

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	100741		1	25
② HWY. 49/HWY. 49B/PURCELL RD. SIGNAL (PARAGOULD) (S)								

PROJECT LOCATION

HWY. 49 / HWY. 49B / PURCELL RD. SIGNAL
(PARAGOULD) (S)

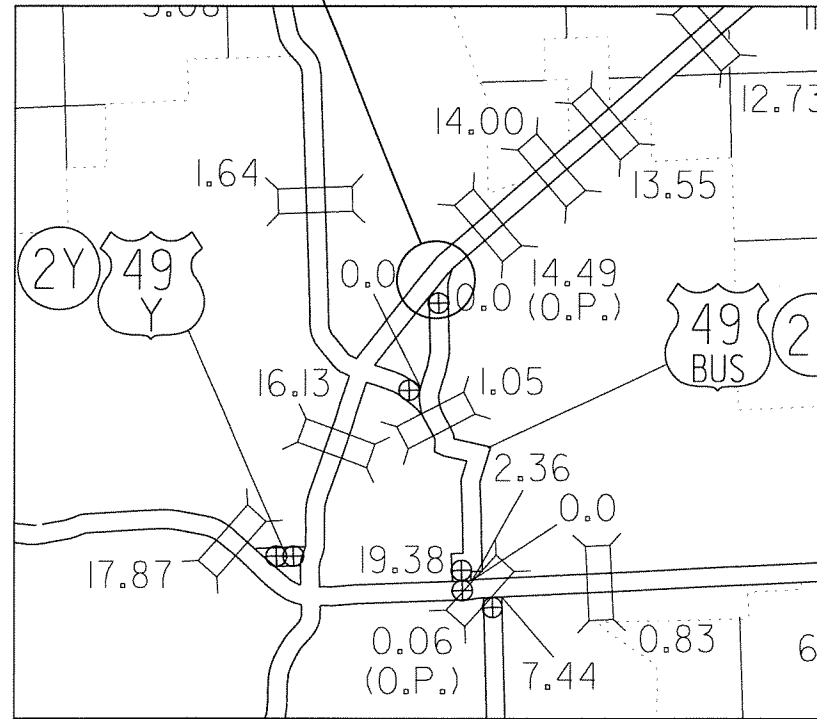
GREENE COUNTY

ROUTE 49, SECTION 2
ROUTE 49B, SECTION 2B

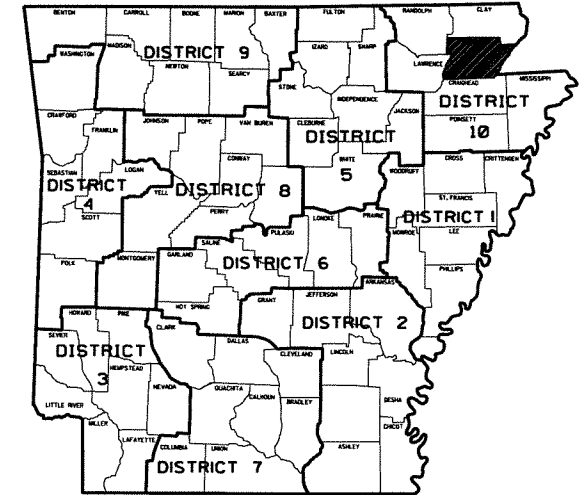
FAP NO. STP-9332(I2)

JOB 100741

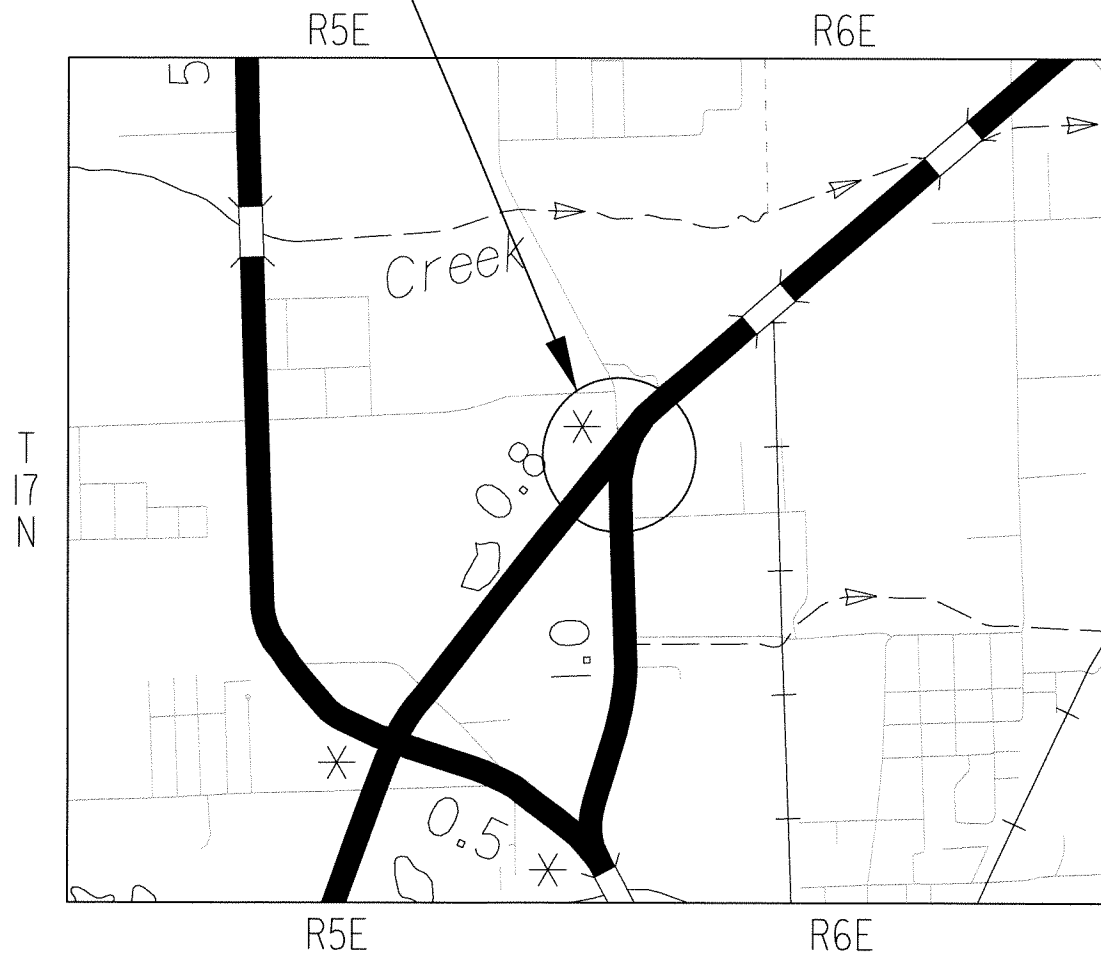
PROJECT LOCATION



VICINITY MAP



ARKANSAS HIGHWAY DISTRICT 10



MID POINT OF PROJECT

Long. 90°29'23" W

Lat. 36°04'49" N



JOB 100741

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REVISED DATE:



7-7-11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100741	2	25

INDEX OF SHEETS, GOVERNING SPECS. & NOTES

SHEET NO.	TITLE	DRAWING NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND NOTES		
3	SUMMARY OF QUANTITIES AND REVISIONS		
4	CONTROL DETAIL SHEET		
5	MAINTENANCE OF TRAFFIC		
6-9	ISLAND DETAILS		
10	PERMANENT PAVEMENT MARKINGS		
11-13	SIGNALIZATION PLANS		
14-19	SIGNALIZATION DETAILS		
20	CURBING DETAILS	CG-1	11-29-07
21	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
22	PAVEMENT MARKING DETAILS	PM-1	11-17-10
23	STANDARD TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION	TC-1	11-17-10
24	STANDARD TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
25	STANDARD TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09

TRAFFIC SIGNAL NOTES

- 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.
- 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.
- 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.
- CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
- 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.
- CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
- 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.
- 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.
- TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
- 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.
- ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
- CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
- LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
- 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.
- 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 FEET 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.
- 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.
- 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 IS KEYED INTO COMPETENT ROCK.
- CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HANDHOLE 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 POLE WITH FOUNDATION.
- CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
- 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.
- 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.
- 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.



8-15-11

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON THE PLANS.
- ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- 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.
- 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.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- 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.

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISION
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)
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
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING ACHM LEVELING COURSES AND BAND BREAKERS
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
711-1	CONCRETE PULL BOX
714-1	DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL MAST ARMS AND POLES
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
JOB 100741	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 100741	CABINET DRAWER ASSEMBLY
JOB 100741	EDGE CARD VIDEO PROCESSOR
JOB 100741	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 100741	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 100741	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 100741	INTERNET BIDDING
JOB 100741	LED TRAFFIC SIGNAL HEAD
JOB 100741	LUMINAIRE ASSEMBLY (CUTOFF TYPE)
JOB 100741	SERVICE POINT ASSEMBLY
JOB 100741	STREET NAME SIGN (MAST ARM MOUNTED)
JOB 100741	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 100741	UTILITY ADJUSTMENTS
JOB 100741	VIDEO DETECTOR (COLOR)
JOB 100741	WARM MIX ASPHALT

LOCATION: HWY. 49/HWY. 49B/PURCELL RD.
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: 1" = 40' DRAWN BY: DLT

DATE: 08/15/11 FILE NAME: t100741.ind.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						100741	3	25

② SUMMARY OF QUANTITIES AND REVISIONS

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF CURB	1010	LIN. FT.
202	REMOVAL AND DISPOSAL OF ISLANDS	945	SQ. YD.
210	UNCLASSIFIED EXCAVATION	12	CU. YD.
309	PORTLAND CEMENT CONCRETE BASE (12" UNIFORM THICKNESS)	329	SQ. YD.
SP,SS&407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	34	TON
SP,SS&407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	2	TON
601	MOBILIZATION	1.00	L.S.
SS&603	MAINTENANCE OF TRAFFIC	1.00	L.S.
SS&604	SIGNS	224	SQ. FT.
SS&604	TRAFFIC DRUMS	113	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	7755	LIN. FT.
632	CONCRETE ISLAND	734	SQ. YD.
SP&701	ACTUATED CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	11	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	2	EACH
708	TRAFFIC SIGNAL CABLE (5c/14 A.W.G.)	542	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7c/14 A.W.G.)	107	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12c/14 A.W.G.)	347	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20c/14 A.W.G.)	357	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	15	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	13	LIN. FT.
710	NON-METALLIC CONDUIT (2")	56	LIN. FT.
710	NON-METALLIC CONDUIT (3")	497	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	6	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	1	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 (56')	1	EACH
SS&718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	647	LIN. FT.
SS&718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")	187	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	3147	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	1392	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	30	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (24")	48	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	4608	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING YELLOW (8")	335	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	2	EACH
SS&719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	2	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	56	EACH
SP&733	VIDEO DETECTOR (CLR)	7	EACH *
733	VIDEO CABLE	1092	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH *
SP&733	VEHICLE DETECTOR RACK (12 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2c/6 A.W.G.)	28	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1c/8 A.W.G., EGC)	541	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1c/12 A.W.G., EGC)	210	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	864	LIN. FT.
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	18" STREET NAME SIGN	2	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

* ONE ADDITIONAL VIDEO DETECTOR AND ONE ADDITIONAL VIDEO PROCESSOR, EDGE CARD PROVIDED FOR FUTURE USE.

REVISION BOX

DATE	REVISION	SHEET NUMBER



8-9-11

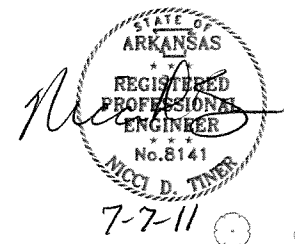
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 REVISED DATE:

LOCATION:	HWY. 49/HWY. 49B/PURCELL ROAD
CITY:	PARAGOULD
COUNTY:	GREENE
DISTRICT:	10
SCALE:	1" = 40'
DRAWN BY:	dlt

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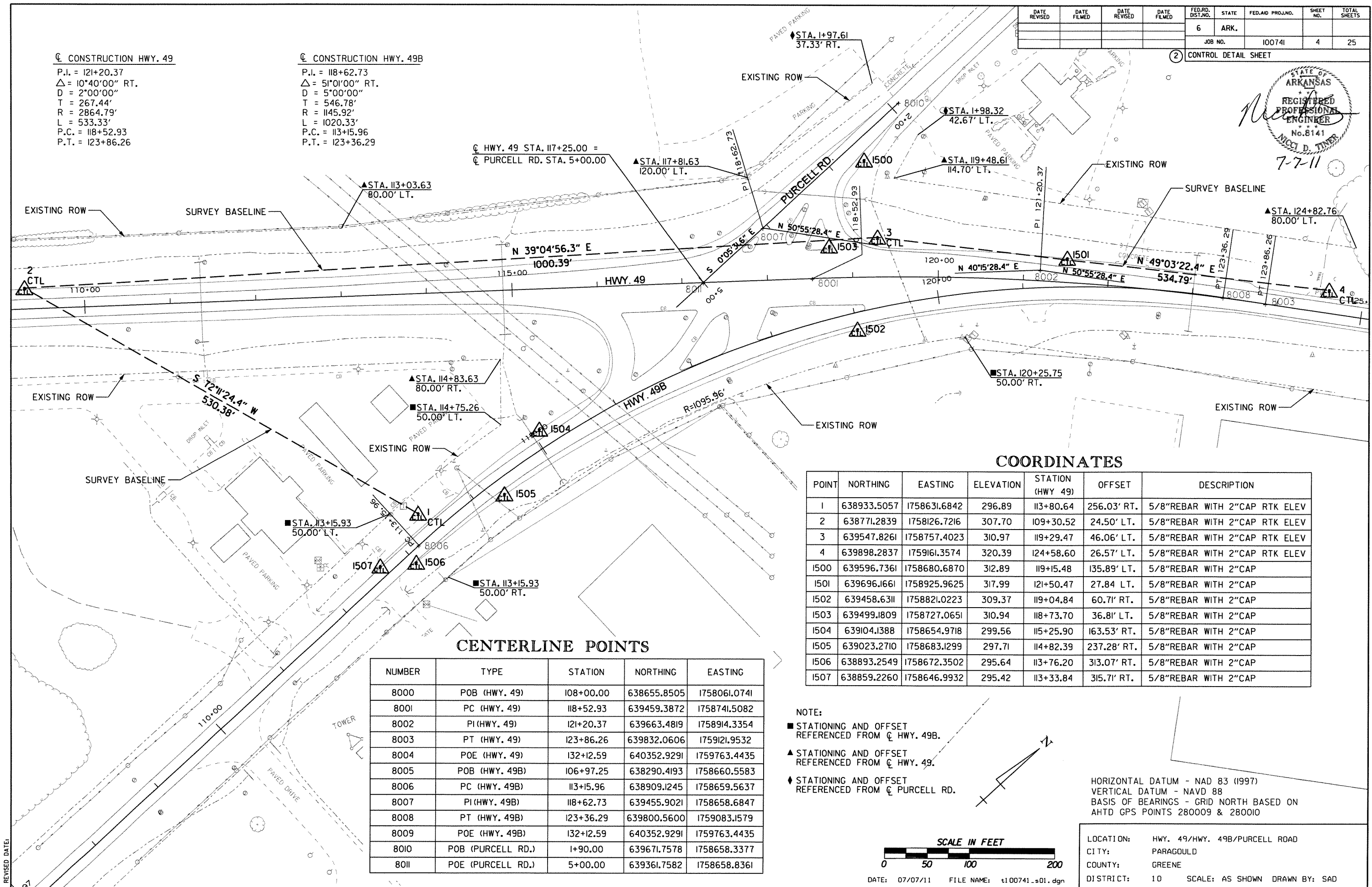
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2 CONTROL DETAIL SHEET



☐ CONSTRUCTION HWY. 49
 P.I. = 121+20.37
 Δ = 10°40'00" RT.
 D = 2'00'00"
 T = 267.44'
 R = 2864.79'
 L = 533.33'
 P.C. = 118+52.93
 P.T. = 123+86.26

☐ CONSTRUCTION HWY. 49B
 P.I. = 118+62.73
 Δ = 51°01'00" RT.
 D = 5'00'00"
 T = 546.78'
 R = 1145.92'
 L = 1020.33'
 P.C. = 113+5.96
 P.T. = 123+36.29



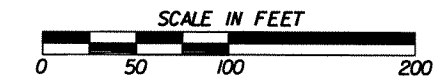
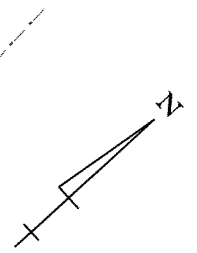
CENTERLINE POINTS

NUMBER	TYPE	STATION	NORTHING	EASTING
8000	POB (HWY. 49)	108+00.00	638655.8505	1758061.0741
8001	PC (HWY. 49)	118+52.93	639459.3872	1758741.5082
8002	PI (HWY. 49)	121+20.37	639663.4819	1758914.3354
8003	PT (HWY. 49)	123+86.26	639832.0606	1759121.9532
8004	POE (HWY. 49)	132+12.59	640352.9291	1759763.4435
8005	POB (HWY. 49B)	106+97.25	638290.4193	1758660.5583
8006	PC (HWY. 49B)	113+5.96	638909.1245	1758659.5637
8007	PI (HWY. 49B)	118+62.73	639455.9021	1758658.6847
8008	PT (HWY. 49B)	123+36.29	639800.5600	1759083.1579
8009	POE (HWY. 49B)	132+12.59	640352.9291	1759763.4435
8010	POB (PURCELL RD.)	1+90.00	639671.7578	1758658.3377
8011	POE (PURCELL RD.)	5+00.00	639361.7582	1758658.8361

COORDINATES

POINT	NORTHING	EASTING	ELEVATION	STATION (HWY 49)	OFFSET	DESCRIPTION
1	638933.5057	1758631.6842	296.89	113+80.64	256.03' RT.	5/8"REBAR WITH 2"CAP RTK ELEV
2	638771.2839	1758126.7216	307.70	109+30.52	24.50' LT.	5/8"REBAR WITH 2"CAP RTK ELEV
3	639547.8261	1758757.4023	310.97	119+29.47	46.06' LT.	5/8"REBAR WITH 2"CAP RTK ELEV
4	639898.2837	1759161.3574	320.39	124+58.60	26.57' LT.	5/8"REBAR WITH 2"CAP RTK ELEV
1500	639596.7361	1758680.6870	312.89	119+15.48	135.89' LT.	5/8"REBAR WITH 2"CAP
1501	639696.1661	1758925.9625	317.99	121+50.47	27.84 LT.	5/8"REBAR WITH 2"CAP
1502	639458.6311	1758821.0223	309.37	119+04.84	60.71' RT.	5/8"REBAR WITH 2"CAP
1503	639499.1809	1758727.0651	310.94	118+73.70	36.81' LT.	5/8"REBAR WITH 2"CAP
1504	639104.1388	1758654.9718	299.56	115+25.90	163.53' RT.	5/8"REBAR WITH 2"CAP
1505	639023.2710	1758683.1299	297.71	114+82.39	237.28' RT.	5/8"REBAR WITH 2"CAP
1506	638893.2549	1758672.3502	295.64	113+76.20	313.07' RT.	5/8"REBAR WITH 2"CAP
1507	638859.2260	1758646.9932	295.42	113+33.84	315.71' RT.	5/8"REBAR WITH 2"CAP

NOTE:
 ■ STATIONING AND OFFSET REFERENCED FROM ☐ HWY. 49B.
 ▲ STATIONING AND OFFSET REFERENCED FROM ☐ HWY. 49.
 ◆ STATIONING AND OFFSET REFERENCED FROM ☐ PURCELL RD.



