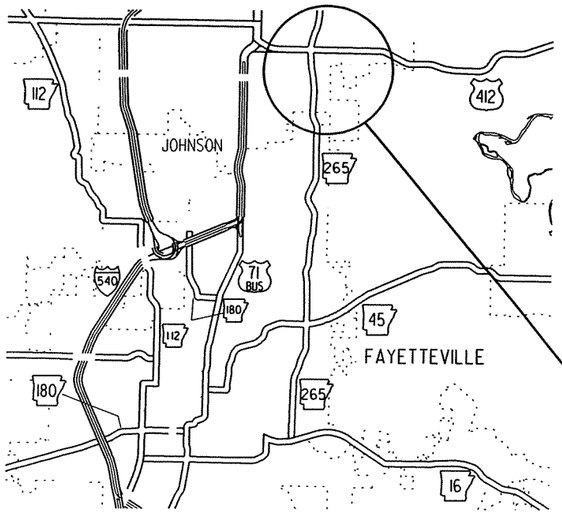
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	1	148

(2) SOUTH CITY LIMITS - HWY. 412 (SPRINGDALE) (S)



VICINITY MAP

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

SOUTH CITY LIMITS - HWY. 412 (SPRINGDALE) (S)

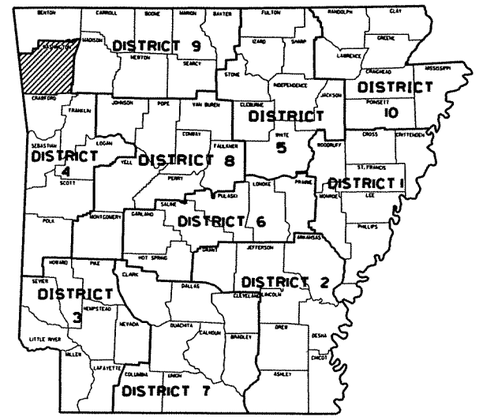
JOB 040490

F.A.P. STP-9399(11)

ROUTE 265 SECTION 2

WASHINGTON COUNTY

NOT TO SCALE



ARKANSAS HIGHWAY DIST. 4

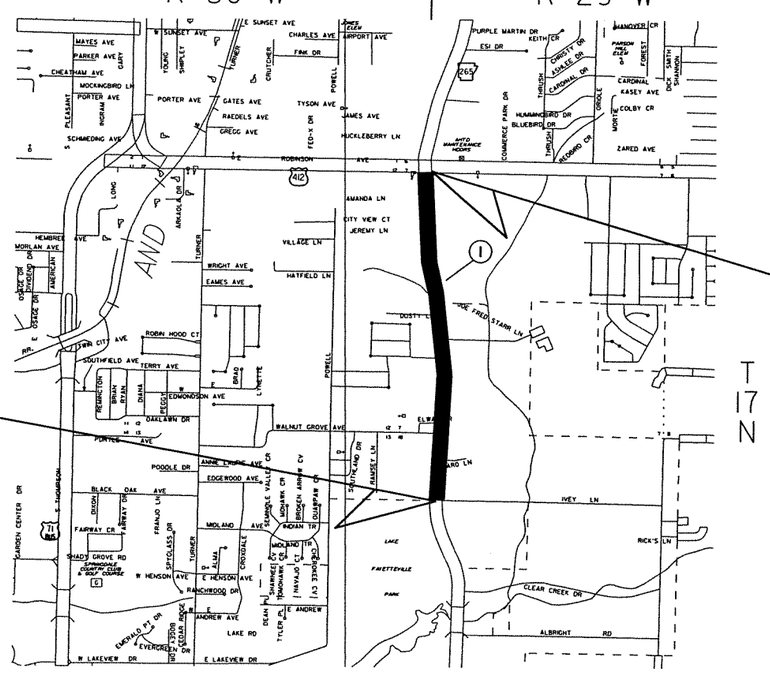
• DESIGN TRAFFIC DATA •

DESIGN YEAR		2032
2012	ADT	18,500
2032	ADT	26,500
2032	DHV	2915
DIRECTIONAL DISTRIBUTION		60%
TRUCKS		5%
DESIGN SPEED		40 MPH

STRUCTURES OVER 20'-0" SPAN

(1) STA. 139+70 - IN PLACE
DBL. 6' X 5' R.C. BOX CULVERT
(45° LT. FWD SKEW)
RETAIN & EXTEND
42' ON LT. & 45' ON RT.
TO A COMPLETED LENGTH OF 147'
CONST. DBL. 6' X 5' X 14'
R.C. BOX CULVERT
(TOTAL SPAN = 38'-2")
WITH 3:1 WINGS LT. & RT.
D.A. = 557 ac., Q50 = 1039 C.F.S.

STA. 100+00 BEGIN
JOB 040490
LOG MILE 6.75



STA. 166+26 END
JOB 040490
LOG MILE 7.96

GROSS LENGTH OF PROJECT	6626.00	FEET	OR	1.255 MILES
NET LENGTH OF ROADWAY	6587.83	FEET	OR	1.248 MILES
NET LENGTH OF BRIDGES	38.17	FEET	OR	0.007 MILES
NET LENGTH OF PROJECT	6626.00	FEET	OR	1.255 MILES

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N36° 08' 55"	N36° 09' 04"	N36° 10' 01"
LONG.	W94° 07' 08"	W94° 07' 07"	W94° 07' 11"

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL

7/12/12

DEPUTY DIRECTOR AND CHIEF ENGINEER

P.E. JOB 040490
NON PART.

r040490.dgn 4/19/2011

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.		040490	2	148

(2) INDEX OF SHEETS AND GOVERNING SPECIFICATIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7805
MICHAEL D. FUGETT

8/1/12

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4	TYPICAL SECTIONS OF IMPROVEMENT		
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16 - 24	MAINTENANCE OF TRAFFIC DETAILS		
25 - 27	PERMANENT PAVEMENT MARKING DETAILS		
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35	SUMMARY OF QUANTITIES AND REVISIONS		
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91	FLARED END SECTION	FES-2	10-18-96
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93	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8-22-02
94	DETAILS OF DROP INLETS (TYPE MO)	FPC-9M	8-22-02
95	MAILBOX DETAILS	MB-1	11-18-04
96	PRECAST CONCRETE BOX CULVERTS	PBC-1	12-15-11
97	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	12-15-11
98	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	12-15-11
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115A	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X45	6-15-64
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118 - 148	CROSS SECTIONS		

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

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__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
404-2	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-2	INSPECTION OF TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
711-1	CONCRETE PULL BOX
714-1	DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL MAST ARMS AND POLES
715-1	DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL PEDESTAL POLES
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 040490__	AIRPORT CLEARANCE REQUIREMENTS
JOB 040490__	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 040490__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 040490__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 040490__	CABINET DRAWER ASSEMBLY
JOB 040490__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 040490__	CULVERT CLEAN OUT
JOB 040490__	EDGE CARD VIDEO PROCESSOR
JOB 040490__	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 040490__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 040490__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 040490__	INTERNET BIDDING
JOB 040490__	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 040490__	LED TRAFFIC SIGNAL HEAD
JOB 040490__	LUMINAIRE ASSEMBLY (CUTOFF TYPE)
JOB 040490__	MAINTENANCE OF TRAFFIC
JOB 040490__	PARTNERING REQUIREMENTS
JOB 040490__	RELOCATION OF TRAFFIC SIGNAL HEAD
JOB 040490__	REMOVAL AND DISPOSAL OF ASBESTOS-CEMENT WATER LINE
JOB 040490__	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 040490__	SERVICE POINT ASSEMBLY
JOB 040490__	SITE USE (A +C METHOD)
JOB 040490__	SOIL STABILIZATION
JOB 040490__	STORM WATER POLLUTION PREVENTION PLAN
JOB 040490__	STREET NAME SIGN (MAST ARM MOUNTED)
JOB 040490__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 040490__	SYSTEM LOCAL CONTROLLER
JOB 040490__	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)
JOB 040490__	UTILITY ADJUSTMENTS
JOB 040490__	VALUE ENGINEERING
JOB 040490__	VIDEO DETECTOR (COLOR)
JOB 040490__	VIDEO DETECTOR RELOCATION
JOB 040490__	VIDEO DETECTOR ROTATION
JOB 040490__	WARM MIX ASPHALT

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(2) GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7085
MICHAEL D. PUGETT

7/11/12

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.

2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.

3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.

5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.

6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.

7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210-UNCLASSIFIED EXCAVATION.

8. THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, AND THE JOB SPECIAL PROVISION FOR PERMIT REQUIREMENTS.

9. UNLESS OTHERWISE INDICATED, ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB.

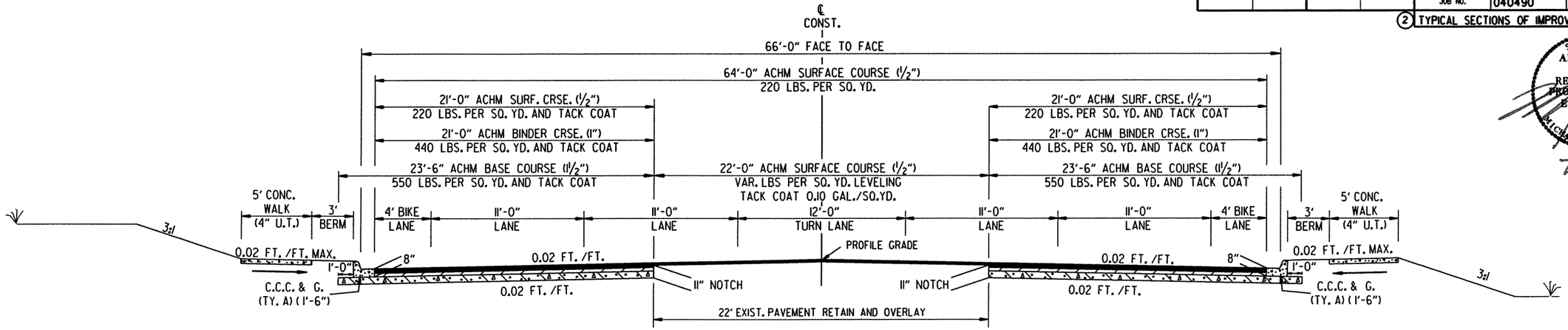
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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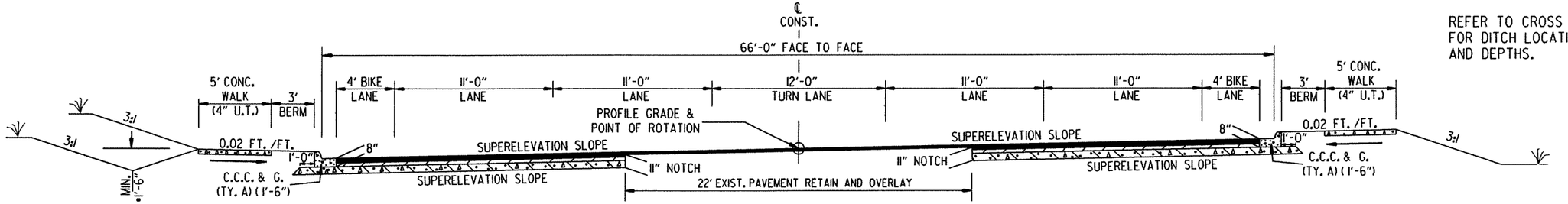
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12



TYPICAL SECTION OF IMPROVEMENT
MAIN LANES

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



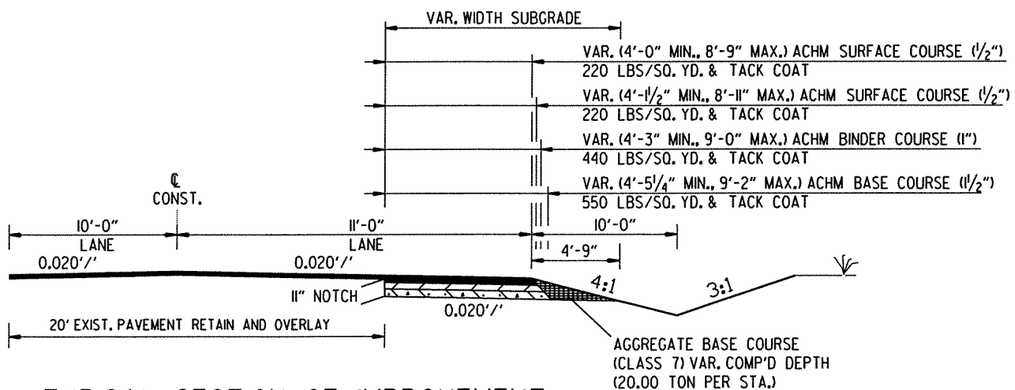
TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATION

REFER TO CROSS SECTIONS FOR DITCH LOCATIONS AND DEPTHS.

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

ANY WIDENING AREAS LESS THAN 8' IN WIDTH WILL BE DONE WITH P.C. CONCRETE BASE (11" U.T.) INSTEAD OF ACHM SURFACE, BINDER AND BASE.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.



TYPICAL SECTION OF IMPROVEMENT
IVEY LANE

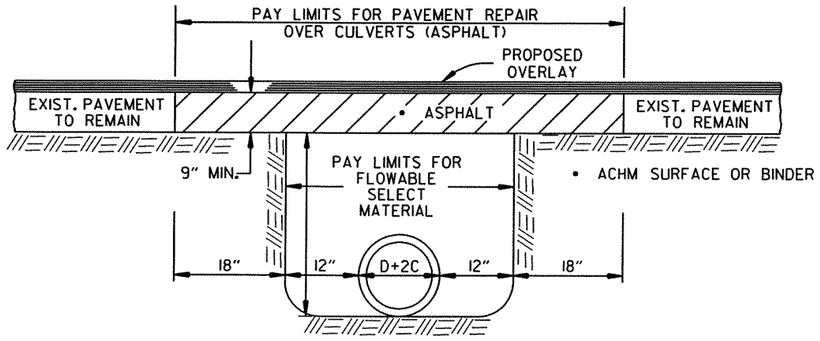
PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

TYPICAL SECTIONS OF IMPROVEMENT

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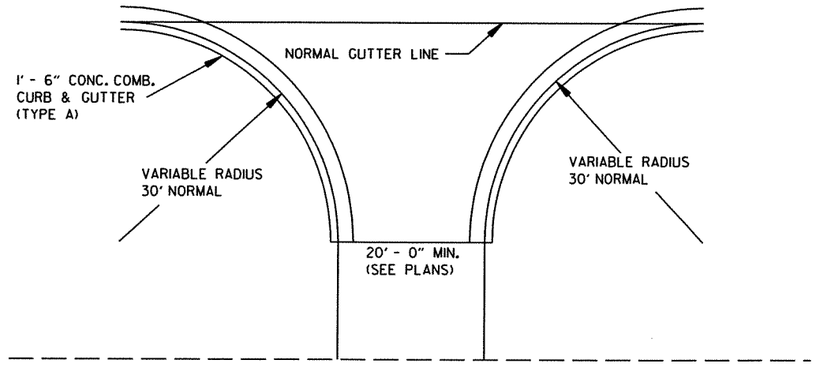
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				6	ARK.			
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(2) SPECIAL DETAILS



PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

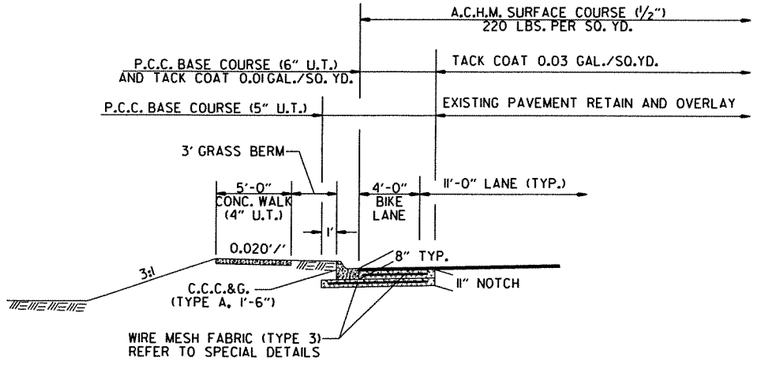
REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS



DETAIL OF TURNOUTS ASPHALT STREETS
CURB & GUTTER SECTION

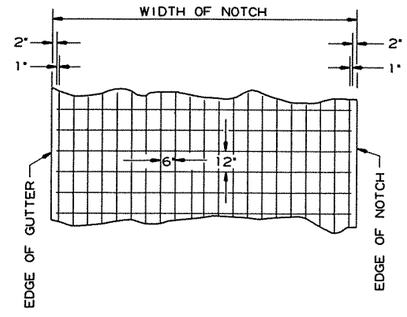
NOTE:
PAVEMENT STRUCTURE TO BE SAME AS MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6605
MICHAEL D. FUGETT
7/11/12



P. C. C. BASE WIDENING DETAIL

P. C. C. BASE WIDENING TO BE USED AS SHOWN ON THE PLANS.



DETAIL OF REINFORCING STEEL FOR PAVEMENT
(WIRE MESH TYPE 3)

6"X 12" MESH FABRIC (TYPE 3) (W5.5 x W2.9) = 4.26 LBS./SQ.YD.

NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (11" U.T.).

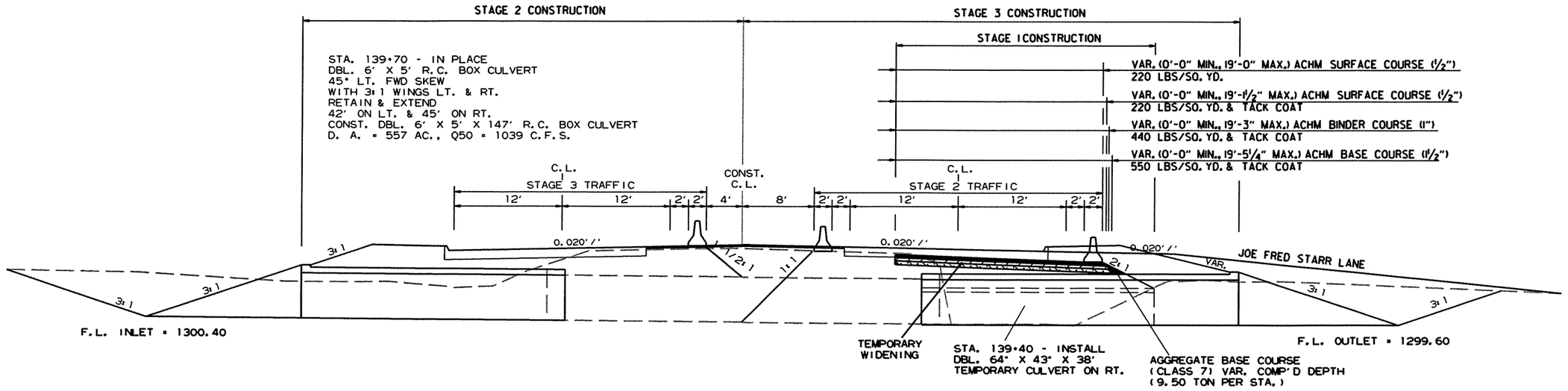
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SPECIAL DETAILS

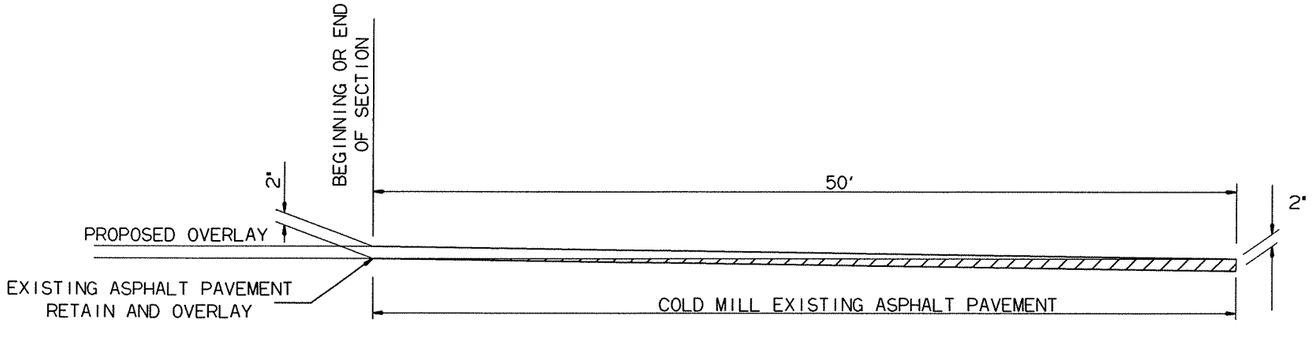
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(2) SPECIAL DETAILS

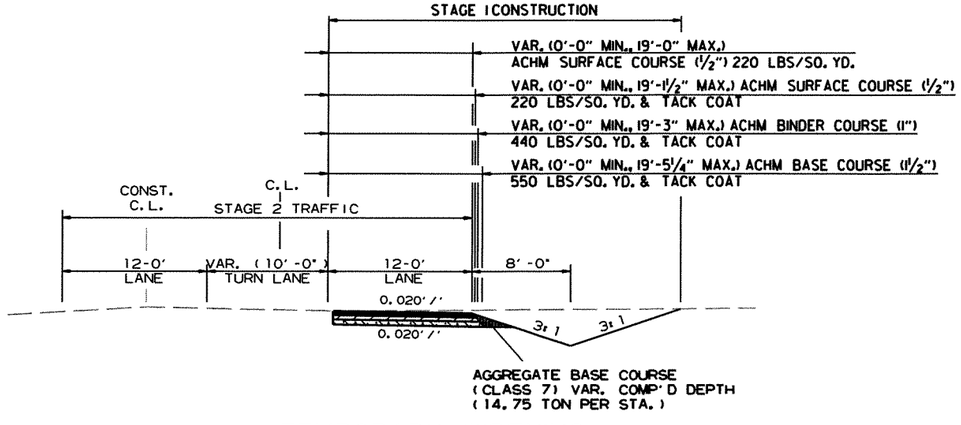
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12



STAGE CONSTRUCTION AND TEMPORARY WIDENING DETAILS



DETAIL FOR TRANSITIONS



TEMPORARY WIDENING

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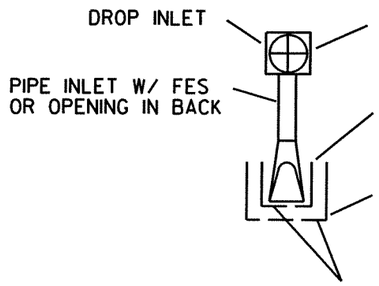
SPECIAL DETAILS

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(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL GENERAL NOTES:

THE QUANTITIES AND LOCATIONS OF THE TEMPORARY EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.



(E-7) (DROP INLET SILT FENCE)

(E-11) (SILT FENCE) AROUND FES OR OPENING IN BACK OF DROP INLET

(E-5) (SAND BAG DITCH CHECK) AROUND E-11 SILT FENCE APPROX. 5' CLEAR BETWEEN THE TWO

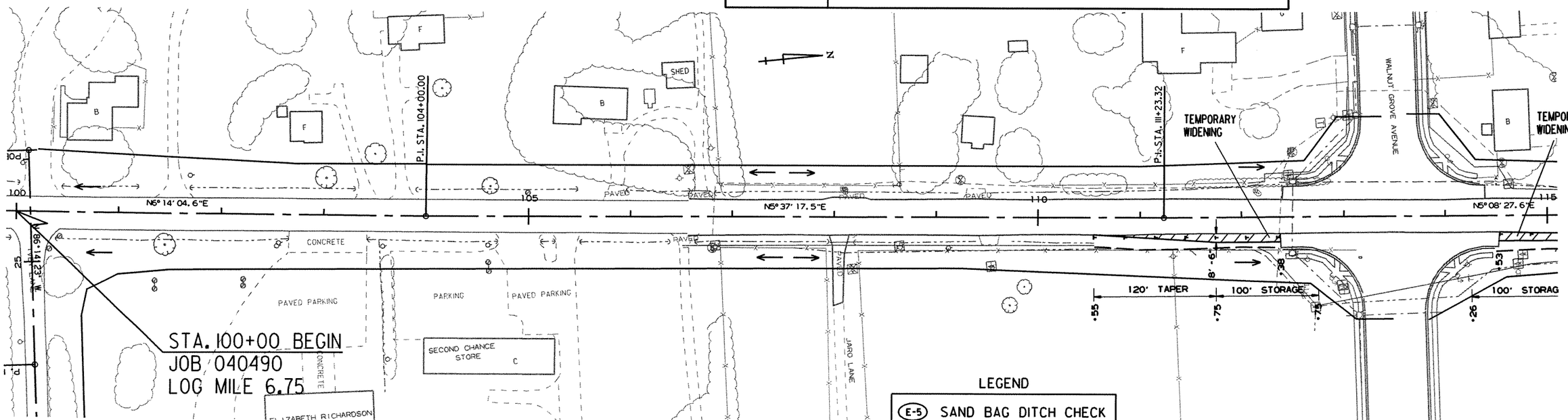
WHEN THERE IS NO DEFINED CHANNEL FROM OFFSITE, INSTALL DEVICES IN FRONT OF OPENING. IF OFFSITE DRAINAGE CHANNEL IS PRESENT, INSTALL DEVICES ON SIDES ONLY.

(E-14) SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGGETT
7/11/12

REVISIONS

DATE	REVISION



LEGEND

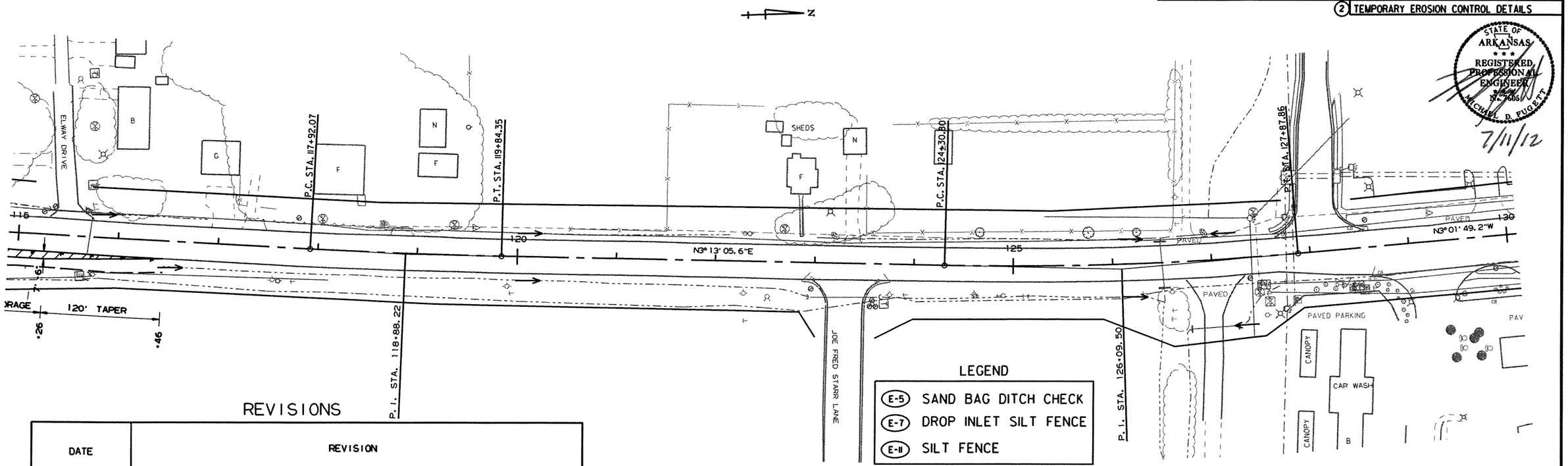
(E-5) SAND BAG DITCH CHECK
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE

STAGE 1:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	8	148

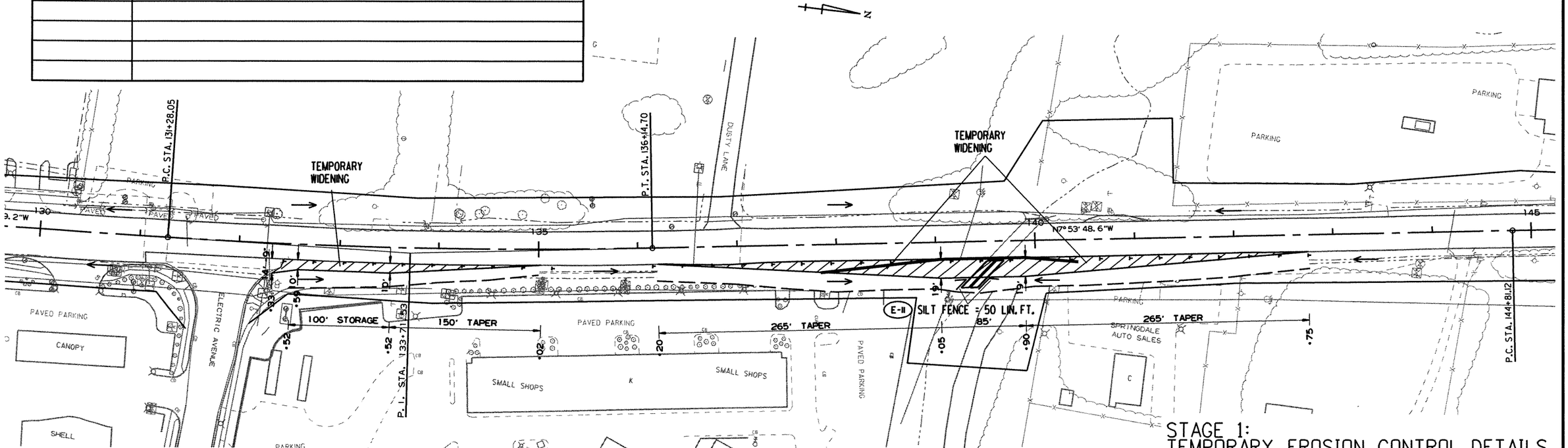
(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9605
MICHAEL D. FUGETT
7/11/12

REVISIONS

DATE	REVISION



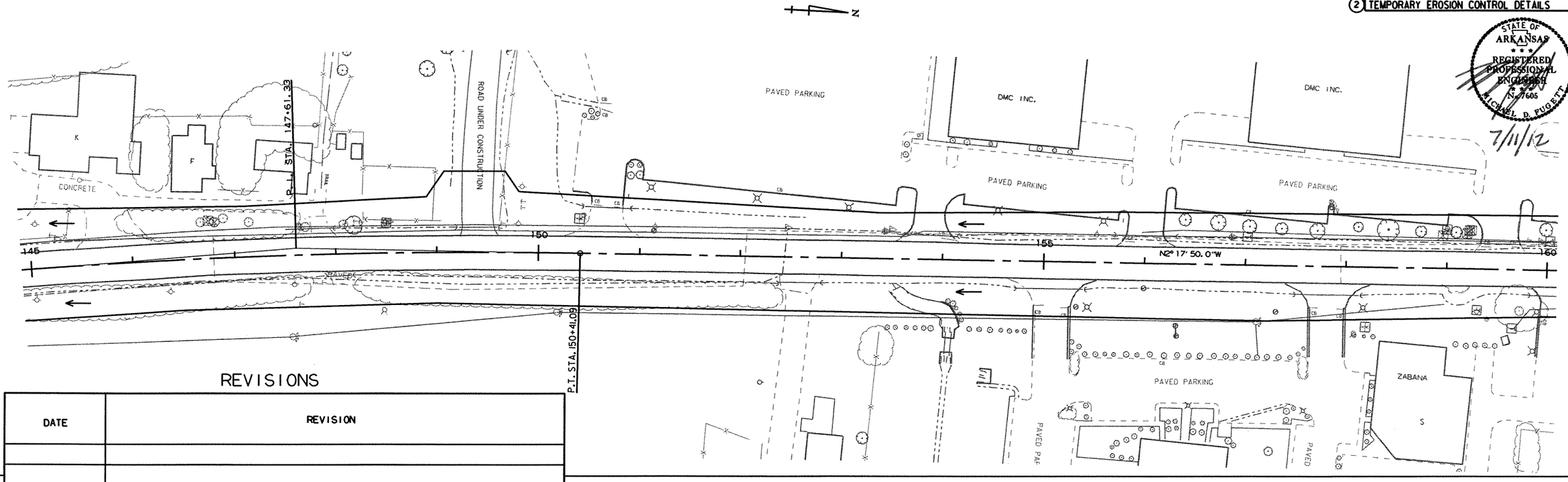
STAGE 1:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	9	148

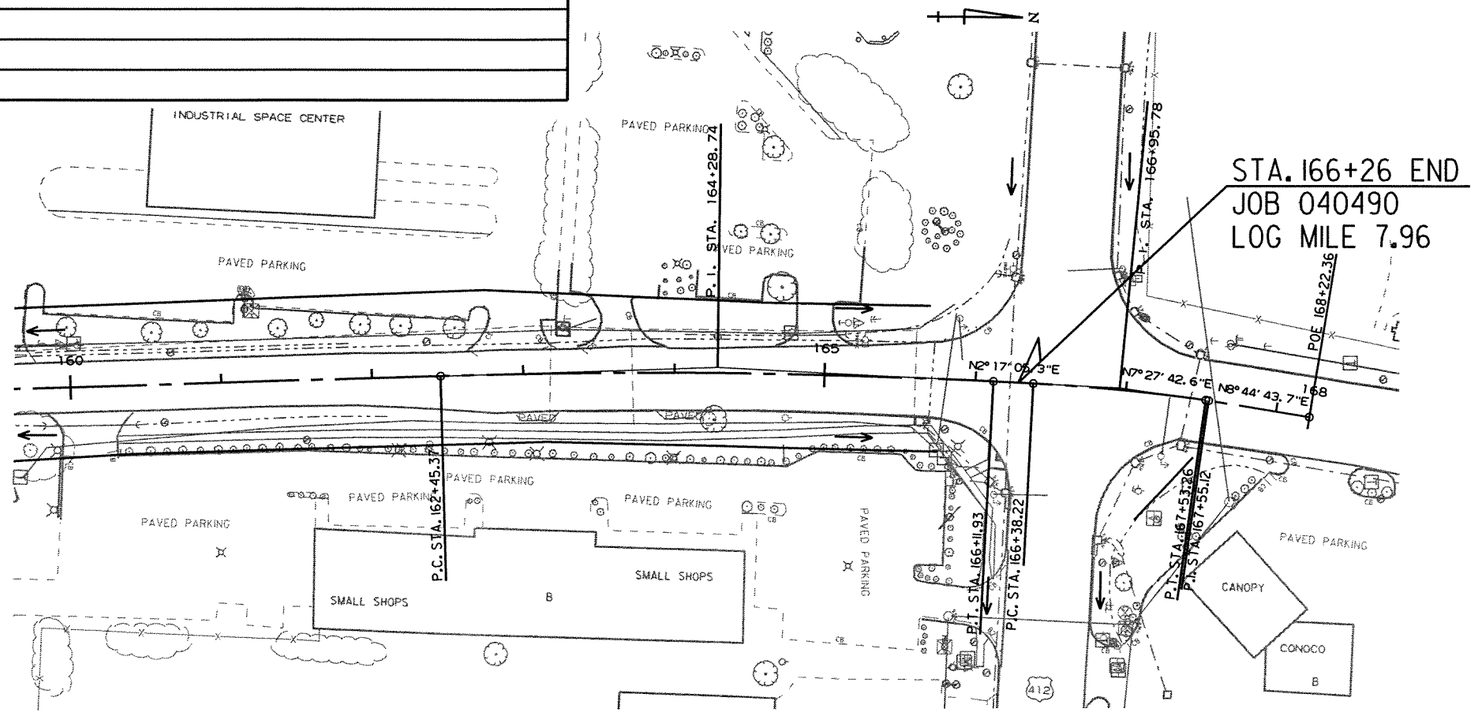
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12



REVISIONS

DATE	REVISION



LEGEND

E-5	SAND BAG DITCH CHECK
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE

STAGE 1:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

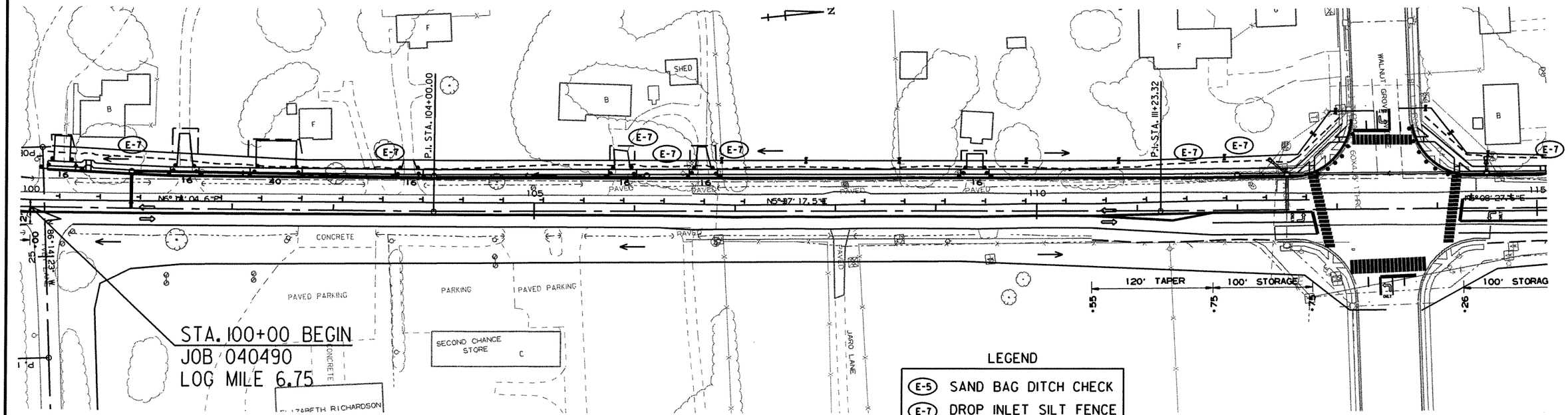
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	10	148

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

REVISIONS

DATE	REVISION



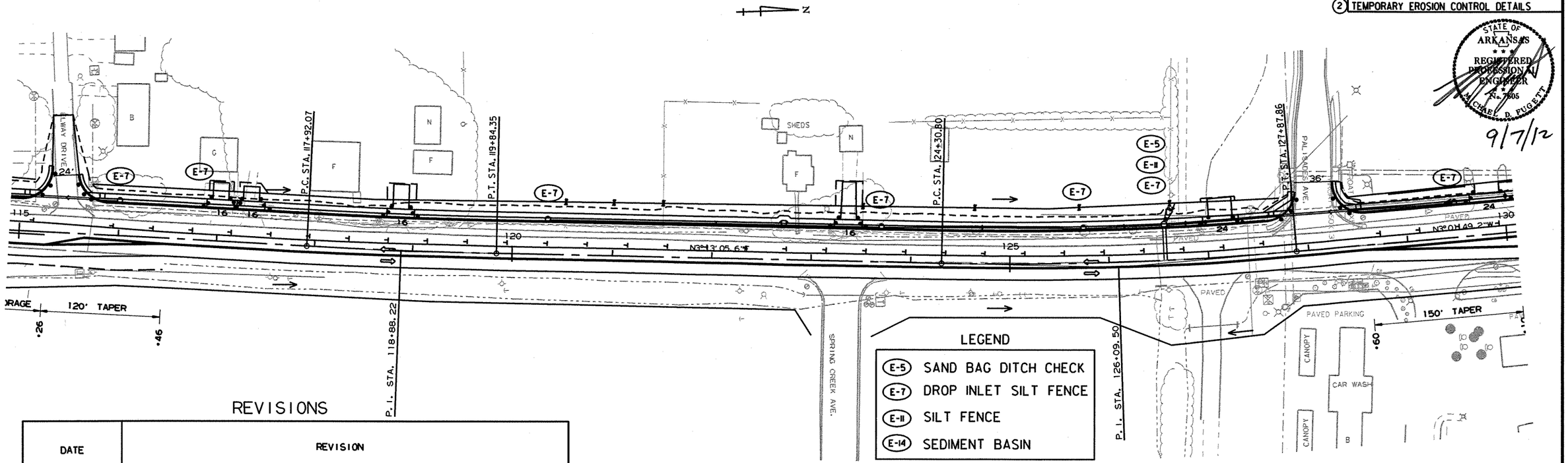
STAGE 2:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9/7/2012				6	ARK.			
				JOB NO.		040490	11	148

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9/7/12

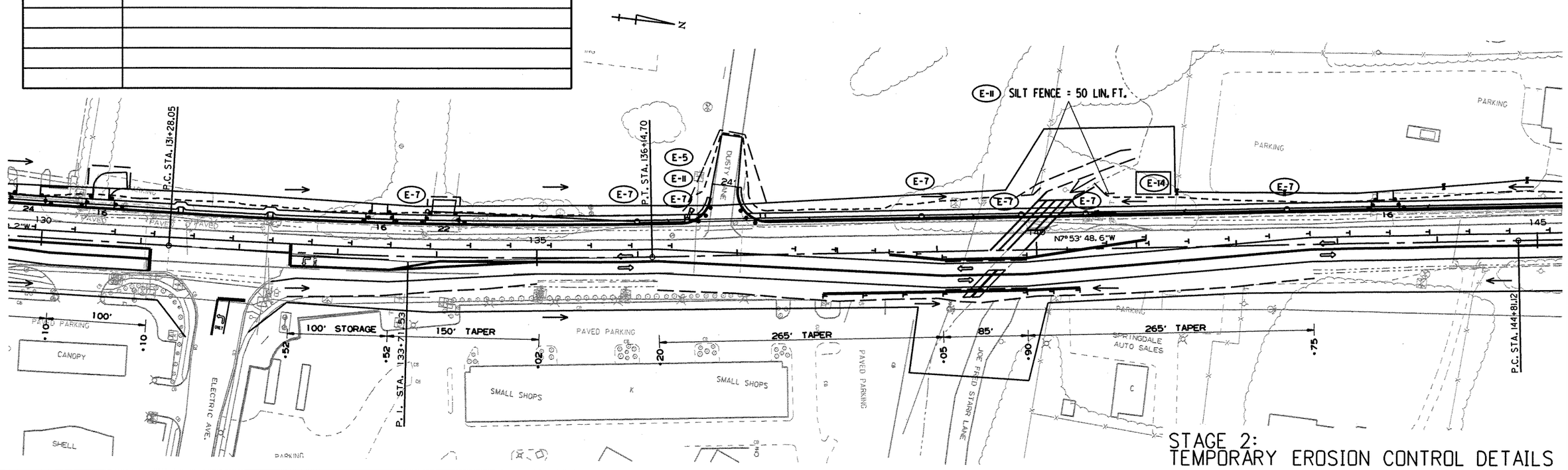


LEGEND

E-5	SAND BAG DITCH CHECK
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
E-14	SEDIMENT BASIN

REVISIONS

DATE	REVISION



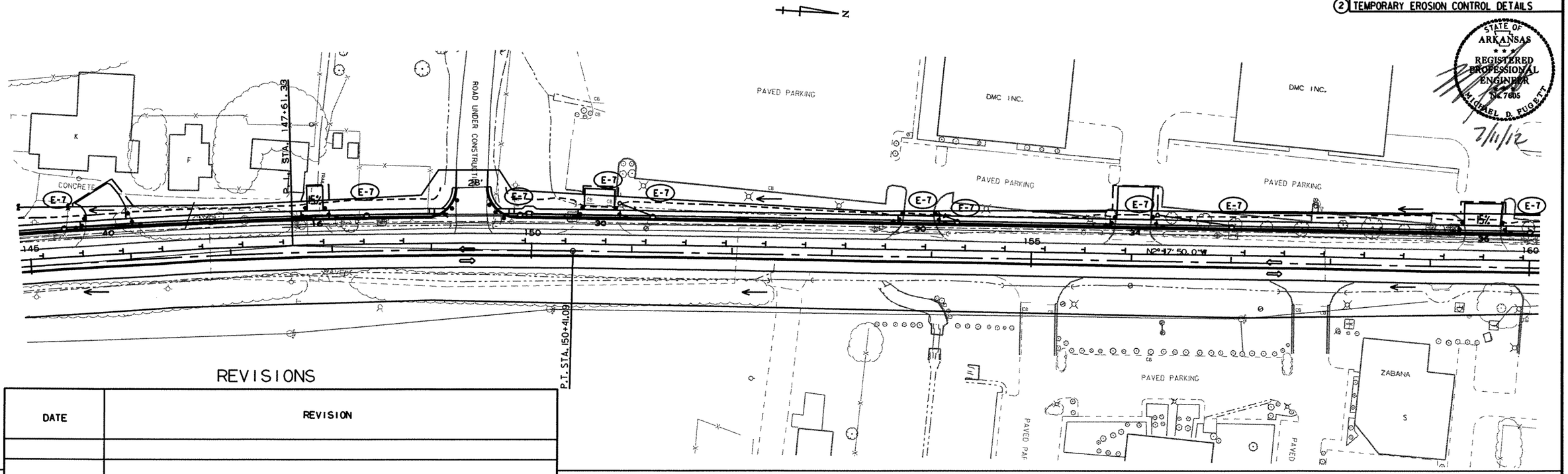
STAGE 2:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

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.		040490	12	148

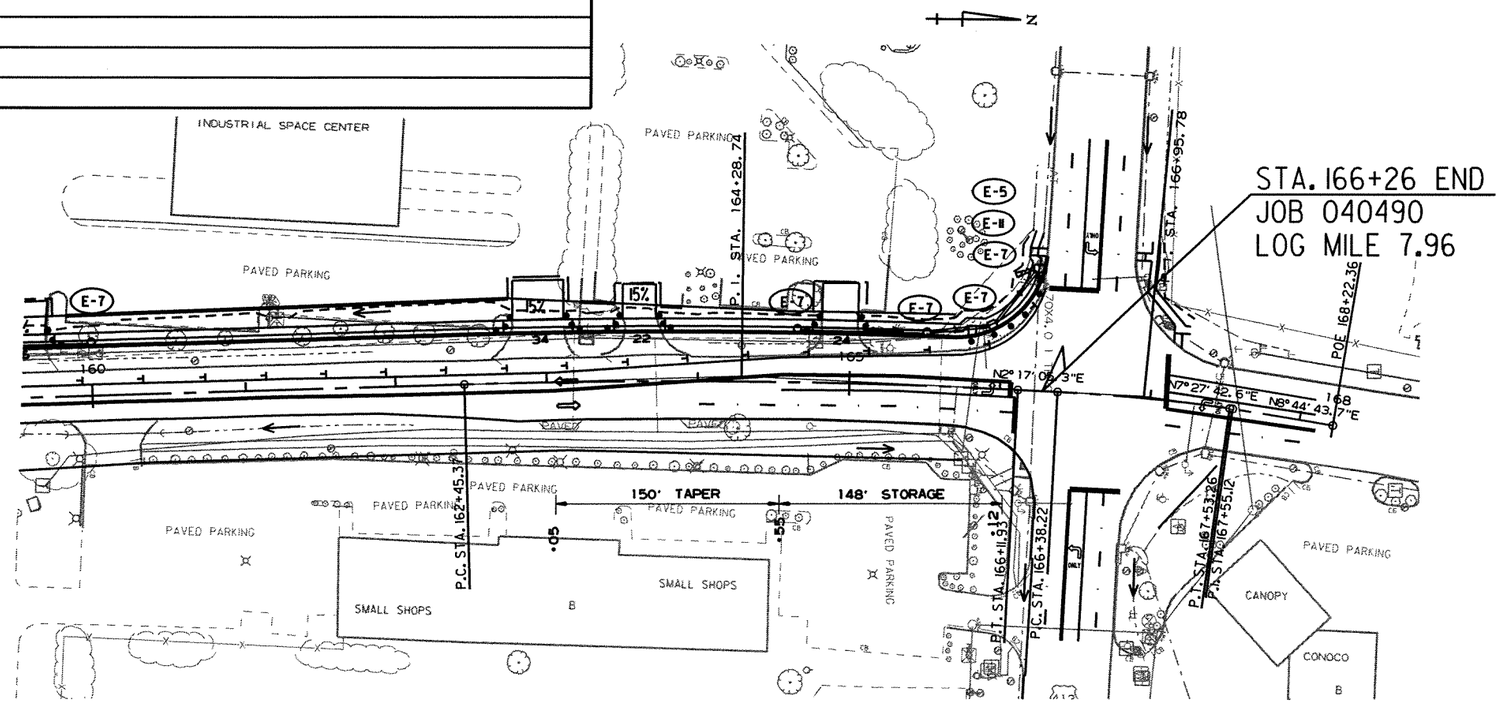
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12



REVISIONS

DATE	REVISION



LEGEND

E-5	SAND BAG DITCH CHECK
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE

STAGE 2:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

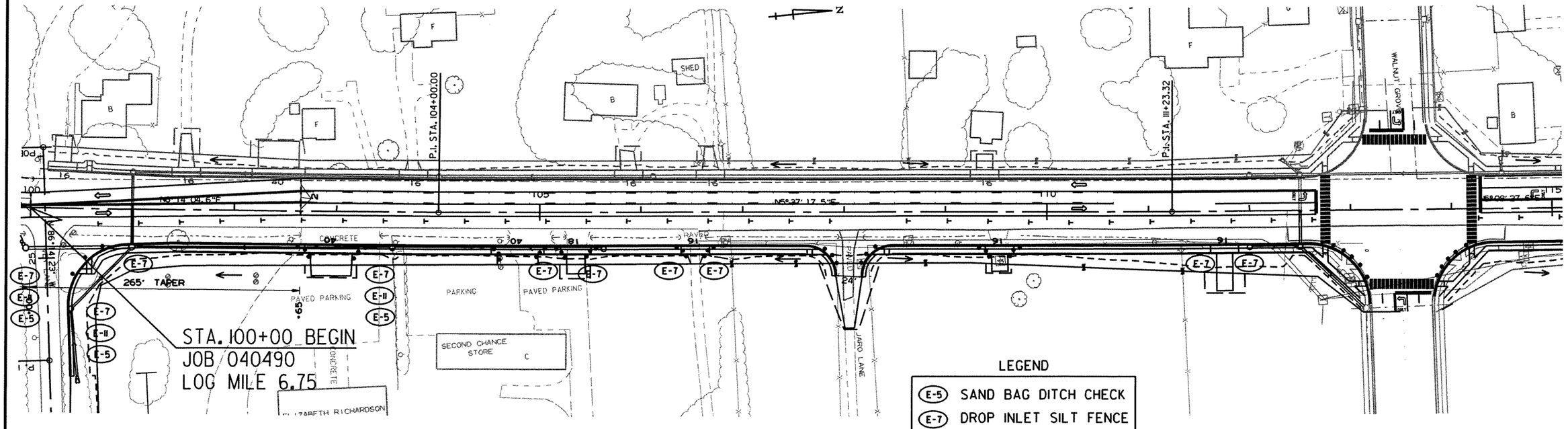
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	13	148

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

REVISIONS

DATE	REVISION



LEGEND

E-5	SAND BAG DITCH CHECK
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE

STAGE 3:
TEMPORARY EROSION CONTROL DETAILS

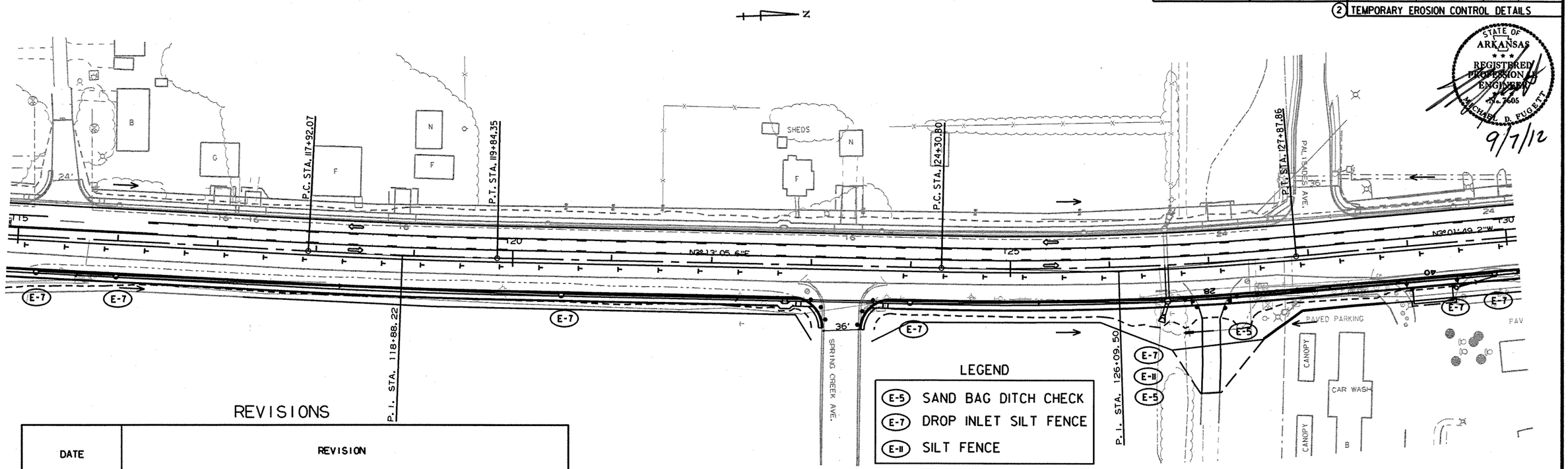
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9/7/2012			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		040490	14	148

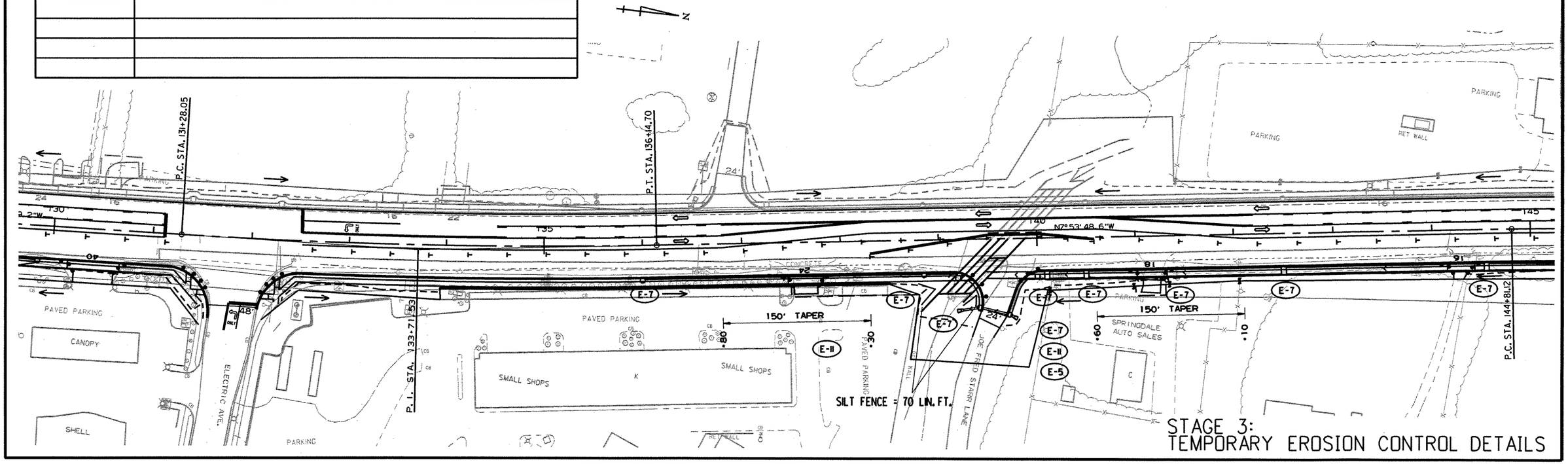
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9/7/12



REVISIONS

DATE	REVISION

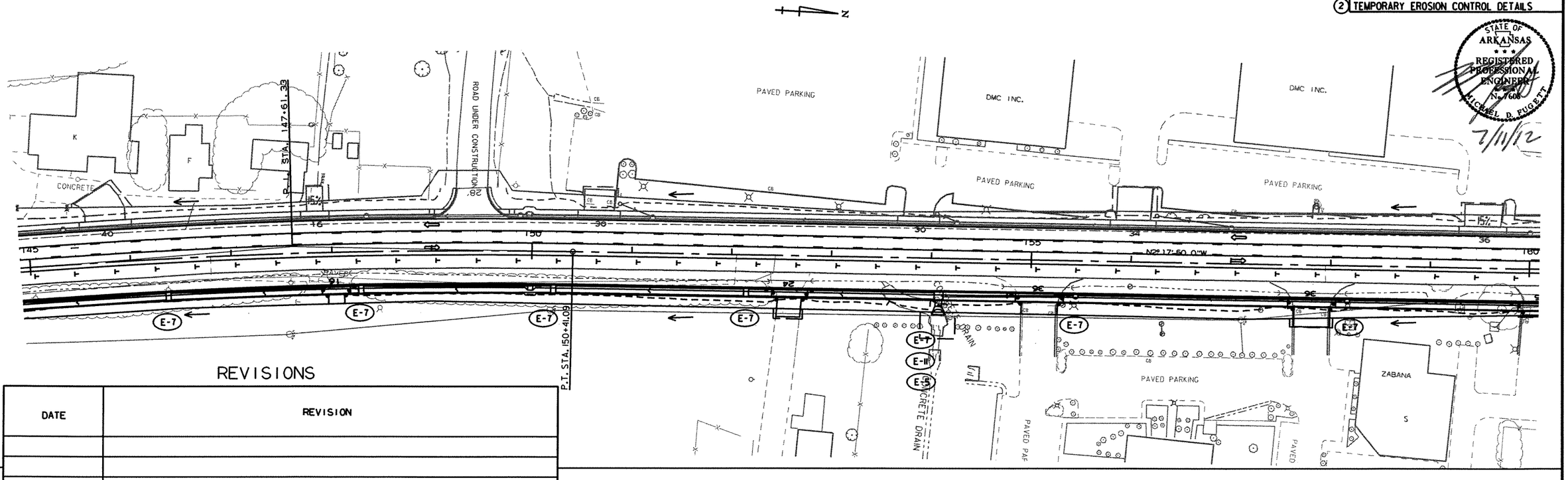


STAGE 3:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

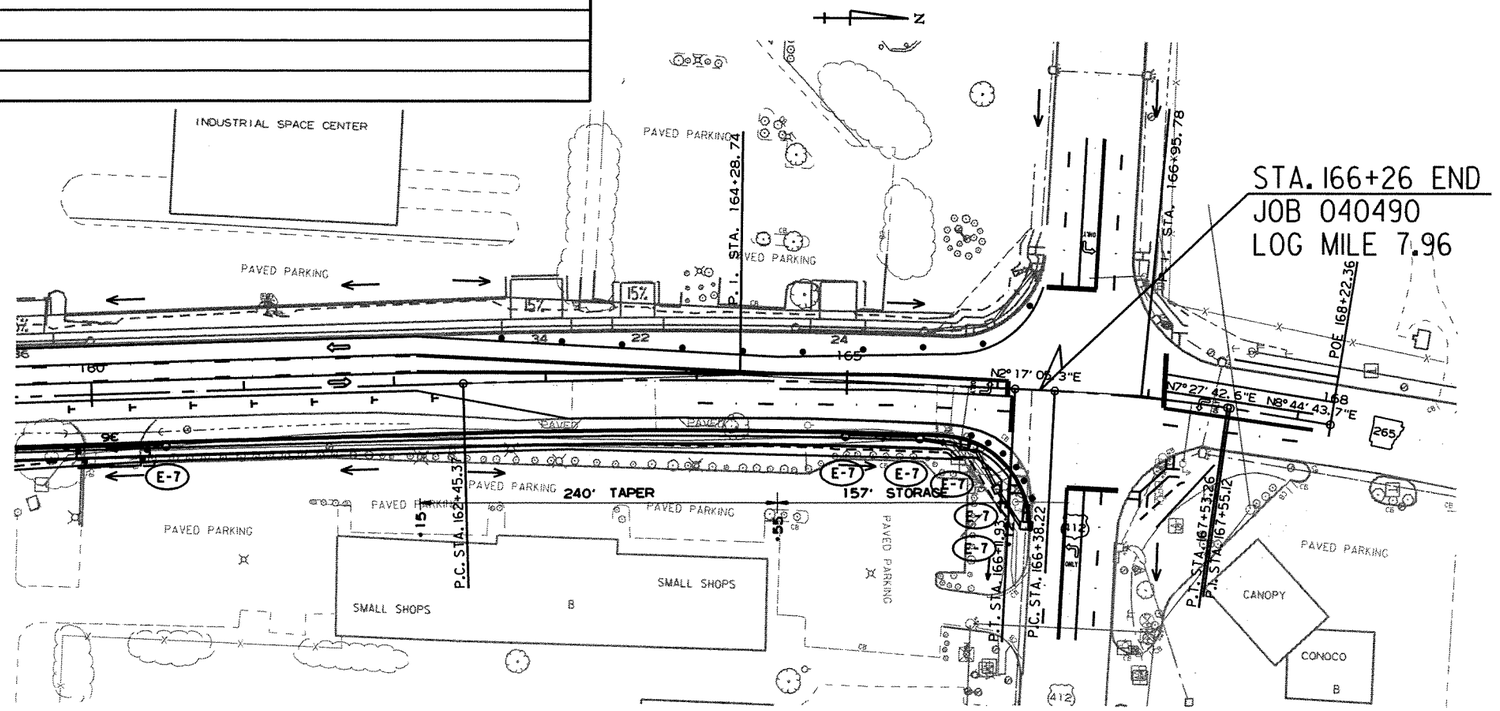
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	15	148

(2) TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE	REVISION



STA. 166+26 END
JOB 040490
LOG MILE 7.96

LEGEND

E-5	SAND BAG DITCH CHECK
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7606
MICHAEL D. FUGETT
2/11/12

STAGE 3:
TEMPORARY EROSION CONTROL DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	16	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/11/12

STAGE I:

INSTALL THE ADVANCE WARNING SIGNS

INSTALL DBL. 64" X 43" X 31' TEMPORARY CULVERT AT STA. 139+40 ON RT.

CONSTRUCT TEMPORARY WIDENING ON THE EAST SIDE OF HWY. 265
BETWEEN THE FOLLOWING STATIONS AS SHOWN BELOW.
STA. 110+55 TO STA. 112+38
STA. 114+53 TO STA. 116+46
STA. 132+33 TO STA. 135+02
STA. 136+20 TO STA. 142+75

END ROAD WORK — (1) G20-2 (48" x 24")

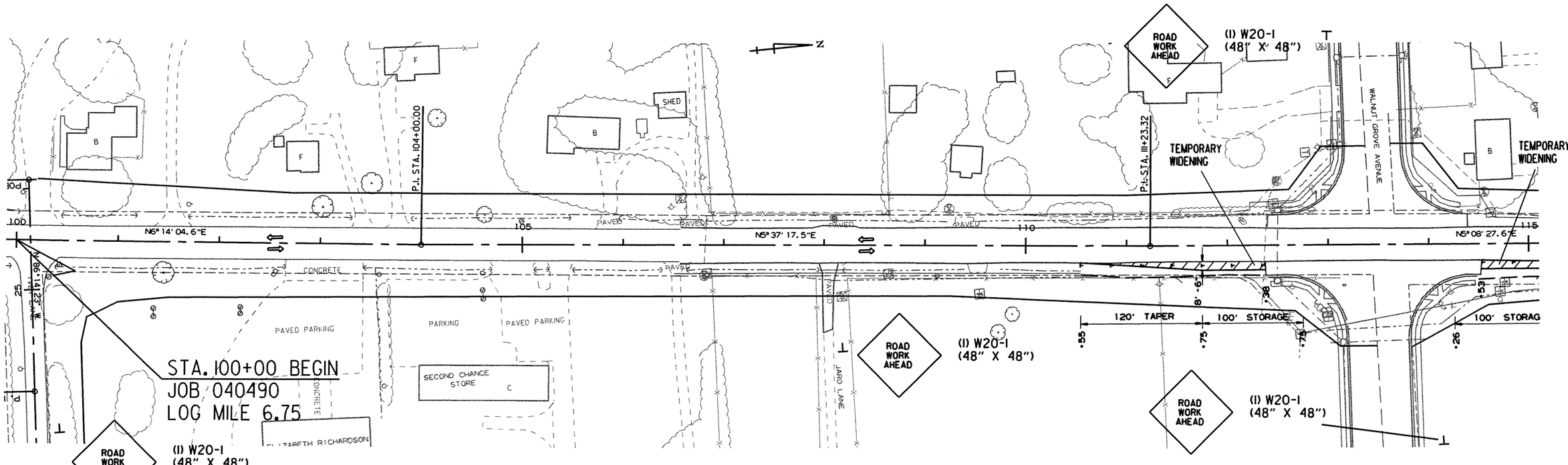
ROAD WORK 1500 FT — (1) W20-1 (48" x 48")

ROAD WORK 1000 FT — (1) W20-1 (48" x 48")

ROAD WORK 500 FT — (1) W20-1 (48" x 48")

ROAD WORK NEXT 1.26 MILES — (1) G20-1 (60" X 24")

⊢ VERTICAL PANEL



STAGE 1:
MAINTENANCE OF TRAFFIC DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	17	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7606
MICHAEL D. PUGETT
7/11/12

ROAD WORK AHEAD (I) W20-1 (48" X 48")

ELWAY DRIVE

P.C. STA. 117+92.07

P.T. STA. 119+84.35

P.C. STA. 124+30.80

P.T. STA. 127+87.86

SHEDS

N3° 13' 05.6"E

N3° 01' 49.2"W

120' TAPER

P.I. STA. 118+88.22

JOE FRED STARR LANE

P.I. STA. 126+09.50

PAVED PARKING

CANOPY

CAR WASH

ROAD WORK AHEAD (I) W20-1 (48" X 48")

ROAD WORK AHEAD (I) W20-1 (48" X 48")

ROAD WORK AHEAD (I) W20-1 (48" X 48")

P.C. STA. 131+28.05

TEMPORARY WIDENING

P.T. STA. 136+14.70

DUSTY LANE

PRECAST BARRIER

N7° 53' 48.6"W

P.C. STA. 144+81.12

100' STORAGE

150' TAPER

265' TAPER

85'

SMALL SHOPS

SPRINGDALE AUTO SALES

(4) OM-3R (12"X 36")

(3) OM-3L (12"X 36")

ELECTRIC AVENUE

ROAD WORK AHEAD (I) W20-1 (48" X 48")

ROAD WORK AHEAD (I) W20-1 (48" X 48")

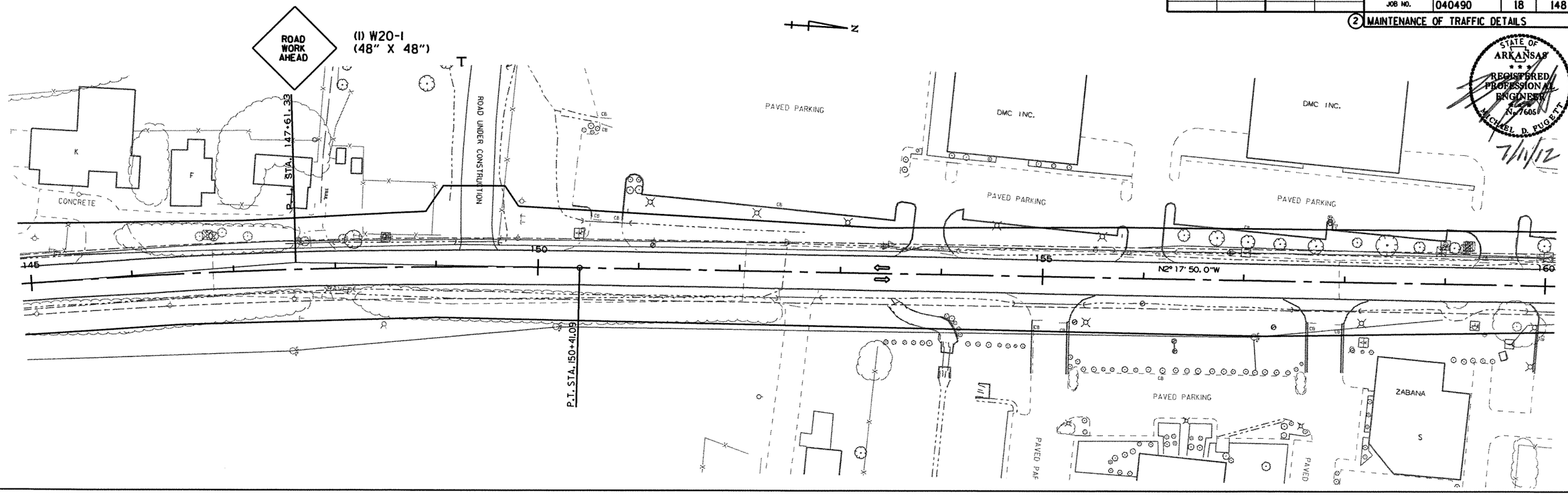
STAGE 1: MAINTENANCE OF TRAFFIC DETAILS

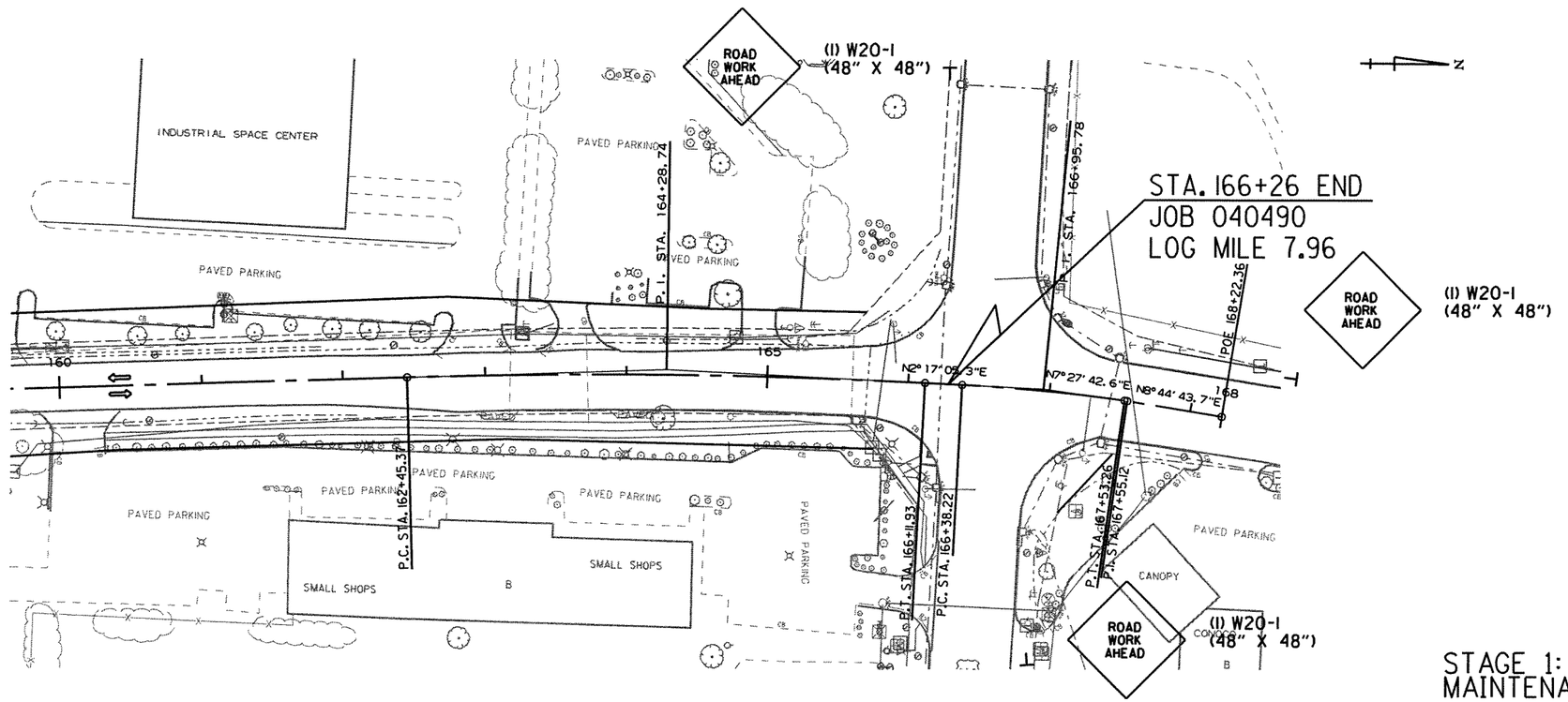
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	18	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/11/12





STAGE 1:
MAINTENANCE OF TRAFFIC DETAILS

R040490.DGN 6/27/2012

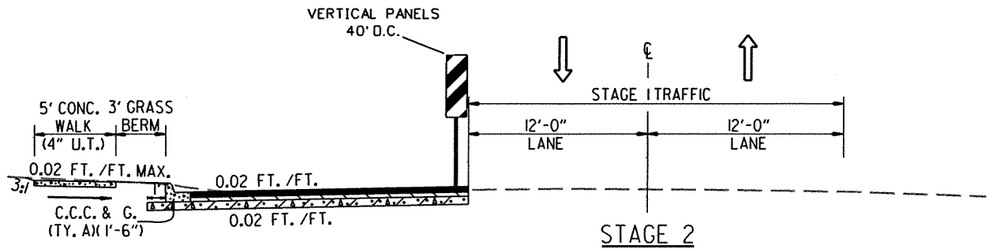
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	19	148

(2) MAINTENANCE OF TRAFFIC DETAILS

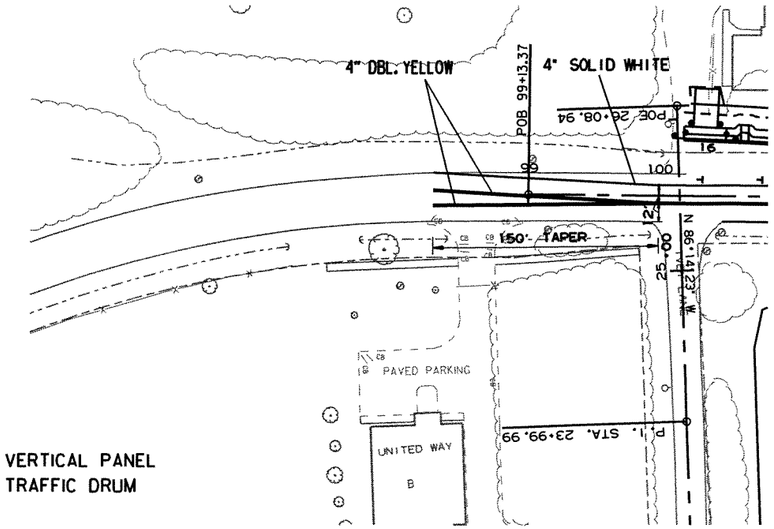
STAGE 2:

RESTRIPE THE EXISTING LANES (2-12' LANES & 10' LEFT TURN LANE) AS SHOWN BELOW TO MAINTAIN TRAFFIC. INSTALL TEMPORARY PRECAST CONCRETE BARRIER. EXTEND THE EXISTING DBL. 6' X 5' R.C. BOX CULVERT & CONSTRUCT THE PORTION OF THE PROPOSED DBL. 6' X 5' R.C. BOX CULVERT USING THE STAGE CONSTRUCTION DETAILS AS SHOWN. NOTCH AND WIDEN ON THE WEST SIDE OF HWY. 265, DELINEATING THE WORK ZONE USING VERTICAL PANELS AT 30' O.C. ON THE SIDE BEING WIDENED.

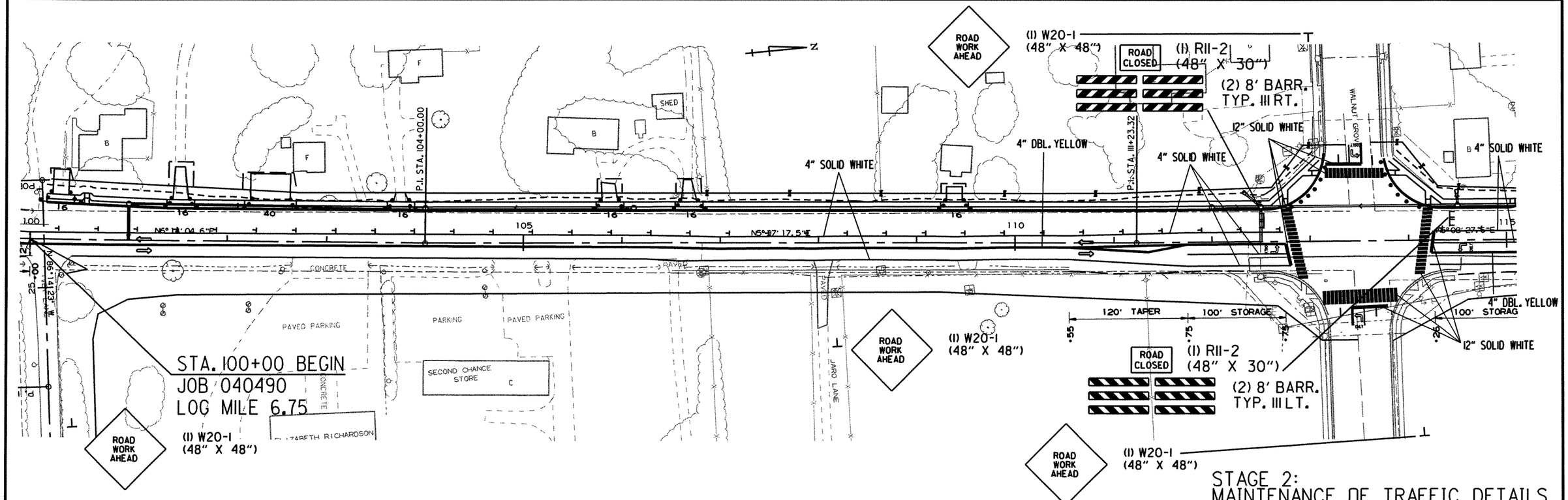
DELINEATE CITY STREETS AND DRIVEWAYS THROUGHOUT THE PROJECT USING TRAFFIC DRUMS (6 PER TURNOUT) ON THE SIDE BEING WIDENED.



STAGE 2



- VERTICAL PANEL
- TRAFFIC DRUM



STAGE 2:
MAINTENANCE OF TRAFFIC DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9/7/2012				6	ARK.			
				JOB NO.		040490	20	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9/7/12

ROAD WORK AHEAD — (1) W20-1 (48" X 48")

ROAD CLOSED — (1) R11-2 (48" X 30") — (2) 8' BARR. TYP. III RT.

ROAD CLOSED — (1) R11-2 (48" X 30") — (2) 8' BARR. TYP. III LT.

4" SOLID WHITE

4" DBL. YELLOW

120' TAPER

P.C. STA. 117+92.07

P.T. STA. 119+84.35

P.I. STA. 118+88.22

P.C. STA. 124+30.80

P.T. STA. 127+87.86

P.I. STA. 126+09.50

N3°13' 05.6"E

N2°04' 49.2"W

SPRING CREEK AVE.

PALISADES AVE.

SHEDS

PAVED PARKING

150' TAPER

CANOPY

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

ROAD WORK AHEAD

ROAD CLOSED — (1) R11-2 (48" X 30") — (2) 8' BARR. TYP. III LT.

4" DBL. YELLOW WITH R.P.M. (TYPE II) ON 40' CENTERS

P.C. STA. 131+28.05

P.T. STA. 136+14.70

P.I. STA. 133+71.53

100' STORAGE

150' TAPER

265' TAPER

85'

PAVED PARKING

SMALL SHOPS

ELECTRIC AVE.

JOE FRED STARR LANE

SPRINGDALE AUTO SALES

(4) OM-3R (12"X 36")

(3) OM-3L (12"X 36")

PRECAST BARRIER

N7°53' 48.6"W

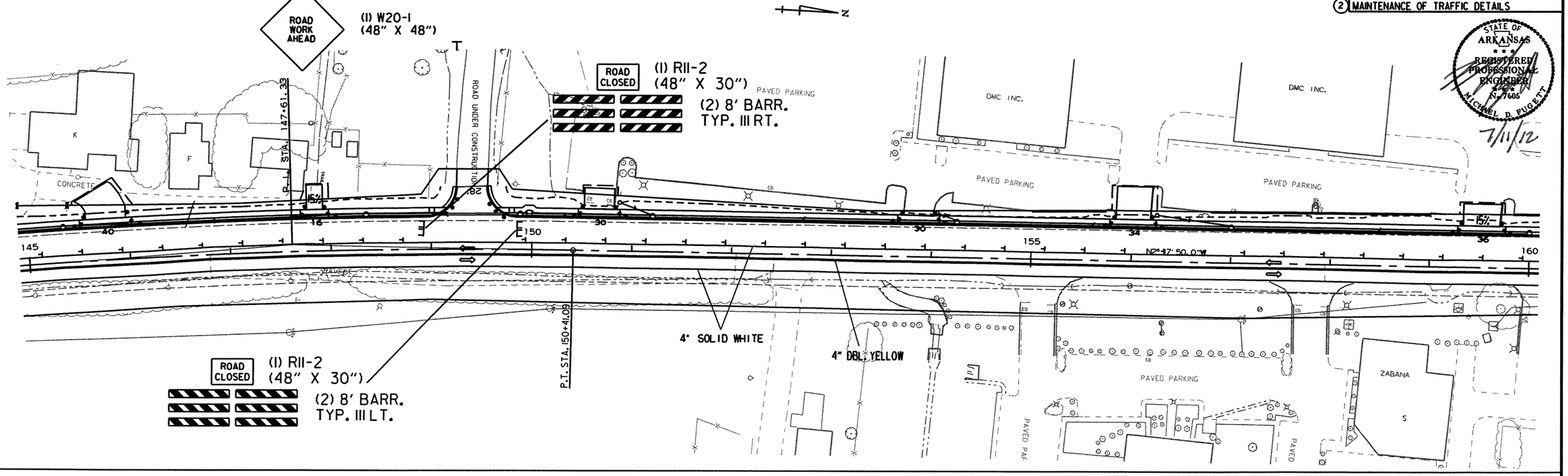
P.C. STA. 144+81.12

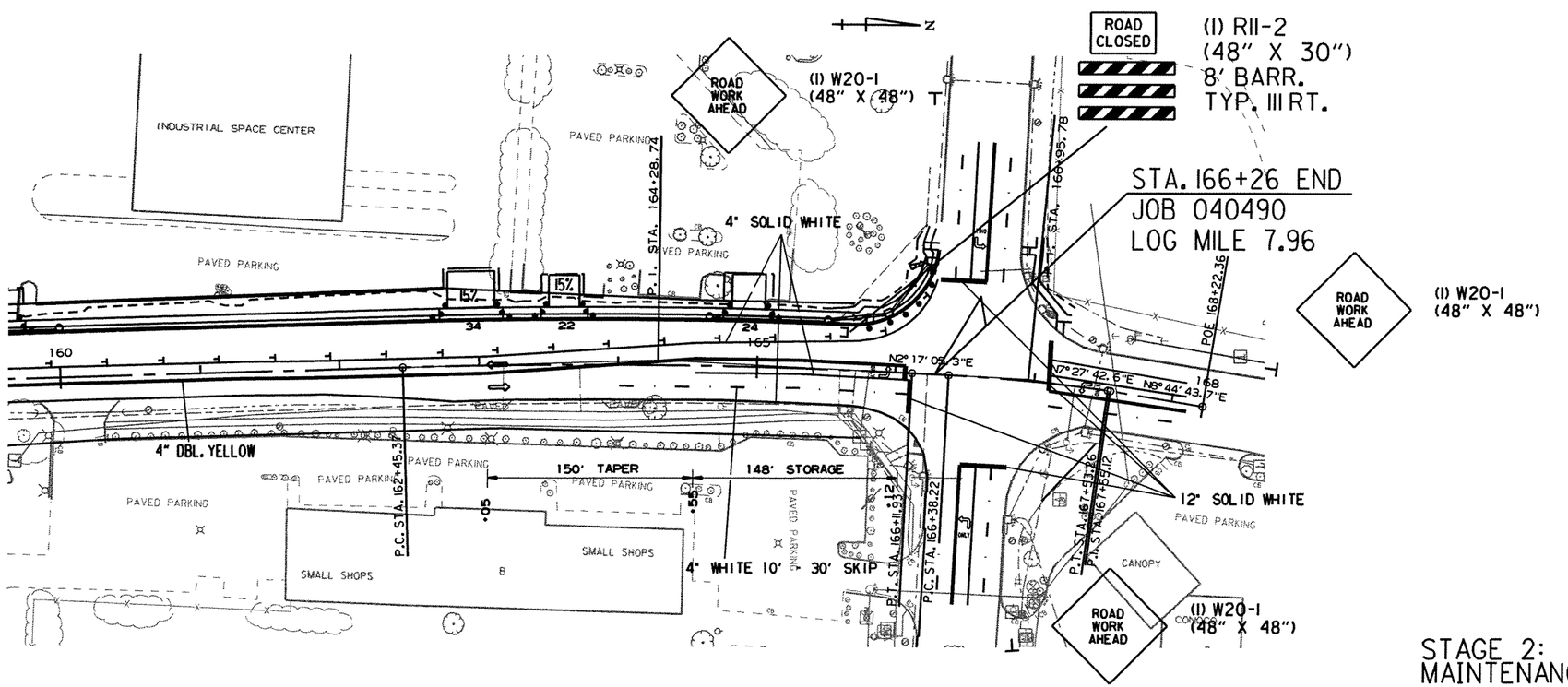
STAGE 2:
MAINTENANCE OF TRAFFIC DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	21	148

(2) MAINTENANCE OF TRAFFIC DETAILS





STAGE 2:
MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	22	148

(2) MAINTENANCE OF TRAFFIC DETAILS

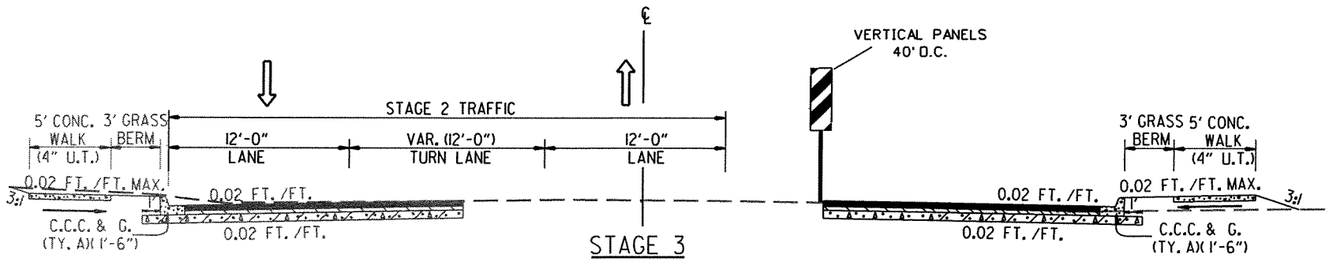
STAGE 3:

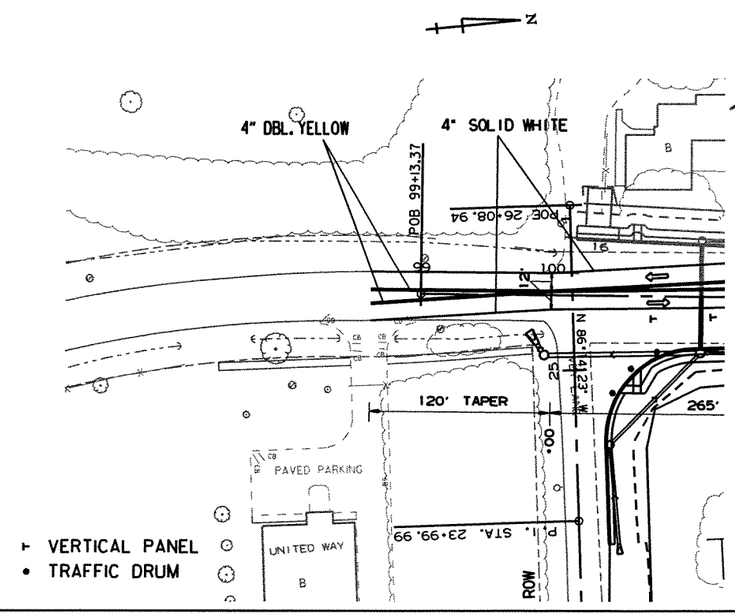
REMOVE THE CONFLICTING PAVEMENT MARKINGS AND STRIPE THE STAGE 2 CONSTRUCTION USING A DBL. YELLOW CENTERLINE (12') AND LEFT AND RIGHT EDGE LINES (2-12' LANES). RELOCATE THE TEMPORARY PRECAST CONCRETE BARRIER AS SHOWN AND SHIFT TRAFFIC ONTO THE STAGE 2 CONSTRUCTION. EXTEND THE EXISTING DBL. 6' X 5' R.C. BOX CULVERT & CONSTRUCT THE REMAINDER OF THE PROPOSED DBL. 6' X 5' R.C. BOX CULVERT AND CURB AND GUTTER ON THE EAST SIDE.

NOTCH AND WIDEN ON THE EAST SIDE OF HWY. 265 DELINEATING THE WORK ZONE USING VERTICAL PANELS AT 30' O.C. ON THE SIDE BEING WIDENED.

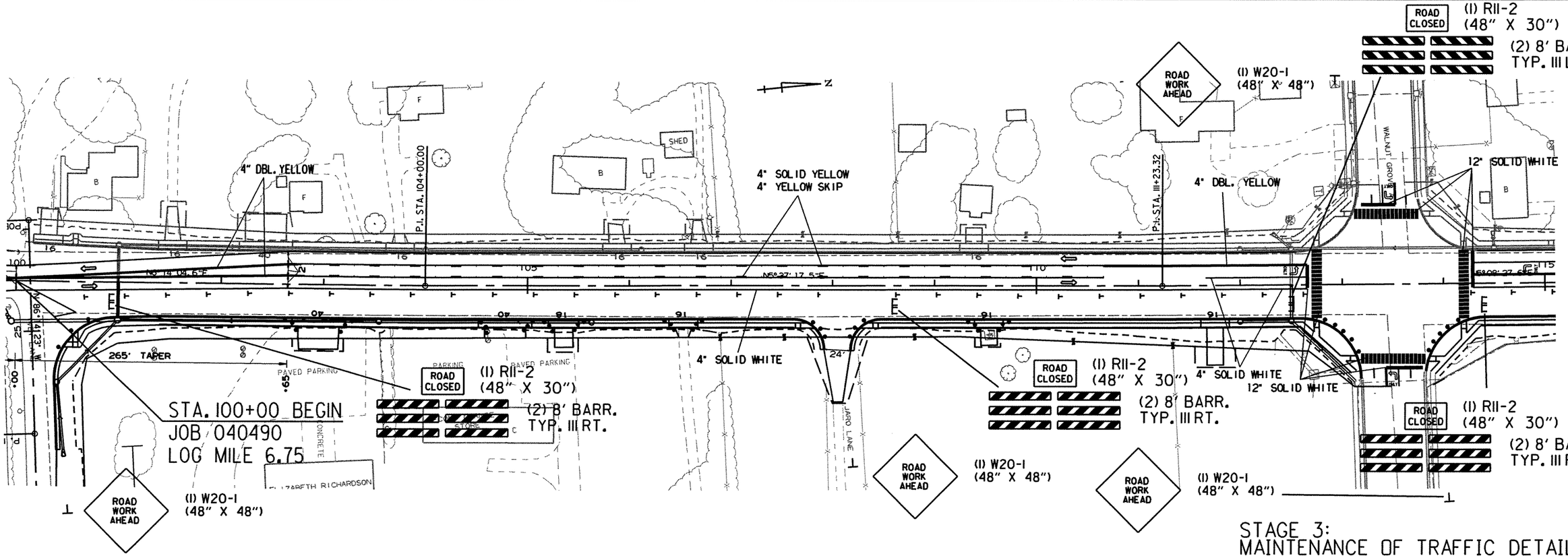
DELINEATE CITY STREETS AND DRIVEWAYS THROUGHOUT THE PROJECT USING TRAFFIC DRUMS (6 PER TURNOUT) ON THE SIDE BEING WIDENED.

APPLY THE FINAL 2" OF ACHM SURFACE AFTER ALL WIDENING HAS BEEN COMPLETED.





STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12



R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9/7/2012			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		040490	23	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
9/7/12

ROAD WORK AHEAD (I) W20-1 (48" X 48")

4" DBL. YELLOW

4" SOLID WHITE

P.C. STA. 117+92.07

P.T. STA. 119+84.35

4" SOLID YELLOW
4" YELLOW SKIP

P.I. STA. 118+88.22

ROAD CLOSED (I) R11-2 (48" X 30")
(2) 8' BARR. TYP. III LT.

ROAD WORK AHEAD (I) W20-1 (48" X 48")

SPRING CREEK AVE.

ROAD CLOSED (I) R11-2 (48" X 30")
(2) 8' BARR. TYP. III RT.

P.C. STA. 124+30.80

P.I. STA. 126+09.50

ROAD WORK AHEAD (I) W20-1 (48" X 48")

P.T. STA. 127+87.86

PALMERS AVE.

PAVED PARKING

CANOPY

CAR WASH

ROAD WORK AHEAD (I) W20-1 (48" X 48")

ROAD CLOSED (I) R11-2 (48" X 30")
(2) 8' BARR. TYP. III LT.

12" SOLID WHITE

P.C. STA. 131+28.05

ROAD WORK AHEAD (I) W20-1 (48" X 48")

4" SOLID YELLOW
4" YELLOW SKIP

P.T. STA. 136+44.70

4" DBL. YELLOW WITH R.P.M. (TYPE II) ON 40' CENTERS

(3) OM-3L (12"X 36")

4" DBL. YELLOW WITH R.P.M. (TYPE II) ON 40' CENTERS

4" SOLID YELLOW
4" YELLOW SKIP

PARKING

RET WALL

4" SOLID WHITE

4" DBL. YELLOW

4" SOLID WHITE

P.I. STA. 133+71.53

PAVED PARKING

150' TAPER

SMALL SHOPS

ROAD CLOSED (I) R11-2 (48" X 30")
(2) 8' BARR. TYP. III RT.

