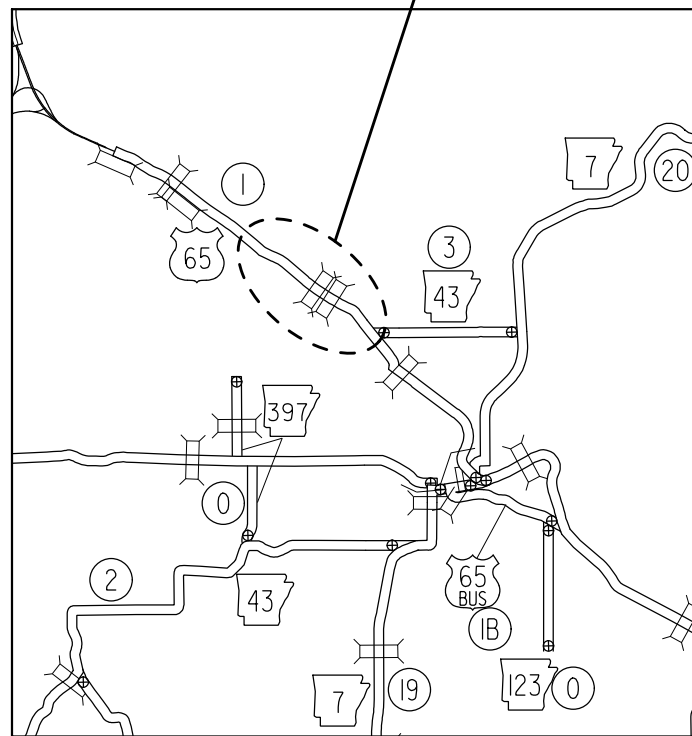


PROJECT
LOCATION



VICINITY MAP

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY



HWY. 65 INTERS. IMPVTS. & SIGNAL
COORDINATION (HARRISON) (S)

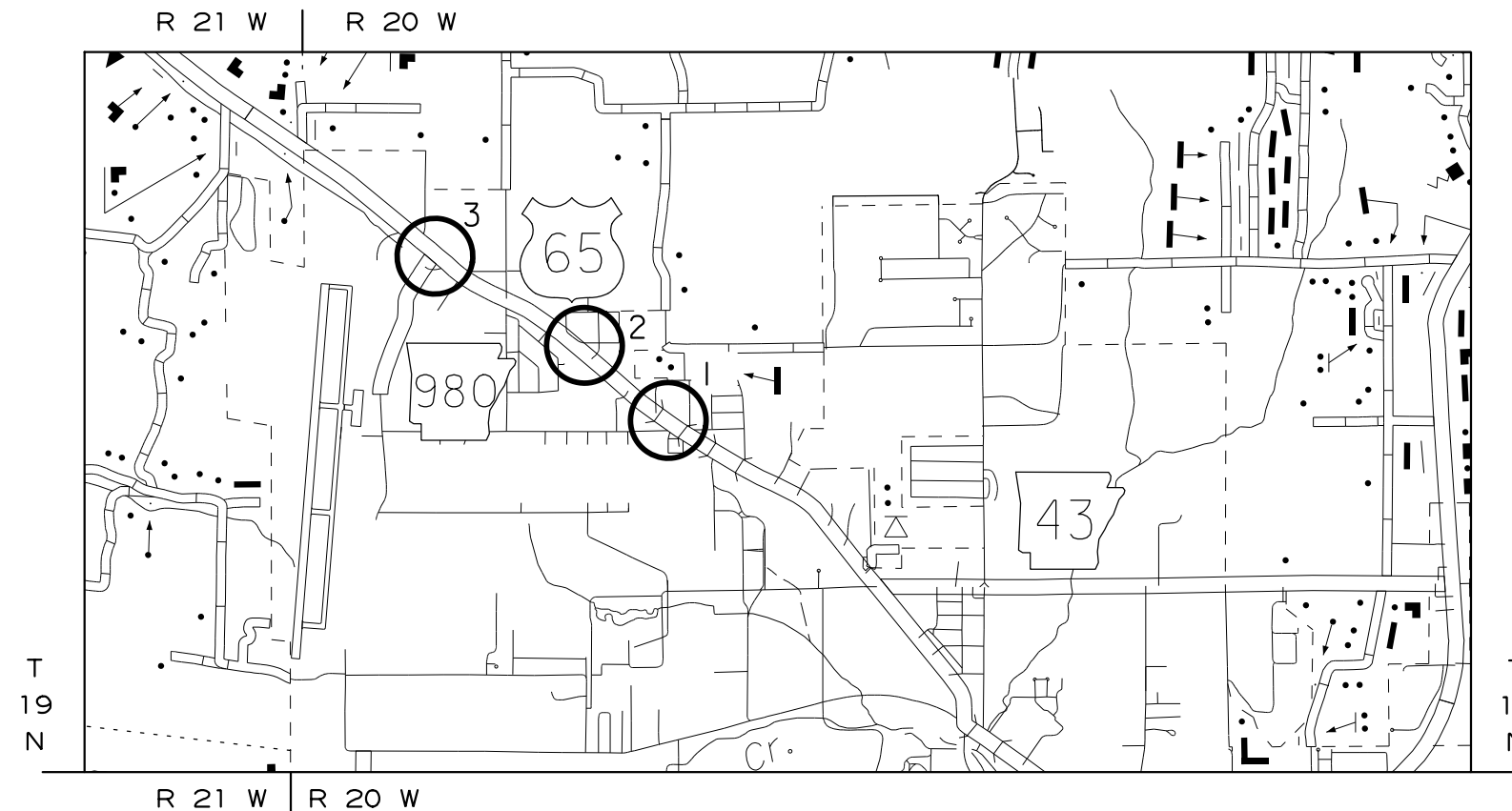
BOONE COUNTY

ROUTE 65 SECTION I

JOB 090490

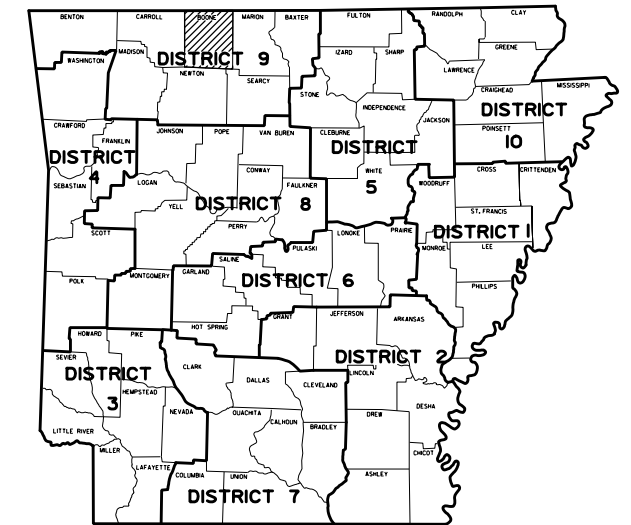
FED. AID PROJ.
ACNHPP-9191(9) & 9030

NOT TO SCALE



NO PROJECT LENGTH INVOLVED

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	1	61
HWY. 65 INTERS. IMPVTS. & SIGNAL COORDINATION (HARRISON) (S)						



ARKANSAS HIGHWAY DISTRICT 9

DESIGN TRAFFIC DATA

DESIGN YEAR	2024
2024 ADT	27,000
2044 ADT	31,000
2044 DHV	3,410
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	6.0%
DESIGN SPEED	45 MPH



09/16/2024

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10-30-24		6	ARK.	090490	2	61
		INDEX OF SHEETS AND STANDARD DRAWINGS				



INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4	TYPICAL SECTIONS OF IMPROVEMENTS
5 - 7	INTERSECTION IMPROVEMENT DETAILS
8 - 9	TEMPORARY EROSION CONTROL DETAILS
10 - 18	MAINTENANCE OF TRAFFIC DETAILS
19 - 21	PERMANENT PAVEMENT MARKING DETAILS
22 - 23	QUANTITIES
24	SUMMARY OF QUANTITIES AND REVISIONS
25 - 29	SURVEY CONTROL DETAILS
30A - 30B	PLAN AND PROFILE SHEET
31	SUMMARY OF TRAFFIC SIGNAL QUANTITIES
32	TRAFFIC SIGNAL NOTES
33	SYSTEM MAP
34 - 35	TRAFFIC SIGNAL STREET NAME SIGNS
36	GROUNDING ARRAY DETAIL
37	TRAFFIC SIGNAL QUANTITIES - HESTER DR.
38 - 42	SIGNALIZATION PLAN SHEETS
43	TRAFFIC SIGNAL QUANTITIES - WAL-MART DR.
44 - 52	SIGNALIZATION PLAN SHEETS
53	TRAFFIC SIGNAL QUANTITIES - AIRPORT RD.
54 - 58	SIGNALIZATION PLAN SHEETS
59 - 61	CROSS SECTIONS

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CG-1	CURBING DETAILS	11-29-07
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	05-19-22
DR-2	DETAILS OF DRIVEWAYS & STREET TURNOUTS	05-19-22
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
FPC-9E	DETAILS OF DROP INLETS (TYPE C)	08-22-02
FPC-9M	DETAILS OF DROP INLET (TYPE MO)	08-22-02
GR-6	GUARDRAIL DETAILS	05-19-22
GR-9	GUARDRAIL DETAILS	11-07-19
GR-11	GUARDRAIL DETAILS	11-07-19
GRT-1	GUARD RAIL DETAILS	11-07-19
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1	PAVEMENT MARKING DETAILS	02-27-20
SD-5	CONTROLLER CABINET UTILITY DRAWER	09-12-13
SD-6	HEAVY DUTY PULL BOX	02-13-24
SD-7	SPAN WIRE ASSEMBLY WOOD POLE	02-13-24
SD-8	SIGNAL HEAD PLACEMENT	12-08-16
SD-9	SERVICE POINT	11-07-19
SD-11	STEEL POLE WITH MAST ARM	02-13-24
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94

LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: NTS	DRAWN BY: HALFF

dh3593 5/12/2023

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GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER TITLE

- ERRATA_____ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
- FHWA-1273___REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
- FHWA-1273___SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
- FHWA-1273___SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
- FHWA-1273___SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
- FHWA-1273___SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
- FHWA-1273___SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
- FHWA-1273___SUPPLEMENT - WAGE RATE DETERMINATION
- 100-3_____CONTRACTOR'S LICENSE
- 100-4_____DEPARTMENT NAME CHANGE
- 102-2_____ISSUANCE OF PROPOSALS
- 102-3_____PREQUALIFICATION OF BIDDERS
- 103-2_____CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS
- 105-4_____MAINTENANCE DURING CONSTRUCTION
- 107-2_____RESTRAINING CONDITIONS
- 108-1_____LIQUIDATED DAMAGES
- 108-2_____WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
- 210-1_____UNCLASSIFIED EXCAVATION
- 306-1_____QUALITY CONTROL AND ACCEPTANCE
- 400-1_____TACK COATS
- 400-4_____DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
- 400-5_____PERCENT AIR VOIDS FORACHM MIX DESIGNS
- 400-6_____LIQUID ANTI-STRIP ADDITIVE
- 400-7_____TRACKLESS TACK
- 404-3_____DESIGN OF ASPHALT MIXTURES
- 409-2_____ASPHALT LABORATORY FACILITY
- 410-1_____CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
- 410-2_____DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
- 410-4_____EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
- 416-1_____RECYCLED ASPHALT PAVEMENT
- 501-3_____PORTLAND CEMENT CONCRETE PAVEMENT
- 502-1_____WELDED WIRE REINFORCEMENT
- 505-1_____PORTLAND CEMENT CONCRETE DRIVEWAY
- 600-2_____INCIDENTAL CONSTRUCTION
- 603-1_____LANE CLOSURE NOTIFICATION
- 604-1_____RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
- 604-3_____TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
- 617-2_____GUARDRAIL DELINEATORS
- 621-1_____FILTER SOCKS
- 632-1_____CONCRETE ISLAND
- 634-1_____CURBING
- 700-2_____TRAFFIC CONTROL FACILITIES
- 802-5_____CONCRETE FOR STRUCTURES
- JOB 090490___ACTUATED CONTROLLER
- JOB 090490___AIRPORT CLEARANCE REQUIREMENTS
- JOB 090490___ASSESSMENT OF WORKING DAYS – MAINTENANCE OF TRAFFIC
- JOB 090490___BIDDING REQUIREMENTS AND CONDITIONS
- JOB 090490___BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
- JOB 090490___BROADBAND INTERNET SERVICE FOR FIELD OFFICE
- JOB 090490___BUY AMERICA - CONSTRUCTION MATERIALS
- JOB 090490___CABINET DRAWER ASSEMBLY
- JOB 090490___CARGO PREFERENCE ACT REQUIREMENTS
- JOB 090490___CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
- JOB 090490___DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
- JOB 090490___DESIGN OF ASPHALT MIXTURES - AGGREGATES
- JOB 090490___DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
- JOB 090490___ELECTRICAL CONDUCTORS FOR LUMINAIRES
- JOB 090490___ELECTRICAL CONDUCTORS-IN-CONDUIT
- JOB 090490___FLEXIBLE BEGINNING OF WORK – CALENDAR DAY CONTRACT
- JOB 090490___GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
- JOB 090490___HYBRID VIDEO/RADAR DETECTION SYSTEM
- JOB 090490___LED LUMINAIRE ASSEMBLY (BUG U0 TYPE)
- JOB 090490___LED TRAFFIC SIGNAL HEAD
- JOB 090490___LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
- JOB 090490___MAINTENANCE OF TRAFFIC
- JOB 090490___MANDATORY ELECTRONIC CONTRACT
- JOB 090490___MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
- JOB 090490___PARTNERING REQUIREMENTS
- JOB 090490___PERCENT AIR VOIDS AND NDESIGN FOR ACHM SURFACE MIX DESIGNS
- JOB 090490___PRICE ADJUSTMENT FOR ASPHALT BINDER
- JOB 090490___PRICE ADJUSTMENT FOR FUEL
- JOB 090490___PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
- JOB 090490___REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
- JOB 090490___RETROREFLECTIVE BACKPLATES
- JOB 090490___SEQUENCE OF WORK
- JOB 090490___SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
- JOB 090490___SHORING FOR CULVERTS
- JOB 090490___SITE USE (A+C METHOD) – CALENDAR DAY CONTRACT
- JOB 090490___STREET NAME SIGN (MAST ARM MOUNTED)
- JOB 090490___SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
- JOB 090490___SYSTEM LOCAL CONTROLLER
- JOB 090490___TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
- JOB 090490___UTILITY ADJUSTMENTS
- JOB 090490___VALUE ENGINEERING
- JOB 090490___WARM MIX ASPHALT

