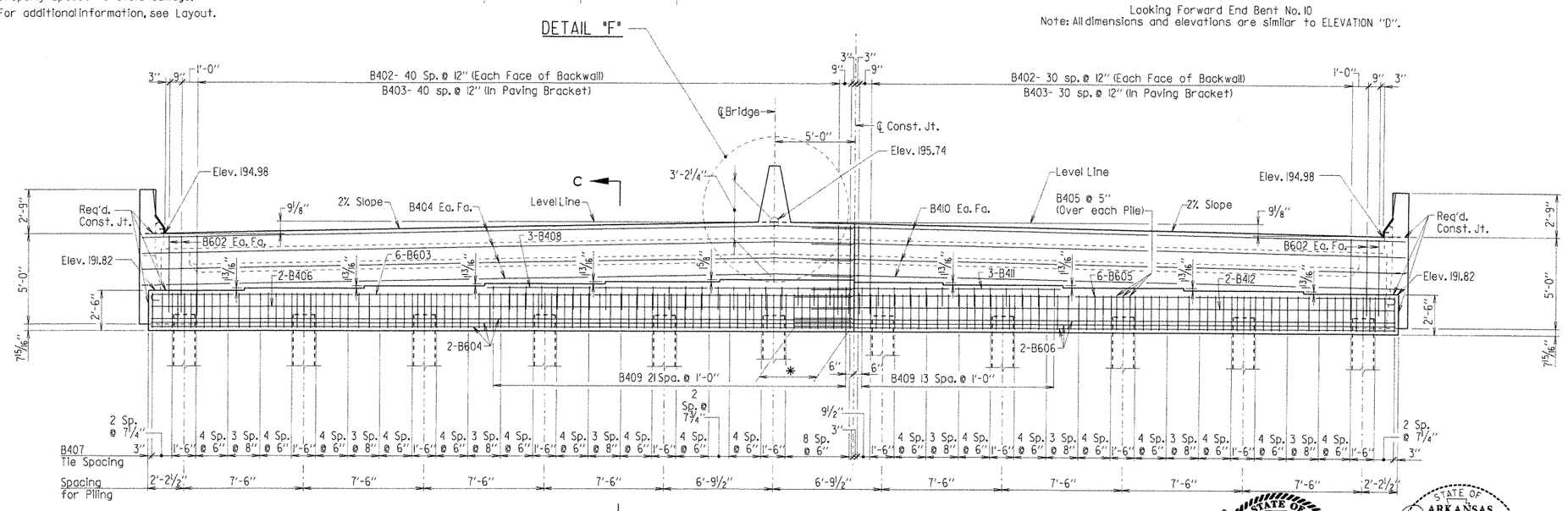
DETAIL "F"



ELEVATION "E"
N.T.S.
Looking Forward End Bent No. 10
Note: All dimensions and elevations are similar to ELEVATION "D".



SECTION C-C
Scale: ¾" = 1'-0"



ELEVATION "D"
Scale: ¼" = 1'-0"
Looking Back End Bent No. 1
✱ Denotes: Lap No. 4 Bars 2'-6" Min.
Lap No. 6 Bars 3'-7" Min.

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

STATE OF ARKANSAS
JOHN Q. ALLEN
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No. 10819
4/17/03
BRIDGE ENGINEER

SHEET 1 OF 2

DETAILS OF END BENTS NO. 1 & 10 WHITE RIVER RELIEF (EAST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

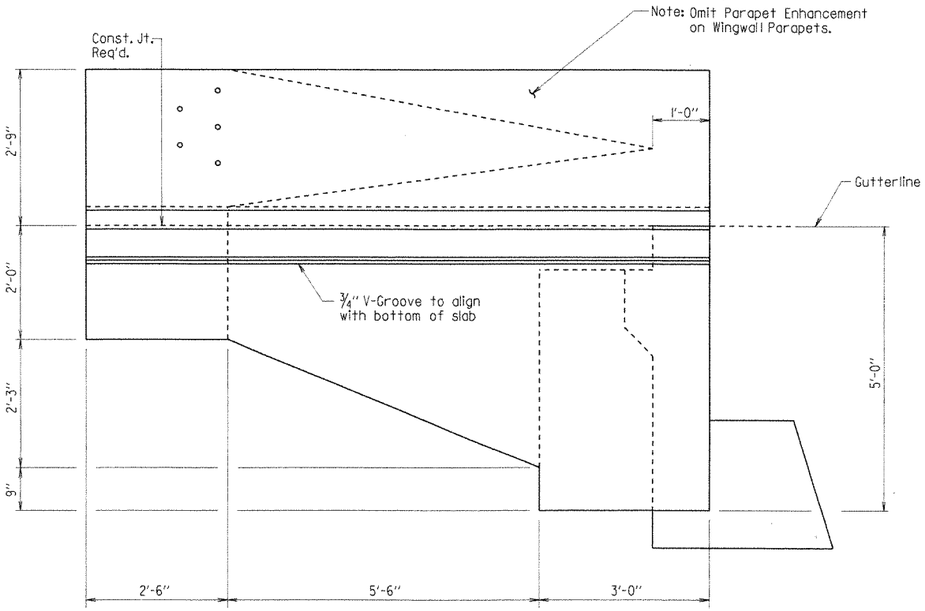
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

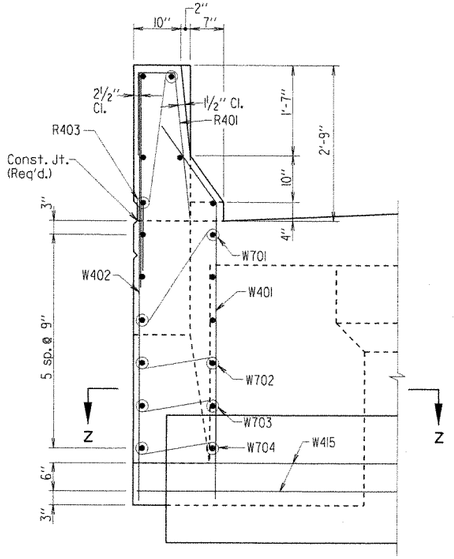
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CHECKED BY: K.C.	DATE: 04-17-03	SCALE:	As Noted
DESIGNED BY: J.A.	DATE: 04-17-03		

BRIDGE NO. 06894 DRAWING NO. 43674

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		109	165
				JOB NO.		061187		
				①	06894	END BENT		43675



VIEW A-A
N.T.S.

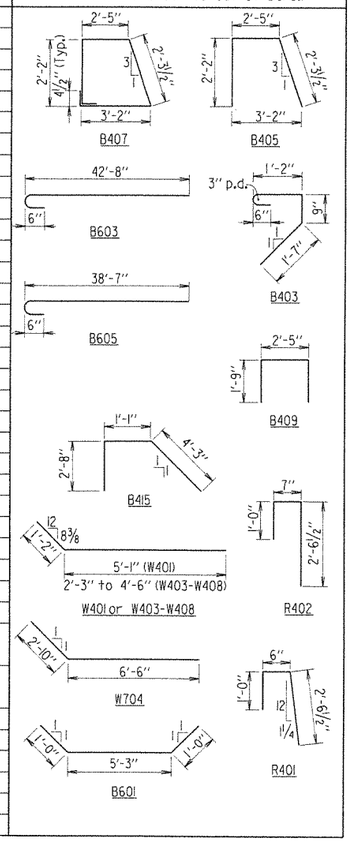


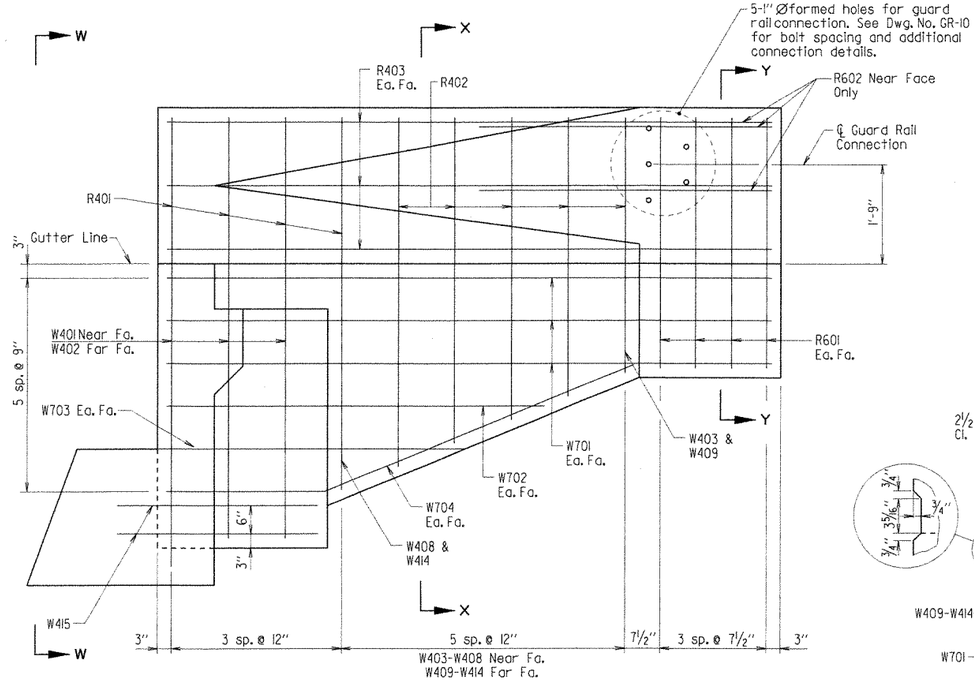
VIEW W-W
N.T.S.

MARK	NO. REQ'D.	LENGTH	Pin. Dia.
B401	6	3'-11"	str.
B402	148	5'-0"	str.
B403	74	3'-11"	2"
B404	8	44'-3"	str.
B405	33	6'-9"	2"
B406	2	43'-8"	str.
B407	124	10'-5"	2"
B408	3	22'-8"	str.
B409	36	5'-9"	2"
B410	8	37'-1"	str.
B411	3	15'-7"	str.
B412	2	36'-6"	str.
B601	8	7'-3"	4 1/2"
B602	8	5'-0"	str.
B603	6	44'-4"	4 1/2"
B604	6	43'-8"	str.
B605	6	38'-3"	4 1/2"
B606	6	37'-7"	str.
R401	8	3'-11"	2"
R402	10	4'-0"	2"
R403	12	10'-8"	str.
R601	16	4'-5"	str.
R602	6	5'-0"	str.
W401	6	6'-3"	2"
W402	6	7'-5"	str.
W403 to W408	2 ea.	3'-5" to 5'-8"	2"
W409 to W414	2 ea.	4'-6" to 6'-9"	str.
W415	4	7'-11"	str.
W701	12	10'-8"	str.
W702	4	6'-11"	str.
W703	4	5'-1"	str.
W704	4	9'-4"	5 1/4"

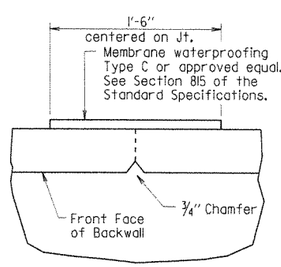
BAR LIST PER END BENT

BENDING DIAGRAMS
(Dimensions are out to out of bars.)



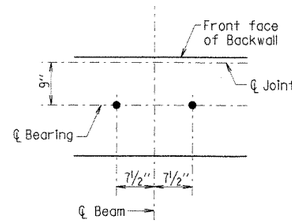


SECTION B-B
N.T.S.



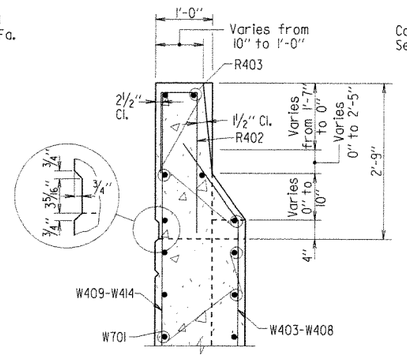
CONSTRUCTION JOINT DETAIL
N.T.S.

Note:
The Membrane Waterproofing Will Not Be Paid For Separately, But Will Be Considered Subsidiary To Class 'S' Concrete-Bridge

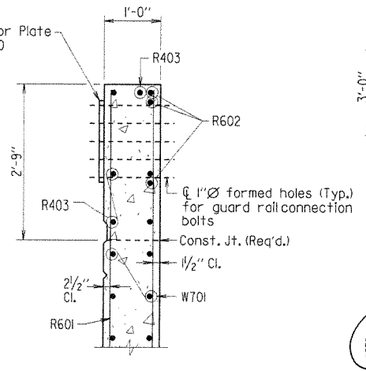


TYPICAL ANCHOR BOLT LAYOUT
N.T.S.

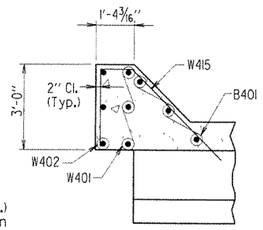
Note:
For Details of Elastomeric Bearings, see Dwg. No. 43682



SECTION X-X
N.T.S.



SECTION Y-Y
N.T.S.



SECTION Z-Z
N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
12/1/01

BRIDGE ENGINEER

SHEET 2 OF 2

DETAILS OF END BENTS NO. 1 & 10 WHITE RIVER RELIEF (EAST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

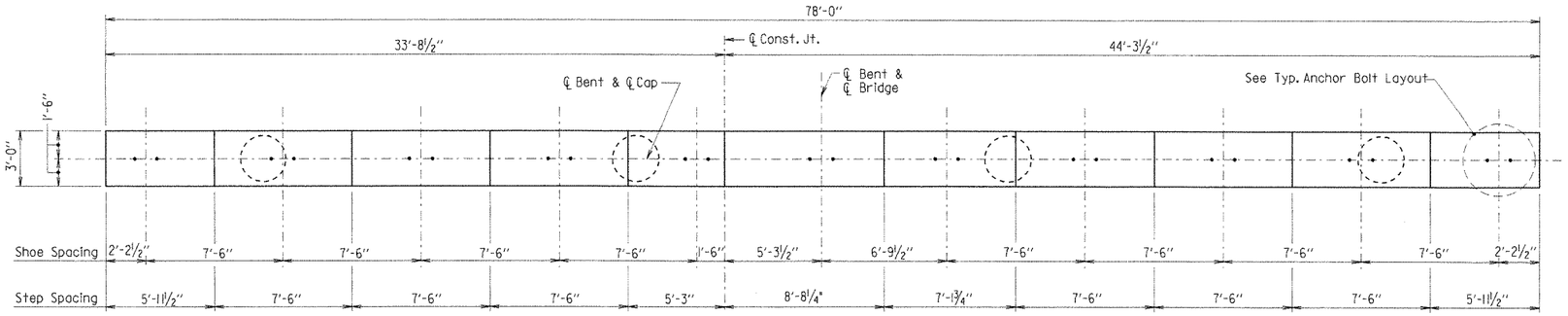
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

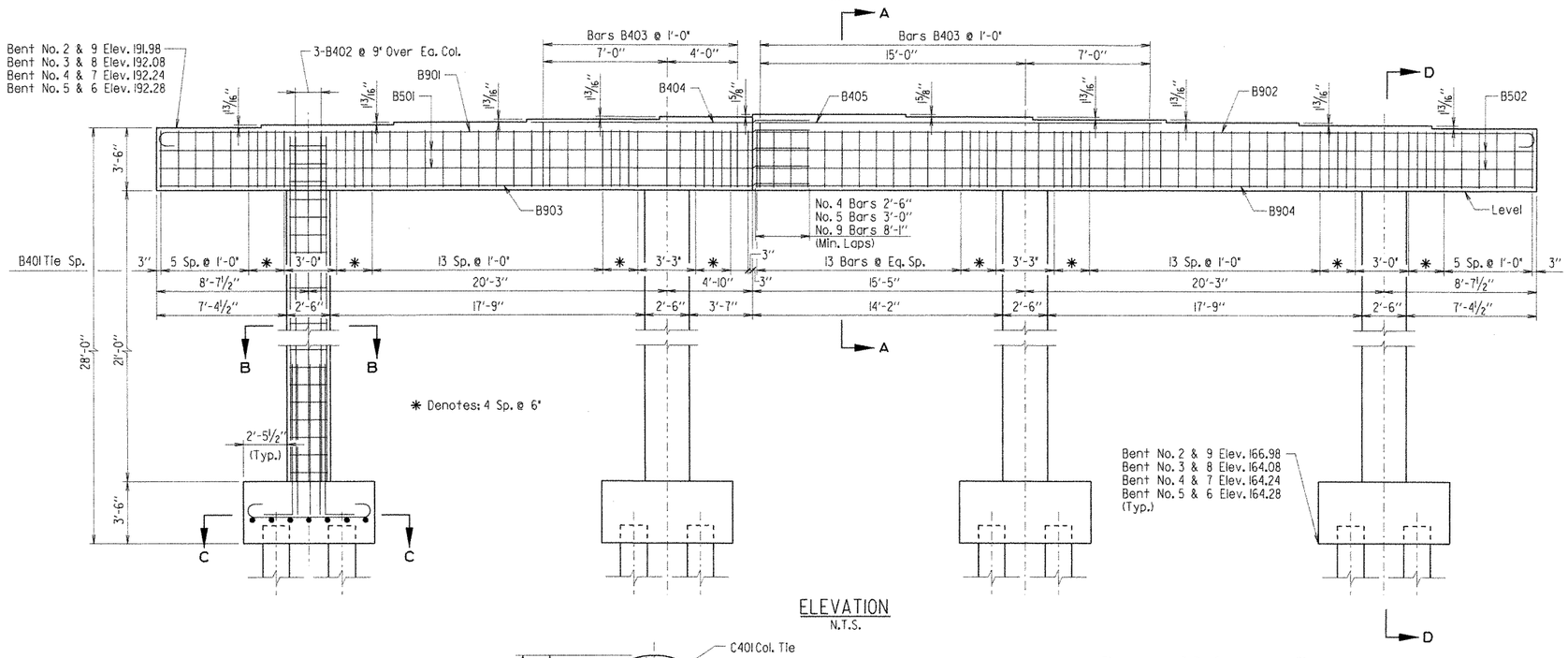
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CHECKED BY: K.C. DATE: 12-01-01 SCALE: As Noted
DESIGNED BY: J.A. DATE: 12-01-01

BRIDGE NO. 06894 DRAWING NO. 43675

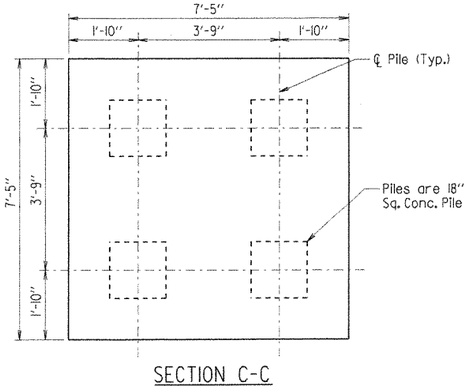
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				JOB NO.		061187		
				①	A&B06872	INT. BENTS		43676



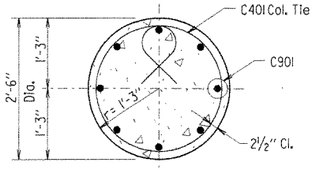
PLAN
N.T.S.



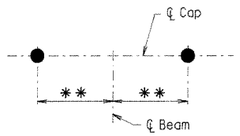
ELEVATION
N.T.S.



SECTION C-C
N.T.S.



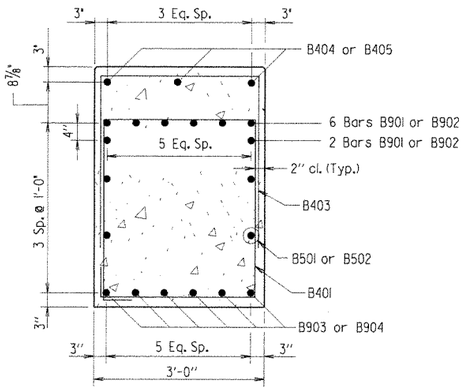
SECTION B-B
N.T.S.



TYPICAL ANCHOR BOLT LAYOUT
N.T.S.

** Bents 2, 3, 8, & 9: 7½"
Bents 4, 5, 6, & 7: 8¼"

Note:
For Details of Elastomeric Bearings, see Dwg. No. 43682

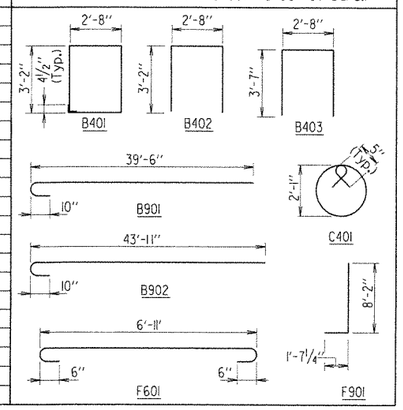


SECTION A-A
N.T.S.

BAR LIST (PER BENT)

MARK	NO. REQ'D.	LENGTH	Pin. Dia.
B401	88	12'-0"	2"
B402	12	8'-10"	2"
B403	35	9'-8"	2"
B404	3	14'-3"	str.
B405	3	23'-0"	str.
B501	4	35'-8"	str.
B502	4	43'-11"	str.
B901	8	40'-11"	9"
B902	8	45'-2"	9"
B903	6	39'-8"	str.
B904	6	43'-11"	str.
C401	96	7'-7"	3"
C901	32	24'-0"	str.
F601	56	8'-3"	4½"
F901	32	9'-6"	9"

BENDING DIAGRAMS
(Dimensions are out to out of bars.)



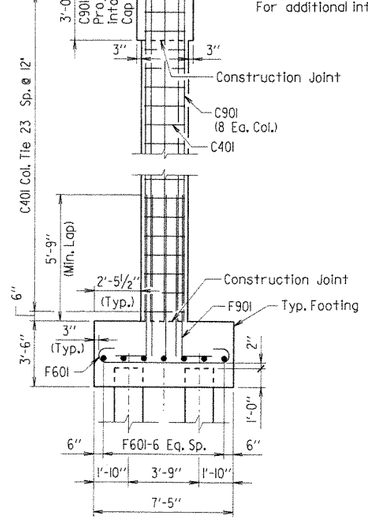
GENERAL NOTES

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

All reinforcing steel shall conform to AASHTO M31 or M53, Gr. 60.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly spaced to avoid damage.

For additional information, see Layout.



SECTION D-D
N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
2/21/02
JOHN Q. ALLEN

BRIDGE ENGINEER

DETAILS OF INT. BENTS NO. 2 - NO. 9
WHITE RIVER RELIEF (EAST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

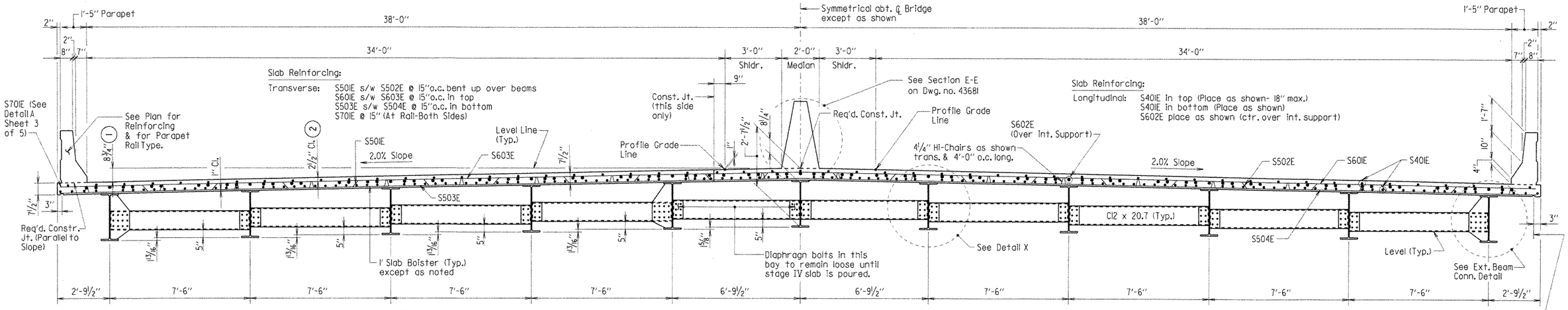
DRAWN BY: R.P. DATE: 12-01-01
CHECKED BY: J.A. DATE: 12-01-01
DESIGNED BY: K.C. DATE: 12-01-01
FILENAME: B601I4X2.B3
SCALE: As Noted

BRIDGE NO. 06894 DRAWING NO. 43676

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		111	165
				JOB NO.		061187		
				(1) 06894		CONT. W-BM. UNIT		43677

Note: One epoxy coated #5 bar in the top and one epoxy #5 bar in the bottom may be substituted for each bar S502E. Payment will be based on the weight of bar S502E.

Note: Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail.

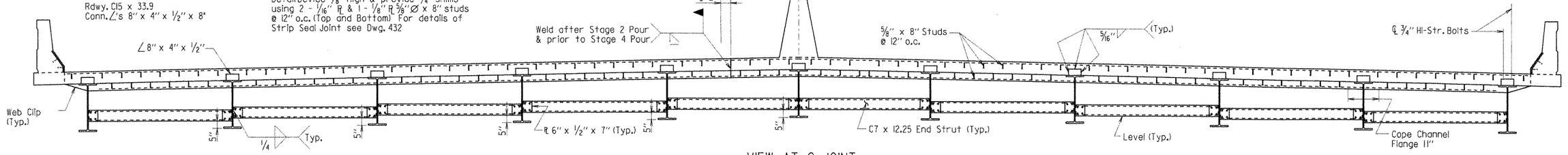


(1) Gutter Line to ℄ Bridge

SECTION NEAR MIDSPAN

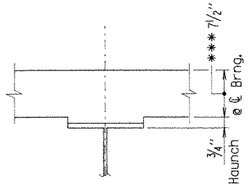
N.T.S.

(2) Tolerance Minus = ¼"
Plus: Equal to amount of slab thickening used to meet slab thickness tolerance
See Adjustment For Slab Thickness Tolerance.



VIEW AT ℄ JOINT

N.T.S.
Strip Seal Joint at End Bents (Typ.)



Note: Haunch is required. Slab may be thickened and/or the haunch thickened to maintain slab tolerance.

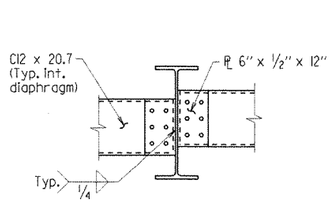
*** Thickness as detailed on Span Drawings. Tolerance is minus ¼" and plus 1".

Note: No increase in concrete and structural steel quantities will be made to meet slab tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

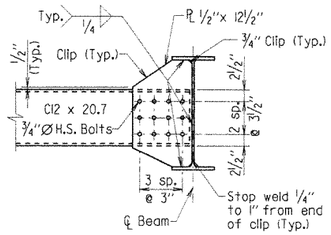
ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

N.T.S.



DETAIL X

N.T.S.



DIAPHRAGM CONNECTIONS AT EXTERIOR BEAMS

N.T.S.

NOTE: Bolts in Diaphragm Connections shall be properly installed and tightened in accordance with Subsection 807.71 of the Standard Specifications.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10819 2/21/02 JOHN Q. ALLEN

BRIDGE ENGINEER

SHEET 1 OF 5

DETAILS OF 411' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (EAST)

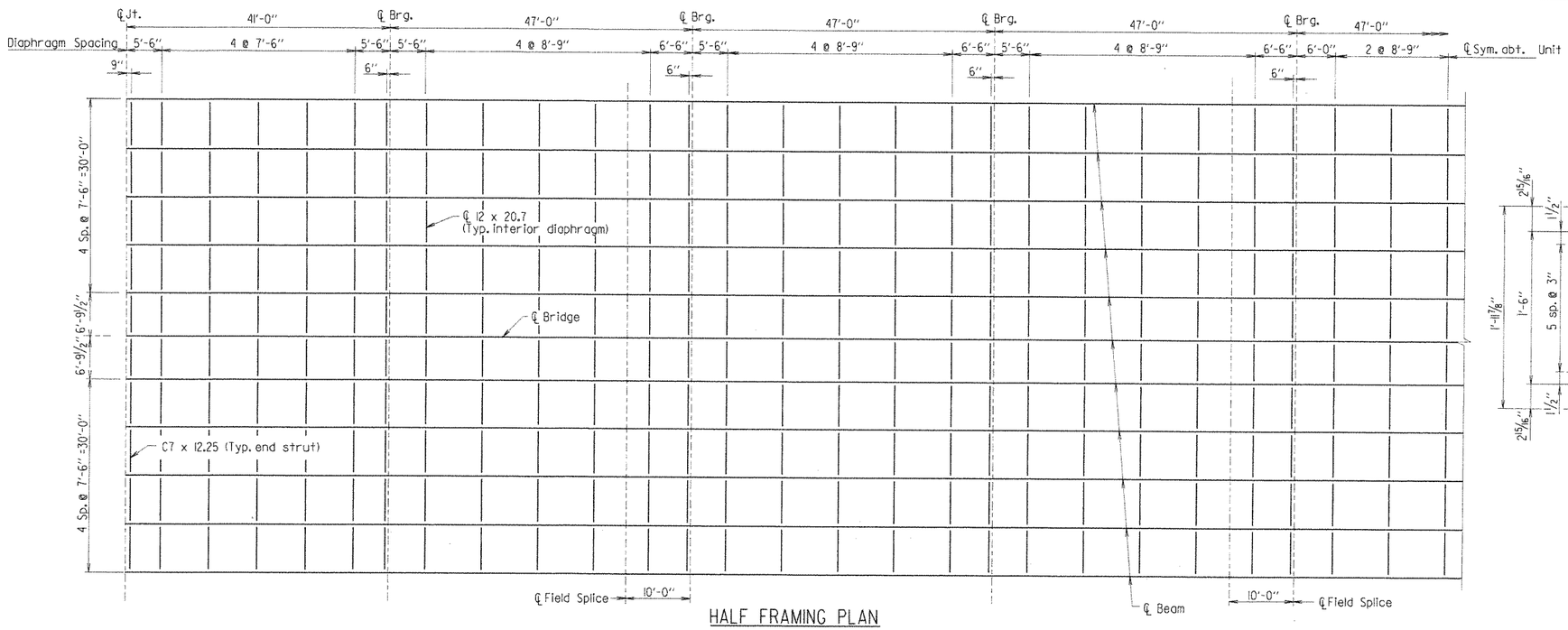
CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 12-01-01 FILENAME: B6011412.SI
CHECKED BY: K.C. DATE: 12-01-01 SCALE: As Noted
DESIGNED BY: J.A. DATE: 12-01-01

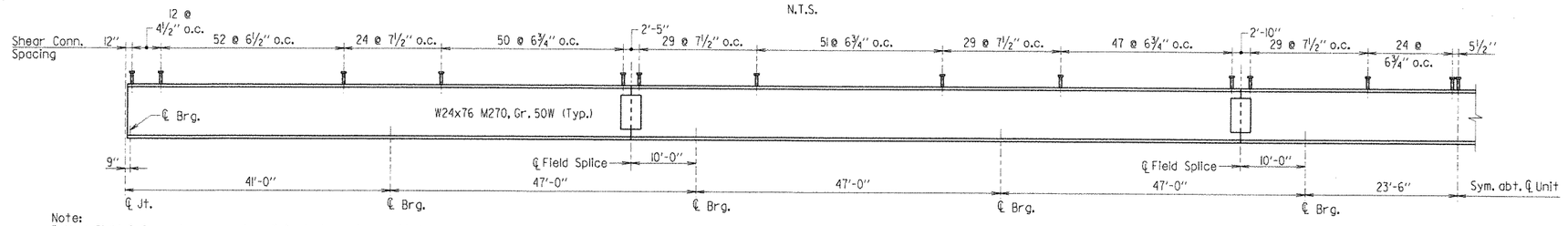
BRIDGE NO. 06894 DRAWING NO. 43677

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		112	165
				JOB NO.		061187		
				(1)	06894	CONT. W-BM. UNIT		43678



HALF FRAMING PLAN

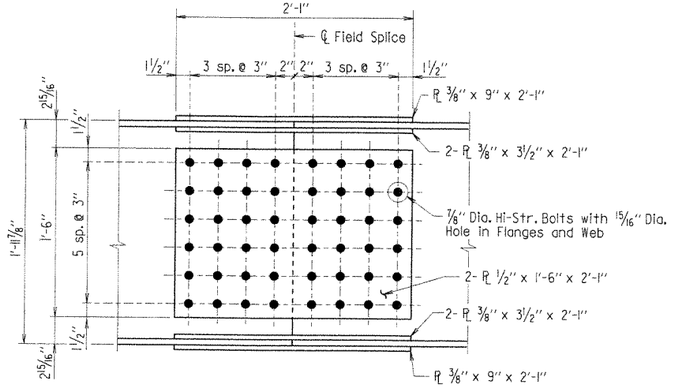
N.T.S.



TYPICAL BEAM ELEVATION

N.T.S.

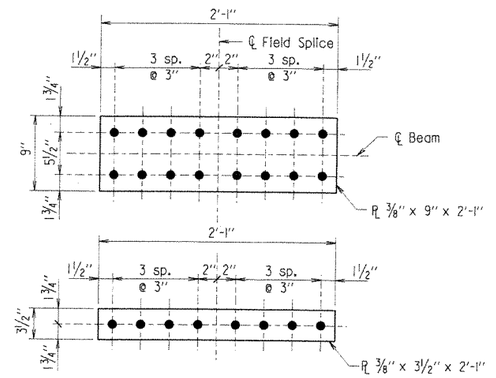
Note:
Bolted Field Splices shown may be elminated or shop welded splices may be substituted with approval of the ~~Bridge~~ Engineer. Payment will be made on the basis of the Plan Quantities.



Note: All Field Splice Plates to be AASHTO M270, Gr.50W.

DETAILS FIELD SPLICE (TYP.)

N.T.S.

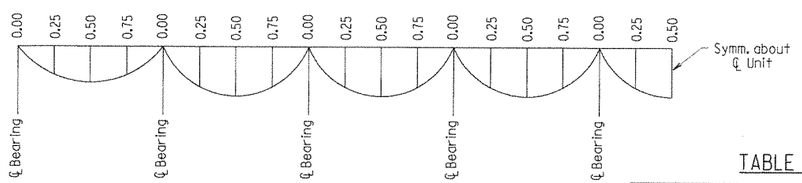


FLANGE SPLICE PLATES

N.T.S.

DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Parapet	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
1	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.25	0.026	0.026	0.276	0.245	0.343	0.312
	0.50	0.032	0.032	0.333	0.296	0.415	0.378
	0.75	0.016	0.016	0.165	0.147	0.206	0.188
2	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.25	0.014	0.014	0.143	0.127	0.178	0.162
	0.50	0.025	0.025	0.268	0.238	0.333	0.303
	0.75	0.014	0.014	0.151	0.134	0.188	0.171
3	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.25	0.016	0.016	0.168	0.150	0.209	0.191
	0.50	0.028	0.028	0.295	0.262	0.367	0.334
	0.75	0.016	0.016	0.166	0.148	0.207	0.189
4	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.25	0.015	0.015	0.161	0.143	0.200	0.182
	0.50	0.027	0.027	0.288	0.255	0.358	0.325
	0.75	0.015	0.015	0.162	0.143	0.201	0.182
5	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.25	0.016	0.016	0.164	0.146	0.205	0.187
	0.50	0.028	0.028	0.291	0.258	0.363	0.330



DEAD LOAD DEFLECTIONS DIAGRAM

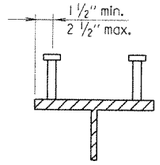
N.T.S.

Camber for Dead Load Deflection plus Vertical Curve ¼" tolerance. Deflections shown are from a chord from Centerline Bearing to Centerline Bearing. Vertical Curve Corrections not included. Negative Sign (-) indicates point above Chord.

TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



SHEAR CONNECTOR DETAIL

N.T.S.

Stud Shear Connectors shown shall be ⅞"Ø x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. ¾"Ø studs may be used in place of the ⅞"Ø studs shown, at the ratio of 1.361-3/4"Ø studs in place of one ⅞"Ø stud. ⅞"Ø studs will be used as basis for measurement of structural steel in sheer connectors. Maximum stud spacing = 24".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4-17-03

BRIDGE ENGINEER

SHEET 2 OF 5

DETAILS OF 411' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (EAST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

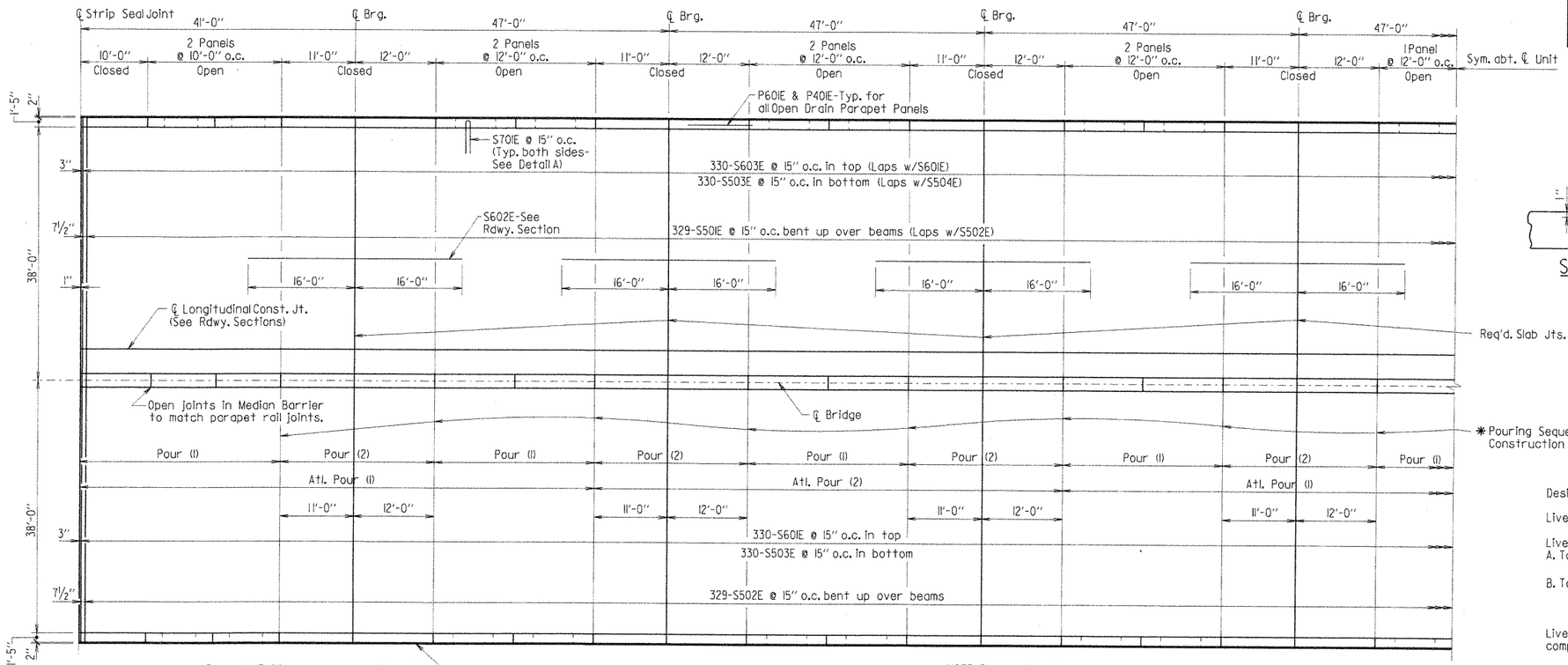
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03 FILENAME: B60II4X2.S2
CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: J.A. DATE: 04-17-03

BRIDGE NO. 06894 DRAWING NO. 43678

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		113	165
				JOB NO.		061187		
				(1) 06894		CONT. B-BM. UNIT		43679

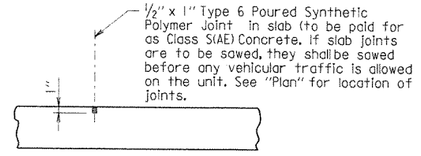


✱ Align as shown with parapet open joints at gutterline.

PLAN & DIAGRAM OF POURING SEQUENCE

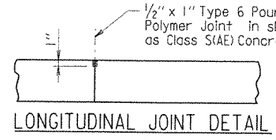
N.T.S.

NOTE: Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the ~~Bridge~~ Engineer.



SLAB JOINT DETAIL

N.T.S.



LONGITUDINAL JOINT DETAIL

N.T.S.

Design Specifications: AASHTO 2002 with Interim Specifications

Live loading: HS20 & Military — Method of Design: Load Factor

	Interior Beam	Exterior Beam
Live Load: A. To W-Beam	704 plf + 1.3 (Wt./Ft. of W-Bm.)	614 plf + 1.3 (Wt./Ft. of W-Bm.)
B. To Composite Beam: Closed Parapets	287 plf ✱✱	287 plf ✱✱
Open Parapets	279 plf ✱✱	279 plf ✱✱
Live Load: To each composite beam	1.364 wheels + impact	1.256 wheels + impact

✱✱ Includes 152 plf future wearing surface

Materials Strengths:

Class S(AE) Concrete (N=8)	f'c	= 4,000 p.s.i.
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy	= 60,000 p.s.i.
Structural Steel (AASHTO M270, Gr. 36)	Fy	= 36,000 p.s.i.
Structural Steel (AASHTO M270, Gr. 50W)	Fy	= 50,000 p.s.i.

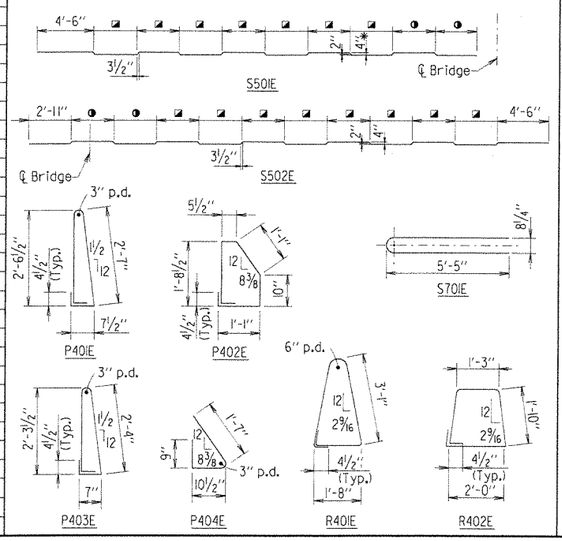
BAR LIST

MK	No. Required	Length	Pin Dia.
S401E	1991	39'-6"	Str.
S501E	329	38'-11"	3"
S502E	329	45'-11"	3"
S503E	330	37'-0"	Str.
S504E	330	44'-2"	Str.
S601E	330	44'-0"	Str.
S602E	760	32'-0"	Str.
S603E	330	38'-6"	Str.
S701E	658	11'-8"	6½"
P401E	808	6'-4"	2"
P402E	808	5'-6"	2"
P403E	216	5'-10"	Str.
P404E	216	3'-2"	Str.
P405E	32	9'-8"	2"
P406E	112	11'-8"	2"
P407E	20	9'-8"	Str.
P408E	80	10'-8"	Str.
P409E	80	11'-8"	Str.
P601E	40	9'-8"	Str.
P602E	140	11'-8"	Str.
R401E	614	8'-8"	2"
R402E	614	7'-3"	2"
R403E	48	9'-8"	Str.
R404E	64	10'-8"	Str.
R405E	176	11'-8"	Str.

Bending Diagram (Dimensions are out of out of bars.)

◪ Denotes: 3'-9" ◔ Denotes: 3'-4¾"

✱ Denotes: ½" over tolerance, no under tolerance



GENERAL NOTES:

Governing specifications are the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

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

All concrete shall be poured and screeded off prior to initial set. The concrete deck shall be finished in accordance with section 802.19 Class 5 of the Standard Specifications. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection of the railing.

Concrete in bridge superstructure shall be placed and consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60. The reinforcing is to be accuracy located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "Reinforcing Steel-Bridge".

All stud shear connectors shall be granular flux filled, solid fluxed or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

Field connections shall be bolted with ¾" high strength bolts unless otherwise noted. Bolt holes shall be 13/16" dia. except that 15/16" dia. holes may be used for connection of expansion devices, diaphragms and end struts if a washer is used under both the nut and head of the bolt.

Diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring of the concrete deck.

Flange splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of main tensile and/or compressive stresses.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before any fabrication is begun. Structural shapes of equal or greater strength may be substituted for shapes shown if approval is obtained from the ~~Bridge~~ Engineer. Payment will be made on the basis of shapes shown.

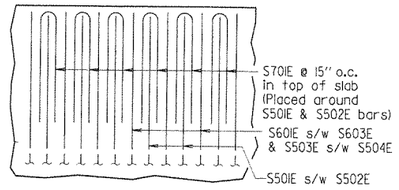
All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price per pound bid for "Structural Steel in Beam Spans (M270, Gr.50W)", unless otherwise noted. M270, Gr. 50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with Subsection 807.84(e) of the Standard Specifications unless otherwise noted. Structural Steel completely embedded in concrete may be AASHTO M270, Gr. 36.

All beams shall be blocked in their true position in the shop. The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in this position and this information shall become a part of the permanent record of the job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60° F. A tolerance of ¼" is allowed for camber.

Beams are considered main load carrying members and shall meet the longitudinal Charpy V-Notch test specified in Section 807.05. The Charpy V-Notch test will not be required on field splice plates. All welding shall conform to Subsection 807.26. Welded connections shall be 5/16" fillet shop welds unless otherwise noted. All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If the Contractor or Erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with formal request to the ~~Bridge~~ Engineer for approval.



BRIDGE ENGINEER



DETAIL A

N.T.S.

SHEET 3 OF 5

DETAILS OF 411' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (EAST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

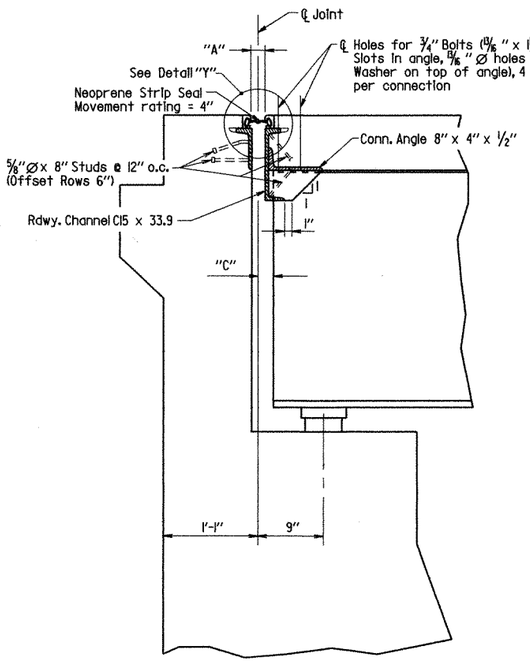
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CHECKED BY: K.C. DATE: 04-17-03 SCALE: As Noted

DESIGNED BY: J.A. DATE: 04-17-03

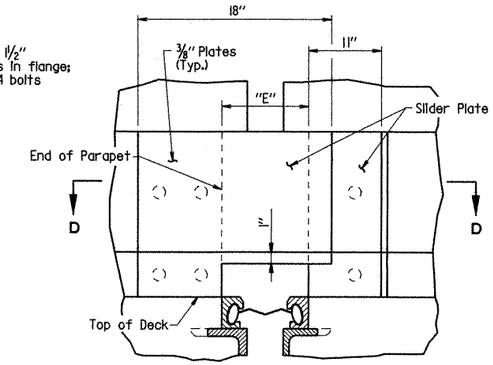
BRIDGE NO. 06894 DRAWING NO. 43679

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061187		
				(1) 06894		CONT. W-BM. UNIT	43680	



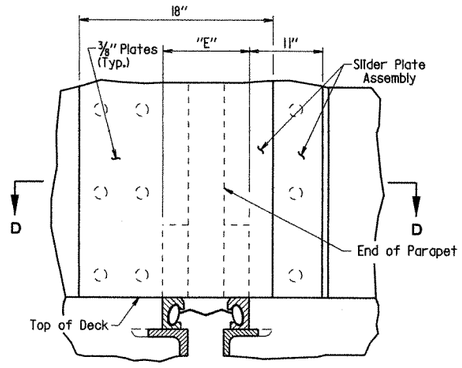
SECTION THRU JOINT AT END BENTS

N.T.S.



SECTION "B-B"

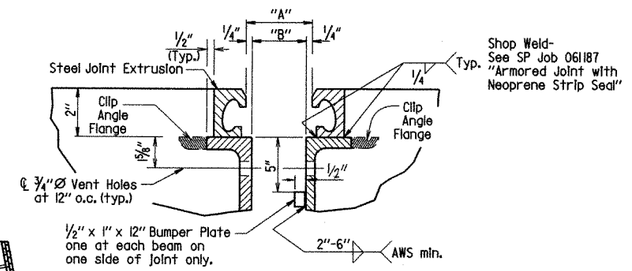
N.T.S.



SECTION "C-C"

N.T.S.

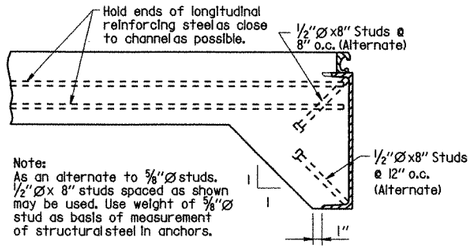
Note:
Dimension "E" equals the width of opening in parapet at curb to allow for removal or repair of joint.



DETAIL "Y"

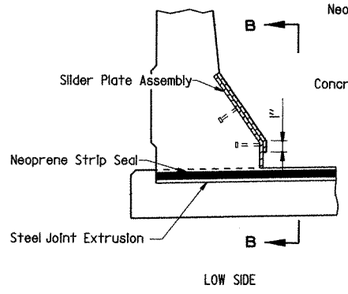
N.T.S.

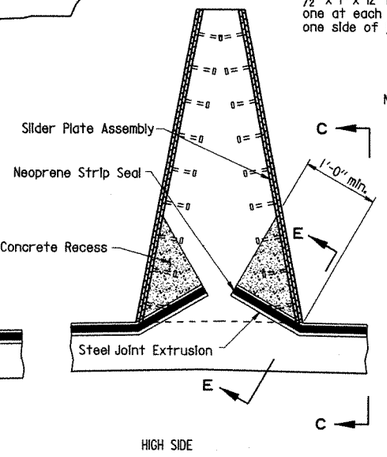
Note: Concrete shall be hand packed under the joint armor in each span.



ANCHOR DETAILS

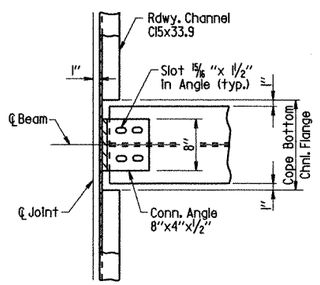
N.T.S.





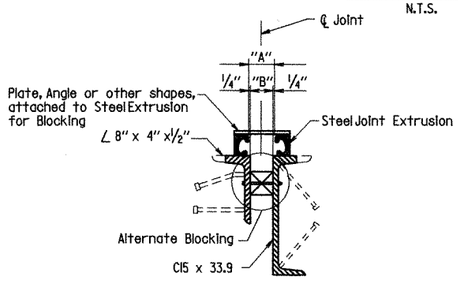
DETAIL OF NEOPRENE SEAL AT GUTTER

Scale: 1½" = 1'-0"



TYPICAL CHANNEL CONNECTION

N.T.S.



DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

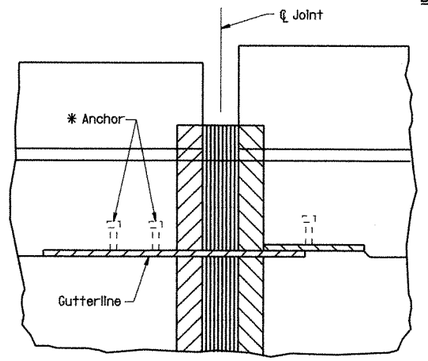
N.T.S.

Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension shown and the blocking details shall be shown on the Shop Drawings. The blocking shall not be removed until the slab on one side is complete. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet. Removal shall be just before pouring the second side of the joint, as directed by the Engineer.

STRIP SEAL JOINT DATA

Bent No(s).	Movement Rating (Inch)	"A" Width Perpendicular to Joint at 24 Hour Average Temperature ** of :			"B" Width Perpendicular to Joint at 24 Hour Average Temperature ** of :			"C" Perpendicular to Joint at 24 Hour Average Temperature of 60° F
		40° F	60° F	80° F	40° F	60° F	80° F	
1 and 10	4"	2 13/16"	2½"	2 3/16"	2 5/16"	2"	1 11/16"	2½"

** The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature.

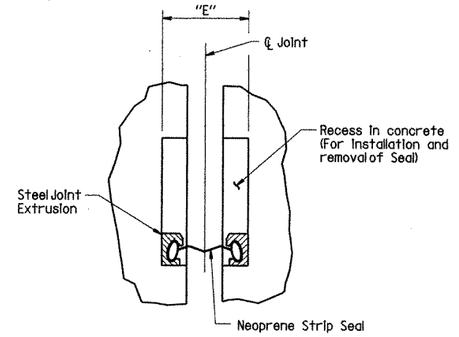


SECTION "D-D" AT END BENTS

N.T.S.

* Denotes:
The method of attachment of the slider plate assembly or similar device must be such that it may be removed in order to provide for future replacement of the neoprene seal.

Note:
Details of joint turn-up at Gutterline are general and show basic design controls only. See SP Job 061187, 'Armored Joint with Neoprene Strip Seal.'



SECTION "E-E"

N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
12/8/08
CHARLES P. BRAND

BRIDGE ENGINEER

GENERAL NOTES

EXPANSION NEOPRENE STRIP SEAL: The expansion device shall provide a movement of 4" as shown in the "STRIP SEAL JOINT DATA" table. The expansion joint shall be capable of sealing the deck surface and parapet area to prevent moisture and other contaminants from descending through the joint.

Details of proposed slider plate assembly shall be submitted to and approved by the Engineer prior to the fabrication of any structural steel at the expansion device.

All structural steel shall be AASHTO M 270, Grade 36 unless otherwise noted. All exposed surfaces are to be cleaned in accordance with subsection 820.05(b), and then painted as directed in section 638, or as approved by the Engineer. Painting will not be paid for directly, but will be considered subsidiary to Structural Steel in Beam Spans (M270, GR. 50W). Structural steel completely embedded in concrete need not be painted.

All structural steel, except for the steel extrusion for the strip seal, shall be paid for as "STRUCTURAL STEEL IN BEAM SPANS (M270, GR50W)". The steel extrusion and neoprene strip seal shall be paid for in accordance with Special Provision Job 061187 "ARMORED JOINT WITH NEOPRENE STRIP SEAL".

EXPANSION DEVICE INSTALLATION AT END BENTS:
The concrete span pour shall be placed before the end bent backwall concrete is placed. After beams or girders are erected the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature and grade, and the backwall constructed.

