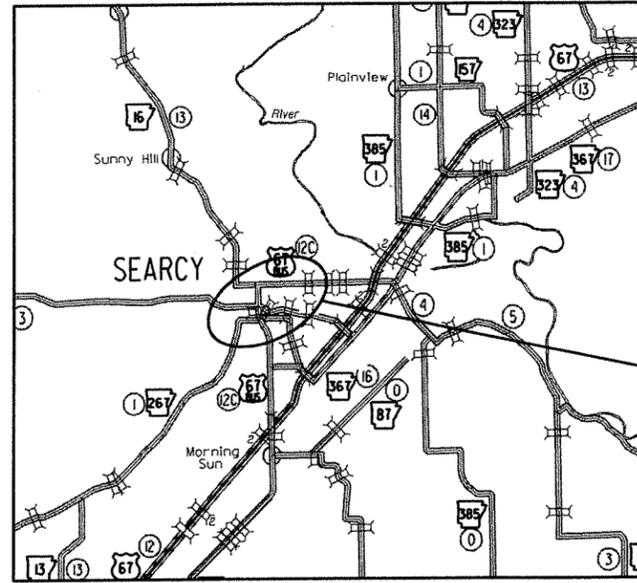


**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS**

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050245	1	25
				2 HWY. 16/ELM ST. SIGNAL (SEARCY) (S)				

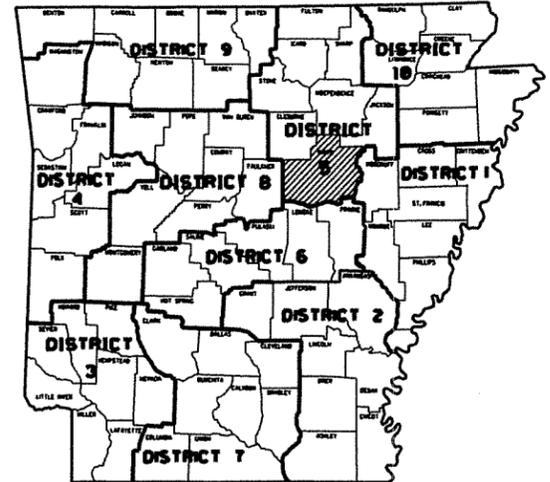


VICINITY MAP

PROJECT LOCATION

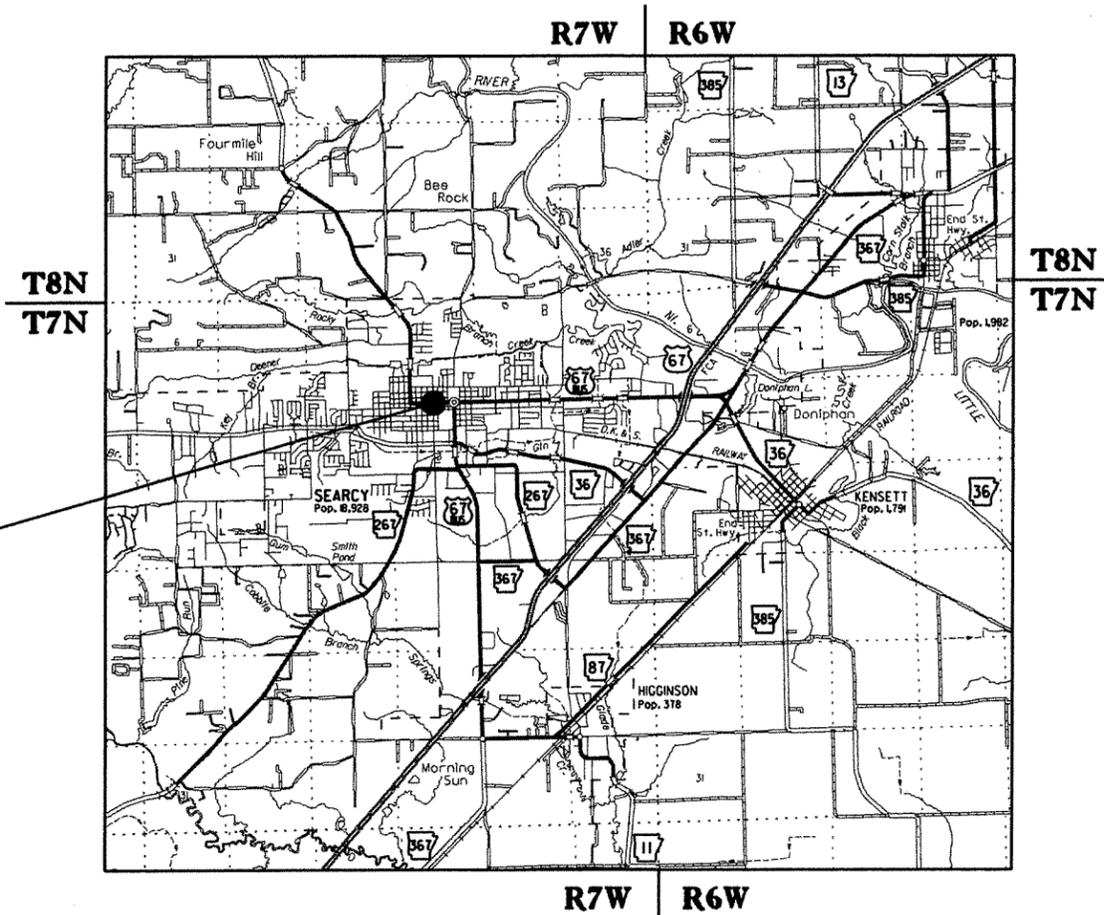
**HWY. 16/ELM ST. SIGNAL
(SEARCY) (S)
WHITE COUNTY
ROUTE 16 SECTION 13
F.A.P. STP-9386 (19)
JOB 050245**

NOT TO SCALE



ARK. HWY. DIST. NO. 5

JOB 050245



PROJECT LOCATION
HWY. 16/ELM ST.

MID-POINT OF PROJECT
LAT. 35°15'03"N
LONG. 91°44'26"W



1-30-13

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						050245	2	25

INDEX OF SHEETS

SHEET NO.	TITLE	DRWG. NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND NOTES		
3	SPECIAL DETAILS		
4	MAINTENANCE OF TRAFFIC DETAILS		
5	PERMANENT PAVEMENT MARKINGS		
6	SYSTEM MAP		
7	QUANTITIES		
8	SUMMARY OF QUANTITIES AND REVISIONS		
9	SURVEY CONTROL DETAILS		
10-12	SIGNALIZATION PLAN SHEETS		
13-17	SIGNALIZATION DETAILS		
18	CURBING DETAILS	CG-1	11-29-07
19	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
20	PAVEMENT MARKING DETAILS	PM-1	11-17-10
21	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	12-15-11
22	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
23	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
24	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12-15-11
25	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11-10-05

2 INDEX OF SHEETS, GOVERNING SPECS. & NOTES

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 RAIN-TIGHT 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 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 BUSES.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH AASHTO, THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS 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 AS SHOWN IN THE DETAILS MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. 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.
11. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
12. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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 THE POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
18. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
19. 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.
20. 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.
21. 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.
22. CONTRACTOR SHALL PROVIDE CONTROLLER AND LOCAL RADIO TO THE DEPARTMENT'S TRAFFIC ENGINEERING STAFF AT THE MAINTENANCE DIVISION, FOR SETUP AND TIMING BEFORE IT IS PLACED INTO OPERATION.
23. THE TRAFFIC SIGNAL CONTROLLER SHALL BE COMPATIBLE WITH THE CITY OF SEARCY'S EXISTING EAGLE/SIEMENS MARC NX CLOSED LOOP SYSTEM.
24. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING MDS 9710 NARROW BAND RADIOS USED IN THE CLOSED LOOP SYSTEM IN THE CITY OF SEARCY.

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
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
105-3	CONTROL OF WORK
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
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
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
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
JOB 050245	CABINET DRAWER ASSEMBLY
JOB 050245	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 050245	EDGE CARD VIDEO PROCESSOR
JOB 050245	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 050245	INTERNET BIDDING
JOB 050245	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 050245	LED TRAFFIC SIGNAL HEAD
JOB 050245	SERVICE POINT ASSEMBLY
JOB 050245	STREET NAME SIGN (MAST ARM MOUNTED)
JOB 050245	SYSTEM LOCAL CONTROLLER
JOB 050245	UTILITY ADJUSTMENTS
JOB 050245	VIDEO DETECTOR (COLOR)

GENERAL NOTES

1. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
2. 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.
3. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
4. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.



2-21-13

DATE: 2/21/13 FILE NAME: T050245.IND

LOCATION:	HWY. 16/ELM ST. SIGNAL
CITY:	SEARCY
COUNTY:	WHITE
DISTRICT:	5
DRAWN BY:	F&H

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. 050245							4	25

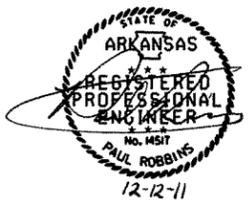
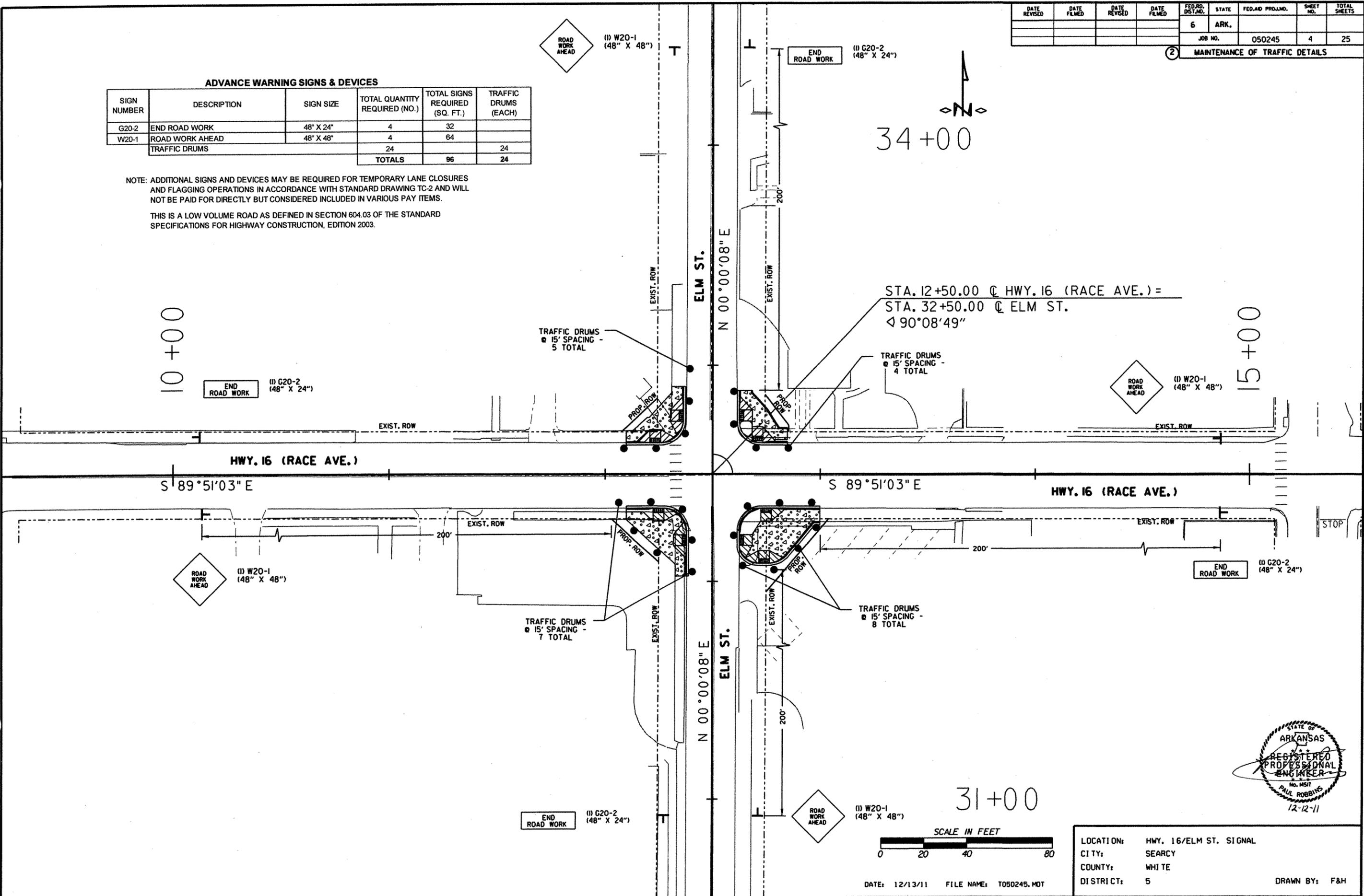
② MAINTENANCE OF TRAFFIC DETAILS

ADVANCE WARNING SIGNS & DEVICES

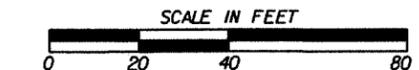
SIGN NUMBER	DESCRIPTION	SIGN SIZE	TOTAL QUANTITY REQUIRED (NO.)	TOTAL SIGNS REQUIRED (SQ. FT.)	TRAFFIC DRUMS (EACH)
G20-2	END ROAD WORK	48" X 24"	4	32	
W20-1	ROAD WORK AHEAD	48" X 48"	4	64	
	TRAFFIC DRUMS		24		24
TOTALS			96	24	24

NOTE: ADDITIONAL SIGNS AND DEVICES MAY BE REQUIRED FOR TEMPORARY LANE CLOSURES AND FLAGGING OPERATIONS IN ACCORDANCE WITH STANDARD DRAWING TC-2 AND WILL NOT BE PAID FOR DIRECTLY BUT CONSIDERED INCLUDED IN VARIOUS PAY ITEMS.

THIS IS A LOW VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 2003.



LOCATION: HWY. 16/ELM ST. SIGNAL
 CITY: SEARCY
 COUNTY: WHITE
 DISTRICT: 5
 DRAWN BY: F&H



DATE: 12/13/11 FILE NAME: T050245.MDT

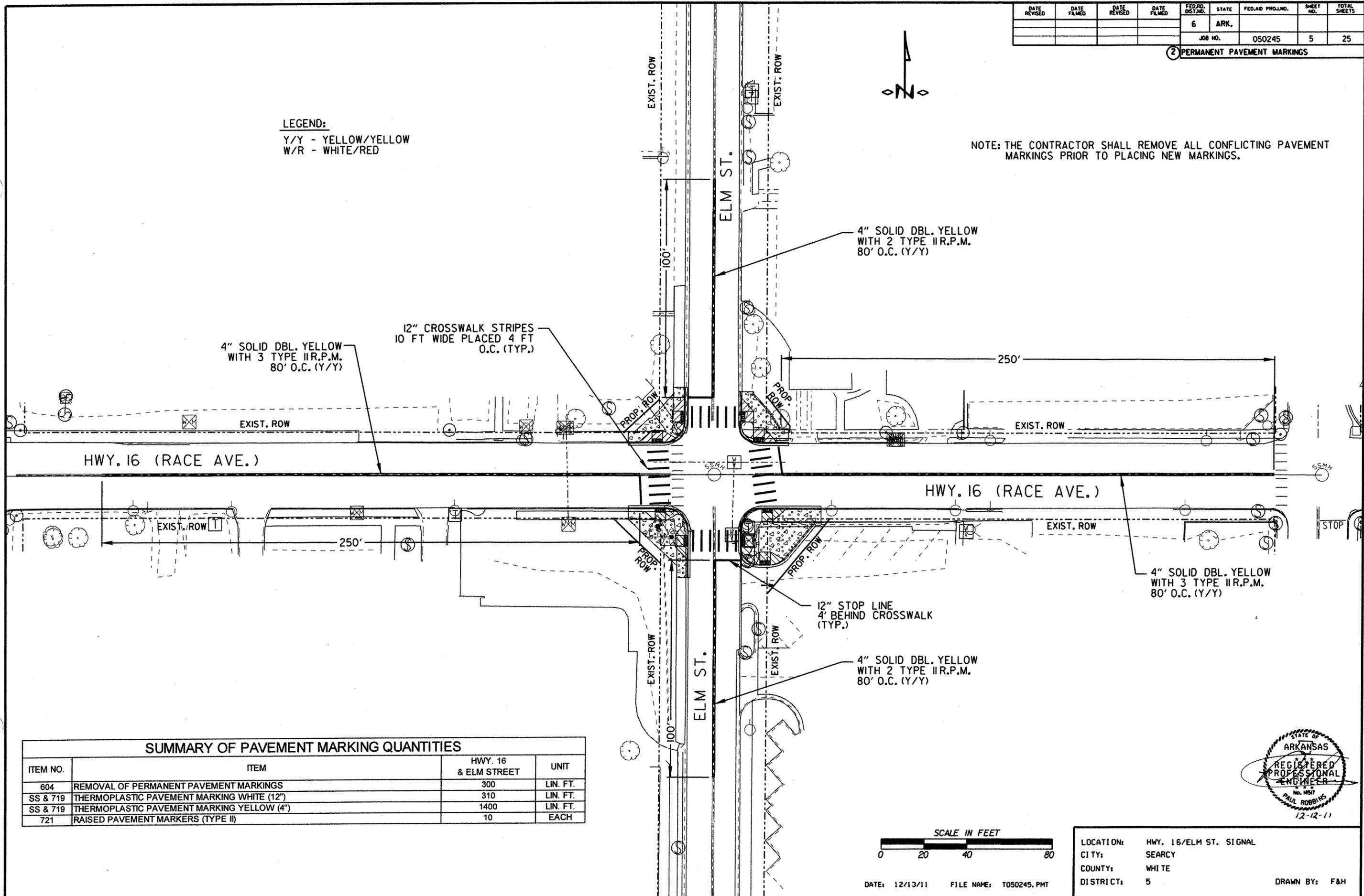
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				6	ARK.			
				JOB NO.	050245		5	25

② PERMANENT PAVEMENT MARKINGS

LEGEND:

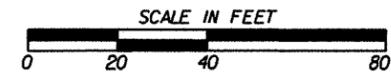
Y/Y - YELLOW/YELLOW
W/R - WHITE/RED

NOTE: THE CONTRACTOR SHALL REMOVE ALL CONFLICTING PAVEMENT MARKINGS PRIOR TO PLACING NEW MARKINGS.