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON 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 ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT. AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.



10/14/2024

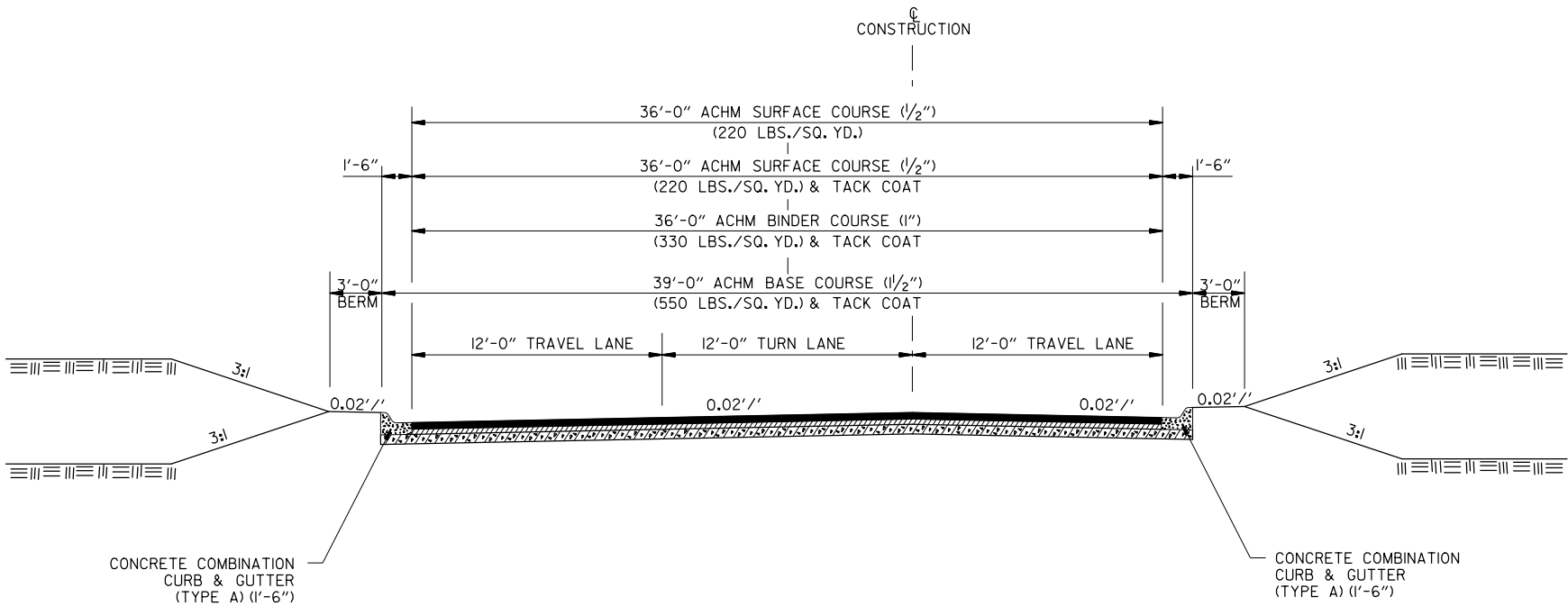
LOCATION: HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: NTS DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	4	61
TYPICAL SECTIONS OF IMPROVEMENT						



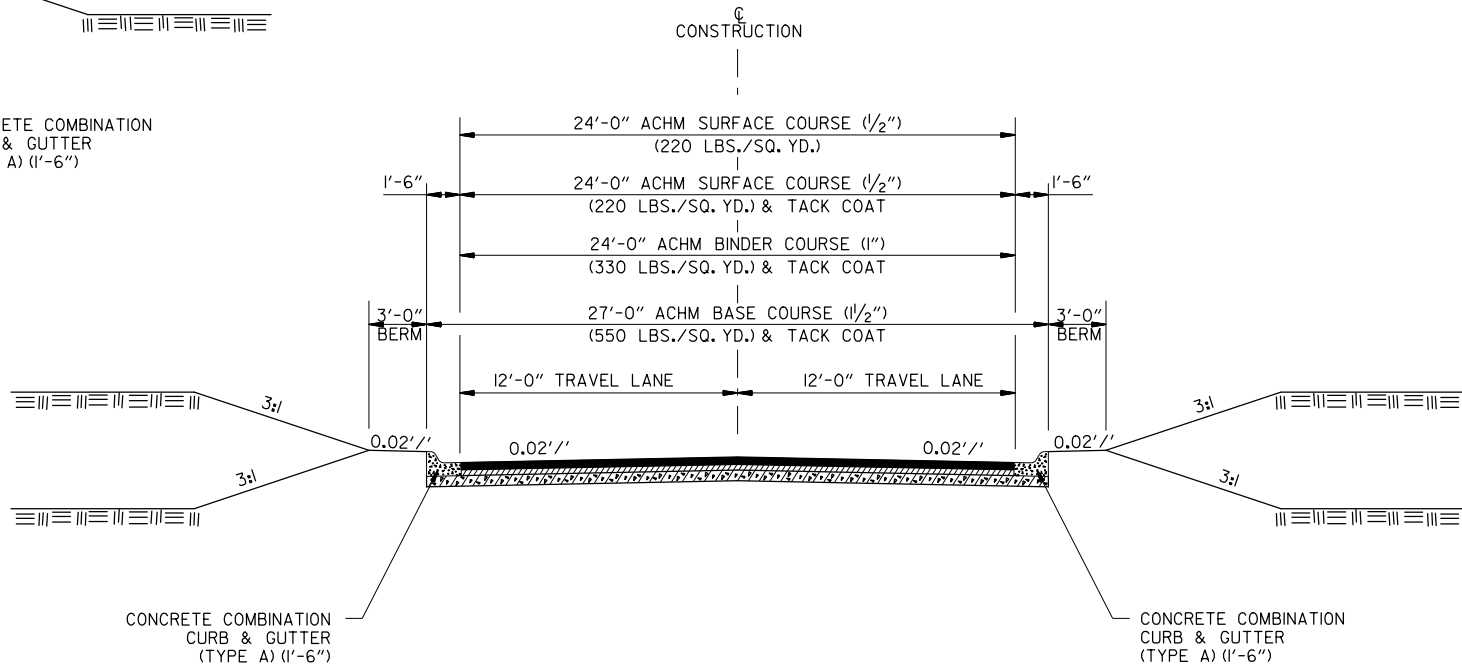
NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

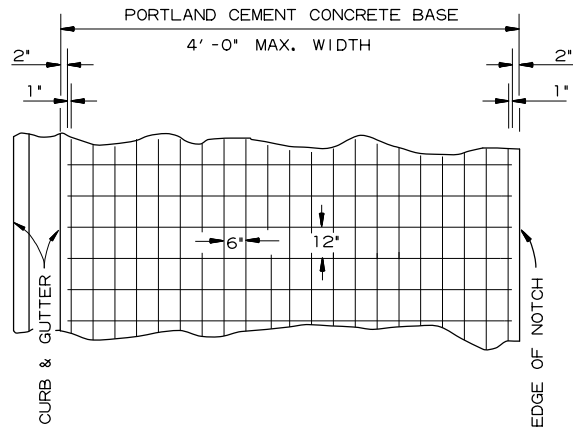


HARNESS STREET
TYPICAL SECTION
STA. 10+34.72 TO STA. 11+76.43

TRANSITION PAVEMENT WIDTH
FROM 36'-0" TO 24'-0"
STA. 11+76.43 TO STA. 12+93.68



HARNESS STREET
TYPICAL SECTION
STA. 12+93.68 TO STA. 14+10.00

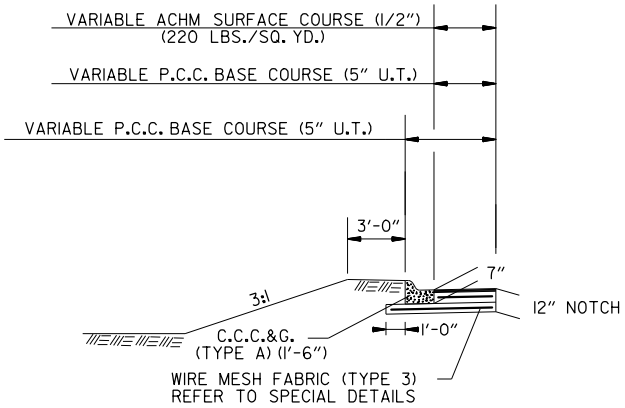


6" X 12" MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ. YD.