SHEET 4 OF 5

DETAILS OF 411' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (EAST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

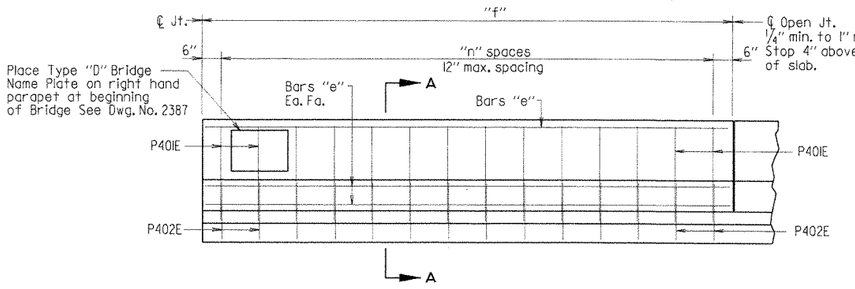
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CHECKED BY: JGT DATE: 11-25-08 SCALE: As Noted

DESIGNED BY: JGT DATE: 11-08

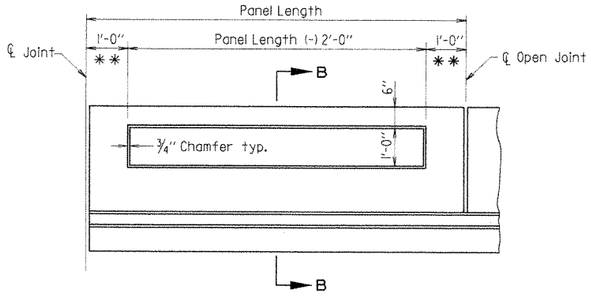
BRIDGE NO. 06894 DRAWING NO. 43680

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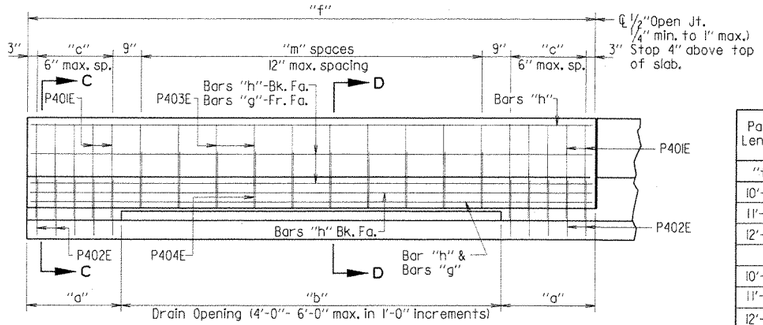
ELEVATION OF TYPICAL PARAPET RAIL-CLOSED PANEL

(As viewed from roadway side of parapet)
Scale: 1/2" = 1'-0"



PARAPET ENHANCEMENT DETAILS

Scale: 1/2" = 1'-0"
** Denotes: Panel inset may be made continuous if slip forms are used.

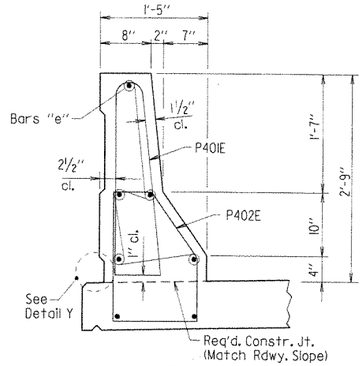


ELEVATION OF TYPICAL PARAPET RAIL-OPEN PANEL

(As viewed from roadway side of parapet)
Scale: 1/2" = 1'-0"

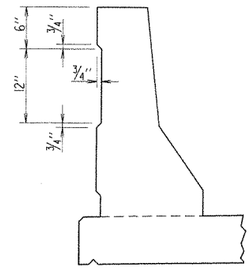
TABLE OF PARAPET VARIABLES

Panel Length	Closed Parapet Panel			Open Parapet Panel					
"f"	"n"	"d"	"e"	"a"	"b"	"c"	"m"	"g"	"h"
10'-0"	9	—	P407E	—	6'-0"	3	5	P405E	P601E
11'-0"	10	—	P408E	2'-0"	—	—	—	—	—
12'-0"	11	—	P409E	3'-0"	6'-0"	5	5	P406E	P602E
Median Barrier Panel									
10'-0"	14	R403E	—	—	—	—	—	—	—
11'-0"	15	R404E	—	—	—	—	—	—	—
12'-0"	17	R405E	—	—	—	—	—	—	—



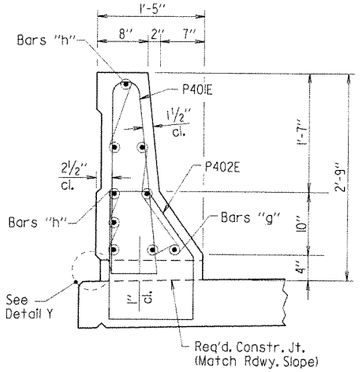
SECTION A-A

Scale: 1"=1'-0"



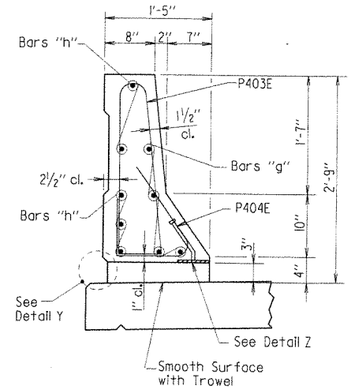
SECTION B-B

Scale: 1"=1'-0"



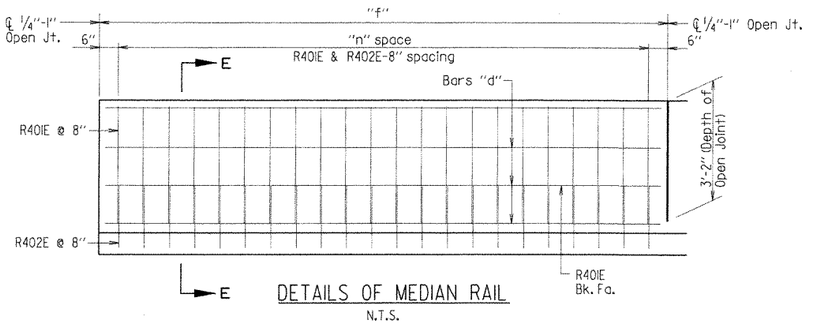
SECTION C-C

Scale: 1"=1'-0"



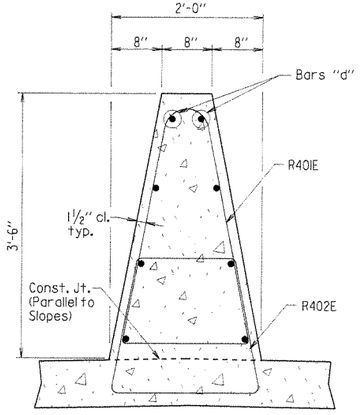
SECTION D-D

Scale: 1"=1'-0"



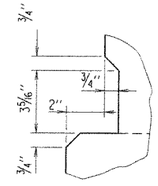
DETAILS OF MEDIAN RAIL

N.T.S.



SECTION E-E

Scale: 1"=1'-0"

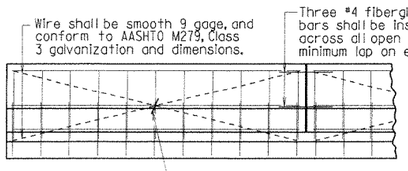


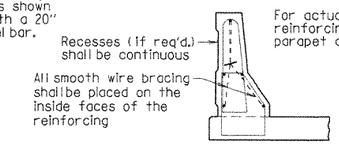
DETAIL Y

N.T.S.

Note:
Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plates shall be measured and paid for as Structural Steel in Steel in Beam Spans (M270, Gr. 50W)

The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly but will be considered subsidiary to Structural Steel in Beam Spans (M270, Gr.50W).



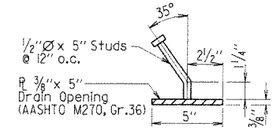


All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Sprayed Finish, in place of Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

N.T.S.



DETAIL Z

N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN O. ALLEN
4/17/03

BRIDGE ENGINEER

SHEET 5 OF 5

DETAILS OF 411' CONT. COMP. W-BEAM UNIT WHITE RIVER RELIEF (EAST) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

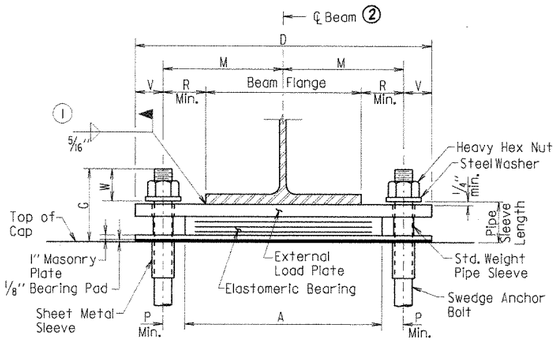
LITTLE ROCK, ARK.

DRAWN BY: P.J. DATE: 04-17-03
CHECKED BY: K.C. DATE: 04-17-03
DESIGNED BY: J.A. DATE: 04-17-03
FILENAME: B6011I4X2.S5
SCALE: As Noted

BRIDGE NO. 06894

DRAWING NO. 43681

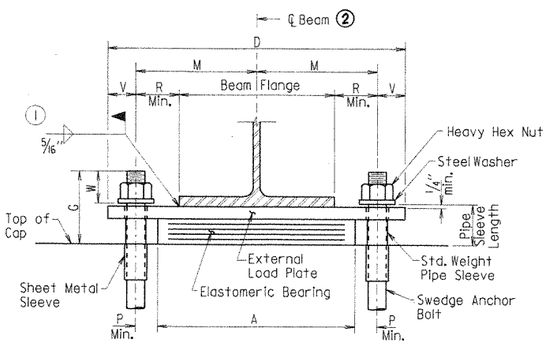
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		116	165
				JOB NO.		061187		
				① 06894		ELASTO. BRGS.		43682



FRONT "A" VIEW

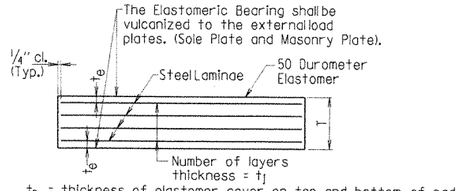
① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

△ ② C.L. Elastomeric bearing pad shall be aligned with C.L. Beam or C.L. Girder.



FRONT "B" VIEW

① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

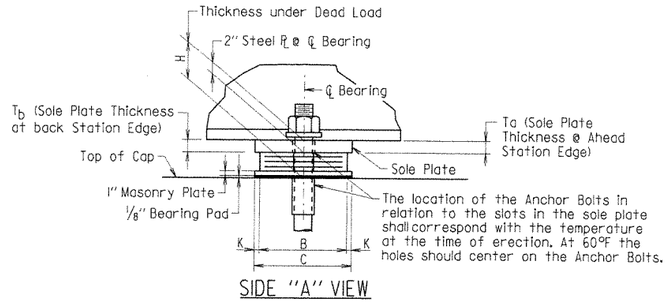


t_e = thickness of elastomer cover on top and bottom of pad
t_j = thickness of elastomer between steel laminae
N = number of elastomer layers of thickness t_j

ELASTOMERIC BEARING

TABLE OF DESIGN VARIABLES

ANCHOR BOLT DIAMETER	PIPE SLEEVE NOMINAL DIAMETER	SHEET METAL SLEEVE DIA.	STANDARD WASHER SIZE (O.D.)	MINIMUM EMBEDMENT LENGTH	SLOT WIDTH "F"	P Min.	R Min.	V	W
1¼"	1¼"	3"	2½"	12"	2" Ø	2"	2¼"	2½"	2¼"
2"	2½"	4"	3¾"	20"	3⅛" Ø	2¾"	3"	3¼"	3"



SIDE "A" VIEW

Note:
Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a QPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the Item "Structural Steel in Beam Spans, (M270, Gr. 50W)"

GENERAL NOTES

△ **Elastomeric Bearings shall conform to Section 808 and SP Job 061187 "Elastomeric Bearings" and shall be paid for at the unit price bid for "Elastomeric Bearings". Long duration testing of random lot samples as specified in subsection 808.05 is not required.**

External load plates (sole plate and masonry plate) shall conform to AASHTO M270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M232, Class C or AASHTO M298, Class 50.

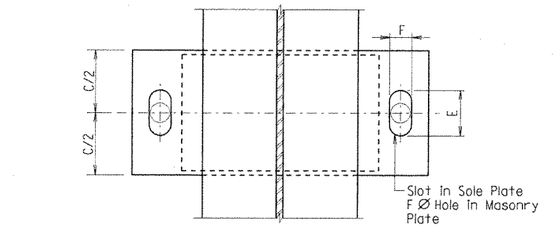
External load plates and masonry plates shall be completely fabricated (including bevel and bolts holes and all shop welding) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Section 808.03. Other surfaces shall be blast cleaned in accordance with subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

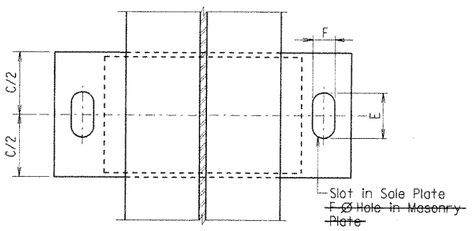
Pipe Sleeves, Anchor Bolts, Washer and Nuts shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".

All external load plates, masonry plates, and 1/8" bearings pads will not be paid for separately but will be included in the unit price bid for "Elastomeric Bearings".

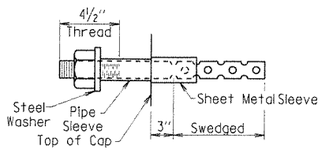
Bearings with masonry plates and 1/8" bearing pads shall be firmly seated in accordance with Subsection 807.66 of the Standard Specifications. This work and material shall be considered subsidiary to the item "Elastomeric Bearings" and shall not be paid for directly.



PLAN "A" VIEW

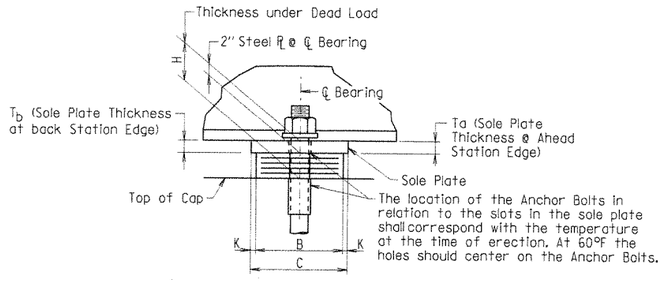


PLAN "B" VIEW



ANCHOR BOLT DETAIL

Note:
Unless otherwise approved by the Engineer, welding of the external load plate at the expansion bearings to the girder will be allowed only when: 1) the appoximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



SIDE "B" VIEW

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.	LOCATION: BENT NO(S).	LOCATION: BEAM OR GIRDER NO.	BEARING TYPE	BEARING	NO. of BEARINGS EACH BENT	✱MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD: A	B	N	t_j	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE: C	D	E	F	K	M	T_a	T_b	ANCHOR BOLT: (Ø x L)	GRADE	PIPE SLEEVE SIZE (Ø x L)	SHEET METAL SLEEVE SIZE (Ø x L)	STEEL WASHER SIZE (O.D.)
06894	1,10	ALL	EXP	A	11	59	9¼"	6¾"	11"	11"	5	½"	¼"	6 @ 12 GA.	3⅝"	12"	20"	5⅛"	2"	½"	7½"	2"	2"	1¼" X 22"	55	1¼" X 7"	3" X 6"	2½"
	2,9	ALL	EXP	A	11	107	8⅝"	6⅛"	11"	16"	4	½"	¼"	5 @ 12 GA.	3"	17"	20"	4½"	2"	½"	7½"	2"	2"	1¼" X 21"	55	1¼" X 6⅜"	3" X 6"	2½"
	3,8	ALL	EXP	A	11	105	8⅝"	6⅛"	11"	16"	4	½"	¼"	5 @ 12 GA.	3"	17"	20"	3⅞"	2"	½"	7½"	2"	2"	1¼" X 21"	55	1¼" X 6⅜"	3" X 6"	2½"
	4,7	ALL	FIX	B	11	105	8¼"	4 15/16"	11"	16"	4	½"	¼"	5 @ 12 GA.	3"	17"	23"	3⅛"	3⅛"	½"	8¼"	2"	2"	2" X 29"	55	2½" X 5¼"	4" X 6"	3¾"
	5,6	ALL	FIX	B	11	107	8¼"	4 15/16"	11"	16"	4	½"	¼"	5 @ 12 GA.	3"	17"	23"	3⅛"	3⅛"	½"	8¼"	2"	2"	2" X 29"	55	2½" X 5¼"	4" X 6"	3¾"

✱ Maximum Design Load = Service Load (kips)

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03

BRIDGE ENGINEER

△ Denotes a responsibility of PE Seal dated 11/25/08

DETAILS OF ELASTOMERIC BEARINGS
WHITE RIVER RELIEF (EAST)
CACHE RIVER-WEST (F)
PRAIRIE COUNTY

ROUTE I-40 SEC. 41

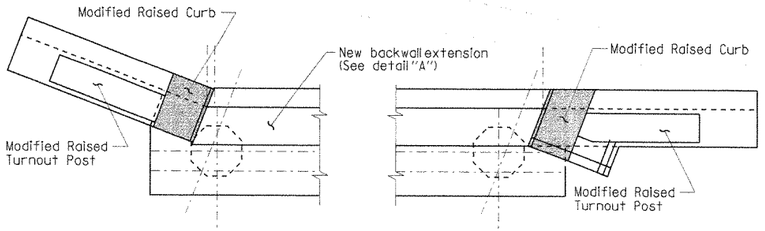
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY: JOA DATE: 04-17-03 SCALE: As Noted
DESIGNED BY: KTC DATE: 04-17-03

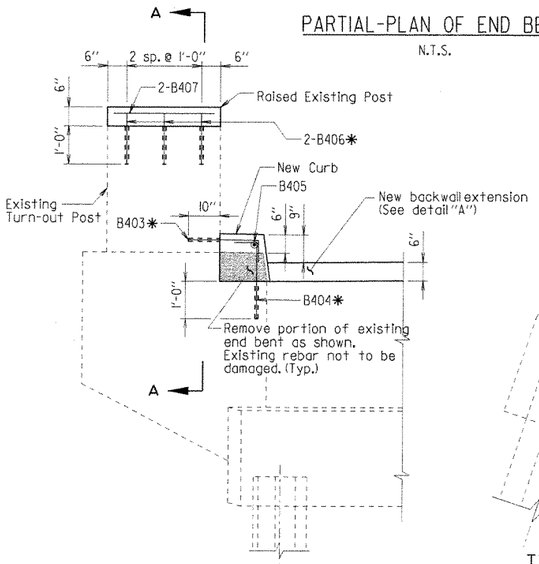
BRIDGE NO. 06894 DRAWING NO. 43682

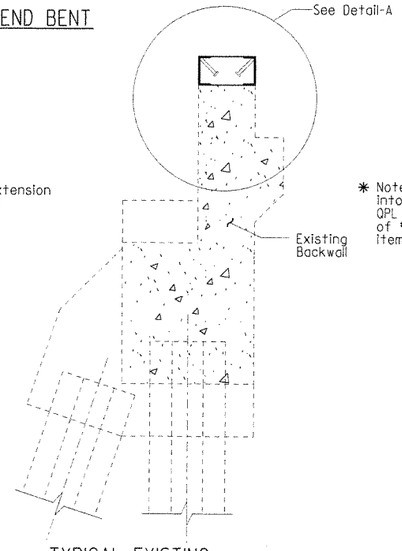
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				JOB NO.		061187		
				① 03710		REMODELING DTLS.		43683



PARTIAL-PLAN OF END BENT

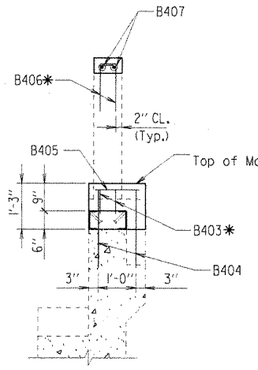
N.T.S.





TYPICAL EXISTING END BENT SECTION

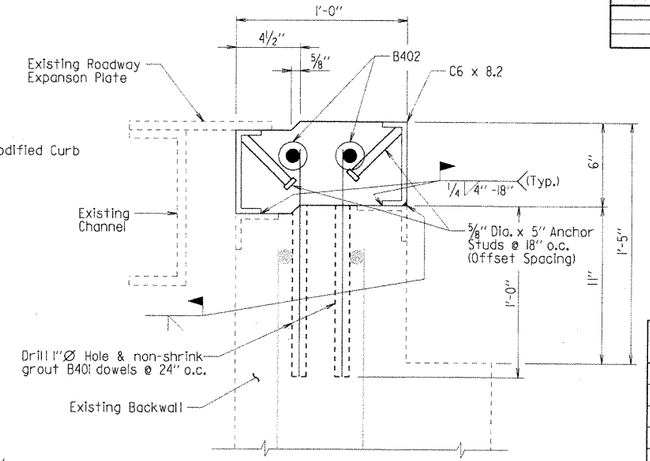
N.T.S.



SECTON A-A

N.T.S.

* Note: #4 bars shall be drilled & grouted 12" into existing concrete using 1" Dia. holes and QPL approved non-shrink grout. Drilling and grouting of #4 dowels to be considered subsidiary to the item "Modification of Existing Bridge Structure".



DETAIL-A

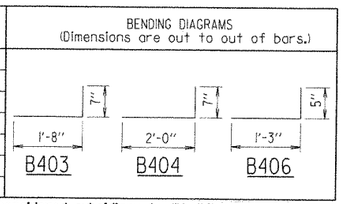
N.T.S.

Note: Weld C6 x 8.2 to existing angles as shown.

Note:
Prior to fabrication of build-ups it is the contractors responsibility to make field measurements. The contractor shall field verify the dimensions of the existing shoes and the existing minimum vertical clearance to the roadway under the bridge. The final build-up dimensions for fabrication will be based upon these field measurements.

① BAR LIST (ONE END BENT)

MARK	NO. REQ'D.	LENGTH	Pin. Dia.	BENDING DIAGRAMS (Dimensions are out to out of bars.)
B401	20	1'-3"	Str.	
B402	2	2'-0"	Str.	
B403	4	2'-3"	2"	
B404	4	2'-7"	2"	
B405	2	8"	Str.	
B406	12	1'-8"	2"	
B407	4	2'-8"	Str.	



△① **Note: All Reinforcing Steel to be considered subsidiary to "Modification of Existing Bridge Structure".**

General Notes:

Governing specifications are the Arkansas Atate Highway and Transportation Department Standard Specifications for Highway Construction, current edition with applicable supplemental specifications and special provisions.

All steel shall be AASHTO designation M270,Gr.50W unless otherwise noted and shall be paid for at the unit price per pound bid for "Structural Steel for Modification of Existing Bridge Structure (M270,Gr.50W)." M270,Gr.50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with subsection 807.84(e) of the Standard Specifications.

All welding to be performed by a certified welder approved by the Engineer. All welding shall conform to the current AASHTO/AWS D1.5 Welding Code.

The individual Shoe plates shall be fabricated to facilitate a bevel weld between plate surfaces. The plated shall be welded in the field after they are seated.

Anchor bolt extensions shall be ASTM A36 and galvanized.

Felt and steel washers on all existing anchor bolts shall be removed and discarded. New steel washers shall be used on all anchor bolts, and new rubber washers shall be used where specified on the plans.

The Contractor shall field verify anchor bolt locations and plate dimensions prior to fabrication.

All concrete shall have a minimum 28 day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. The concrete in the backwall should be a rapid set mix design to facilitate traffic handling, see SP JOB ~~B60114~~ 061187 "FAST SETTING CEMENT".

Concrete in the backwall shall obtain a minimum compressive strength of 1200 psi before traffic is allowed on it.

All reinforcing steel shall conform to AASHTO M31 of M53, Grade 60 (yield strength = 60,00 psi.)

Loads to determine jack capacities can be found on drawing no. ~~45000.~~ 43693

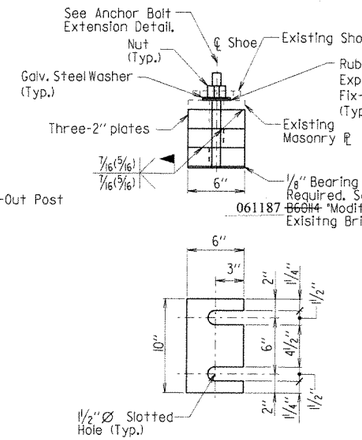
Sheets from the existing bridge plans have been included for information purposes only. All information required to complete the work should be field verified by the Contractor.

See Special Provision Job No. ~~B60114~~ 061187 "Modification of Existing Bridge Structure" for additional material and construction requirements.

△ Denotes a responsibility of PE Seal dated 11/25/08

PARTIAL-ELEVATION OF END BENT

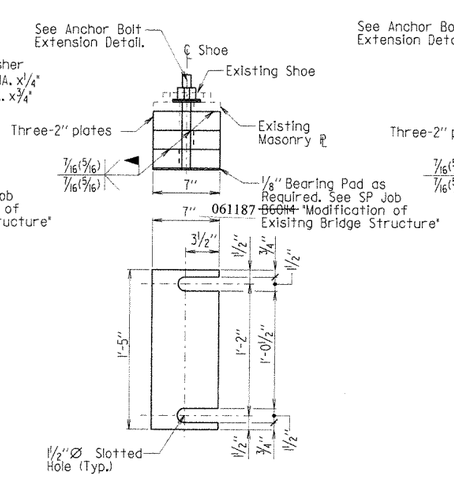
N.T.S.



SHOE BUILD-UP DETAILS

N.T.S.

Fixed Shoes @ Bents 1 & 7
Exp. Shoes @ Bents 2 & 6

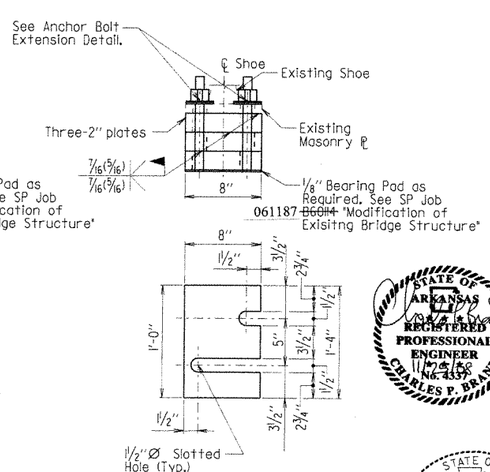


SHOE BUILD-UP DETAILS

N.T.S.

Exp. Shoes @ Bents 3, 4, & 5

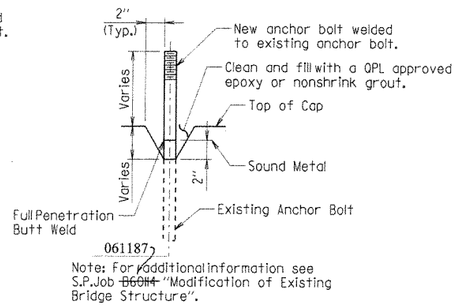
Note: Three-2" plates are stacked alternating the direction of the slotted holes as indicated.



SHOE BUILD-UP DETAILS

N.T.S.

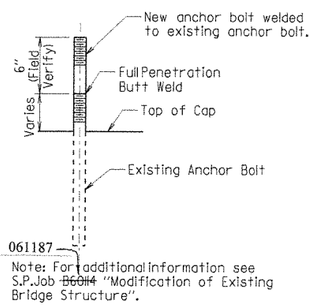
Fixed Shoes @ Bents 2, 3, 5, & 6



Note: For additional information see S.P.Job ~~B60114~~ "Modification of Existing Bridge Structure".

ALTERNATE ANCHOR BOLT DETAIL

N.T.S.



Note: For additional information see S.P.Job ~~B60114~~ "Modification of Existing Bridge Structure".

ANCHOR BOLT DETAIL

N.T.S.





BRIDGE ENGINEER

REMODELING DETAILS FOR BRIDGE NO. 3710
COUNTY ROAD UNDERPASS
STA. 1716+65.35
CACHE RIVER - WEST(F)
PRAIRIE COUNTY

ROUTE 40 SEC. 41

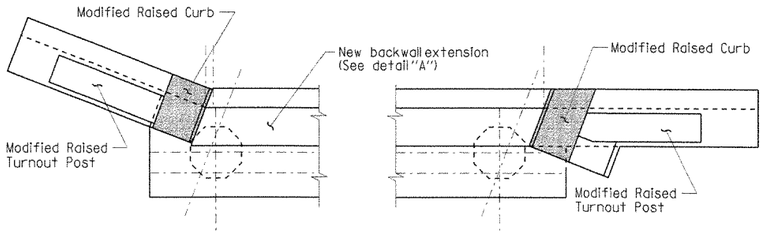
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

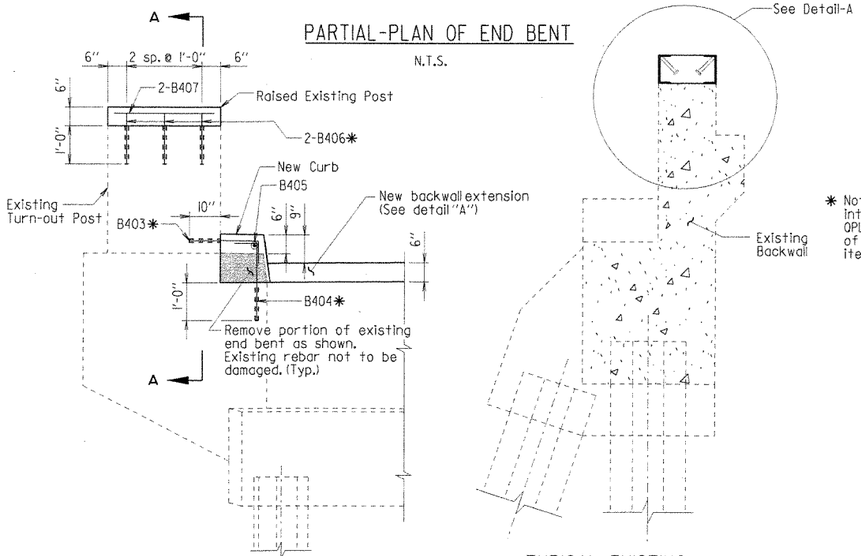
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CHECKED BY: J.A. DATE: 04-17-03 SCALE: N.T.S.
DESIGNED BY: K.C. DATE: 04-17-03

BRIDGE NO. 03710 DRAWING NO. 43683

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061187		
				①	03716	REMODELING DTLS.		43684

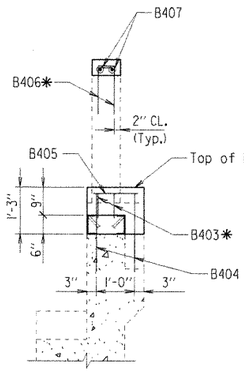


PARTIAL-PLAN OF END BENT
N.T.S.



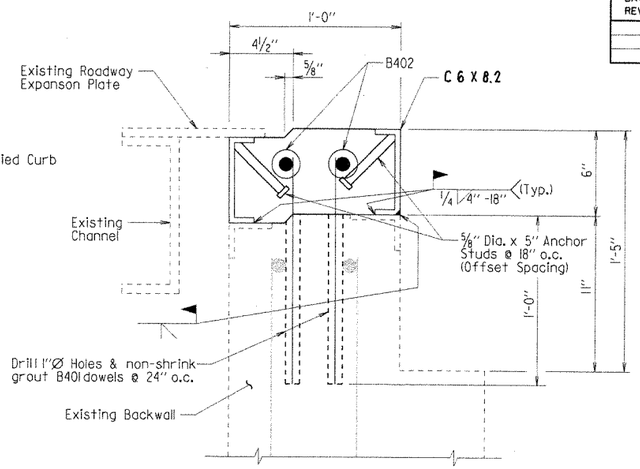
PARTIAL-ELEVATION OF END BENT
N.T.S.

TYPICAL EXISTING END BENT SECTION
N.T.S.



SECTON A-A
N.T.S.

* Note: #4 bars shall be drilled & grouted 12" into existing concrete using 1" Dia. holes and QPL approved non-shrink grout. Drilling and grouting of #4 dowels to be considered subsidiary to the item "Modification of Existing Bridge Structure".



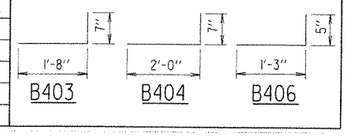
DETAIL-A
N.T.S.

Note: Weld C6 x 8.2 to existing angles as shown.

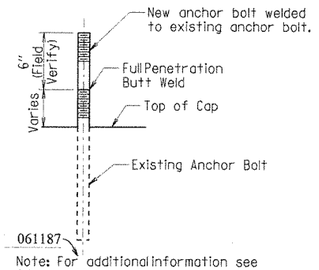
Note:
Prior to fabrication of build-ups it is the contractors responsibility to make field measurements. The contractor shall field verify the dimensions of the existing shoes and the existing minimum vertical clearance to the roadway under the bridge. The final build-up dimensions for fabrication will be based upon these field measurements.

① BAR LIST (ONE END BENT)

MARK	NO. REQ'D.	LENGTH	Pin. Dia.	BENDING DIAGRAMS (Dimensions are out to out of bars.)
B401	24	1'-3"	Str.	
B402	2	24'-2"	Str.	
B403	4	2'-3"	2"	
B404	4	2'-7"	2"	
B405	2	8"	Str.	
B406	12	1'-8"	2"	
B407	4	2'-8"	Str.	

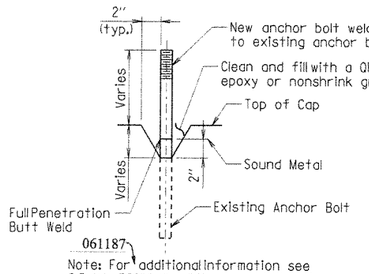


△ ① **Note: All Reinforcing Steel to be considered subsidiary to "Modification of Existing Bridge Structure".**



Note: For additional information see S.P.Job ~~B601.4~~ "Modification of Existing Bridge Structure".

ANCHOR BOLT DETAIL
N.T.S.



Note: For additional information see S.P.Job ~~B601.4~~ "Modification of Existing Bridge Structure".

ALTERNATE ANCHOR BOLT DETAIL
N.T.S.

General Notes:

Governing specifications are the Arkansas Atate Highway and Transportation Department Standard Specifications for Highway Construction, current edition with applicable supplemental specifications and special provisions.

All steel shall be AASHTO designation M270,Gr.50W unless otherwise noted and shall be paid for at the unit price per pound bid for "Structural Steel for Modification of Existing Bridge Structure (M270,Gr.50W)." M270,Gr.50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with subsection 807.84(e) of the Standard Specifications.

All welding to be performed by a certified welder approved by the Engineer. All welding shall conform to the current AASHTO/AWS D1.5 Welding Code.

The individual Shoe plates shall be fabricated to facilitate a bevel weld between plate surfaces. The plated shall be welded in the field after they are seated.

Anchor bolt extensions shall be ASTM A36 and galvanized.

Felt and steel washers on all existing anchor bolts shall be removed and discarded. New steel washers shall be used on all anchor bolts, and new rubber washers shall be used where specified on the plans.

The Contractor shall field verify anchor bolt locations and plate dimensions prior to fabrication.

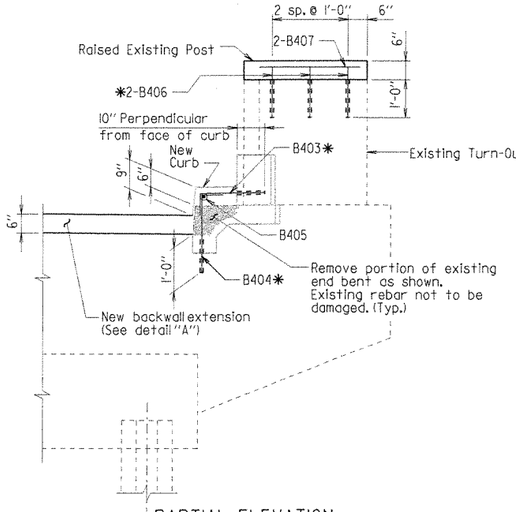
All concrete shall have a minimum 28 day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. The concrete in the backwall should be a rapid set mix design to facilitate traffic handling, see SP JOB ~~B601.4~~ "FAST SETTING CEMENT".
061187
Concrete in the backwall shall obtain a minimum compressive strength of 1200 psi before traffic is allowed on it.

All reinforcing steel shall conform to AASHTO M31 of M53, Grade 60 (yield strength = 60,00 psi.)

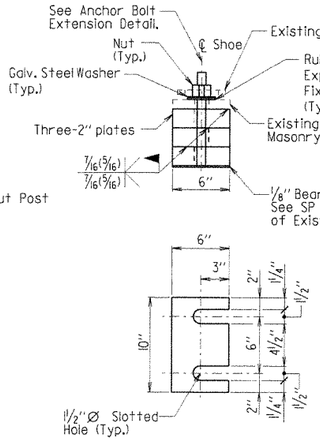
Loads to determine jack capacities can be found on drawing no. ~~45000.~~ **43698**

Sheets from the existing bridge plans have been included for information purposes only. All information required to complete the work should be field verified by the Contractor.

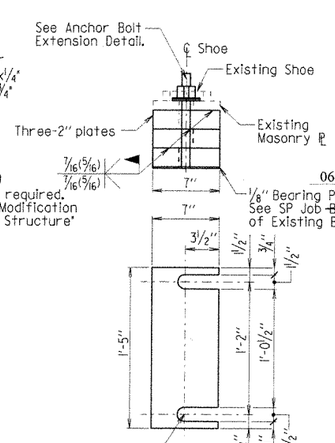
See Special Provision Job No. ~~B601.4~~ 061187 "Modification of Existing Bridge Structure" for additional material and construction requirements.



PARTIAL-ELEVATION OF END BENT
N.T.S.

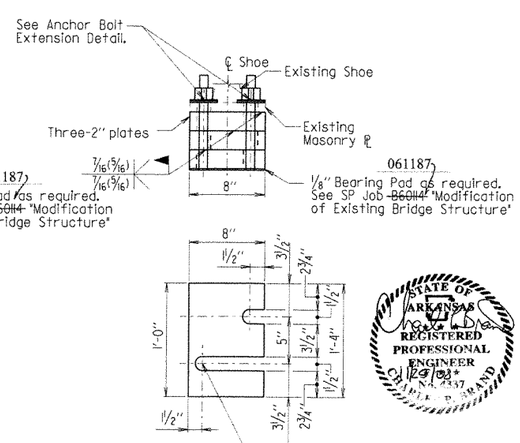


SHOE BUILD-UP DETAILS
N.T.S. 1 & 5
Fixed Shoes @ Bents ~~1 & 7~~
Exp. Shoes @ Bents ~~2 & 6~~ 2 & 4



SHOE BUILD-UP DETAILS
N.T.S. 3 only
Exp. Shoes @ Bents ~~3, 4, & 5~~

Note: Three-2" plates are stacked alternating the direction of the slotted holes as indicated.



SHOE BUILD-UP DETAILS
N.T.S. 2 & 4
Fixed Shoes @ Bents ~~2, 3, 5, & 6~~

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7437 CLIFFORD D. BRAND 12-5-03

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10819 JOHN Q. ALLEN 4-17-03

BRIDGE ENGINEER

△ Denotes a responsibility of PE Seal dated 11/25/08

REMODELING DETAILS FOR BRIDGE NO. 3716
COUNTY ROAD UNDERPASS
STA. 2095+58.77
CACHE RIVER - WEST(F)
PRAIRIE COUNTY

ROUTE 40 SEC. 41

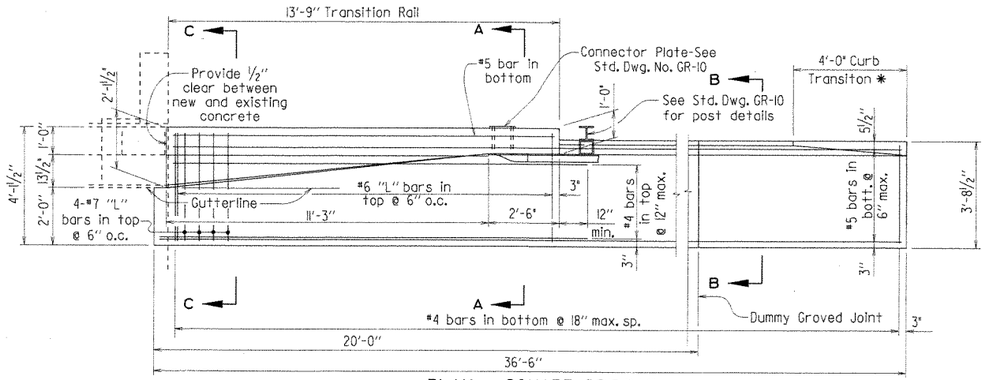
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: R.P. DATE: 04-17-03 FILENAME: B6011.4.J2
CHECKED BY: J.A. DATE: 04-17-03 SCALE: N.T.S.
DESIGNED BY: K.C. DATE: 04-17-03

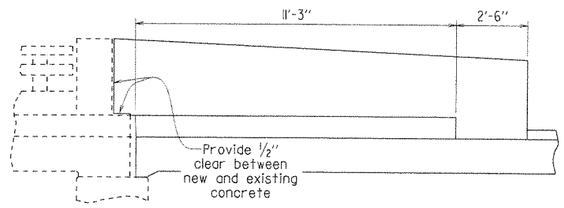
BRIDGE NO. 03716 DRAWING NO. 43684

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		119	165
				JOB NO.		061187		
				Ø3710 & Ø3716		SPECIAL 1 GUTTER		43685



PLAN - SQUARE BRIDGES

N.T.S.

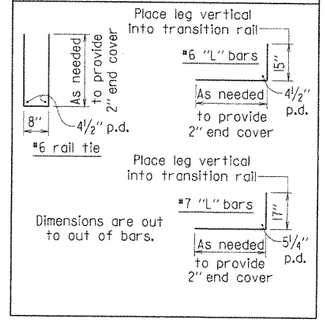


Bridge end may vary from that shown. Adjust gutter details as required to provide similar railing transition.

ALTERNATE DETAILS

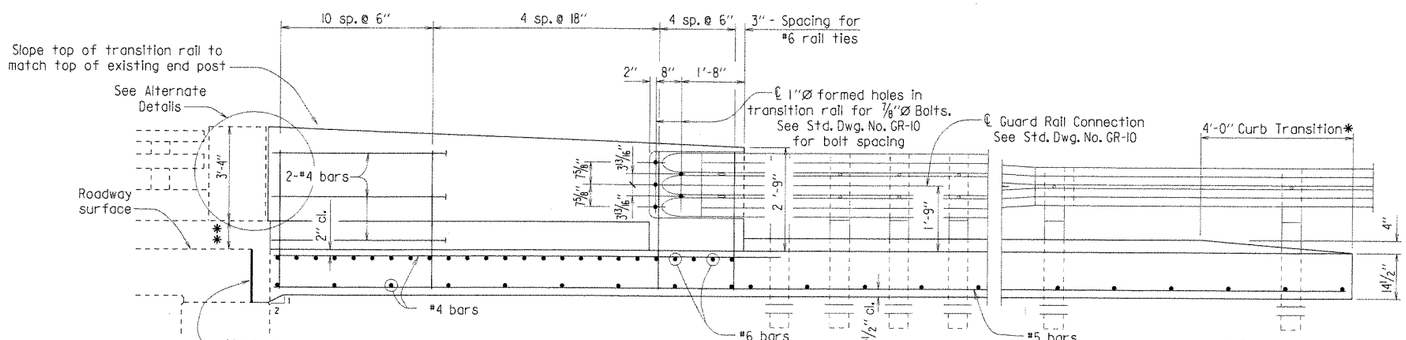
N.T.S.

BENDING DIAGRAMS



QUANTITIES FOR ONE SQUARE APPROACH GUTTER

Concrete	Reinforcing Steel
8.12 cu.yd.	912 lb.



** Match Existing Curb Height

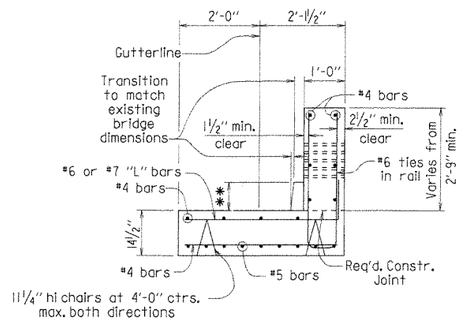
Note: Completely fill existing guard rail connection recess with approved non-shrink grout. Work and material will not be paid for separately but will be considered subsidiary to 'Approach Gutters (Type Special I)'.

LONGITUDINAL SECTION THRU GUTTER

N.T.S.

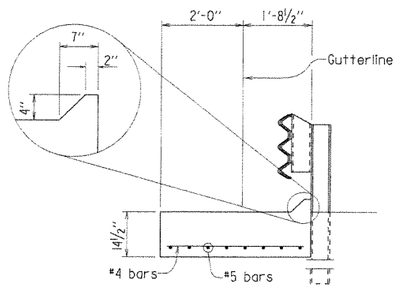
* Construct curb with height-transition as shown if drop inlet is not used at end of gutter.

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.



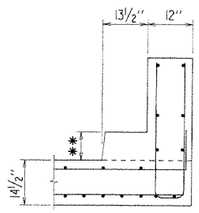
SECTION A-A

N.T.S.



SECTION B-B

N.T.S.



SECTION C-C

At end of Transtion Rail

N.T.S.

Note: The contractor shall make check measurements and make any adjustments necessary to fit the new work to the existing bridge location.

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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL I APPROACH GUTTERS (BRIDGES WITH 13½" CURB WIDTH) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

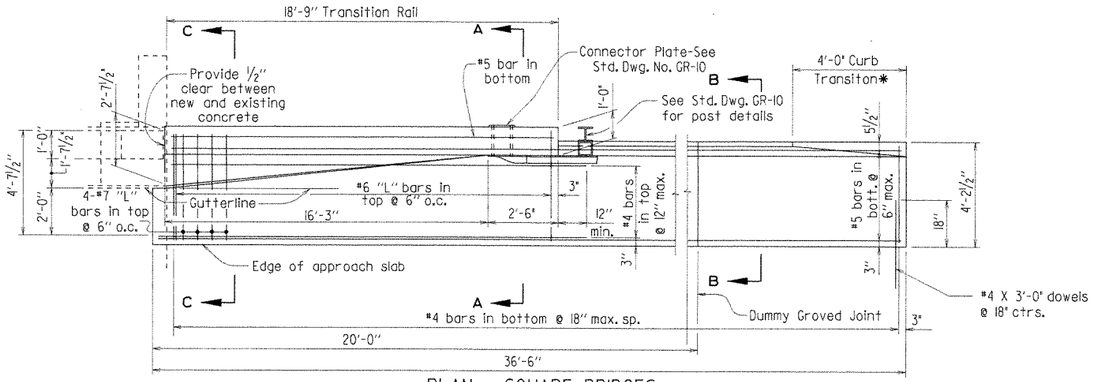
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CHECKED BY: JA DATE: 04-17-03 SCALE: N.T.S.

DESIGNED BY: KC DATE: 04-17-03

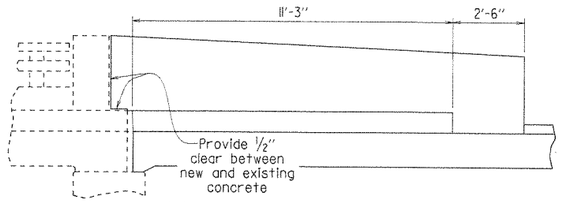
BRIDGE NO. 03710 & 03716 DRAWING NO. 43685

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		120	165
				JOB NO.		061187		
				03713		SPECIAL 2 GUTTER		43686



PLAN - SQUARE BRIDGES

N.T.S.

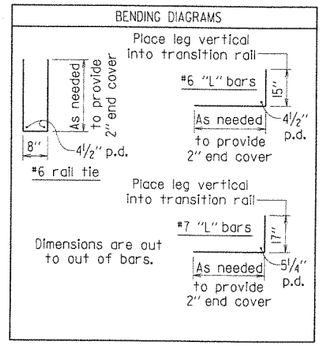


Bridge end may vary from that shown. Adjust gutter details as required to provide similar railing transition.

ALTERNATE DETAILS

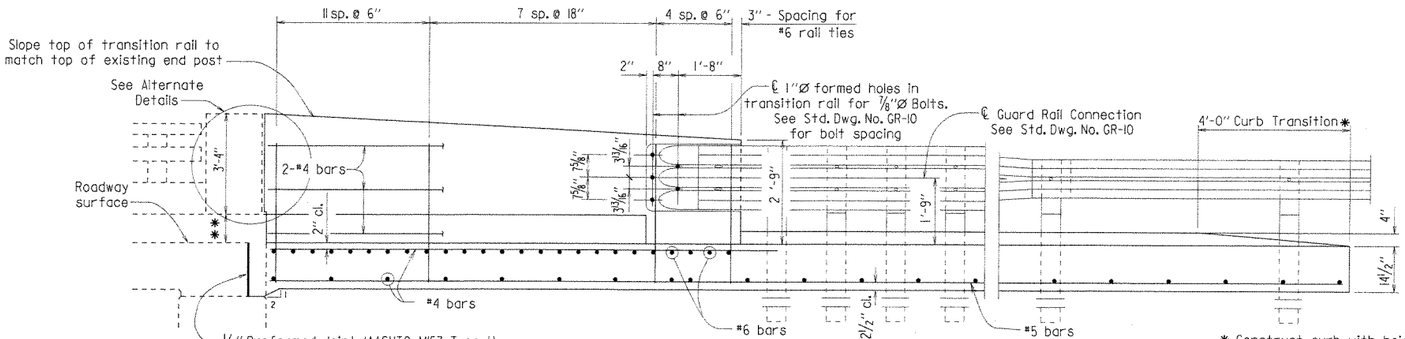
N.T.S.

BENDING DIAGRAMS



QUANTITIES FOR ONE SQUARE APPROACH GUTTER

Concrete	Reinforcing Steel
9.81 cu.yd.	1167 lb.



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 Special2)'.

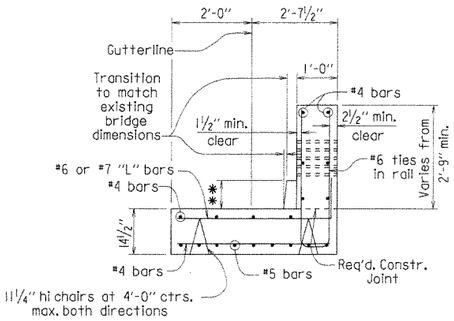
LONGITUDINAL SECTION THRU GUTTER

N.T.S.

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

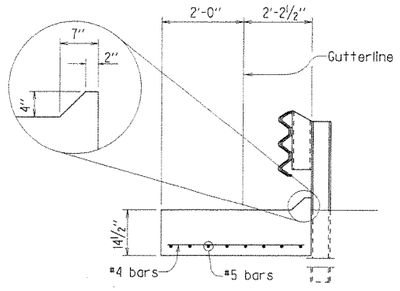
Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

** Match Existing Curb Height



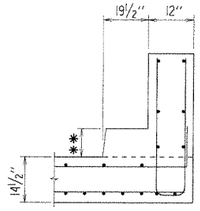
SECTION A-A

N.T.S.



SECTION B-B

N.T.S.



SECTION C-C

At end of Transtion Rail

N.T.S.

Note: The contractor shall make check measurements and make any adjustments necessary to fit the new work to the existing bridge location.

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.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10819 JOHN O. ALLEN 4/17/03

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL 2 APPROACH GUTTERS (BRIDGES WITH 19½" CURB WIDTH) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE I-40 SEC. 41

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

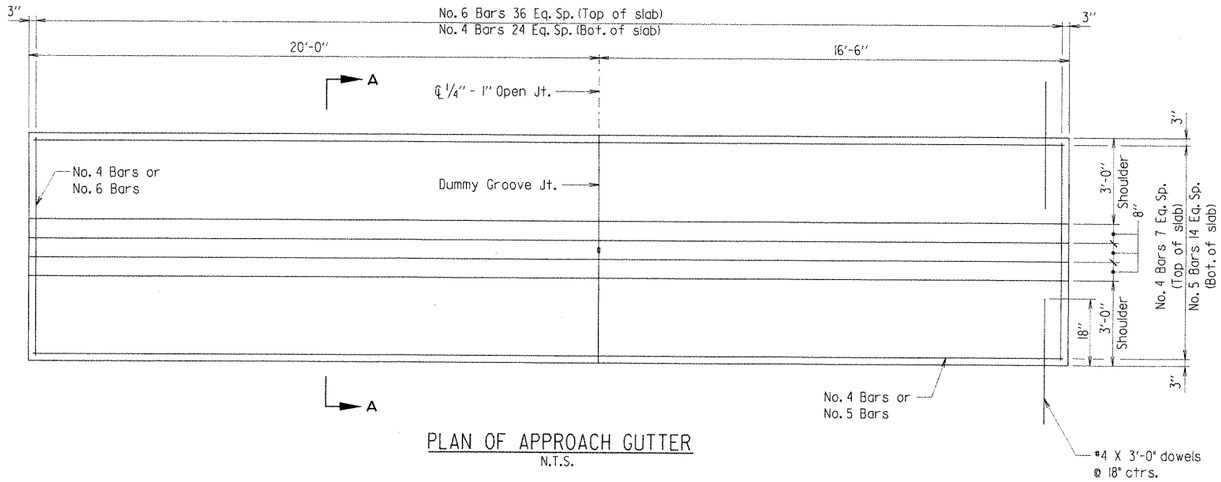
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CHECKED BY: JA DATE: 04-17-03 SCALE: N.T.S.

DESIGNED BY: KC DATE: 04-17-03

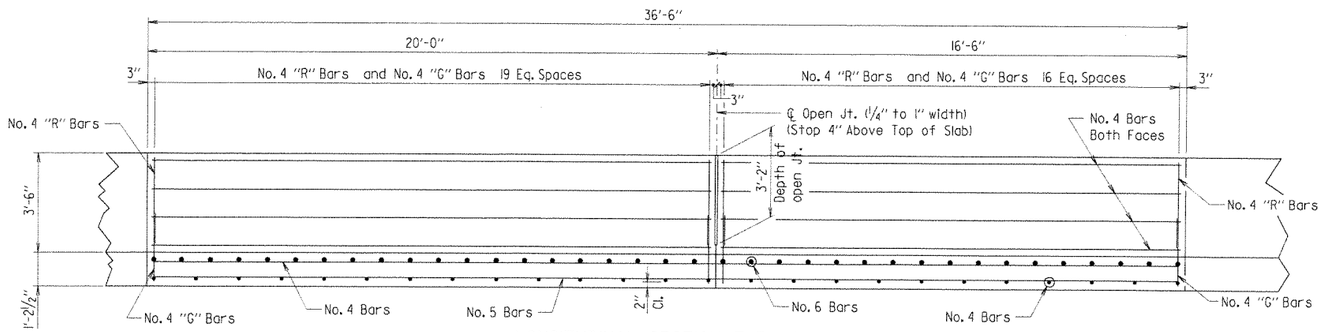
BRIDGE NO. 03713 DRAWING NO. 43686

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061187		
				①	06893 & 06894 SPECIAL 3 GUTTER			43687



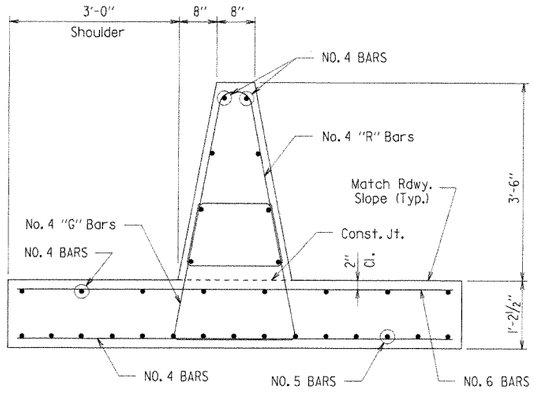
PLAN OF APPROACH GUTTER

N.T.S.