PAVED PARKING

150' TAPER

SPRINGDALE AUTO SALES

JOE FRED STARR LANE

(4) OM-3R (12"X 36")

ROAD WORK AHEAD (I) W20-1 (48" X 48")

P.C. STA. 144+81.12

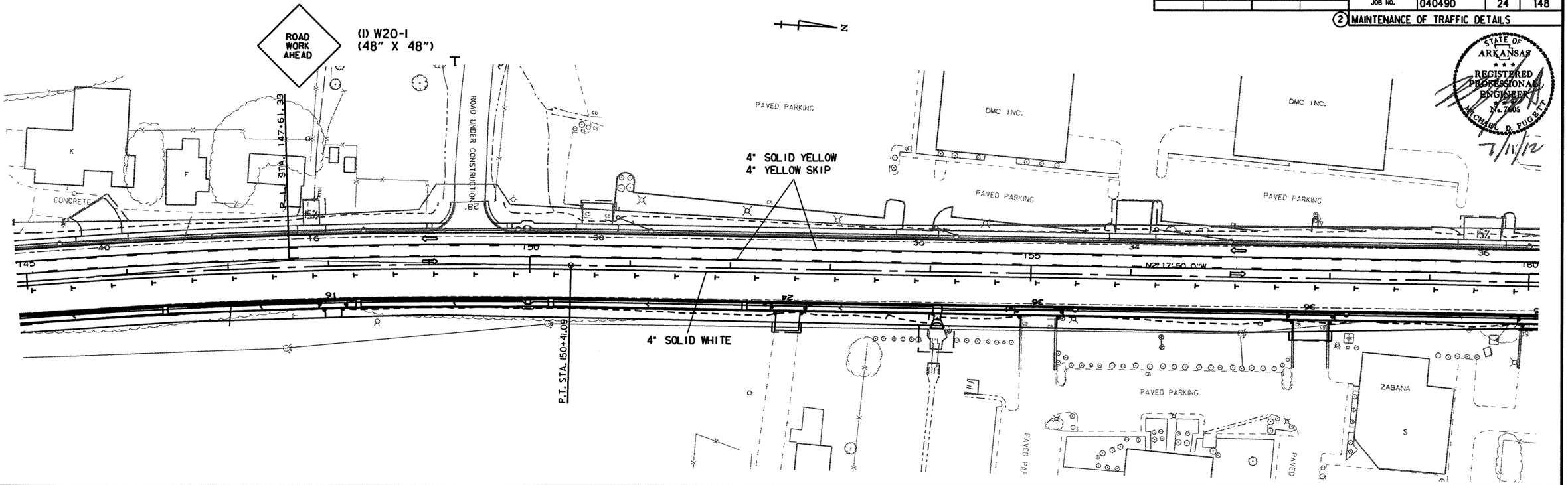
STAGE 3:
MAINTENANCE OF TRAFFIC DETAILS

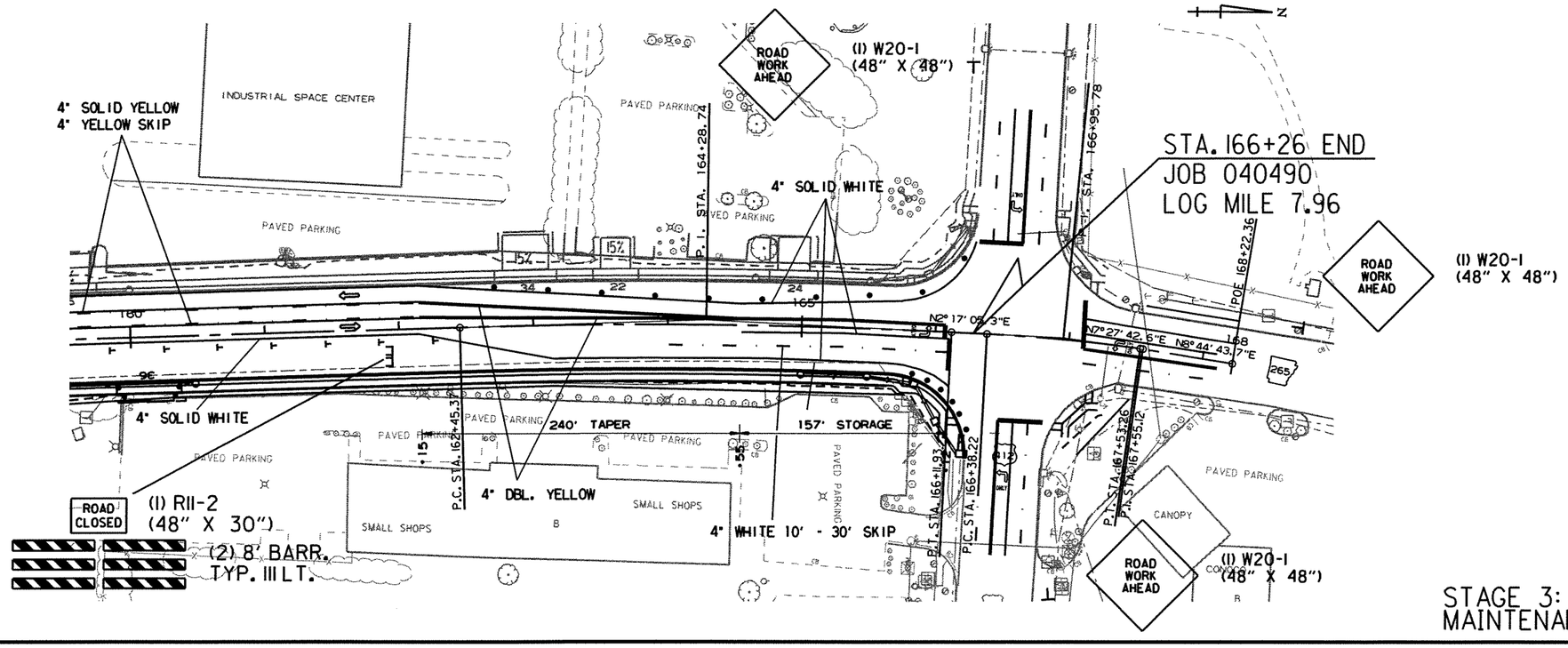
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	24	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12





STAGE 3:
MAINTENANCE OF TRAFFIC DETAILS

R040490.DGN 6/27/2012

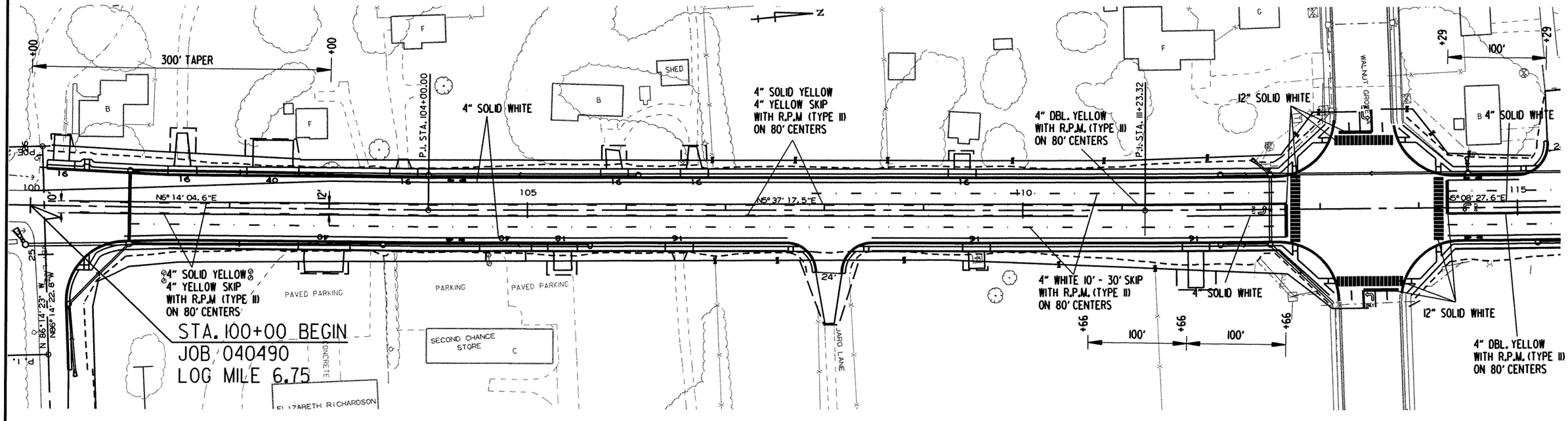
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	25	148

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7685
MICHAEL D. FUGETT
7/11/12

PERMANENT PAVEMENT MARKING QUANTITIES

THERMOPLASTIC PAVEMENT MARKING WHITE (4") = 16,023 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4") = 15,358 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 2,131 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING (WORDS) = 11 EACH
THERMOPLASTIC PAVEMENT MARKING (ARROW) = 11 EACH
THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS) = 10 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 153 EACH
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL) = 160 EACH



PERMANENT PAVEMENT MARKING DETAILS

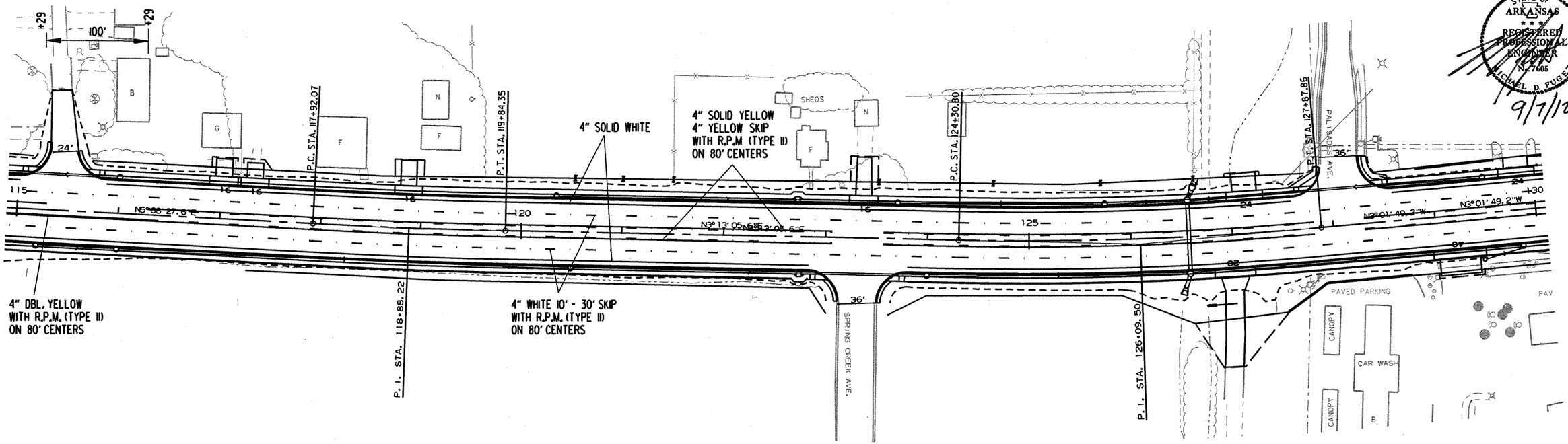
R040490.DGN 6/27/2012

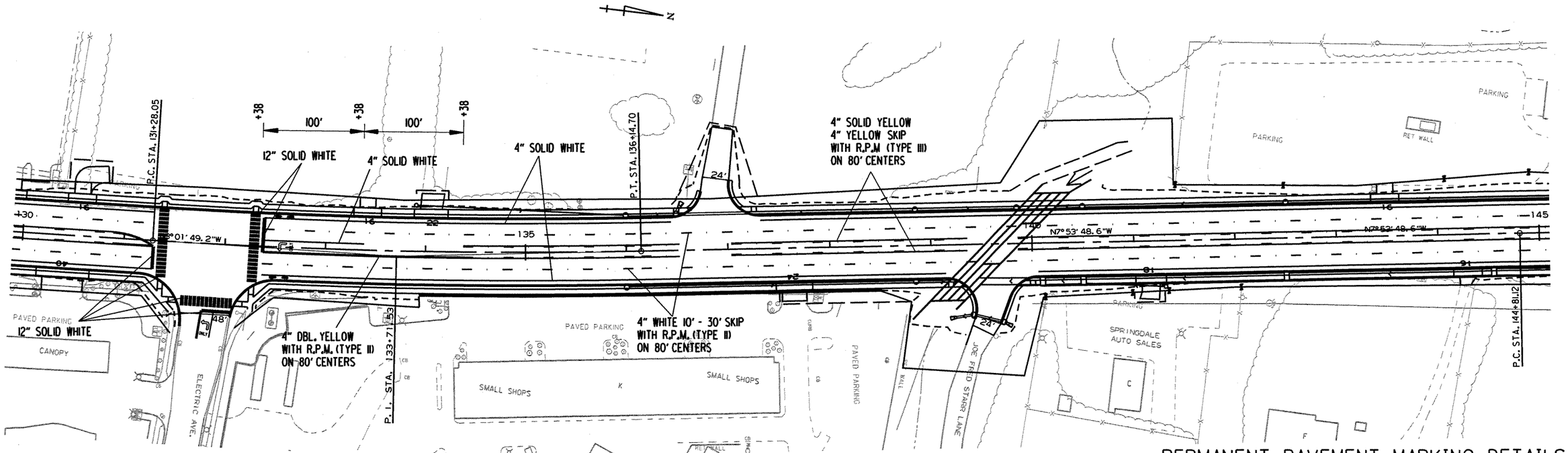
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9/7/2012			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		040490	26	148

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
9/7/12





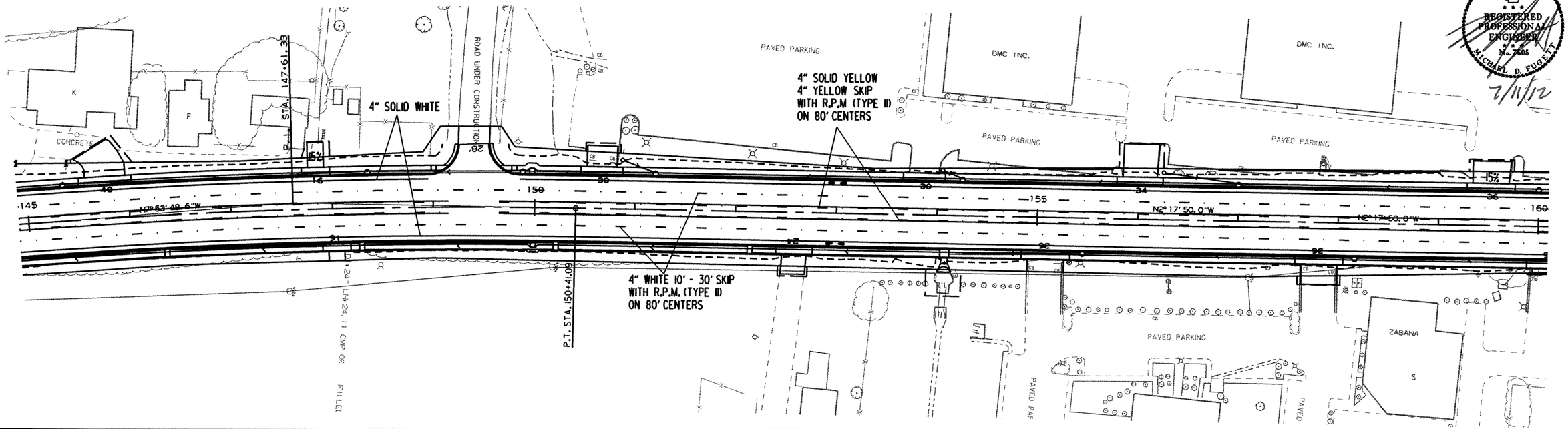
PERMANENT PAVEMENT MARKING DETAILS

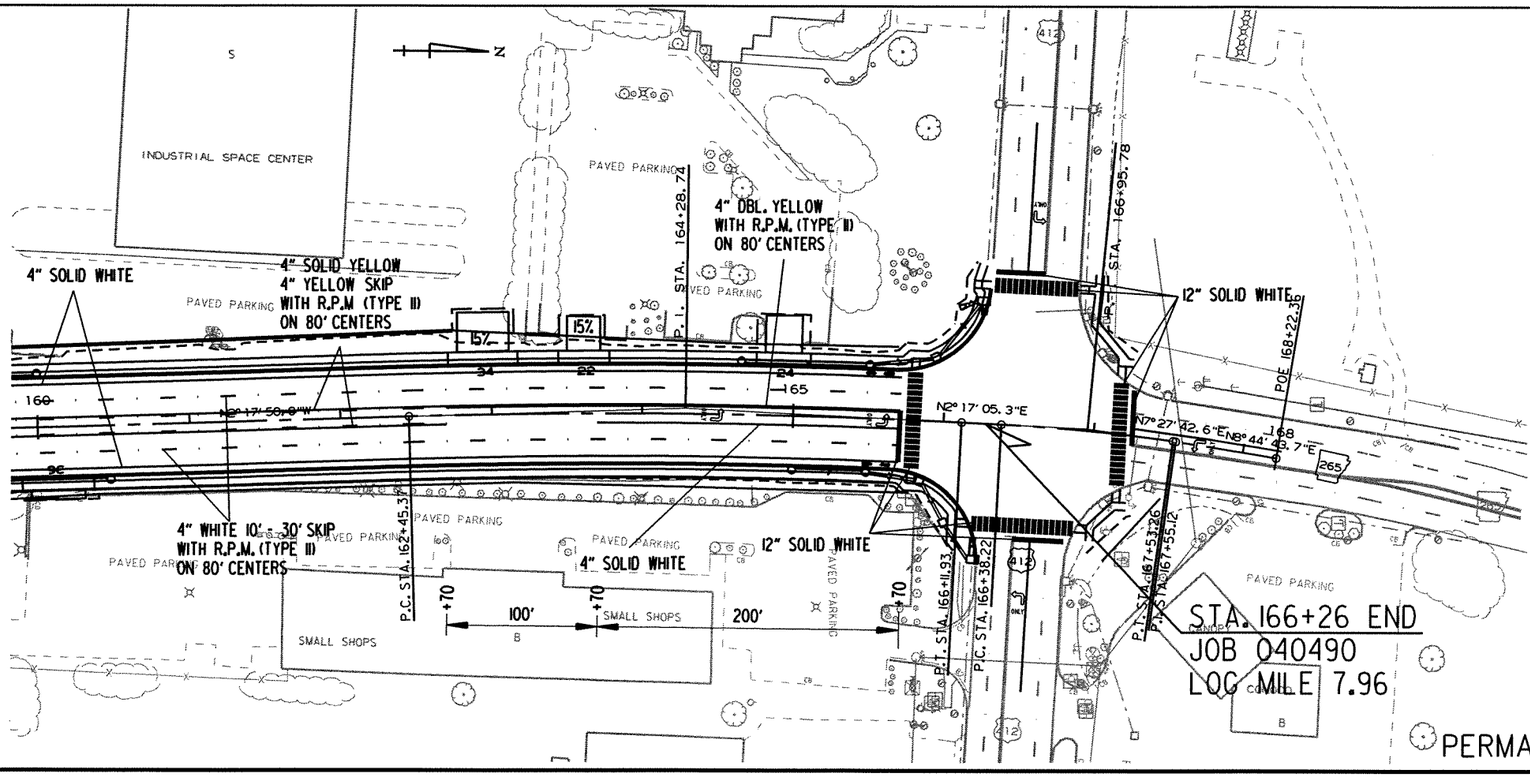
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	27	148

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12





PERMANENT PAVEMENT MARKING DETAILS

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	28	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/11/12

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER
												RIGHT	LEFT		
			LIN.FT. - EACH					NO.	SQ. FT.	EACH				LIN.FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2		2	2	32.0						
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2		2	2	32.0						
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2		2	2	32.0						
W20-1	ROAD WORK AHEAD	48"x48"	15	15	15		15	15	240.0						
G20-2	END ROAD WORK	48"x24"	2	2	2		2	2	16.0						
G20-1	ROAD WORK NEXT 1.26 MILES	60"x24"	2	2	2		2	2	20.0						
R11-2	ROAD CLOSED	48"x30"		12	10		12	12	120.0						
OM-3L	OBJECT MARKER	12"x36"	3	6	3		6	6	18.0						
OM-3R	OBJECT MARKER	12"x36"	4	8	4		8	8	24.0						
R4-1	DO NOT PASS	24"x30"	4	4	4		4	4	20.0						
	VERTICAL PANELS		47	177	177		177	177		177					
	TRAFFIC DRUMS			197	141		197	197			197				
	TYPE III BARRICADE-RT. (8')			13	10		13	13				104			
	TYPE III BARRICADE-LT. (8')			10	10		10	10					80		
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		260	260			520							520	
	RELOCATING PRECAST CONCRETE BARRIER			260	260		520								520
TOTALS:									**554.0**	**177**	**197**	**104**	**80**	**520**	**520**

* THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE JOB. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS		REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS					
						WORDS	ARROWS		TY. II (WHITE/RED)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	12" WHITE	WORDS	ARROWS	BIKE EMBLEMS
	LIN.FT. - EACH			LIN.FT.		EACH		LIN.FT.	EACH		LIN.FT.			EACH		
REMOVAL OF PERMANENT PAV'T MRKGS.	16900			16900												
CONSTRUCTION PAVEMENT MARKINGS	26500	26500			53000											
CONSTRUCTION PAVEMENT MARKINGS (WORDS)	10	6				16										
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	10	6					16									
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		19860						19860								
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			153						153							
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)	18	24	160							202						
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			16023								16023					
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			15358									15358				
THERMOPLASTIC PAVEMENT MARKING WHITE (12")			2131										2131			
THERMOPLASTIC PAVEMENT MARKING WORDS			11											11		
THERMOPLASTIC PAVEMENT MARKING ARROWS			11												11	
THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)			10													10
TOTALS:				**16900**	**53000**	**16**	**16**	**19860**	**153**	**202**	**16023**	**15358**	**2131**	**11**	**11**	**10**

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

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	29	148

(2) QUANTITIES

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
100+00	120+00	HWY. 265	20	20
122+00	166+00	HWY. 265	44	44
22+00	25+00	IVEY LANE	3	3
TOTALS:			67	67

CULVERT CLEAN OUT

STATION	LOCATION	EACH
139+70	HWY. 265 - LT./RT.	2
TOTAL:		2

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 2	TYPE 3
		SQ.YD.	
100+57	HWY. 265 - LT.		13.9
100+58	HWY. 265 - RT.	27.8	
107+69	HWY. 265 - RT.		8.3
108+40	HWY. 265 - RT.		8.3
112+75	HWY. 265 - LT.		16.7
112+75	HWY. 265 - RT.		16.7
113+02	HWY. 265 - LT.		15.0
113+08	HWY. 265 - RT.		18.9
113+87	HWY. 265 - LT.		16.1
113+92	HWY. 265 - RT.		17.2
114+20	HWY. 265 - LT.		13.9
114+20	HWY. 265 - RT.		17.2
115+09	HWY. 265 - LT.		8.3
115+80	HWY. 265 - LT.		8.3
122+72	HWY. 265 - LT.		13.9
122+74	HWY. 265 - RT.		13.9
122+90	HWY. 265 - RT.		8.3
123+73	HWY. 265 - RT.		8.3
127+68	HWY. 265 - LT.		8.3
128+51	HWY. 265 - LT.		8.3
131+38	HWY. 265 - LT.		13.9
131+40	HWY. 265 - RT.	47.2	
132+30	HWY. 265 - LT.		13.9
132+30	HWY. 265 - RT.	37.8	
136+53	HWY. 265 - LT.		8.3
137+24	HWY. 265 - LT.		8.3
139+22	HWY. 265 - RT.		8.3
139+98	HWY. 265 - RT.		8.3
149+03	HWY. 265 - LT.		8.3
149+77	HWY. 265 - LT.		8.3
149+97	HWY. 265 - RT.		13.9
149+99	HWY. 265 - RT.		13.9
165+80	HWY. 265 - LT.		20.6
165+80	HWY. 265 - RT.		20.6
166+12	HWY. 265 - RT.		16.1
166+21	HWY. 265 - LT.		22.2
166+88	HWY. 265 - LT.		8.3
167+01	HWY. 265 - RT.		8.3
167+14	HWY. 265 - LT.		8.3
167+20	HWY. 265 - RT.		10.0
TOTALS:		112.8	459.6

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	AASHTO CLASSIFICATION	LIQUID	PLASTICITY INDEX	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
102+00	36	8	58.10	94	7	8.00	HWY. 265 - 12' RT.	0-5'	A-6 (10)	40	24	BROWN
102+00	36	8	58.10	94	7	7.90	HWY. 265 - 27' RT.	0-5'	A-4 (4)	28	10	BROWN
110+00	36	9	6.00	94	7	7.70	HWY. 265 - 12' LT.	0-5'	A-4 (4)	24	8	BROWN
110+00	36	9	6.00	94	7	7.70	HWY. 265 - 30' LT.	0-5'	A-6 (15)	38	21	BROWN
118+00	36	9	13.70	94	7	6.60	HWY. 265 - 12' RT.	0-5'	A-7-6 (10)	43	25	BROWN
118+00	36	9	13.70	94	7	6.50	HWY. 265 - 24' RT.	0-4.8' Z	A-6 (9)	38	21	BROWN
127+00	36	9	22.80	94	7	6.80	HWY. 265 - 12' LT.	0-5'	A-6 (4)	35	19	BROWN
134+00	36	9	29.60	94	7	7.10	HWY. 265 - 12' RT.	0-5'	A-7-6 (12)	42	24	BROWN
134+00	36	9	29.60	94	7	7.00	HWY. 265 - 24' RT.	0-5'	A-6 (14)	34	19	BROWN
142+00	36	9	37.30	94	7	9.10	HWY. 265 - 12' LT.	0-5'	A-6 (6)	31	14	BROWN
142+00	36	9	37.30	94	7	9.20	HWY. 265 - 24' LT.	0-5'	A-6 (7)	39	23	BROWN
150+00	36	9	45.20	94	7	9.90	HWY. 265 - 12' RT.	0-5'	A-6 (9)	36	22	BROWN
150+00	36	9	45.20	94	7	9.70	HWY. 265 - 27' RT.	0-5'	A-7-6 (8)	43	26	BROWN
158+00	36	9	52.80	94	7	10.80	HWY. 265 - 12' LT.	0-5'	A-6 (10)	39	23	GRAY
158+00	36	9	52.80	94	7	10.90	HWY. 265 - 27' LT.	0-5'	A-6 (11)	40	23	BROWN

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/27/12

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB AND GUTTER	CONCRETE DRIVEWAYS	WALKS	SIGNS	SIGN FOUNDATIONS	STORM CELLAR	POSTS	COLUMNS	LUMINAIRE POLE AND FOUNDATION	PLANTERS	ASBESTOS-CEMENT WATER LINE
			LIN. FT.	SQ. YD.	SQ. YD.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN. FT.
100+00	100+40	HWY. 265 - RT.											40
100+40		HWY. 265 - C.L.											50
100+40	113+00	HWY. 265 - LT.											1260
100+70		HWY. 265 - LT.				1	1					1	
102+65	103+43	HWY. 265 - RT.		182									
102+66		HWY. 265 - LT.				1						1	
104+60		HWY. 265 - RT.				1							
105+70		HWY. 265 - LT.							1				
112+40	114+49	HWY. 265 - RT.	222		172								
112+42	114+35	HWY. 265 - LT.	190		146								
114+60	166+00	HWY. 265 - RT.											5140
115+70	118+40	HWY. 265 - LT.						1		1			
123+04	123+60	HWY. 265 - RT.	80			1							
126+50		HWY. 265 - LT.											
126+50	127+25	HWY. 265 - RT.											
127+60	130+36	HWY. 265 - LT.	244		321								
127+50	138+48	HWY. 265 - RT.	957	140	350	5	1						
129+45	147+38	HWY. 265 - RT.									8		
130+82	135+55	HWY. 265 - LT.				2							
139+58		HWY. 265 - RT.											
140+00		HWY. 265 - LT.											
141+42		HWY. 265 - RT.				1	1						
155+00	166+26	HWY. 265 - LT.	1174			2	1						
160+30	166+26	HWY. 265 - RT.	329		623	1	1						
TOTALS:			3196	322	1612	15	5	1	1	1	8	2	6490

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9/7/2012				6	ARK.			
				JOB NO.		040490	30	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7805
MICHAEL D. FUGETT
9/7/12

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
	EACH		
ENTIRE PROJECT	24	12	6
TOTALS:	**24**	**12**	**6**

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	33	66
TOTALS:	**33**	**66**

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

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN.FT.	EACH
99+95	112+00	HWY. 265 - RT.	1365	
101+00	106+30	HWY. 265 - LT.	632	
114+95	129+50	HWY. 265 - LT.	1659	
115+20	129+85	HWY. 265 - RT.	1657	
136+00	160+00	HWY. 265 - LT.	2720	
136+00	160+48	HWY. 265 - RT.	2788	
164+65	166+22	HWY. 265 - LT.	181	
165+00	166+24	HWY. 265 - RT.	140	
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			1500	7
TOTALS:			**12642**	**7**

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

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	WIRE FENCE (TYPE D-1)	* 4' CHAIN LINK FENCE	* 5' CHAIN LINK FENCE	* 6' CHAIN LINK FENCE	* 16'-0" GATES
			LIN.FT.						EACH
106+85	111+30	HWY. 265 - RT.	468						
106+86	108+64	HWY. 265 - LT.			117				
109+90	113+03	HWY. 265 - LT.			335				
113+85	114+52	HWY. 265 - LT.				89			
120+52	121+50	HWY. 265 - LT.		98					
123+50	126+64	HWY. 265 - LT.			318				
140+12	142+07	HWY. 265 - RT.					177		1
141+42	145+41	HWY. 265 - LT.						400	1
TOTALS:			**468**	**98**	**770**	**89**	**177**	**400**	**2**

* DENOTES ALTERNATE BID ITEM.

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	LOCATION	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)	TACK COAT (0.03 GALLONS PER SQ. YD.)	FLOWABLE SELECT MATERIAL
		TON	GALLON	CU. YD.
101+00	HWY. 265 - C.L.	10	5.2	119
112+00	HWY. 265 - C.L.	10	5.2	115
126+50	HWY. 265 - C.L.	12	6.4	140
126+57	HWY. 265 - C.L.	12	6.4	140
25+10	IVEY LANE - C.L.	10	5.2	99
TOTALS:		**54**	**28.4**	**613**

COLD MILLING

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
99+50	100+00	HWY. 265 - MAIN LANES	32	177.78
165+65	167+40	HWY. 265/412 INTERSECTION	VAR.	2201.11
TOTAL:				**2378.89**

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	100
DIRECTED BY THE ENGINEER	
TOTAL:	**100**

NOTE: QUANTITY IS ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.

SELECTED PIPE BEDDING

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

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

DUMPED RIPRAP AND FILTER BLANKET

STATION	LOCATION	DUMPED RIPRAP (GROUTED)	FILTER BLANKET
		CU. YDS.	SQ. YDS.
139+20	OUTLET OF R.C. BOX CULVERT	31	61
140+20	INLET OF R.C. BOX CULVERT	100	200
TOTALS:		**131**	**261**

NOTE: FILTER BLANKET SHALL BE GEOTEXTILE FABRIC (TYPE 5).

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	HWY. 265 - MAIN LANES	6498	10060	
ENTIRE	PROJECT	IVEY LANE	648		
ENTIRE	PROJECT	APPROACHES	60	1070	
ENTIRE	PROJECT	TEMPORARY APPROACHES	30	500	
140+00	141+00	CHANNEL CHANGE - WEST SIDE	123	4	
138+85	139+30	CHANNEL CHANGE - EAST SIDE	160		
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	400	600	50
TOTALS:			**7919**	**12234**	**50**

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

R040490.DGN 6/27/2012

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9/7/2012				6	ARK.			
				JOB NO.		040490	31	148

(2) QUANTITIES

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG64-22)		AGGREGATE BASE COURSE (CLASS 7)
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON
100+31	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	100+09	100+53	24.90	46.2	5.1	18.9
101+52	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	101+30	101+74	24.90	60.4	6.6	24.7
102+43	LT.	HWY. 265 (S. OLD MISSOURI RD.)	40	102+09	102+77	46.20	124.4	13.7	50.8
102+96	RT.	HWY. 265 (S. OLD MISSOURI RD.)	40	102+62	103+30	144.00			
103+75	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	103+53	103+97	24.90	17.8	2.0	7.3
104+80	RT.	HWY. 265 (S. OLD MISSOURI RD.)	40	104+46	105+14	46.20	44.4	4.9	18.1
105+36	RT.	HWY. 265 (S. OLD MISSOURI RD.)	18	105+13	105+59	26.70	38.0	4.2	15.5
105+88	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	105+66	106+10	24.90	33.8	3.7	13.8
106+54	RT.	HWY. 265 (S. OLD MISSOURI RD.)	16	106+32	106+76	24.90	16.9	1.9	6.9
106+68	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	106+46	106+90	24.90	40.2	4.4	16.4
109+39	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	109+17	109+61	24.90	27.4	3.0	11.2
109+54	RT.	HWY. 265 (S. OLD MISSOURI RD.)	16	109+32	109+76	24.90	29.9	3.3	12.2
111+75	RT.	HWY. 265 (S. OLD MISSOURI RD.)	16	111+53	111+97	24.90	64.9	7.1	26.5
117+02	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	116+80	117+24	24.90	30.6	3.4	12.5
117+34	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	117+12	117+56	24.90	26.2	2.9	10.7
118+87	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	118+65	119+09	24.90	43.8	4.8	17.9
123+36	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	123+14	123+58	24.90	67.1	7.4	27.4
127+01	RT.	HWY. 265 (S. OLD MISSOURI RD.)	28	126+73	127+29	35.60	275.0	30.3	112.3
127+14	LT.	HWY. 265 (S. OLD MISSOURI RD.)	24	126+88	127+40	32.00	48.0	5.3	19.6
129+22	RT.	HWY. 265 (S. OLD MISSOURI RD.)	40	128+88	129+56	46.20	73.9	8.1	30.2
129+84	LT.	HWY. 265 (S. OLD MISSOURI RD.)	24	129+58	130+10	32.00	27.5	3.0	11.2
130+41	RT.	HWY. 265 (S. OLD MISSOURI RD.)	40	130+07	130+75	46.20	60.9	6.7	24.9
130+57	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	130+35	130+79	24.90	69.9	7.7	28.5
133+41	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	133+19	133+63	24.90	17.8	2.0	7.3
134+05	LT.	HWY. 265 (S. OLD MISSOURI RD.)	22	133+80	134+30	30.20	37.7	4.1	15.4
137+65	RT.	HWY. 265 (S. OLD MISSOURI RD.)	24	137+39	137+91	84.30			
141+14	RT.	HWY. 265 (S. OLD MISSOURI RD.)	18	140+91	141+37	26.70	31.2	3.4	12.7
143+49	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	143+27	143+71	24.90	18.1	2.0	7.4
144+29	RT.	HWY. 265 (S. OLD MISSOURI RD.)	16	144+07	144+51	24.90	15.4	1.7	6.3
145+77	LT.	HWY. 265 (S. OLD MISSOURI RD.)	40	145+43	146+11	200.60			
147+84	LT.	HWY. 265 (S. OLD MISSOURI RD.)	16	147+62	148+06	24.90	43.8	4.8	17.9
148+04	RT.	HWY. 265 (S. OLD MISSOURI RD.)	16	147+82	148+26	24.90	17.2	1.9	7.0
150+67	LT.	HWY. 265 (S. OLD MISSOURI RD.)	30	150+38	150+96	37.30	68.7	7.6	28.1
152+59	RT.	HWY. 265 (S. OLD MISSOURI RD.)	24	152+33	152+85	32.00	52.4	5.8	21.4
153+87	LT.	HWY. 265 (S. OLD MISSOURI RD.)	30	153+58	154+16	37.30	15.3	1.7	6.2
155+09	RT.	HWY. 265 (S. OLD MISSOURI RD.)	36	154+77	155+41	42.70	50.6	5.6	20.7
156+01	LT.	HWY. 265 (S. OLD MISSOURI RD.)	34	155+70	156+32	40.90	123.9	13.6	50.6
157+82	RT.	HWY. 265 (S. OLD MISSOURI RD.)	36	157+50	158+14	42.70	80.4	8.8	32.8
159+52	LT.	HWY. 265 (S. OLD MISSOURI RD.)	36	159+20	159+84	42.70	88.4	9.7	36.1
160+13	RT.	HWY. 265 (S. OLD MISSOURI RD.)	36	159+81	160+45	42.70	24.4	2.7	10.0
162+95	LT.	HWY. 265 (S. OLD MISSOURI RD.)	34	162+64	163+26	40.90	98.2	10.8	40.1
163+61	LT.	HWY. 265 (S. OLD MISSOURI RD.)	22	163+36	163+86	30.20	55.8	6.1	22.8
164+93	LT.	HWY. 265 (S. OLD MISSOURI RD.)	24	164+67	165+19	32.00	66.4	7.3	27.1
* ENTIRE PROJECT - TEMPORARY DRIVES									860.0
TOTALS:						**1691.40**	2172.9	**239.1**	**1747.4**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.4% MIN. AGGR.....5.6% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

** FOR INFORMATION ONLY

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
		EACH	EACH
100+15	HWY. 265 - RT.	1	
100+20	HWY. 265 - LT.	1	
100+44	HWY. 265 - LT.	1	
103+05	HWY. 265 - RT.	1	
103+60	HWY. 265 - LT.	1	
103+92	HWY. 265 - RT.	1	
105+38	HWY. 265 - RT.	1	
105+72	HWY. 265 - LT.	1	
106+51	HWY. 265 - RT.	1	
106+70	HWY. 265 - LT.	1	
108+07	HWY. 265 - RT.	1	
108+08	HWY. 265 - LT.	1	
112+41	HWY. 265 - LT.	1	
115+51	HWY. 265 - LT.	1	
118+71	HWY. 265 - LT.	1	
123+26	HWY. 265 - LT.	1	
123+30	HWY. 265 - RT.	1	
126+50	HWY. 265 - C.L.	1	
126+89	HWY. 265 - LT.	1	
127+01	HWY. 265 - RT.	1	
130+49	HWY. 265 - LT.	1	
131+18	HWY. 265 - LT.	1	
131+62	HWY. 265 - LT.	1	
134+06	HWY. 265 - LT.	1	
136+92	HWY. 265 - LT.	1	
137+65	HWY. 265 - RT.	1	
139+83	HWY. 265 - RT.	1	
141+20	HWY. 265 - RT.	1	
144+30	HWY. 265 - RT.	1	
145+82	HWY. 265 - LT.	1	
147+74	HWY. 265 - LT.	1	
148+03	HWY. 265 - RT.	1	
149+40	HWY. 265 - LT.	1	
150+67	HWY. 265 - LT.	1	
152+58	HWY. 265 - RT.	1	
153+84	HWY. 265 - LT.	1	
155+06	HWY. 265 - RT.	1	
156+01	HWY. 265 - LT.	1	
157+82	HWY. 265 - RT.	1	
159+53	HWY. 265 - LT.	1	
160+13	HWY. 265 - RT.	1	
164+93	HWY. 265 - LT.	1	
165+64	HWY. 265 - RT.		1
165+89	HWY. 265 - RT.	1	
166+13	HWY. 265 - RT.		1
166+17	HWY. 265 - LT.	1	
166+18	HWY. 265 - RT.	1	
TOTALS:		**45**	**2**

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9/7/12

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9/7/2012				6	ARK.			
				JOB NO.		040490	32	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9/7/12

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	24"	30"	36"	73"X45"	(CLASS IV) 18"	(CLASS V) 36"	SIDE DRAIN 12"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	71"X47"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	36"	73"X45"	TEMPORARY PIPE CULVERTS 64"X43"	DROP INLETS TYPE C	TYPE MO	EXT. 4'	EXT. 8'	JUNCTION BOXES ADJUSTED TO GRADE	JUNCTION BOX (TYPE E)	YARD DRAINS	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.											EACH				LIN. FT.					EACH			SQ.YD.	M.GAL	
101+00	CONST. DROP INLET ON LT. W/ EXT. & W/ PIPE OUTLET						70												1		1						FPC-9E, FPC-9M, PCC-1
101+00	CONST. DROP INLET ON RT. W/ EXT., W/ OPENING IN BACK, W/ PIPE INLET & PIPE OUTLET			101															1		1						FPC-9E, FPC-9M, PCC-1
103+55	CONST. DROP INLET ON RT. W/ EXT., W/ OPENING IN BACK, W/ PIPE INLET & PIPE OUTLET									251									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
104+00	CONST. DROP INLET ON LT. W/ EXT., W/ OPENING IN BACK, W/ PIPE INLET & PIPE OUTLET									296									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
105+63	CONST. DROP INLET ON RT. W/ EXT., W/ OPENING IN BACK, W/ PIPE INLET & PIPE OUTLET									204									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
106+12	CONST. DROP INLET ON LT. W/ EXT. & W/ PIPE OUTLET									208									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
112+00	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									46									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
112+00	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									46									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
112+50	CONST. DROP INLET ON LT. W/ PIPE INLET W/ FES & PIPE OUTLET	15	67										1						1						5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
112+50	CONST. DROP INLET ON RT. W/ PIPE INLET & PIPE OUTLET										84								1								FPC-9E, FPC-9M, PCC-1, PCM-1
114+50	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET W/ FES & PIPE OUTLET	7								196									1	1					5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
115+20	CONST. DROP INLET ON RT. W/ EXT. & W/ PIPE OUTLET									76									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
116+00	CONST. DROP INLET ON LT. W/ EXT., W/ OPENING IN BACK & W/ PIPE OUTLET									146									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
116+00	CONST. DROP INLET ON RT. W/ EXT. & W/ PIPE OUTLET									447									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
116+89	CONST. YARD DRAIN ON LT. W/ PIPE OUTLET								88															1			FPC-9, PCM-1
120+35	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									331									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
120+50	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									346									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
123+70	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									199									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
124+00	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									255									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
125+75	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									77									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
126+57	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE OUTLET & PIPE INLET W/ FES				5			67							1				1	1					17	0.21	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
126+57	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET W/ FES				13										1				1	1					17	0.21	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
127+00	EXTEND SIDE DRAIN ON RT.	9																									PCC-1
129+46	CONST. YARD DRAIN ON RT. W/ PIPE OUTLET								38															1			FPC-9, PCM-1
129+50	CONST. DROP INLET ON LT. W/ EXT. & W/ PIPE OUTLET									287									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
129+85	CONST. DROP INLET ON RT. W/ EXT. & W/ PIPE OUTLET									325									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
133+90	CONST. YARD DRAIN ON LT. W/ PIPE OUTLET								206															1			FPC-9, PCM-1
136+00	CONST. DROP INLET ON LT. W/ EXT. & W/ PIPE OUTLET									56									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
136+00	CONST. DROP INLET ON RT. W/ EXT. & W/ PIPE OUTLET									281									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
136+50	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE OUTLET & PIPE INLET W/ FES		5								231			1					1	1					8	0.10	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
138+85	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										98								1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
138+85	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									33									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
139+40	CONST. DBL. TEMPORARY CULVERT ON RT.																76										PCM-1
139+41	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET W/ FES	15											1						1	1					5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
139+71	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE OUTLET & PIPE INLET W/ FES	28											1						1	1					5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
139+85	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										3								1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
140+10	CONST. DROP INLET ON RT. W/ PIPE INLET & PIPE OUTLET										60							1									FPC-9E, PCC-1, PCM-1
140+50	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									34									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
140+50	CONST. DROP INLET ON RT. W/ PIPE INLET & PIPE OUTLET										36							1			1						FPC-9E, PCC-1, PCM-1
141+31	CONST. YARD DRAIN ON RT. W/ PIPE OUTLET								78															1			FPC-9, PCM-1
142+50	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									196									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
142+50	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										196							1			1						FPC-9E, PCC-1, PCM-1
144+55	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										201							1			1						FPC-9E, PCC-1, PCM-1
145+35	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									281									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
146+36	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										176							1			1						FPC-9E, PCC-1, PCM-1
148+29	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										188							1			1						FPC-9E, PCC-1, PCM-1
148+35	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									298									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
149+88	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									150									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
150+22	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										188							1			1						FPC-9E, PCC-1, PCM-1
150+87	CONST. YARD DRAIN ON LT. W/ PIPE OUTLET								33															1			FPC-9, PCM-1
151+20	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									129									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
152+15	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET										189							1			1						FPC-9E, PCC-1, PCM-1
154+05	CONST. YARD DRAIN ON LT. W/ PIPE OUTLET								19															1			FPC-9, PCM-1
154+08	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE OUTLET & PIPE INLET W/ FES					8					187				1			1			1				45	0.57	FES-1, FES-2, FPC-9E, PCC-1, PCM-1
154+25	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									301									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
155+45	CONST. DROP INLET ON RT. W/ EXT., W/ OPENING IN BACK, W/ PIPE INLET & PIPE OUTLET									131									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
156+25	CONST. YARD DRAIN ON LT. W/ PIPE OUTLET								73															1			FPC-9, PCM-1
157+00	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									271									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
158+17	CONST. DROP INLET ON RT. W/ EXT., W/ OPENING IN BACK, W/ PIPE INLET & PIPE OUTLET									268									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
160+00	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									296									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
160+48	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									227									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
164+65	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									82									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
165+00	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									46									1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
165+50	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									41									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
165+50	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET									31									1	1							FPC-9E, FPC-9M, PCC-1, PCM-1
165+85	CONST. JUNCTION BOX ON RT. W/ PIPE INLET & PIPE OUTLET									29													1				FPC-9, PCC-1, PCM-1
165+93	CONST. JUNCTION BOX ON LT. W/ PIPE INLET & PIPE OUTLET									45													1				FPC-9, PCC-1, PCM-1
166+03	CONST. JUNCTION BOX ON RT. W/ PIPE INLET & PIPE OUTLET									25													1				FPC-9, PCC-1, PCM-1
166+22	CONST. DROP INLET ON LT. W/ EXT., W/ PIPE OUTLET & PIPE INLET W/ FES	7			7								1						1		1				5	0.06	FES-1, FES-2, FPC-9E, PCC-1
166+23	JUNCTION BOX ADJUSTED TO GRADE																					1					FPC-9
166+24	CONST. DROP INLET ON RT. W/ EXT., W/ PIPE INLET & PIPE OUTLET				13														1		1						FPC-9E, PCC-1
166+24	JUNCTION BOX ADJUSTED TO GRADE																					1					FPC-9
																											FPC-9E, FPC-9M, PCC-1, PCM-1
24+50	CONST. DROP INLET ON RT. W/ PIPE OUTLET & PIPE INLET W/ FES	65								82			1						1						5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
25+10	CONST. JUNCTION BOX ON LT. W/ PIPE INLET & PIPE OUTLET W/ FES	7											1										1		5	0.06	FES-1, FES-2, FPC-9, PCC-1
TOTALS:		153	72	101	38	8	70	67	535	7069	416	1421	6	1	2	1	76	11	48	15	40	2	4	7	122	1.51	

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9/7/2012				6	ARK.			
				JOB NO.		040490	33	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7905
MICHAEL D. FUGETT
9/7/12

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
100+16	112+55	HWY. 265 - LT.	1299
100+95	107+63	HWY. 265 - RT.	794
108+47	112+59	HWY. 265 - RT.	538
114+34	115+02	HWY. 265 - LT.	197
114+42	122+84	HWY. 265 - RT.	960
115+86	127+60	HWY. 265 - LT.	1232
123+80	131+15	HWY. 265 - RT.	842
128+60	136+45	HWY. 265 - LT.	863
132+52	139+15	HWY. 265 - RT.	769
137+32	148+96	HWY. 265 - LT.	1233
140+05	165+65	HWY. 265 - RT.	2635
149+84	165+69	HWY. 265 - LT.	1677
23+84	24+51	IVEY LANE - RT.	62
TOTAL:			13101

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN.FT.	SQ.YD.
100+16	112+55	HWY. 265 - LT.	1133	629
100+95	107+63	HWY. 265 - RT.	610	339
108+47	112+59	HWY. 265 - RT.	500	278
114+34	115+02	HWY. 265 - LT.	174	97
114+42	122+84	HWY. 265 - RT.	950	528
115+86	127+60	HWY. 265 - LT.	1101	612
123+80	131+15	HWY. 265 - RT.	669	372
128+60	136+45	HWY. 265 - LT.	736	409
132+52	139+15	HWY. 265 - RT.	677	376
137+32	148+96	HWY. 265 - LT.	1101	612
140+05	165+65	HWY. 265 - RT.	2411	1339
149+84	165+69	HWY. 265 - LT.	1403	779
166+88	167+26	HWY. 265 - LT.	79	44
166+95	167+29	HWY. 265 - RT.	46	26
TOTAL:				6440

CONCRETE CURB

STATION	STATION	LOCATION	TYPE A
			LIN. FT.
127+50	128+74	HWY. 265 - RT.	133
128+84	130+23	HWY. 265 - LT.	105
134+24	138+47	HWY. 265 - RT.	362
155+00	163+90	HWY. 265 - LT.	627
TOTAL:			1227

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
139+20	HWY. 265 - RT. ON R.C. BOX HDWL.	1
TOTAL:		1

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

STRUCTURES OVER 20' - 0" SPAN

STATION	DESCRIPTION	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
139+70	RETAIN & EXTEND EXIST. DBL. 6'X5' R.C. BOX CULVERT ON 45° LT. FWD SKEW 42' ON LT. & 45' ON RT. CONST. DBL. 6'X5'X147' R.C. BOX CULVERT ON 45° LT. FWD. SKEW	6	5	234	236.99	38480	123	43	0.54	RCB-1, RCB-2, RCB-3, W-X45, W-X453-1, R-245X-01
TOTALS:					236.99	38480	123	43	0.54	

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL		TEMPORARY EROSION CONTROL									
			** SOLID SODDING	WATER	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	* ROCK DITCH CHECKS	DROP INLET SILT FENCE	SILT FENCE	* SEDIMENT BASIN	* OBLITERATION OF SEDIMENT BASIN	* SEDIMENT REMOVAL & DISPOSAL
								(E-5)	(E-6)	(E-7)	(E-11)	(E-14)		
			SQ.YD.	M.GAL.	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN.FT.	LIN.FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1									50			2
ENTIRE	PROJECT	STAGE 2	5474	69.0	6.00	6.00	122.4	66		925	110	200	200	241
ENTIRE	PROJECT	STAGE 3	5585	70.4	6.00	6.00	122.4	132		975	190			49
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.									100					
TOTALS:			11059	139.4	12.00	12.00	244.8	198	100	1900	350	200	200	292

BASIS OF ESTIMATE:
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
BALED STRAW DITCH CHECKS....4 BALES / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

* QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.
** SOLID SODDING IS TO BE USED IN THE 3' WIDTH BETWEEN THE SIDEWALK AND CURB AND FOR PERMANENT EROSION CONTROL.

R040490.DGN 6/27/2012

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.		040490	34	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/11/12

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
106+86	114+52	HWY. 265 - LT.	709
106+88	113+12	HWY. 265 - RT.	757
117+18	130+40	HWY. 265 - LT.	561
140+03	149+66	HWY. 265 - LT.	667
140+12	144+48	HWY. 265 - RT.	239
TOTAL:			2933

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	TACK COAT 0.03 GAL. PER SQ. YD.			PORTLAND CEMENT CONCRETE BASE	
				AVG. WID.	SQ. YD.	GAL.	AVG. WID.	11" U.T.
			FEET	FEET			FEET	SQ. YD.
112+38	114+52	HWY. 265 - RT.	214.0	VAR.	94.2	2.8	VAR.	94.2
112+38	114+40	HWY. 265 - LT.	202.0	VAR.	85.8	2.6	VAR.	85.8
128+20	131+07	HWY. 265 - RT.	287.0	VAR.	210.5	6.3	VAR.	210.5
162+66	165+66	HWY. 265 - RT.	300.0	VAR.	324.9	9.7	VAR.	324.9
TOTALS:						21.4		715.4

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON
MAIN LANES																					
100+00	166+26	HWY. 265	6626.0					0.03										64	47118.2	220.0	5183.0
100+00	112+38	HWY. 265	1238.0			131.0	18019.8	0.03	540.6	47.0	6465.1	550.0	1777.9	42.0	5777.3	440.0	1271.0	42	5777.3	220.0	635.5
114+40	127+67	HWY. 265	1327.0			131.0	19315.2	0.03	579.5	47.0	6929.9	550.0	1905.7	42.0	6192.7	440.0	1362.4	42	6192.7	220.0	681.2
127+67	128+20	HWY. 265	53.0			94.0	553.6	0.03	16.6	33.0	194.3	550.0	53.4	30.5	179.6	440.0	39.5	30.5	179.6	220.0	19.8
128+20	131+07	HWY. 265	287.0			20.5	653.7	0.03	19.6	8.5	271.1	550.0	74.6	6.0	191.3	440.0	42.1	6	191.3	220.0	21.0
131+07	132+50	HWY. 265	143.0			96.5	1533.3	0.03	46.0	35.5	564.1	550.0	155.1	30.5	484.6	440.0	106.6	30.5	484.6	220.0	53.3
131+15	132+50	HWY. 265	135.0			62.5	937.5	0.03	28.1	22.5	337.5	550.0	92.8	20.0	300.0	440.0	66.0	20	300.0	220.0	33.0
132+50	161+90	HWY. 265	2940.0			131.0	42793.3	0.03	1283.8	47.0	15353.3	550.0	4222.2	42.0	13720.0	440.0	3018.4	42	13720.0	220.0	1509.2
161+90	162+66	HWY. 265	76.0			101.0	852.9	0.03	25.6	37.0	312.4	550.0	85.9	32.0	270.2	440.0	59.4	32	270.2	220.0	29.7
162+66	165+66	HWY. 265	300.0			69.8	2326.7	0.03	69.8	26.6	886.7	550.0	243.8	21.6	720.0	440.0	158.4	21.6	720.0	220.0	79.2
165+66	166+26	HWY. 265	60.0			VAR.	430.2	0.03	12.9	VAR.	178.0	550.0	49.0	VAR.	126.1	440.0	27.7	VAR.	126.1	220.0	13.9
TEMPORARY WIDENING FOR MAINTENANCE OF TRAFFIC																					
110+55	111+75	HWY. 265	120.0	14.75	17.7	VAR.	177.4	0.03	5.3	4.5	60.0	550.0	16.5	4.4	58.7	440.0	12.9	8.6	114.7	220.0	12.6
111+75	112+38	HWY. 265	63.0	14.75	9.3	VAR.	185.5	0.03	5.6	8.9	62.3	550.0	17.1	8.8	61.6	440.0	13.6	17.2	120.4	220.0	13.2
114+53	115+26	HWY. 265	73.0	14.75	10.8	VAR.	205.1	0.03	6.2	8.5	68.9	550.0	18.9	8.4	68.1	440.0	15.0	16.4	133.0	220.0	14.6
115+26	116+46	HWY. 265	120.0	14.75	17.7	VAR.	157.3	0.03	4.7	4.0	53.3	550.0	14.7	3.9	52.0	440.0	11.4	7.67	102.3	220.0	11.3
132+33	132+59	HWY. 265	26.0	14.75	3.8	VAR.	109.8	0.03	3.3	12.8	37.0	550.0	10.2	12.6	36.4	440.0	8.0	24.9	71.9	220.0	7.9
132+59	133+52	HWY. 265	93.0	14.75	13.7	VAR.	320.3	0.03	9.6	10.4	107.5	550.0	29.6	10.3	106.4	440.0	23.4	20.2	208.7	220.0	23.0
133+52	135+02	HWY. 265	150.0	14.75	22.1	VAR.	256.7	0.03	7.7	5.2	86.7	550.0	23.8	5.1	85.0	440.0	18.7	10.2	170.0	220.0	18.7
136+20	139+05	HWY. 265	285.0	14.75	42.0	VAR.	915.2	0.03	27.5	9.7	307.2	550.0	84.5	9.6	304.0	440.0	66.9	19.2	608.0	220.0	66.9
139+05	139+90	HWY. 265	85.0	9.50	8.1	VAR.	547.8	0.03	16.4	19.4	183.2	550.0	50.4	19.3	182.3	440.0	40.1	38.2	360.8	220.0	39.7
139+90	142+75	HWY. 265	285.0	14.75	42.0	VAR.	915.2	0.03	27.5	9.7	307.2	550.0	84.5	9.6	304.0	440.0	66.9	19.2	608.0	220.0	66.9
SIDE STREETS																					
100+00	100+95	IVEY LANE	95.0	20.00	19.0	VAR.	979.1	0.10	97.9	VAR.	356.9	550.0	98.1	VAR.	311.1	440.0	68.4	VAR.	622.2	220.0	68.4
107+62	108+48	JARO LANE	86.0			VAR.	607.8	0.10	60.8	VAR.	202.2	550.0	55.6	VAR.	175.3	440.0	38.6	VAR.	405.6	220.0	44.6
112+55	114+34	DON TYSON PKWY. - LT.	179.0			VAR.	1638.3	0.10	163.8	VAR.	578.9	550.0	159.2	VAR.	529.7	440.0	116.5	VAR.	1059.4	220.0	116.5
112+59	114+42	DON TYSON PKWY. - RT.	183.0			VAR.	1756.9	0.10	175.7	VAR.	619.5	550.0	170.4	VAR.	568.7	440.0	125.1	VAR.	1137.4	220.0	125.1
115+02	115+87	ELWAY DR.	85.0	14.75	16.2	VAR.	483.3	0.10	48.3	VAR.	178.9	550.0	49.2	VAR.	152.2	440.0	33.5	VAR.	423.0	220.0	46.5
122+84	123+81	SPRING CREEK AVE.	97.0			VAR.	540.0	0.10	54.0	VAR.	197.8	550.0	54.4	VAR.	171.1	440.0	37.6	VAR.	342.2	220.0	37.6
127+59	128+60	PALISADES AVE.	101.0			VAR.	543.8	0.10	54.4	VAR.	199.4	550.0	54.8	VAR.	172.2	440.0	37.9	VAR.	344.4	220.0	37.9
131+15	132+52	ELECTRIC AVE.	137.0			VAR.	1057.0	0.10	105.7	VAR.	378.6	550.0	104.1	VAR.	339.2	440.0	74.6	VAR.	678.4	220.0	74.6
136+45	137+33	DUSTY LANE	88.0	14.75	17.0	VAR.	479.6	0.10	48.0	VAR.	178.0	550.0	49.0	VAR.	150.8	440.0	33.2	VAR.	432.7	220.0	47.6
139+14	140+06	JOE FRED STARR LANE	92.0			VAR.	638.0	0.10	63.8	VAR.	219.8	550.0	60.4	VAR.	185.4	440.0	40.8	VAR.	418.2	220.0	46.0
148+95	149+85		90.0			VAR.	463.7	0.10	46.4	VAR.	172.5	550.0	47.4	VAR.	145.6	440.0	32.0	VAR.	291.2	220.0	32.0
165+65	166+26	HWY. 412 - RT.	61.0			VAR.	192.1	0.10	19.2	VAR.	80.9	550.0	22.2	VAR.	55.6	440.0	12.2	VAR.	111.2	220.0	12.2
165+68	166+26	HWY. 412 - LT.	58.0			VAR.	238.5	0.10	23.9	VAR.	97.3	550.0	26.8	VAR.	70.6	440.0	15.5	VAR.	141.2	220.0	15.5
ADDITIONAL FOR LEVELING																					
100+00	167+26	HWY. 265 - MAIN LANES	6726.0															VAR.	VAR.	VAR.	1600.0
115+02	115+87	ELWAY DR.	85.0				118.6	0.10	11.9									VAR.	VAR.	VAR.	42.4
136+45	137+33	DUSTY LANE	88.0				131.1	0.10	13.1									VAR.	VAR.	VAR.	54.1
139+14	140+06	JOE FRED STARR LANE	92.0				47.4	0.10	4.7									VAR.	VAR.	VAR.	13.0
TOTALS:					239.4		101121.7		3727.9		36226.4		9962.2		32247.8		7094.3		83984.9		10947.6

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.4% MIN. AGGR.....5.6% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.3% MIN. AGGR.....4.7% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG70-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9/7/2012			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		040490	35	148

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9/7/12

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		67	STATION
201	GRUBBING		67	STATION
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		3196	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		2933	LIN. FT.
202	REMOVAL AND DISPOSAL OF POSTS		1	EACH
202	REMOVAL AND DISPOSAL OF COLUMNS		1	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		322	SQ. YD.
202	REMOVAL AND DISPOSAL OF WALKS		1612	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		5	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS		2	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		45	EACH
202	REMOVAL AND DISPOSAL OF STORM CELLAR		1	EACH
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION		8	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		15	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS		2	EACH
SP	REMOVAL AND DISPOSAL OF ASBESTOS-CEMENT WATER LINE		6490	LIN. FT.
206	FLOWABLE SELECT MATERIAL		613	CU. YD.
210	UNCLASSIFIED EXCAVATION		7919	CU. YD.
210	COMPACTED EMBANKMENT		12234	CU. YD.
SP & 210	SOIL STABILIZATION		50	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		1987	TON
309	PORTLAND CEMENT CONCRETE BASE (11" UNIFORM THICKNESS)		715	SQ. YD.
401	TACK COAT		3844	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		9534	TON
SP, SS, & 405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")		428	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		6761	TON
SP, SS, & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")		333	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		10561	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		13	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		613	TON
412	COLD MILLING ASPHALT PAVEMENT		2379	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		33	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		100	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY		1691.40	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SP, SS, & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	64" X 43" TEMPORARY CULVERT		76	LIN. FT.
SS & 604	SIGNS		554	SQ. FT.
SS & 604	BARRICADES		184	LIN. FT.
SS & 604	TRAFFIC DRUMS		197	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		520	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER		520	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS		53000	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)		16	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)		16	EACH
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		19860	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		16900	LIN. FT.
SS & 604	VERTICAL PANELS		177	EACH
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		153	LIN. FT.
* SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	7069	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	7069	LIN. FT.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		70	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		72	LIN. FT.
* SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	416	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	416	LIN. FT.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		101	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		38	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		67	LIN. FT.
SS & 606	73" X 45" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)		8	LIN. FT.
* SS & 606	73" X 45" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1421	LIN. FT.
* 606	71" X 47" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL ARCH PIPE	(ALTERNATE NO. 2)	1421	LIN. FT.
SS & 606	12" SIDE DRAIN		535	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		6	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
606	73" X 45" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS		1	EACH
606	SELECTED PIPE BEDDING		200	CU. YD.
609	DROP INLETS (TYPE C)		11	EACH
609	DROP INLETS (TYPE MO)		48	EACH
609	JUNCTION BOXES (TYPE E)		4	EACH
609	DROP INLET EXTENSIONS (4')		15	EACH
609	DROP INLET EXTENSIONS (8')		40	EACH
609	YARD DRAINS		7	EACH
610	JUNCTION BOXES ADJUSTED TO GRADE		2	EACH
611	UNDERDRAIN OUTLET PROTECTORS		7	EACH
611	4" PIPE UNDERDRAINS		12642	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)		54	TON
619	WIRE FENCE (TYPE C)		468	LIN. FT.
619	WIRE FENCE (TYPE D)		98	LIN. FT.
619	WIRE FENCE (TYPE D-1)		770	LIN. FT.
* 619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	89	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	89	LIN. FT.
* 619	5' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	177	LIN. FT.
* 619	5' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	177	LIN. FT.
* 619	6' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	400	LIN. FT.
* 619	6' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	400	LIN. FT.
* 619	16' STEEL GATES	(ALTERNATE NO. 1)	2	EACH
* 619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	2	EACH
620	MULCH COVER		12.00	ACRE
SS & 620	WATER		386.3	M.GAL.
621	TEMPORARY SEEDING		12.00	ACRE

*ALTERNATE BID ITEMS

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
621	SILT FENCE	350	LIN. FT.
621	SAND BAG DITCH CHECKS	198	BAG
621	DROP INLET SILT FENCE	1900	LIN. FT.
621	SEDIMENT BASIN	200	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	200	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	292	CU. YD.
621	ROCK DITCH CHECKS	100	CU. YD.
624	SOLID SODDING	11224	SQ. YD.
633	CONCRETE WALKS	6440	SQ. YD.
634	CONCRETE CURB (TYPE A)	1227	LIN. FT.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	13101	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	24	EACH
637	MAILBOX SUPPORTS (SINGLE)	12	EACH
637	MAILBOX SUPPORTS (DOUBLE)	6	EACH
641	WHEELCHAIR RAMPS (TYPE 2)	113	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 3)	460	SQ. YD.
SP & 701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 E-NET (8 PHASES)	3	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	40	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	10	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)	2	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	22	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	10107	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	1762	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	2646	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	60	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	40	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")	50	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	60	LIN. FT.
710	NON-METALLIC CONDUIT (2")	80	LIN. FT.
710	NON-METALLIC CONDUIT (3")	1732	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	10	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2)	15	EACH
713	SPAN WIRE ASSEMBLY	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	3	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (62')	1	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	12	EACH
716	TREATED WOOD POLE (CLASS 3, 40')	8	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	16023	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	2131	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	15358	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	11	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	11	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)	10	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	355	EACH
733	VIDEO CABLE	7404	LIN. FT.
733	VIDEO MONITOR (CLR)	3	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	3	EACH
SP & 733	VIDEO DETECTOR (CLR)	22	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	12	EACH
SP & 733	VIDEO EDGE CARD EXTENDER	3	EACH
SP & 733	VIDEO DETECTOR RELOCATION	9	EACH
816	FILTER BLANKET	261	SQ. YD.
816	DUMPED RIPRAP (GROUTED)	131	CU. YD.
SP	CULVERT CLEAN OUT	2	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	611	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	1850	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	210	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	60	LIN. FT.
SP	E-NET CABLE (EXTERIOR CAT 5)	225	LIN. FT.
SP	ETHERNET SWITCH, T100 HARDENED (4 PORT)	3	EACH
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	3	EACH
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	16	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
SP	VIDEO DETECTOR ROTATION	3	EACH
SP	18" STREET NAME SIGN	11	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	3	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	2	EACH
	STRUCTURES OVER 20' SPAN		
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	123	CU. YD.
802	CLASS S CONCRETE - ROADWAY	236.99	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	38480	POUND

REVISIONS

DATE	REVISION	SHEET NUMBER
9/7/2012	REVISED UNCLASSIFIED EXCAVATION, AGGREGATE BASE COURSE (CLASS 7), MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2"), PORTLAND CEMENT CONCRETE DRIVEWAY, CONCRETE WALKS, CONCRETE CURB (TYPE A) AND TEMPORARY EROSION CONTROL QUANTITIES.	11, 14, 20, 23, 26, 30, 31, 32, 33, 35, 42 & 43

R040490.DGN 6/27/2012

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	36	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

SURVEY CONTROL COORDINATES

Project Name: TONY.ALG
Date: 10/2/2008
Coordinate System: ARKANSAS STATE PLANE - NORTH BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	644216.5807	685622.1471	1405.50	CTL	CAP/REBAR RIGHT SHOULDER
2	645273.4278	685659.5870	1380.66	CTL	REBAR•CAP
3	646948.4251	685595.4032	1396.97	CTL	REBAR•CAP
4	647792.3868	685695.6749	1401.58	CTL	REBAR•CAP
5	648470.8660	685668.7950	1380.03	CTL	REBAR•CAP
6	649729.1265	685748.3746	1334.68	CTL	REBAR•CAP
7	650750.7247	685605.3193	1284.66	CTL	REBAR•CAP
8	651311.3048	685922.2293	1283.56	CTL	REBAR•CAP
9	652689.3058	686050.0984	1255.74	CTL	REBAR•CAP
10	654146.7832	686256.7816	1266.76	CTL	REBAR•CAP
11	654960.3097	686566.9294	1284.59	CTL	REBAR•CAP
12	656187.9888	686618.4505	1243.02	CTL	REBAR•CAP LEFT SHOULDER
13	657009.4378	686767.3014	1250.68	CTL	REBAR•CAP RIGHT SHOULDER
14	657943.2692	686199.8619	1278.39	CTL	REBAR•CAP LEFT SHOULDER
15	658643.6852	686051.9565	1330.92	CTL	REBAR•CAP LEFT SHOULDER
16	659549.9636	686475.1787	1313.61	CTL	REBAR•CAP
17	660402.9109	686935.6528	1283.59	CTL	REBAR•CAP
18	661383.9005	686942.0604	1287.24	CTL	REBAR•CAP LEFT BANK
19	662123.9329	687013.7735	1255.91	CTL	REBAR•CAP RIGHT SHOULDER
20	663083.9066	687005.7349	1254.36	CTL	REBAR•CAP LEFT SHOULDER
21	663730.1142	687089.8636	1293.27	CTL	REBAR•CAP RIGHT SHOULDER
22	665129.4717	687103.4013	1247.20	CTL	REBAR•CAP
23	666109.9301	687158.2813	1261.51	CTL	REBAR•CAP
24	667220.5023	686754.2961	1293.74	CTL	REBAR•CAP
25	668376.4599	686889.4788	1323.82	CTL	REBAR•CAP
26	669012.4944	686951.8352	1324.01	CTL	REBAR•CAP
27	669875.9767	686972.8083	1312.27	CTL	REBAR•CAP
28	670688.8020	687018.6736	1316.61	CTL	REBAR•CAP
29	671549.9667	686903.1646	1307.35	CTL	REBAR•CAP
30	672534.6626	686746.1733	1320.66	CTL	REBAR•CAP
31	673449.3111	686757.0447	1332.06	CTL	REBAR•CAP
32	674132.8712	686755.4840	1334.89	CTL	REBAR•CAP
100	687290.3114	685979.6694	1348.97	GPS	NGS BM G309
101	687292.3817	687917.7109	1386.05	GPS	AHTD GPS* G309A
102	660532.8248	687020.9746	1279.17	GPS	STANDARD DISC 720041
103	660597.4218	685661.6387	1273.19	GPS	AHTD GPS *720041A
104	674121.1836	687467.8548	1349.76	GPS	AHTD GPS* 720040
105	674130.0457	690067.2511	1352.07	GPS	AHTD GPS*720040A
106	645336.2636	686711.1367	1430.67	GPS	AHTD GPS*720014
107	645174.2429	685080.1048	1413.74	GPS	AHTD GPS*720042
108	697165.1198	688896.2073	1389.10	GPS	AHTD GPS*040054
109	698849.7281	688757.5701	1381.12	GPS	AHTD GPS*040054A
900	644408.2371	685634.0965	1398.72	BM	SQUARE CUT HEADWALL RIGHT CENTERLINE
901	645759.5598	685607.5975	1375.17	BM	SQUARE CUT SOUTHWEST CORNER CONCRETE CURB
902	646939.7810	685600.2292	1396.21	BM	SQUARE CUT CENTER HEADWALL LEFT OF CENTERLINE
903	647875.6154	685706.2280	1402.31	BM	SQUARE CUT CONCRETE BASE OF TRAFFIC SIGNAL RIGHT TOWNSHIP STREET
904	649515.5841	685756.6110	1334.21	BM	SQUARE CUT CENTER HEADWALL RIGHT
905	651022.4939	685761.8847	1281.13	BM	SQUARE CUT CENTER HEADWALL RIGHT
906	651775.9613	686058.9876	1273.29	BM	SQUARE CUT EDGE CURB ON BRIDGE TOWNSHIP DR
907	652598.1247	686035.7579	1255.40	BM	SQUARE CUT END HEADWALL LEFT CENTERLINE
908	653541.0868	686156.7454	1255.05	BM	CHISELED SQUARE CENTER HEADWALL
909	654705.9378	686444.2304	1282.34	BM	CHISELED SQUARE ON CURB LEFT BRIDGE DR
910	656087.1494	686594.9681	1242.76	BM	SQUARE CUT NORTHWEST END OF HEADWALL LEFT
911	657059.3680	686720.0433	1253.13	BM	CHISELED SQUARE CUT BASE OF TRAFFIC SIGNAL POLE
912	657917.9721	686214.2392	1275.27	BM	SQUARE CUT CENTER HEADWALL LEFT
913	659155.4721	686322.9503	1323.57	BM	SQUARE CUT IN BACK OF CURB RIGHT
914	660283.6153	686901.9020	1285.48	BM	SQUARE CUT IN HEADWALL RIGHT
915	661457.3572	687024.2104	1285.54	BM	SQUARE CUT BACK OF CURB ZION RD
916	662607.0818	687029.1409	1248.34	BM	ALUMINUM CAP, SET IN NORTH END HEADWALL RIGHT OF CENTERLINE
917	663797.2029	687090.5975	1293.53	BM	SQUARE CUT BACK OF CURB
918	665153.3406	687102.1981	1247.12	BM	CHISELED SQUARE CENTER HEADWALL LEFT
919	666207.9885	687164.4689	1263.88	BM	CAP/REBAR RIGHT BANK
920	667451.6845	686805.8557	1298.94	BM	CHISELED SQUARE CURB
921	668880.4521	686947.8513	1322.23	BM	SQUARE CUT HEADWALL RIGHT CENTERLINE
922	671505.7503	686909.6192	1306.35	BM	SQUARE CUT IN HEADWALL RIGHT OF CENTERLINE
923	674150.2719	686792.4532	1336.13	BM	SQUARE CUT IN SIGNAL POLE BASE HWY 265 / 412
924	677045.1009	687632.3292	1348.09	BM	SQUARE CUT IN CATCHBASIN RIGHT OF CENTERLINE
925	679248.5360	687812.8903	1331.59	BM	SQUARE CUT IN SOUTHWEST CORNER OF BRIDGE
926	680533.0648	687852.2858	1340.07	BM	SQUARE CUT IN SIGNAL POLE AT EMMA AVE.
927	683261.4502	688011.1563	1351.60	BM	SQUARE CUT BASE OF SIGNAL POLE L E. MOUNTAIN
928	686350.5077	687821.3708	1372.79	BM	SQUARE CUT IN CURB RIGHT OF CENTERLINE
929	668837.3441	686974.0677	1323.64	BM	SET IN BASE OF SIGNAL LIGHT
930	670277.9703	687069.9238	1303.01	BM	SET IN HEADWALL
931	672939.8156	686793.3995	1328.70	BM	SET IN HEADWALL

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*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999386648 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME S040490G1.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 720041-720041A
CONVERGENCE ANGLE: 01-13-58.4 RIGHT AT PN 25
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

MID JOB:
LAT. = N 36°09'04"
LONG. = W 94°07'07"

HWY. 265

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	99+13.37	667475.2158	686776.1383
8001	P.I. STA.	104+00.00	667958.9678	686828.9862
8002	P.I. STA.	111+23.32	668678.8058	686899.8399
8003	P.C. STA.	117+92.07	669344.8715	686959.7651
8005	P.T. STA.	119+84.35	669536.6281	686973.7782
8006	P.C. STA.	124+30.80	669982.3704	686998.8413
8008	P.T. STA.	127+87.86	670339.2536	686999.4264
8009	P.C. STA.	131+28.05	670678.9761	686981.4420
8011	P.T. STA.	136+14.70	671163.2696	686935.1204
8012	P.C. STA.	144+81.12	672021.4722	686816.0833
8014	P.T. STA.	150+41.09	672578.9978	686766.3546
8015	P.C. STA.	162+45.37	673782.3105	686718.0831
8017	P.T. STA.	166+11.93	674148.7749	686718.0434
8018	P.C. STA.	166+38.22	674175.0450	686719.0916
8020	P.T. STA.	167+53.26	674289.6351	686728.8617
8021	P.I. STA.	167+55.12	674291.4759	686729.1028
8022	POE	168+22.36	674357.9320	686739.3260

IVEY LANE

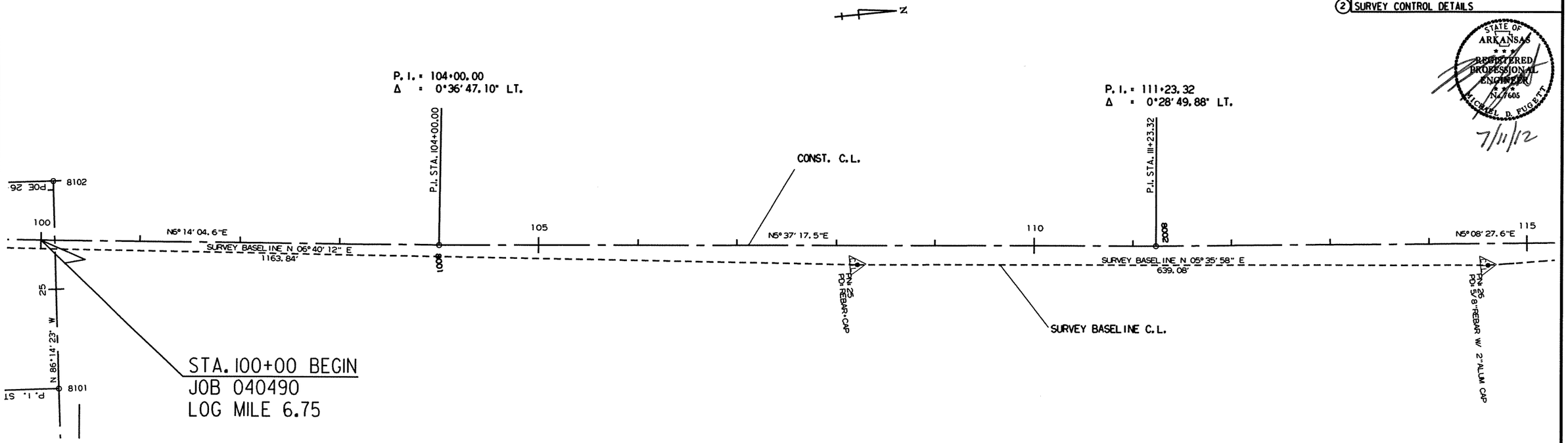
POINT NO.	TYPE	STATION	NORTHING	EASTING
8100	POB	20+00.00	667540.3062	687335.3445
8101	P.I. STA.	23+99.99	667565.4579	686936.1439
8102	POE	26+08.94	667579.1615	686727.6427

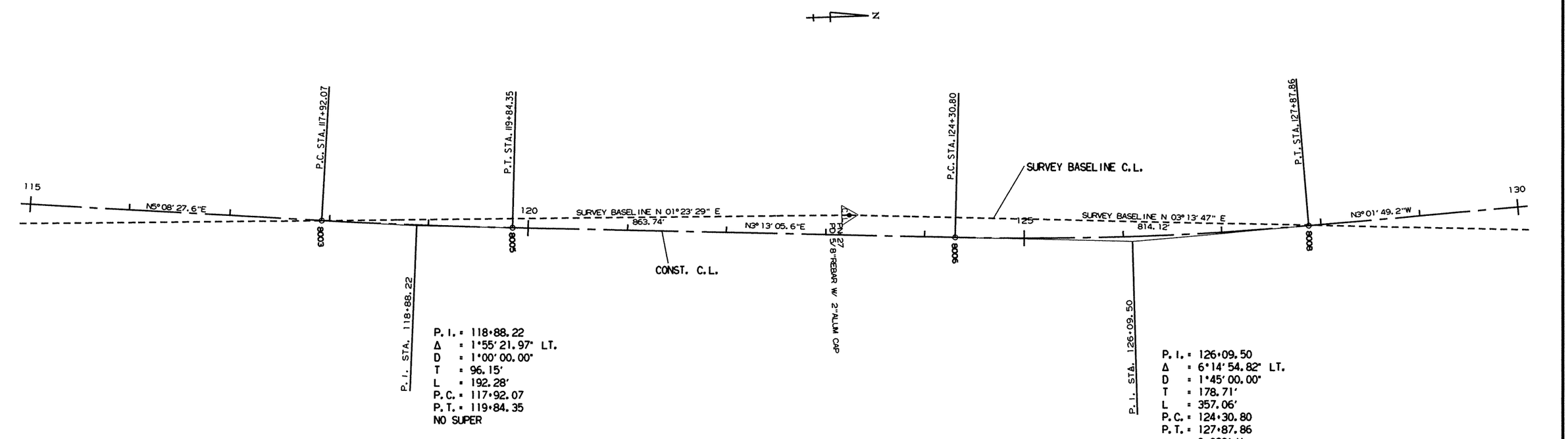
R040490.DGN 3/24/2011

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.		040490	37	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/11/12





P.I. = 118+88.22
Δ = 1°55'21.97" LT.
D = 1°00'00.00"
T = 96.15'
L = 192.28'
P.C. = 117+92.07
P.T. = 119+84.35
NO SUPER

P.I. = 126+09.50
Δ = 6°14'54.82" LT.
D = 1°45'00.00"
T = 178.71'
L = 357.06'
P.C. = 124+30.80
P.T. = 127+87.86
e = 0.020'/'
Ls = 350'

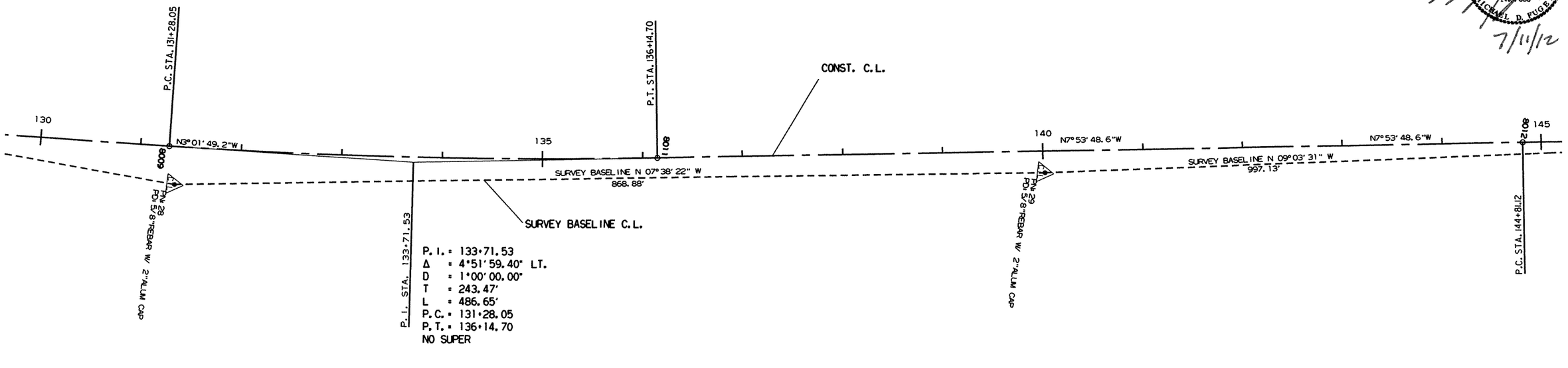
HWY. 265
SURVEY CONTROL DETAILS

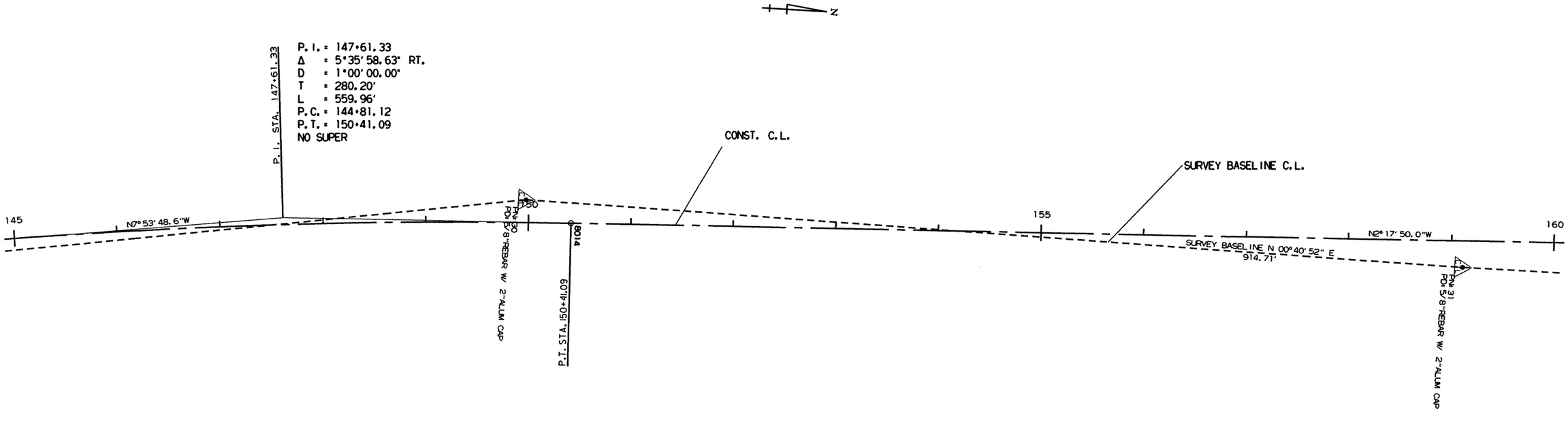
R040490.DGN 3/24/2011

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.		040490	38	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/11/12





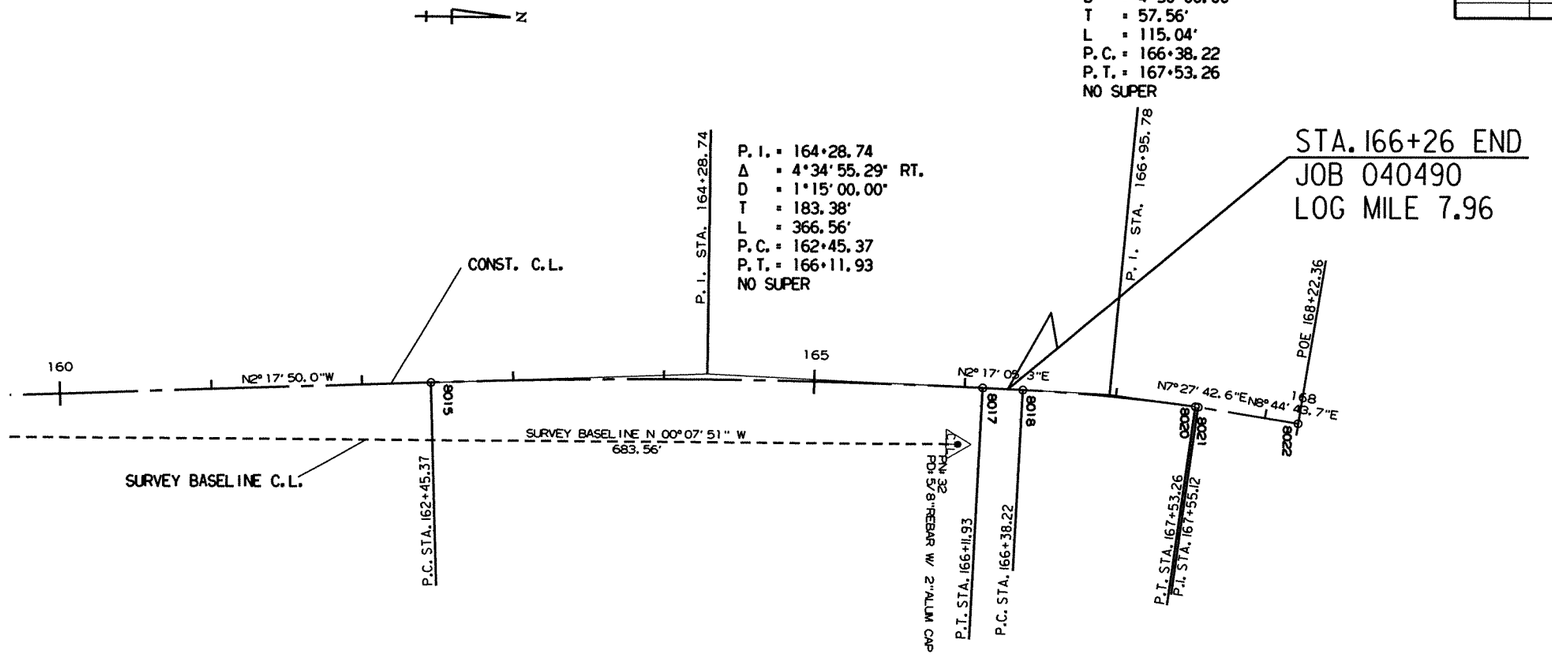
R040490.DGN 3/24/2011

HWY. 265
SURVEY CONTROL DETAILS

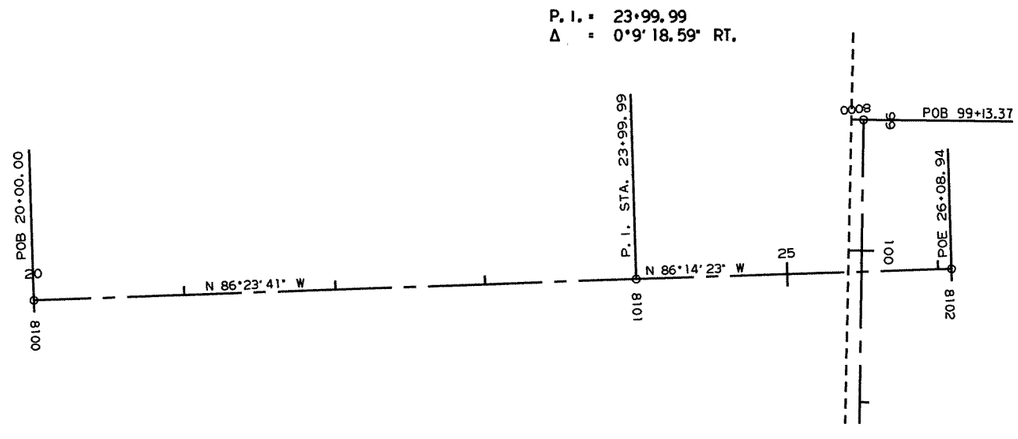
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	39	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9605
MICHAEL D. PUGETT
7/11/12



HWY. 265
SURVEY CONTROL DETAILS



IVEY LANE
SURVEY CONTROL DETAILS

R040490.DGN 3/24/2011

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.		040490	40	148

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

STA. 101+00 CONSTRUCT
DROP INLET ON LT. H = 4'- 4"
WITH 8' EXTENSION AND 18" X 70'
R.C. PIPE CULVERT (CLASS IV) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'

STA. 104+00 CONSTRUCT
DROP INLET ON LT. H = 4'- 1"
WITH 8' EXTENSION AND 18" X 296'
PIPE CULVERT TO DROP INLET ON LT.
WITH OPENING IN BACK
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 296 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

STA. 106+12 CONSTRUCT
DROP INLET ON LT. H = 4'- 1"
WITH 8' EXTENSION AND 18" X 208'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 208 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 208 LIN. FT.

STA. 112+00 CONSTRUCT
DROP INLET ON LT. H = 4'- 0"
WITH 4' EXTENSION AND 18" X 46'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 46 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 46 LIN. FT.

STA. 100+31 CONSTRUCT
APPROACH ON LT. = 15 CU. YDS.

STA. 101+52 CONSTRUCT
APPROACH ON LT. = 25 CU. YDS.

STA. 102+43 CONSTRUCT
APPROACH ON LT. = 20 CU. YDS.

STA. 103+75 CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

STA. 105+88 CONSTRUCT
APPROACH ON LT. = 20 CU. YDS.

STA. 106+68 CONSTRUCT
APPROACH ON LT. = 40 CU. YDS.

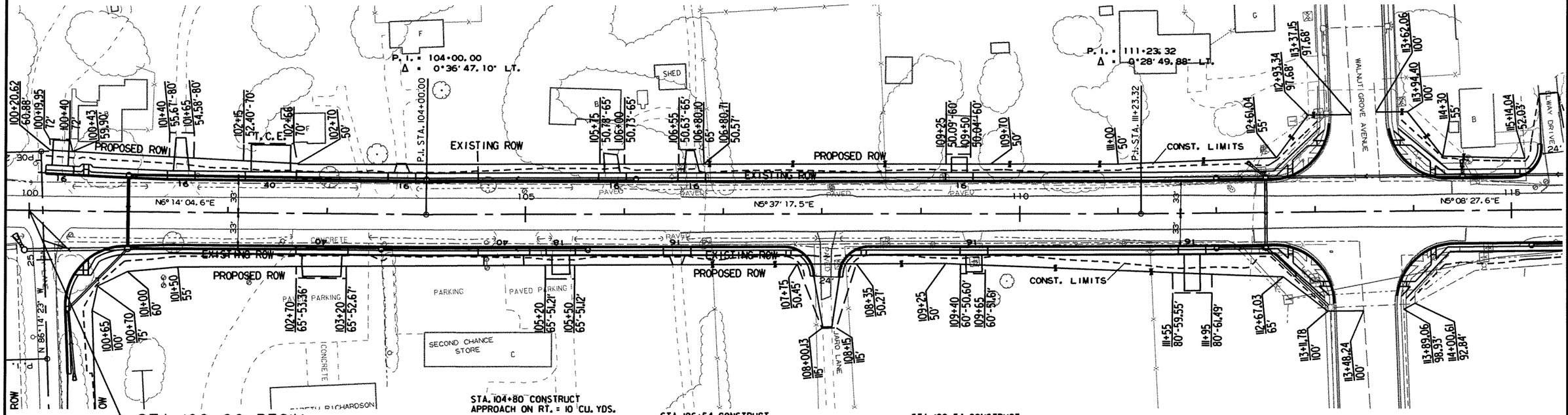
FENCING

STA.	STA.	SIDE	TYPE	UNIT
106+86	108+64	LT.	D-1	117 LIN. FT.
109+90	113+03	LT.	D-1	335 LIN. FT.
113+85	114+52	LT.	4' CHAIN LINK	89 LIN. FT.

STA. 112+50 CONSTRUCT
DROP INLET ON LT. H = 9'- 0"
24" X 67' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
WITH 18" X 15' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'

STA. 114+50 CONSTRUCT
DROP INLET ON LT. H = 4'-5"
WITH 4' EXTENSION AND 18" X 196'
PIPE CULVERT TO DROP INLET ON LT.
WITH 18" X 7' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 196 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 196 LIN. FT.

STA. 109+39 CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.



STA. 104+80 CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

STA. 105+36 CONSTRUCT
APPROACH ON RT. = 20 CU. YDS.

STA. 106+54 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 109+54 CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

STA. 111+75 CONSTRUCT
APPROACH ON RT. = 55 CU. YDS.

STA. 102+96 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

IVEY LANE
STA. 25+10 CONSTRUCT
JUNCTION BOX ON LT. H = 3'-3"
30" X 7' R.C. PIPE CULVERT (CLASS II) (TYPE 3 BEDDING)
WITH FES
TYPE E = 4' X 4'

FENCING

STA.	STA.	SIDE	TYPE	UNIT
106+85	111+30	RT.	C	468 LIN. FT.

STA. 112+00 CONSTRUCT
DROP INLET ON RT. H = 4'- 0"
WITH 4' EXTENSION AND 18" X 46'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 46 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 46 LIN. FT.

STA. 112+50 CONSTRUCT
DROP INLET ON RT. H = 9'- 9"
24" X 84' PIPE CULVERT
TO EXIST. DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 84 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 84 LIN. FT.

STA. 101+00 CONSTRUCT
DROP INLET ON RT. H = 6'- 4"
WITH 8' EXTENSION AND 30" X 101'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
WITH OPENING IN BACK
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 5'

STA. 103+55 CONSTRUCT
DROP INLET ON RT. H = 4'- 2"
WITH 8' EXTENSION AND 18" X 251'
PIPE CULVERT TO DROP INLET ON RT.
WITH OPENING IN BACK
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 251 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 251 LIN. FT.

STA. 105+63 CONSTRUCT
DROP INLET ON RT. H = 4'- 1"
WITH 8' EXTENSION AND 18" X 204'
PIPE CULVERT TO DROP INLET ON RT.
WITH OPENING IN BACK
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 204 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 204 LIN. FT.

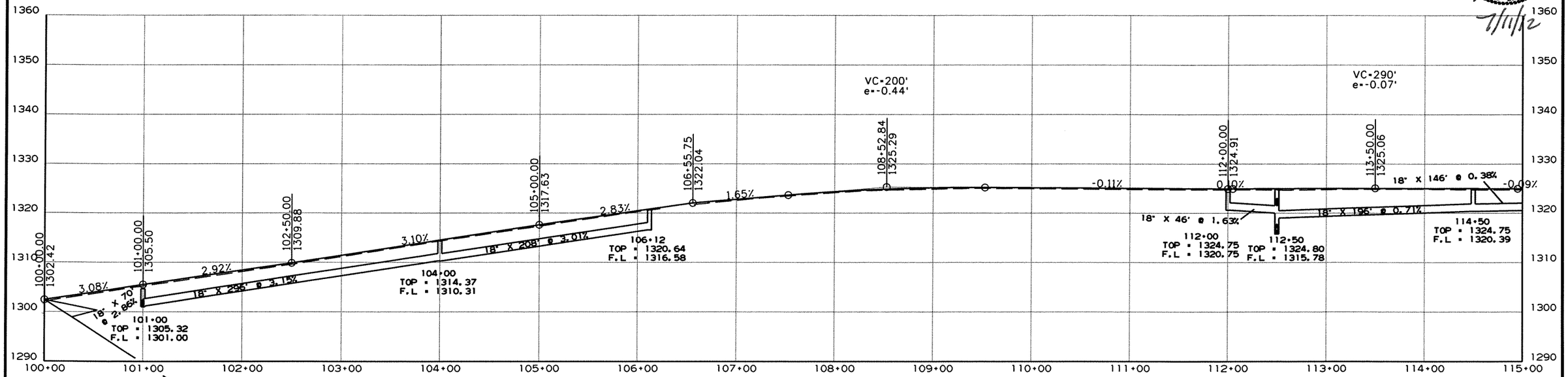
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	41	148

(2) PROFILE SHEET

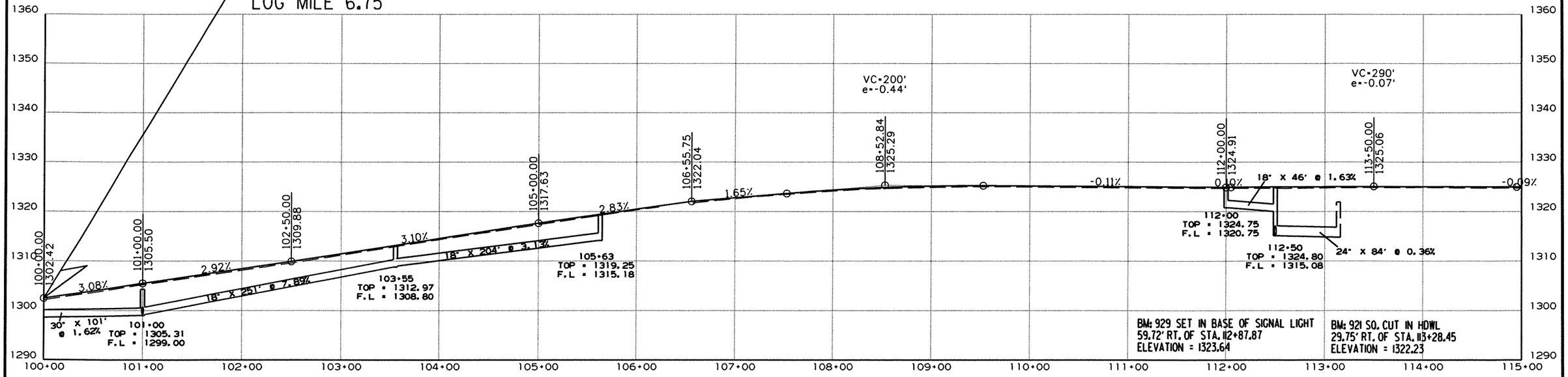
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

LEFT SIDE OF HWY. 265



STA. 100+00 BEGIN
JOB 040490
LOG MILE 6.75

RIGHT SIDE OF HWY. 265



R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9/7/2012				6	ARK.			
				JOB NO.		040490	42	148

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHEL D. FUGETT
9/7/12

FENCING

STA.	STA.	SIDE	TYPE	UNIT
120+52	121+50	LT.	D	98 LIN. FT.
123+50	126+64	LT.	D-1	318 LIN. FT.

STA. 116+00 CONSTRUCT
DROP INLET ON LT. H = 3'-9"
WITH 4' EXTENSION AND 18" X 146'
PIPE CULVERT TO DROP INLET ON LT.
WITH OPENING IN BACK
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 146 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 146 LIN. FT.