NOTES:

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

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

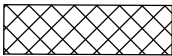
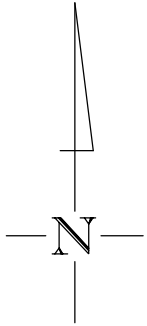


P.C.C. BASE WIDENING DETAIL

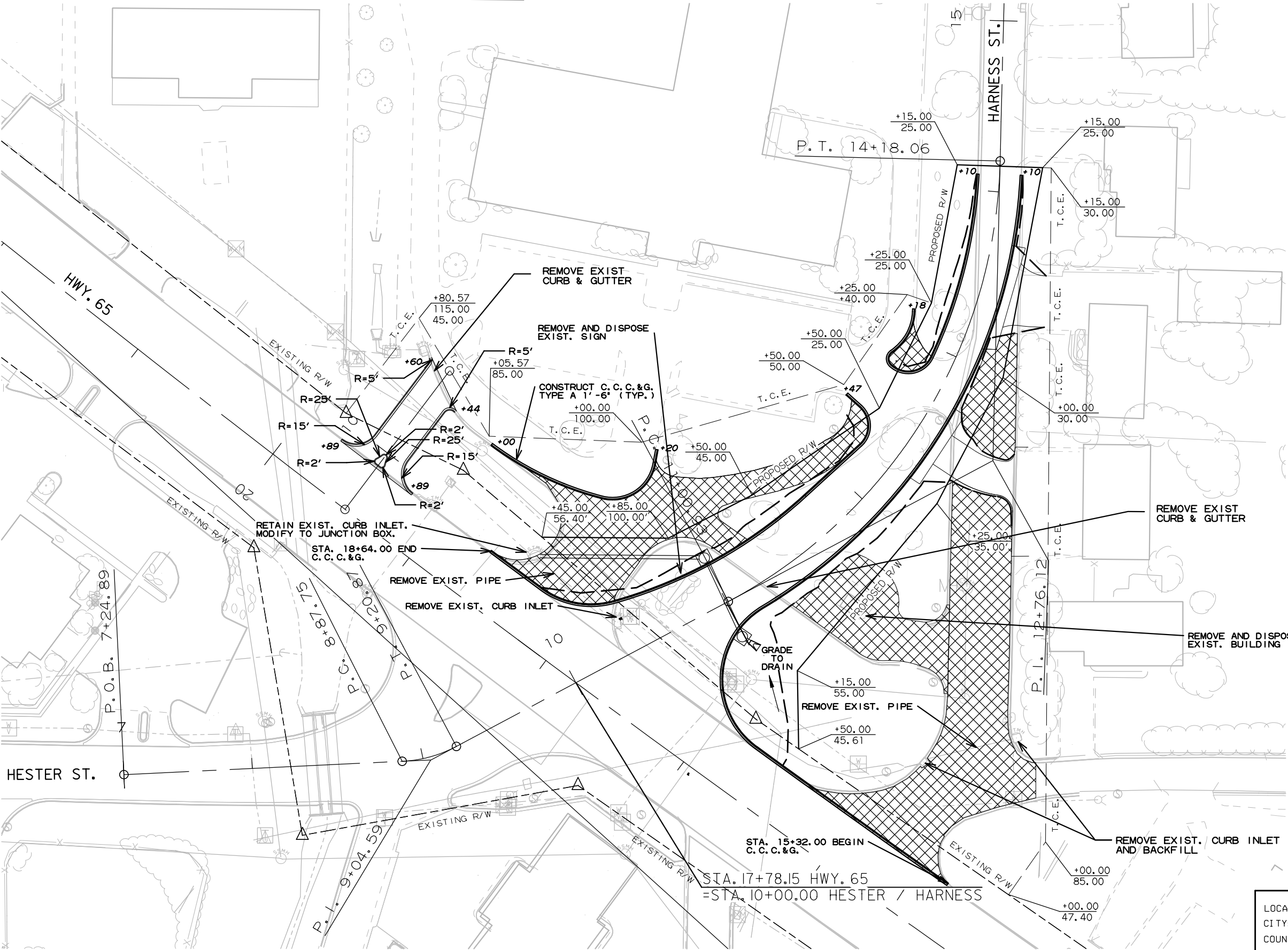
P.C.C. BASE WIDENING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	NTS
DRAWN BY:	HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10-30-24		6	ARK.	090490	5	61
INTERSECTION IMPROVEMENT DETAILS						



OBLITERATE EXISTING PAVEMENT



HWY. 65 STA. 18+41.49 RT. - MODIFY EXISTING DROP INLET TO JUNCTION BOX

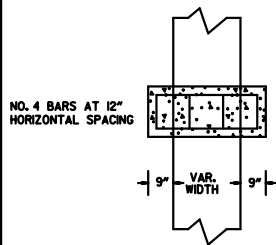
HARNES ST. STA. 11+00.00 - INSTALL DROP INLET ON LT. WITH 24" X 95' PIPE CULVERT TO JUNCTION BOX @ HWY. 65 STA. 18+41.49 (CLASS III)(TYPE 3 BEDDING) WITH 29" X 18" X 46" R.C. ARCH CULVERT TO DROP INLET @ STA 11+00.00 RT. (CLASS IV)(TYPE 3 BEDDING) TY M0 = 4'-0" I.D. TY C = 4'-0" x 2'-11" H = 4'-3"

HARNES ST. STA. 11+00.00 - INSTALL DROP INLET ON RT. WITH 24" X 3' R.C. PIPE INLET ON RT. WITH FES (CLASS III)(TYPE 3 BEDDING) TY M0 = 4'-0" I.D. TY C = 4'-0" x 2'-11" H = 4'-0"

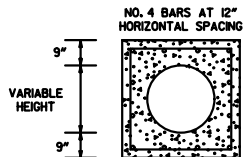


LOCATION:	HWY. 65 & HESTER DR.
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	1" = 60'
DRAWN BY:	HALFF

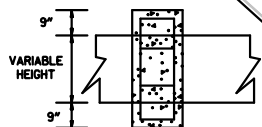
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	6	61
INTERSECTION IMPROVEMENT DETAILS						



TOP VIEW



FRONT VIEW



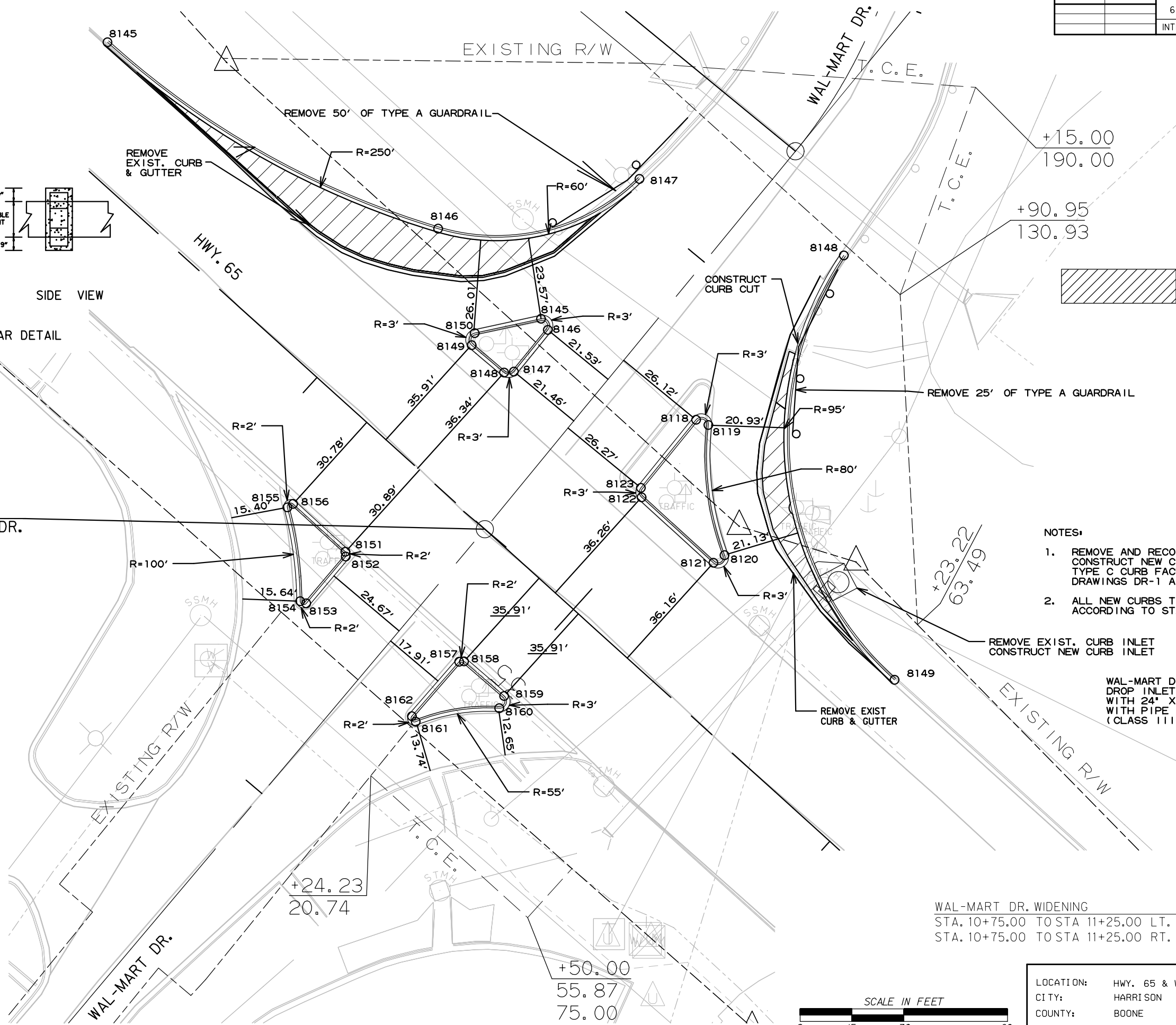
SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL

STA. 35+34.54 HWY. 65
= STA. 10+00.00 WAL-MART DR.

POINT NO.	NORTHING	EASTING
8118	705569.5883	976654.0513
8119	705568.1028	976657.5913
8120	705530.4262	976662.2842
8121	705528.2422	976659.0659
8122	705547.1745	976638.2823
8123	705549.9137	976638.0764
8145	705598.8106	976609.1880
8146	705595.5931	976611.1623
8147	705583.5304	976601.3408
8148	705583.2645	976598.5002
8149	705591.1693	976589.1297

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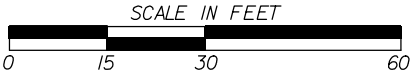


- NOTES:
1. REMOVE AND RECONSTRUCT ALL ISLANDS. CONSTRUCT NEW CONCRETE ISLANDS USING TYPE C CURB FACE PER STANDARD DRAWINGS DR-1 AND CG-1.
 2. ALL NEW CURBS TO BE TYPE A C.C.C.&G. (1'-6") ACCORDING TO STANDARD DRAWING CG-1.

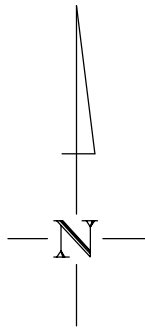
WAL-MART DR. STA. 10+30.00 - INSTALL DROP INLET ON RT. WITH 24" X 4' R.C. PIPE INLET ON RT. WITH PIPE COLLAR (CLASS III)(TYPE 3 BEDDING)

WAL-MART DR. WIDENING		GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 1)
STA. 10+75.00 TO STA. 11+25.00 LT.	= 25 LIN. FT.		1 EACH
STA. 10+75.00 TO STA. 11+25.00 RT.	= 25 LIN. FT.		1 EACH

LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 30'
DRAWN BY: HALFF



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	7	61
INTERSECTION IMPROVEMENT DETAILS						

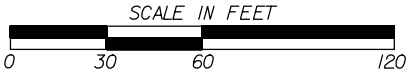


- NOTES:
1. REMOVE AND RECONSTRUCT ALL MARKDED ISLANDS. CONSTRUCT NEW CONCRETE ISLANDS USING TYPE C CURB FACE PER STANDARD DRAWINGS DR-1 AND CG-1.
 2. ALL NEW CURBS TO BE TYPE A C.C.C.&G. (1'-6") ACCORDING TO STANDARD DRAWING CG-1.
 3. ALL UNMARKED CURVE RADII ARE 10'.

STA. 66+79.15 HWY. 65
=STA. 10+00.00 AIRPORT RD.