SUMMARY OF PAVEMENT MARKING QUANTITIES

ITEM NO.	ITEM	HWY. 16 & ELM STREET	UNIT
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	300	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	310	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	1400	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	10	EACH



DATE: 12/13/11 FILE NAME: T050245.PMT

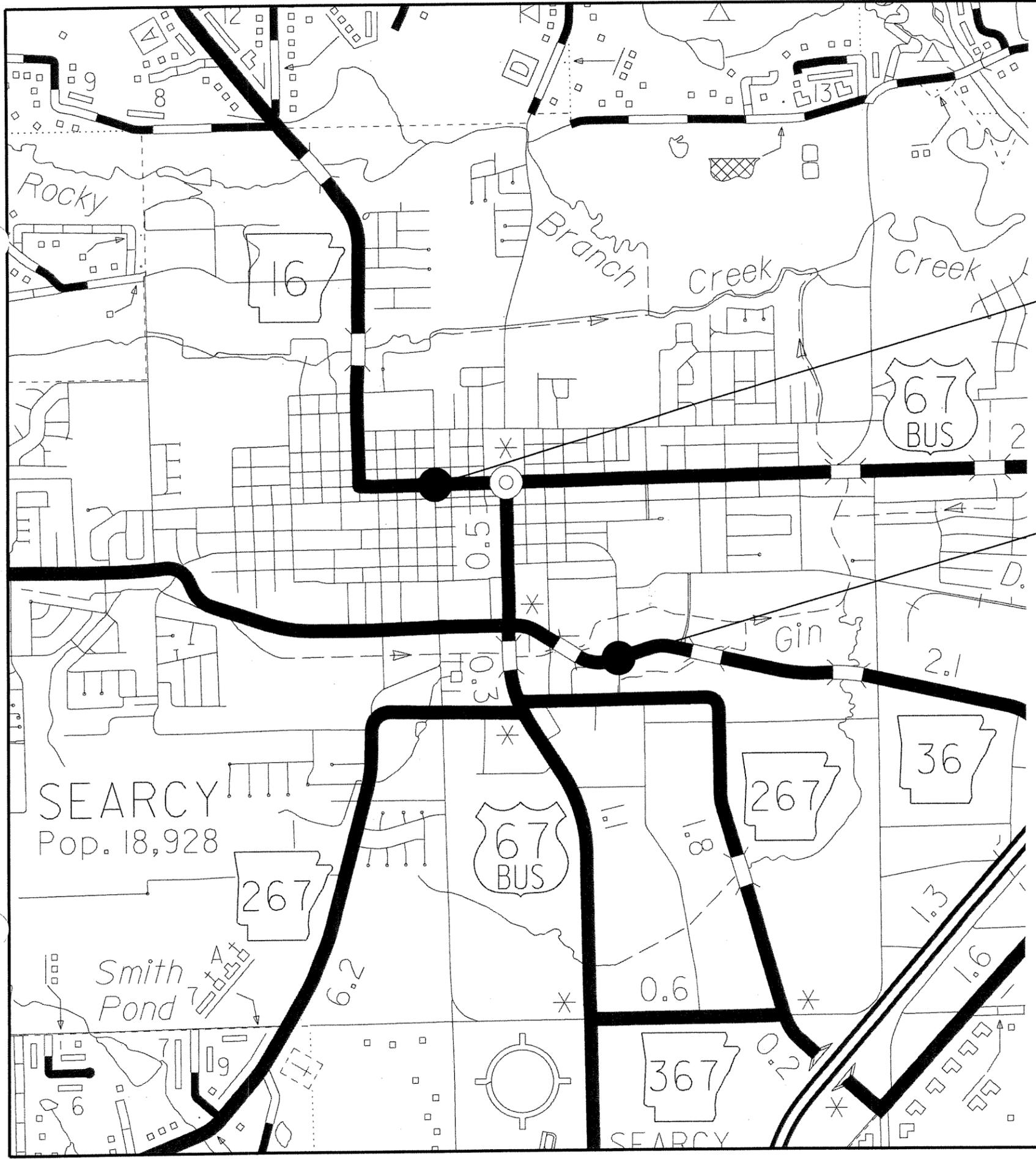
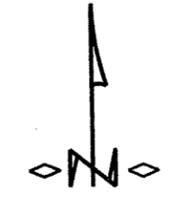
LOCATION: HWY. 16/ELM ST. SIGNAL
CITY: SEARCY
COUNTY: WHITE
DISTRICT: 5

DRAWN BY: F&H

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.	050245		6	25

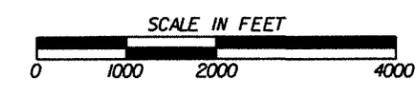
② SYSTEM MAP

SYSTEM MAP



HWY. 16/ELM STREET
(TRAFFIC SIGNAL)

BEEBE CAPPS EXPY. &
S. REMINGTON ST./DR. JIMMY CARR ST.
(MASTER CONTROLLER)



LOCATION: HWY. 16/ELM ST. SIGNAL
 CITY: SEARCY
 COUNTY: WHITE
 DISTRICT: 5
 DRAWN BY: F&H

DATE: 11/02/11 FILE NAME: T050245.SYS

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. 050245	7	25

② QUANTITIES

EROSION CONTROL

STATION	STATION	LOCATION	SOLID SODDING	WATER
			SQ. YD.	M. GAL.
		HWY. 16 (RACE AVE.) / ELM ST.	22.9	0.3
TOTALS			22.9	0.3

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

REMOVAL AND DISPOSAL QUANTITIES

STATION	STATION	LOCATION	SIDE	ASPHALT PAVEMENT	CONCRETE WALKS	CURB AND GUTTER
				SQ. YD.	SQ. YD.	LIN. FT.
12+10	12+37	HWY. 16 (RACE AVE.)	LT.	6	32	48
12+10	12+38	HWY. 16 (RACE AVE.)	RT.	32	22	55
12+33		HWY. 16 (RACE AVE.)	LT.			
12+61	12+85	HWY. 16 (RACE AVE.)	LT.	5	10	42
12+61	13+00	HWY. 16 (RACE AVE.)	RT.	51	38	112
12+65		HWY. 16 (RACE AVE.)	RT.			
TOTALS				94	102	257

WHEELCHAIR RAMPS

STATION	LOCATION	WHEELCHAIR RAMP (TYPE 4)
		SQ. YD.
12+23	HWY. 16 (RACE AVE.) LT.	8
12+25	HWY. 16 (RACE AVE.) RT.	6
12+33	HWY. 16 (RACE AVE.) LT.	8
12+35	HWY. 16 (RACE AVE.) RT.	8
12+65	HWY. 16 (RACE AVE.) LT.	5
12+65	HWY. 16 (RACE AVE.) RT.	6
12+71	HWY. 16 (RACE AVE.) LT.	6
12+74	HWY. 16 (RACE AVE.) RT.	8
12+75	HWY. 16 (RACE AVE.) RT.	5
TOTAL		60

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	SILT FENCE (E-11)
			LIN. FT.
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	120
TOTAL			120

* QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECS.

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	TOPSOIL FURNISHED AND PLACED
			CU. YD.	CU. YD.
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	25	5
TOTALS			25	5

NOTE: EARTHWORK QUANTITIES SHOWN SHALL BE PAID AS PLAN QUANTITY.

* QUANTITIES ARE ESTIMATED SEE SECTION 104.03 OF THE STANDARD SPECS.

CONCRETE WALKS

STATION	STATION	LOCATION	CONCRETE WALKS	CONCRETE WALKS (TYPE SPECIAL)
			SQ. YD.	
12+10	12+36	HWY. 16 (RACE AVE.) LT.	26	
12+10	12+37	HWY. 16 (RACE AVE.) RT.	38	
12+63	12+85	HWY. 16 (RACE AVE.) LT.		20
12+66	12+83	HWY. 16 (RACE AVE.) RT.	24	
12+83	13+00	HWY. 16 (RACE AVE.) RT.		25
TOTALS			88	45

CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")

STATION	STATION	LOCATION	SIDE	LENGTH
				LIN. FT.
12+10	12+37	HWY. 16 (RACE AVE.)	LT.	50
12+10	12+38	HWY. 16 (RACE AVE.)	RT.	55
12+61	12+85	HWY. 16 (RACE AVE.)	LT.	41
12+61	13+00	HWY. 16 (RACE AVE.)	RT.	102
TOTAL				248

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
			SQ. YD.
12+66	HWY. 16 (RACE AVE.) LT.	B	4
TOTAL			4



LOCATION: HWY. 16/ELM ST. SIGNAL
 CITY: SEARCY
 COUNTY: WHITE
 DISTRICT: 5

DATE: 11/02/11 FILE NAME: T050245.DWG

DRAWN BY: F&H

SUMMARY OF 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. 050245	8	25

② SUMMARY OF QUANTITIES & REVISIONS

ITEM NO.	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF ASPHALT PAVEMENT	94	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE WALKS	102	SQ. YD.
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER	257	LIN. FT.
210	UNCLASSIFIED EXCAVATION	25	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	300	LIN. FT.
SS & 604	SIGNS	96	SQ. FT.
SS & 604	TRAFFIC DRUMS	24	EACH
SS & 620	WATER	0.3	M.GAL.
621	SILT FENCE	120	LIN. FT.
624	SOLID SODDING	23	SQ. YD.
628	TOPSOIL FURNISHED AND PLACED	5	CU. YD.
632	CONCRETE ISLAND	4	SQ. YD.
633	CONCRETE WALKS	88	SQ. YD.
633	CONCRETE WALKS (TYPE SPECIAL)	45	SQ. YD.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	248	LIN. FT.
641	WHEELCHAIR RAMPS (TYPE 4)	60	SQ. YD.
SP & 701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (8 PHASES)	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1325	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	377	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	25	LIN. FT.
710	NON-METALLIC CONDUIT (2")	33	LIN. FT.
710	NON-METALLIC CONDUIT (3")	283	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 1)	2	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2)	6	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (22')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (24')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	2	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	3	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	310	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	1400	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	10	EACH
733	VIDEO CABLE	590	LIN. FT.
* SP & 733	VIDEO DETECTOR (CLR)	5	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
* SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	3	EACH
SP	18" STREET NAME SIGN	4	EACH
SP	ANTENNA CABLE (TYPE 6)	63	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	460	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	32	LIN. FT.
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH

* ONE SPARE VIDEO PROCESSOR AND VIDEO DETECTOR PROVIDED TO CITY.

REVISION BOX

DATE	DESCRIPTION	PAGE NO.(S)



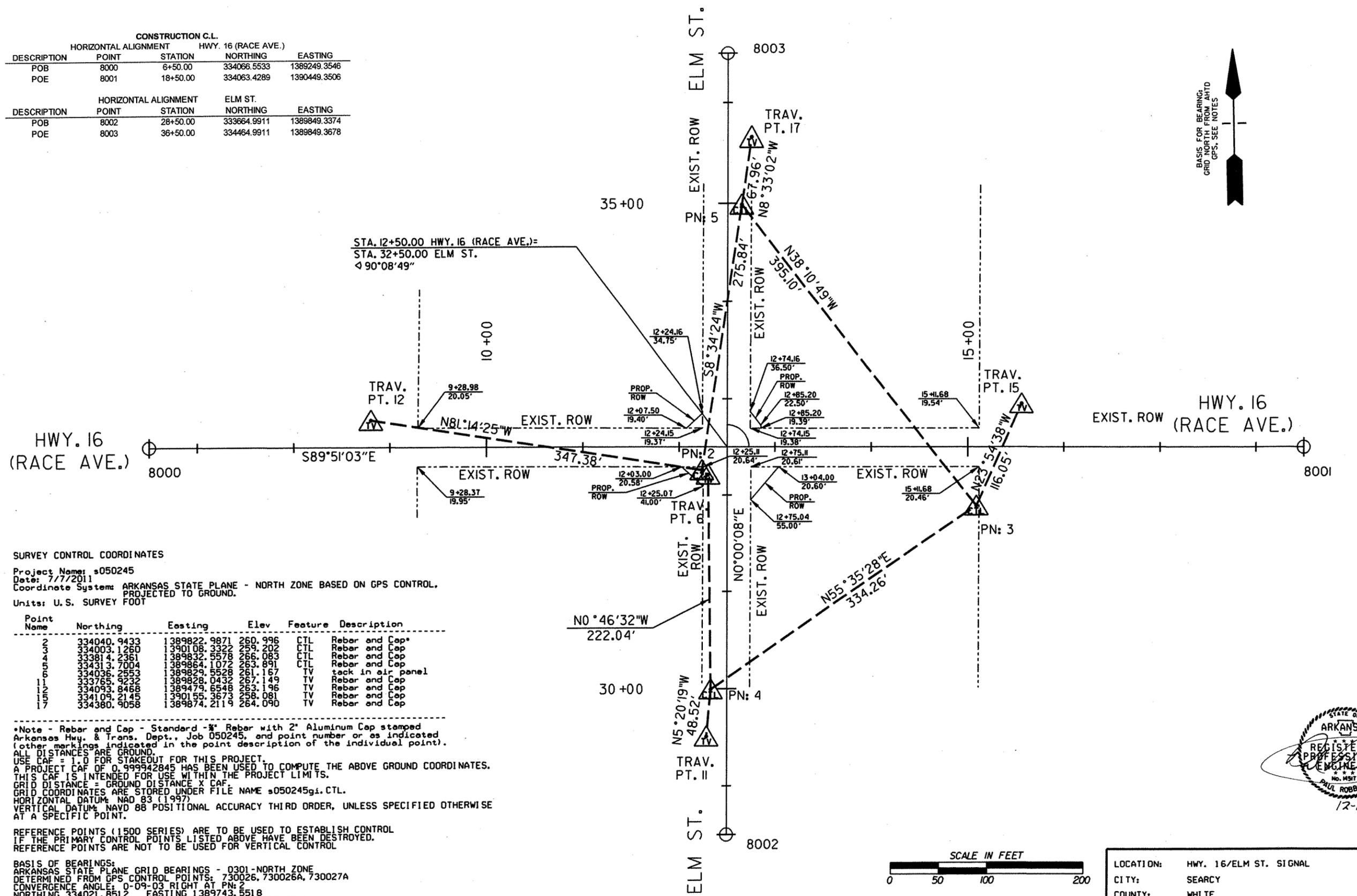
LOCATION: HWY. 16/ELM ST. SIGNAL
 CITY: SEARCY
 COUNTY: WHITE
 DISTRICT: 5
 DRAWN BY: F&H

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.	050245		9	25

2 SURVEY CONTROL DETAILS

CONSTRUCTION C.L.					
HORIZONTAL ALIGNMENT			HWY. 16 (RACE AVE.)		
DESCRIPTION	POINT	STATION	NORTHING	EASTING	
POB	8000	6+50.00	334066.5533	1389249.3546	
POE	8001	18+50.00	334063.4289	1390449.3506	

HORIZONTAL ALIGNMENT				ELM ST.	
DESCRIPTION	POINT	STATION	NORTHING	EASTING	
POB	8002	28+50.00	333664.9911	1389849.3374	
POE	8003	36+50.00	334464.9911	1389849.3678	



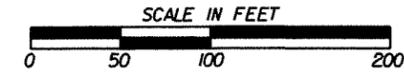
SURVEY CONTROL COORDINATES
 Project Name: s050245
 Date: 7/7/2011
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature Description
2	334040.9433	1389822.9871	260.996	CTL Rebar and Cap
3	334003.1260	1390108.3322	259.202	CTL Rebar and Cap
4	333814.2361	1389832.5578	266.083	CTL Rebar and Cap
5	334313.7004	1389864.1072	263.891	CTL Rebar and Cap
6	334036.2553	1389829.5528	261.167	TV tack in air panel
7	333765.9232	1389828.0432	267.149	TV Rebar and Cap
8	334093.8468	1389479.6548	263.196	TV Rebar and Cap
9	334109.2145	1390155.3673	258.081	TV Rebar and Cap
10	334380.9058	1389874.2119	264.090	TV Rebar and Cap

*Note - Rebar and Cap - Standard - 3/4" Rebar with 2" Aluminum Cap stamped Arkansas Hwy. & Trans. Dept., Job 050245, and point number or as indicated (other markings indicated in the point description of the individual point). ALL DISTANCES ARE GROUND.
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
 A PROJECT CAF OF 0.999942845 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 s050245g1.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 BEARINGS:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: 730026, 730026A, 730027A
 CONVERGENCE ANGLE: 0-09-03 RIGHT AT PN: 2
 NORTHING 334021.8512 EASTING 1389743.5518
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.



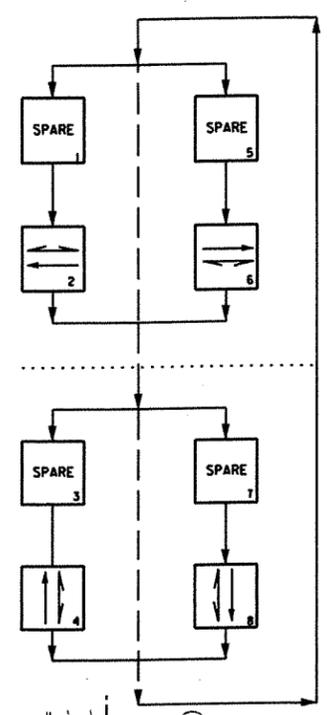
DATE: 12/13/11 FILE NAME: T050245.S01

LOCATION: HWY. 16/ELM ST. SIGNAL
 CITY: SEARCY
 COUNTY: WHITE
 DISTRICT: 5
 DRAWN BY: F&H

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		10	25

SIGNALIZATION PLAN SHEET

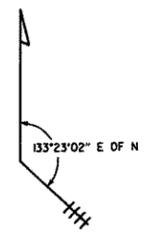
PHASING DIAGRAM



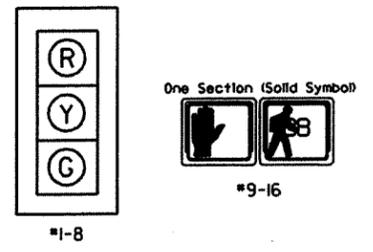
LEGEND

- TYPE 1 PULL BOX
- ▣ TYPE 2 PULL BOX
- ⊠ CONTROL CABINET
- SIGNAL HEAD
- N.M.C.-NON-METALLIC CONDUIT
- ⊖ VIDEO DETECTOR

ANTENNA ORIENTATION

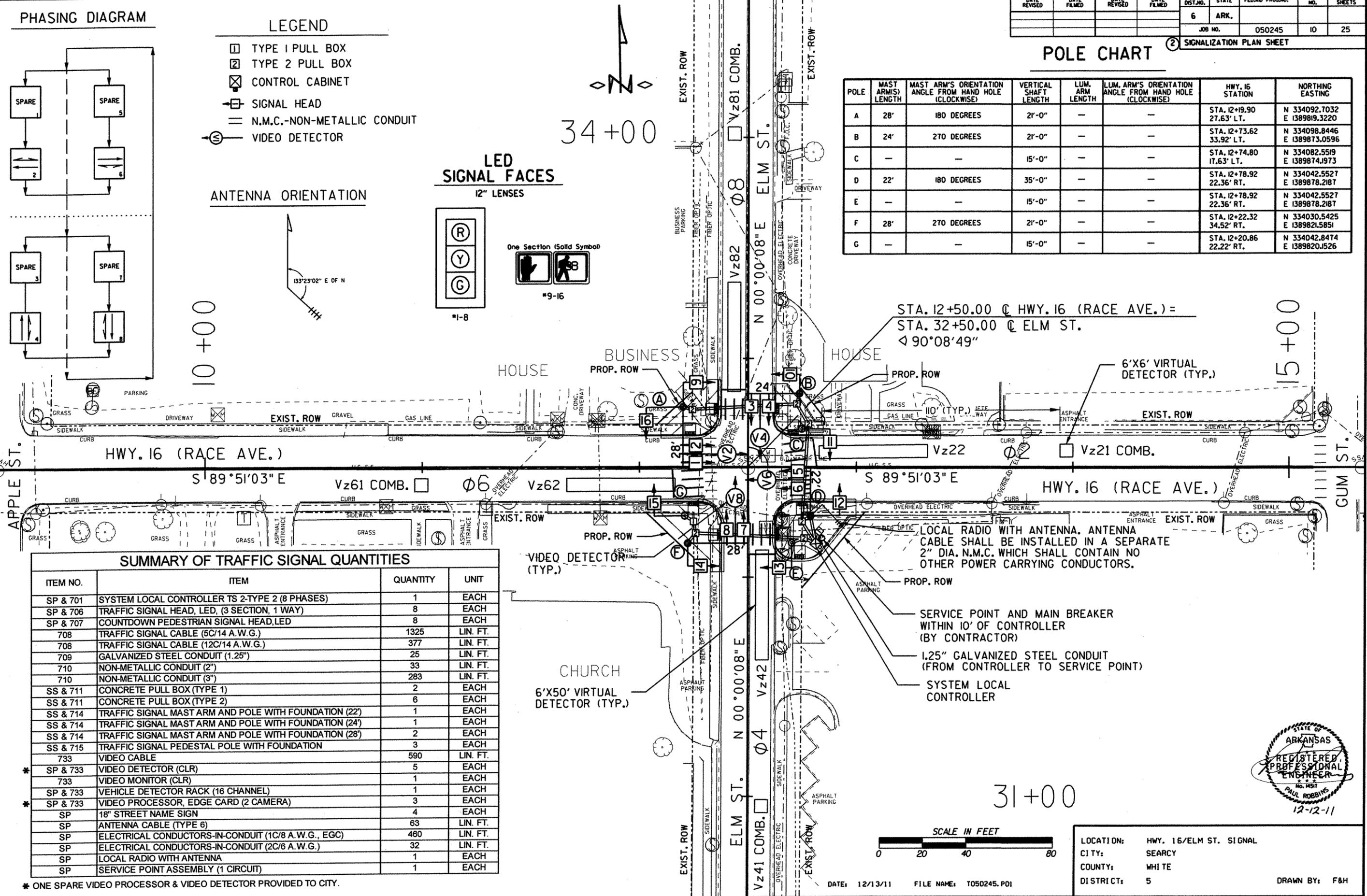


LED SIGNAL FACES
12" LENSES



POLE CHART

POLE	MAST ARMS LENGTH	MAST ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	VERTICAL SHAFT LENGTH	LUM. ARM LENGTH	LUM. ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	HWY. 16 STATION	NORTHING EASTING
A	28'	180 DEGREES	21'-0"	—	—	STA. 12+19.90 27.63' LT.	N 334092.7032 E 1389819.3220
B	24'	270 DEGREES	21'-0"	—	—	STA. 12+73.62 33.92' LT.	N 334098.8446 E 1389873.0596
C	—	—	15'-0"	—	—	STA. 12+74.80 17.63' LT.	N 334082.5519 E 1389874.1973
D	22'	180 DEGREES	35'-0"	—	—	STA. 12+78.92 22.36' RT.	N 334042.5527 E 1389878.2187
E	—	—	15'-0"	—	—	STA. 12+78.92 22.36' RT.	N 334042.5527 E 1389878.2187
F	28'	270 DEGREES	21'-0"	—	—	STA. 12+22.32 34.52' RT.	N 334030.5425 E 1389821.5851
G	—	—	15'-0"	—	—	STA. 12+20.86 22.22' RT.	N 334042.8474 E 1389820.1526



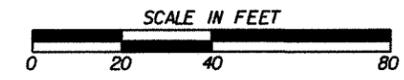
SUMMARY OF TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (8 PHASES)	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1325	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	377	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	25	LIN. FT.
710	NON-METALLIC CONDUIT (2")	33	LIN. FT.
710	NON-METALLIC CONDUIT (3")	283	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 1)	2	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2)	6	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (22')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (24')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	2	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	3	EACH
733	VIDEO CABLE	590	LIN. FT.
* SP & 733	VIDEO DETECTOR (CLR)	5	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
* SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	3	EACH
SP	18" STREET NAME SIGN	4	EACH
SP	ANTENNA CABLE (TYPE 6)	63	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	460	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	32	LIN. FT.
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH

* ONE SPARE VIDEO PROCESSOR & VIDEO DETECTOR PROVIDED TO CITY.