STA. 116+89 INSTALL
YARD DRAIN ON LT.
WITH 12" X 88' SIDE DRAIN OUTLET
TO DROP INLET AT STA. 116+00 LT.

STA. 117+02 CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 117+34 CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 118+87 CONSTRUCT
APPROACH ON LT. = 35 CU. YDS.

STA. 120+35 CONSTRUCT
DROP INLET ON LT. H = 4'-0"
WITH 8' EXTENSION AND 18" X 331'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 331 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 331 LIN. FT.

STA. 123+36 CONSTRUCT
APPROACH ON LT. = 65 CU. YDS.

STA. 123+70 CONSTRUCT
DROP INLET ON LT. H = 3'-9"
WITH 8' EXTENSION AND 18" X 199'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 199 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 199 LIN. FT.

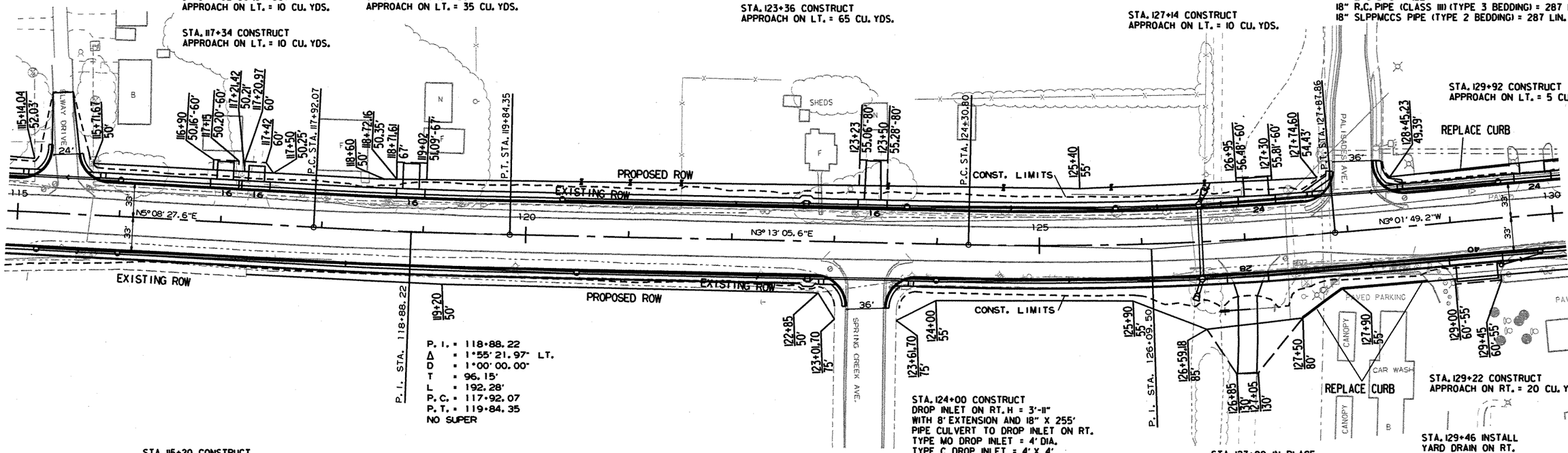
STA. 125+75 CONSTRUCT
DROP INLET ON LT. H = 3'-8"
WITH 8' EXTENSION AND 18" X 77'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 77 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 77 LIN. FT.

STA. 126+57 CONSTRUCT
DROP INLET ON LT. H = 4'-10"
WITH 4' EXTENSION AND 36" X 5'
R.C. PIPE CULVERT TO DROP INLET ON RT.
(CLASS III) (TYPE 3 BEDDING) WITH FES
INPLACE 36" X 47' R.C. PIPE CULVERT
REMOVE AND REPLACE
36" X 67' R.C. PIPE CULVERT OUTLET
(CLASS V) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 5'
D.A. = 19 AC., Q50 = 62 CFS.

STA. 127+14 CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 129+50 CONSTRUCT
DROP INLET ON LT. H = 3'-8"
WITH 8' EXTENSION AND 18" X 287'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 287 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 287 LIN. FT.

STA. 129+92 CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.



P. I. = 118+88.22
Δ = 1°55' 21.97" LT.
D = 1°00' 00.00"
T = 96.15'
L = 192.28'
P. C. = 117+92.07
P. T. = 119+84.35
NO SUPER

P. I. = 126+09.50
Δ = 6°14' 54.82" LT.
D = 1°45' 00.00"
T = 178.71'
L = 357.06'
P. C. = 124+30.80
P. T. = 127+87.86
e = 0.020'/'
Ls = 350'

STA. 115+20 CONSTRUCT
DROP INLET ON RT. H = 3'-8"
WITH 4' EXTENSION AND 18" X 76'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 76 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 76 LIN. FT.

STA. 116+00 CONSTRUCT
DROP INLET ON RT. H = 4'-1"
WITH 4' EXTENSION AND 18" X 447'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 447 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 447 LIN. FT.

STA. 120+50 CONSTRUCT
DROP INLET ON RT. H = 4'-0"
WITH 8' EXTENSION AND 18" X 346'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 346 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 346 LIN. FT.

STA. 124+00 CONSTRUCT
DROP INLET ON RT. H = 3'-11"
WITH 8' EXTENSION AND 18" X 255'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 255 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 255 LIN. FT.

STA. 126+57 CONSTRUCT
DROP INLET ON RT. H = 6'-8"
WITH 4' EXTENSION AND 36" X 13'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 5'

STA. 127+00 IN PLACE
18" X 48' R.C PIPE CULVERT
RT. SIDE DRAIN
RETAIN & EXTEND 9' LT.
CONSTRUCT APPROACH = 270 CU. YDS.

STA. 129+22 CONSTRUCT
APPROACH ON RT. = 20 CU. YDS.

STA. 129+46 INSTALL
YARD DRAIN ON RT.
WITH 12" X 38' SIDE DRAIN OUTLET
TO DROP INLET AT STA. 129+85 RT.

STA. 129+85 CONSTRUCT
DROP INLET ON RT. H = 3'-9"
WITH 8' EXTENSION AND 18" X 325'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 325 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 325 LIN. FT.

R040490.DGN 6/27/2012

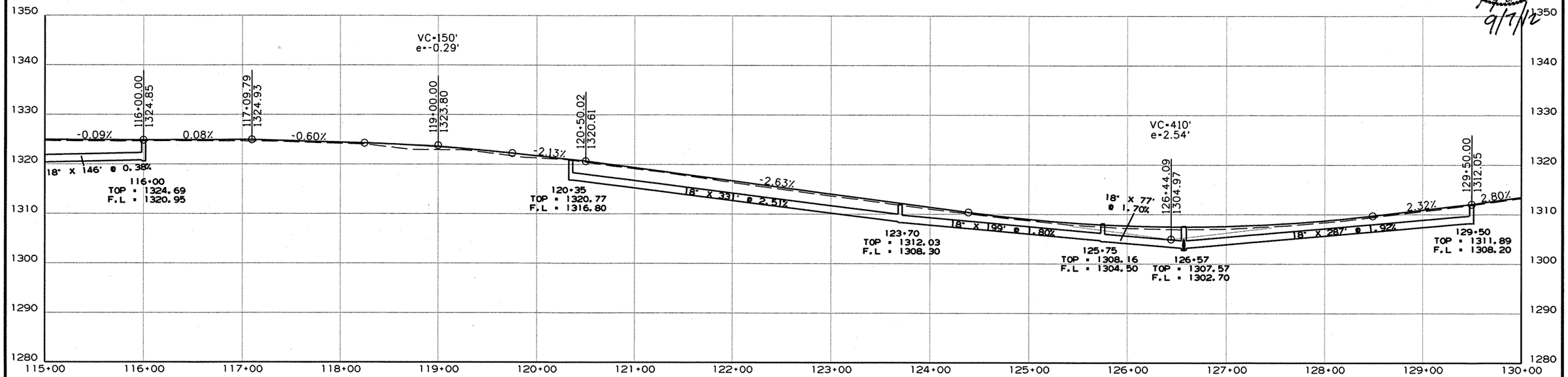
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9/7/2012				6	ARK.			
				JOB NO.		040490	43	148

(2) PROFILE SHEET

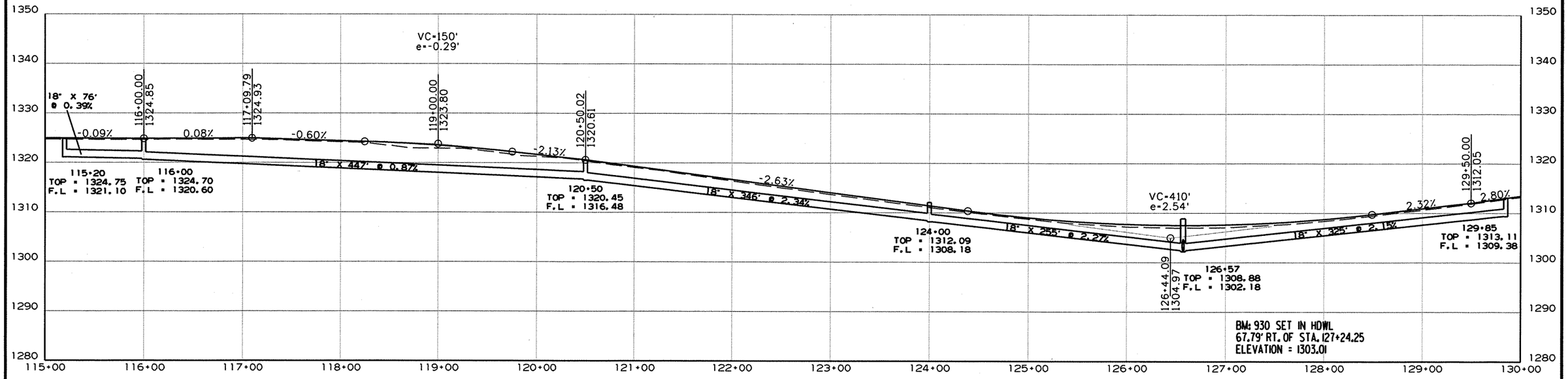
STA. 121+68.30 BEGIN SUPERELEVATION
STA. 125+18.30 MAX. SUPERELEVATION (0.020 '/')
STA. 127+00.36 MAX. SUPERELEVATION (0.020 '/')
STA. 130+50.36 END SUPERELEVAION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9/7/12

LEFT SIDE OF HWY. 265



RIGHT SIDE OF HWY. 265



R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	44	148

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

STA. 130+28 REMOVE
18" STUB ON LT.

STA. 130+57 CONSTRUCT
APPROACH ON LT. = 35 CU. YDS.

STA. 133+41 CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

STA. 134+05 CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 133+90 INSTALL
YARD DRAIN ON LT.
WITH 12" X 206' SIDE DRAIN OUTLET
TO DROP INLET AT STA. 136+00 LT.

STA. 136+00 CONSTRUCT
DROP INLET ON LT. H = 3'-8"
WITH 8' EXTENSION AND 18" X 56'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 56 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 56 LIN. FT.

STA. 136+50 CONSTRUCT
DROP INLET ON LT. H = 3'-8"
WITH 4' EXTENSION AND 24" X 231'
PIPE CULVERT TO DROP INLET ON LT.
24" X 5' R.C. PIPE CULVERT INLET
(CLASS III) (TYPE 3 BEDDING) WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 231 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 231 LIN. FT.

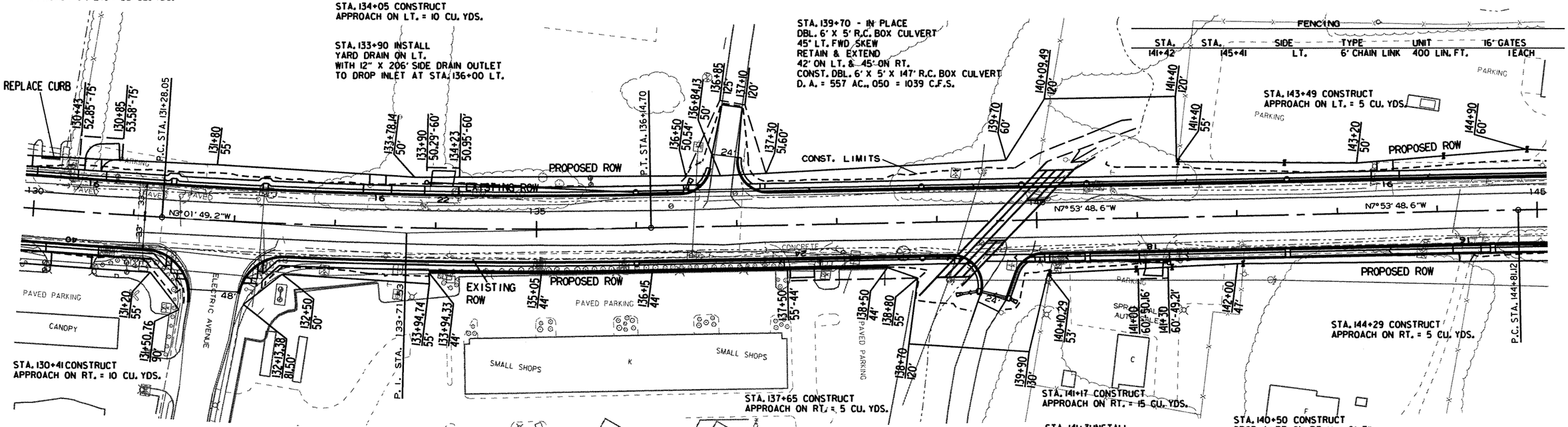
STA. 138+85 CONSTRUCT
DROP INLET ON LT. H = 4'-8"
WITH 8' EXTENSION AND 24" X 98'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 98 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 98 LIN. FT.

STA. 139+85 CONSTRUCT
DROP INLET ON LT. H = 4'-5"
WITH 4' EXTENSION AND 24" X 3'
PIPE CULVERT TO R.C. BOX CULVERT ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 3 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 3 LIN. FT.

STA. 139+70 - IN PLACE
DBL. 6' X 5' R.C. BOX CULVERT
45° LT. FWD SKEW
RETAIN & EXTEND
42' ON LT. & 45' ON RT.
CONST. DBL. 6' X 5' X 147' R.C. BOX CULVERT
D. A. = 557 AC., 050 = 1039 C.F.S.

STA. 140+50 CONSTRUCT
DROP INLET ON LT. H = 4'-5"
WITH 8' EXTENSION AND 18" X 34'
PIPE CULVERT TO R.C. BOX CULVERT ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 34 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 34 LIN. FT.

STA. 142+50 CONSTRUCT
DROP INLET ON LT. H = 3'-8"
WITH 8' EXTENSION AND 18" X 196'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 196 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 196 LIN. FT.



STA. 130+41 CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

P. I. = 133+71.53
Δ = 4°51' 59. 40" LT.
D = 1°00' 00. 00"
T = 243. 47'
L = 486. 65'
P. C. = 131+28. 05
P. T. = 136+14. 70
NO SUPER

STA. 136+00 CONSTRUCT
DROP INLET ON RT. H = 3'-8"
WITH 8' EXTENSION AND 18" X 281'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 281 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 281 LIN. FT.

STA. 138+85 CONSTRUCT
DROP INLET ON RT. H = 3'-10"
WITH 8' EXTENSION AND 18" X 33'
PIPE CULVERT TO R.C. BOX CULVERT ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 33 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 33 LIN. FT.

STA. 139+41 CONSTRUCT
DROP INLET ON RT. H = 5'-1"
WITH 4' EXTENSION AND 18" X 15'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'

STA. 137+65 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 139+71 CONSTRUCT
DROP INLET ON RT. H = 3'-1"
WITH 4' EXTENSION AND 18" X 28'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
WITH 18" FES STUB-IN
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'

STA. 140+10 CONSTRUCT
DROP INLET ON RT. H = 7'-3"
73" X 45" X 60' ARCH PIPE CULVERT
TO R.C. BOX CULVERT ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 60 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 60 LIN. FT.

STA. 139+40 - INSTALL
DBL. 64" X 43" X 38'
TEMPORARY CULVERT ON RT.

FLOODPLAIN LIMITS
STA. 137+00 - 142+60

STA. 141+17 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 141+31 INSTALL
YARD DRAIN ON RT.
WITH 12" X 78' SIDE DRAIN OUTLET
TO DROP INLET AT STA. 140+50 RT.

STA. 140+50 CONSTRUCT
DROP INLET ON RT. H = 6'-7"
WITH 8' EXTENSION AND 73" X 45" X 36'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 36 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 36 LIN. FT.

STA. 142+50 CONSTRUCT
DROP INLET ON RT. H = 6'-3"
WITH 8' EXTENSION AND 73" X 45" X 196'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 196 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 196 LIN. FT.

STA. 144+55 CONSTRUCT
DROP INLET ON RT. H = 6'-4"
WITH 8' EXTENSION AND 73" X 45" X 201'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 201 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 201 LIN. FT.

FENCING

STA.	STA.	SIDE	TYPE	UNIT	16' GATES
140+12	142+07	RT.	5' CHAIN LINK	177 LIN. FT.	1 EACH

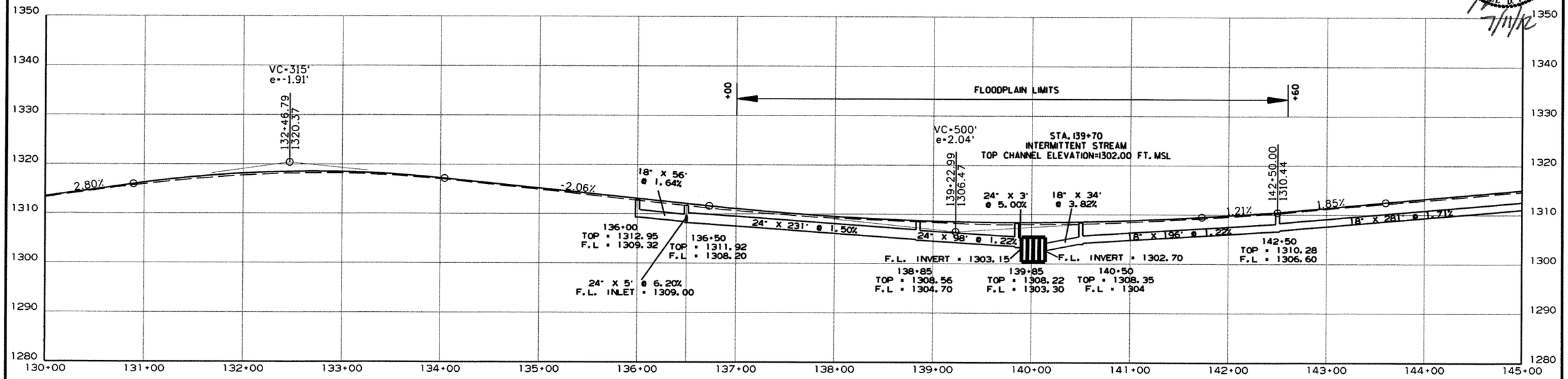
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	45	148

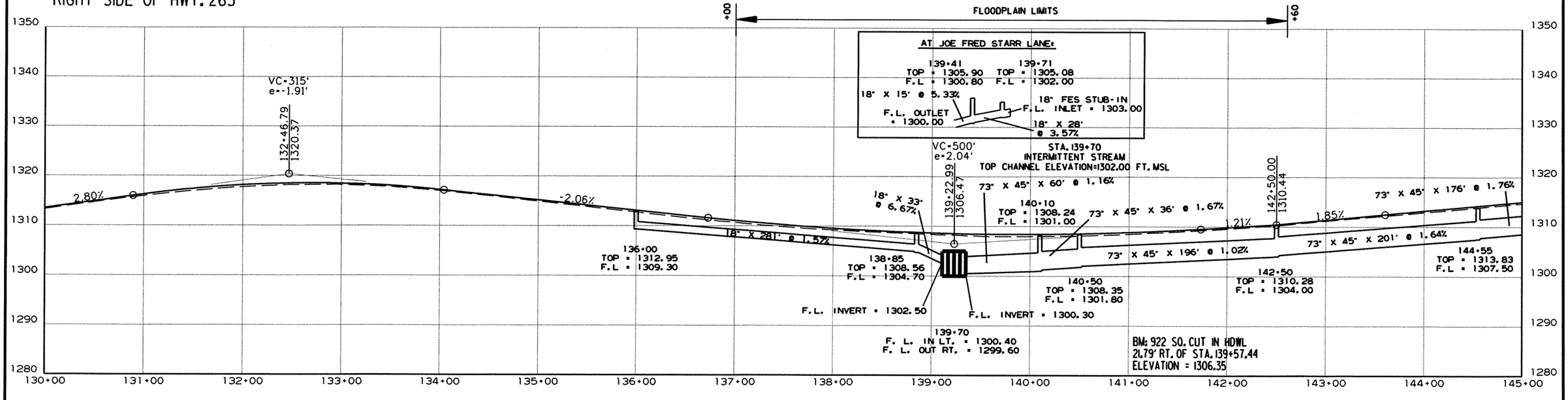
(2) PROFILE SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGETT
7/11/12

LEFT SIDE OF HWY. 265



RIGHT SIDE OF HWY. 265



R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	46	148

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

STA. 145+35 CONSTRUCT
DROP INLET ON LT. H = 3'-10"
WITH 8' EXTENSION AND 18" X 281'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 281 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 281 LIN. FT.

STA. 148+35 CONSTRUCT
DROP INLET ON LT. H = 3'-11"
WITH 8' EXTENSION AND 18" X 298'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 298 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 298 LIN. FT.

STA. 149+88 CONSTRUCT
DROP INLET ON LT. H = 3'-11"
WITH 4' EXTENSION AND 18" X 150'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 150 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 150 LIN. FT.

STA. 151+20 CONSTRUCT
DROP INLET ON LT. H = 3'-10"
WITH 8' EXTENSION AND 18" X 129'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 129 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 129 LIN. FT.

STA. 154+25 CONSTRUCT
DROP INLET ON LT. H = 3'-11"
WITH 8' EXTENSION AND 18" X 301'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 301 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 301 LIN. FT.

STA. 157+00 CONSTRUCT
DROP INLET ON LT. H = 3'-11"
WITH 8' EXTENSION AND 18" X 271'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 271 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 271 LIN. FT.

P. I. = 147+61.33
Δ = 5°35'58.63" RT.
D = 1°00'00.00"
T = 280.20'
L = 559.96'
P. C. = 144+81.12
P. T. = 150+41.09
NO SUPER

STA. 145+77 CONSTRUCT
APPROACH ON LT. = 70 CU. YDS.

STA. 147+84 CONSTRUCT
APPROACH ON LT. = 35 CU. YDS.

STA. 150+87 INSTALL
YARD DRAIN ON LT.
WITH 12" X 33' SIDE DRAIN OUTLET
TO DROP INLET AT STA. 151+20 LT.

STA. 150+67 CONSTRUCT
APPROACH ON LT. = 20 CU. YDS.

STA. 154+05 INSTALL
YARD DRAIN ON LT.
WITH 12" X 19' SIDE DRAIN OUTLET
TO DROP INLET AT STA. 154+25 LT.

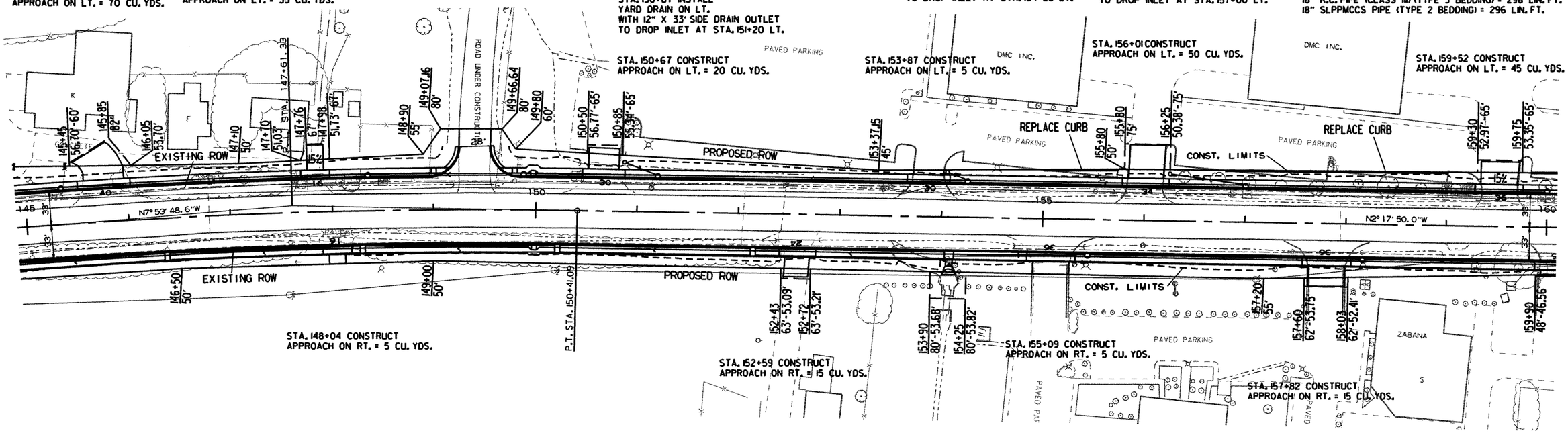
STA. 153+87 CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

STA. 156+25 INSTALL
YARD DRAIN ON LT.
WITH 12" X 73' SIDE DRAIN OUTLET
TO DROP INLET AT STA. 157+00 LT.

STA. 156+01 CONSTRUCT
APPROACH ON LT. = 50 CU. YDS.

STA. 160+00 CONSTRUCT
DROP INLET ON LT. H = 3'-10"
WITH 8' EXTENSION AND 18" X 296'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 296 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

STA. 159+52 CONSTRUCT
APPROACH ON LT. = 45 CU. YDS.



STA. 148+04 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 152+59 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 155+09 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 157+82 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 146+36 CONSTRUCT
DROP INLET ON RT. H = 6'-4"
WITH 8' EXTENSION AND 73" X 45" X 176'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 176 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 176 LIN. FT.

STA. 148+29 CONSTRUCT
DROP INLET ON RT. H = 6'-5"
WITH 8' EXTENSION AND 73" X 45" X 188'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 188 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 188 LIN. FT.

STA. 150+22 CONSTRUCT
DROP INLET ON RT. H = 6'-5"
WITH 8' EXTENSION AND 73" X 45" X 188'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 188 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 188 LIN. FT.

STA. 152+15 CONSTRUCT
DROP INLET ON RT. H = 6'-4"
WITH 8' EXTENSION AND 73" X 45" X 189'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 189 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 189 LIN. FT.

STA. 154+08 CONSTRUCT
DROP INLET ON RT. H = 5'-2"
WITH 8' EXTENSION AND 73" X 43" X 187'
ARCH PIPE CULVERT TO DROP INLET ON RT. AND 73" X 45" X 8'
R.C. ARCH PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 187 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 187 LIN. FT.

STA. 155+45 CONSTRUCT
DROP INLET ON RT. H = 3'-11"
WITH 8' EXTENSION AND OPENING
IN BACK AND 18" X 131'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 131 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 131 LIN. FT.

STA. 158+17 CONSTRUCT
DROP INLET ON RT. H = 3'-8"
WITH 8' EXTENSION AND OPENING
IN BACK AND 18" X 268'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 268 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 268 LIN. FT.

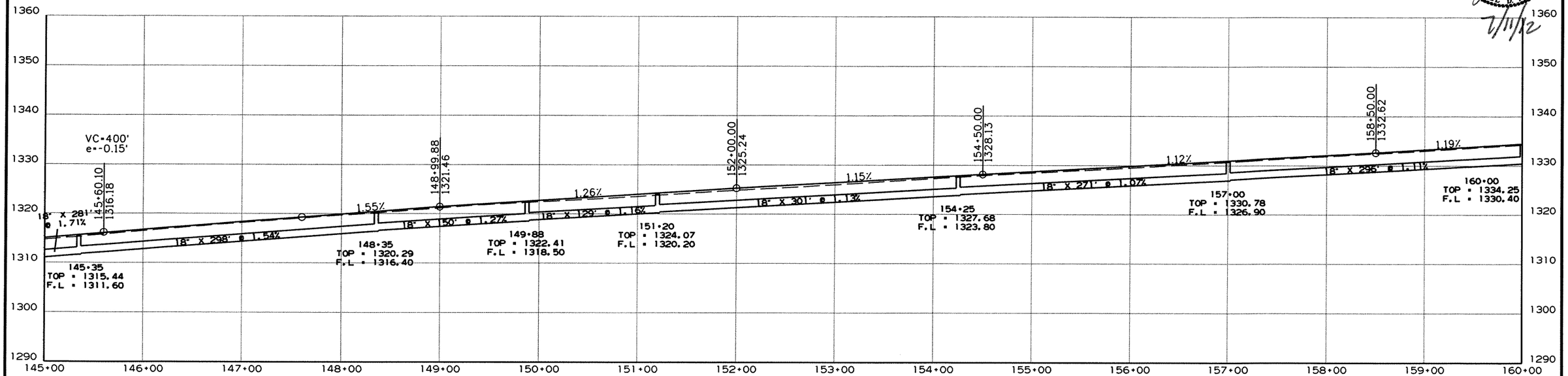
R04049O.DGN 6/27/2012

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.		040490	47	148

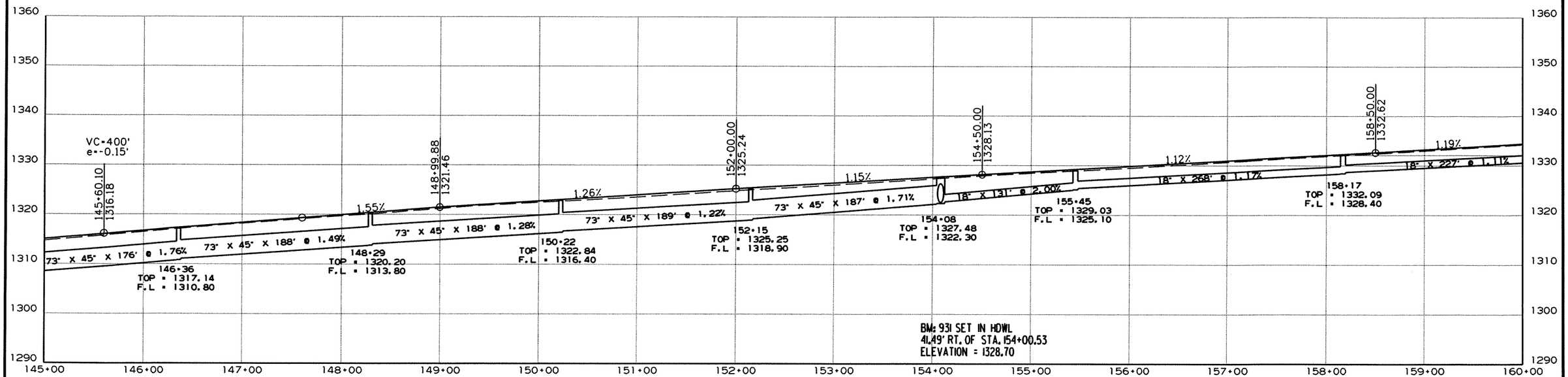
(2) PROFILE SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
2/11/12

LEFT SIDE OF HWY. 265



RIGHT SIDE OF HWY. 265



R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	48	148

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

N

STA. 164+65 CONSTRUCT
DROP INLET ON LT. H = 3'-9"
WITH 8' EXTENSION AND 18" X 82'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 82 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 82 LIN. FT.

STA. 165+93 CONSTRUCT
JUNCTION BOX ON LT. H = 4'-2"
WITH 18" X 45' PIPE CULVERT
TO DROP INLET ON LT.
TYPE E = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 45 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 45 LIN. FT.

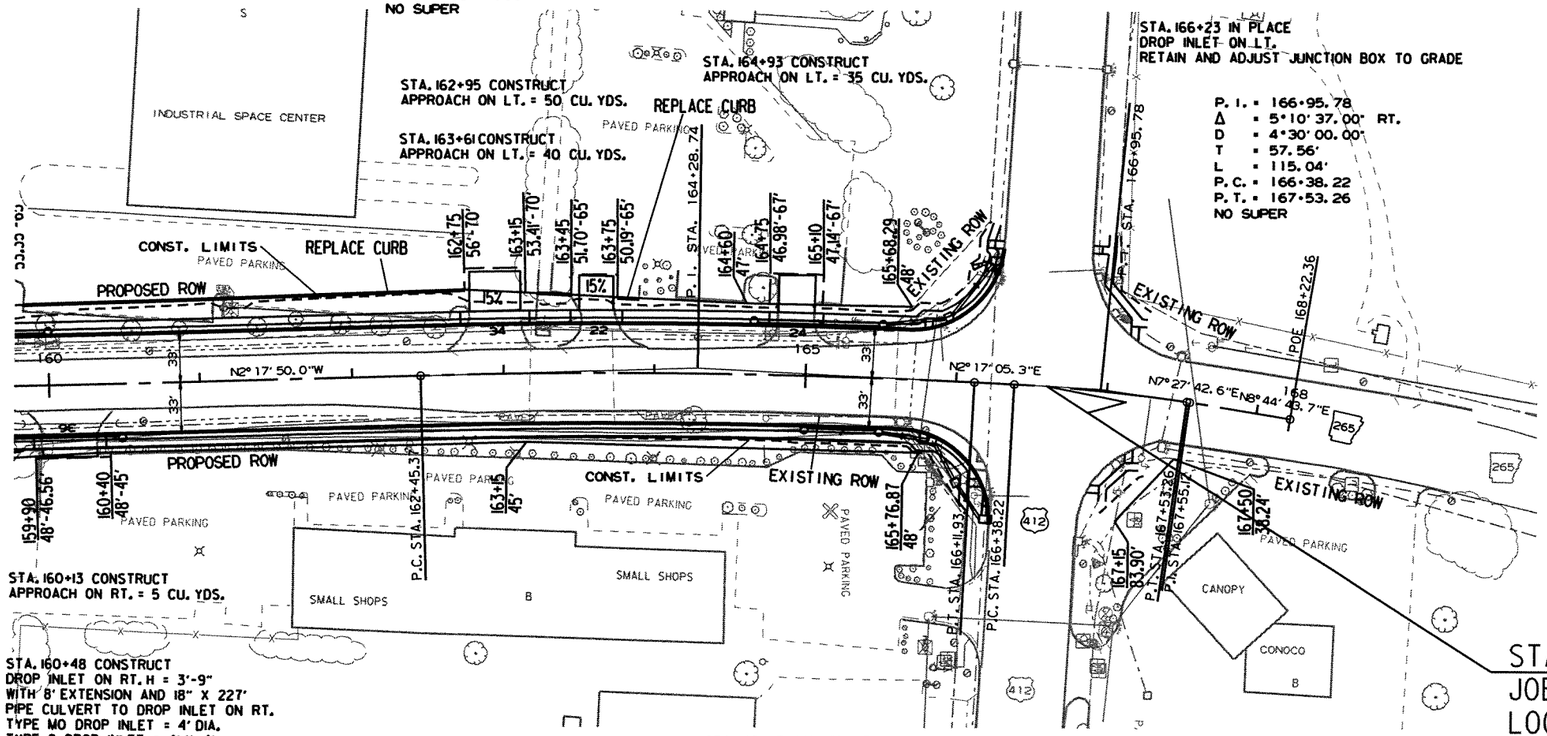
STA. 165+50 CONSTRUCT
DROP INLET ON LT. H = 3'-10"
WITH 4' EXTENSION AND 18" X 41'
PIPE CULVERT TO JUNCTION BOX ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 41 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 41 LIN. FT.

STA. 166+22 CONSTRUCT
DROP INLET ON LT. H = 4'-2"
WITH 8' EXTENSION AND 18" X 7'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES AND 36" X 7'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
CONNECT TO JUNCTION BOX ON LT.
TYPE C DROP INLET = 7' X 4'

P. I. = 164+28.74
Δ = 4°34' 55.29" RT.
D = 1°15' 00.00"
T = 183.38'
L = 366.56'
P. C. = 162+45.37
P. T. = 166+11.93
NO SUPER

STA. 166+23 IN PLACE
DROP INLET ON LT.
RETAIN AND ADJUST JUNCTION BOX TO GRADE

P. I. = 166+95.78
Δ = 5°10' 37.00" RT.
D = 4°30' 00.00"
T = 57.56'
L = 115.04'
P. C. = 166+38.22
P. T. = 167+53.26
NO SUPER



STA. 160+13 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 160+48 CONSTRUCT
DROP INLET ON RT. H = 3'-9"
WITH 8' EXTENSION AND 18" X 227'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 227 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 227 LIN. FT.

STA. 165+85 CONSTRUCT
JUNCTION BOX ON RT. H = 3'-8"
WITH 18" X 29' PIPE CULVERT
TO JUNCTION BOX ON RT.
TYPE E = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 29 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 29 LIN. FT.

STA. 165+00 CONSTRUCT
DROP INLET ON RT. H = 3'-7"
WITH 8' EXTENSION AND 18" X 46'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 46 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 46 LIN. FT.

STA. 166+03 CONSTRUCT
JUNCTION BOX ON RT. H = 4'-8"
WITH 18" X 25' PIPE CULVERT
TO DROP INLET ON RT.
CONNECT TO EXIST. 12" X 13' CMP
TYPE E = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 25 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 25 LIN. FT.

STA. 166+24 IN PLACE
DROP INLET ON RT.
RETAIN AND ADJUST JUNCTION BOX TO GRADE

STA. 165+50 CONSTRUCT
DROP INLET ON RT. H = 3'-6"
WITH 4' EXTENSION AND 18" X 31'
PIPE CULVERT TO JUNCTION BOX ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 31 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 31 LIN. FT.

STA. 166+24 CONSTRUCT
DROP INLET ON RT. H = 5'-9"
WITH 8' EXTENSION AND 36" X 13'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
CONNECT TO JUNCTION BOX ON RT.
TYPE C DROP INLET = 7' X 4'

STA. 166+26 END
JOB 040490
LOG MILE 7.96

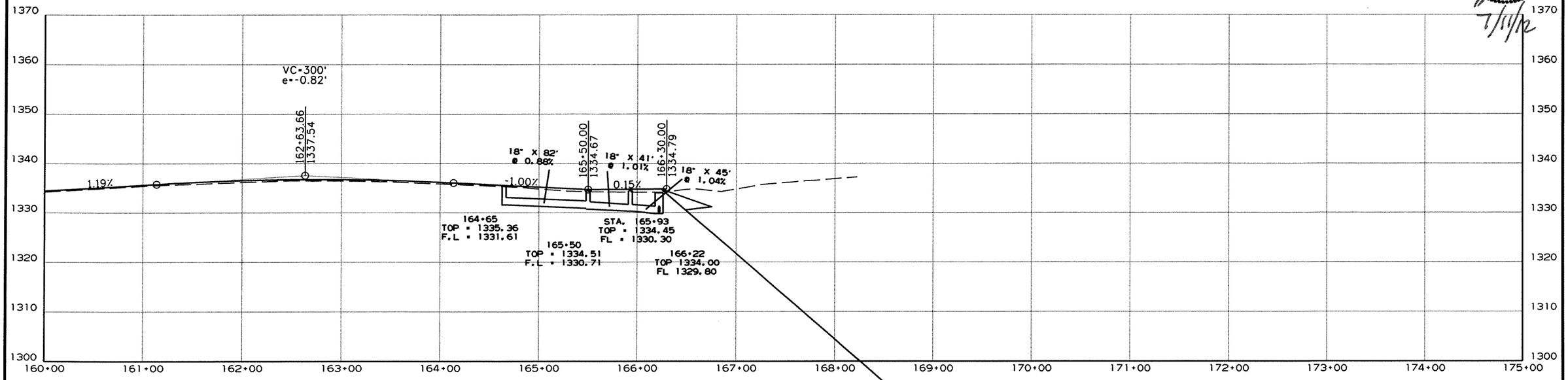
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	49	148

(2) PROFILE SHEET

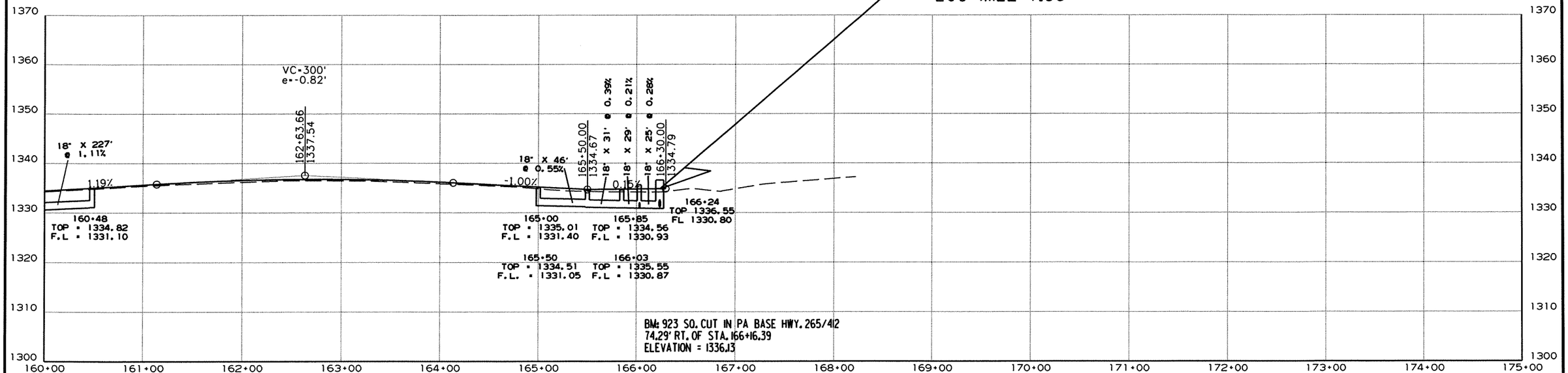
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. FUGETT
7/11/12

LEFT SIDE OF HWY. 265



STA. 166+26 END
JOB 040490
LOG MILE 7.96

RIGHT SIDE OF HWY. 265



BM: 923 SQ. CUT IN PA BASE HWY. 265/412
74.29' RT. OF STA. 166+16.39
ELEVATION = 1336.13

R040490.DGN 6/27/2012

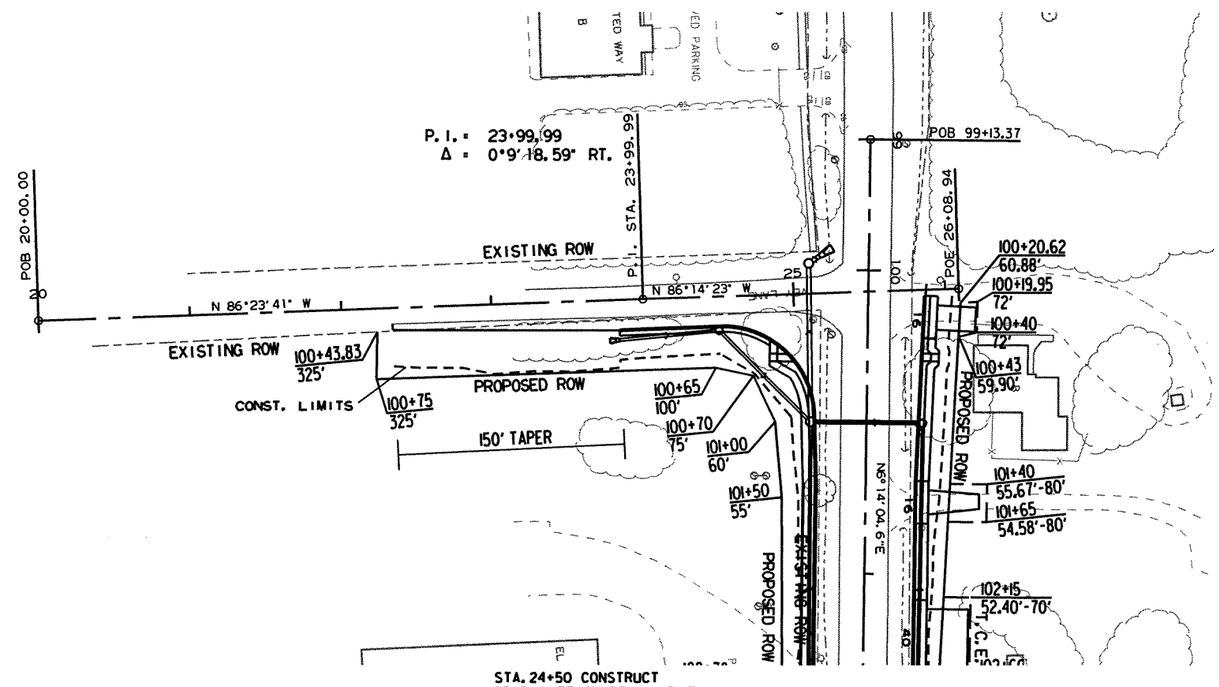
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				6	ARK.			
				JOB NO.		040490	50	148

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

N

STA. 25+10 CONSTRUCT
JUNCTION BOX ON LT. H = 3'-3"
30" X 7' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES
TYPE E = 4' X 4'



STA. 24+50 CONSTRUCT
DROP INLET ON RT. H = 3'-7"
18" X 65' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES AND 18" X 82'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 82 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 82 LIN. FT.

R040490.DGN 6/27/2012

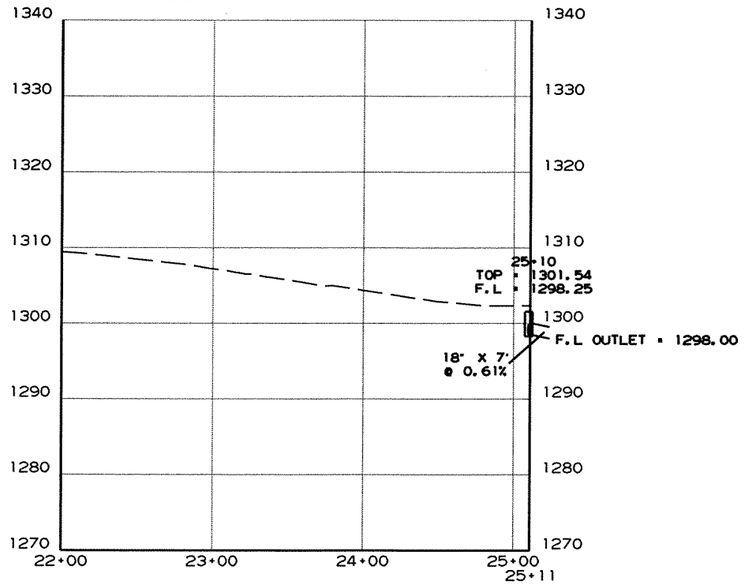
IVEY LANE

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.		040490	51	148

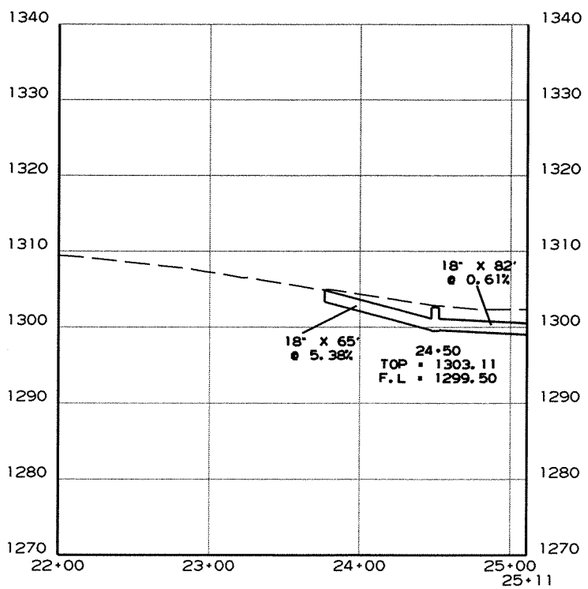
(2) PROFILE SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. PUGETT
7/11/12

LEFT SIDE OF IVEY LANE



RIGHT SIDE OF IVEY LANE



IVEY LANE

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	52	148

(2) SYSTEM MAP

SPRINGDALE MASTER ANTENNA

LOCATED AT THE INTERSECTION OF HWY. 71B/HWY. 412

ANTENNA ORIENTATION

HWY. 265/HWY. 412

90° 00' 00"

ANTENNA ORIENTATION

HWY. 265/ELECTRIC AVENUE

6° 03' 26"

ANTENNA ORIENTATION

HWY. 265/DON TYSON PARKWAY

3° 56' 00"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

SCALE IN FEET
0 1000 2000 4000

DATE: 04-21-11
FILE NAME: t040490-job.dgn
MODEL: SYSTEM MAP

LOCATION:	SOUTH CITY LIMITS - HWY. 412
CITY:	SPRINGDALE
COUNTY:	WASHINGTON
DISTRICT: 4	SCALE: 1"=2000' DRAWN BY: GWE

1040490_job.dgn 12/4/2009

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.		040490	53	148
				(2)	SIGNALIZATION PLAN SHEET			

TRAFFIC SIGNAL NOTES:

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2002) NATIONAL ELECTRICAL CODE, NFPA 101(2000) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET SHALL HAVE 16 LOAD BAYS AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PAVEMENT MARKING PLAN SHEETS.
11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY.
17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, 38 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 6 FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO ISMA STANDARDS.
22. ONE VIDEO PROGRAMMING MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
23. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

ITEM NO.	ITEM	HWY.265 AT DON TYSON	HWY.265 AT ELECT. AVE.	HWY.265 AT HWY.412	TOTAL JOB QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2, E-NET (8 PHASE)	1	1	1	3	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	14	14	12	40	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4	2	4	10	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)	2			2	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	6	8	22	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	4691	2284	3132	10107	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	1161	317	284	1762	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	1359	378	909	2646	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	20	20	60	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")		20	20	40	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")	50			50	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	20	20	60	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	40	20	80	LIN. FT.
710	NON-METALLIC CONDUIT (3")	674	342	716	1732	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	1	3	6	10	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	8	3	4	15	EACH
713	SPAN WIRE ASSEMBLY	1	1		2	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')		1		1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')			2	2	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44')		1		1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	3			3	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1	1		2	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')			1	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (62')			1	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	4	2	6	12	EACH
716	TREATED WOOD POLE (CLASS 3, 40')	4	4		8	EACH
733	VIDEO CABLE	3532	1398	2474	7404	LIN. FT.
733	VIDEO MONITOR (CLR)	1	1	1	3	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	1	1	3	EACH
SP&733	VIDEO DETECTOR (CLR)	9 •	5	8	22	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	5 •	3	4	12	EACH
SP&733	VIDEO EDGE CARD EXTENDER	2	1		3	EACH
SP&733	VIDEO DETECTOR RELOCATION	6	3		9	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	82	529		611	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	679	407	764	1850	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	60	150		210	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	20	20	60	LIN. FT.
SP	E-NET CABLE (EXTERIOR CAT 5)	75	75	75	225	LIN. FT.
SP	ETHERNET SWITCH, TIOO HARDENED (4 PORT)	1	1	1	3	EACH
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	1	1	3	EACH
SP	LUMINAIRE ASSEMBLY	1	3		4	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	6	10		16	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	0.33	0.34	1.00	LUMP SUM
SP	VIDEO DETECTOR ROTATION	2	1		3	EACH
SP	18" STREET NAME SIGN	4	3	4	11	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	1	1	3	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	1	1		2	EACH

• ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED.

DATE: 06-26-12
FILE NAME: t040490-job.dgn
MODEL: SIGNAL NOTES AND SUMMARY

LOCATION: SOUTH CITY LIMITS-HWY. 412 (SPRINGDALE)(S)
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

t040490_job.dgn 12/7/2009

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.		040490	54	148
				(2)	SIGNALIZATION PLAN SHEET			

STAGE 1 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2227	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	891	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	868	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")	50	LIN. FT.
710	NON-METALLIC CONDUIT (3")	50	LIN. FT.
713	SPAN WIRE ASSEMBLY	1	EACH
716	TREATED WOOD POLE (CLASS 3, 40')	4	EACH
733	VIDEO CABLE	1686	LIN. FT.
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	1	EACH

STAGE 1
THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL STAGE 1 TRAFFIC SIGNAL IS COMPLETED. THE EXISTING TRAFFIC SIGNAL CONTROLLER, TRAFFIC SIGNAL POLES, VIDEO DETECTORS AND TRAFFIC SIGNAL HEADS, SHALL BE UTILIZED TO CONSTRUCT A TEMPORARY TRAFFIC SIGNAL INSTALLATION.
INSTALL 4 TREATED WOOD POLES (CLASS 3, 40') AND SPAN WIRE ASSEMBLY SUCH THAT THE SPAN WIRE IS LOCATED BETWEEN THE EXISTING AND PROPOSED TRAFFIC SIGNAL INSTALLATIONS.
INSTALL ALL TRAFFIC SIGNAL CABLE AND VIDEO CABLE ACCESSING THE EXISTING TRAFFIC SIGNAL POLES FROM THE TOP AS SHOWN ON THE SIGNALIZATION DETAIL (SPAN WIRE ASSEMBLY STEEL POLE).
UTILIZING THE EXISTING TRAFFIC SIGNAL CABLE CONTAINED INSIDE THE EXISTING TRAFFIC SIGNAL POLES MAKE CONNECTIONS AT THE POLE BASE.
RE-ESTABLISH VIDEO ZONES AND MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1 TRAFFIC SIGNAL PLANS. (REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STAGE 2 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	2	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1WAY)	1	EACH
SP&733	VIDEO DETECTOR RELOCATION	3	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	3	EACH
SP	VIDEO DETECTOR ROTATION	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.11	LUMP SUM

STAGE 2:
INSTALL NEW TRAFFIC SIGNAL HEADS AND RELOCATE VIDEO DETECTORS AND EXISTING TRAFFIC SIGNAL HEADS. MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 2 TRAFFIC SIGNAL PLAN. (REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STAGE 3 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	2	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1WAY)	1	EACH
SP&733	VIDEO DETECTOR RELOCATION	3	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	3	EACH
SP	VIDEO DETECTOR ROTATION	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.11	LUMP SUM

STAGE 3:
INSTALL NEW TRAFFIC SIGNAL HEADS AND RELOCATE VIDEO DETECTORS AND EXISTING TRAFFIC SIGNAL HEADS. MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 3 TRAFFIC SIGNAL PLAN. (REFER TO MAINTENANCE OF TRAFFIC DETAILS).

PERMANENT TRAFFIC SIGNAL QUANTITIES

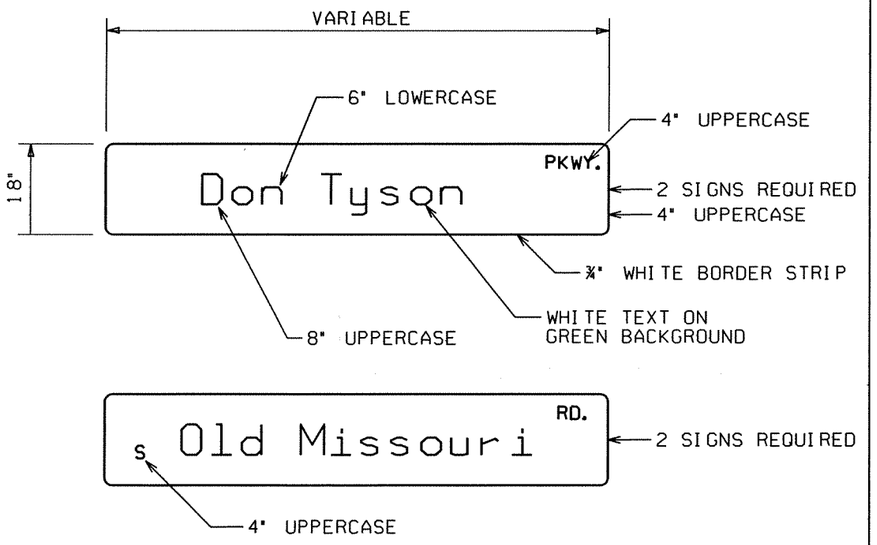
ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2, E-NET (8 PHASE)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	10	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	4	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2464	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	270	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	491	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (3")	624	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	1	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	8	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	3	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	4	EACH
733	VIDEO CABLE	1846	LIN. FT.
• SP&733	VIDEO DETECTOR (CLR)	9	EACH
733	VIDEO MONITOR (CLR)	1	EACH
• SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	5	EACH
SP&733	VIDEO EDGE CARD EXTENDER	2	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	82	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	679	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	60	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	E-NET CABLE (EXTERIOR CAT 5)	75	LIN. FT.
SP	ETHERNET SWITCH, TI00 HARDENED (4 PORT)	1	EACH
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	EACH
SP	LUMINAIRE ASSEMBLY	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.11	LUMP SUM
SP	18" STREET NAME SIGN	4	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

• ONE SPARE VIDEO PROCESSOR AND DETECTOR SHALL BE SUPPLIED.

PERMANENT TRAFFIC SIGNAL:
THE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.
REMOVE ALL EXISTING AND STAGE 1-3 TEMPORARY TRAFFIC SIGNAL COMPONENTS AND INSTALL PERMANENT TRAFFIC SIGNAL. (REFER TO PERMANENT TRAFFIC SIGNAL PLANS).

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/11/12

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED



NOTES:
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ANODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM OF THE NEARSIDE LEFT POLE.
SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE CLEARVIEW 5-W-R FONT SHALL BE USED FOR ALL LETTERS.

DATE: 06-25-12
FILE NAME: t040490-01.dgn
MODEL: SIGNAL QUANTITIES AND SIGNS

LOCATION:	HWY. 265/DON TYSON PARKWAY		
CITY:	SPRINGDALE		
COUNTY:	WASHINGTON		
DISTRICT:	4	SCALE: N/A	DRAWN BY: GWE

1040490_04.dgn 12/7/2009

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.		040490	55	148

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

2&3
5&6
8&9
11&12

1, 4, 7&10

13&14
15&16
17&18
19&20

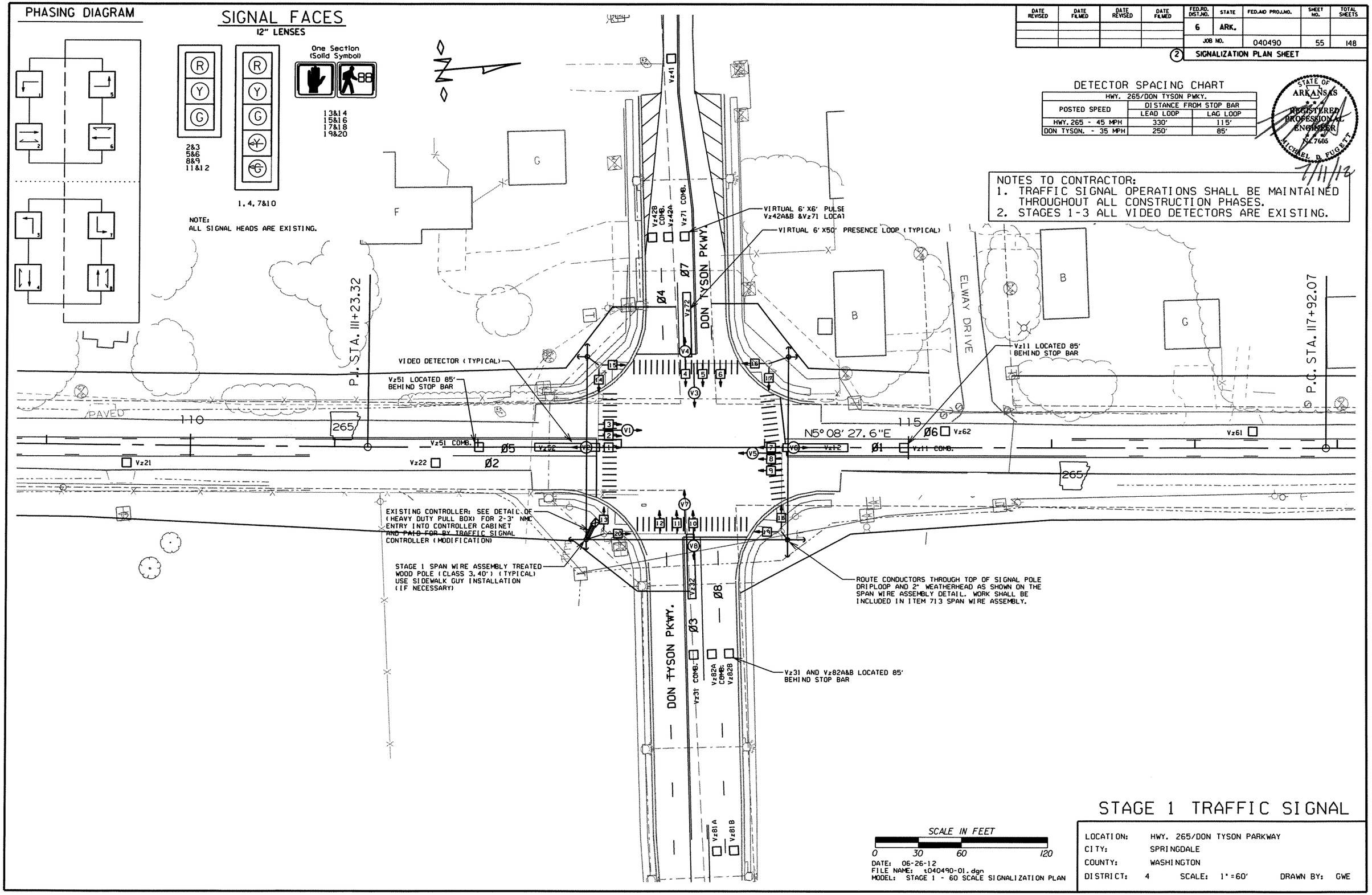
NOTE:
ALL SIGNAL HEADS ARE EXISTING.

DETECTOR SPACING CHART

HWY. 265/DON TYSON PWKY.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 45 MPH	330'	115'
DON TYSON. - 35 MPH	250'	85'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGATT
7/11/12

NOTES TO CONTRACTOR:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.
2. STAGES 1-3 ALL VIDEO DETECTORS ARE EXISTING.



SCALE IN FEET
0 30 60 120

DATE: 06-26-12
FILE NAME: t040490-01.dgn
MODEL: STAGE 1 - 60 SCALE SIGNALIZATION PLAN

STAGE 1 TRAFFIC SIGNAL

LOCATION:	HWY. 265/DON TYSON PARKWAY				
CITY:	SPRINGDALE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	1"=60'	DRAWN BY:	GWE

t040490_04.dgn 12/7/2009

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.		040490	56	148

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/11/12

VIRTUAL 6'X6' PULSE LOOP (TYPICAL)
Vz42A&B &Vz71 LOCATED 85' BEHIND STOP BAR

VIRTUAL 6'X50' PRESENCE LOOP (TYPICAL)

Vz11 LOCATED 85' BEHIND STOP BAR

VIDEO DETECTOR (TYPICAL)

Vz51 LOCATED 85' BEHIND STOP BAR

EXISTING CONTROLLER: SEE DETAIL OF (HEAVY DUTY PULL BOX) FOR 2-3" NMC ENTRY INTO CONTROLLER CABINET AND PAID FOR BY TRAFFIC SIGNAL CONTROLLER (MODIFICATION)

STAGE 1 SPAN WIRE ASSEMBLY TREATED WOOD POLE (CLASS 3, 40') (TYPICAL) USE SIDEWALK GUY INSTALLATION (IF NECESSARY)

ROUTE CONDUCTORS THROUGH TOP OF SIGNAL POLE DRIPLOOP AND 2" WEATHERHEAD AS SHOWN ON THE SPAN WIRE ASSEMBLY DETAIL. WORK SHALL BE INCLUDED IN ITEM 713 SPAN WIRE ASSEMBLY.

Vz31 AND Vz82A&B LOCATED 85' BEHIND STOP BAR

DON TYSON PKWY.

ELWAY DRIVE

P.I. STA. 111+23

N5° 08' 27.6"E

115

Vz42B COMB. Vz42A Vz71 COMB. Vz72 Vz51 COMB. Vz52 Vz22 Vz62 Vz12 Vz11 COMB. Vz32 Vz31 COMB. Vz82A COMB. Vz82B

Ø1 Ø2 Ø3 Ø4 Ø5 Ø6 Ø7 Ø8

V1 V2 V3 V4 V5 V6 V7 V8

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

B

265

SCALE IN FEET
0 20 40 80

DATE: 06-26-12
FILE NAME: t040490-01.dgn
MODEL: STAGE 1 - 40 SCALE SIGNALIZATION PLAN

STAGE 1 TRAFFIC SIGNAL

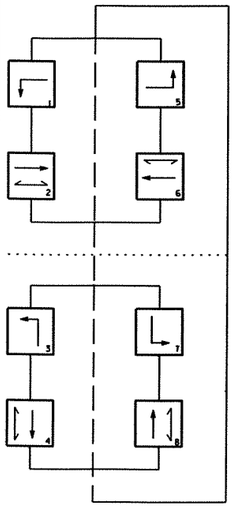
LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=40' DRAWN BY: GWE

t040490_04.dgn 12/7/2009

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.		040490	57	148

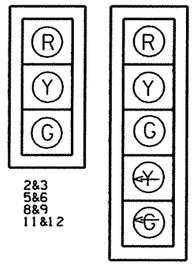
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM



SIGNAL FACES

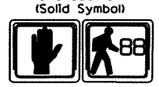
12" LENSES



2&3
5&6
8&9
11&12

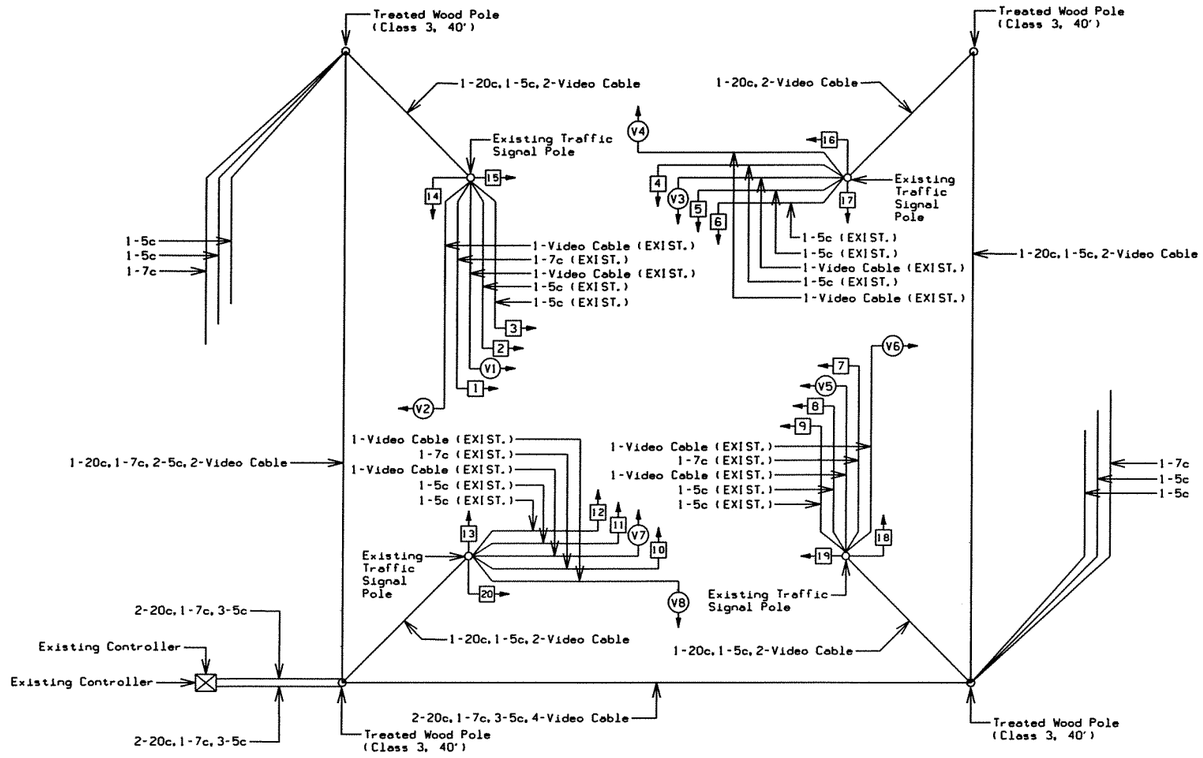
1, 4, 7&10

One Section (Solid Symbol)



13&14
15&16
17&18
19&20

NOTE:
ALL SIGNAL HEADS ARE EXISTING.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

EXISTING

DETECTOR SYSTEM DESCRIPTION: JOB 040490											
SPRINGDALE - HWY. 265/DON TYSON PARKWAY DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	SB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12	SB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz21	NB ADVANCE	LOCAL			5	V2	2			CAMERA V2	58'
Vz22	NB NEAR	COMB.			6	V6	2	2		CAMERA V5	23'
Vz31	WB LEFT TURN FAR	COMB.			9	V11	3	3		CAMERA V3	23'
Vz32	WB LEFT TURN	LOCAL			10	V3	3			CAMERA V3	23'
Vz41	EB ADVANCE	LOCAL			15	V12	4			CAMERA V4	58'
Vz42A&B	EB NEAR	COMB.			16	D4	4	4		CAMERA V7	23'
Vz51	NB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5	23'
Vz52	NB LEFT TURN	LOCAL			8	V5	5			CAMERA V5	23'
Vz61	SB ADVANCE	LOCAL			3	V6	6			CAMERA V6	58'
Vz62	SB NEAR	COMB.			4	V14	6	6		CAMERA V1	23'
Vz71	EB LEFT TURN FAR	COMB.			13	V15	7	7		CAMERA V7	23'
Vz72	EB LEFT TURN	LOCAL			14	V7	7			CAMERA V7	23'
Vz81A&B	WB ADVANCE	LOCAL			11	V8	8			CAMERA V8	58'
Vz82A&B	WB NEAR	COMB.			12	V16	8	8		CAMERA V3	23'
PB2A&B	D. TYSON PKWY. E. LEG	PED.				P2	2				
PB4A&B	HWY. 265 S. LEG	PED.				P4	4				
PB6A&B	D. TYSON PKWY. W. LEG	PED.				P6	6				
PB8A&B	HWY. 265 N. LEG	PED.				P8	8				
					SPARE						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

STAGE 1 WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

EXISTING INTERVAL CHART

SIGNAL FACES	HWY. 265/DON TYSON PARKWAY																				FLASH SEQ.
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.					
1	R/G	R/•	G/G	••/•	R	R	G	••	R	R	R	R	R	R	R	R					R
2&3	R	R	G	••	R	R	G	••	R	R	R	R	R	R	R	R					R
4	R	R	R	R	R	R	R	R	R/G	R/•	G/G	••/•	R	R	G	••					R
5&6	R	R	R	R	R	R	R	R	R	R	G	••	R	R	G	••					R
7	R/G	R/G	R	R	G/G	••/•	G	••	R	R	R	R	R	R	R	R					R
8&9	R	R	R	R	G	••	G	••	R	R	R	R	R	R	R	R					R
10	R	R	R	R	R	R	R	R	R/G	R/G	R	R	G/G	••/•	G	••					R
11&12	R	R	R	R	R	R	R	R	R	R	R	R	G	••	G	••					R
13&14	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW					BLK
15&16	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW					BLK
17&18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW					BLK
19&20	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW					BLK

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

STAGE 1 TRAFFIC SIGNAL

DATE: 04-21-11
FILE NAME: t040490-01.dgn
MODEL: STAGE 1 SIGNALIZATION WIRING DIAGRAM

LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

t040490_04.dgn 12/7/2009

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.		040490	58	148
				(2)	SIGNALIZATION PLAN SHEET			

PHASING DIAGRAM

SIGNAL FACES

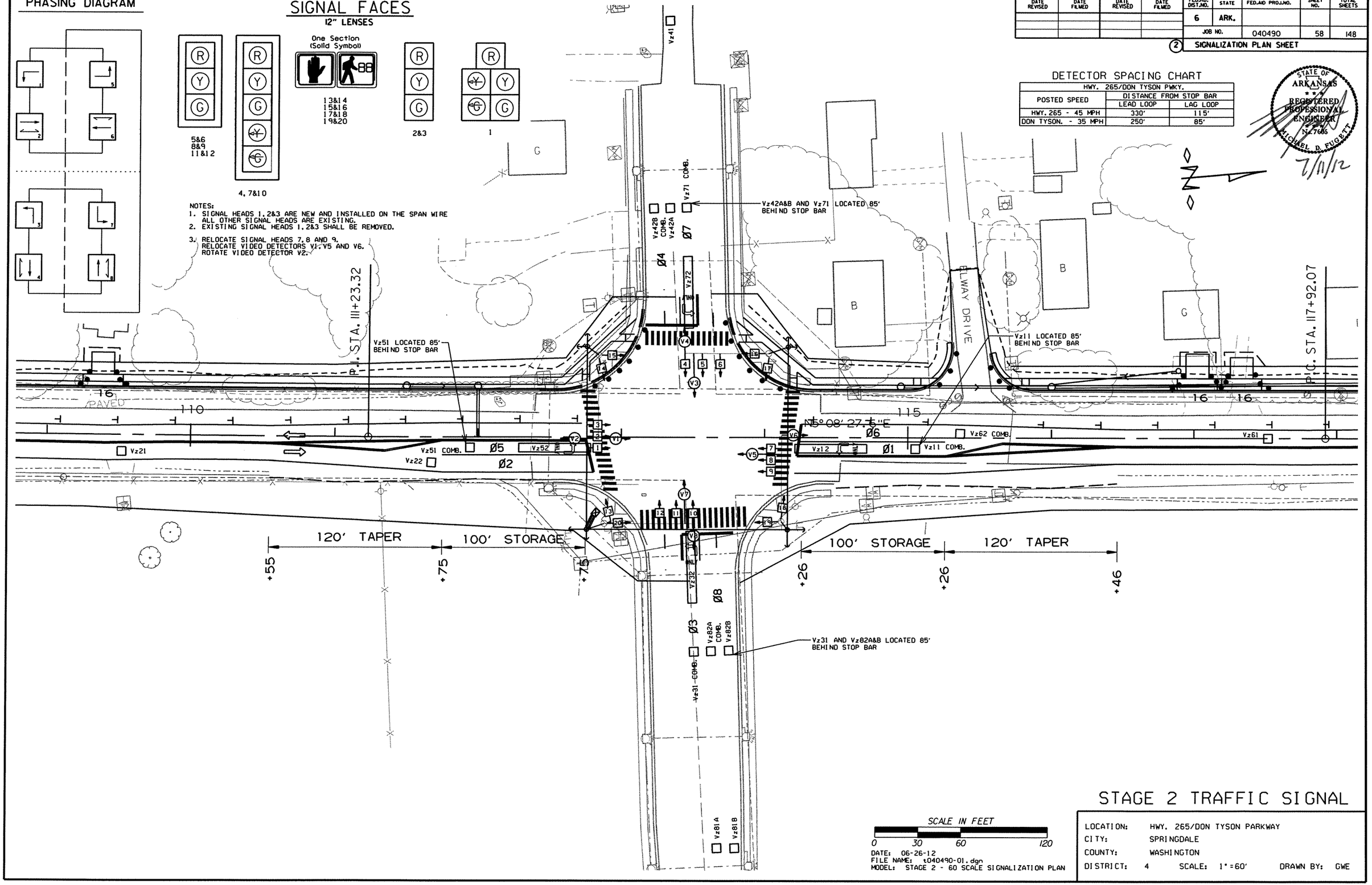
12" LENSES

NOTES:
1. SIGNAL HEADS 1, 2&3 ARE NEW AND INSTALLED ON THE SPAN WIRE ALL OTHER SIGNAL HEADS ARE EXISTING.
2. EXISTING SIGNAL HEADS 1, 2&3 SHALL BE REMOVED.
3. RELOCATE SIGNAL HEADS 7, 8 AND 9. RELOCATE VIDEO DETECTORS V1, V5 AND V6. ROTATE VIDEO DETECTOR V2.

DETECTOR SPACING CHART

HWY. 265/DON TYSON PWKY.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 45 MPH	330'	115'
DON TYSON. - 35 MPH	250'	85'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12



SCALE IN FEET
0 30 60 120

DATE: 06-26-12
FILE NAME: t040490-01.dgn
MODEL: STAGE 2 - 60 SCALE SIGNALIZATION PLAN

STAGE 2 TRAFFIC SIGNAL

LOCATION:	HWY. 265/DON TYSON PARKWAY			
CITY:	SPRINGDALE			
COUNTY:	WASHINGTON			
DISTRICT:	4	SCALE:	1"=60'	DRAWN BY: GWE

t040490_04.dgn 12/7/2009

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.		040490	59	148

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/11/12

Vz42A&B AND Vz71 LOCATED 85' BEHIND STOP BAR

Vz51 LOCATED 85' BEHIND STOP BAR

Vz11 LOCATED 85' BEHIND STOP BAR

Vz31 AND Vz82A&B LOCATED 85' BEHIND STOP BAR

RAILWAY DRIVE

STA. 111+23.32

N15° 08' 27.6"E

115

Vz51 COMB. Ø5 Vz52 ONLY

Vz22 Ø2

Vz42B COMB. Vz42A Ø4

Vz71 COMB. Ø7

Vz72 ONLY

Ø6 Vz62 COMB.

Vz12 ONLY Ø1 Vz11 COMB.

Vz32 ONLY Ø8

Ø3 Vz82A COMB. Vz82B

Vz31 COMB.

120' TAPER +55

100' STORAGE +75

100' STORAGE +26

120' TAPER +26 +46

SCALE IN FEET
0 20 40 80

DATE: 04-21-11
FILE NAME: t040490-01.dgn
MODEL: STAGE 2 - 40 SCALE SIGNALIZATION PLAN

STAGE 2 TRAFFIC SIGNAL

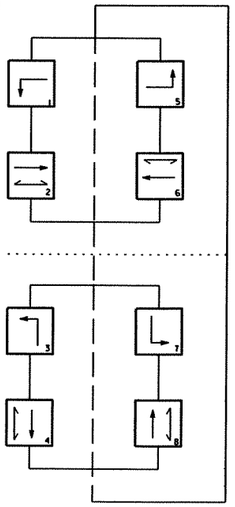
LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=40' DRAWN BY: GWE

t040490_04.dgn 12/7/2009

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.		040490	60	148

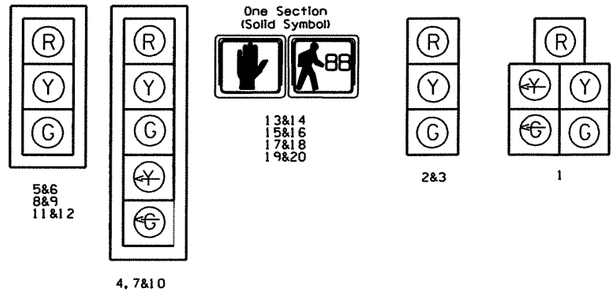
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM



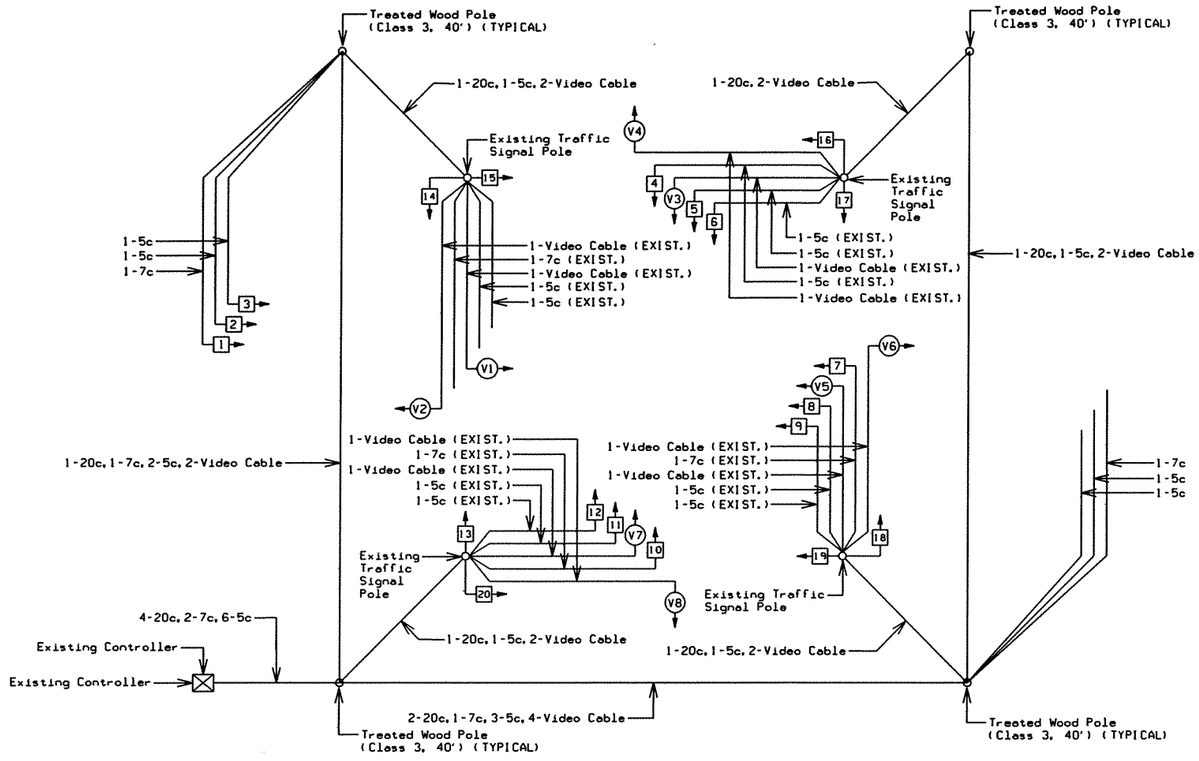
SIGNAL FACES

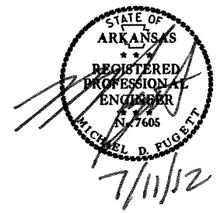
12" LENSES



NOTES:

1. SIGNAL HEADS 1, 2&3 ARE NEW AND INSTALLED ON THE SPAN WIRE ALL OTHER SIGNAL HEADS ARE EXISTING.
2. EXISTING SIGNAL HEADS 1, 2&3 SHALL BE REMOVED.
3. RELOCATE SIGNAL HEADS 7, 8 AND 9. RELOCATE VIDEO DETECTORS V1, V5 AND V6. ROTATE VIDEO DETECTOR V2.





DETECTOR SYSTEM DESCRIPTION: JOB 040490											
SPRINGDALE - HWY. 265/DON TYSON PARKWAY DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	SB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12	SB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz21	NB ADVANCE	LOCAL			5	V2	2			CAMERA V2	58'
Vz22	NB NEAR	COMB.			6	V10	2	2		CAMERA V5	23'
Vz31	WB LEFT TURN FAR	COMB.			9	V11	3	3		CAMERA V3	23'
Vz32	WB LEFT TURN	LOCAL			10	V3	3			CAMERA V3	23'
Vz41	EB ADVANCE	LOCAL			15	V4	4			CAMERA V4	58'
Vz42A&B	EB NEAR	COMB.			16	V12	4	4		CAMERA V7	23'
Vz51	NB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5	23'
Vz52	NB LEFT TURN	LOCAL			8	V5	5			CAMERA V5	23'
Vz61	SB ADVANCE	LOCAL			3	V6	6			CAMERA V6	58'
Vz62	SB NEAR	COMB.			4	V14	6	6		CAMERA V1	23'
Vz71	EB LEFT TURN FAR	COMB.			13	V15	7	7		CAMERA V7	23'
Vz72	EB LEFT TURN	LOCAL			14	V7	7			CAMERA V7	23'
Vz81A&B	WB ADVANCE	LOCAL			11	V8	8			CAMERA V8	58'
Vz82A&B	WB NEAR	COMB.			12	V16	8	8		CAMERA V3	23'
PB2A&B	D. TYSON PKWY. E. LEG	PED.				P2	2				
PB4A&B	HWY. 265 S. LEG	PED.				P4	4				
PB6A&B	D. TYSON PKWY. W. LEG	PED.				P6	6				
PB8A&B	HWY. 265 N. LEG	PED.				P8	8				
					SPARE						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

STAGE 2 WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

INTERVAL CHART

SIGNAL FACES	HWY. 265/DON TYSON PARKWAY																FLASH SEQ.
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	
1	R/G	R/•	G/G	••/•	R	R	G	••	R	R	R	R	R	R	R	R	R
2&3	R	R	G	••	R	R	G	••	R	R	R	R	R	R	R	R	R
4	R	R	R	R	R	R	R	R	R/G	R/•	G/G	••/•	R	R	G	••	R
5&6	R	R	R	R	R	R	R	R	R	R	G	••	R	R	G	••	R
7	R/G	R/G	R	R	G/G	••/•	G	••	R	R	R	R	R	R	R	R	R
8&9	R	R	R	R	G	••	G	••	R	R	R	R	R	R	R	R	R
10	R	R	R	R	R	R	R	R	R/G	R/G	R	R	G/G	••/•	G	••	R
11&12	R	R	R	R	R	R	R	R	R	R	R	R	G	••	G	••	R
13&14	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	BLK
15&16	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK
17&18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	BLK
19&20	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

STAGE 2 TRAFFIC SIGNAL

DATE: 04-21-11
FILE NAME: 1040490-01.dgn
MODEL: STAGE 2 SIGNALIZATION WIRING DIAGRAM

LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

1040490_04.dgn 12/7/2009

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.		040490	61	148

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

SIGNAL FACES

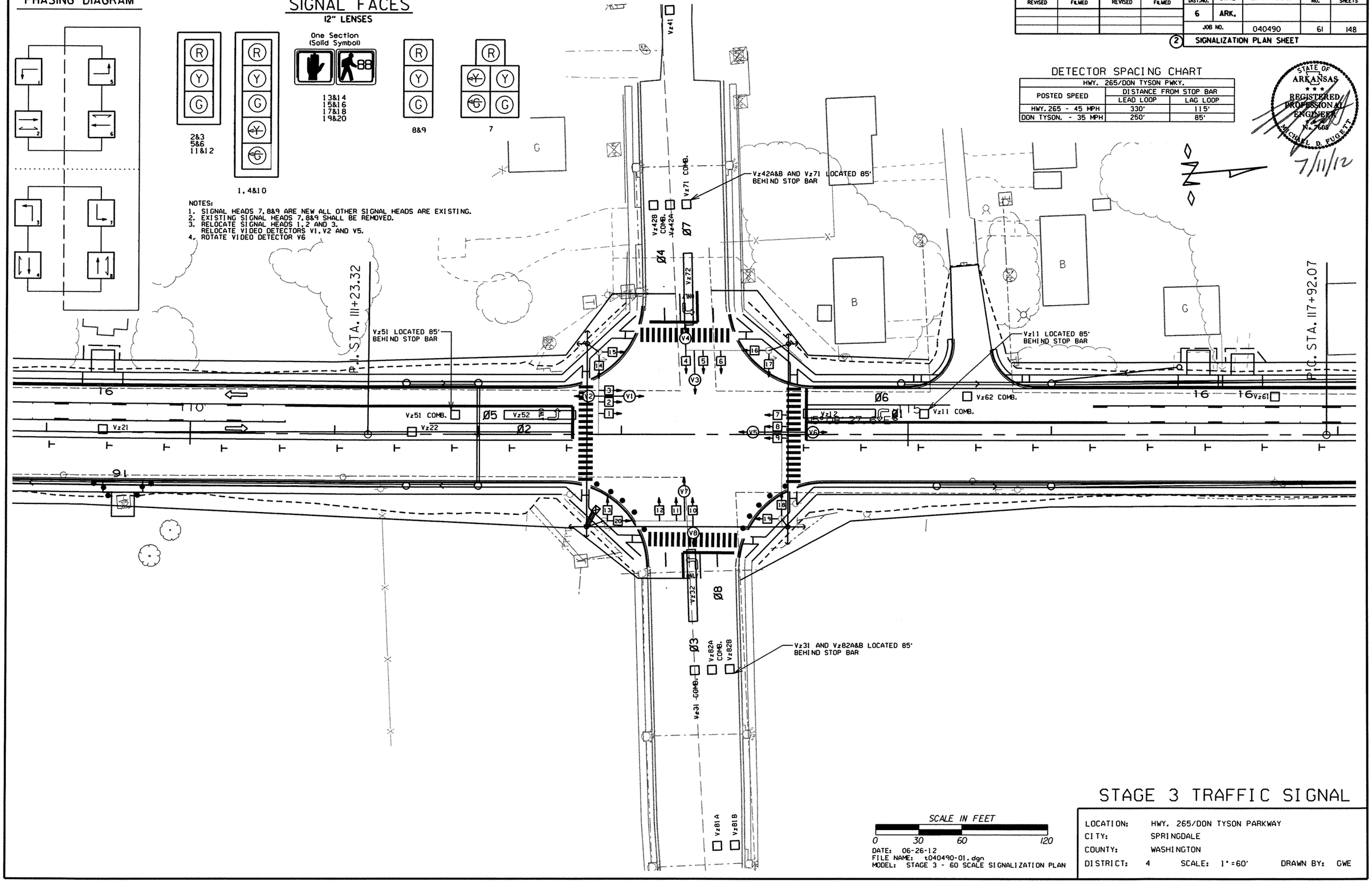
12" LENSES

NOTES:
1. SIGNAL HEADS 7, 8&9 ARE NEW ALL OTHER SIGNAL HEADS ARE EXISTING.
2. EXISTING SIGNAL HEADS 7, 8&9 SHALL BE REMOVED.
3. RELOCATE SIGNAL HEADS 1, 2 AND 3.
   RELOCATE VIDEO DETECTORS V1, V2 AND V5.
4. ROTATE VIDEO DETECTOR V6

DETECTOR SPACING CHART

HWY. 265/DON TYSON PWKY.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 45 MPH	330'	115'
DON TYSON. - 35 MPH	250'	85'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7603
MICHAEL D. FUGETT
7/11/12



SCALE IN FEET
0 30 60 120

DATE: 06-26-12
FILE NAME: t040490-01.dgn
MODEL: STAGE 3 - 60 SCALE SIGNALIZATION PLAN

STAGE 3 TRAFFIC SIGNAL

LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=60' DRAWN BY: GWE

t040490_04.dgn 12/7/2009

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.		040490	62	148

2 SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/11/12

Vz42A&B AND Vz71 LOCATED 85' BEHIND STOP BAR

Vz71 COMB.

Vz42B COMB. Vz42A

Ø7

Ø4

Vz72

ONLY

R.O.W. STA. 111+23.32

Vz51 LOCATED 85' BEHIND STOP BAR

Vz51 COMB.

Vz22

Ø5

Vz52

ONLY

Ø2

Vz11 LOCATED 85' BEHIND STOP BAR

Vz62 COMB.

Vz11 COMB.

Vz12

N5°08'27.6"E

Ø6

Ø1

Vz32

Ø8

Ø3

Vz82A COMB. Vz82B

Vz31 COMB.

Vz31 AND Vz82A&B LOCATED 85' BEHIND STOP BAR

SCALE IN FEET
0 20 40 80

DATE: 04-21-11
FILE NAME: t040490-01.dgn
MODEL: STAGE 3 - 40 SCALE SIGNALIZATION PLAN

STAGE 3 TRAFFIC SIGNAL

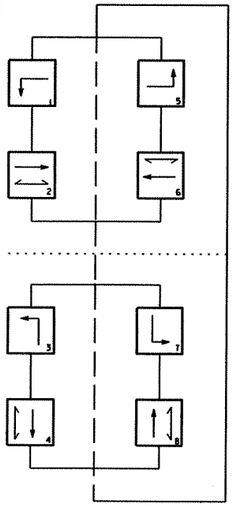
LOCATION:	HWY. 265/DON TYSON PARKWAY		
CITY:	SPRINGDALE		
COUNTY:	WASHINGTON		
DISTRICT:	4	SCALE: 1"=40'	DRAWN BY: GWE

1040490_04.dgn 12/7/2009

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.		040490	63	148

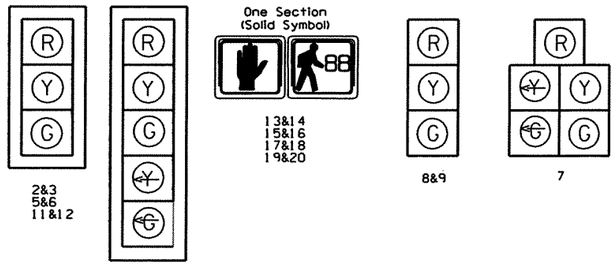
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM



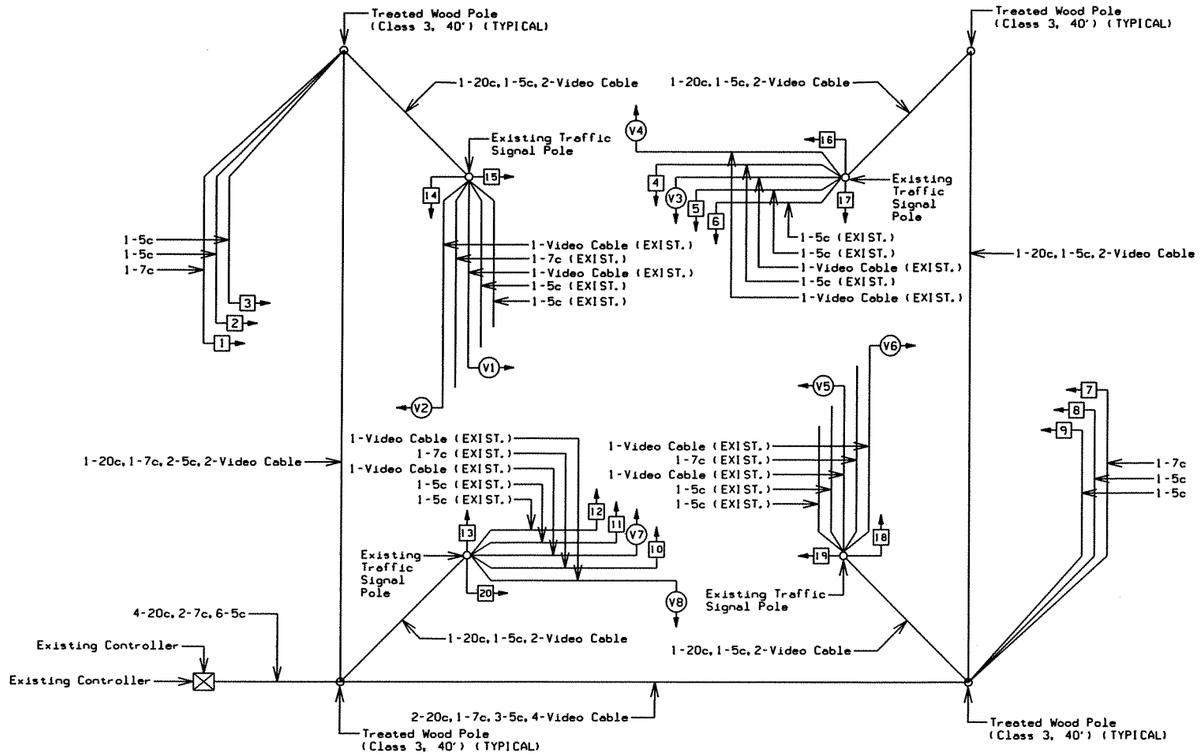
SIGNAL FACES

12" LENSES



NOTES:

1. SIGNAL HEADS 7, 8&9 ARE NEW. ALL OTHER SIGNAL HEADS ARE EXISTING.
2. EXISTING SIGNAL HEADS 7, 8&9 SHALL BE REMOVED.
3. RELOCATE SIGNAL HEADS 1, 2 AND 3.
   RELOCATE VIDEO DETECTORS V1, V2, V5 AND V6.