HORIZONTAL DATUM - NAD 83 (1997)
 VERTICAL DATUM - NAVD 88
 BASIS OF BEARINGS - GRID NORTH BASED ON AHTD GPS POINTS 280009 & 280010

LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10
 SCALE: AS SHOWN
 DRAWN BY: SAD

7/7/2011 11:36:14 AM
 WORKSPACE: AHTDWB
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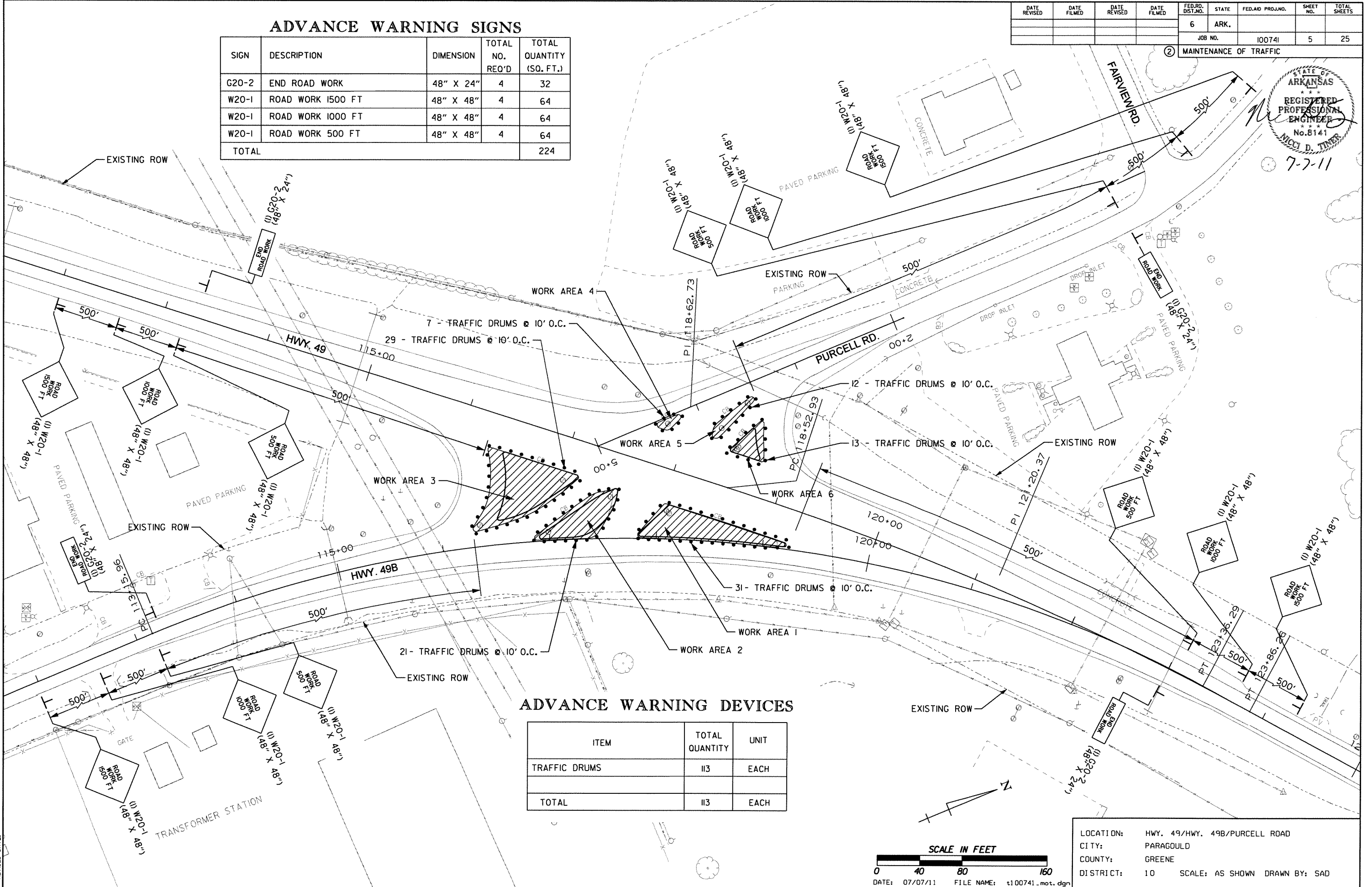
ADVANCE WARNING SIGNS

SIGN	DESCRIPTION	DIMENSION	TOTAL NO. REQ'D	TOTAL QUANTITY (SQ. FT.)
G20-2	END ROAD WORK	48" X 24"	4	32
W20-1	ROAD WORK 1500 FT	48" X 48"	4	64
W20-1	ROAD WORK 1000 FT	48" X 48"	4	64
W20-1	ROAD WORK 500 FT	48" X 48"	4	64
TOTAL				224

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				6	ARK.			
JOB NO. 100741							5	25

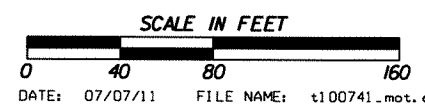
MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
 REGISTERED PROFESSIONAL ENGINEER
 No. 8141
 MICHAEL D. TINEK
 7-7-11



ADVANCE WARNING DEVICES

ITEM	TOTAL QUANTITY	UNIT
TRAFFIC DRUMS	113	EACH
TOTAL	113	EACH

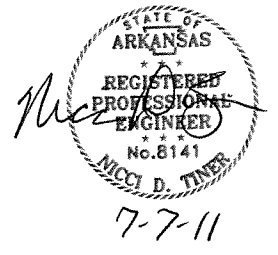


LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: AS SHOWN DRAWN BY: SAD

7/7/2011 11:45:10 AM
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 REVISIONS: 1
 REVISION DATE:

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. 100741							6	25

2 ISLAND DETAILS



LEGEND

- EXISTING CONCRETE CURB TO BE REMOVED
- EXISTING ISLAND TO BE REMOVED
- CUT AND REMOVE EXISTING ASPHALT PAVEMENT

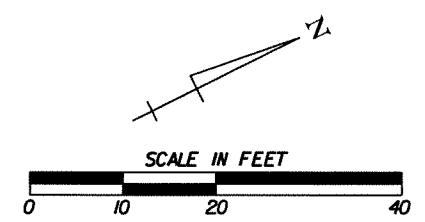
REMOVAL AND DISPOSAL ITEMS

STA.	STA.	LOCATION	CURB LIN. FT.	ASPHALT ISLANDS SQ. YD.	* ASPHALT PAVEMENT SQ. YD.	DESCRIPTION
116+26.85	117+17.58	HWY. 49	278	404		EXISTING CURB & ISLAND
116+82.29	117+41.84	HWY. 49B	191	179		EXISTING CURB & ISLAND
117+50.17	117+54.67	HWY. 49			9	EXISTING PAVEMENT
TOTAL			469	583	9	

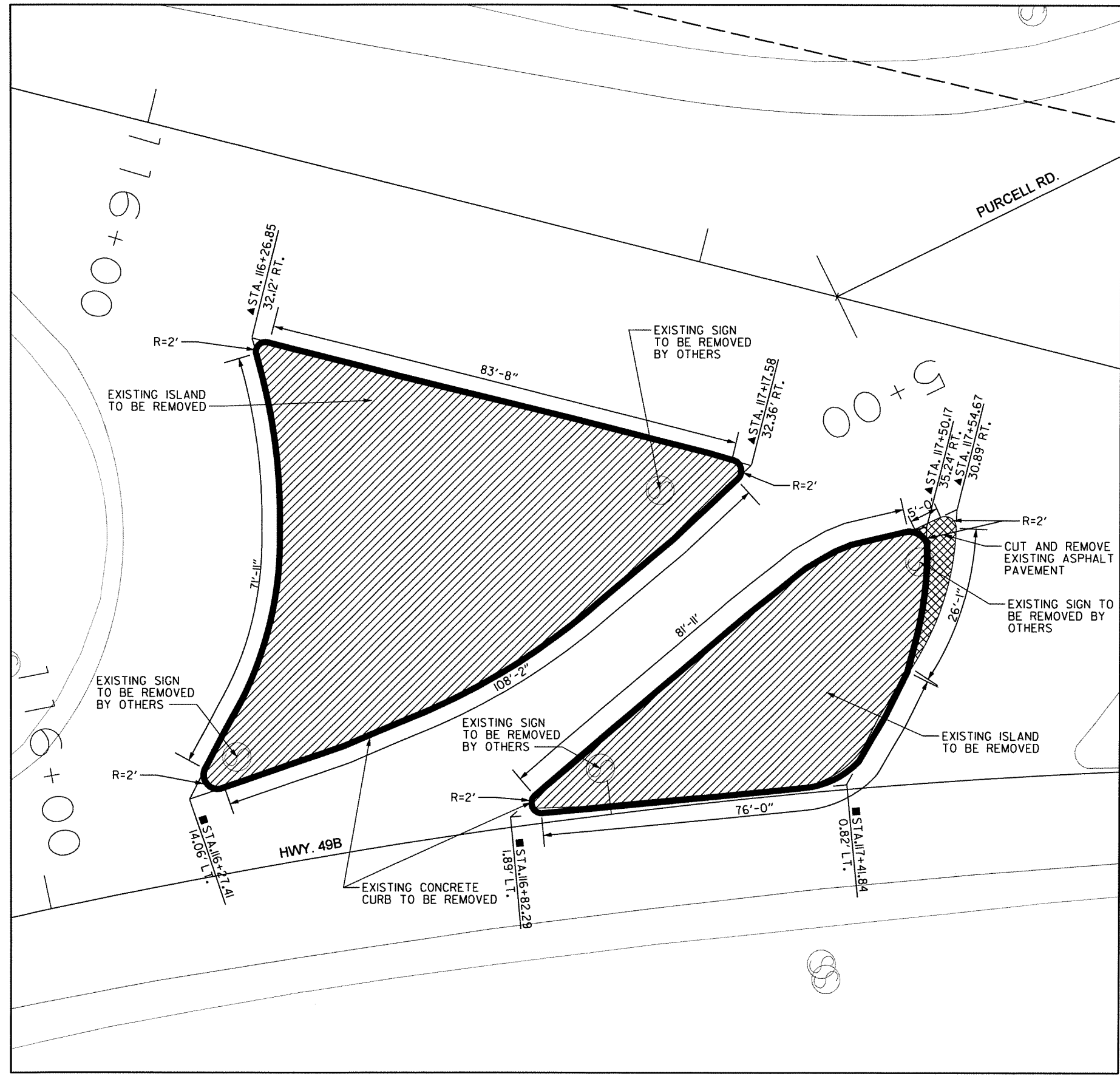
* COST OF ASPHALT PAVEMENT REMOVAL INCLUDED IN ITEM 210, UNCLASSIFIED EXCAVATION

NOTE:

- CURB STATIONING AND OFFSET REFERENCED FROM C HWY. 49B.
- ▲ CURB STATIONING AND OFFSET REFERENCED FROM C HWY. 49.



LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: AS SHOWN DRAWN BY: SAD

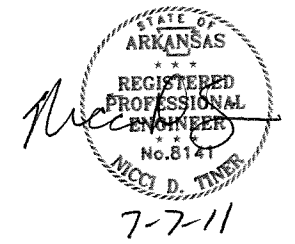


REMOVAL

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 REVISION DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 100741							7	25

2 ISLAND DETAILS



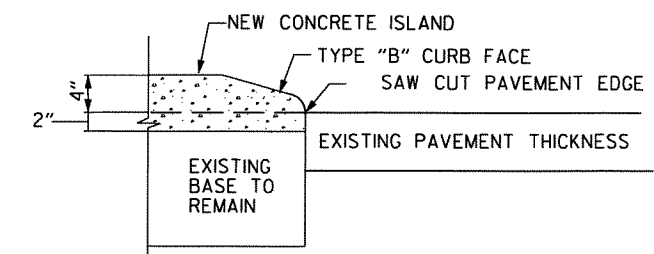
LEGEND

- CONSTRUCT PROPOSED PAVEMENT
- 12" PCC BASE REQUIRED UNDER ISLAND

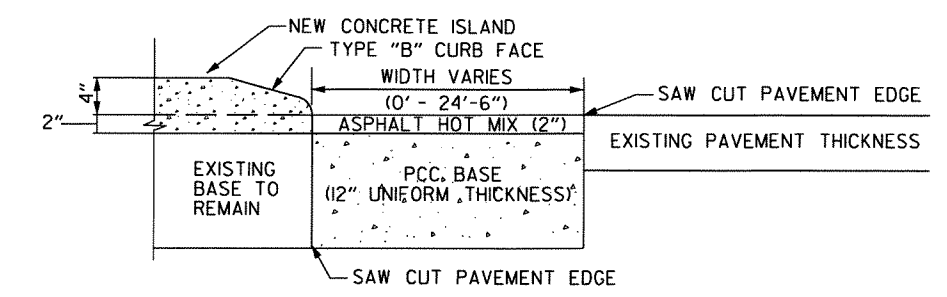
ISLAND QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
309	PORTLAND CEMENT CONCRETE BASE (12" UNIFORM THICKNESS)	202	SQ. YD.
SP,SS&407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	21	TON
SP,SS&407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	1	TON
632	CONCRETE ISLAND	439	SQ. YD.

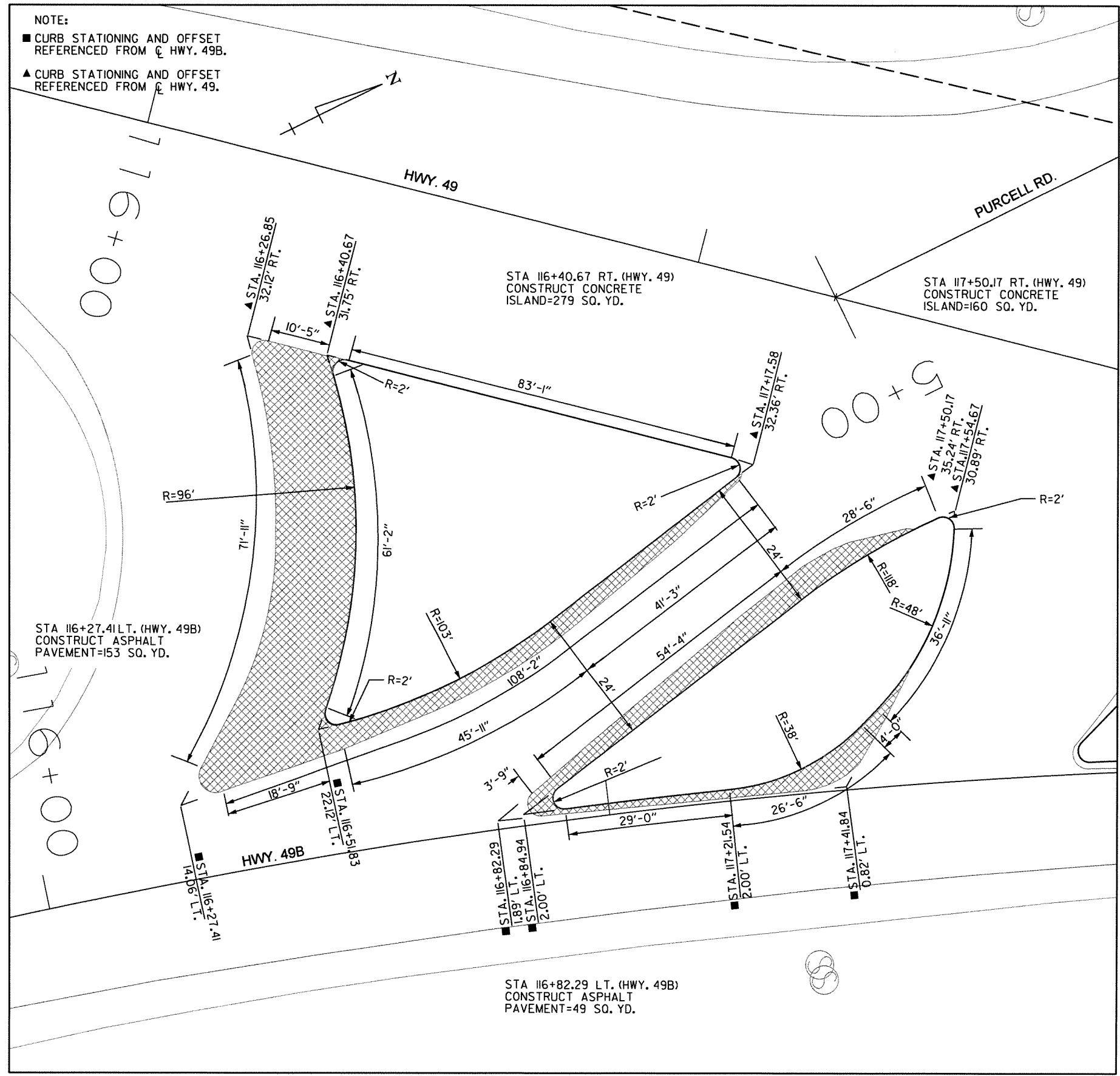
NOTE: QUANTITY OF ASPHALT BINDER AND MINERAL AGGREGATE IN ACHM SURFACE COURSE BASED ON AN ASPHALT BINDER CONTENT OF 5.2% AND MINERAL AGGREGATE CONTENT OF 94.8%.



CONCRETE ISLAND

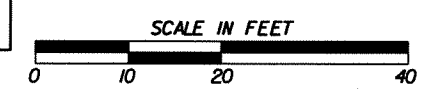


CONCRETE ISLAND WITH PAVEMENT SECTION



NOTE:
 ■ CURB STATIONING AND OFFSET REFERENCED FROM C HWY. 49B.
 ▲ CURB STATIONING AND OFFSET REFERENCED FROM C HWY. 49.

CONSTRUCTION



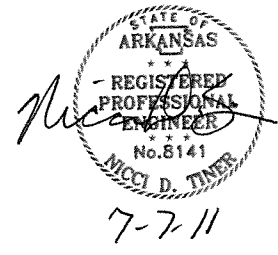
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LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: AS SHOWN DRAWN BY: SAD

7/7/2011 11:53:05 AM
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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		8	25

② ISLAND DETAILS



LEGEND

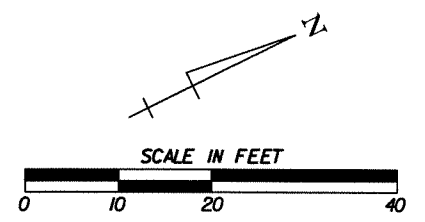
- EXISTING CONCRETE CURB TO BE REMOVED
- EXISTING ISLAND TO BE REMOVED
- CUT AND REMOVE EXISTING ASPHALT PAVEMENT

REMOVAL AND DISPOSAL ITEMS

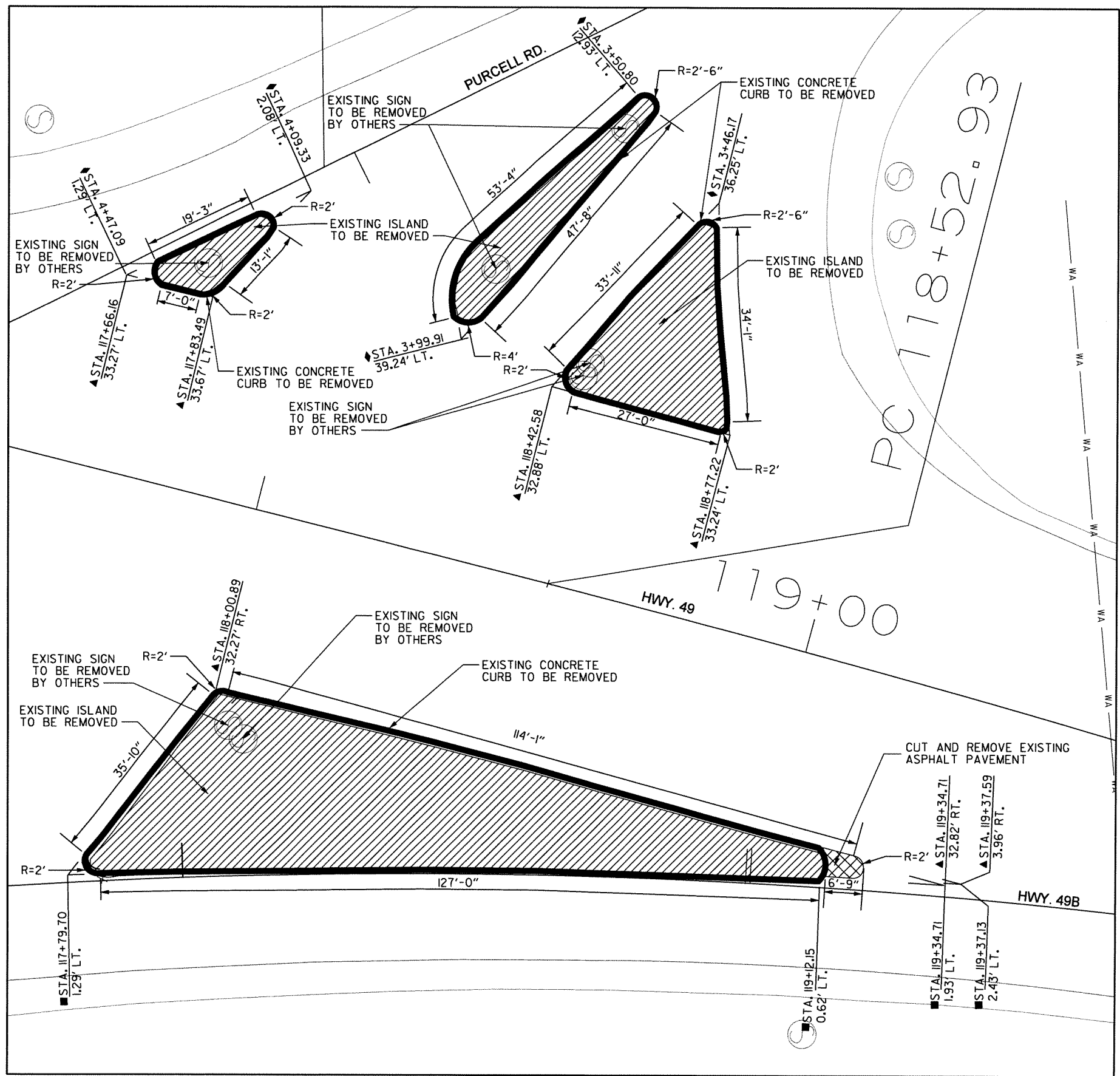
STA.	STA.	LOCATION	CURB LIN. FT.	ASPHALT ISLANDS SQ. YD.	*ASPHALT PAVEMENT SQ. YD.	DESCRIPTION
118+00.89	119+34.71	HWY. 49	281	251	3	EXISTING CURB & ISLAND
118+45.09	118+77.22	HWY. 49	103	63		EXISTING CURB & ISLAND
3+50.80	3+97.55	PURCELL RD.	107	34		EXISTING CURB & ISLAND
4+09.69	4+45.48	PURCELL RD.	50	14		EXISTING CURB & ISLAND
TOTAL			541	362	3	

* COST OF ASPHALT PAVEMENT REMOVAL INCLUDED IN ITEM 210, UNCLASSIFIED EXCAVATION

- NOTE:
- CURB STATIONING AND OFFSET REFERENCED FROM C HWY. 49B.
 - ▲ CURB STATIONING AND OFFSET REFERENCED FROM C HWY. 49.
 - ◆ CURB STATIONING AND OFFSET REFERENCED FROM C PURCELL RD.



LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: AS SHOWN DRAWN BY: SAD



REMOVAL

DATE: 07/07/11 FILE NAME: t100741_dt13.dgn

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 REVISION DATE:

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.	100741
							SHEET NO.	9
							TOTAL SHEETS	25

2 ISLAND DETAILS

LEGEND

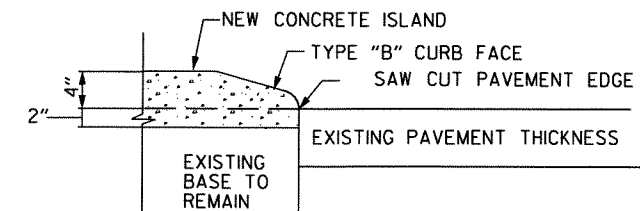
 CONSTRUCT PROPOSED PAVEMENT



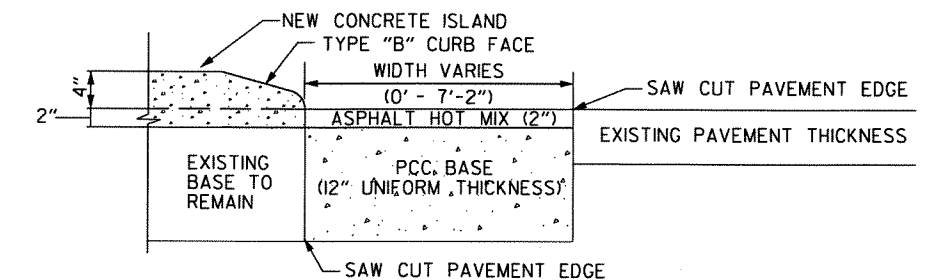
ISLAND QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
309	PORTLAND CEMENT CONCRETE BASE (12" UNIFORM THICKNESS)	127	SQ. YD.
407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	13	TON
407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	1	TON
632	CONCRETE ISLAND	295	SQ. YD.

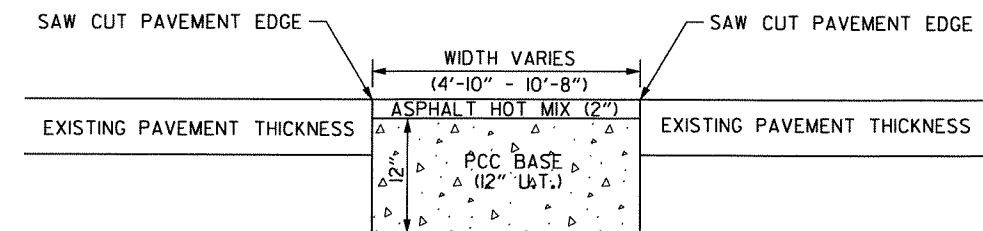
NOTE: QUANTITY OF ASPHALT BINDER AND MINERAL AGGREGATE IN ACHM SURFACE COURSE BASED ON AN ASPHALT BINDER CONTENT OF 5.2% AND MINERAL AGGREGATE CONTENT OF 94.8%.