LOCAL RADIO WITH ANTENNA. ANTENNA CABLE SHALL BE INSTALLED IN A SEPARATE 2" DIA. N.M.C. WHICH SHALL CONTAIN NO OTHER POWER CARRYING CONDUCTORS.

- SERVICE POINT AND MAIN BREAKER WITHIN 10' OF CONTROLLER (BY CONTRACTOR)
- 1.25" GALVANIZED STEEL CONDUIT (FROM CONTROLLER TO SERVICE POINT)
- SYSTEM LOCAL CONTROLLER



LOCATION: HWY. 16/ELM ST. SIGNAL
 CITY: SEARCY
 COUNTY: WHITE
 DISTRICT: 5
 DRAWN BY: F&H

DATE: 12/13/11 FILE NAME: T050245.P01

DESIGN PARAMETERS

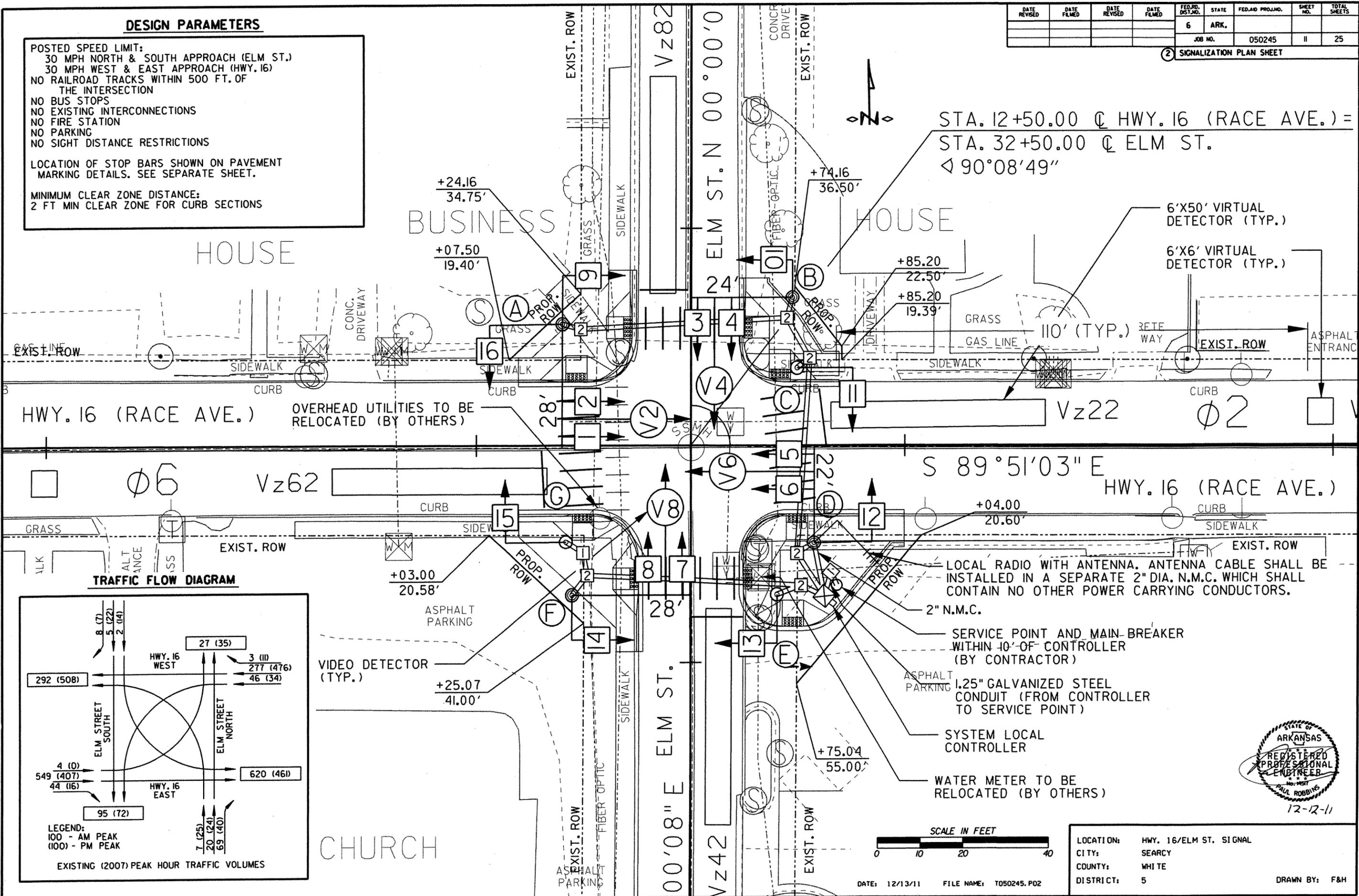
POSTED SPEED LIMIT:
 30 MPH NORTH & SOUTH APPROACH (ELM ST.)
 30 MPH WEST & EAST APPROACH (HWY. 16)
 NO RAILROAD TRACKS WITHIN 500 FT. OF
 THE INTERSECTION
 NO BUS STOPS
 NO EXISTING INTERCONNECTIONS
 NO FIRE STATION
 NO PARKING
 NO SIGHT DISTANCE RESTRICTIONS

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

MINIMUM CLEAR ZONE DISTANCE:
 2 FT MIN CLEAR ZONE FOR CURB SECTIONS

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. 050245	II	25

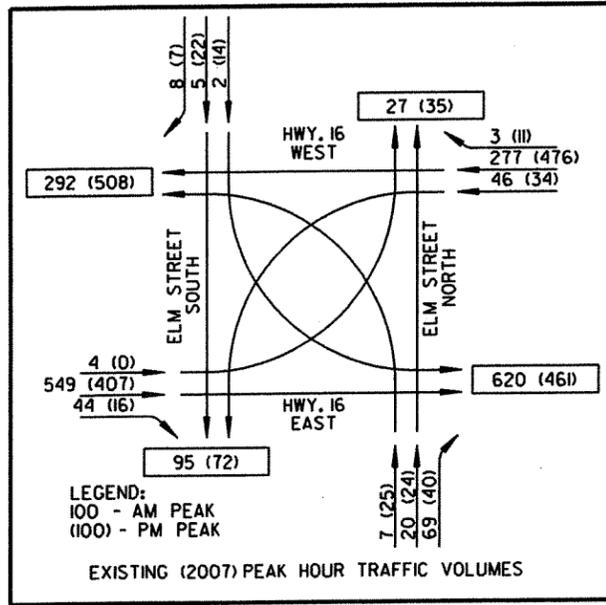
2 SIGNALIZATION PLAN SHEET



STA. 12+50.00 @ HWY. 16 (RACE AVE.) =
 STA. 32+50.00 @ ELM ST.
 ∠ 90°08'49"

S 89°51'03" E
 HWY. 16 (RACE AVE.)

TRAFFIC FLOW DIAGRAM



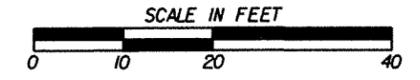
LOCAL RADIO WITH ANTENNA. ANTENNA CABLE SHALL BE
 INSTALLED IN A SEPARATE 2" DIA. N.M.C. WHICH SHALL
 CONTAIN NO OTHER POWER CARRYING CONDUCTORS.

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

1.25" GALVANIZED STEEL
 CONDUIT (FROM CONTROLLER
 TO SERVICE POINT)

SYSTEM LOCAL
 CONTROLLER

WATER METER TO BE
 RELOCATED (BY OTHERS)



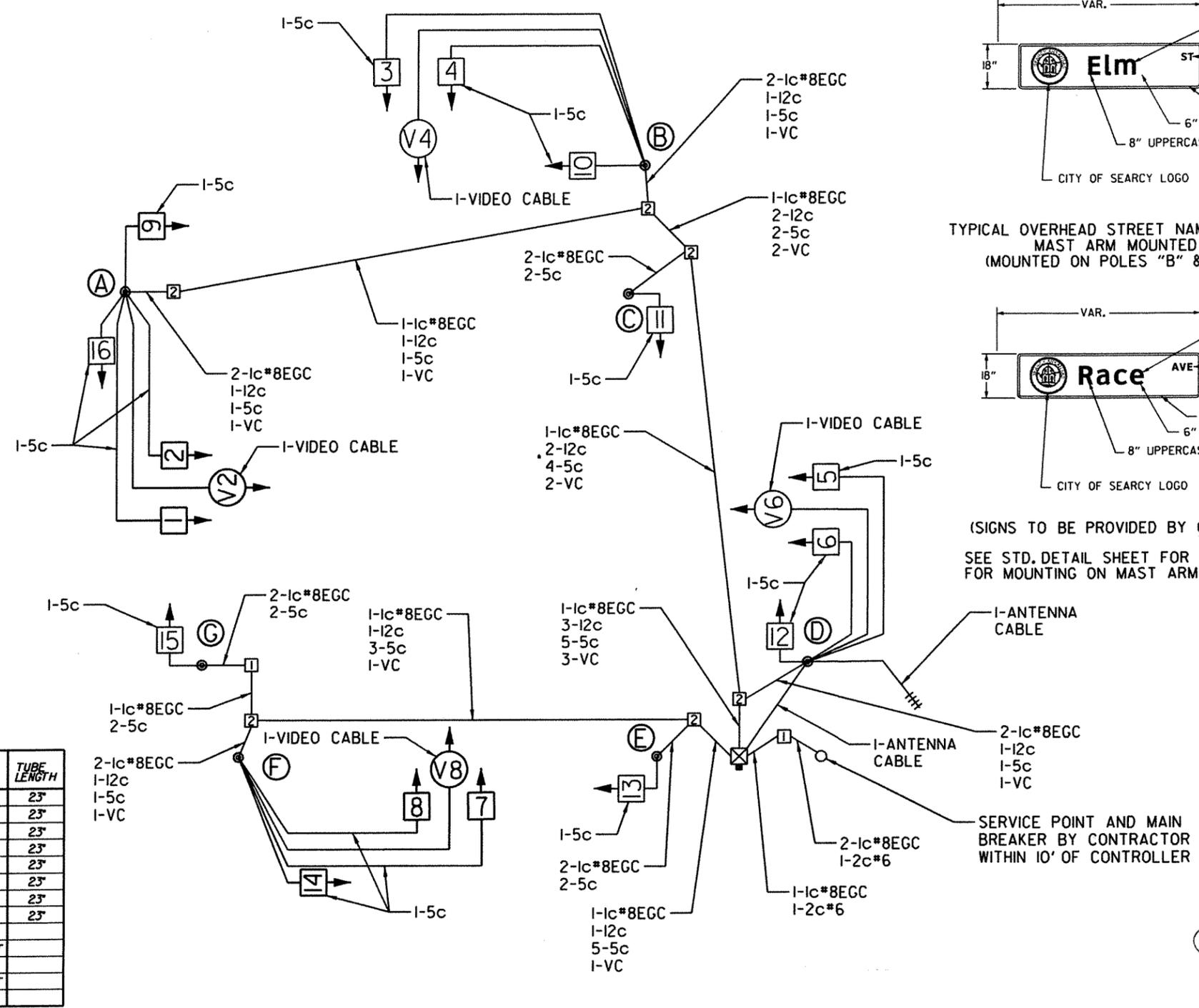
DATE: 12/13/11 FILE NAME: T050245.P02

LOCATION: HWY. 16/ELM ST. SIGNAL
 CITY: SEARCY
 COUNTY: WHITE
 DISTRICT: 5
 DRAWN BY: F&H

INTERVAL CHART

SIGNAL FACES	INTERVALS				FLASH SEQ.
	2+6	CLR.	4+8	CLR.	
1	G	Y	R	R	R
2	G	Y	R	R	R
3	R	R	G	Y	R
4	R	R	G	Y	R
5	G	Y	R	R	R
6	G	Y	R	R	R
7	R	R	G	Y	R
8	R	R	G	Y	R
9&10	W	FDW	DW	DW	BLANK
11&12	DW	DW	W	FDW	BLANK
13&14	W	FDW	DW	DW	BLANK
15&16	DW	DW	W	FDW	BLANK

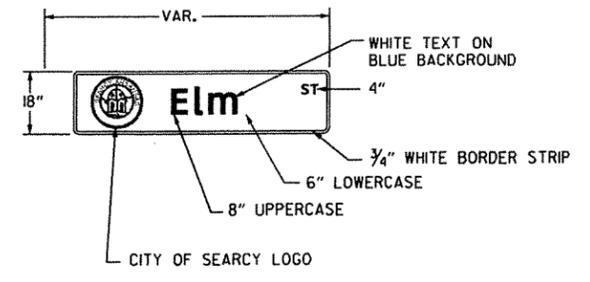
WIRING DIAGRAM



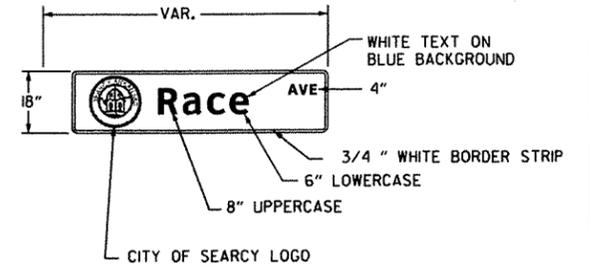
NOTES:

1. A SEPARATE 5c/#14 AWG SHALL BE PROVIDED FROM EACH 3 SECTION HEAD TO THE BASE OF POLE.
2. A SEPARATE 5c/#14 AWG SHALL BE PROVIDED TO EACH POLE WITH PEDESTRIAN PUSH BUTTONS.
3. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.
4. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

TYPICAL OVERHEAD STREET NAME MARKER MAST ARM MOUNTED (MOUNTED ON POLES "A" & "D")



TYPICAL OVERHEAD STREET NAME MARKER MAST ARM MOUNTED (MOUNTED ON POLES "B" & "F")



(SIGNS TO BE PROVIDED BY OTHERS)
SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

DETECTOR CHART

DETECTOR I.D. NUMBER	DIRECTION & LOCATION	TYPE	DET. NUM.	HARDWARE INPUTS			PROGRAM ASSIGNMENTS			COMMENT	TUBE LENGTH
				CAB. TER. NUM.	AMP. CHN. NUM.	CON. INP. NUM.	LOCAL	SYS. DET.	MSTR. SYS. DET.		
Vz21	WB ADV	COMB.	-	1	V10	2	2	-	VIDEO 2	23"	
Vz22	WB PRES	LOCAL	-	2	V2	2	-	-	VIDEO 2	23"	
Vz41	NB ADV	COMB.	-	5	V12	4	4	-	VIDEO 4	23"	
Vz42	NB PRES	LOCAL	-	6	V4	4	-	-	VIDEO 4	23"	
Vz61	EB ADV	COMB.	-	3	V14	6	6	-	VIDEO 6	23"	
Vz62	EB PRES	LOCAL	-	4	V6	6	-	-	VIDEO 6	23"	
Vz81	SB ADV	COMB.	-	7	V16	8	8	-	VIDEO 8	23"	
Vz82	SB PRES	LOCAL	-	8	V4	8	-	-	VIDEO 8	23"	
PB1	NW TO NE	PED.	-	-	P2	2	-	-	ELM STREET		
PB2	NE TO SE	PED.	-	-	P4	4	-	-	HWY.16		
PB3	SE TO SW	PED.	-	-	P6	6	-	-	ELM STREET		
PB4	SW TO NW	PED.	-	-	P8	8	-	-	HWY.16		

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

NOTE: *AMP.CHN* REFERS TO THE DETECTOR RACK OUTPUT POSITION AND IS WIRED TO THE CONTROLLER INPUT DETECTOR NUMBER THAT IS PROGRAMMED TO ACTIVATE THE DESIGNATED PHASE.