STAGE 3 WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

DETECTOR SYSTEM DESCRIPTION: JOB 040490

SPRINGDALE - HWY. 265/DON TYSON PARKWAY DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	SB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12	SB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz21	NB ADVANCE	LOCAL			5	V2	2			CAMERA V2	58'
Vz22	NB NEAR	COMB.			6	V10	2	2		CAMERA V5	23'
Vz31	WB LEFT TURN FAR	COMB.			9	V11	3	3		CAMERA V3	23'
Vz32	WB LEFT TURN	LOCAL			10	V3	3			CAMERA V3	23'
Vz41	EB ADVANCE	LOCAL			15	V4	4			CAMERA V4	58'
Vz42A&B	EB NEAR	COMB.			16	V12	4	4		CAMERA V7	23'
Vz51	NB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5	23'
Vz52	NB LEFT TURN	LOCAL			8	V5	5			CAMERA V5	23'
Vz61	SB ADVANCE	LOCAL			3	V6	6			CAMERA V6	58'
Vz62	SB NEAR	COMB.			4	V14	6	6		CAMERA V1	23'
Vz71	EB LEFT TURN FAR	COMB.			13	V15	7	7		CAMERA V7	23'
Vz72	EB LEFT TURN	LOCAL			14	V7	7			CAMERA V7	23'
Vz81A&B	WB ADVANCE	LOCAL			11	V8	8			CAMERA V8	58'
Vz82A&B	WB NEAR	COMB.			12	V16	8	8		CAMERA V3	23'
PB2A&B	D. TYSON PKWY. E. LEG	PED.				P2	2				
PB4A&B	HWY. 265 S. LEG	PED.				P4	4				
PB6A&B	D. TYSON PKWY. W. LEG	PED.				P6	6				
PB8A&B	HWY. 265 N. LEG	PED.				P8	8				
					SPARE						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

INTERVAL CHART

SIGNAL FACES	HWY. 265/DON TYSON PARKWAY																FLASH SEQ.
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	
1	R/G	R/•	G/G	••/•	R	R	G	••	R	R	R	R	R	R	R	R	R
2&3	R	R	G	••	R	R	G	••	R	R	R	R	R	R	R	R	R
4	R	R	R	R	R	R	R	R	R/G	R/•	G/G	••/•	R	R	G	••	R
5&6	R	R	R	R	R	R	R	R	R	R	G	••	R	R	G	••	R
7	R/G	R/G	R	R	G/G	••/•	G	••	R	R	R	R	R	R	R	R	R
8&9	R	R	R	R	G	••	G	••	R	R	R	R	R	R	R	R	R
10	R	R	R	R	R	R	R	R	R/G	R/G	R	R	G/G	••/•	G	••	R
11&12	R	R	R	R	R	R	R	R	R	R	R	R	G	••	G	••	R
13&14	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	BLK
15&16	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK
17&18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	BLK
19&20	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
2/11/12

STAGE 3 TRAFFIC SIGNAL

LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

DATE: 04-21-11
FILE NAME: t040490-01.dgn
MODEL: STAGE 3 SIGNALIZATION PLAN SHEET

t040490_04.dgn 12/7/2009

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.		040490	64	148

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

2, 3&22
5&6
8, 9&21
11&12

1, 4, 7&10

One Section
(Solid Symbol)

13&14
15&16
17&18
19&20

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.

ANTENNA ORIENTATION

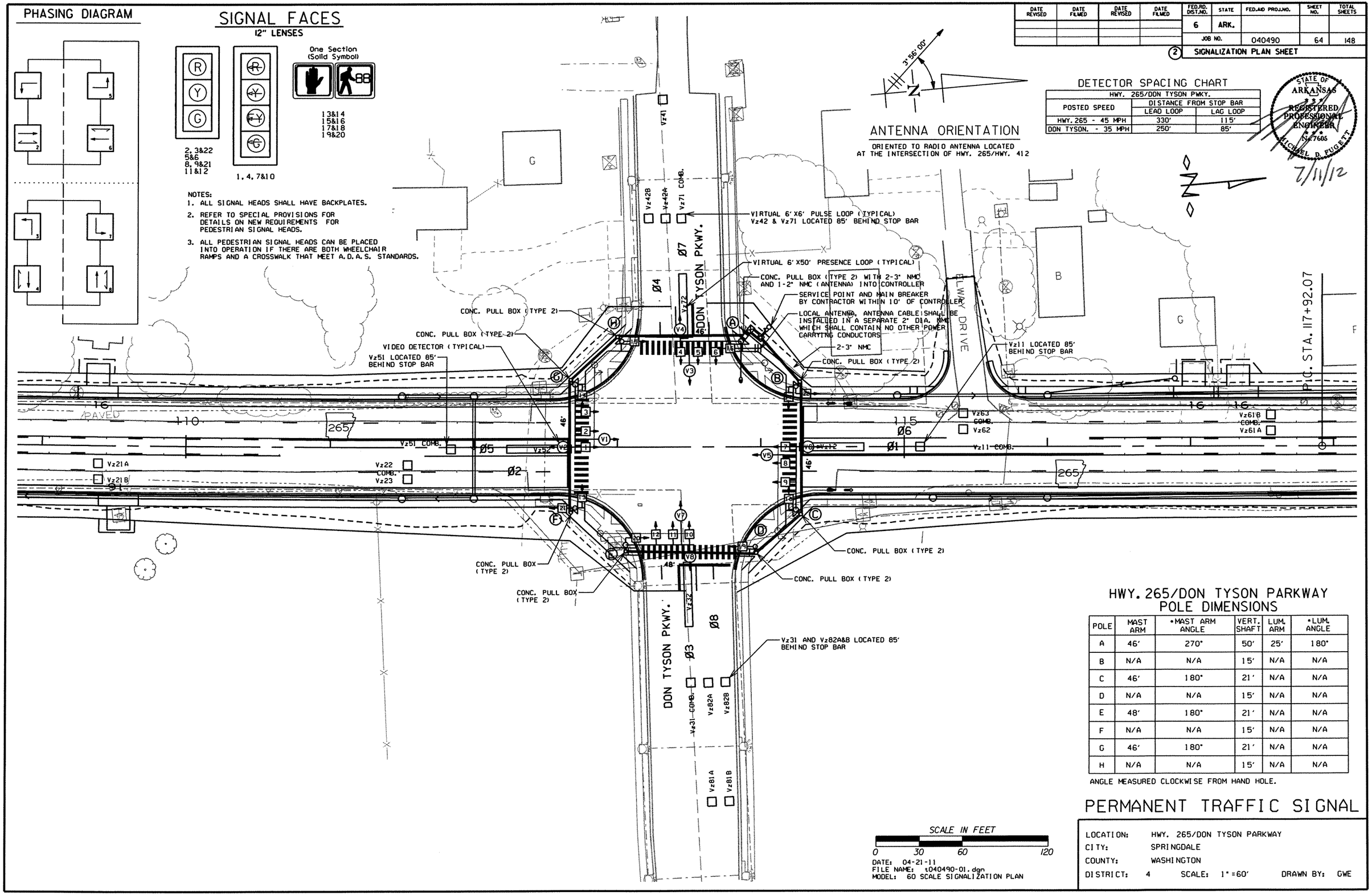
ORIENTED TO RADIO ANTENNA LOCATED AT THE INTERSECTION OF HWY. 265/HWY. 412

3°56'00"

DETECTOR SPACING CHART

HWY. 265/DON TYSON PWKY.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 45 MPH	330'	115'
DON TYSON. - 35 MPH	250'	85'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
2/11/12



HWY. 265/DON TYSON PARKWAY POLE DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	46'	270°	50'	25'	180°
B	N/A	N/A	15'	N/A	N/A
C	46'	180°	21'	N/A	N/A
D	N/A	N/A	15'	N/A	N/A
E	48'	180°	21'	N/A	N/A
F	N/A	N/A	15'	N/A	N/A
G	46'	180°	21'	N/A	N/A
H	N/A	N/A	15'	N/A	N/A

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

SCALE IN FEET
0 30 60 120

DATE: 04-21-11
FILE NAME: t040490-01.dgn
MODEL: 60 SCALE SIGNALIZATION PLAN

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=60' DRAWN BY: GWE

1040490_04.dgn 12/7/2009

HWY. 265/DON TYSON PARKWAY
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 265 - STA. 113+85.87	74' LT.	686929.37, 668981.68
B	HWY. 265 - STA. 114+24.18	42' LT.	686967.80, 668950.08
C	HWY. 265 - STA. 114+25.92	44' RT.	686968.13, 668864.77
D	HWY. 265 - STA. 113+96.48	69' RT.	686939.74, 668839.14
E	HWY. 265 - STA. 113+05.68	68' RT.	686849.39, 668840.42
F	HWY. 265 - STA. 112+70.32	42' RT.	686814.06, 668866.09
G	HWY. 265 - STA. 112+70.32	43' LT.	686814.06, 668951.53
H	HWY. 265 - STA. 113+02.59	74' LT.	686846.35, 668981.76

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.		040490	65	148

(2) SIGNALIZATION PLAN SHEET

VIRTUAL 6'X6' PULSE LOOP (TYPICAL)
Vz42 & Vz71 LOCATED 85' BEHIND STOP BAR

VIRTUAL 6'X50' PRESENCE LOOP (TYPICAL)

CONC. PULL BOX (TYPE 2) WITH 2-3" NMC AND 1-2" NMC (ANTENNA) INTO CONTROLLER

SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10' OF CONTROLLER

LOCAL ANTENNA, ANTENNA CABLE SHALL BE INSTALLED IN A SEPARATE 2" DIA. NMC WHICH SHALL CONTAIN NO OTHER POWER CARRYING CONDUCTORS

2-3" NMC

CONC. PULL BOX (TYPE 2)

PULL BOX (TYPE 2)

CONC. PULL BOX (TYPE 2)

VIDEO DETECTOR (TYPICAL)

Vz51 LOCATED 85' BEHIND STOP BAR

Vz11 LOCATED 85' BEHIND STOP BAR

Vz42B Vz42A Vz71 COMB. Vz72 Vz51 COMB. Vz52 Vz22 COMB. Vz23 Vz12 Vz63 COMB. Vz62 Vz11 COMB. Vz32 Vz31 COMB. Vz82A Vz82B

DON TYSON PKWY. DON TYSON PKWY. DON TYSON PKWY. DRIVE

Ø1 Ø2 Ø3 Ø4 Ø5 Ø6 Ø7 Ø8

46' 46' 48'

265 265

V1 V2 V3 V4 V5 V6 V7 V8

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

A B C D E F G H

CONC. PULL BOX (TYPE 2)

CONC. PULL BOX (TYPE 2)

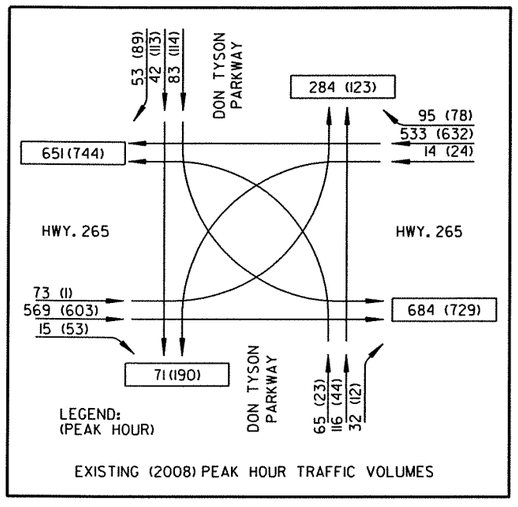
CONC. PULL BOX (TYPE 2)

CONC. PULL BOX (TYPE 2)

Vz31 AND Vz82A&B LOCATED 85' BEHIND STOP BAR

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

TRAFFIC FLOW DIAGRAM



EXISTING (2008) PEAK HOUR TRAFFIC VOLUMES

DESIGN PARAMETERS

POSTED SPEED LIMIT:
35 MPH EAST AND WEST APPROACH
45 MPH NORTH AND SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP BARS SHOWN ON PAVEMENT MARKING PLAN. SEE SEPARATE SHEET.

MINIMUM CLEAR ZONE DISTANCE 1.5 FEET FROM HWY. 265

SCALE IN FEET
0 20 40 80

DATE: 04-21-11
FILE NAME: t040490-01.dgn
MODEL: 40 SCALE SIGNALIZATION PLAN

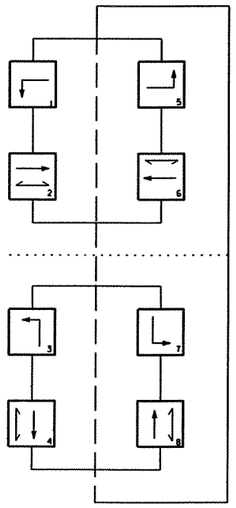
PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=40' DRAWN BY: GWE

t040490_04.dgn 12/7/2009

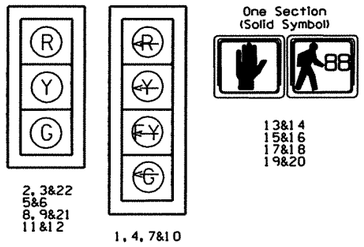
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	66	148
				(2)	SIGNALIZATION PLAN SHEET			

PHASING DIAGRAM



SIGNAL FACES

12" LENSES

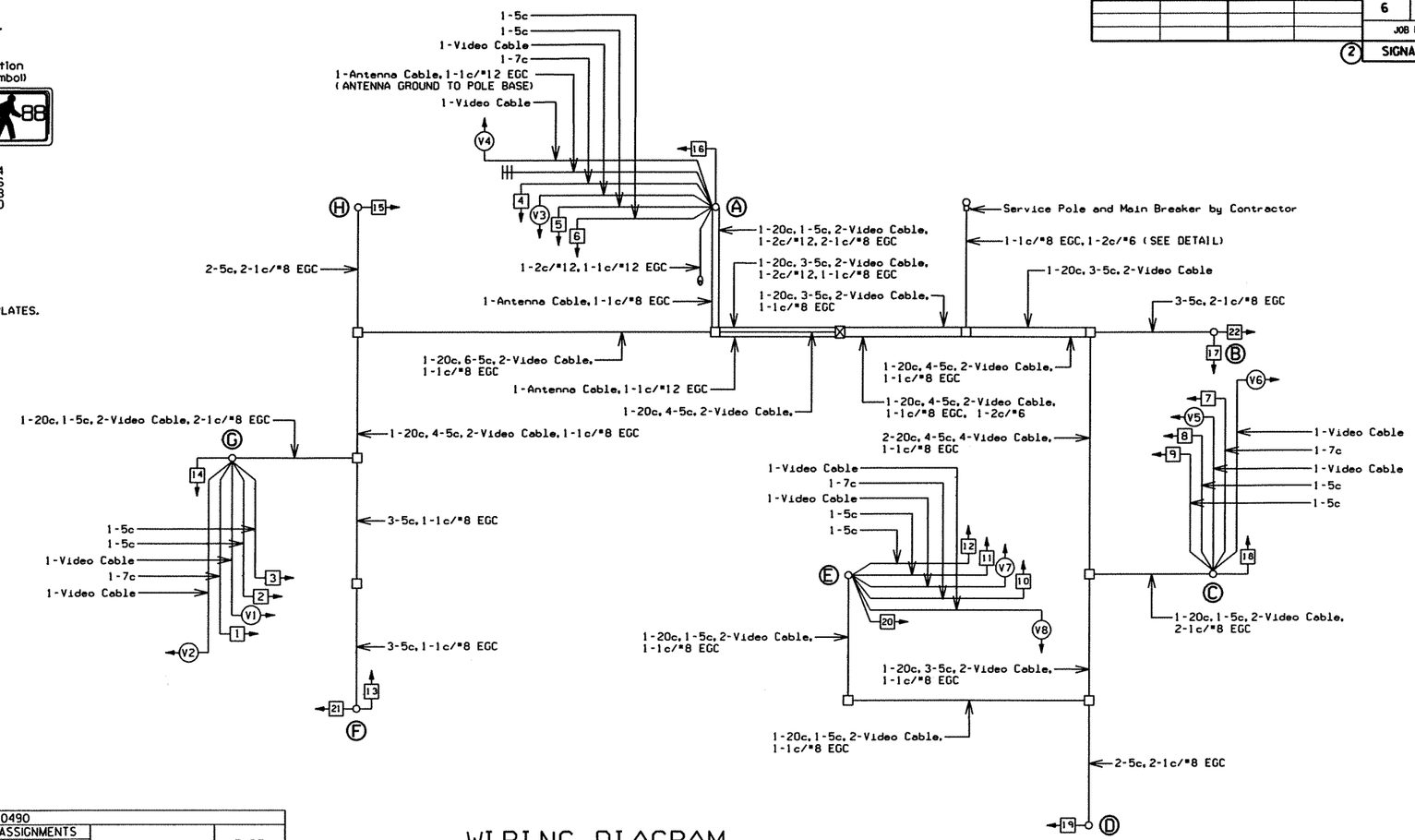


2, 3&22
5&6
8, 9&21
11&12

1, 4, 7&10

13&14
15&16
17&18
19&20

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

DETECTOR SYSTEM DESCRIPTION: JOB 040490

SPRINGDALE - HWY. 265/DON TYSON PARKWAY DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
							LOCAL		MASTER SYSTEM		
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *	DETECTOR NUMBERS		
Vz11	SB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	74'
Vz12	SB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	74'
Vz21A&B	NB ADVANCE	LOCAL			9	V2	2			CAMERA V2	74'
Vz22	NB INSIDE NEAR	COMB.			10	V10	2	2		CAMERA V5	74'
Vz23	NB OUTSIDE NEAR	COMB.			11	V10	2	4		CAMERA V5	74'
Vz31	WB LEFT TURN FAR	COMB.			17	V11	3	3		CAMERA V3	74'
Vz32	WB LEFT TURN	LOCAL			18	V3	3			CAMERA V3	74'
Vz41	EB ADVANCE	LOCAL			21	V4	4			CAMERA V4	74'
Vz42A&B	EB NEAR	LOCAL			22	V4	4			CAMERA V7	74'
Vz51	NB LEFT TURN FAR	COMB.			13	V13	5	5		CAMERA V5	74'
Vz52	NB LEFT TURN	LOCAL			14	V5	5			CAMERA V5	74'
Vz61A&B	SB ADVANCE	LOCAL			5	V6	6			CAMERA V6	74'
Vz62	SB INSIDE NEAR	COMB.			6	V14	6	6		CAMERA V1	74'
Vz63	SB OUTSIDE NEAR	COMB.			7	V15	6	8		CAMERA V1	74'
Vz71	EB LEFT TURN FAR	COMB.			23	V15	7	7		CAMERA V7	74'
Vz72	EB LEFT TURN	LOCAL			24	V7	7			CAMERA V7	74'
Vz81A&B	WB ADVANCE	LOCAL			19	V8	8			CAMERA V8	74'
Vz82A&B	WB NEAR	LOCAL			20	V8	8			CAMERA V3	74'
PB2A&B	D. TYSON PKWY. E. LEG	PED.				P2	2				
PB4A&B	HWY. 265 S. LEG	PED.				P4	4				
PB6A&B	D. TYSON PKWY. W. LEG	PED.				P6	6				
PB8A&B	HWY. 265 N. LEG	PED.				P8	8				
SPARE 3, 4, 8, 12, 15&16											

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

INTERVAL CHART

SIGNAL FACES	HWY. 265/DON TYSON PARKWAY																FLASH SEQ.
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	
1	~~G~~	•	~~G~~	•	~~FY~~	•••	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
2,3&22	R	R	G	••	R	R	G	••	R	R	R	R	R	R	R	R	R
4	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~G~~	•	~~FY~~	•••	~~FY~~	•••	~~R~~
5&6	R	R	R	R	R	R	R	R	R	R	G	••	R	R	G	••	R
7	~~G~~	•	~~FY~~	•••	~~G~~	•	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
8,9&21	R	R	R	R	G	••	G	••	R	R	R	R	R	R	R	R	R
10	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~FY~~	•••	~~G~~	•	~~FY~~	•••	~~R~~
11&12	R	R	R	R	R	R	R	R	R	R	R	R	G	••	G	••	R
13&14	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	BLK
15&16	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK
17&18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	BLK
19&20	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
••• DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 265/DON TYSON PARKWAY
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

DATE: 08-02-11
FILE NAME: t040490-01.dgn
MODEL: SIGNALIZATION WIRING DIAGRAM

1040490_04.dgn 12/7/2009

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.		040490	67	148

(2) SIGNALIZATION PLAN SHEET

STAGE 1 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	6	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	1	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	949	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	248	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
713	SPAN WIRE ASSEMBLY	1	EACH
716	TREATED WOOD POLE (CLASS 3, 40')	4	EACH
733	VIDEO CABLE	439	LIN. FT.
SP&733	VIDEO DETECTOR RELOCATION	2	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.16	LUMP SUM
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	1	EACH

STAGE 1
THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL STAGE 1 TRAFFIC SIGNAL IS COMPLETED INCLUDING ALL SPAN WIRE ASSEMBLIES AND IN OPERATION.
UTILIZING THE EXISTING TRAFFIC SIGNAL CONTROLLER AND 2 EXISTING VIDEO DETECTORS A TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL BE CONSTRUCTED.
INSTALL 4 TREATED WOOD POLES (CLASS 3, 40') AND SPAN WIRE ASSEMBLY SUCH THAT THE SPAN WIRE IS LOCATED BETWEEN THE EXISTING AND PROPOSED TRAFFIC SIGNAL INSTALLATIONS.
INSTALL ALL TRAFFIC SIGNAL CABLE AND VIDEO CABLE. RE-ESTABLISH VIDEO ZONES AND MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1 TRAFFIC SIGNAL PLANS.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STAGE 2 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	5	EACH
SP	VIDEO DETECTOR ROTATION	1	EACH

STAGE 2:
RELOCATE SIGNAL HEADS AND ROTATE VIDEO DETECTOR AS SHOWN ON THE STAGE 2 TRAFFIC SIGNAL PLANS..
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 2 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STAGE 3 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	5	EACH
SP&733	VIDEO DETECTOR RELOCATION	1	EACH

STAGE 3:
RELOCATE SIGNAL HEADS AND VIDEO DETECTOR AS SHOWN ON THE STAGE 3 TRAFFIC SIGNAL PLANS..
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 3 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

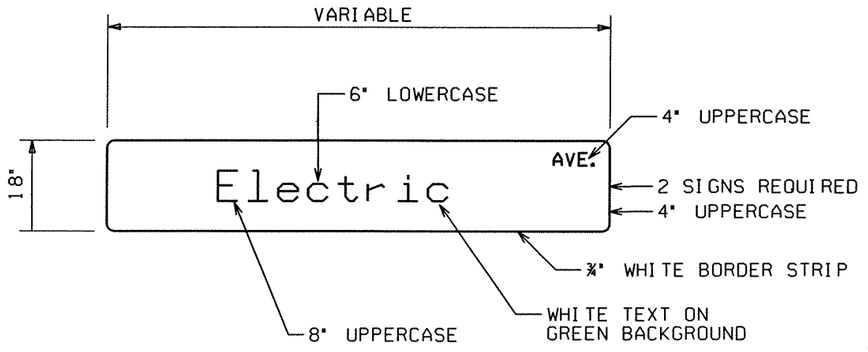
PERMANENT TRAFFIC SIGNAL QUANTITIES

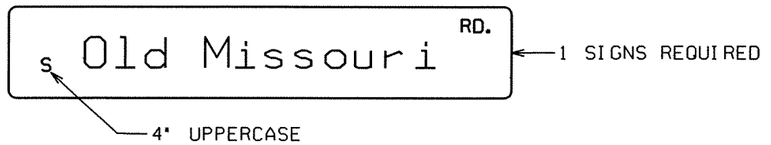
ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2, E-NET (8 PHASE)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	8	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	1	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	6	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1335	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	69	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	378	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (3")	342	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	3	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	3	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	2	EACH
733	VIDEO CABLE	959	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	5	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	3	EACH
SP&733	VIDEO EDGE CARD EXTENDER	1	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	529	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	407	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	150	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	E-NET CABLE (EXTERIOR CAT 5)	75	LIN. FT.
SP	ETHERNET SWITCH, TIOO HARDENED (4 PORT)	1	EACH
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	EACH
SP	LUMINAIRE ASSEMBLY	3	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.17	LUMP SUM
SP	18" STREET NAME SIGN	3	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

PERMANENT TRAFFIC SIGNAL:
THE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.
REMOVE ALL EXISTING AND STAGE 1-3 TEMPORARY TRAFFIC SIGNAL COMPONENTS AND INSTALL PERMANENT TRAFFIC SIGNAL.
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS).

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/11/12

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED





NOTES:
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ANODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM OF THE NEARSIDE LEFT POLE.
SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE CLEARVIEW 5-W-R FONT SHALL BE USED FOR ALL LETTERS.

DATE: 06-26-12
FILE NAME: t040490-02.dgn
MODEL: SIGNAL QUANTITIES AND SIGNS

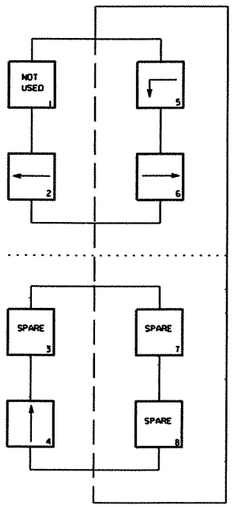
LOCATION:	HWY. 265/ELECTRIC AVENUE		
CITY:	SPRINGDALE		
COUNTY:	WASHINGTON		
DISTRICT:	4	SCALE: N/A	DRAWN BY: GWE

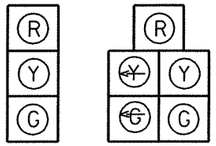
1040490_02.dgn 12/4/2009

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.		040490	68	148

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM





DETECTOR SPACING CHART

HWY. 265/ELECTRIC AVENUE		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 40 MPH	290'	100'
ELECTRIC - 35 MPH	250'	85'

NOTES TO CONTRACTOR:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.
2. STAGES 1-3 ALL VIDEO DETECTORS ARE EXISTING.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

STAGE 1-3 SPAN WIRE ASSEMBLY TREATED WOOD POLE (CLASS 2, 40') USE SIDEWALK GUY INSTALLATION (IF NECESSARY SEE DETAIL)

VIDEO DETECTOR MOUNTED AT SPAN WIRE JUNCTION

STAGE 1-3 SPAN WIRE ASSEMBLY TREATED WOOD POLE (CLASS 2, 40') USE SIDEWALK GUY INSTALLATION (IF NECESSARY SEE DETAIL)

VIRTUAL 6'X50' PRESENCE LOOP (TYPICAL)

VIRTUAL 6'X6' PULSE LOOP (TYPICAL) Vz11 LOCATED 85' BEHIND STOP BAR

STA. 131+28.05

P.T. STA. 136+14.70

EXISTING ROW

PAVED

130

N3°01'49.2"W

135

Vz21

Ø2

Vz22

Vz52

Ø5

Vz51 COMB.

Vz61

Vz62A COMB. Ø6 Vz62B

EXISTING CONTROLLER

EXISTING ROW

P.I. STA. 133+11.53

PAVED PARKING

CANOPY

CAR WASH

B

CANOPY

STAGE 1-3 SPAN WIRE ASSEMBLY TREATED WOOD POLE (CLASS 2,40') USE SIDEWALK GUY INSTALLATION (IF NECESSARY SEE DETAIL)

CANOPY

VIDEO DETECTOR MOUNTED AT SPAN WIRE JUNCTION

Vz41 COMB. Ø4 Vz43 COMB.

Vz42

Vz44

STAGE 1-3 SPAN WIRE ASSEMBLY TREATED WOOD POLE (CLASS 2,40') USE SIDEWALK GUY INSTALLATION (IF NECESSARY SEE DETAIL)

Vz41&43 LOCATED 85' BEHIND STOP BAR

PARKING

SHELL

K

SMALL SHOPS

K

STAGE 1 TRAFFIC SIGNAL

SCALE IN FEET
0 30 60 120

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: STAGE 1 - 60 SCALE SIGNALIZATION PLAN

LOCATION:	HWY. 265/ELECTRIC AVENUE				
CITY:	SPRINGDALE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	1"=60'	DRAWN BY:	GWE

t040490_02.dgn 12/4/2009

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.		040490	69	148

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/11/12

STAGE 1-3 SPAN WIRE ASSEMBLY
TREATED WOOD POLE
(CLASS 2, 40')
USE SIDEWALK GUY
INSTALLATION
(IF NECESSARY SEE DETAIL)

P.C. STA. 131+28.05

VIDEO DETECTOR MOUNTED
AT SPAN WIRE JUNCTION

STAGE 1-3 SPAN WIRE ASSEMBLY
TREATED WOOD POLE (CLASS 2, 40')
USE SIDEWALK GUY INSTALLATION
(IF NECESSARY SEE DETAIL)

VIRTUAL 6' X50' PRESENCE LOOP (TYPICAL)

VIRTUAL 6' X6' PULSE LOOP (TYPICAL)
Vz11 LOCATED 85' BEHIND STOP BAR

EXISTING ROW

PAVED

130

N3° 01' 49.2"W

Ø2

Vz52

Ø5

Vz22

Vz51 COMB.

Vz62A
COMB. Ø6
Vz62B

EXISTING CONTROLLER

Vz42

Vz44

STAGE 1-3 SPAN WIRE ASSEMBLY
TREATED WOOD POLE
(CLASS 2, 40')
USE SIDEWALK GUY
INSTALLATION
(IF NECESSARY SEE DETAIL)

STAGE 1-3 SPAN WIRE ASSEMBLY
TREATED WOOD POLE (CLASS 2, 40')
USE SIDEWALK GUY INSTALLATION
(IF NECESSARY SEE DETAIL)

CANOPY
VIDEO DETECTOR MOUNTED
AT SPAN WIRE JUNCTION

Vz41 COMB.
Ø4
Vz43 COMB.

Vz41&43 LOCATED 85'
BEHIND STOP BAR

P.I. STA. 137+14.53

SMALL SHO

CB

SCALE IN FEET
0 20 40 80

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: STAGE 1 - 40 SCALE SIGNALIZATION PLAN

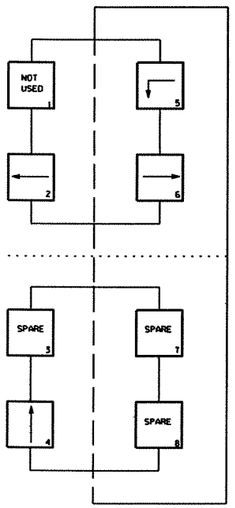
STAGE 1 TRAFFIC SIGNAL

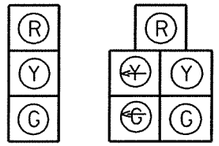
LOCATION: HWY. 265/ELECTRIC AVENUE
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=40' DRAWN BY: GWE

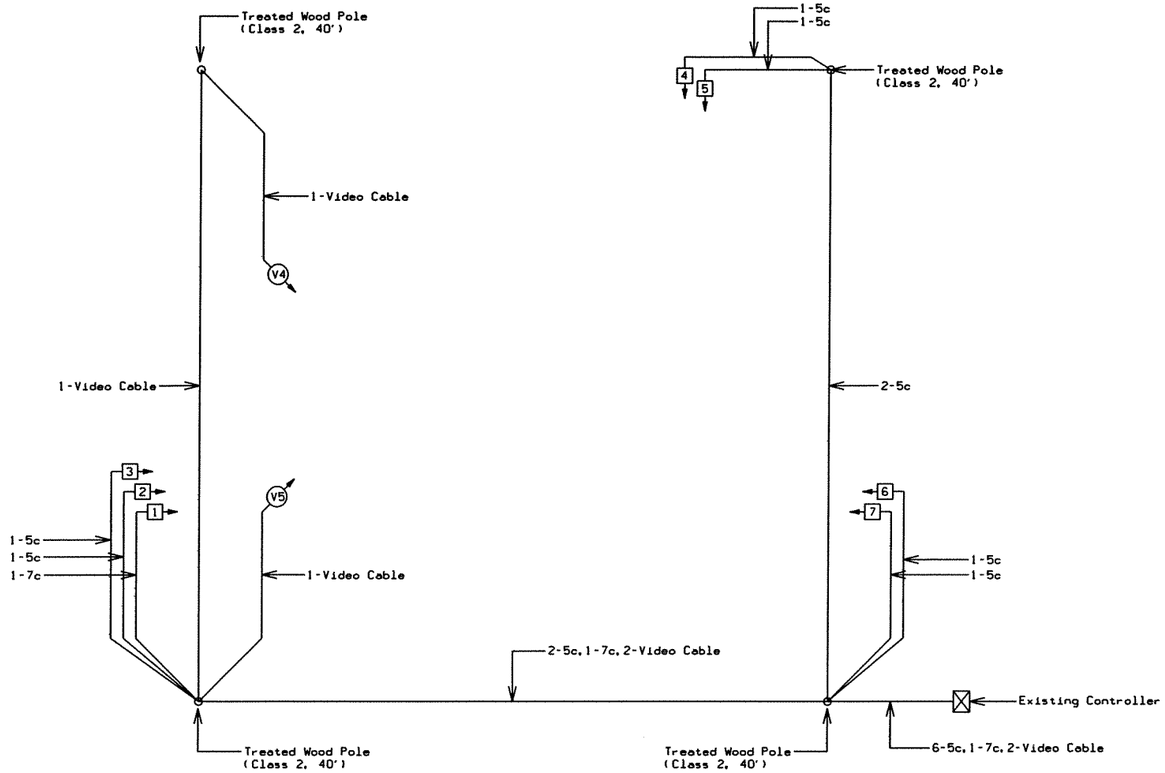
t040490_02.dgn 12/4/2009

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.		040490	70	148
				(2)	SIGNALIZATION PLAN SHEET			

PHASING DIAGRAM







STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

INTERVAL CHART

SIGNAL FACES	HWY. 265/ELECTRIC AVENUE							FLASH SEQ.
	2+5	CLR.	2+6	CLR.	4	CLR.		
1	R/G	•• / •	G	•	R	R		R
2&3	G	••	G	••	R	R		R
4&5	R	R	R	R	G	Y		R
6&7	R	R	G	••	R	R		R

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

SYSTEM DESCRIPTION: JOB 040490											
SPRINGDALE - HWY. 265/ELECTRIC AVENUE DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTH
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz21	SB ADVANCE	LOCAL			3	V2	6				
Vz22	SB OUTSIDE NEAR	COMB.			4	V10	6	2		CAMERA V5	
Vz41	WB LEFT ADVANCE	COMB.			9	V12	4	4		CAMERA V4	
Vz42	WB LEFT TURN	LOCAL			10	V4	4			CAMERA V4	
Vz43	WB RIGHT ADVANCE	COMB.			11	V16	4	8		CAMERA V4	
Vz44	WB RIGHT TURN	LOCAL			12	V8	4			CAMERA V4	
Vz51	SB LT. TURN ADVANCE	COMB.			1	V13	5	5		CAMERA V5	
Vz52	SB LEFT TURN	LOCAL			2	V5	5			CAMERA V5	
Vz61	NB ADVANCE	LOCAL			5	V6	6				
Vz62A&B	NB OUTSIDE NEAR	COMB.			6	V14	6	6			
					SPARE 7&8						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

STAGES 1-2 TRAFFIC SIGNAL

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: STAGES 1-2 SIGNALIZATION WIRING DIAGRAM

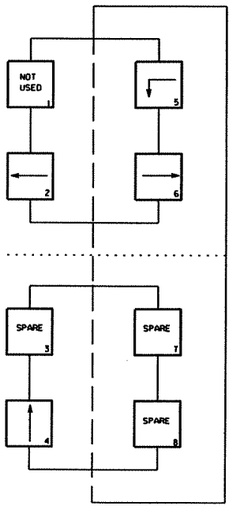
LOCATION: HWY. 265/ELECTRIC AVENUE
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

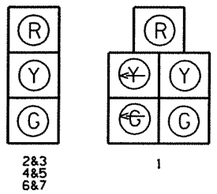
t040490_02.dgn 12/4/2009

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.		040490	71	148

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

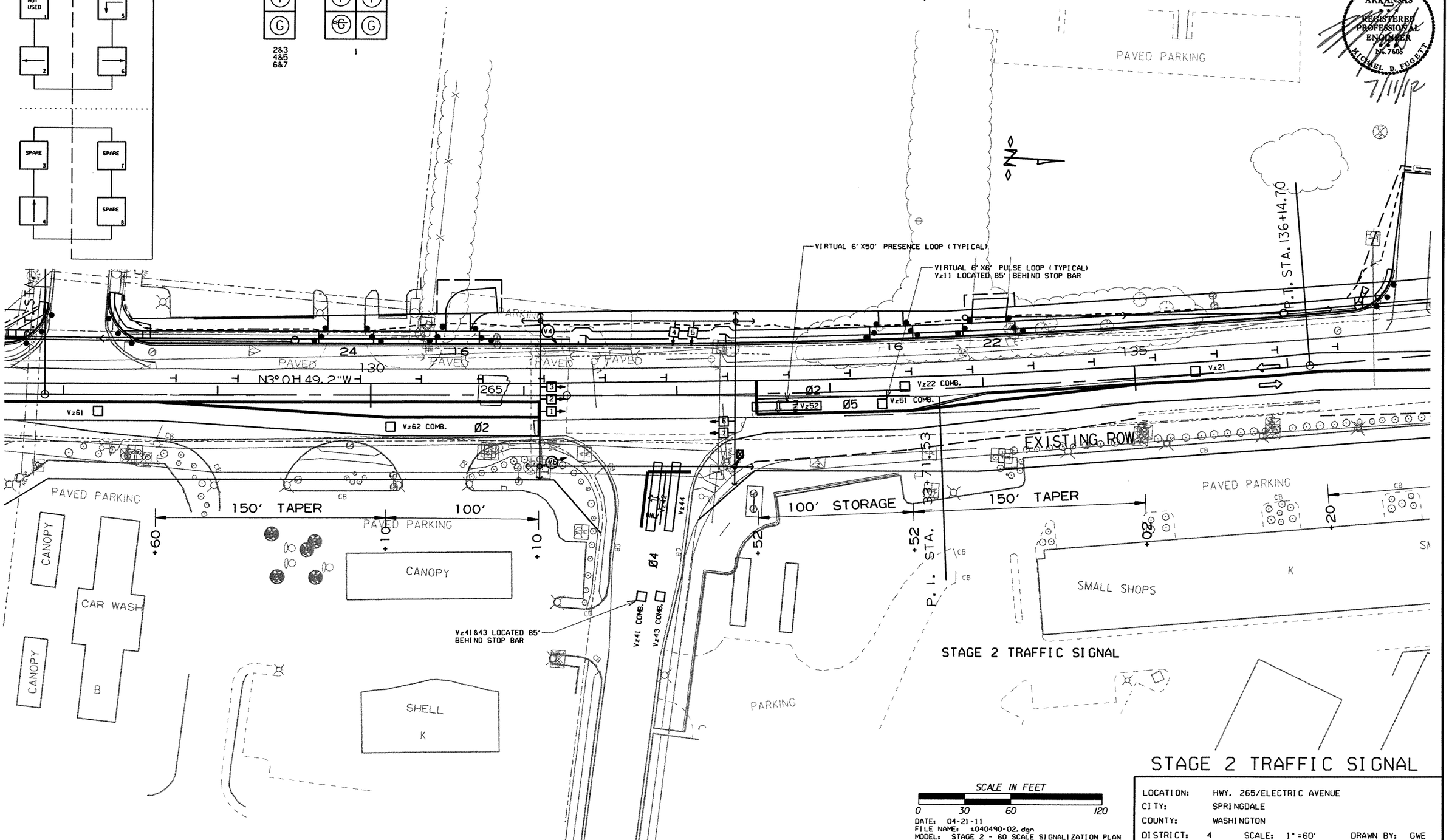




DETECTOR SPACING CHART

HWY. 265/ELECTRIC AVENUE		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 40 MPH	290'	100'
ELECTRIC - 35 MPH	250'	85'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/11/12



STAGE 2 TRAFFIC SIGNAL

SCALE IN FEET
0 30 60 120

DATE: 04-21-11
FILE NAME: :040490-02.dgn
MODEL: STAGE 2 - 60 SCALE SIGNALIZATION PLAN

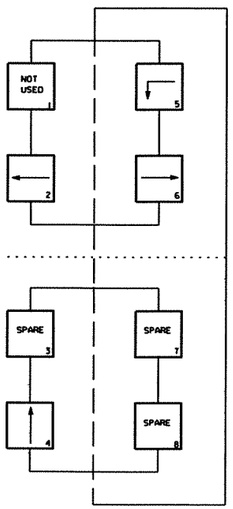
LOCATION: HWY. 265/ELECTRIC AVENUE
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=60' DRAWN BY: GWE

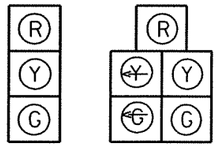
040490_02.dgn 12/4/2009

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.		040490	72	148

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM





DETECTOR SPACING CHART

HWY. 265/ELECTRIC AVENUE		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 40 MPH	290'	100'
ELECTRIC - 35 MPH	250'	85'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

PAVED PARKING

VIRTUAL 6'X50' PRESENCE LOOP (TYPICAL)

VIRTUAL 6'X6' PULSE LOOP (TYPICAL)
Vz11 LOCATED 85' BEHIND STOP BAR

P.C. STA. 131+28.05

P.T. STA. 136+14.70

Vz51

Vz22 COMB.

Vz51 COMB.

Vz52

Ø2

Ø5

24

16

22

T30

T35

N3°01'49.2"W

Vz61

Vz62 COMB.

265

EXISTING ROW

P.I. STA. 133+71.68

PAVED PARKING

CANOPY

CAR WASH

B

CANOPY

CANOPY

SHELL

K

RET WALL

RET WALL

Vz41&43 LOCATED 85' BEHIND STOP BAR

Vz41 COMB.

Vz43 COMB.

Vz42

Vz44

PARKING

SMALL SHOPS

K

SM

RET

STAGE 3 TRAFFIC SIGNAL

SCALE IN FEET
0 30 60 120

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: STAGE 3 - 60 SCALE SIGNALIZATION PLAN

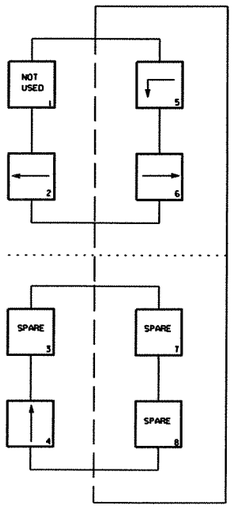
LOCATION:	HWY. 265/ELECTRIC AVENUE				
CITY:	SPRINGDALE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	1"=60'	DRAWN BY:	GWE

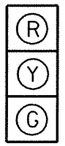
t040490_02.dgn 12/4/2009

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.		040490	73	148

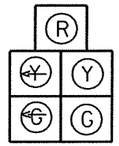
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

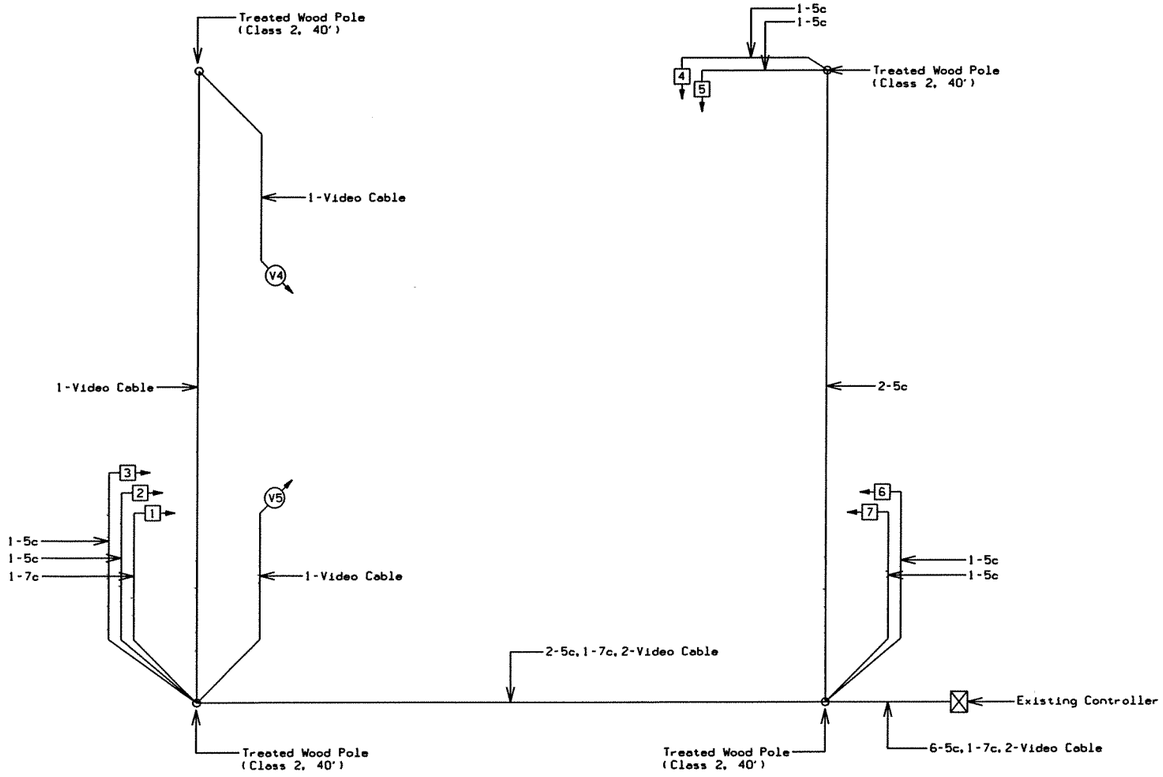




2&3
4&5
6&7



1



INTERVAL CHART

SIGNAL FACES	HWY. 265/ELECTRIC AVENUE							FLASH SEQ.
	2+6	CLR.	2+6	CLR.	4	CLR.		
1	R / G	•• / •	G	•	R	R		R
2&3	G	••	G	••	R	R		R
4&5	R	R	R	R	G	Y		R
6&7	R	R	G	••	R	R		R

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

SYSTEM DESCRIPTION: JOB 040490

SPRINGDALE - HWY. 265/ELECTRIC AVENUE DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTH
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID#	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM #	AMP CHN. #	CON. INP.#	PHS	SYSTEM DET. #			
Vz21	SB ADVANCE	LOCAL			3	V2	6				
Vz22	SB OUTSIDE NEAR	COMB.			4	V10	6	2		CAMERA V5	
Vz41	WB LEFT ADVANCE	COMB.			9	V12	4	4		CAMERA V4	
Vz42	WB LEFT TURN	LOCAL			10	V4	4			CAMERA V4	
Vz43	WB RIGHT ADVANCE	COMB.			11	V16	4	8		CAMERA V4	
Vz44	WB RIGHT TURN	LOCAL			12	V8	4			CAMERA V4	
Vz51	SB LT. TURN ADVANCE	COMB.			1	V13	5	5		CAMERA V5	
Vz52	SB LEFT TURN	LOCAL			2	V5	5			CAMERA V5	
Vz61	NB ADVANCE	LOCAL			5	V6	6				
Vz62A&B	NB OUTSIDE NEAR	COMB.			6	V14	6	6			
					SPARE 7&8						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: STAGE 3 SIGNALIZATION WIRING DIAGRAM

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7609
MICHAEL D. PUGETT
7/11/12

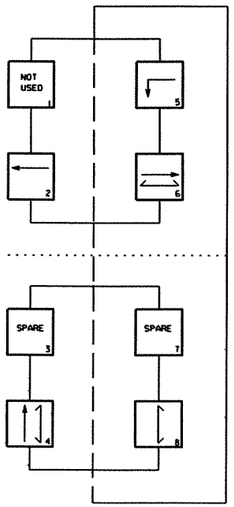
STAGE 3 TRAFFIC SIGNAL

LOCATION: HWY. 265/ELECTRIC AVENUE
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

t040490_02.dgn 12/4/2009

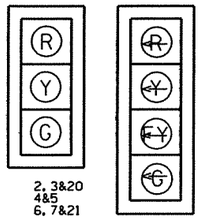
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	74	148
				(2)	SIGNALIZATION PLAN SHEET			

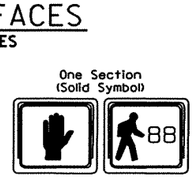
PHASING DIAGRAM

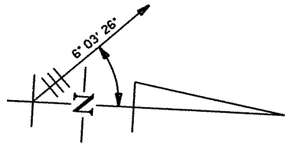


SIGNAL FACES

12" LENSES







ANTENNA ORIENTATION

ORIENTED TO RADIO ANTENNA LOCATED AT THE INTERSECTION OF HWY. 265/HWY. 412

DETECTOR SPACING CHART

HWY. 265/ELECTRIC AVENUE		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 40 MPH	290'	100'
ELECTRIC - 35 MPH	250'	85'

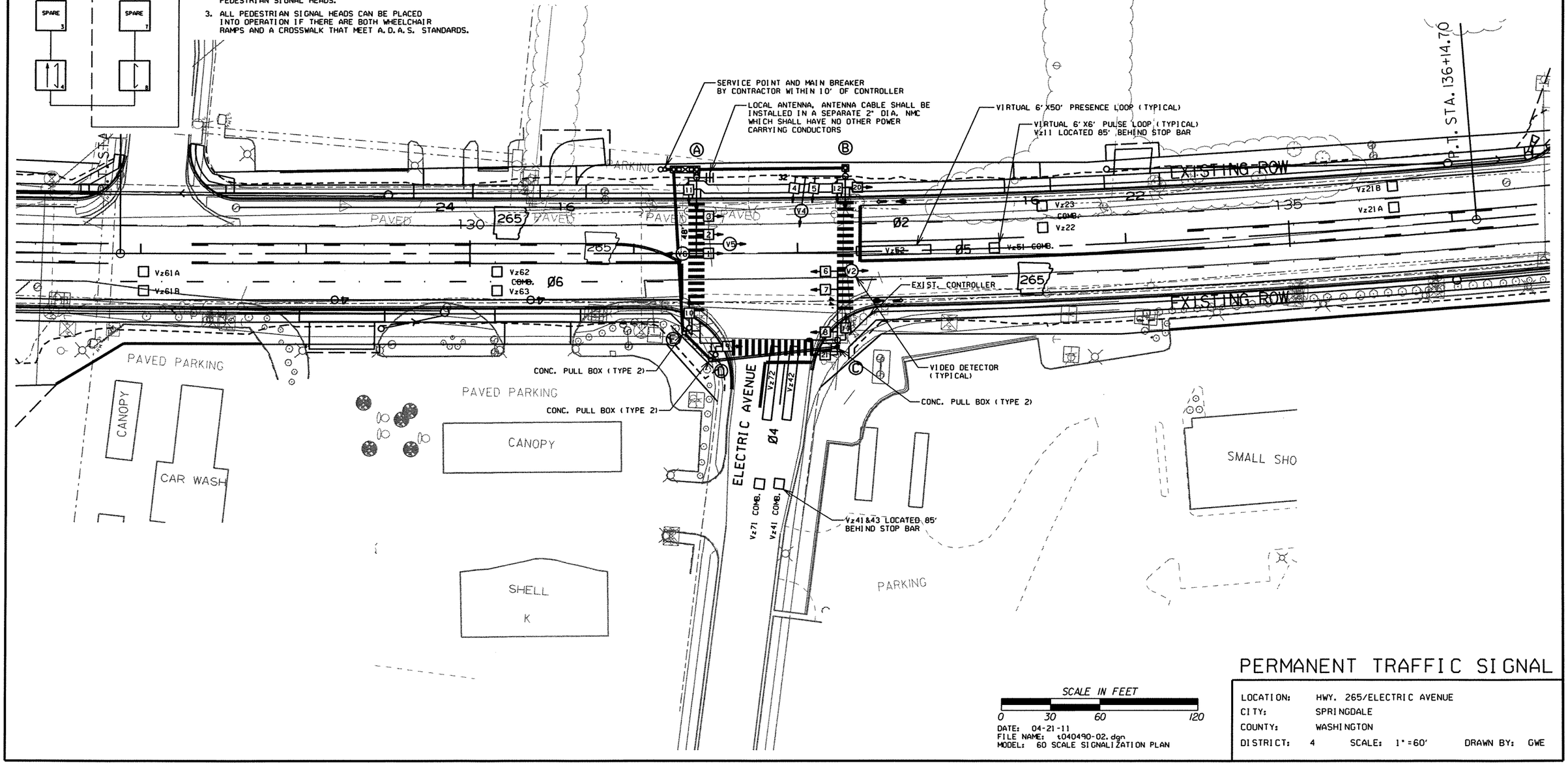
NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.

HWY. 265/ELECTRIC AVENUE POLE DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	48'	180°	50'	15'	180°
B	32'	270°	35'	15'	180°
C	44'	180°	35'	15'	90°
D	N/A	N/A	15'	N/A	N/A
E	N/A	N/A	15'	N/A	N/A

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
M. CHAPL D. FUGETT
7/11/12



SCALE IN FEET
0 30 60 120

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: 60 SCALE SIGNALIZATION PLAN

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 265/ELECTRIC AVENUE
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=60' DRAWN BY: GWE

t040490_02.dgn 12/4/2009

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.		040490	75	148

(2) SIGNALIZATION PLAN SHEET

DESIGN PARAMETERS

POSTED SPEED LIMIT:
35 MPH EAST APPROACH
45 MPH NORTH AND SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP BARS
SHOWN ON PAVEMENT MARKING PLAN.
SEE SEPARATE SHEET.

MINIMUM CLEAR ZONE DISTANCE
CONTROLLER -1.5 FEET FROM HWY. 265
POLE A - 1.5 FEET FROM HWY. 265
POLE B - 1.5 FEET FROM HWY. 265
POLE C - 1.5 FEET FROM HWY. 265
POLE D - 1.5 FEET FROM HWY. 265

HWY. 265/ELECTRIC AVENUE POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 265 - STA. 131+37.90	46' LT.	686934.98, 670686.40
B	HWY. 265 - STA. 132+28.83	46' LT.	686929.28, 670777.22
C	HWY. 265 - STA. 132+24.60	53' RT.	687028.73, 670778.10
D	HWY. 265 - STA. 131+49.83	62' RT.	687041.55, 670704.03
E	HWY. 265 - STA. 131+33.30	45' RT.	687026.05, 670686.95

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. PUGETT
7/11/12

SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10' OF CONTROLLER

LOCAL ANTENNA, ANTENNA CABLE SHALL BE INSTALLED IN A SEPARATE 2" DIA. NMC WHICH SHALL HAVE NO OTHER POWER CARRYING CONDUCTORS

VIRTUAL 6'X50' PRESENCE LOOP (TYPICAL)

VIRTUAL 6'X6' PULSE LOOP (TYPICAL) Vz11 LOCATED 85' BEHIND STOP BAR

EXISTING ROW

PAVED PARKING

CONC. PULL BOX (TYPE 2)

CONC. PULL BOX (TYPE 2)

EXIST. CONTROLLER

VIDEO DETECTOR (TYPICAL)

CONC. PULL BOX (TYPE 2)

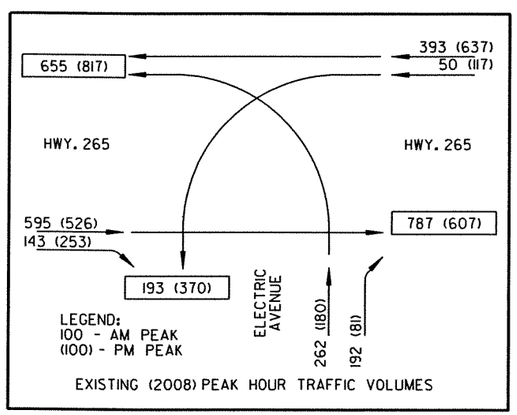
ELECTRIC AVENUE

Vz41&43 LOCATED 85' BEHIND STOP BAR

CANOPY

SMALL SHO

TRAFFIC FLOW DIAGRAM



EXISTING (2008) PEAK HOUR TRAFFIC VOLUMES

SCALE IN FEET
0 20 40 80

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: 40 SCALE SIGNALIZATION PLAN

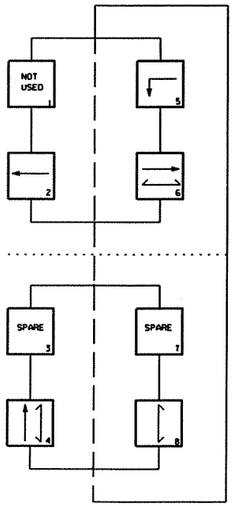
PERMANENT TRAFFIC SIGNAL

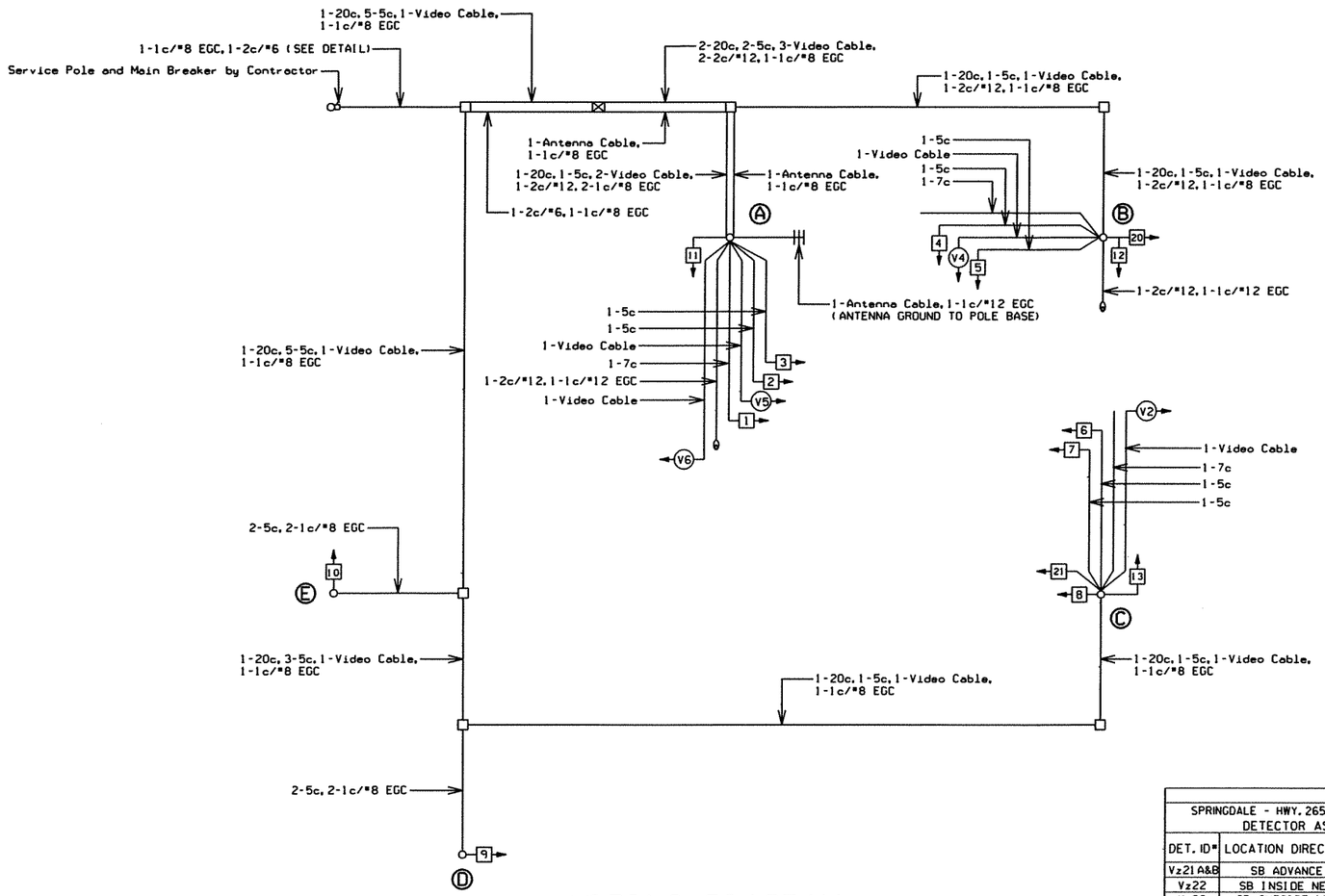
LOCATION: HWY. 265/ELECTRIC AVENUE
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=40' DRAWN BY: GWE

1040490_02.dgn 12/4/2009

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.		040490	76	148
				(2) SIGNALIZATION PLAN SHEET				

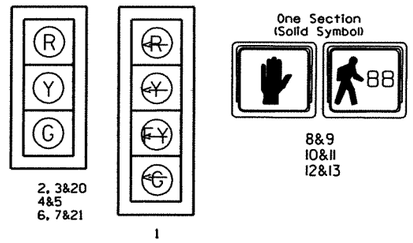
PHASING DIAGRAM





SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS



INTERVAL CHART

SIGNAL FACES	HWY. 265/ELECTRIC AVENUE 2+5	CLR.	2+6	CLR.	4	CLR.		FLASH SEQ.
1	~~G~~	•	~~FY~~	•••	~~R~~	~~R~~		~~R~~
2,3&20	G	••	G	••	R	R		R
4&5	R	R	R	R	G	Y		R
6,7&21	R	R	G	••	R	R		R
8&9	DW	DW	W	FDW	DW	DW		BLK
10&11	DW	DW	DW	DW	W	FDW		BLK
12&13	DW	DW	DW	DW	W	FDW		BLK

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
••• DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

SYSTEM DESCRIPTION: JOB 040490

SPRINGDALE - HWY. 265/ELECTRIC AVENUE DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER		PROGRAM ASSIGNMENTS LOCAL			COMMENTS	TUBE LENGTH
DET. ID#	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM #	AMP CHN. #	CON. INP.#	PHS	SYSTEM DET. #	MASTER SYSTEM DETECTOR NUMBERS	
Vz21A&B	SB ADVANCE	LOCAL			1	V2	2			CAMERA V2	74'
Vz22	SB INSIDE NEAR	COMB.			2	V10	2	2		CAMERA V5	23'
Vz23	SB OUTSIDE NEAR	COMB.			3	V11	2	3		CAMERA V5	23'
Vz41	WB RIGHT ADVANCE	COMB.			11	V12	4	4		CAMERA V4	23'
Vz42	WB RIGHT TURN	LOCAL			12	V4	4			CAMERA V4	23'
Vz51	SB LT. TURN ADVANCE	COMB.			5	V13	5	5		CAMERA V5	23'
Vz52	SB LEFT TURN	LOCAL			6	V5	5			CAMERA V5	23'
Vz61A&B	NB ADVANCE	LOCAL			13	V6	6			CAMERA V6	74'
Vz62	NB INSIDE NEAR	COMB.			14	V14	6	6		CAMERA V6	23'
Vz63	NB OUTSIDE NEAR	COMB.			15	V16	6	8		CAMERA V6	23'
Vz71	WB LEFT ADVANCE	COMB.			9	V15	4	7		CAMERA V4	23'
Vz72	WB LEFT TURN	LOCAL			10	V7	4			CAMERA V4	23'
PB2A&B	ELECTRIC AVE. E. LEG	PED.					2				
PB4A&B	HWY. 265 N. LEG	PED.					4				
PB8A&B	HWY. 265 S. LEG	PED.					8				
					SPARE 4, 7, 8&16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

DATE: 04-21-11
FILE NAME: t040490-02.dgn
MODEL: SIGNALIZATION WIRING DIAGRAM

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 265/ELECTRIC AVENUE
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

1040490_02.dgn 12/4/2009

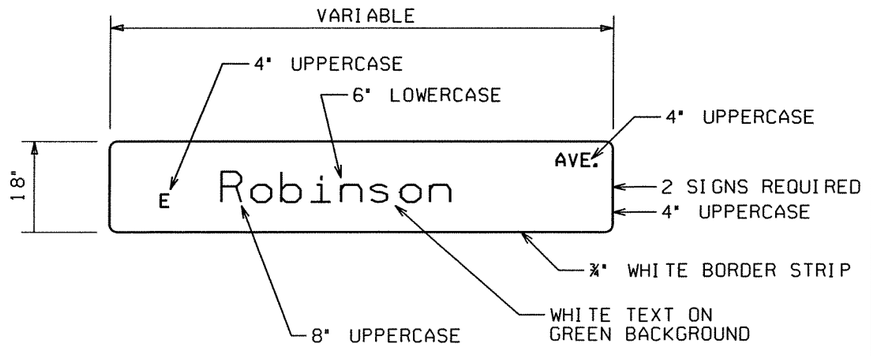
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	77	148
				(2)	SIGNALIZATION PLAN SHEET			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7600
MICHAEL D. PUGETT
7/11/12

PERMANENT TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2, E-NET (8 PHASE)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	12	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	4	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	3132	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	284	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	909	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (3")	716	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	6	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	4	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	2	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (62')	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	6	EACH
733	VIDEO CABLE	2474	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	8	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	764	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	E-NET CABLE (EXTERIOR CAT 5)	75	LIN. FT.
SP	ETHERNET SWITCH, TI00 HARDENED (4 PORT)	1	EACH
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.34	LUMP SUM
SP	18" STREET NAME SIGN	4	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED



NOTES:

1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ANODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM OF THE NEARSIDE LEFT POLE.
SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE CLEARVIEW 5-W-R FONT SHALL BE USED FOR ALL LETTERS.

DATE: 06-26-12
FILE NAME: t040490-03.dgn
MODEL: SIGNAL QUANTITIES AND SIGNS

LOCATION: HWY. 265/HWY. 412
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

t040490_03.dgn 12/4/2009

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.		040490	78	148

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

2, 3&23
5, 6&24
8, 9&21
11, 12&22

1, 4, 7&10

One Section (Solid Symbol)

13&14
15&16
17&18
19&20

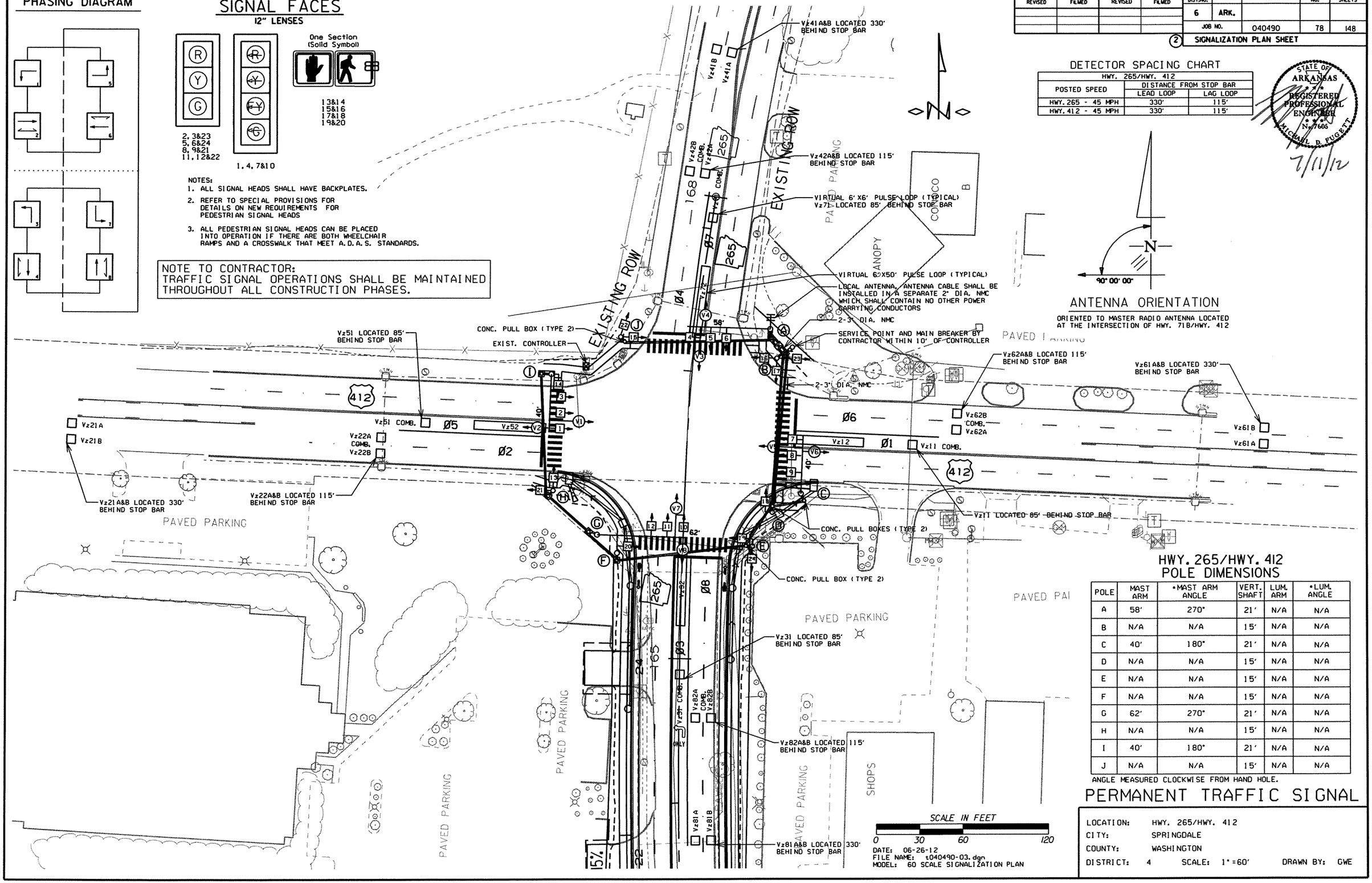
NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS
3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

DETECTOR SPACING CHART

POSTED SPEED	HWY. 265/HWY. 412 DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 265 - 45 MPH	330'	115'
HWY. 412 - 45 MPH	330'	115'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12



ANTENNA ORIENTATION

ORIENTED TO MASTER RADIO ANTENNA LOCATED AT THE INTERSECTION OF HWY. 71B/HWY. 412

SCALE IN FEET
0 30 60 120

DATE: 06-26-12
FILE NAME: t040490-03.dgn
MODEL: 60 SCALE SIGNALIZATION PLAN

HWY. 265/HWY. 412 POLE DIMENSIONS

POLE	MAST ARM	*MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	*LUM. ANGLE
A	58'	270°	21'	N/A	N/A
B	N/A	N/A	15'	N/A	N/A
C	40'	180°	21'	N/A	N/A
D	N/A	N/A	15'	N/A	N/A
E	N/A	N/A	15'	N/A	N/A
F	N/A	N/A	15'	N/A	N/A
G	62'	270°	21'	N/A	N/A
H	N/A	N/A	15'	N/A	N/A
I	40'	180°	21'	N/A	N/A
J	N/A	N/A	15'	N/A	N/A

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 265/HWY. 412
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=60' DRAWN BY: GWE

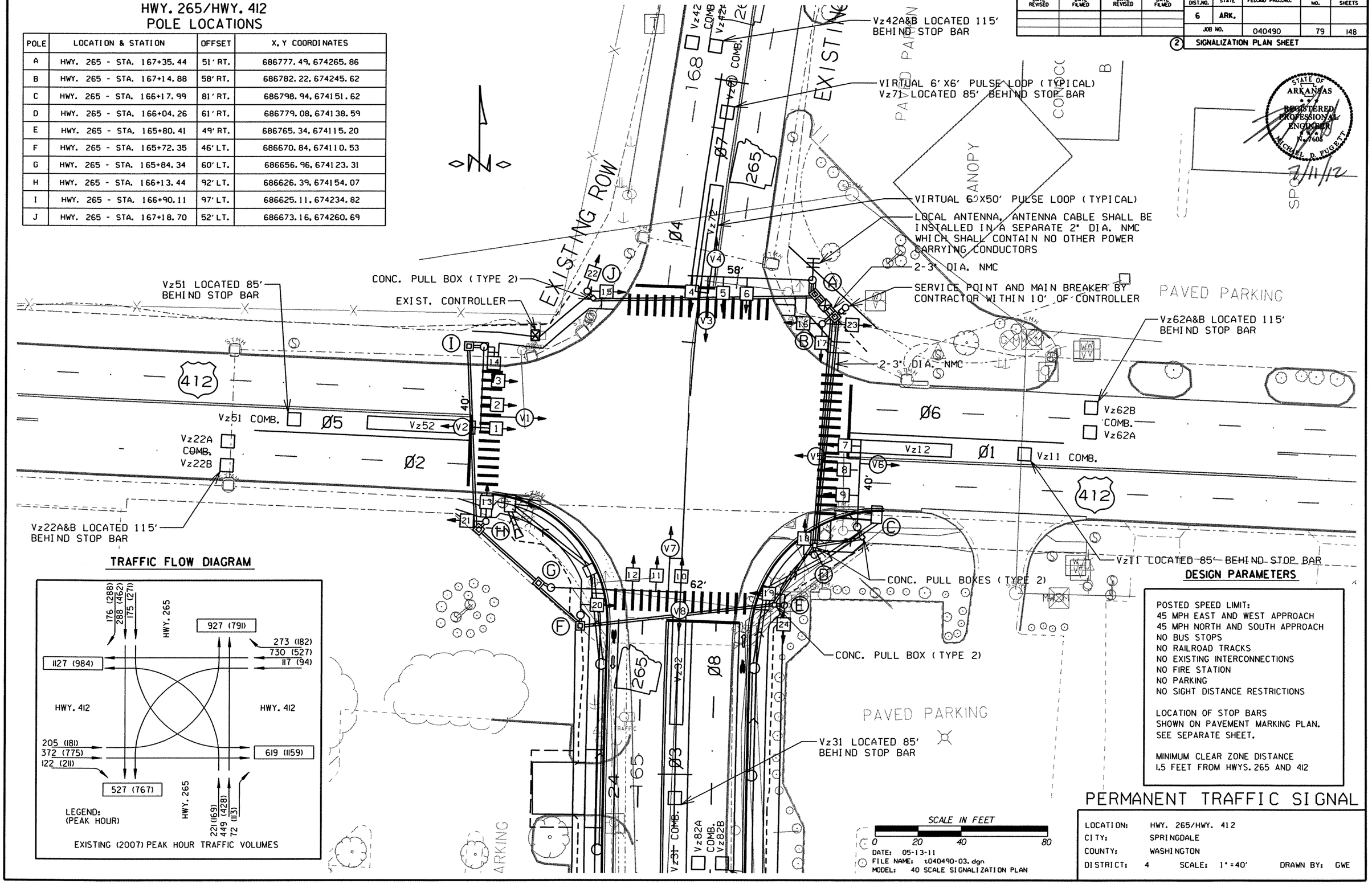
1040490_03.dgn 12/4/2009

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.		040490	79	148

(2) SIGNALIZATION PLAN SHEET

HWY. 265/HWY. 412
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 265 - STA. 167+35.44	51' RT.	686777.49, 674265.86
B	HWY. 265 - STA. 167+14.88	58' RT.	686782.22, 674245.62
C	HWY. 265 - STA. 166+17.99	81' RT.	686798.94, 674151.62
D	HWY. 265 - STA. 166+04.26	61' RT.	686779.08, 674138.59
E	HWY. 265 - STA. 165+80.41	49' RT.	686765.34, 674115.20
F	HWY. 265 - STA. 165+72.35	46' LT.	686670.84, 674110.53
G	HWY. 265 - STA. 165+84.34	60' LT.	686656.96, 674123.31
H	HWY. 265 - STA. 166+13.44	92' LT.	686626.39, 674154.07
I	HWY. 265 - STA. 166+90.11	97' LT.	686625.11, 674234.82
J	HWY. 265 - STA. 167+18.70	52' LT.	686673.16, 674260.69



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
SPECIAL
7/11/12

TRAFFIC FLOW DIAGRAM

DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
45 MPH NORTH AND SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP BARS SHOWN ON PAVEMENT MARKING PLAN. SEE SEPARATE SHEET.

MINIMUM CLEAR ZONE DISTANCE 1.5 FEET FROM HWYS. 265 AND 412

PERMANENT TRAFFIC SIGNAL

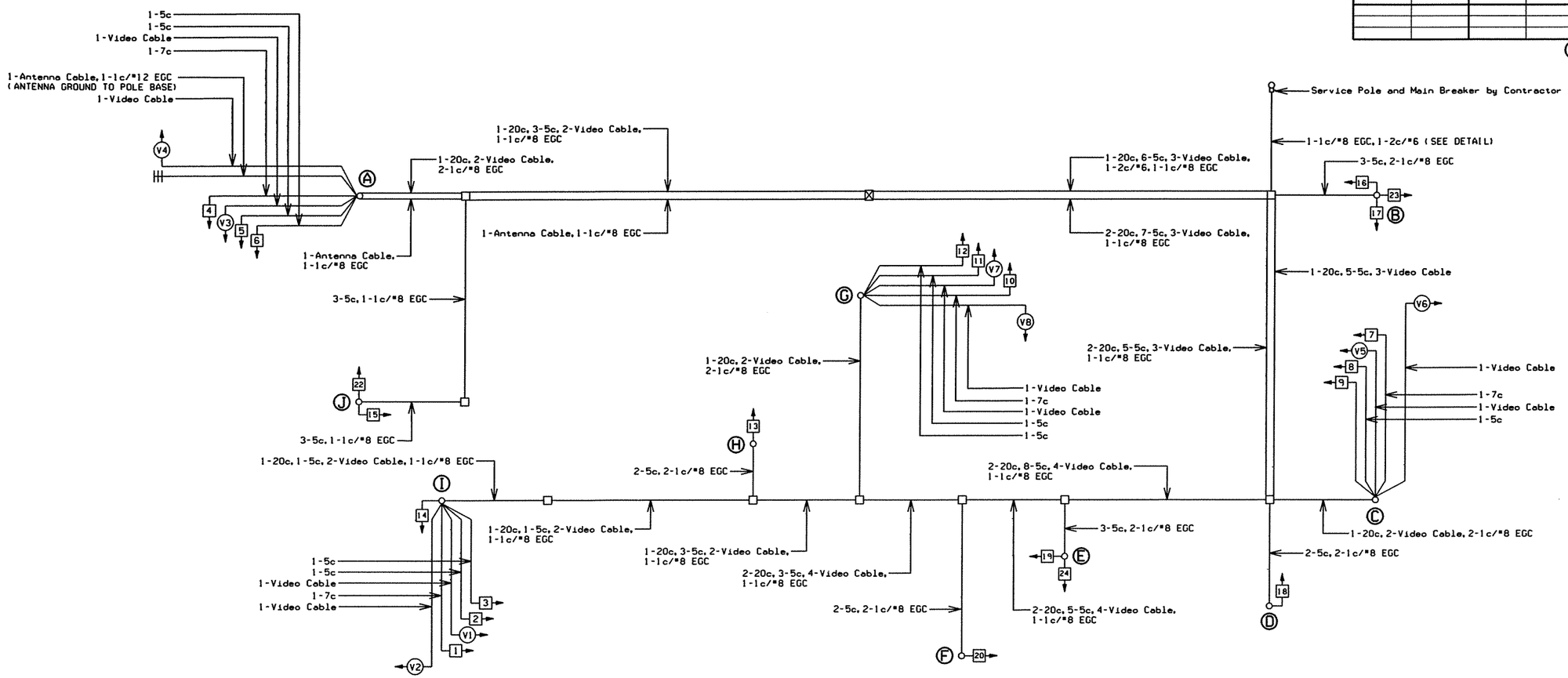
LOCATION: HWY. 265/HWY. 412
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=40' DRAWN BY: GWE

DATE: 05-13-11
FILE NAME: t040490-03.dgn
MODEL: 40 SCALE SIGNALIZATION PLAN

1040490_03.dgn 12/4/2009

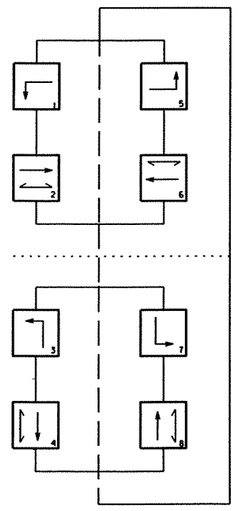
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	80	148

(2) SIGNALIZATION PLAN SHEET



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
12760
MICHAEL D. FUGETT
7/11/12

PHASING DIAGRAM



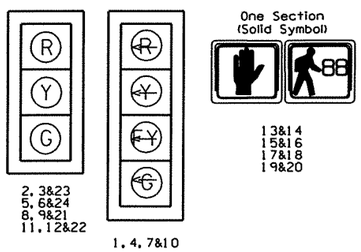
WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS

DETECTOR SYSTEM DESCRIPTION: JOB 040490

SPRINGDALE - HWY. 265/HWY. 412 DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	WB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	74'
Vz12	WB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	74'
Vz21A&B	EB ADVANCE	LOCAL			5	V2	2			CAMERA V2	74'
Vz22A&B	EB NEAR	COMB.			6	V10	2	2		CAMERA V5	74'
Vz31	NB LEFT TURN FAR	COMB.			9	V11	3	3		CAMERA V3	74'
Vz32	NB LEFT TURN	LOCAL			10	V3	3			CAMERA V3	74'
Vz41A&B	SB ADVANCE	LOCAL			15	V4	4			CAMERA V4	74'
Vz42A&B	SB NEAR	COMB.			16	V12	4	4		CAMERA V7	74'
Vz51	EB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5	74'
Vz52	EB LEFT TURN	LOCAL			8	V5	5			CAMERA V5	74'
Vz61A&B	WB ADVANCE	LOCAL			3	V6	6			CAMERA V6	74'
Vz62A&B	WB NEAR	COMB.			4	V14	6	6		CAMERA V1	74'
Vz71	SB LEFT TURN FAR	COMB.			13	V15	7	7		CAMERA V7	74'
Vz72	SB LEFT TURN	LOCAL			14	V7	7			CAMERA V7	74'
Vz81A&B	NB ADVANCE	LOCAL			11	V8	8			CAMERA V8	74'
Vz82A&B	NB NEAR	COMB.			12	V16	8	8		CAMERA V3	74'
PB2A&B	HWY. 265 S. LEG	PED.				P2	2				
PB4A&B	HWY. 412 W. LEG	PED.				P4	4				
PB6A&B	HWY. 265 N. LEG	PED.				P6	6				
PB8A&B	HWY. 412 E. LEG	PED.				P8	8				
					SPARE						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

INTERVAL CHART

SIGNAL FACES	HWY. 265/HWY. 412															FLASH SEQ.
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	
1	~~G~~	•	~~G~~	•	~~FY~~	•••	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
2,3&23	R	R	G	••	R	R	G	••	R	R	R	R	R	R	R	R	R
4	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~G~~	•	~~FY~~	•••	~~FY~~	•••	~~R~~
5,6&24	R	R	R	R	R	R	R	R	R	R	G	••	R	R	G	••	R
7	~~G~~	•	~~FY~~	•••	~~G~~	•	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
8,9&21	R	R	R	R	G	••	G	••	R	R	R	R	R	R	R	R	R
10	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~FY~~	•••	~~G~~	•	~~FY~~	•••	~~R~~
11,12&22	R	R	R	R	R	R	R	R	R	R	R	R	G	••	G	••	R
13&14	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	BLK
15&16	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK
17&18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	BLK
19&20	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
••• DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

DATE: 05-13-11
FILE NAME: t040490-03.dgn
MODEL: SIGNALIZATION WIRING DIAGRAM

PERMANENT TRAFFIC SIGNAL

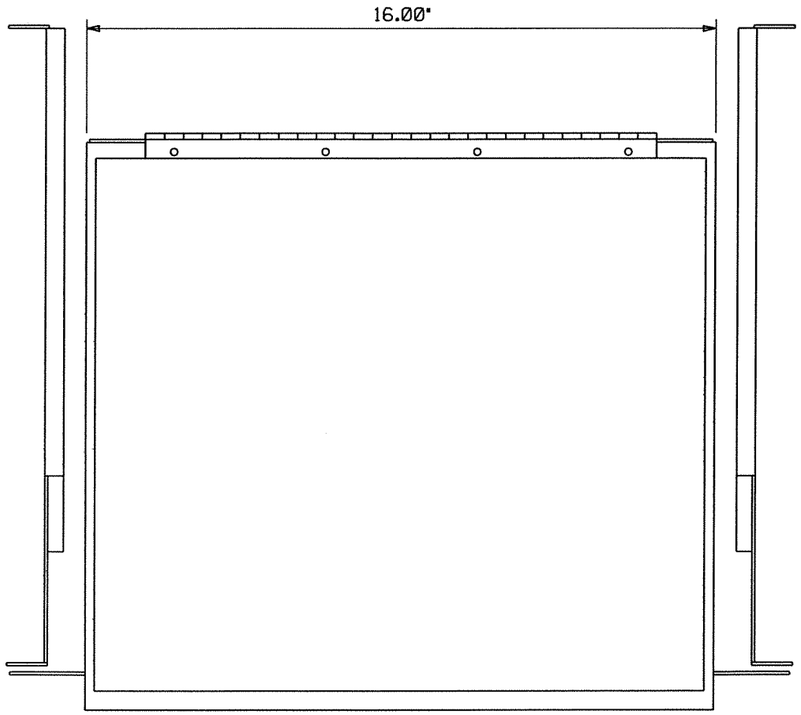
LOCATION: HWY. 265/HWY. 412
CITY: SPRINGDALE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

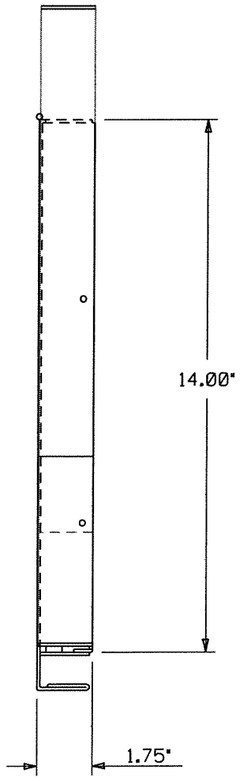
t040490_03.dgn 12/4/2009

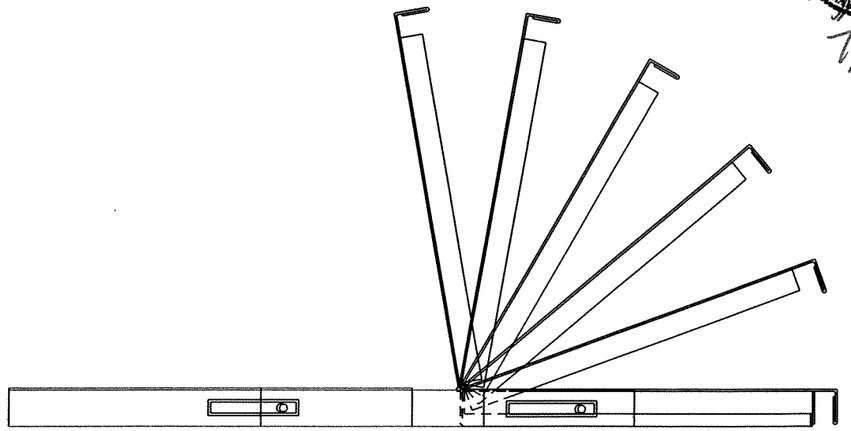
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				6	ARK.			
				JOB NO.		040490	81	148
				(2)	SIGNALIZATION DETAILS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/11/12

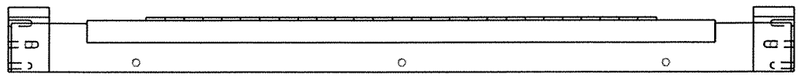
DRAWER PLAN VIEW



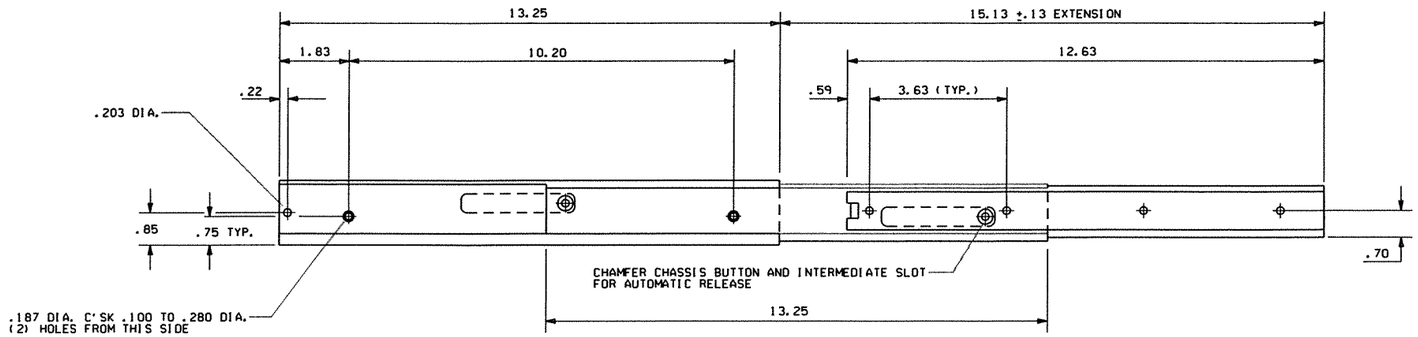




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

6-15-05	ISSUED	
DATE	REVISION	DATE FILM

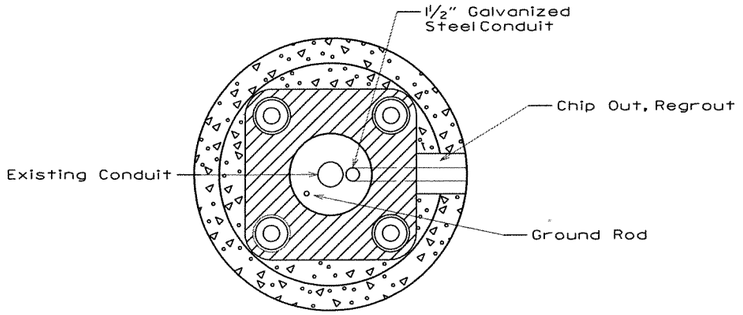
ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Controller Cabinet Utility Drawer)

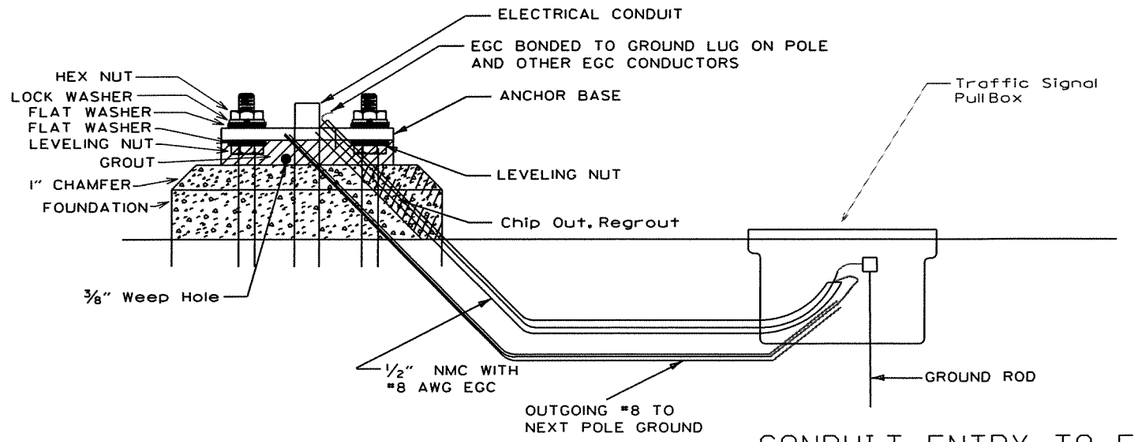
1040490_job.dgn 12/7/2009

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.		040490	82	148
				(2)	SIGNALIZATION DETAILS			

CONDUIT ENTRY TO EXISTING POLE BASE

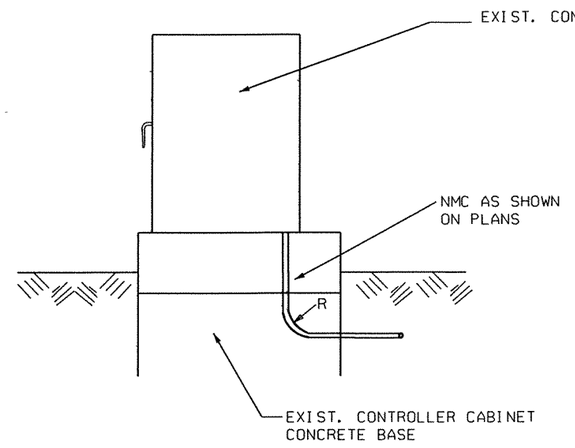


ANCHOR BASE

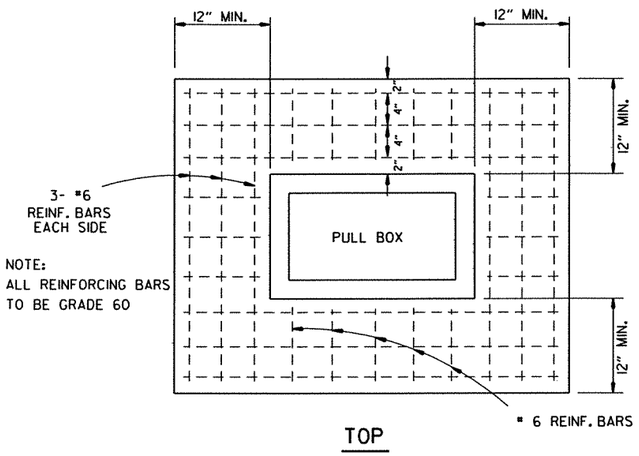


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14760
MICHAEL D. FUGETT
7/11/12

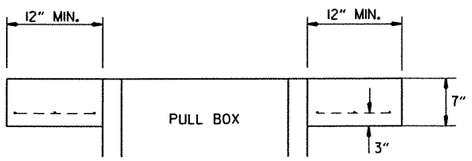
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

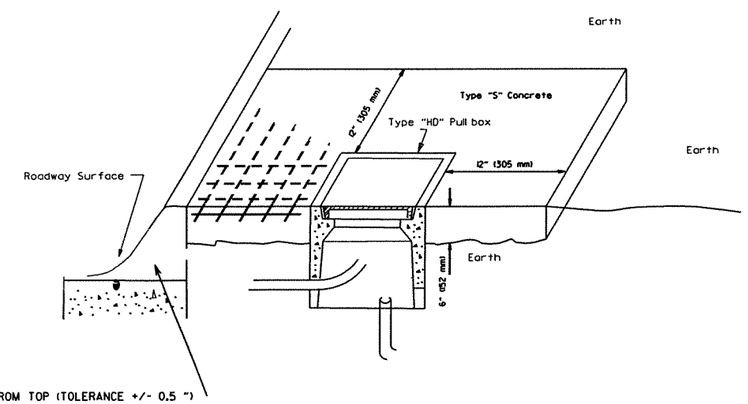


TOP



ELEVATION

Type "HD" Concrete Pull Box Detail



Note: All Type 1 and Type 2 HD pull boxes are installed with an apron of concrete 12" (305 mm) wide and 6" (152 mm) in depth. All payment shall be included in the price of the Type HD pull box. Pull box shall be installed flush to surrounding grade unless otherwise instructed by the engineer. The concrete shall be Class "S." Three #6 reinforcing bars in the apron on all sides of the pull box is required in concrete.

DATE	REVISION	DATE FILM
5-21-09	REVISED GROUNDING	
7-31-08	ADDED & REVISED CONDUIT ENTRY	
6-23-04	REVISED CLEARANCE AT CURB ENTRY	
1-4-02	ADDED REINFORCING TO BOX APRON	
7-2-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL (Heavy Duty Pull Box)

1040490_job.dgn 12/7/2009

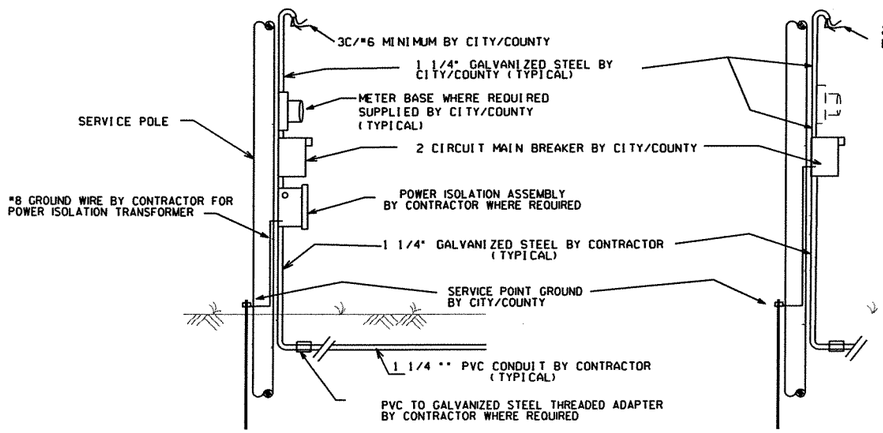
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				6	ARK.			
				JOB NO.		040490	83	148

(2) SIGNALIZATION DETAILS

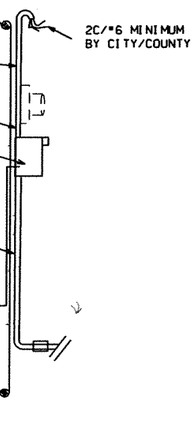
MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

Ground Rod-A 10' x ⅝" ground rod shall be installed in the pull box for each pole and the controller. Payment for the ground rod and ½" NMC shall be included in Item 701. The pull box and conductor box shall be paid for separately.

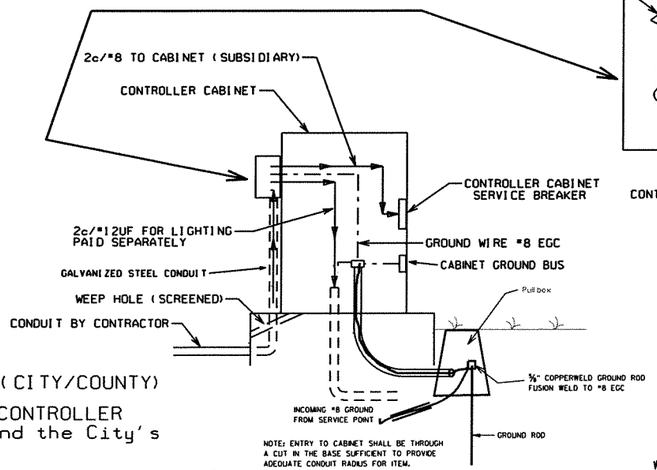
WITH POWER ISOLATION ASSEMBLY

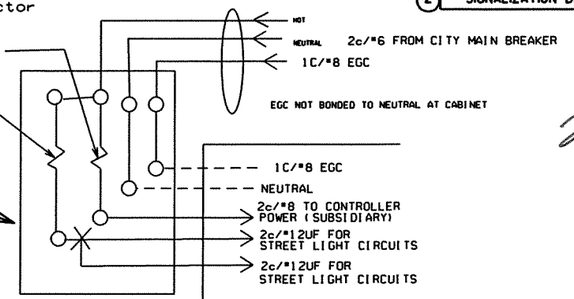


WITHOUT POWER ISOLATION ASSEMBLY



SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)





MAIN BREAKER WIRING (TYPICAL)

STATE OF ARKANSAS * * * REGISTERED PROFESSIONAL ENGINEER * * * No. 7605 MICHAEL D. FUGETT 7/11/12

NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY)

Electrical service typically falls into two categories: MAIN BREAKER NEAR CONTROLLER CABINET; and MAIN BREAKER NOT NEAR CONTROLLER CABINET. The Contractor's and the City's or County's responsibility varies accordingly as indicated on these details.