CONCRETE ISLAND



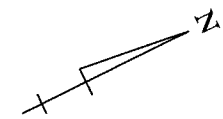
CONCRETE ISLAND WITH PAVEMENT SECTION



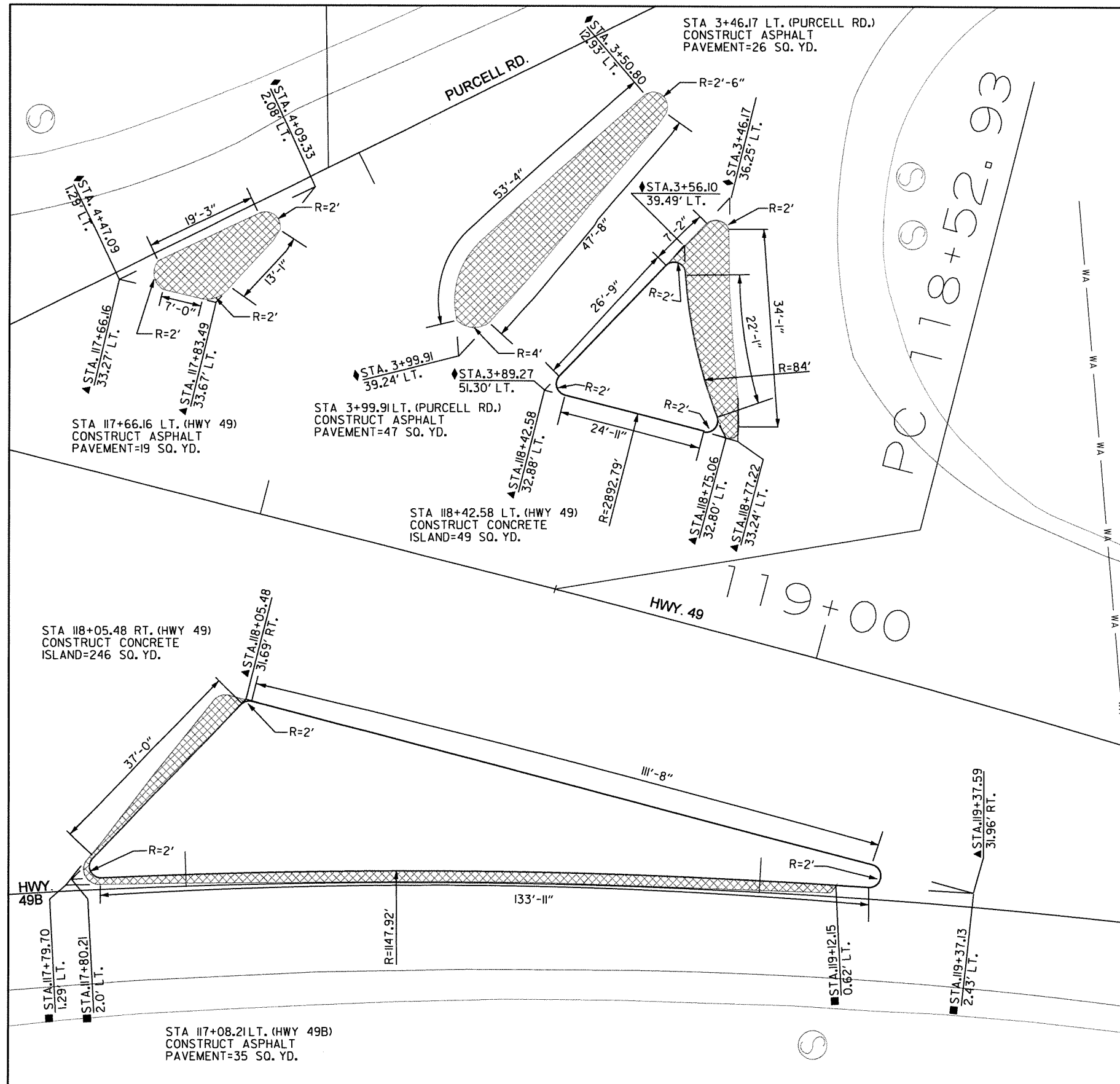
PAVEMENT SECTION

NOTE:

- CURB STATIONING AND OFFSET REFERENCED FROM ϕ HWY. 49B.
- ▲ CURB STATIONING AND OFFSET REFERENCED FROM ϕ HWY. 49.
- ◆ CURB STATIONING AND OFFSET REFERENCED FROM ϕ PURCELL RD.



LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: AS SHOWN DRAWN BY: SAD



CONSTRUCTION

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 REVISION DATE:

DATE: 07/07/11 FILE NAME: t100741_d14.dwg

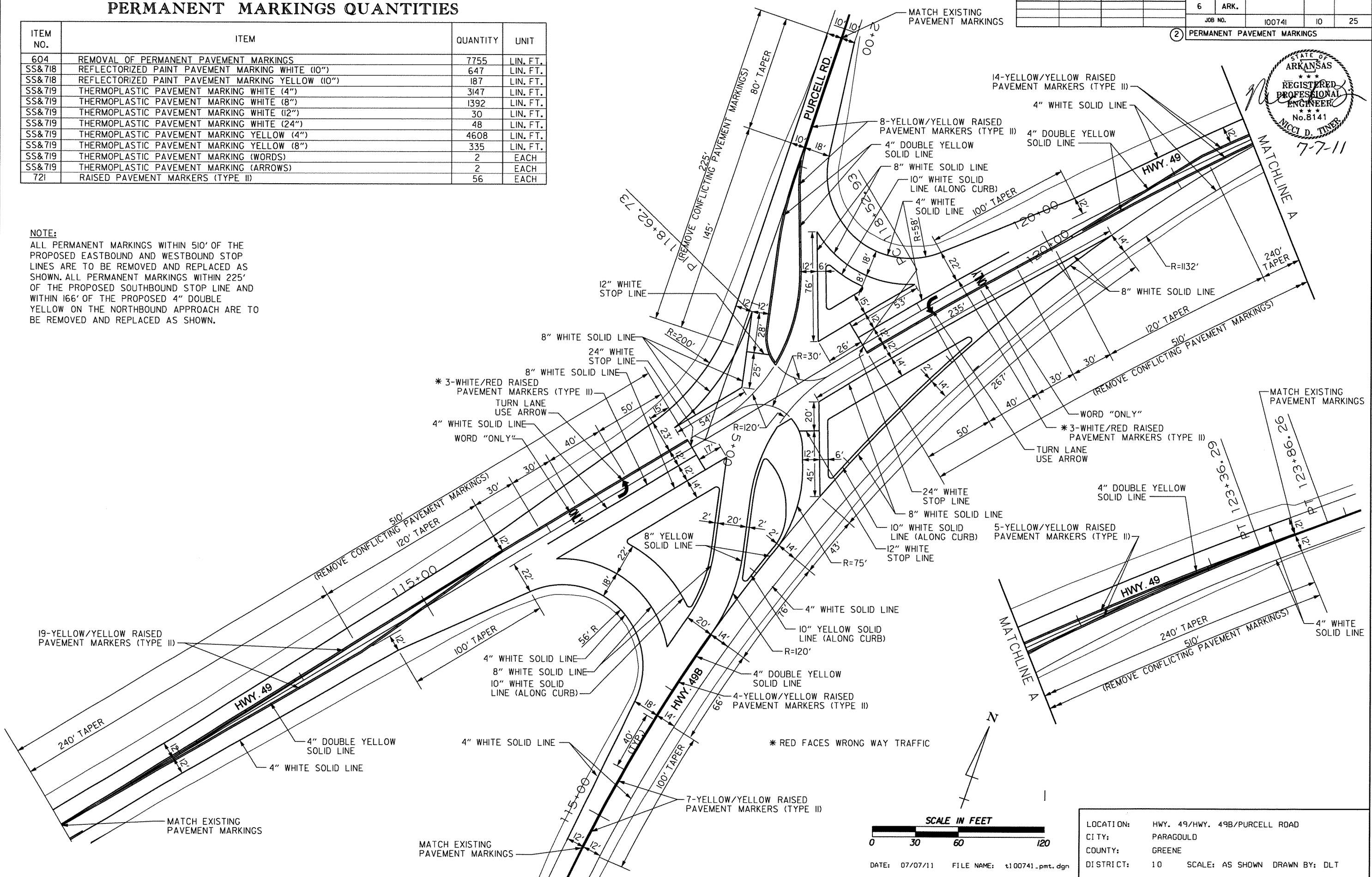
PERMANENT MARKINGS QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	7755	LIN. FT.
SS&718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	647	LIN. FT.
SS&718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")	187	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	3147	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	1392	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	30	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (24")	48	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	4608	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING YELLOW (8")	335	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	2	EACH
SS&719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	2	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	56	EACH

NOTE:
 ALL PERMANENT MARKINGS WITHIN 510' OF THE PROPOSED EASTBOUND AND WESTBOUND STOP LINES ARE TO BE REMOVED AND REPLACED AS SHOWN. ALL PERMANENT MARKINGS WITHIN 225' OF THE PROPOSED SOUTHBOUND STOP LINE AND WITHIN 166' OF THE PROPOSED 4" DOUBLE YELLOW ON THE NORTHBOUND APPROACH ARE TO BE REMOVED AND REPLACED AS SHOWN.

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

② PERMANENT PAVEMENT MARKINGS



17/7/2011 11:57:25 AM
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 REVISION DATE

LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10
 SCALE: AS SHOWN
 DRAWN BY: DLT



DATE: 07/07/11 FILE NAME: t100741.pmt.dgn

TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
601	MOBILIZATION	1.00	L.S.
SS&603	MAINTENANCE OF TRAFFIC	1.00	L.S.
SP&701	ACTUATED CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	11	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	2	EACH
708	TRAFFIC SIGNAL CABLE (5c/14 A.W.G.)	542	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7c/14 A.W.G.)	107	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12c/14 A.W.G.)	347	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20c/14 A.W.G.)	357	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	15	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	13	LIN. FT.
710	NON-METALLIC CONDUIT (2")	56	LIN. FT.
710	NON-METALLIC CONDUIT (3")	497	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	6	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	1	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 (56')	1	EACH
SP&733	VIDEO DETECTOR (CLR)	7	EACH
733	VIDEO CABLE	1092	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP&733	VEHICLE DETECTOR RACK (12 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2c/6 A.W.G.)	28	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1c/8 A.W.G., EGC)	541	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1c/12 A.W.G., EGC)	210	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	864	LIN. FT.
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	18" STREET NAME SIGN	2	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

** ONE ADDITIONAL VIDEO DETECTOR AND ONE ADDITIONAL VIDEO PROCESSOR, EDGE CARD SHALL BE PROVIDED FOR FUTURE USE.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		II	25
				JOB NO.	I00741			

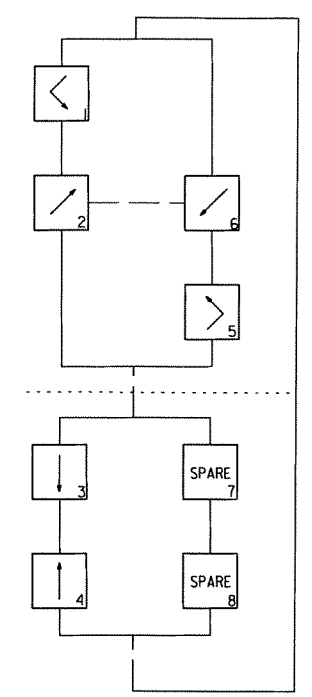
SIGNALIZATION PLANS



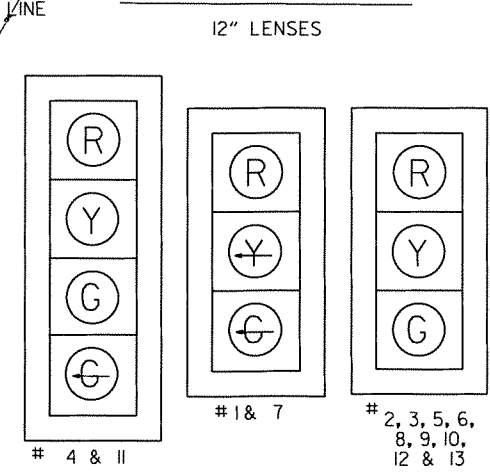
7-7-11

PHASING DIAGRAM

NOTE: NON-STANDARD RING STRUCTURE PHASE 5 FOLLOWS PHASE 6. PHASE 1 NOT CONCURRENT WITH PHASE 5.



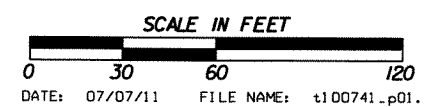
SIGNAL FACES



DESIGN PARAMETERS

- POSTED SPEED LIMIT:
 - 45 MPH EAST & WEST APPROACHES (HWY. 49)
 - 40 MPH SOUTH APPROACH (HWY 49B)
 - 35 MPH NORTH APPROACH (PURCELL RD.)
- NO BUS STOPS
- NO RAILROAD TRACKS
- NO PARKING
- NO FIRE STATION
- 22' MIN. CLEAR ZONE DISTANCE (HWY. 49)
- 14' MIN. CLEAR ZONE DISTANCE (HWY. 49B)

LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: AS SHOWN DRAWN BY: DLT



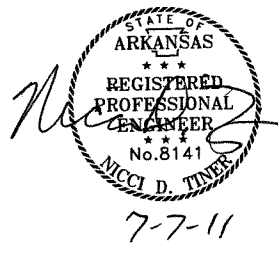
LEGEND

- TYPE 2 PULL BOX
- TYPE 1 PULL BOX
- CONTROLLER CABINET
- SIGNAL HEAD
- SIGNAL POLE, MAST ARM AND LUMINAIRE ARM
- NMC - NON METALLIC CONDUIT
- VIDEO DETECTOR

7/7/2011 12:00:21 PM
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 LKZ010107501 - AHTD - Paragould Signal\Dr-aw\hgs\100741.p01.dgn
 REVISION DATE:

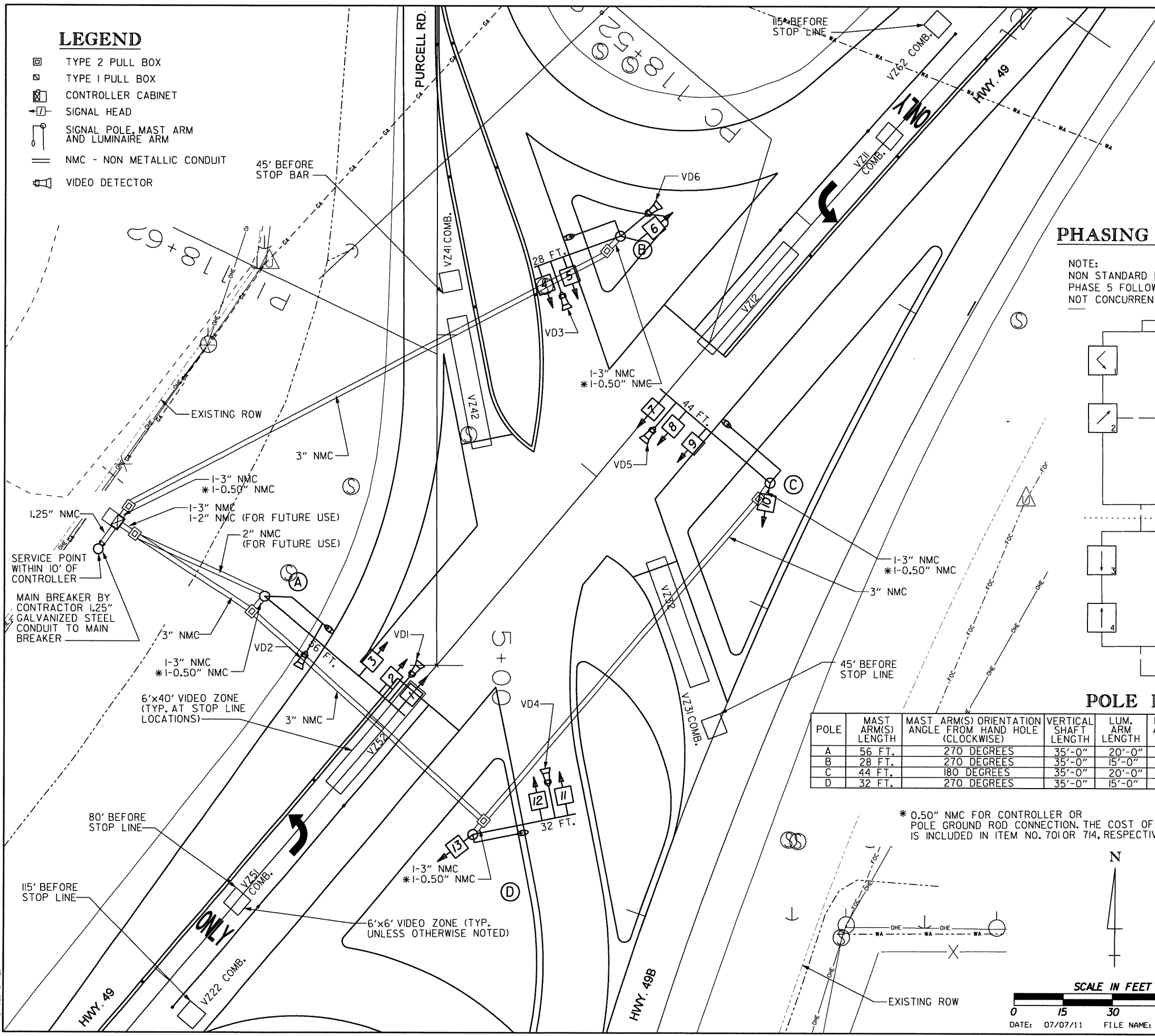
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				6	ARK.		12	25
				JOB NO. 100741				

② SIGNALIZATION PLANS



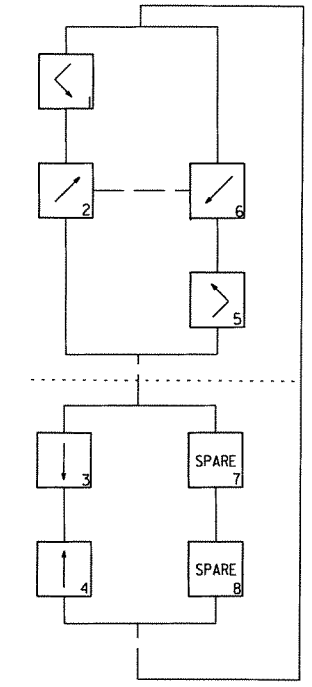
LEGEND

- ☐ TYPE 2 PULL BOX
- TYPE 1 PULL BOX
- ☒ CONTROLLER CABINET
- ⊕ SIGNAL HEAD
- ⊕ SIGNAL POLE, MAST ARM AND LUMINAIRE ARM
- || NMC - NON METALLIC CONDUIT
- 📷 VIDEO DETECTOR

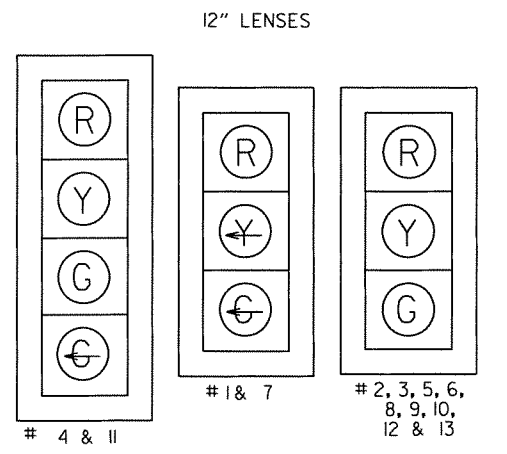


PHASING DIAGRAM

NOTE:
NON STANDARD RING STRUCTURE
PHASE 5 FOLLOWS PHASE 6. PHASE 1
NOT CONCURRENT WITH PHASE 5.