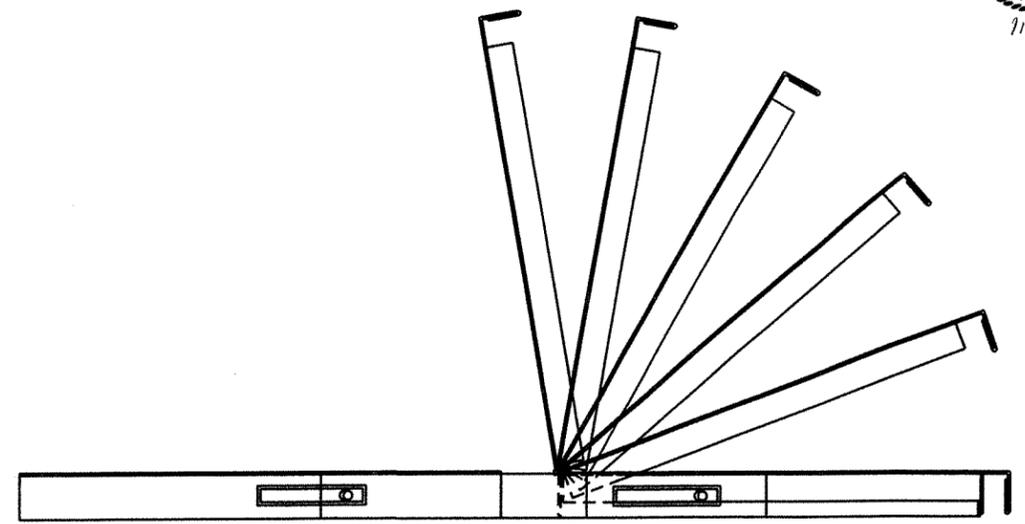
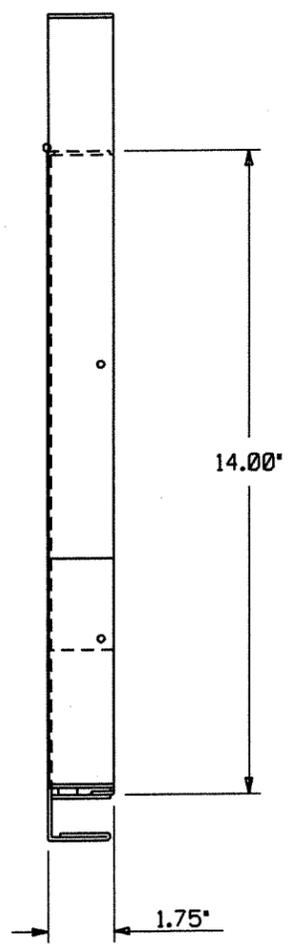
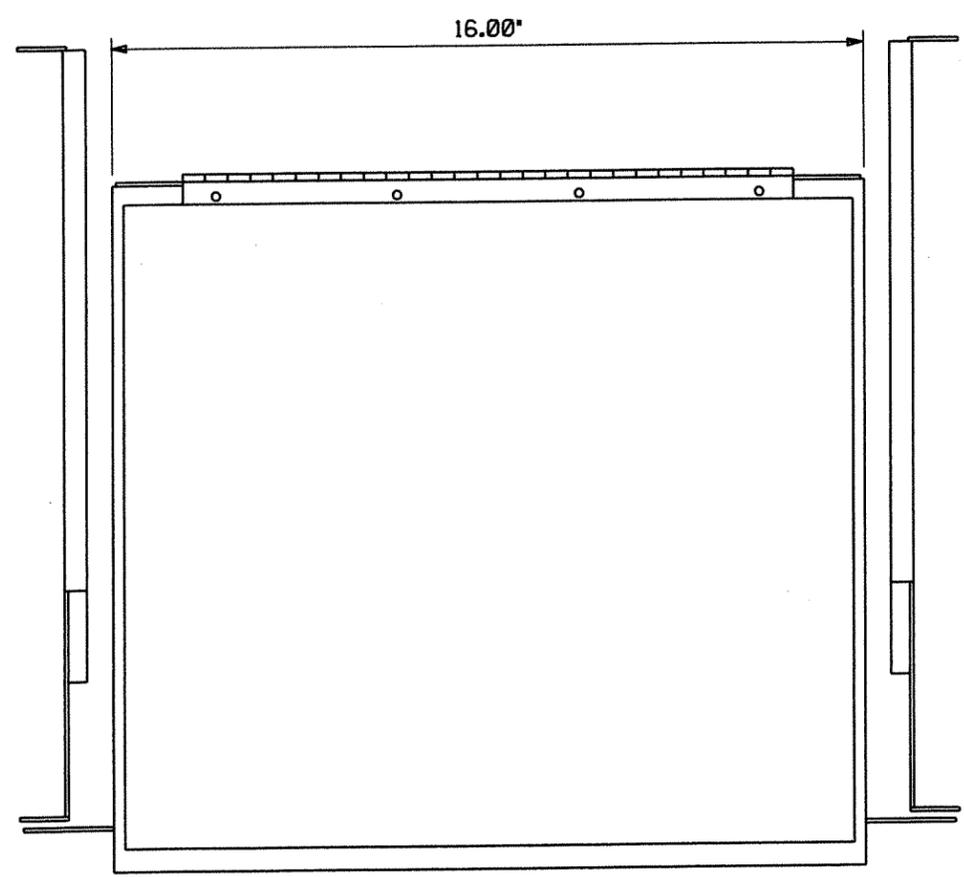
LOCATION: HWY. 16/ELM ST. SIGNAL
CITY: SEARCY
COUNTY: WHITE
DISTRICT: 5
DRAWN BY: F&H

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.	050245	13	25	

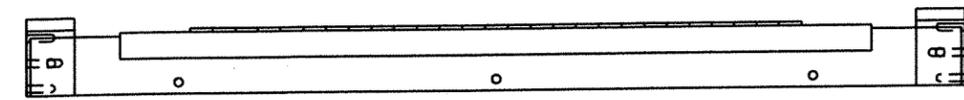
2 SIGNALIZATION DETAILS



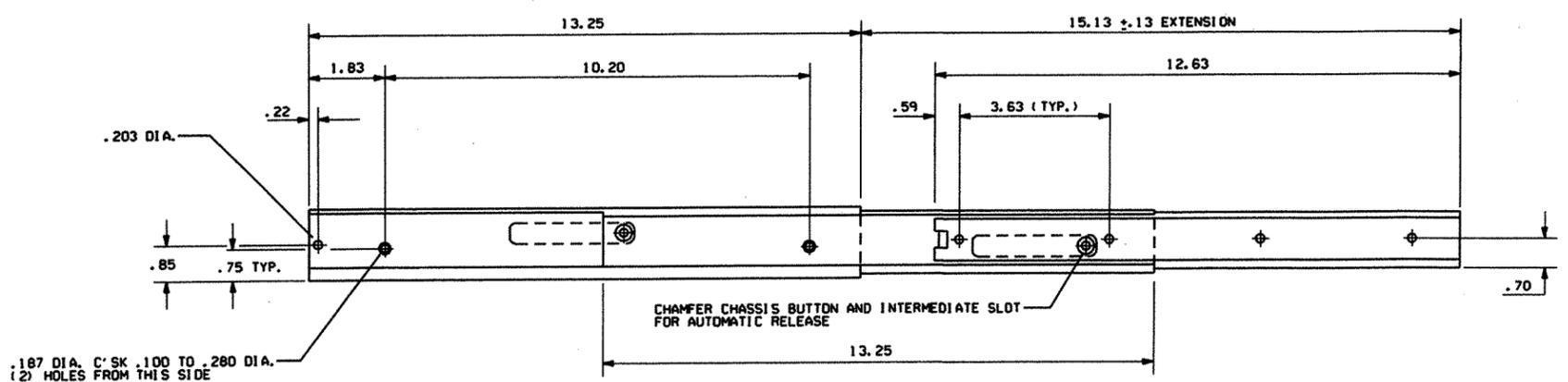
DRAWER PLAN VIEW



- 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



.187 DIA. C'SK .100 TO .280 DIA.
 (2) HOLES FROM THIS SIDE

RIGHT SIDE ASSEMBLY

A.H.T.D. STANDARD DETAILS

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
 (Controller Cabinet Utility Drawer)

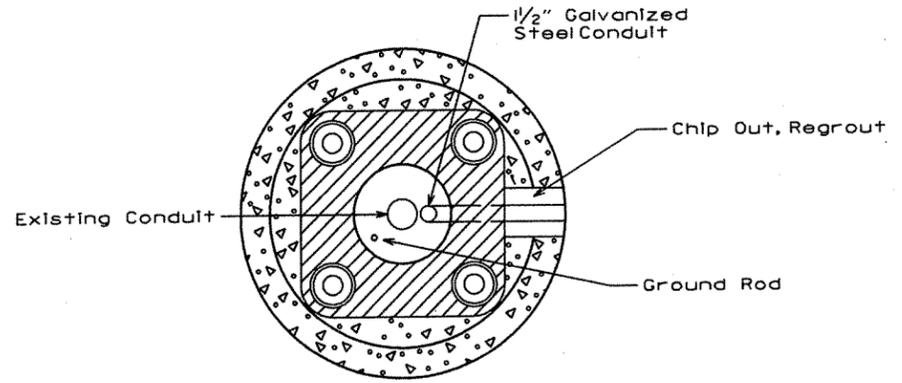
DATE	REVISION	DATE FILM
6-15-05	ISSUED	

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				6	ARK.			
JOB NO. 050245							14	25

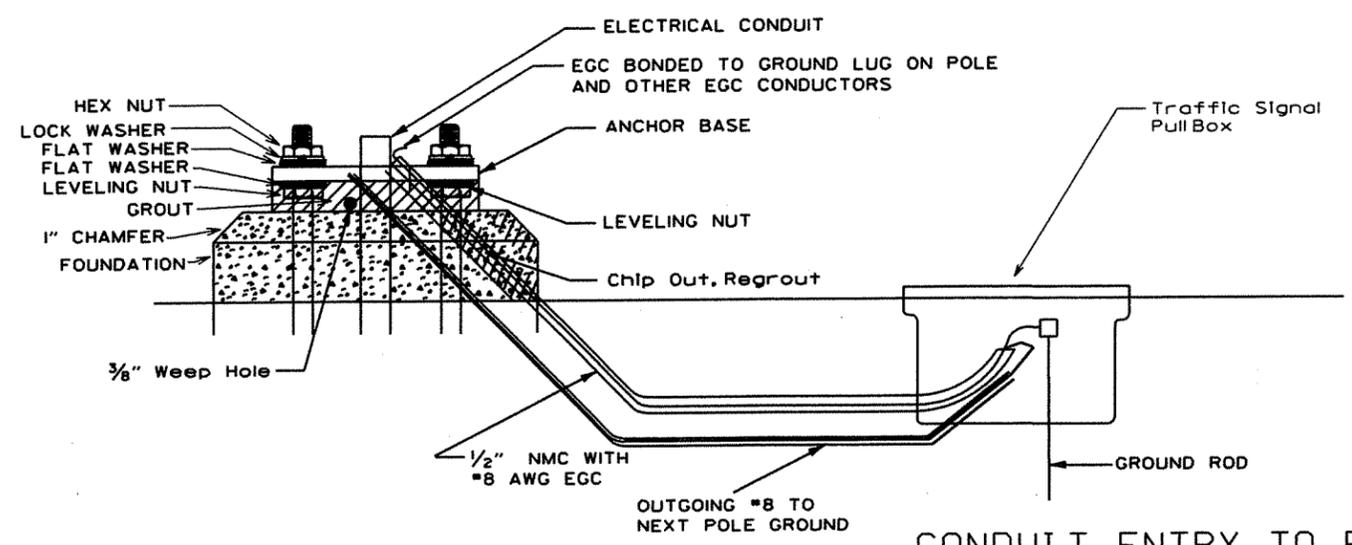
2 SIGNALIZATION DETAILS



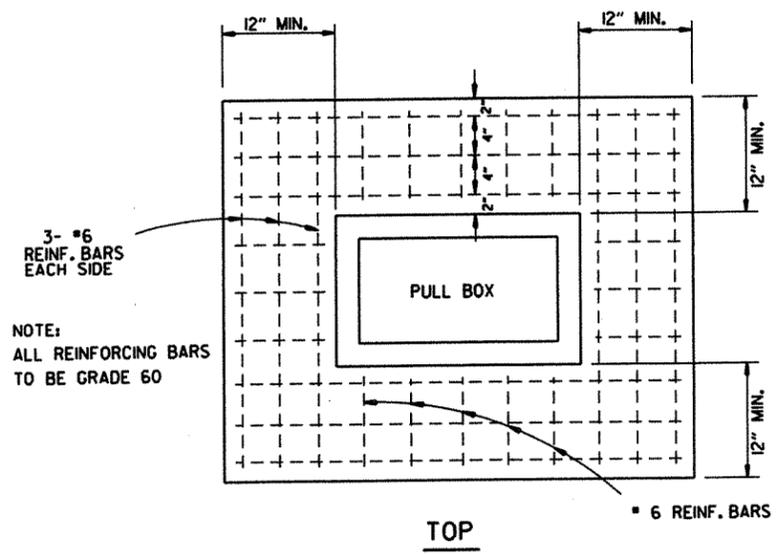
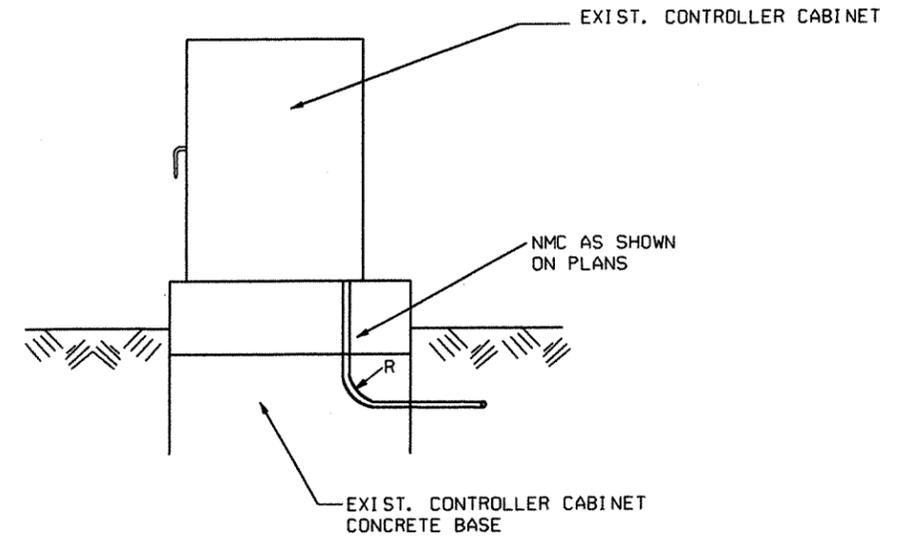
CONDUIT ENTRY TO EXISTING POLE BASE



ANCHOR BASE

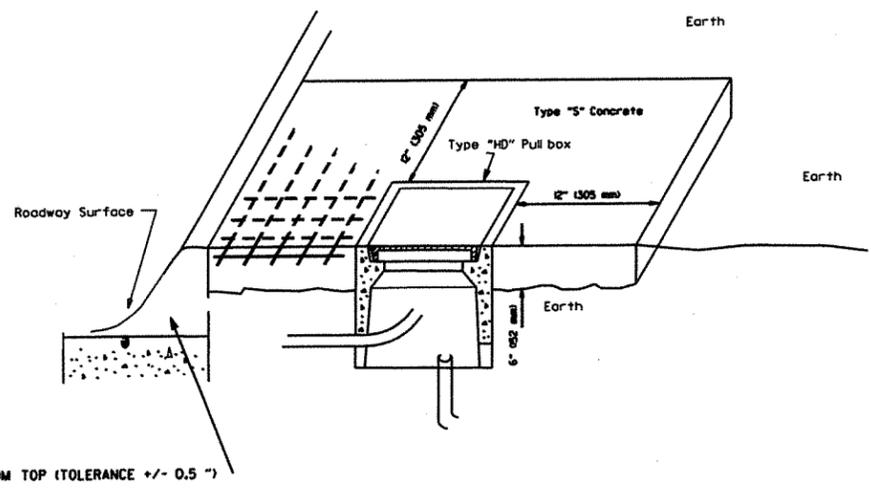


CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



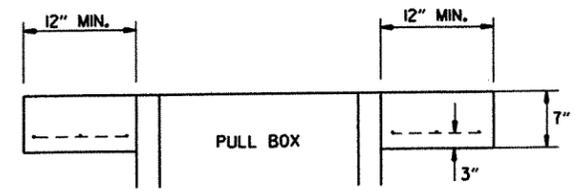
NOTE: ALL REINFORCING BARS TO BE GRADE 60

Type "HD" Concrete PullBox Detail



Note: All Type 1 and Type 2 HD pullboxes 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 pullbox. 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 pullbox is required in concrete.

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



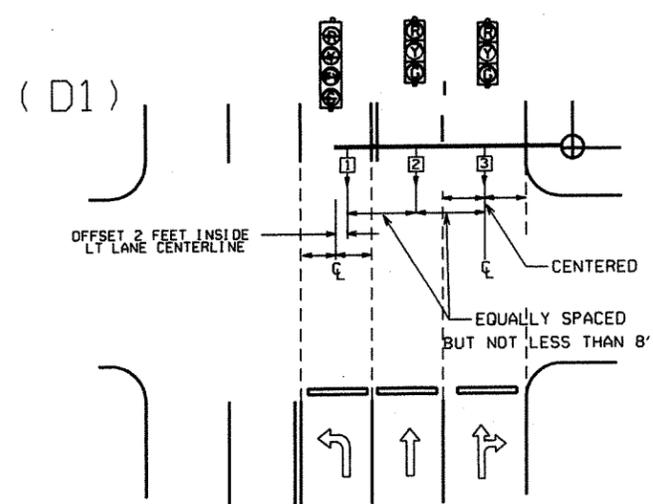
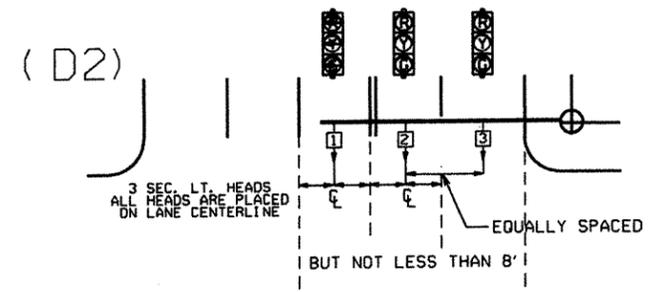
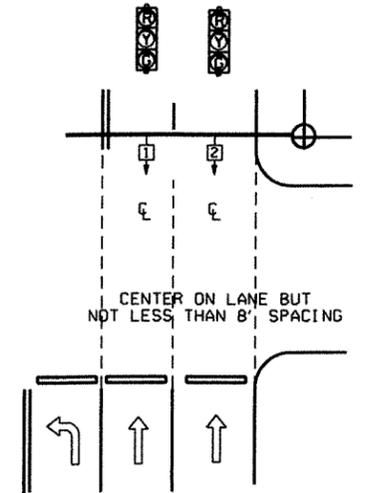
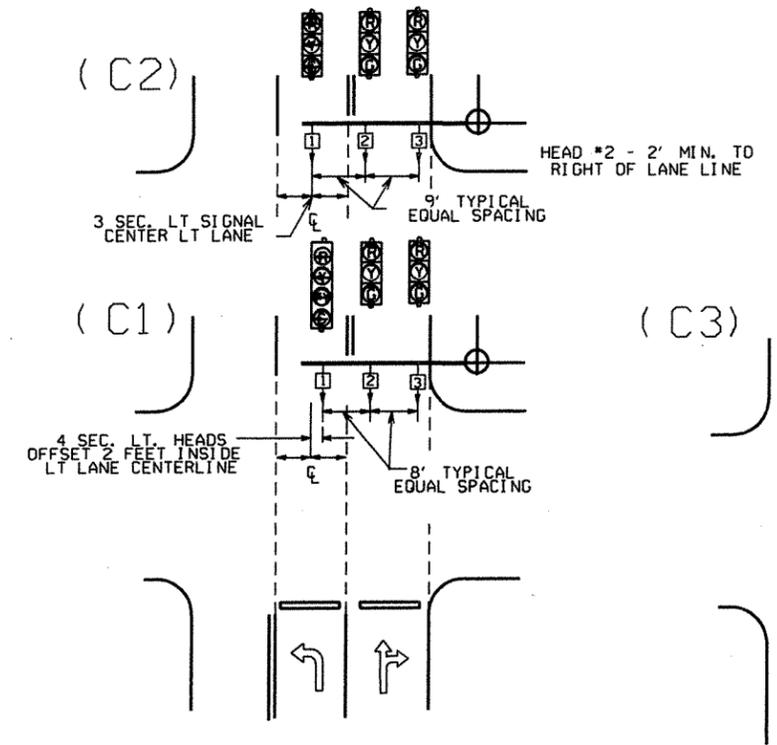
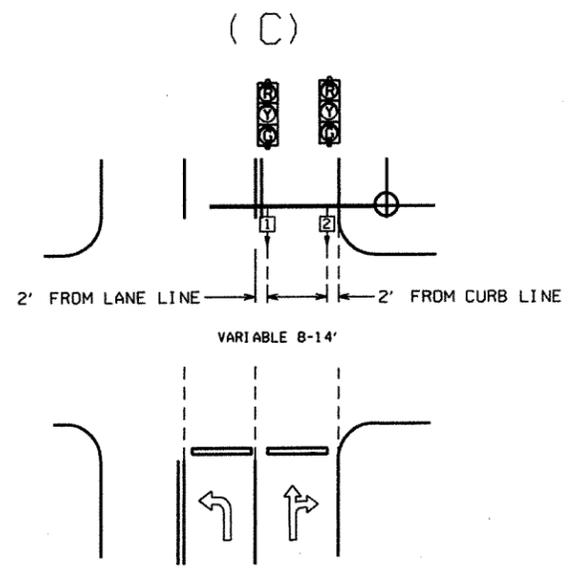
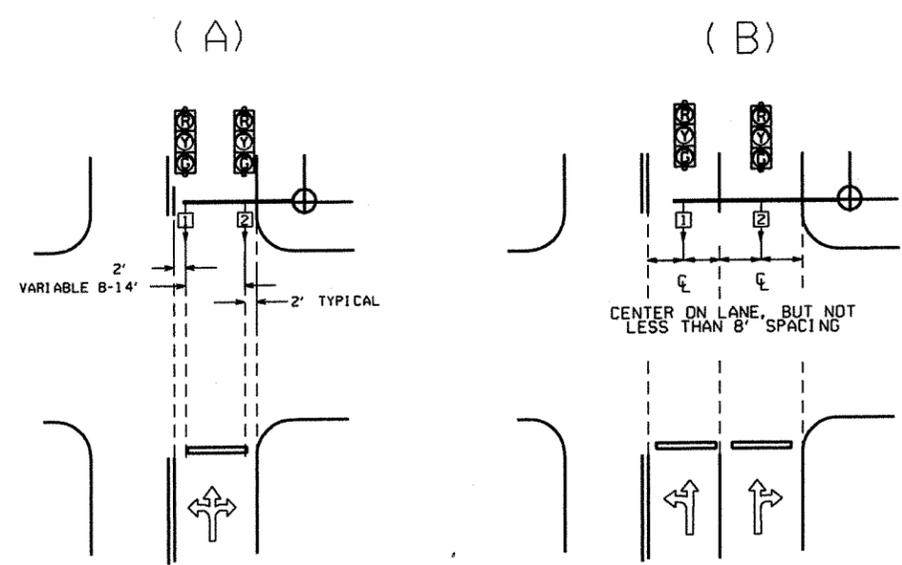
ELEVATION

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	

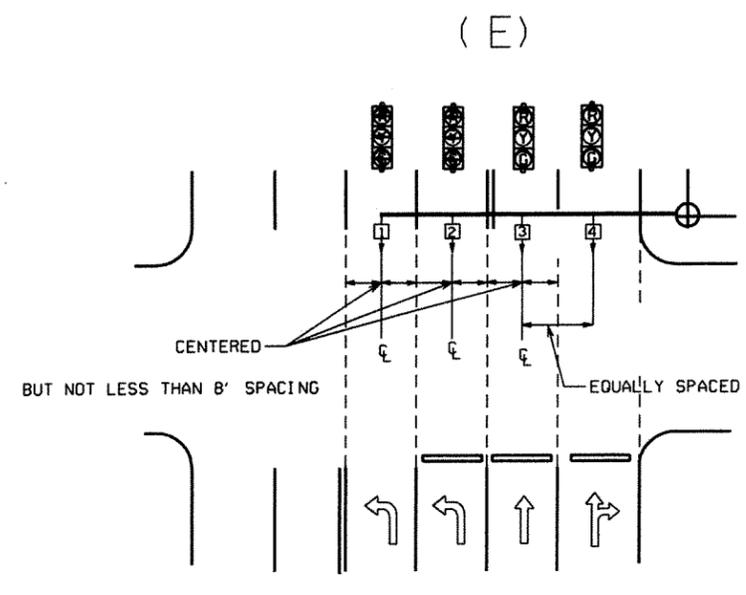
A.H.T.D. STANDARD DETAILS
ARKANSAS STATE HIGHWAY COMMISSION
SIGNALIZATION DETAIL
(Heavy Duty PullBox)

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.	050245		15	25

2 SIGNALIZATION DETAILS



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



GENERAL NOTES:

- 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.
- THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- 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.
- SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.
- 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.
- 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.