AIRPORT RD.		
POINT NO.	NORTHING	EASTING
8124	707308.3179	974103.0276
8125	707304.8145	974101.5252
8126	707297.4564	974039.5496
8127	707300.5645	974037.3087
8128	707337.6922	974065.8274
8129	707337.9866	974068.7217
8130	707322.4294	974021.4125
8131	707330.5110	974026.4919
8132	707331.9353	974027.6009
8133	707346.9444	974046.1575
8134	707345.6205	974047.5630
8135	707339.6142	974044.3462
8136	707338.4220	974043.5813
8137	707317.3281	974027.5711
8138	707397.0221	973994.5398
8139	707399.3360	973997.6763
8140	707377.2502	974023.4548
8141	707374.7659	974023.9051
8142	707348.8779	974009.6346
8143	707349.7194	974005.8870

DIMENSION	LENGTH
A	18.02'
B	18.12'
C	26.94'
D	29.56'
E	32.83'
F	33.04'
G	18.10'
H	17.96'
I	32.74'
J	32.82'
K	23.93'
L	21.01'



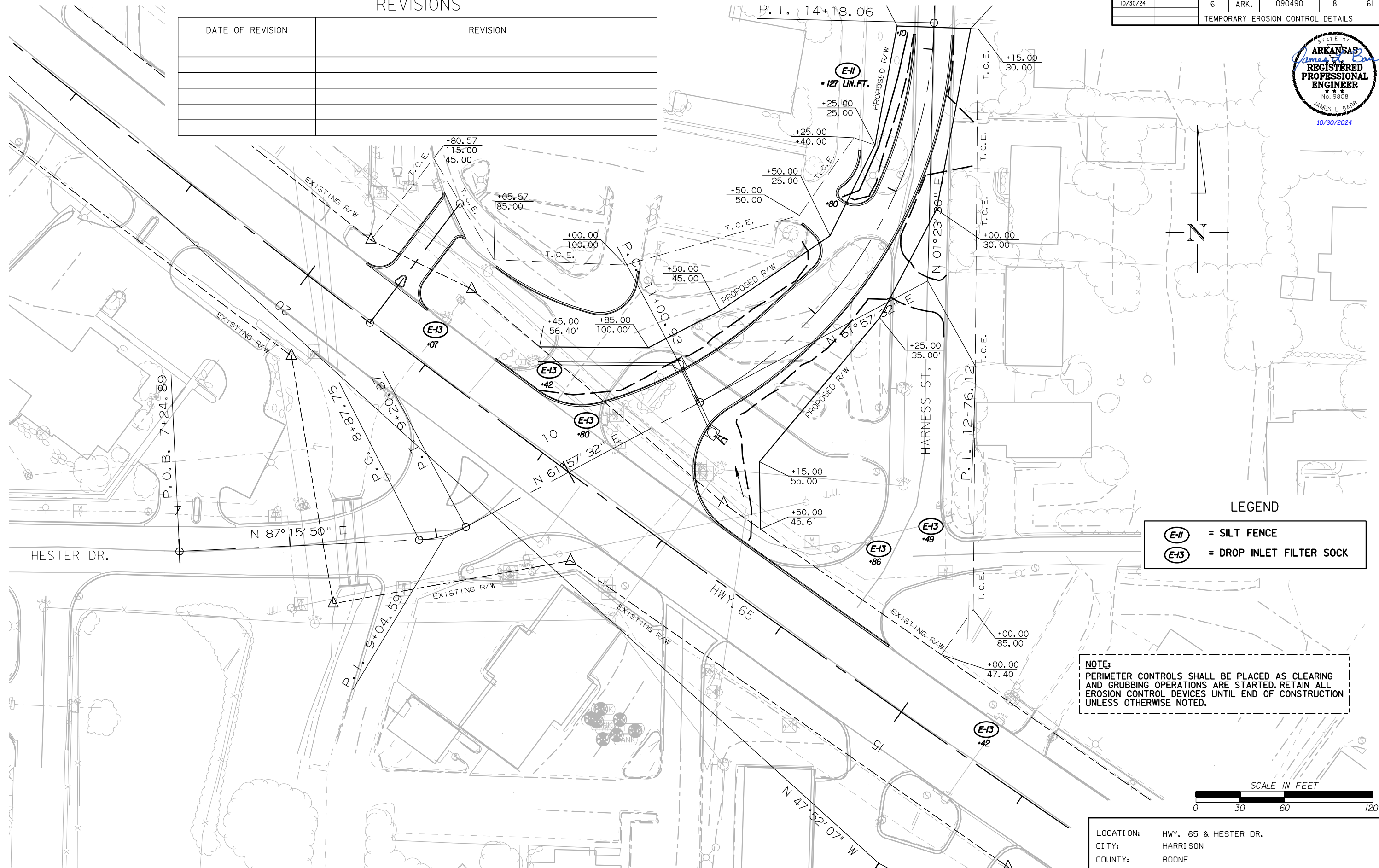
LOCATION: HWY. 65 & AIRPORT RD.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 60'
DRAWN BY: HALFF

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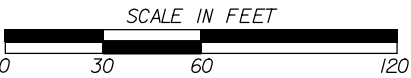
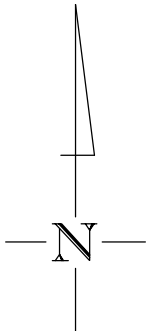
REVISIONS

DATE OF REVISION	REVISION

DATE REVISION	DATE REVISION	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	8	61
TEMPORARY EROSION CONTROL DETAILS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	9	61
TEMPORARY EROSION CONTROL DETAILS						



LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 60'
DRAWN BY: HALFF

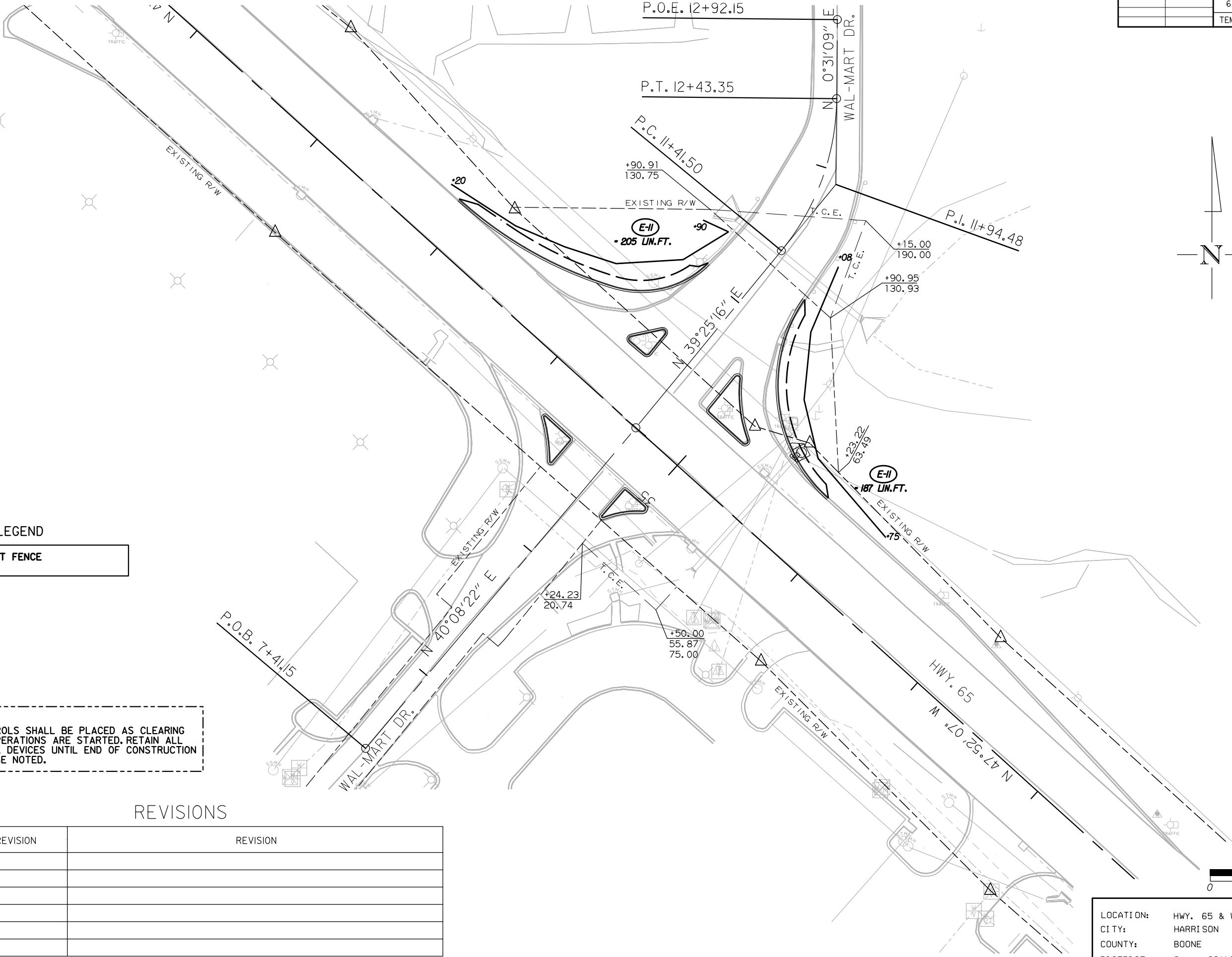
LEGEND

 = SILT FENCE

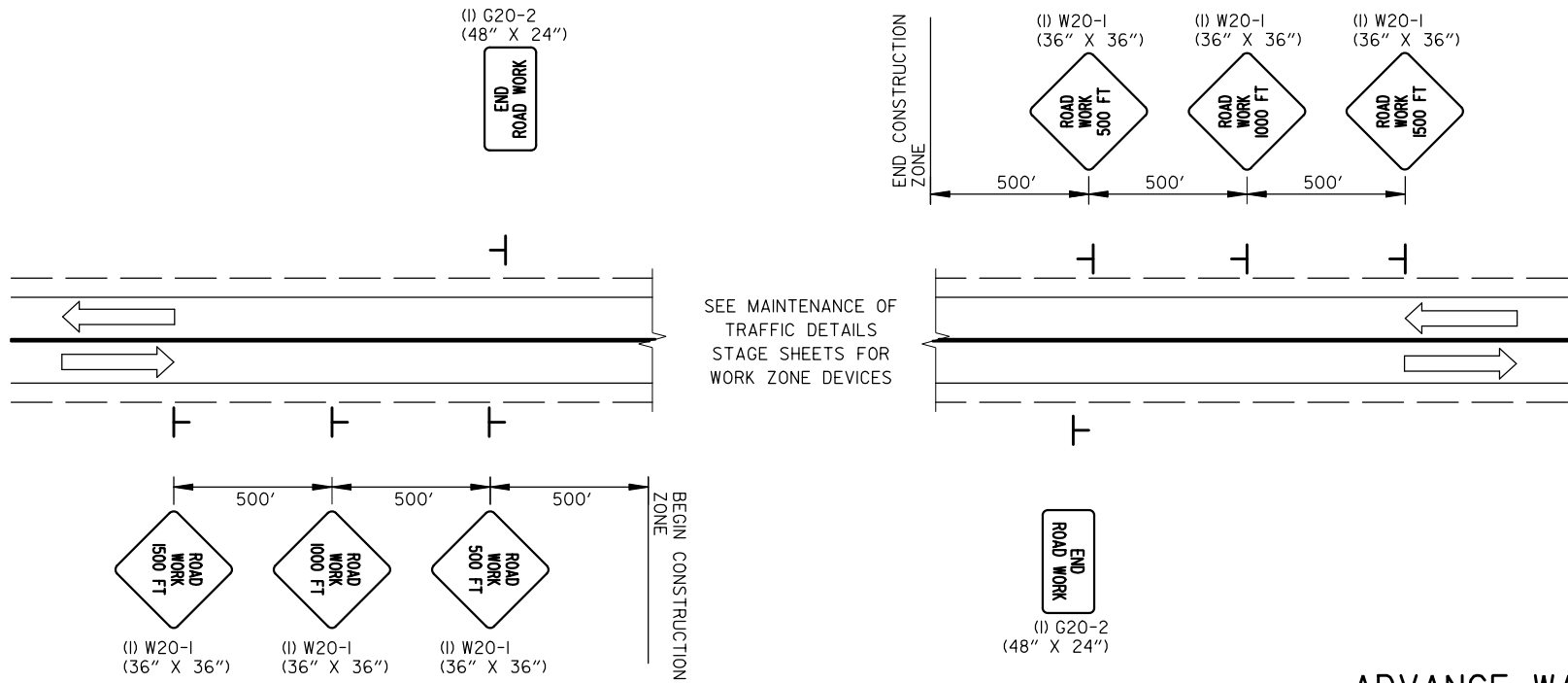
NOTE:
PERIMETER CONTROLS SHALL BE PLACED AS CLEARING
AND GRUBBING OPERATIONS ARE STARTED. RETAIN ALL
EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION
UNLESS OTHERWISE NOTED.