SIGNAL FACES



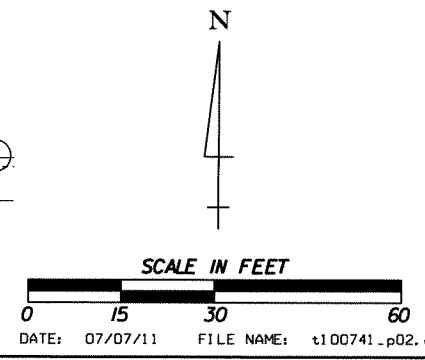
POLE DIMENSIONS

POLE	MAST ARM(S) 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)	STATION HWY. 49	OFFSET HWY. 49	NORTHING	EASTING
A	56 FT.	270 DEGREES	35'-0"	20'-0"	270 DEGREES	117+07.20	53' LT.	639382.6561	1758606.6090
B	28 FT.	270 DEGREES	35'-0"	15'-0"	270 DEGREES	118+59.95	42' LT.	639491.6520	1758714.4329
C	44 FT.	180 DEGREES	35'-0"	20'-0"	180 DEGREES	118+32.79	42' RT.	639417.1916	1758760.1702
D	32 FT.	270 DEGREES	35'-0"	15'-0"	270 DEGREES	116+93.21	42' RT.	639310.6663	1758669.9856

DESIGN PARAMETERS

- POSTED SPEED LIMIT:
 45 MPH EAST & WEST APPROACHES (HWY. 49)
 40 MPH SOUTH APPROACH (HWY. 49B)
 35 MPH NORTH APPROACH (PURCELL RD.)
 NO BUS STOPS
 NO RAILROAD TRACKS
 NO PARKING
 NO FIRE STATION
 22' MIN. CLEAR ZONE DISTANCE (HWY. 49)
 14' MIN. CLEAR ZONE DISTANCE (HWY. 49B)

LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: AS SHOWN DRAWN BY: DLT



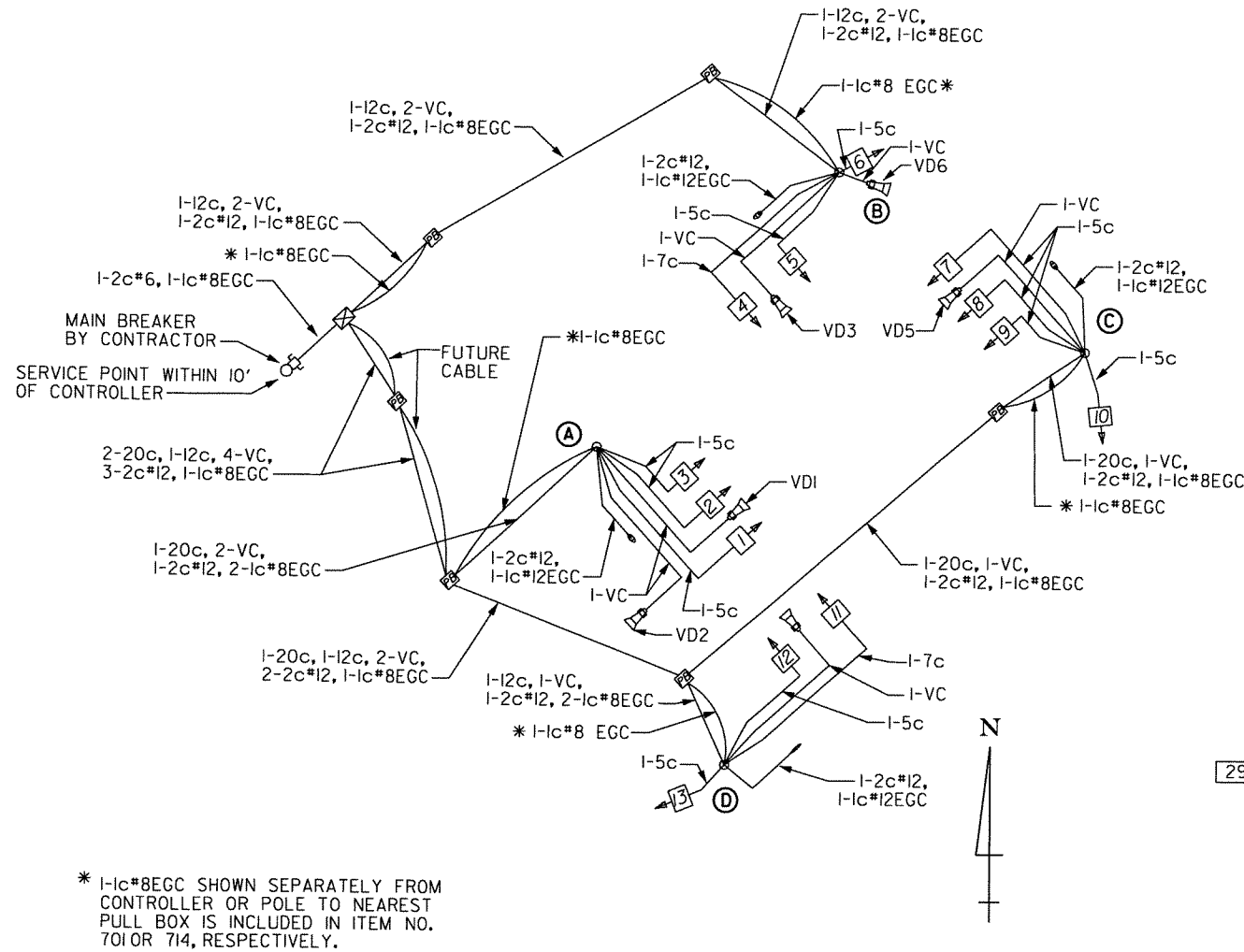
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 REVISION DATE:

DETECTOR CHART

DETECTOR I.D. #	DIRECTION & LOCATION	TYPE	DET. #	HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTH	COMMENT
				CAB. TRM. #	AMP CHN. #	CON. INP. #	LOCAL		MSTR. SYS. DET. #		
							PHS.	SYS. DET. #			
VZ11	WB LEFT FAR	COMB.		1	DI	1	1		23"	VD1	
VZ12	WB LEFT NEAR	LOCAL		2	VI	1			23"	VD1	
VZ21	EB FAR	LOCAL		5	V2	2			23"	VD2	
VZ22	EB NEAR	COMB.		6	D2	2	2		23"	VD5	
VZ31	NB FAR	COMB.		9	D3	3	3		23"	VD3	
VZ32	NB NEAR	LOCAL		10	V3	3			23"	VD3	
VZ41	SB FAR	COMB.		11	D4	4	4		23"	VD4	
VZ42	SB NEAR	LOCAL		12	V4	4			23"	VD4	
VZ51	EB LEFT FAR	COMB.		7	D5	5	5		23"	VD5	
VZ52	EB LEFT NEAR	LOCAL		8	V5	5			23"	VD5	
VZ61	WB FAR	LOCAL		3	V6	6			23"	VD6	
VZ62	WB NEAR	COMB.		4	D6	6	6		23"	VD1	

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

SPARE AMP CHN. # = NONE



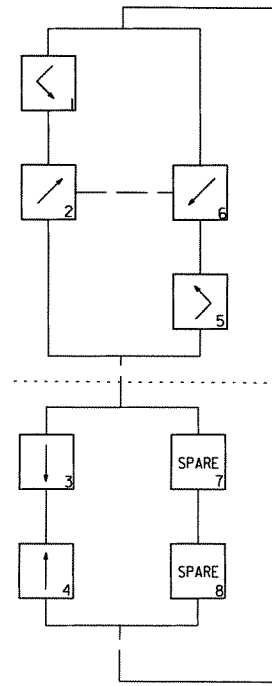
* 1-1c*8EGC SHOWN SEPARATELY FROM CONTROLLER OR POLE TO NEAREST PULL BOX IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

WIRING DIAGRAM

TYPICAL WIRING INCLUDES:

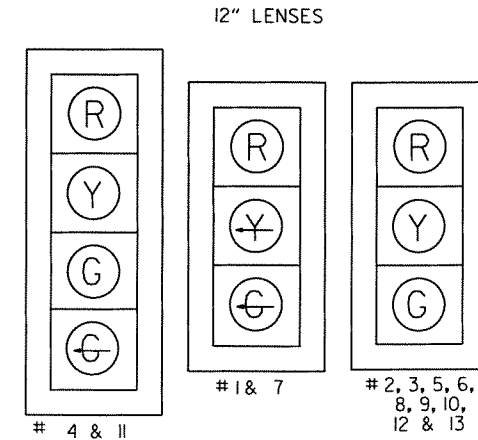
1. SEPARATE 5c/*14 AWG FROM EACH 3 SEC SIGNAL HEAD TO BASE OF POLE.
2. SEPARATE 7c/*14 AWG FROM EACH 4 SEC SIGNAL HEAD TO BASE OF POLE.
3. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.
4. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

PHASING DIAGRAM



NOTE: NON STANDARD RING STRUCTURE
 PHASE 5 FOLLOWS PHASE 6. PHASE 1 NOT CONCURRENT WITH PHASE 5.

SIGNAL FACES



2 SIGNALIZATION PLANS

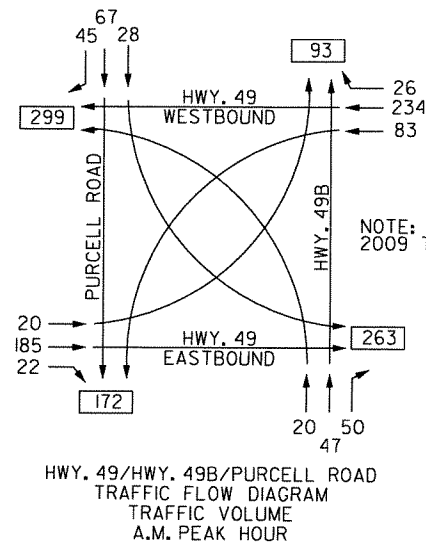


7-7-11

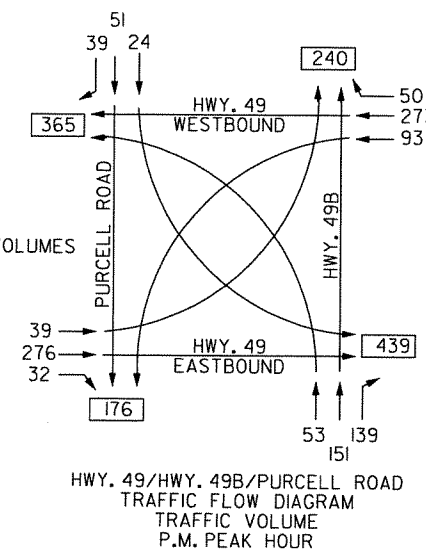
INTERVAL CHART

SIGNAL FACES	INTERSECTION INTERVALS									FLASH SEQ.
	1+6	CLR.	2+6	CLR.	2+5	CLR.	3	CLR.	4	
1	←	←	R	R	R	R	R	R	R	R
2 & 3	G	**	G	**	R	R	R	R	R	Y
4	R	R	R	R	R	R	G	Y	R	R
5	R	R	R	R	R	R	G	Y	R	R
6	G	**	G	**	R	R	R	R	R	Y
7	R	R	R	R	←	←	R	R	R	R
8 & 9	R	R	G	**	G	**	R	R	R	Y
10	R	R	R	R	R	R	G	Y	R	R
11	R	R	R	R	R	R	R	G	Y	R
12	R	R	R	R	R	R	R	G	Y	R
13	R	R	G	**	G	**	R	R	R	Y

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE



NOTE: 2009 TRAFFIC VOLUMES



TYPICAL OVERHEAD STREET NAME MARKER
 MAST ARM MOUNTED

VAR.
 18"
Purcell RD
 4"
 8" UPPERCASE
 8" LOWERCASE
 WHITE TEXT ON GREEN BACKGROUND
 3/4" WHITE BORDER STRIP

NOTES:
 1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR TYPE 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 OF PARAGOULD.
 3. 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.
 5. STREET NAME "PURCELL RD." ON POLES A AND C.

LOCATION: HWY. 49/HWY. 49B/PURCELL ROAD
 CITY: PARAGOULD
 COUNTY: GREENE
 DISTRICT: 10 SCALE: 1" = 40' DRAWN BY: DLT

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 111) 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 CHAMPY 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.

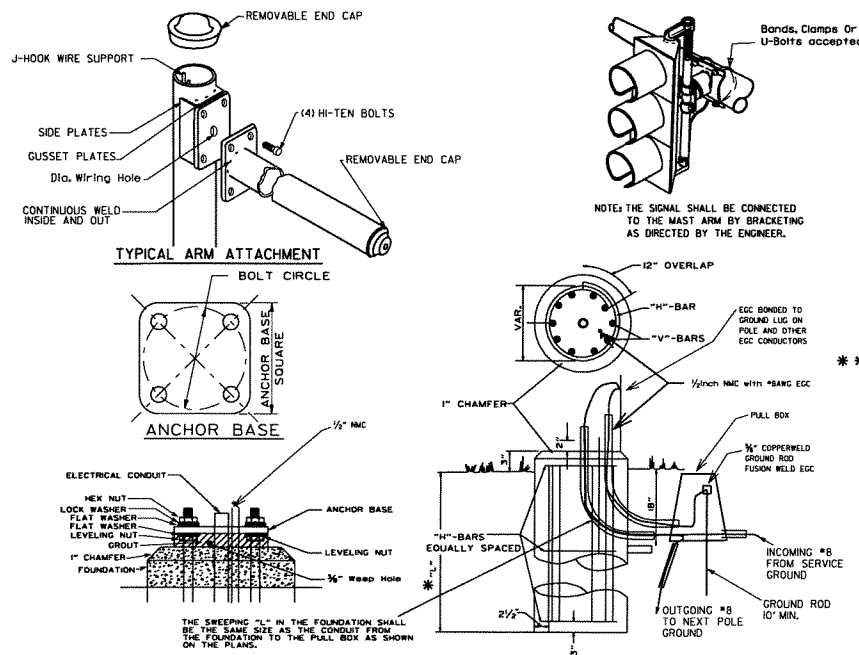
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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.

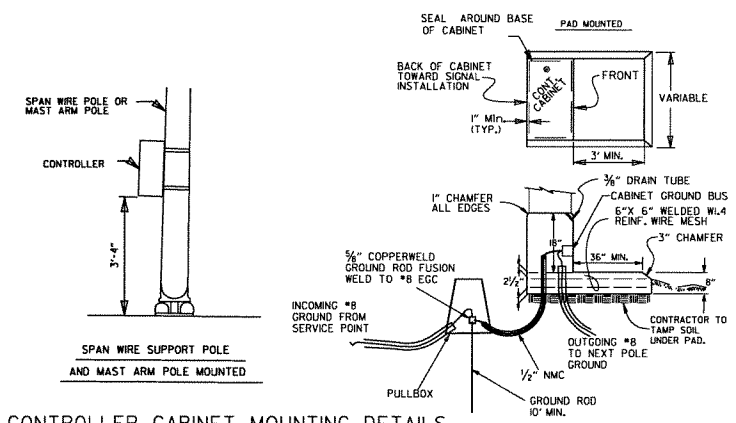


THE GROUND ROD SHALL BE FUSION WELDED TO A 1/2" A.W.G. SOLID COPPER GROUND WIRE ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

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.	HORZ.	D/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'
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'



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 GROUDED 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:

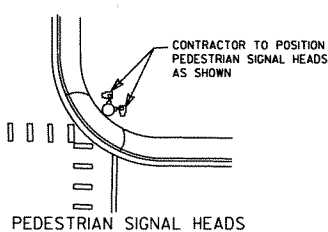
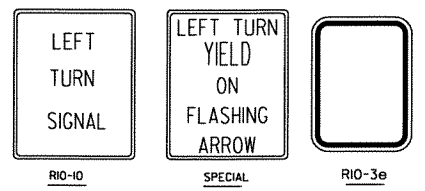
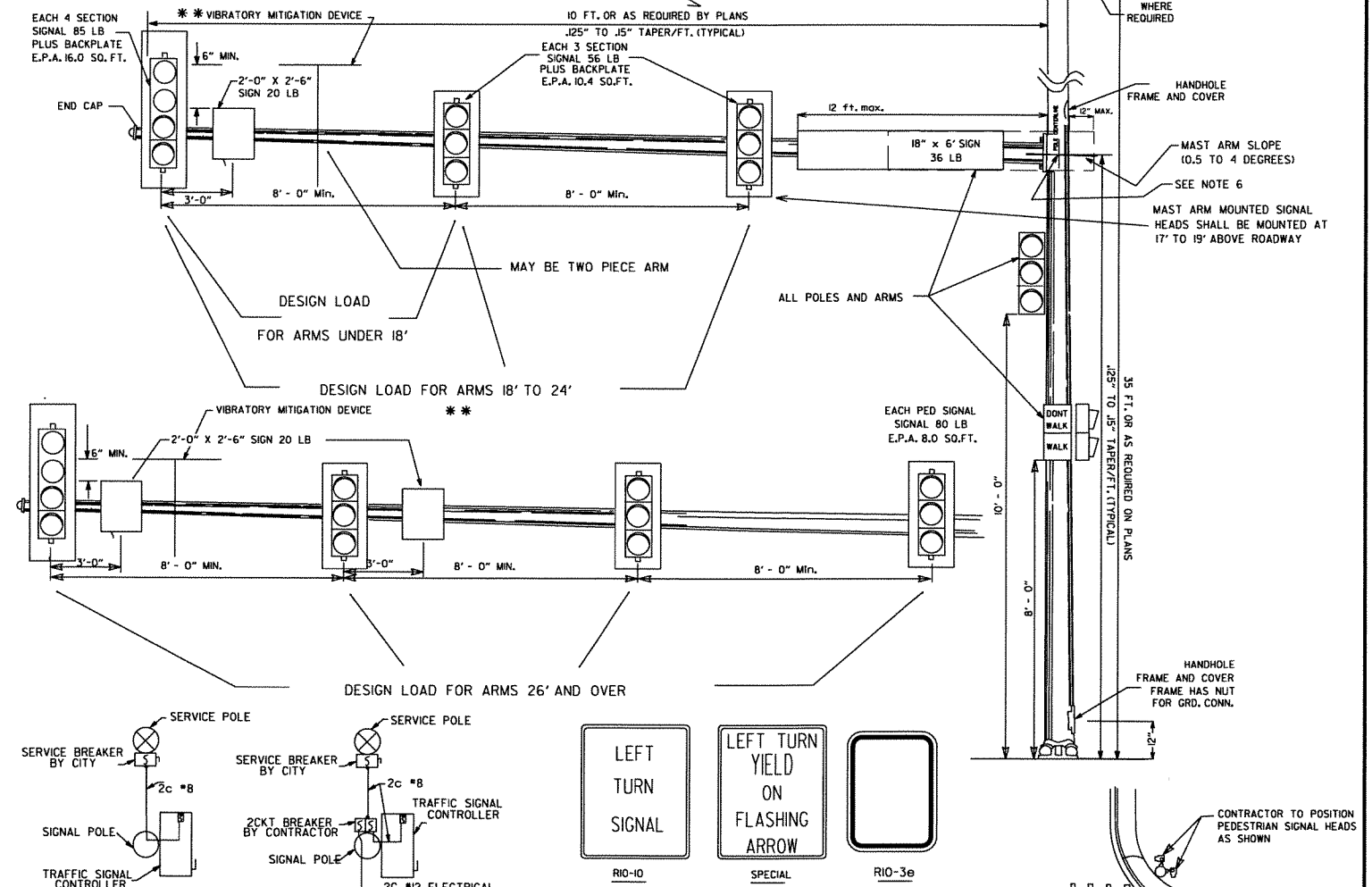
FLASHING OPERATION - PRIOR TO NORMAL OPERATION SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE 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.

* 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 5'-6" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR GREATER, 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"X0.25" 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 COLLINER 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 FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 100741	14	25

2 SIGNALIZATION DETAIL

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



7-7-11

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	
5-8-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-11-01	REV. NOTES & POLE MAST ARM SLOPE	
4-8-01	REVISED POLE TAPERS	
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAILS (Steel Pole With Mast Arm)

LOOP DETECTOR INSTALLATION AND TESTING

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.	100741	15
						2 SIGNALIZATION DETAILS		

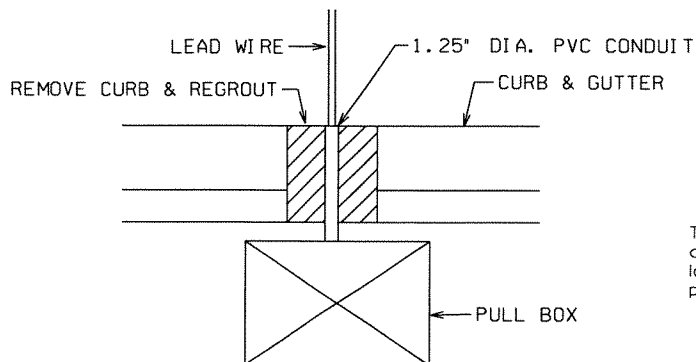
NOTES:

1. Loops with a perimeter greater than 40' shall have two turns. Loops with a perimeter less than or equal to 40' shall have three turns, unless otherwise noted on the plans. Quadrupole loops shall be two turns (2-4-2 configuration) unless otherwise noted.
2. Loop and feeder wire shall be continuous without splices except at the loop/feeder wire splice as shown. Splice shall be resin soldered and waterproofed with an accepted splice kit. Drain wire shall be grounded in cabinet and insulated at loop to feeder splice.
3. The loop to feeder splice, feeder jacket and jacket of loop wire in duct shall be completely sealed and waterproofed.
4. Contractor may make connections to signal cable and loop to feeder connection at terminal strips mounted to pole inside hand hold cover as shown in detail. Terminals must be easily accessible, but protected against accidental contact. Connection of power carrying circuits must be separated from loop or logic circuits. All connections to terminal strips shall utilize spade lugs or as approved by the Engineer.
5. Each loop shall have a separate "feeder wire" unless otherwise noted. All feeder wires shall be labeled as to loop number as designated on the plans.
6. All loop wire entering pull boxes shall be enclosed in conduit. Each loop wire shall enter pull box or pole base through a separate piece of one inch (1") conduit.
7. Loop wire from loop to conduit is not twisted. Loop wire in the conduit must be twisted two to five turns per foot.
8. Warranty period for loops shall not commence until tested by the contractor and accepted by the Engineer. Contractor shall perform test and provide a record to the Engineer as listed in the Detector Loop Testing procedure.
9. Unless otherwise approved by the Engineer, backer rod shall be installed in short sections spaced not more than 18" apart and wedged into slot to hold cable in place. Cable shall be totally encapsulated in sealer.
10. "Hot Pour" sealer shall not be allowed with 705-Loop Wiring In Duct.
11. Where underground splices of signal cable are required, connections shall be soldered and completely waterproofed to the satisfaction of the Engineer. Waterproofing shall extend a minimum of two inches past the signal cable jacket and shall completely cover all individual conductors of the signal cable. Waterproofing does not apply to connections made in pole bases.
12. Contractor shall connect a separate neutral for each load switch represented on each signal pole. Only one neutral is required for pedestrian signals. A separate 5c (typical) is provided for pedestrian push buttons.
13. 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 controller. Controller cabinet shall be wired such power to load switches cannot backfeed to load switch power buss during flash operation.

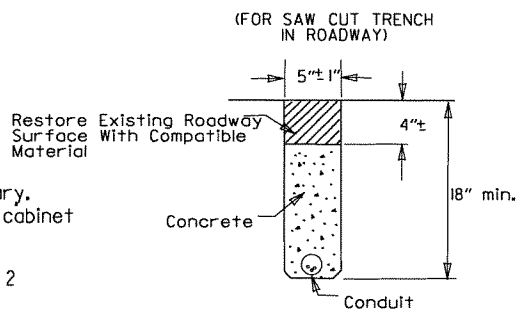
TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

- 1 Disconnect and test continuity (< 10 ohms)
If continuity is bad, go to test 3
- 2 Test insulation (@ 500 volt test > 10 Meg-ohm)
If tests 1 & 2 are good, no further testing is necessary.
Recorded results consist of tests 1 & 2 from control cabinet with feeder wire connected to loop.
- 3 Open splice (do not break connection) repeat test 1 & 2
If test 3 is bad, go to test 4
- 4 Break splice, install jumper in cabinet, repeat tests 1 & 2 separately for feeder and for loop

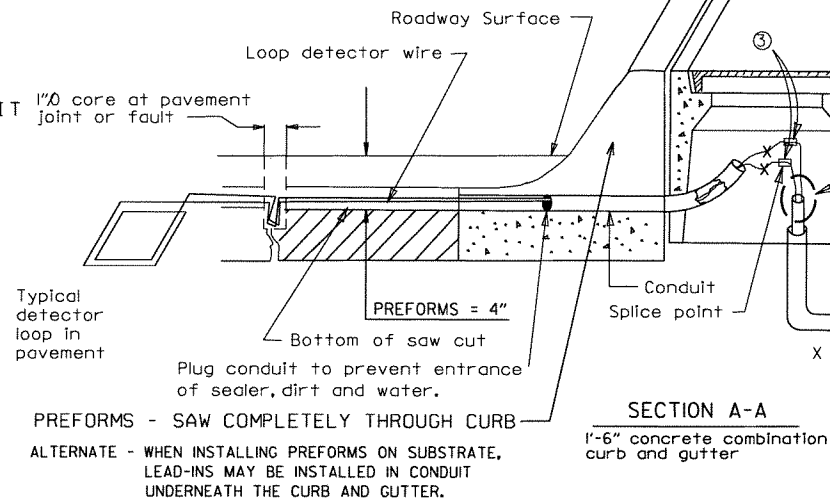
Failures typically result from broken wire in pavement, faulty insulation of loop or feeder wire, or poorly insulated splice connection.



TRENCHING DETAIL



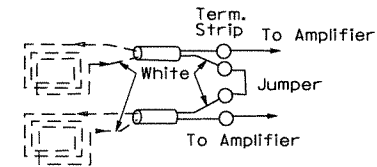
NOTE: Conduit shall be installed in curb as shown or as directed by the Engineer. End of conduit shall be water-tight.