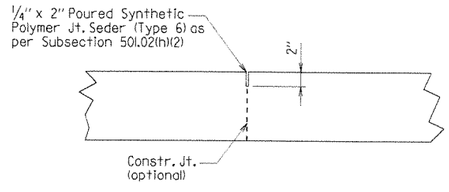
LONGITUDINAL SECTION THRU GUTTER

N.T.S.



SECTION A-A

N.T.S.



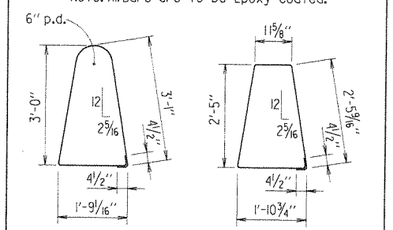
DETAIL OF DUMMY
GROOVED JOINT

N.T.S.

BAR LIST (ONE GUTTER)

BENDING DIAGRAMS
(Dimensions are out to out of bars.)

Note: All Bars are to be Epoxy Coated.



QUANTITIES FOR ONE APPROACH GUTTER

Concrete	Reinforcing Steel
19.38 cu.yd.	1925 lb.

GENERAL NOTES

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

Reinforcement Steel shall conform to AASHTO M31 of M53, Grade 50 (fy = 60,00 psi.)

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL 3 APPROACH GUTTERS (AT MEDIAN)

CACHE RIVER-WEST (F)
PRAIRIE COUNTY
ROUTE SEC.

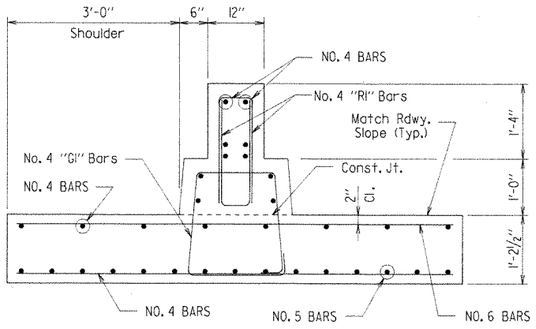
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: RP DATE: 04-17-03
CHECKED BY: JA DATE: 04-17-03
DESIGNED BY: KC DATE: 04-17-03
FILENAME: B60114.CG
SCALE: N.T.S.

BRIDGE NO. 06893 & 06894 DRAWING NO. 43687

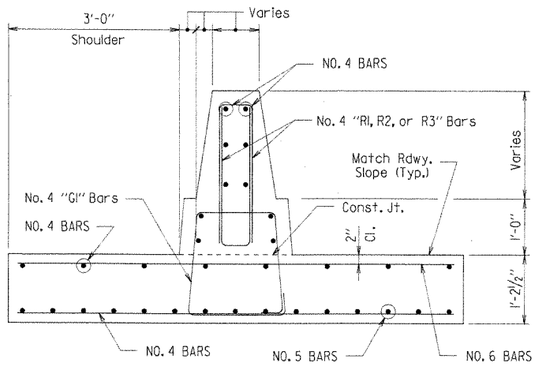
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		122	165
				JOB NO.		061187		
				Ø3713		SPECIAL 4 GUTTER		43688

(1)



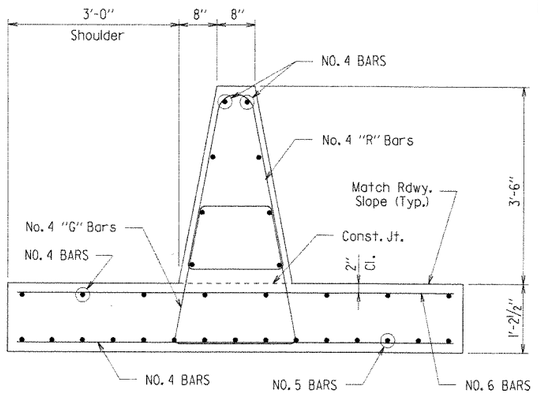
SECTION A-A

N.T.S.



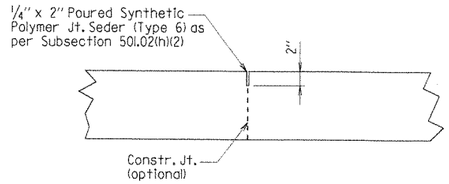
SECTION B-B

N.T.S.



SECTION C-C

N.T.S.

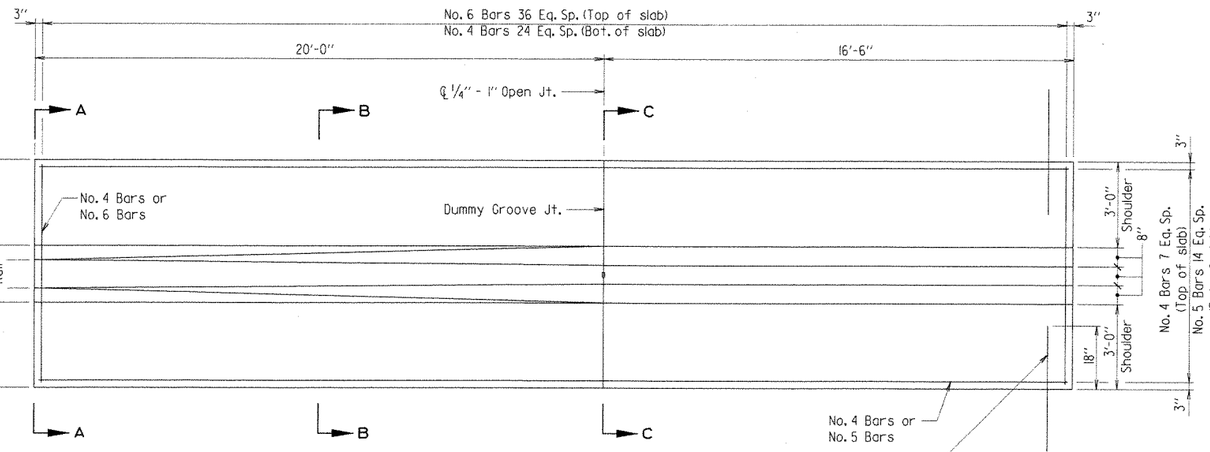


DETAIL OF DUMMY GROOVED JOINT

N.T.S.

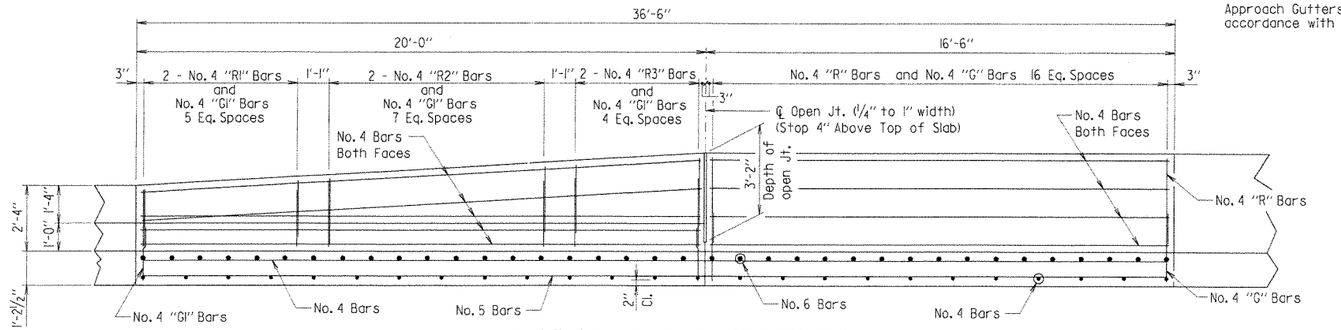
QUANTITIES FOR ONE APPROACH GUTTER

Concrete	Reinforcing Steel
18.88 cu.yd.	1934 lb.



PLAN OF APPROACH GUTTER

N.T.S.



LONGITUDINAL SECTION THRU GUTTER

N.T.S.

GENERAL NOTES

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

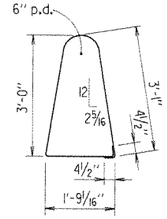
Reinforcement Steel shall conform to AASHTO M31 of M53, Grade 50 (fy = 60,00 psi.)

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

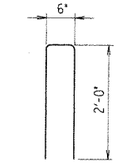
BAR LIST (ONE GUTTER)

BENDING DIAGRAMS
(Dimensions are out to out of bars.)

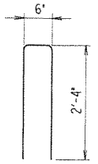
Note: All Bars are to be Epoxy Coated.



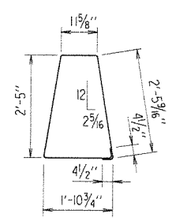
No. 4 "R" Bar



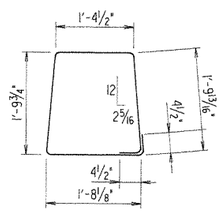
No. 4 "RI" Bar



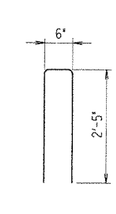
No. 4 "R2" Bar



No. 4 "G" Bar



No. 4 "GI" Bar



No. 4 "R3" Bar

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10819
JOHN Q. ALLEN
4/17/03

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL 4 APPROACH GUTTERS (TRANSITION MEDIAN) CACHE RIVER-WEST (F) PRAIRIE COUNTY

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

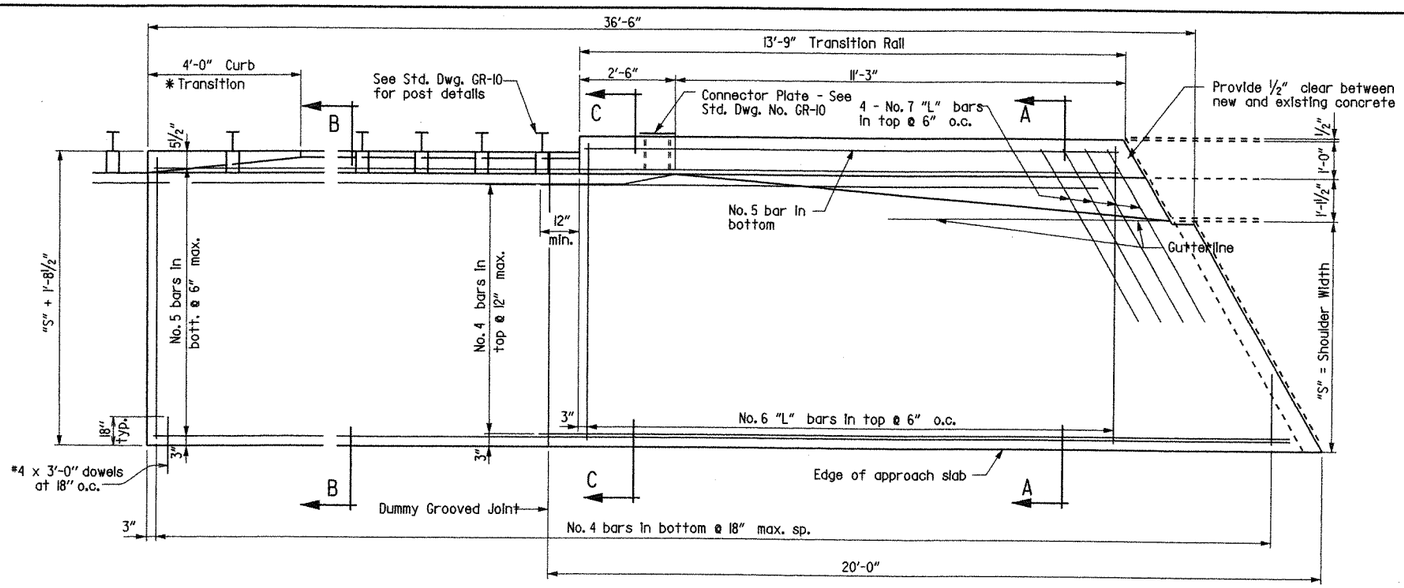
DRAWN BY: RP DATE: 04-17-03 FILENAME: B60114.DG

CHECKED BY: JA DATE: 04-17-03 SCALE: N.T.S.

DESIGNED BY: KC DATE: 04-17-03

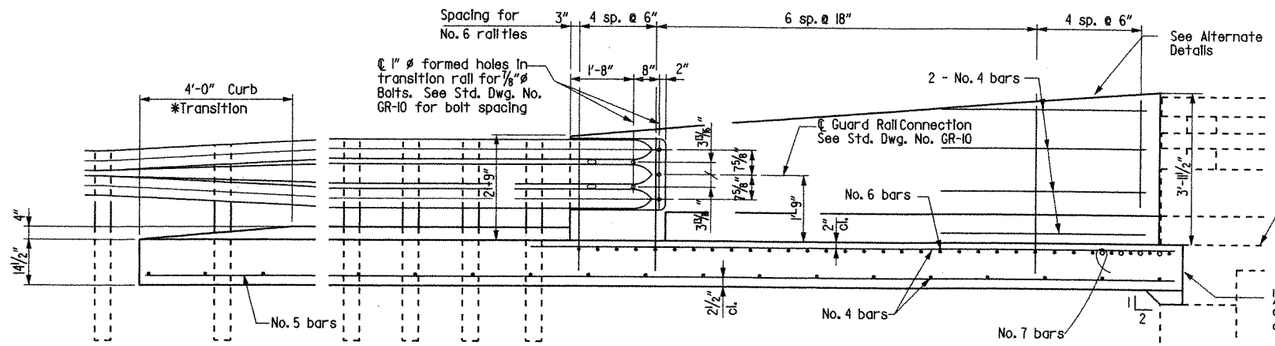
BRIDGE NO. 03713 DRAWING NO. 43688

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.		061187	122A	165
				(1)	A&B03709 - Special Gutter 5 - 43688A			



PLAN

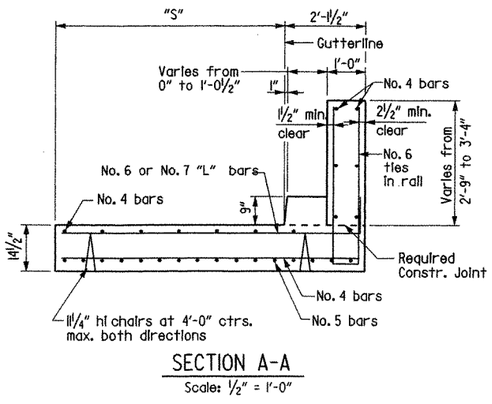
Scale: ½" = 1'-0"



Note: Completely fill existing guard rail connection recess with approved non-shrink grout. Work and material will not be paid for seperately but will be considered subsidiary to 'Type Special 5 Gutter (1'-1½" Curb Width)'.

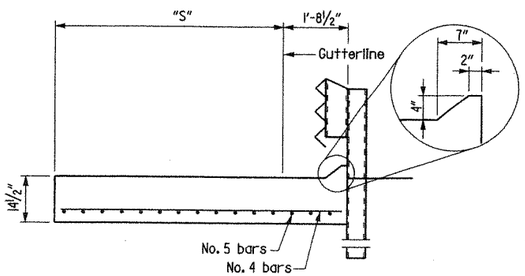
LONGITUDINAL SECTION THRU GUTTER

Scale: ½" = 1'-0"



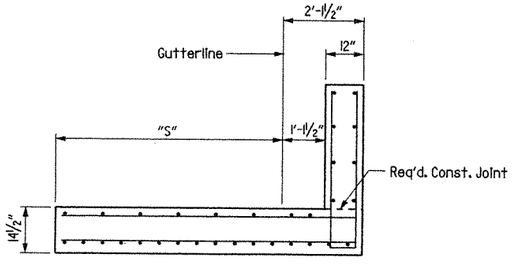
SECTION A-A

Scale: ½" = 1'-0"



SECTION B-B

Scale: ½" = 1'-0"



SECTION C-C

At end of Transition Rail

Scale: ½" = 1'-0"

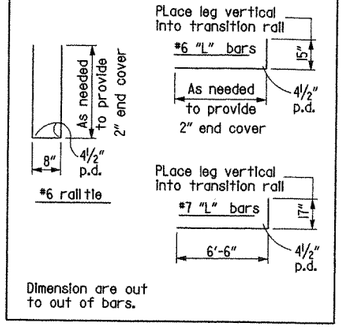
GENERAL NOTES

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" minimum cover at each end.

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

BENDING DIAPHRAGMS



Dimension are out to out of bars.

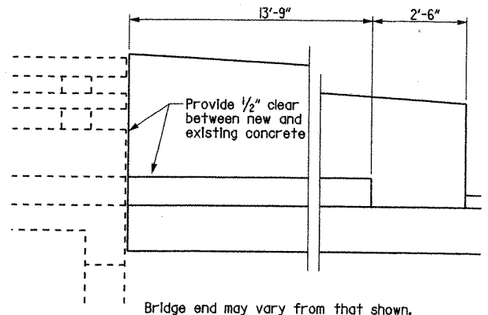
QUANTITIES FOR ONE GUTTER

"S" Shoulder Width (Ft.)	Reinforcing Steel (Lbs.)	Concrete C.Y.
6	1473	15.44
10	2114	22.66

*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.

NOTE: The contractor shall make check measurments and make any adjustments necessary to fit the new work to the existing bridge location.



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

ALTERNATE DETAILS

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8337
12/8/08
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF APPROACH GUTTERS TYPE SPECIAL 5 (1'-1½" CURB WIDTH)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-16-2003 FILENAME: BB60114.AG2

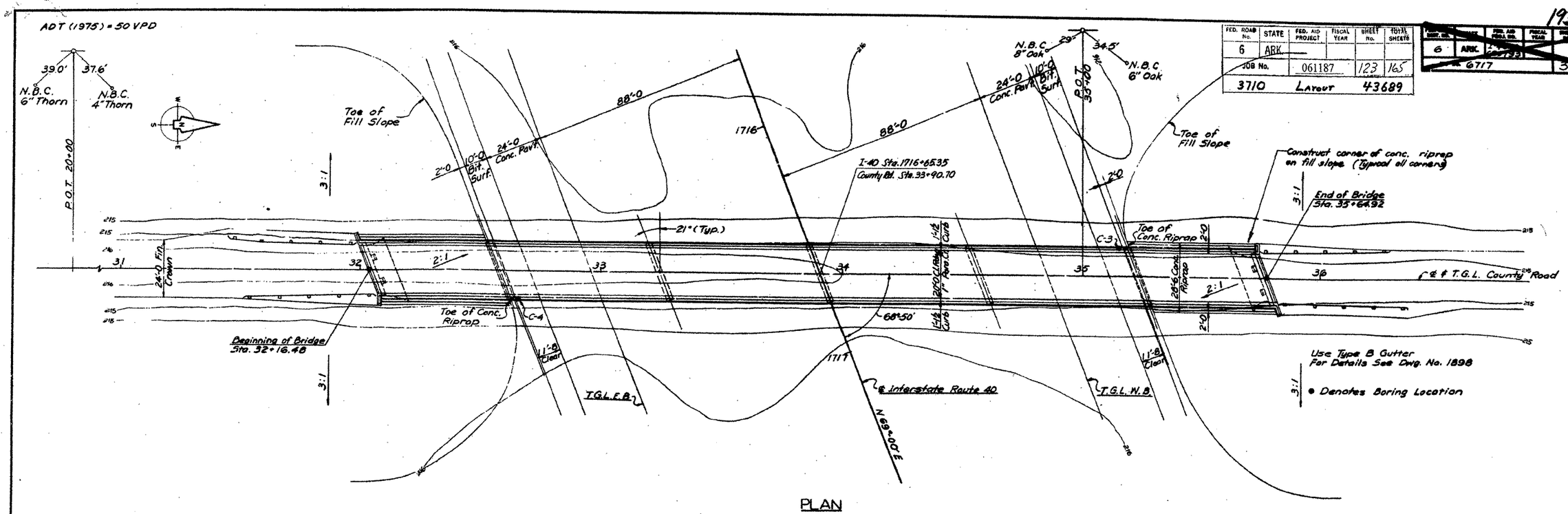
CHECKED BY: CJF DATE: 4-16-2003 SCALE: N.T.S.

DESIGNED BY: STD. DATE:

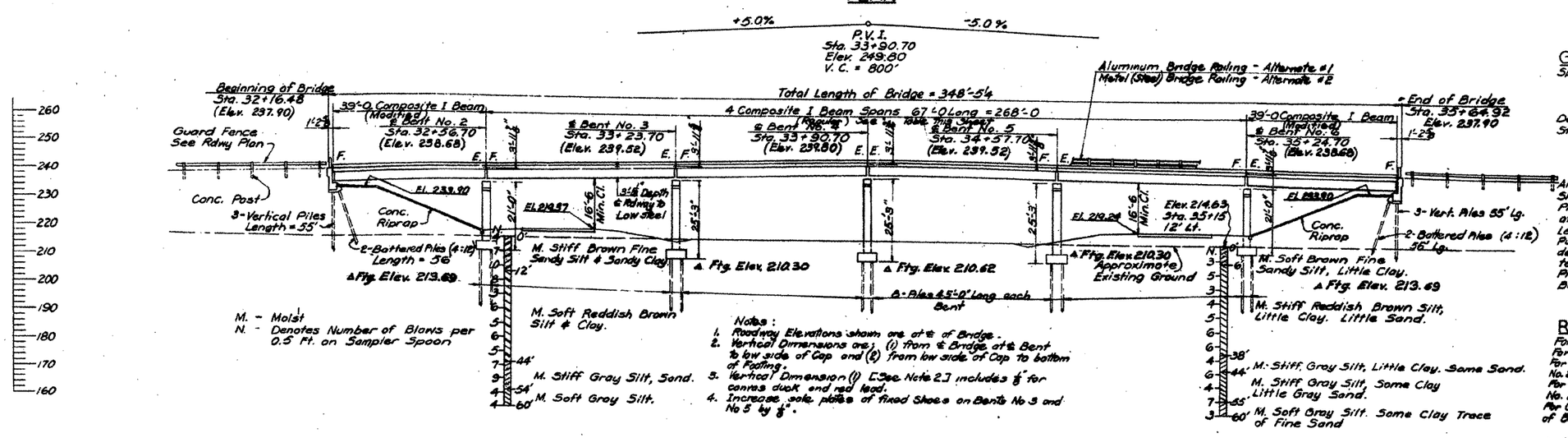
BRIDGE NO. A&B03709 DRAWING NO. 43688A

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.				
JOB No.		061187		123	165
3710		LAFAYETTE		43689	

ADT (1975) = 50 VPD



PLAN



Notes:
1. Roadway Elevations shown are at ℄ of Bridge.
2. Vertical Dimensions are; (1) from ℄ Bridge at ℄ Bent to low side of Cap and (2) from low side of Cap to bottom of Footing.
3. Vertical Dimension (1) [See Note 2.] includes ½" for canvas duck and red lead.
4. Increase sole plates of fixed Shoes on Bents No 3 and No 5 by ½".

Note: Drains to be placed in Spans 3 and 4 only

ELEVATION

GENERAL NOTES

Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction adopted Dec. 9, 1959
Design Loading: H-15 A.A.S.H.O. 1961
Stresses:
Class A Concrete (n=13) 840 #/
Class S Concrete (n=10) 1,200 #/
Reinforcing Steel 20,000 #/
Structural Steel (A-36) 24,000 #/
All Piles to be 16" Concrete Filled Metal Shells or 16" Octagonal Precast Piles. Piles in End Bents 1 & 7 to be driven after the Embankment is in place. Lengths of Piling Shown are for Estimating Purposes only. Actual Lengths to be determined in the Field. Drive one 50' test Pile in Bents No. 2, 4 & 6. All Piles to be driven to a minimum Bearing of 36 ton / Pile.

REFERENCES

For Details of Spans see Drawing No. 373-2.
For Details of Bents see Drawing No. 373-3.
For Precast Concrete Pile Details see Drawing No. 2382.
For Concrete Filled Metal Shell Piles see Dwg. No. 2382-A.
For Concrete Riprap Details see "Summary of Bridge Quantities" sheet.

△ Revised & Corrected 6-30-64 JWG CMB JMM

FOR INFORMATION ONLY!

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
INTERSTATE ROUTE 40 SECTION
LAYOUT OF
COUNTY ROAD UNDERPASS "STA. 1716 + 65.35

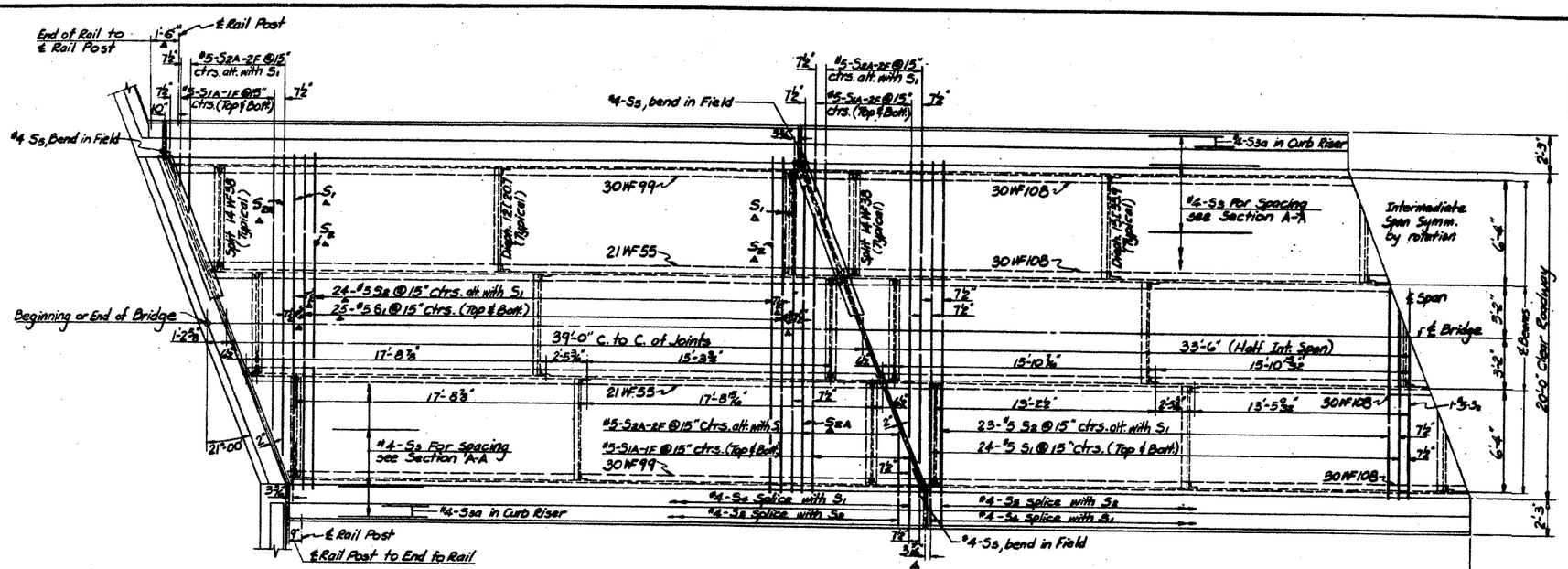
BRIDGE NO. 3710 | SCALE 1"=20'-0 | DATE | BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS
DRAWING NO. ST 3-1

Checked By — Initials

NATIONAL BLUE PRINT CO., INC. 7407

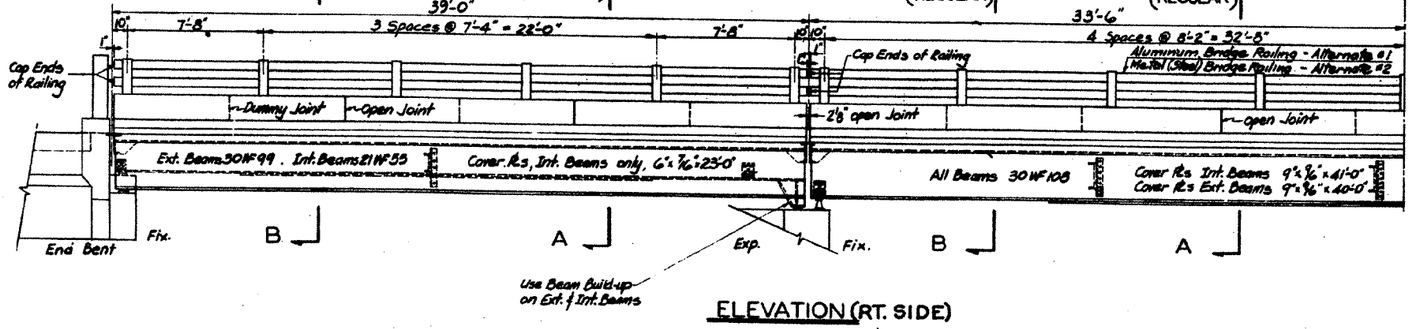
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.				
JOB No.		061187		124	165
3710 SPAN DETAILS				43690	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	[illegible]			
6717				39	[illegible]



PLAN OF 39'-0" END SPAN

HALF-PLAN OF 67'-0" INT. SPAN



ELEVATION (RT. SIDE)

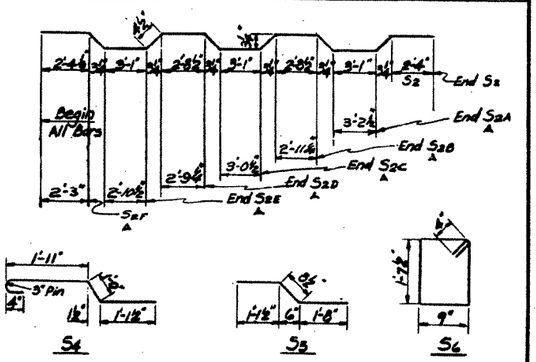
DEAD LOAD DEFLECTION

SPAN	INT. BEAM	EXT. BEAM
39'	1 1/16"	5/16"
67'	1⅛"	2⅛"

BAR LIST

MARK	SIZE #	NUMBER REQUIRED 39' SPAN	NUMBER REQUIRED 67' SPAN	LENGTH	PIN DIA.
S1	5	△54	96	21'-0"	Str.
S1A-1E	5	4 each	4 each	17'-0"to 0'-9"	Str.
S2	5	△24	47	21'-6"	1¾"
S2A	5	2	2	△ 18'-11"	1¾"
S2B	5			△ 15'-5⅜"	1¾"
S2C	5			△ 12'-3"	1¾"
S2D	5			△ 8'-11"	1¾"
S2E	5			△ 5'-7"	1¾"
S3	5	2	2	△ 2'-3"	Str.
S3a	4	54	—	38'-6"	Str.
S3b	4	—	162	23'-4"	Str.
S3aa	4	18	—	12'-5"	Str.
S3ba	4	—	18	21'-8"	Str.
S4	4	△46	108	4'-6"	1¾"
S5	4	44	106	4'-6"	1¾"
S6	4	64	108	5'-4"	1¾"

BENDING DIAGRAMS



Dimensions are given from C. to C. of Bars.

REFERENCES:
For general Notes, Camber Diagram, Sections A-A & B-B, Details of Shear Connectors, Bearing Devices, Anchor Bolts, Joints for Curb Riser, Drain Openings, Cover Plates and Beam Buildups, see Drwgs. No. 14990 & 15000.

NOTES:
Use Type "A" Shoes for all Int. Spans.
Use Type "B" Shoes for all End Spans.
See Layout for Location of Fixed & Expansion Shoes.
See Detail of Bents for Table of Sole Plate or Masonry Plate Variations.
"c" Dimension for Int. Spans = 2'-11½".
Shear Connector Spacing, for 67'-0" Int. Span, same as 65'-0" span on Dwg. # 15000 except number of "i" Spaces shall be increased from 7 to 8, and "P" Dimension decreased from 12" to 11".
Omit Shear Connectors from Ext. Beam of End Spans.

△ Revised & Corrected 6-30-64 JWG CHK'D gmtl

FOR INFORMATION ONLY!

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
INTERSTATE ROUTE 40 SECTION

DETAILS OF SPANS

COUNTY ROAD UNDERPASS (STA. 1716+65.35)

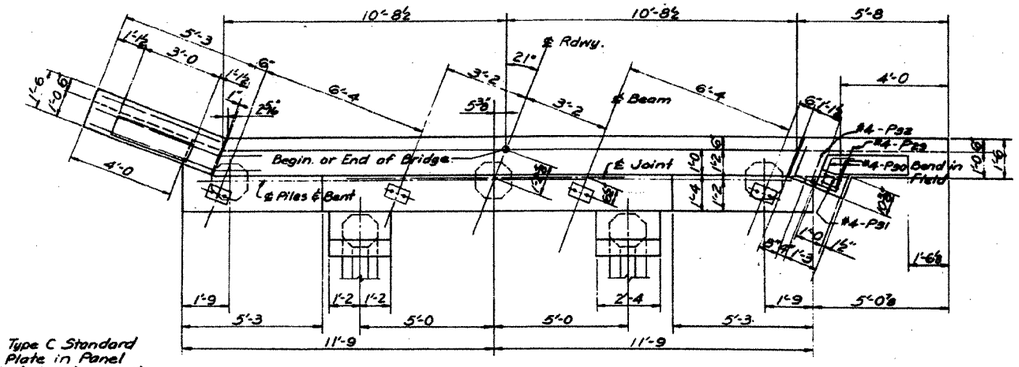
BRIDGE NO. 3710 | SCALE 1"=1'-0" | DATE | BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS

DRAWING NO. ST3-2

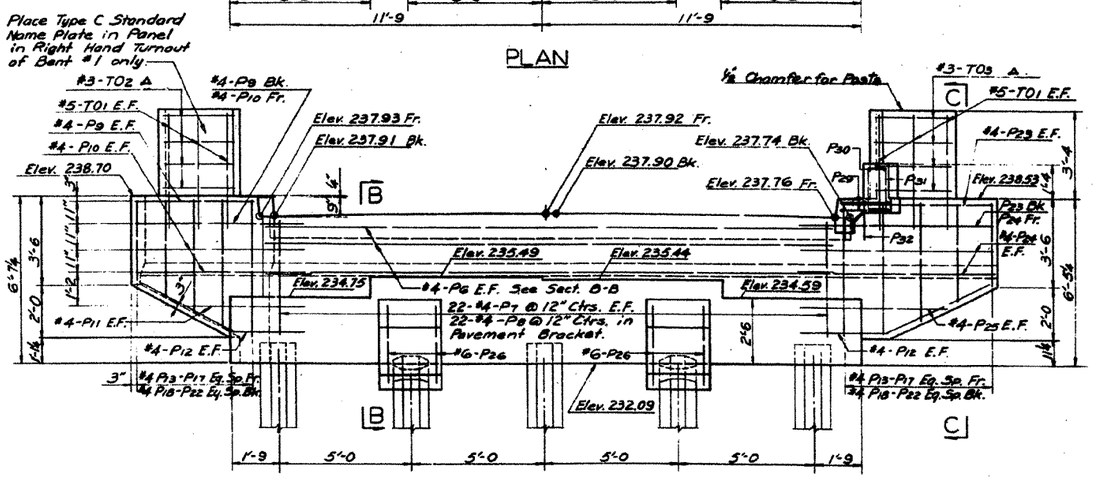
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.				
JOB No.		061187		125	165
3710 BENT DTLS.				2-6	43691

6	ARK.	671-1		40	240

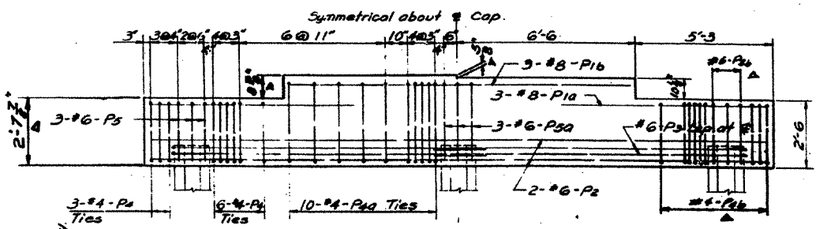
3" Clear to mean as al



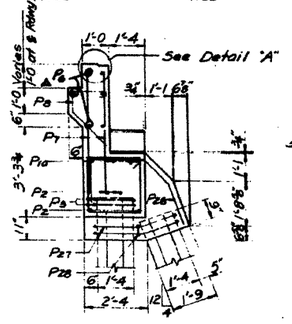
PLAN



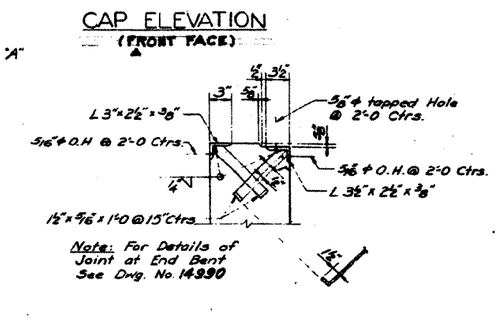
ELEVATION



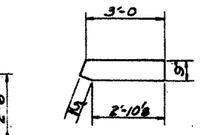
CAP ELEVATION
(FRONT FACE)



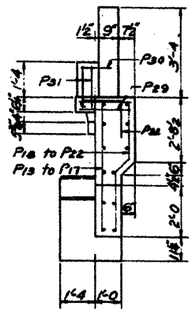
SECTION B-B



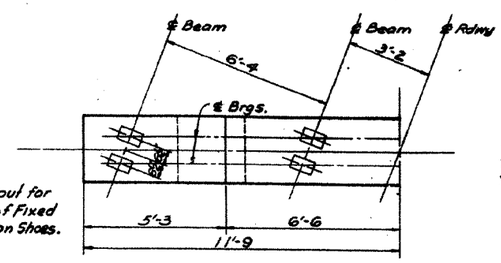
DETAIL A
Scale: 1"=1'-0



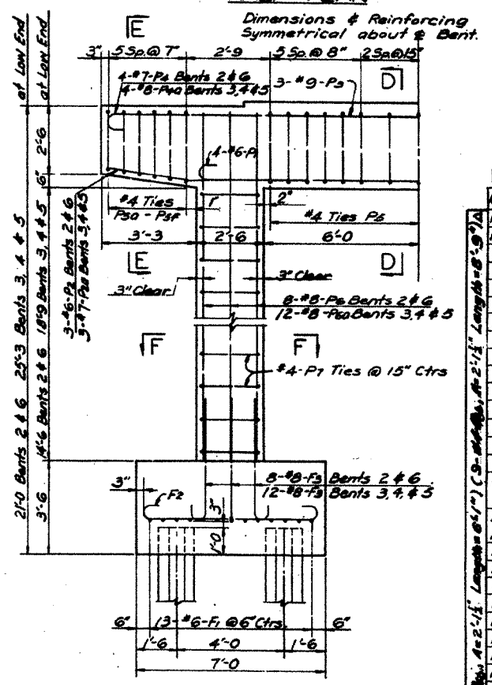
POST DETAIL



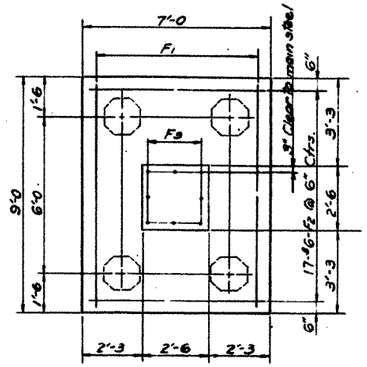
SECTION C-C



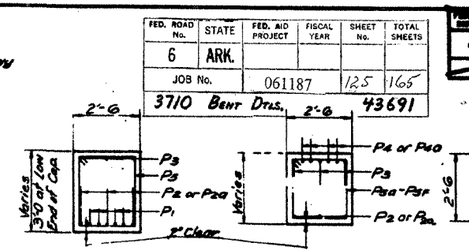
HALF PLAN



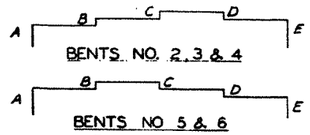
HALF ELEVATION



FOOTING PLAN



SECTION D-D SECTION E-E SECTION F-F



CAP ELEVATIONS Looking Forward on Stations.
N. T. S.

VARIABLE DIMENSIONS

Bent No.	A	B	C	D	E
2	2'-6	1'-5⅞	½"	5'-6"	2'-7½"
3	2'-6	1'-6	4"	9'-6"	2'-6¾
4	2'-6	1'-4⅝"	0"	1'-3⅛	2'-6
5	2'-6¾	9'-6"	4"	1'-1⅛	2'-6
6	2'-7½"	5'-0	½"	1'-1⅛	2'-6

END BENT BAR LIST

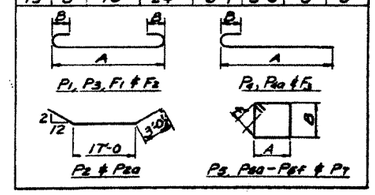
Mark	Size (#)	No. Per Bent	Length	A	B	Pin Dia.
P1a	8	6	7'-9			Str.
P1b	8	3	12'-8			Str.
P2	6	4	23'-2			Str.
P3	6	4	25'-2	11'-1	1'-5	2¼"
P4	4	18	9'-1	2'-3½	1'-1½	1½"
P4a	4	20	10'-6	3'-0	1'-1½	1½"
P5	6	6	6'-5	2'-3¾	1'-1½	2¼"
P5a	6	3	7'-11	3'-0	1'-1½	2¼"
P6	4	6	21'-4			Str.
P7		44	4'-3			Str.
P8		22	4'-0			1½"
P9		3	4'-10			Str.
P10		5	6'-9	5'-1	1'-8	1½"
P11		2	5'-3	3'-7	1'-8	1½"
P12		4	7'-6	4'-3	3'-3	1½"
P13 to P17		2 Each	3'-2 to 5'-8			Str.
P18 to P22		2 Each	3'-4 to 5'-10	4" to 2'-8		1½"
P23		3	5'-2			Str.
P24		5	7'-6			Str.
P25	4	2	5'-0			Str.
P26	6	4	7'-10			2¼"
P27	6	4	10'-10			2¼"
P28	4	2	4'-11	5"	1'-9	1½"
P29		2	4'-11			1½"
P30		2	2'-9			Str.
P31		2	5'-4	9"	1'-7½	1½"
P32	4	1	3'-0			1½"
T01	5	12	5'-3			Str.
T02	3	4	6'-11	6"	2'-9	1¼"
T03	3	4	6'-4			1¼"

(3-#8 Bars, A=2'-4" Lengths=8'-9"Δ)

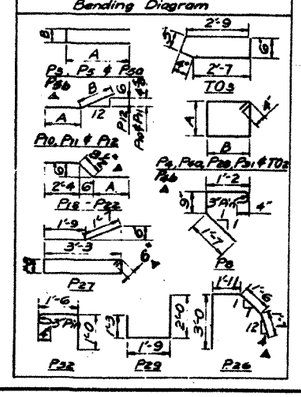
INT. BENT BAR LIST

Mark	Size (#)	No. Per Bent Bents 2 & 6	No. Per Bent Bents 3,4 & 5	Length	A	D	Pin Dia.
P1	6	4	4	18'-5	17'-0	6"	4½"
P2	6	3	0	23'-1			4½"
P2a	7	0	3	23'-1			5¼"
P3	9	3	3	25'-6	23'-0	10"	9"
P4	7	8	0	9'-4	8'-6	7"	5¼"
P4a	8	0	8	9'-7	8'-6	9"	8"
P5	4	15	15	10'-1	2'-1½	2'-7½	1½"
P5a		2	2	10'-0		2'-7	
P5b				9'-10		2'-6	
P5c				9'-8		2'-5	
P5d				9'-6		2'-4	
P5e				9'-4		2'-3	
P5f	4	2	2	9'-2	2'-1½	2'-2	1½"
P6	8	16	0	17'-3			Str.
P6a	8	0	24	21'-6			Str.
P7	4	28	34	8'-9	2'-0½	2'-0½	1½"
F1	6	26	26	9'-11	8'-6	6"	4½"
F2	6	34	34	7'-11	6'-6	6"	4½"
F3	8	16	24	6'-7	5'-6	9"	8"

(9-#8 Bars, A=2'-4" Lengths=6'-11")



Bending Diagram



Dimensions are Ctrs of Bars.

Δ Revised & Corrected 6-30-64 JWG CHKD GmH

NOTES

All Concrete to be Class 3 except Columns and Footings of Intermediate Bents which will be Class A. All exposed corners to have ¾" Chamfer.

Turnout Posts will be paid for as Class 3 Concrete.

Increase Sole Plates of Fixed Shoes on Bents 3 and 5 by ⅜"

FOR INFORMATION ONLY

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

INTERSTATE ROUTE 40 SECTION

DETAILS OF BENTS

COUNTY ROAD UNDERPASS (STA 1716+65.35)

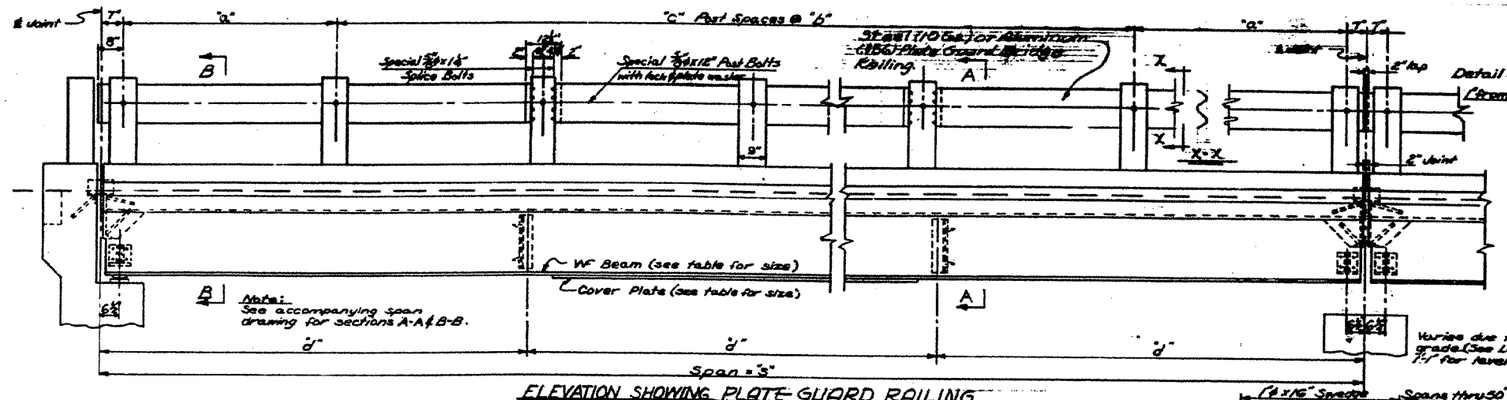
BRIDGE NO. 3710 SCALE ⅜"=1'-0 or As Noted DATE

DRAWING NO. ST3-3

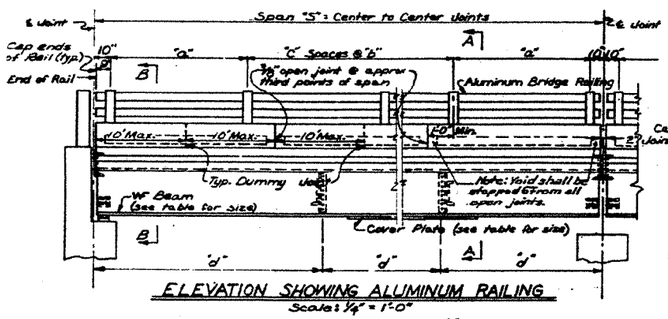
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS

TRACING BY
Checked by J.B

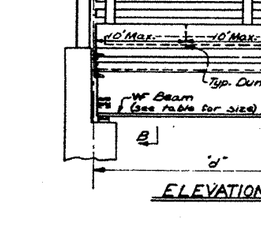
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			126	165
JOB No.	061187				
3710	SPAN DETAILS	43692			



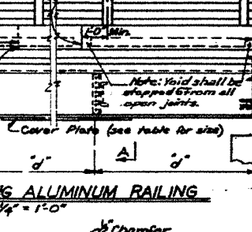
ELEVATION SHOWING PLATE GUARD RAILING
Scale: ½" = 1'-0"



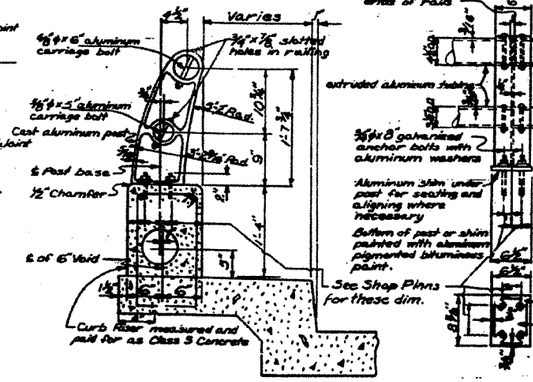
ELEVATION SHOWING ALUMINUM RAILING
Scale: ¼" = 1'-0"



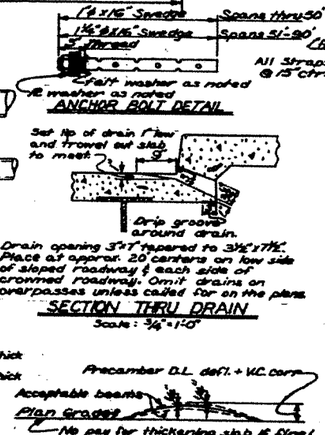
PLAN OF DUMMY JOINT



PLAN OF OPEN JOINT



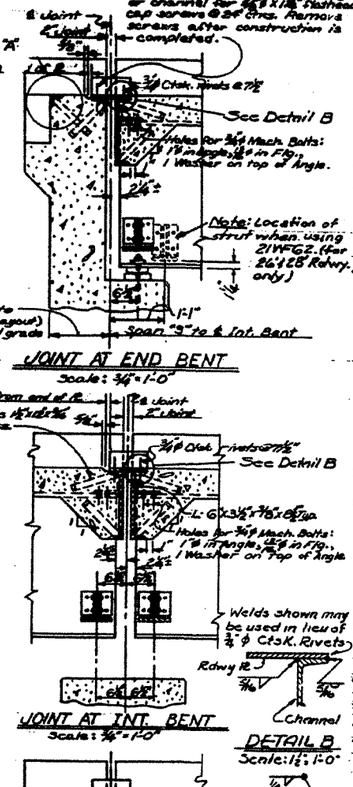
DETAILS OF ALUMINUM RAILING
Scale: 1" = 1'-0"



ANCHOR BOLT DETAIL

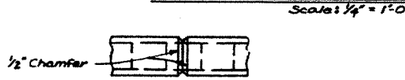
SECTION THRU DRAIN
Scale: ⅜" = 1'-0"

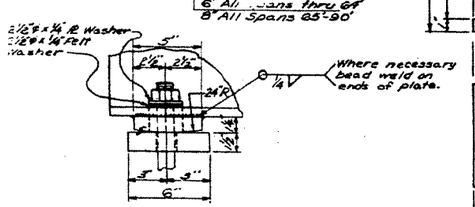
CAMBER DIAGRAMS
Use When D.L. Defl. + V.C. Corr. is Less than ¾"



TYPE "A" FIXED SHOE

TYPE "A" EXPANSION SHOE





TYPE "B" FIXED or EXPANSION SHOE

Use for end bents - all spans.
Use for int. bents - 35'-90' spans, unless otherwise shown.

JOINT AT END BENT
Scale: ¾" = 1'-0"

JOINT AT INT. BENT
Scale: ¾" = 1'-0"

DETAIL B
Scale: 1½" = 1'-0"

JOINT AT END BENT SHOWING MODIFIED SPAN
Scale: ¾" = 1'-0"

JOINT AT INT. BENT SHOWING MODIFIED AND REGULAR SPAN
Scale: ¾" = 1'-0"

Note: Beam buildups are required when modified spans are used, or adjacent regular spans have different "a" plus shoe height. (See accompanying drawings.)

Use When Difference in ("a" Plus Shoe Height) is 3" or More.

Use When Difference in ("a" Plus Shoe Height) is Less Than 3".

DETAILS OF BEAM BUILDUP
No Scale

FOR INFORMATION ONLY!

General Notes

All concrete to be Class S. All exposed corners to be chamfered ¾" unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts. Rivets ¾"ø, Open holes ⅞"ø except where noted otherwise.

Structural shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of shapes shown or those actually used, whichever is less.

All welded connections to be ⅜" fillet shop welds except as noted.

All welding shall conform to the American Welding Society Standard Specifications for Welded Highway and Railway Bridges, current edition.

Shop Paint: All structural steel except surfaces in contact with concrete shall be given one coat of red lead and raw linseed oil before shipment.

Field Paint: First coat - red lead tinted with lamp black. Second coat - aluminum paint.

All metal bearing and roadway expansion devices to be paid for as "Structural Steel in Beam Spans." Bearings shall be finally seated in a manner set forth in the Specifications. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.

This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approval secured before fabrication is begun.

All Steel shall be ASTM A-36 unless otherwise noted.

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Reinforcing Steel."

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approval secured before fabrication is begun.

All chambers on concrete riser for rail are to be ½" Chamfer.

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

The aluminum bridge railing, including posts and fasteners, shall be paid for at the unit price bid per linear foot for "Aluminum Bridge Railing."

A rust resistant galvanizing set screws is an acceptable alternate and may be supplied at the Contractor's option.

Outside surfaces of flanges of cast aluminum posts shall be given a No. 220 grit belt finish after which all exposed surfaces of posts shall receive one coat of clear lacquer.

If Steel or Aluminum Plate Guard Bridge Railing is used it shall be the type shown or an equivalent rigid type as approved by the Engineer. The rail including posts and fastenings shall be paid for at the unit price bid per linear foot for "Steel or Aluminum Plate Guard Bridge Railing."

Slab Pouring Notes:

Floor slabs may be poured in one continuous operation with a strike-off extending over the whole span length, or may be poured in increments with the center one-third to one-half span length poured first. After the center section is poured not less than 72 hours shall elapse before pouring the end sections and sections may be poured simultaneously. If not poured simultaneously, 48 hours shall elapse between end section pours.

SPECIFICATIONS:
Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959.

This Drawing is a modification of Dwg No. 5462.

⅝" thick stiffener ea. side of Web tapered from edge of Coped Flg. to edge of bottom plate.

See Gilm

DETAILS COMMON TO STANDARD 35'-90' COMPOSITE I-BEAM SPANS 20', 24', 26', AND 28' ROADWAYS

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DESIGNED BY GM DATE 8/1962
TRACED BY DATE
DETAILED BY L.K. DATE 3-9-62
CHECKED BY L.A. Carlson

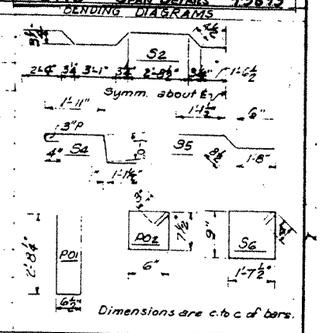
SCALE As Shown
BRIDGE NO.
DRAWING NO. ~~4390~~ 43692

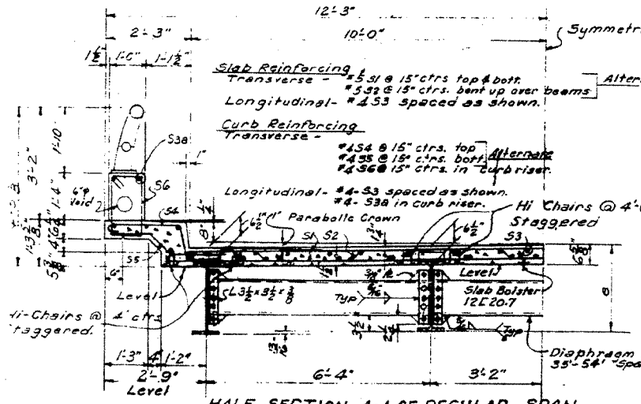
Do Not Use 10/25/67

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No	TOTAL SHEETS
6	ARK.			127	165
JOB No.		061187			

3710 SPAN DETAILS 43693

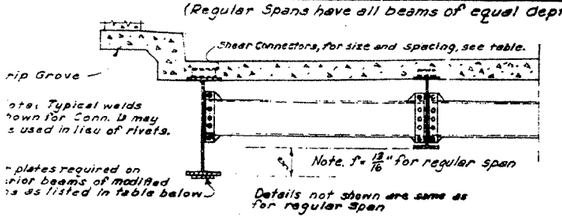
PENDING DIAGRAMS





HALF SECTION A-A OF REGULAR SPAN

(Regular Spans have all beams of equal depth.)