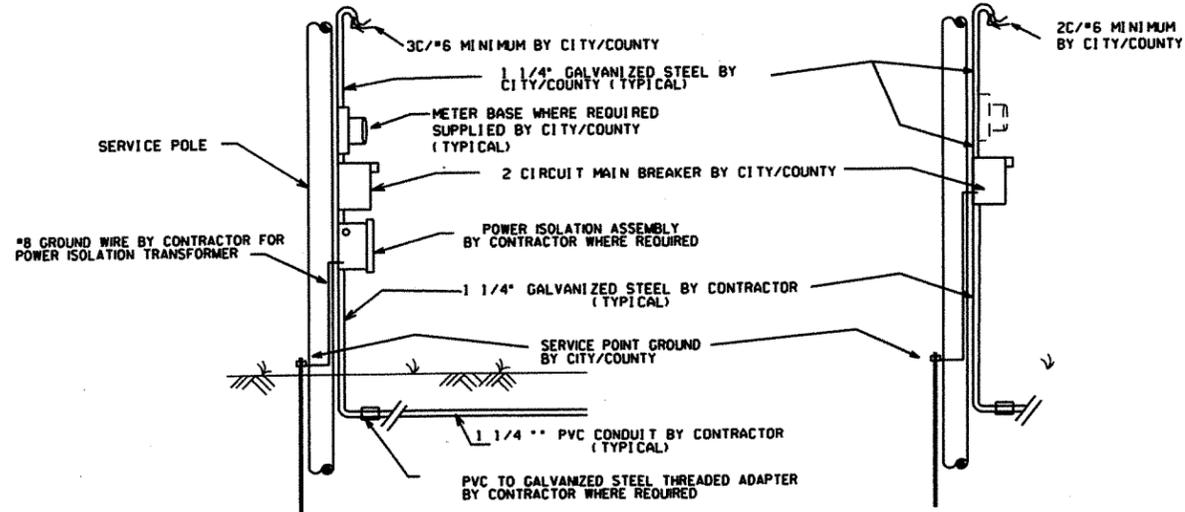
℄ = CENTER OF LANE FROM APPROACH SIDE

A.H.T.D. STANDARD DETAILS		
ARKANSAS STATE HIGHWAY COMMISSION		
SIGNALIZATION DETAIL (Signal Head Placement)		
3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY

WITHOUT POWER ISOLATION ASSEMBLY



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

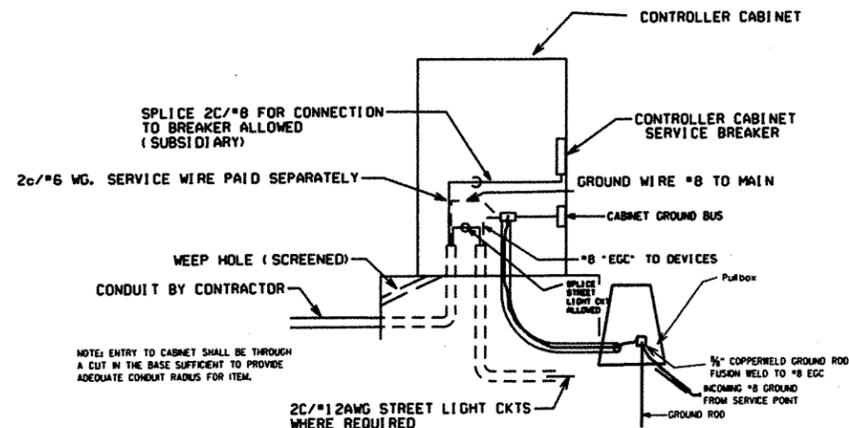
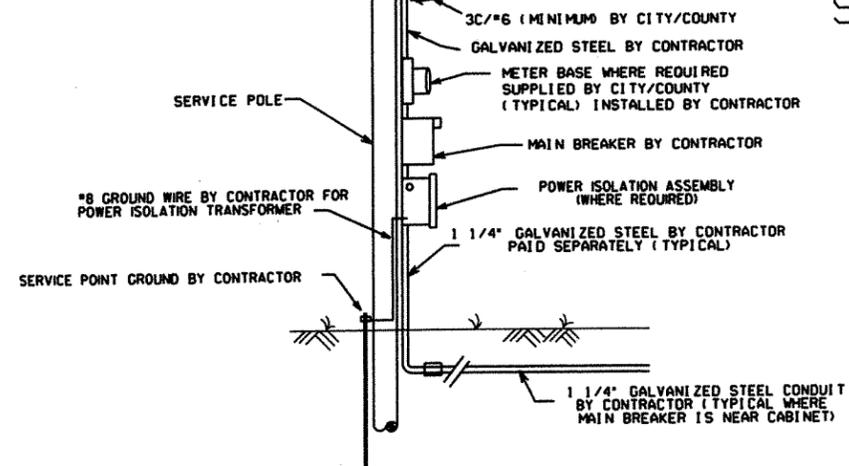
Electrical service typically falls into two categories: MAIN BREAKER NEAR CONTROLLER CABINET; and MAIN BREAKER NOT NEAR CONTROLLER CABINET. The Contractor's and the City's or County's responsibility varies accordingly as indicated on these details.

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.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED

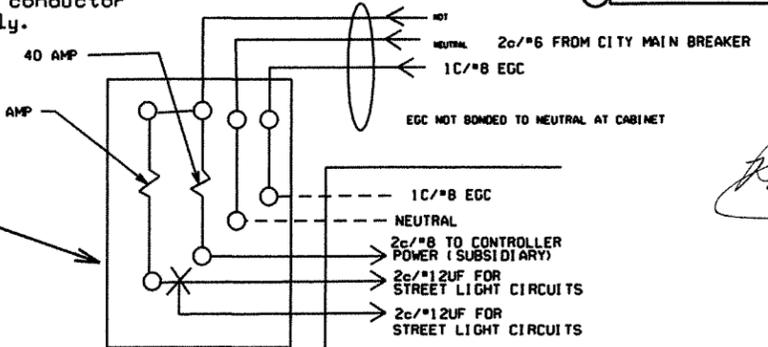
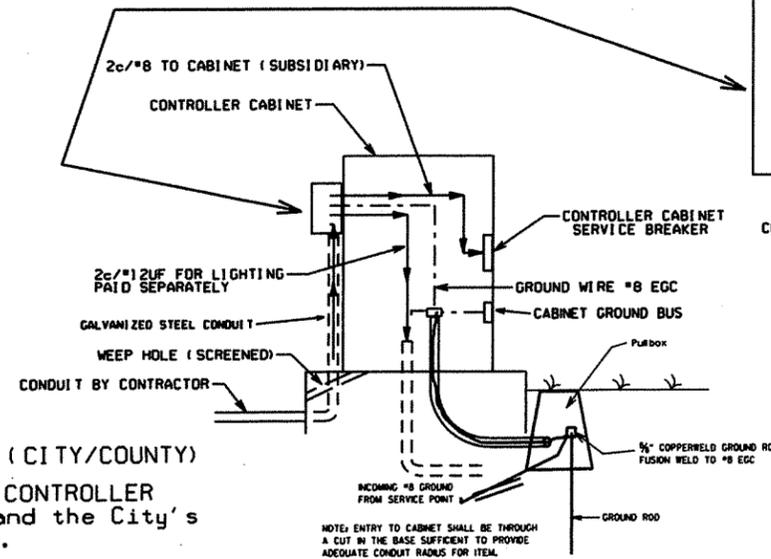


Ground Rod-A 10' x 3/4" ground rod shall be installed in the pull box for each pole and the controller. Payment for the ground rod and 1/2" NMC shall be included in Item 701. The pull box and conductor box shall be paid for separately.

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. 050245	16	25

SIGNALIZATION DETAILS

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



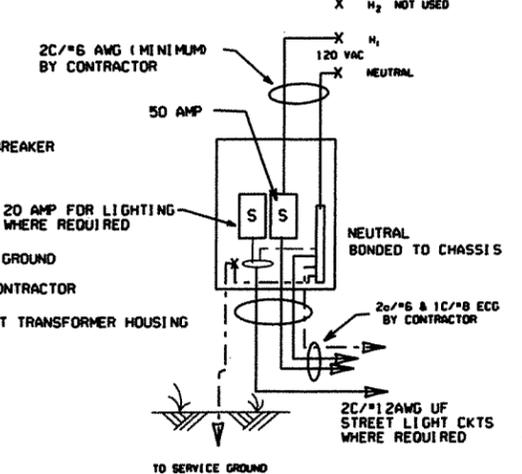
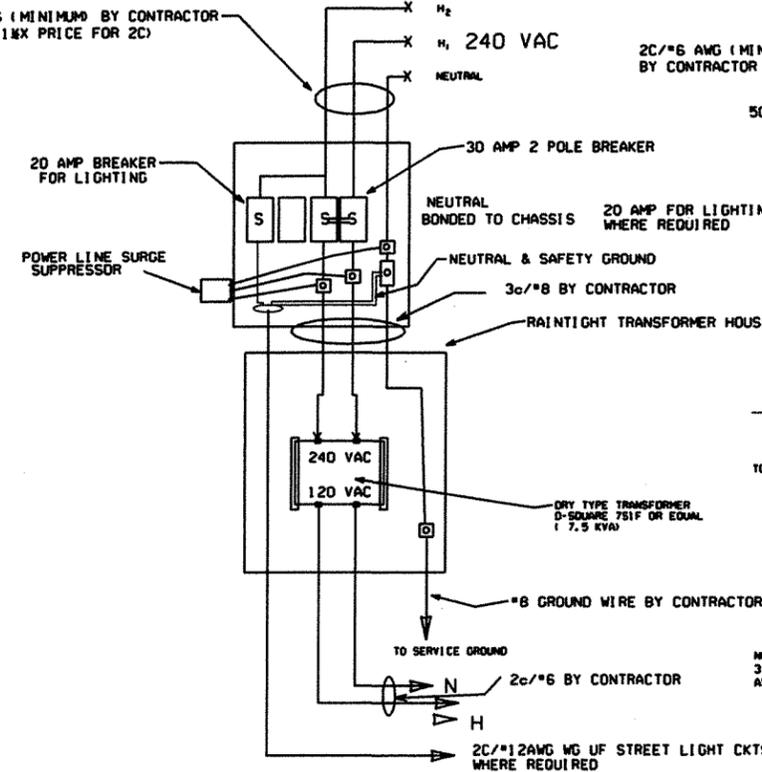
MAIN BREAKER WIRING (TYPICAL)

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

3C/#6 AWG (MINIMUM BY CONTRACTOR (PAID AT MAX PRICE FOR 2C)



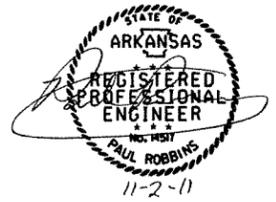
NOTE: ELECTRICAL GROUND CONDUCTOR (EGC) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

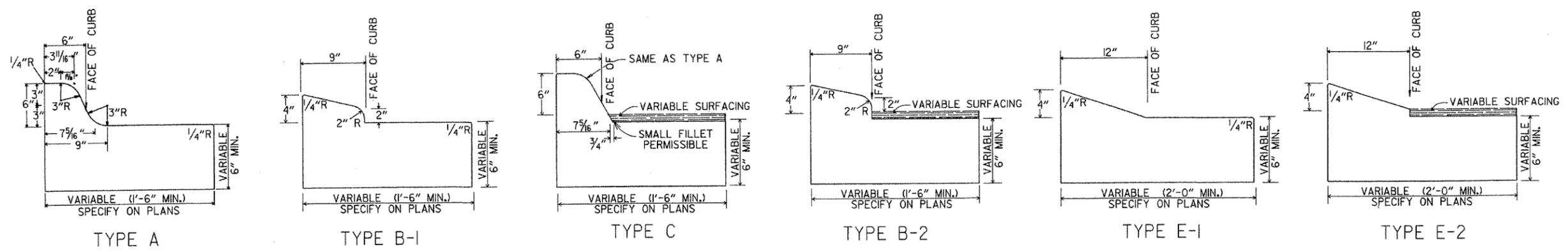
DATE	REVISION	DATE FILM
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
3-3-03	ADDED EGC NOTE	
9-26-01	REVISED	
12-27-99	REVISED	
7-28-99	REVISED	
2-5-99	ISSUED	

A.H.T.D. STANDARD DETAILS

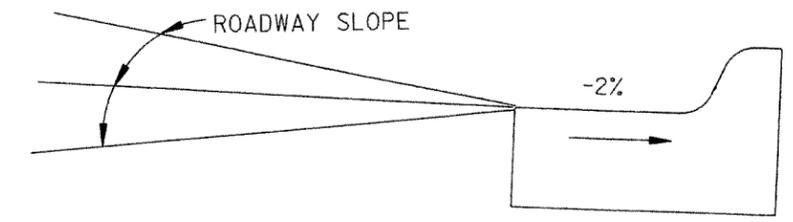
ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Service Point)

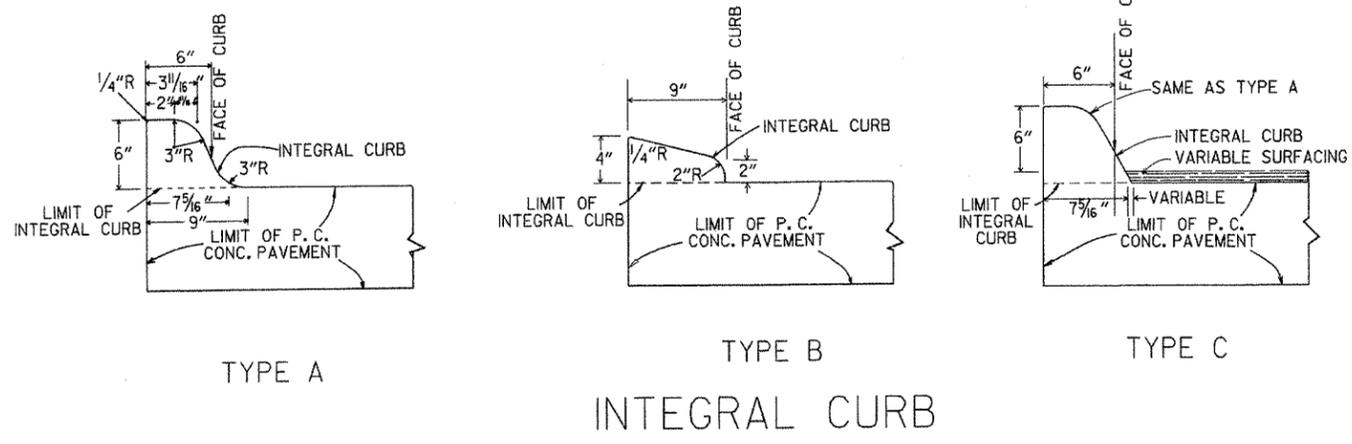




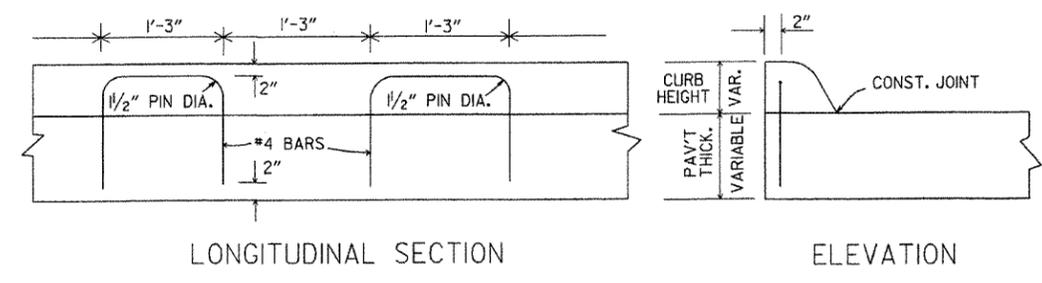
CONCRETE COMBINATION CURB AND GUTTER



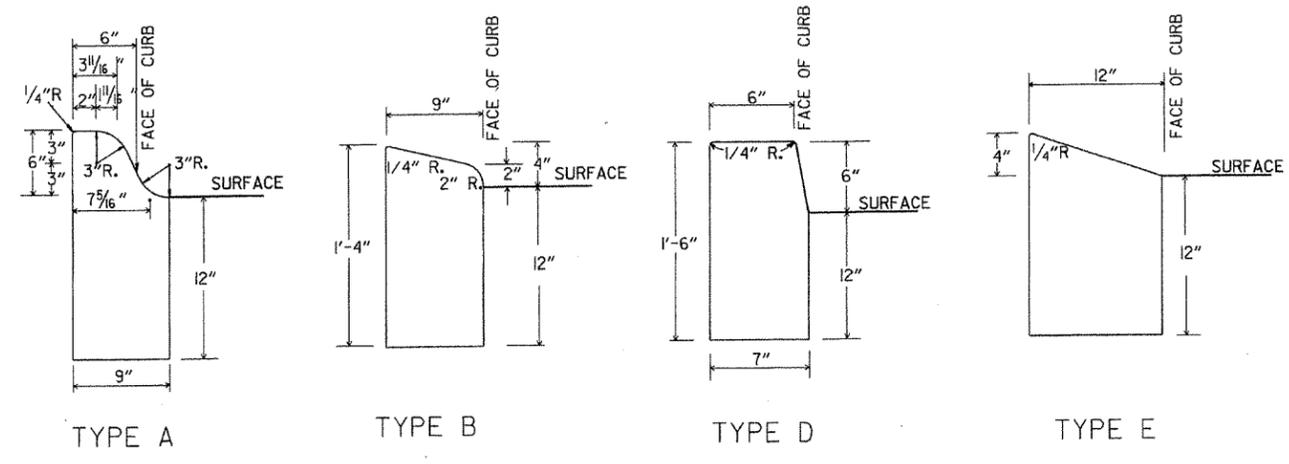
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



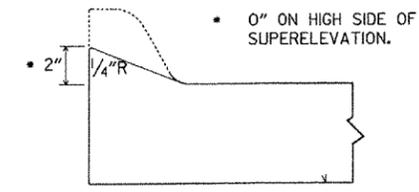
INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