REVISIONS

DATE OF REVISION	REVISION



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	10	61
MAINTENANCE OF TRAFFIC DETAILS						

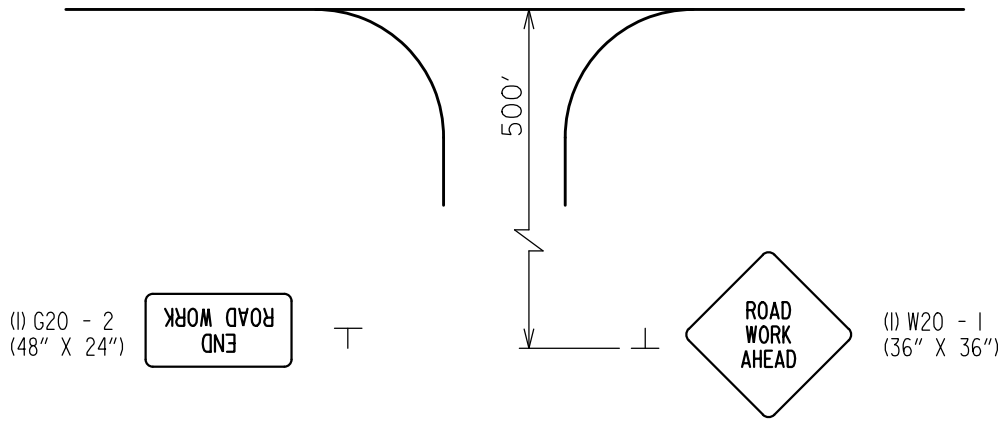


ADVANCE WARNING (ALL STAGES)



(2) W8-1
(36" X 36")

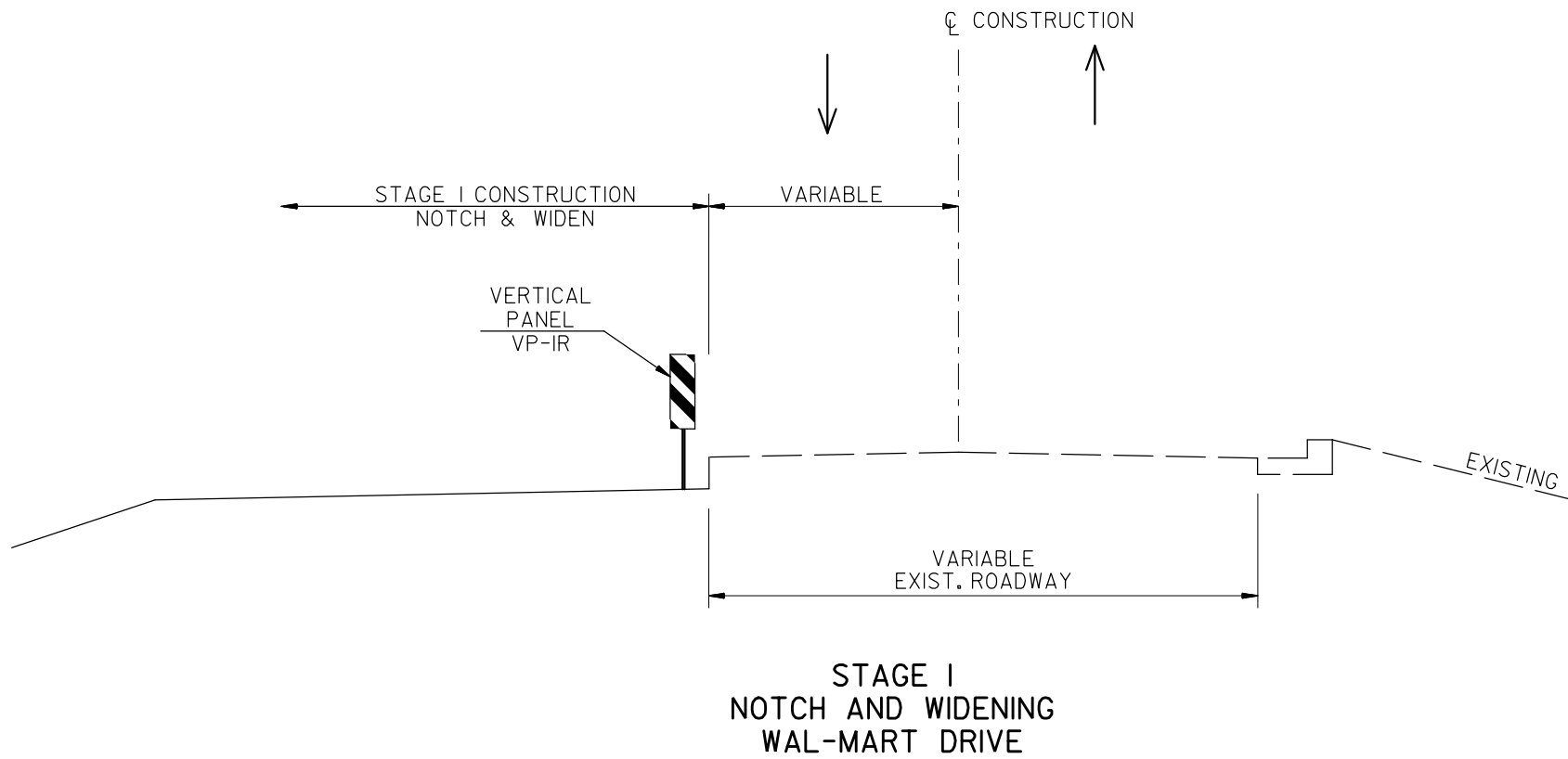
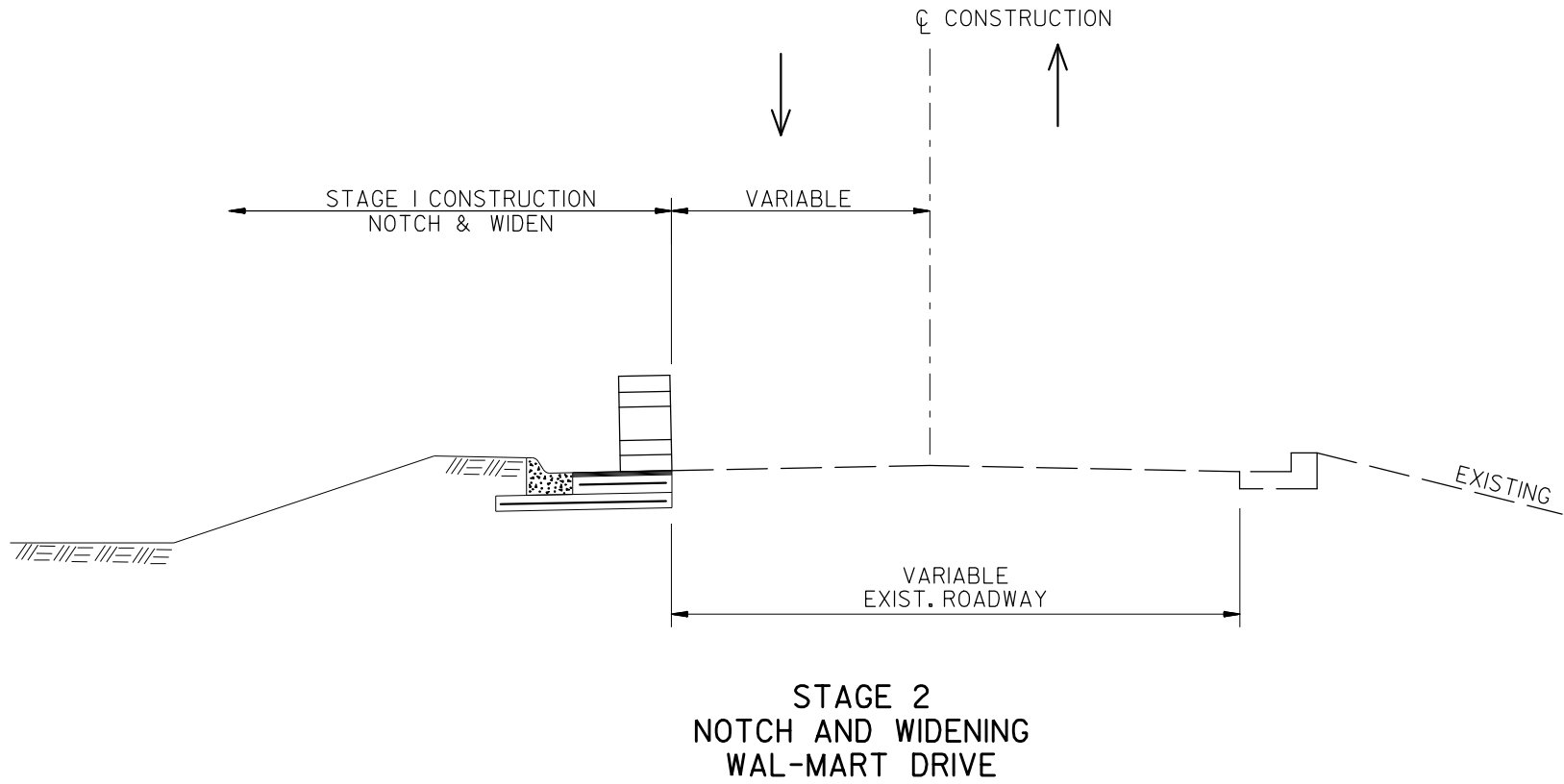
ALL STAGES
TO BE USED IF AND WHERE
DIRECTED BY THE ENGINEER



SIDE ROAD DETAIL

LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	NTS
DRAWN BY:	HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	II	6I
MAINTENANCE OF TRAFFIC DETAILS						

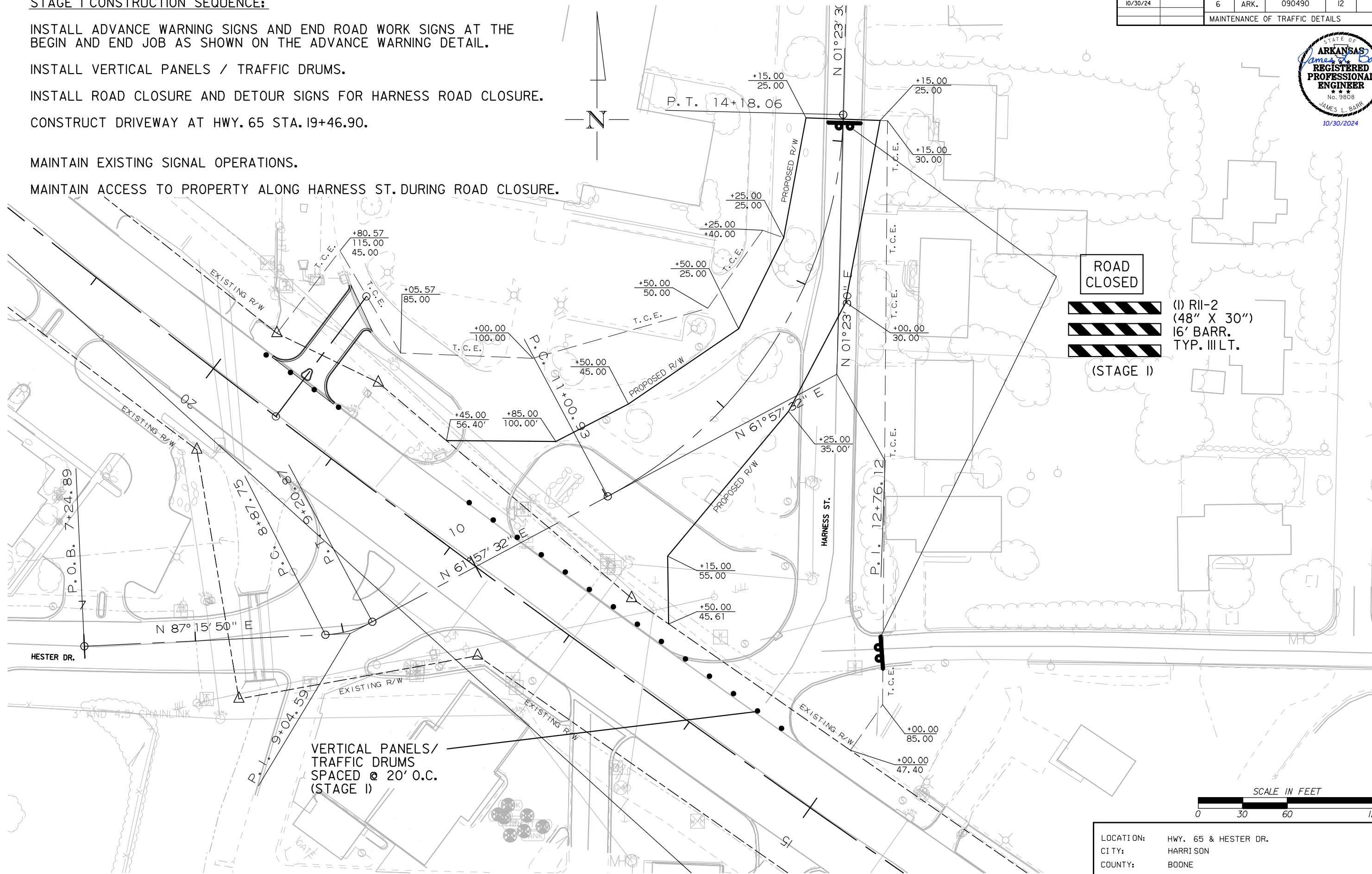


LOCATION:	HWY. 65 & WAL-MART DR.		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: NTS	DRAWN BY: HALFF

STAGE I CONSTRUCTION SEQUENCE:

- INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGIN AND END JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.
- INSTALL VERTICAL PANELS / TRAFFIC DRUMS.
- INSTALL ROAD CLOSURE AND DETOUR SIGNS FOR HARNESS ROAD CLOSURE.
- CONSTRUCT DRIVEWAY AT HWY. 65 STA. 19+46.90.
- MAINTAIN EXISTING SIGNAL OPERATIONS.
- MAINTAIN ACCESS TO PROPERTY ALONG HARNESS ST. DURING ROAD CLOSURE.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	12	61
MAINTENANCE OF TRAFFIC DETAILS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	13	61
MAINTENANCE OF TRAFFIC DETAILS						

STAGE 2 CONSTRUCTION SEQUENCE:

MAINTAIN EXISTING SIGNAL OPERATIONS AND DETOUR SIGNS.