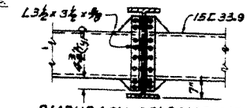


Details not shown are same as for regular Span

HALF SECTION A-A MODIFIED SPANS

Interior beams are same as Regular Spans.
Exterior beams are the lightest section of same nominal depth as beams for longest span shown on bridge layout.

Note- See Drwg. No. 14990 for location of Sections A-A and B-B and variables a, b, c & d.

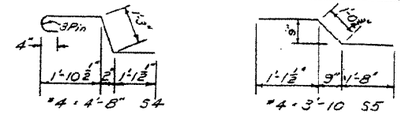


Aluminum Bridge Railing

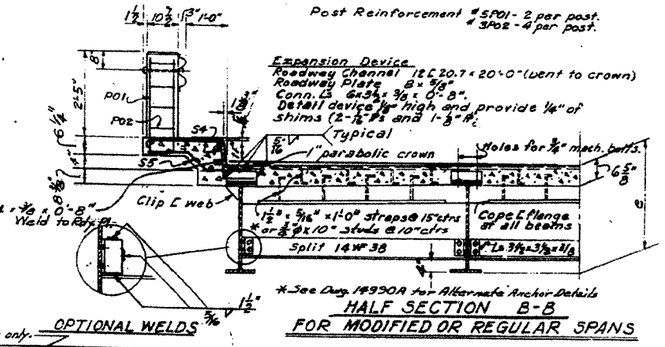
Plate Guard Br. Railing (Non pay item)

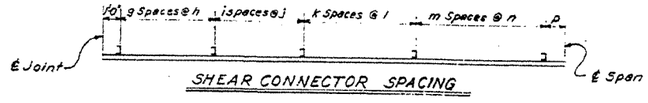
BAR LIST- ONE SPAN

MARK	SIZE	LENGTH	PIN DIA	NUMBER REQUIRED EACH SPAN
S1	5	21'-0"	Str.	58 58 60 62 64 66 66 68 70 72 74 74 76 78 80 82 82 84 86 88 90 90 92 94 96 98 106 114 122 130 138 146
S2	5	21'-6"	1¾	28 28 29 30 31 32 32 33 34 35 36 36 37 38 39 40 40 41 42 43 44 44 45 46 47 48 52 56 60 64 68 72
S3	4	8'-6"	Str.	54
S3	4	S/2 + 7"	Str.	108
S3	4	S/3 + 1'-0"	Str.	162
S4	4	4'-6"	1½	58 58 60 62 64 66 66 68 70 72 74 74 76 78 80 82 82 84 86 88 90 90 92 94 96 98 106 114 122 130 138 146
S5	4	3'-6"	1½	56 56 58 60 62 64 64 66 68 70 72 72 74 76 78 80 80 82 84 86 88 88 90 92 94 96 104 112 120 128 136 144
S6	4	5'-4"	1½	58 58 60 62 64 66 66 68 70 72 74 74 76 78 80 82 82 84 86 88 90 90 92 94 96 98 106 114 122 130 138 146
S3a	4	S-(1'-8")/3	Str.	12
P01	5	5'-10"	1¾	28 32 36 40 44 48 52 56 60 64
P02	3	2'-8"	1¼	56 64 72 80 88 96 104 112 120 128



S4 & S5 FOR PLATE GUARD BRIDGE RAILING



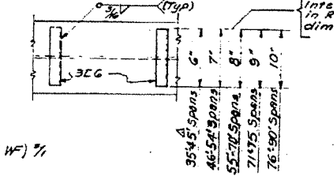


SHEAR CONNECTOR SPACING

SPAN:	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	65	70	75	80	85	90
g	6	7	7	7	8	9	8	10	11	11	10	6	8	8	9	8	8	9	10	11	11	8	7	7	6	6	6	7	9	7	6	5
h	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	10"	11"	11"	10"	10"	10"	11"	11"	13"	13"	14"
i	6	6	6	6	6	7	7	6	5	10	9	8	7	7	6	6	6	8	7	6	6	6	6	7	7	8	8	7	7	8	6	5
j	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	11"	11"	11"	11"	11"	11"	11"	11"	11"	11"	13"	13"	13"	12"	12"	12"	13"	13"	15"	16"	16"
k	5	5	5	5	5	5	5	7	5	6	4	4	4	5	6	6	6	6	6	5	5	6	6	5	5	6	7	4	5	6	5	
l	11"	11"	11"	11"	11	12	11"	11"	13	12	14"	15	15	14"	13"	14"	14"	14"	14"	16"	17"	17"	16"	16"	16"	17"	17	20"	24"	18"	16"	
m	3	3	4	4	4	3	4	4	3	1	2	4	3	3	4	4	3	2	2	3	4	4	3	4	5	5	4	4	6	6	10	
n	14"	13"	13"	13"	13"	14"	13"	14"	14"	14"	14	15"	15"	18"	18"	16"	18"	19"	19"	19"	19	20"	20"	23"	21"	19"	20"	24"	23"	23"	24"	24"
P	5"	7"	—	6"	5"	—	8"	5"	5"	6"	5"	7"	4"	10"	—	6"	=	8"	6"	—	4"	8"	12"	11"	12"	11"	15"	12"	7"	9"	8"	-	6

Note: Stud shear connectors, granular flux filled, solid fluxed, or equal may be used in place of the channels shown, at the following ratios: ¾" diameter stud in place of 2.52 inches of channel, ⅞" diameter stud in place of 2.52 inches of channel. The studs shall be 8" long and automatically and welded to the beam flanges in accordance with recomendations of the manufacturer. Channel sections will be used as basis for measurement of structural steel in shear connectors.

Note: Dimensions shown are for interior beams. For Exterior beams in Regular and Modified Spans these dimensions shall be shortened by one inch.



DETAILS OF SHEAR CONNECTORS

Scale: 1"=1'-0"

Note: Revised Lengths of Shear Connectors (2-25-64) JAS

Deflection of Exterior Beam is for Regular Span only.

OPTIONAL WELDS

REGULAR SPAN BEAM	REGULAR SPAN COVER PLATES INTERIOR	REGULAR SPAN COVER PLATES EXTERIOR	POST SPACING FOR ALUM. RAILING a	b	c	MODIFIED SPAN EXTERIOR BEAMS REQUIRING COVER PL. BEAM	COVER PLATE	POST SPACING FOR ℄ GUARD RAILING a	b	c	e	DEAD LOAD DEFLECTION INT.	EXT.	STRUT SPACING No. 8 & 7
21 WF 55	4 x 3/8 x 18'-0	—	8'-4"	8'-4"	2			5'-7"	5'-8"	4	2'-2⅞"	7/16"	5/8"	2 @ 17'-6"
	4 x 3/8 x 18'-0	4 x 3/8 x 17'-0	6'-8"	7'-0"	3			5'-7"	5'-11"	4		7/16"	5/8"	2 @ 18'-0"
	4 x ½ x 20'-0	4 x 3/8 x 17'-0	7'-2"	7'-0"	3			6'-1"	5'-11"	4		9/16"	11/16"	2 @ 18'-6"
	5 x ½ x 22'-0	4 x 3/8 x 18'-0	7'-2"	7'-4"	3			6'-1"	6'-2"	4		5/8"	13/16"	2 @ 19'-0"
	6 x ½ x 23'-0	5 x 3/8 x 19'-0	7'-8"	7'-4"	3			5'-7"	5'-4"	5		11/16"	7/8"	2 @ 19'-6"
	6 x ½ x 25'-0	6 x 3/8 x 21'-0	7'-8"	7'-8"	3			5'-8"	5'-6"	5		3/4"	1"	2 @ 20'-0"
21 WF 55	7 x ½ x 27'-0	7 x 3/8 x 23'-0	7'-8"	8'-0"	3			5'-9"	5'-8"	5	2'-2⅞"	13/16"	1"	3 @ 13'-8"
21 WF 62	6 x ½ x 25'-0	6 x 7/16 x 21'-0	8'-2"	8'-0"	3	24 WF 68	4 x 3/8 x 18'-0	5'-10"	5'-10"	5	2'-3"	13/16"	1 1/16"	3 @ 14'-5"
	6 x 3/8 x 27'-0	5 x 3/8 x 22'-0	8'-2"	8'-4"	3		4 x 3/8 x 19'-0	5'-11"	6'-0"	5		7/8	1 1/16"	3 @ 14'-8"
	7 x 3/8 x 28'-0	6 x ½ x 24'-0	8'-5"	8'-6"	3		4 x 3/8 x 15'-0	6'-2⅝"	6'-1"	5		15/16	1 1/16"	3 @ 14'-8"
21 WF 62	7 x 3/8 x 29'-0	7 x ½ x 26'-0	7'-6"	7'-1"	4	24 WF 68	5 x 3/8 x 22'-0	5'-5"	5'-6"	6	2'-3"	1"	1 1/16"	3 @ 15'-0"
24 WF 68	6 x ½ x 26'-0	5 x 7/16 x 23'-0	7'-6"	7'-4"	4			5'-8"	5'-7"	6	2'-5⅛"	15/16"	1 1/16"	3 @ 15'-4"
24 WF 68	6 x 3/8 x 28'-0	6 x 7/16 x 29'-0	7'-6"	7'-7"	4			5'-8"	5'-9"	6		1 1/16"	1 1/16"	3 @ 15'-8"
24 WF 68	6 x 3/8 x 30'-0	6 x ½ x 26'-0	7'-8"	7'-9"	4			5'-11"	5'-10"	6		1"	1 3/16"	3 @ 16'-0"
24 WF 76	6 x ½ x 27'-0	5 x ½ x 24'-0	7'-8"	8'-0"	4	27 WF 84	4 x 3/8 x 19'-0	5'-11"	6'-0"	6		1"	1 3/16"	3 @ 16'-6"
	7 x ½ x 29'-0	6 x ½ x 26'-0	7'-10"	8'-2"	4		4 x 3/8 x 20'-0	5'-11"	6'-2"	6		1 1/16"	1 1/16"	3 @ 16'-8"
	7 x 3/4 x 30'-0	7 x ½ x 28'-0	8'-0"	8'-4"	4		4 x ½ x 20'-0	6'-2⅝"	6'-3"	6		1 1/16"	1 3/16"	3 @ 17'-0"
	7 x 3/8 x 32'-0	7 x 3/8 x 29'-0	8'-2"	8'-6"	4		5 x 3/8 x 22'-0	5'-7"	5'-6"	7		1 1/16"	1 1/16"	3 @ 17'-4"
	7 x 15/16 x 33'-0	7 x 3/8 x 31'-0	7'-4"	7'-4"	5		6 x 3/8 x 24'-0	5'-9"	5'-9"	7		1 1/16"	1 1/16"	3 @ 17'-8"
24 WF 76	8 x 1/16 x 36'-0	7 x 7/16 x 32'-0	7'-5"	7'-6"	5	27 WF 84	6 x 7/16 x 26'-0	6'-0"	5'-10"	7	2'-5⅞"	1 1/16"	1 5/16"	3 @ 18'-0"
27 WF 84	7 x ½ x 30'-0	7 x 3/8 x 28'-0	7'-6"	7'-8"	5	30 WF 99	4 x 3/8 x 20'-0	5'-11"	6'-0"	7	2'-8½"	1 1/16"	1 5/16"	3 @ 18'-4"
	7 x 3/8 x 32'-0	7 x 7/16 x 29'-0	7'-7"	7'-10"	5	30 WF 99	4 x 3/8 x 20'-0	5'-10"	6'-2"	7		1 1/16"	1 5/16"	3 @ 18'-6"
	7 x 3/8 x 34'-0	7 x 3/8 x 31'-0	7'-8"	8'-0"	5	30 WF 99	4 x 3/8 x 21'-0	6'-0⅛"	6'-3"	7		1 1/16"	1 5/16"	3 @ 18'-10"
	8 x 7/16 x 36'-0	7 x 7/16 x 33'-0	7'-9"	8'-2"	5	30 WF 99	4 x ½ x 23'-0	5'-9"	5'-8"	8		1 1/16"	1 5/16"	3 @ 19'-2"
27 WF 84	9 x 3/8 x 38'-0	8 x 7/16 x 35'-0	7'-10"	8'-4"	5	30 WF 99	5 x ½ x 26'-0	5'-11"	5'-8"	8		1 1/16"	1 5/16"	3 @ 19'-6"
27 WF 94	8 x 7/16 x 36'-0	8 x ½ x 31'-0	7'-11"	8'-6"	5	30 WF 99	5 x 3/8 x 27'-0	5'-11"	5'-8"	8	2'-8⅝"	1 1/16"	1 5/16"	3 @ 19'-8"
30 WF 99	8 x 1/16 x 39'-0	8 x 1/16 x 36'-0	7'-8"	8'-0"	6	33 WF 118	4 x 3/8 x 22'-0	5'-8"	5'-8"	9	2'-11⅜"	1 1/16"	1 5/16"	3 @ 19'-10"
30 WF 108	9 x 3/8 x 44'-0	9 x 3/8 x 42'-0	7'-11"	8'-9"	6	33 WF 118	4 x 3/8 x 22'-0	5'-8"	5'-9"	10	2'-11⅞"	1 1/16"	1 5/16"	3 @ 20'-0"
33 WF 118	9 x 1/16 x 44'-0	10 x 3/8 x 44'-0	7'-9"	8'-3"	7	36 WF 135	5 x 3/8 x 34'-0	6'-1"	6'-2"	10	3'-2⅝"	2"	2 1/16"	3 @ 20'-2"
36 WF 135	9 x 3/8 x 43'-0	9 x 7/16 x 43'-0	8'-3"	8'-10"	7			5'-11"	6'-1"	11	3'-5⅜"	2 1/16"	2 1/16"	3 @ 20'-4"
36 WF 135	11 x 3/8 x 52'-0	11 x 7/16 x 52'-0	8'-0"	8'-5"	8			5'-11"	6'-0"	12	3'-5⅞"	2 1/16"	2 1/16"	3 @ 20'-6"
36 WF 150	10 x 7/16 x 55'-0	11 x 7/16 x 55'-0	8'-6"	8'-11"	8			5'-11"	5'-11"	13	3'-5⅞"	2 1/16"	3'-1⅜"	3 @ 20'-8"

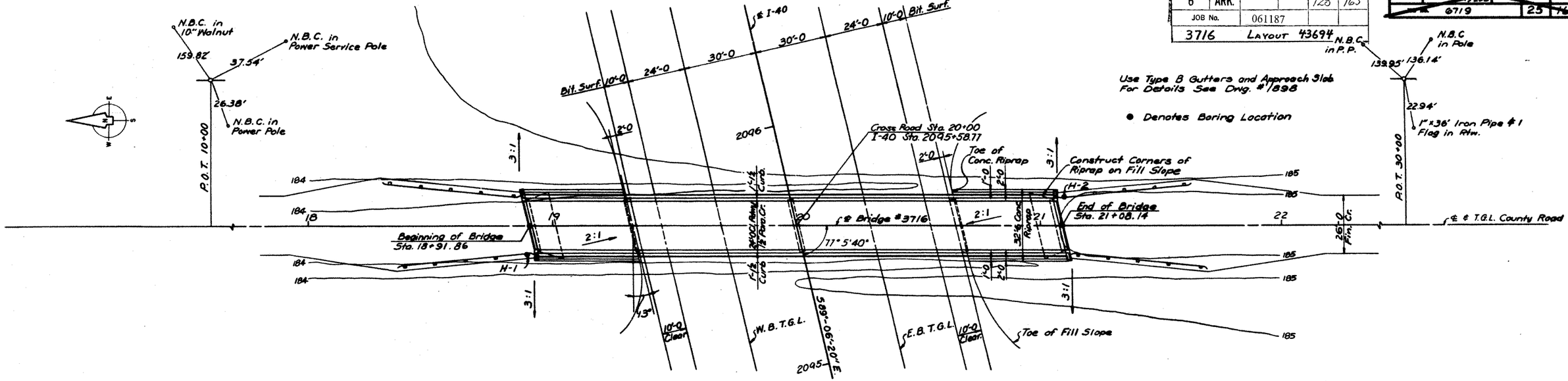
VALUES OF "f" & DEAD LOAD DEFL'S "Δ" FOR EXTERIOR BEAMS OF MODIFIED SPANS

24 WF 68			27 WF 84			30 WF 99			33 WF 118			36 WF 135		
f	Δ	f	f	Δ	f	f	Δ	f	f	Δ	f	f	Δ	f
3½	5/16	5/8	3½	5/16	5/8	3½	5/16	5/8	3½	5/16	5/8	3½	5/16	5/8
	5/16	5/8		5/16	5/8		5/16	5/8		5/16	5/8

341

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			128	165
JOB No.		061187			
3716		LAYOUT 43694			

PROJECT NUMBER	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NUMBER	TOTAL SHEETS
6	ARK.	I-40-2(20)3			
67.19				25	165

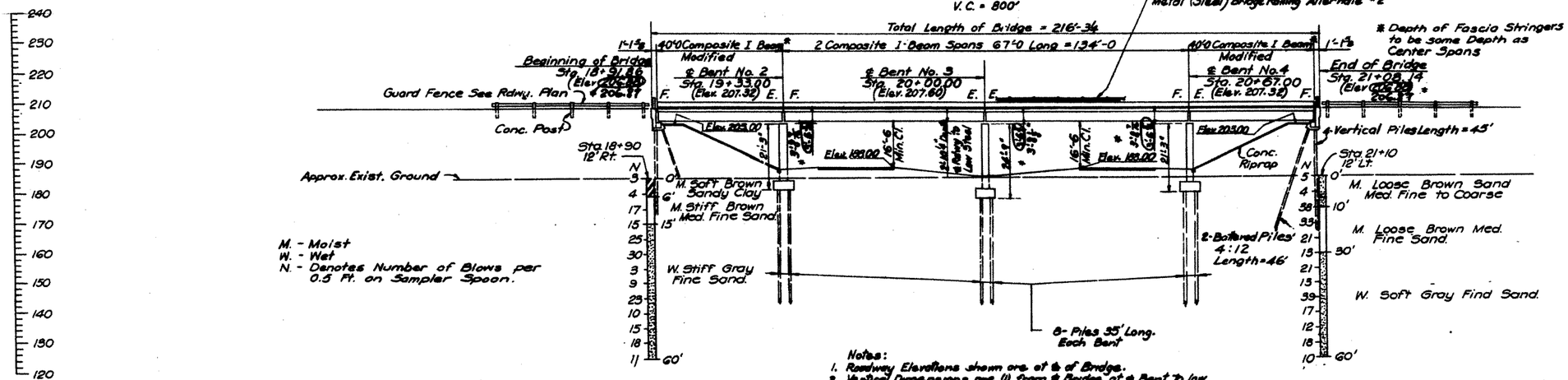


PLAN

+5.00% −5.00%

P.V.I. Sta. 20+00 Elev. 217.60 V.C. = 800'

Aluminum Bridge Railing Alternate #1
Metal (Steel) Bridge Railing Alternate #2



Notes:
1. Roadway Elevations shown are at ℄ of Bridge.
2. Vertical Dimensions are (1) from ℄ Bridge at ℄ Bent to low side of Cap and (2) from low side of Cap to bottom of Footing.
3. Vertical Dimension (1) [See Note 2] includes ½" for canvas duck and red lead.
4. Increase sole plates of fixed shoes on Bents No. 2 and No. 4 by ½".
5. No Drains to be used on this bridge.

* Revised 5-6-64 — D.V.

Bent No. ① ② ③ ④ ⑤

ELEVATION

GENERAL NOTES

Specifications:
Arkansas State Highway Commission Standard Specifications for Highway Construction adopted Dec. 9, 1959
Design Loading: H-15 AASHO 1961
Stresses:

Class A Concrete (n=15)	840 #/in²
Class S Concrete (n=10)	1,200 #/in²
Reinforcing Steel	20,000 #/in²
Structural Steel (A-36)	20,000 #/in²

All Piles to be 16" Concrete Filled Metal Shells or 16" Octagonal Precast Piles
Piles in End Bents to be driven after the Embankment is in place.
Lengths of Piling Shown are for Estimating Purposes only. Actual Lengths to be determined in the field. Drive one 40' test Pile in Bents #2 & #4. All Piles to be driven to a Minimum Bearing of 36 ton / Pile.

REFERENCES

For Details of Spans see Drawing No. 12603.
For Details of Bents see Drawing No. 12604 & 12605.
For Precast Concrete Pile Details see Drawing No. 2382.
For Concrete Filled Metal Shell Piles see Drawing No. 2382A.
For Concrete Riprap Details see "Summary of Bridge Quantities" Drwg. 12599.

FOR INFORMATION ONLY!

Checked By C. McL

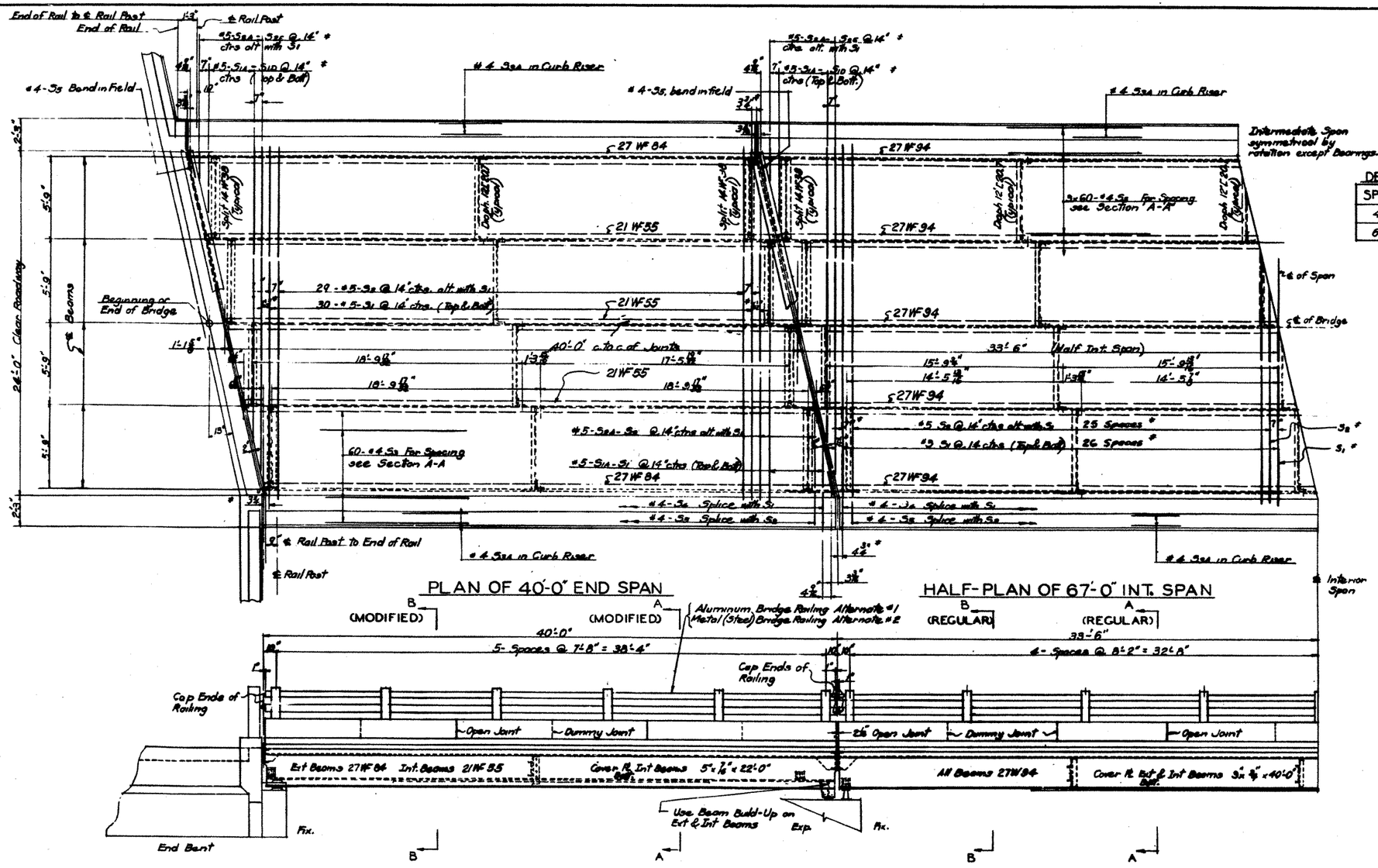
ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK ARKANSAS	
INTERSTATE ROUTE 40	SECTION 4
LAYOUT OF	
COUNTY ROAD UNDERPASS STA. 2095+58.77	
BRIDGE NO. 3716	SCALE 1" = 20'-0
43694	DATE
DRAWING NO. ~~12602~~	BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS

203.50

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			129	165
JOB No.		061187			

3716 SPAN DETAILS 43695

6	ARK.				
6719					165



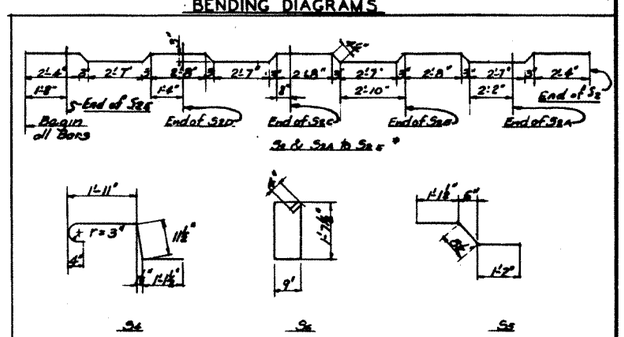
DEAD LOAD DEFLECTION

SPAN	INT BEAM	EXT BEAM
40'-0"	7/16"	7/16"
67'-0"	1 1/8"	2 3/8"

BAR LIST *

MARK	SIZE	NUMBER REQ'D. 40'-0 SPAN	NUMBER REQ'D. 67'-0 SPAN	LENGTH	PIN DIAM
S1	#5	60	106	25'-0"	Str.
S2	#5	29	52	25'-3"	1 1/4"
S3	#4	60	-	39'-6"	Str.
S3	#4	-	180	23'-4"	Str.
S4	#4	68	114	4'-6"	1 1/2"
S5	#4	70	116	3'-0"	1 1/2"
S6	#4	68	114	5'-4"	1 1/2"
S3A	#4	12	-	12'-10"	Str.
S3A	#4	-	12	21'-10"	Str.
S14-S1	#5	4 Each	4 Each	19'-6 1/2" & 4'-3"	Str.
S2D	#5	2	2	6'-11"	1 1/4"
S2C	#5	2	2	12'-2"	1 1/4"
S2B	#5	2	2	17'-6"	1 1/4"
S2A	#5	2	2	22'-7"	1 1/4"
S2E	#5	2	2	1'-8"	Str.

BENDING DIAGRAMS



References:
For General Notes, Camber Diagram, Sections A-A & B-B, Details of Shear Connectors, Bearing Devices, Anchor Bolts, Joints for Curb Riser, Drain Openings, Cover Plates and Beam Build-ups, see Drawings No. 14990 & 15010.

Notes:
Use Type 'A' Shoes for all Int. Spans.
Use Type 'B' Shoes for all End Spans.
See Layout for Location of Fixed & Expansion Shoes.
See Detail of Bents for Table of Sole Plate or Masonry Plate Variations.
"a" Dimension for Int. Spans = 2'-8 3/4"
Shear Connector Spacing for 67'-0" Int. Span same as 65'-0" Span on Dwg. No 15010 except "u" spaces shall be increased 8 to 9.
Omit Shear Connectors on Exterior Beams of End Spans.

* Revised — 9-8-64 D.V.

FOR INFORMATION ONLY!

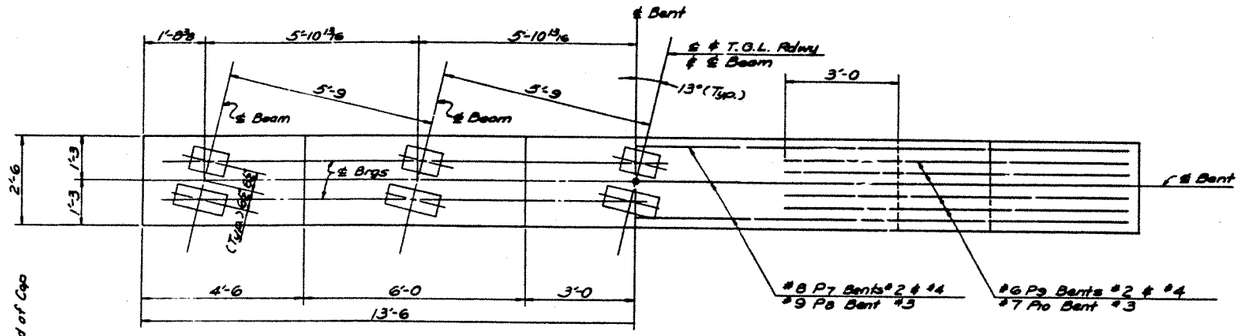
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
INTERSTATE ROUTE 40 SECTION 4
DETAILS OF SPANS
COUNTY ROAD UNDERPASS STA 2095+58.77

BRIDGE NO. 3716	SCALE 4"=1'-0"	BLAUVELT ENGINEERING CO.
43695	DATE	CONSULTING ENGINEERS
DRAWING NO. ~~12803~~		

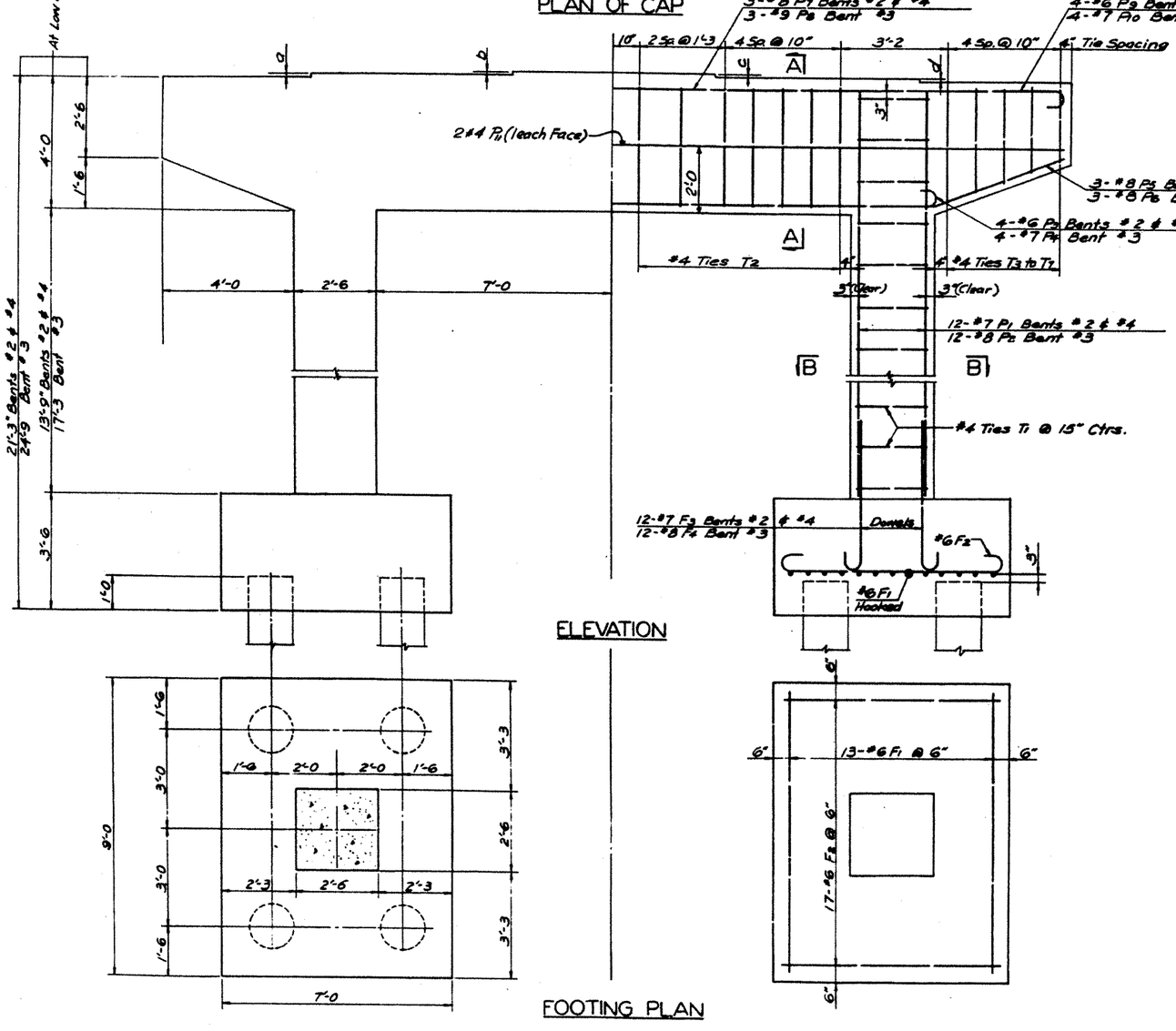
Checked By S.C.T. Jr.

NATIONAL BLUE PRINT CO., INC. 7-67

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			130	165
JOB No.		061187			
3716	BENT DETAILS		43696		

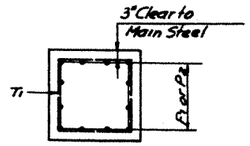


PLAN OF CAP

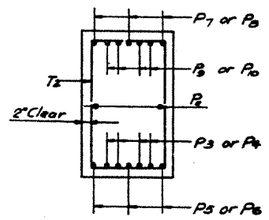


ELEVATION

FOOTING PLAN



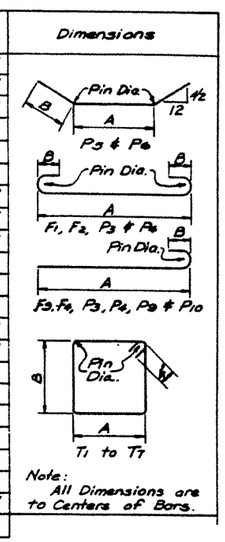
SECTION B-B



SECTION A-A

BAR LIST

Mark	Size	No. Per Bent Bents #2 & 4	No. Per Bent Bent #3	Length	A	B	Pin Dia.	Dimensions
F1	#6	26	26	9'-11	8'-6	6"	4½"	
F2	#6	34	34	7'-11	6'-6	6"	4½"	
F3	#7	24	—	5'-0	4'-2	7"	5¼"	
F4	#8	—	24	5'-7	4'-6	9"	8"	
P1	#7	24	—	17'-6"	—	—	Str.	
P2	#8	—	24	21'-0	—	—	Str.	
P3	#6	4	—	20'-5	19'-0	6"	4½"	
P4	#7	—	4	20'-8	19'-0	7"	5¼"	
P5	#8	3	—	26'10	18'-10	4'-0	8"	
P6	#8	—	3	26'10	18'10	4'-0	8"	
P7	#8	3	—	28'-8	26'-6	9"	8"	
P8	#9	—	3	29'-0	26'-6	10¼	9"	
P9	#6	8	—	10'-8	9'-3	6"	4½"	
P10	#7	—	8	10'-11	9'-3	7"	5¼"	
T1	#4	30	36	8'-5"	2'10½"	2'10½"	1½"	
T2		14	14	12'-1	2'-1½	3'-7½		
T3		2	2	11'-11		3'-6½		
T4				11'-3		3'-2⅝		
T5				10'-7		2'-10½		
T6				9'-11		2'-6½		
T7	#4	2	2	9'-3	2'-1½	2'-2⅝	1½"	
P11	#4	2	2	26'-8"	—	—	Str.	



Note: All Dimensions are to Centers of Bars.

Bent	Dimensions a	b	c	d
#2 & #4	1'8"	1/2"	1/4"	7/8"
#3	1"	3/8"	3/8"	1"

All concrete in caps to be class S. Concrete in columns and footings to be class A. All exposed corners to have ¾" chamfer

For Layout see Dwg. 12G02.
For Superstructure details see Dwg. 12G03.

FOR INFORMATION ONLY!

Traced By
Checked By J.M.R

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

INTERSTATE ROUTE 40 SECTION 4

DETAILS OF INTERMEDIATE BENTS
COUNTY ROAD UNDERPASS - STA. 2095+58.77

BRIDGE NO. 3716 | SCALE 1/2" = 1'-0 | BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS

43696 | DATE

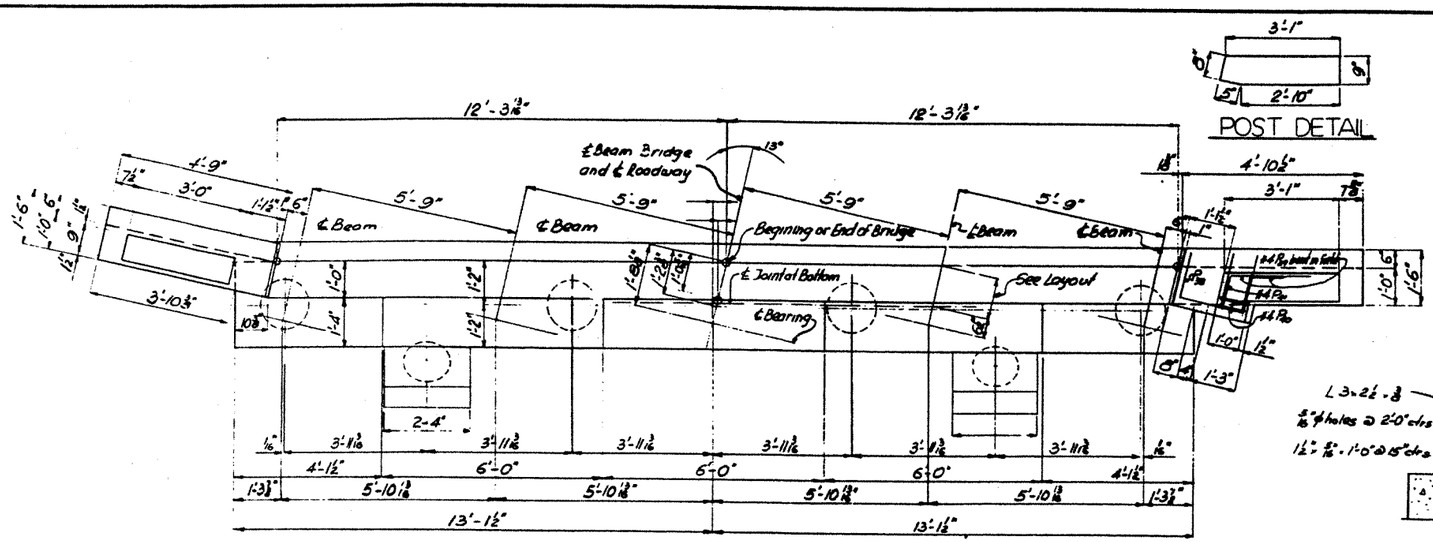
DRAWING NO. ~~12604~~

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			131	165
JOB No.		061187			

FEDERAL SHEET NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	[illegible]		28	[illegible]
		6719			

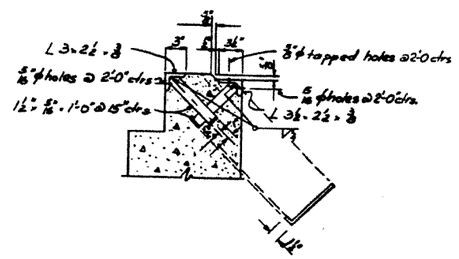
3716 BENT DETAILS 43697 BAR LIST PER END BENT

Mark	Size	No.	Length	A	B	Bnding Dwg.
P1	8	3	17'-6"			str.
P1a	6	6	7'-4"			str.
P2	4	2	16'-1"			str.
P3	6	4	25'-11"			str.
P4	6	4	25'-1"	13'-10½"	11'-3	25½
P5	4	7	8'-9"	2'-1½"	1'-11½"	11½
P5a	4	26	8'-10"	2'-2"	1'-11½"	11½
P6	4	9	9'-11"	2'-6¼"	1'-11½"	11½
P7	6	6	6'-1"	2'-1½"	1'-11½"	23½
P7a	6	6	7'-3"	2'-8½"	1'-11½"	23½
P8	4	8	24'-8"			str.
P9	4	10	41'-0"			str.
P10	4	24	41'-0"			15°
P11	4	3	4'-6"			str.
P12	4	5	6'-3"	4'-7"	1'-8"	15°
P13	4	2	3'-6"	4'-7"	1'-8"	15°
P13a	4	2	3'-10"	4'-2"	1'-8"	15°
P14 to P19	4	1 ea.	3'-3" to 6'-5"			str.
P20 to P23	4	1 ea.	3'-5" to 5'-7"	2'-4"	5" to 2'-7"	15°
P24	4	1	4'-1"			str.
P24A	4	2	4'-5"			str.
P25	4	5	6'-6"			str.
P26	4	2	3'-9"			str.
P27	4	2	5'-7"	4'-6"	1'-8"	15°
P28 to P31	4	1 ea.	3'-5" to 6'-7"			str.
P32 to P41	4	1 ea.	3'-5" to 5'-8"	2'-4"	5" to 2'-8"	15°
P42	4	2	4'-8"	1'-2"	1'-8"	15°
P43	4	2	21'-6"			str.
P44	4	2	5'-3	1'-7"	9"	15°
P44a	4	1	3'-0			15°
P45	6	4	7'-10			23°
P46	6	2	4'-8"	11'-9"	5"	15°
P47	6	4	10'-10"	1'-8"	3'-3"	23°
TO1	5	12	5'-2"			str.
TO2	3	4	6'-8"	21'-9"	6"	15°
TO3	3	4	7'-1"			15°

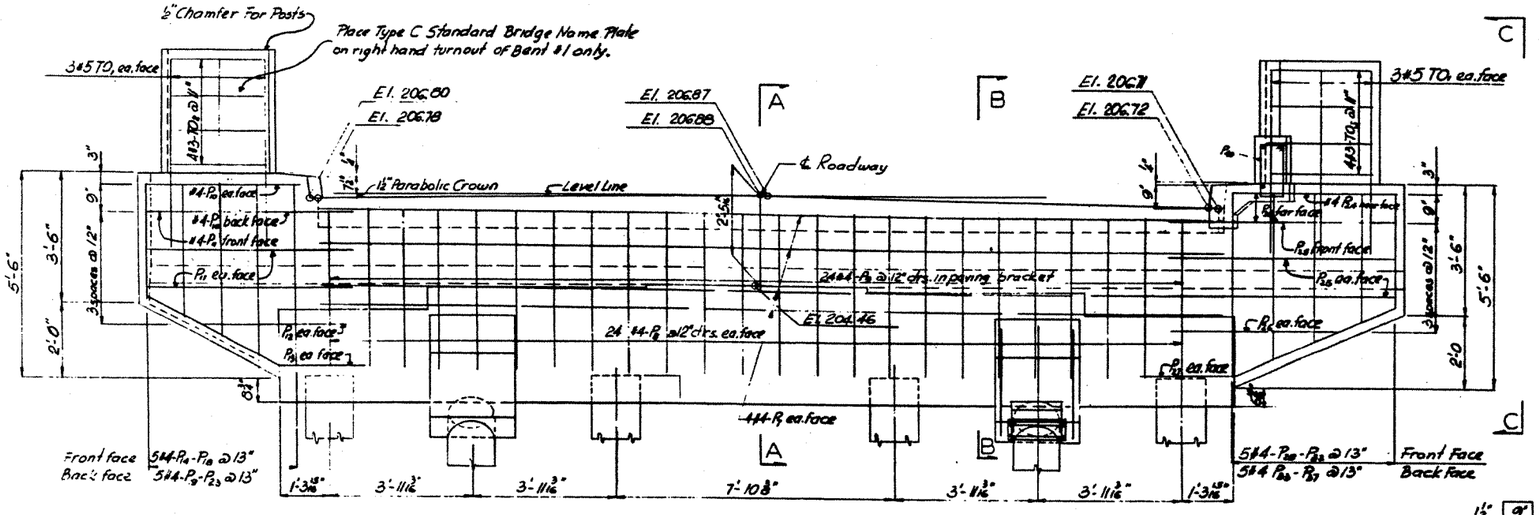


PLAN OF END BENT

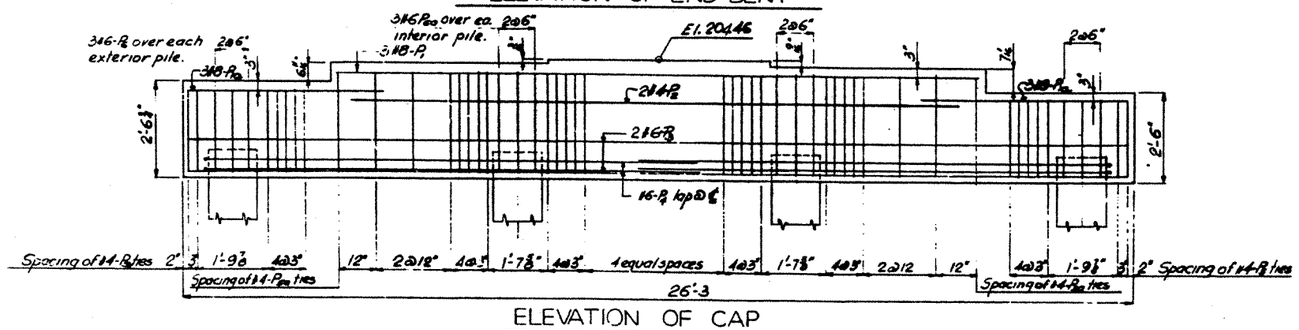
POST DETAIL



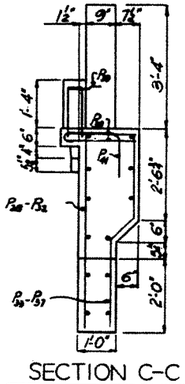
DETAIL A



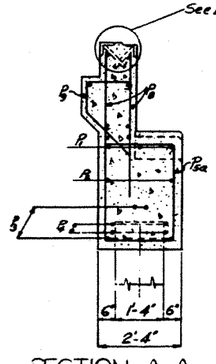
ELEVATION OF END BENT



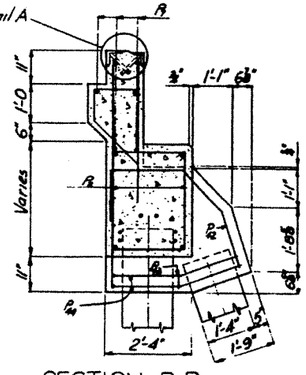
ELEVATION OF CAP



SECTION C-C



SECTION A-A



SECTION B-B

Notes.
All concrete to be class S. All exposed corners to have ¾" chamfer unless otherwise noted.
Turnout Posts are to be measured and paid for as Class S concrete.

FOR INFORMATION ONLY!

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

INTERSTATE ROUTE 40 SECTION 4

DETAILS OF END BENTS.

COUNTY ROAD OVERPASS STA. 2095+58.77

BRIDGE NO. 3716

43697

DRAWING NO. ~~12605~~

SCALE 1"=1'-0"

DATE

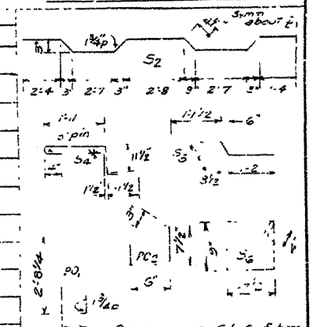
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS

CHECKED BY A.C.

NATIONAL BLUE PRINT CO., INC. 7-57

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.	061187		132	165
3716	SPAN DETAILS		43698	

BENDING DIAGRAM



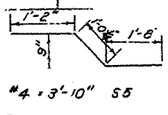
BAR LIST - ONE SPAN

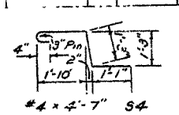
Number Required Each Span

MK	SIZE	LENGTH	DIA	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	65	70	75	80	85	90
S1	5	25'-0	Str.	62	62	64	66	68	70	72	74	74	76	78	80	82	84	86	86	90	92	94	96	98	98	100	102	104	2	120	130	138	146	154	
S2	5	25'-9	1¾	30	30	31	32	33	34	35	36	36	37	38	39	40	41	42	42	43	44	45	46	47	48	49	50	51	55	59	64	68	72	76	
S3	4	5'-6"	Str.	60																															
S3A	4	5½+7"	Str.	120																															
S3	7	5⅛ 1'-0	Str.	180																															
S4	4	4'-6	1½	62	62	64	66	68	70	72	74	74	76	78	80	82	84	86	86	88	90	92	94	96	96	98	100	102	104	112	120	130	138	146	154
S5	4	3'-0	1½	60	60	62	64	66	68	70	72	72	74	76	78	80	82	84	84	86	88	90	92	94	96	96	98	100	102	110	118	128	136	144	152
S6	4	5'-4	1½	62	62	64	66	68	70	72	74	74	76	78	80	82	84	86	86	88	90	92	94	96	98	98	100	102	104	112	120	130	138	146	154
S3A	4	S-(1'8") 3	Str.	12																															
PO1	5	5'-10	1¾	26					52				36					40					44			48			52			56			
PO2	3	2'-8	1¼	56					64				72					80					35			96			104			112			

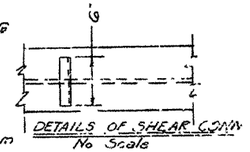
Parapet Type Railing

Plate Guard Br. Railing
Non-pay Items

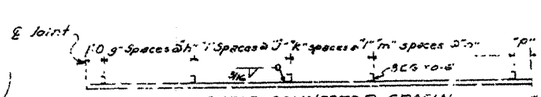




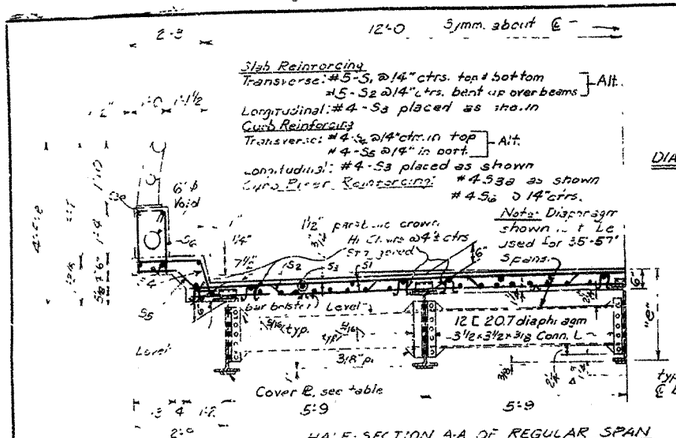
⊛S4 & S5 FOR PLATE GUARD BRIDGE RAILING



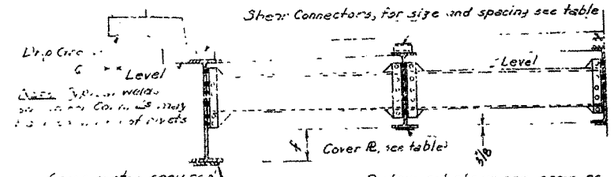
DETAILS OF SHEAR CONN.
No Scale



SHEAR CONNECTOR SPACING



HALF SECTION A-A OF REGULAR SPAN
Regular spans have all beams of equal depth.



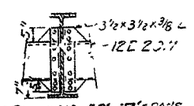
Cover plates required will be as shown on Regular span as listed in the table

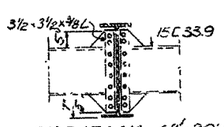
Details not shown are same as for Regular Spans.

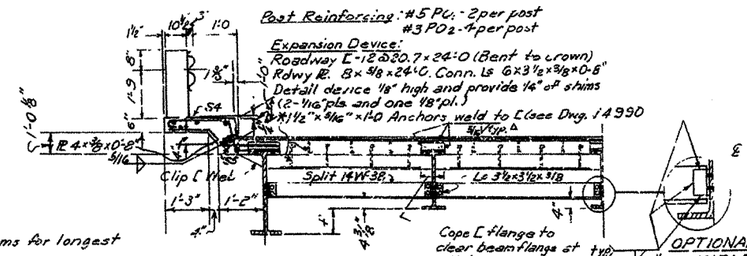
HALF SECTION A-A MODIFIED SPANS

Interior beams are same as in Regular Spans. Exterior beams are the lightest section of same nominal depth as beams for longest span shown on Bridge Layout

Norm: For location of section A-A, B-B and variables, also see Dwg. No. 14990







Note: for 1" for Regular Span.

* As an Alternate ⅝"ØX10" anchors @ 15" ctrs. may be used. See Dwg 14990A

HALF SECTION B-B FOR MODIFIED OR REG. SPANS

Deflection of exterior beam is for Regular Spans only.