CONCRETE CURB



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

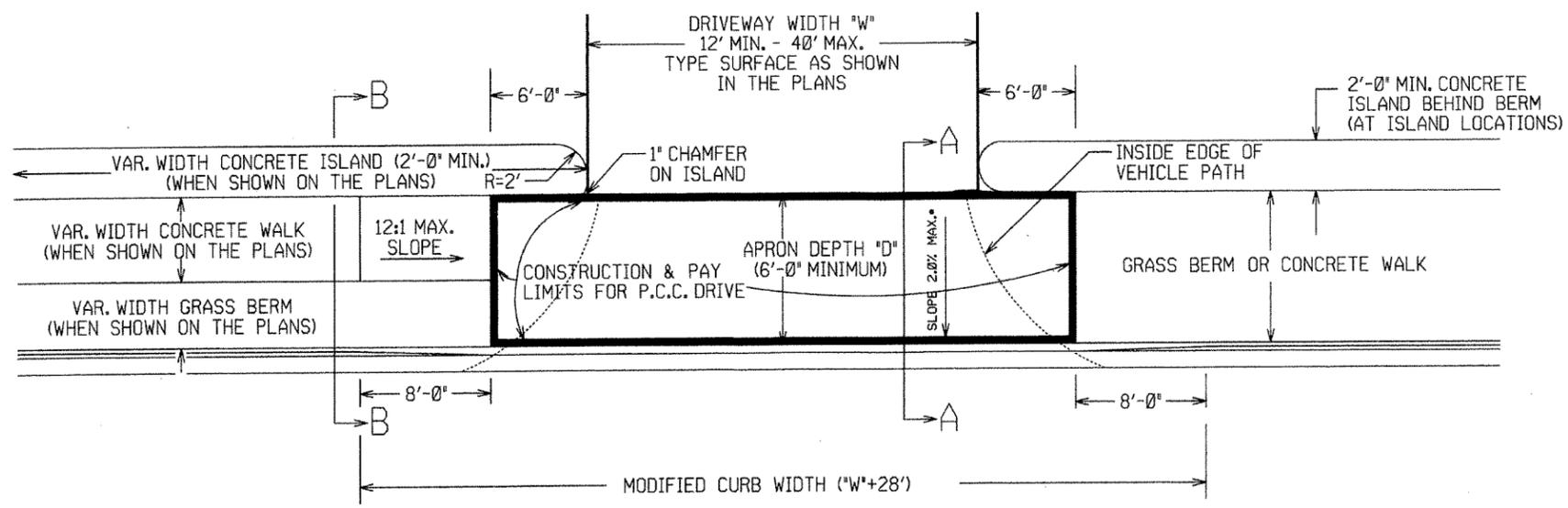
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	8-5-93
8-5-93	CORRECTED GUTTER SLOPE	10-1-92
10-1-92	ADDED DETAILS OF GUTTER SLOPE	5-24-90
5-24-90	ADDED DETAILS OF MODIFIED CURB	11-30-89
11-30-89	VARIABLE DEPTH TYPE A & B 1	630-7-15-88
7-15-88	REVISED MODIFIED CURB	500-11-1-73
11-1-73	REVISED MODIFIED CURB	52-10-2-72
10-2-72	REVISED AND REDRAWN	

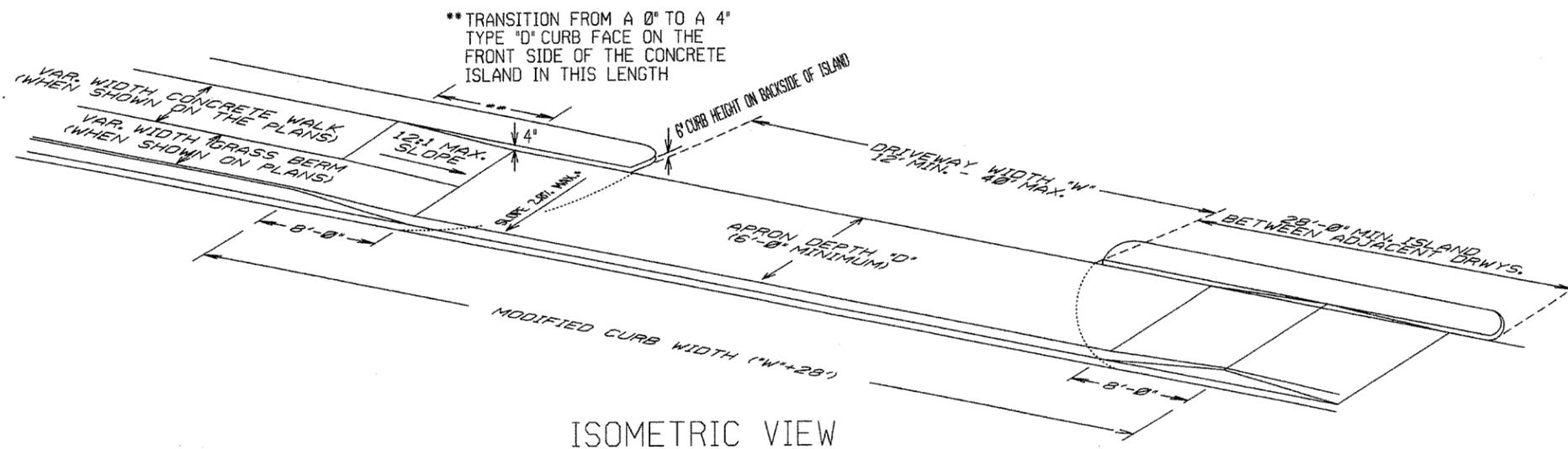
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

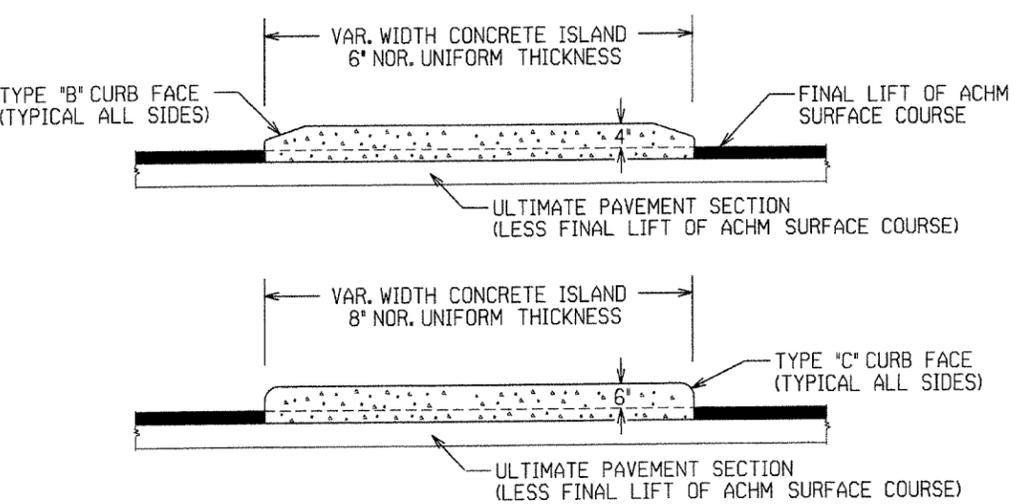
STANDARD DRAWING CG-1



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".

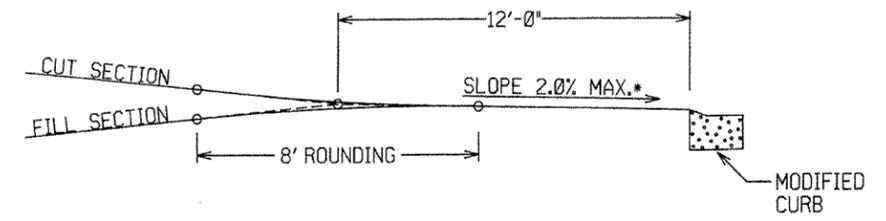


EXTENSION TYPICAL SECTIONS

- 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

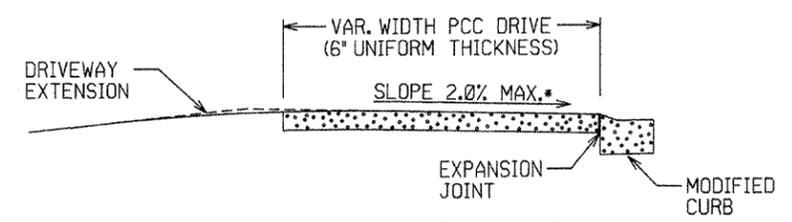
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

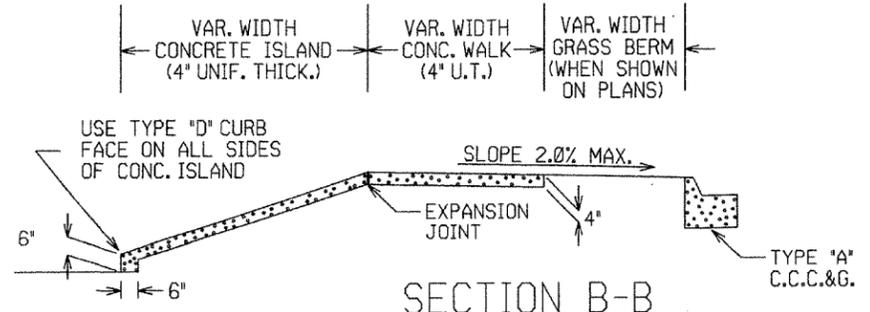


DRIVEWAY VERTICAL ALIGNMENT DETAILS

* 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

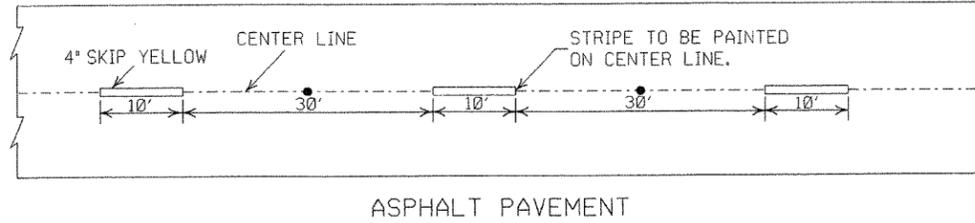
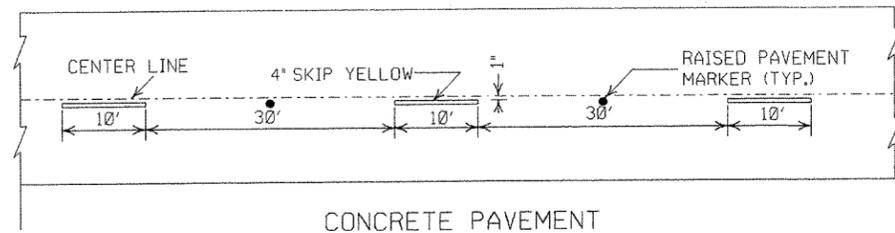
DATE	REV	DESCRIPTION
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98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

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

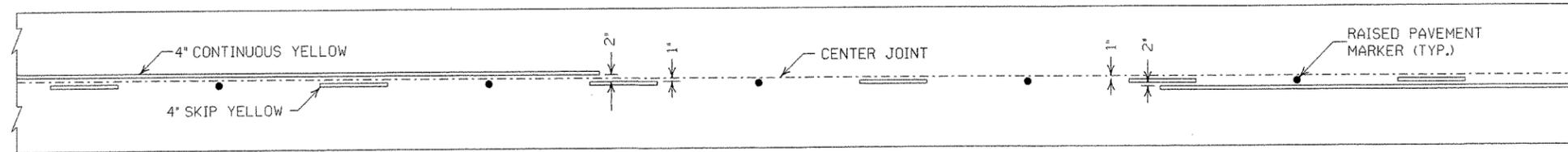
NOTES:

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

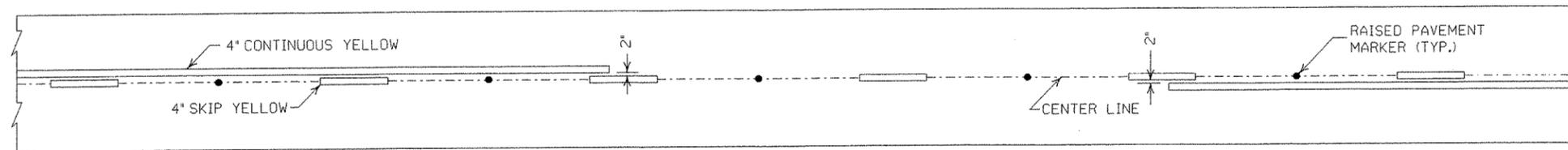
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



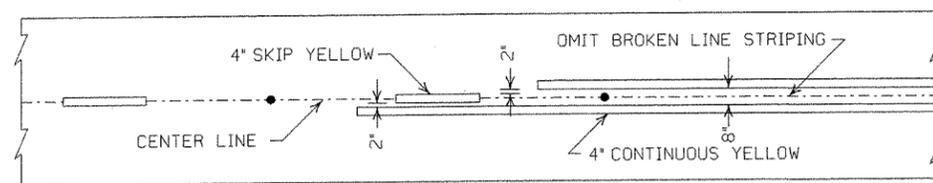
BROKEN LINE STRIPING



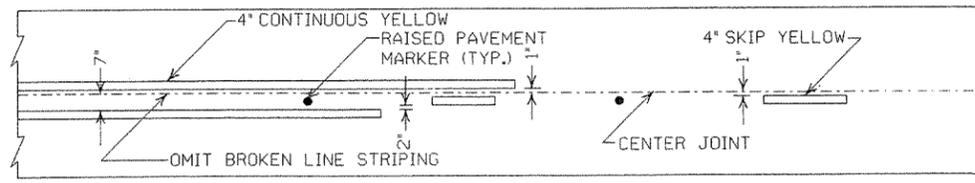
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

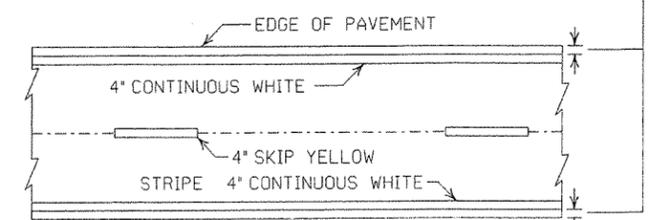


ASPHALT PAVEMENT

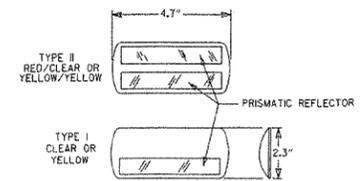


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



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

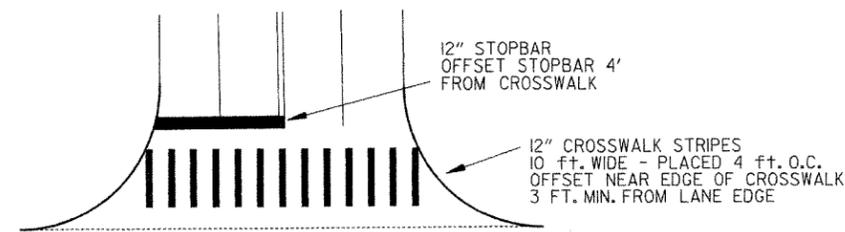
GENERAL NOTES:

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.



CROSSWALK AND STOPBAR DETAILS

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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

ADVANCE DISTANCES (XXXX)

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

GENERAL NOTES:

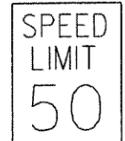
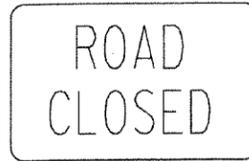
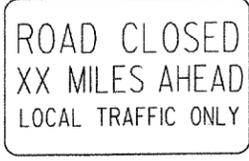
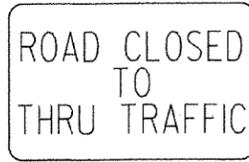
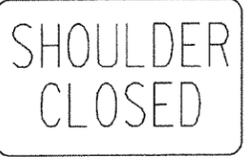
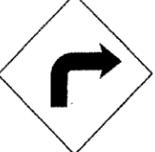
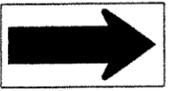
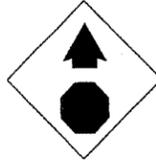
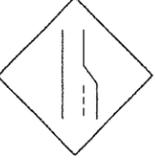
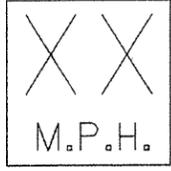
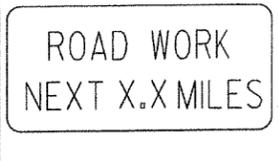
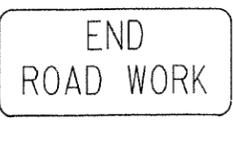
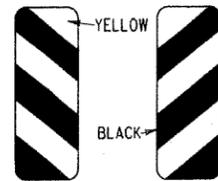
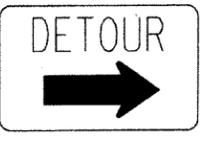
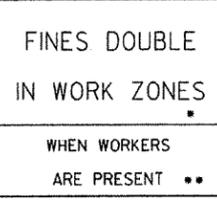
- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START 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.
- 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, DEFACE, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 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.
- 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.
- 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.
- 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.
- FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- 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.
- 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.