SECTION A-A
1'-6" concrete combination curb and gutter

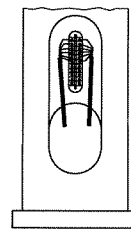
PREFORMS - SAW COMPLETELY THROUGH CURB
ALTERNATE - WHEN INSTALLING PREFORMS ON SUBSTRATE, LEAD-INS MAY BE INSTALLED IN CONDUIT UNDERNEATH THE CURB AND GUTTER.

SERIES CONNECTED LOOPS

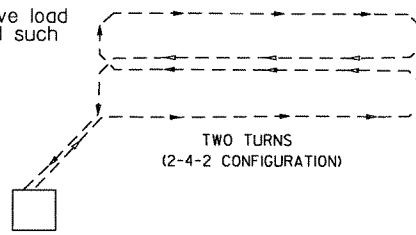


Wind loops counterclockwise; tag wire exiting slot and tie to white lead of feeder wire; when loops are tied to same vehicle detector, series connect in cabinet as shown.

HANDHOLE TERMINAL

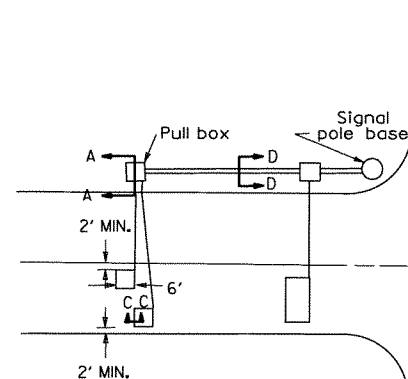


QUADRUPOLE LOOP

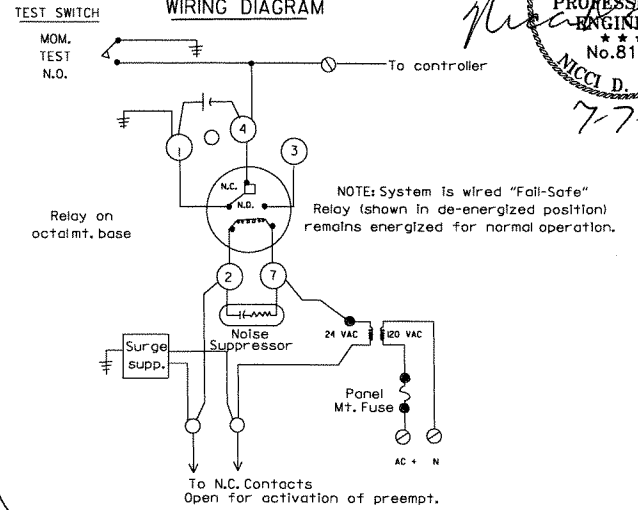


NOTE: Pull box covers shall be non-metallic and non-conductive.

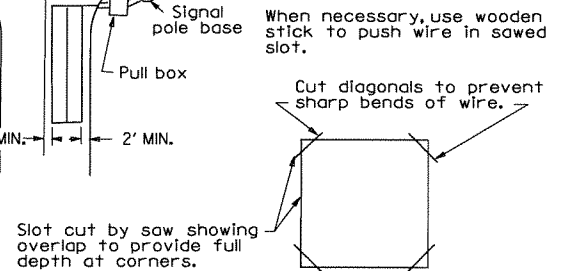
TYPICAL INTERSECTION



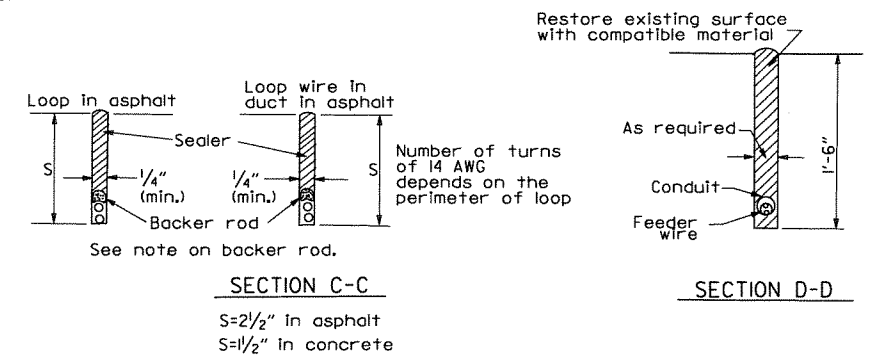
TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



NOTE: System is wired "Fail-Safe" Relay (shown in de-energized position) remains energized for normal operation.



TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



SECTION C-C
S=2 1/2" in asphalt
S=1 1/2" in concrete

SPECIAL NOTE
IF FEEDER WIRE JACKET IS LEFT UNSEALED and WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

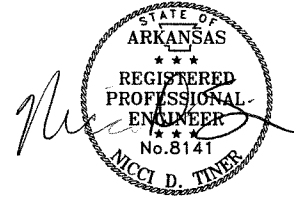
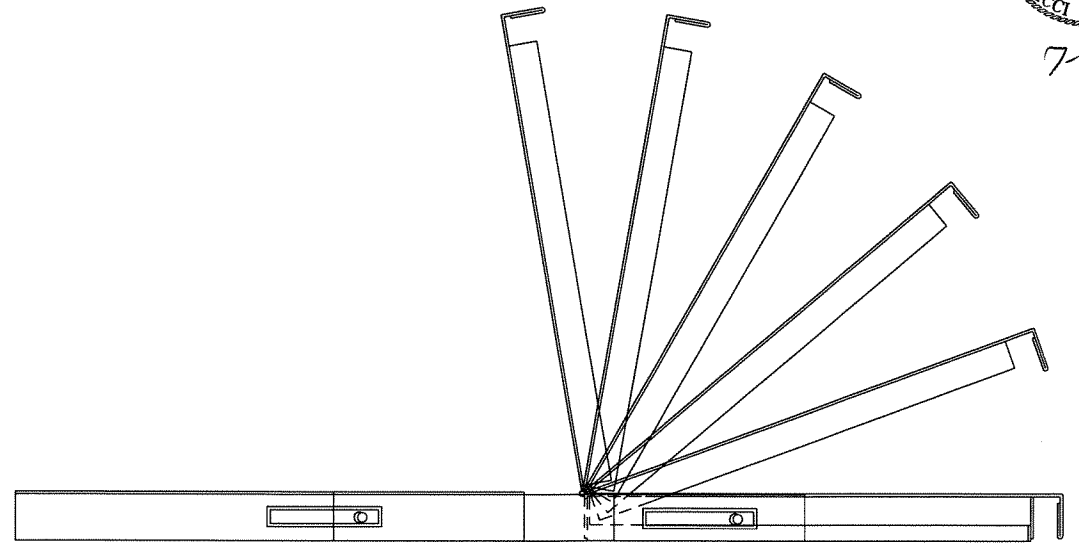
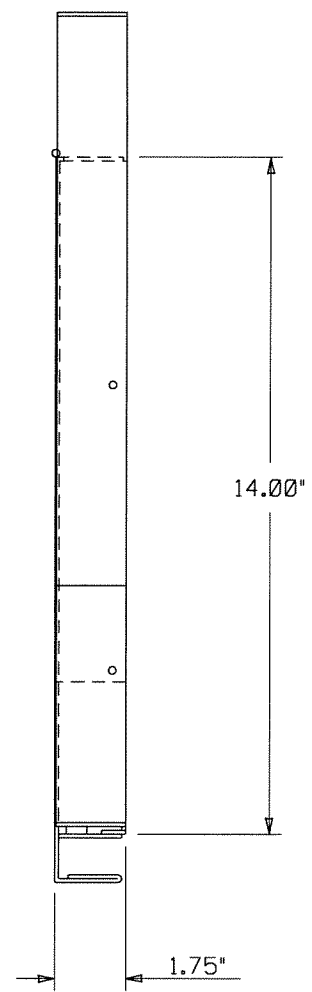
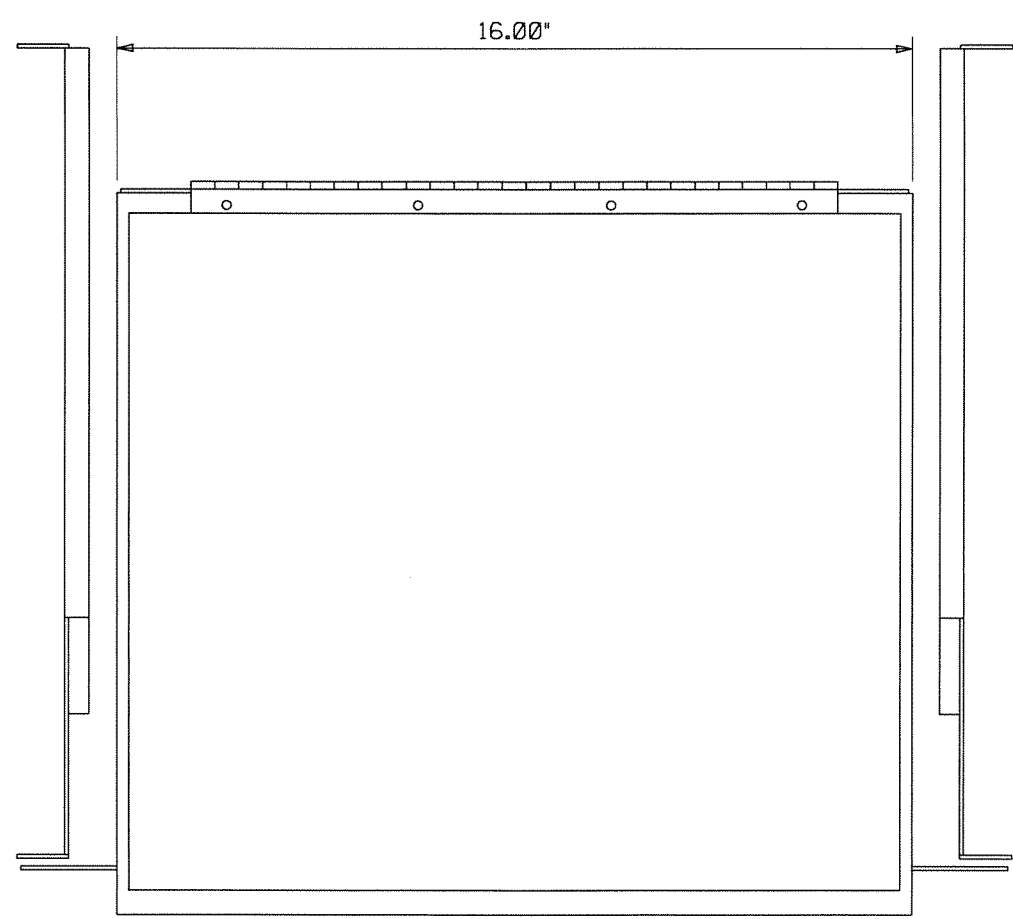
DATE	REVISION	DATE FILM	ARKANSAS STATE HIGHWAY COMMISSION
5-17-01	REVISED		SIGNALIZATION DETAIL (Loop Detector Installation)
4-11-01	REVISED		
2-4-00	REVISED PRE-EMPTION TEST SWITCH		
11-18-98	REVISED NOTES		
11-21-95	ISSUED		
DATE	REVISION	DATE FILM	



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.							100741	16	25

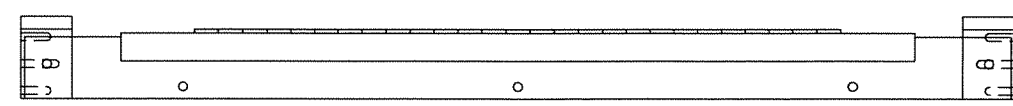
2 SIGNALIZATION DETAILS

DRAWER PLAN VIEW

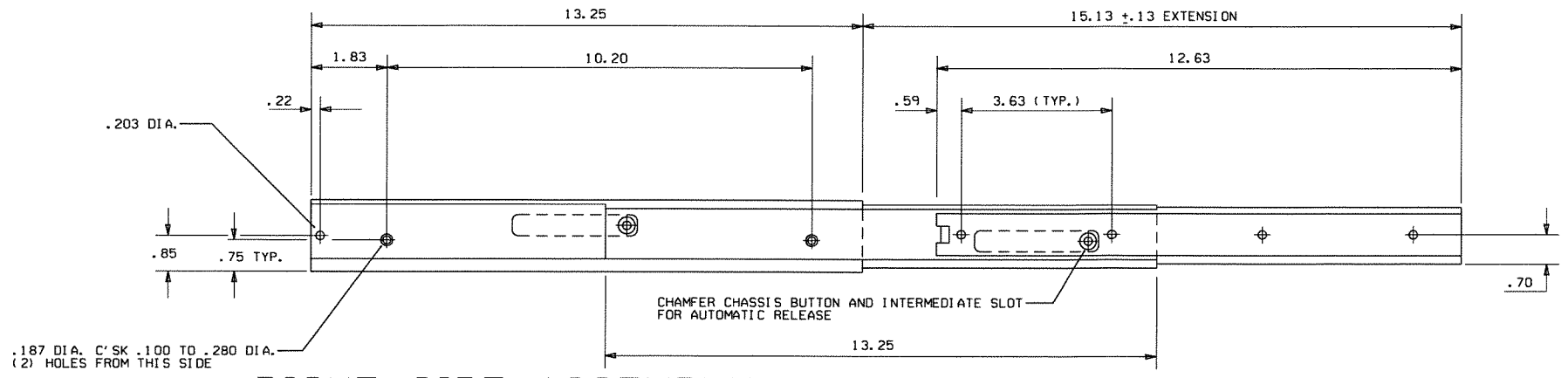


7-7-11

- 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

stdsd5.dgn

DATE	REVISION	DATE FILM	ARKANSAS STATE HIGHWAY COMMISSION
6-15-05	ISSUED		SIGNALIZATION DETAIL (Controller Cabinet Utility Drawer)

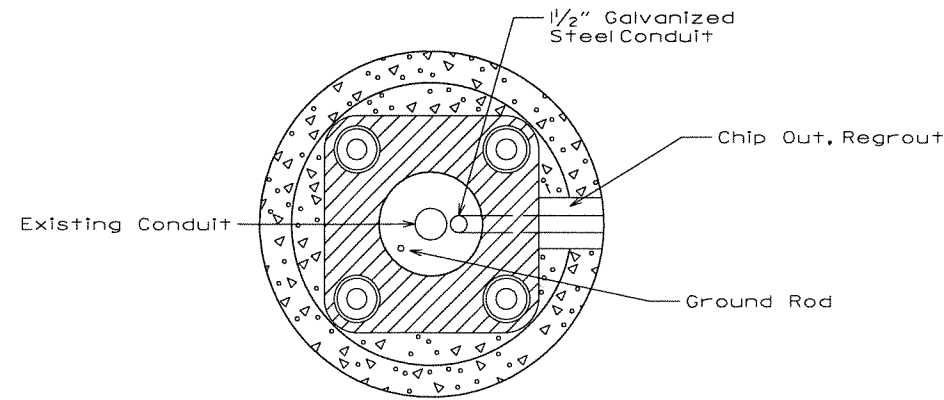
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100741	17	25

2 SIGNALIZATION DETAILS

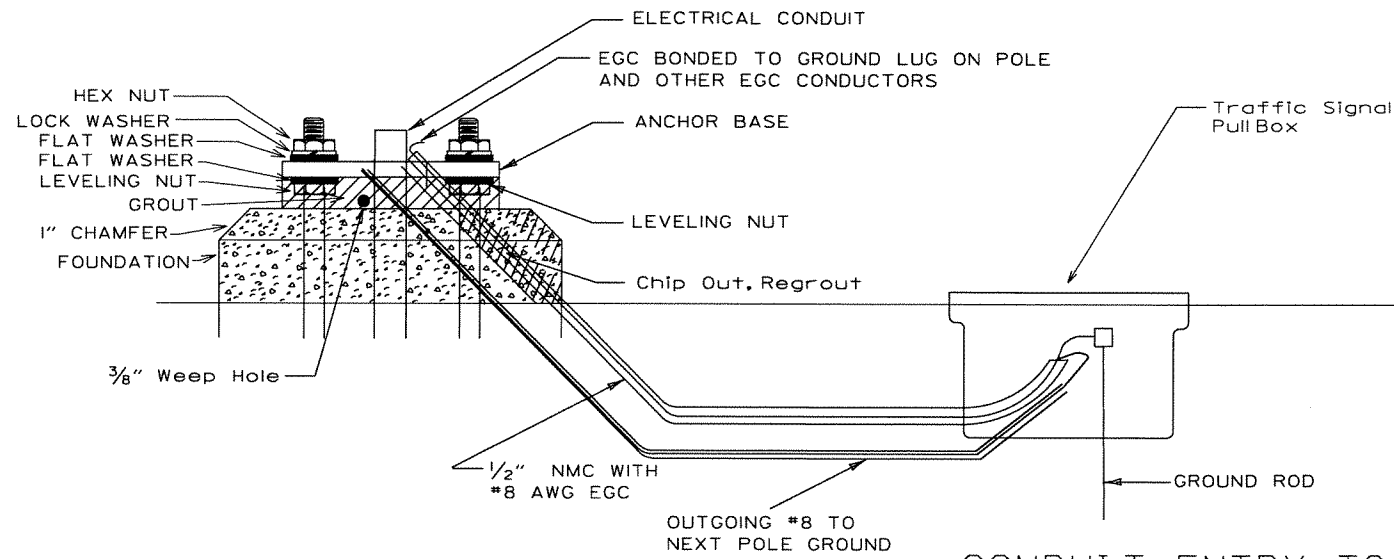


7-7-11

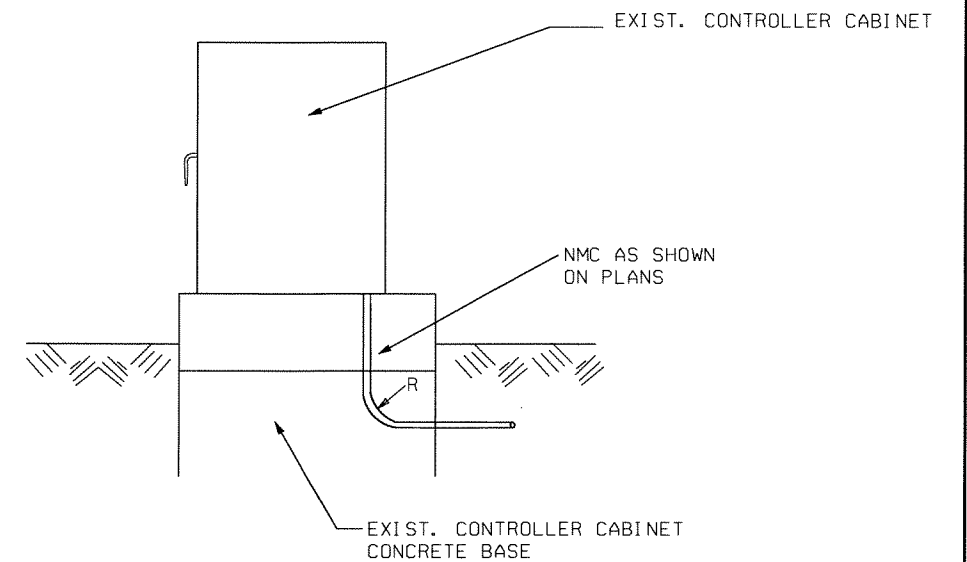
CONDUIT ENTRY TO EXISTING POLE BASE



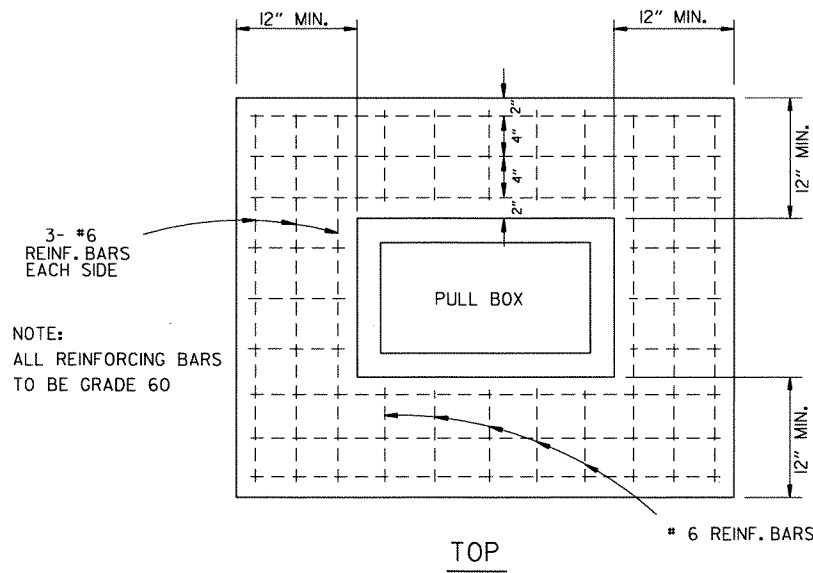
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

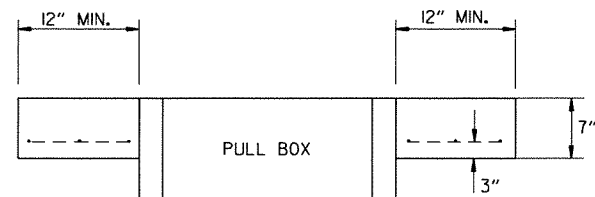


NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



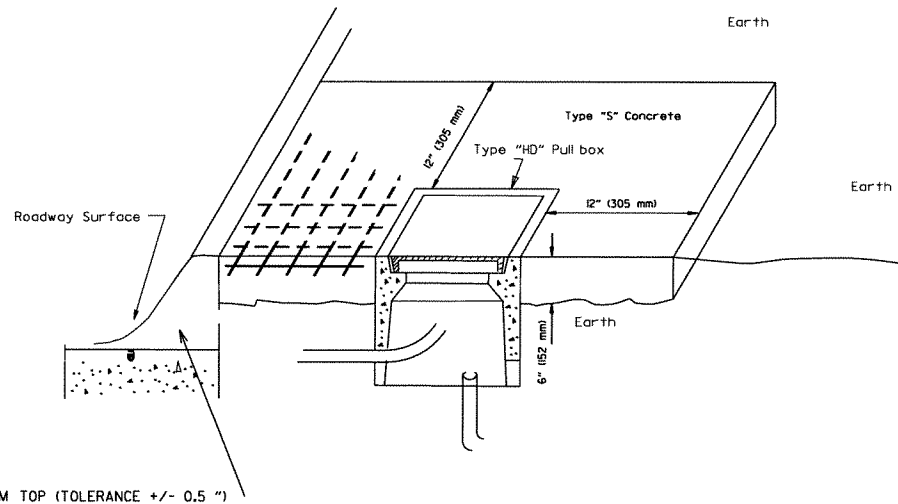
NOTE: ALL REINFORCING BARS TO BE GRADE 60

TOP



ELEVATION

Type "HD" Concrete Pull Box 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.