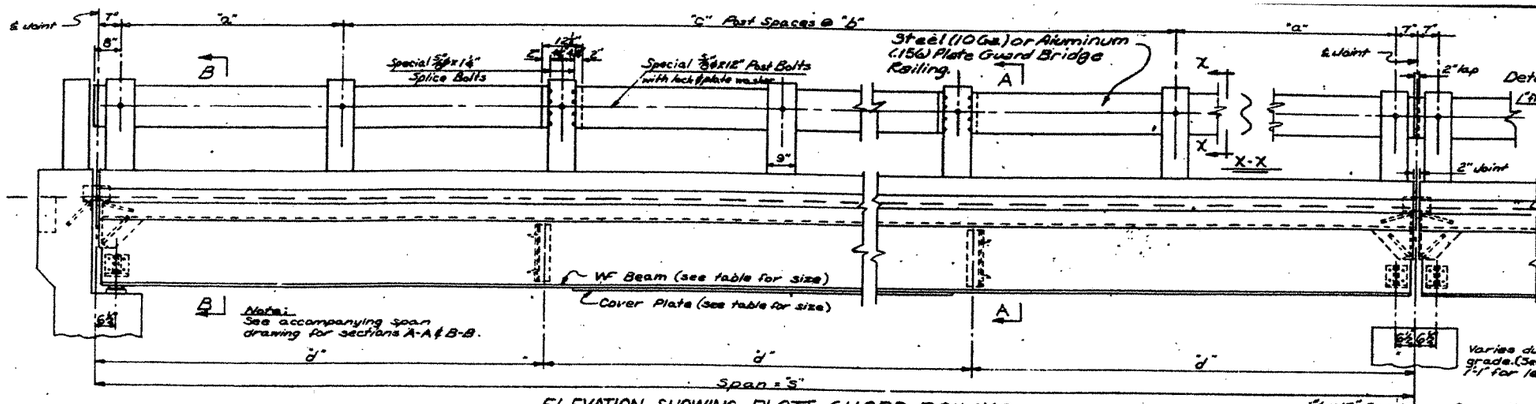
SPAN	REGULAR SPANS Beam	Cover Plate Interior	Cover Plate Exterior	POST SPACING FOR ALUMINUM RAILING a	b	c	MODIFIED SPAN-EXTERIOR BEAMS REQUIRING COVER PL. Beam	Cover PL	POST SPACING FOR PL GUARD RAILING a	b	c	C	DEAD LOAD DEFLECTION: Int.	Ext.	STRUT SPACING No. @ d'
35	21WF55	4"x⅜"x15'-0	—	8'-4	8'-4	2			5'-7	5'-8	4	2'-2⅜	3/8"	9/16"	2@17'-6
36		4"x⅜"x16'-0	—	6'-8	7'-0	3			5'-7	5'-11	4		7/16	5/8	2@18'-0
37		4"x⅜"x17'-0	4"x⅜"x14'-0	7'-2	7'-0	3			6'-1	5'-11	4		1/2"	5/8"	2@18'-6
38		4"x⅜"x18'-0	4"x⅜"x16'-0	7'-2	7'-4	3			6'-1	6'-2	4		9/16"	3/4"	2@19'-0
39		4"x⅜"x20'-0	4"x⅜"x17'-0	7'-6	7'-4	3			5'-7	5'-4	5		5/8	13/16	2@19'-6
40		5"x7/16"x21'-0	4"x⅜"x18'-0	7'-8	7'-8	3			5'-8	5'-6	5		5/8"	7/8"	2@20'-0
41		5"x½"x23'-0	5"x⅜"x19'-0	7'-8	8'-0	3			5'-9	5'-8	5		11/16"	15/16"	3@13'-3"
42		6"x½"x25'-0	6"x⅜"x21'-0	8'-2	8'-0	3			5'10	5'-10	5		3/4"	1"	3@14'-0"
43		7"x½"x27'-0	6"x½"x24'-0	8'-2	8'-4	3	24WF68	4"x⅜"x17'-0	5'-11	6'-0	5		13/16"	1 1/16"	3@14'-4"
44	21WF55	7"x½"x29'-0	7"x7/16"x24'-0	8'-5	8'-6	3		4"x⅜"x18'-0	6'-2½	6'-1	5	2'-2⅝	7/8	1 9/16"	3@14'-8"
45	21WF62	8"x½"x36'-0	6"x⅜"x25'-0	7'-6	7'-1	4		4"x⅜"x16'-0	5'-5	5'-6	6	2'-2⅝	7/8	1 3/16"	3@15'-0"
46		7"x½"x26'-0	7"x7/16"x5'-0	7'-6	7'-4	4		4"x⅜"x19'-0	5'-8	5'-7	6		15/16	1 1/4"	3@15'-4"
47		7"x⅜"x24'-0	7"x½"x25'-0	7'-8	7'-7	4		5"x⅜"x21'-0	5'-8	5'-9	6		1"	1 3/8"	3@15'-8"
48	21WF62	7"x⅜"x31'-0	7"x⅜"x28'-0	7'-8	7'-9	4	24WF68	5"x½"x23'-0	5'-11	5'-10	6	2'-2⅝	1 1/16	1 7/16"	3@16'-0"
49	24WF68	5"x⅝"x26'-0	5"x⅝"x25'-0	7'-8	8'-0	4			5'-11	6'-0	6	2'-5⅛	15/16	1 1/2"	3@16'-4"
50		7"x⅞"x28'-0	6"x½"x25'-0	7'-10	6'-2	4			5'-11	6'-2	6		1	1 11/16	3@16'-8"
51		7"x½"x30'-0	6"x⅜"x27'-0	8'-0	8'-4	4	27WF84	4"x⅜"x19'-0	6'-2	6'-3	6		1 1/16"	1 7/16	3@17'-0
52		7"x⅜"x31'-0	7"x⅜"x29'-0	8'-2	8'-6	4		4"x⅜"x19'-9	5'-7	5'-8	7		1 3/16"	1½	3@17'-4
53	24WF68	7"x⅝"x33'-0	7"x⅝"x31'-0	7'-4	7'-4	5		4"x⅜"x20'-0	5'-9½	5'-9	7		1 1/8"	1 9/16"	3@17'-8
54	24WF76	6"x⅝"x30'-0	6"x⅜"x29'-4	7'-5	7'-6	5		4"x½"x22'-0	6'-0	5'-10	7		1 1/4"	1 9/16"	3@18'-0
55		6"x⅞"x32'-0	7"x⅜"x31'-0	7'-6	7'-8	5		5"x⅜"x25'-0	5'-1	6'-0	7		1 5/16"	⅞"	3@18'-4
56		7"x1⅛"x35'-0	7"x⅝"x33'-0	7'-7	7'10	5		5"x½"x30'-0	5'10	6'-2	7	2'-5⅜	1 3/8"	1 1/4"	3@18'-8
57	24WF76	8"x⅝"x33'-0	8"x⅝"x34'-0	7'-8	8'-0	5	27WF84	6"x⅞"x27'-0	6'-0½	6'-3	7	2'-5⅝	1 7/16	1 3/8"	3@19'-0
58	24WF84	7"x⅞"x30'-0	7"x½"x30'-0	7'-9	8'-2	5	30WF99	4"x⅜"x20'-3	5'-3	5'-8	3	2'-8⅝	1 5/16"	1 5/8"	3@19'-4
59		7"x1"x32'-0	7"x⅝"x31'-0	7'10	8'-4	5		4"x⅜"x21'-0	5'-11	5'-10	8		1 3/8"	1 11/16	3@19'-8
60	27WF84	7"x⅞"x33'-0	7"x⅝"x31'-0	7'11	8'-6	5		4"x⅞"x21'-0	5'-11	5'-10½	8		1 3/8"	1 3/4	3@20'-0
65	27WF94	8"x⅝"x38'-0	8"x⅝"x37'-0	7'-8	8'-0	6	30WF99	6"x1⅛"x33'-0	5'-8	5'-10	9	2'-3⅝	1 11/16	2⅛	4@16'-5"
70	30WF99	8"x1⅛"x41'-0	8"x⅝"x42'-0	7'-11	8'-9	6	33WF118	6"x⅞"x28'-0	5'-8	5'-9	10	2'-10⅜	1⅞	2⅝	4@17'-6
75	33WF118	6"x1⅛"x37'-0	7"x⅞"x39'-0	7'-9½	8'-3	7	36WF135	5"x⅞"x26'-0	6'-1	6'-2	10	3'-2⅛	1⅞	2 5/16"	4@18'-9"
80	33WF130	6"x1⅜"x41'-0	9"x1⅛"x43'-0	8'-3	8'-10	7	36WF135	6"x⅞"x35'-0	5'-11½	6'-1	11	3'-2¾	2 1/16	2 5/8"	4@20'-0
85	33WF130	10"x⅞"x50'-0	9"x⅞"x51'-0	8'-0	8'-5	8	36WF135	9"x1⅛"x42'-0	5'-11	6'-0	12	3'-2¾	2 3/16	2 11/16	5@17'-2"
90	36WF150	10"x⅞"x47'-0	10"x⅞"x50'-0	8'-6	8'-11	8			5'-11½	6'-11	13	3'-4⅜	2 5/16	3 3/16	5@18'-0"

VALUES OF "f" and DEAD LOAD DEFLECTION FOR OUTSIDE BEAMS of MODIFIED SPANS

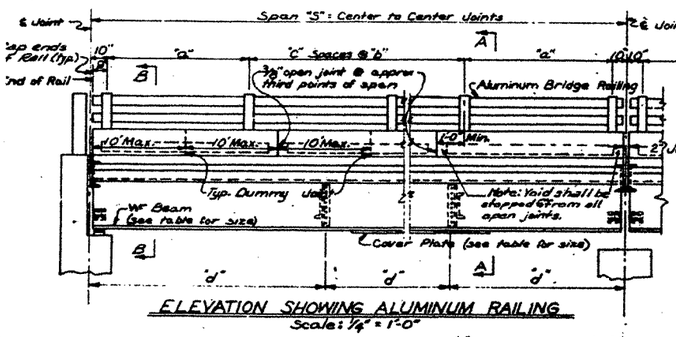
24WF68 f	24WF68 Δ	27WF84 f	27WF84 Δ	30WF99 f	30WF99 Δ	33WF118 f	33WF118 Δ	36WF135 f	36WF135 Δ
3/8	5/8	1/4	9/16	1/4	1/2	1/8	1/4	1/8	1/4
1/2	7/8	3/8	11/16	3/8	11/16	1/4	1/2	1/4	1/2
5/8	1 1/16	1/2	7/8	1/2	7/8	3/8	11/16	3/8	11/16
3/4	1 5/16	5/8	1 1/16	5/8	1 1/16	1/2	7/8	1/2	7/8
7/8	1 9/16	3/4	1 5/16	3/4	1 5/16	5/8	1 1/16	5/8	1 1/16
1	1 13/16	7/8	1 9/16	7/8	1 9/16	3/4	1 5/16	3/4	1 5/16
1 1/16	2 1/16	1	1 13/16	1	1 13/16	7/8	1 9/16	7/8	1 9/16
1 1/8	2 5/16	1 1/16	2 1/16	1 1/16	2 1/16	15/16	1 13/16	15/16	1 13/16
1 3/16	2 9/16	1 1/8	2 5/16	1 1/8	2 5/16	1	2 1/16	1	2 1/16
1 1/4	2 13/16	1 3/16	2 9/16	1 3/16	2 9/16	1 1/16	2 5/16	1 1/16	2 5/16
1 5/16	3 1/16	1 1/4	2 13/16	1 1/4	2 13/16	1 1/8	2 9/16	1 1/8	2 9/16
1 3/8	3 5/16	1 5/16	3 1/16	1 5/16	3 1/16	1 3/16	2 13/16	1 3/16	2 13/16
1 7/16	3 7/16	1 3/8	3 5/16	1 3/8	3 5/16	1 1/4	3 1/16	1 1/4	3 1/16
1 1/2	3 5/8	1 7/16	3 7/16	1 7/16	3 7/16	1 5/16	3 5/16	1 5/16	3 5/16
1 9/16	3 3/4	1 1/2	3 5/8	1 1/2	3 5/8	1 3/8	3 7/16	1 3/8	3 7/16
1 5/8	3 15/16	1 9/16	3 3/4	1 9/16	3 3/4	1 7/16	3 5/8	1 7/16	3 5/8
1 11/16	4 1/16	1 5/8	3 15/16	1 5/8	3 15/16	1 1/2	3 3/4	1 1/2	3 3/4
1 3/4	4 1/4	1 11/16	4 1/16	1 11/16	4 1/16	1 9/16	3 15/16	1 9/16	3 15/16
1 13/16	4 3/8	1 3/4	4 1/4	1 3/4	4 1/4	1 5/8	4 1/16	1 5/8	4 1/16
1 7/8	4 1/2	1 13/16	4 3/8	1 13/16	4 3/8	1 11/16	4 1/4	1 11/16	4 1/4
1 15/16	4 5/8	1 7/8	4 1/2	1 7/8	4 1/2	1 3/4	4 3/8	1 3/4	4 3/8
2	4 3/4	1 15/16	4 5/8	1 15/16	4 5/8	1 13/16	4 1/2	1 13/16	4 1/2
2 1/16	4 15/16	2	4 3/4	2	4 3/4	1 7/8	4 5/8	1 7/8	4 5/8
2 1/8	5 1/16	2 1/16	4 15/16	2 1/16	4 15/16	1 15/16	4 3/4	1 15/16	4 3/4
2 3/16	5 3/16	2 1/8	5 1/16	2 1/8	5 1/16	2	4 15/16	2	4 15/16
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2 5/16	5 7/16	2 1/4	5 5/16	2 1/4	5 5/16	2 1/8	5 3/16	2 1/8	5 3/16
2 3/8	5 9/16	2 5/16	5 7/16	2 5/16	5 7/16	2 3/16	5 5/16	2 3/16	5 5/16
2 7/16	5 5/8	2 3/8	5 9/16	2 3/8	5 9/16	2 1/4	5 7/16	2 1/4	5 7/16
2 1/2	5 13/16	2 7/16	5 5/8	2 7/16	5 5/8	2 5/16	5 9/16	2 5/16	5 9/16
2 9/16	5 15/16	2 1/2	5 13/16	2 1/2	5 13/16	2 3/8	5 11/16	2 3/8	5 11/16
2 5/8	6 1/16	2 9/16	5 15/16	2 9/16	5 15/16	2 7/16	5 13/16	2 7/16	5 13/16
2 11/16	6 3/16	2 5/8	6 1/16	2 5/8	6 1/16	2 1/2	5 15/16	2 1/2	5 15/16
2 3/4	6 5/16	2 11/16	6 3/16	2 11/16	6 3/16	2 9/16	6 1/16	2 9/16	6 1/16
2 13/16	6 7/16	2 3/4	6 5/16	2 3/4	6 5/16	2 5/8	6 3/16	2 5/8	6 3/16
2 7/8	6 9/16	2 13/16	6 7/16	2 13/16	6 7/16	2 11/16	6 5/16	2 11/16	6 5/16
2 15/16	6 11/16	2 7/8	6 9/16	2 7/8	6 9/16	2 3/4	6 7/16	2 3/4	6 7/16
3	6 13/16	2 15/16	6 11/16	2 15/16	6 11/16	2 13/16	6 9/16	2 13/16	6 9/16
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3 3/16	7 3/16	3 1/8	7 1/16	3 1/8	7 1/16	3	6 15/16	3	6 15/16
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3 5/16	7 7/16	3 1/4	7 5/16	3 1/4	7 5/16	3 1/8	7 3/16	3 1/8	7 3/16
3 3/8	7 9/16	3 5/16	7 7/16	3 5/16	7 7/16	3 3/16	7 5/16	3 3/16	7 5/16
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3 1/2	7 13/16	3 7/16	7 5/8	3 7/16	7 5/8	3 5/16	7 9/16	3 5/16	7 9/16
3 9/16	7 15/16	3 1/2	7 13/16	3 1/2	7 13/16	3 3/8	7 11/16	3 3/8	7 11/16
3 5/8	8 1/16	3 9/16	7 15/16	3 9/16	7 15/16	3 7/16	7 13/16	3 7/16	7 13/16
3 11/16	8 3/16	3 5/8	8 1/16	3 5/8	8 1/16	3 1/2	7 15/16	3 1/2	7 15/16
3 3/4	8 5/16	3 11/16	8 3/16	3 11/16	8 3/16	3 9/16	8 1/16	3 9/16	8 1/16
3 13/16	8 7/16	3 3/4	8 5/16	3 3/4	8 5/16	3 5/8	8 3/16	3 5/8	8 3/16
3 7/8	8 9/16	3 13/16	8 7/16	3 13/16	8 7/16	3 11/16	8 5/16	3 11/16	8 5/16
3 15/16	8 11/16	3 7/8	8 9/16	3 7/8	8 9/16	3 3/4	8 7/16	3 3/4	8 7/16
4	8 13/16	3 15/16	8 11/16	3 15/16	8 11/16	3 13/16	8 9/16	3 13/16	8 9/16
4 1/16	8 15/16	4	8 13/16	4	8 13/16	3 7/8	8 11/16	3 7/8	8 11/16
4 1/8	9 1/16	4 1/16	8 15/16	4 1/16	8 15/16	3 15/16	8 13/16	3 15/16	8 13/16
4 3/16	9 3/16	4 1/8	9 1/16	4 1/8	9 1/16	4	8 15/16	4	8 15/16
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4 5/16	9 7/16	4 1/4	9 5/16	4 1/4	9 5/16	4 1/8	9 3/16	4 1/8	9 3/16
4 3/8	9 9/16	4 5/16	9 7/16	4 5/16	9 7/16	4 3/16	9 5/16	4 3/16	9 5/16
4 7/16	9 5/8	4 3/8	9 9/16	4 3/8	9 9/16	4 1/4	9 7/16	4 1/4	9 7/16
4 1/2	9 13/16	4 7/16	9 5/8	4 7/16	9 5/8	4 5/16	9 9/16	4 5/16	9 9/16
4 9/16	9 15/16	4 1/2	9 13/16	4 1/2	9 13/16	4 3/8	9 11/16	4 3/8	9 11/16
4 5/8	10 1/16	4 9/16	9 15/16	4 9/16	9 15/16	4 7/16	9 13/16	4 7/16	9 13/16
4 11/16	10 3/16	4 5/8	10 1/16	4 5/8	10 1/16	4 1/2	9 15/16	4 1/2	9 15/16
4 3/4	10 5/16	4 11/16	10 3/16	4 11/16	10 3/16	4 9/16	10 1/16	4 9/16	10 1/16
4 13/16	10 7/16	4 3/4	10 5/16	4 3/4	10 5/16	4 5/8	10 3/16	4 5/8	10 3/16
4 7/8	10 9/16	4 13/16	10 7/16	4 13/16	10 7/16	4 11/16	10 5/16	4 11/16	10 5/16
4 15/16	10 11/16	4 7/8	10 9/16	4 7/8	10 9/16	4 3/4	10 7/16	4 3/4	10 7/16
5	10 13/16	4 15/16	10 11/16	4 15/16	10 11/16	4 13/16	10 9/16	4 13/16	10 9/16
5 1/16	10 15/16	5	10 13/16	5	10 13/16	4 7/8	10 11/16	4 7/8	10 11/16
5 1/8	11 1/16	5 1/16	10 15/16	5 1/16	10 15/16	4 15/16	10 13/16	4 15/16	10 13/16
5 3/16	11 3/16	5 1/8	11 1/16	5 1/8	11 1/16	5	10 15/16	5	10 15/16
5 1/4	11 5/16	5 3/16	11 3/16	5 3/16	11 3/16	5 1/16	11 1/16	5 1/16	11 1/16
5 5/16	11 7/16	5 1/4	11 5/16	5 1/4	11 5/16	5 1/8	11 3/16	5 1/8	11 3/16
5 3/8	11 9/16	5 5/16	11 7/16	5 5/16	11 7/16	5 3/16	11 5/16	5 3/16	11 5/16
5 7/16	11 5/8	5 3/8	11 9/16	5 3/8	11 9/16	5 1/4	11 7/16	5 1/4	11 7/16
5 1/2	11 13/16	5 7/16	11 5/8	5 7/16	11 5/8	5 5/16	11 9/16	5 5/16	11 9/16
5 9/16	11 15/16	5 1/2	11 13/16	5 1/2	11 13/16	5 3/8	11 11/16	5 3/8	11 11/16
5 5/8	12 1/16	5 9/16	11 15/16	5 9/16	11 15/16	5 7/16	11 13/16	5 7/16	11 13/16
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7 5/16	15 7/16	7 1/4	15 5/16	7 1/4	15 5/16	7 1/8	15 3/16	7 1/8	15 3/16
7 3/8	15 9/16

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			133	165
JOB No.		061187			

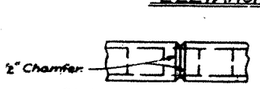
3716 SPAN DETAILS 43699



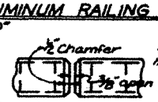
ELEVATION SHOWING PLATE GUARD RAILING
Scale: ½"=1'-0"



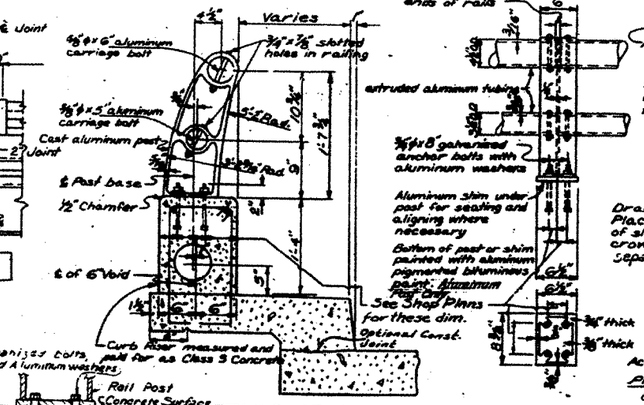
ELEVATION SHOWING ALUMINUM RAILING
Scale: ½"=1'-0"



PLAN OF DUMMY JOINT

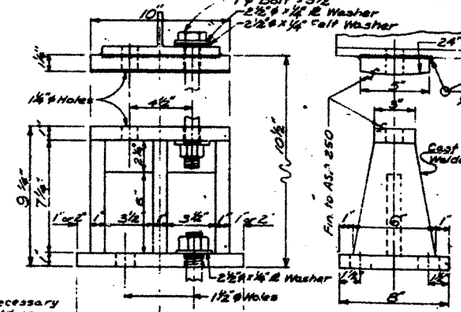


PLAN OF OPEN JOINT

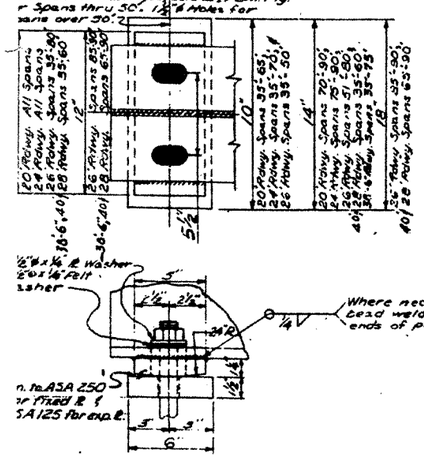


DETAILS OF ALUMINUM RAILING
Scale: 1"=1'-0"

NOTE: Fabricate concrete insert to give exact spacing of the anchor bolts as shown on shop drawings.

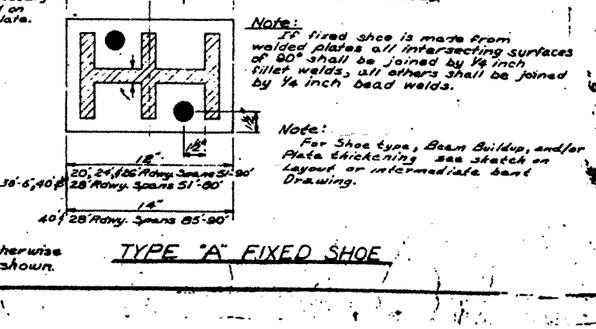


ALTERNATE RAIL POST ANCHOR

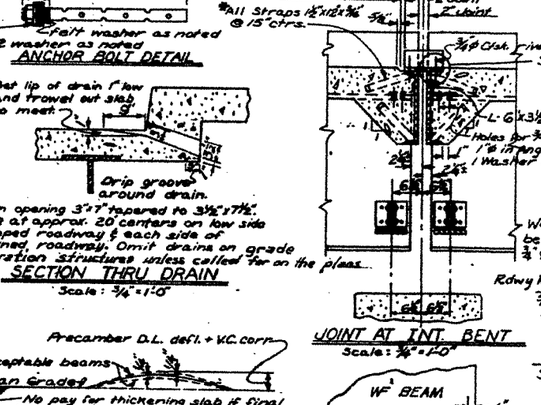


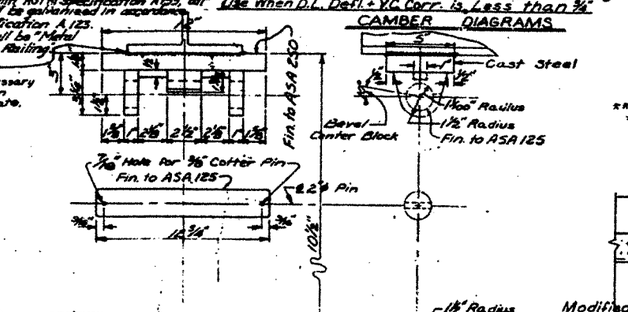
TYPE "B" FIXED or EXPANSION SHOE

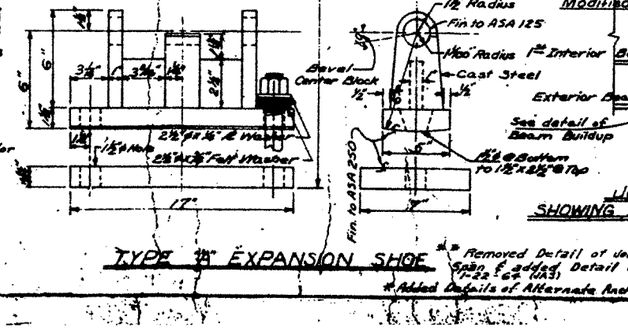
Use for end bents - all spans.
Use for int. bents - 35'-50' spans, unless otherwise shown.



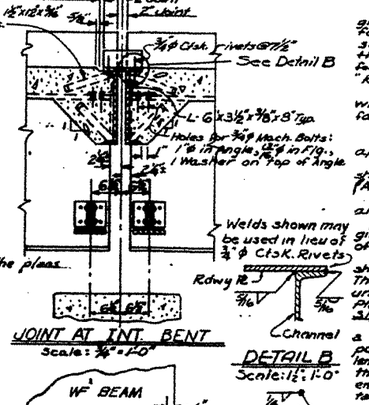
TYPE "A" FIXED SHOE

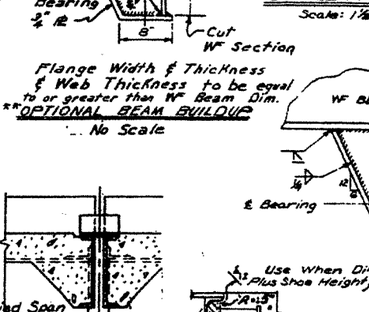




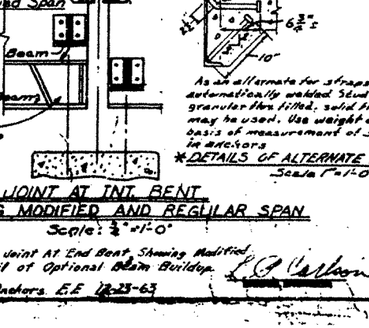


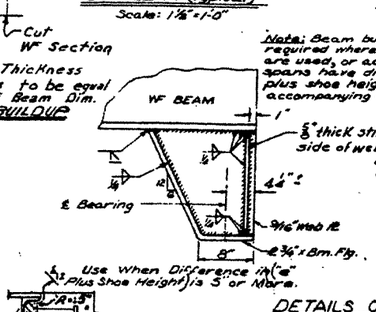
TYPE "B" EXPANSION SHOE

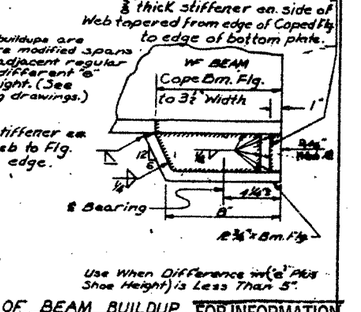




Flange Width & Thickness & Web Thickness to be equal to or greater than WF Beam Dim.
**OPTIONAL BEAM BUILDUP
No Scale







DETAILS OF BEAM BUILDUP FOR INFORMATION ONLY!
No Scale

As an alternate for studs, ½"ø X 10" automatically welded Stud Anchors, granular flux filled, solid fluxed, or equal may be used. Use weight of studs as basis of measurement of structural steel for anchors.

*DETAILS OF ALTERNATE ANCHORS
Scale 1"=1'-0"

DETAILS COMMON TO STANDARD 35'-90' COMPOSITE I-BEAM SPANS

ALL ROADWAY WIDTHS

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

RE-DRAWN BY: E.E. DATE: 9-27-63
TRACED BY: DATE:
RE-CHECKED BY: EMH DATE: 9-30-63
SCALE: As Shown

BRIDGE NO. 5515
DRAWING NO. 43699

GENERAL NOTES

All concrete to be Class S. All exposed corners to be chamfered ¾" unless otherwise noted.
Field connections to be riveted or bolted with high strength bolts. Rivets: ¾"ø, Open holes 13/16"ø except where noted otherwise.
Structural shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of shapes shown or those actually used, whichever is less.
All welded connections to be ⅜" fillet shop welds except as noted.
All welding shall conform to the American Welding Society Standard Specifications for Welded Highway and Railway Bridges, current edition.
Shop Paint: All structural steel except surfaces in contact with concrete shall be given one coat of red lead and raw linseed oil before shipment.
Field Paint: First coat - red lead tinted with lamp black. Second coat aluminum paint.
All metal bearing and roadway expansion devices to be paid for as "Structural Steel in Beam Spans." Bearings shall be finally seated in accordance with Sec. 806.16, including alternate, of the 1961 Specs. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.
This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approval secured before fabrication is begun.
All Steel shall be ASTM A-36 unless otherwise noted.
Anchor bolts shall be galvanized to conform to ASTM Specification, Designation A 153.

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Reinforcing Steel."
Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approval secured before fabrication is begun.
All chamfers on concrete riser for rail are to be ½".
Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.
The aluminum bridge railing, including posts and fasteners, shall be paid for at the unit price bid per linear foot for "Metal (Aluminum) Bridge Railing."
A rail connection utilizing set screws is an acceptable alternate and may be supplied at the Contractor's option.
Outside surfaces of flanges of cast aluminum posts shall be given a No. 220 grit belt finish after which all exposed surfaces of posts shall receive one coat of clear lacquer.
If Steel or Aluminum Plate Guard Bridge Railing is used it shall be the one shown or an equivalent rigid type as approved by the Engineer. The rail including posts and fastenings shall be paid for at the unit price bid per linear foot for "Steel or Aluminum Plate Guard Bridge Railing."

Pouring Notes:
Floor slabs may be poured in one continuous operation with a strike off extending over the whole span length, or may be poured in increments with the center one-third to one-half span length poured first. After the center section is poured not less than 12 hours shall elapse before pouring the end sections. The end sections may be poured simultaneously. If not poured simultaneously, 48 hours shall elapse between end section pours.

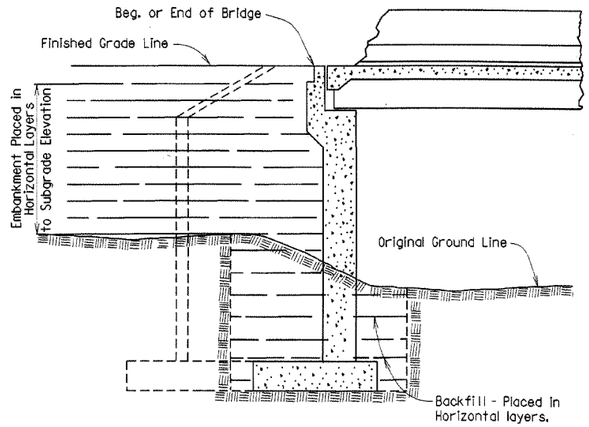
SPECIFICATIONS:
Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959.

This Drawing is a modification of Dwg No. 14,990

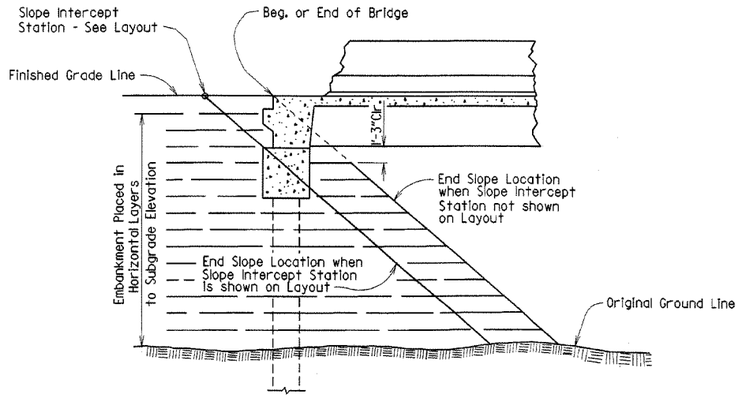
*Removed Detail of Joint At End Bent, Showing Modified Span & added Detail of Optional Beam Buildup. E.E. 12-22-63 (A3)
*Added Details of Alternate Anchors. E.E. 12-23-63

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		139	
				JOB NO.				

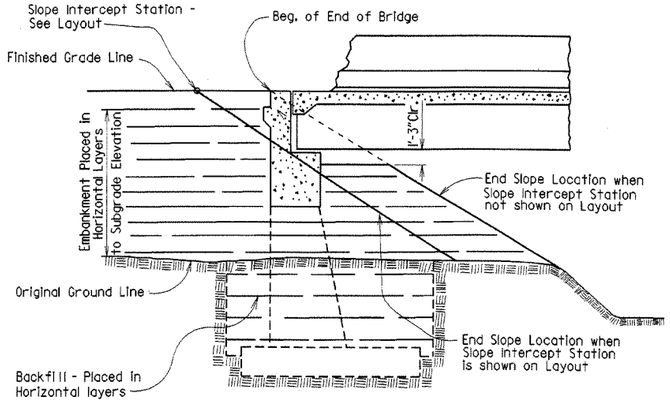
EMBANKMENT & BACKFILL I888A



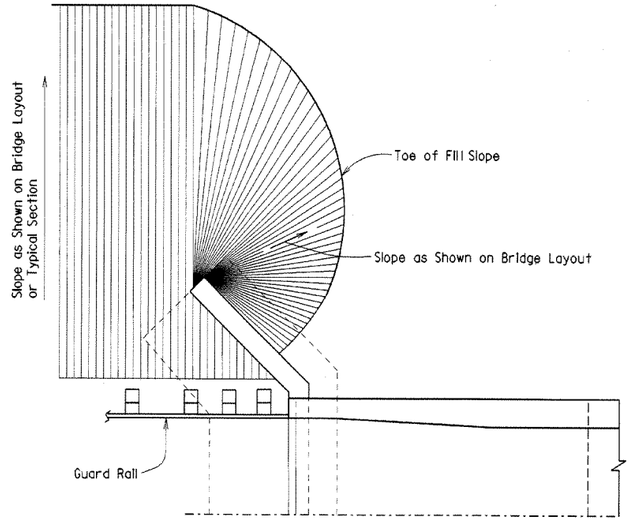
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



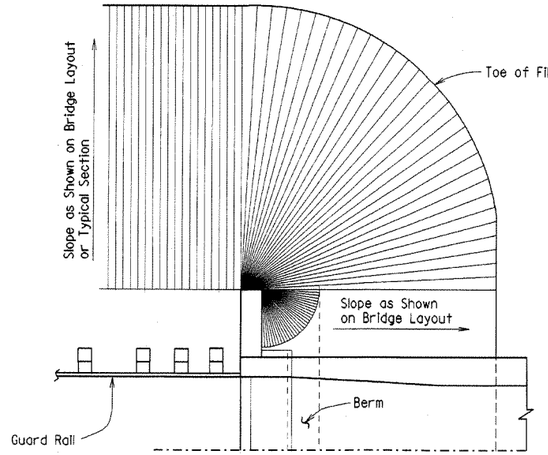
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



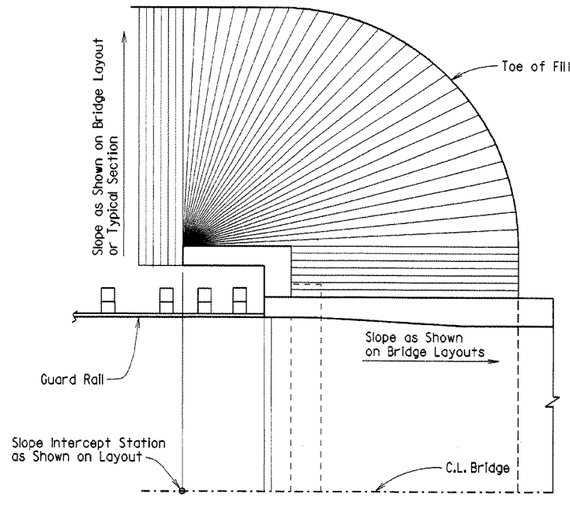
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



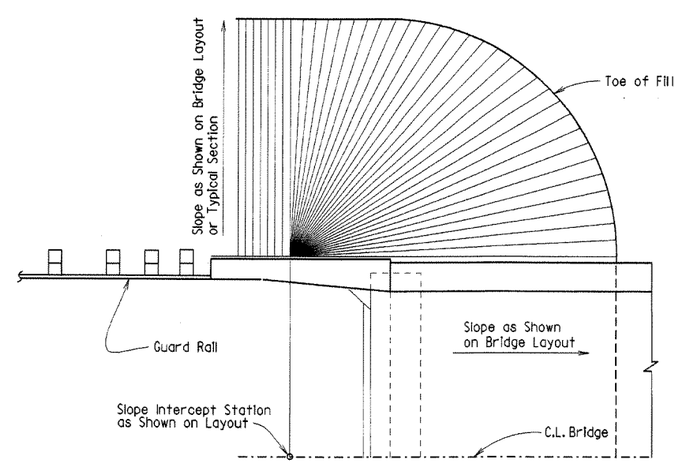
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 4 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to subsections 210.09, 210.10 and 801.08 of the Specifications for construction requirements.

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

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

BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

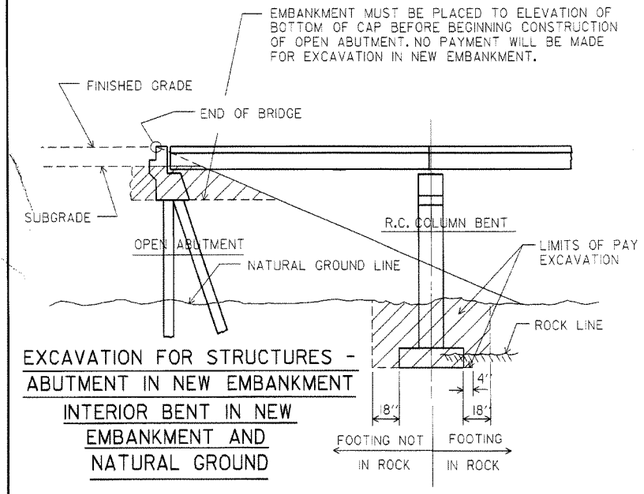
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CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

BRIDGE NO. DRAWING NO. I888A

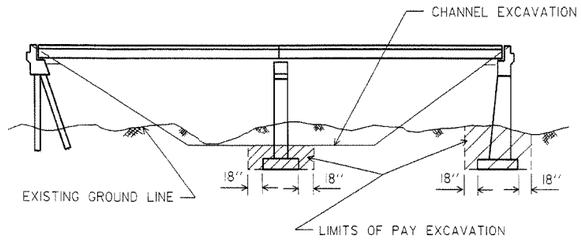
BI888A.STD

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		155	
				JOB NO.				

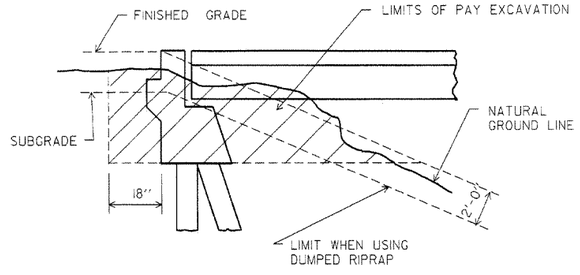
1 RIP. & EXCAV. 1891F



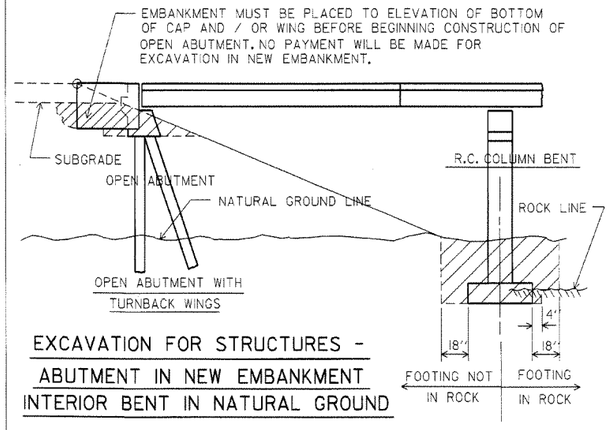
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



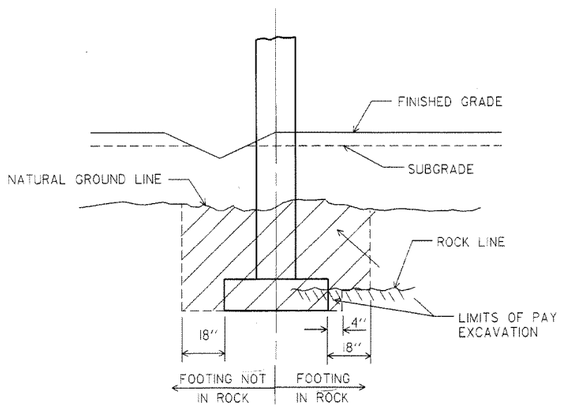
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



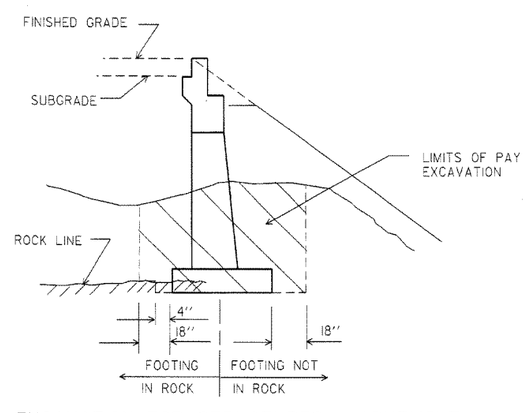
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



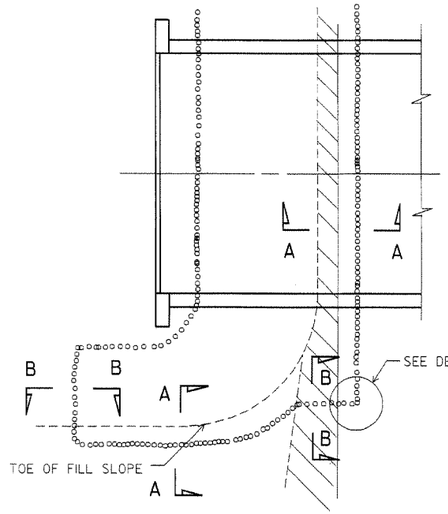
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



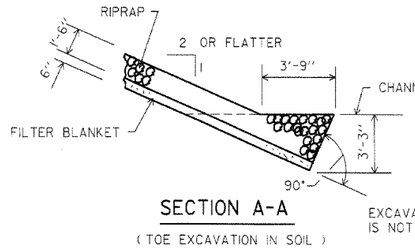
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



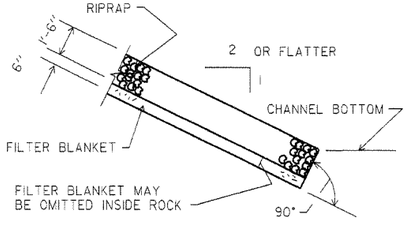
PLAN OF DUMPED RIPRAP



SECTION A-A

(TOE EXCAVATION IN SOIL)

EXCAVATION FOR TOES IS NOT A PAY ITEM



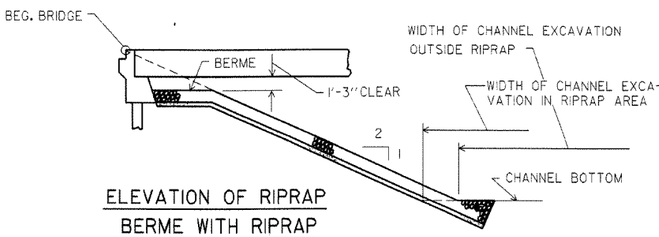
SECTION A-A

(TOE EXCAVATION IN ROCK)

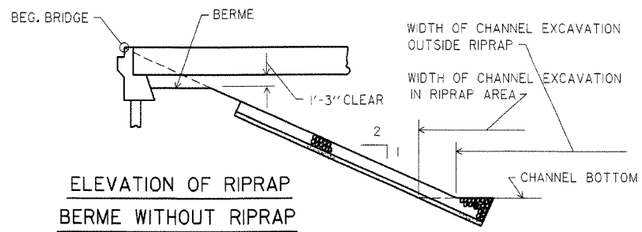
NOTE : USE THIS TYPE OF TOE WHEN ROCK IS ENCOUNTERED WHICH IS IN A STABLE CONDITION.

NOTE : IN LIEU OF AN AGGREGATE FILTER BLANKET, A SYNTHETIC FIBER GEOTEXTILE FABRIC COMPLYING WITH THE REQUIREMENTS OF SUBSECTION 816.02(e) MAY BE USED.

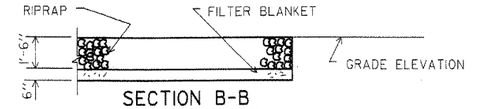
NOTE : DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES ARE INCLUDED FOR INFORMATION AS TO HOW PLAN QUANTITIES WERE CALCULATED AND FOR USE WHEN ADJUSTING QUANTITIES WHEN CHANGING FOOTING ELEVATION.



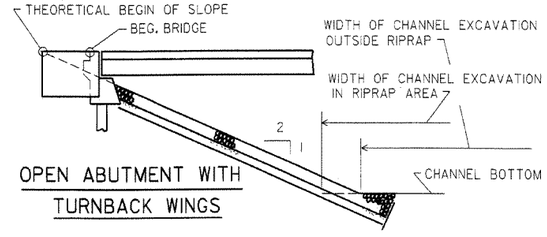
ELEVATION OF RIPRAP BERME WITH RIPRAP



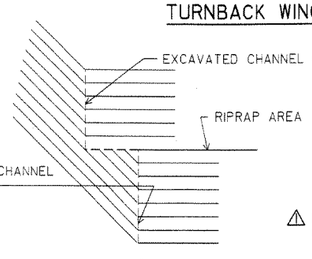
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4537
CHARLES P. BRAND

BRIDGE ENGINEER

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES

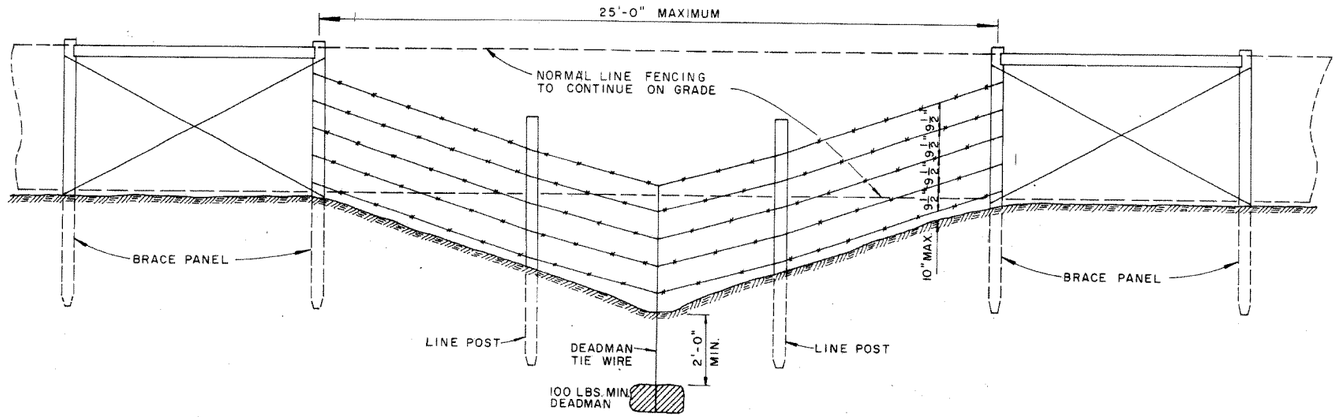
ROUTE SEC.

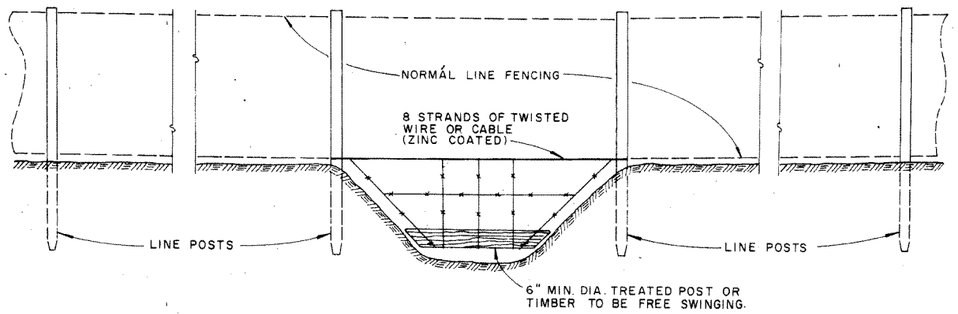
ARKANSAS STATE HIGHWAY COMMISSION

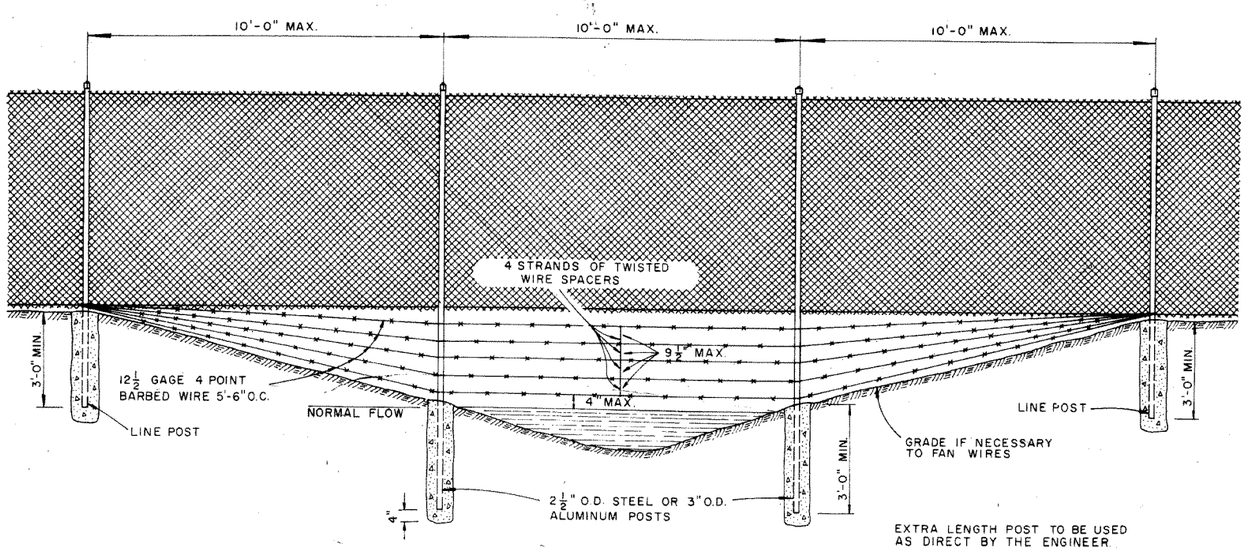
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B1891F.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 1891F







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

DATE	REVISION	DATE FILM'D.
4-20-79	REVISED TOP RAIL & TENSION WIRE	696 4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING

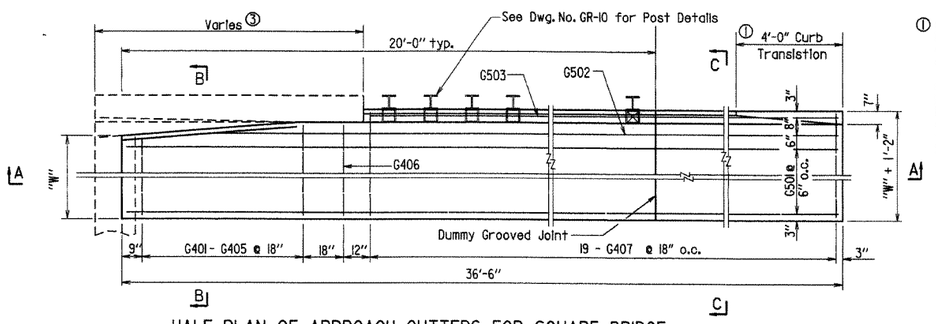
WF-2

73

1M—11-71—61001—PPASC

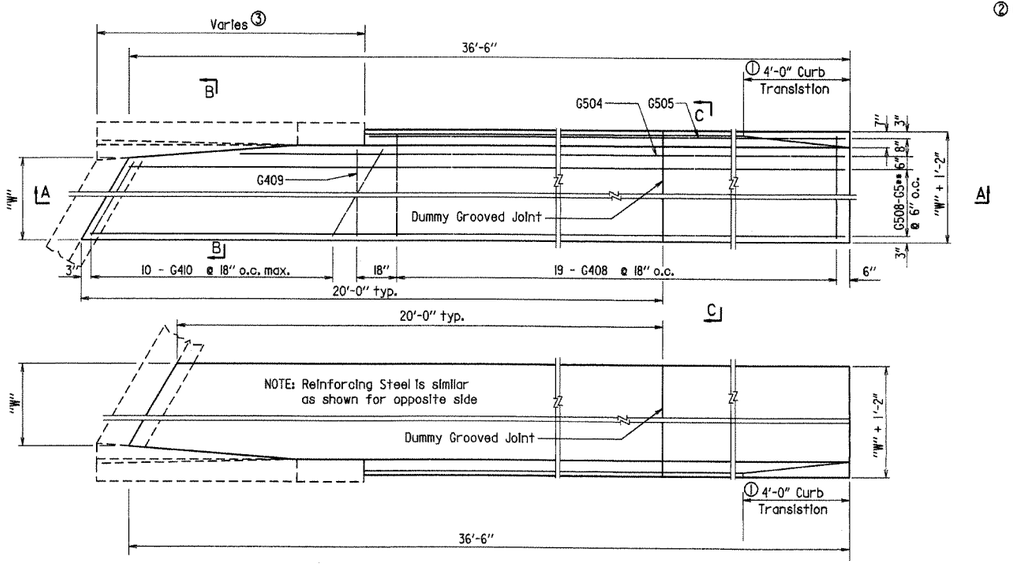
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		137	
07-14-2010				JOB NO.				

① TYPE C GUTTERS - 2016C



HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

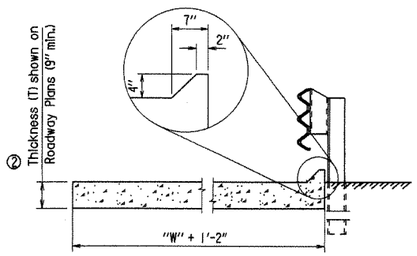
③ Length Varies See End Bt. Details for Actual Length. Quantities Shown are for 10'-0" Transition Rail.



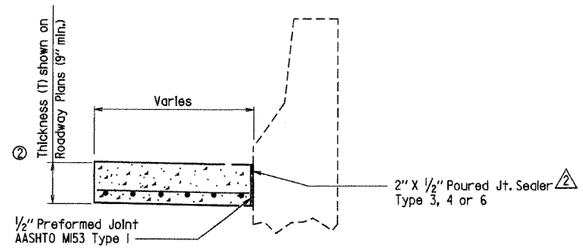
PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

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

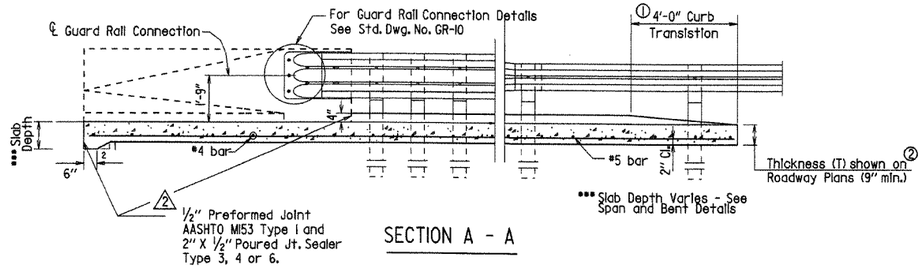


SECTION C - C
N.T.S.



SECTION B - B
N.T.S.

② Thickness shall match Approach Slab Thickness. Thickness shall be 9" if Approach Slab is not used.