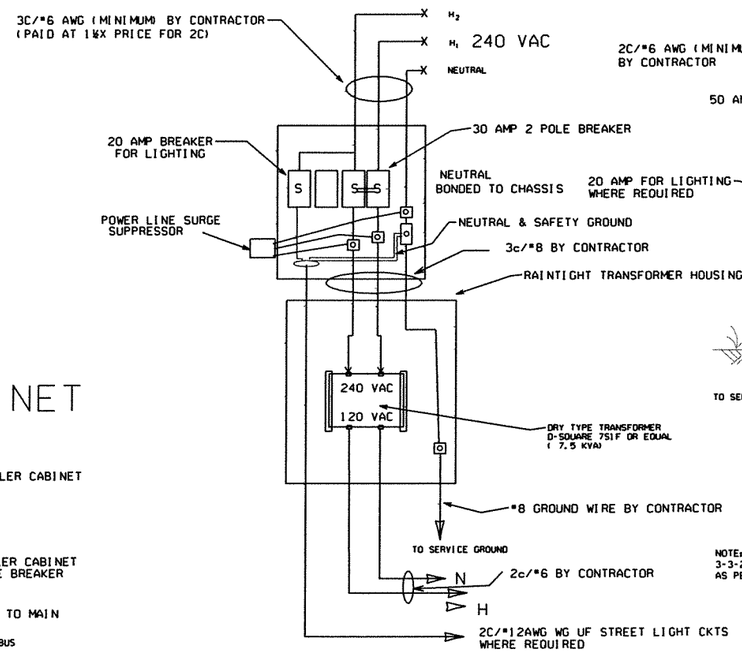
1. ALL SITUATIONS: Electrical service shall be provided by the City/County to a service pole with external raintight breaker (MAIN BREAKER) at a mutually acceptable point within the right-of-way. Service point includes galvanized steel conduit to a point 18" below ground line, two circuit main breaker, power isolation assembly where required, meter loop if required by local utility, electrical conductors and weatherhead. Where street lighting is included as part of signal installation, street lighting circuit (2c/#12 awg UF rated, typical) shall be kept separate from the circuit serving traffic signal. Service wire and wiring from the controller to main breaker is provided by the Contractor as a part of this contract. Wire and wiring from main breaker, and connection to the utility is the responsibility of the City/County.

2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: The Main Breaker assembly, galvanized steel conduit, weatherhead and wire above Main Breaker and connection to the utility shall be provided by City/County. Contractor shall provide as part of contract Secondary Breaker, conduit, wire and wiring to the Main Breaker.

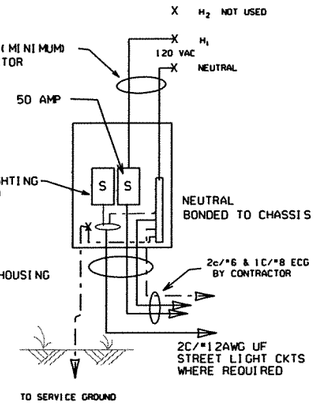
3. MAIN BREAKER NEAR CONTROLLER CABINET: All components of the service point with the exception of the wire and wiring above the Main Breaker is furnished and installed by the Contractor. Wiring from Main Breaker including connection to the utility, is the responsibility of the City/County. If meter loop is required, meter base and hardware is provided by the City/County and installed by the contractor.

Service Ground is typically tied to neutral at the Main Breaker. As such, controller ground IS NOT tied to Neutral at secondary Breaker or in controller cabinet.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

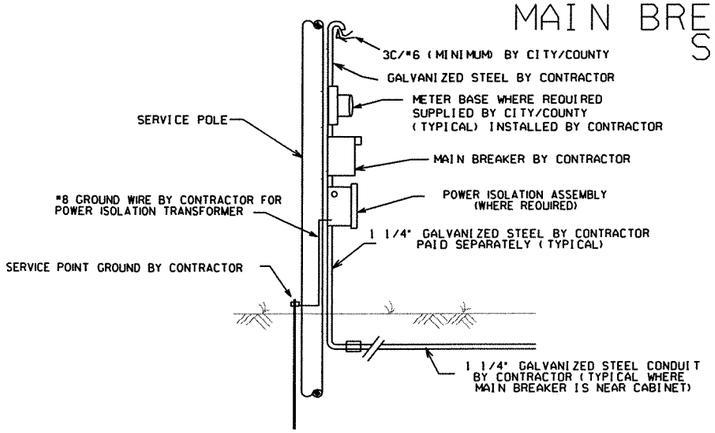


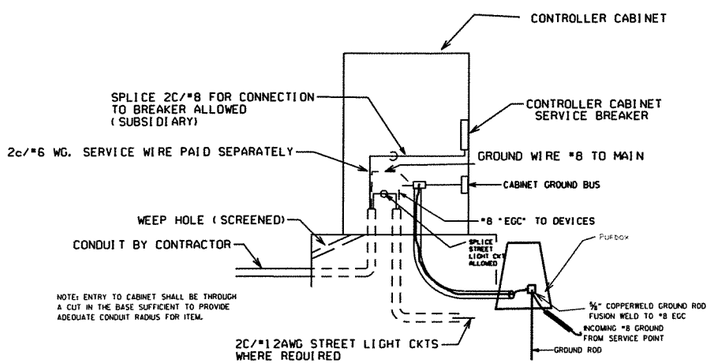
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (EGC) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





DATE	REVISION	DATE FILM
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
3-3-03	ADDED EGC NOTE	
9-26-01	REVISED	
12-27-99	REVISED	
7-28-99	REVISED	
2-5-99	ISSUED	

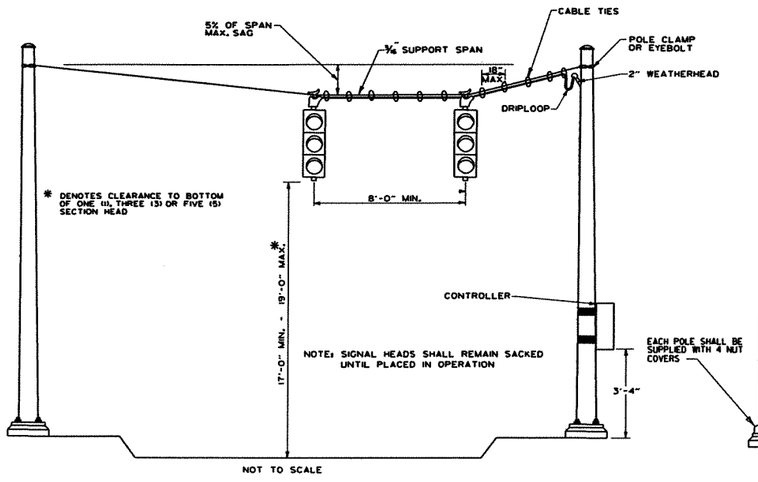
ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL (Service Point)

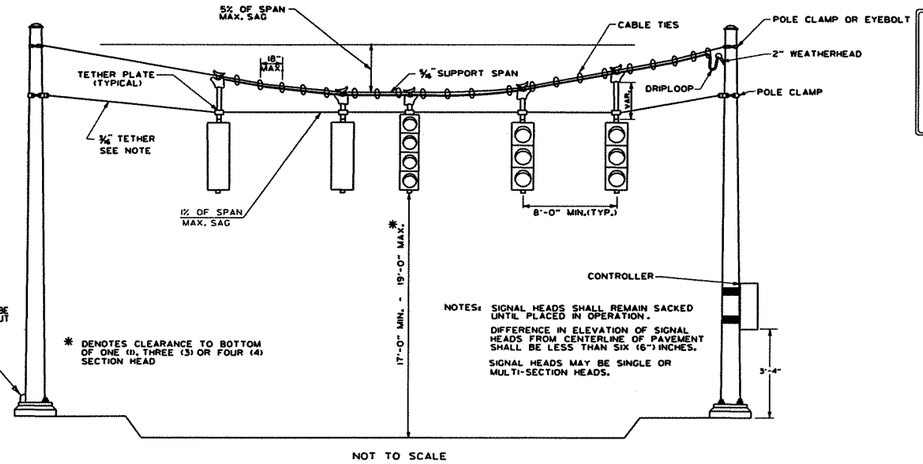
1040490_job.dgn 12/7/2009

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.		040490	84	148

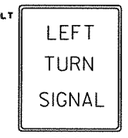
(2) SIGNALIZATION DETAILS



TYPICAL SPAN WIRE ASSEMBLY



TYPICAL SPAN WIRE ASSEMBLY WITH TETHER



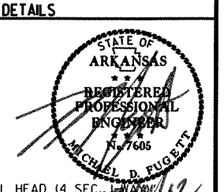
R10-10



SPECIAL



R10-3e
(SEE MUTCD)



NOTES:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN SIGNAL PLAN NOTES.

SIGN BLANK SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.

SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)", TO BE USED AS A LEFT TURN INDICATION ONLY, SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

TETHER STRAND SHALL BE EITHER 5*32" OR 3*16" HIGH FATIGUE STAINLESS STEEL AIRCRAFT CABLE IN 7/19 CONFIGURATION, MIL-W-83420 CERTIFIED, WITH A MINIMUM STRENGTH OF 2400 LB.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

FOUNDATION NOTES

1. ALL REINFORCING STEEL SHALL BE GRADE 40 MINIMUM.
2. SPAN WIRE POLES WITH A 9" OR 10" POLE BASE SHALL USE FOUNDATIONS THAT ARE 30" IN DIA. AND 9'-0" IN DEPTH. VERTICAL REINFORCING SHALL BE 12-#7 @ 102". HORIZONTAL REINFORCING STEEL SHALL BE 13-#4 @ 8.333" O.C.
3. SPAN WIRE POLES WITH AN 11", 12" OR 13" POLE BASE SHALL USE FOUNDATIONS THAT ARE 30" IN DIA. AND 12'-0" IN DEPTH. VERTICAL REINFORCING STEEL SHALL BE 12-#7 @ 138". HORIZONTAL REINFORCING STEEL SHALL BE 17-#4 @ 8.5" O.C.
4. ALL PED POLES SHALL USE FOUNDATIONS THAT ARE 30" IN DIAMETER AND 7'-0" IN DEPTH. VERTICAL REINFORCING STEEL SHALL BE 12-#7 @ 78". HORIZONTAL REINFORCING STEEL SHALL BE 10-#4 @ 8.44" O.C.

NOTES: SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF 4' BEHIND CURB OR SHOULDER.

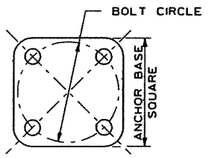
OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND POLES AND ARMS. ALL POLES AND ARMS IN A JOB MUST BE OF THE SAME SHAPE.

SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.

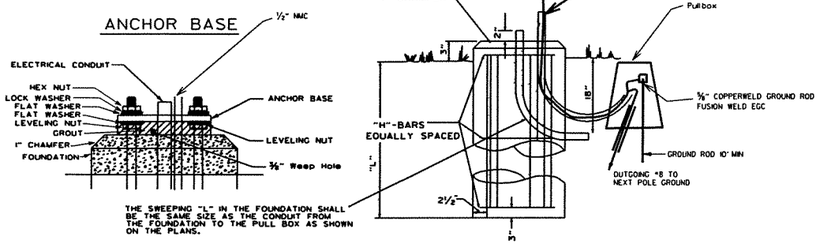
CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

THE ANCHOR BOLTS AND SWEEPING "L" CONDUIT SHALL BE PLACED IN THE FOUNDATION IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE FOUND ROD SHALL EXTEND A MINIMUM OF 8' BELOW CABINET FOUNDATION.

THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 AWG SOLID COPPER WIRE. ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' x ⅝" COPPERWELD GROUND ROD.



ANCHOR BASE

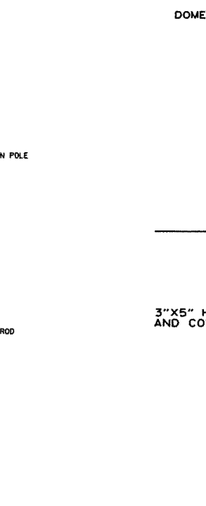


TYPICAL FOUNDATION DETAILS

GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 713 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND EGC CONDUCTOR SHALL BE PAID FOR SEPARATELY.

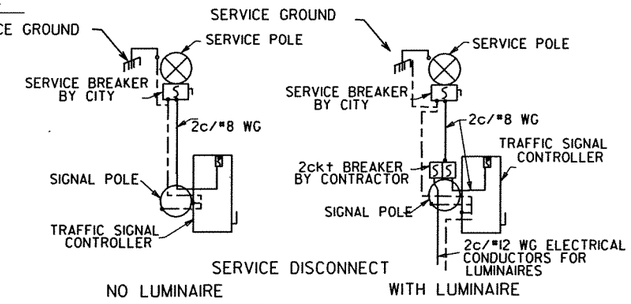
ALL CONCRETE SHALL BE CLASS "S" WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH F'c=3500 PSI. CONCRETE SHALL BE POURED IN THE DRY AND ALL EXPOSED CORNERS CHAMFERED ¾" UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 OR M53, GRADE 40 (YIELD STRENGTH=40,000 PSI).

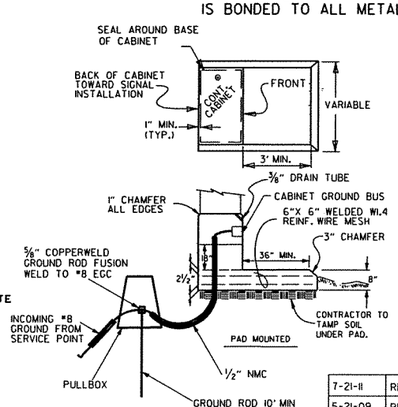


SPAN WIRE ASSEMBLY WITH SPAN WIRE SUPPORT POLE

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.



NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES



CONCRETE BASE MOUNTED CABINET DETAILS

MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY II.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DATE	REVISION	DATE FILM
7-21-11	REVISED PEDESTRIAN SIGN & GROUNDING	
5-21-09	REVISED GROUNDING	
9-10-08	REV. STEEL AIRCRAFT CABLE CONFIGURATION NOTE	
7-31-08	REVISED GROUNDING	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENTATION & SIGNAL OPERATION	
5-22-02	REVISED	
12-27-99	REVISED	
11-18-98	REVISION TO NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

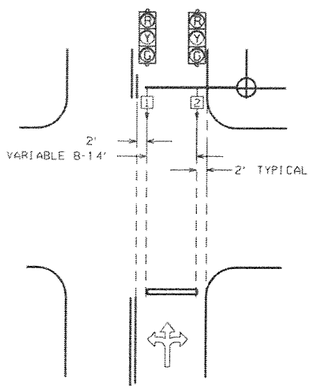
SIGNALIZATION DETAIL (Span Wire Assembly Steel Pole)

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.		040490	85	148

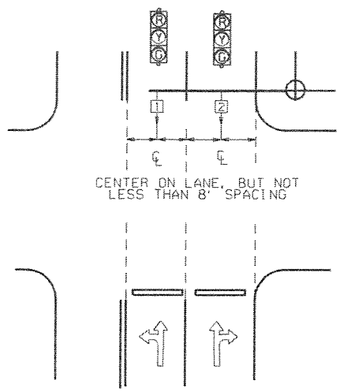
(2) SIGNALIZATION DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
2/11/12

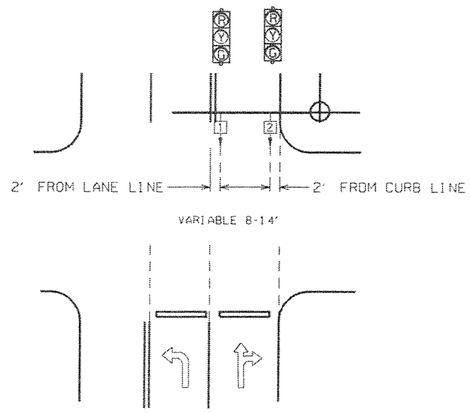
(A)



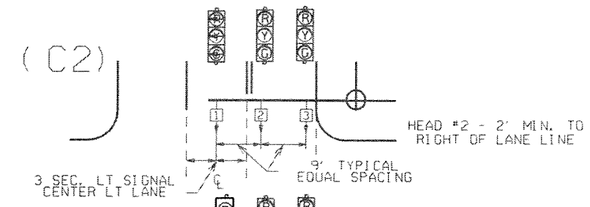
(B)



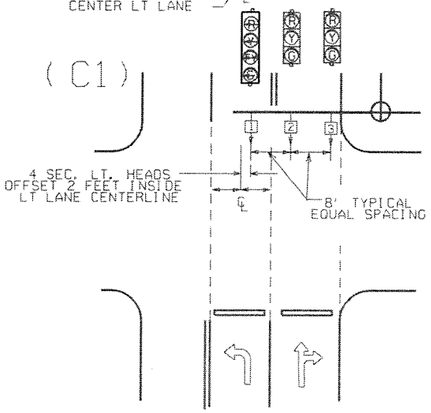
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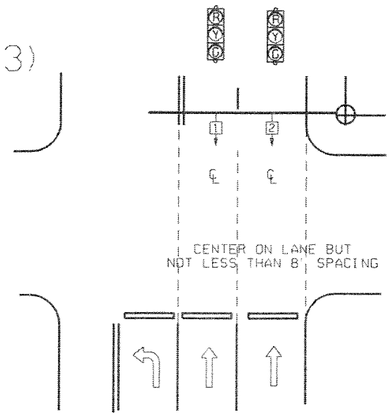
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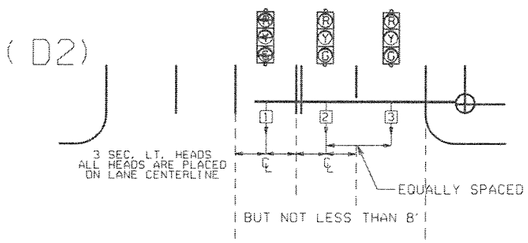
(C1)



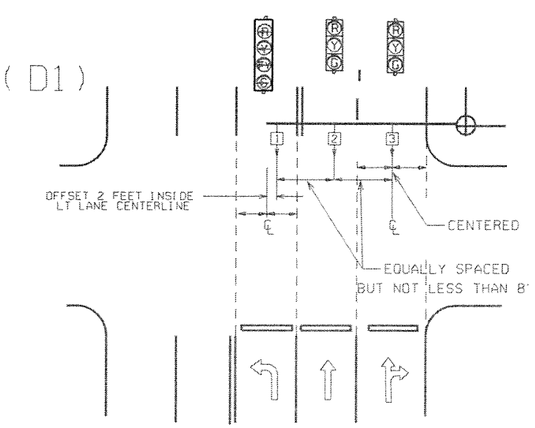
(C3)



(D2)

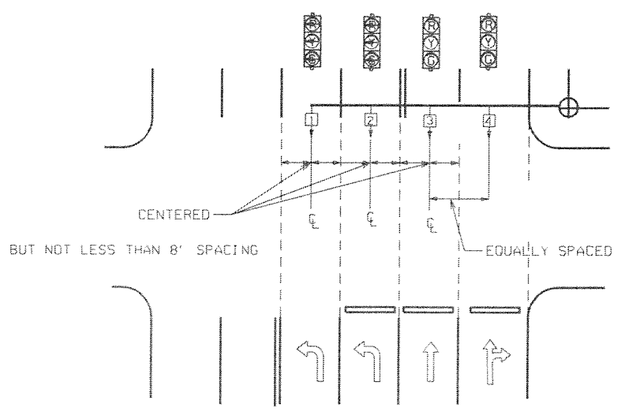


(D1)



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

DATE	REVISION	DATE FILM
3-11-10	2009 MUTCD	
12-9-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Signal Head Placement)

1040490_job.dgn 12/7/2009

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.		040490	86	148

(2) SIGNALIZATION DETAILS

NOTES, PED AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF 4 FT. BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY II FOR STRUCTURES ON ROUTES WITH A SPEED LIMIT LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH ARMS LESS THAN 60' AND ROUTES WITH SPEED LIMITS OF 45 MPH AND LESS WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE SPEED LIMIT IS 45 MPH AND LESS AND ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, 12 INCH, AND HAVE 5 IN. BACK PLATES:

HEADS AT END OF ARM - ONE 4 SEC., 85 LB., 16.0 SQ. FT. ONE SIGN MOUNTED 3 FT. FROM SIGNAL * 2' X 0" X 2' * 6", 20 LB. REMAINING HEADS SPACED A 8 FT. * 3 SEC., 56 LB., TWO 5 SEC):
14.4 SQ. FT. DESIGN TO ACCOMMODATE (INCLUDING
2 HEADS FOR ARMS 10 TO 16 FT.
2 HEADS FOR ARMS 10 TO 16 FT., INCLUDING LB.
3 HEADS FOR 18 TO 24 FT. ARMS;
4 HEADS FOR OVER 26 FT. ARMS.

STREET NAME SIGN -- 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) * VARIABLE ARM LENGTH (MAX.), 3.3 SQ. FT., 75 LB. PED SIGNALS -- TWO 2 SEC. 12 INCH MOUNTED 8 FT. FROM BASE OF POLE.
POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

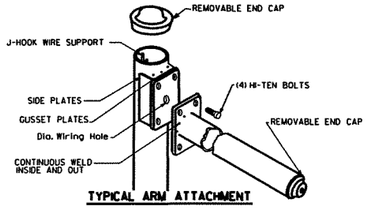
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE -- HAND HOLES SHALL BE 4 X 6 INCHES FOR STANDARD, AND 3 X 5 INCHES FOR PED POLES, MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLD WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

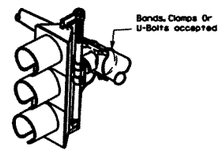
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE ARM SHALL MAINTAIN A POSITIVE AFTER IT IS PLACED UNDER LOAD.

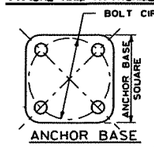
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



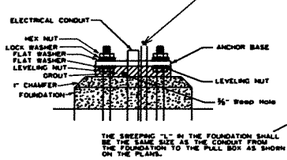
TYPICAL ARM ATTACHMENT

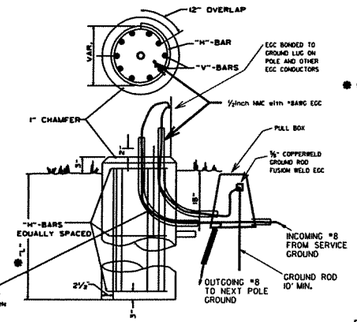


NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



ANCHOR BASE



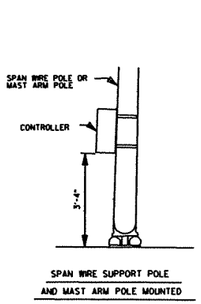


THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/*8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

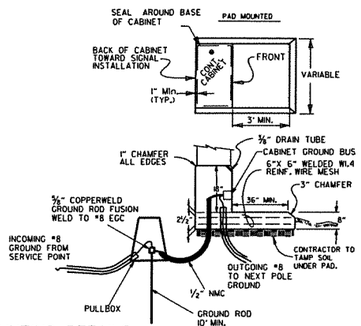
TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FDN. DIAMETER	DEPTH "L" *	STEEL VERT.	STEEL HORZ.	STEEL O/C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' to 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
over 12' to 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
over 20' to 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
over 35' to 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
over 50' to 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
Twins to 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
Twins over 20' to 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
Twins over 44' to 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
Twins over 50' to 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED



CONTROLLER CABINET MOUNTING DETAILS

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX. NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PED PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM PEDESTRIAN SIGNAL HEAD.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

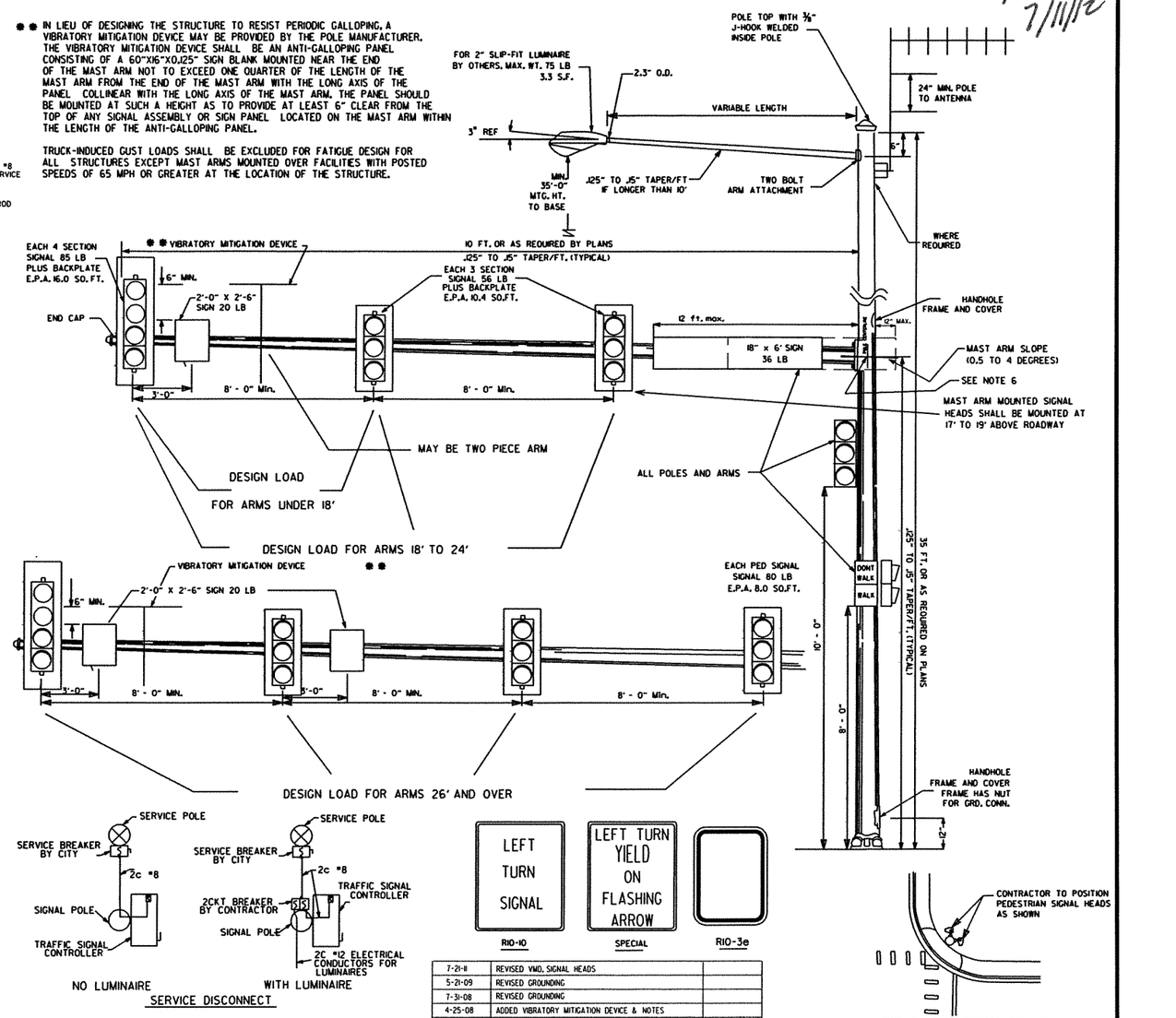
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14605
MICHAEL D. PUGETT
7/11/12

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60"X16"X0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.



DATE	REVISION	DATE FILM
7-21-11	REVISED VMD, SIGNAL HEADS	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
4-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
6-23-04	REVISED	
5-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-18-01	REV. NOTES & POLE MAST ARM SLOPE	
4-18-01	REVISED POLE TAPERS	
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
8-22-99	REVISED FOUNDATION DETAILS	
8-17-98	REVISED DETAILS AND NOTES	
8-21-95	ISSUED	

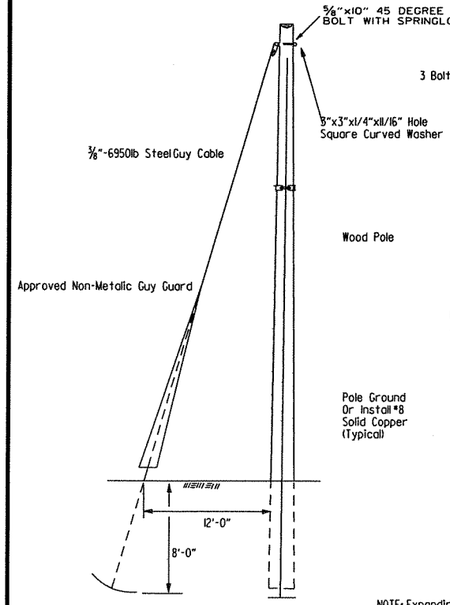
ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAILS (Steel Pole With Mast Arm)

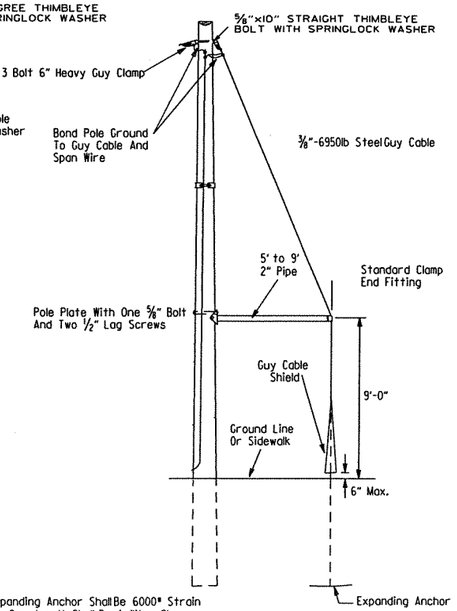
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	87	148

(2) SIGNALIZATION DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9768
MICHAEL D. PUGETT
7/11/12



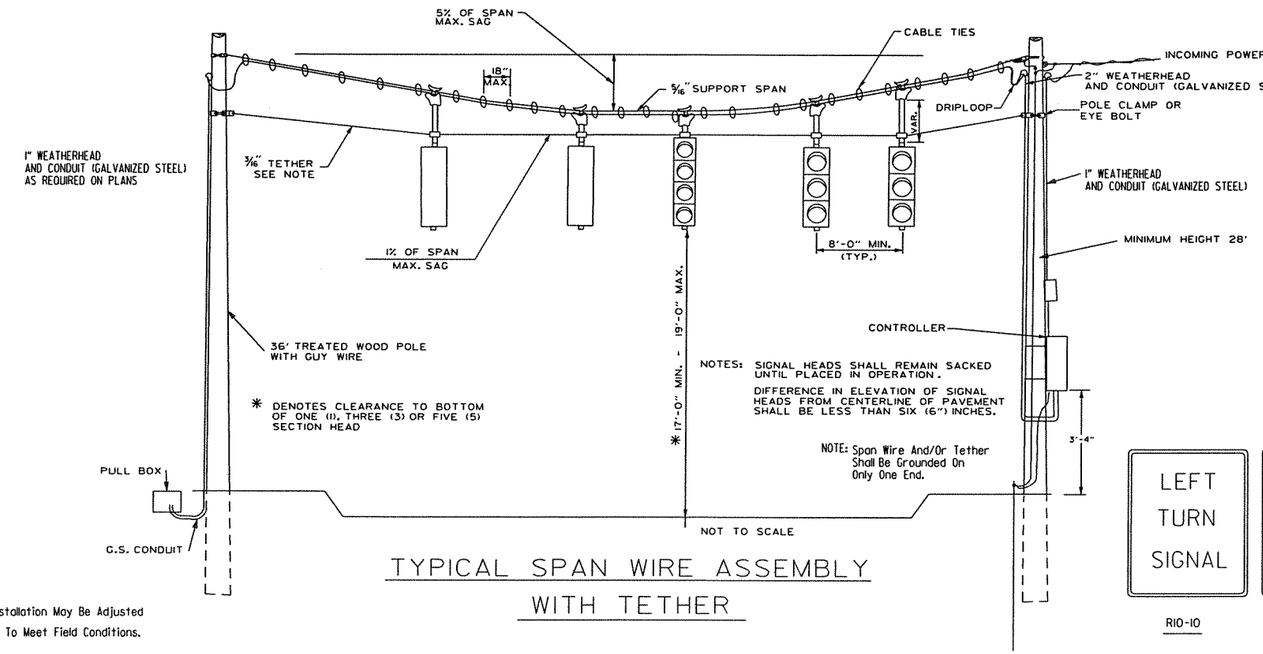
STANDARD GUY INSTALLATION



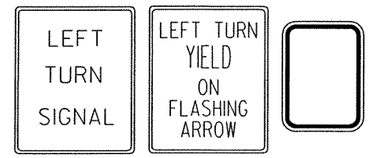
NOTE: Expanding Anchor Shall Be 6000# Strain Or Greater. It Shall Be A "New Chance 8-Way Expanding Anchor", With A 5/8" Minimum Guy Rod.

SIDEWALK GUY INSTALLATION

NOTE: Conduit Installation May Be Adjusted By The Engineer To Meet Field Conditions.



TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

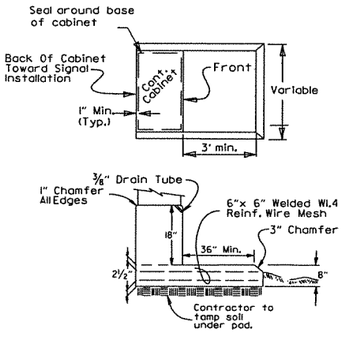


R10-10 SPECIAL R10-3e (SEE MUTCD)

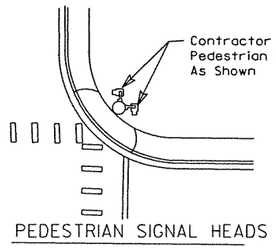
NOTES: Span wire poles shall be mounted a minimum of 4' behind curb or shoulder.

Span wire assemblies will require tether unless otherwise noted on plan sheets. Cable ties shall be suitable for outside use (black).

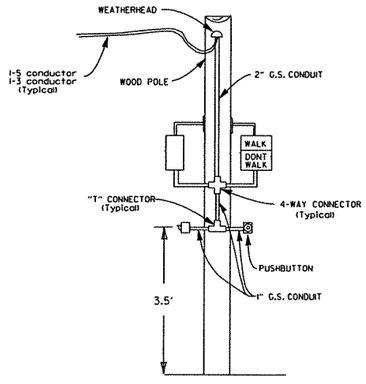
The controller power supply ground buss shall be bonded to the ground rod with a #8 AWG solid copper wire. On existing installations with no ground rod, Contractor shall install a 10' x 5/8" copperweld ground rod.



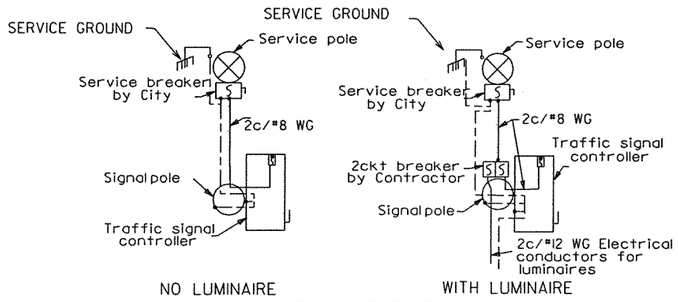
CONCRETE BASE MOUNTED CABINET DETAILS



PEDESTRIAN SIGNAL HEADS



WOODEN POLE INSTALLATION OF PED HEADS



SERVICE DISCONNECT

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

Each item "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" shall include a special sign as shown, attached to the mast arm or span assembly 12" to the right of the signal head unless removed within signal plan notes.

Sign blank shall be constructed of alluminum alloy (ASTM designation B-209, Alloy 5052-H38) with a thickness of 0.100 inch.

Sign face shall be constructed of high intensity sheeting (Type III) with silkscreen legend and border.

Each item "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" to be used as a left turn indication only shall include a sign (R10-10) as shown, attached to the mast arm or span assembly 12" to the right of the signal head.

SIGNAL OPERATION NOTES:

Flashing Operation - Prior to normal operation, signal shall be flashed for a period of 3 to 5 working days. Signal shall be placed in operation only on a regular work day, except Friday.

The contractor may be required to alter the flashing display during the temporary flash period. At the time the intersection is placed in permanent operation, the flash sequence shall then be returned to that indicated on the plan sheets. No additional compensation shall be allowed for these alterations in flash sequence.

Unless otherwise directed by the engineer, cabinet orientation shall be such that the back of the cabinet is parallel to the street and positioned to allow visibility of the signal display while observing the controller front panel.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

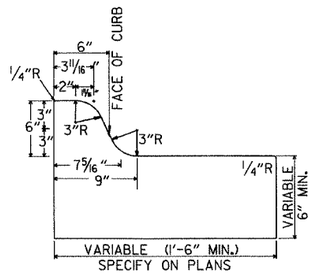
BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

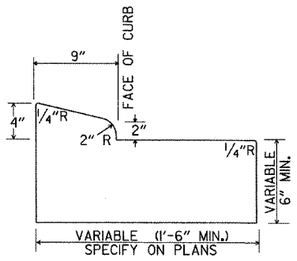
DATE	REVISION	DATE FILM
7-21-11	REVISED PED SIGN, CABINET GROUNDING	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENT. & SIGNAL OPER.	
5-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

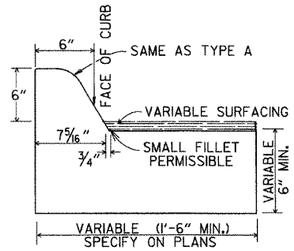
SIGNALIZATION DETAILS
(Span Wire Assembly Wood Pole)



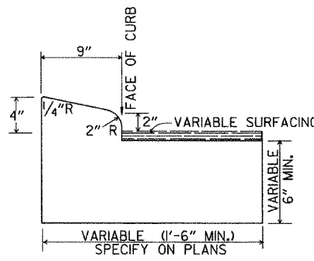
TYPE A



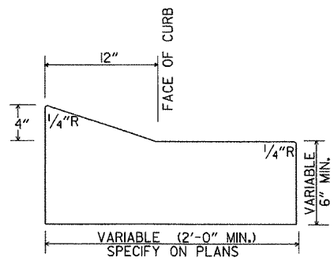
TYPE B-1



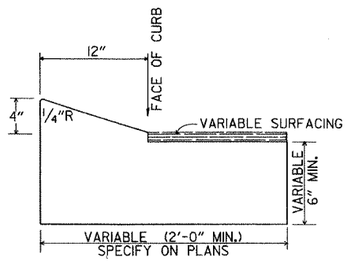
TYPE C



TYPE B-2

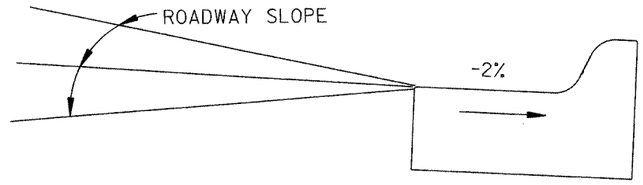


TYPE E-1



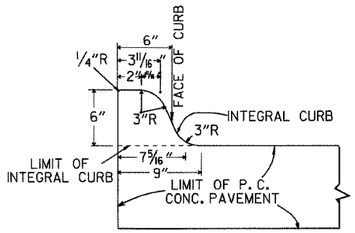
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

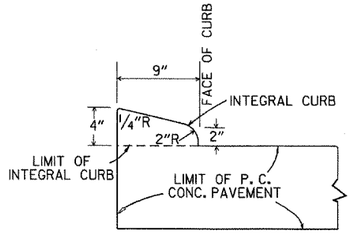


DETAIL OF GUTTER SLOPE

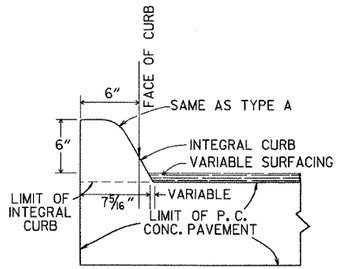
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

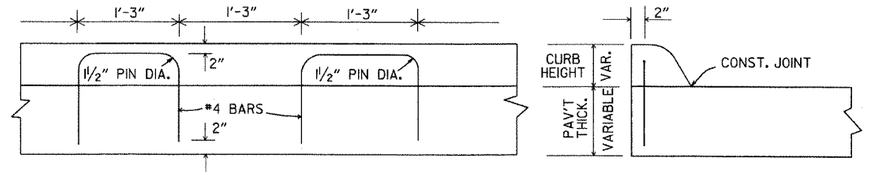


TYPE B

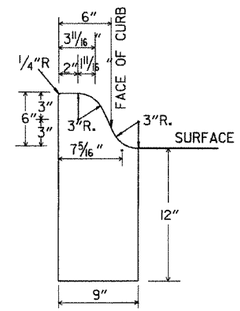


TYPE C

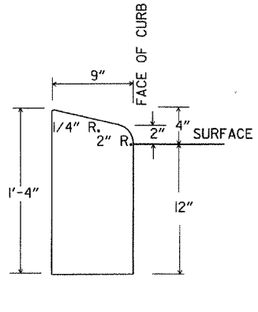
INTEGRAL CURB



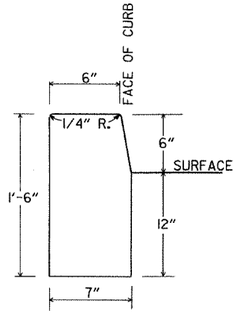
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



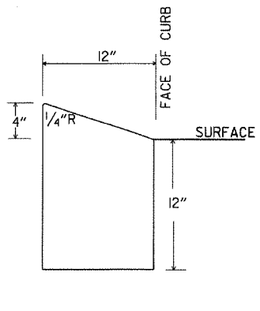
TYPE A



TYPE B

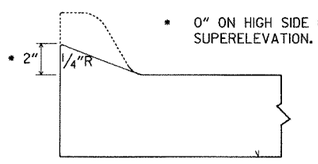


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

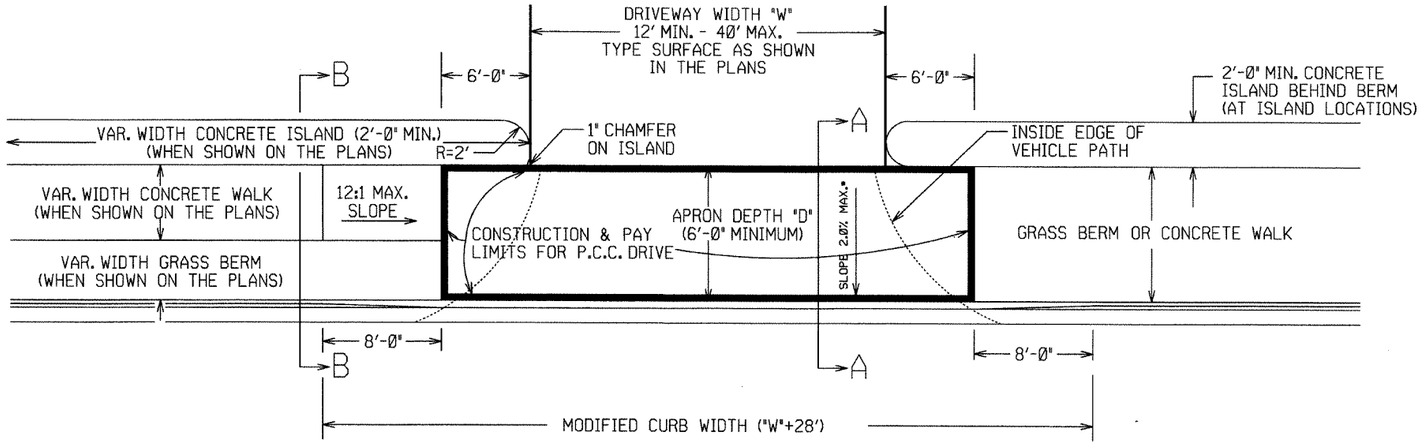
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

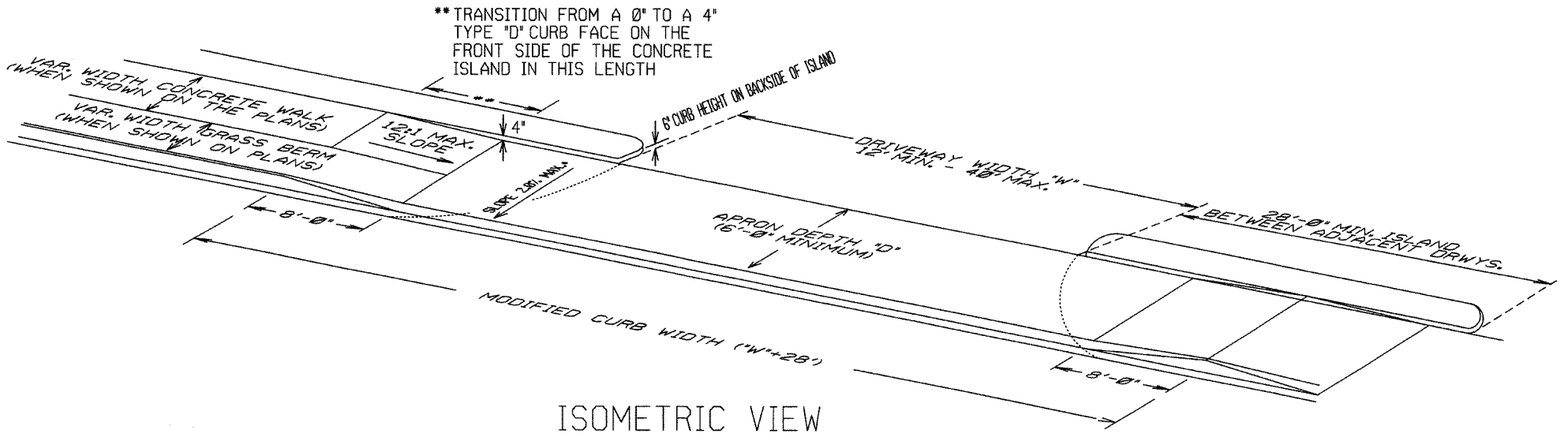
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

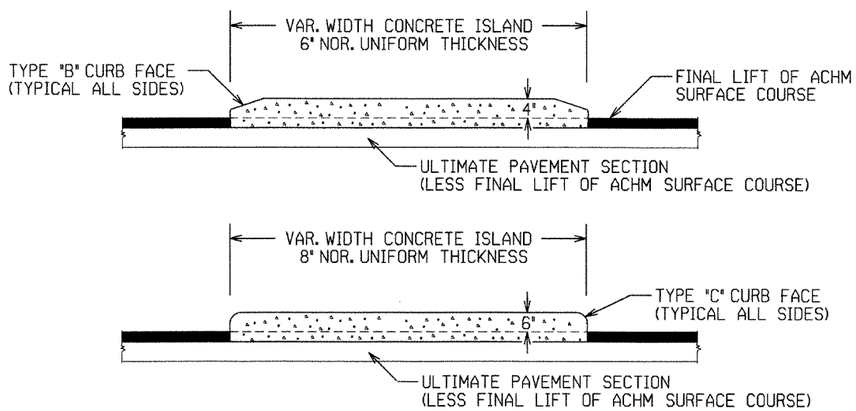
STANDARD DRAWING CG-1



PLAN VIEW

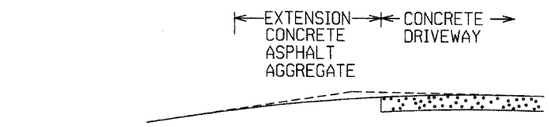


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

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



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

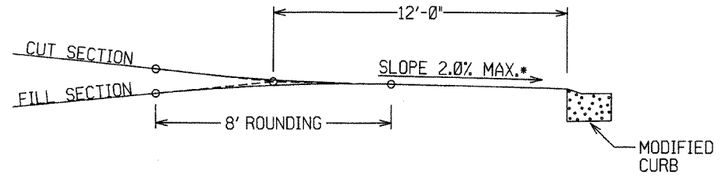
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

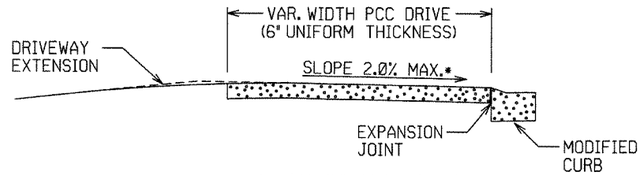
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

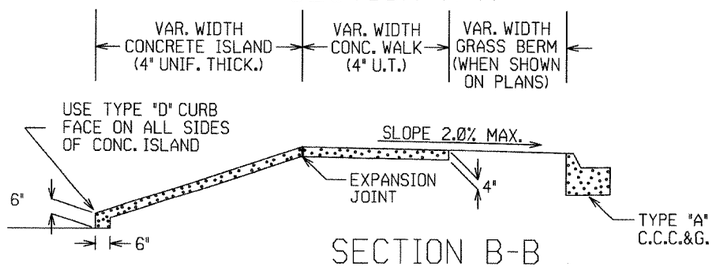


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



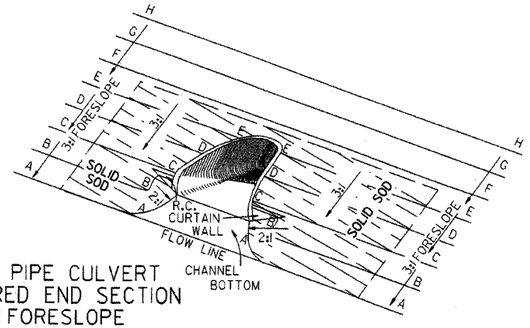
SECTION A-A



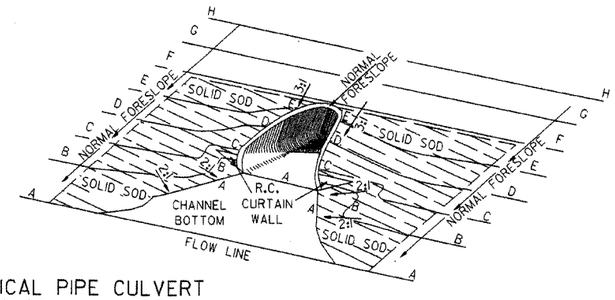
SECTION B-B
CURBED ISLAND BEHIND WALK

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

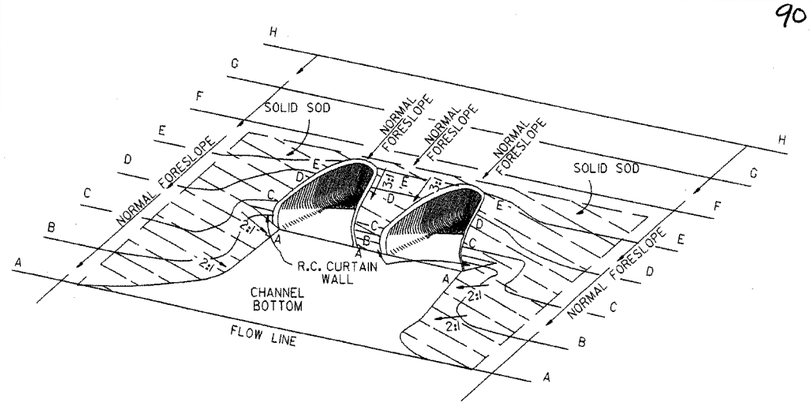
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

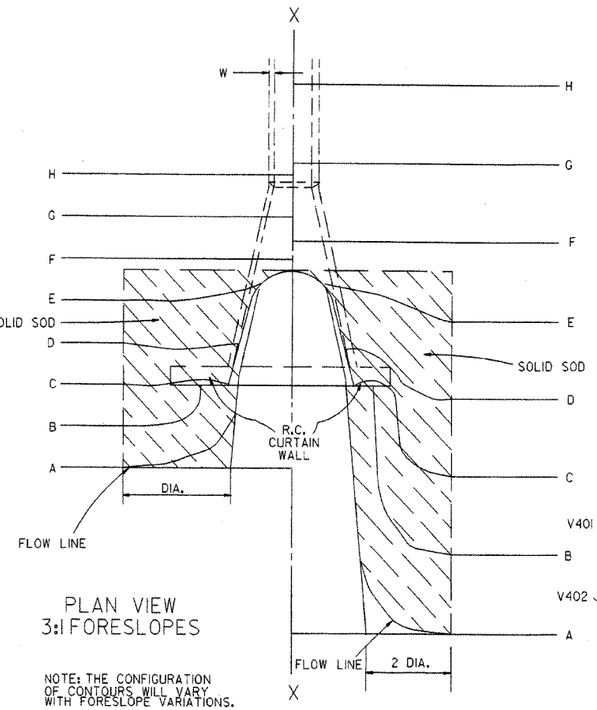
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	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

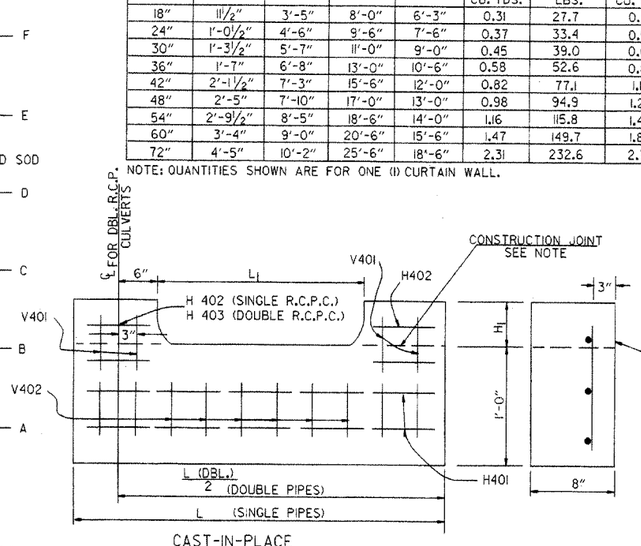
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

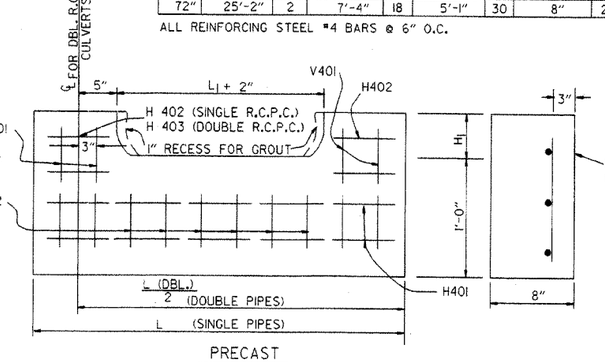
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

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

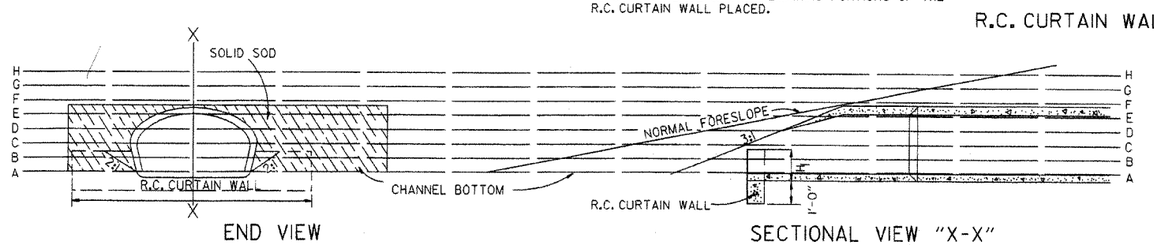
SOLID SODDING

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	95	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

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

GENERAL NOTES

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



END VIEW

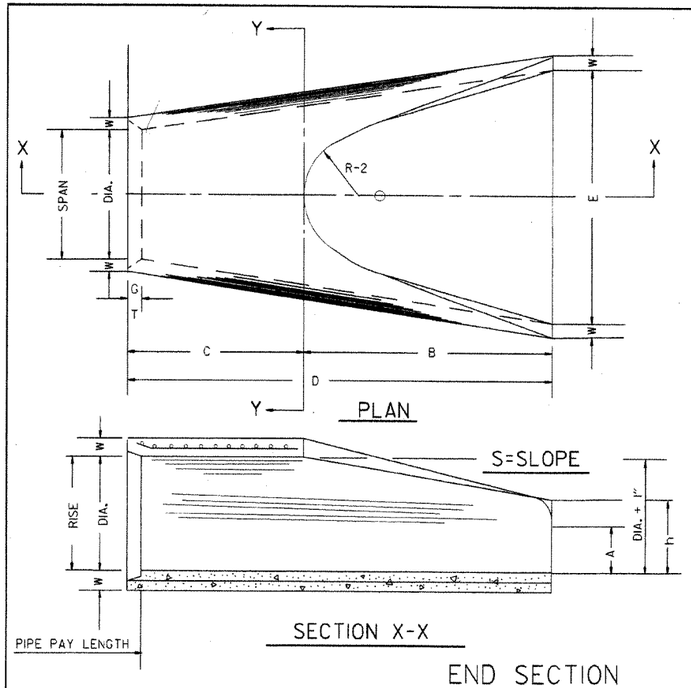
SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

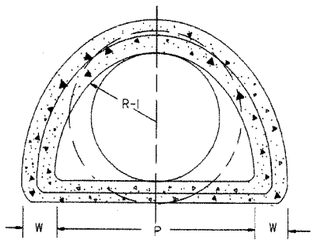
STANDARD DRAWING FES-1



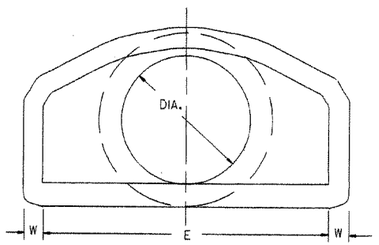
END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

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'-1½"	4'-0"	3:1	25"	33⅜"	16⅜"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¼"	8'-1¼"	6'-0"	3:1	37"	47⅛"	24⅛"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅜"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77⅛"	38⅛"	24"	5"	13250	4'-6"



SECTION Y-Y



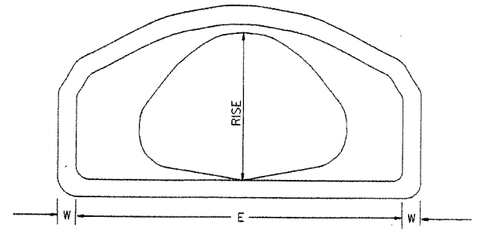
END VIEW

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

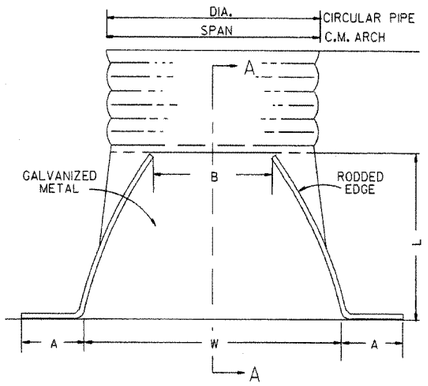
ARCH PIPE

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"	32⅜"	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"	36⅜"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅛"	20"	3"	2½:1
36	43⅞	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½:1
42	51⅛	51	31⅜	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"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅜"	24"	5"	2¼:1

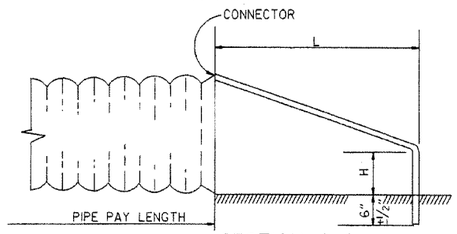
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW
CONCRETE ARCH PIPE

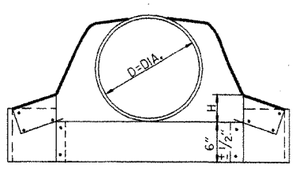


PLAN

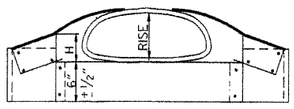


SECTION A-A

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



CIRCULAR PIPE



C.M. ARCH PIPE

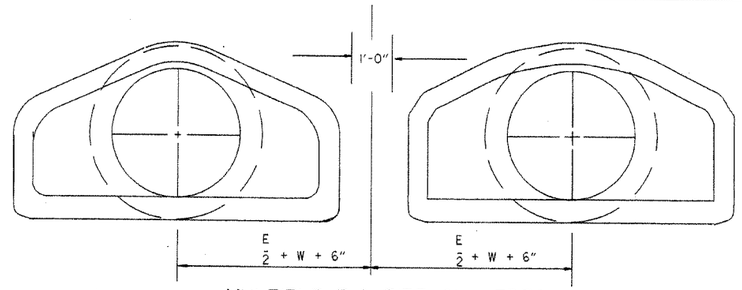
CIRCULAR PIPE

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

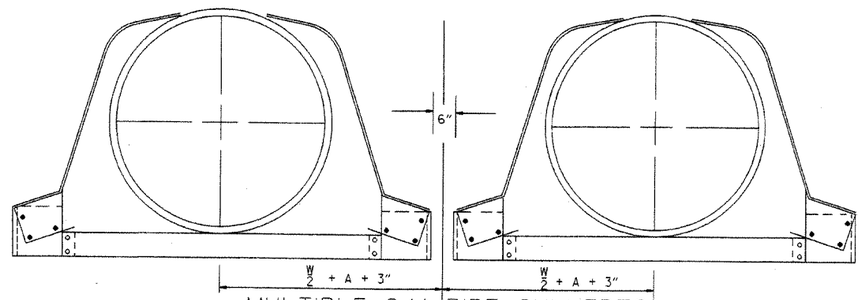
C.M. ARCH PIPE

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

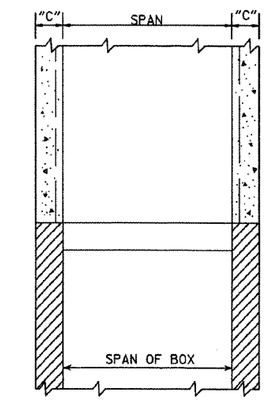
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
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

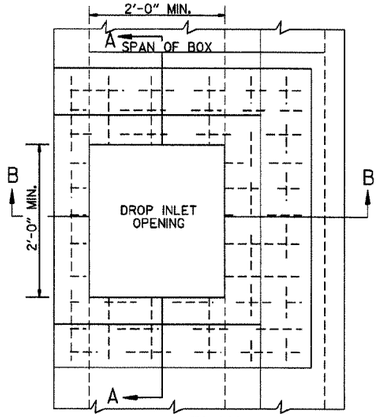
FLARED END SECTION

STANDARD DRAWING FES-2

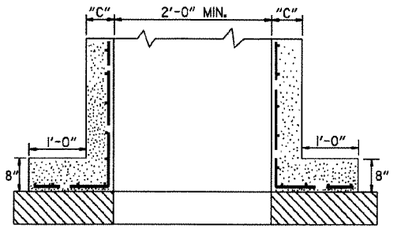
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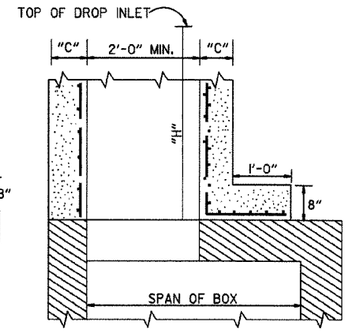
SECTION B-B



PLAN

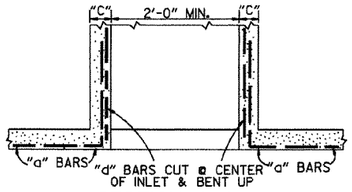


SECTION A-A

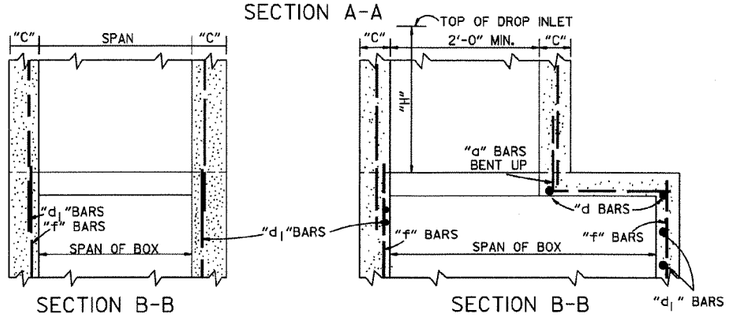


SECTION B-B

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



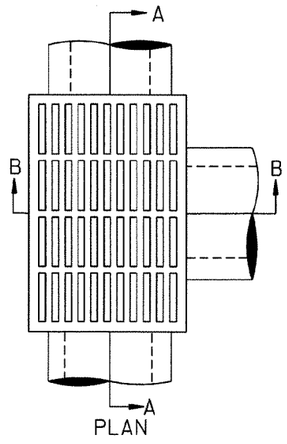
SECTION A-A



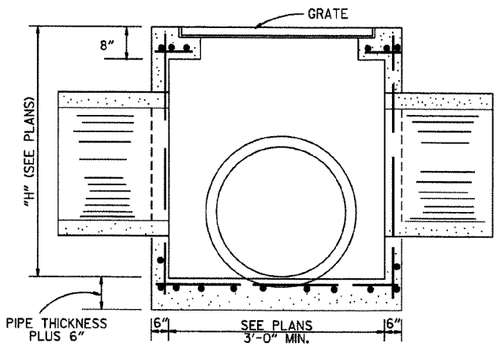
SECTION B-B SECTION B-B

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

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

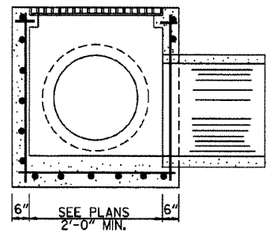


PLAN



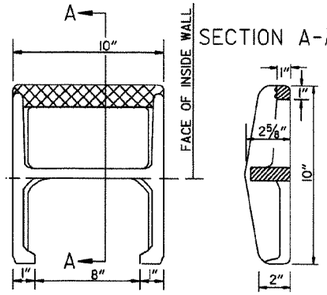
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

DROP INLET (TYPE E)

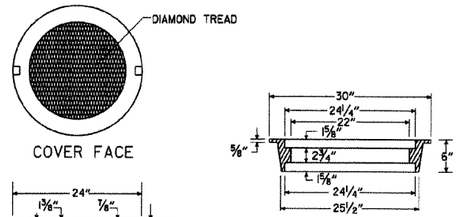


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

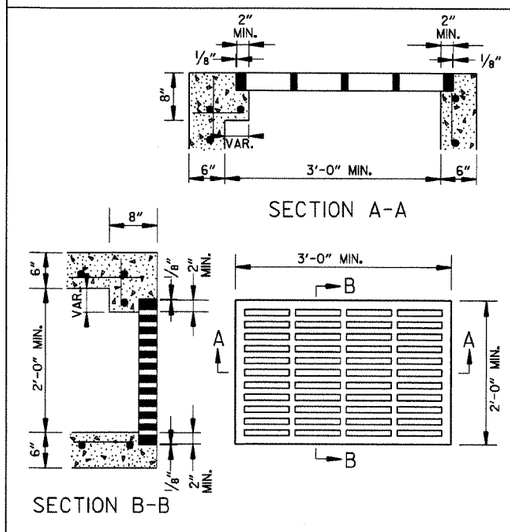
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



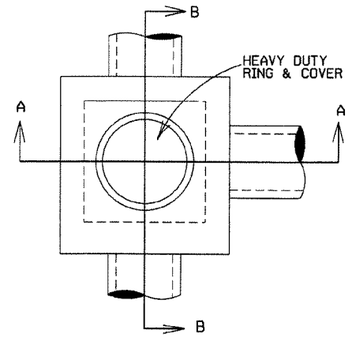
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

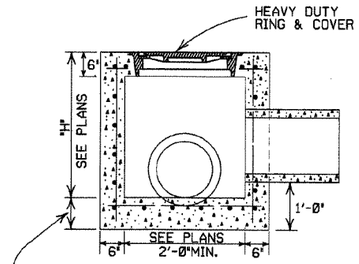


APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

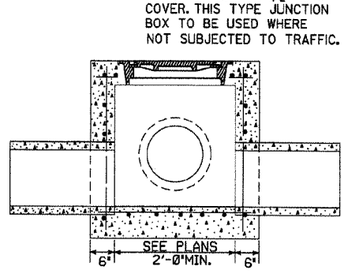


PLAN



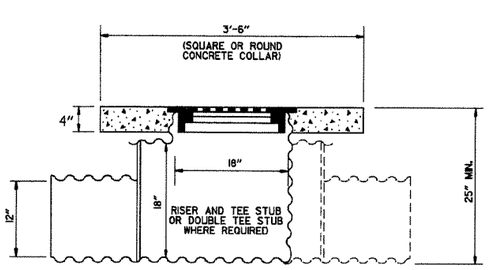
SECTION A-A

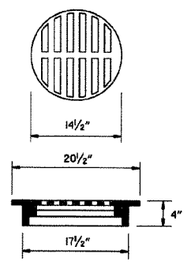
NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

JUNCTION BOX (TYPE E)





DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

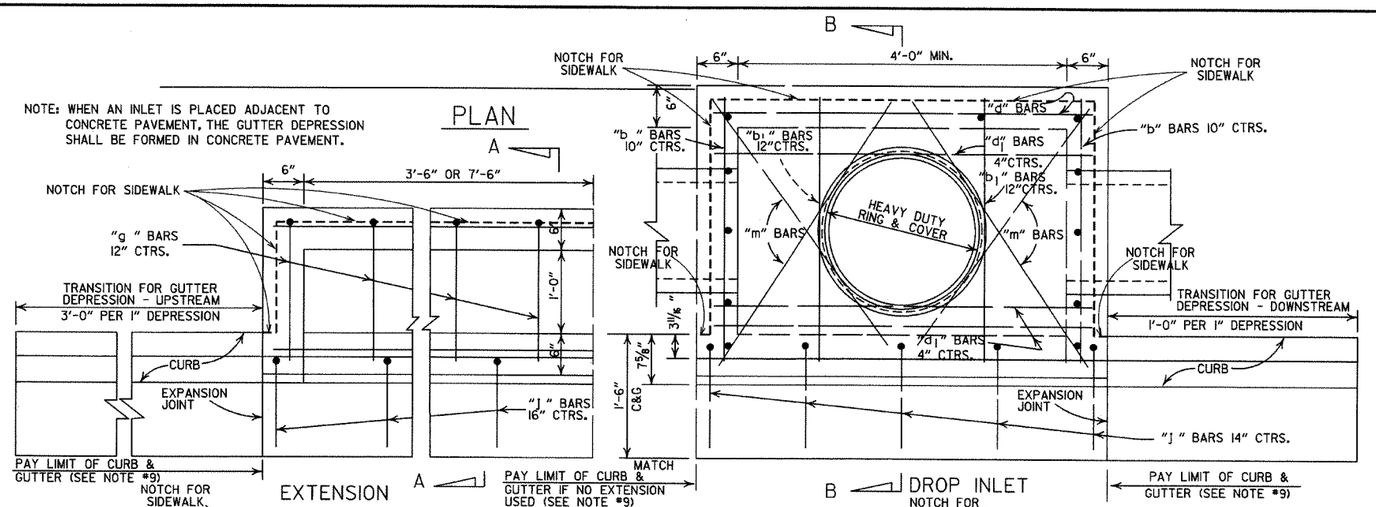
DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

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



APPROX. WEIGHT = 11 LBS. (CAST IRON)

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

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

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

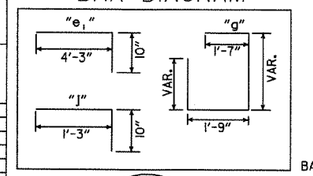
DROP INLET EXTENSION

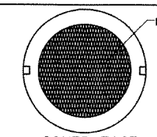
4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

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

BAR DIAMOND

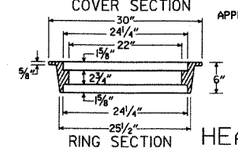




COVER FACE



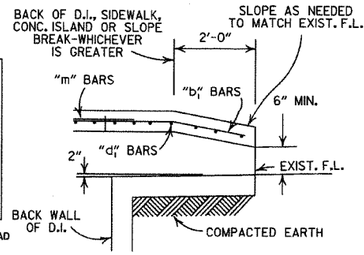
COVER SECTION



RING SECTION

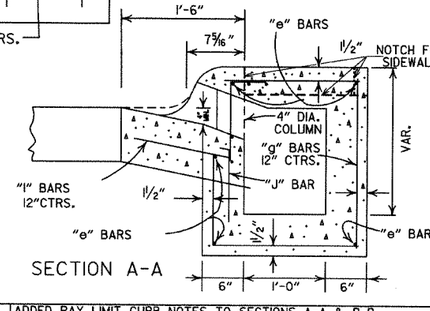
APPROXIMATE TOTAL WEIGHT = 333 LBS.

BACK OPENING



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

HEAVY DUTY RING & COVER



SECTION A-A

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

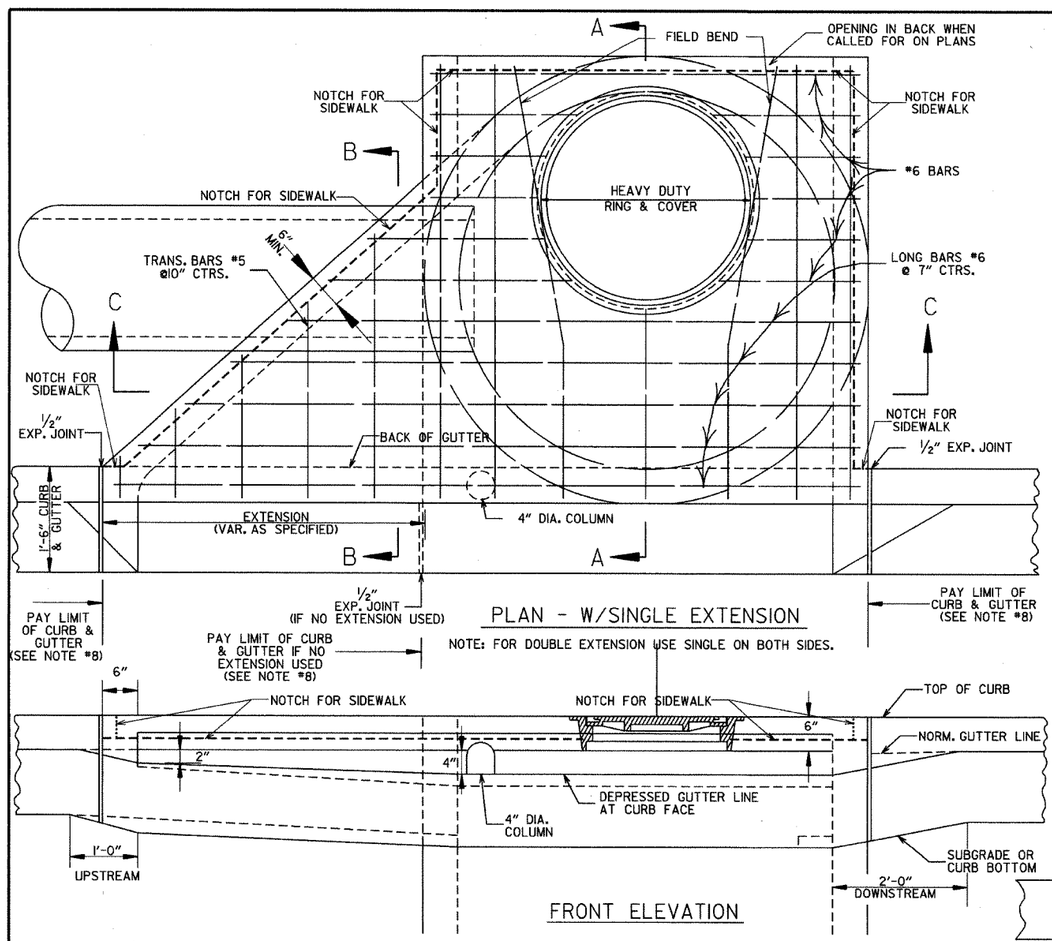
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

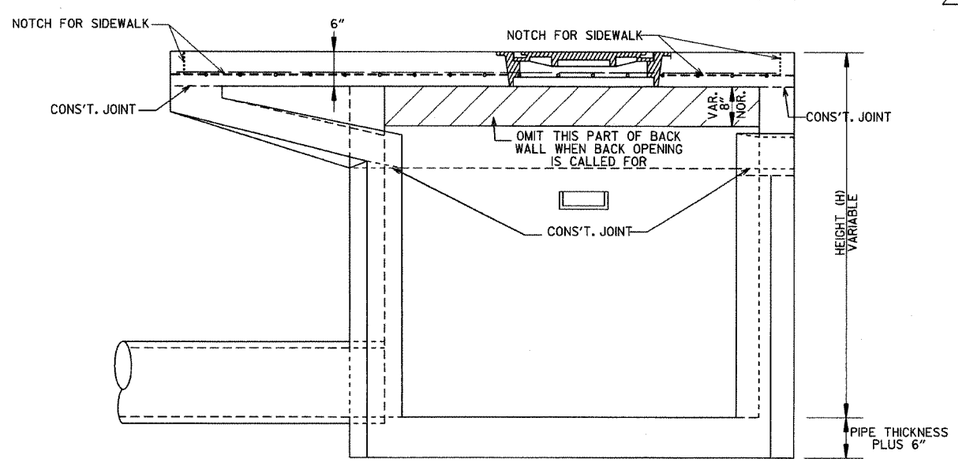
STANDARD DRAWING FPC-9E



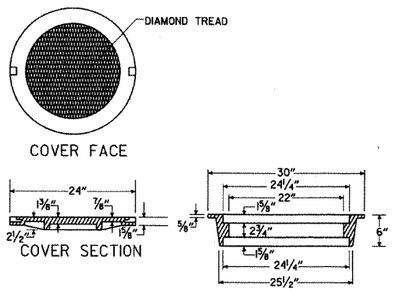
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



SECTION C-C



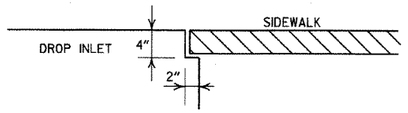
COVER SECTION

RING SECTION

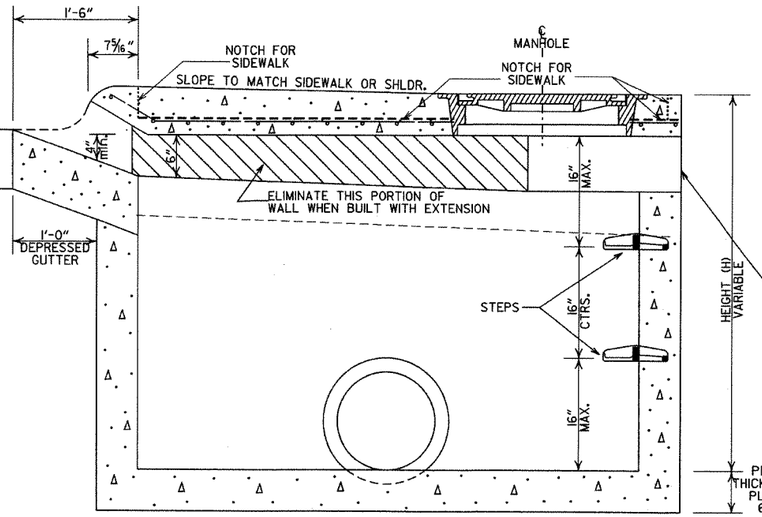
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

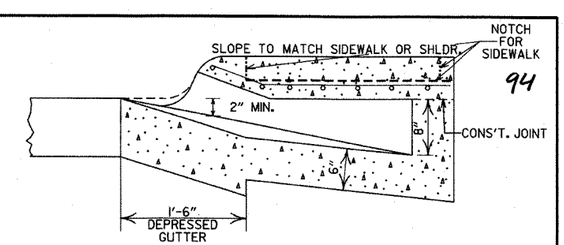
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON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



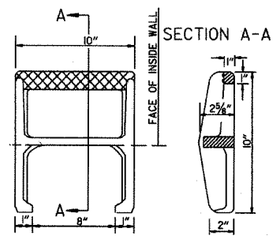
DETAIL OF NOTCH FOR SIDEWALKS



SECTION A-A



SECTION B-B

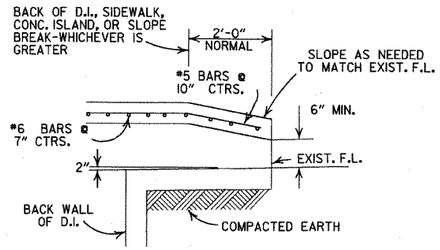


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

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

DETAIL OF STEP FOR DROP INLET



BACK OPENING

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

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

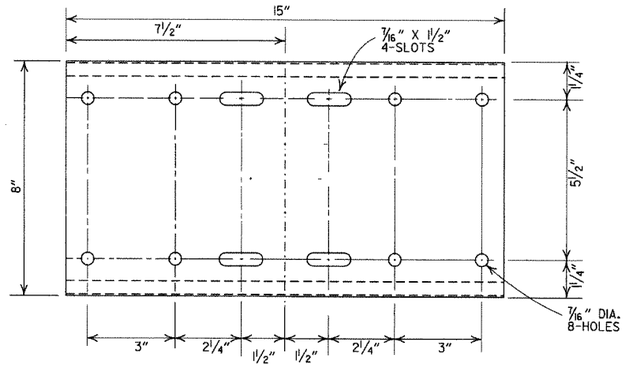
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS CAST IN PLACE	MINIMUM WALL THICKNESS PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11 ADJ. OPENING DIMENSION	
10-12-95	CORRECTED *6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
6-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 12	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	7-15-88
1-14-87	MODIFIED WALL THICKNESS	1-14-87
6-12-87	ISSUED	6-12-87

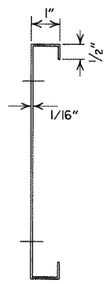
ARKANSAS STATE HIGHWAY COMMISSION

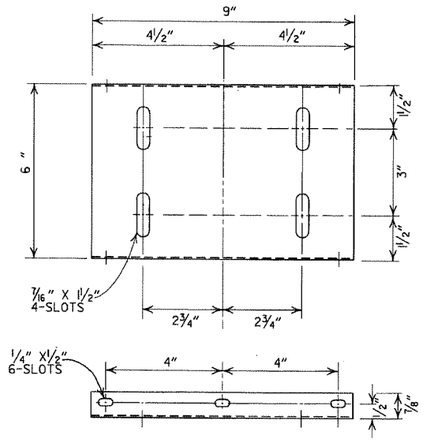
DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M

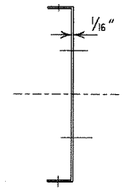


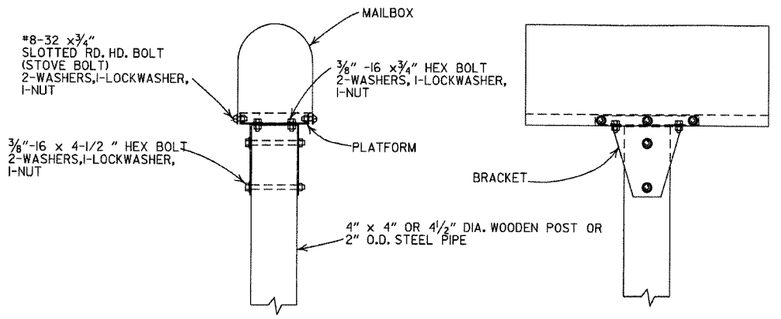
SHELF



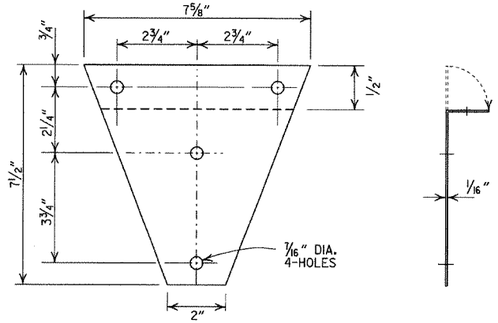


PLATFORM





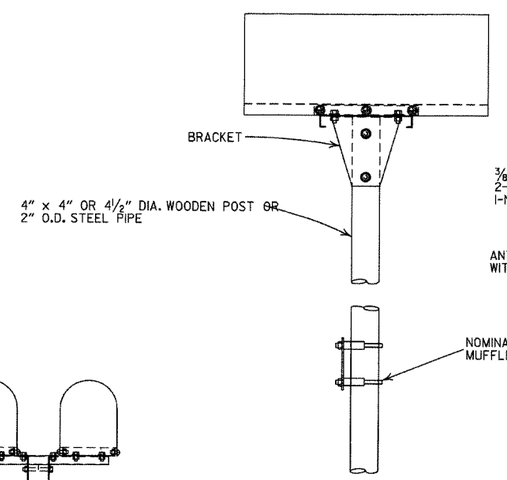
SINGLE INSTALLATION



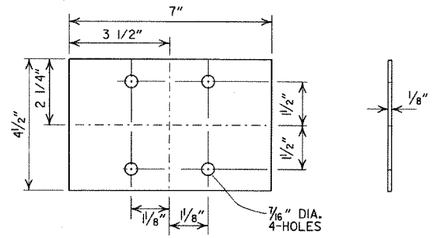
BRACKET

GENERAL NOTES

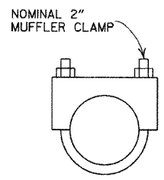
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED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



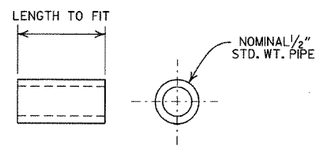
DOUBLE INSTALLATION



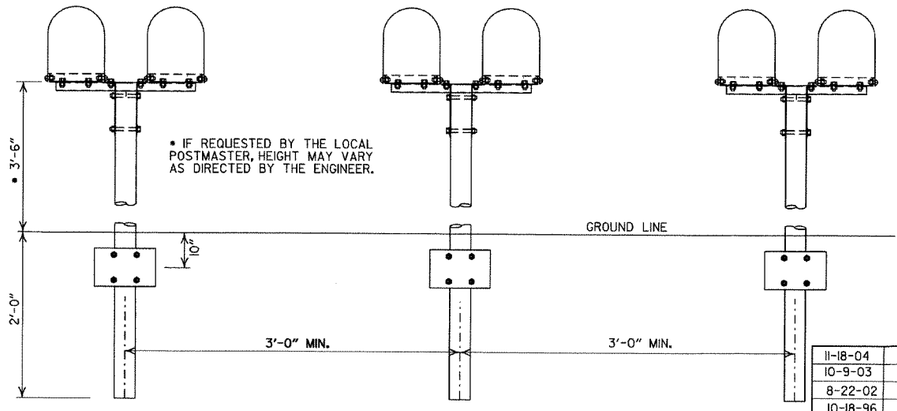
ANTI-TWIST PLATE



CLAMP



SPACER



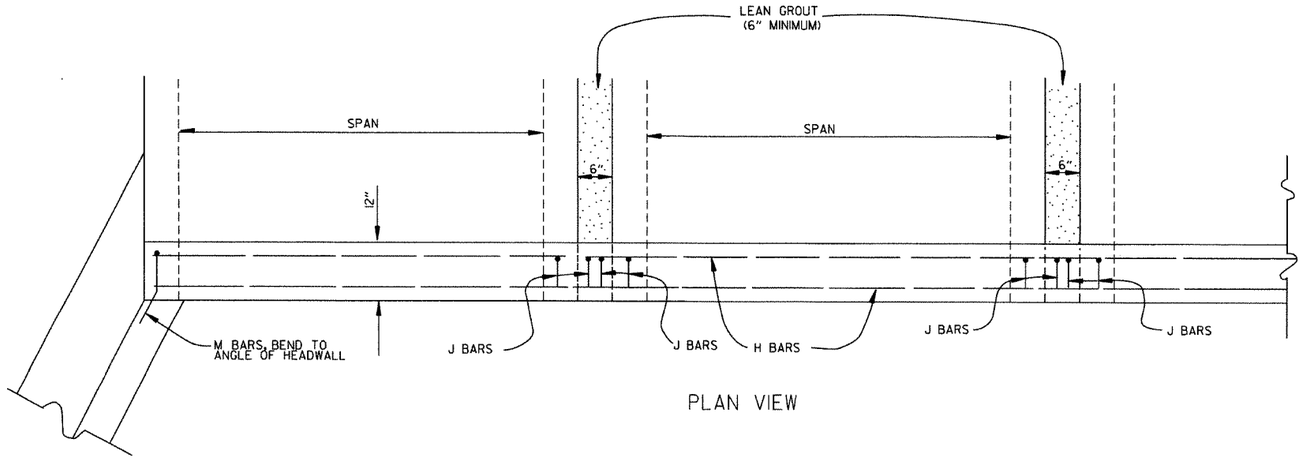
SPACING FOR MULTIPLE POST INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

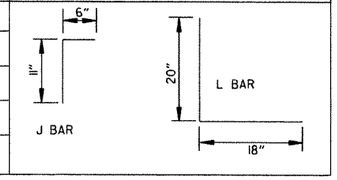
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

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



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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

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

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

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

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

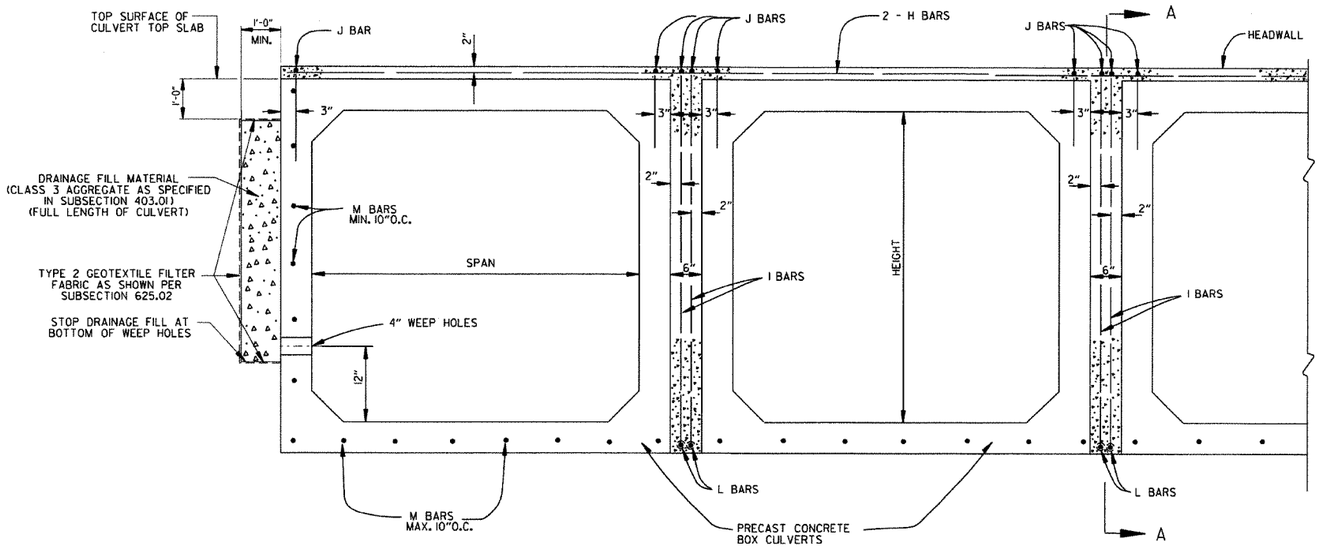
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

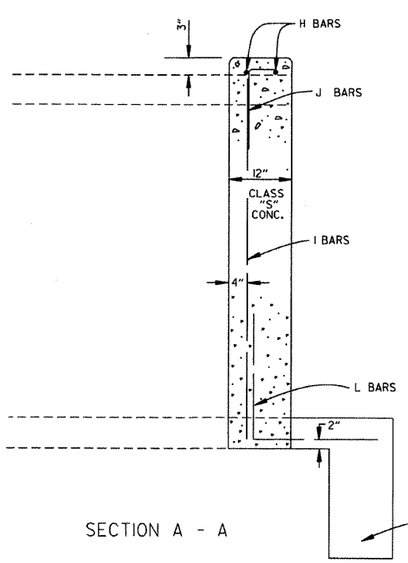
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT. SEE DETAILS ON THIS DRAWING.