CONSTRUCT HARNESS STREET ALIGNMENT FROM STA. 10+75.00 TO STA. 14+10.00.

CONSTRUCT DRAINAGE STRUCTURES.

OBLITERATE EXISTING PAVEMENT.

MAINTAIN ACCESS TO PROPERTY ALONG HARNESS ST. DURING ROAD CLOSURE.

LEGEND
CONSTRUCTION
OBLITERATE

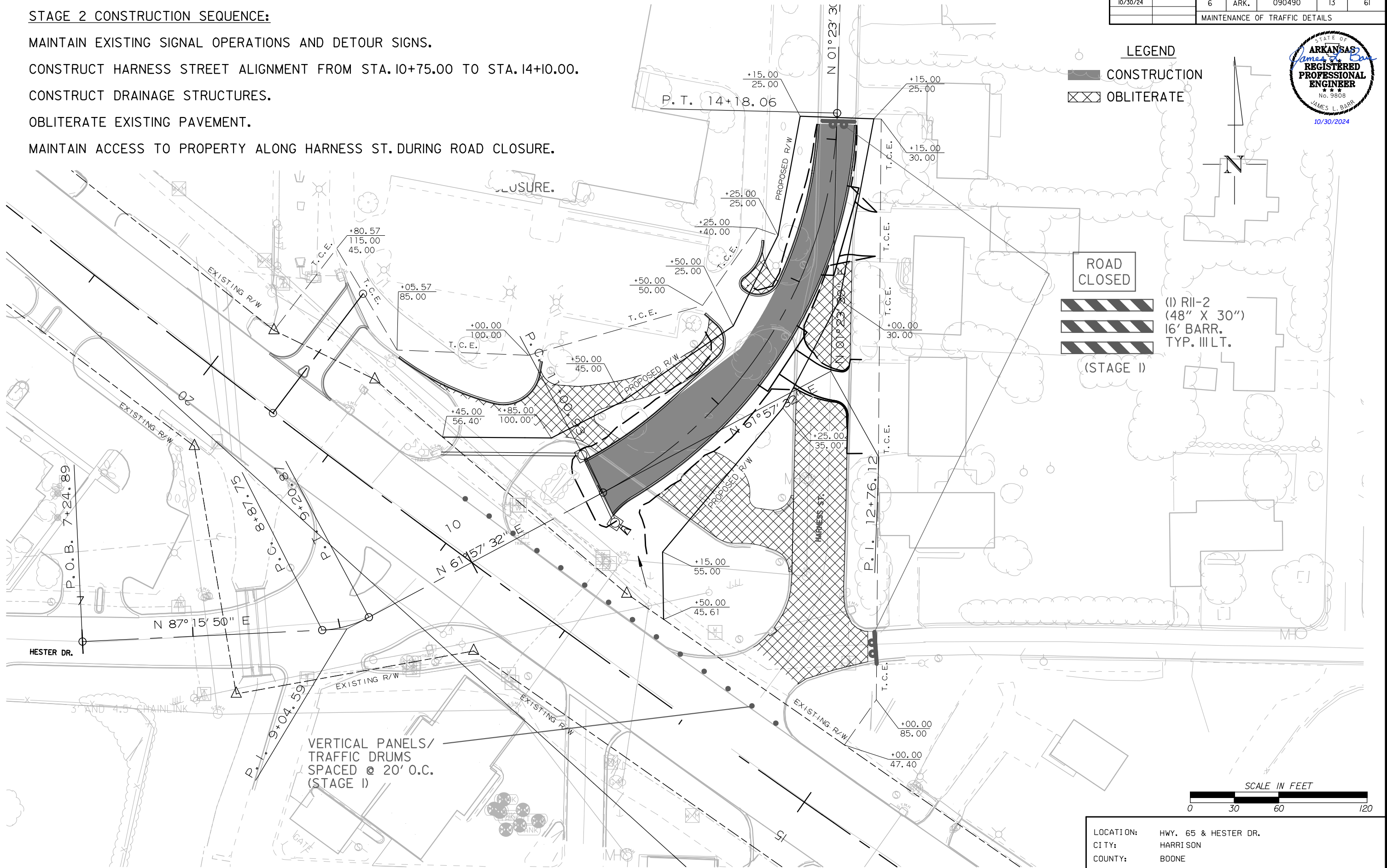


ROAD
CLOSED



(1) RII-2
(48" X 30")
16' BARR.
TYP. III LT.

(STAGE 1)



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	14	61
MAINTENANCE OF TRAFFIC DETAILS						



LEGEND
CONSTRUCTION
OBLITERATE

ROAD
CLOSED



(STAGE I)

(I) RII-2
(48" X 30")
16' BARR.
TYP. III LT.

STAGE 3 CONSTRUCTION SEQUENCE:

PLACE VERTICAL PANELS / TRAFFIC DRUMS.

CONTACT HARRISON CITY ENGINEER PRIOR TO REMOVAL OF EXISTING TRAFFIC SIGNAL AND INSTALLATION OF STOP SIGNS DUE TO CHANGE OF TEMPORARY TRAFFIC PATTERNS.

CLOSE ALL LEFT TURN LANES AND INSTALL TEMPORARY STOP SIGN FOR HESTER STREET APPROACH.

CONSTRUCT REMAINING HARNESS STREET ALIGNMENT.

COMPLETE OBLITERATION OF EXISTING PAVEMENT.

INSTALL NEW SIGNAL EQUIPMENT.

REMOVE EXISTING SIGNAL EQUIPMENT ONLY UPON APPROVAL OF NEW SIGNAL EQUIPMENT OPERATION.

MAINTAIN ACCESS TO PROPERTY ALONG HARNESS ST. DURING ROAD CLOSURE.



LOCATION: HWY. 65 & HESTER DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 80'

DRAWN BY: HALFF

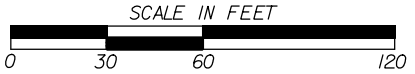
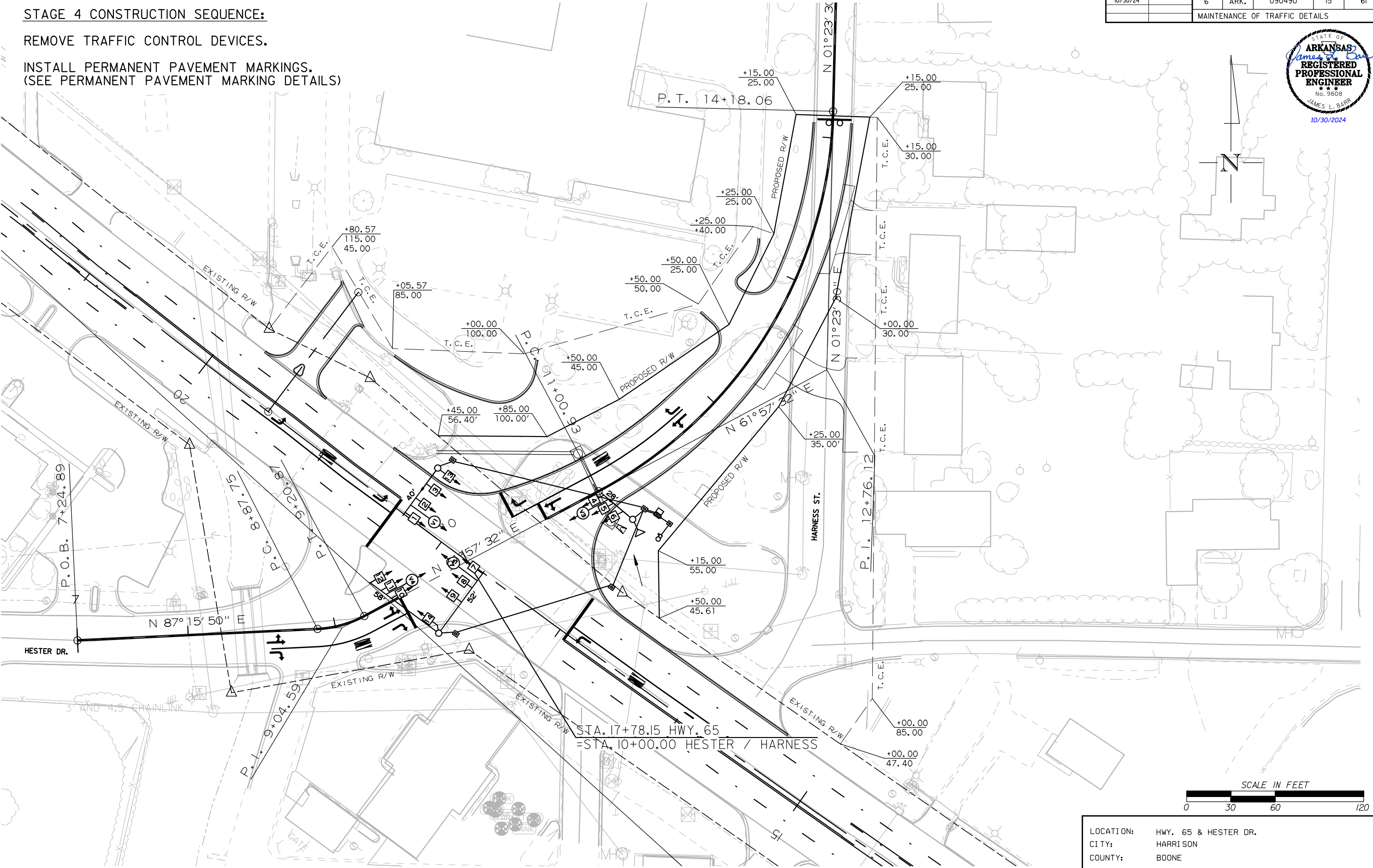
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	15	61
MAINTENANCE OF TRAFFIC DETAILS						



STAGE 4 CONSTRUCTION SEQUENCE:

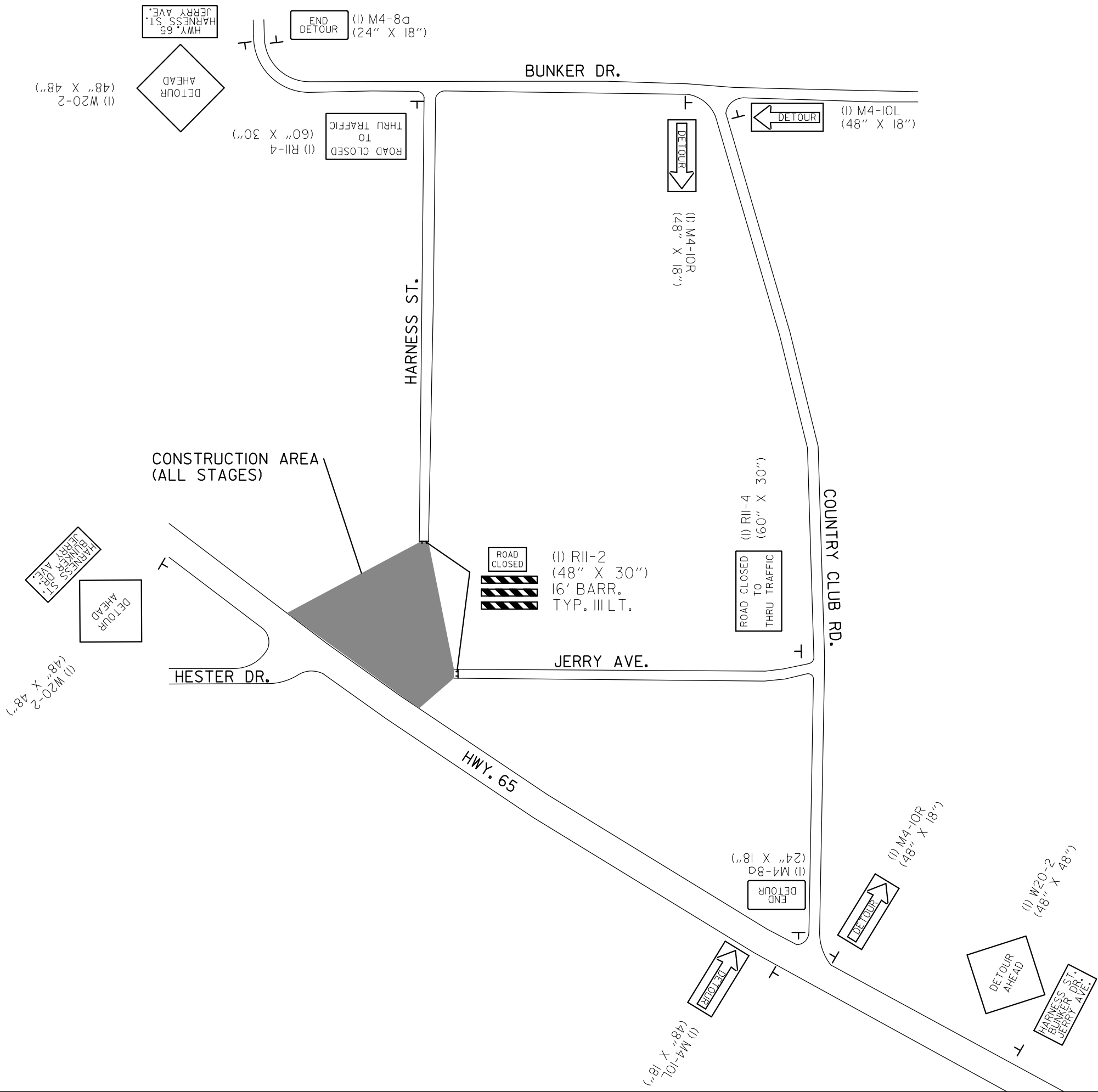
REMOVE TRAFFIC CONTROL DEVICES.

INSTALL PERMANENT PAVEMENT MARKINGS.
(SEE PERMANENT PAVEMENT MARKING DETAILS)

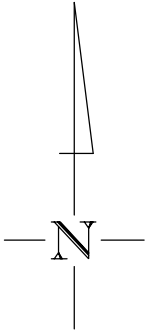


LOCATION:	HWY. 65 & HESTER DR.
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	1" = 60'
DRAWN BY:	HALFF

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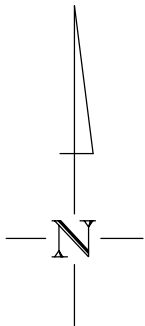


DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	16	61
MAINTENANCE OF TRAFFIC DETAILS						

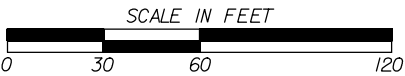


HARNES STREET DETOUR					
LOCATION:	HWY. 65 & HESTER DR.				
CITY:	HARRISON				
COUNTY:	BOONE				
DISTRICT:	9	SCALE:1" = N/A	DRAWN BY: HALFF		

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	17	61
MAINTENANCE OF TRAFFIC DETAILS						



LEGEND
CONSTRUCTION



LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 60'
DRAWN BY: HALFF

CONSTRUCTION SEQUENCE:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGIN AND END JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.

USE TRAFFIC DRUMS/VERTICAL PANELS SPACED AT 20' O.C. USE VERTICAL PANELS TO DELINEATE INTERSECTION WORK.

MAINTAIN TRAFFIC ON EXISTING ROADWAY.

INSTALL TEMPORARY TRAFFIC SIGNAL EQUIPMENT.

CONSTRUCT NOTCH & WIDENING. REMOVE & RECONSTRUCT CONCRETE ISLANDS.

INSTALL PERMANENT TRAFFIC SIGNAL EQUIPMENT AND REMOVE TEMPORARY TRAFFIC SIGNAL EQUIPMENT.

INSTALL PERMANENT PAVEMENT MARKINGS. (SEE PERMANENT PAVEMENT MARKING DETAILS)

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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	18	61
MAINTENANCE OF TRAFFIC DETAILS						



CONSTRUCTION SEQUENCE:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGIN AND END JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.

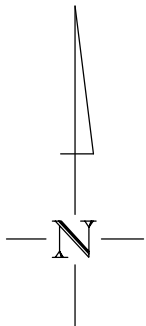
USE TRAFFIC DRUMS/VERTICAL PANELS SPACED AT 20' O.C. USE VERTICAL PANELS TO DELINEATE ISLAND REMOVAL & RECONSTRUCTION.

MAINTAIN TRAFFIC ON EXISTING ROADWAY.

REMOVE & RECONSTRUCT CONCRETE ISLANDS.

INSTALL PERMANENT TRAFFIC SIGNAL EQUIPMENT.

INSTALL PERMANENT PAVEMENT MARKINGS.
(SEE PERMANENT PAVEMENT MARKING DETAILS)

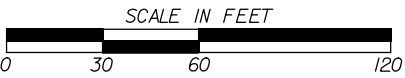


LEGEND

CONSTRUCTION

REMOVE & RECONSTRUCT

VERTICAL PANELS/
TRAFFIC DRUMS
SPACED @ 20' O.C.
(TYP.)



LOCATION: HWY. 65 & AIRPORT RD.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 60'

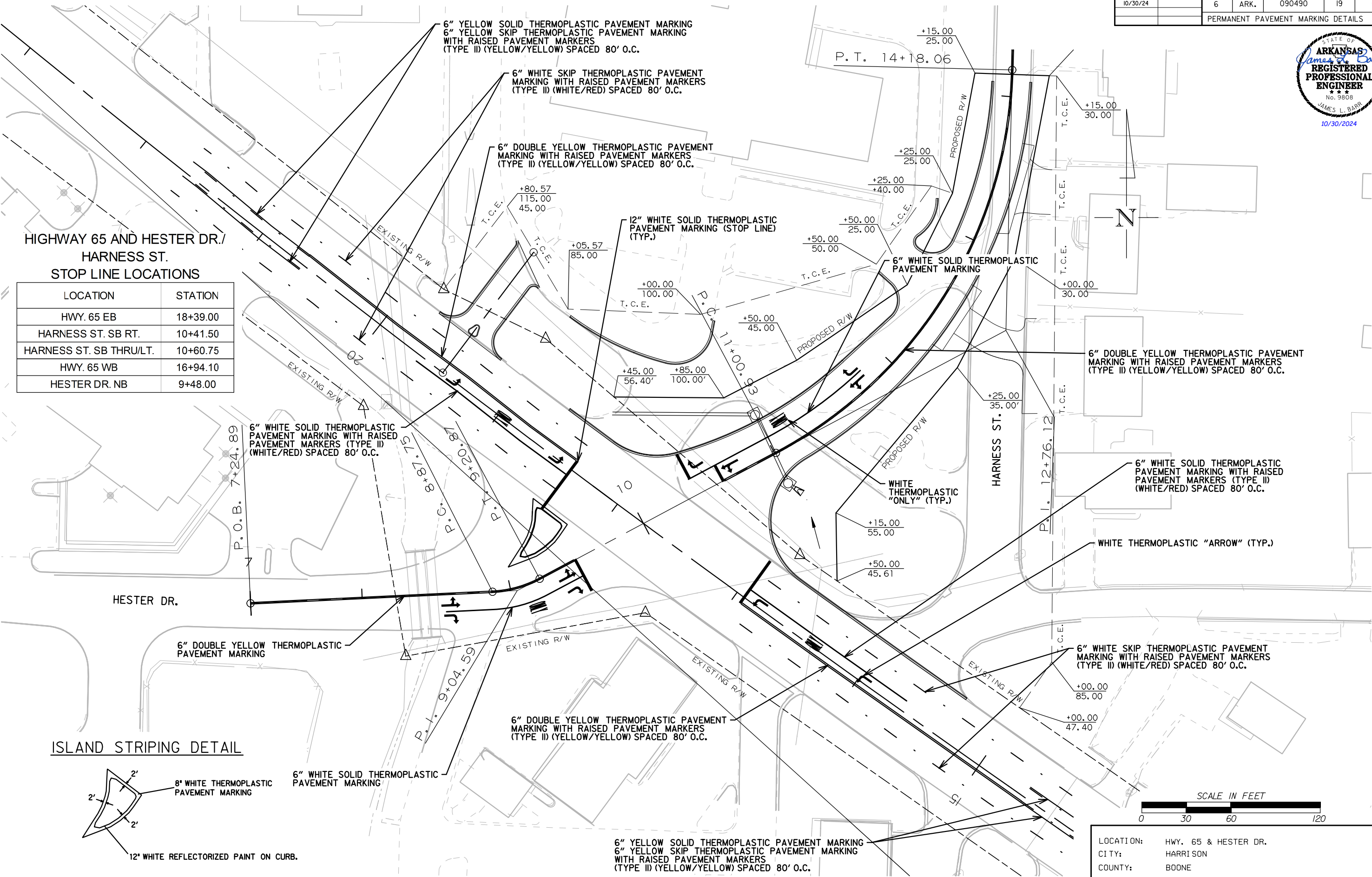
DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	19	61
PERMANENT PAVEMENT MARKING DETAILS						

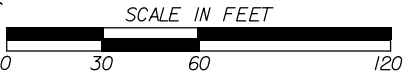
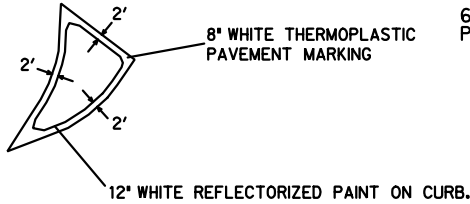


HIGHWAY 65 AND HESTER DR./
HARNESS ST.
STOP LINE LOCATIONS

LOCATION	STATION
HWY. 65 EB	18+39.00
HARNESS ST. SB RT.	10+41.50
HARNESS ST. SB THRU/LT.	10+60.75
HWY. 65 WB	16+94.10
HESTER DR. NB	9+48.00



ISLAND STRIPING DETAIL



LOCATION:	HWY. 65 & HESTER DR.
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	1" = 60'
DRAWN BY:	HALFF

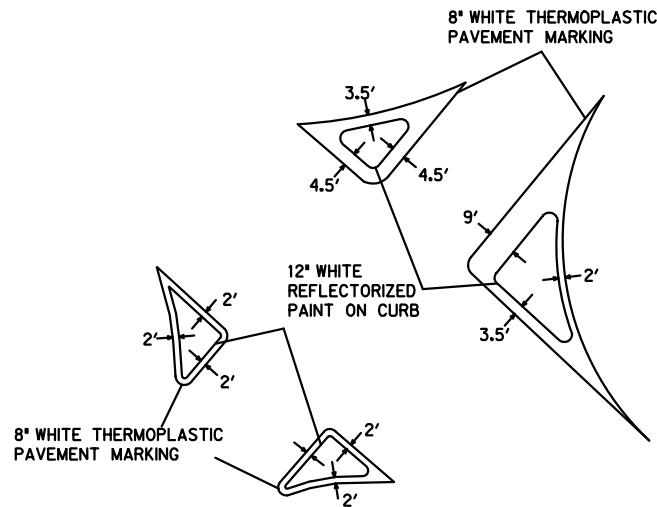
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	20	61
PERMANENT PAVEMENT MARKING DETAILS						



HIGHWAY 65 AND WAL-MART DR.
STOP LINE LOCATIONS

LOCATION	STATION
HWY. 65 EB LT.	35+85.40
HWY. 65 EB THRU	35+75.40
WAL-MART DR. SB	10+53.25
HWY. 65 WB LT.	34+91.00
HWY. 65 WB THRU	34+91.30
WAL-MART DR. NB	9+54.25

ISLAND STRIPING DETAIL



12" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING (STOP LINE) (TYP.)

6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING

6" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING WITH RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' O.C.

6" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING

6" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING

6" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING WITH RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' O.C.

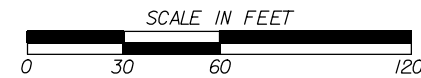
WHITE THERMOPLASTIC "ONLY" (TYP.)