SECTION A - A

***BAR LIST FOR ONE TYPE C GUTTER

Mark	No. Req'd. for Width "W" 4'-0"	6'-0"	8'-0"	10'-0"	Length	Square or Skewed
G401 - G405	1 each	1 each	1 each	1 each	"W"-3" to "W"+3"	Square
G406	1	1	1	1	"W"+3"	Square
G407	19	19	19	19	"W"+ 10"	Square
G408	19	19	19	19	"W"+ 10"	Skewed
G409	1	1	1	1	"W"+3"	Skewed
G410	10	10	10	10	*	Skewed
G501	8	12	16	20	36'-2"	Square
G502	1	1	1	1	31'-8"	Square
G503	1	1	1	1	27'-2"	Square
G504	1	1	1	1	*	Skewed
G505	1	1	1	1	*	Skewed
G508 - G5__ **	1 each	1 each	1 each	1 each	*	Skewed

*** Special bar list required when skew angle exceeds 35° for W = 10'; 40° for W = 8'; 50° for W = 6'; or 60° for W = 4'.

* Bar Lengths vary with Skew.

** G515 for W = 4'
G519 for W = 6'
G523 for W = 8'
G527 for W = 10'

QUANTITIES FOR ONE SQUARE APPROACH GUTTER ③

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards) T=9"	T=10"	T=11"	T=12"	T=14½"
4	439	5.19	5.75	6.31	6.88	8.25
6	623	7.24	8.02	8.80	9.59	11.52
8	807	9.28	10.29	11.30	12.32	14.79
10	991	11.33	12.56	13.79	15.03	18.06

GENERAL NOTES

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

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

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 C APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

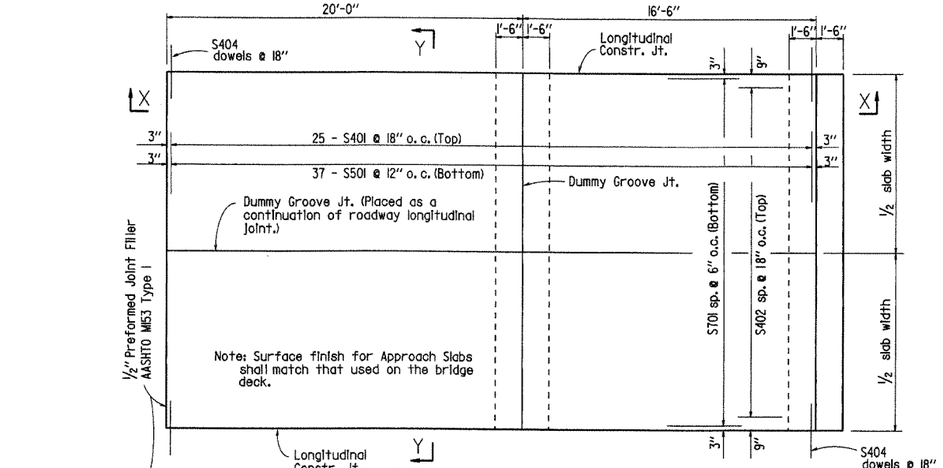
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2016C.STD
CHECKED BY: CJF DATE: 4-10-2003 SCALE: 3/8" = 1'-0"
DESIGNED BY: STD. DATE:

BRIDGE NO. DRAWING NO. 2016C

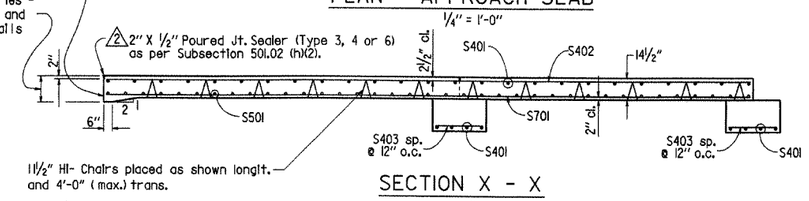
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		138	
07-14-2010				JOB NO.				

① APPROACH SLAB - 2018



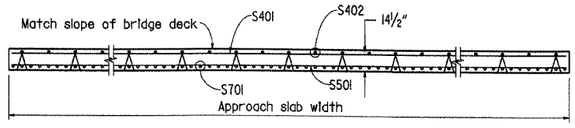
PLAN - APPROACH SLAB

1/4" = 1'-0"



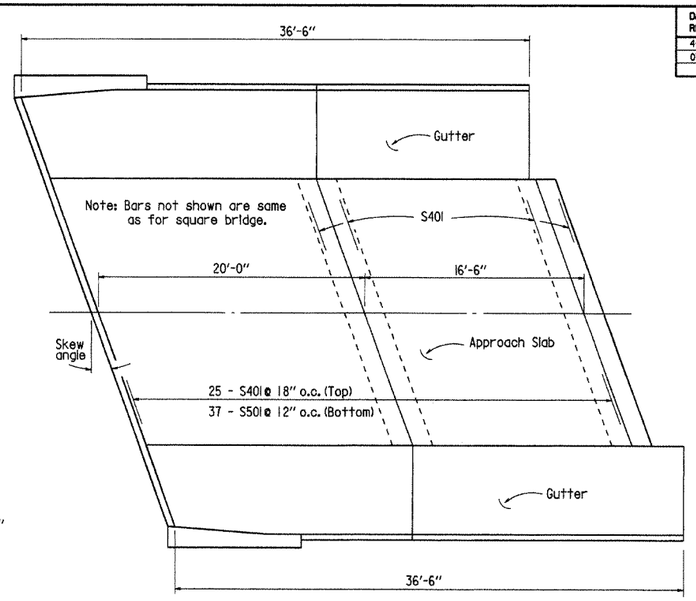
SECTION X - X

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	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

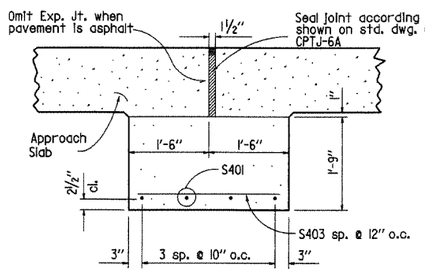
Concrete shall be Class S (AE) (f'c = 4,000 psi).

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.

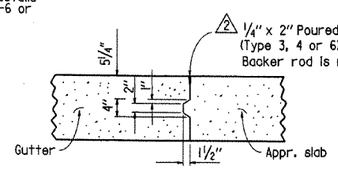
1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

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



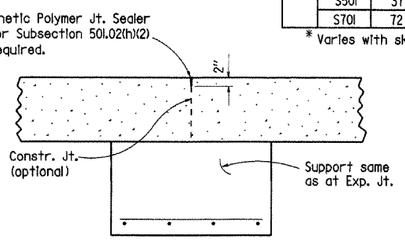
DETAILS OF SUPPORT AT EXPANSION JOINT

3/4" = 1'-0"



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

3/4" = 1'-0"



DETAILS OF DUMMY GROOVED JOINT

3/4" = 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.

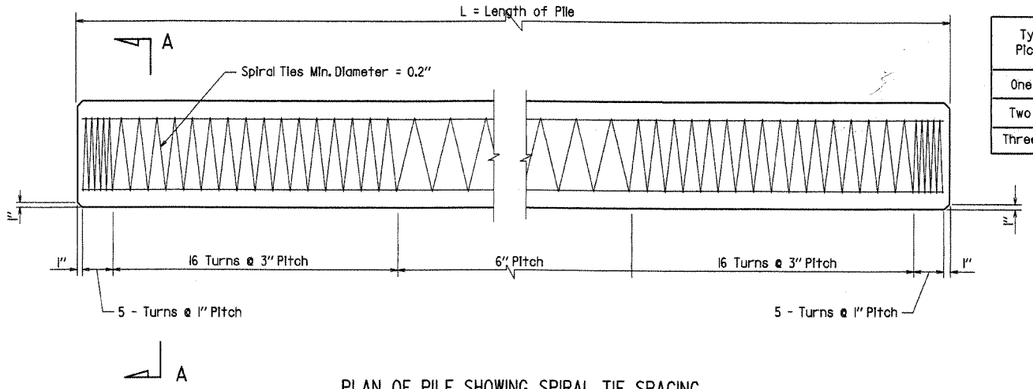
DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2018.STD

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

DESIGNED BY: Std. DATE:

BRIDGE NO. DRAWING NO. 2018

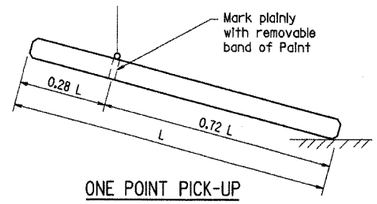
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003	4-10-2003			6	ARK.		139	
12-10-2009				JOB NO.				
				①		CONC. PILES		2383



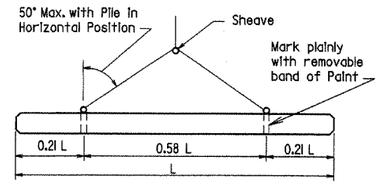
PLAN OF PILE SHOWING SPIRAL TIE SPACING

MAXIMUM PICKUP LENGTHS L

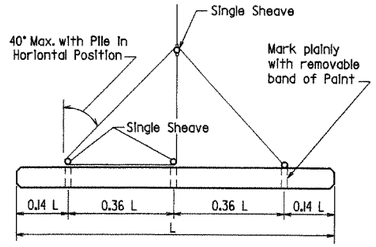
Type of Pick - Up	Prestressed		Precast	Prestressed			Precast		
	16" Oct.	18" Oct.	16" or 18" Oct.	14" Sq.	16" Sq.	18" Sq.	14" Sq.	16" Sq.	18" Sq.
One - Point	52'	55'	46'	55'	59'	63'	52'	51'	55'
Two - Point	75'	80'	67'	79'	84'	90'	75'	74'	79'
Three - Point	105'	112'	93'	110'	117'	126'	104'	103'	111'



ONE POINT PICK-UP

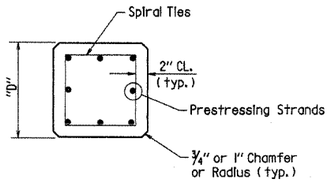


TWO POINT PICK-UP

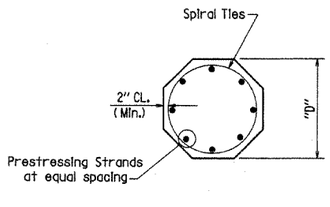


THREE POINT PICK-UP

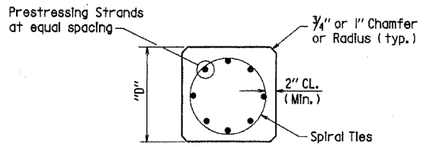
Note : Strand location shall be symmetrical about the axis of the pile with no more than one strand difference between any two adjacent sides. Circular spiral ties are required for odd number of strands.



SECTION A-A
SQUARE PILE



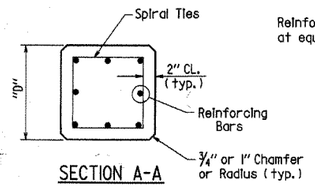
SECTION A-A
OCTAGONAL PILE



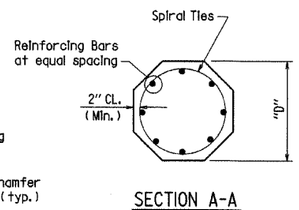
SECTION A-A
SQUARE PILE

PRECAST PILE REINFORCING

Pile Size	No. Req'd.	Bar Size
16" Oct.	8	# 7
18" Oct.	8	# 7
14" Sq.	8	# 7
16" Sq.	8	# 7
18" Sq.	8	# 8



SECTION A-A
SQUARE PILE



SECTION A-A
OCTAGONAL PILE

PRESTRESSED CONCRETE PILES

PRESTRESSED PILE PROPERTIES

	Grade	Strand Diameter	• Number of Strands per Size "D"					Minimum Ultimate Tensile Strength Per Strand (Lbs.)	Intial Prestressing Force Per Strand (Lbs.)
			16" Oct.	18" Oct.	14" Sq.	16" Sq.	18" Sq.		
Stress Relieved	250	7/16"	11	13	10	12	16	27,000	18,900
		1/2"	8	10	8	10	12	36,000	25,200
	270	7/16"	9	11	8	12	14	31,000	21,700
		1/2"	7	9	6	8	10	41,300	28,900
Low Relaxation	250	7/16"	9	11	8	11	13	27,000	20,200
		1/2"	7	8	6	8	10	36,000	27,000
	270	7/16"	8	10	7	9	11	31,000	23,300
		1/2"	6	7	5	7	9	41,300	31,000

• Number based on initial prestress force of "B" x Ultimate Tensile Stress, Prestress Losses, and min. 700 psi Unit Prestress on concrete after Losses.

"B" — 0.75 Low Relaxation; 0.70 Stress - Relieved

GENERAL NOTES

Construction Specifications : Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted, references to Section and subsection numbers in the plans refer to the Construction Specifications.

Design Specification : AASHTO Standard Specifications for Highway Construction (2002 Edition), with current Interim Specifications.

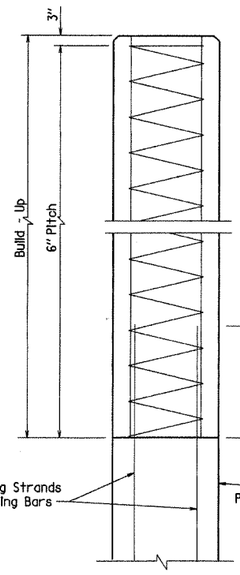
Concrete : Concrete in the Precast Prestressed Piles shall be Class S (AE) and shall have a Minimum Compressive Strength (f'c) of 5000 psi at 28 days, Compressive Strength at transfer of the Prestressing Force shall be not less than 4000 psi. Concrete in Build - Ups shall have a minimum Compressive Strength (f'c) of 4000 psi.

Prestressing Reinforcement : Seven wire stress relieved or low relaxation strands shall conform to the general requirements of AASHTO M203. Broken wires within individual strands will be permitted up to 2 % of the total number of wires in each pile, providing that there is not more than one broken wire per strand. Two or more broken wires per strand will be cause for replacement of the strand, even though the two broken wires are within the 2 % limitation.

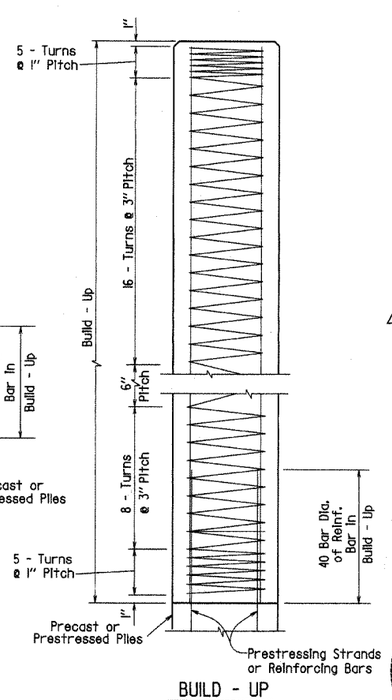
Build-Ups : To provide for Build-Ups of Piles where authorized by the Engineer, concrete shall be cut back to expose the strands for a distance sufficient to provide a lap of 40 diameters of the reinforcing bars required for Build-Up. Reinforcing of Build-Ups shall have a minimum area equal to 1½% of the gross section of pile. Placement of bars shall be in a symmetrical pattern of not less than four bars. See Section 805.11(b).

Forms : For forming exterior of piles, the use of steel forms on concrete founded casting beds is required, unless otherwise approved by the Engineer. Side forms may have a maximum drift on each side not exceeding ¼" per foot.

Tolerances : Pile ends shall be plane surfaces and perpendicular to axis of pile with a maximum tolerance of ⅛" per foot transversely.



BUILD - UP
WITHOUT DRIVING



BUILD - UP
WITH DRIVING

PRECAST CONCRETE PILES

GENERAL NOTES

The maximum sweep (deviation from straightness measured along two perpendicular faces of the pile, while not subject to bending forces) shall not exceed ⅛" in 10 ft. of its length.

General : Shipment of piles from the plant site or pile driving will not be permitted until the required minimum compressive strength is reached, and in no case less than 10 days after pouring the concrete. Piles may be removed from casting bed to a nearby storage any time after transfer of stress.

Spiral Reinforcing : Spiral reinforcing shall be steel wire meeting the requirements of AASHTO M32 with a minimum diameter of 0.2" or shall be plain round steel bars meeting the requirements of AASHTO M31 or M53, GR. 60 with a minimum diameter of 0.25".

Manufacture, Transportation and Storage : See Section 802 "Concrete for Structures".

2 Unless otherwise approved by the Engineer, all protruding or exposed pile lifting or transporting devices above the finished ground shall be removed after pile driving is complete. Removal shall be a minimum of 1" below the surface of the pile and the cavity shall be filled with a non-shrink grout listed on the Department's QPL.

Installation, Measurement and Payment : See Section 805 "Piling". Precast Prestressed Concrete Piling will be paid for at the contract unit price per Linear Foot bid for "Concrete Piling".

The Contractor may elect to use a Precast Concrete Pile in lieu of the Prestressed Concrete Pile. The following notes apply to Precast Concrete Piles:

All concrete shall be Class S (AE) and shall have a minimum compressive strength (f'c) of 4000 psi at 28 days.

All longitudinal reinforcing bars shall be deformed bars of AASHTO M31 or M53, Gr. 60.

All spiral reinforcing shall be the same as that shown for prestressed concrete.

2 Added paragraph to General Notes KDH 12-10-2009
Checked by: CJF Date: 12-10-2009

1 Revised and redrawn MJT 04-10-03
Chkd. By: CJF 04-10-03

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

BRIDGE ENGINEER

DETAILS OF STANDARD CONCRETE PILES

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B2383.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: 1" = 1'-0"
DESIGNED BY: STD. DATE: —

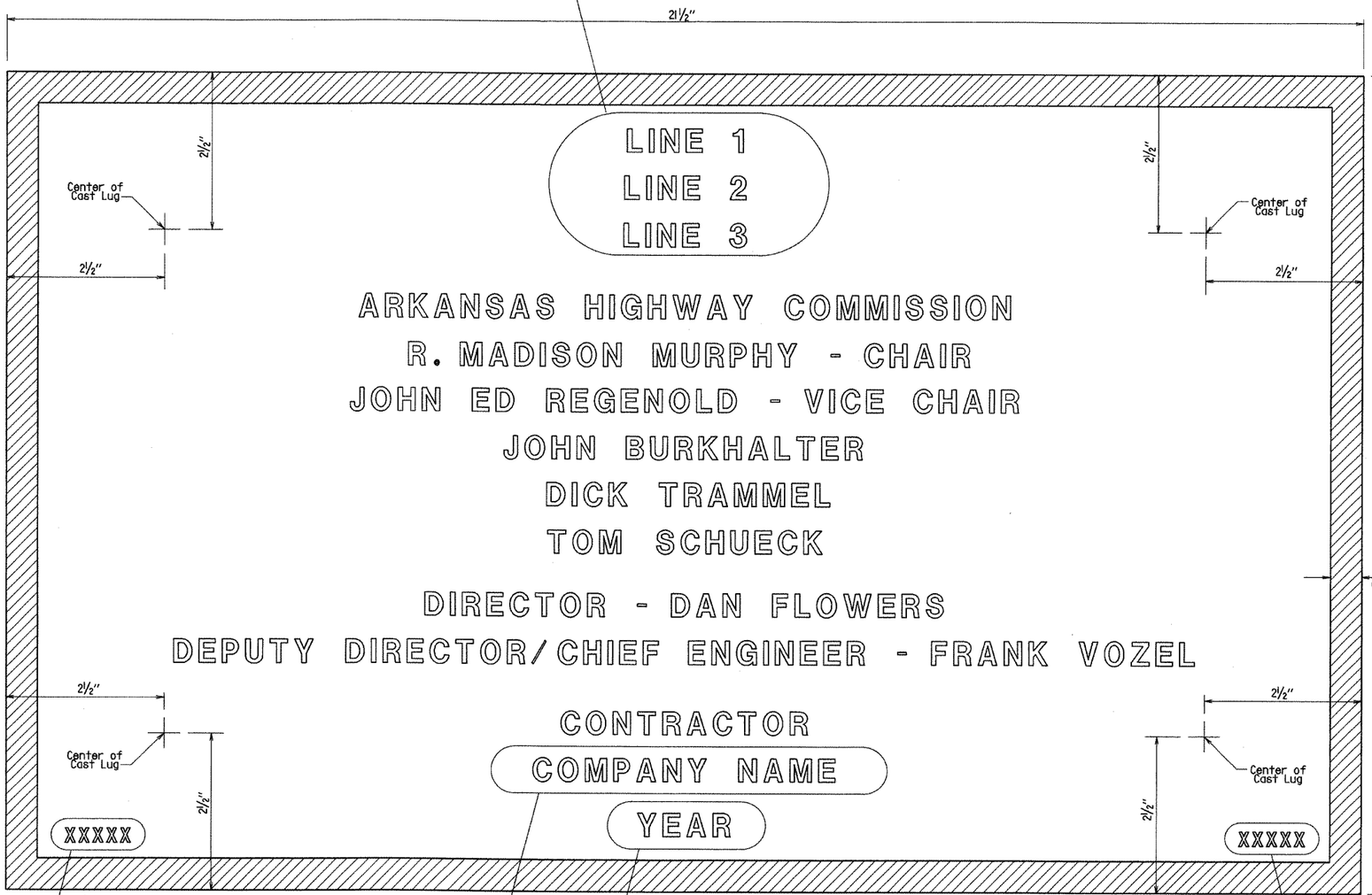
BRIDGE NO. DRAWING NO. 2383

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-17-07		01-08-09		6	ARK.		14/0	
8-16-07		11-23-10		JOB NO.				
12-10-08		01-25-11						

① NAME PLATE 2387

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



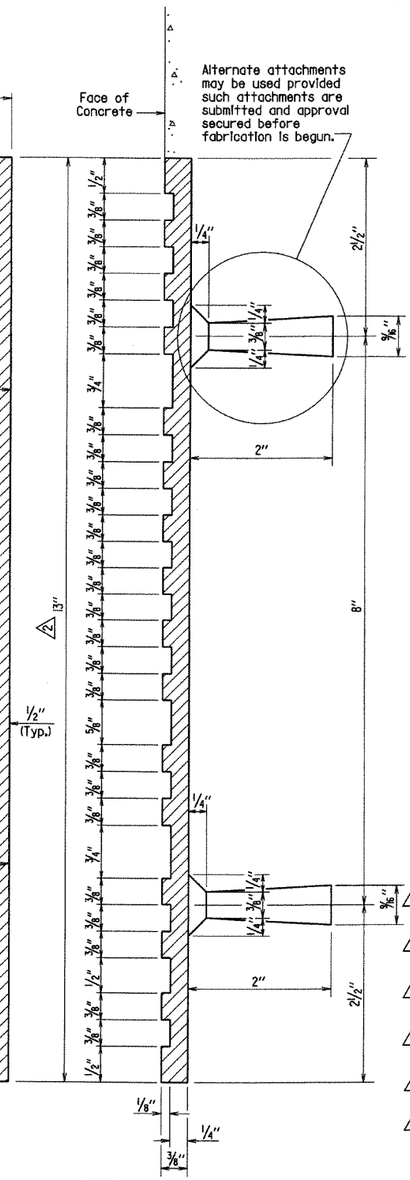
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20
HL-93

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example : ABCD CONSTRUCTION, INC.

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples : A1234
05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 3/16"x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered. The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

⑥ Revised Commission Names 01-25-11 MJT
Checked By: CJF Date: 01-25-11

⑤ Revised Commission Names 11-23-10 MJT
Checked By: CJF Date: 11-23-10

④ Revised Commission Names 01-08-09 MJT
Checked By: CJF Date: 01-08-09

③ Revised Commission Names 12-10-08 MJT
Checked By: CJF Date: 12-10-08

② Added Dimension 8-16-07 KDH
Checked By: SWP Date: 8-16-07

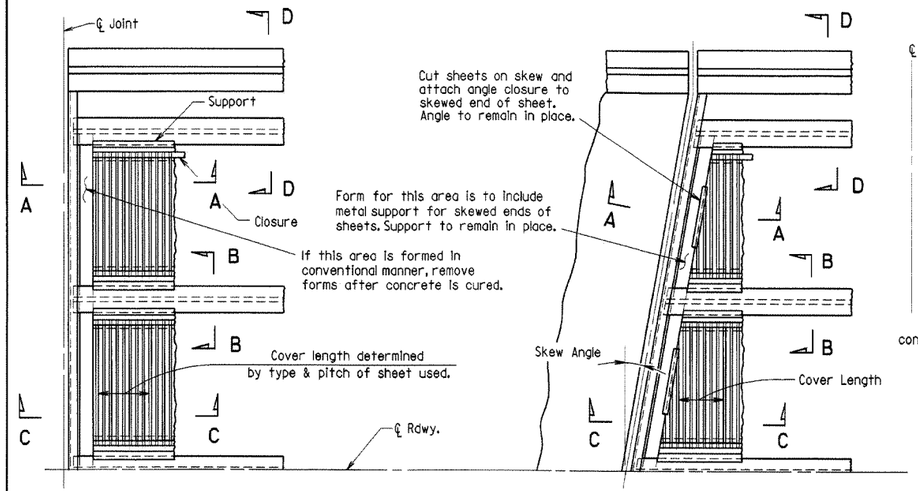
① Revised and Redrawn
4-17-07 KDH Checked By: CJF

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

DETAILS OF STANDARD TYPE D
BRIDGE NAME PLATE
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-17-07 FILENAME: B2387.STD
CHECKED BY: CJF DATE: 4-17-07 SCALE: 1'-0" = 1'-0" OR AS NOTED
DESIGNED BY: STD. DATE: —
BRIDGE NO. DRAWING NO. 2387

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-27-96						6	ARK.		10/11	
04-10-2003						JOB NO.				
						① BR. DECK FORMS		14991		

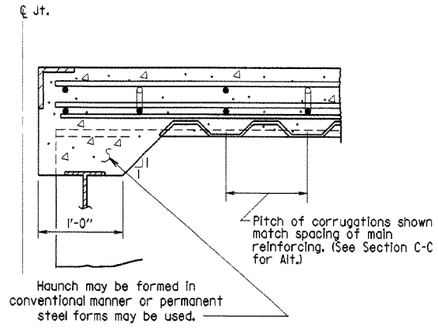


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

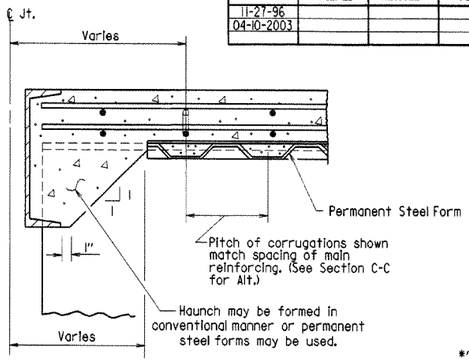
3/8" = 1'-0"



SECTION A-A

N.T.S.

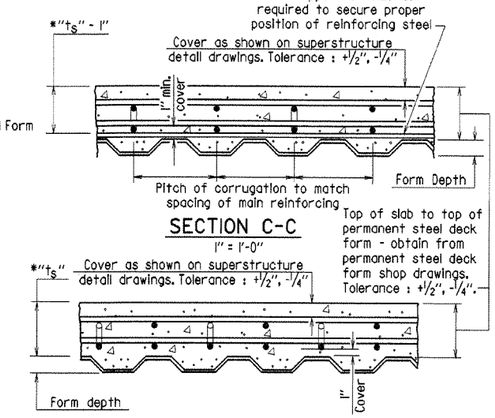
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



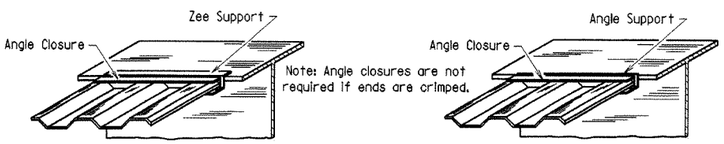
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to subsection 802.14(b) of the Standard Specifications. Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Bridge Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Bridge Engineer.

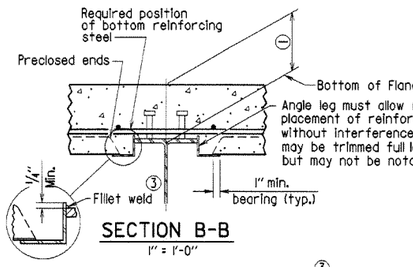
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

⚠2 Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and special provisions.

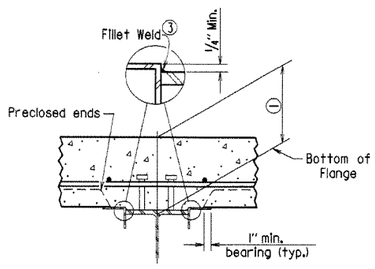


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

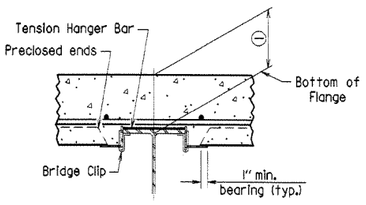
③ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

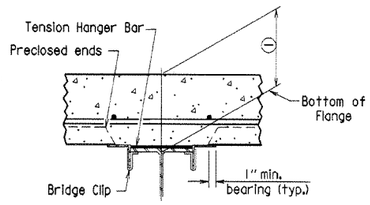
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

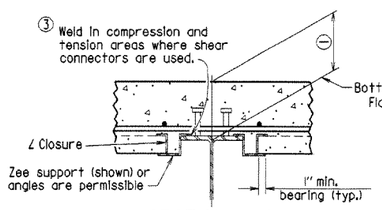
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

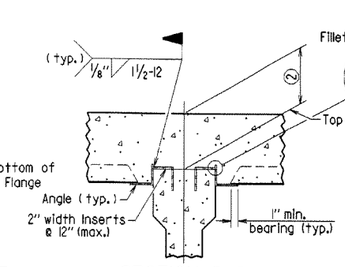
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

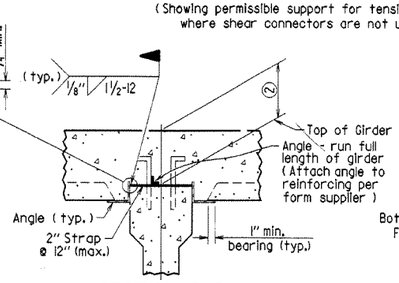


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Insert cast in girder)

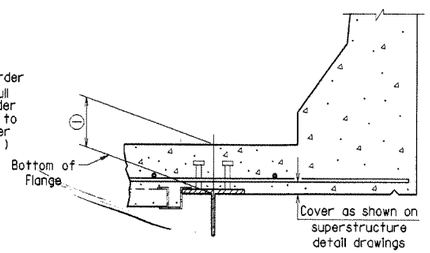


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Strap)



SECTION D-D

1" = 1'-0"

Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠1 Redrawn and revised 11/27/96; MJT

⚠2 Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

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

BRIDGE ENGINEER

DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ROUTE SEC.

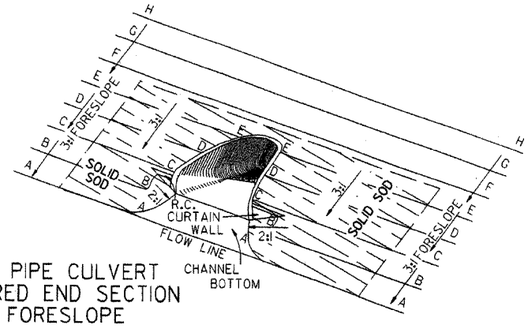
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

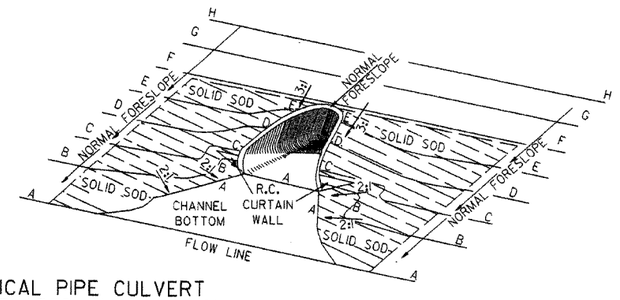
DRAWN BY: MJT DATE: 10-17-96
CHECKED BY: CPB DATE: 10-17-96
DESIGNED BY: STD. DATE: —
SCALE: as noted

BRIDGE NO. DRAWING NO. 14991

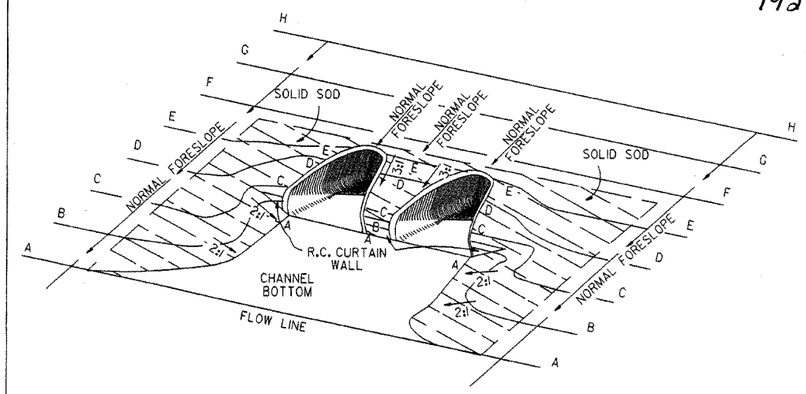
BI499I.STD



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

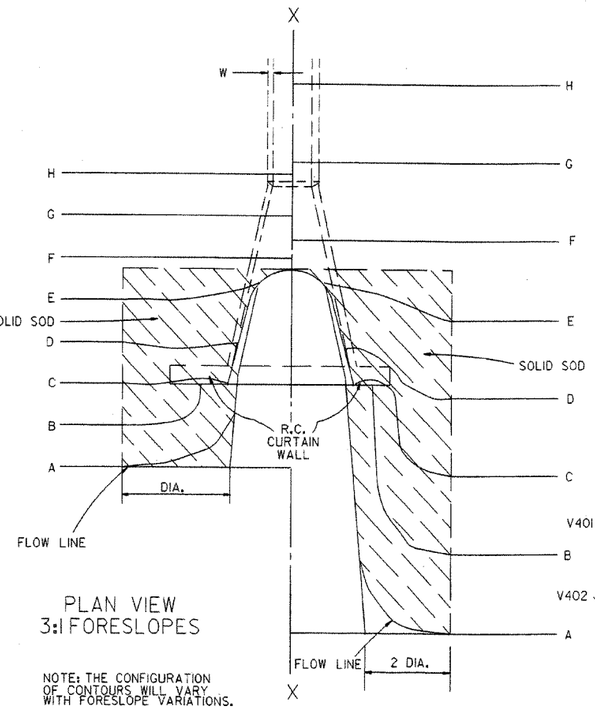
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"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

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

REINFORCING STEEL SCHEDULE

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

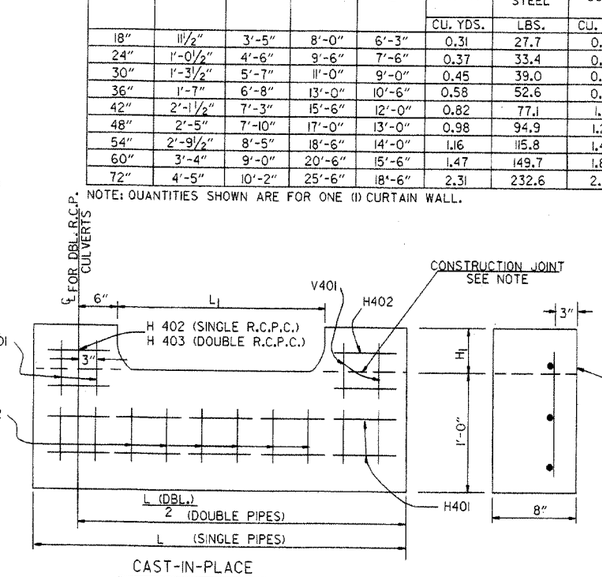
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

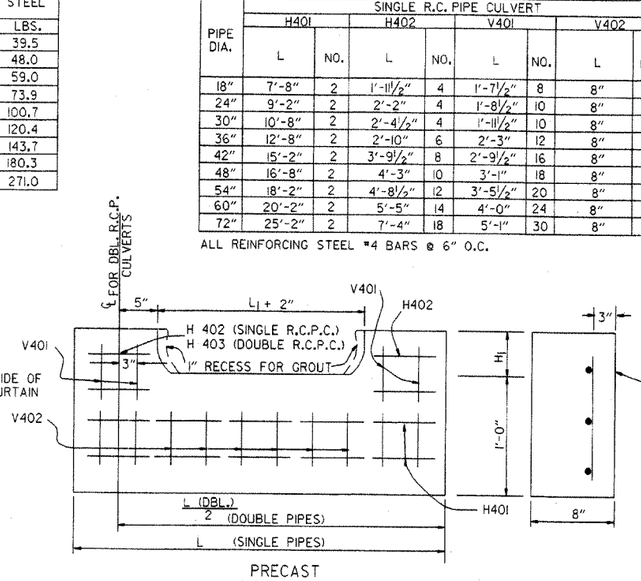
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

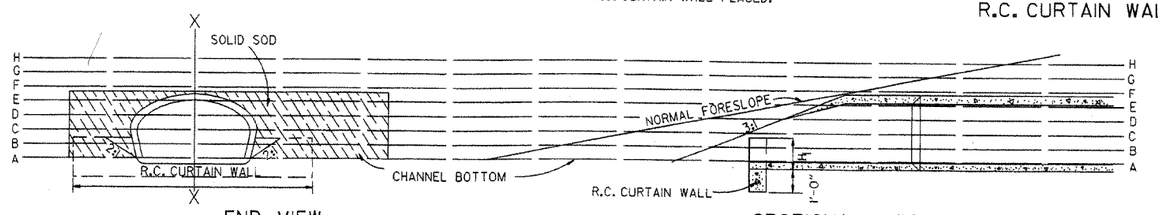
NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



PRECAST

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

R.C. CURTAIN WALL DETAILS



END VIEW

SECTIONAL VIEW "X-X"

SOLID SODDING

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

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

GENERAL NOTES

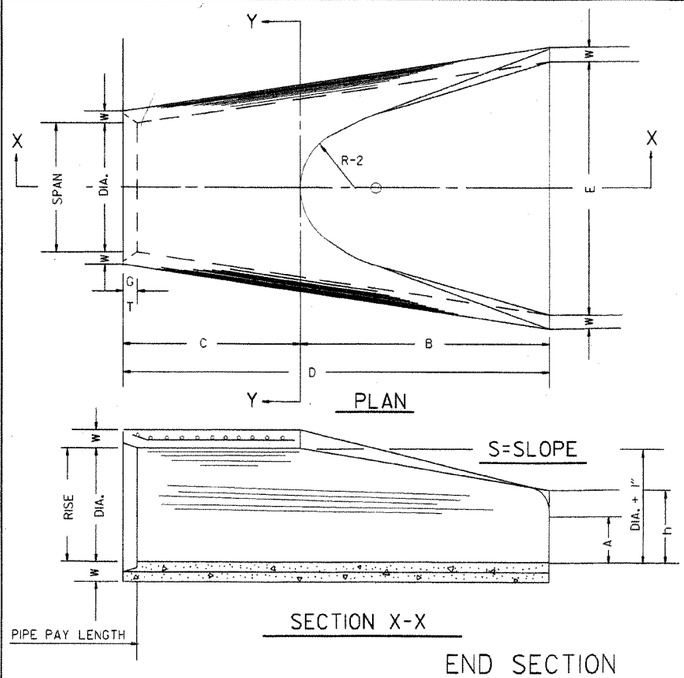
1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: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

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

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FLARED END SECTION

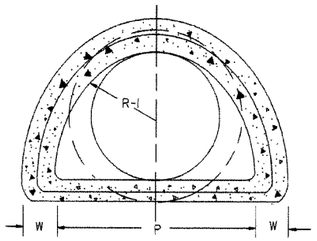
STANDARD DRAWING FES-1



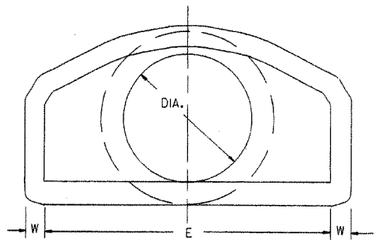
END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-11½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 13/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 7/8"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33 1/8"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 15/16"	24"	5"	13250	4'-6"



SECTION Y-Y



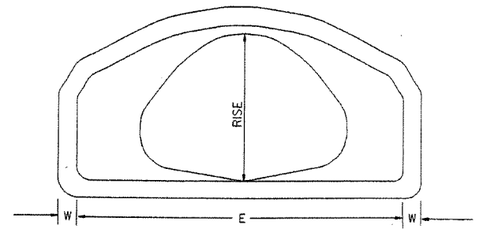
END VIEW

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

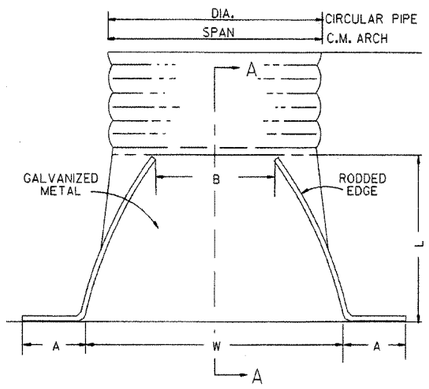
ARCH PIPE

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

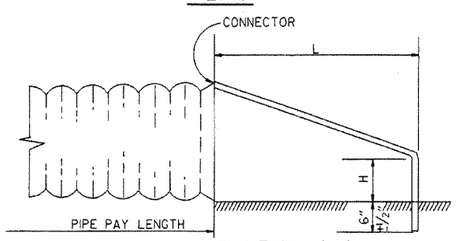
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



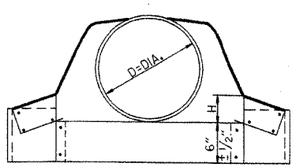
END VIEW
CONCRETE ARCH PIPE



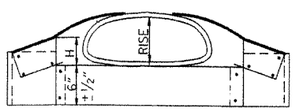
PLAN



SECTION A-A



CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

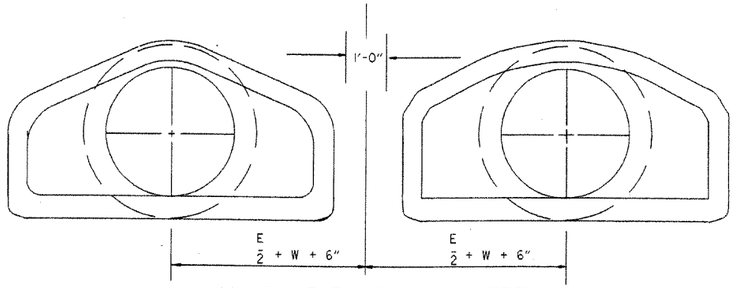
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½±1
15	16	7	8	6	26	30	2½±1
18	16	8	10	6	31	36	2½±1
21	16	9	12	6	36	42	2½±1
24	16	10	13	6	41	48	2½±1
30	14	12	16	8	51	60	2½±1
36	14	14	19	9	60	72	2½±1
42	12	16	22	11	69	84	2½±1
48	12	18	27	12	78	90	2½±1
54	12	18	30	12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

C.M. ARCH PIPE

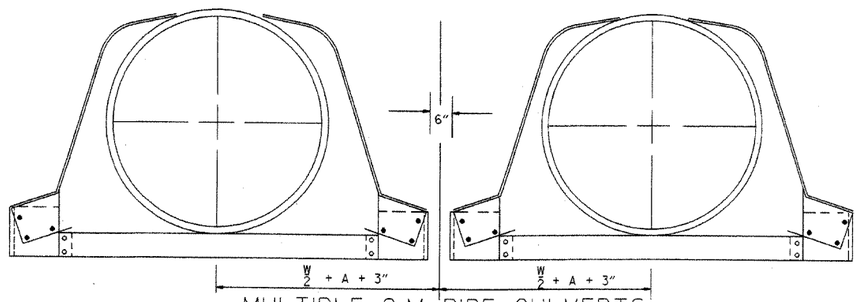
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½±1	16
18"	21	15	7	10	6	23	36	2½±1	16
21"	24	18	8	12	6	28	42	2½±1	16
24"	28	20	9	14	6	32	48	2½±1	16
30"	35	24	10	16	6	39	60	2½±1	14
36"	42	29	12	18	8	46	75	2½±1	14
42"	49	33	13	21	9	53	85	2½±1	12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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

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

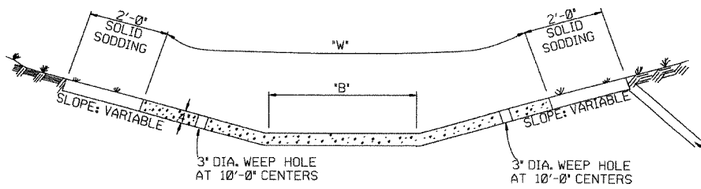
ARKANSAS STATE HIGHWAY COMMISION

FLARED END SECTION

STANDARD DRAWING FES-2

stdfes2.dgn

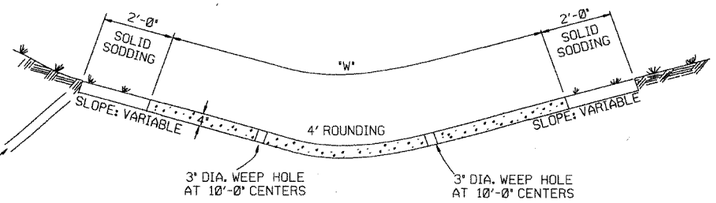
REFER TO TABULATION OF QUANTITIES FOR "W" & "B" DIMENSIONS



TYPE A

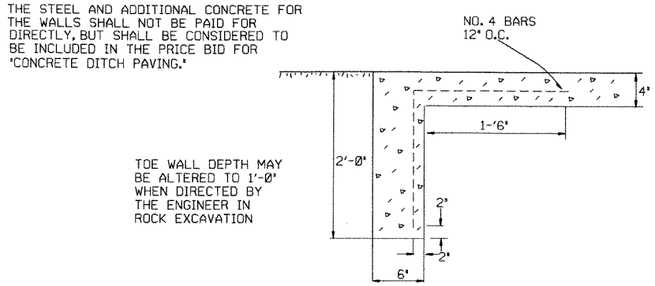
EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

REFER TO TABULATION OF QUANTITIES FOR "W" DIMENSIONS



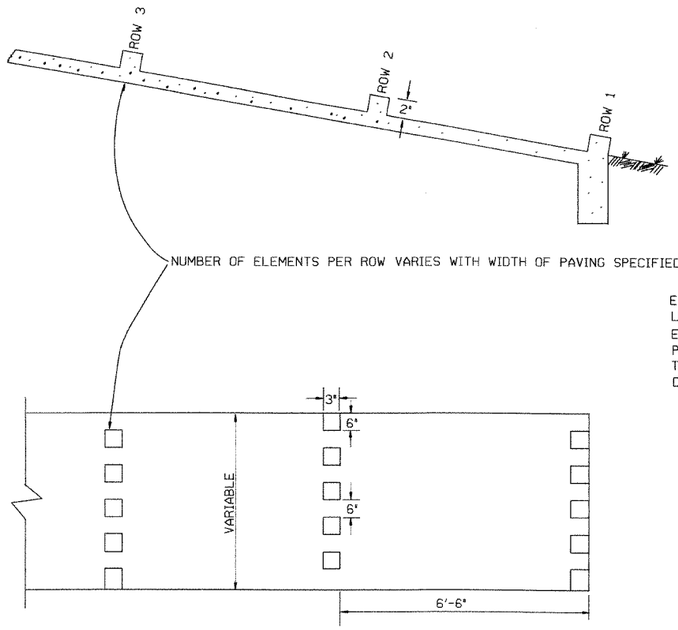
TYPE B

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
(NO SCALE)

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.

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.

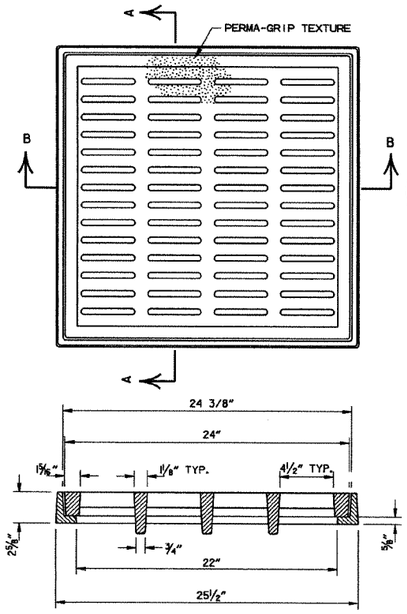
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

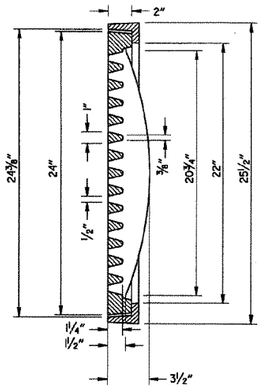
DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED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





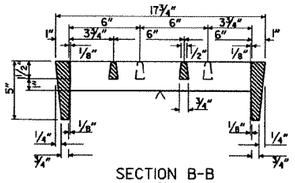
SECTION A-A

SECTION B-B

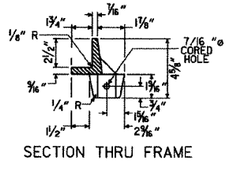
DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

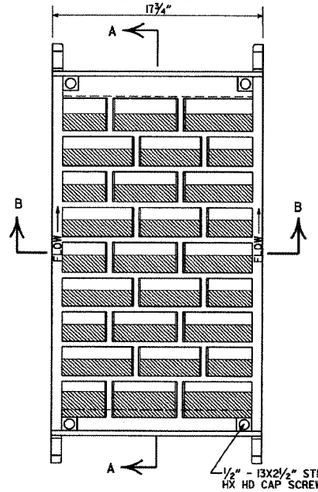
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS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

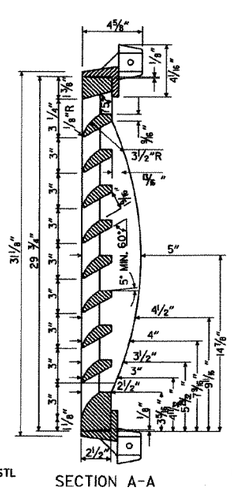


SECTION B-B



SECTION THRU FRAME



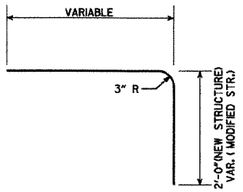


SECTION A-A

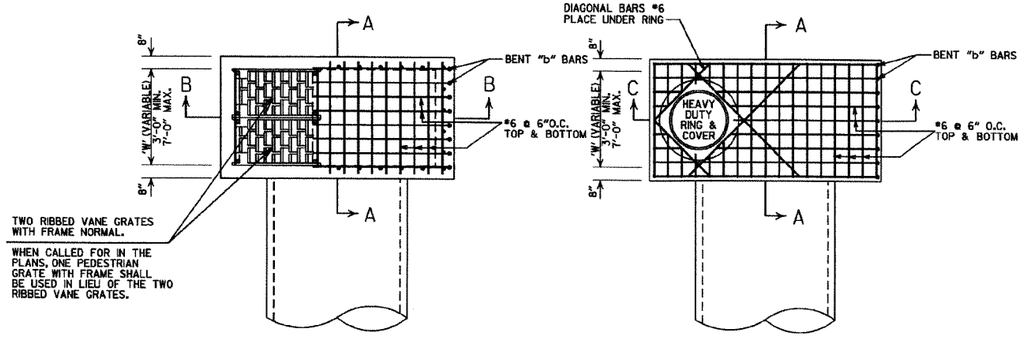
DETAILS OF RIBBED VANE GRATE AND FRAME

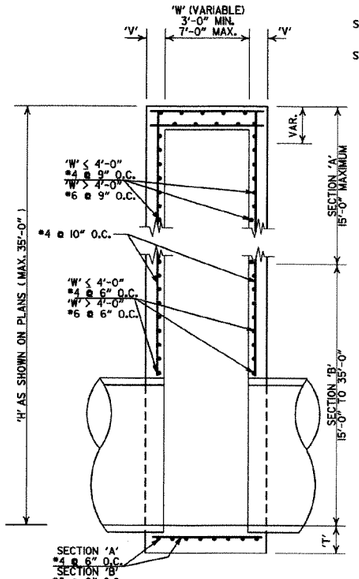
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

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



DETAIL OF BENT "b" BAR





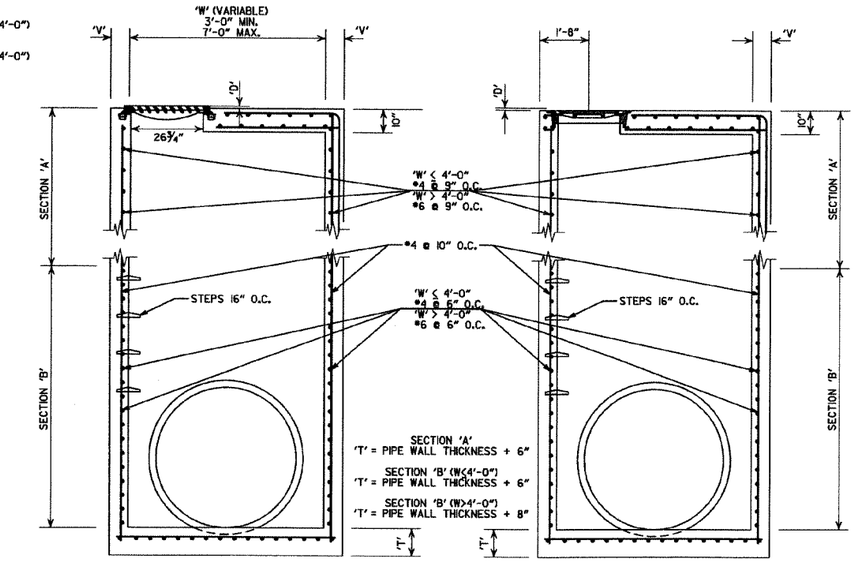
SECTION A-A

DETAILS OF DROP INLET
(TYPE ST)

SECTION 'A'
'V' = 8"

SECTION 'B' (W≤4'-0")
'V' = 8"

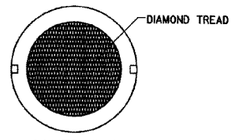
SECTION 'B' (W>4'-0")
'V' = 10"



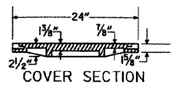
SECTION B-B

SECTION C-C

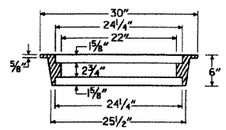
DETAILS OF JUNCTION BOX
(TYPE ST)



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY
RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

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

GENERAL NOTES (HEAVY DUTY RING & COVER):

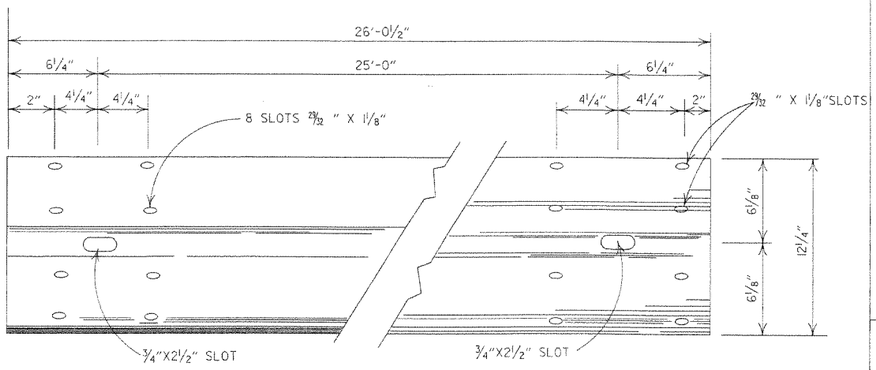
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE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

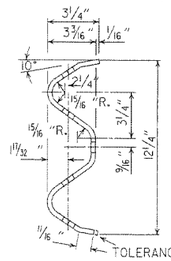
DATE REVISED	DATE FILMED	DESCRIPTION
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED &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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

STANDARD DRAWING FPC-9S

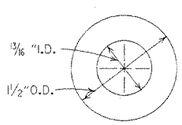




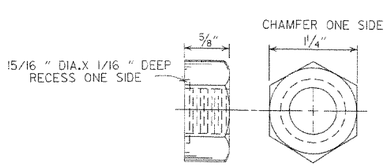
DETAILS OF
W-BEAM GUARD RAIL

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

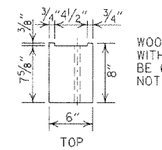
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

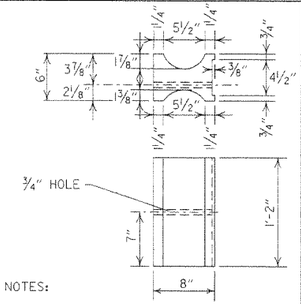


NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

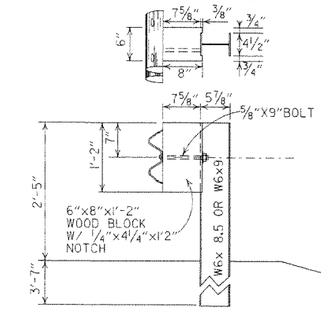
WOOD BLOCKOUT
(W-BEAM)



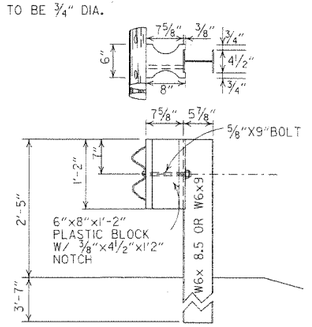
NOTES:
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT
(W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.