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

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



END VIEW



SECTION A - A

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

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

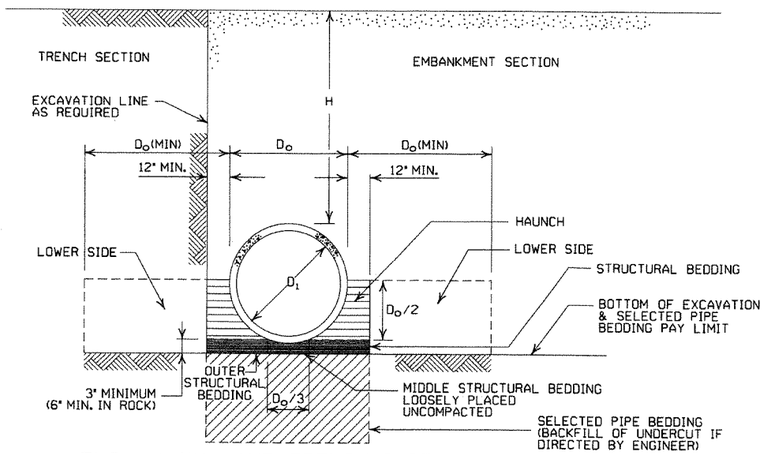
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CORRUGATED METAL PIPE ARCHES

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

CONSTRUCTION SEQUENCE

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

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

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

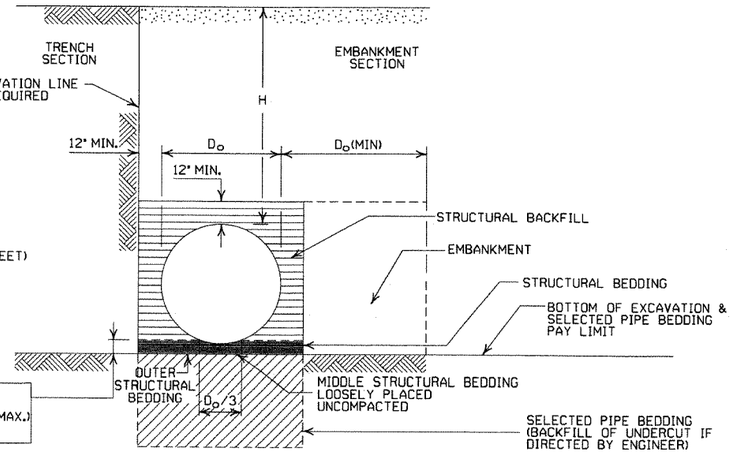
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

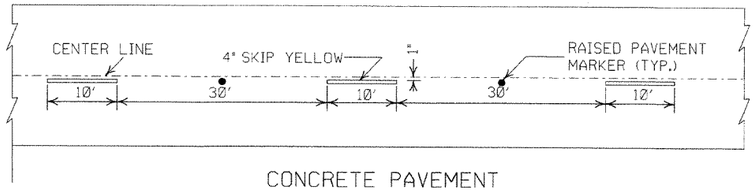
② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED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

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

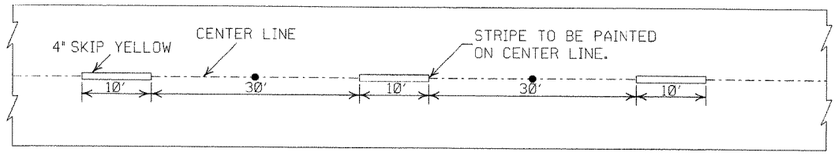
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

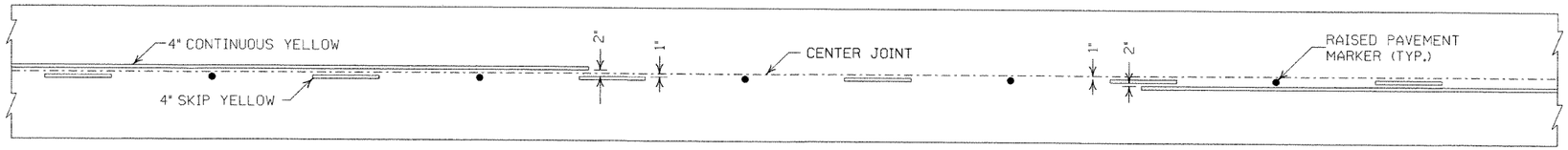


CONCRETE PAVEMENT

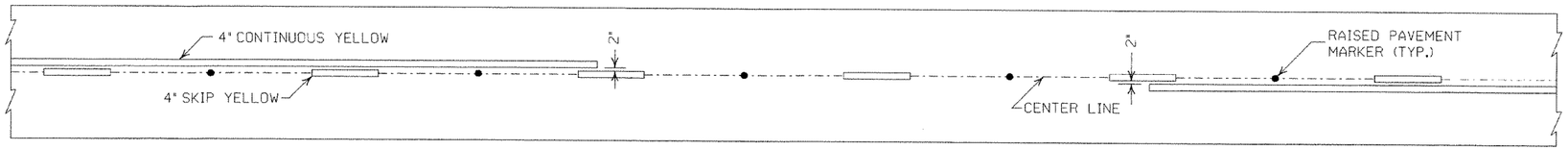


ASPHALT PAVEMENT

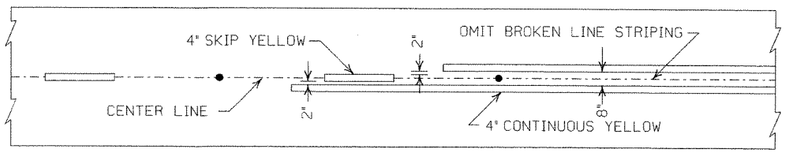
BROKEN LINE STRIPING



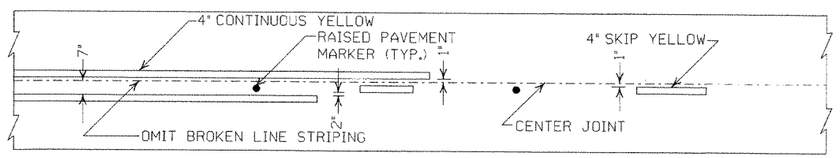
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

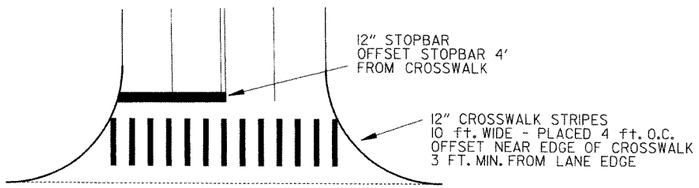


ASPHALT PAVEMENT



CONCRETE PAVEMENT

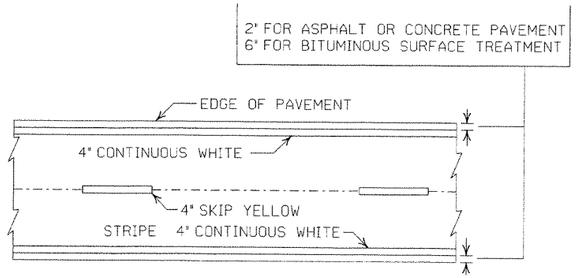
STRIPING AT ADJACENT NO PASSING LANES



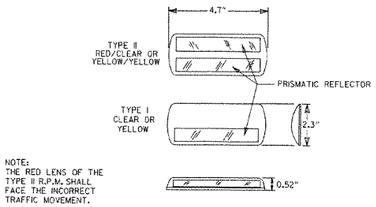
CROSSWALK AND STOPBAR DETAILS

NOTES:

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



PAVEMENT EDGE LINE MARKING



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

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

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

NOTE:

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

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

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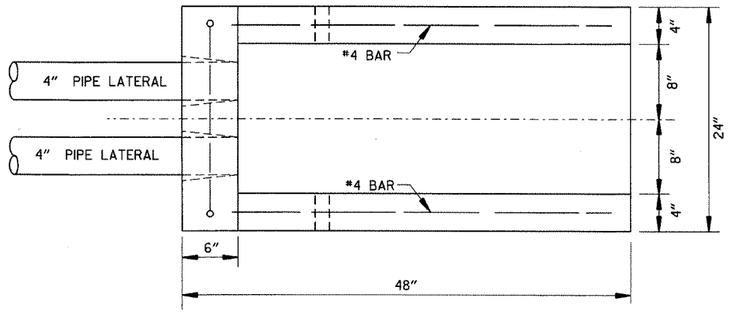
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

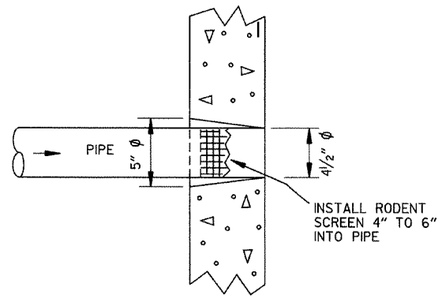
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

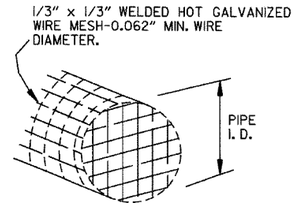
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



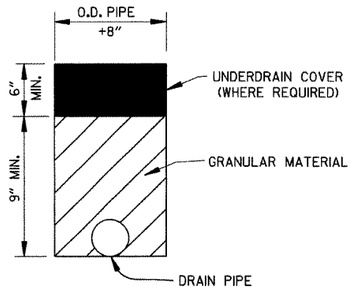
PLAN VIEW

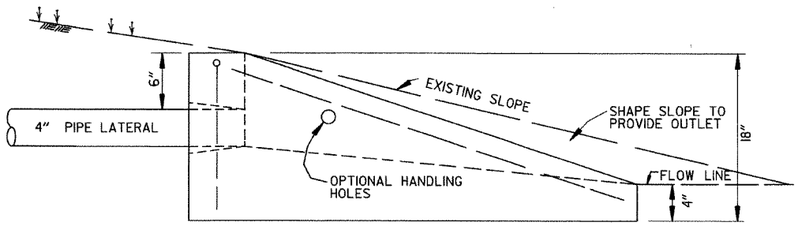


DETAIL OF HOLE FOR 4" PIPE

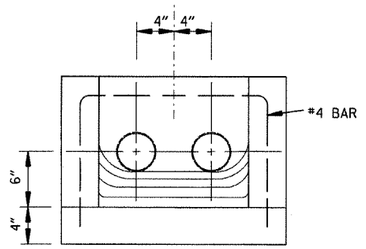


DETAIL OF RODENT SCREEN

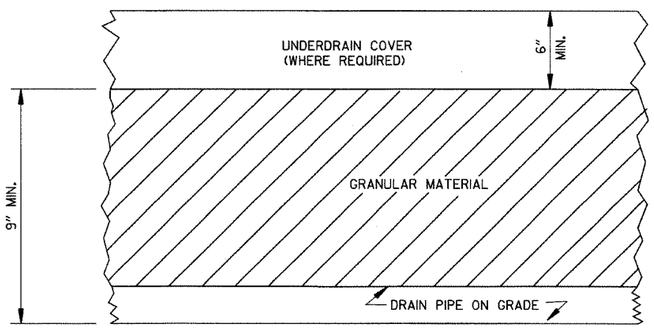




SIDE VIEW

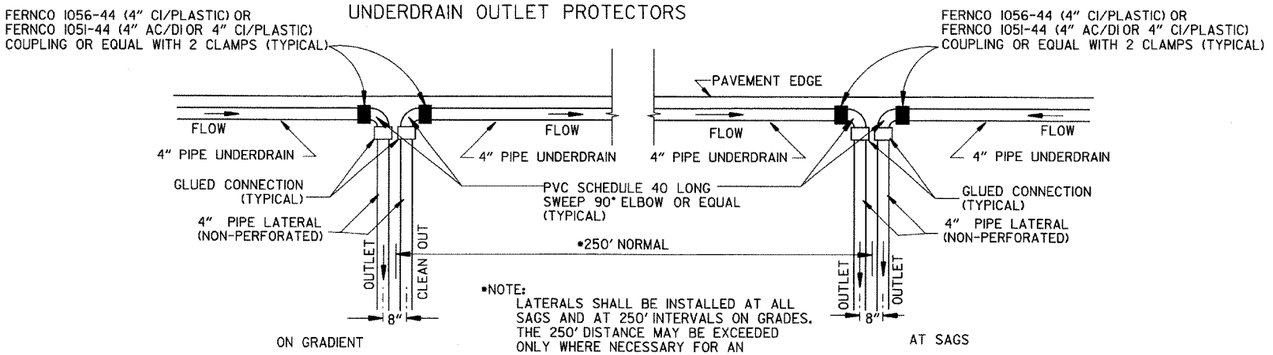


FRONT VIEW



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

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DETAILS OF PIPE UNDERDRAIN

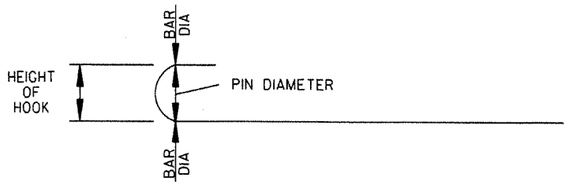
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

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

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

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



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

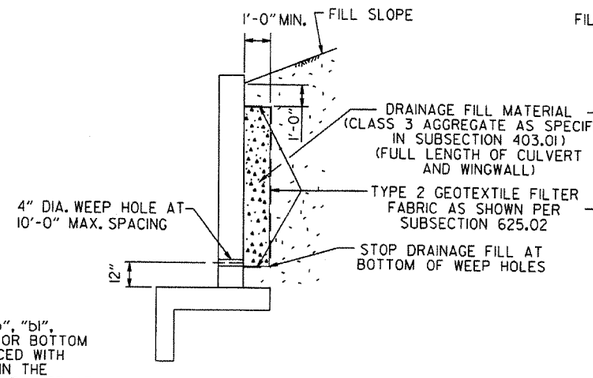
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

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

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

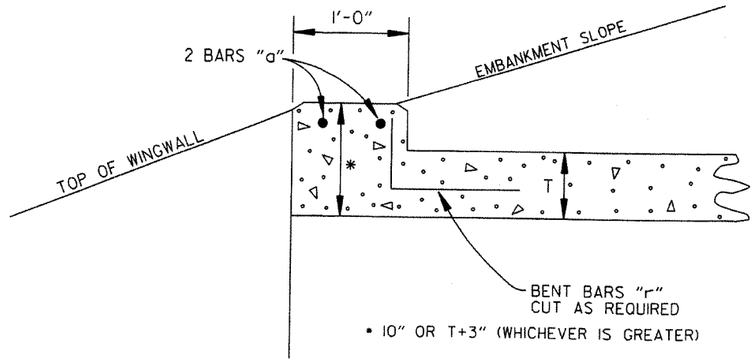
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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

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

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

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



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

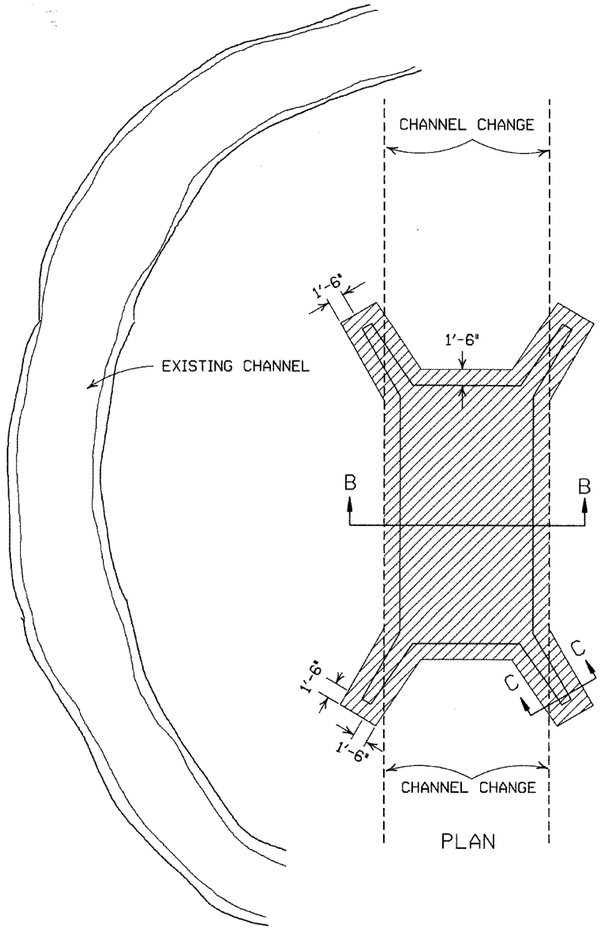
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

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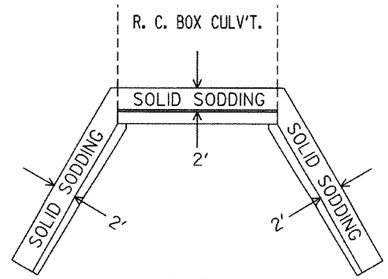
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

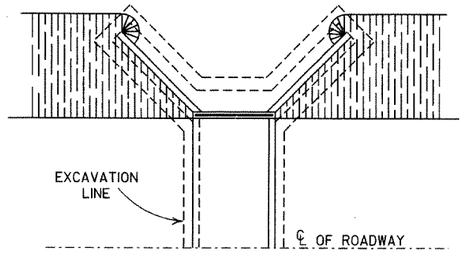
SOLID SODDING



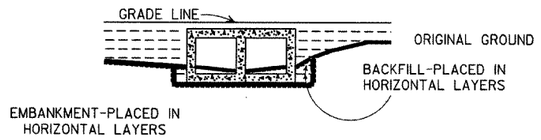
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

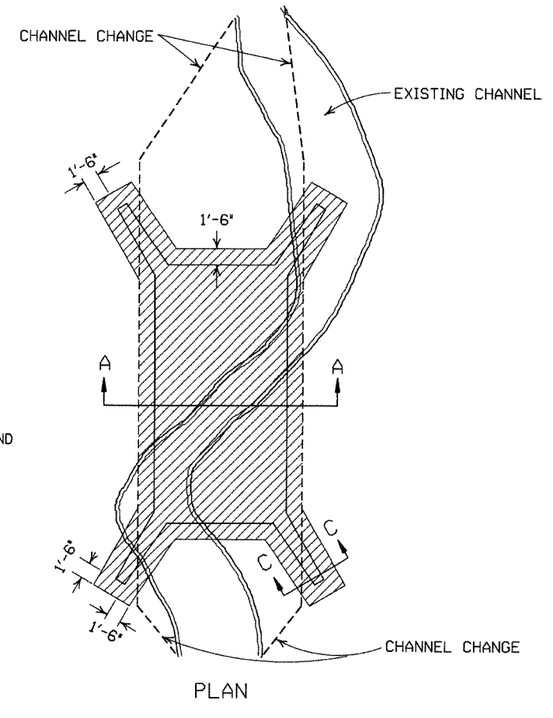


PLAN

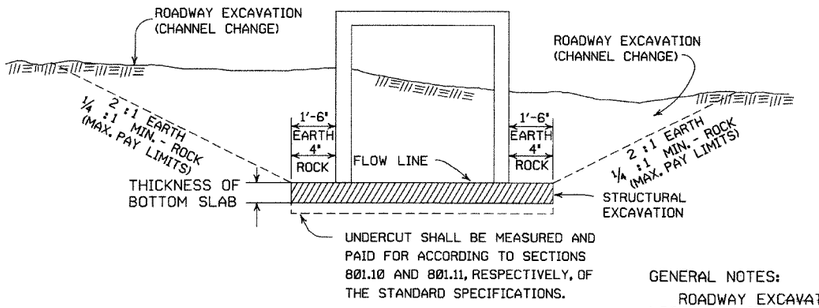


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

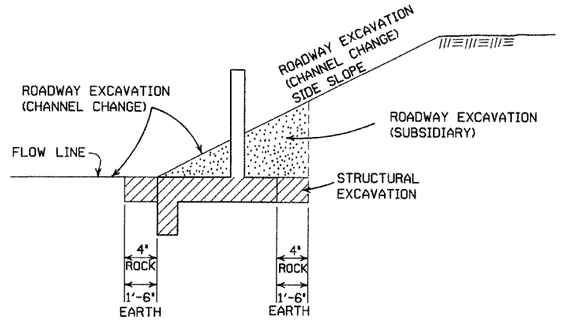


PLAN

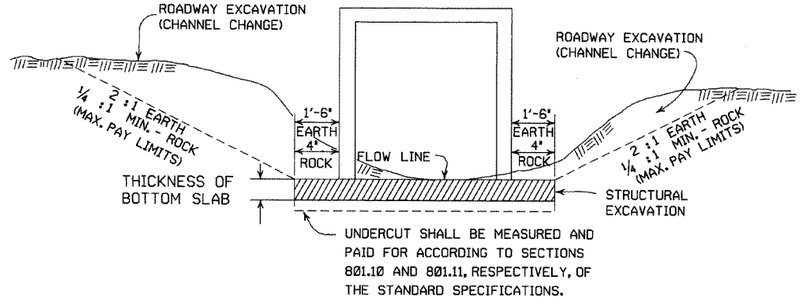


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

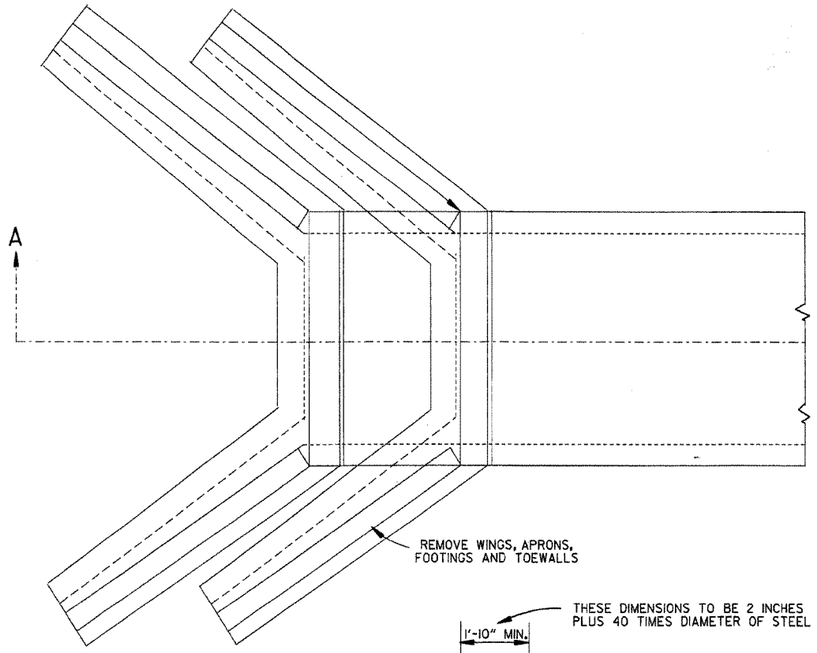
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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

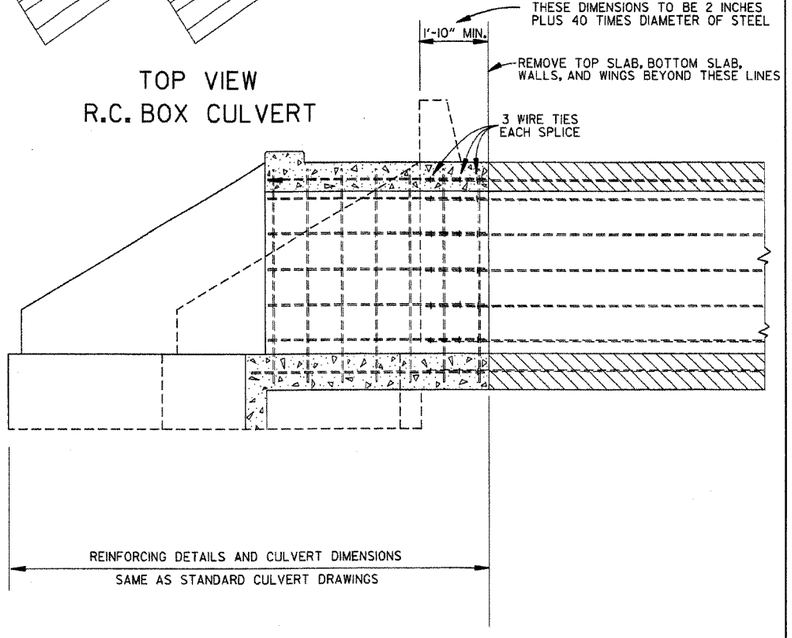
ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING RCB-2

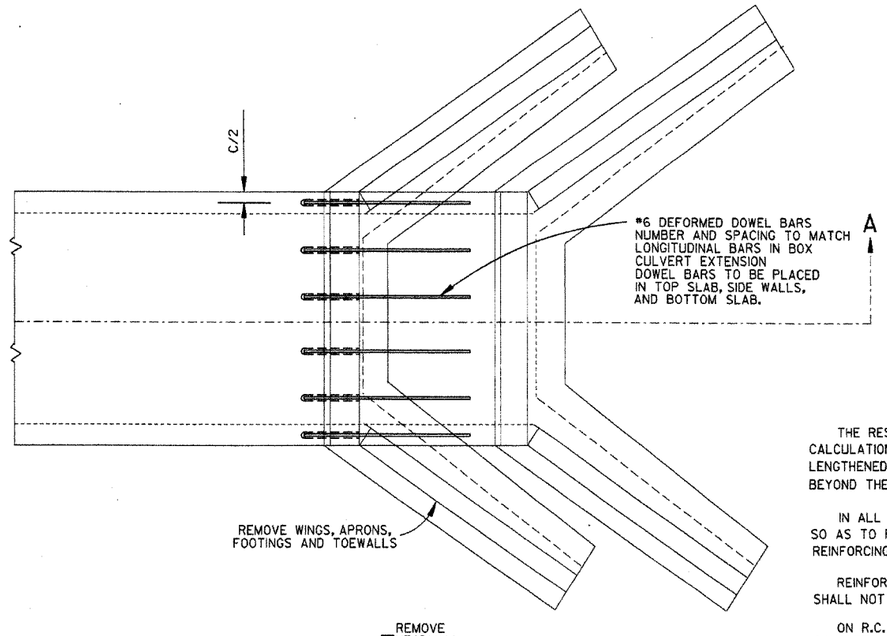


TOP VIEW
R.C. BOX CULVERT

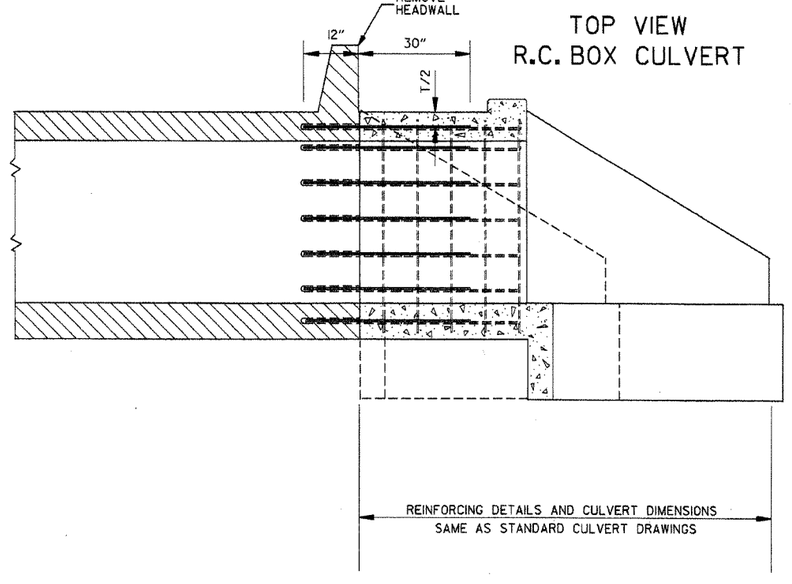


SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT



SECTION A-A

METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

FILE STDrcb3.dgn

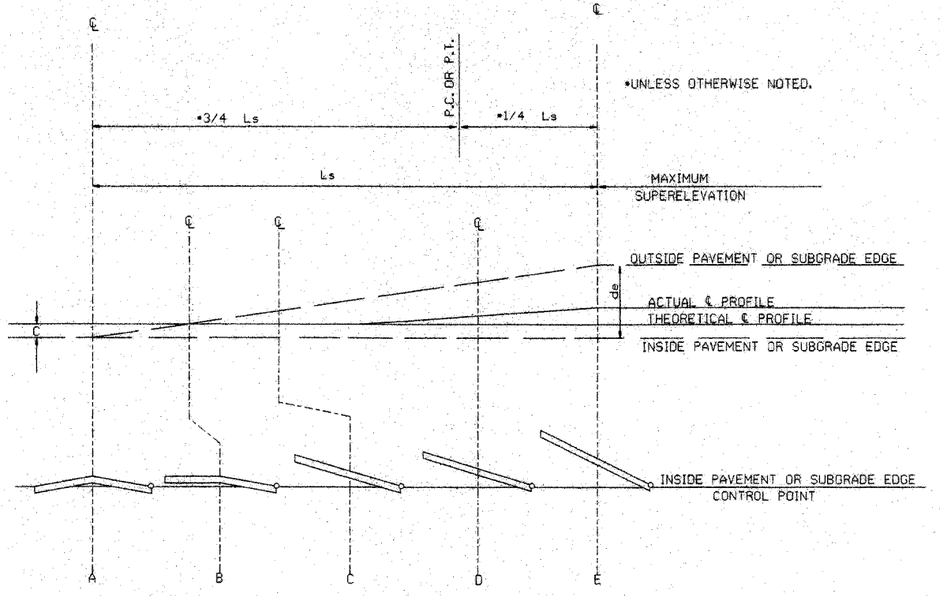
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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

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

ABBREVIATIONS

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



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

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

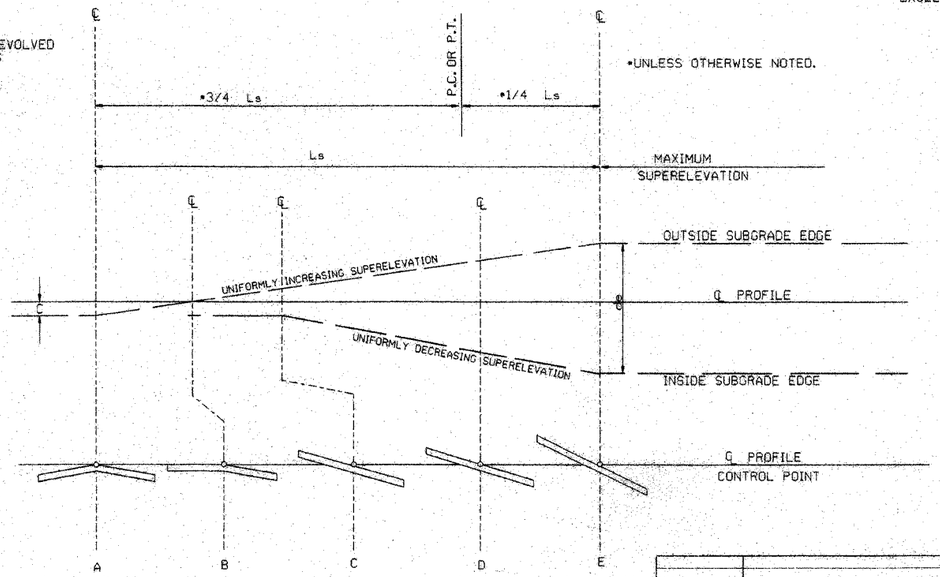
GENERAL NOTES

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

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

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

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

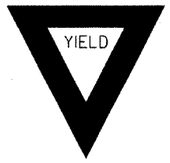
FILE STDSE2.DGN

R1-1



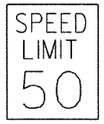
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

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



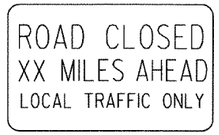
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



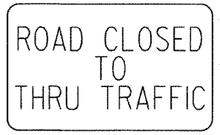
48"X30"

R11-3A



60"X30"

R11-4



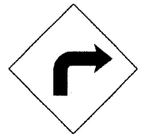
60"X30"

RSP-1



48"X30"

W1-1



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

W1-2



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

W1-3



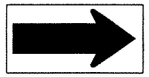
STD. 48"X48"

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



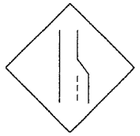
STD. 36"X36"
SPECIAL 48"X48"

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



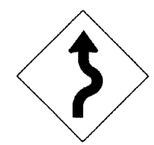
STD. 30"X30"
SPECIAL 36"X36"

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



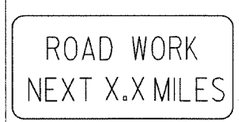
STD. 36"X36"
FWY. 48"X48"

W8-9



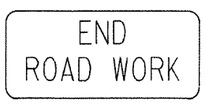
STD. 36"X36"
FWY. 48"X48"

G20-1



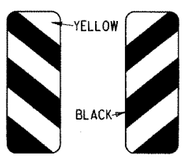
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

M4-9



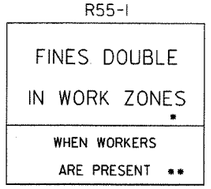
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10



48"X18"

R55-1



36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

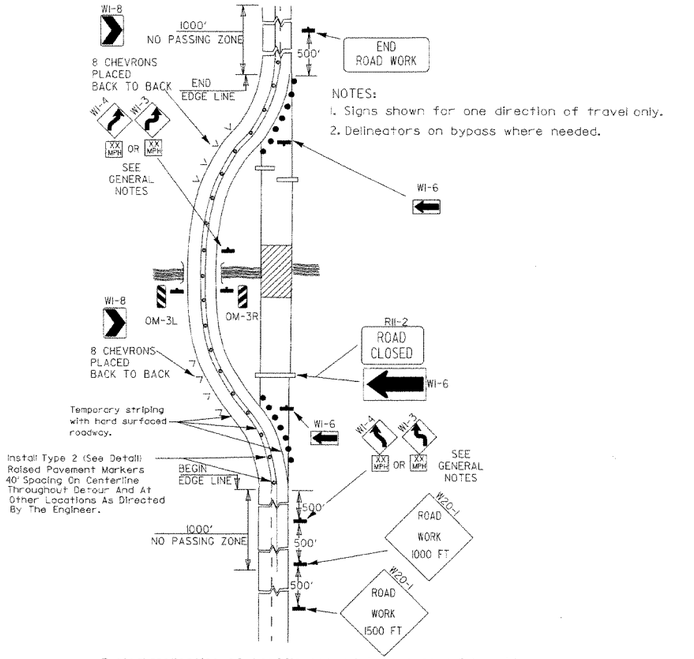
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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

ARKANSAS STATE HIGHWAY COMMISSION

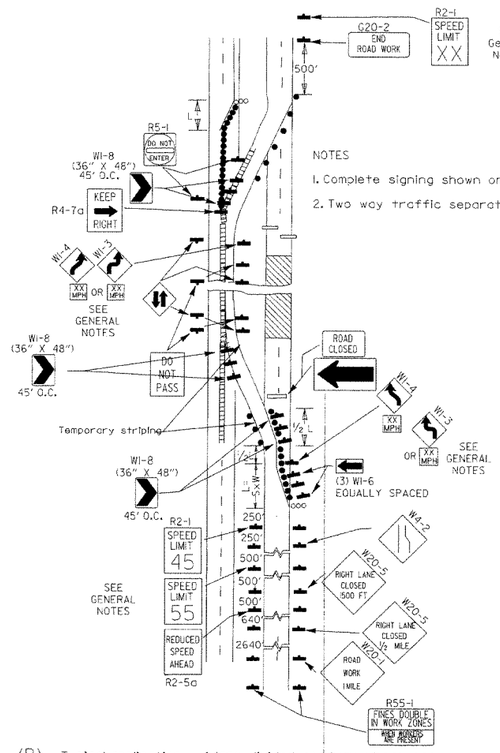
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



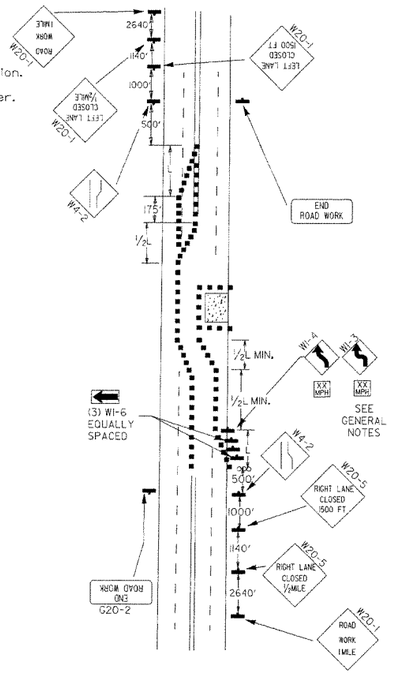
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

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

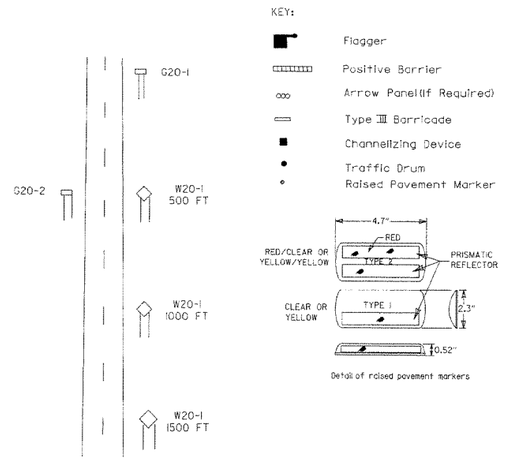


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

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



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



Typical advance warning sign placement

Taper formulae:

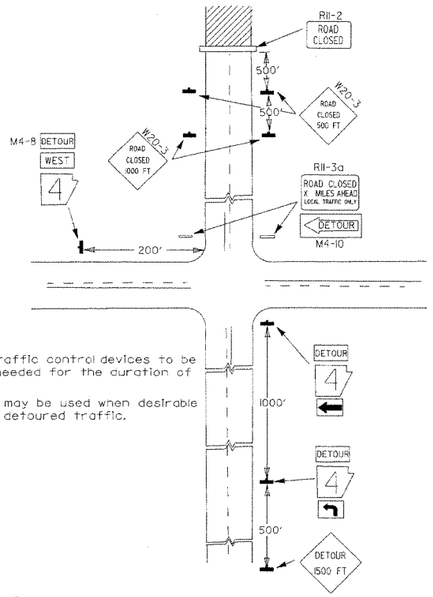
L=SxW for speeds of 45mph or more.

$L = \frac{WS^2}{60}$ 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.

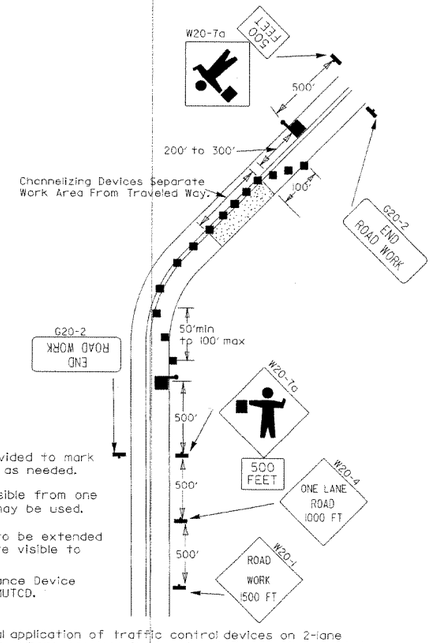
GENERAL NOTES:

1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 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.



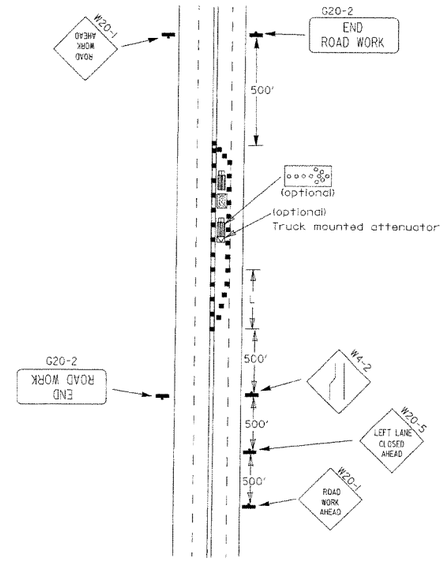
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

(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.



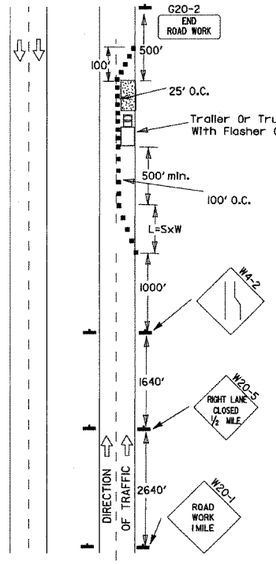
(F) Typical application - 4-lane undivided roadway with inside lane closed.

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

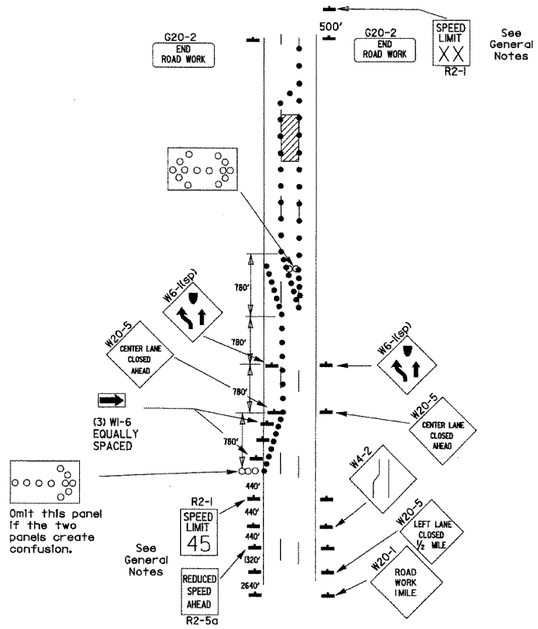
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

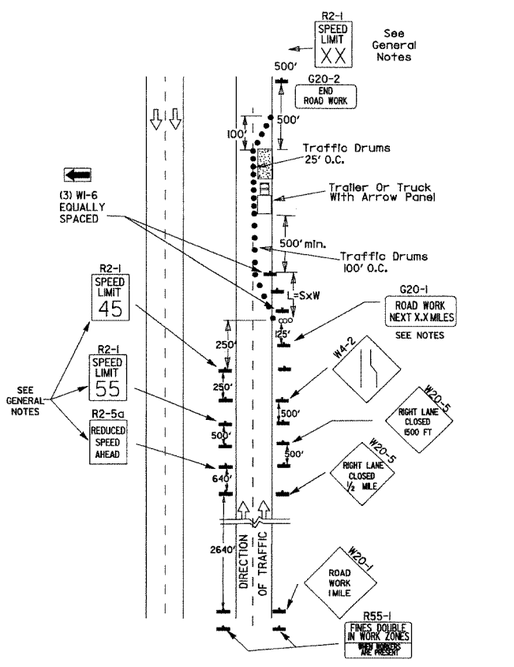
STANDARD DRAWING TC 2



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



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



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

KEY:

○○○ Arrow Panel (if Required)

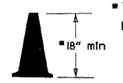
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

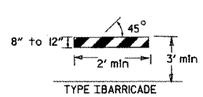
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 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

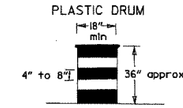


CONES

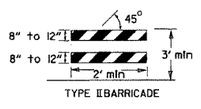
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.



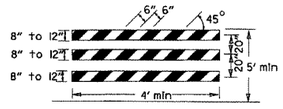
TYPE I BARRICADE



PLASTIC DRUM

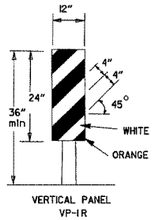


TYPE II BARRICADE



TYPE III BARRICADE

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



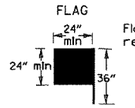
VERTICAL PANEL
VP-1R

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.

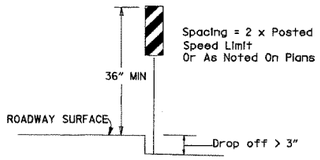
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



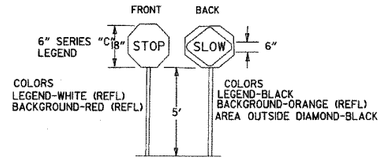
FLAG

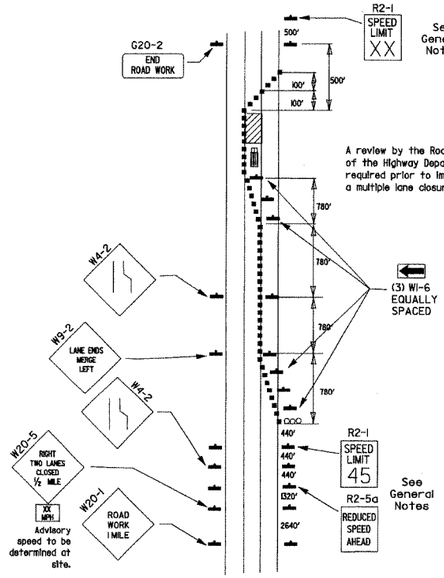
Flag shall be of good grade red material

VERTICAL PANEL PLACEMENT



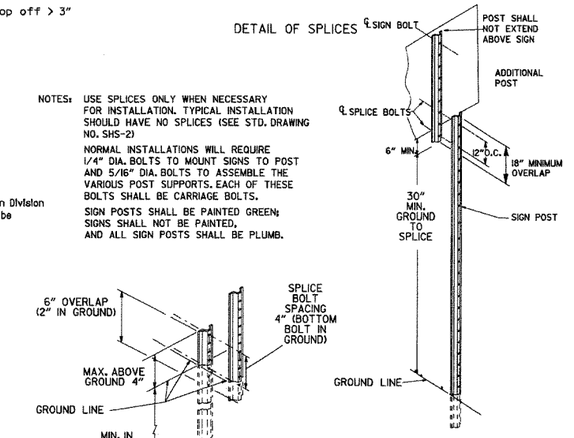
STOP SLOW PADDLE





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

DETAIL OF SPLICES



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

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

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

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

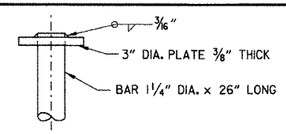
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

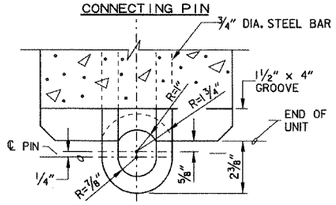
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1" MIN. CLEAR TO BAR, 1'-6", 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 1 1/2", ±9", 2'-1 3/8", 4 3/8"

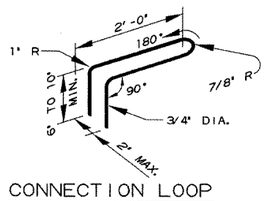


CONNECTING PIN

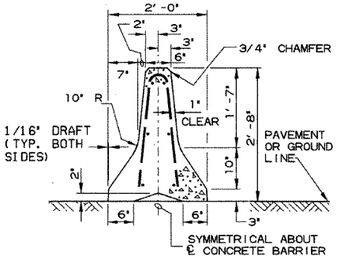


SECTION E-E

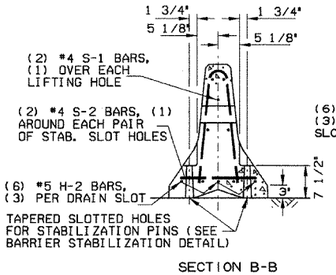
CONNECTION DETAILS



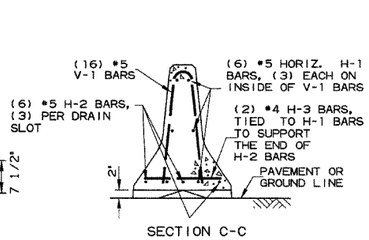
CONNECTION LOOP



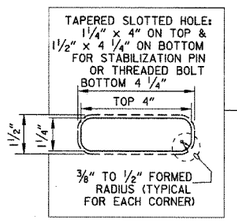
SECTION A-A

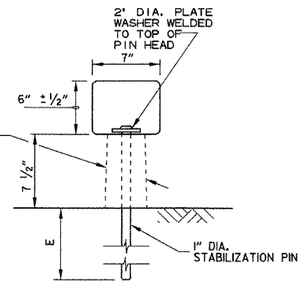


SECTION B-B



SECTION C-C

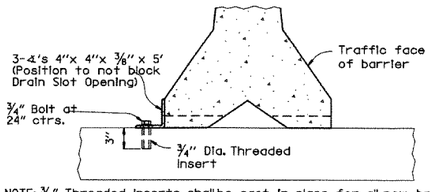




BARRIER STABILIZATION DETAIL

ROADWAY SECTION

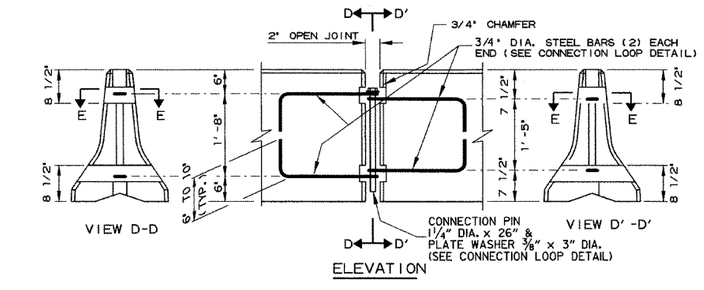
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



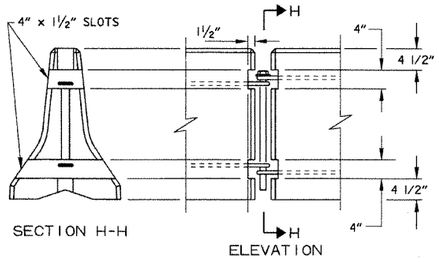
NOTE: ¾" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

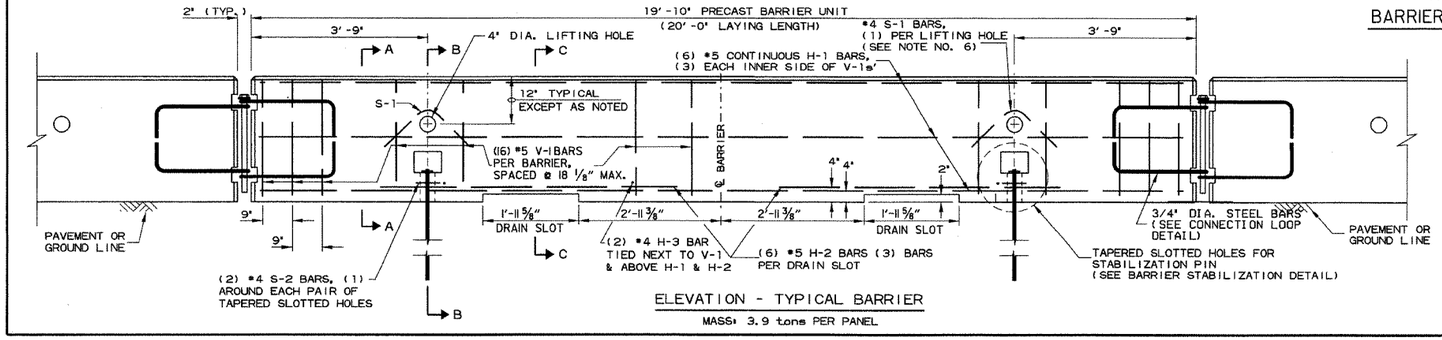
BRIDGE DECKS



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 wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier".
The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

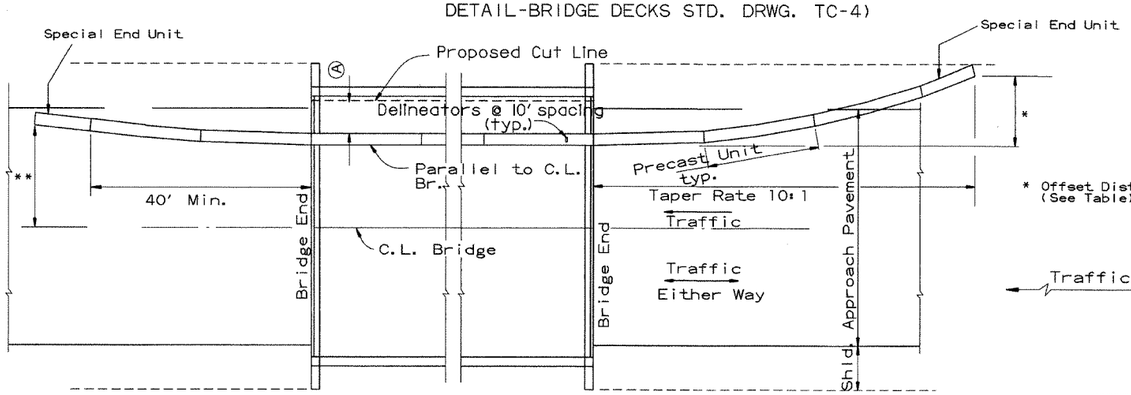
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

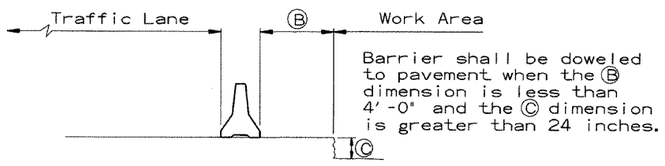
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



* Offset Distance (See Table)

BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

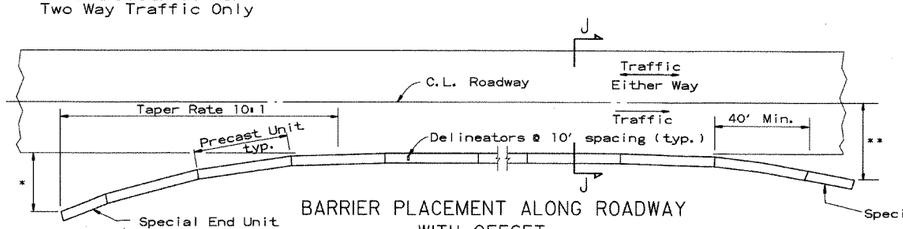


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

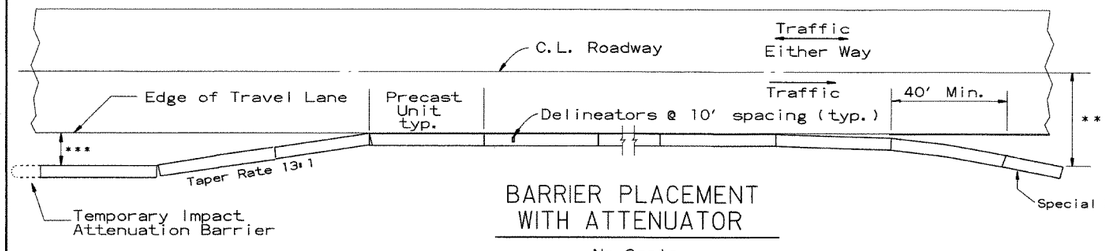
* Offset Distance (See Table)

** 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.

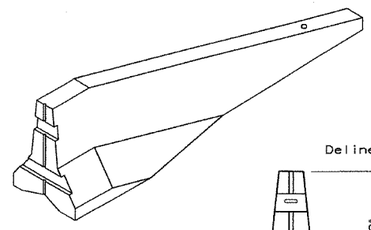


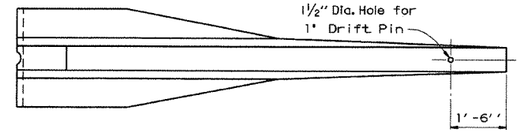
BARRIER PLACEMENT WITH ATTENUATOR

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	

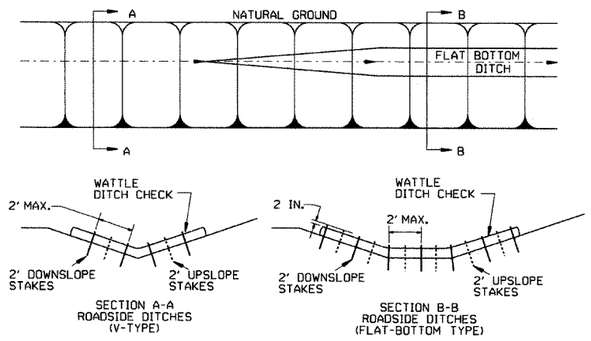
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

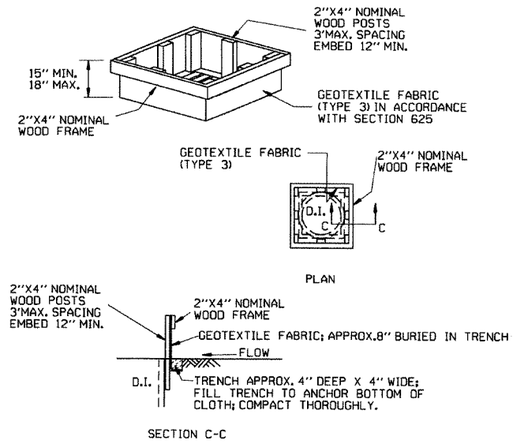
STANDARD DRAWING TC-5

GENERAL NOTES

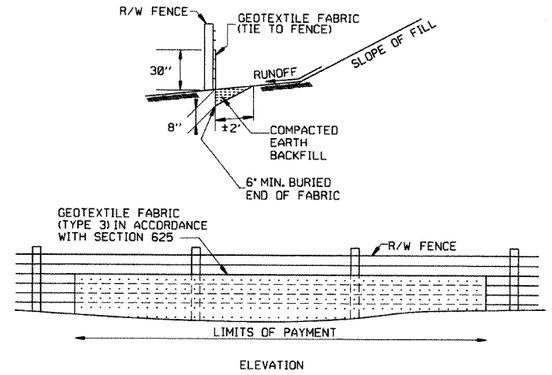
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

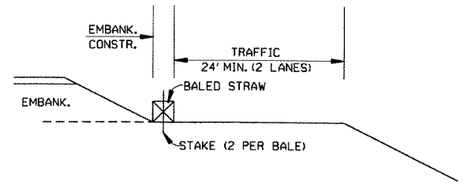
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

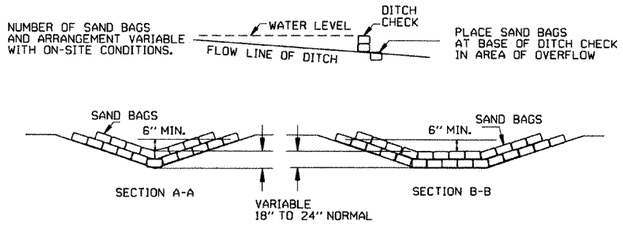
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

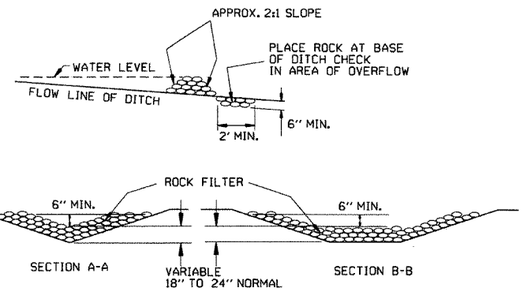
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



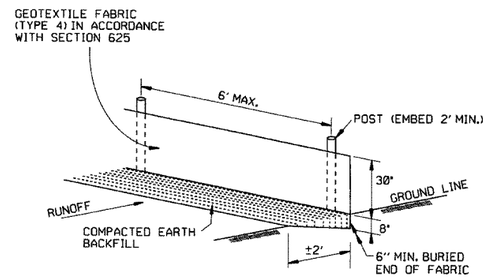
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

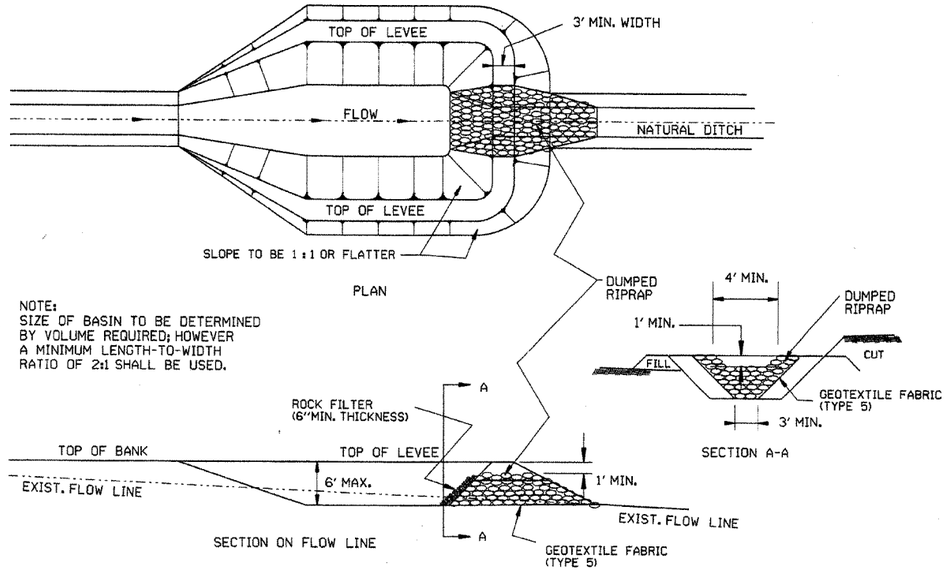
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

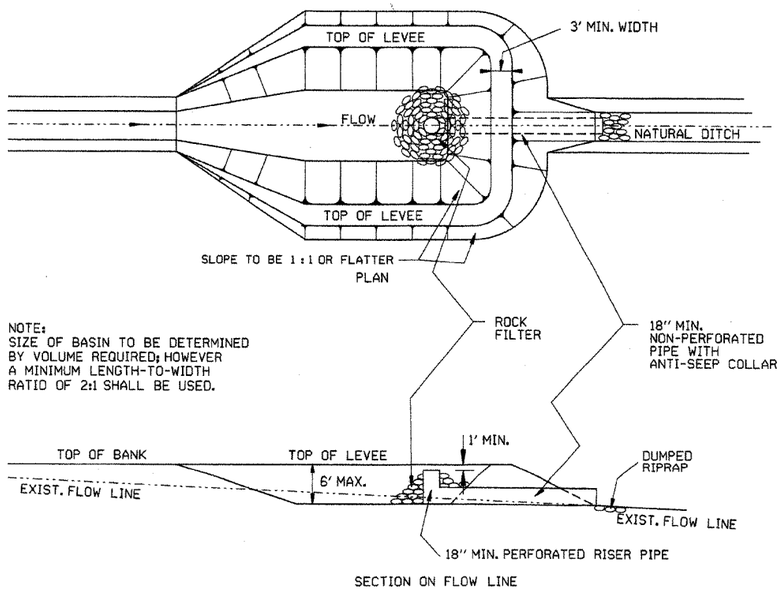
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

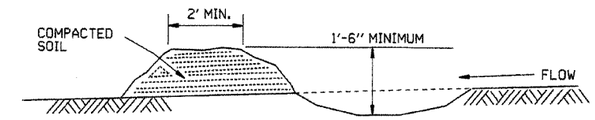
STANDARD DRAWING TEC-1



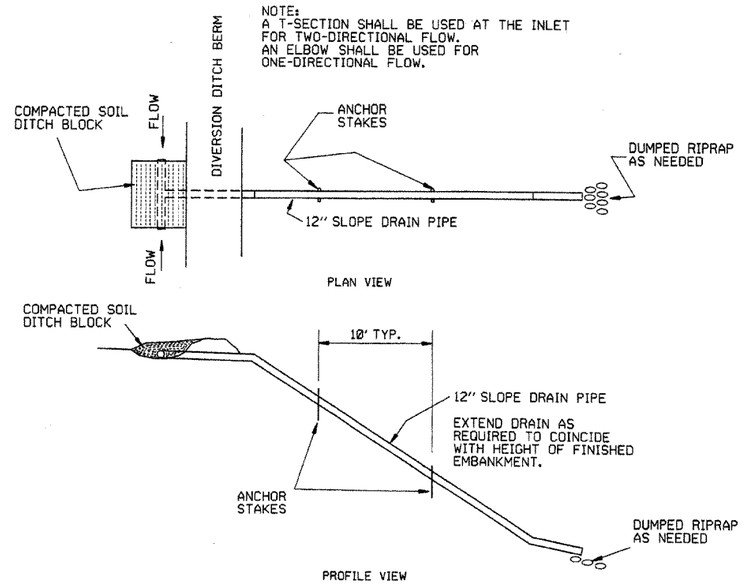
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



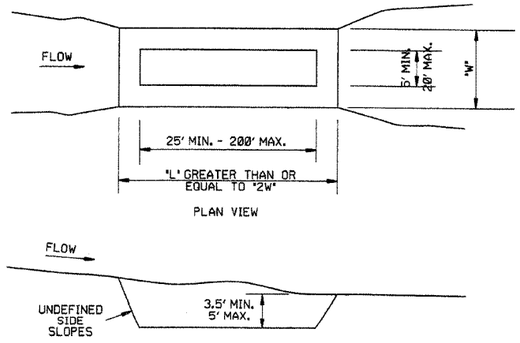
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

FILMED

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

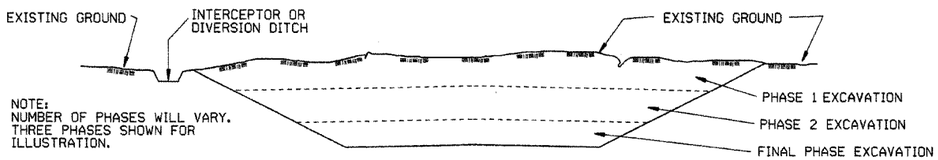
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



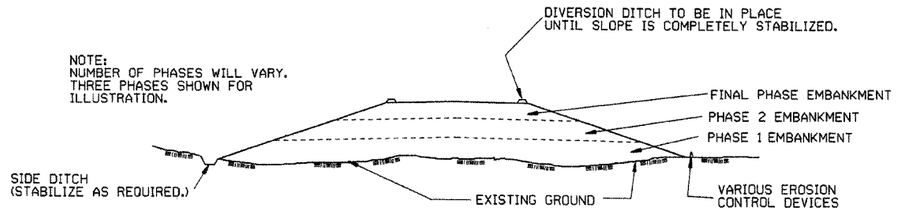
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

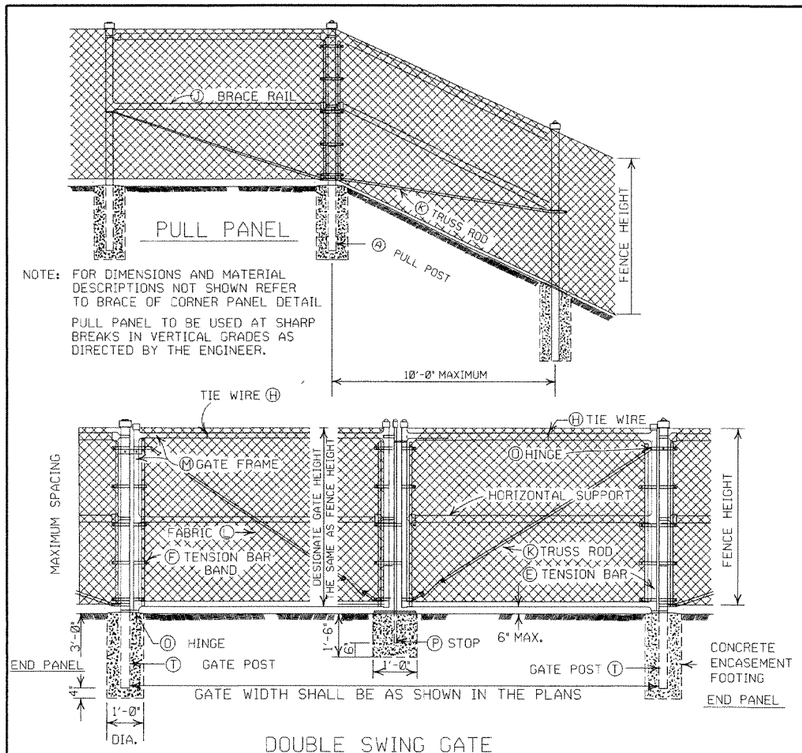
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

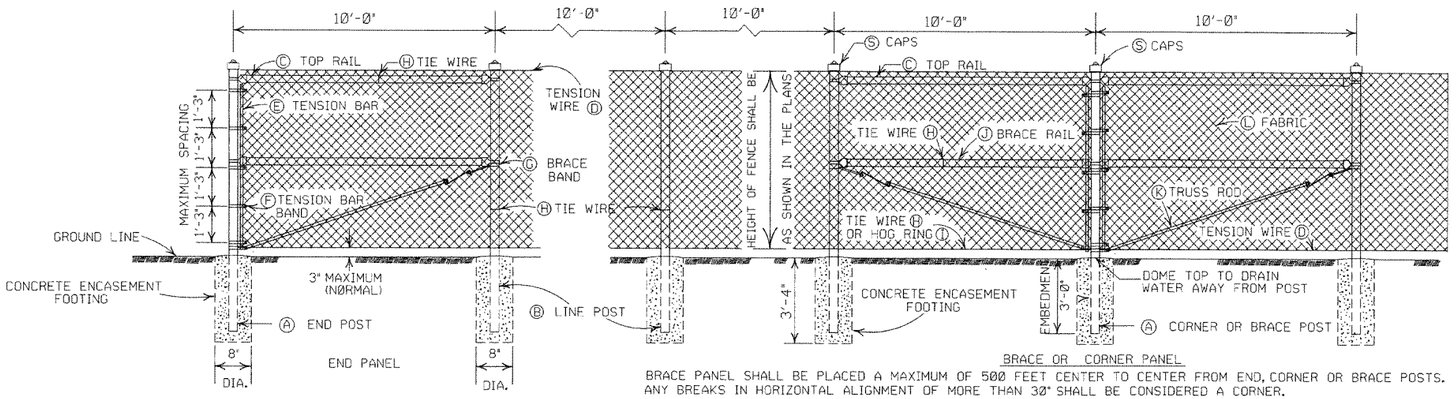


NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL.

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

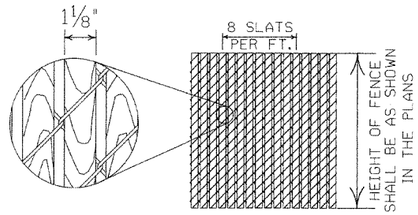
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

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



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

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

GENERAL NOTES:

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

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

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

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

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

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

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

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

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

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

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

HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF 3/16" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	5/16" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	5/16" X 1¼"
OVER 6' TO 12' INCL.	3 " O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE TYPE 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

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

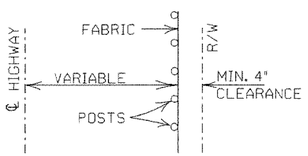
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅞	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.122	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

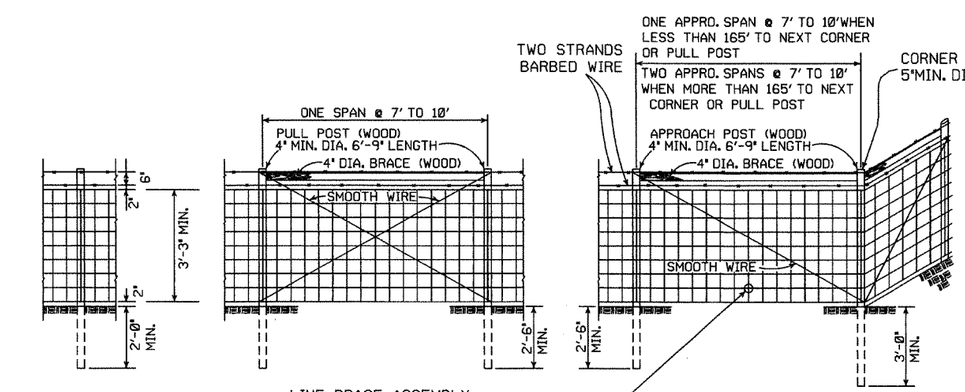
TYPICAL INSTALLATION DIAGRAM

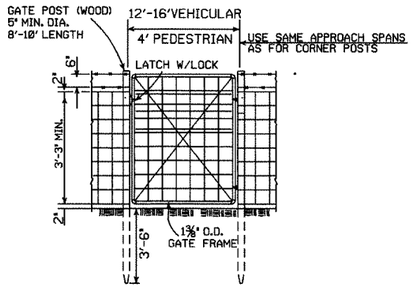
DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE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

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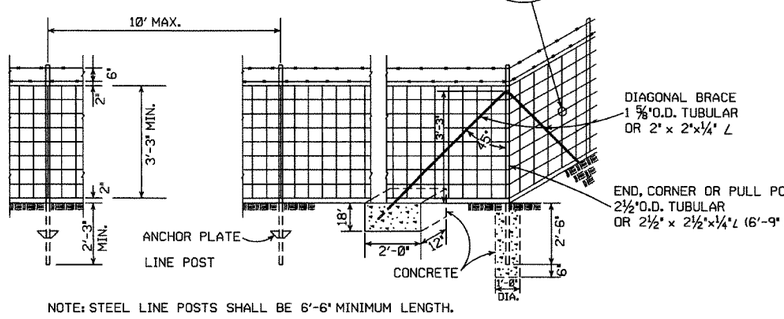
CHAIN LINK FENCE

STANDARD DRAWING WF-3

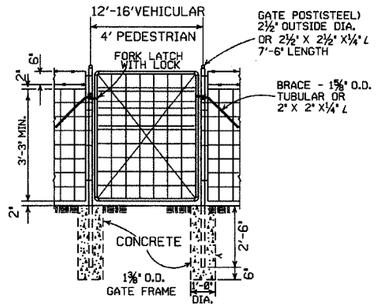


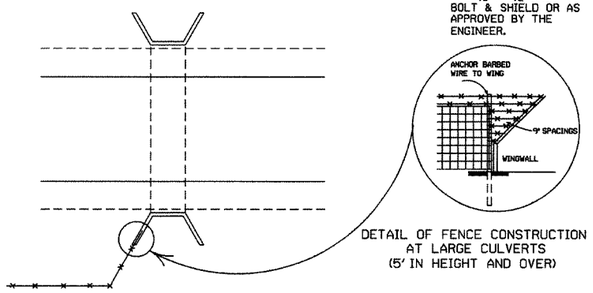


TYPE C FENCE (WOOD POSTS)



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





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

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.

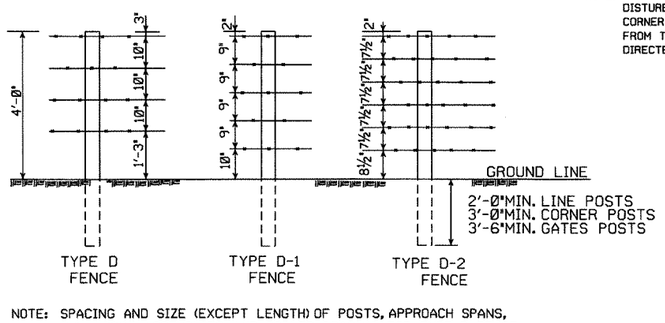
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

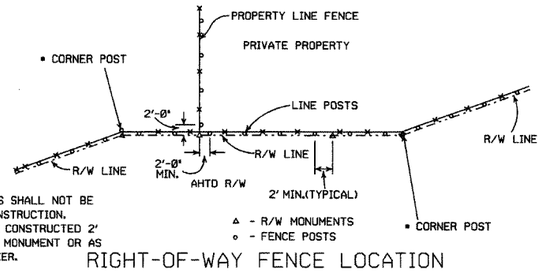
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

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

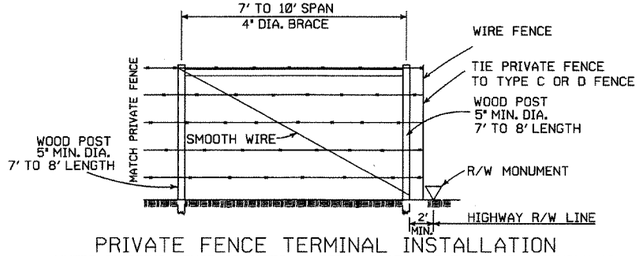


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.

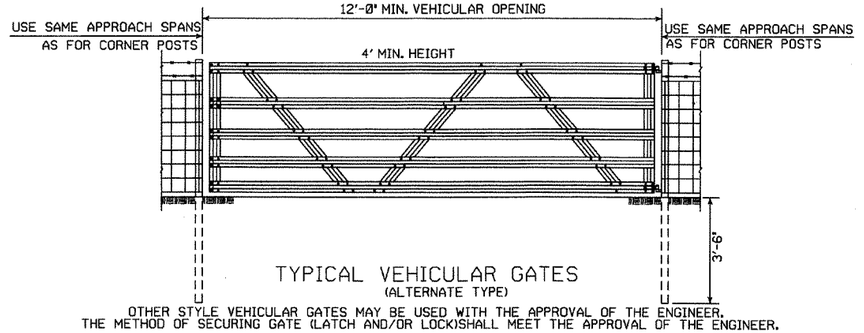


▪ NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

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)

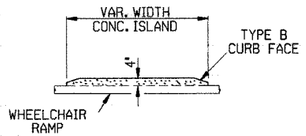
OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

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

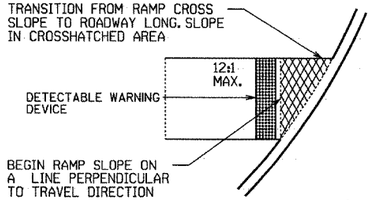
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WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4



CONCRETE ISLAND DETAIL



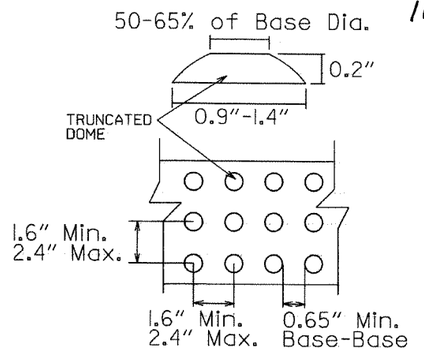
SLOPE TRANSITION DETAILS

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

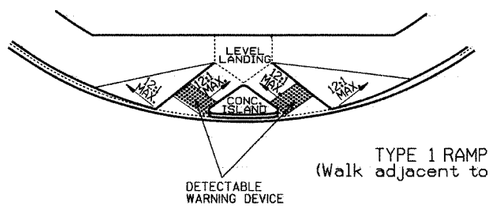
RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.26	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.30
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

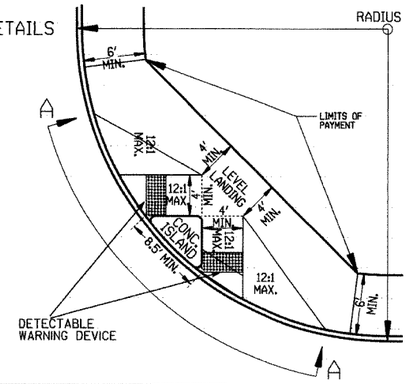
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

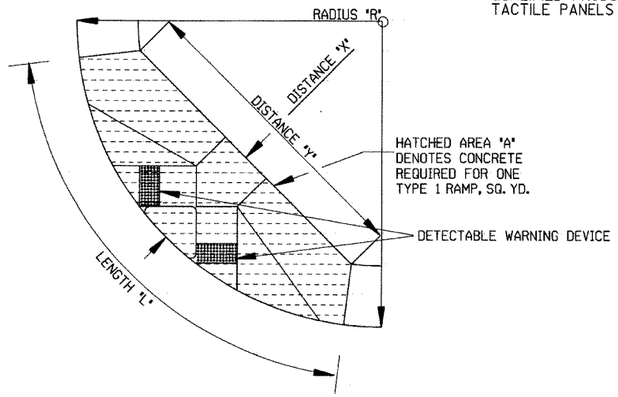


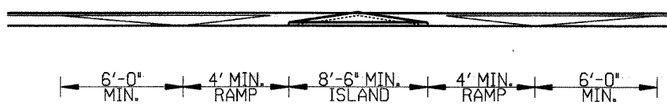
DETECTABLE WARNING DEVICE DETAIL



TYPE 1 RAMP
(Walk adjacent to curb)





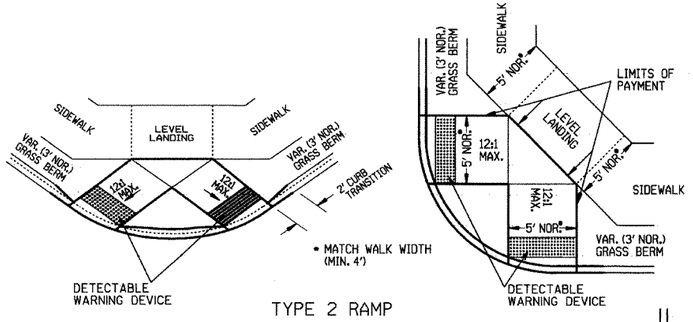


SECTION A-A

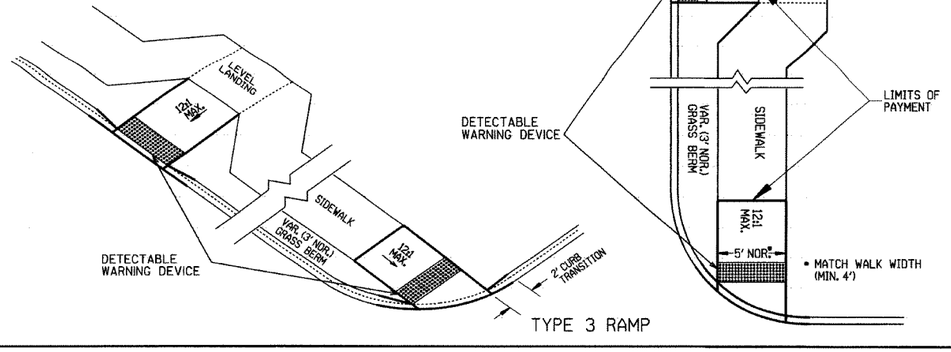
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

GENERAL NOTES:

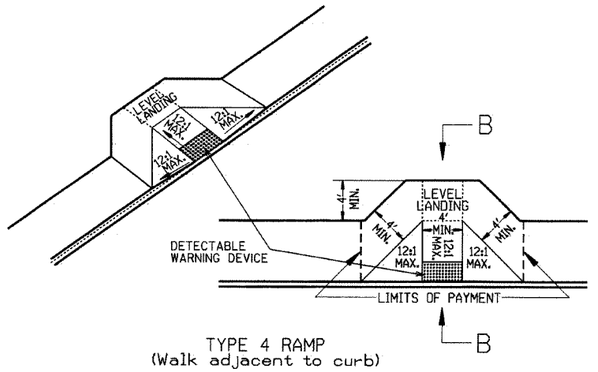
IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.



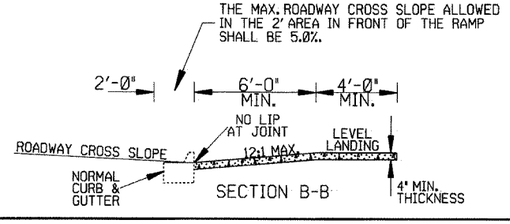
TYPE 2 RAMP



TYPE 3 RAMP



TYPE 4 RAMP
(Walk adjacent to curb)



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8:1TO12:1MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

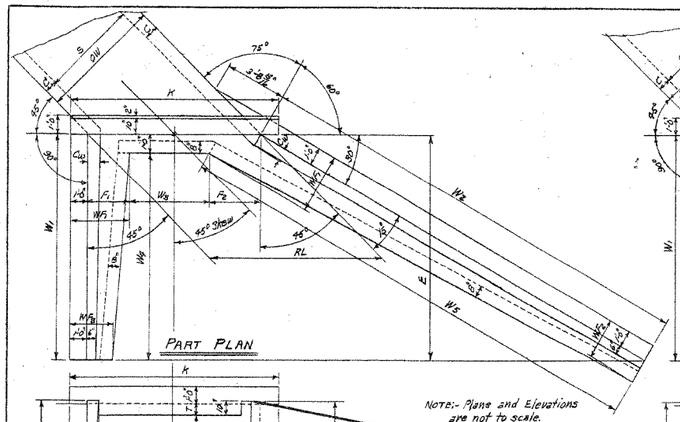
ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

STANDARD DRAWING WR-1

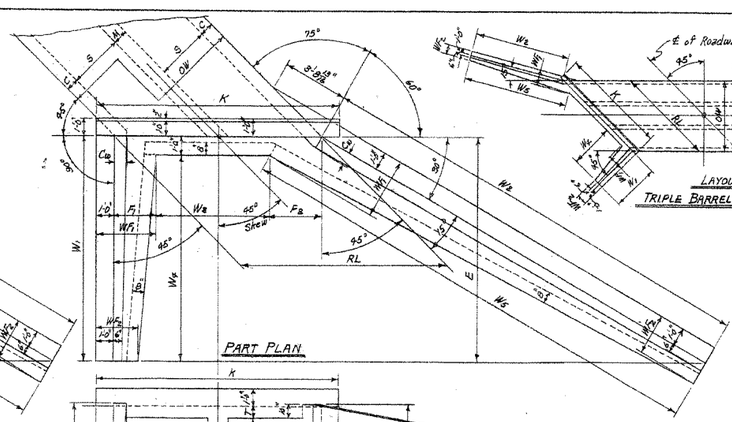
Reshot 3-8-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			115A	
JOB No.					



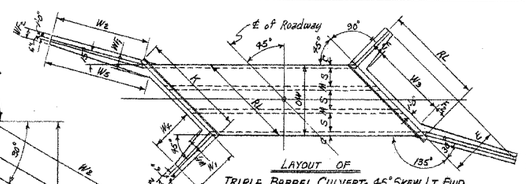
SINGLE BARREL CULVERT - 45° SKEW RIGHT FORWARD

Details of Culvert with 45° Skew Left Forward is reversed, see Layout below.

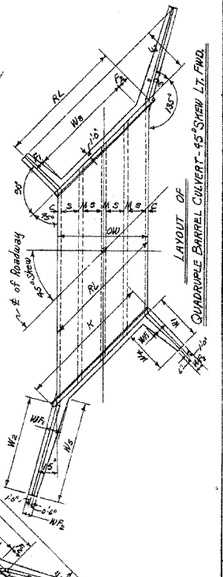


DOUBLE BARREL CULVERT - 45° SKEW RIGHT FORWARD

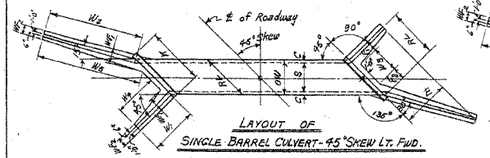
Details of Culvert with 45° Skew Left Forward is reversed, see Layout below.



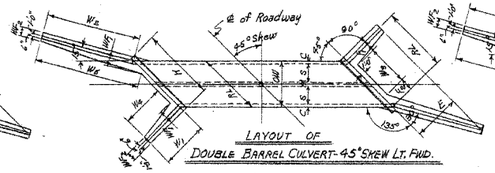
LAYOUT OF TRIPLE BARREL CULVERT - 45° SKEW LT. FWD.



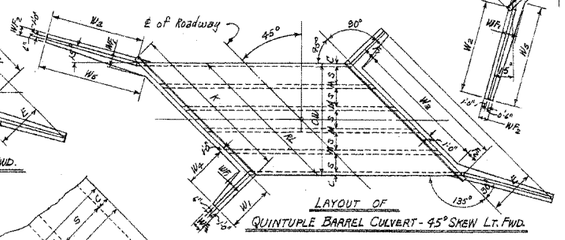
LAYOUT OF QUADRUPLE BARREL CULVERT - 45° SKEW LT. FWD.



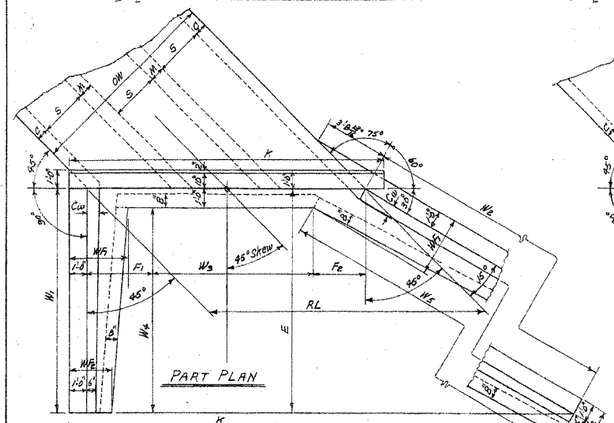
LAYOUT OF SINGLE BARREL CULVERT - 45° SKEW LT. FWD.



LAYOUT OF DOUBLE BARREL CULVERT - 45° SKEW LT. FWD.

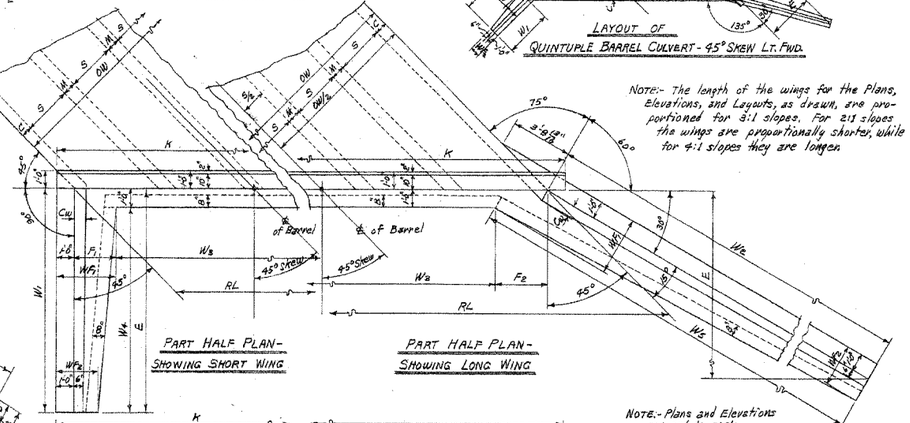


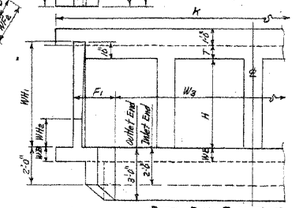
LAYOUT OF QUINTUPLE BARREL CULVERT - 45° SKEW LT. FWD.



TRIPLE BARREL CULVERT - 45° SKEW RIGHT FORWARD

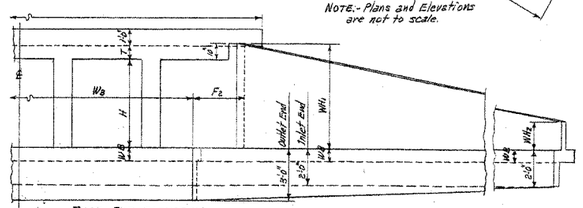
Details of Culvert with 45° Skew Left Forward is reversed, see Layout at top center of sheet.





QUADRUPLE BARREL CULVERT - 45° SKEW RT. FWD.

Details of Culvert with 45° Skew Left Forward is reversed, see Layout at above center.



QUINTUPLE BARREL CULVERT - 45° SKEW RT. FWD.

Details of Culvert with 45° Skew Left Forward is reversed, see Layout above.

ROADWAY LENGTH RL — HEADWALL LENGTH K — APRON DIMENSION W_3

RL = .OW x 1.41421 — K = RL + (2'-0") — W_3 = RL - (F_1 + F_2)

USE WITH DRAWING NO.	CLEAR SPAN	CLEAR HEIGHT	SLOPING DIMENSIONS	SINGLE BARREL CULVERT				DOUBLE BARREL CULVERT				TRIPLE BARREL CULVERT				QUADRUPLE BARREL CULVERT				QUINTUPLE BARREL CULVERT			
	S	H	F_1 & F_2	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3
W-X452-1, W-X453-1 OR W-X454-1. (FOR H=8'0" OR LESS)	4'	2	2'-3½	5'-5	7'-0⅝	9'-0⅝	4'-9⅜	9'-5	13'-8"	15'-8	11'-4⅜	13'-4	20'-3⅜	22'-3⅜	18'-5	17'-0	26'-10⅛	28'-10⅛	24'-7⅛	23'-8	33'-5⅝	35'-5⅝	31'-2⅝
		3'	3'-3½	5'-0	"	"	3'-9⅜	9'-5	"	"	10'-4⅜	13'-4	"	"	17'-0	17'-0	"	"	23'-7⅛	23'-8	"	"	30'-2⅝
		4'	4'-3½	5'-0	"	"	2'-9⅜	9'-5	"	"	9'-4⅜	13'-4	"	"	16'-0	17'-0	"	"	22'-7⅛	23'-8	"	"	29'-2⅝
		5'	5'-3½	5'-0	7'-0⅝	9'-0⅝	1'-9⅜	9'-5	13'-8"	15'-8"	8'-4⅜	13'-4	20'-3⅜	22'-3⅜	15'-10	17'-0	26'-10⅛	28'-10⅛	21'-7⅛	23'-8	33'-5⅝	35'-5⅝	28'-2⅝
		6'	6'-3½	5'-2"	7'-3⅜	9'-3⅜	1'-0⅜	9'-11"	14'-0⅛	16'-0⅛	7'-0⅛	14'-9"	20'-9⅜	22'-9"	18'-5⅜	18'-5	27'-5⅛	29'-5⅛	21'-2⅛	24'-2"	34'-2⅝	36'-2"	27'-10⅝
	5'	3	3'-3½	6'-0"	8'-5⅜	10'-0⅝	5'-2⅝	11'-8"	16'-6"	18'-6"	13'-2⅝	15'-4"	21'-11⅜	23'-11"	19'-7"	19'-4	28'-6⅛	30'-6⅛	25'-3⅛	25'-0	35'-0⅝	37'-0⅝	31'-3⅝
		4'	4'-3½	6'-0"	"	"	4'-2⅝	11'-8	"	"	12'-2⅝	17'-4"	"	"	20'-3"	23'-10"	"	"	28'-3"	28'-8	"	"	34'-3⅝
		5'	5'-3½	6'-0"	8'-5⅜	10'-0⅝	3'-2⅝	11'-8	16'-6"	18'-6	11'-2⅝	17'-4"	24'-1⅜	26'-1⅜	19'-3"	23'-10	32'-6⅛	34'-6⅛	27'-3"	28'-8	38'-5⅝	40'-5⅝	32'-3⅝
		6'	6'-3½	6'-2"	8'-7⅜	10'-2⅝	2'-1⅝	11'-11"	16'-10⅝	18'-10⅝	10'-7"	17'-8"	24'-5⅝	26'-5⅝	18'-8⅝	23'-5	33'-1⅛	35'-1⅛	26'-10⅝	29'-2"	41'-3"	43'-3"	34'-11⅝
		7'	7'-3½	6'-3"	8'-10⅝	10'-10⅝	1'-0⅝	12'-1"	17'-1"	19'-1"	9'-11⅝	17'-11"	25'-1"	27'-0"	17'-6⅝	23'-10	33'-7"	35'-7"	26'-3⅝	29'-7"	41'-10"	43'-10"	34'-0⅝
	6'	3	3'-3½	7'-0"	9'-10⅝	11'-10⅝	6'-7⅝	13'-8"	19'-3⅜	21'-3"	16'-0⅝	20'-4"	28'-8⅜	30'-8"	25'-5⅜	27'-0	38'-1⅛	40'-1⅛	32'-11"	33'-8	47'-7⅝	49'-7⅝	40'-4"
		4'	4'-3½	7'-0"	"	"	5'-7⅝	13'-8	"	"	15'-0⅜	20'-4"	"	"	24'-5⅜	27'-0	"	"	33'-11"	33'-8	"	"	46'-3⅛
		5'	5'-3½	7'-0"	9'-10⅝	11'-10⅝	4'-7⅝	13'-8"	19'-3⅜	21'-3"	14'-0⅜	20'-4"	28'-8⅜	30'-8"	23'-5⅜	27'-0	38'-1⅛	40'-1⅛	32'-11"	33'-8	47'-7⅝	49'-7⅝	42'-4"
		6'	6'-3½	7'-2"	10'-1⅜	12'-1⅝	3'-10⅜	13'-11"	19'-10⅛	21'-10⅛	13'-5"	20'-8"	29'-2⅜	31'-2⅜	22'-4⅝	27'-5	38'-10⅛	40'-10⅛	32'-6"	34'-2"	48'-5⅝	50'-5⅝	42'-0⅝
		7'	7'-3½	7'-3"	10'-3"	12'-3"	3'-1⅜	14'-1"	19'-11"	21'-11"	12'-11⅜	20'-11"	29'-7"	31'-7"	21'-3⅜	27'-9	39'-3"	41'-3"	31'-5⅜	34'-7	48'-10⅝	50'-10⅝	41'-7⅜
		8'	8'-3½	7'-4"	10'-4⅝	12'-4⅝	1'-1⅝	14'-2"	20'-0⅝	22'-0⅝	10'-9⅜	21'-0"	29'-8"	31'-8"	20'-5⅛	27'-10	39'-4⅝	41'-4⅝	30'-1"	34'-8	49'-0⅝	51'-0⅝	39'-9"
	7'	4	4'-3½	9'-0"	12'-0⅝	14'-0⅝	8'-5⅛	17'-5	24'-1⅛	26'-1⅛	20'-0⅜	26'-9	37'-0⅛	39'-0"	32'-0⅛	35'-0	49'-6"	51'-6"	42'-5⅛	43'-8	61'-9"	63'-9"	57'-5⅜
		5'	5'-3½	9'-2"	12'-1⅛	14'-1⅛	7'-0⅜	17'-11"	25'-1⅝	27'-1⅝	20'-0⅜	26'-9	37'-0⅝	39'-0⅝	32'-1⅝	35'-5	50'-1"	52'-1"	42'-10⅜	44'-8	63'-2⅝	65'-2⅝	57'-2⅝
		6'	6'-3½	9'-2"	12'-1⅛	14'-1⅛	6'-1⅜	17'-11"	25'-1⅝	27'-1⅝	19'-10⅜	26'-9	37'-0⅝	39'-0⅝	31'-5⅝	35'-5	50'-1"	52'-1"	43'-0⅜	44'-8	63'-2⅝	65'-2⅝	57'-1⅜
		7'	7'-3½	9'-3"	13'-1"	15'-1"	5'-3⅜	18'-1"	25'-2⅝	27'-2⅝	17'-9⅝	26'-11"	38'-0⅝	40'-0⅝	30'-3⅜	35'-5	50'-6⅝	52'-6⅝	42'-3⅝	44'-8	63'-7⅛	65'-7⅛	56'-5⅜
		8'	8'-3½	9'-4"	13'-2⅝	15'-2⅝	3'-11⅜	18'-2"	25'-6⅛	27'-6⅛	16'-5"	27'-0"	38'-2⅝	40'-2⅝	28'-11"	35'-10	50'-10"	52'-10"	41'-5"	44'-8	63'-12"	65'-12"	53'-10⅝
	9'	5	5'-3½	10'-2"	14'-1⅛	16'-1⅛	9'-1⅜	19'-1"	26'-8"	30'-2"	22'-1⅛	29'-5"	41'-1⅛	43'-1⅛	36'-0⅜	39'-5	55'-10⅝	57'-10"	50'-5⅝	49'-2	69'-6⅜	71'-6⅜	64'-3⅛
		6'	6'-3½	10'-3"	14'-6"	16'-6"	8'-2⅝	20'-1"	28'-4⅝	30'-0⅝	22'-1⅛	29'-11"	42'-3⅝	44'-3⅝	36'-0⅛	39'-9	56'-2⅜	58'-2⅜	49'-3⅛	49'-7	70'-1⅝	72'-1⅝	63'-10⅛
		7'	7'-3½	10'-3"	14'-6"	16'-6"	6'-8⅜	20'-1"	28'-4⅝	30'-0⅝	20'-7"	29'-11"	42'-3⅝	44'-3⅝	34'-4⅝	39'-9	56'-2⅜	58'-2⅜	48'-5⅝	49'-7	70'-1⅝	72'-1⅝	62'-8⅝
		8'	8'-3½	10'-4"	14'-7⅝	16'-7⅝	5'-4⅝	20'-2"	28'-6⅛	30'-6⅛	19'-3"	30'-0"	42'-4⅝	44'-5"	33'-2"	39'-10	56'-4"	58'-4"	47'-10⅛	49'-8	70'-2⅝	72'-3"	62'-1"
	10'	5	5'-3½	11'-2"	15'-1⅛	17'-1⅛	10'-1⅜	21'-1"	31'-0"	33'-0"	25'-0⅜	32'-2"	46'-2⅝	48'-2⅝	40'-1⅜	43'-5	61'-10⅝	63'-10⅝	56'-5⅜	55'-8	78'-2⅝	80'-2⅝	72'-11⅜
		6'	6'-3½	11'-3"	15'-6"	17'-6"	9'-7⅝	22'-1"	31'-2⅝	33'-2⅝	24'-1⅛	32'-11"	46'-4⅝	48'-4⅝	39'-0⅛	43'-9	61'-10⅝	63'-10⅝	54'-6⅛	55'-8	78'-2⅝	80'-2⅝	71'-10⅛
		7'	7'-3½	11'-3"	15'-6"	17'-6"	8'-1⅜	22'-1"	31'-2⅝	33'-2⅝	23'-5⅜	32'-11"	46'-4⅝	48'-4⅝	37'-9⅝	43'-9	61'-10⅝	63'-10⅝	53'-6⅝	55'-8	78'-2⅝	80'-2⅝	70'-9⅝
		8'	8'-3½	11'-4"	15'-7⅝	17'-7⅝	6'-9⅜	22'-2"	31'-4⅛	33'-4⅛	22'-1"	33'-0"	46'-6⅛	48'-6⅛	36'-4⅝	43'-10	62'-0"	64'-0"	52'-8⅜	55'-8	78'-4⅛	80'-4⅛	69'-7⅜
	11'	6	6'-3½	12'-4"	17'-1⅛	19'-1⅛	11'-2⅜	24'-2"	34'-2⅛	36'-2"	27'-11"	36'-0"	50'-11"	52'-11"	43'-7⅛	47'-10	67'-7⅛	69'-7⅛	59'-2⅜	61'-4	—	—	—
		7'	7'-3½	12'-4"	"	"	9'-10⅜	24'-2"	"	"	26'-5"	36'-0"	"	"	43'-7⅛	47'-10	"	"	53'-10⅝	58'-9	—	—	—
		8'	8'-3½	12'-5"	"	"	8'-12⅝	24'-2"	"	"	24'-11"	36'-0"	"	"	41'-7⅛	47'-10	"	"	53'-10⅝	58'-9	—	—	—
	12'	6	6'-3½	13'-4"	18'-1⅛	20'-1⅛	12'-3⅜	26'-2"	37'-0⅝	39'-0"	30'-8⅜	39'-1"	55'-1⅛	57'-1⅛	46'-9⅜	51'-10	73'-3⅝	75'-3⅝	64'-10⅜	67'-0	—	—	—
		7'	7'-3½	13'-4"	"	"	11'-1⅛	26'-2"	"	"	29'-2⅜	39'-0"	"	"	46'-9⅜	51'-10	"	"	64'-6⅛	67'-0	—	—	—
		8'	8'-3½	13'-5"	"	"	9'-7⅝	26'-2"	"	"	27'-10⅜	39'-0"	"	"	45'-10⅝	51'-10	"	"	64'-0⅛	—	—	—	—
W-X452-2, W-X453-2 OR W-X454-2. (FOR H=9'0" & OVER)	7'	9'	10'-3½	8'-6"	12'-0⅝	14'-0⅝	7'-3"	16'-5"	23'-2⅝	25'-2⅝	12'-5⅜	20'-4"	34'-5"	36'-5"	23'-7⅜	32'-3	49'-5⅝	51'-5⅝	38'-10⅜	40'-2"	56'-10⅜	58'-10⅜	46'-2⅝
	8'	9'	10'-3½	9'-6"	13'-5⅝	15'-5⅝	8'-5"	18'-5	26'-0⅝	28'-0⅝	15'-5⅜	27'-4"	38'-7⅝	40'-7⅝	26'-10⅜	36'-3	53'-10⅝	55'-10⅝	43'-3⅜	45'-2	63'-10⅝	65'-10⅝	53'-7⅛
		10'	12'-3½	9'-8"	13'-8"	15'-8"	7'-8⅜	18'-8"	26'-4⅝	28'-4⅝	14'-1⅜	27'-8"	39'-1⅛	41'-1⅛	26'-10⅝	36'-8	53'-10⅝	55'-10⅝	39'-7"	45'-9	64'-7"	66'-7"	52'-3⅝
	9'	9'	10'-3½	10'-6"	14'-10⅝	16'-10⅝	9'-1"	20'-5"	28'-10⅝	30'-10⅝	18'-1⅜	30'-8"	43'-2⅝	45'-2⅝	32'-0⅜	40'-3	57'-10⅝	59'-10⅝	46'-3⅜	50'-8	70'-11⅝	72'-11⅝	60'-2⅝
		10'	12'-3½	10'-8"	15'-1"	17'-1"	9'-8⅜	20'-8"	29'-2⅝	31'-2⅝	16'-10⅝	30'-8"	43'-2⅝	45'-2⅝	31'-1⅜	40'-8	57'-10⅝	59'-10⅝	45'-1⅜	50'-8	71'-1⅝	73'-1⅝	59'-4⅝
		11'	13'-3½	10'-10	15'-3⅜	17'-3⅜	11'-6⅝	20'-10"	29'-5⅛	31'-5⅛	15'-8⅝	30'-10"	43'-5⅛	45'-5⅛	29'-10"	40'-10	57'-10⅝	59'-10⅝	43'-11⅝	50'-10	71'-10⅝	73'-10⅝	58'-1⅝
	10'	9'	10'-3½	11'-6"	16'-3⅜	18'-3⅜	5'-6"	22'-5"	31'-8⅜	33'-8⅜	20'-11⅛	33'-8"	47'-7⅛	49'-7⅛	36'-4⅜	44'-3	62'-7"	64'-7"	51'-3⅜	55'-8	78'-6⅛	80'-6⅛	67'-1⅜
		10'	12'-3½	11'-8"	16'-6"	18'-6"	9'-2⅜	22'-10"	32'-0⅝	34'-0⅝	19'-9⅛	33'-8"	47'-7⅛	49'-7⅛	35'-4⅝	44'-3	63'-2"	65'-2"	50'-10⅜	55'-8	78'-10⅝	80'-10⅝	66'-5⅛
		11'	13'-3½	11'-10	16'-8⅜	18'-8⅜	11'-5⅛	22'-10	32'-3⅛	34'-3⅛	18'-6⅝	33'-10"	47'-10⅛	49'-10⅛	34'-1"	44'-10	63'-6⅝	65'-6⅝	49'-8⅝	55'-10	79'-1⅛	81'-1⅛	65'-2⅝
		12'	15'-3½	12'-0"	16'-11⅝	18'-11⅝	1'-8⅜	23'-0"	32'-5⅛	34'-5⅛	17'-3"	34'-0"	48'-1"	50'-1"	32'-9⅜	45'-0	63'-10⅝	65'-10⅝	48'-4⅜	56'-0	79'-3⅛	81'-3⅛	63'-11⅜
	11'	9'	10'-3½	12'-6"	17'-5⅜	19'-5⅜	8'-3⅜	24'-5"	33'-8⅜	35'-8⅜	22'-4⅝	34'-4"	48'-5⅜	50'-5⅜	37'-0"	45'-3	63'-10⅝	65'-10⅝	49'-9"	56'-2	—	—	—
		10'	12'-3½	13'-0"	18'-0⅝	20'-0⅝	11'-3⅜	25'-0"	35'-0⅝	37'-0⅝	20'-1"	37'-0"	52'-3⅜	54'-3⅜	37'-10⅜	49'-0	69'-5⅜	71'-5⅜	54'-0⅜	59'-8	—	—	—
		11'	13'-3½	13'-2"	18'-3"	20'-3"	9'-10⅜	25'-2"	35'-3⅛	37'-3⅛	21'-9⅜	36'-10"	52'-1⅛	54'-1⅛	38'-3⅜	48'-10	69'-0⅝	71'-0⅝	55'-3⅜	59'-8	—	—	—
		12'	15'-3½	13'-3"	18'-4⅝	20'-4⅝	8'-5⅜	25'-3"	35'-4⅝	37'-4⅝	20'-1"	37'-0"	52'-3⅜	54'-3⅜	37'-10⅜	49'-0	69'-5⅜	71'-5⅜	54'-0⅜	59'-8	—	—	—
	12'	9'	10'-3½	13'-6"	19'-1⅛	21'-1⅛	8'-3⅜	24'-5"	33'-8⅜	35'-8⅜	22'-4⅝	34'-4"	48'-5⅜	50'-5⅜	37'-0"	45'-3	63'-10⅝	65'-10⅝	49'-9"	56'-2	—	—	—
		10'	12'-3½	13'-8"	19'-2⅝	21'-2⅝	7'-10⅜	24'-6"	33'-9⅝	35'-9⅝	22'-5⅝	34'-5"	48'-6⅝	50'-6⅝	37'-1⅜	45'-4	63'-11⅝	65'-11⅝	49'-10⅜	56'-3	—	—	—
		11'	12'-9½	13'-10"	19'-4⅜	21'-4⅜	8'-5⅜	24'-7"	33'-10⅝	35'-10⅝	22'-6⅜	34'-5"	48'-6⅝	50'-6⅝	37'-1⅜	45'-4	63'-11⅝	65'-11⅝	49'-10⅜	56'-3	—	—	—
		12'	15'-3½	14'-0"	19'-5⅝	21'-5⅝	9'-0⅜	24'-7"	33'-10⅝	35'-10⅝	22'-6⅜	34'-5"	48'-6⅝	50'-6⅝	37'-1⅜	45'-4	63'-11⅝	65'-11⅝	49'-10⅜	56'-3	—	—	—

NOTE:- This drawing to be used in conjunction with Standard Wing Drawings for 45° Skews for each slope as listed below.