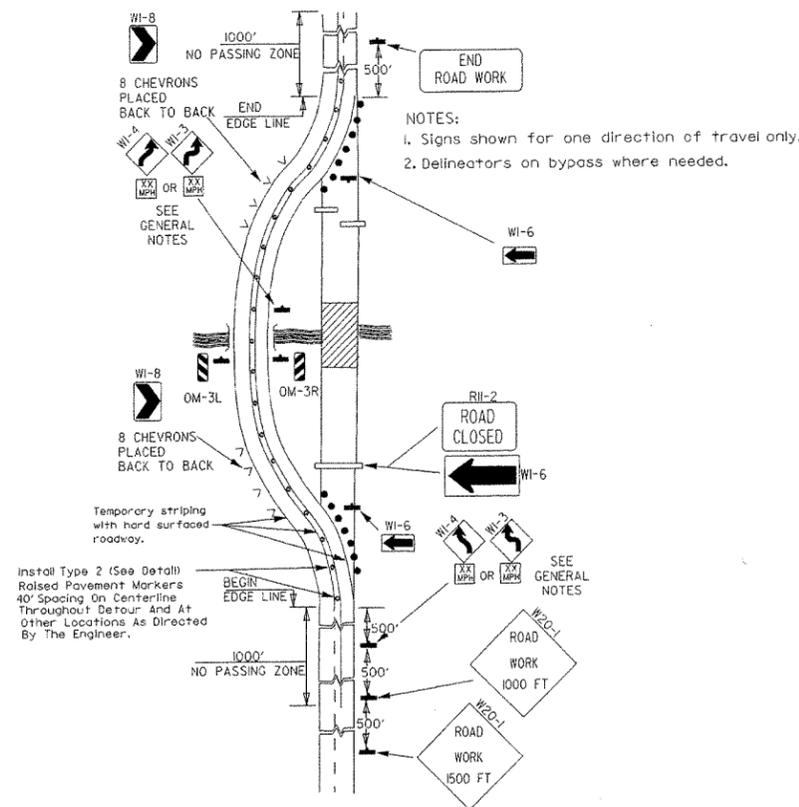
NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-5-09	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	
8-5-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

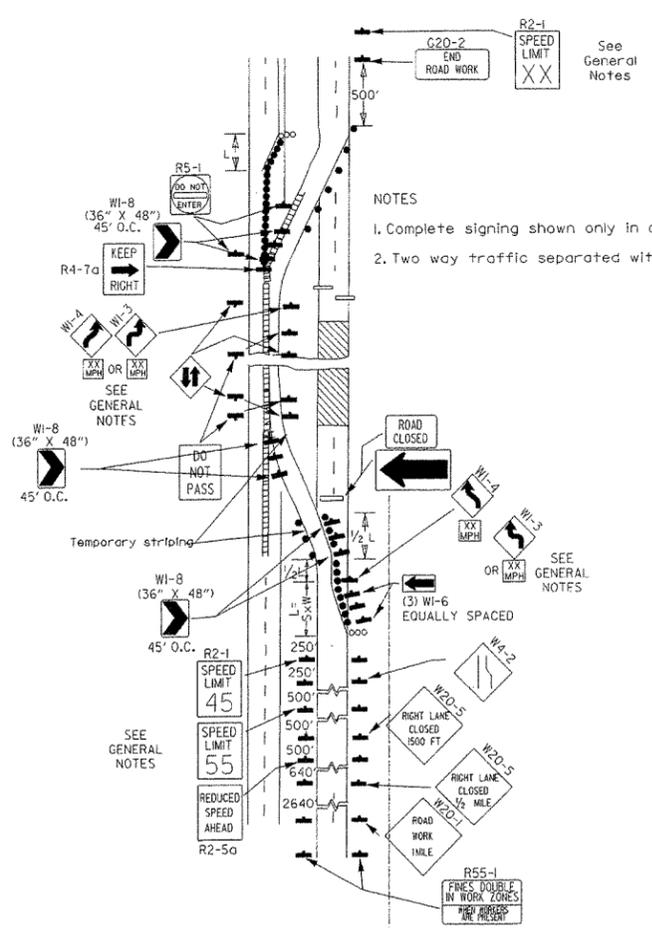
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1

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

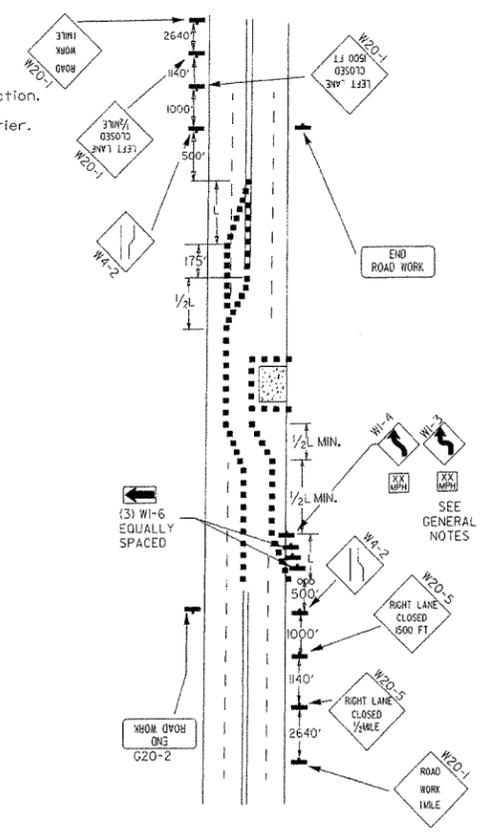
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>W1-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>WHEN WORKERS ARE PRESENT ••</p>



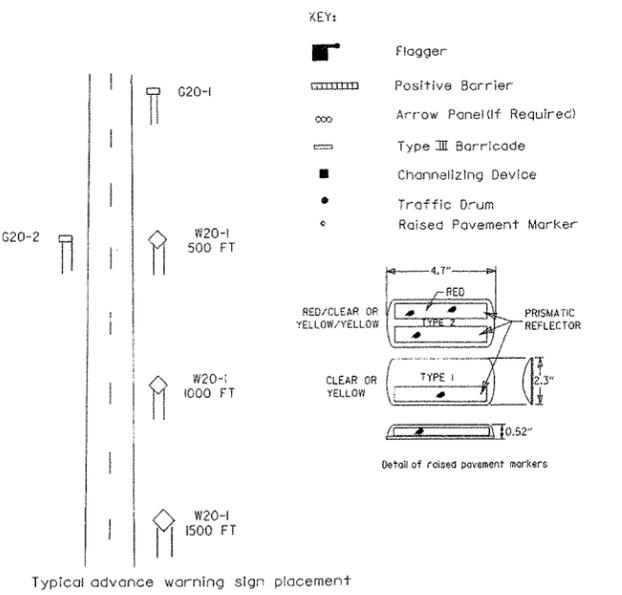
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



(B) Typical application - 4-lane divided roadway where one roadway is closed.

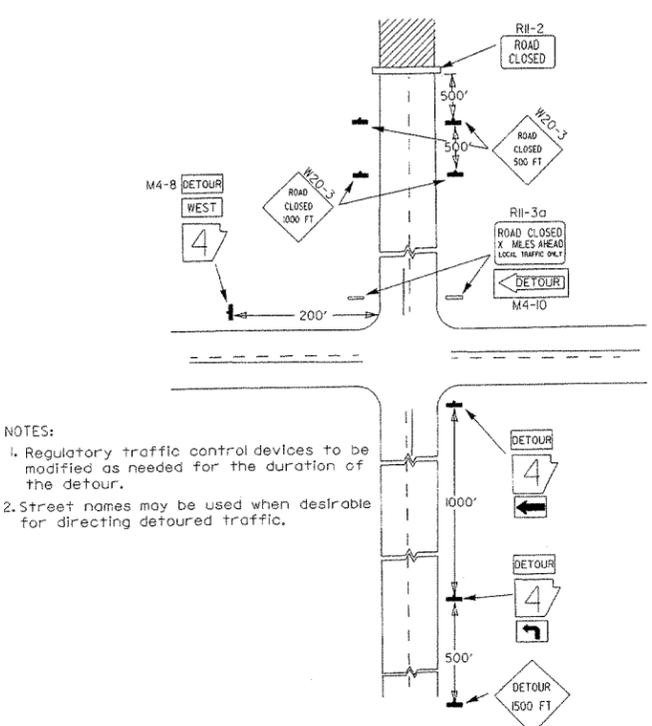


(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.

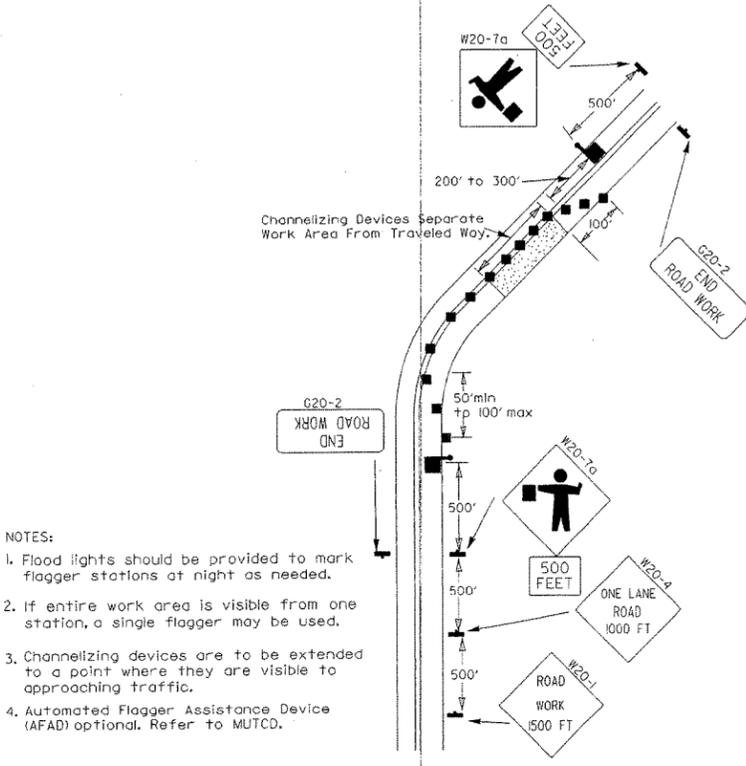


Taper formulae:
 L=SxW for speeds of 45mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40mph or less.
 Where:
 L= Minimum length of taper.
 S= Numerical value of posted speed limit prior to work or 85th percentile speed.
 W= Width of offset.

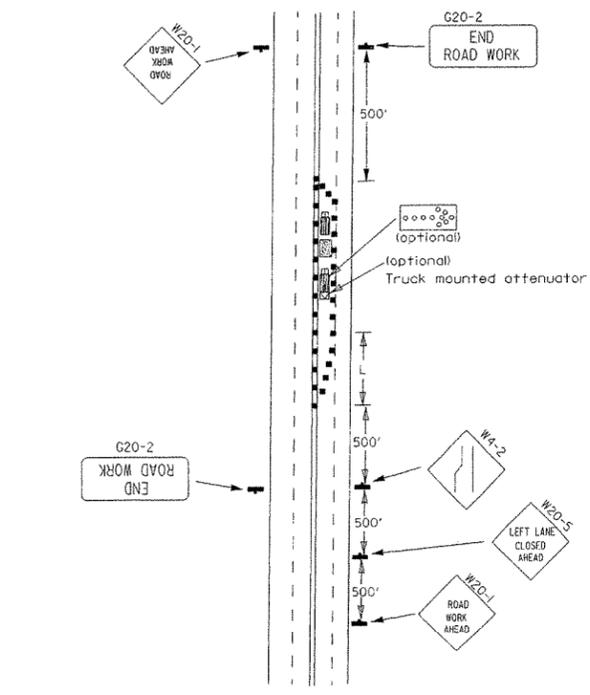
- GENERAL NOTES:
- Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
 - When the existing speed limit is 55mph, the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A 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.
 - When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-1(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.
 - The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
 - Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
 - Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
 - 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.



(D) Typical application - roadway closed beyond detour point.



(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.

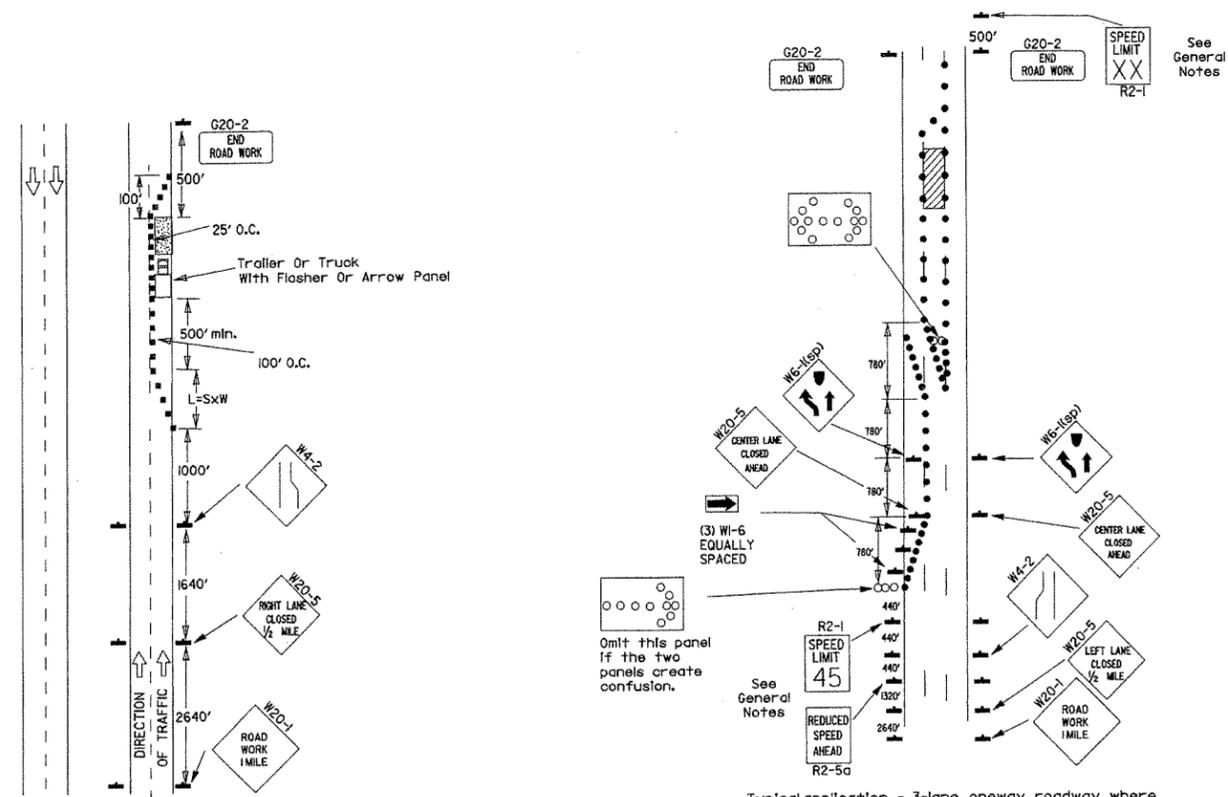


(F) Typical application - 4-lane undivided roadway with inside lane closed.

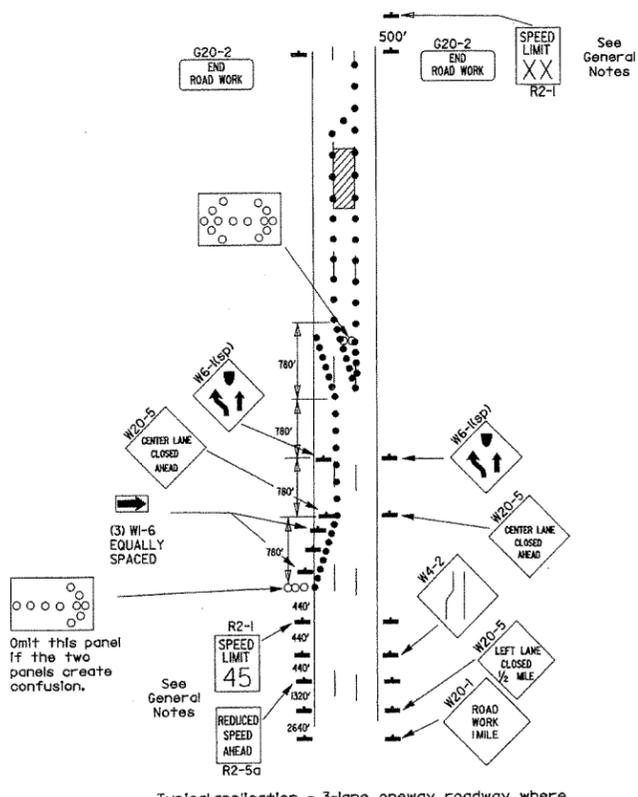
DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

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

Channelizing devices



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



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

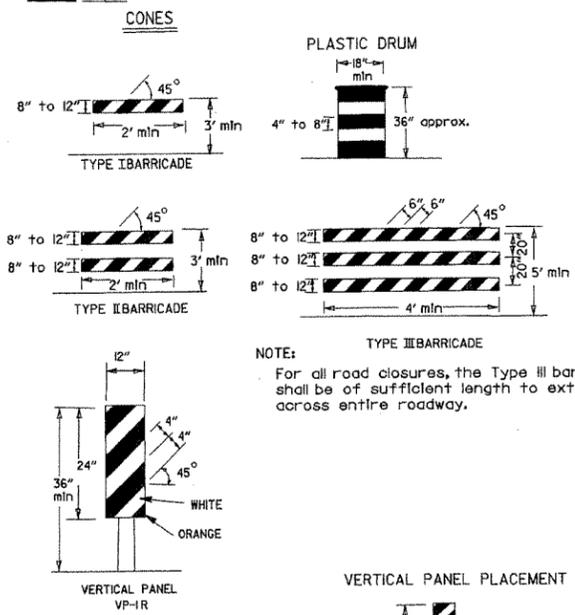
- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

GENERAL NOTES:

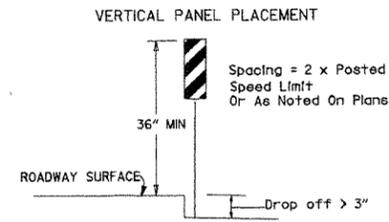
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5a shall be installed at that location. Additional 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.

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

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.



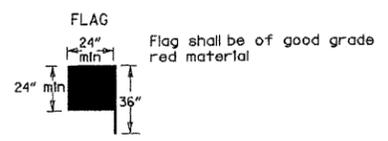
NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



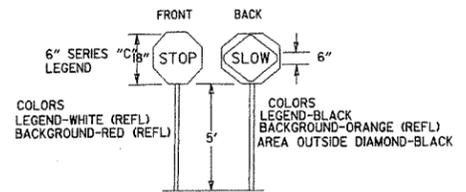
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

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

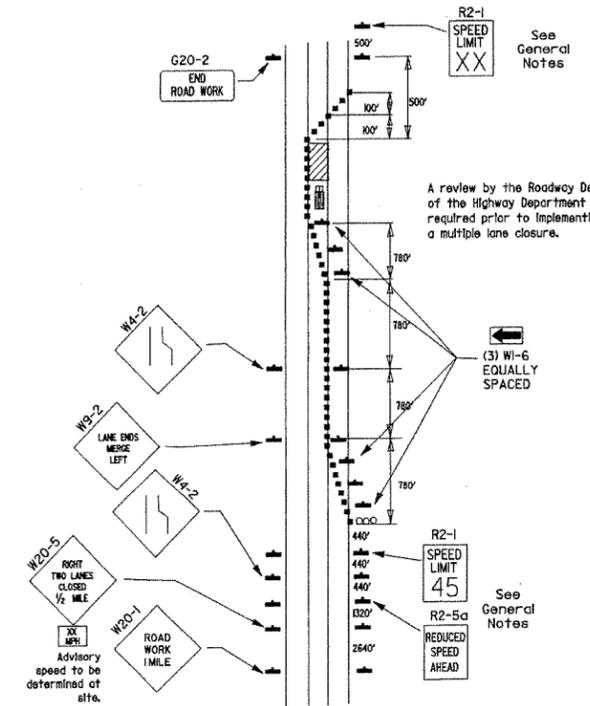
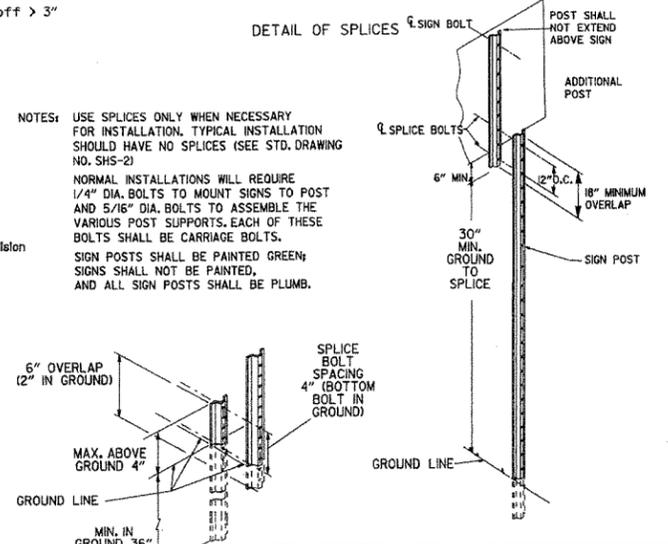
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