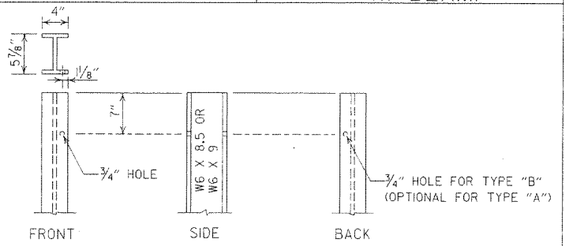


WOOD BLOCKOUT CONNECTIONS

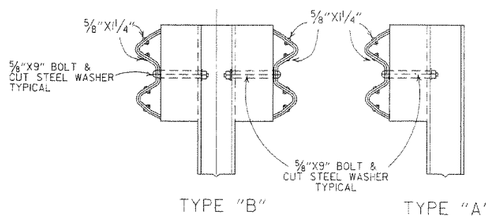


PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" 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.

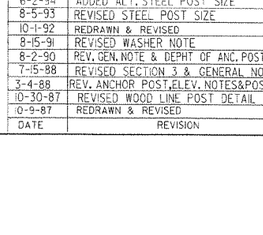
USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

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 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

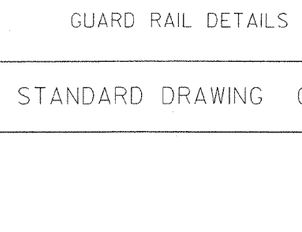
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - 1/4".

WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS
(W-BEAM)

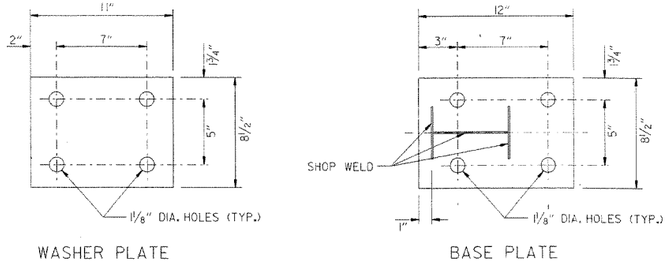
DATE	REVISION	
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL 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 FILM

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

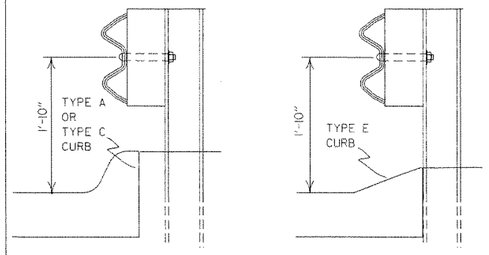
STANDARD DRAWING GR-8



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

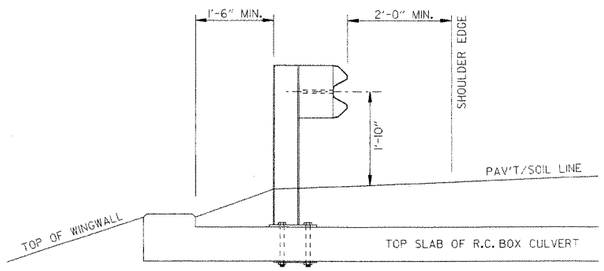
ALIGN FACE OF GUARD RAIL WITH FACE OF CURB.

FOR DESIGN SPEEDS OF 55 MPH OR MORE

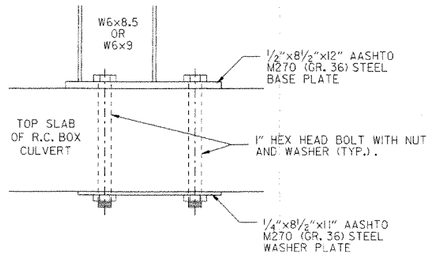
PLACE GUARD RAIL POSTS AGAINST BACK OF CURB.

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

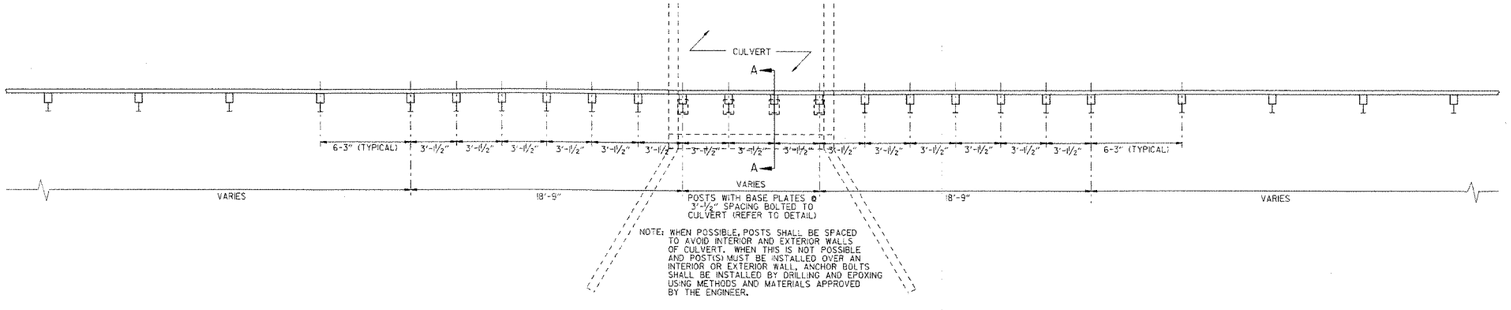
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



DETAIL OF CONNECTION

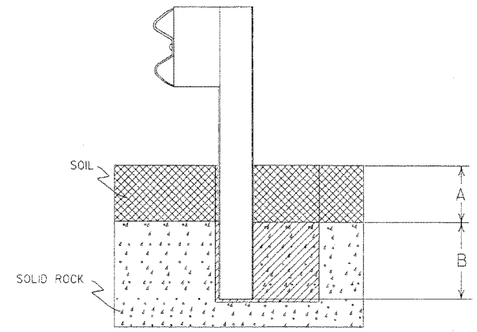


NOTE: WHEN POSSIBLE, POSTS SHALL BE SPACED TO AVOID INTERIOR AND EXTERIOR WALLS OF CULVERT. WHEN THIS IS NOT POSSIBLE AND POST(S) MUST BE INSTALLED OVER AN INTERIOR OR EXTERIOR WALL, ANCHOR BOLTS SHALL BE INSTALLED BY DRILLING AND EPOXING USING METHODS AND MATERIALS APPROVED BY THE ENGINEER.

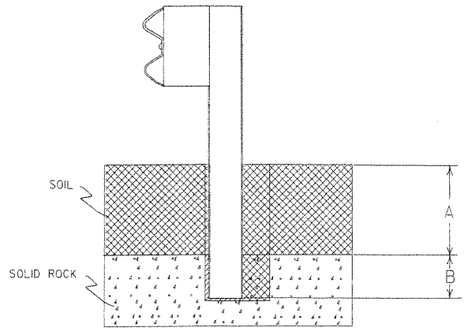
PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

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.

Case 1

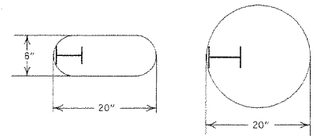


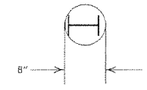
Case 2



Plan View Steel Posts

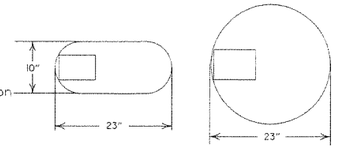
Either hole configuration acceptable

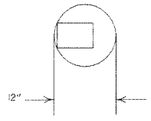




Plan View Wood Posts

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)

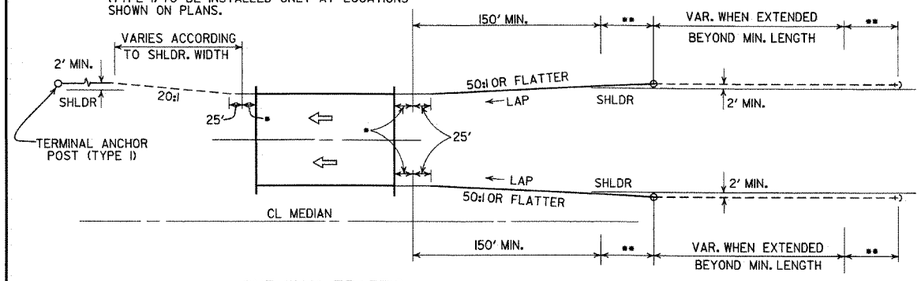
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
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 CULVT. 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
DATE	REVISION	DATE FILM

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

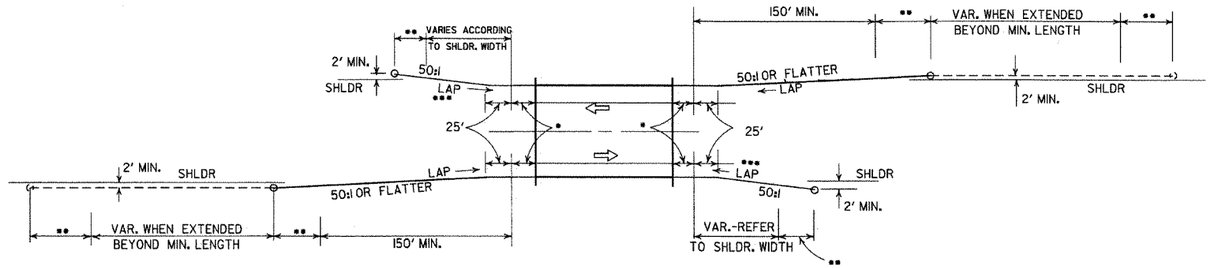
STANDARD DRAWING GR-8A

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



ONE-WAY TRAFFIC

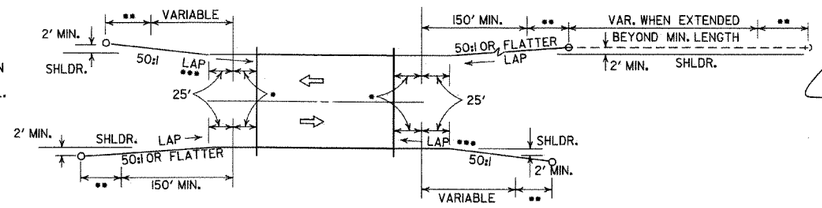
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

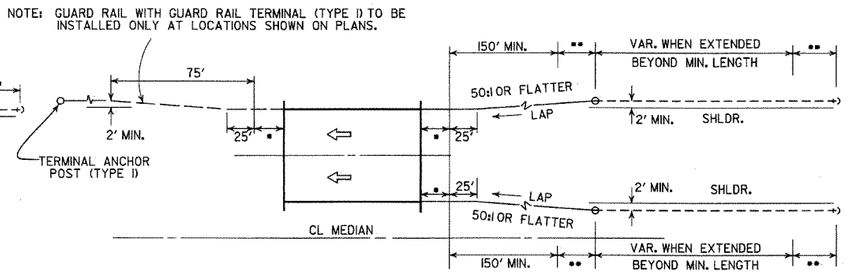
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• 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

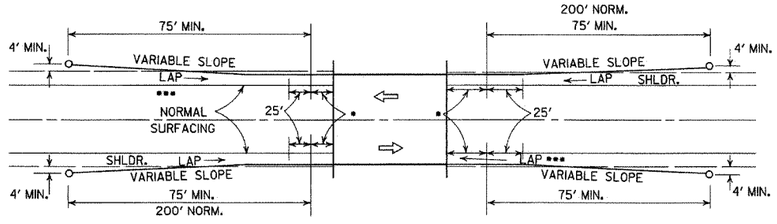
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



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.



LEGEND

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

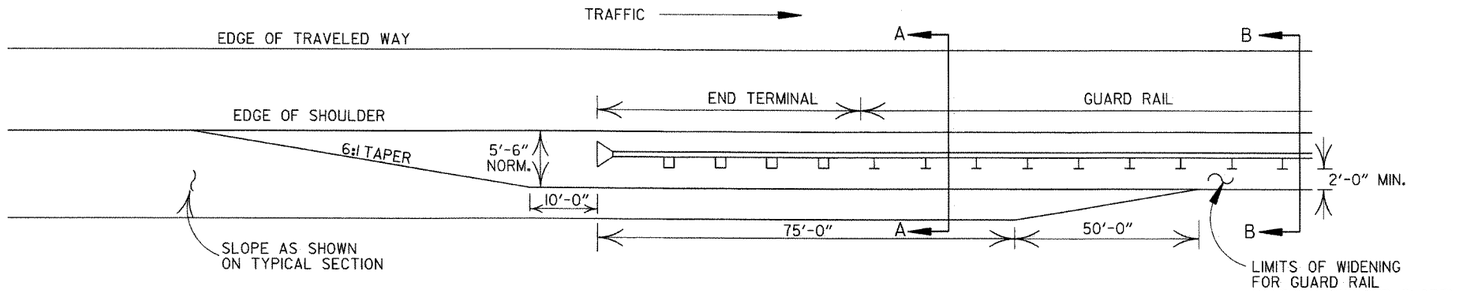
METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

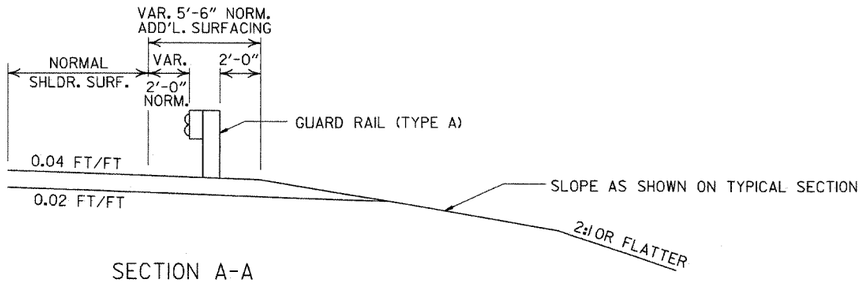
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87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

ARKANSAS STATE HIGHWAY COMMISSION

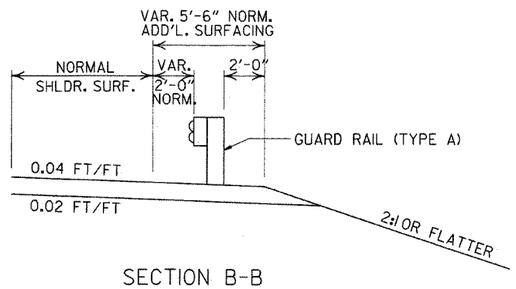
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





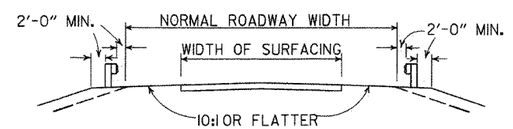
SECTION A-A



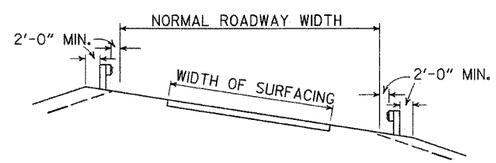
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

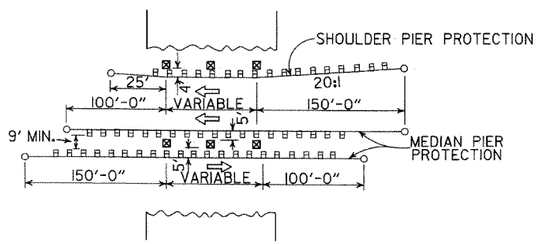


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



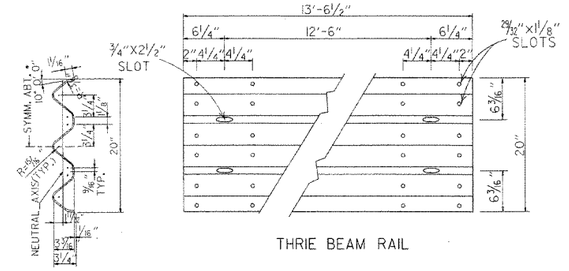
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

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

ARKANSAS STATE HIGHWAY COMMISSION

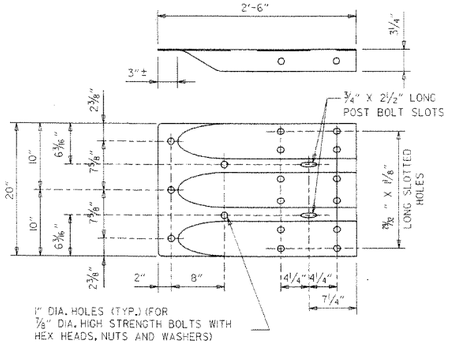
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A



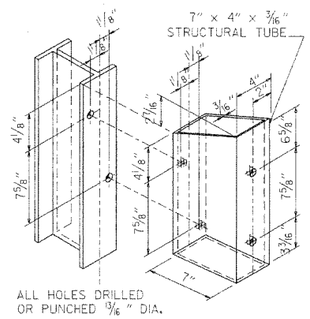
THRIE BEAM RAIL

SECTION THRU
THRIE BEAM RAIL



1" DIA. HOLES (TYP.) (FOR ⅞" DIA. HIGH STRENGTH BOLTS WITH HEX HEADS, NUTS AND WASHERS)

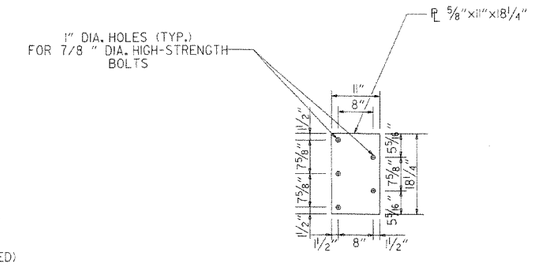
SPECIAL END SHOE



ALL HOLES DRILLED OR PUNCHED 13/16" DIA.

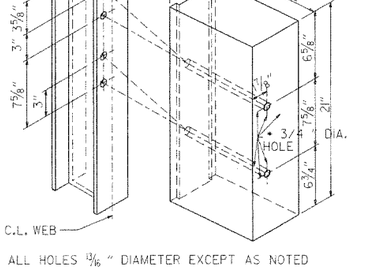
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

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



CONNECTOR PLATE

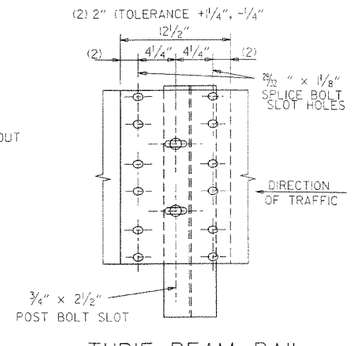
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS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



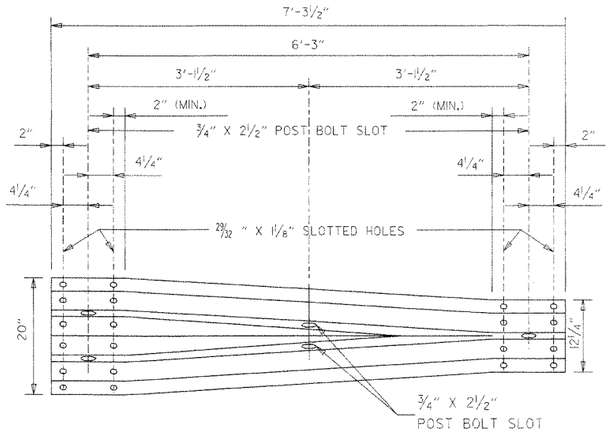
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD
OR PLASTIC BLOCKOUTS

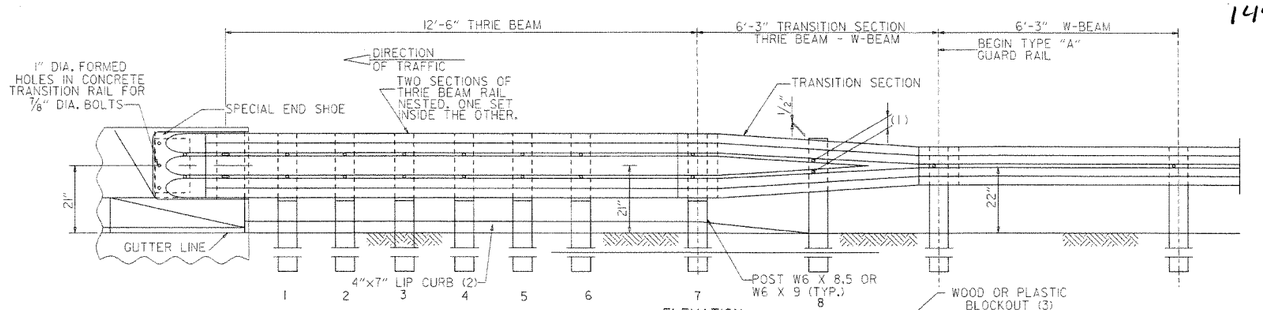
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



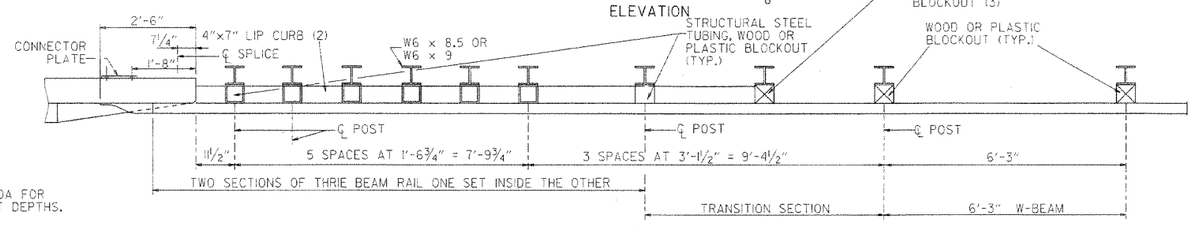
THRIE BEAM RAIL
SPLICE AT POST



TRANSITION SECTION

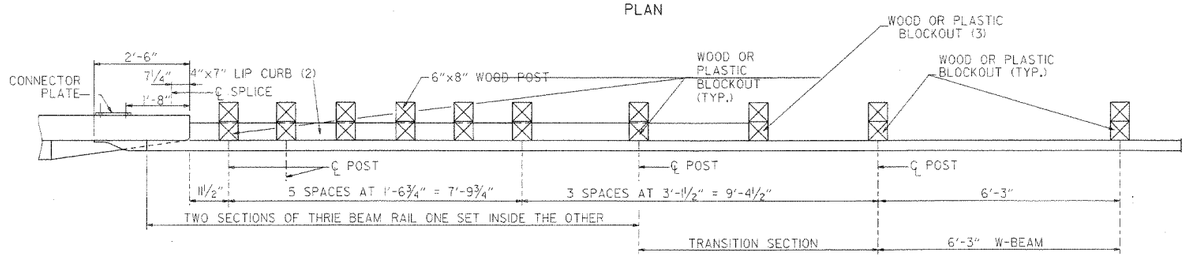


ELEVATION



PLAN

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



PLAN

(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 II.

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 9.7# (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.

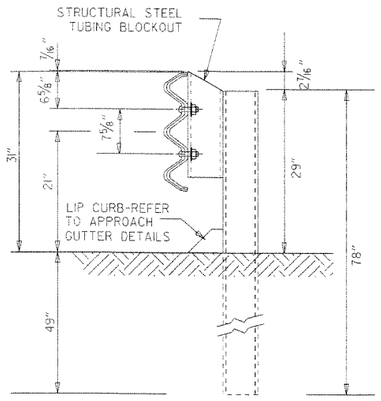
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

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	

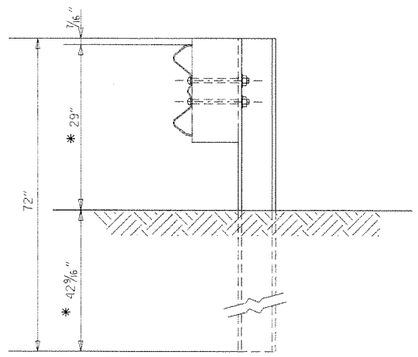
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

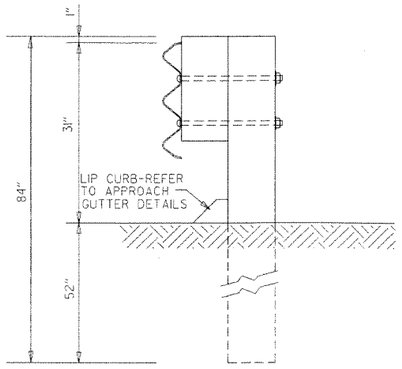


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

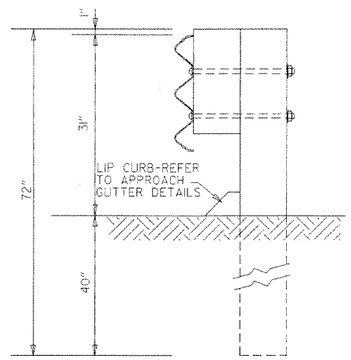


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

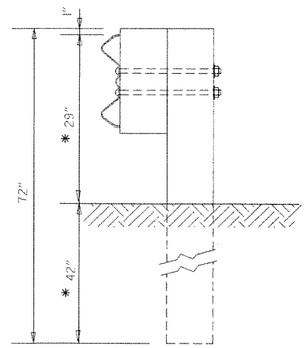
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



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.

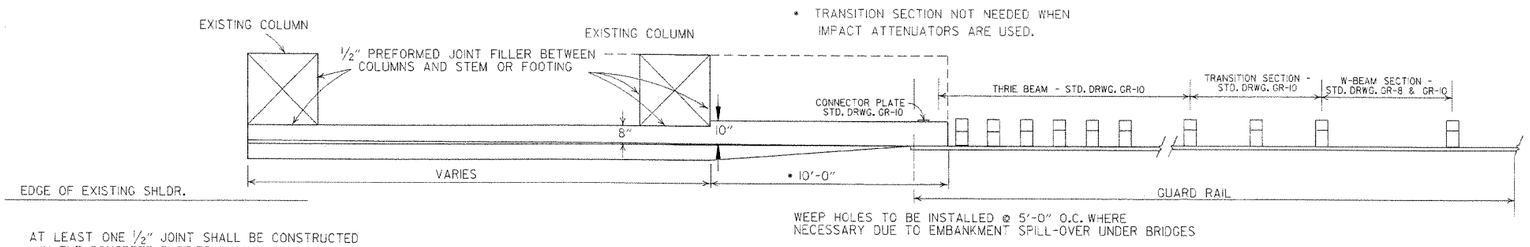
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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

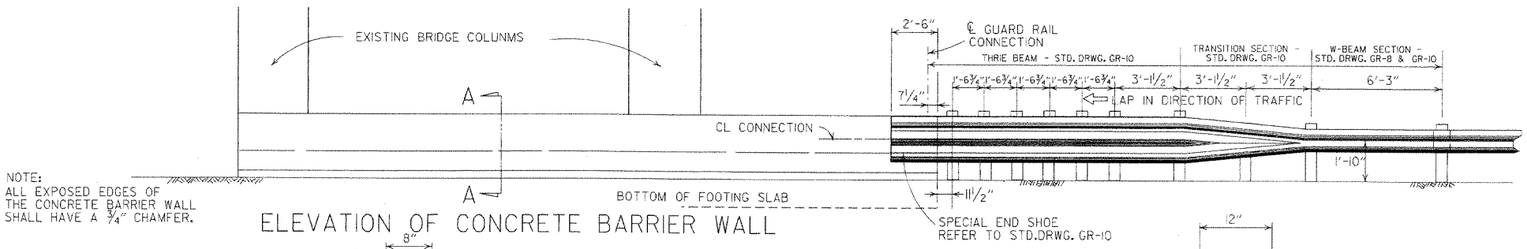
GUARD RAIL DETAILS

STANDARD DRAWING GR-10A



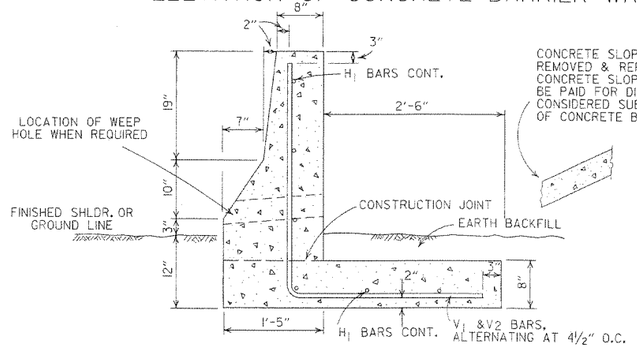
PLAN OF CONCRETE BARRIER WALL

AT LEAST ONE ½" 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.

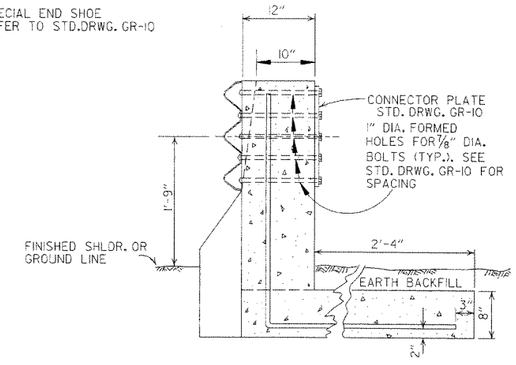


NOTE:
ALL EXPOSED EDGES OF THE CONCRETE BARRIER WALL SHALL HAVE A ¾" CHAMFER.

ELEVATION OF CONCRETE BARRIER WALL

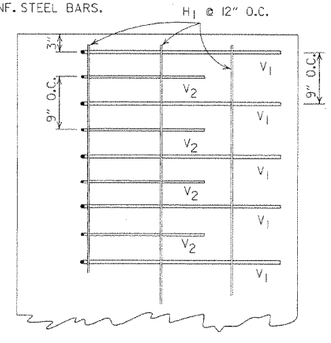


SECTION A-A



SECTION THRU CONNECTION

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.

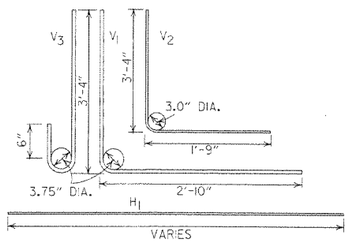


PLAN OF REINFORCING STEEL IN FOOTING

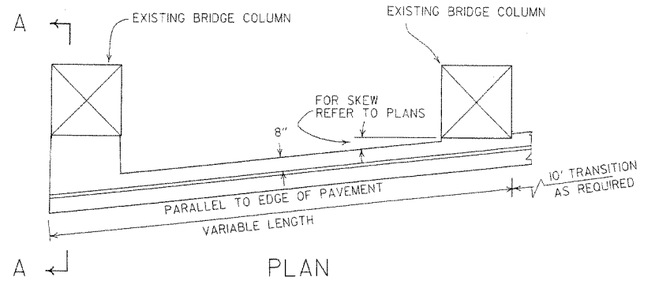
BAR LIST

MARK	NO.	SIZE	LENGTH
V1		#5	6'-2¼"
V2		#4	5'-1"
V3		#5	4'-1⅛"
H1	6	4	VAR.

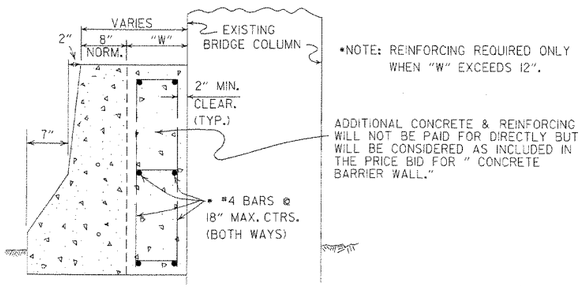
THE V3 BARS SHALL BE USED IN PLACE OF THE V1 & V2 BARS IN FRONT OF PIERS.



BEND DIAGRAMS



PLAN



SECTION A-A

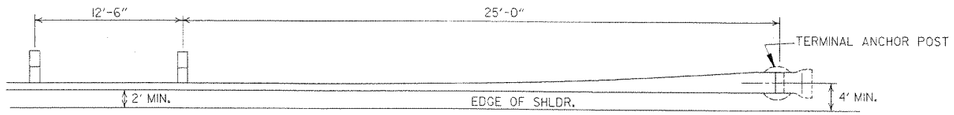
DETAILS OF CONCRETE BARRIER WALL WHEN PIERS ARE SKEWED TO ROADWAY

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	

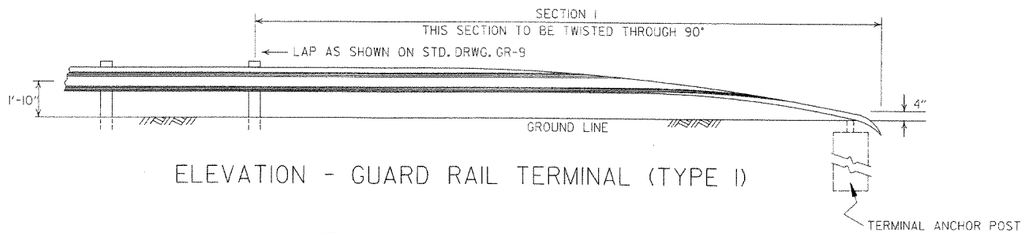
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)

STANDARD DRAWING GR-11

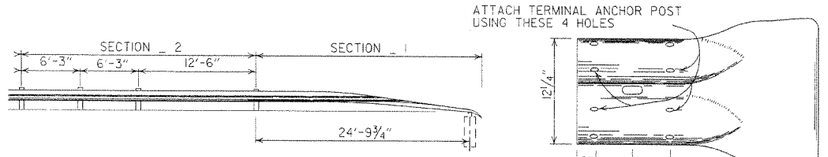


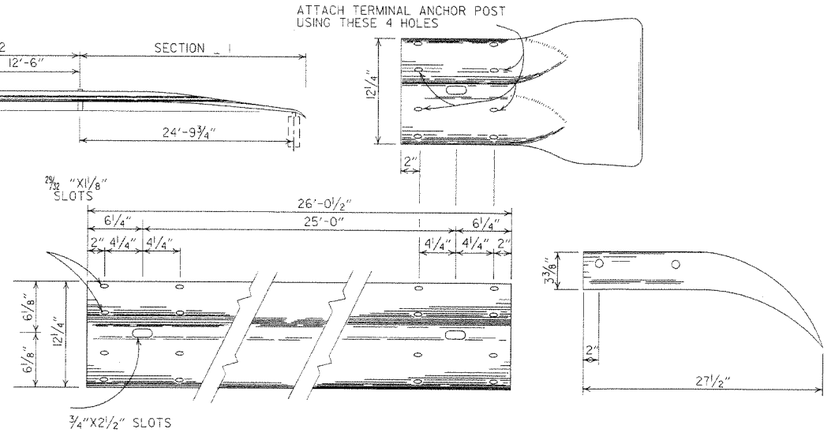
PLAN - GUARD RAIL TERMINAL (TYPE I)



ELEVATION - GUARD RAIL TERMINAL (TYPE I)

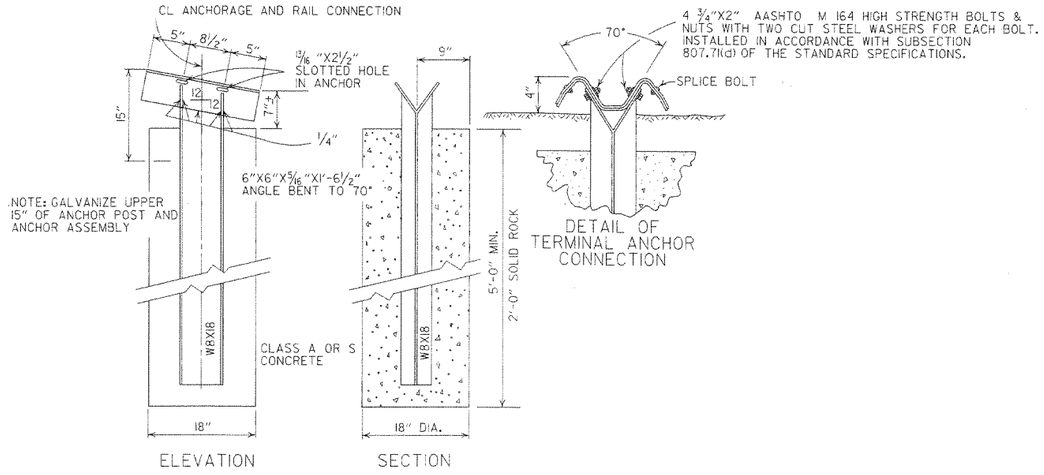
NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.





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.

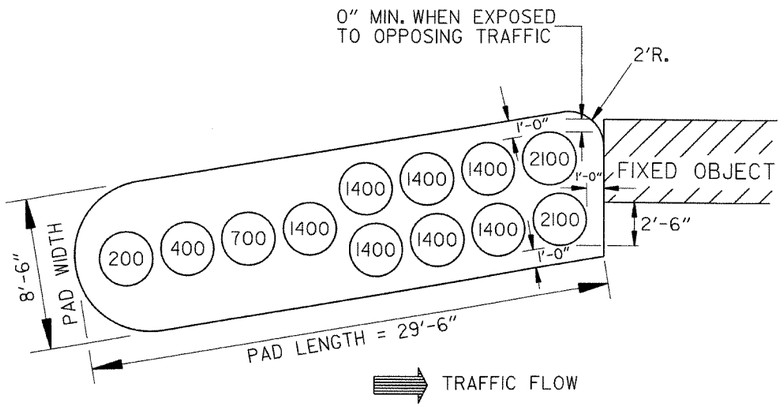
DETAIL OF TERMINAL ANCHOR POST (TYPE I)

DATE	REVISION	DATE FILM
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

ARKANSAS STATE HIGHWAY COMMISSION

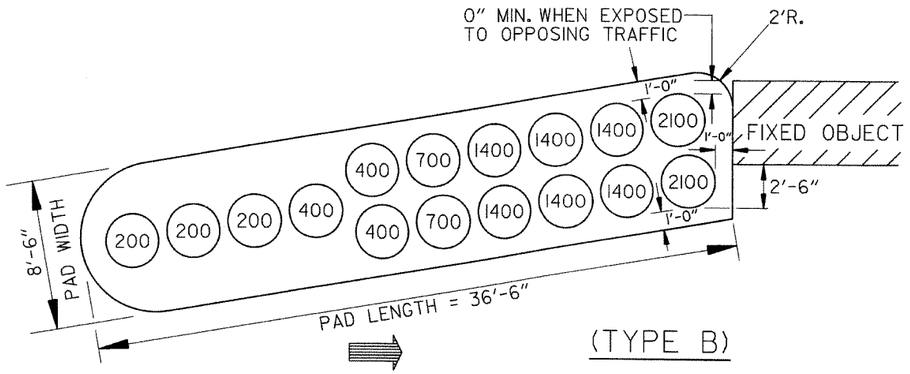
GUARD RAIL DETAILS

STANDARD DRAWING GRT-1



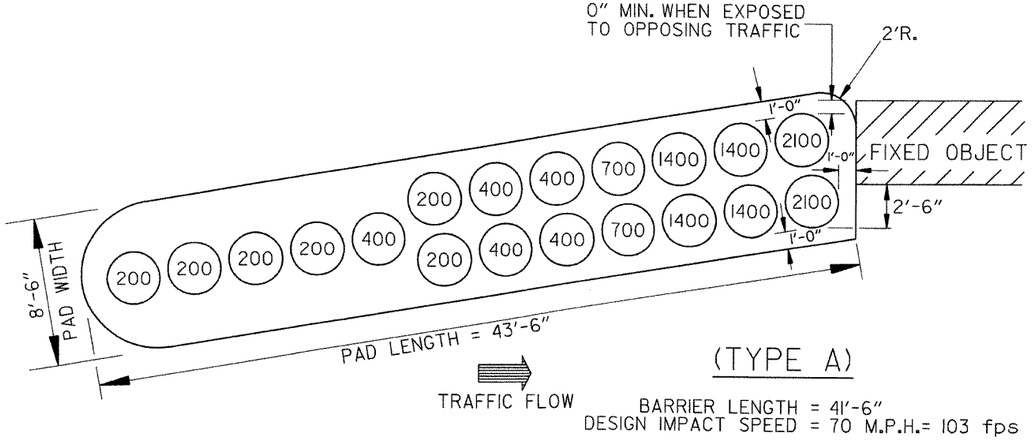
(TYPE C)

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



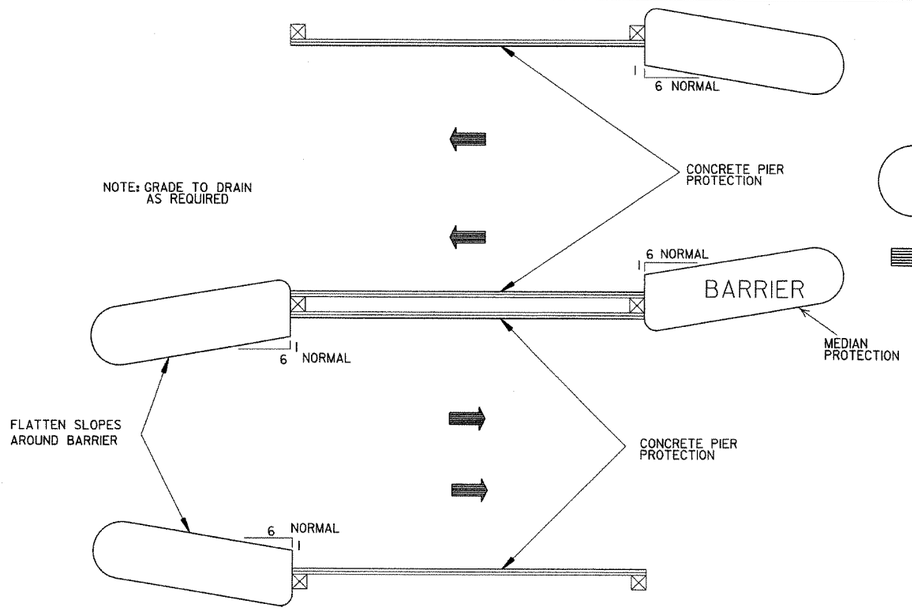
(TYPE B)

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

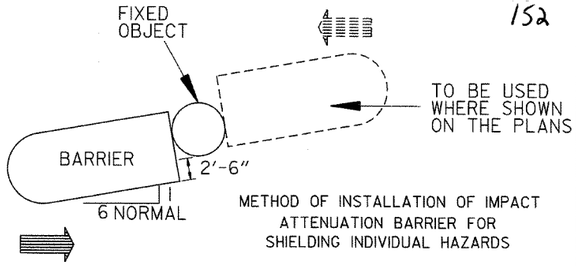


(TYPE A)

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

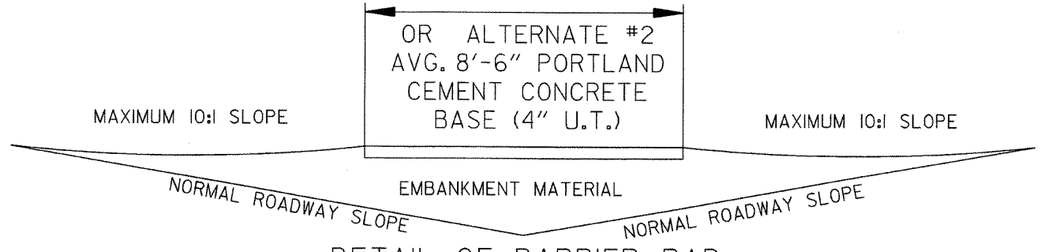
APPROXIMATE QUANTITIES PER PAD

TYPE	ALTERNATE #1		ALTERNATE #2
	AGGR. BASE COURSE	A.C.H.M. SURFACE COURSE	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.

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).



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

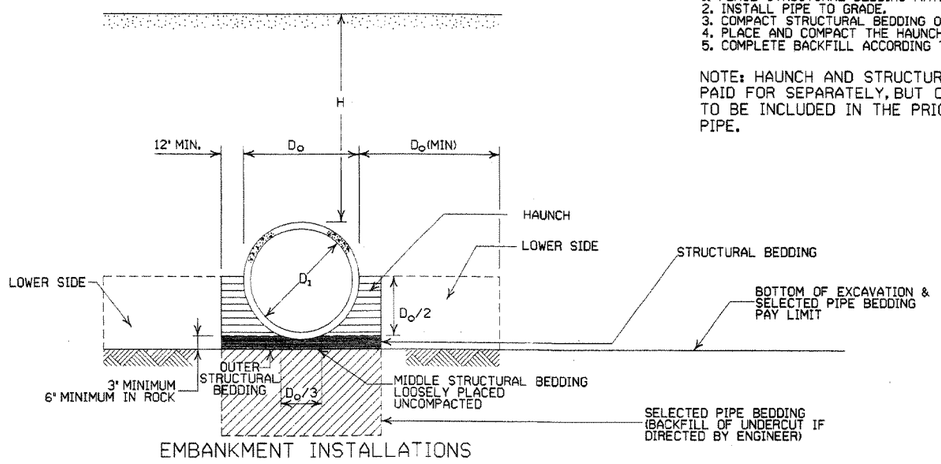
IMPACT ATTENUATION BARRIER

STANDARD DRAWING IB-1

CONSTRUCTION SEQUENCE

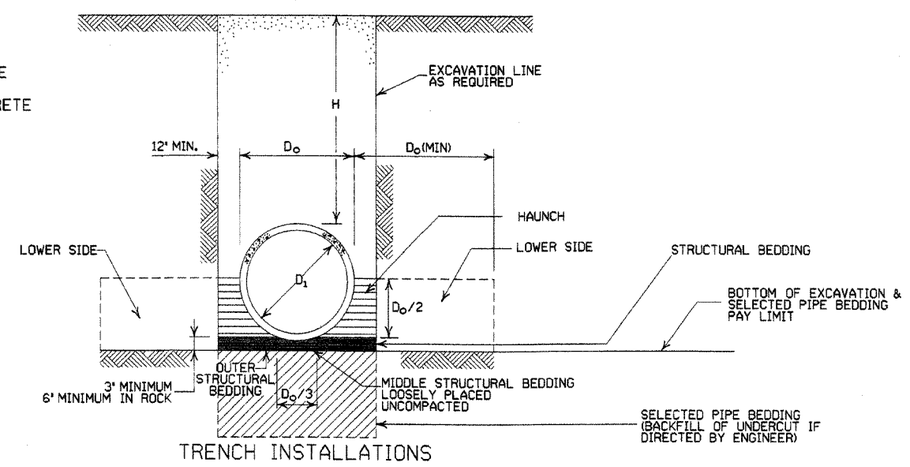
1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SPECIFICATIONS.

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



EMBANKMENT INSTALLATIONS

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



TRENCH INSTALLATIONS

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

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	•SPAN		• RISE	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26⅝	27
42	51⅛	51	31 1/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77¼	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

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

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

MAXIMUM HEIGHT OF FILL OVER R.C. PIPE CULVERTS

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

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

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
7. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS 'STRUCTURAL BEDDING' ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS 'SELECTED PIPE BEDDING.'
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF 'SELECTED PIPE BACKFILL.'

- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

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

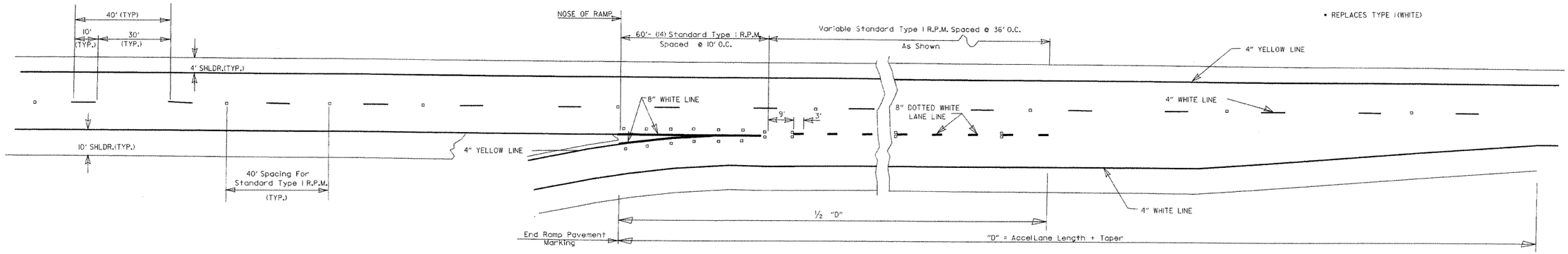
ENTRANCE RAMP

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

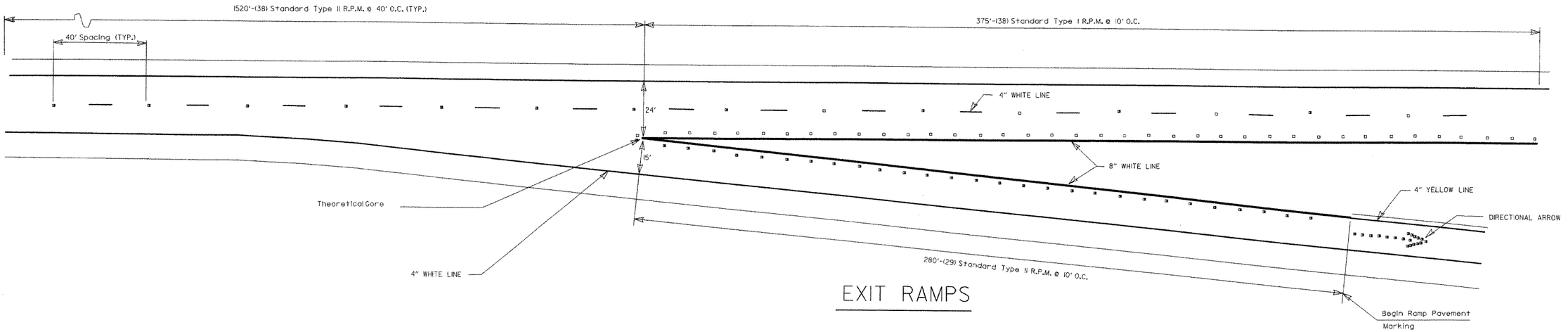
EXIT RAMP

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

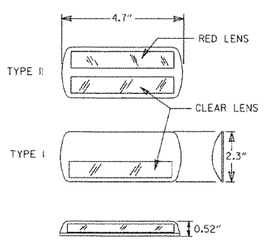
* REPLACES TYPE I (WHITE)



ENTRANCE RAMPS

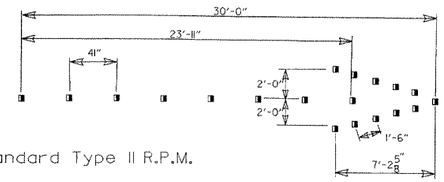


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



(19) Standard Type II R.P.M.

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.