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

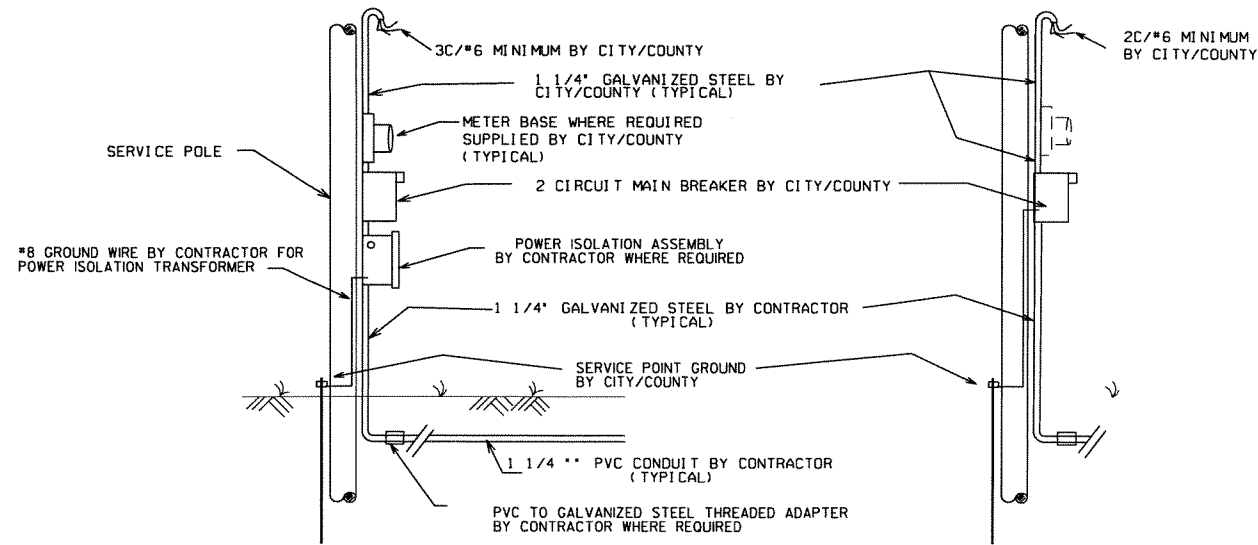
SIGNALIZATION DETAIL
(Heavy Duty Pull Box)

stdsd6.dgn

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY

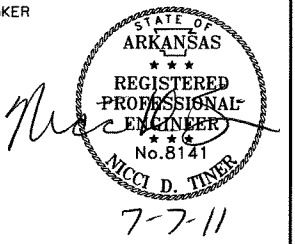
WITHOUT POWER ISOLATION ASSEMBLY



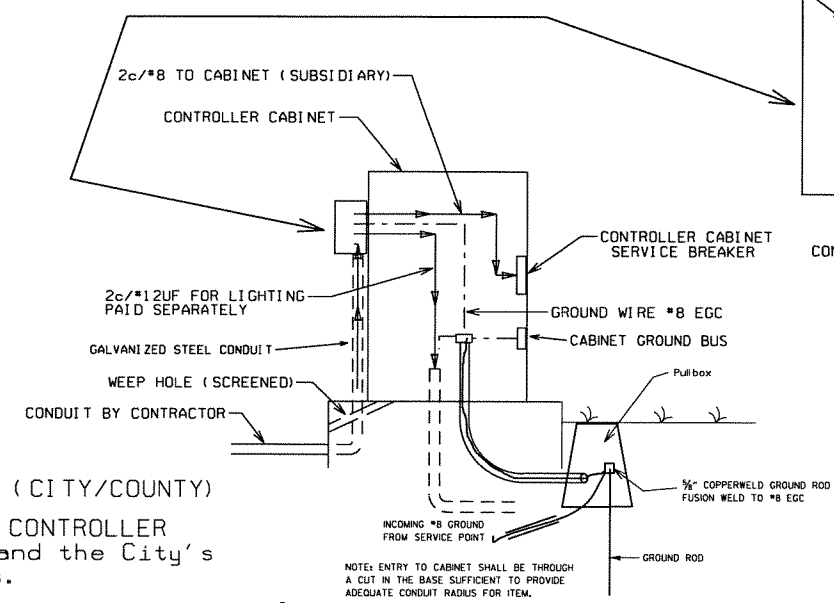
Ground Rod-A 10' x 3/4" ground rod shall be installed in the pull box for each pole and the controller. Payment for the ground rod and 1/2" NMC shall be included in Item 701. The pull box and conductor box shall be paid for separately.

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. 100741	18	25

2 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.

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.

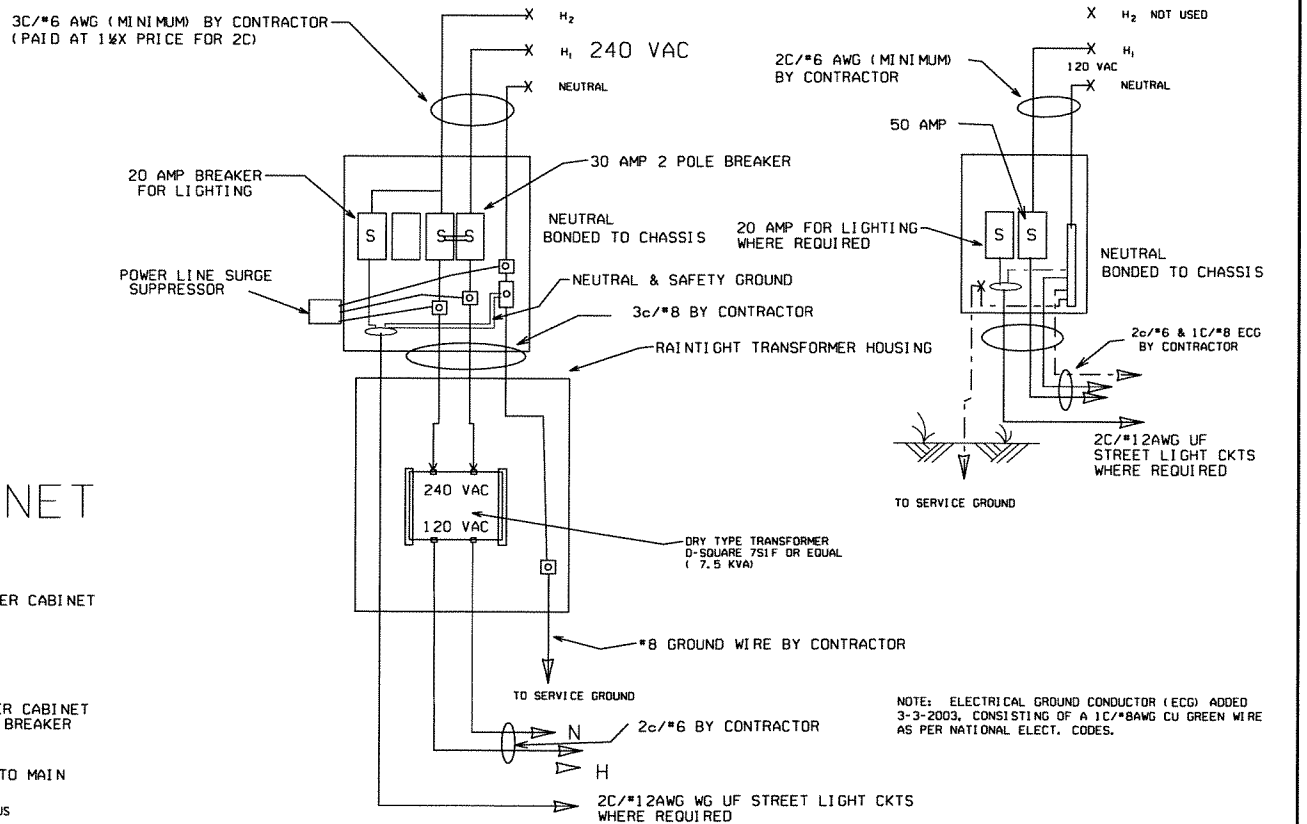
1. ALL SITUATIONS: Electrical service shall be provided by the City/County to a service pole with external raintight breaker (MAIN BREAKER) at a mutually acceptable point within the right-of-way. Service point includes galvanized steel conduit to a point 18" below ground line, two circuit main breaker, 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.

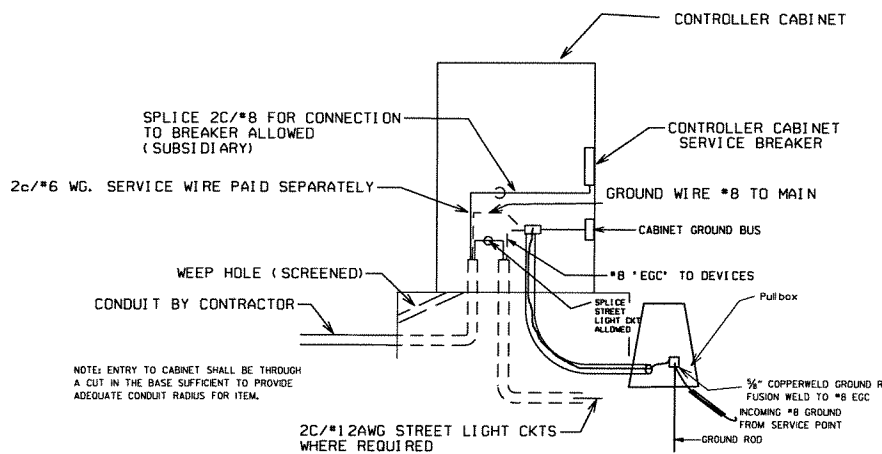
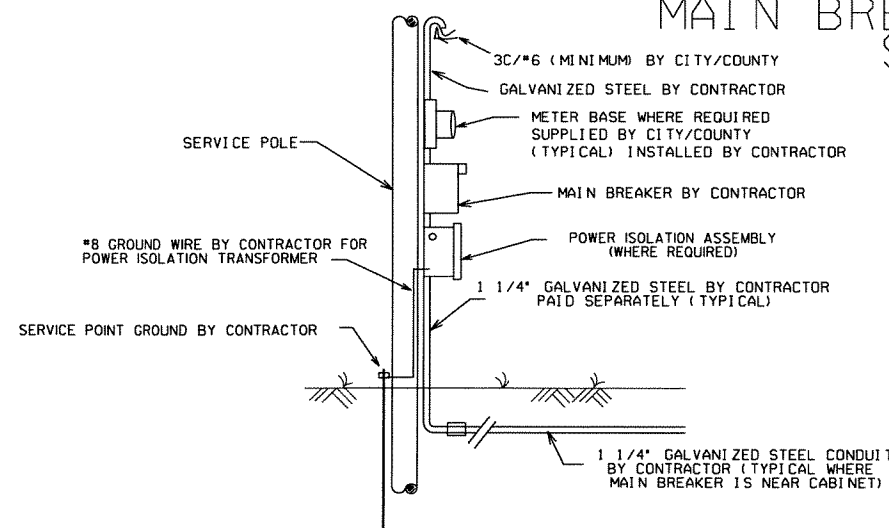
3. MAIN BREAKER NEAR CONTROLLER CABINET: All components of the service point with the exception of the wire and wiring above the Main Breaker is furnished and installed by the Contractor. Wiring from Main Breaker including connection to the utility, is the responsibility of the City/County. If meter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

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



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	

DATE	REVISION	DATE FILM

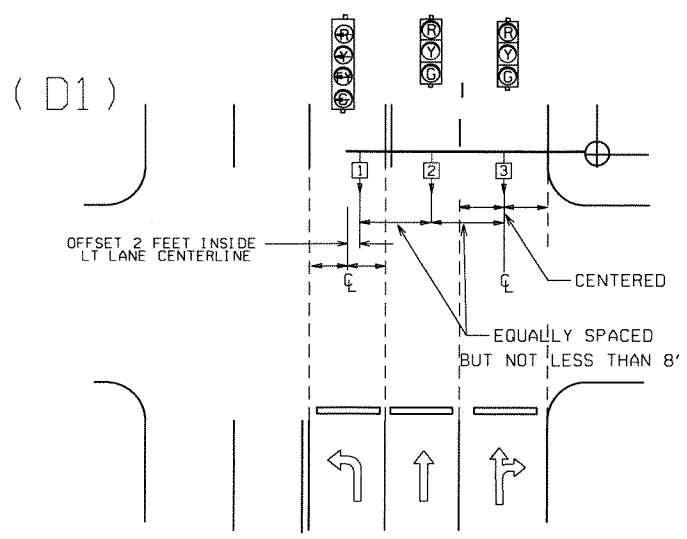
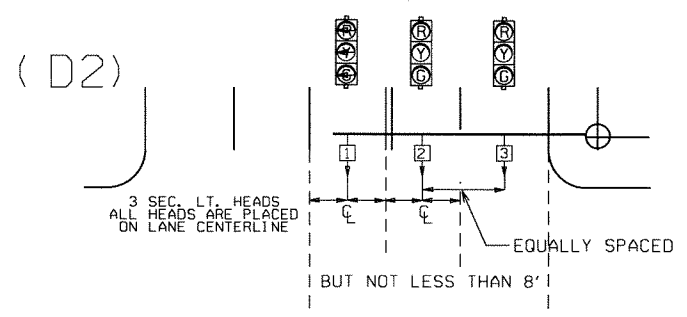
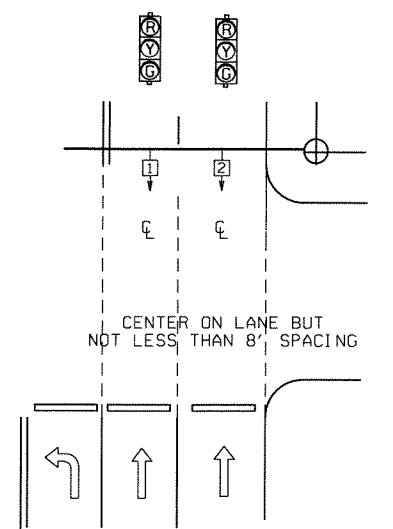
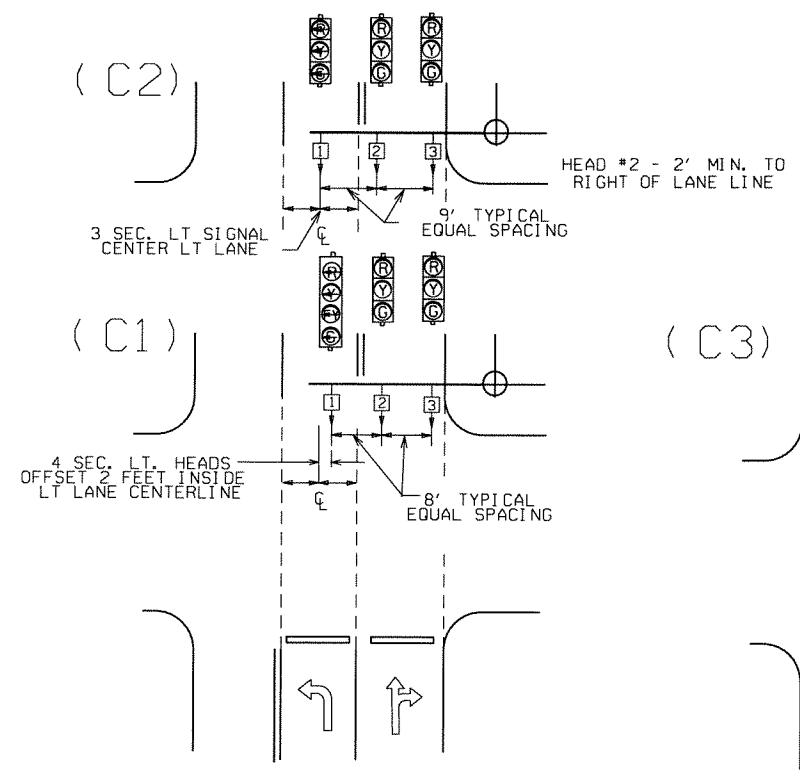
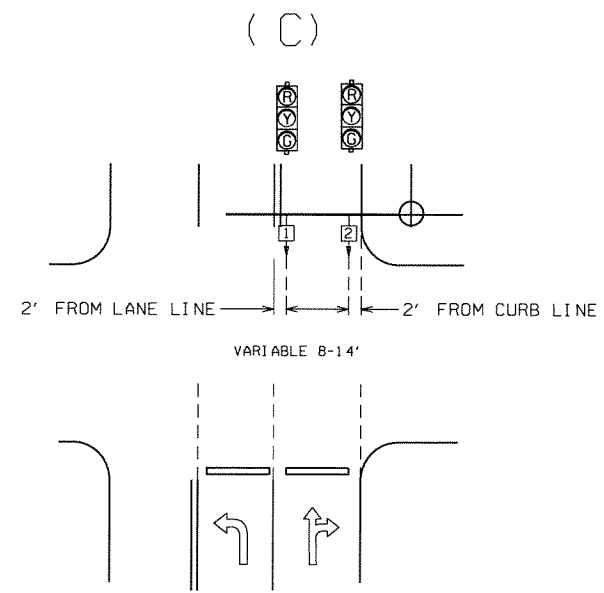
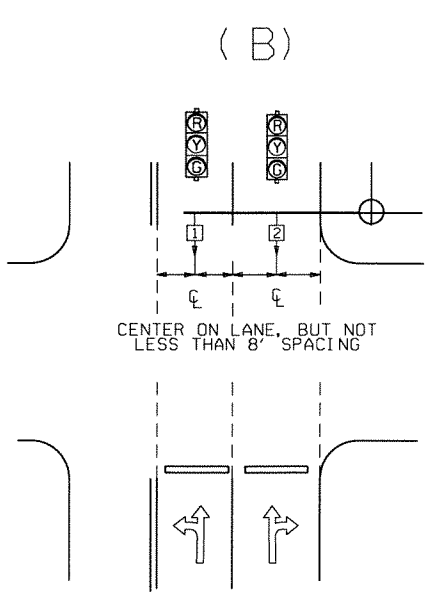
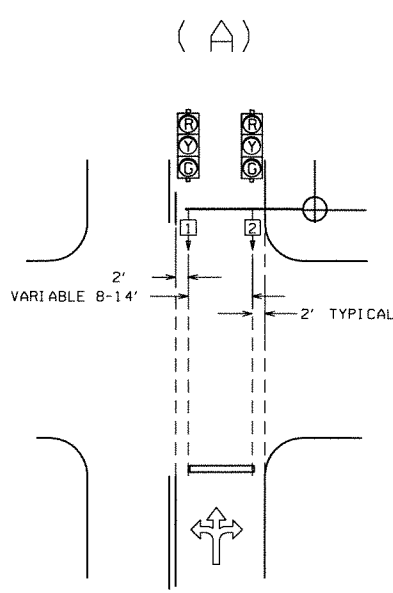
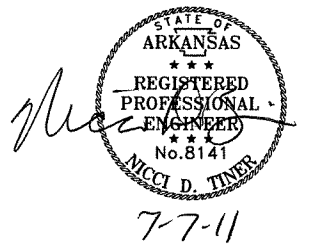
ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL (Service Point)

stdsp09.dwg

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. 100741	19	25

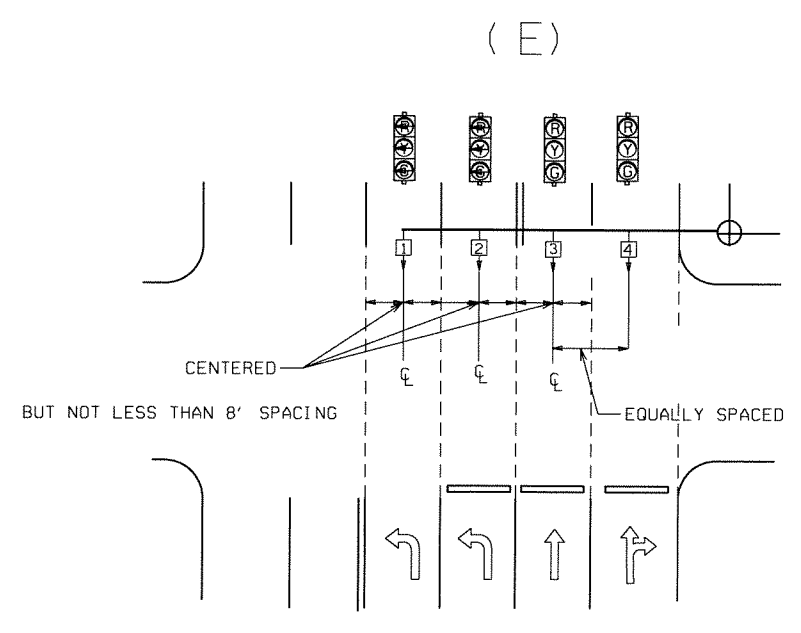
2 SIGNALIZATION DETAILS



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:

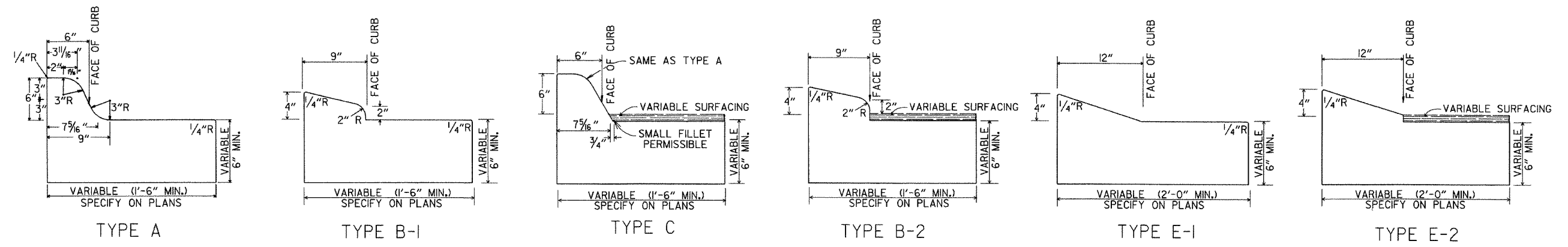
- FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- WHEN IT IS NECESSARY 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.