2:1 Slopes	3:1 Slopes	4:1 Slopes
W-X452-1 or W-X452-2	W-X453-1 or W-X453-2	W-X454-1 or W-X454-2.

NOTE:-
This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.:-

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-145X-0	R-245X-01	R-345X-01	R-445X-01	R-545X-01
	R-245X-02	R-345X-02	R-445X-02	R-545X-02
R-145X-1	R-245X-1	R-345X-1	R-445X-1	
	R-245X-2	R-345X-2		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 45° SKEW

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 2:1, 3:1 & 4:1 SLOPES

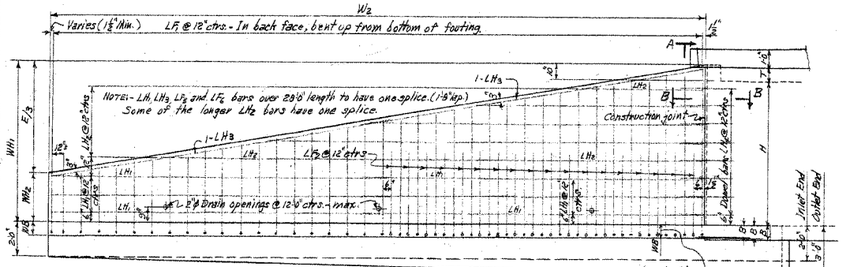
SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES — ALL DEPTHS OF COVER H= 2', 3', 4', 5', 6', 7', 8', 9', 10', 11' & 12'

STANDARD DRAWING No. W-X45

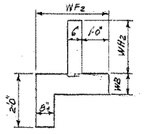
Designed by:- W.C.H. 5-16-63 — Checked by:-
Drawn by:- W.C.H. 6-15-63 — Checked by:- J.E.M. 6-23-64
Quantities by:- — Checked by:-

Reshot 3-8-93 352

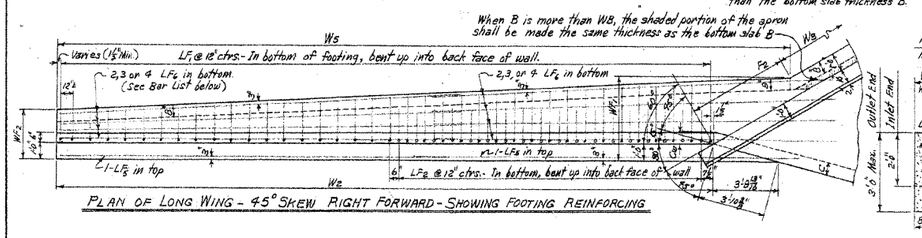
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			116	
JOB No.					



REAR ELEVATION OF LONG WING - 45° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING



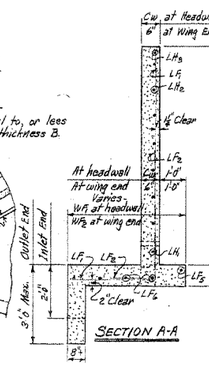
TYPICAL END VIEW OF WING



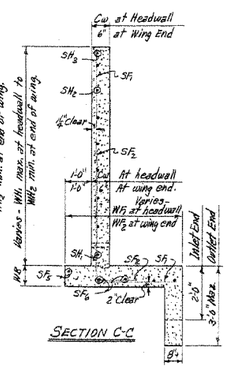
When B is more than WB, the shaded portion of the apron shall be made the same thickness as the bottom slab B

WB may be more, equal to, or less than the bottom slab thickness B.

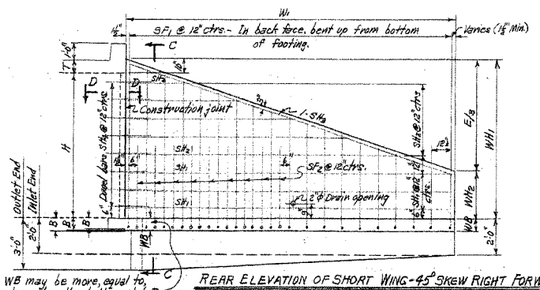
PLAN OF LONG WING - 45° SKEW RIGHT FORWARD - SHOWING FOOTING REINFORCING



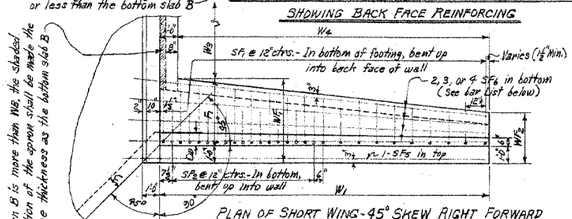
SECTION A-A



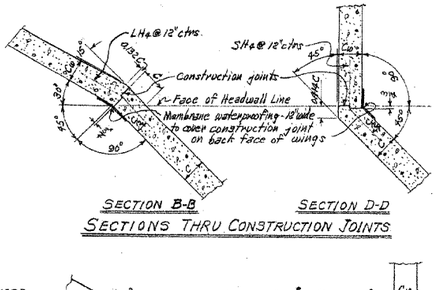
SECTION C-C



REAR ELEVATION OF SHORT WING - 45° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING

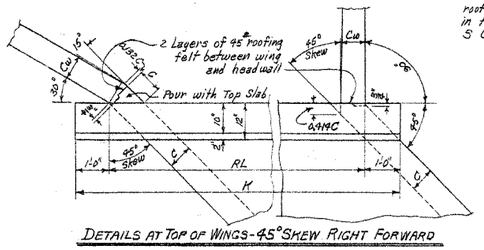


PLAN OF SHORT WING - 45° SKEW RIGHT FORWARD SHOWING FOOTING REINFORCING



SECTION B-B SECTION D-D

SECTIONS THRU CONSTRUCTION JOINTS



DETAILS AT TOP OF WINGS - 45° SKEW RIGHT FORWARD

NOTE:- Payment for the membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

REGULAR WING DIMENSIONS - 3:1 SLOPES

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL & C	WINGWALL HEIGHTS AT HEADWALL	WINGWALL HEIGHTS AT END OF WING	WIDTHS OF WING FOOTINGS AT HEADWALL	WIDTHS OF WING FOOTINGS AT END OF WING	FOOTING DIMENSION PARALLEL WITH HEADWALL SHORT WING	FOOTING DIMENSION PARALLEL WITH HEADWALL LONG WING	PERPENDICULAR DIST. FROM HDWL. TO END OF WING	LENGTHS OF WINGWALLS SHORT WING	LENGTHS OF WINGWALLS LONG WING	INSIDE FOOTING DIMENSION SHORT WING	INSIDE FOOTING DIMENSION LONG WING	* QUANTITY PER WING CLASS S CONCRETE IN LET END SHORT WING	IN LET END LONG WING	OUTLET END SHORT WING	OUTLET END LONG WING
H	WB	Cw	WH1	WH2	WF1	WF2	F1	F2	E	W1	W2	W4	W5	CU.YD.	CU.YD.	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-2"	2'-0"	1'-4"	0'-11½"	6'-6"	6'-6"	13'-0"	5'-6"	13'-3⅝"	0.743	1.572	0.827	1.741
3'	7"	6"	3'-10"	1'-0"	2'-5"	2'-1½"	1'-8"	1'-2⅛"	8'-6"	9'-6"	17'-0"	7'-6"	17'-10⅝"	1.120	2.369	1.229	2.590
4'	7"	6"	4'-10"	1'-0"	3'-0"	2'-3"	2'-0"	1'-3⅛"	10'-6"	10'-6"	21'-0"	9'-6"	22'-5⅝"	1.567	3.295	1.700	3.577
5'	7"	6"	5'-10"	1'-0"	3'-1"	2'-4½"	2'-1"	1'-3⅝"	12'-6"	12'-6"	25'-0"	11'-6"	27'-10⅝"	2.082	4.367	2.291	4.705
		7"	5'-10"	1'-0"	3'-1"	2'-4½"	2'-1"	1'-3⅝"	12'-6"	12'-6"	25'-0"	11'-6"	27'-10⅝"	2.166	4.551	2.385	4.889
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	2'-1⅜"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	2.894	6.035	3.078	6.460
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	2'-1⅜"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	2.982	6.180	3.195	6.575
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	2'-1⅜"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	3.009	6.305	3.192	6.700
7'	8½"	7½"	7'-10"	2'-0"	4'-2"	2'-10½"	3'-2"	2'-4⅞"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5⅝"	3.794	7.930	4.003	8.385
		8"	7'-10"	2'-0"	4'-2"	2'-10½"	3'-2"	2'-4⅞"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5⅝"	3.870	8.083	4.078	8.598
8'	9"	8"	8'-10"	2'-0"	4'-8"	2'-9"	3'-6"	2'-7½"	18'-6"	18'-6"	37'-0"	17'-6"	41'-0⅝"	4.855	10.136	5.088	10.651

* Quantity per wing does not include headwall or that portion of apron or toewall for the length W_5.

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING STEEL PER 4 WINGS	CLASS S CONCRETE - 4 WINGS HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	Cw	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	192	6.15	7.50	8.86	10.22	11.58
	3'	6"	7"	214	8.94	9.79	11.14	12.50	13.86
	4'	6"	7"	328	11.18	12.98	13.94	15.30	16.56
	5'	6"	7"	468	13.25	15.40	16.96	18.32	19.68
	6'	7"	8"	763	19.23	20.62	22.02	23.41	24.81
5'	3'	6"	7"	214	9.74	10.38	12.03	13.67	15.32
	4'	6"	7"	328	11.93	13.01	14.72	16.37	18.02
	5'	6"	7"	468	14.55	16.19	17.84	19.49	21.13
	6'	7"	8"	763	18.59	21.21	22.90	24.59	26.28
	7'	7⅛"	8½"	1495	24.96	26.69	28.41	30.14	31.86
6'	3'	6"	7"	214	9.03	10.99	12.91	14.86	16.79
	4'	6"	7"	328	11.73	13.69	15.60	17.56	19.48
	5'	6"	7"	468	14.85	16.80	18.72	20.68	22.60
	6'	7"	8"	763	19.83	21.82	23.79	25.78	27.74
	7'	7⅛"	8½"	1495	25.28	27.30	29.31	31.33	33.35
	8'	8"	9"	1872	31.70	33.74	35.75	37.79	39.81
7'	4'	6"	7"	328	12.04	14.31	16.59	18.81	21.02
	5'	6"	7"	468	15.16	17.43	19.65	21.93	24.13
	6'	7"	8"	763	20.14	22.44	24.69	26.99	29.24
	7'	7⅛"	8½"	1495	25.59	27.91	30.21	32.53	34.83
	8'	8"	9"	1872	32.02	34.35	36.66	38.99	41.31
8'	4'	6"	7"	328	12.35	14.65	17.49	20.08	22.57
	5'	7"	7"	468	16.05	18.47	21.29	23.96	26.87
	6'	7"	8"	763	20.96	23.07	25.66	28.26	30.77
	7'	7⅛"	8½"	1495	25.90	28.24	31.18	33.78	36.32
	8'	8"	9"	1872	32.33	34.97	37.56	40.81	42.80
9'	5'	7"	7"	468	16.37	18.82	22.18	25.02	27.91
	6'	7⅛"	8"	763	21.14	24.13	27.02	29.89	32.81
	7'	7⅛"	8½"	1495	26.21	29.18	32.06	34.94	37.86
	8'	8"	9"	1872	32.63	35.61	38.61	41.37	44.29
10'	5'	7"	7"	468	16.69	19.96	23.14	26.27	29.47
	6'	7⅛"	8"	763	21.98	24.77	27.99	31.13	34.36
	7'	7⅛"	8½"	1495	26.53	29.82	33.04	36.19	39.42
	8'	8"	9"	1872	32.35	36.25	39.96	42.62	46.35
11'	6'	8"	8"	763	22.18	25.88	29.33	32.84	——
	7'	8"	8½"	1495	27.39	30.93	34.51	38.01	——
	8'	8"	9"	1872	33.86	36.91	40.98	43.93	——
12'	6'	8"	8"	763	22.50	26.51	30.85	34.19	——
	7'	8"	8½"	1495	27.66	31.66	35.49	39.35	——
	8'	8"	9"	1872	33.58	37.58	41.41	45.27	——

⊕ For reinforcing steel in Headwalls and Aprons, see Drawing Nos. of Barrel Sections listed below.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

NOTE:-
This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.-

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-145X-0	R-245X-01	R-345X-01	R-445X-01	R-545X-01
	R-245X-02	R-345X-02	R-445X-02	R-545X-02
R-145X-1	R-245X-1	R-345X-1	R-445X-1	
	R-245X-2	R-345X-2		

CLASS S CONCRETE

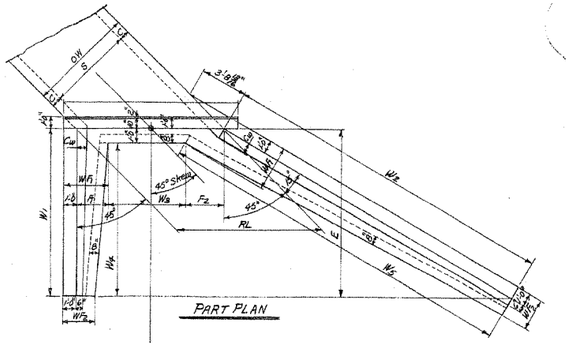
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 45° SKEW

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES

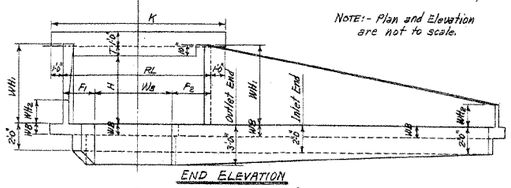
SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING No. W-X453-1



PART PLAN

NOTE:- Plan and Elevation are not to scale.



END ELEVATION

SINGLE BARREL CULVERT - 45° SKEW RIGHT FORWARD

Details of Culvert with 45° Skew Left Forward is reversed, see Drawing No. W-X45.

TYPICAL WING DETAILS

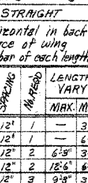
NOTE:-
For remainder of General Plans and Elevations of Single, Double, Triple, Quadruple and Quintuple Span Culverts, see Std. Drawing No. W-X45.
For values of RL, K and W_3 for each box, see above Std. also.

MEMBRANE:- A membrane waterproofing 18" wide, consisting of three mopplings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

CLEAR HEIGHT	WING LOCATION	SF1 & LF1 BENT In bottom of Footing, bent up into back face of wing. One bar (or two bars) of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MIN.	LENGTHS VARY MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	SF2 & LF2 BENT In bottom of footing, bent up into back face of wing. Alt. with F1 bars SIZE	SPACING	NO. REQD	LENGTH	X	Y	SF3 & LF3 STRAIGHT Longitudinal in top of wing footing heel. SIZE	NO. REQD	LENGTH	SF4 & LF4 STRAIGHT Longitudinal in bottom of wing footing toe. SIZE	NO. REQD	LENGTH	SH1 & LH1 STRAIGHT Horizontal in back face of wing. SIZE	SPACING	NO. REQD	LENGTH	SH2 & LH2 STRAIGHT Horizontal in back face of wing One bar of each length. ✱ SIZE	SPACING	NO. REQD	LENGTHS VARY MAX.	LENGTHS VARY MIN.	SH3 & LH3 In back face of wing at top or slope SIZE	NO. REQD	LENGTH	SH4 & LH4 Bent Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQD	LENGTH	X
H	SHORT & LONG																																									
2'	Short	#3	12"	7	1'-7"	3'-11"	0'-8"	1'-0"	2'-0"	3'-0"	—	—	—	—	—	—	#3	1	8'-6"	#3	1	6'-3"	#3	12"	1	6'-3"	#3	12"	1	—	3'-8"	#3	1	6'-7"	#3	12"	2	2'-8"	1'-9"
	Long	#3	12"	14	1'-5"	8'-11"	0'-8"	1'-0"	0'-10"	3'-0"	—	—	—	—	—	—	#3	1	17'-6"	#3	2	15'-8"	#3	12"	1	12'-6"	#3	12"	1	—	6'-6"	#3	1	12'-11"	#3	12"	2	"	"
3'	Short	#3	12"	9	2'-1"	5'-3"	0'-10"	1'-4"	1'-4"	4'-0"	—	—	—	—	—	—	#3	1	10'-6"	#3	2	10'-0"	#3	12"	2	6'-9"	#3	12"	2	6'-9"	3'-8"	#3	1	8'-8"	#3	12"	3	"	"
	Long	#3	12"	18	1'-11"	5'-3"	0'-10"	1'-4"	1'-2"	4'-0"	—	—	—	—	—	—	#5	1	21'-6"	#3	2	20'-8"	#3	12"	2	12'-6"	6'-6"	#3	1	16'-11"	#3	12"	3	"	"
4'	Short	#3	12"	11	2'-6"	6'-7"	0'-11"	1'-8"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	12'-6"	#3	3	12'-0"	#3	12"	3	9'-8"	3'-3"	#3	1	10'-9"	#3	12"	4	"	"
	Long	#3	12"	22	2'-4"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—	#3	1	25'-6"	#3	3	24'-8"	#3	12"	3	18'-6"	6'-6"	#3	1	21'-0"	#3	12"	4	"	"
5'	Short	#3	12"	13	2'-11"	7'-11"	1'-0"	2'-0"	2'-0"	6'-0"	#3	12"	3	3'-6"	1'-1"	2'-6"	#3	1	14'-6"	#3	3	14'-0"	#3	12"	3	9'-9"	3'-3"	#3	1	12'-11"	#3	12"	5	"	"
	Long	#3	12"	26	2'-9"	7'-10"	1'-0"	1'-11"	1'-10"	6'-0"	#3	12"	6	3'-6"	1'-1"	2'-6"	#3	2	15'-8"	#3	3	15'-0"	#3	12"	3	18'-6"	6'-6"	#3	1	25'-1"	#3	12"	5	"	"
6'	Short	#4	12"	15	3'-6"	9'-6"	1'-2"	2'-4"	2'-5"	7'-1"	#3	12"	9	4'-6"	1'-6"	3'-0"	#3	1	16'-10"	#3	3	16'-2"	#3	12"	3	12'-3"	3'-3"	#3	1	15'-0"	#3	12"	6	"	"
	Long	#4	12"	30	3'-5"	9'-3"	1'-2"	2'-3"	2'-3"	7'-1"	#3	12"	6	4'-6"	1'-6"	3'-0"	#3	2	17'-8"	#3	3	16'-10"	#3	12"	3	24'-6"	6'-6"	#3	2	15'-5"	#3	12"	6	2'-8"	1'-9"
7'	Short	#4	12"	17	3'-11"	10'-10"	1'-3"	2'-10"	2'-9"	8'-1"	#4	12"	6	5'-6"	1'-7"	4'-0"	#4	1	18'-4"	#4	4	18'-0"	#4	12"	2	16'-3"	3'-3"	#4	1	17'-1"	#4	12"	7	3'-6"	1'-8"
	Long	#4	12"	34	3'-9"	10'-8"	1'-3"	2'-8"	2'-7"	8'-1"	#4	12"	12	5'-6"	1'-7"	4'-0"	#4	2	19'-10"	#4	4	20'-0"	#4	12"	4	30'-6"	6'-6"	#4	2	19'-5"	#4	12"	7	"	"
8'	Short	#4	12"	19	4'-6"	12'-5"	1'-5"	3'-4"	3'-2"	9'-2"	#4	12"	9	6'-4"	1'-10"	4'-8"	#4	1	20'-6"	#4	4	20'-0"	#4	12"	3	18'-9"	#4	12"	5	15'-8"	3'-3"	#4	1	19'-9"	#4	12"	8	"	"
	Long	#4	12"	38	4'-4"	12'-3"	1'-5"	3'-3"	3'-0"	9'-2"	#4	12"	18	6'-6"	1'-10"	4'-8"	#4	2	21'-8"	#4	4	22'-8"	#4	12"	4	30'-6"	6'-6"	#4	2	19'-6"	#4	12"	8	3'-5"	1'-9"

BAR BENDING DIAGRAM



QUANTITY REINFORCING STEEL PER WING - LBS. SHORT WING	LONG WING
29.4	96.3
36.8	70.3
56.9	107.9
72.7	153.7
127.6	253.9
296.5	491.1
312.5	623.6

NOTE:- Bars for short wing shall be marked with prefix letter "S", while those for long wing shall be marked with letter "L".

✱ Length without splice. Bars over 28'0" length may be spliced. (1'-6" lap)

REVISIONS:- Membrane Added. 5-10-66 W.C.H.

Designed By:- M.C.H. 5-13-63 Checked By:- JSM 7-21-64
Drawn By:- W.C.H. 6-5-64 Checked By:- JSM 7-21-64
Quantities By:- W.C.H. 7-12-64

RESHOT 3-9-93 386

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			117	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH - TWO 45° SKEWED ENDS

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	'a' bars STRAIGHT In Top and Bottom Slab of Barrel.			'a1' bars STRAIGHT In Top and Bottom Slab of Barrel. (Four of each Length)				'b' bars BENT - See Diagrams below. In Bottom of Top Slab-some bent up over Division Wall - hooked. Alternate with 'a' and 'c' bars.						'b1' bars In Bottom of Top Slab-some bent up over Division Wall - one end hooked. (2 of Each Length) Alternate with 'b2' and C or C1 bars.					
									LENGTH										LENGTH		
D	S	H	SIZE	SPACING	No. REQD	SIZE	SPACING	No. REQD	MAX.	MIN.	SIZE	SPACING	No. REQD	LENGTH	X	Y	Z	SIZE	SPACING	No. REQD	MAX.	MIN.
2'-0" MAXIMUM	2 @ 4'-0"	2'									#5	12"	50	10'-6"	0'-3"	2'-2⅝"	3'-4"	#6	14	9'-6"	3'-4"
		3'											50	10'-6"	"	"	"		14	" "	" "
		4'	#5	12"	104	9'-5"	#5	12"	28	8'-5"	2'-5"		50	10'-6"	"	"	"		14	" "	" "
		5'			104	9'-5"			28	" "	" "		50	10'-6"	"	"	"		14	" "	" "
		6'			104	9'-5"			28	" "	" "		50	10'-6"	"	"	"		14	" "	" "
		7'			104	9'-5"			28	" "	" "		50	10'-6"	"	"	"		14	" "	" "
		8'			104	9'-8"			28	8'-10"	2'-8"		50	10'-9"	0'-3"	2'-3⅝"	3'-5"		14	9'-9"	3'-7"
	2 @ 5'-0"	3'			100	11'-5"			36	10'-5"	2'-5"		50	12'-6"	0'-3"	2'-9⅝"	4'-1"		18	11'-6"	3'-6"
		4'			100	11'-5"			36	" "	" "		50	12'-7"	0'-3⅜"	2'-10⅝"	4'-1"		18	" "	" "
		5'			100	11'-5"			36	" "	" "		50	12'-7"	" "	" "	" "		18	" "	" "
		6'			100	11'-8"			36	10'-8"	2'-8"		50	12'-10"	" "	2'-8⅝"	4'-2"		18	11'-9"	3'-7"
		7'			100	11'-10"			36	10'-10"	2'-10"		50	13'-0"	0'-3⅜"	2'-9⅝"	4'-2⅝"		18	11'-11"	3'-9"
	2 @ 6'-0"	3'			106	18'-5"			98	12'-6"	2'-5"		50	14'-7"	0'-4"	3'-0⅝"	4'-10"		24	13'-8"	3'-9"
		4'			106	13'-5"			98	" "	" "		50	14'-7"	" "	" "	" "		24	" "	" "
		5'			106	13'-5"			98	" "	" "		50	14'-7"	" "	" "	" "		24	" "	" "
		6'	#6	11"	104	13'-8"	#6	11"	98	12'-9"	2'-8"	#5	50	14'-10"	"	3'-1⅝"	5'-1"	#5	24	13'-11"	3'-9"
		7'			104	13'-10"			98	13'-1"	2'-10"		50	15'-0"	"	3'-2⅝"	5'-1⅝"		24	14'-1"	3'-10"
		8'			104	13'-11"			98	13'-0"	2'-11"		50	15'-1"	0'-4"	"	5'-2"		24	14'-2"	3'-11"
	2 @ 7'-0"	4'			92	15'-5"			52	14'-5"	2'-5"		50	15'-8"	0'-4⅜"	3'-5"	5'-7"		26	15'-8"	3'-5"
		5'			92	15'-5"			52	" "	" "		50	" "	" "	" "	" "		26	" "	" "
		6'	#6	12"	92	15'-8"	#6	12"	52	14'-8"	2'-8"	#6	50	15'-11"	0'-4⅜"	3'-5⅝"	5'-8"	#6	26	15'-11"	3'-8"
		7'			92	16'-10"			52	14'-10"	2'-10"		50	16'-2"	0'-4⅜"	3'-5⅝"	5'-8⅝"		26	16'-2"	3'-10"
		8'			92	15'-11"			52	14'-11"	2'-11"		50	16'-2"	0'-4⅜"	3'-5⅝"	5'-8⅝"		26	16'-2"	3'-10"
	2 @ 8'-0"	4'			96	17'-5"			64	16'-6"	2'-9"		50	17'-10"	0'-5"	3'-10"	6'-4"		32	17'-10"	3'-9"
		5'			96	17'-9"			64	16'-9"	3'-0"		50	18'-1"	0'-5"	3'-10⅝"	6'-4"		32	18'-1"	3'-9"
		6'	#6	11"	96	17'-9"	#6	11"	64	16'-9"	3'-0"	#6	50	18'-1"	0'-5"	3'-10⅝"	6'-4"	#6	32	18'-1"	3'-9"
		7'			96	17'-10"			64	16'-11"	3'-2⅝"		50	18'-4"	"	3'-11"	6'-5"		32	18'-4"	3'-10"
		8'			96	17'-11"			64	" "	" "		50	18'-4"	"	"	"		32	18'-4"	3'-10"
		9'			94	18'-2"			68	17'-0"	2'-9"		50	18'-7"	"	4'-0"	6'-5⅝"		34	18'-7"	3'-10"
		10'			94	18'-5"			68	17'-3"	2'-11"		50	18'-10"	"	4'-1"	6'-6"		34	18'-10"	3'-11"

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM FOR BARS 'b' AND 'b2'
#5	2½"	4½"	0'-11½"	K, Pin diam., Z, X, Y, Z
#6	3"	5"	1'-2"	

BAR SIZE	PIN DIAM.	K	ADD FOR 1 HOOK	BENDING DIAGRAM FOR BARS 'b1' AND 'b3'
#5	2½"	4½"	0'-5½"	K, Pin diameter, Z, X, Y, L, Min. 4EX, 3X Max., Less than Z
#6	3"	5"	0'-7"	

NOTE:- Dimensions are to centers of bars ('b, b1, b2, & b3'). The X, Y & Z values for 'b' bars are same as for 'b' bars and for 'b2' bars same as for 'b2' bars.

NOTE:- For Details of Standard Wings and bar lists, see Drawing No. W-X452-1 or W-X452-2; W-X453-1 or W-X453-2, and W-X454-1 or W-X454-2. Also W-X45.

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	'b2' bars BENT - See Diagrams below. In Top of Bottom Slab-some bent down under Division Wall - hooked. Alternate with 'a' and 'c' bars.								'b3' bars In Top of Bottom Slab-some bent down under Division Wall - one end hooked. (2 of Each Length) Alternate with 'b2' and C or C1 bars.								'c' bars STRAIGHT In Top and Bottom Slab of Barrel. Alternate with 'b' and 'b2' bars.			'c1' bars STRAIGHT In Top and Bottom Slab of Barrel. Alt. with 'b, & b2' bars. (Four of each Length.)			'd' bars STRAIGHT Longitudinal in Top Slab of Barrel			'd1' bars STRAIGHT Longitudinal in Sidewalls and Division Wall.			'e' bars STRAIGHT Longitudinal in Bottom Slab of Barrel.			'f' bars STRAIGHT Verticals in Sidewalls and Division Wall.			'h' bars STRAIGHT In Bottom of Headwalls			'h2' bars STRAIGHT In Top of Headwalls and Aprons (2 Each)		
									LENGTH										LENGTH																							
D	S	H	SIZE	SPACING	No. REQD	LENGTH	X	Y	Z	MAX.	MIN.	SIZE	SPACING	No. REQD	LENGTH	MAX.	MIN.	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH
2'-0" MAXIMUM	2 @ 4'-0"	2'																																									
		3'																																									
		4'	#5	12"	52	10'-6"	0'-2⅝"	2'-3⅜"	3'-4"			#5	12"	14	9'-6"	3'-4"	8'-10"	2'-10"	#5	12"	112	4'-8"	#5	12"	8	4'-1"	3'-1"		14			8			6	13'-3"		8	16'-5"			
		5'			52	10'-6"	"	"	"					14	" "	" "	" "	" "			112	5'-8"			8	" "	" "		14			12			6	"		8	"			
		6'			52	10'-6"	"	"	"					14	" "	" "	" "	" "			112	6'-8"			8	" "	" "		14			16			6	"		8	"			
		7'			52	10'-9"	0'-2⅝"	2'-4⅝"	3'-5"					14	9'-9"	3'-7"	9'-1"	3'-1"			112	4'-3"			8	4'-3"	3'-3"		14			20			6	16'-1"		8	18'-3"			
	2 @ 5'-0"	3'			50	12'-6"	0'-3"	2'-8⅝"	4'-1"					18	11'-6"	3'-6"	10'-0"	2'-10"			112	5'-8"			12	4'-7"	3'-7"		16			12			6	16'-1"		8	18'-3"			
		4'			50	12'-7"	"	"	"					18	" "	" "	" "	" "			112	5'-8"			12	" "	" "		16			16			6	"		8	"			
		5'			50	12'-7"	"	"	"					18	" "	" "	" "	" "			112	5'-8"			12	" "	" "		16			20			6	"		8	"			
		6'	#5	12"	50	12'-9"	"	2'-8⅝"	4'-2"			#5	12"	18	11'-9"	3'-7"	11'-1"	3'-1"	#6	12"	112	5'-8"	#6	12"	12	4'-9"	2'-9"		16			24			6	16'-5"		8	18'-7"			
		7'			50	13'-0"	0'-3⅜"	2'-9⅝"	4'-2⅝"					18	11'-11"	3'-9"	11'-3"	3'-3"			112	5'-10"			12	4'-10"	2'-10"		16			28			6	16'-8"		8	18'-10"			
	2 @ 6'-0"	3'			52	14'-7"	0'-4"	3'-0⅝"	4'-10"					24	13'-8"	3'-9"	12'-11"	3'-6"			118	6'-8"			16	6'-5"	2'-9"		18			12			6	18'-11"		8	21'-1"			
		4'			52	14'-7"	"	"	"					24	" "	" "	" "	" "			118	6'-8"			16	" "	" "		18			16			6	"		8	"			
		5'			52	14'-10"	"	3'-1⅝"	5'-1"					24	" "	" "	" "	" "			118	6'-8"			16	" "	" "		18			20			6	"		8	"			
		6'	#5	11"	52	15'-0"	"	3'-2⅝"	5'-1⅝"			#5	11"	24	14'-9"	3'-10"	13'-9"	3'-6"	#6	11"	118	6'-10"	#6	11"	16	6'-8"	3'-0"		18			28			6	19'-4"		8	21'-8"			
		7'			52	15'-1"	0'-4"	"	5'-2"					24	14'-10"	3'-10"	13'-10"	3'-7"			118	6'-10"			16	6'-9"	3'-1"		18			32			6	19'-7"		8	21'-9"			
	2 @ 7'-0"	4'			52	15'-8"	0'-4⅜"	3'-5"	5'-7"					26	15'-8"	3'-5"	14'-0"	3'-10"			108	7'-8"			20	6'-7"	2'-7"		20			20			6	21'-9"		8	23'-10"			
		5'			52	" "	" "	" "	" "					26	" "	" "	" "	" "			108	7'-8"			20	" "	" "		20			20			6	"		8	"			
		6'	#6	12"	52	15'-11"	0'-4⅜"	3'-5⅝"	5'-8"			#6	12"	26	15'-11"	3'-8"	15'-1"	3'-4"	#6	12"	108	7'-9"	#6	12"	20	6'-9"	2'-8"		20			20			6	22'-1"		8	24'-3"			
		7'			52	16'-1"	0'-4⅜"	3'-5⅝"	5'-8⅝"					26	16'-1"	3'-10"	15'-3"	3'-9"			108	7'-10"			20	6'-11"	2'-10"		20			28			6	22'-5"		8	24'-7"			
		8'			52	16'-2"	0'-4⅜"	3'-5⅝"	5'-8⅝"					26	16'-2"	3'-11"	15'-4"	3'-10"			108	7'-10"			20	6'-11"	2'-11"		20			32			6	22'-8"		8	24'-10"			
	2 @ 8'-0"	4'			64	16'-6"	0'-5"	3'-10"	6'-4"					32	17'-10"	3'-9"	16'-11"	3'-6"			112	8'-8"			28	6'-6"	2'-9"		22			16			6	24'-5"		8	26'-8"			
		5'			64	16'-9"	0'-5⅜"	3'-10⅝"	6'-4"					32	18'-1"	3'-9"	17'-0"	3'-7"			112	8'-8"			28	6'-8"	2'-9"		22			20			6	24'-6"		8	27'-1"			
		6'	#6	11"	64	16'-11"	0'-5⅜"	3'-10⅝"	6'-4"			#6	11"	32	18'-1"	3'-9"	17'-0"	3'-7"	#6	11"	112	8'-8"	#6	11"	28	6'-8"	2'-9"		22			24			6	24'-6"		8	27'-1"			
		7'			64	17'-0"	"	3'-11"	6'-5"					32	18'-4"	3'-10"	17'-2"	3'-9"			112	8'-8"			28	6'-9"	2'-10"		22			28			6	24'-7"		8	27'-3"			
		8'			64	" "	" "	" "	" "					32	" "	" "	" "	" "			112	8'-8"			28	6'-9"	2'-11"		22			32			6	24'-8"		8	27'-4"			
		9'			68	17'-3"	0'-5⅝"	4'-0"	6'-5⅝"					34	18'-7"	3'-10"	17'-5"	3'-9"			116	8'-10"			28	6'-10"	2'-10"		22			36			6	24'-9"		8	27'-5"			
		10'			68	17'-6"	0'-5⅝"	4'-0⅝"	6'-6"					34	18'-10"	3'-10"	17'-6"	3'-9"			116	8'-10"			28	6'-10"	2'-11"		22			40			6	24'-10"		8	27'-6"			

SPAN	SIZE	SPACING	No. REQD	LENGTH	X
4'	#5	12"	28	2'-5"	1'-0⅝"
5'	#5	12"	34	2'-6"	1'-3"
6'	#5	12"	40	2'-7"	1'-3⅝"
7'	#5	12"	46	2'-8"	1'-4"
8'	#5	12"	52	2'-9"	1'-4⅝"

Dowel bars 'f' in Two Headwalls

These bars are in the skewed portion of barrel only. The length of 'a' and 'c' bars and overall length 'L' of 'b' and 'b3' bars vary by 1'-0" for 12" spacing and 0'-11" for 11" spacing.

In the regular portion of the barrel begin and end with a set of 'a' and 'c' bars. If the spacing is such that the last set of bars would be 'b' & 'b2' bars, use a set of 'a' & 'c' bars instead.

DESIGN DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	BARREL DIMENSIONS Sq. Ft. Opening	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF DIVISION WALL	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	ROADWAY LENGTH	LENGTH OF HEADWALL	* QUANTITIES CLASS S CONC. FT. PER BARREL	REINFORCING STEEL TOTAL FOR LENGTH OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL	REINFORCING STEEL ADDITIONAL PER LAP
D	S	H	A	OW	T	C	M	B	OH	RL	K	CU.YD.	LB.	LB.	LB.
5'-0"	2 @ 4'-0"	2'	16	9'-8"	6½"	6"	8"	6"	3'-0⅝"	13'-8"	15'-8"	0.936	5,587	88.15	42.71
		3'	24	9'-8"		6"	8"		3'-0⅝"	" "	" "	0.558	5,910	93.93	46.05
		4'	32	9'-8"		6"	8"		3'-0⅝"	" "	" "	0.620	6,234	98.86	49.39
		5'	40	9'-8"		6"	8"		3'-0⅝"	" "	" "	0.682	6,557	103.18	52.73
		6'	48	9'-11"		7"	9"		3'-0⅝"	14'-0⅝"	14'-0⅝"	0.809	6,965	110.74	56.07
	2 @ 5'-0"	3'	30	11'-8"	7"	6"	8"	6½"	4'-1⅛"	16'4"	18'-6"	0.671	7,882	123.84	51.19
		4'	40	11'-8"		6"	8"		4'-1⅛"	" "	" "	0.733	8,205	128.68	54.58
		5'	50	11'-8"		6"	8"		4'-1⅛"	" "	" "	0.785	8,529	134.03	57.87
		6'	60	11'-11"		7"	9"		7'-1⅝"	16'10⅝"	18'-10⅝"	0.922	8,962	140.89	61.21
		7'	70	12'-1"		7½"	10"		8'-1⅝"	17'-1"	19'-1"	1.044	9,369	147.34	64.55
	2 @ 6'-0"	3'	36	13'-8"	7½"	6"	8"	6½"	4'-3"	19'-3⅝"	21'-4"	0.818	9,988	149.50	56.34
		4'	48	13'-8"		6"	8"		5'-3"	" "	" "	0.880	9,806	153.85	59.68
		5'	60	13'-9"		6"	8"		6'-3"	" "	" "	0.941	10,129	159.19	63.02
		6'	72	13'-11"		7"	9"		7'-3"	19'-8⅝"	21'-8⅝"	1.070	10,538	166.20	66.36
		7'	84	14'-1"		7½"	10"		8'-3"	19'-10"	21'-11"	1.192	10,956	172.74	69.70
		8'	96	14'-2"		8"	10"		9'-3"	20'-0⅝"	22'-0⅝"	1.298	11,316	183.36	73.04
	2 @ 7'-0"	4'	56	15'-8"	8"	6"	8"	8"	5'-4"	22'-1⅝"	24'-1⅝"	1.021	11,514	178.15	64.88
		5'	70	15'-8"		6"	8"		6'-4"	" "	" "	1.082	11,857	183.49	68.17
		6'	84	15'-11"		7"	9"		7'-4"	22'-4⅝"	24'-4"	1.212	12,297	190.59	71.51
		7'	98	16'-1"		7½"	10"		8'-4"	22'-6"	24'-5⅝"	1.334	12,716	197.13	74.85
		8'	112	16'-2"		8"	10"		9'-4"	22'-8⅝"	24'-10⅝"	1.440	13,089	207.89	78.19
		9'	126	16'-5"		10"	12"		10'-4"	23'-1⅛"	25'-2⅝"	1.616	14,414	225.25	81.53
	2 @ 8'-0"	4'	64	17'-8"	8½"	6"	8"	8½"	5'-5"	24'-1⅛"	26'-1⅛"	1.174	13,555	210.87	71.71
		5'	80	17'-11"		7"	9"		6'-5"	25'-4"	27'-3"	1.295	14,047	217.63	75.05
		6'	96	17'-11"		7"	9"		7'-5"	" "	" "	1.364	14,371	222.97	78.39
		7'	112	18'-1"		7½"	10"		8'-5"	25'-6⅝"	27'-5"	1.489	14,756	229.68	81.73
		8'	128	18'-2"		8"	10"		9'-5"	25'-8⅝"	27'-8⅛"	1.585	15,414	240.47	85.07
		9'	144	18'-5"		9"	11"		10'-5"	26'-0⅛"	28'-0⅛"	1.772	16,932	258.08	88.41
		10'	160	18'-8"		10"	12"		11'-5"	26'-3⅛"	28'-3⅛"	1.967	17,276	271.07	91.75

* For quantities in wings see Standard Wing Drawings listed below. Total steel quantities listed above include one lap of longitudinal bars.

GENERAL NOTES

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.
REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.
BAR LAP:- In computing the quantities of steel from the tables add one lap for each add'l 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diam. min.
CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls, division wall and slabs shall be only where shown on plans.
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961
AND
SPECIAL MILITARY LOADING
Two 24000 Lb. Axles @ 4'-0" ctrs.

UNIT STRESSES:-

Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X452-1 or W-X452-2, W-X453-1 or W-X453-2, and W-X454-1 or W-X454-2. Also W-X45.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

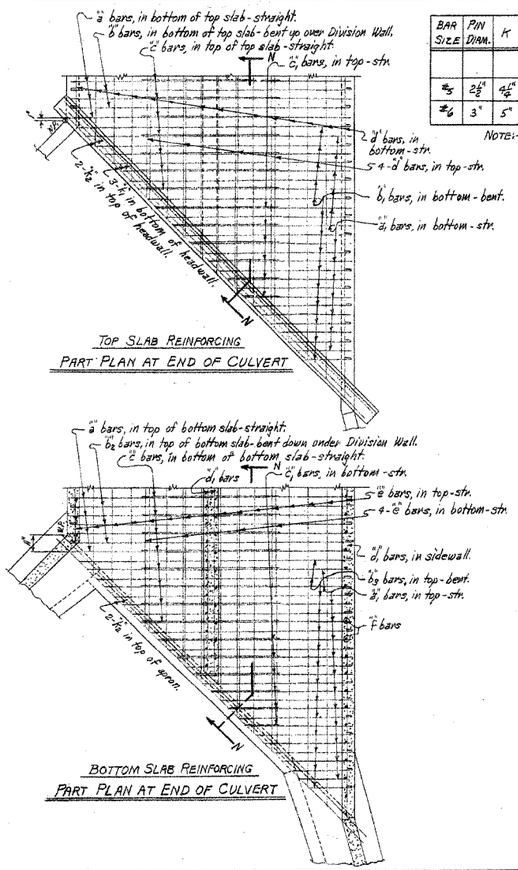
DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

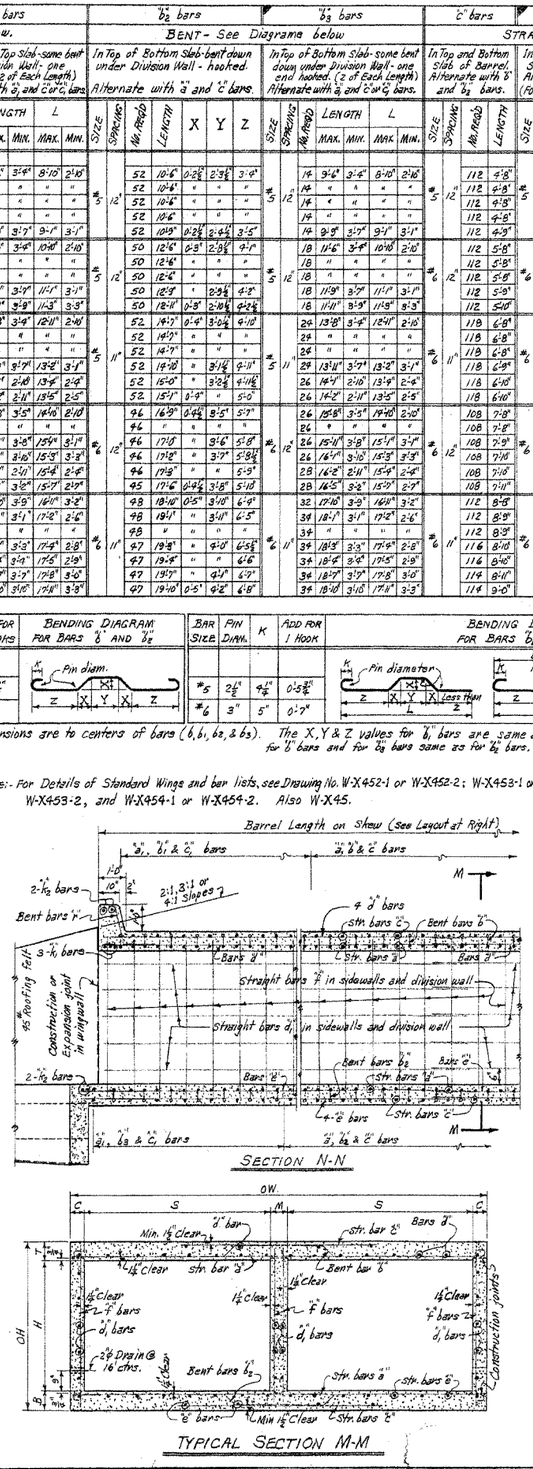
45° SKEW

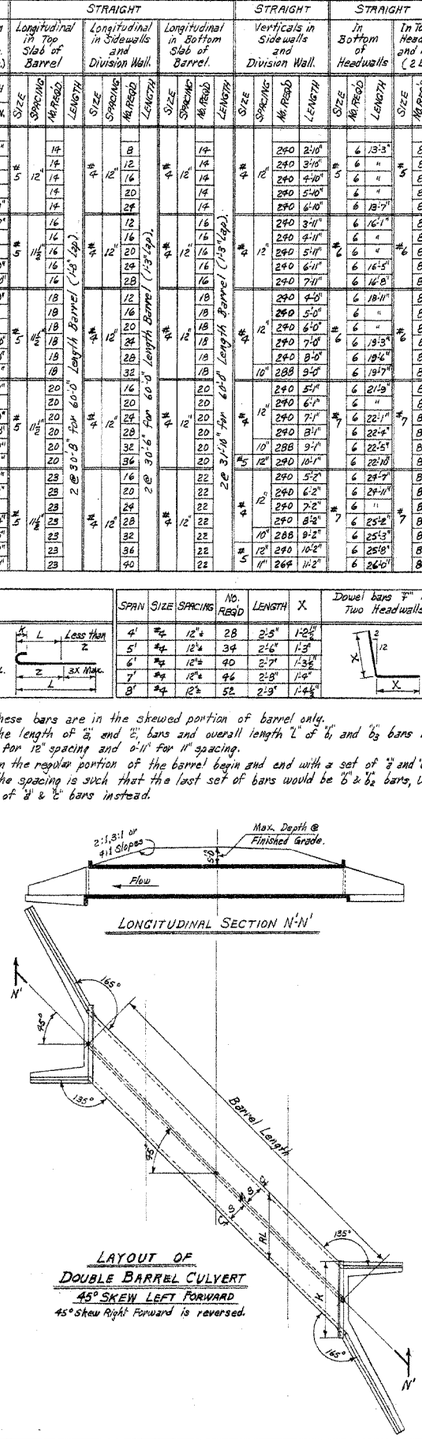
4', 5', 6', 7' AND 8' SPANS 2:1, 3:1 OR 4:1 SLOPES
DOUBLES UNDER 5'-0" COVER

STANDARD DRAWING No. R-245X-01

Designed by:- W.C.H. 1-17-63.
Drawn by:- W.L.C.H. 7-19-63.
Quantities by:- W.L.C.H. 10-1-63.
Checked by:- R.H.S. 5-14-63
Checked by:-
Checked by:-

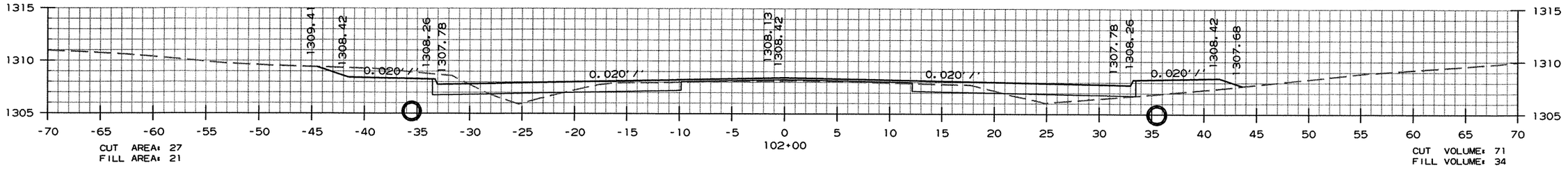


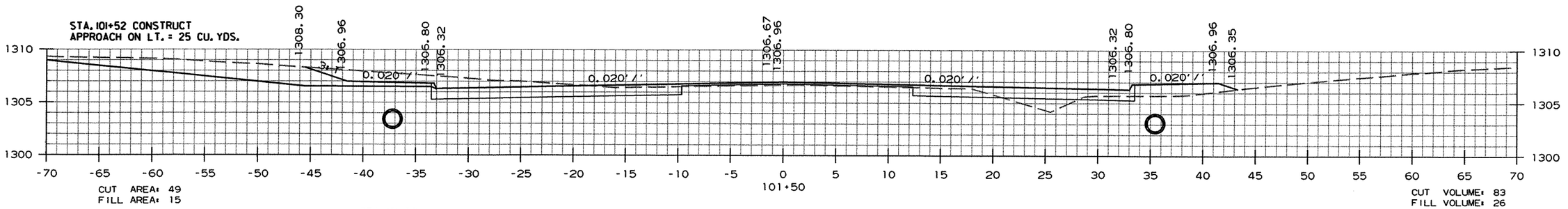


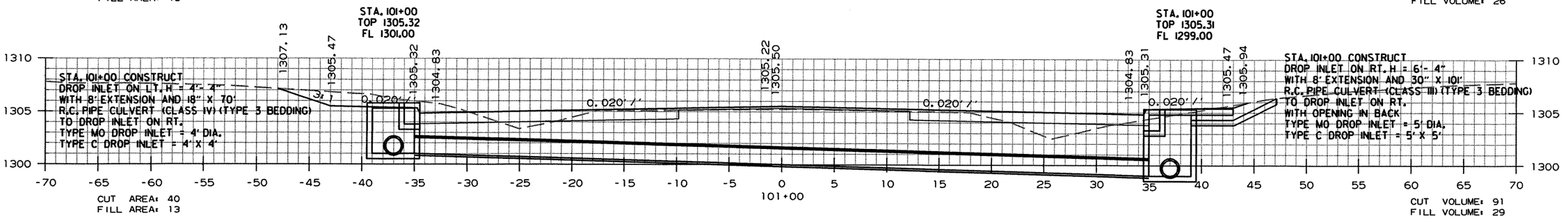


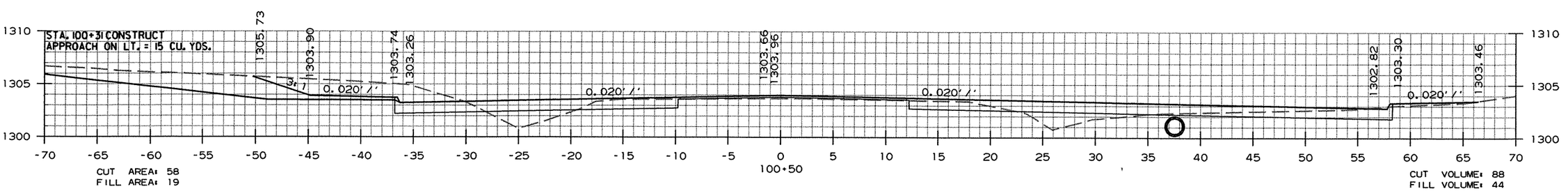
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	118	148

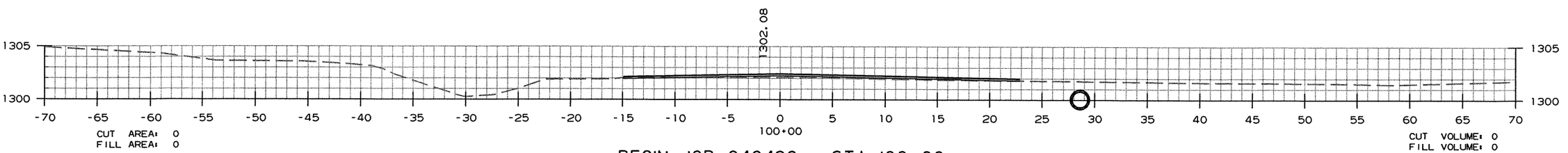
(2) CROSS SECTIONS











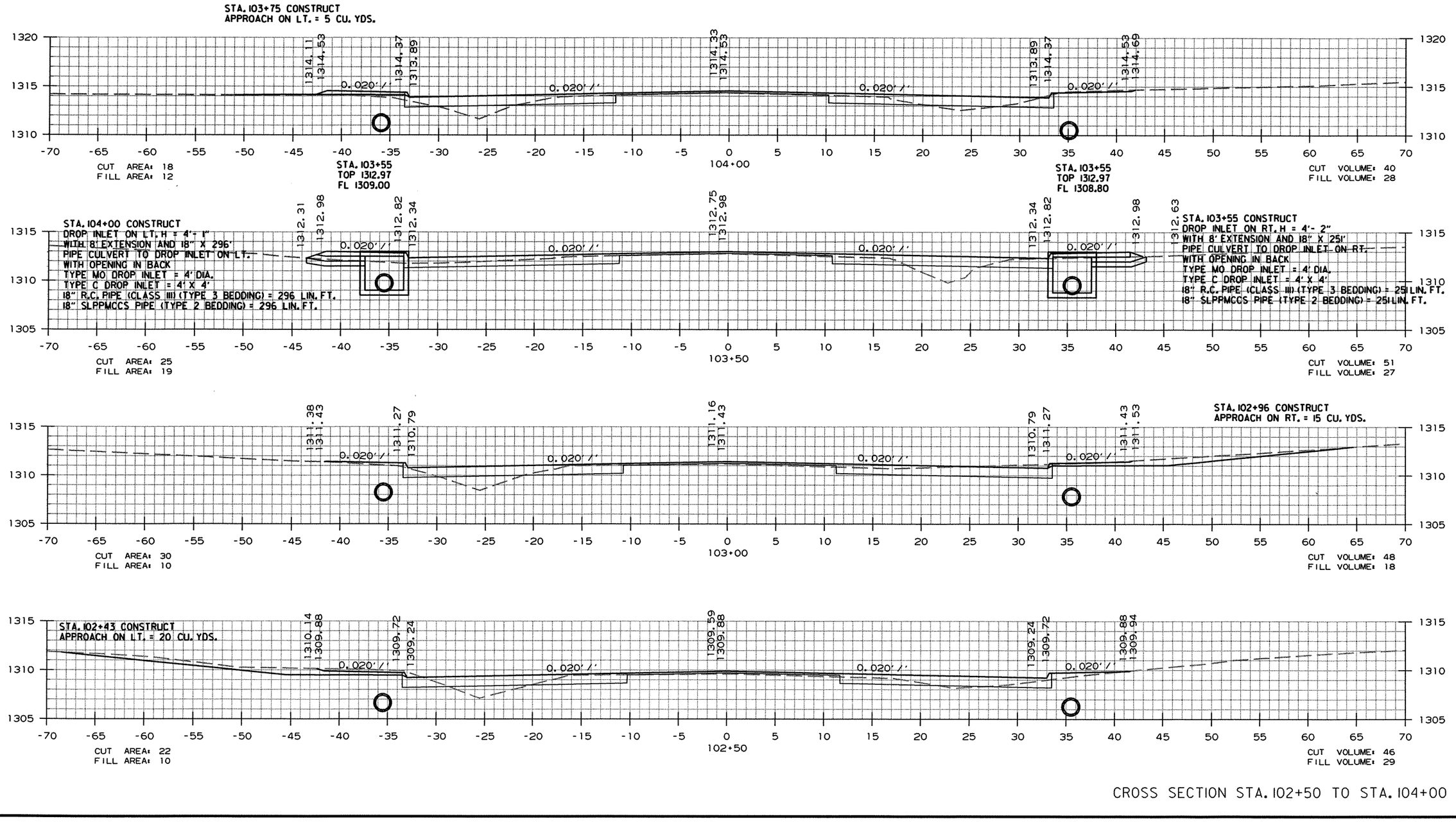
BEGIN JOB 040490 - STA. 100+00
HWY. 265

CROSS SECTION STA. 100+00 TO STA. 102+00

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	119	148

(2) CROSS SECTIONS



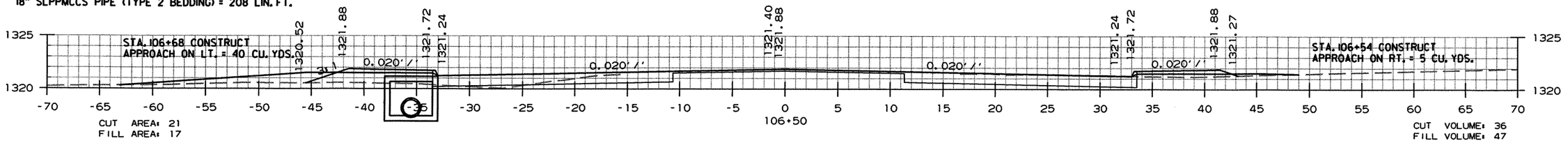
CROSS SECTION STA. 102+50 TO STA. 104+00

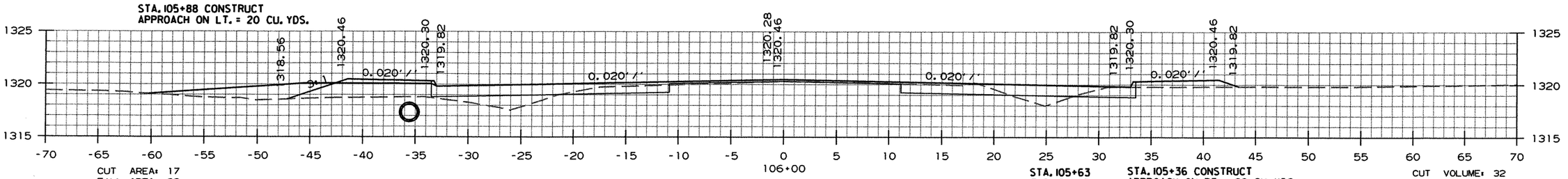
R040490.DGN 6/27/2012

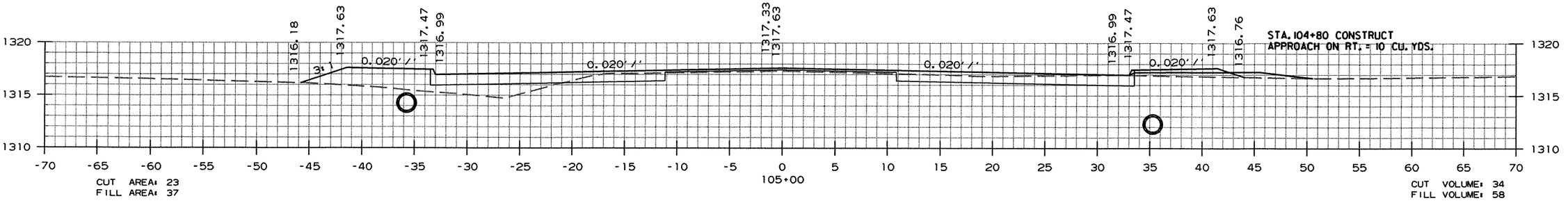
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	120	148

(2) CROSS SECTIONS

STA. 106+12 CONSTRUCT
DROP INLET ON LT. H = 4'- 1"
WITH 8' EXTENSION AND 18" X 208'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 208 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 208 LIN. FT.





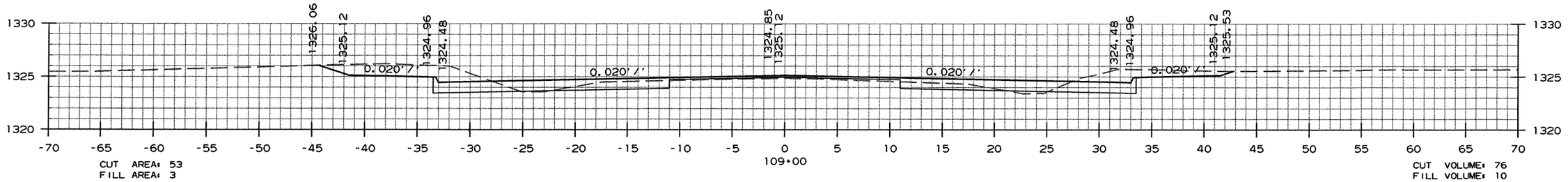


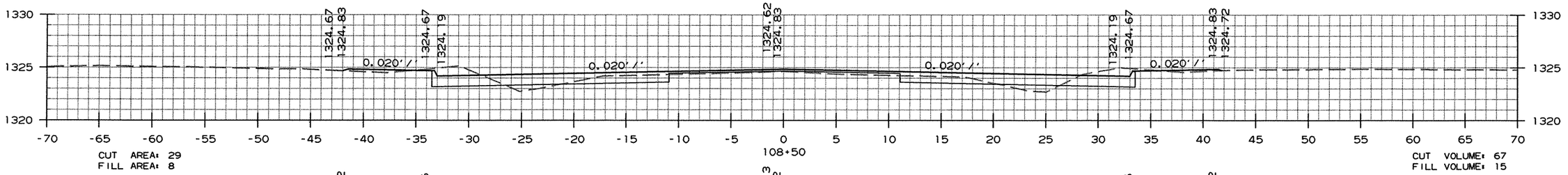
CROSS SECTION STA. 104+50 TO STA. 106+50

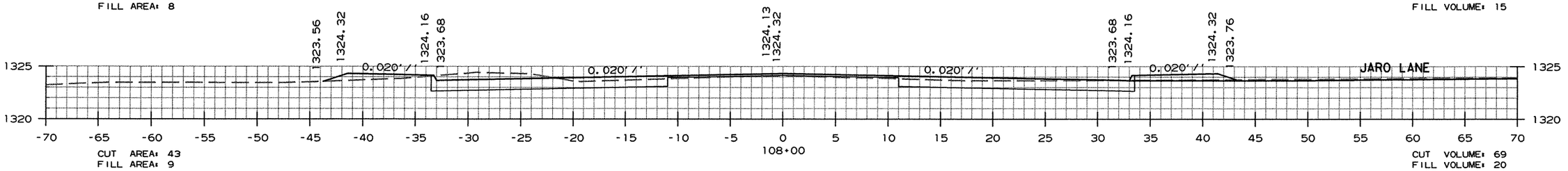
R040490.DGN 6/27/2012

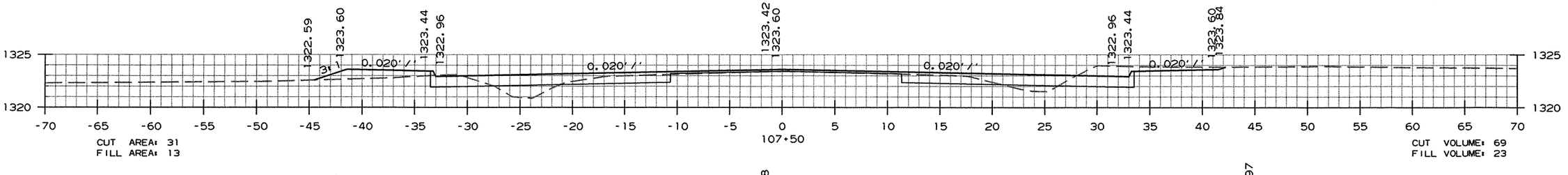
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	121	148

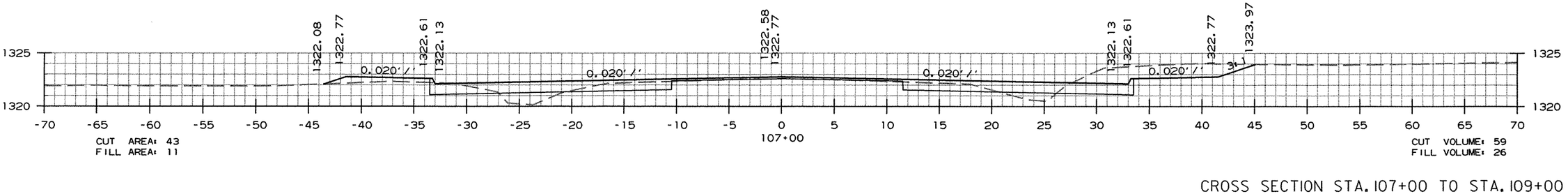
(2) CROSS SECTIONS









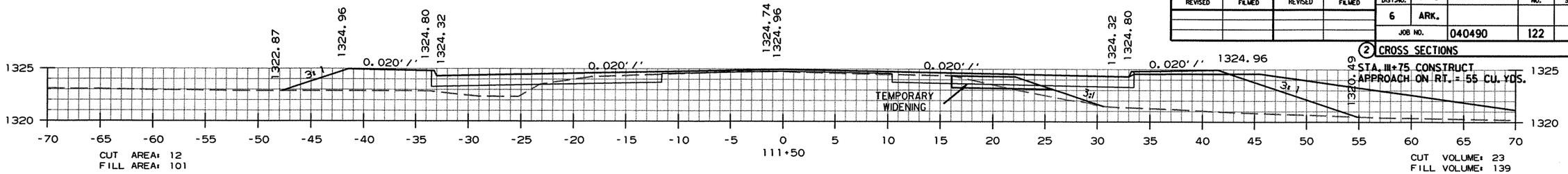


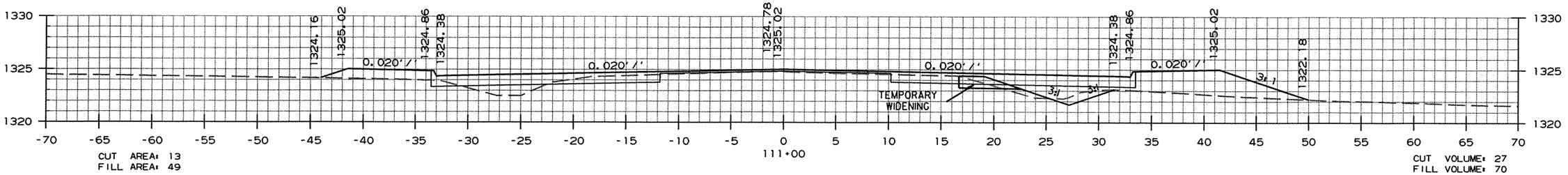
CROSS SECTION STA. 107+00 TO STA. 109+00

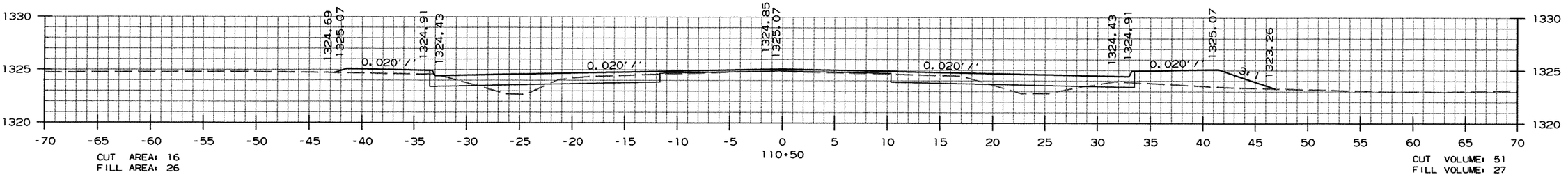
R040490.DGN 6/27/2012

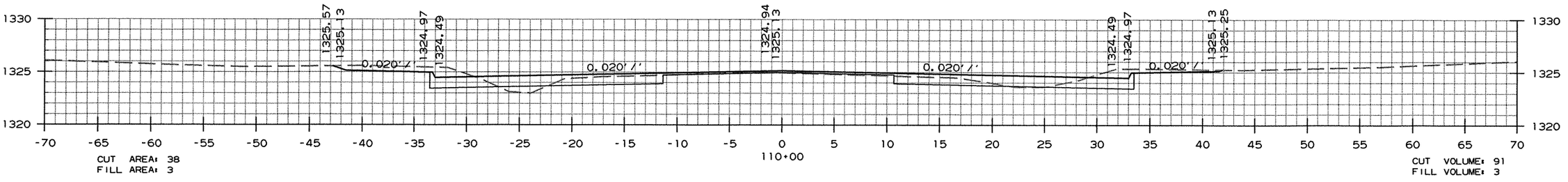
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	122	148

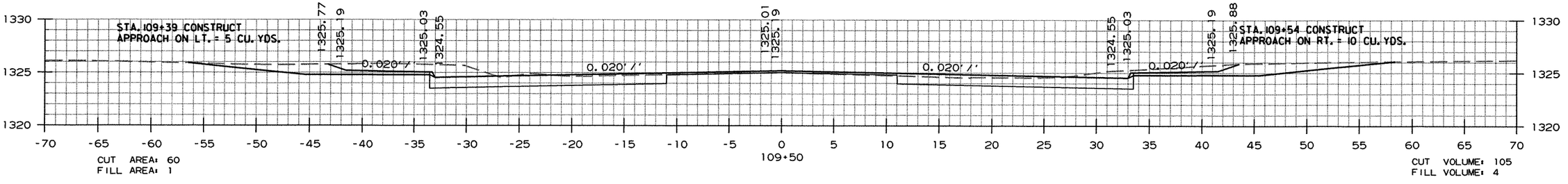
(2) CROSS SECTIONS









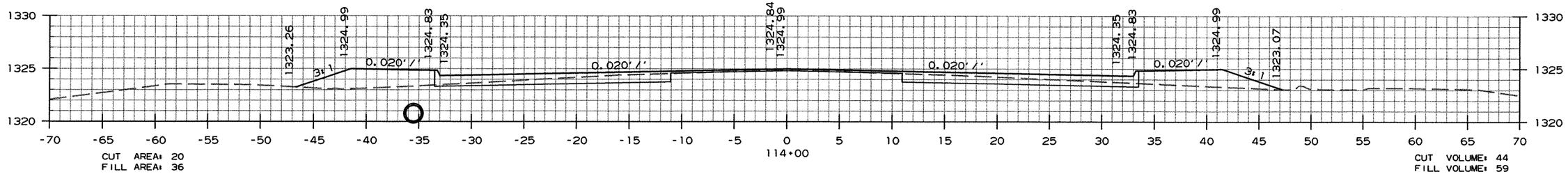


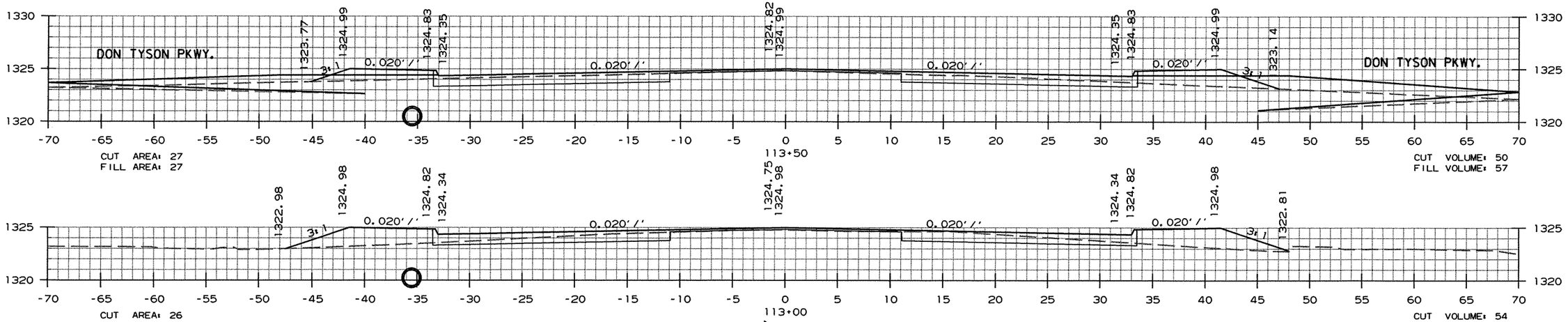
CROSS SECTION STA. 109+50 TO STA. 111+50

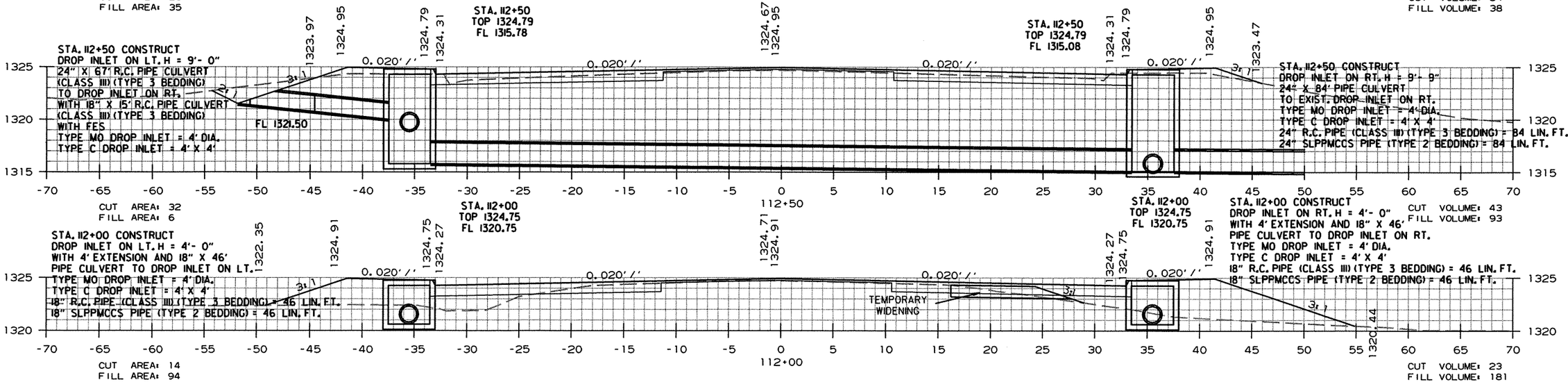
R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	123	148

(2) CROSS SECTIONS





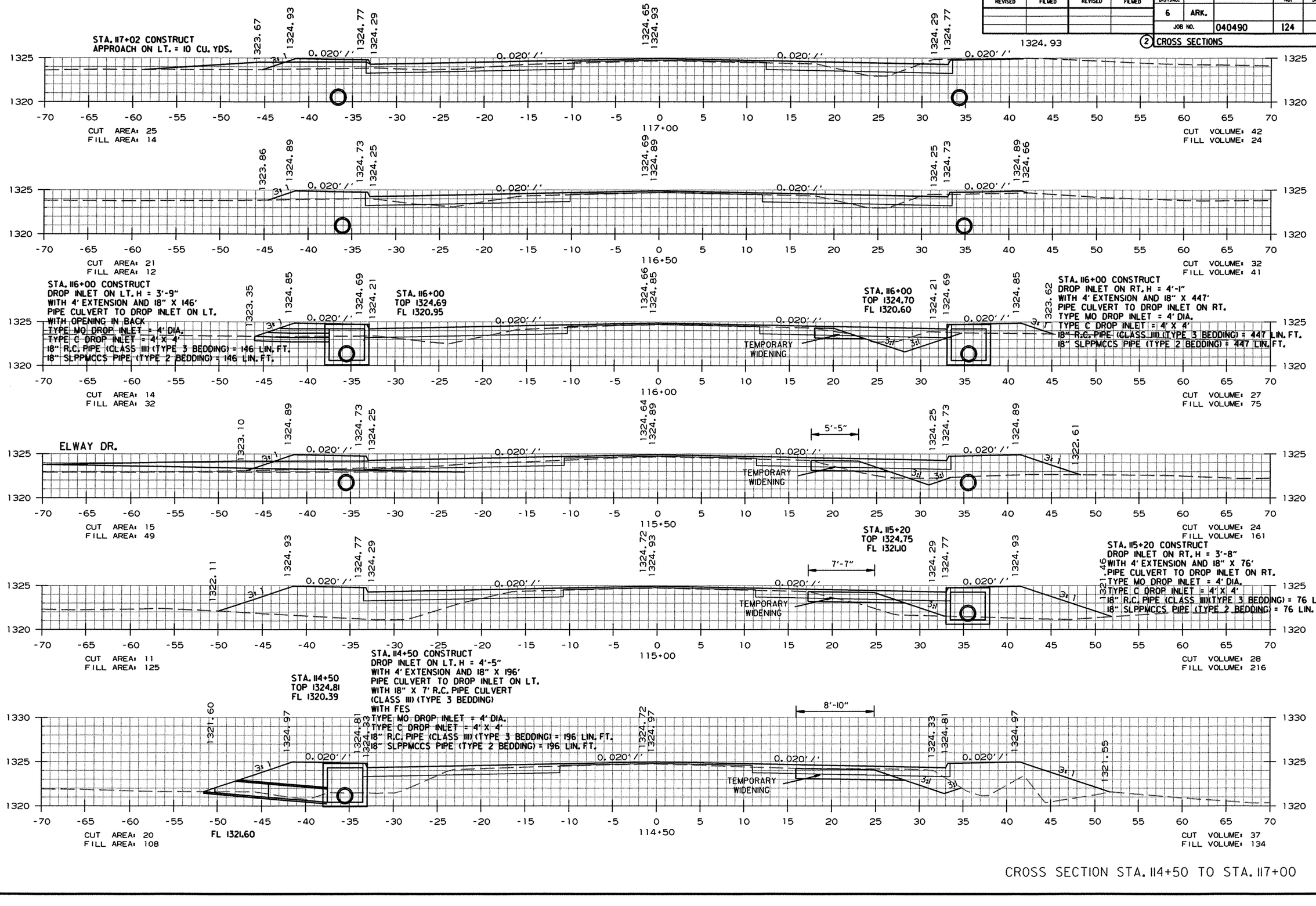


CROSS SECTION STA. 112+00 TO STA. 114+00

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	124	148

(2) CROSS SECTIONS

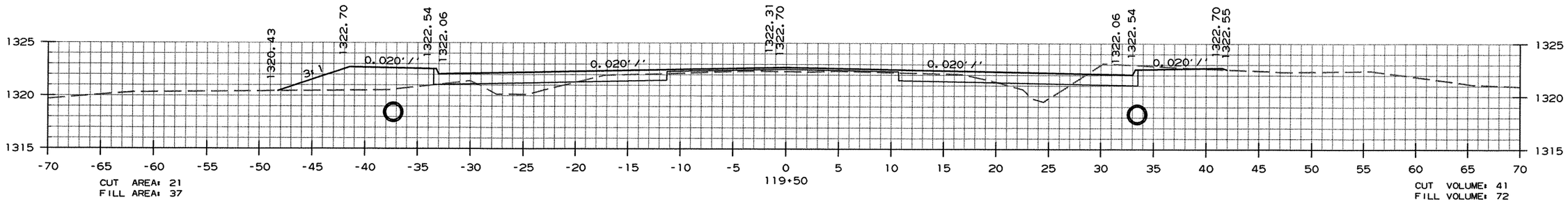


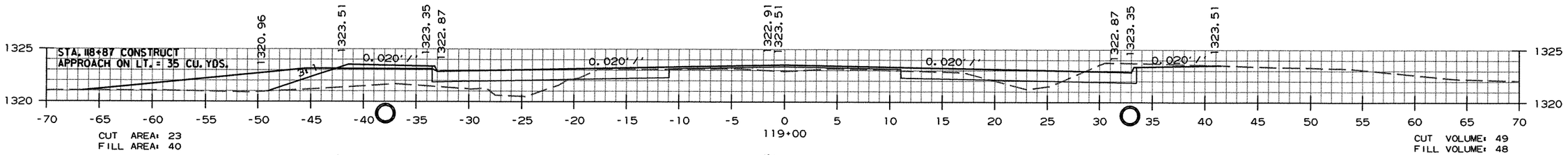
CROSS SECTION STA. 114+50 TO STA. 117+00

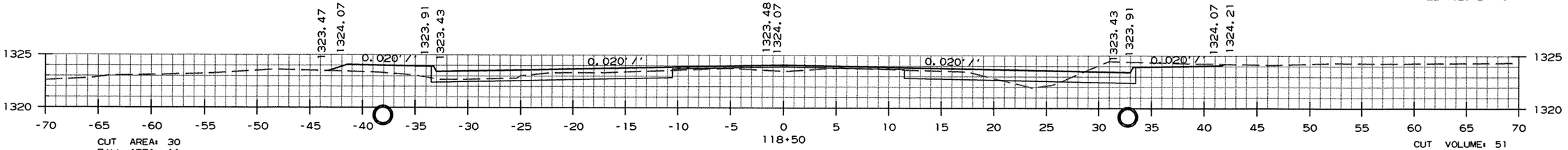
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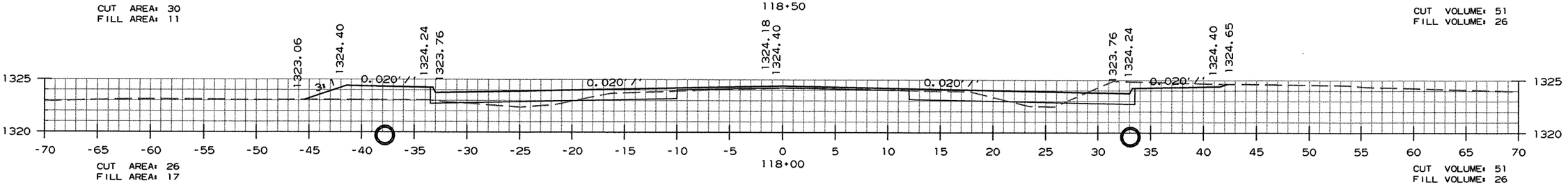
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				6	ARK.			
				JOB NO.		040490	125	148

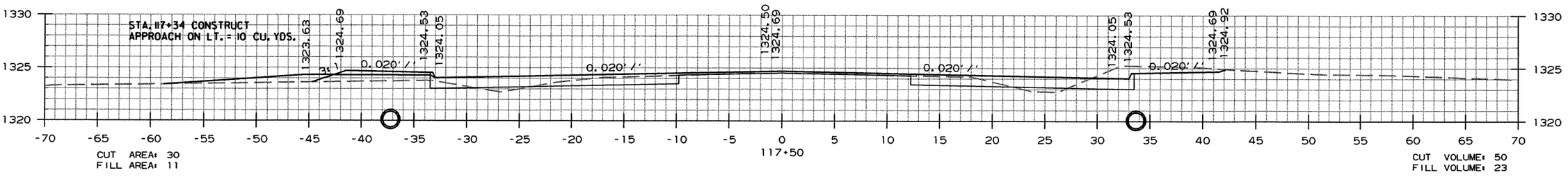
(2) CROSS SECTIONS









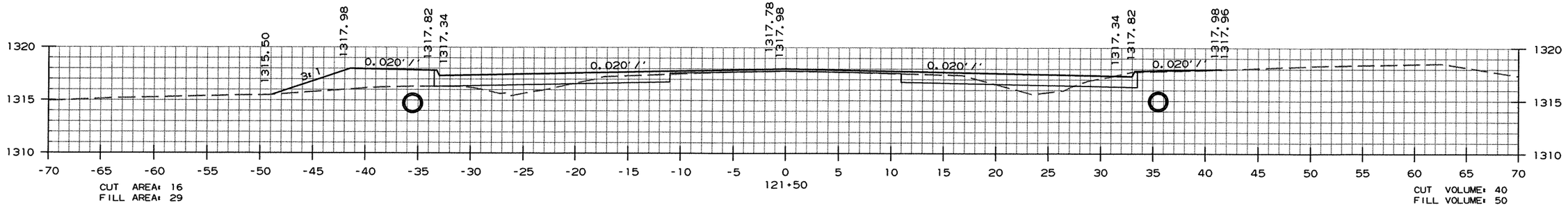


CROSS SECTION STA. 117+50 TO STA. 119+50

R040490.DGN 6/27/2012

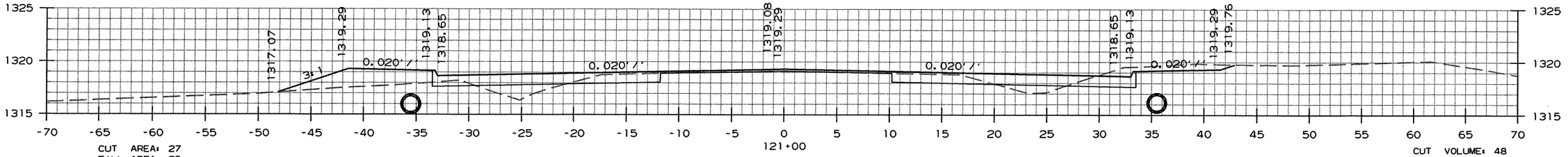
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				6	ARK.			
				JOB NO.		040490	126	148

(2) CROSS SECTIONS



CUT AREA: 16
FILL AREA: 29

CUT VOLUME: 40
FILL VOLUME: 50



CUT AREA: 27
FILL AREA: 25

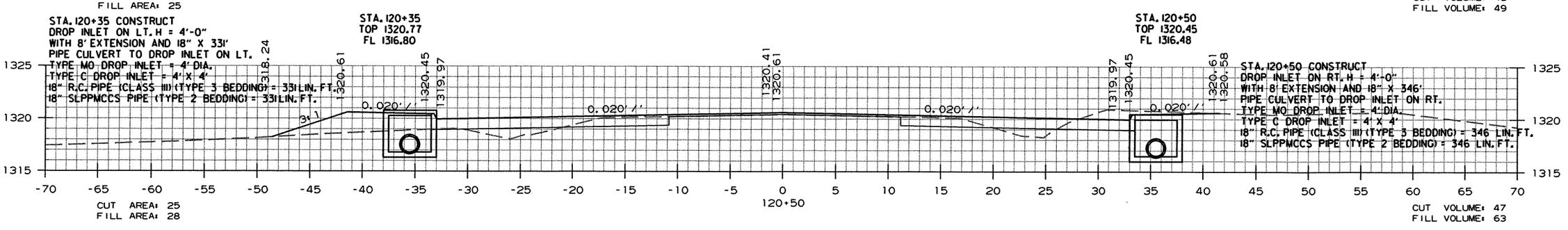
CUT VOLUME: 48
FILL VOLUME: 49

STA. 120+35 CONSTRUCT
DROP INLET ON LT. H = 4'-0"
WITH 8' EXTENSION AND 18" X 331'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 331 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 331 LIN. FT.

STA. 120+35
TOP 1320.77
FL 1316.80

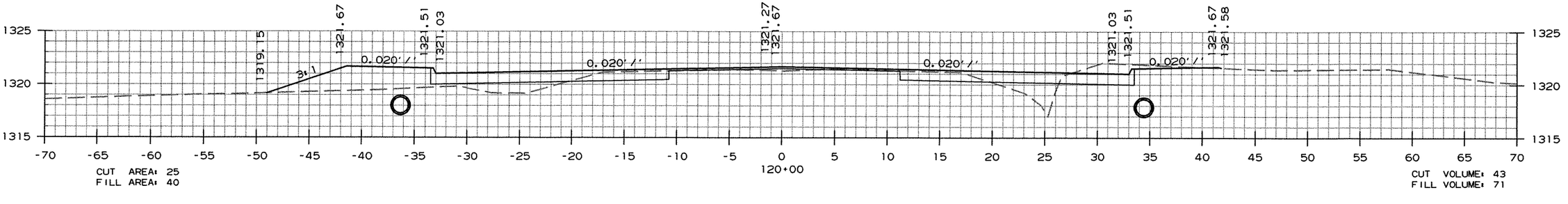
STA. 120+50
TOP 1320.45
FL 1316.48

STA. 120+50 CONSTRUCT
DROP INLET ON RT. H = 4'-0"
WITH 8' EXTENSION AND 18" X 346'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 346 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 346 LIN. FT.