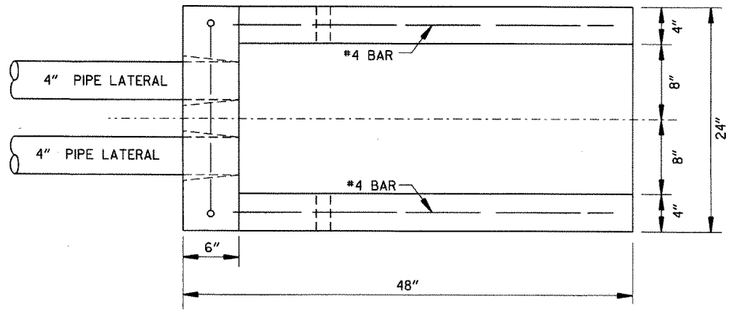
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95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

ARKANSAS STATE HIGHWAY COMMISSION

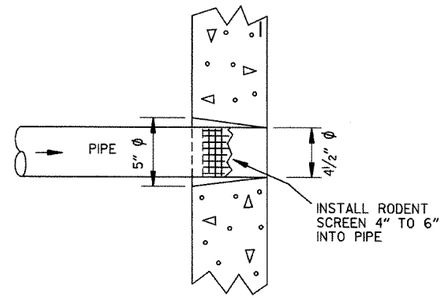
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

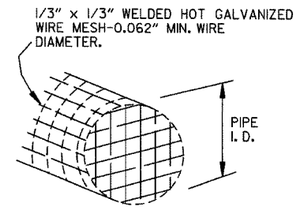
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF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



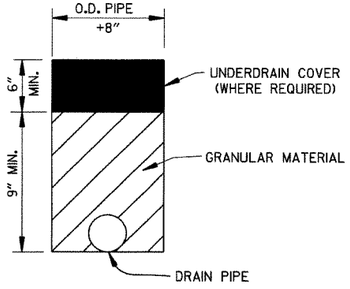
PLAN VIEW

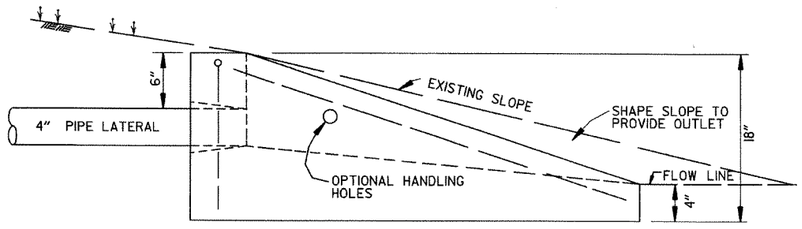


DETAIL OF HOLE FOR 4" PIPE

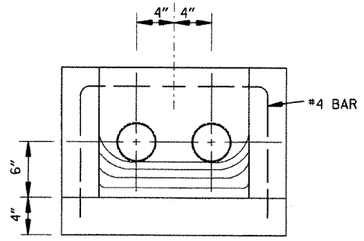


DETAIL OF RODENT SCREEN

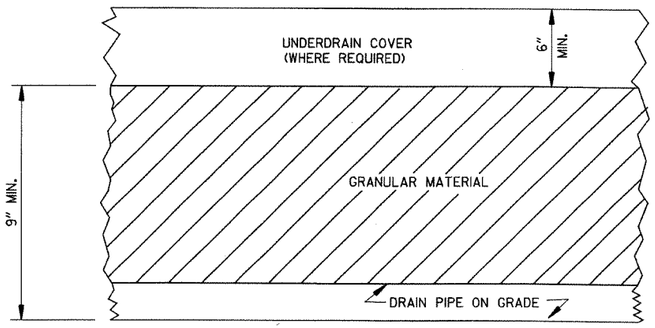




SIDE VIEW

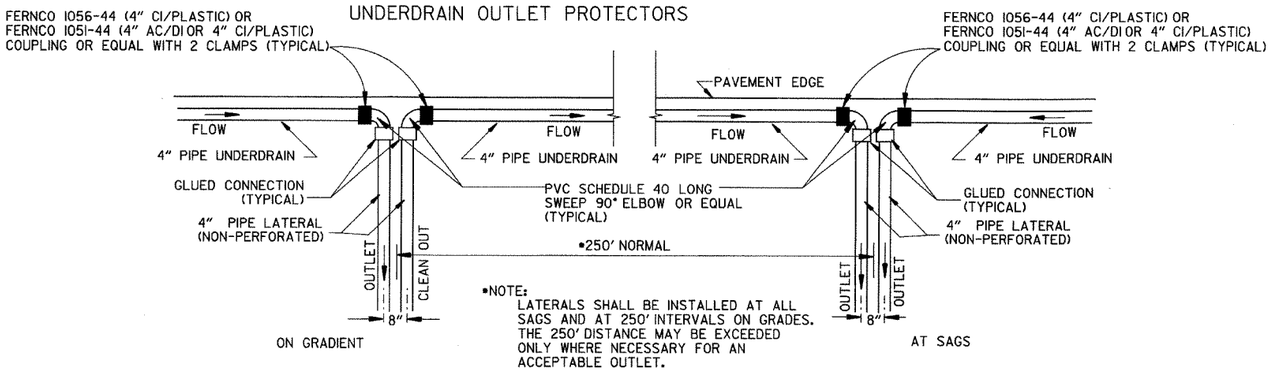


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

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	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	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.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.025			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.033			0.037		
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.041			0.046		
1° 30′	N.C.			0.021			0.031			0.037			0.043			0.048			0.054		
1° 45′	N.C.			0.025			0.036			0.043			0.049			0.055			0.062		
2° 00′	R.C.			0.028	175		0.040	200		0.048	225		0.055	250		0.062	250		0.070	275	
2° 15′	R.C.			0.031			0.045			0.053			0.061			0.069			0.078		
2° 30′	0.021			0.034			0.049			0.058			0.067			0.075	280		0.085	315	400
2° 45′	0.023			0.037			0.053			0.063			0.072			0.081	300		0.091	335	
3° 00′	0.025	150		0.040			0.057			0.067	230		0.077	260		0.087	315		0.096	350	
3° 15′	0.027			0.043			0.061			0.072	245		0.082	275		0.090	325	400	0.098	360	450
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.095	340		0.100	360	
3° 45′	0.031		250	0.049			0.069	215		0.080	265		0.090	295		0.097	345				
4° 00′	0.033			0.051			0.072	225		0.083	270	400	0.093	305	400	0.099	350				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315							
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320							
5° 30′	0.043			0.066	185		0.088	260		0.094	300	400									
6° 00′	0.045			0.070	190		0.092	270		0.096	305										
6° 30′	0.050			0.074	200		0.095	280	350	0.100	315										
7° 00′	0.053			0.078	210		0.098	285													
7° 30′	0.056			0.081	215		0.099	290													
8° 00′	0.058			0.084	220		0.100	290													
8° 30′	0.061			0.087	225	300															
9° 00′	0.063			0.089	230																
10° 00′	0.068	160		0.094	235																
11° 00′	0.072	170		0.097	250																
12° 00′	0.076	175		0.099	250																
13° 00′	0.080	180		0.100	250																
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200																			
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215	300																		
21° 00′	0.098	215																			
22° 00′	0.099	215																			
23° 00′	0.099	215																			
24° 00′	0.100	220																			

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 4° 15′ | D MAX = 3° 30′

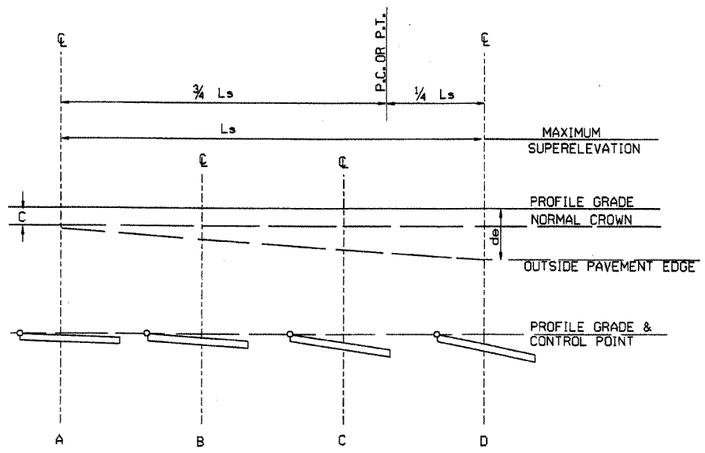
GENERAL NOTES

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 L_s MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM L_s 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%

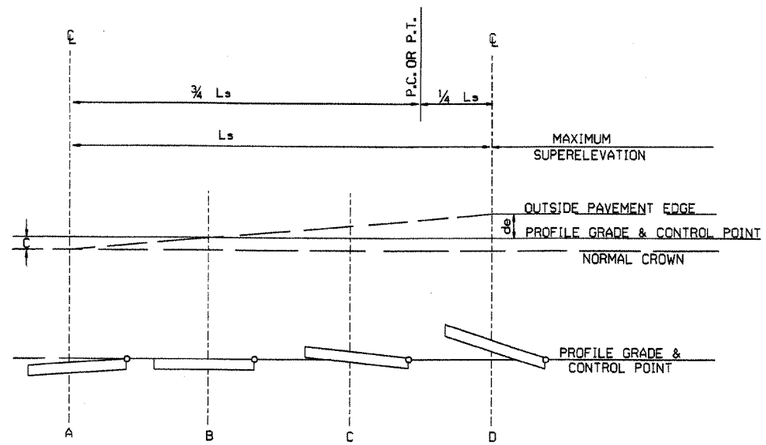
ABBREVIATIONS

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.)
L_s - LENGTH OF SUPERELEVATION TRANSITION (FT.)
C - NORMAL CROWN (FT.)



ONE-WAY TRAFFIC
INSIDE LANE

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



ONE-WAY TRAFFIC
OUTSIDE LANE

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

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

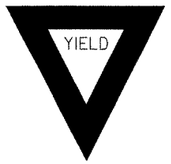
STANDARD DRAWING SE-1

R1-1



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

R1-2



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

R2-1



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

R2-5A



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

R2-5C



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

R4-1



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

R4-2



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

R5-1



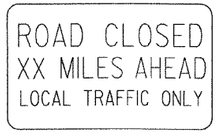
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



48"X30"

R11-3A



60"X30"

R11-4



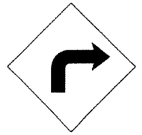
60"X30"

RSP-1



48"X30"

W1-1



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

W1-2



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

W1-3



STD. 48"X48"

W1-4



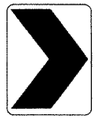
STD. 48"X48"

W1-6



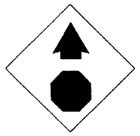
STD. 48"X24"
SPECIAL 60"X30"

W1-8



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

W3-1



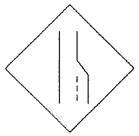
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



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

W9-2



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

W13-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



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

W21-2



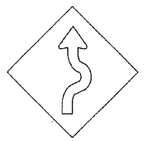
STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b



STD. 48"X48"

R56-1



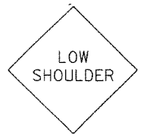
STD. 18"X18"

W8-11



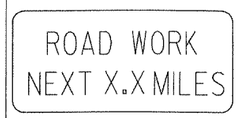
STD. 36"X36"
FWY. 48"X48"

W8-9



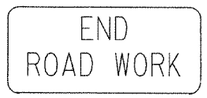
STD. 36"X36"
FWY. 48"X48"

G20-1



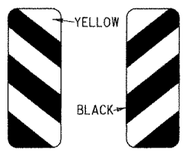
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

M4-9



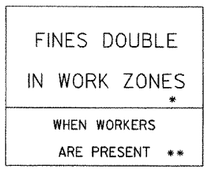
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10



48"X18"

R55-1



36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

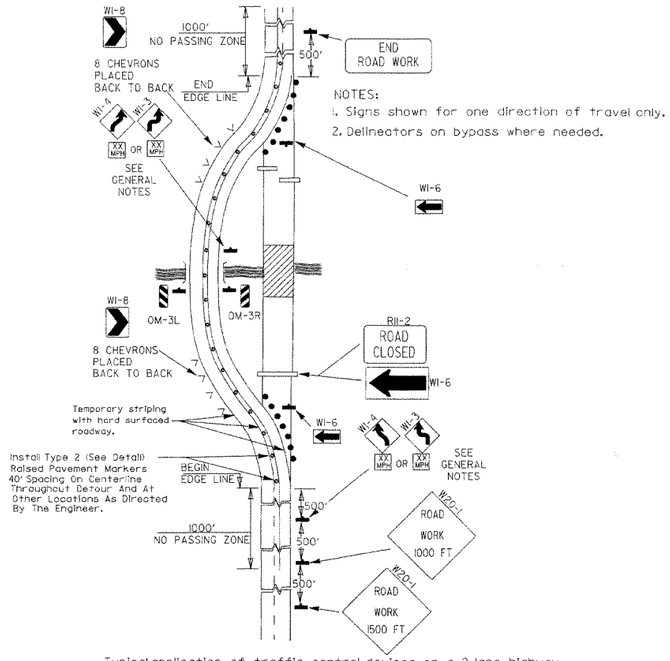
* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
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

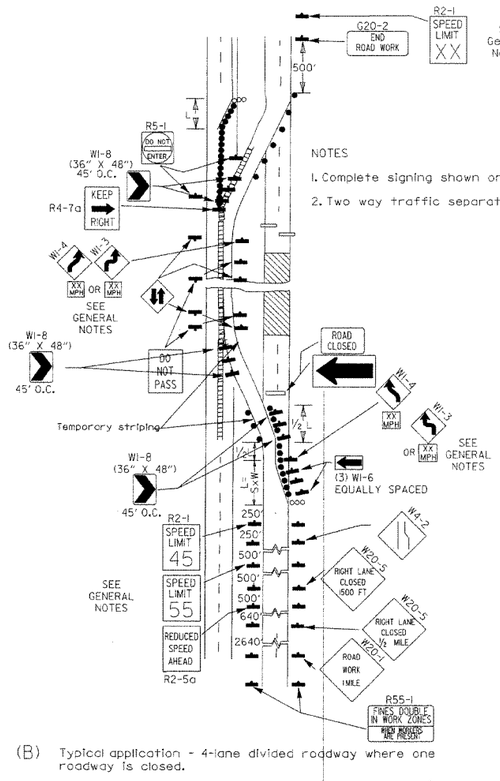
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



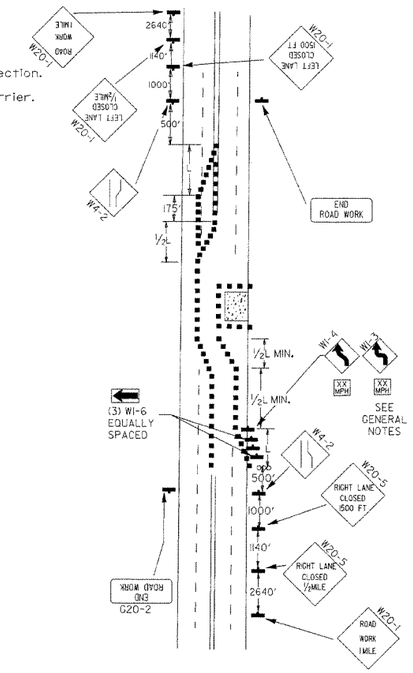
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

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

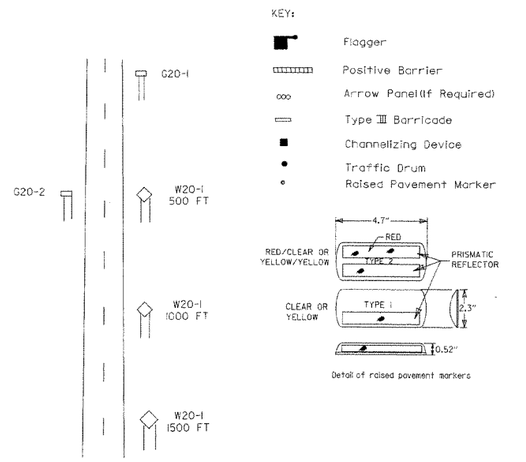


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

(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:

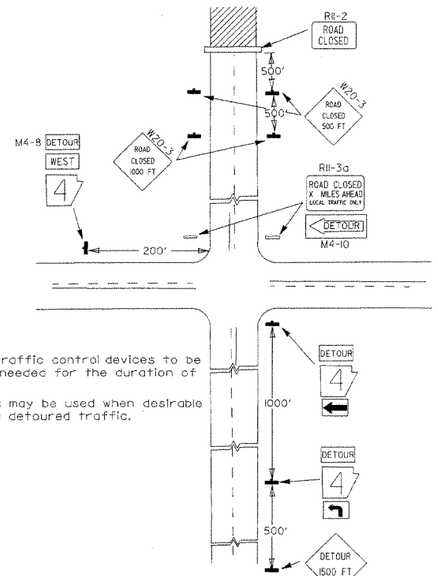
L=SxW for speeds of 45mph or more.

$L = \frac{WS^2}{60}$ for speeds of 40mph or less.

Where:
L= Minimum length of taper.
S= Numerical value of posted speed limit prior to work or 85th percentile speed.
W= Width of offset.

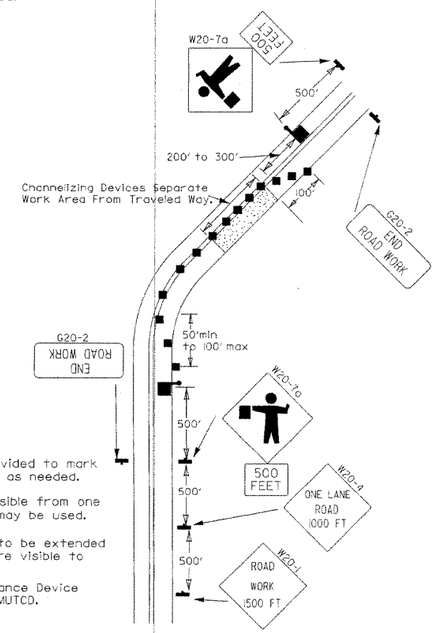
GENERAL NOTES:

1. Advisory speed posted on WI-3 or WI-4 curve warning signs to be determined at site. Use WI-4 when speed is greater than 30mph and WI-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



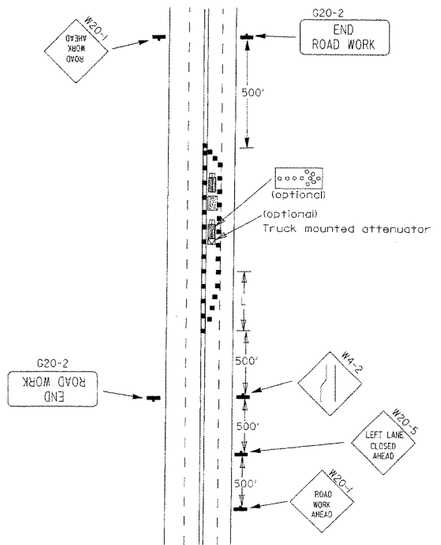
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

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



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

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



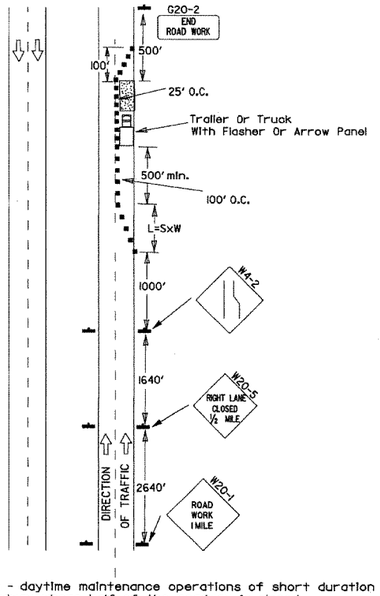
(F) Typical application - 4-lane undivided roadway with inside lane closed.

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

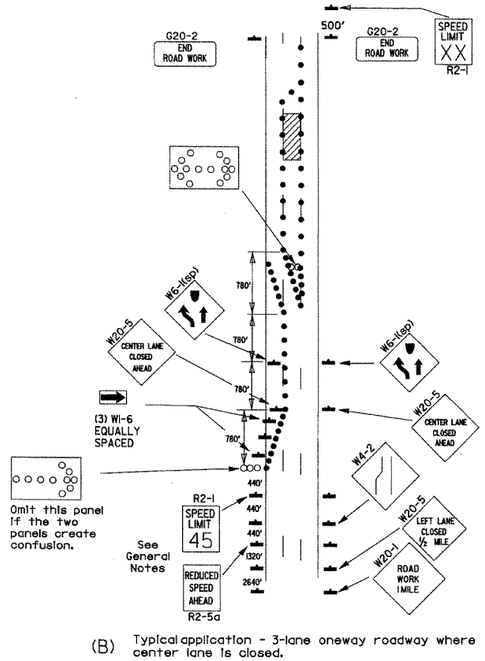
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

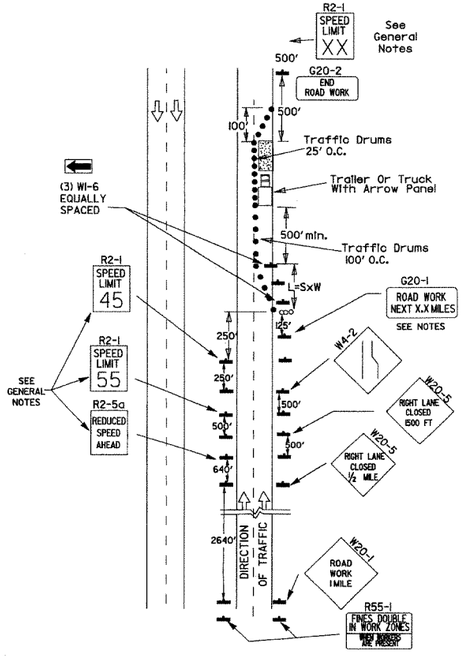
STANDARD DRAWING TC-2



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



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



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

KEY:

○○○ Arrow Panel (if Required)

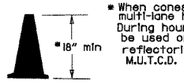
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

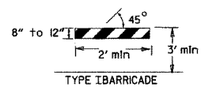
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional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

Channelizing devices



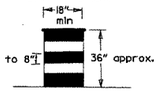
CONES

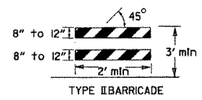
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.



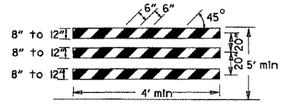
TYPE I BARRICADE

PLASTIC DRUM



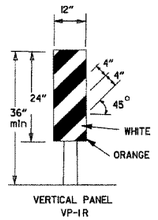


TYPE II BARRICADE



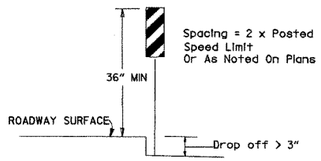
TYPE III BARRICADE

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



VERTICAL PANEL
VP-1R

VERTICAL PANEL PLACEMENT



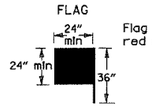
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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.

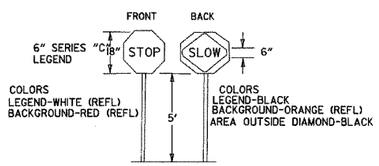
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

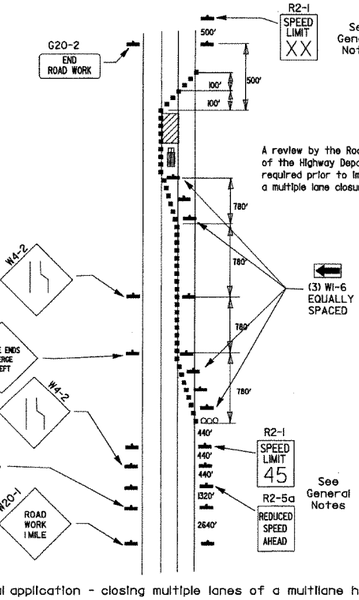
FLAG



Flag shall be of good grade red material

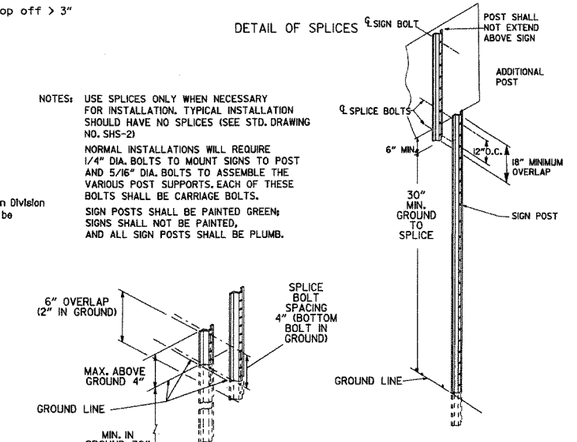
STOP SLOW PADDLE





(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	

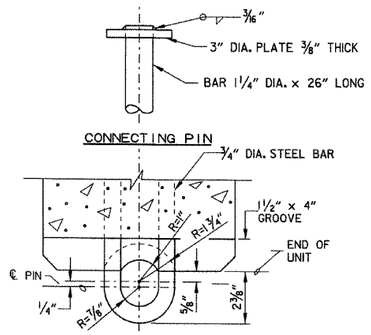
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

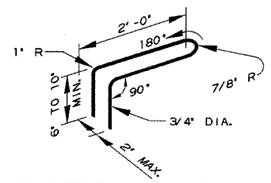
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

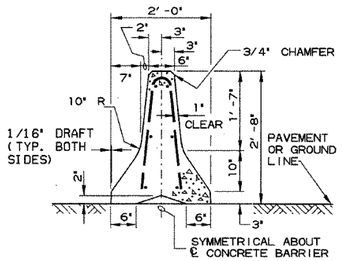
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1' MIN. CLEAR TO BAR; 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°, 2'-1 3/8", 4 3/8", ±9 1/2"



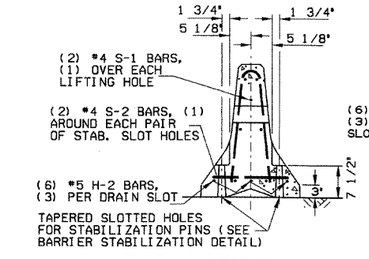
CONNECTION DETAILS



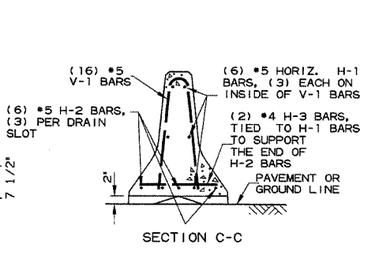
CONNECTION LOOP



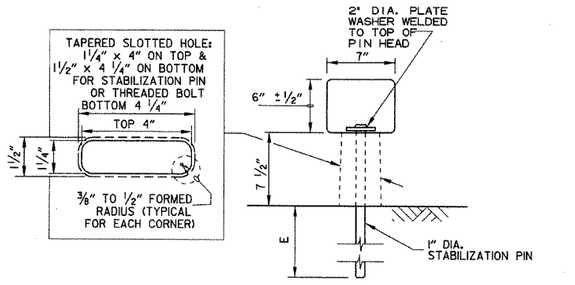
SECTION A-A



SECTION B-B



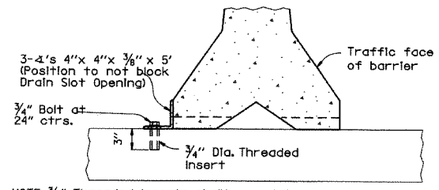
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

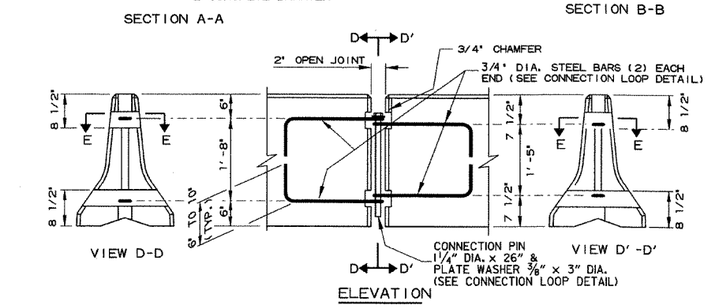
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



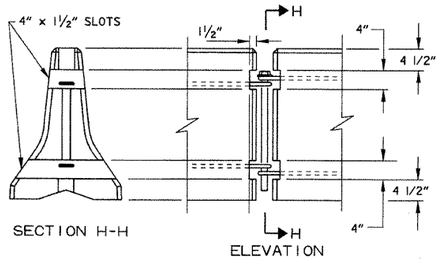
NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved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

BARRIER STABILIZATION DETAIL

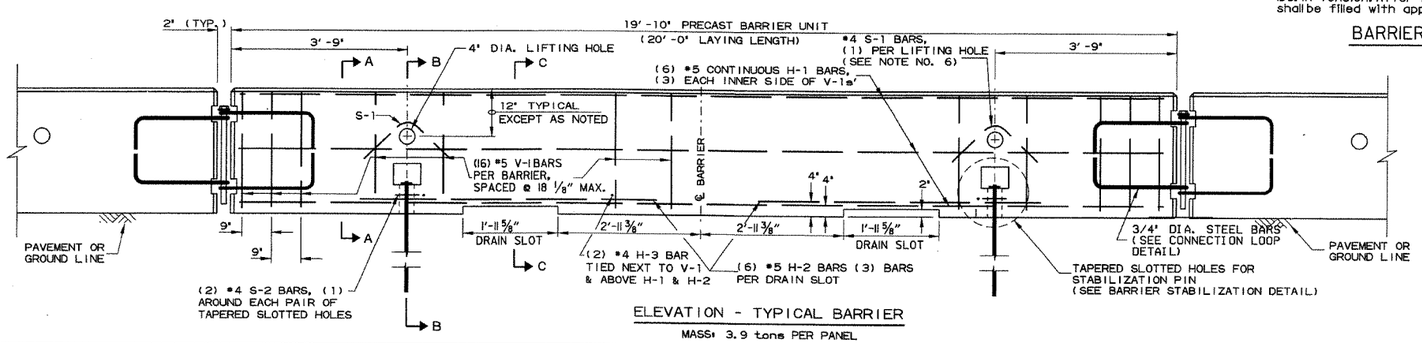
BRIDGE DECKS



ELEVATION



BARRIER REMOVAL SLOT DETAILS



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 walls 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.

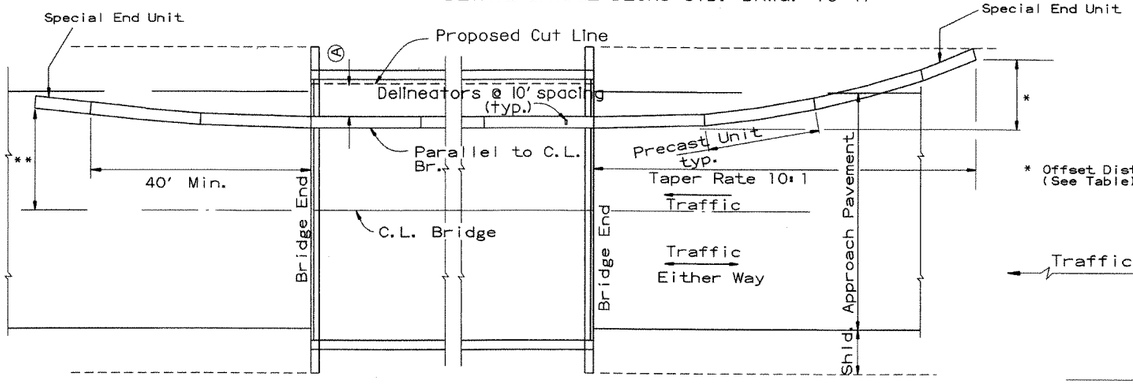
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

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)

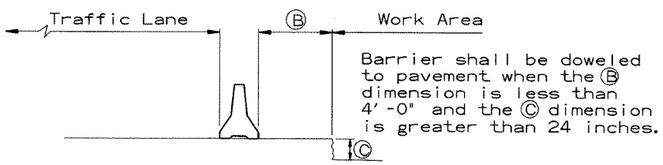


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

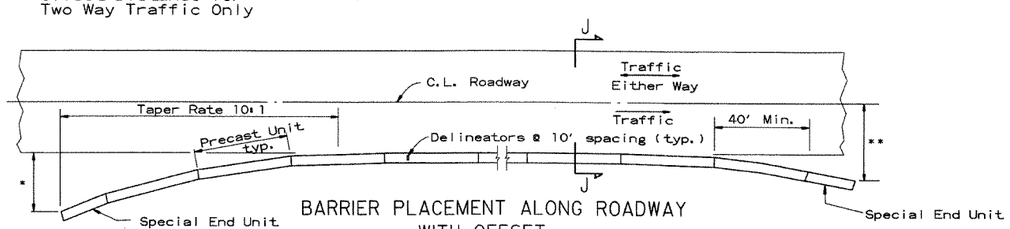
** Offset Distance for Two Way Traffic Only



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

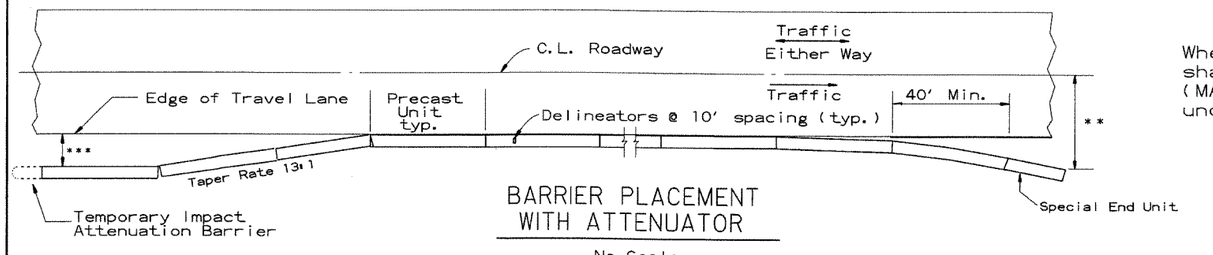
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

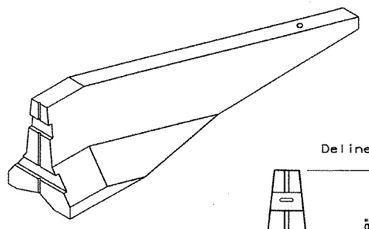


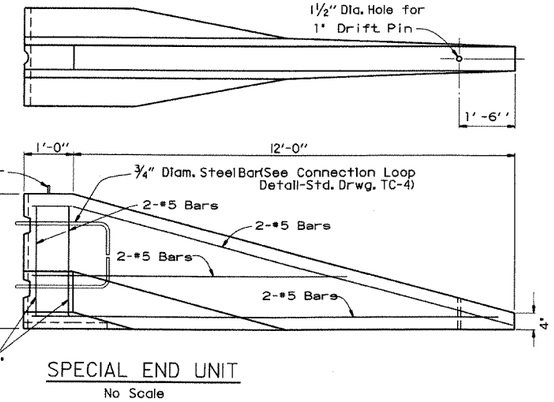
BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator





SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

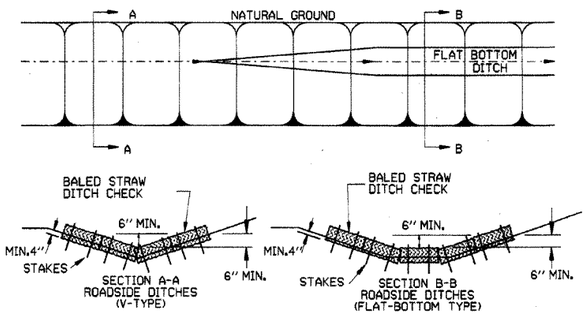
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

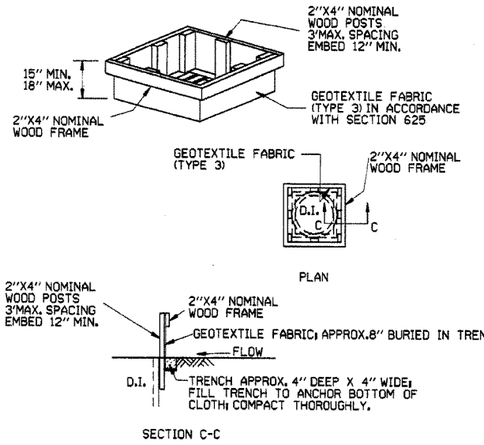
STANDARD DRAWING TC-5

GENERAL NOTES

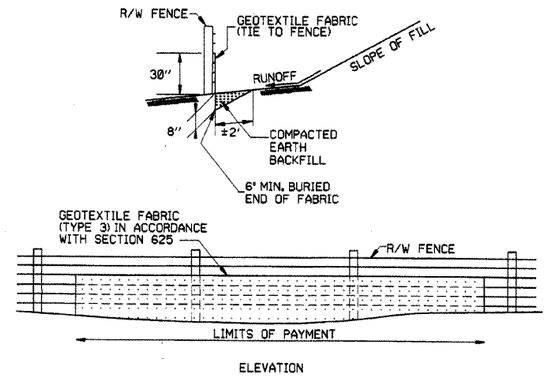
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. STRAW BALES SHALL BE KEYED INTO SOIL A MINIMUM OF 4' AND NO GAPS SHALL BE LEFT BETWEEN BALES.



BALED STRAW DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



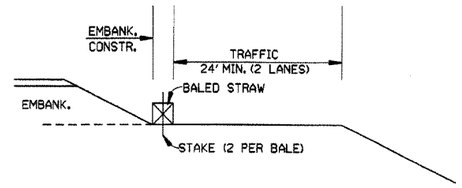
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

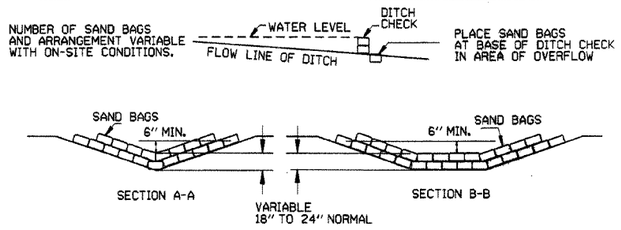
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

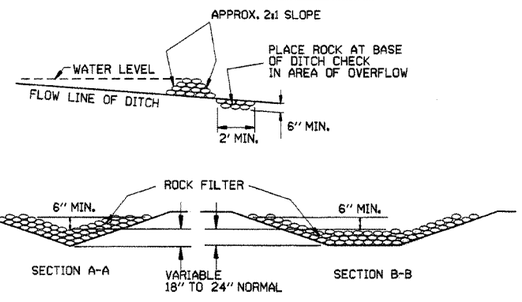
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED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



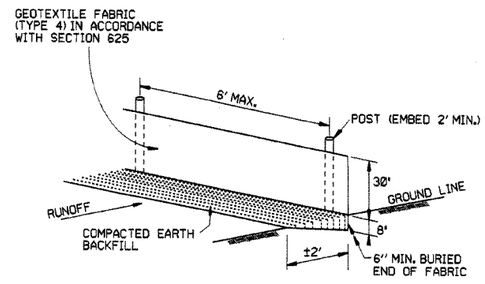
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

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

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

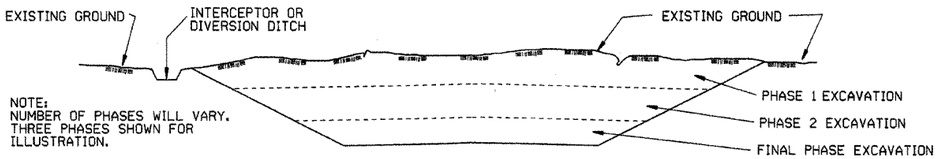
STANDARD DRAWING TEC-1

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



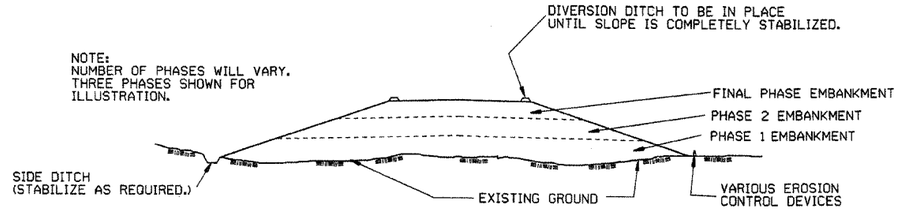
GENERAL NOTE

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.

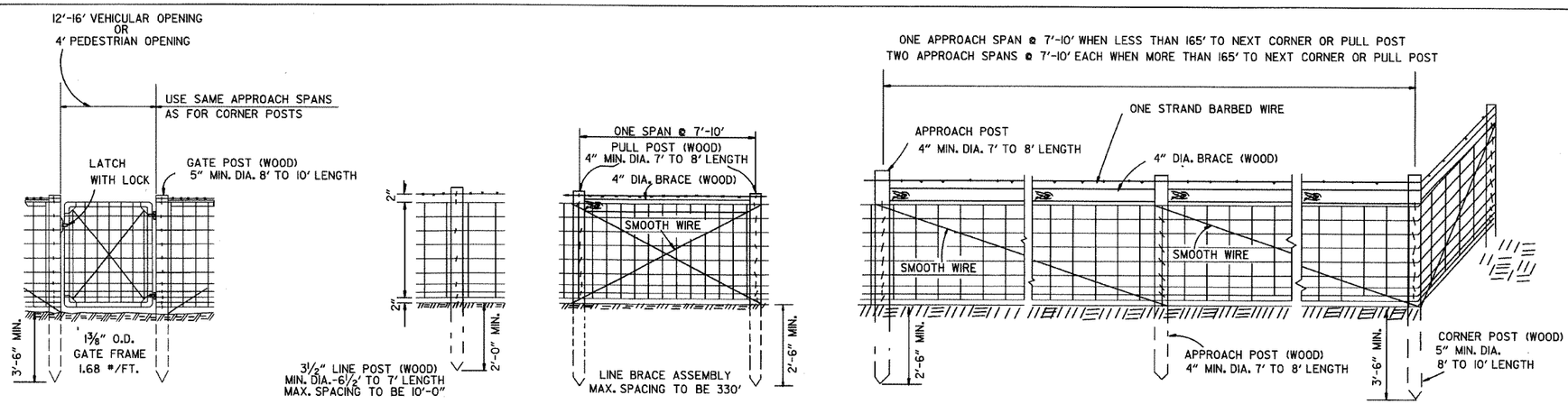
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

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TEMPORARY EROSION CONTROL DEVICES

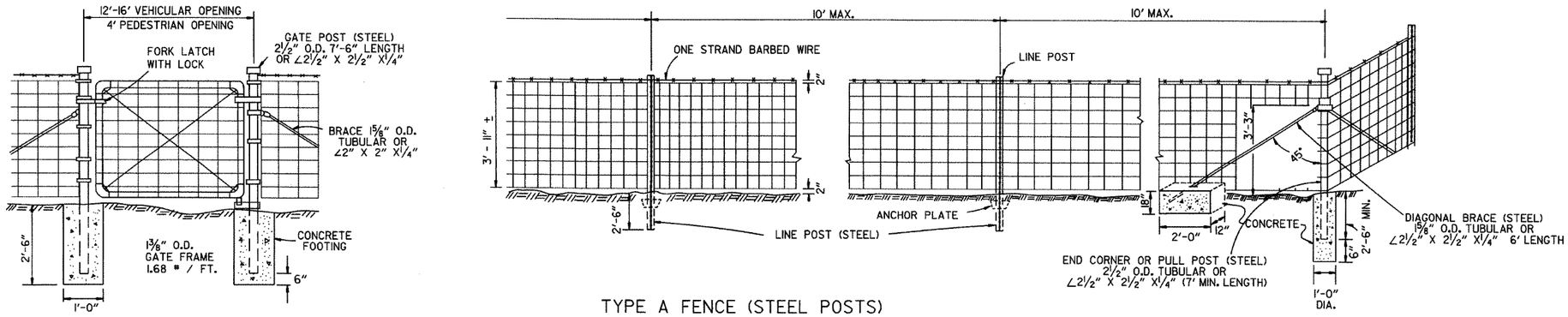
STANDARD DRAWING TEC-3

stdtec3.dgn

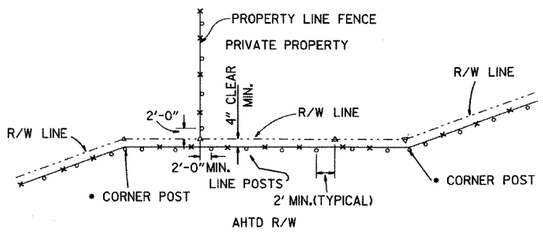


NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)



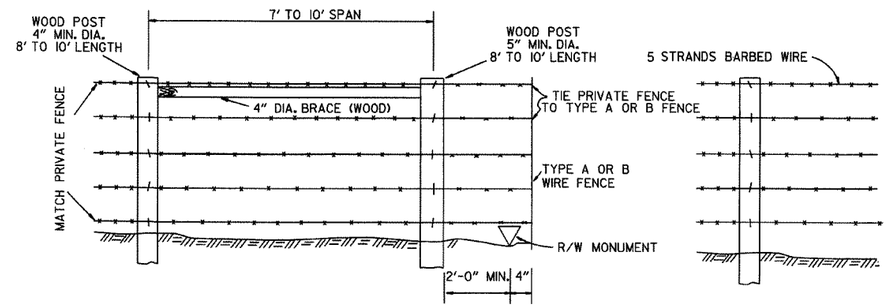
TYPE A FENCE (STEEL POSTS)



•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

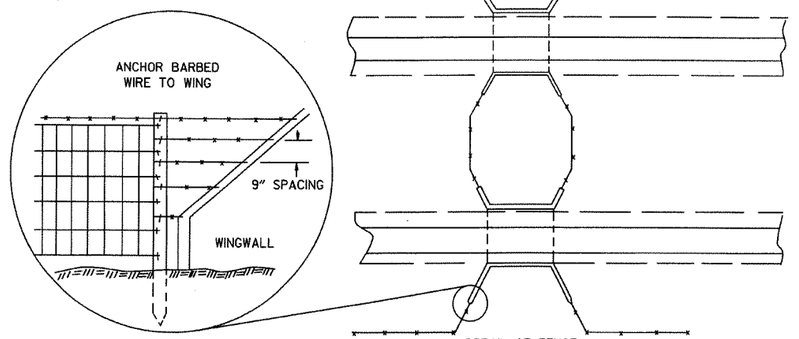


WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

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)

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.

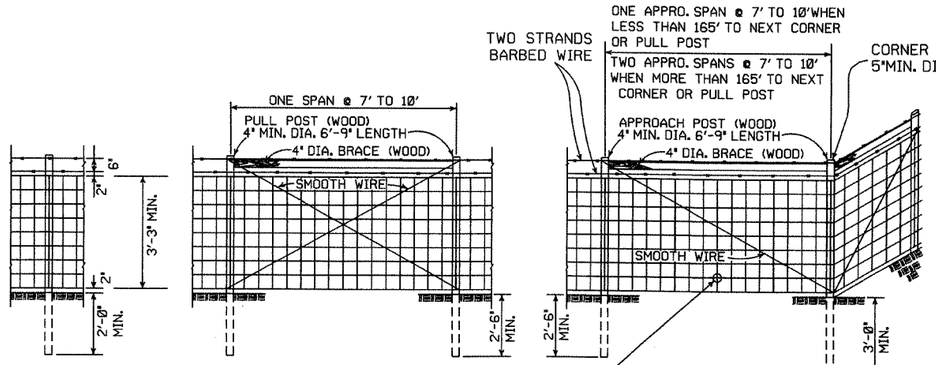
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD": AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF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

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

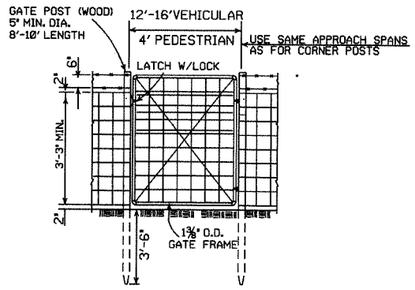
WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1

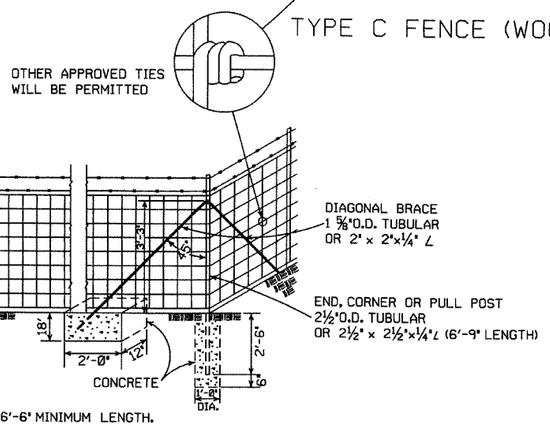


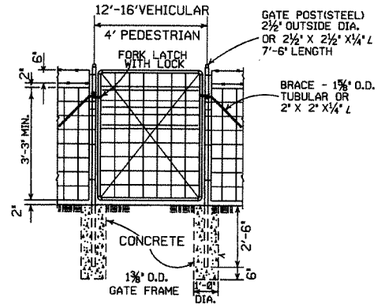
LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"

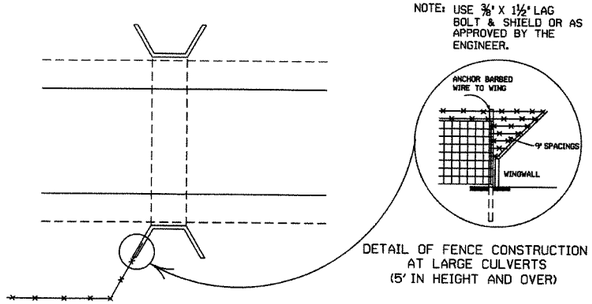
LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'



TYPE C FENCE (WOOD POSTS)





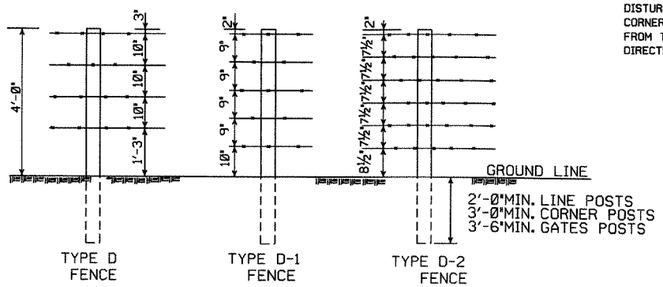


DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

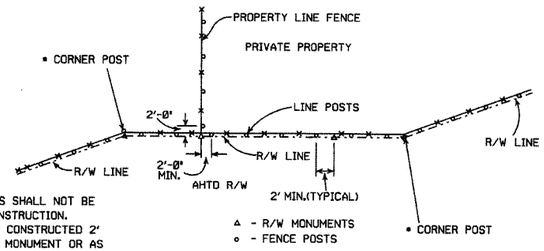
NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

TYPE C FENCE (STEEL POSTS)

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

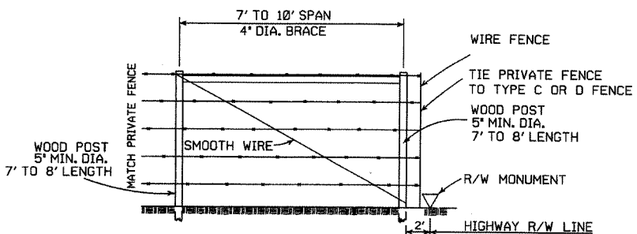


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



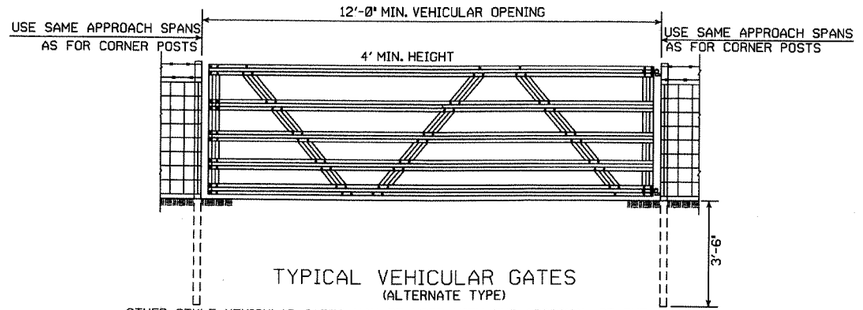
▪ NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

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



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

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

GENERAL NOTES:

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

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

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

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

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

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

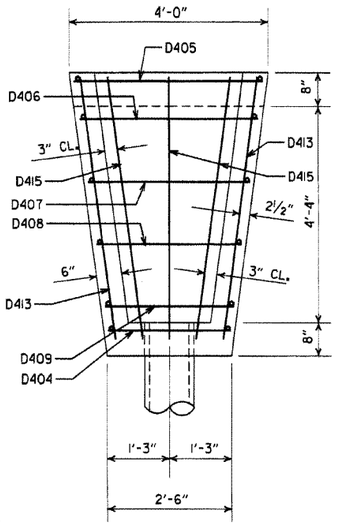
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

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

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WIRE FENCE TYPE C AND D

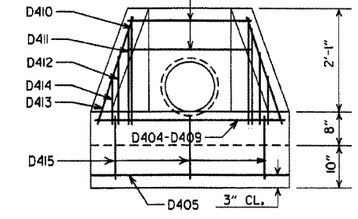
STANDARD DRAWING WF-4



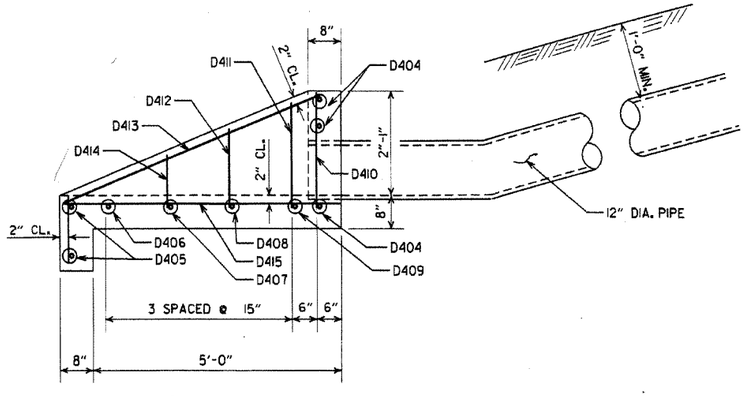
PLAN

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"	

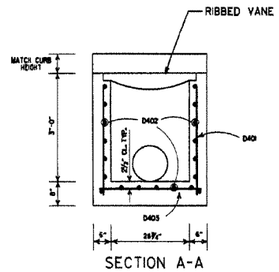


FRONT ELEVATION



SIDE ELEVATION
CONCRETE SPILLWAY

DETAILS OF CONCRETE SPILLWAY (TYPE A)

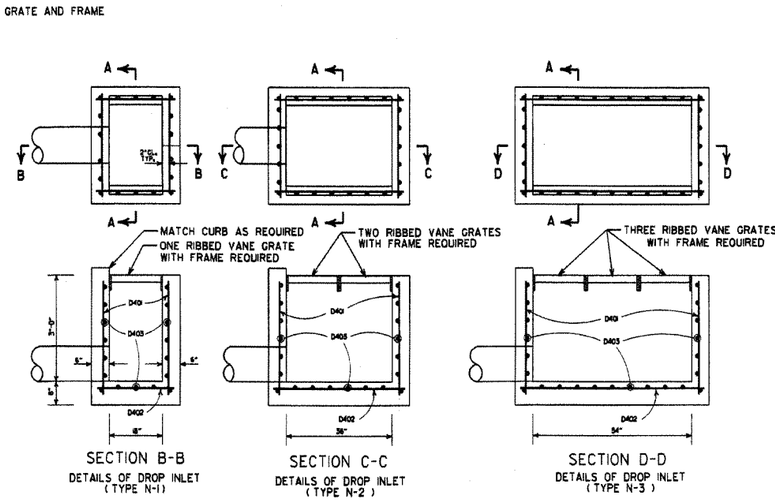


SECTION A-A

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)

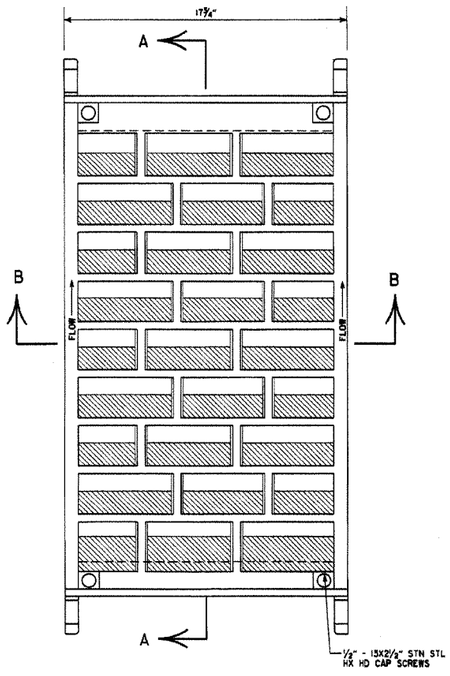
SECTION C-C
DETAILS OF DROP INLET
(TYPE N-2)

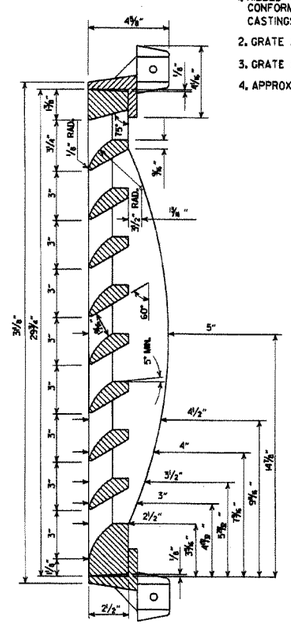
SECTION D-D
DETAILS OF DROP INLET
(TYPE N-3)

DETAILS OF DROP INLET

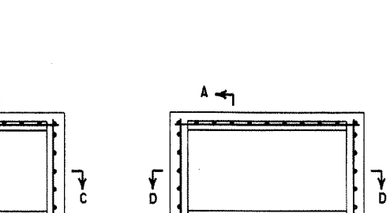
GENERAL NOTES (GRATE & FRAME)

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