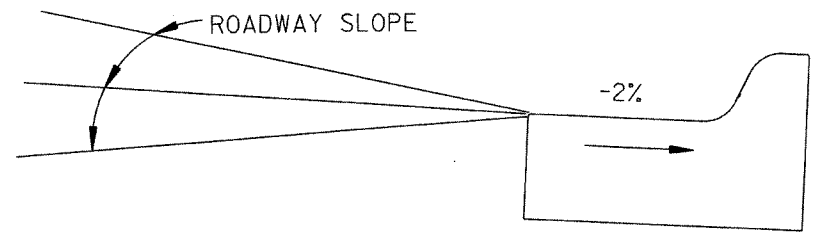
℄ = CENTER OF LANE FROM APPROACH SIDE

stdsd8.dgn

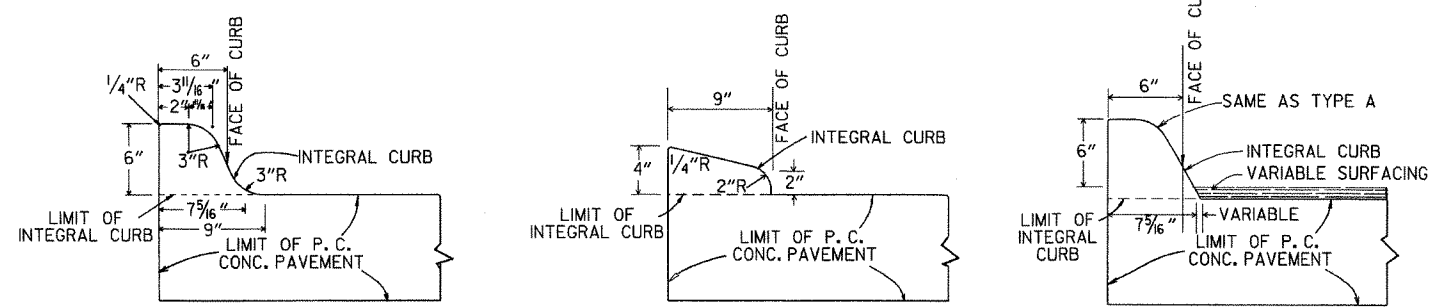
DATE	REVISION	DATE FILM	ARKANSAS STATE HIGHWAY COMMISSION
3-11-10	2009 MUTCD		SIGNALIZATION DETAIL (Signal Head Placement)
12-9-99	ISSUED		



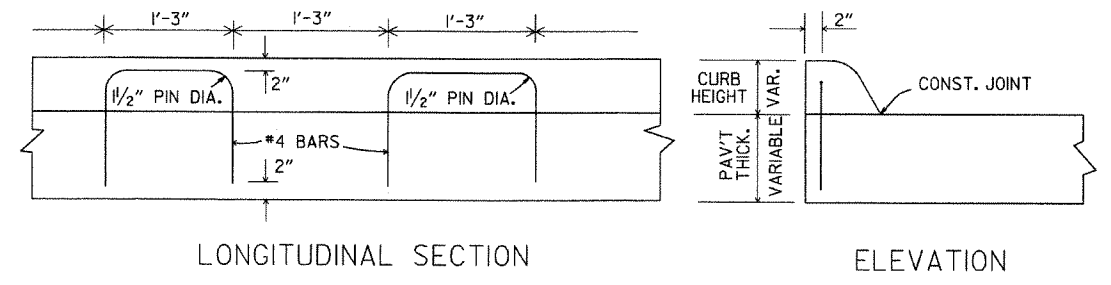
CONCRETE COMBINATION CURB AND GUTTER



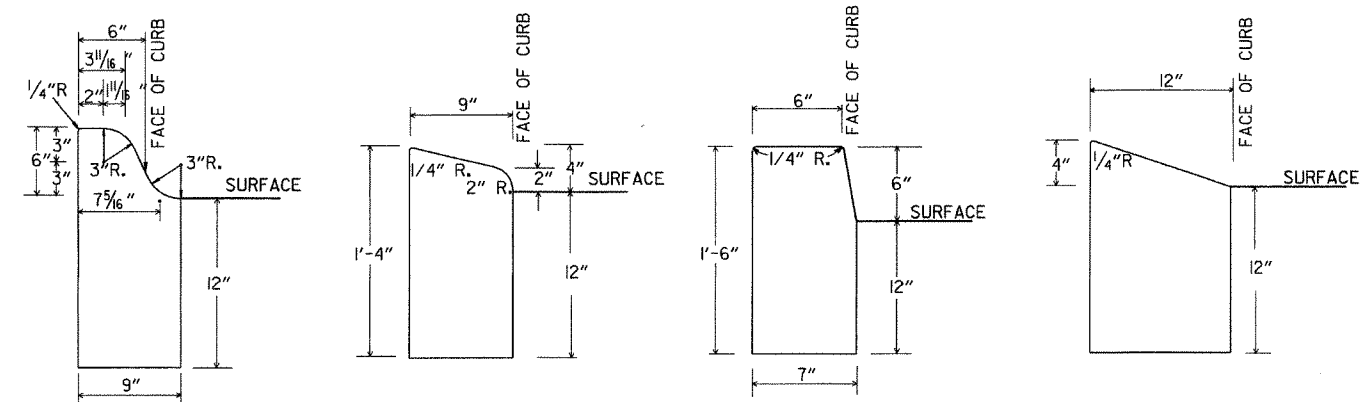
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



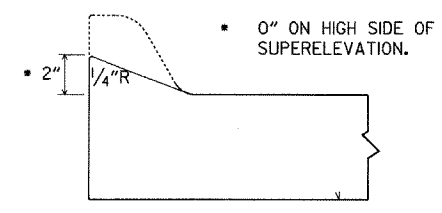
INTEGRAL CURB



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.

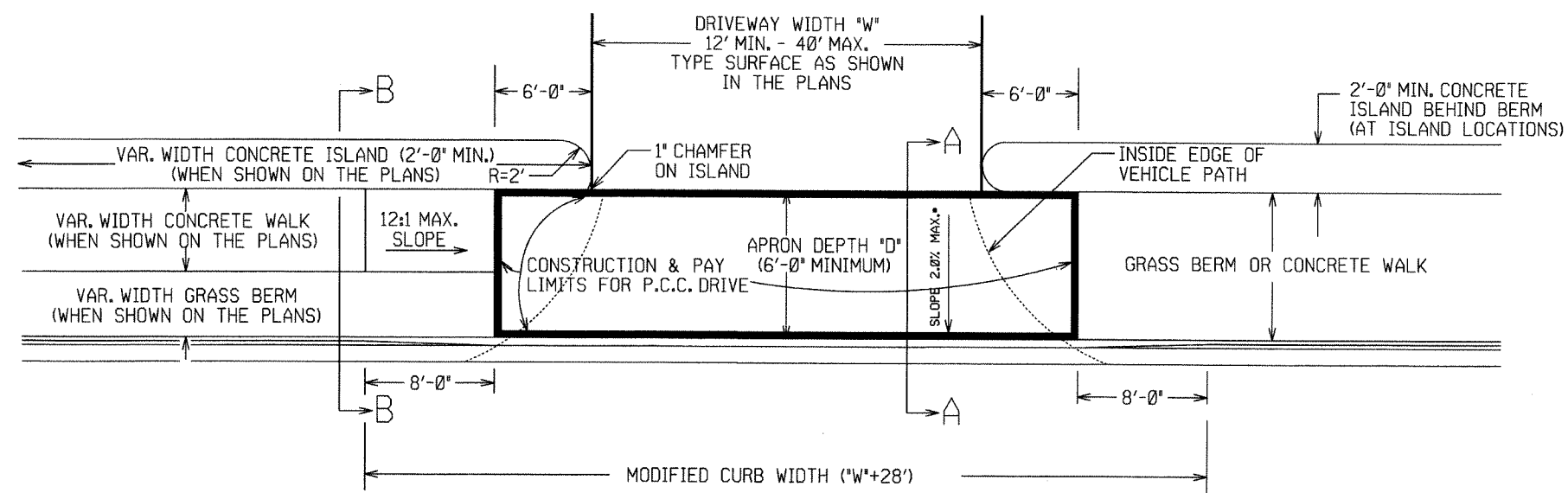
DETAILS OF MODIFIED CURB

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	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	VARIABLE DEPTH TYPE A & B	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

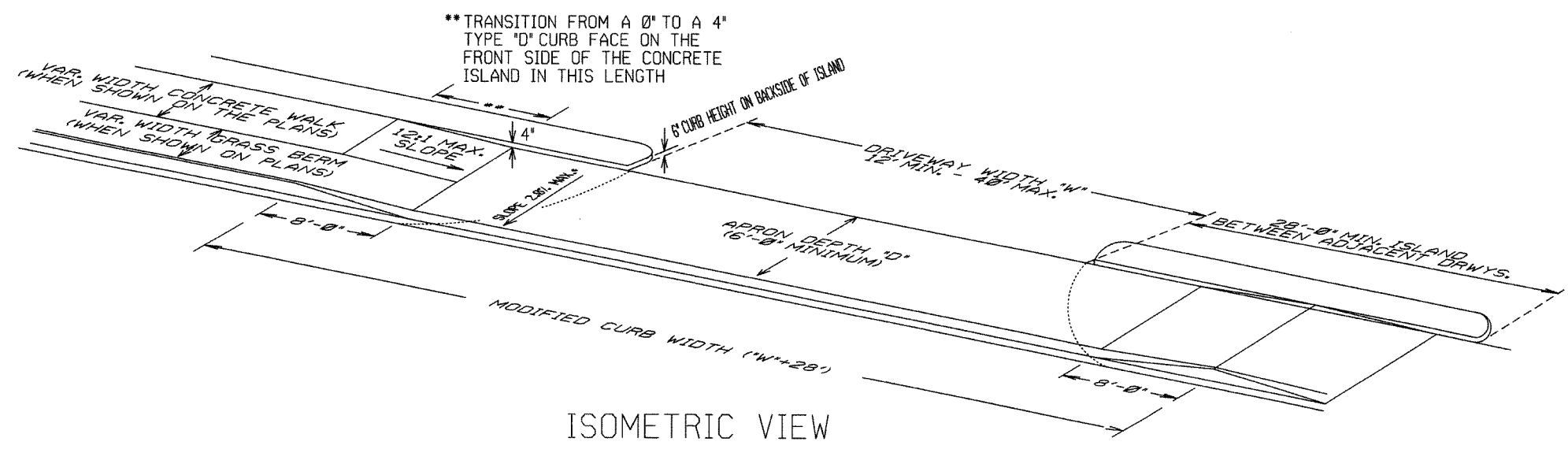
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

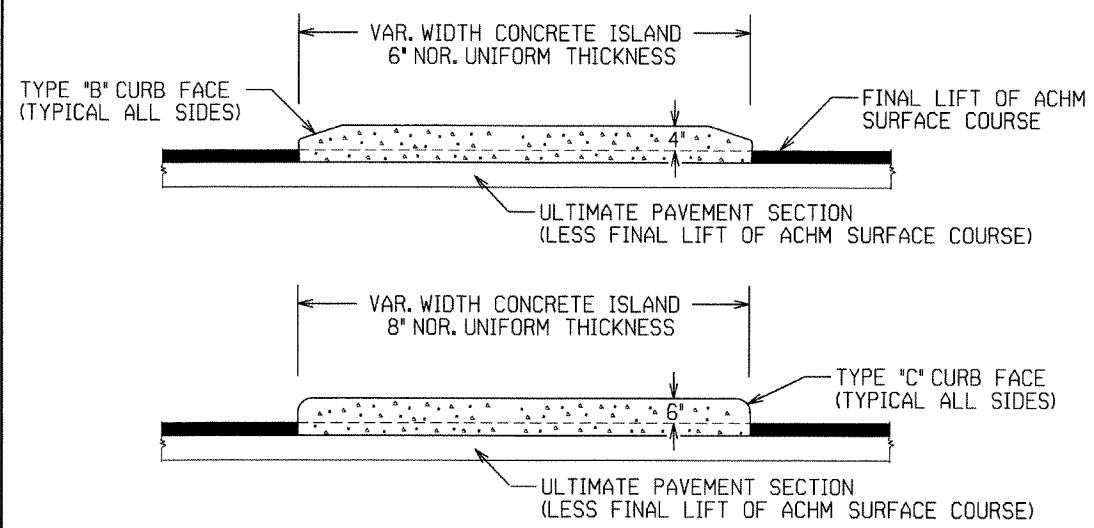
STANDARD DRAWING CG-1



PLAN VIEW

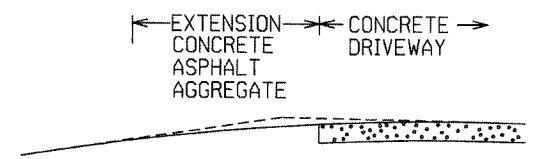


ISOMETRIC VIEW



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".

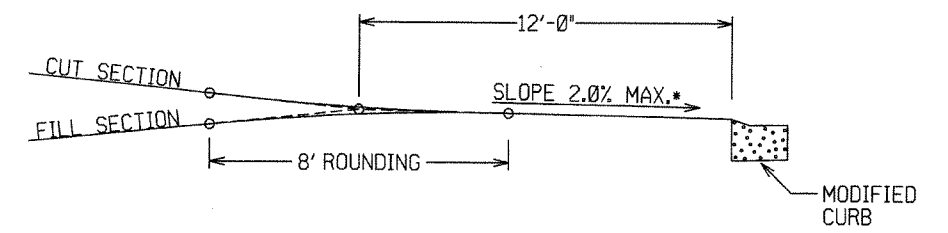


EXTENSION TYPICAL SECTIONS

- 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

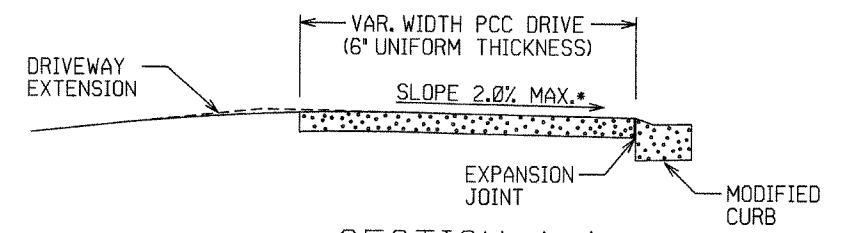
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

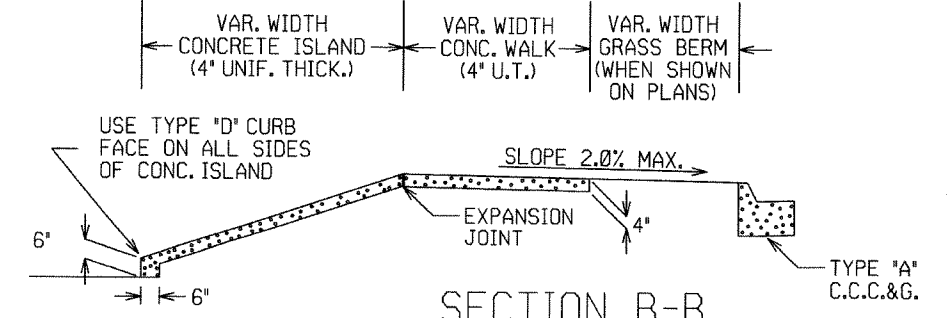


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



SECTION A-A



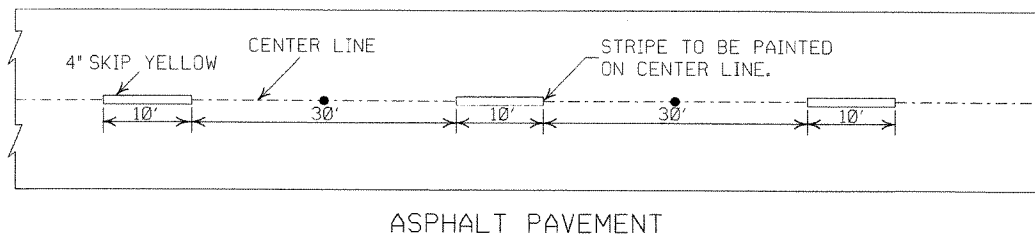
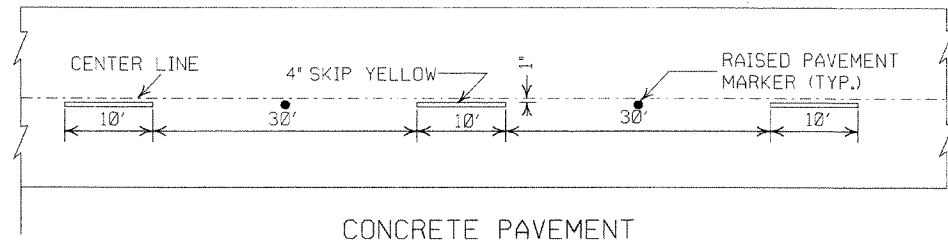
SECTION B-B
CURBED ISLAND BEHIND WALK

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

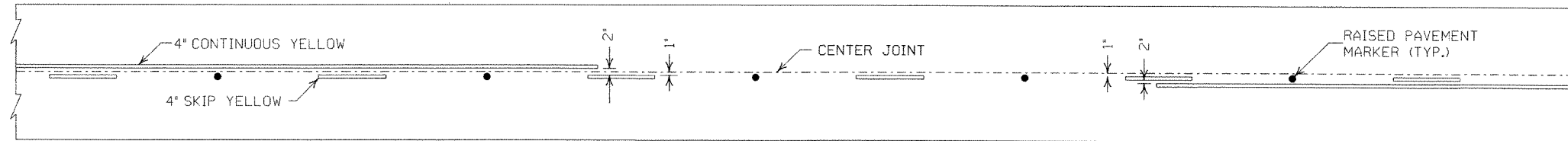
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1

NOTES:

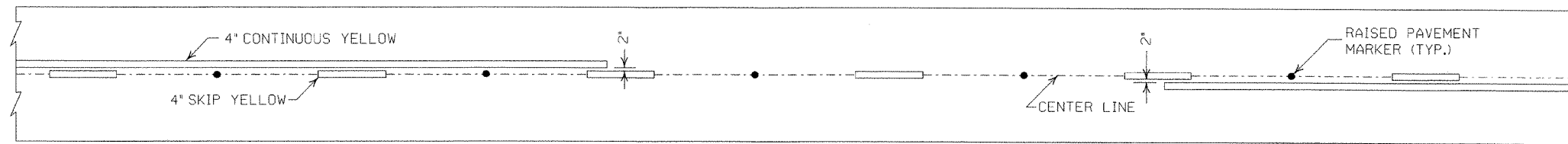
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED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



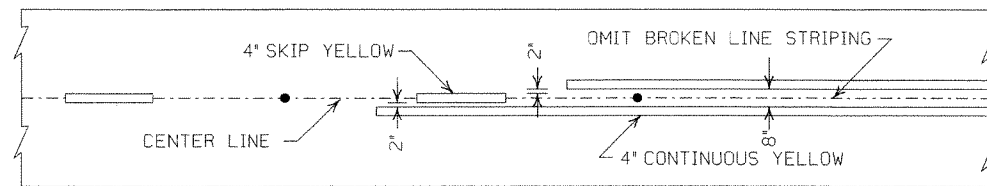
BROKEN LINE STRIPING



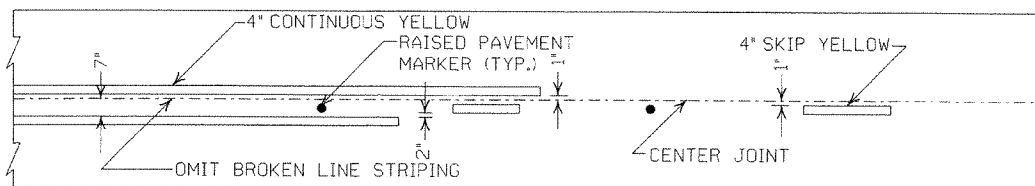
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

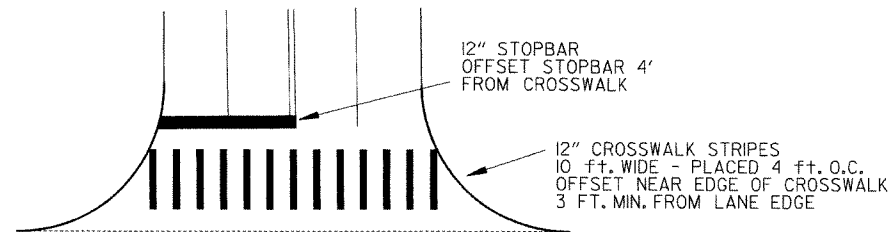


ASPHALT PAVEMENT

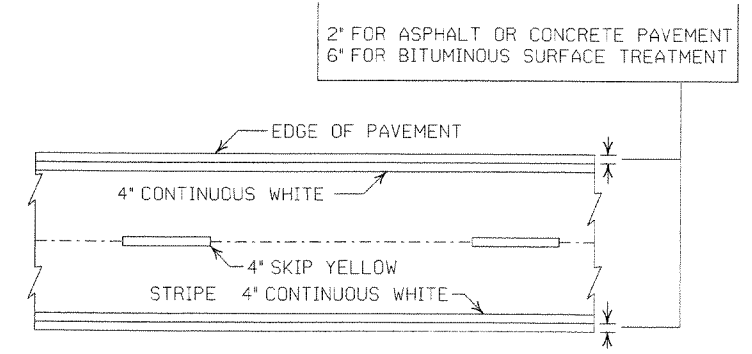


CONCRETE PAVEMENT

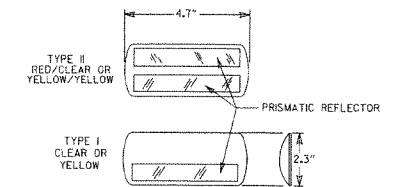
STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS



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

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


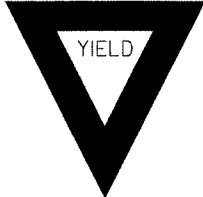



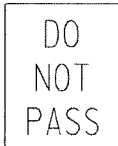



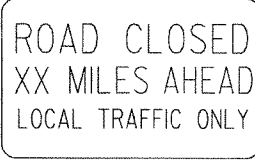
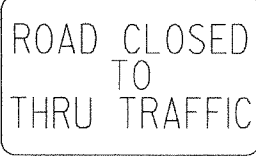
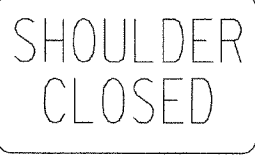
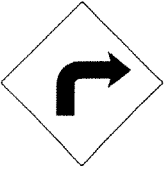

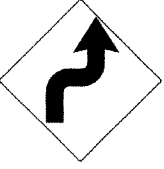



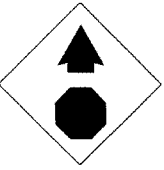
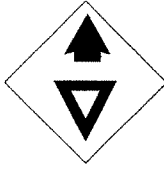
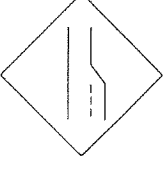



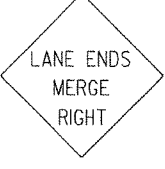


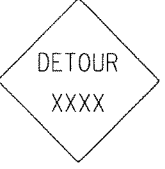



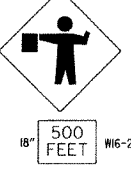


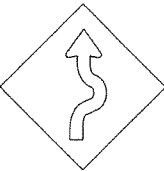



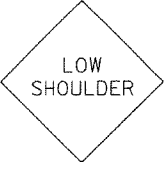

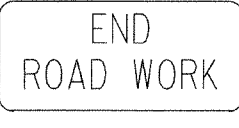
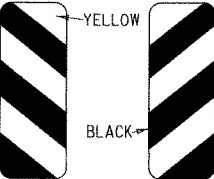


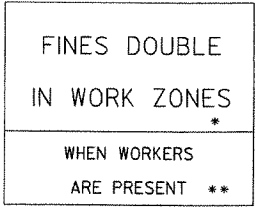
GENERAL NOTES:

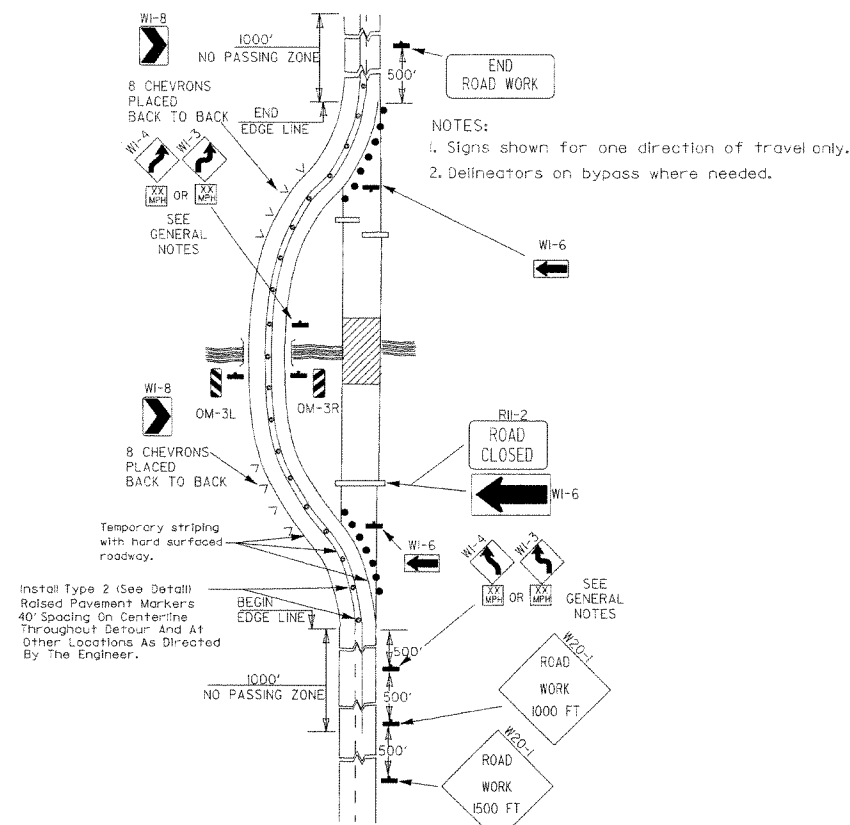
- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START 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, DEFACED, 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.