STOP SLOW PADDLE

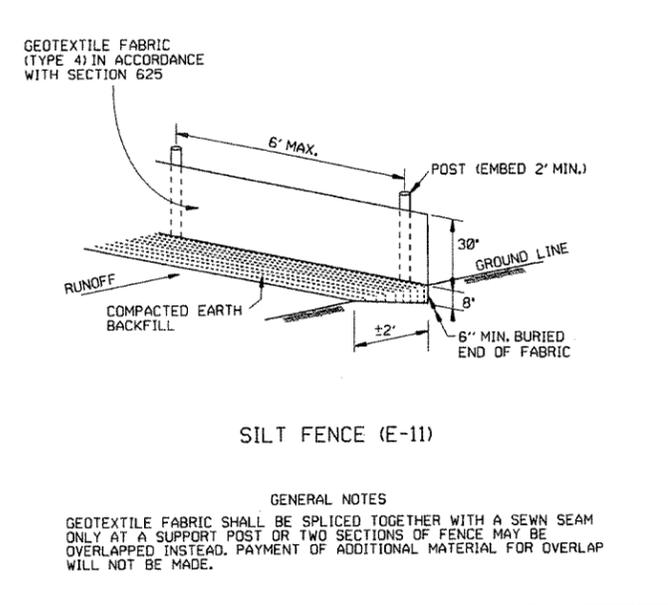
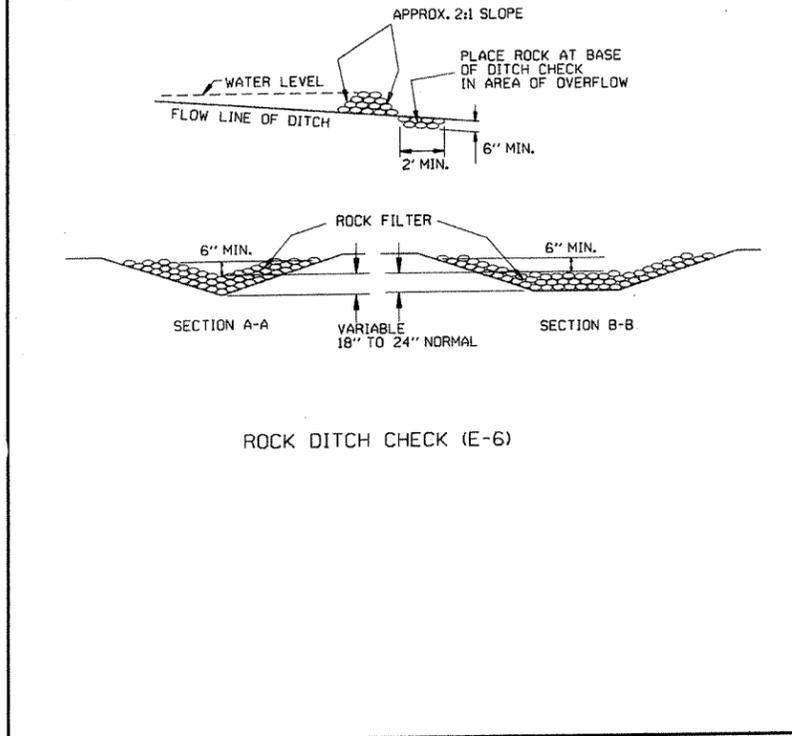
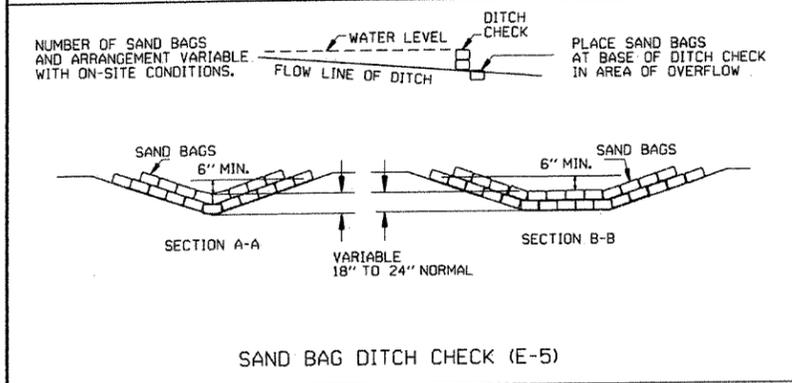
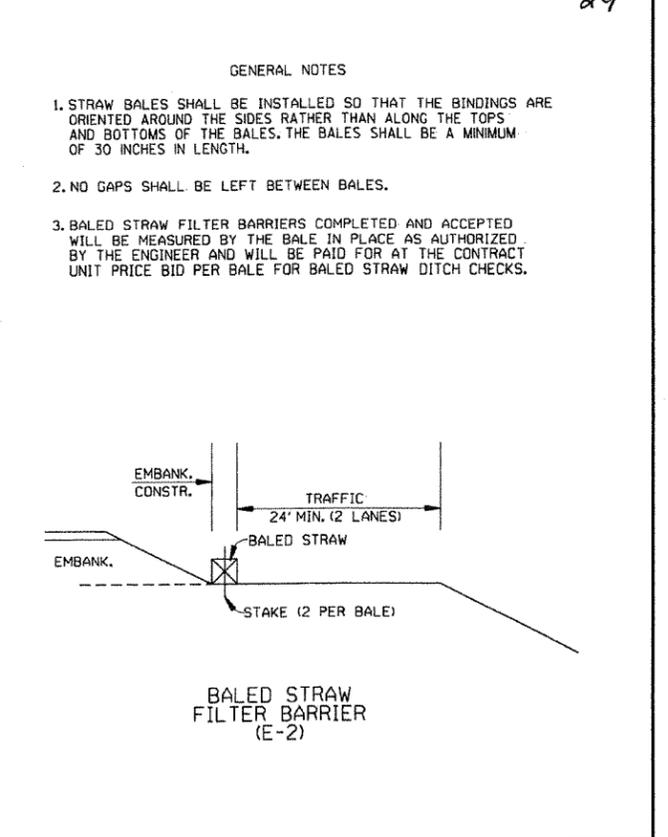
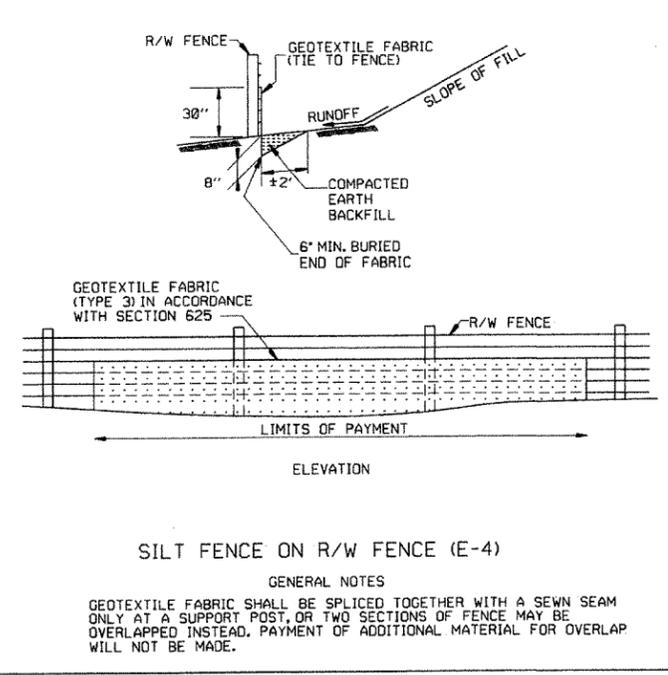
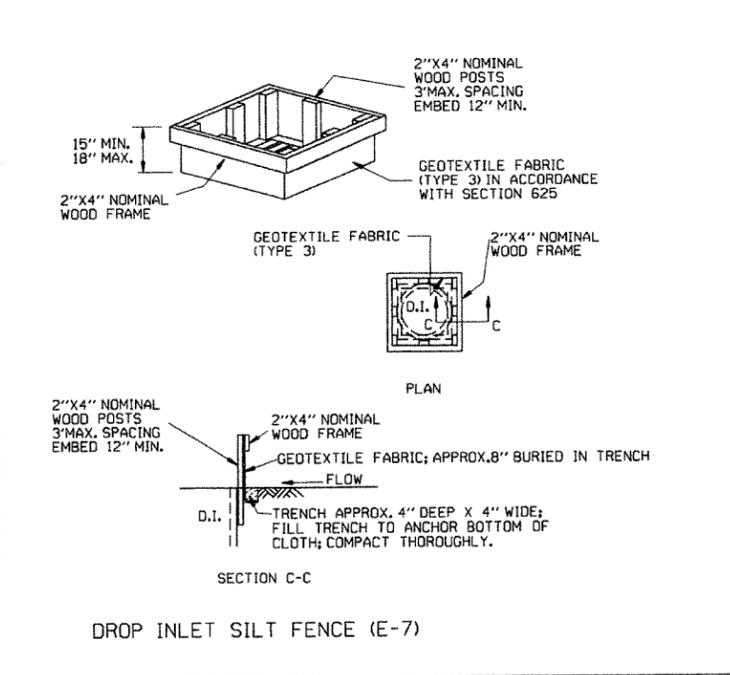
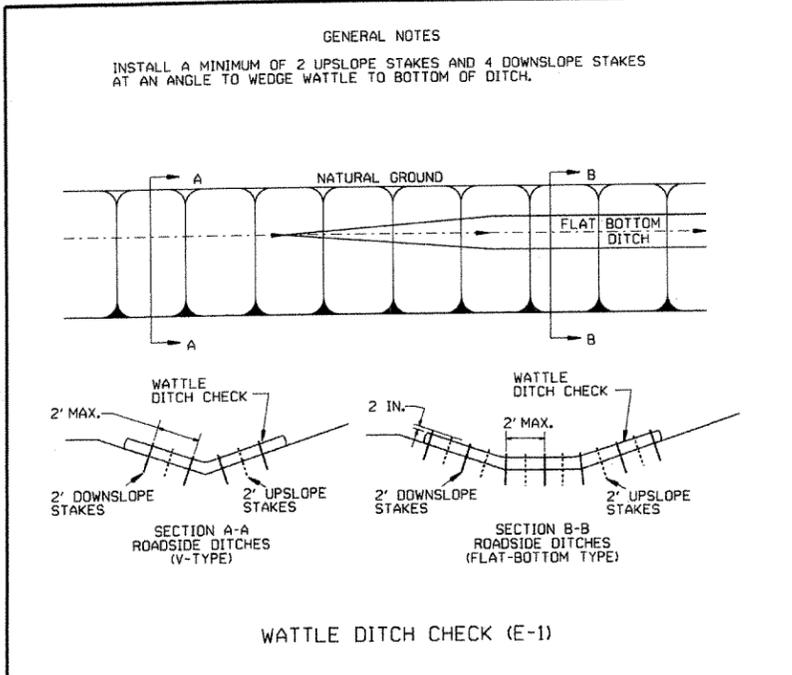


NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2) NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE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

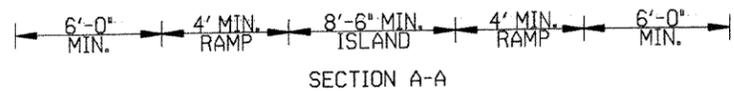
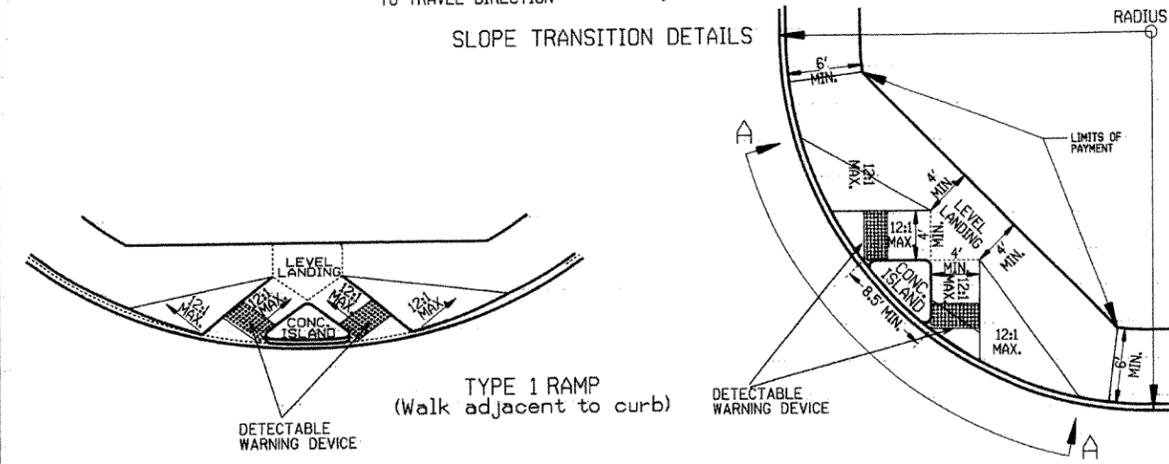
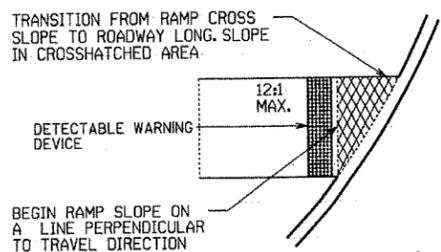
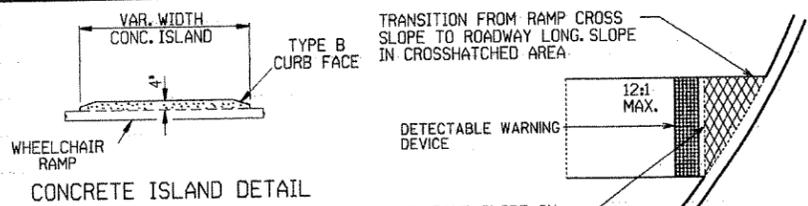


(D) Typical application - closing multiple lanes of a multi-lane highway.

DATE	REVISION	FILED
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 (SPI) 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	

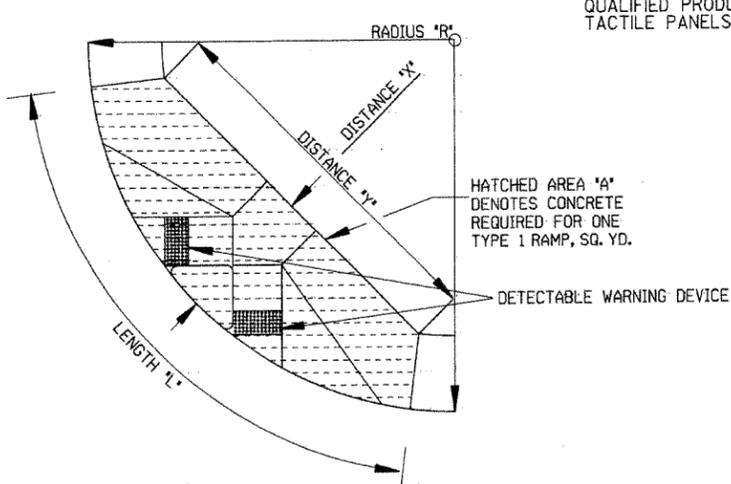


12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
11-18-98	ADDED NOTES		TEMPORARY EROSION CONTROL DEVICES
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	STANDARD DRAWING TEC-1
7-15-94	REV. E-4 & E-11 MIN. 13\"/>		
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	
DATE	REVISION	FILMED	

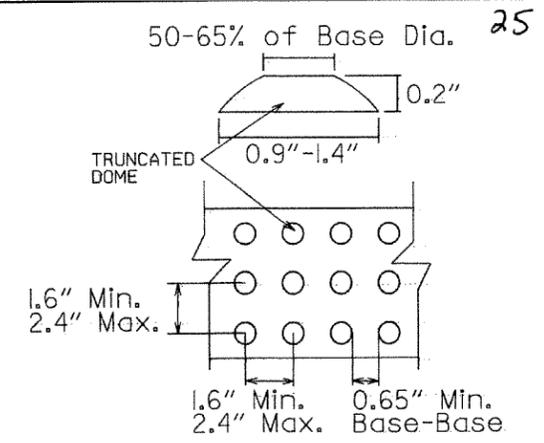


TYPE 1 RAMP DIMENSIONS AND QUANTITIES

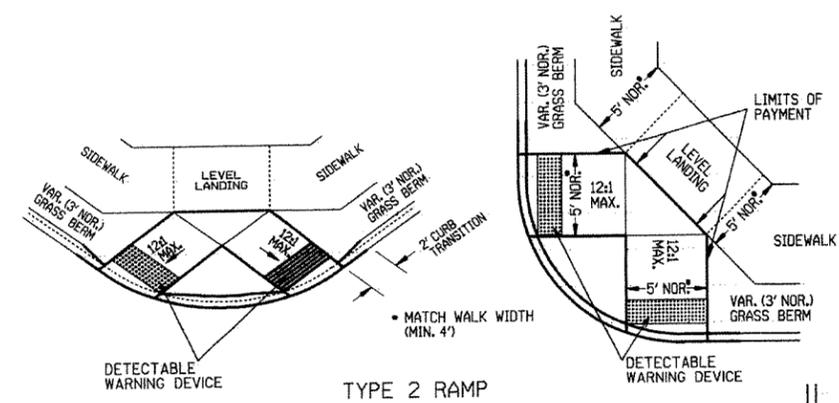
RADIUS "R" FEET	DISTANCE "Y" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80



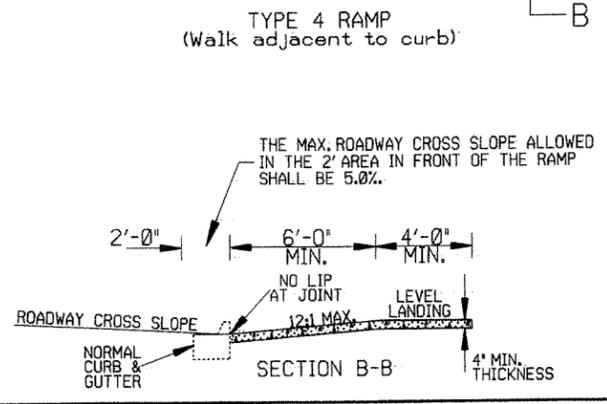
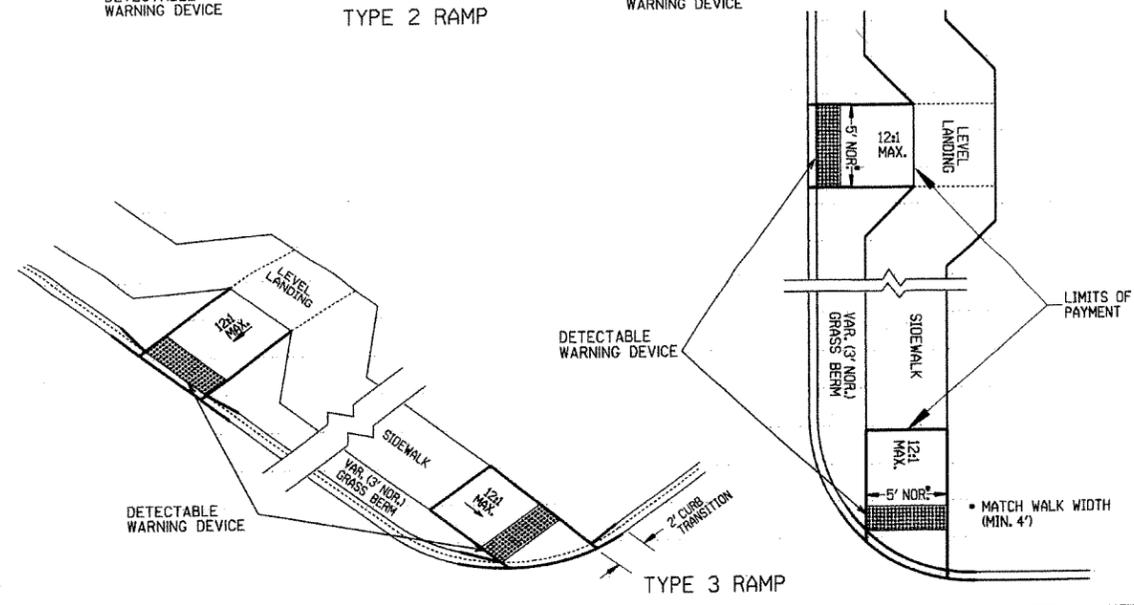
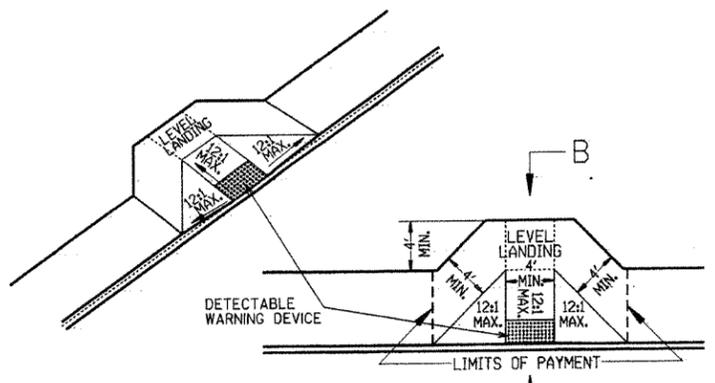
GENERAL NOTES FOR DETECTABLE WARNING DEVICES
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB. TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. DETECTABLE WARNING DEVICE SHALL BE ON THE AHT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL



NOTE: THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL 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.

RAMP SELECTION CRITERIA

CHOICE	TYPE	DESCRIPTION
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).
SECOND CHOICE	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	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 STEEPER 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	FILE
11-10-05	REVISED TO NEW SIDEWALK POLICY		
10-9-03	REVISED GEN. NOTES & ADDED NOTE		
4-10-03	REV. DETECTABLE WARNING DEVICES		
8-22-02	ADD DETECTABLE WARNING DEVICES		
3-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.		
11-18-98	REVISED NOTES		
8-12-98	REVISED TEXTURE		
7-02-98	REDRAWN & REISSUED		
10-18-96	CORRECTED DIMENSIONS	10-18-96	
5-24-90	FROM 8:1 TO 12:1 MAX. SLOPE	5-24-90	
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88	
7-14-88	INCL. CONC. ISLAND 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