CUT AREA: 25
FILL AREA: 28

CUT VOLUME: 47
FILL VOLUME: 63



CUT AREA: 25
FILL AREA: 40

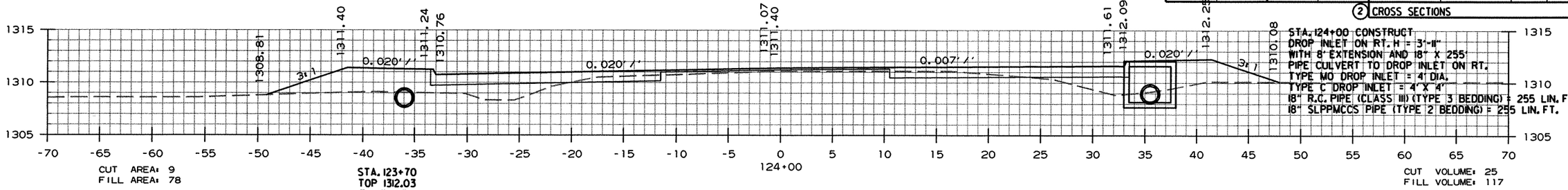
CUT VOLUME: 43
FILL VOLUME: 71

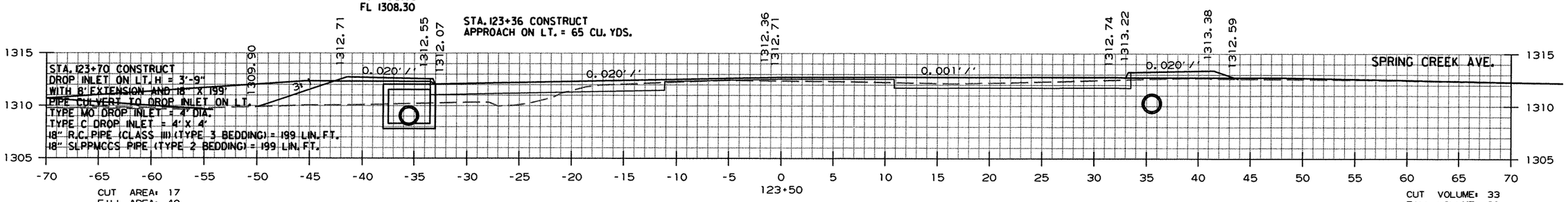
CROSS SECTION STA. 120+00 TO STA. 121+50

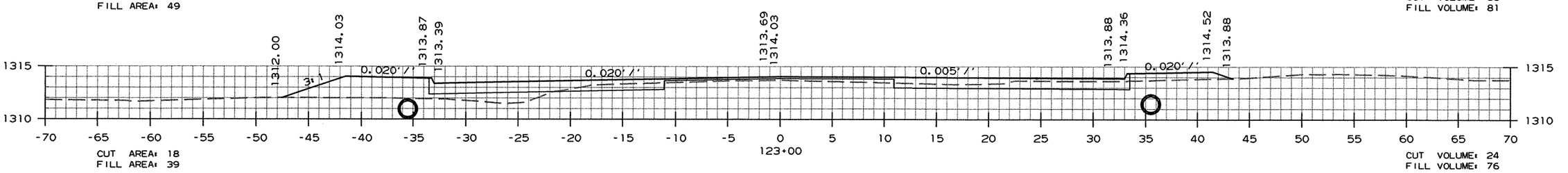
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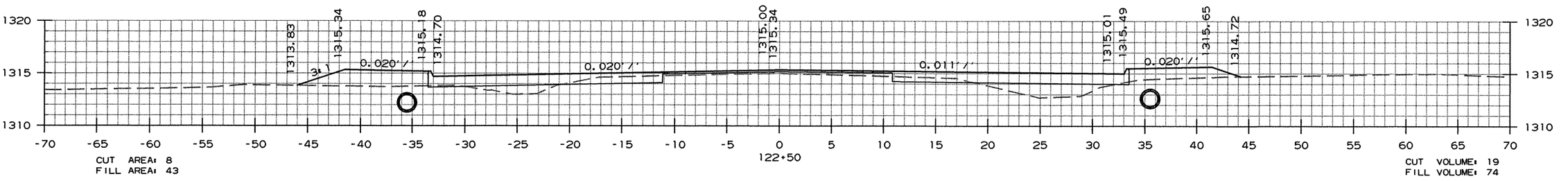
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	127	148

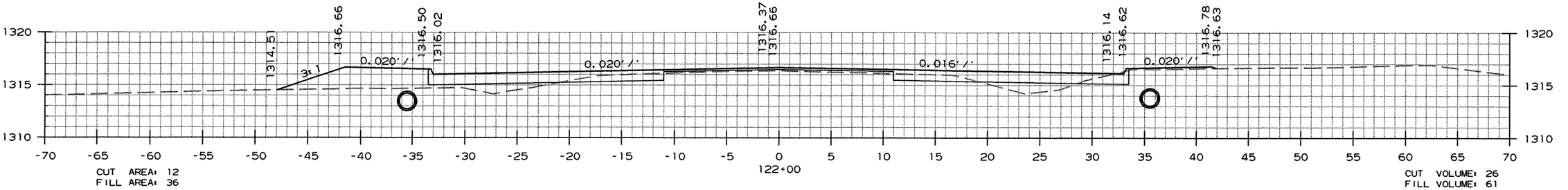
(2) CROSS SECTIONS











CROSS SECTION STA. 122+00 TO STA. 124+00

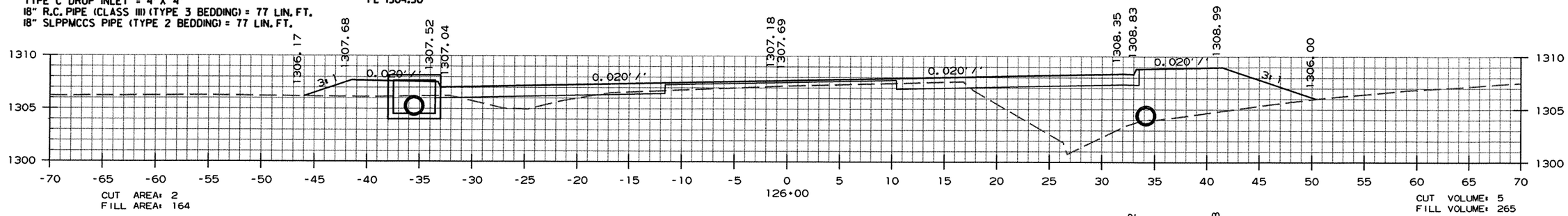
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				6	ARK.			
				JOB NO.		040490	128	148

(2) CROSS SECTIONS

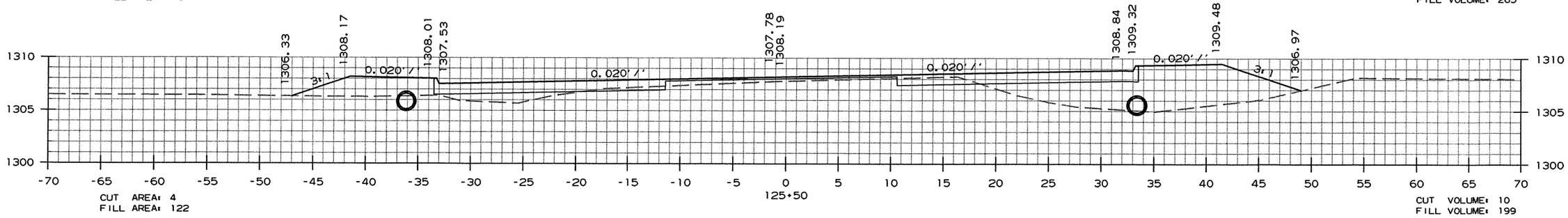
STA. 125+75 CONSTRUCT
DROP INLET ON LT. H = 3'-8"
WITH 8' EXTENSION AND 18" X 77'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 77 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 77 LIN. FT.

STA. 125+75
TOP 1308.16
FL 1304.50



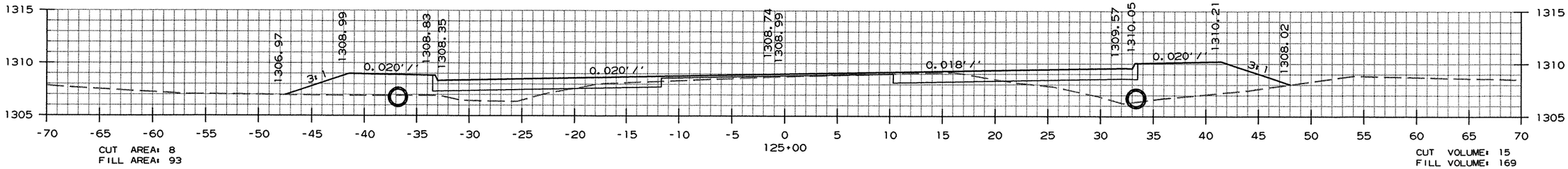
CUT AREA: 2
FILL AREA: 164

CUT VOLUME: 5
FILL VOLUME: 265



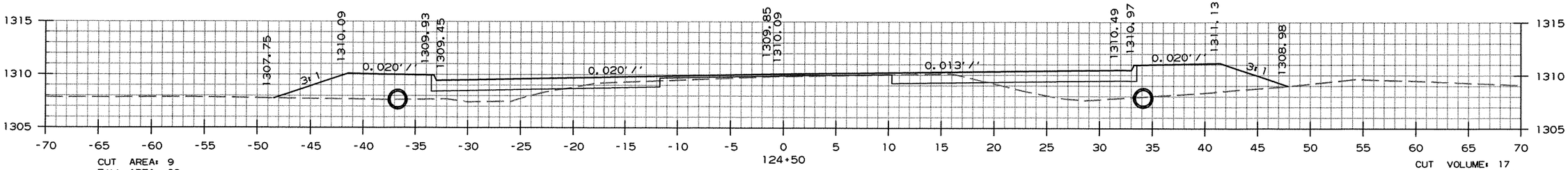
CUT AREA: 4
FILL AREA: 122

CUT VOLUME: 10
FILL VOLUME: 199



CUT AREA: 8
FILL AREA: 93

CUT VOLUME: 15
FILL VOLUME: 169



CUT AREA: 9
FILL AREA: 89

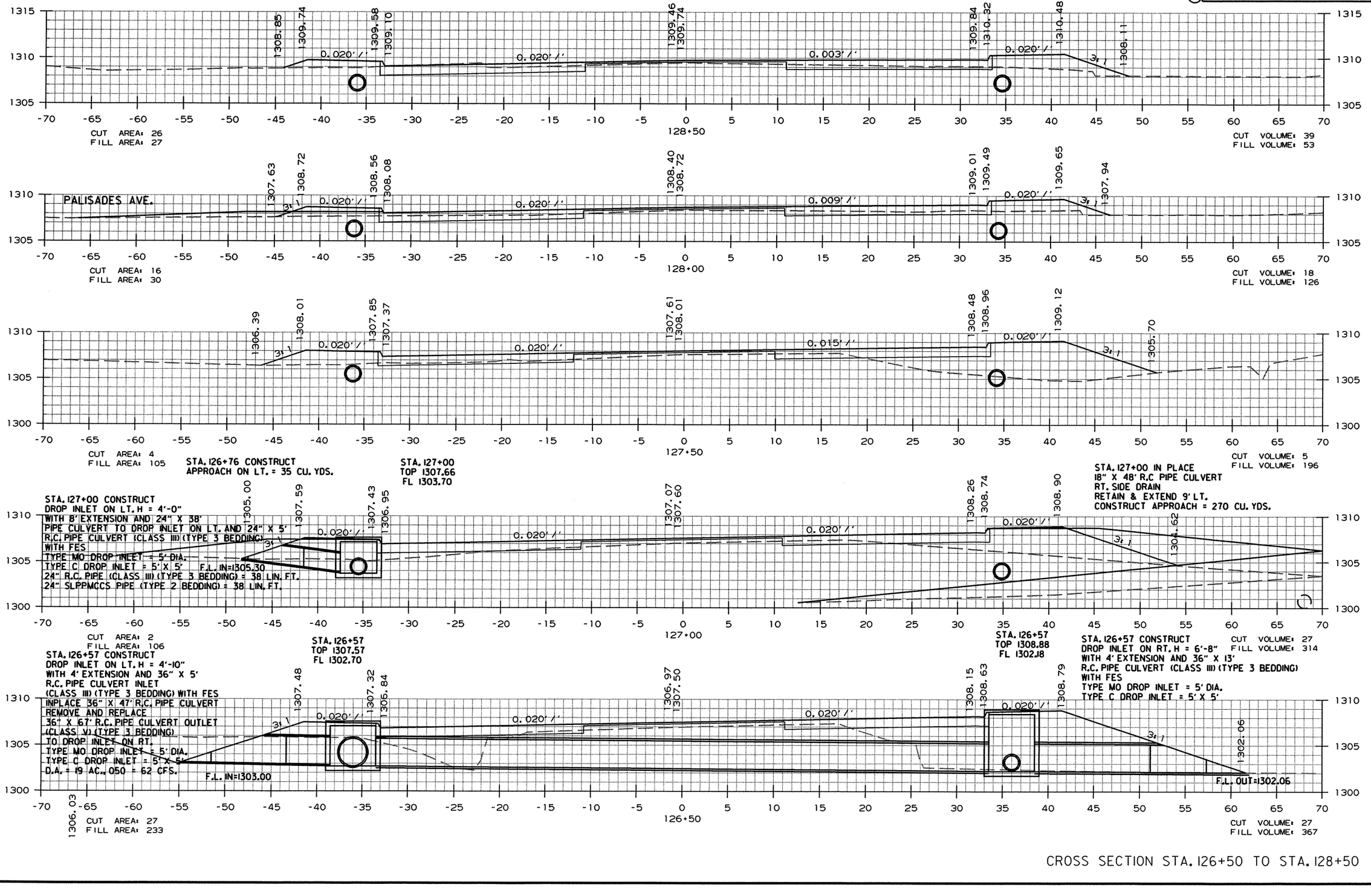
CUT VOLUME: 17
FILL VOLUME: 155

CROSS SECTION STA. 124+50 TO STA. 126+00

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				6	ARK.			
				JOB NO.		040490	129	148

(2) CROSS SECTIONS

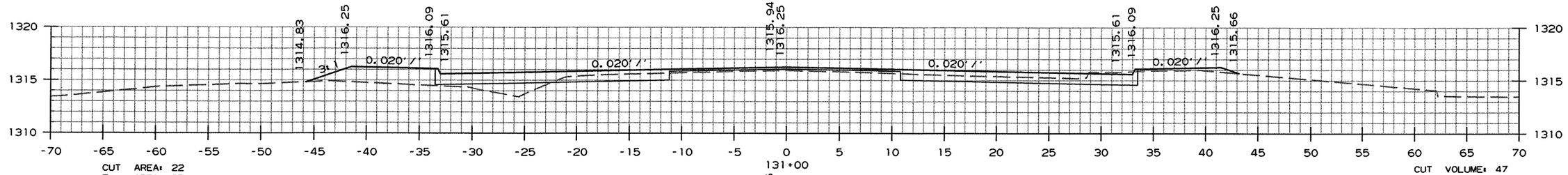


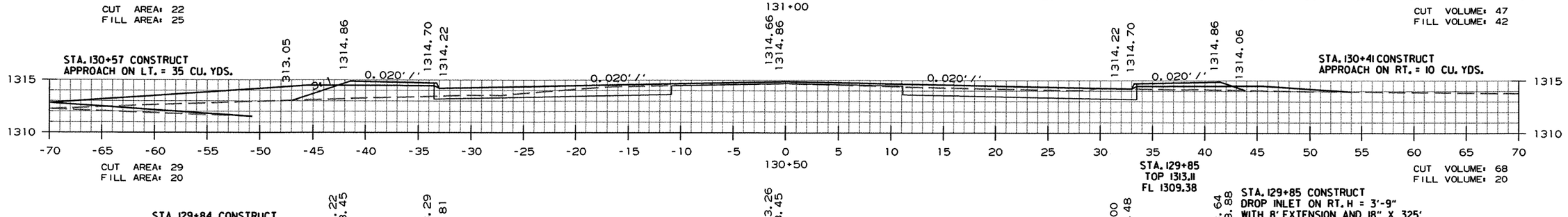
CROSS SECTION STA. 126+50 TO STA. 128+50

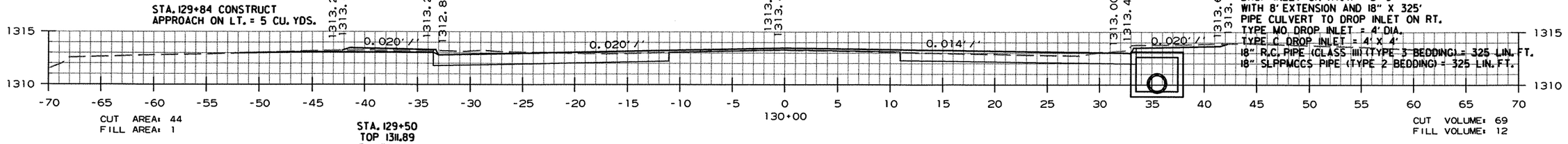
R040490.DGN 6/27/2012

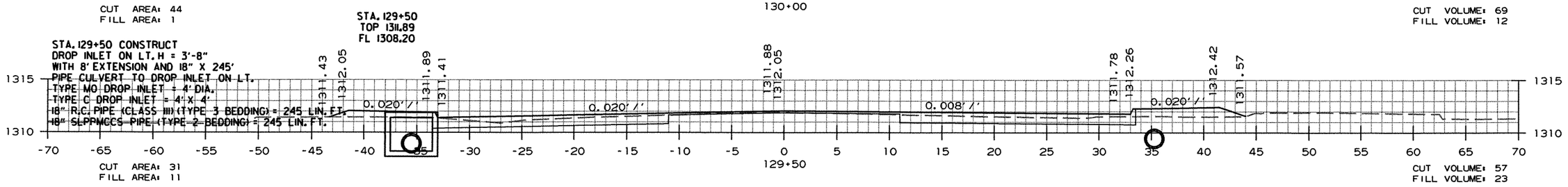
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	130	148

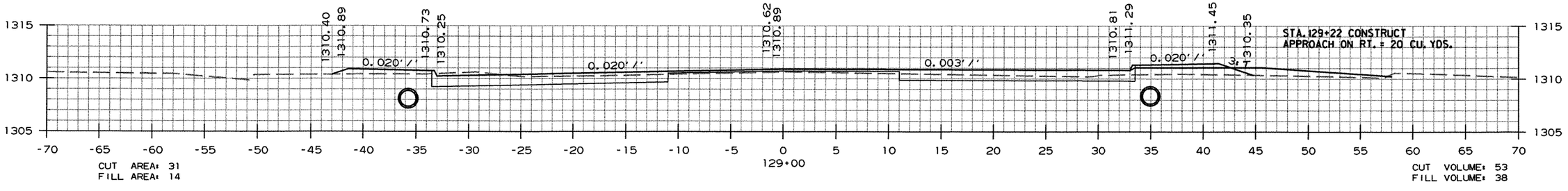
(2) CROSS SECTIONS









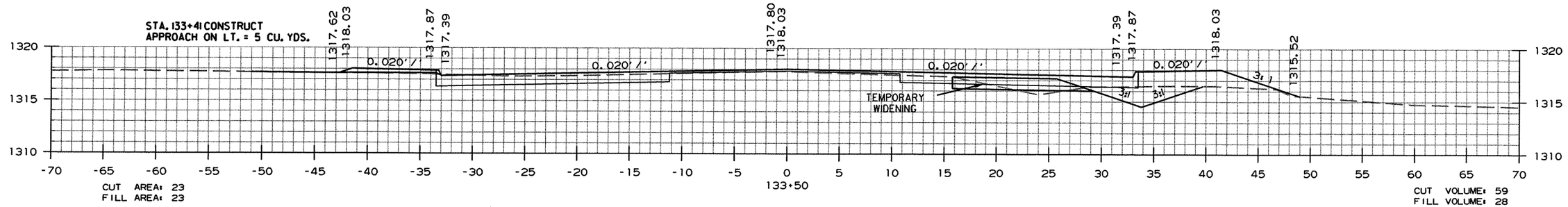


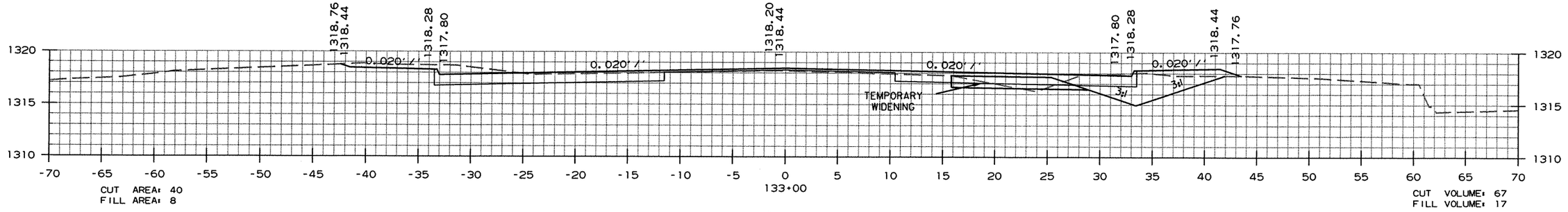
CROSS SECTION STA. 129+00 TO STA. 131+00

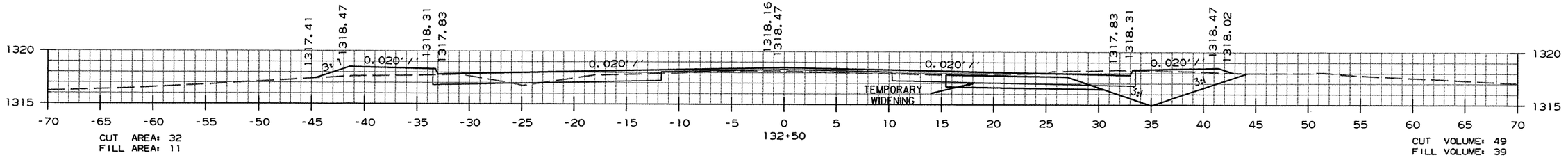
R040490.DGN 6/27/2012

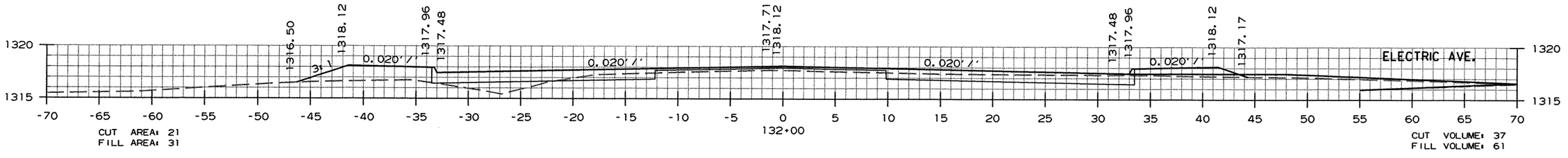
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	131	148

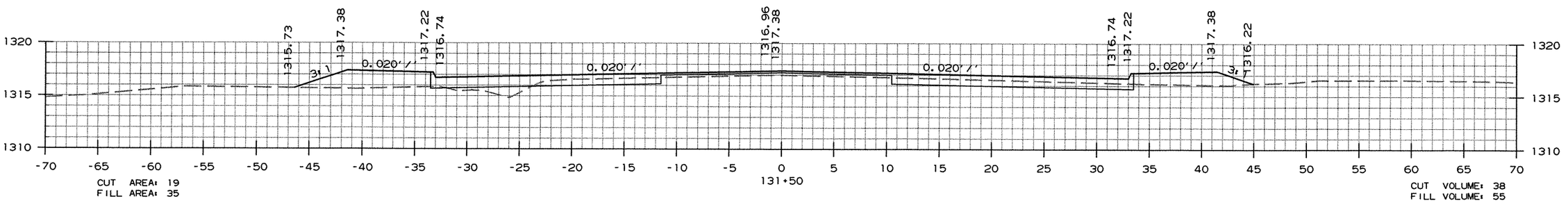
(2) CROSS SECTIONS









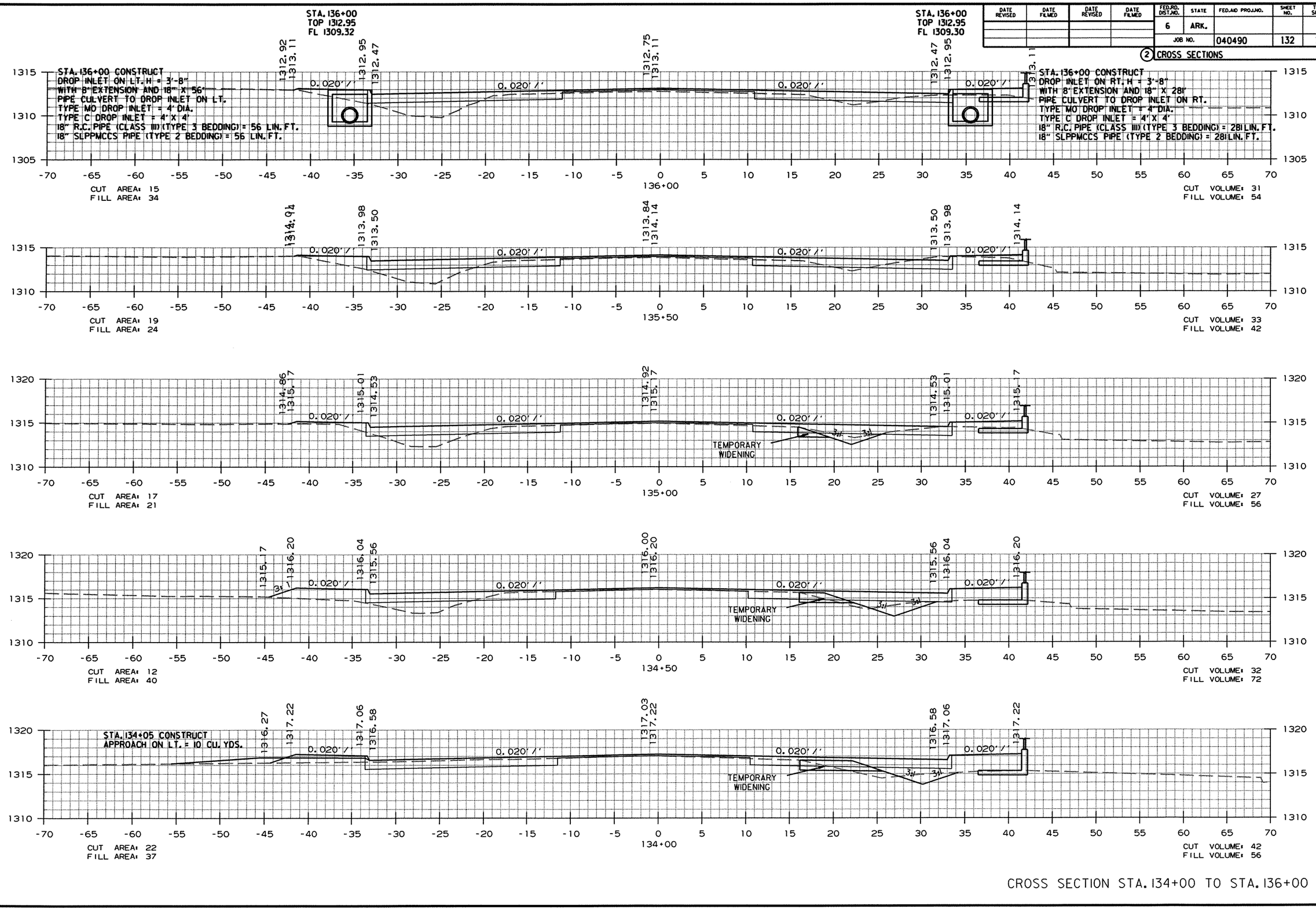


CROSS SECTION STA. 131+50 TO STA. 133+50

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	132	148

(2) CROSS SECTIONS

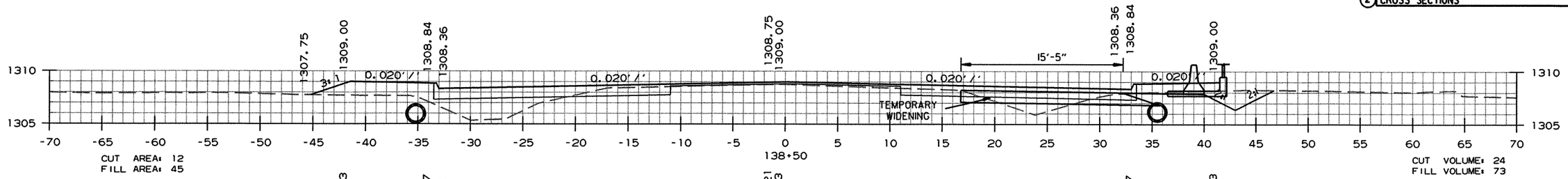


CROSS SECTION STA. 134+00 TO STA. 136+00

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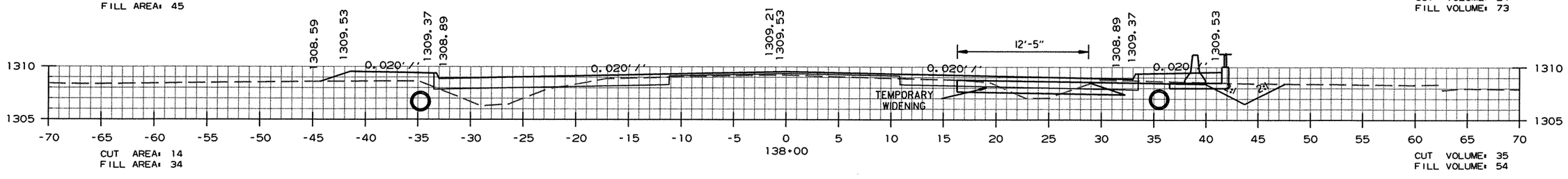
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	133	148

(2) CROSS SECTIONS



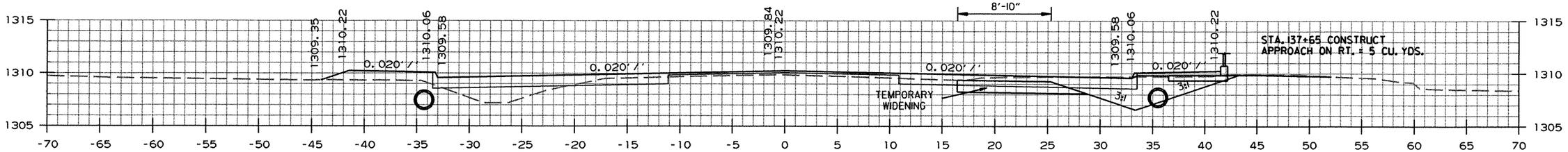
CUT AREA: 12
FILL AREA: 45

CUT VOLUME: 24
FILL VOLUME: 73



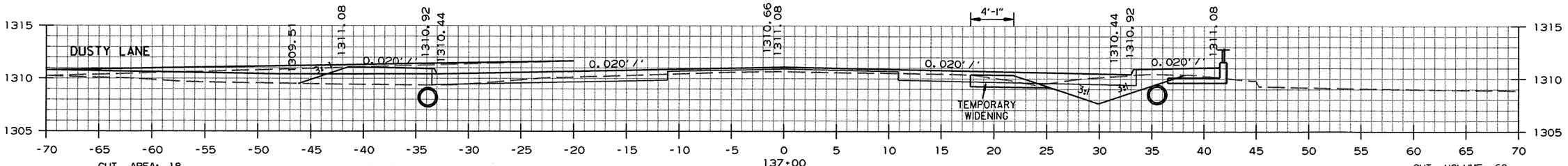
CUT AREA: 14
FILL AREA: 34

CUT VOLUME: 35
FILL VOLUME: 54



CUT AREA: 23
FILL AREA: 25

CUT VOLUME: 38
FILL VOLUME: 48

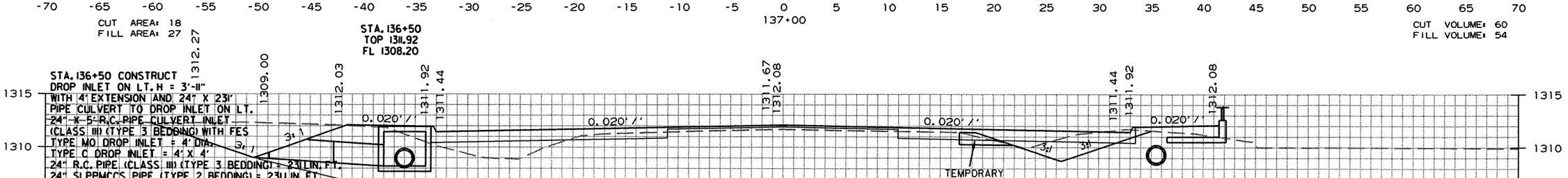


CUT AREA: 18
FILL AREA: 27

CUT VOLUME: 60
FILL VOLUME: 54

STA. 136+50
TOP 1311.92
FL 1308.20

STA. 136+50 CONSTRUCT
DROP INLET ON LT. H = 3'-11"
WITH 4' EXTENSION AND 24" X 23'
PIPE CULVERT TO DROP INLET ON LT.
24" X 5' R.C. PIPE CULVERT INLET
(CLASS III) (TYPE 3 BEDDING) WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 23 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 23 LIN. FT.



CUT AREA: 47
FILL AREA: 32

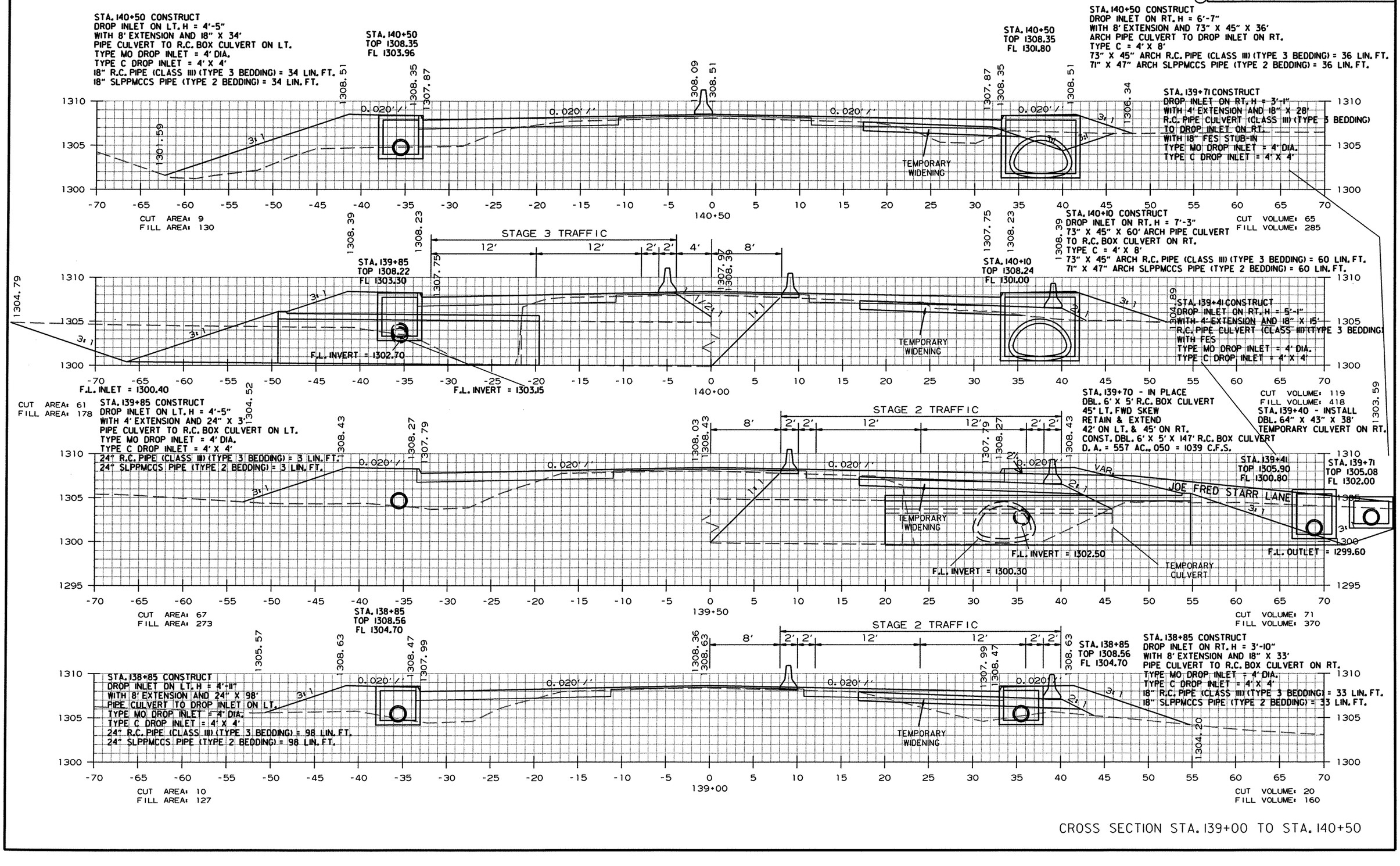
CUT VOLUME: 57
FILL VOLUME: 60

CROSS SECTION STA. 136+50 TO STA. 138+50

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				6	ARK.			
				JOB NO.		040490	134	148

(2) CROSS SECTIONS

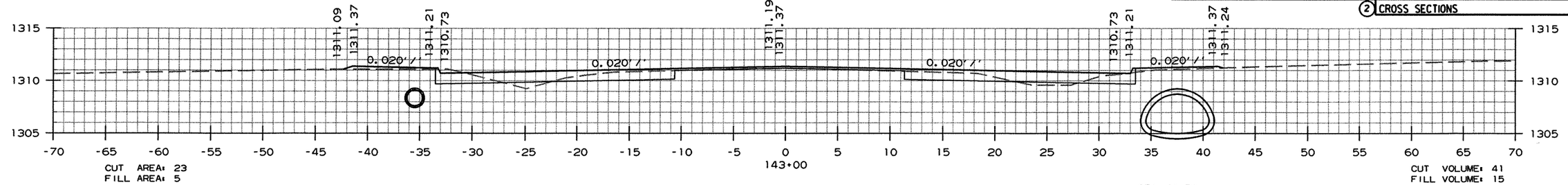


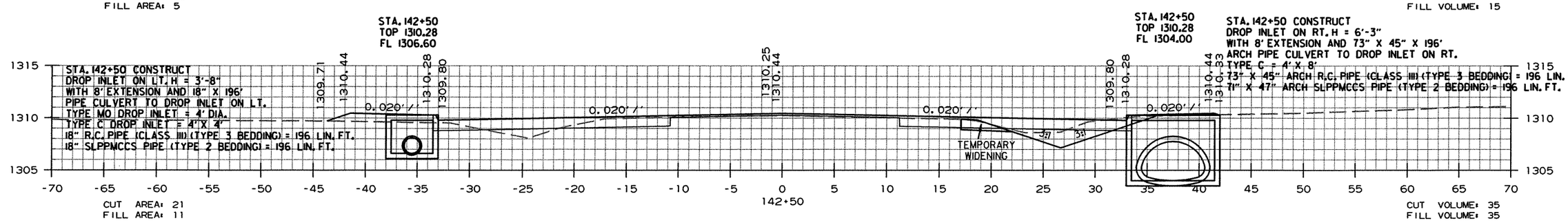
CROSS SECTION STA. 139+00 TO STA. 140+50

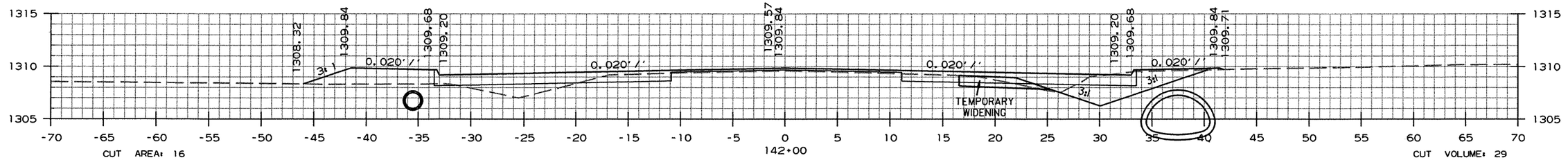
R040490.DGN 6/27/2012

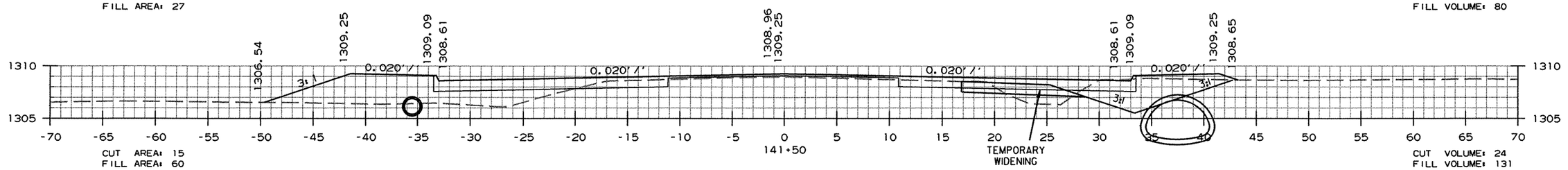
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	135	148

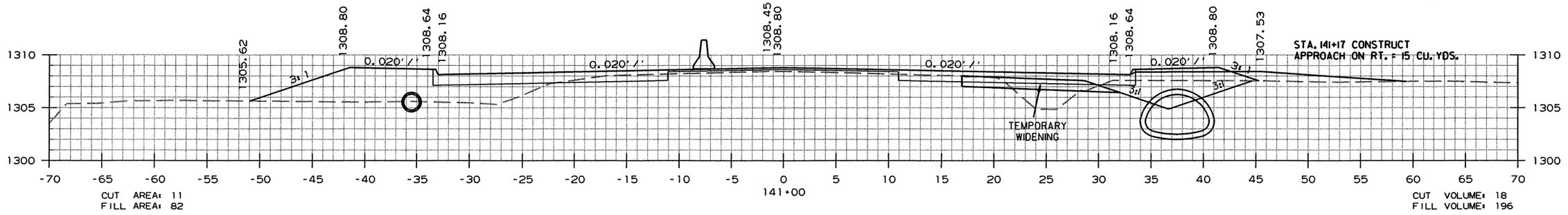
(2) CROSS SECTIONS









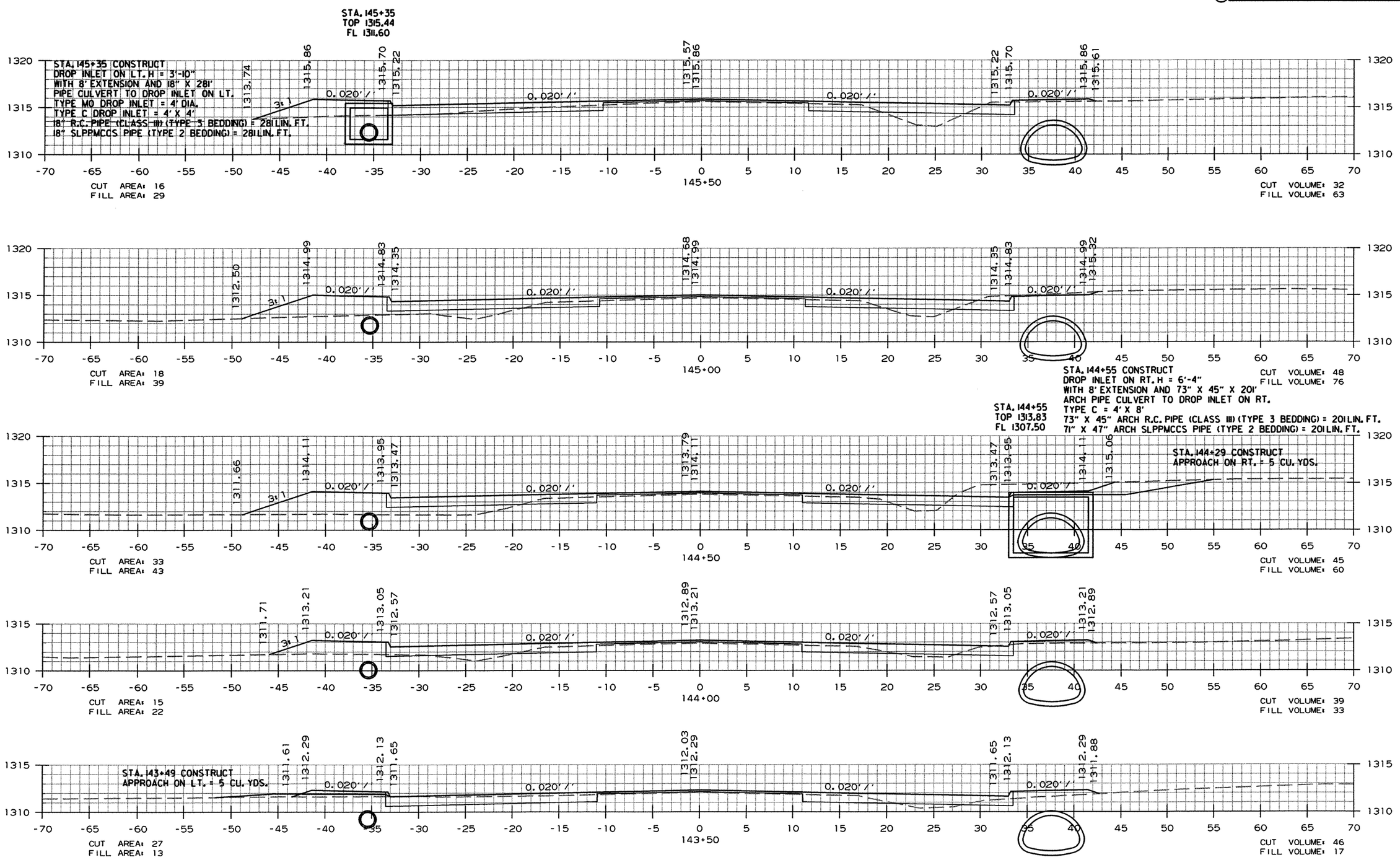


CROSS SECTION STA. 141+00 TO STA. 143+00

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				6	ARK.			
				JOB NO.		040490	136	148

(2) CROSS SECTIONS

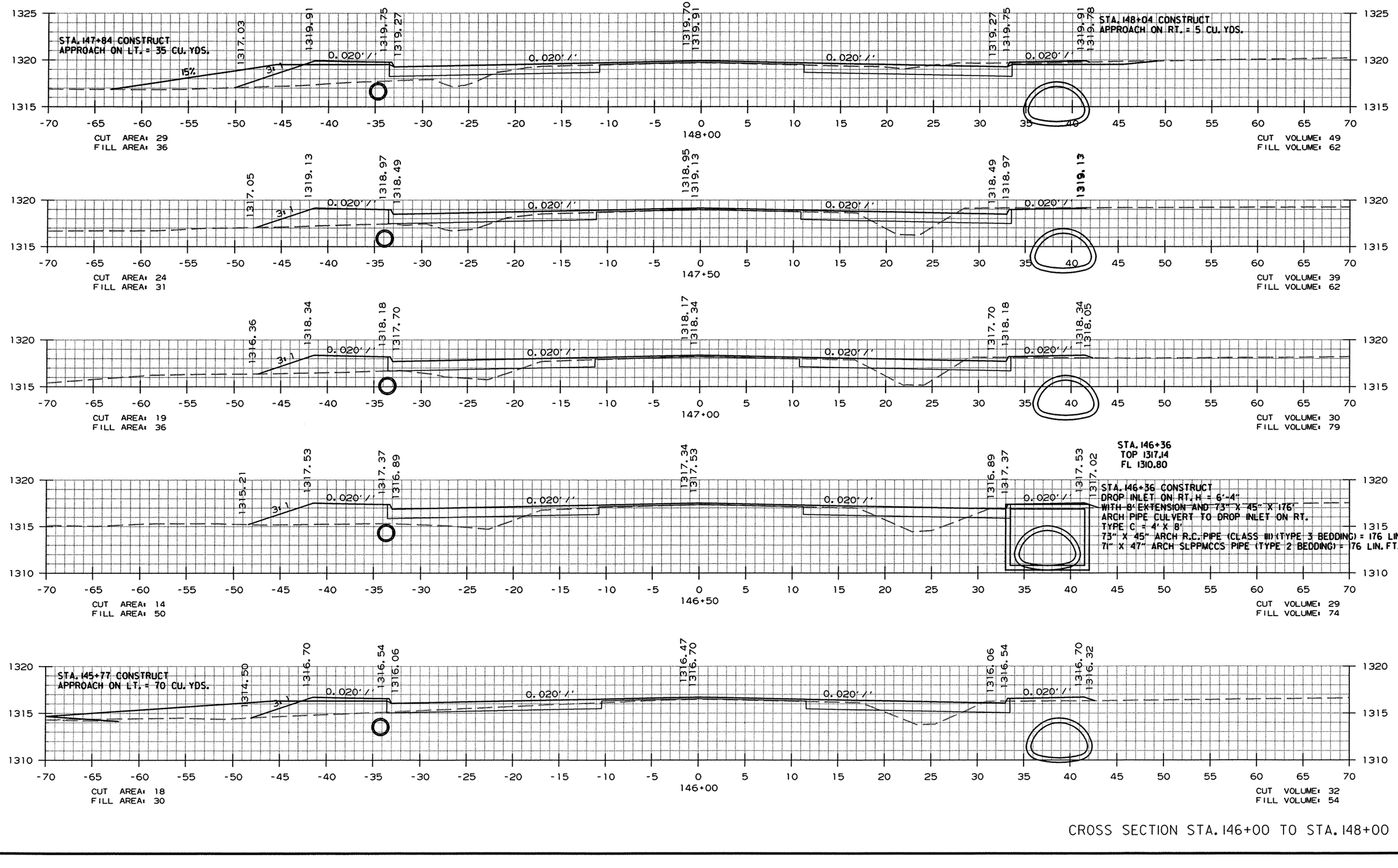


CROSS SECTION STA. 143+50 TO STA. 145+50

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				6	ARK.			
				JOB NO.		040490	137	148

(2) CROSS SECTIONS

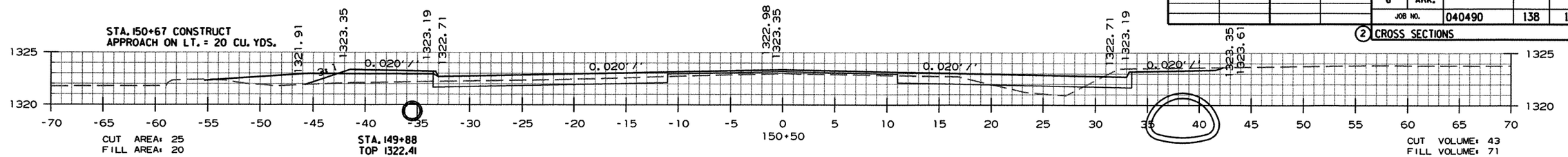


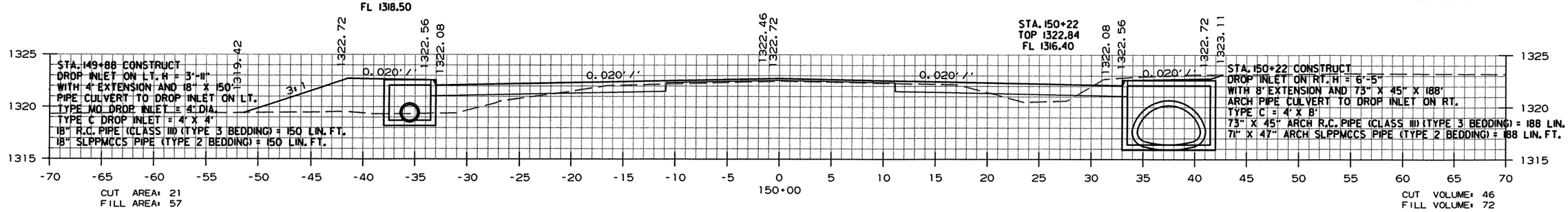
CROSS SECTION STA. 146+00 TO STA. 148+00

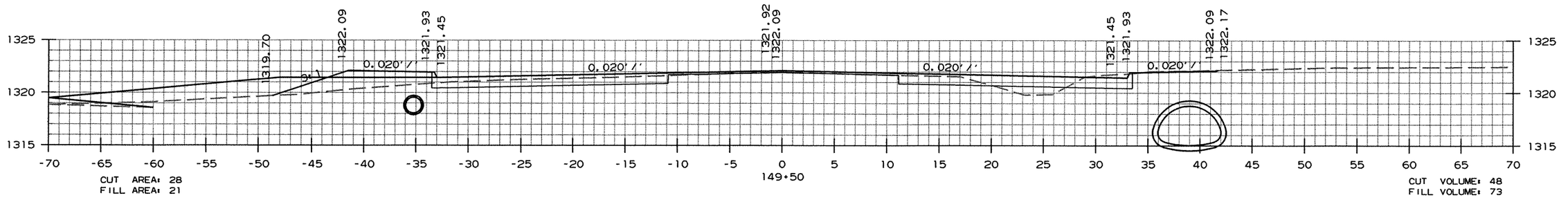
R040490.DGN 6/27/2012

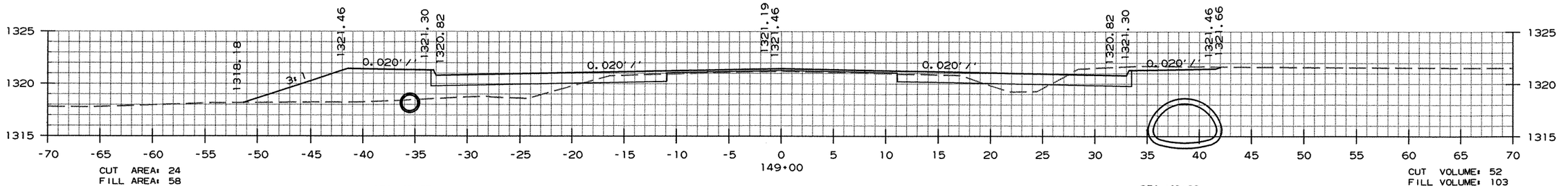
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	138	148

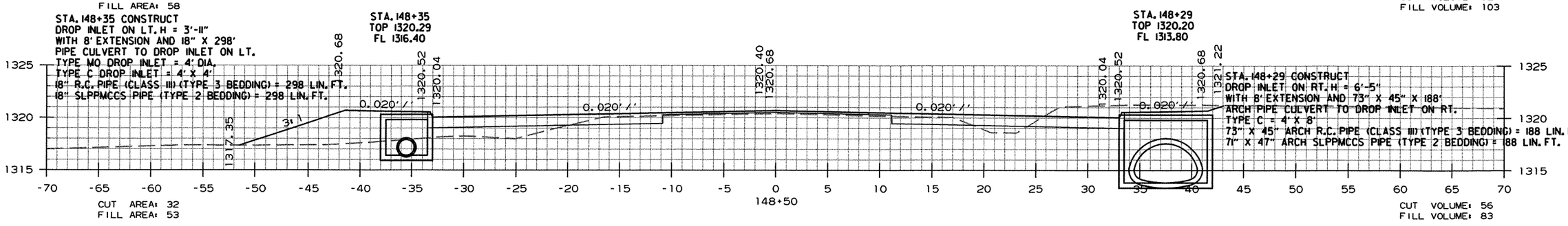
(2) CROSS SECTIONS









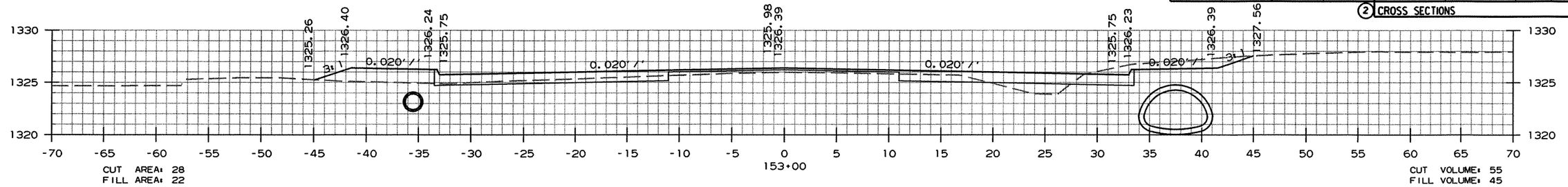


CROSS SECTION STA. 148+50 TO STA. 150+50

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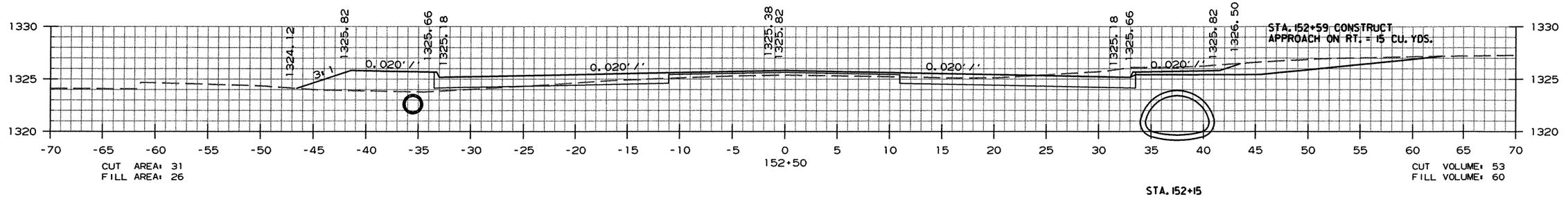
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	139	148

(2) CROSS SECTIONS



CUT AREA: 28
FILL AREA: 22

CUT VOLUME: 55
FILL VOLUME: 45

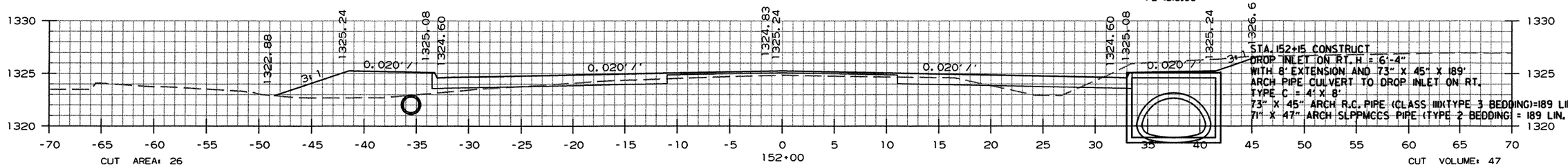


STA. 152+59 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

CUT AREA: 31
FILL AREA: 26

CUT VOLUME: 53
FILL VOLUME: 60

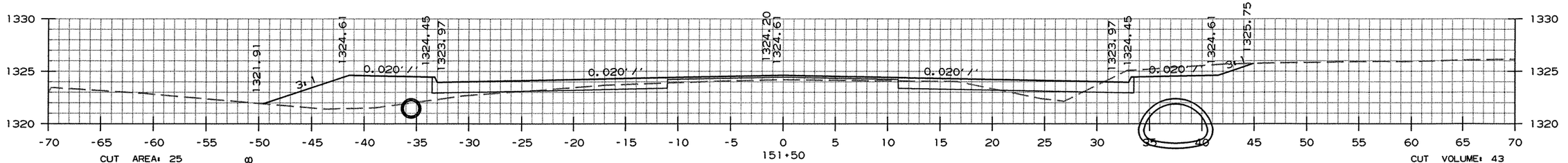
STA. 152+15
TOP 1325.25
FL 1318.90



STA. 152+15 CONSTRUCT
DROP INLET ON RT. H = 6'-4"
WITH 8' EXTENSION AND 73" X 45" X 189'
ARCH PIPE CULVERT TO DROP INLET ON RT.
TYPE C = 4' X 8'
73" X 45" ARCH R.C. PIPE (CLASS III)(TYPE 3 BEDDING)=189 LIN. FT.
71" X 47" ARCH SLPPMCCS PIPE (TYPE 2 BEDDING) = 189 LIN. FT.

CUT AREA: 26
FILL AREA: 39

CUT VOLUME: 47
FILL VOLUME: 78

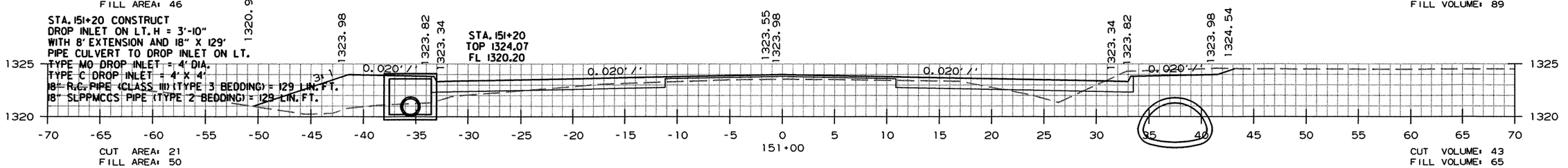


CUT AREA: 25
FILL AREA: 46

CUT VOLUME: 43
FILL VOLUME: 89

STA. 151+20 CONSTRUCT
DROP INLET ON LT. H = 3'-10"
WITH 8' EXTENSION AND 18" X 129'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 129 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 129 LIN. FT.

STA. 151+20
TOP 1324.07
FL 1320.20



CUT AREA: 21
FILL AREA: 50

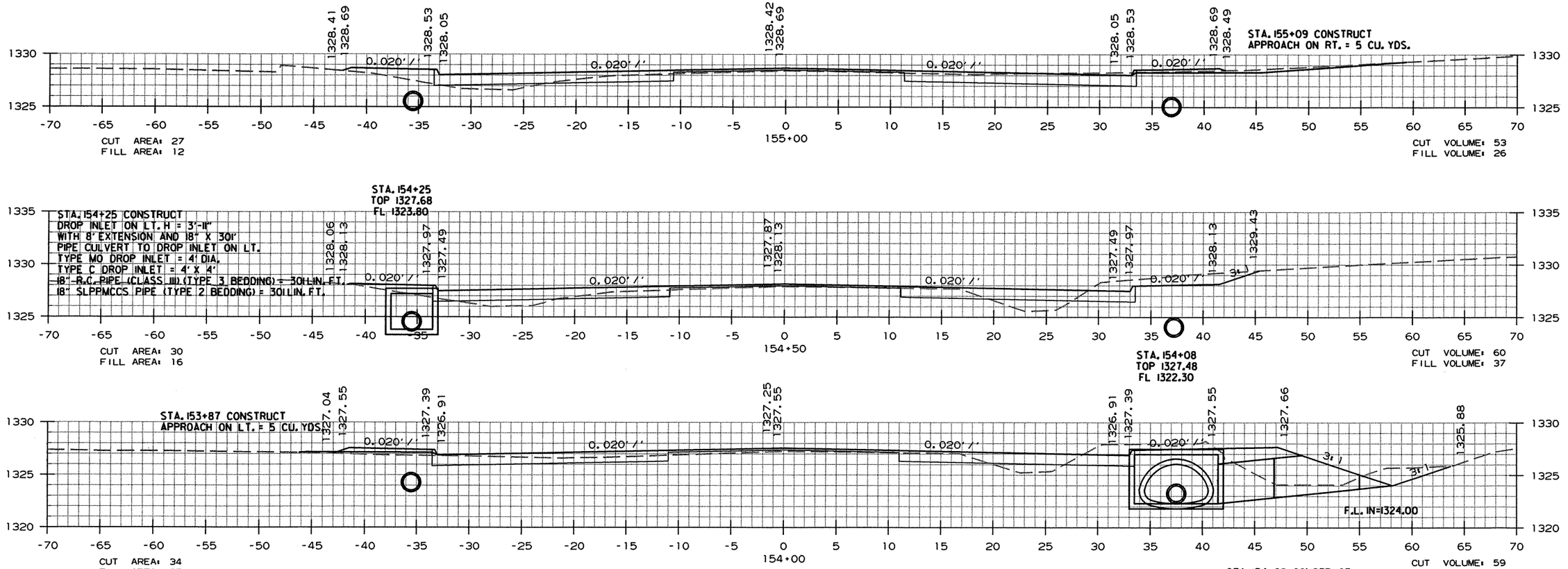
CUT VOLUME: 43
FILL VOLUME: 65

CROSS SECTION STA. 151+00 TO STA. 153+00

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				JOB NO.		040490	140	148

(2) CROSS SECTIONS

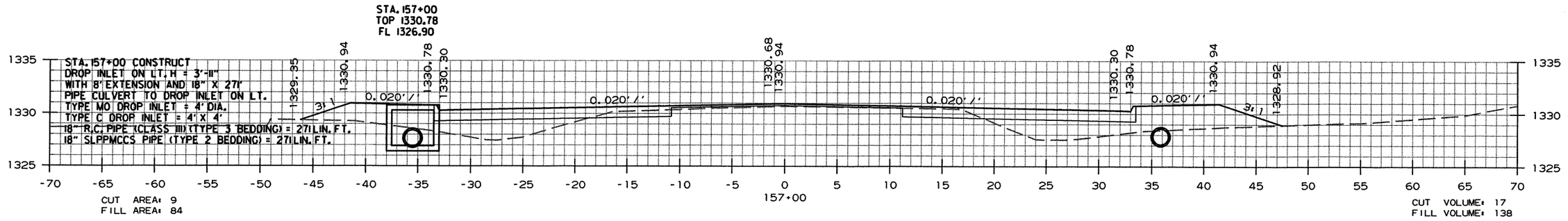


CROSS SECTION STA. 153+50 TO STA. 155+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	141	148

(2) CROSS SECTIONS



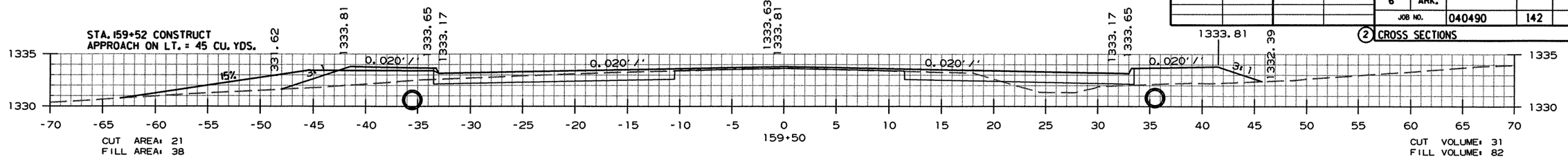
CROSS SECTION STA. 155+50 TO STA. 157+00

R040490.DGN 6/27/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	142	148

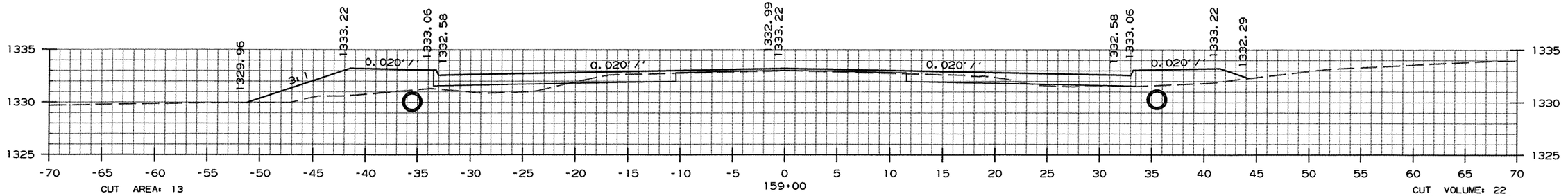
(2) CROSS SECTIONS

STA. 159+52 CONSTRUCT
APPROACH ON LT. = 45 CU. YDS.



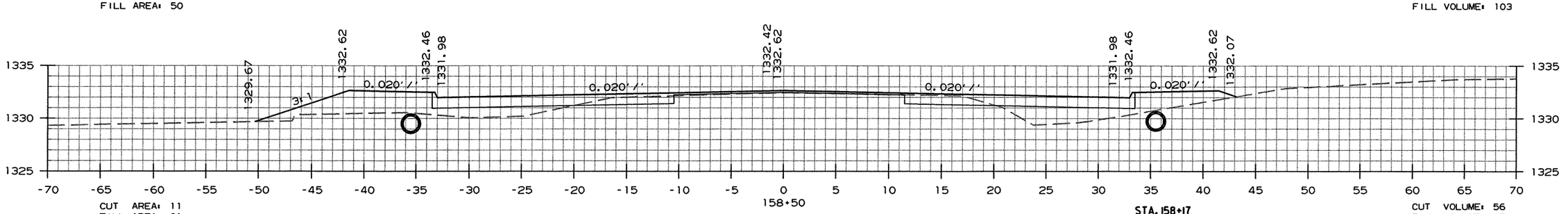
CUT AREA: 21
FILL AREA: 38

CUT VOLUME: 31
FILL VOLUME: 82



CUT AREA: 13
FILL AREA: 50

CUT VOLUME: 22
FILL VOLUME: 103



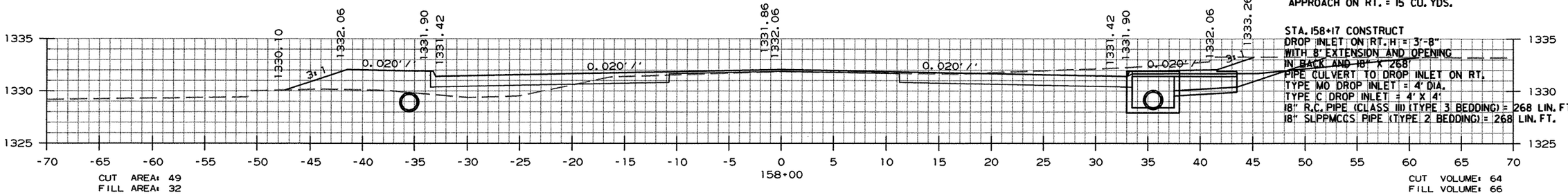
CUT AREA: 11
FILL AREA: 61

CUT VOLUME: 56
FILL VOLUME: 87

STA. 158+17
TOP 1332.09
FL 1328.40

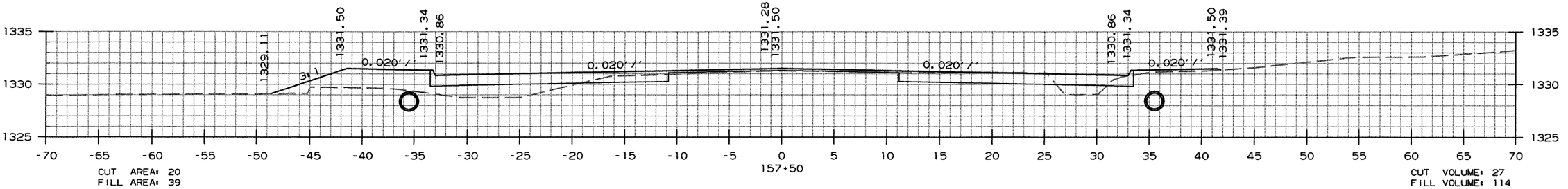
STA. 157+82 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 158+17 CONSTRUCT
DROP INLET ON RT. H = 3'-8"
WITH 8' EXTENSION AND OPENING
IN BACK AND 18" X 268'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 268 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 268 LIN. FT.



CUT AREA: 49
FILL AREA: 32

CUT VOLUME: 64
FILL VOLUME: 66



CUT AREA: 20
FILL AREA: 39

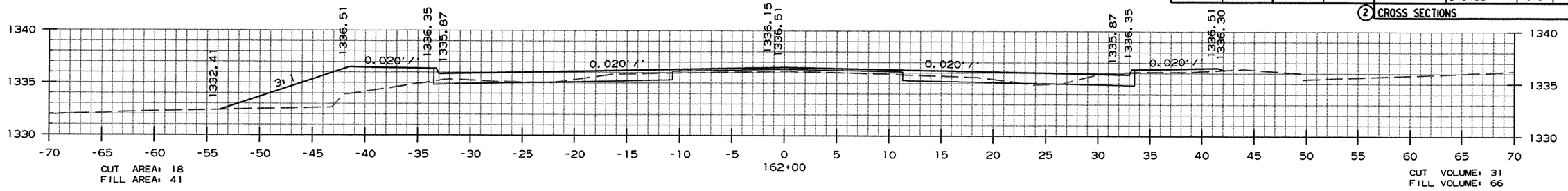
CUT VOLUME: 27
FILL VOLUME: 114

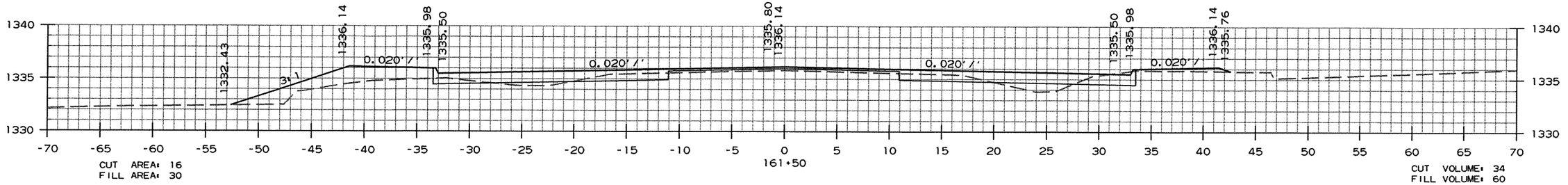
CROSS SECTION STA. 157+50 TO STA. 159+50

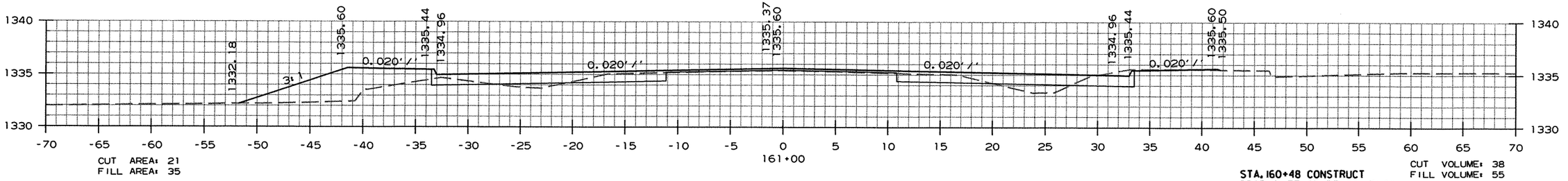
R040490.DGN 6/27/2012

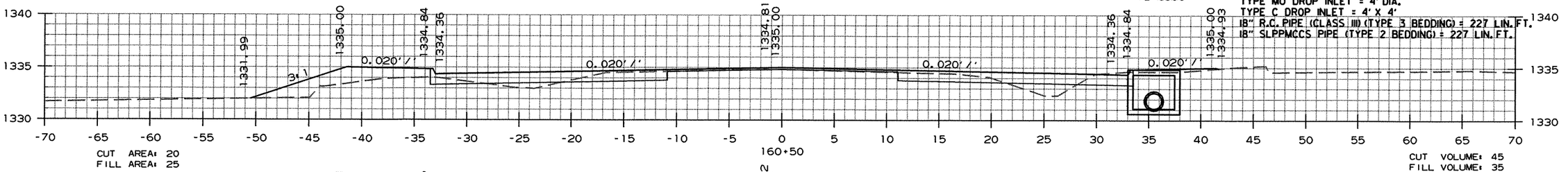
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	143	148

(2) CROSS SECTIONS



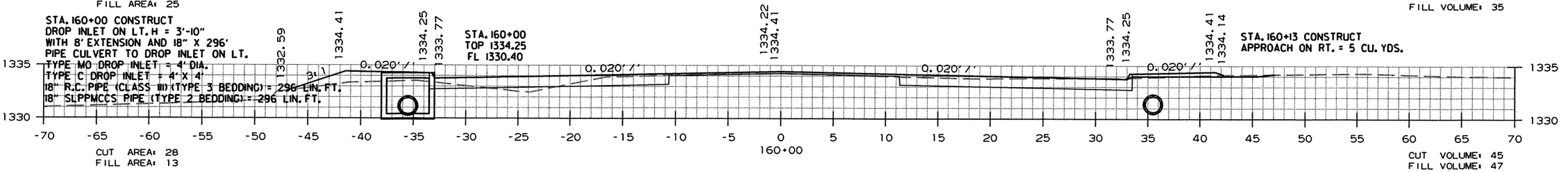






STA. 160+48
TOP 1334.82
FL 1331.10

STA. 160+48 CONSTRUCT
DROP INLET ON RT. H = 3'-9"
WITH 8' EXTENSION AND 18" X 227'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 227 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 227 LIN. FT.



STA. 160+00 CONSTRUCT
DROP INLET ON LT. H = 3'-10"
WITH 8' EXTENSION AND 18" X 296'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 296 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

STA. 160+00
TOP 1334.25
FL 1330.40

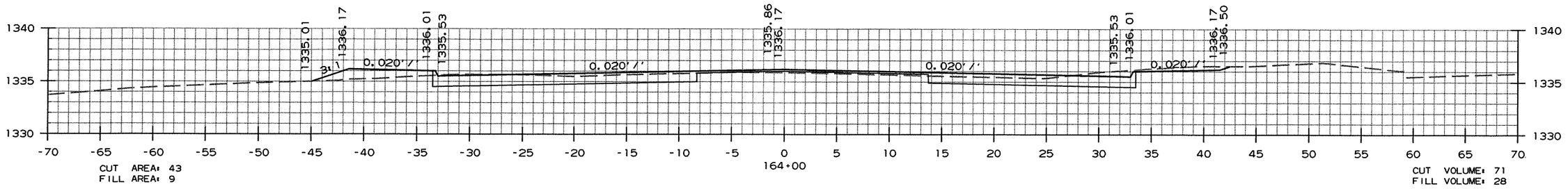
STA. 160+13 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

CROSS SECTION STA. 160+00 TO STA. 162+00

R040490.DGN 6/27/2012

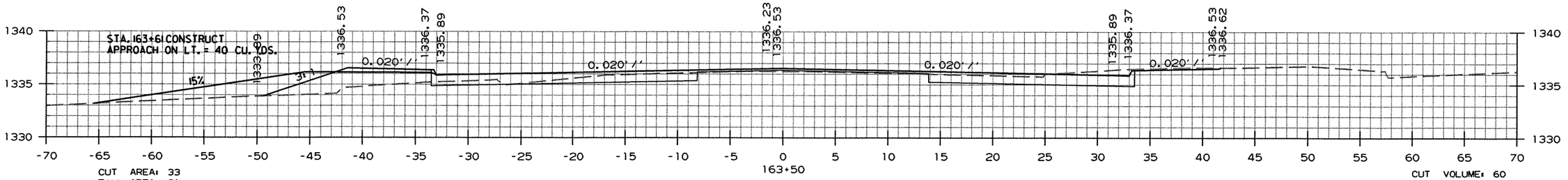
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	144	148

(2) CROSS SECTIONS



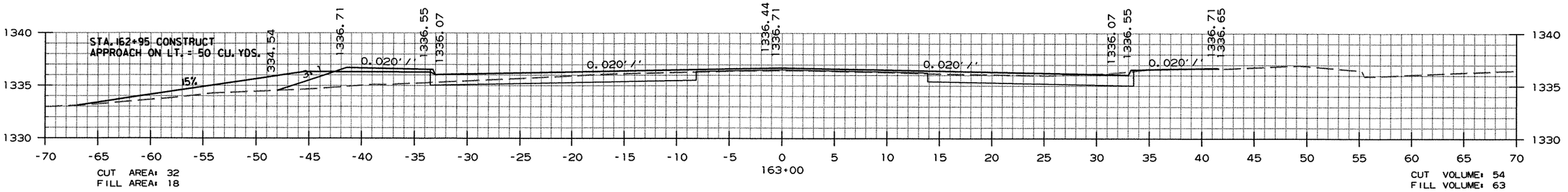
CUT AREA: 43
FILL AREA: 9

CUT VOLUME: 71
FILL VOLUME: 28



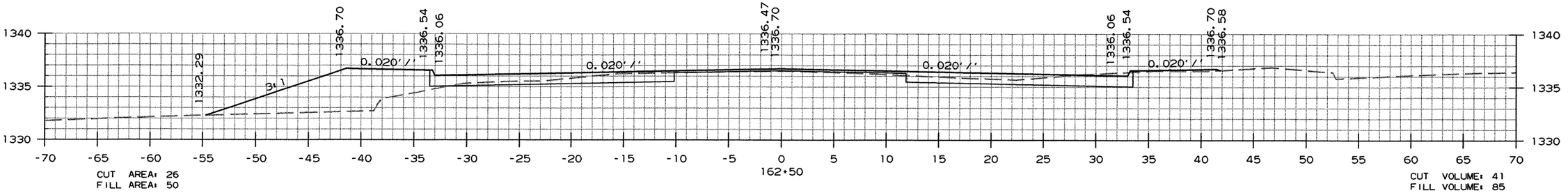
CUT AREA: 33
FILL AREA: 21

CUT VOLUME: 60
FILL VOLUME: 36



CUT AREA: 32
FILL AREA: 18

CUT VOLUME: 54
FILL VOLUME: 63



CUT AREA: 26
FILL AREA: 50

CUT VOLUME: 41
FILL VOLUME: 85

CROSS SECTION STA. 162+50 TO STA. 164+00

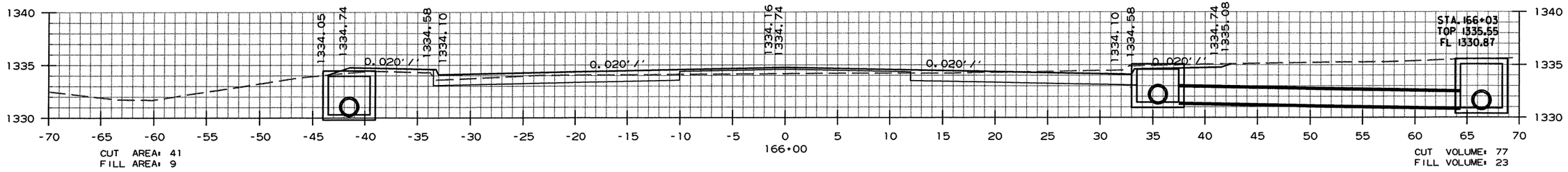
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(2) CROSS SECTIONS

STA. 165+93 CONSTRUCT
JUNCTION BOX ON LT. H = 4'-2"
WITH 18" X 45' PIPE CULVERT
TO DROP INLET ON LT.
TYPE E = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 45 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 45 LIN. FT.

STA. 165+93
TOP 1334.45
FL 1330.30



CUT AREA: 41
FILL AREA: 9

STA. 165+85 CONSTRUCT
JUNCTION BOX ON RT. H = 3'-8"
WITH 18" X 29' PIPE CULVERT
TO JUNCTION BOX ON RT.
TYPE E = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 29 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 29 LIN. FT.

STA. 165+85
TOP 1334.56
FL 1330.93

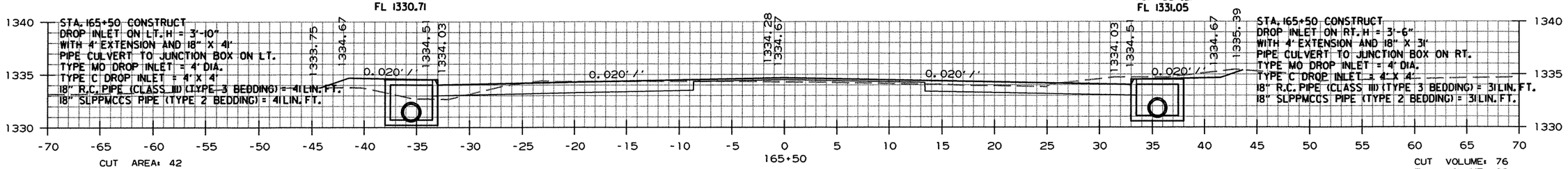
STA. 166+03 CONSTRUCT
JUNCTION BOX ON RT. H = 4'-8"
WITH 18" X 25' PIPE CULVERT
TO DROP INLET ON RT.
CONNECT TO EXIST. 12" X 13' CMP
TYPE E = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 25 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 25 LIN. FT.

STA. 166+03
TOP 1335.55
FL 1330.87

CUT VOLUME: 77
FILL VOLUME: 23

STA. 165+50 CONSTRUCT
DROP INLET ON LT. H = 3'-10"
WITH 4' EXTENSION AND 18" X 41'
PIPE CULVERT TO JUNCTION BOX ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 41 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 41 LIN. FT.

STA. 165+50
TOP 1334.51
FL 1330.71



CUT AREA: 42
FILL AREA: 16

STA. 165+50
TOP 1334.51
FL 1331.05

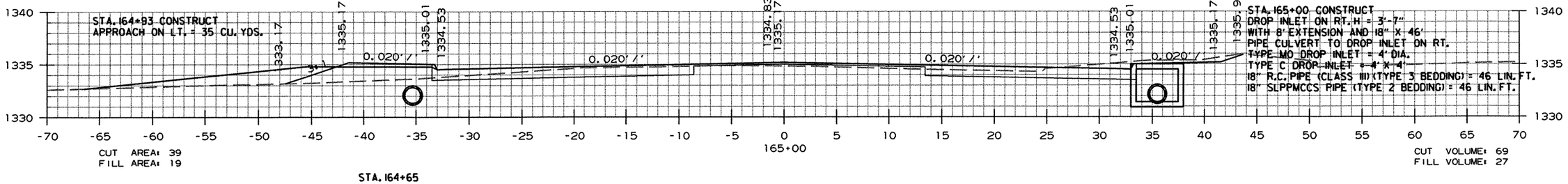
STA. 165+50 CONSTRUCT
DROP INLET ON RT. H = 3'-6"
WITH 4' EXTENSION AND 18" X 31'
PIPE CULVERT TO JUNCTION BOX ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 31 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 31 LIN. FT.

CUT VOLUME: 76
FILL VOLUME: 32

STA. 165+00
TOP 1335.01
FL 1331.40

STA. 164+93 CONSTRUCT
APPROACH ON LT. = 35 CU. YDS.

STA. 165+00 CONSTRUCT
DROP INLET ON RT. H = 3'-7"
WITH 8' EXTENSION AND 18" X 46'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 46 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 46 LIN. FT.

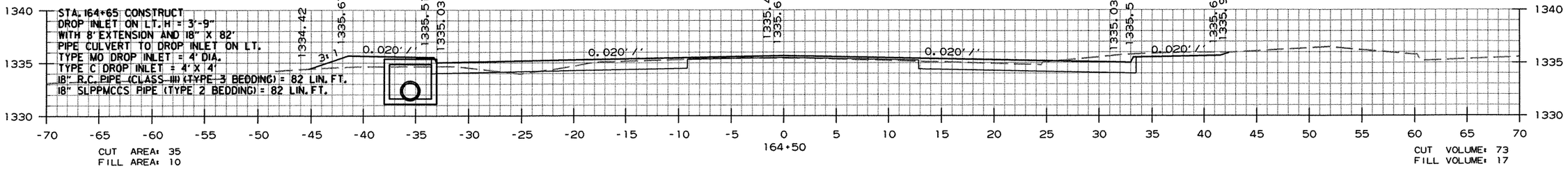


CUT AREA: 39
FILL AREA: 19

CUT VOLUME: 69
FILL VOLUME: 27

STA. 164+65
TOP 1335.36
FL 1331.61

STA. 164+65 CONSTRUCT
DROP INLET ON LT. H = 3'-9"
WITH 8' EXTENSION AND 18" X 82'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 82 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 82 LIN. FT.



CUT AREA: 35
FILL AREA: 10

CUT VOLUME: 73
FILL VOLUME: 17

CROSS SECTION STA. 164+50 TO STA. 166+00

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(2) CROSS SECTIONS

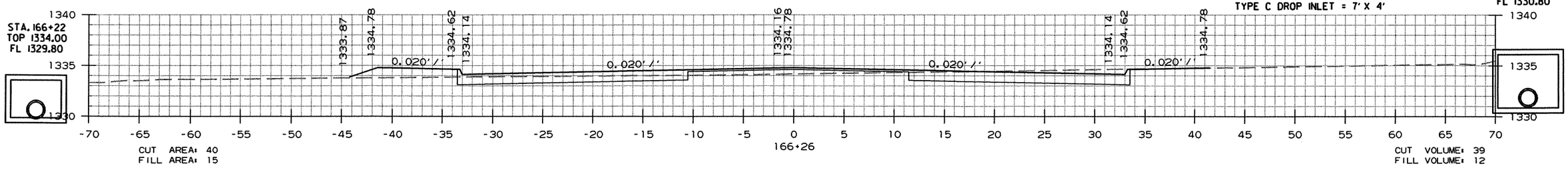
STA. 166+23 IN PLACE
DROP INLET ON LT.
RETAIN AND ADJUST JUNCTION BOX TO GRADE

STA. 166+22 CONSTRUCT
DROP INLET ON LT. H = 4'-2"
WITH 8' EXTENSION AND 18" X 7'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES AND 36" X 7'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
CONNECT TO JUNCTION BOX ON LT.
TYPE C DROP INLET = 7' X 4'

END JOB 040490 - STA. 166+26
HWY. 265

STA. 166+24 IN PLACE
DROP INLET ON RT.
RETAIN AND ADJUST JUNCTION BOX TO GRADE

STA. 166+24 CONSTRUCT
DROP INLET ON RT. H = 5'-9"
WITH 8' EXTENSION AND 36" X 13'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
CONNECT TO JUNCTION BOX ON RT.
TYPE C DROP INLET = 7' X 4'

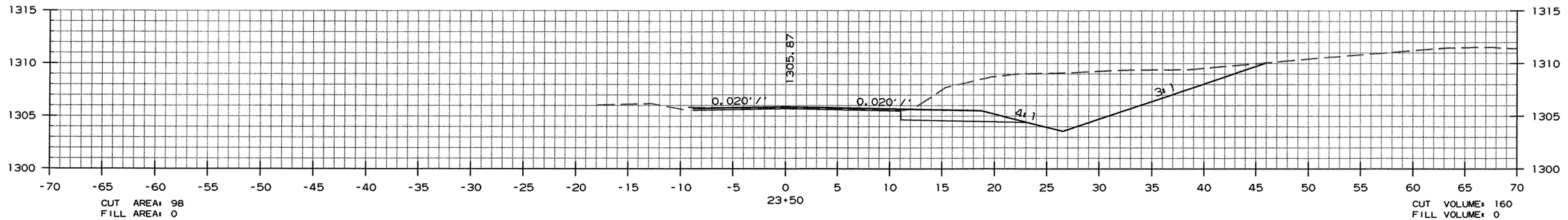


CROSS SECTION STA. 166+26 TO STA. 166+26

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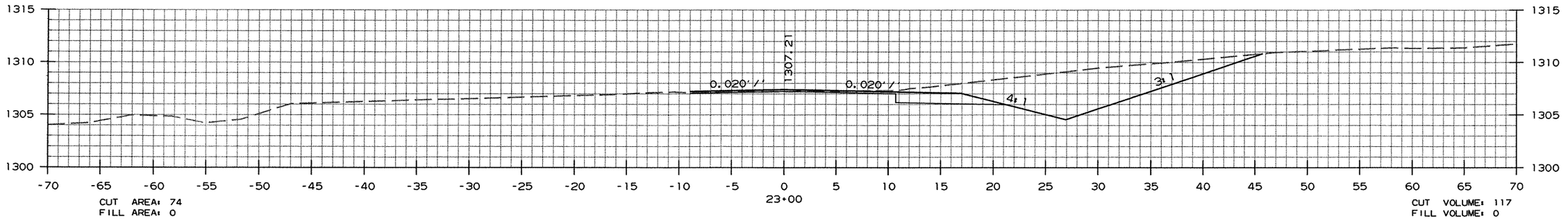
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	147	148

(2) CROSS SECTIONS



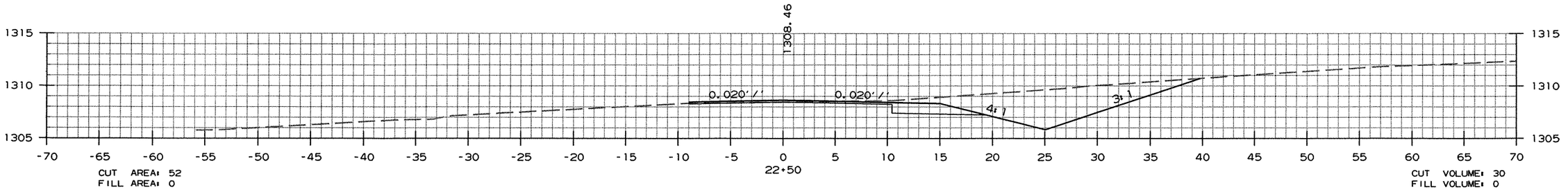
CUT AREA: 98
FILL AREA: 0

CUT VOLUME: 160
FILL VOLUME: 0



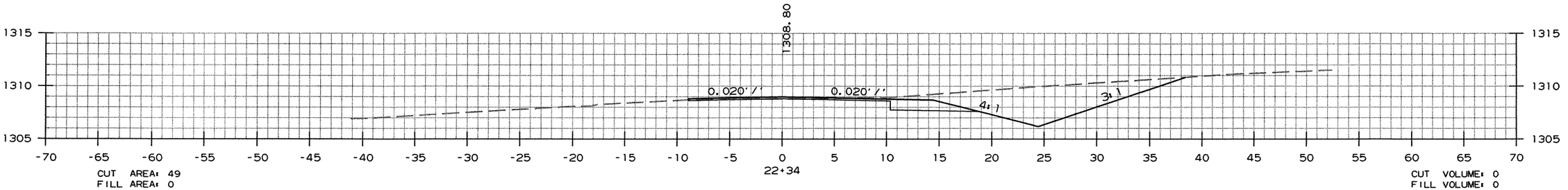
CUT AREA: 74
FILL AREA: 0

CUT VOLUME: 117
FILL VOLUME: 0



CUT AREA: 52
FILL AREA: 0

CUT VOLUME: 30
FILL VOLUME: 0



CUT AREA: 49
FILL AREA: 0

CUT VOLUME: 0
FILL VOLUME: 0

BEGIN IVEY LANE - STA. 22+34

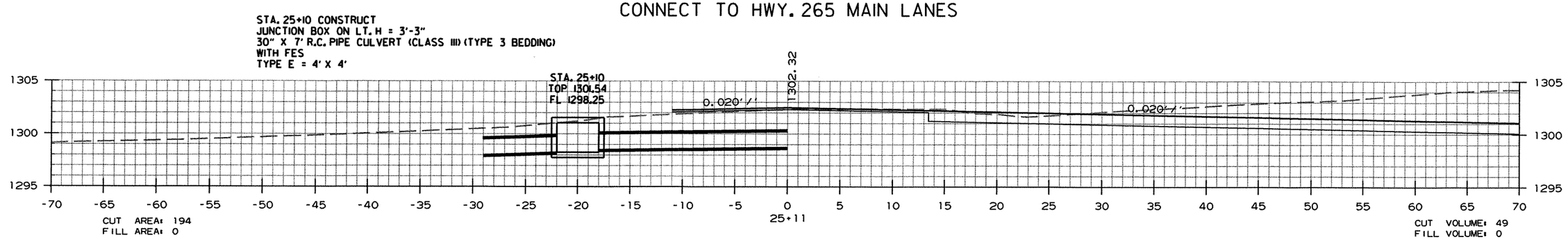
CROSS SECTION STA. 22+34 TO STA. 23+50

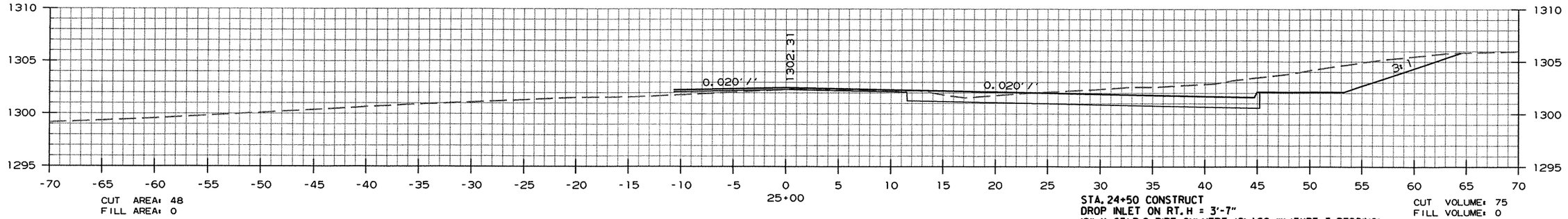
R040490.DGN 6/27/2012

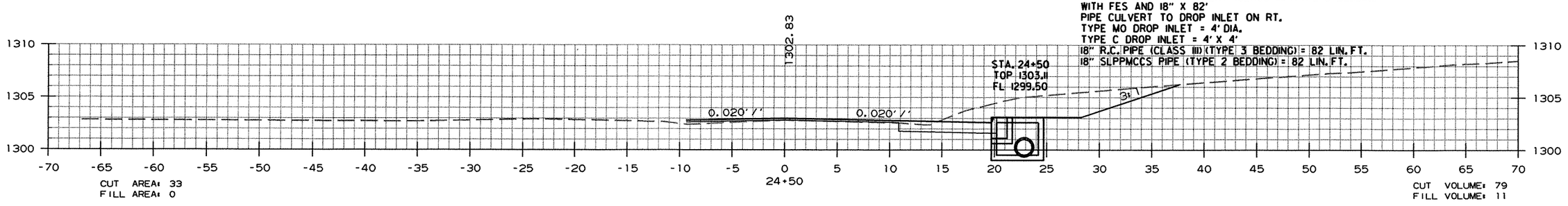
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040490	148	148

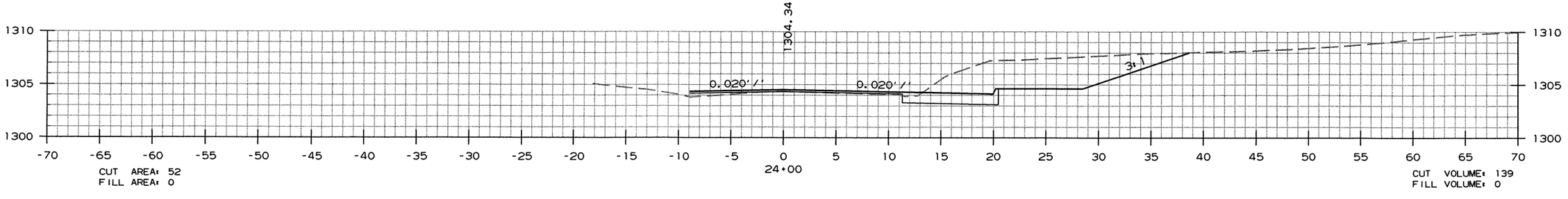
(2) CROSS SECTIONS

END IVEY LANE - STA. 25+11
CONNECT TO HWY. 265 MAIN LANES









CROSS SECTION STA. 24+00 TO STA. 25+11

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