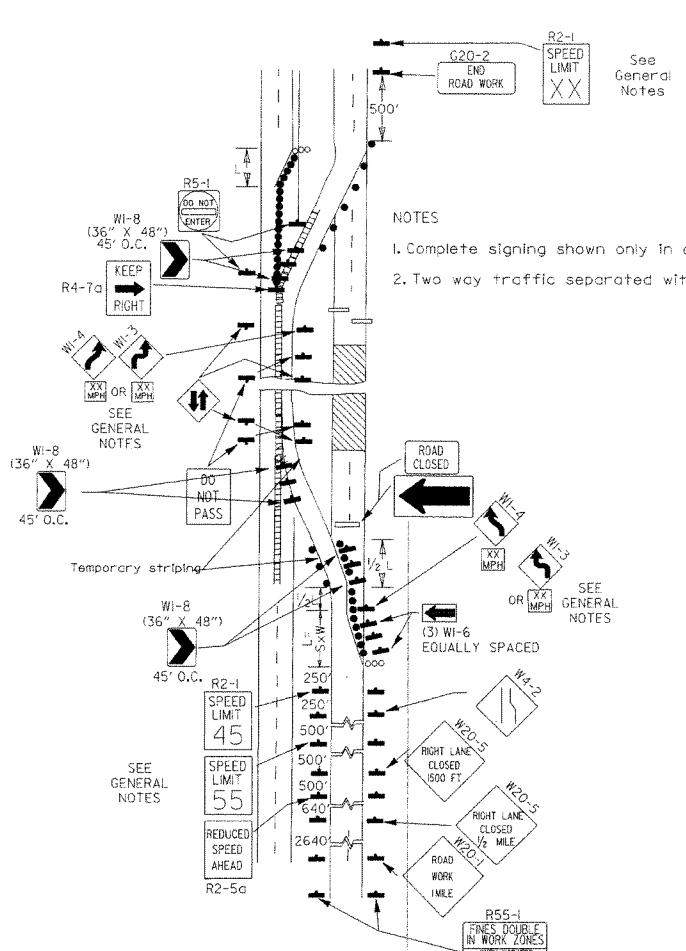
* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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	
DATE	REVISION	FILMED

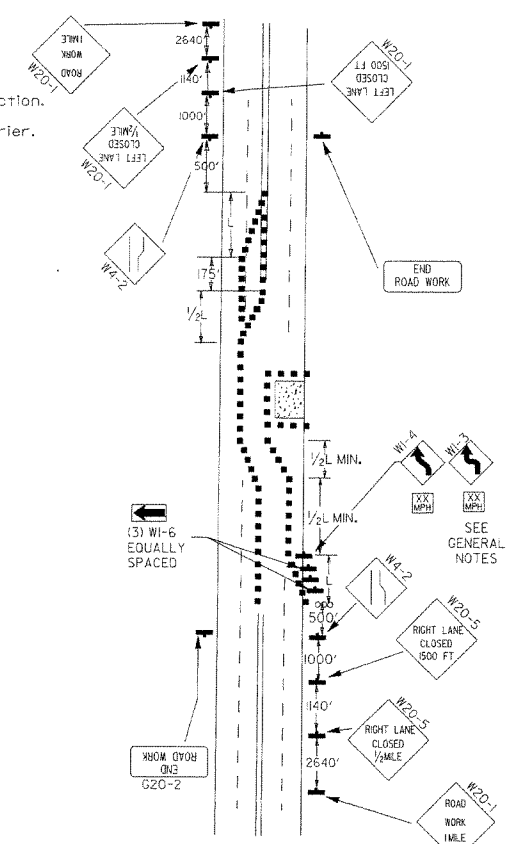
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 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>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>WI-3</p>  <p>STD. 48"x48"</p>	<p>WI-4</p>  <p>STD. 48"x48"</p>	<p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>WI-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>18" 500 FEET 24" W16-2</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>WI-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>* USE 6" C LETTERS ** USE 4" D LETTERS</p>



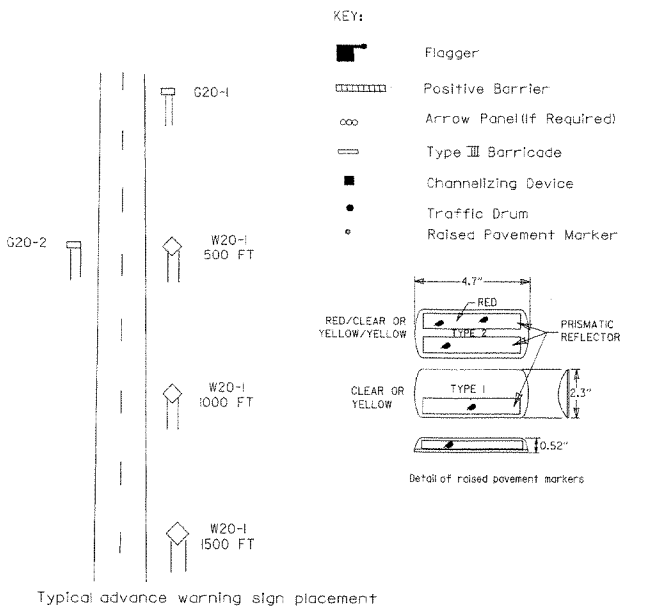
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



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



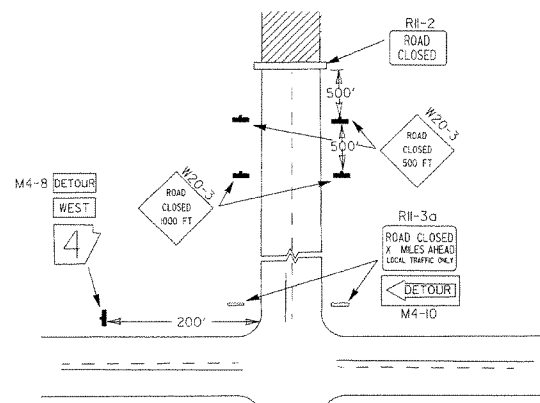
(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



Typical advance warning sign placement

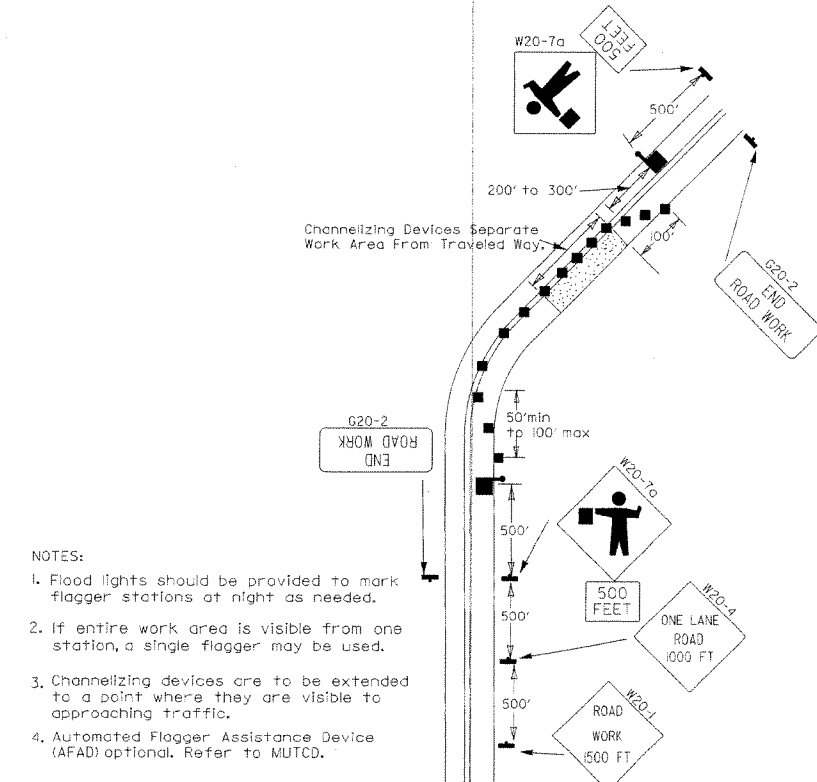
Taper formulae:
 $L = S \times W$ for speeds of 45mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40mph or less.
 Where:
 L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85th percentile speed.
 W = Width of offset.

GENERAL NOTES:
 1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
 2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1(45) speed limit signs shall be installed at a maximum of 1/2 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(65) shall be omitted. Additional R2-1(55) speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
 4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
 5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
 6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
 7. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

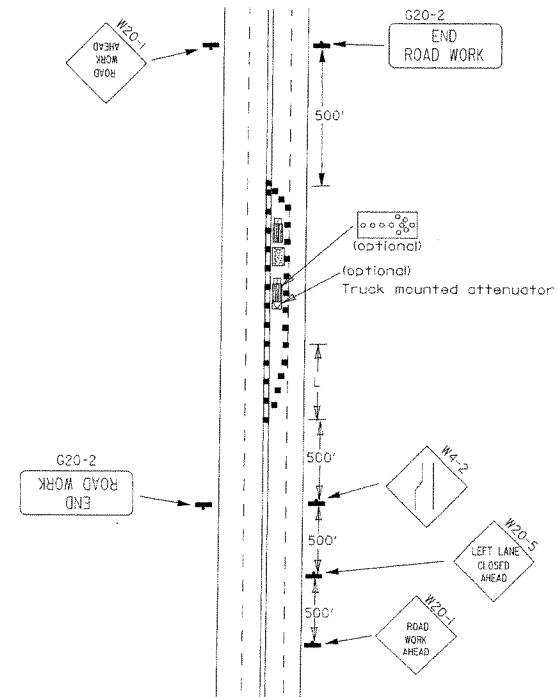


(D) Typical application - roadway closed beyond detour point.

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.

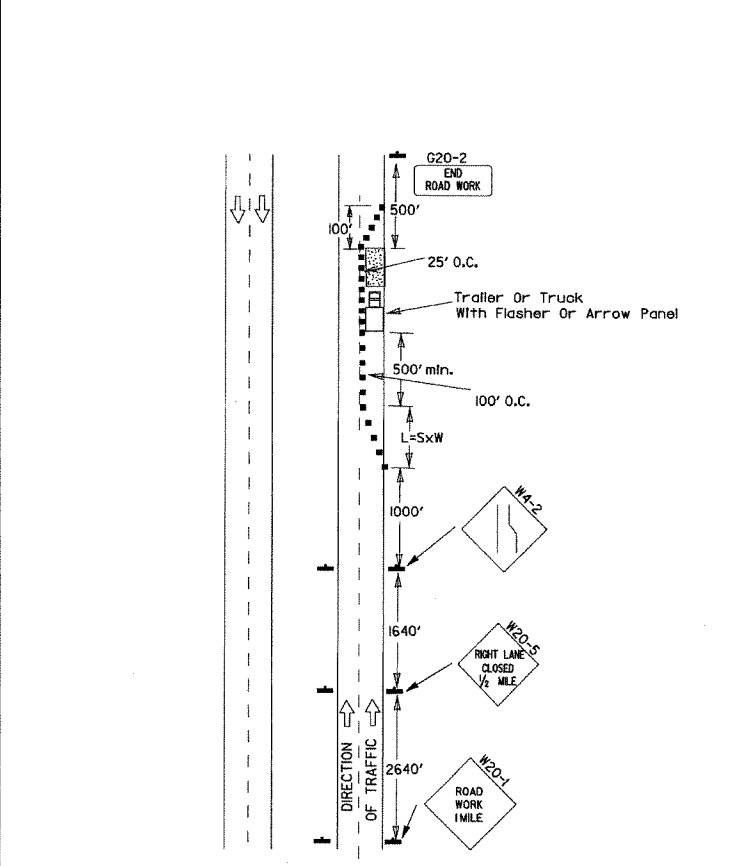


(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.

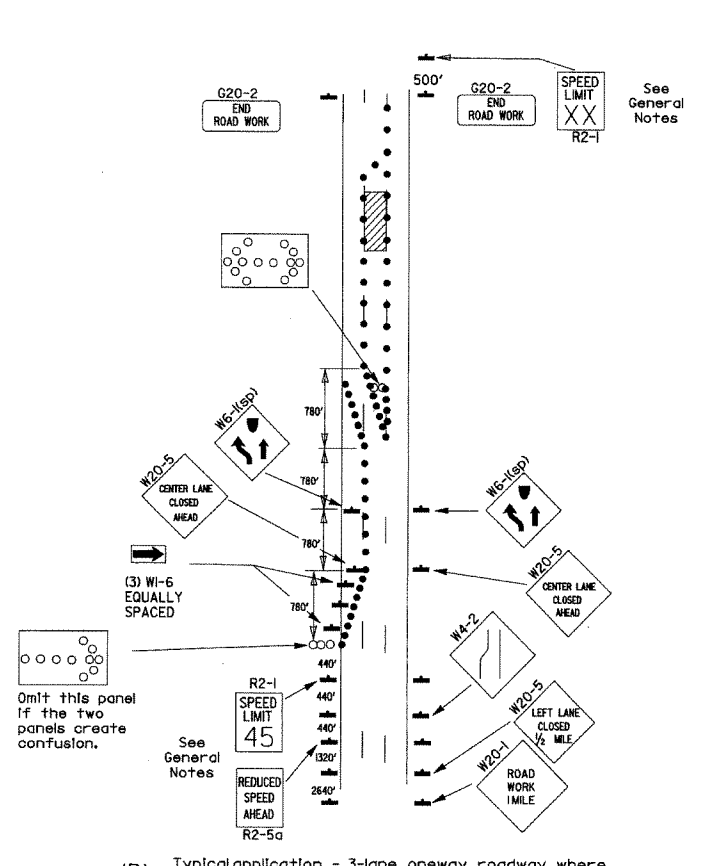


(F) Typical application - 4-lane undivided roadway with inside lane closed.

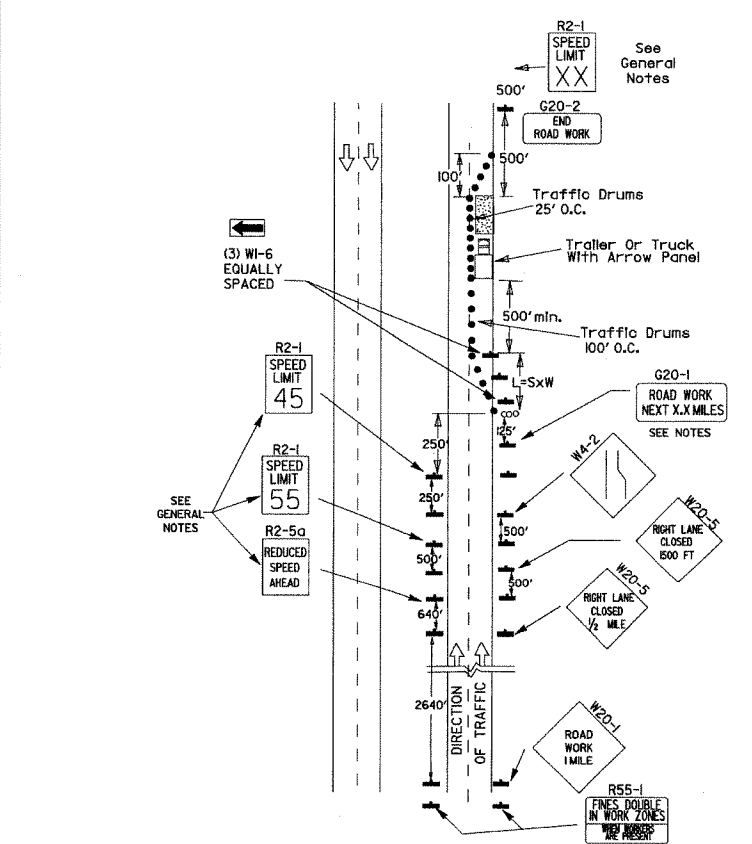
DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	



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

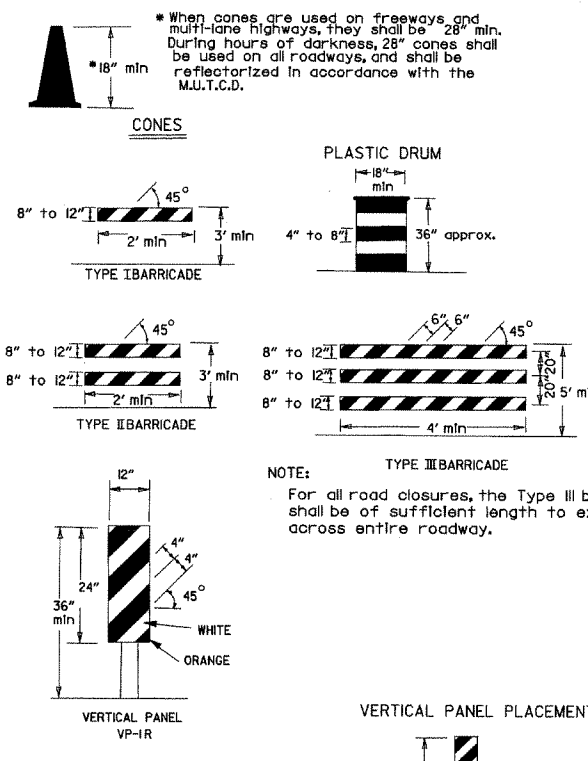


(B) Typical application - 3-lane oneway roadway where center lane is closed.



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

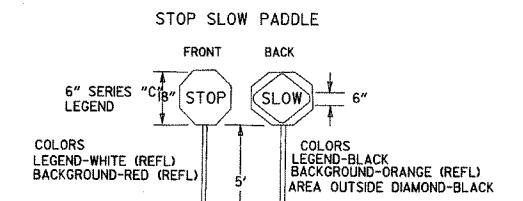
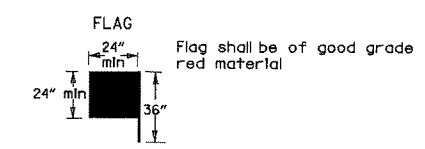
Channelizing devices



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

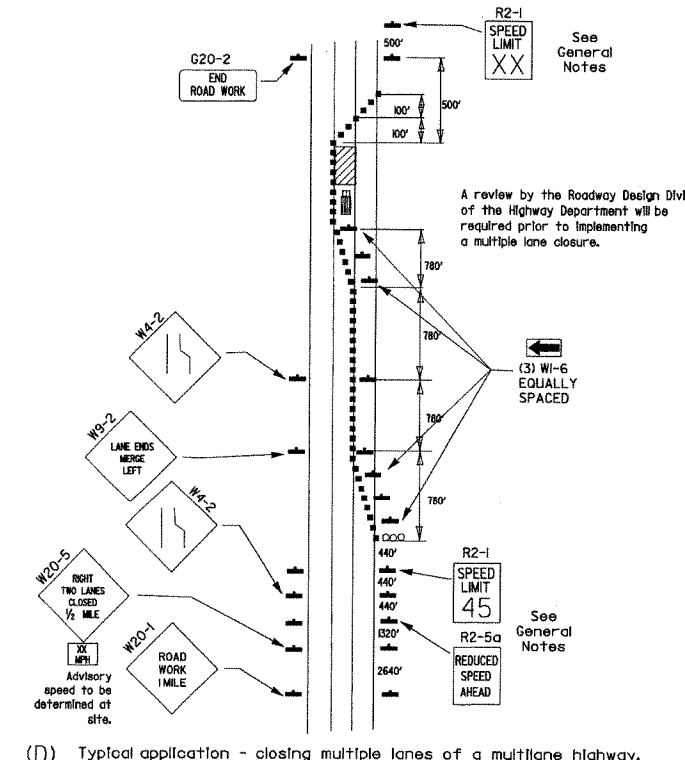
* When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



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

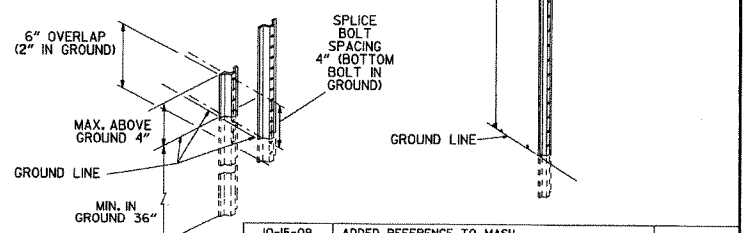
GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- 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 R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1XX 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 R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1XX 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.
- 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.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
- 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 - closing multiple lanes of a multilane highway.

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	