6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING

WHITE THERMOPLASTIC "ARROW" (TYP.)

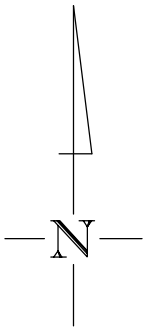
6" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING WITH RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' O.C.

6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING WITH RAISED PAVEMENT MARKERS (TYPE II) (YELLOW/YELLOW) SPACED 80' O.C.



LOCATION:	HWY. 65 & WAL-MART DR.
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	1" = 60'
DRAWN BY:	HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	21	61
PERMANENT PAVEMENT MARKING DETAILS						



12" YELLOW SOLID THERMOPLASTIC
PAVEMENT MARKING 45° ANGLE 20' O.C.

6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT
MARKING WITH RAISED PAVEMENT MARKERS
(TYPE II) (YELLOW/YELLOW) SPACED 80' O.C.

6" WHITE SKIP THERMOPLASTIC PAVEMENT
MARKING WITH RAISED PAVEMENT MARKERS
(TYPE II) (WHITE/RED) SPACED 80' O.C.

12" WHITE SOLID THERMOPLASTIC
PAVEMENT MARKING (STOP LINE) (TYP.)

6" WHITE SOLID THERMOPLASTIC
PAVEMENT MARKING WITH RAISED
PAVEMENT MARKERS (TYPE II)
(WHITE/RED) SPACED 80' O.C.

WHITE THERMOPLASTIC "ONLY" (TYP.)

WHITE THERMOPLASTIC "ARROW" (TYP.)

6" WHITE SKIP THERMOPLASTIC PAVEMENT
MARKING WITH RAISED PAVEMENT MARKERS
(TYPE II) (WHITE/RED) SPACED 80' O.C.

HIGHWAY 65 AND AIRPORT RD. STOP LINE LOCATIONS

LOCATION	STATION
HWY. 65 EB	67+20.50
HWY. 65 WB	66+19.00
AIRPORT RD. NB	9+59.00

6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT
MARKING WITH RAISED PAVEMENT MARKERS
(TYPE II) (YELLOW/YELLOW) SPACED 80' O.C.

ISLAND STRIPING DETAIL

8" WHITE THERMOPLASTIC
PAVEMENT MARKING

12" WHITE REFLECTORIZED
PAINT ON CURB

12" YELLOW REFLECTORIZED
PAINT ON CURB

12" WHITE REFLECTORIZED
PAINT ON CURB



LOCATION: HWY. 65 & AIRPORT RD.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 60'

DRAWN BY: HALFF

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DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10-14-24		6	ARK.	090490	22	61
10-30-24		QUANTITIES				



CONCRETE ISLAND			
STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND SQ.YD.
10+53.25	WAL-MART DR. RT	C	67
10+53.25	WAL-MART DR. LT	C	30
9+54.25	WAL-MART DR. RT	C	34
9+54.25	WAL-MART DR. LT	C	34
9+59.00	AIRPORT RD. LT.	C	88
9+59.00	AIRPORT RD. RT.	C	157
19+46.90	HWY. 65 RT.	C	5
9191(9) TOTAL:			415

CONCRETE COMBINATION CURB AND GUTTER			
STATION	STATION	LOCATION	TYPE A (1' 6") LIN. FT.
ENTIRE	INTERSECTION	HWY 65 & HESTER DR.	1248
ENTIRE	INTERSECTION	HWY 65 & WAL-MART DR.	311
ENTIRE	INTERSECTION	HWY 65 & AIRPORT RD.	71
9+89	10+44	DR 19+46.9 RT.	68
9+89	10+60	DR 19+46.9 LT.	80
9030 TOTAL:			1248
9191(9) TOTAL:			530

REMOVAL AND DISPOSAL OF ITEMS								
STATION	STATION	LOCATION	CURB AND GUTTER	CONCRETE PAVEMENT	CONCRETE ISLANDS	SIGN FOUNDATIONS	GUARDRAIL	BUILDINGS
			LIN. FT.	SQ. YD.	SQ. YD.	EACH	LIN. FT.	EACH
ENTIRE	INTERSECTION	HWY. 65 & HESTER DR.	1530	1700	196	1	75	1
ENTIRE	INTERSECTION	HWY. 65 & WALMART DR.	320		235			
ENTIRE	INTERSECTION	HWY. 65 & AIRPORT RD.						
19+21	19+73	HWY. 65	87					
9030 TOTALS:			1530	1700		1		1
9191(9) TOTALS:			407		431		75	

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS															
DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING						REFLECTORIZED PAINT PAVEMENT MARKING			
				TYPE II	TYPE II	6"		8"		12"		WORDS EACH	ARROWS EACH	12"	
				(WHITE/RED)	(YELLOW/YELLOW)	WHITE	YELLOW	WHITE	WHITE	YELLOW	WHITE			YELLOW	
				EACH	EACH	LIN. FT.	LIN. FT	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.			LIN. FT.	
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	30	22	22	74											
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	20	4	9		33										
THERMOPLASTIC PAVEMENT MARKING WHITE (6")	856	780	300			1936									
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	2957	1100	1156				5213								
THERMOPLASTIC PAVEMENT MARKING WHITE (8")	130	571	400					1101							
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	130	123	92						345						
THERMOPLASTIC PAVEMENT MARKING YELLOW (12")			112							112					
THERMOPLASTIC PAVEMENT MARKING (WORDS)	4	4	1								9				
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	12	10	2									24			
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12")	90	315	307										712		
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (12")			75										75		
9030 TOTALS:					6	135	984			32	1	4			
9191(9) TOTALS:				74	27	1801	4229	1101	345	80	8	20	712	75	
NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.															

EARTHWORK				
STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	CU. YD.
ENTIRE	PROJECT	HARNESS ST.	1525	37
ENTIRE	PROJECT	WALMART DR.	70	70
ENTIRE	PROJECT	HARNESS ST. DRIVEWAYS	80	
ENTIRE	PROJECT	HARNESS ST. REMOVAL OF ASPHALT PVMT.	316	316
19+21	19+73	HWY. 65 DRIVEWAY STA. 19+47	429	
9030 TOTALS:			1921	353
9191(9) TOTALS:			499	70

GUARDRAIL				
STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH
10+75.00	11+25.00	WAL-MART DR. RT.	25	1
10+75.00	11+25.00	WAL-MART DR. LT.	25	1
9191(9) TOTALS:			50	2

REMOVAL AND DISPOSAL OF DROP INLETS			
STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
		EACH	EACH
ENTIRE INTERSECTION	HWY 65 & HESTER DR.	2	3
ENTIRE INTERSECTION	HWY 65 & WAL-MART DR.		1
9030 TOTALS:		2	3
9191(9) TOTALS:			1

EROSION CONTROL					
STATION	STATION	LOCATION	TEMPORARY EROSION CONTROL		
			SILT FENCE	DROP INLET FILTER SOCK (12")	*SEDIMENT REMOVAL & DISPOSAL
			LIN. FT.	LIN. FT.	CU. YD.
*WALMART TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			392		15
*HESTER TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			127	138	4
9030 TOTALS:			127	138	4
9191(9) TOTALS:			392		15

CLEARING AND GRUBBING				
STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
11+00	14+00	HARNESS STREET	3	3
9030 TOTALS:			3	3

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

LOCATION: HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: NTS DRAWN BY: HALFF

STRUCTURES						
STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT		FLARED END SECTIONS FOR R.C. PIPE CULVERTS	DROP INLETS	
		(CLASS III)	(CLASS IV)		TYPE	
		24"	29"X18"		24"	MO
		LIN, FT.		EACH		
10+14	HARNESS ST. LT. MODIFY EXIST. DROP INLET TO JUNCT. BOX					1
11+00	HARNESS ST. LT & RT	98	46	1	2	
10+30	WALMART DR. RT.	4			1	
9030 TOTALS:		98	46	1	2	1
9191(9) TOTALS:		4			1	

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	15
9030 TOTAL:	15

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

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10-30-24		6	ARK.	090490	23	61
		QUANTITIES				



10/30/2024

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	PORTLAND CEMENT CONCRETE BASE	
				AVG. WID.	5" U.T.
			FEET	FEET	SQ. YD.
ENTIRE	INTERSECTION	HWY. 65 & WALMART DR.	VAR.	VAR.	329.54
9191(9) TOTALS:					329.54

BASIS OF ESTIMATE:
TWO LIFTS OF 5" U.T. PORTLAND CEMENT CONCRETE BASE

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	TACK COAT							ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	TOTAL PG 70-22 TON
				TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON																		
MAIN LANES																											
10+34.72		HARNESS ST.	141.71	36.00	566.84	56.68	39.00	614.08	104.39	161.07	39.00	614.08	550.00	168.87	36.00	566.84	330.00	93.53	36.00	566.84	220.00	62.35	36.00	566.84	220.00	62.35	124.70
11+76.43	12+93.68	TRANSITION	117.25	30.00	390.83	39.08	33.00	429.92	73.09	112.17	33.00	429.92	550.00	118.23	30.00	390.83	330.00	64.49	30.00	390.83	220.00	42.99	30.00	390.83	220.00	42.99	85.98
12+93.68	14+10.00	HARNESS ST.	116.32	24.00	310.19	31.02	27.00	348.96	59.32	90.34	27.00	348.96	550.00	95.96	24.00	310.19	330.00	51.18	24.00	310.19	220.00	34.12	24.00	310.19	220.00	34.12	68.24
ADDITIONAL FOR WIDENING																											
ENTIRE	INTERSECTION	HWY. 65 & WALMART DR.		VAR.	164.77	28.01				28.01													VAR.	164.77	220.00	18.12	18.12
9030 TOTALS:					1267.86	126.78		1392.96	236.80	363.58		1392.96		383.06		1267.86		209.20		1267.86		139.46		1267.86		139.46	278.92
9191(9) TOTALS:					164.77	28.01				28.01														164.77		18.12	18.12

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.2% MIN. AGGR.....5.8% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)
			FEET	STATION	STATION		SQ. YD.	TON	
12+50	RT.	HARNESS STREET	20	12+26	12+74	142.67			
12+60	LT.	HARNESS STREET	28			98.67			
13+42	RT.	HARNESS STREET	30	13+13	13+71	118.23			
19+47	RT.	HWY. 65	22				154.40	16.98	63.05
9030 TOTALS:						359.57			
9191(9) TOTALS:							154.40	16.98	63.05

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.2% MIN. AGGR.....5.8% ASPHALT BINDER
THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE
A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR

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

LOCATION: HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: NTS DRAWN BY: HALFF

REVISIONS

DATE	REVISION	SHEET NUMBER
10/14/2024	ADDED SPECIAL PROVISION "SEQUENCE OF WORK". REVISED PLAN SHEET 22. ADDED QUANTITY "29" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV)". REVISED QUANTITY "PORTLAND CEMENT CONCRETE BASE (5" UNIFORM THICKNESS)".	3, 22, 24
10/30/2024	ADDED DRIVEWAY AT HWY 65 STA. 19+46.90 RT. ADDED SHEET 30B. ADDED QUANTITIES "AGGREGATE BASE COURSE (CLASS 7)" AND "ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2)". REVISED QUANTITIES "REMOVAL AND DISPOSAL OF CURB AND GUTTER." "UNCLASSIFIED EXCAVATION," "MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2)". "TRAFFIC DRUMS." "VERTICAL PANELS," "CONCRETE ISLAND," AND "CONCRETE COMBINATION CURB AND GUTTER (TYPE A)(16')."	2, 5, 8, 12-15, 19, 22-24, 30A, 30B, 38-40

ITEM NUMBER	ITEM	9030 QUANTITY	9191(9) QUANTITY	TOTAL QUANTITY	UNIT
201	CLEARING	3		3	STATION
201	GRUBBING	3		3	STATION
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER	1530	407	1937	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT	1700		1700	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS		431	431	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS	1		1	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS	3	1	4	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	2		2	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL		75	75	LIN. FT.
202	REMOVAL AND DISPOSAL OF BUILDINGS	1		1	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	1		1	EACH
202	UNCLASSIFIED EXCAVATION	1921	499	2420	CU. YD.
SP, SS, & 210	COMPACTED EMBANKMENT	353	70	423	CU. YD.
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)		63	63	TON
SP, SS, & 309	PORTLAND CEMENT CONCRETE BASE (5" UNIFORM THICKNESS)		330	330	SQ. YD.
SS & 401	TACK COAT	364	28	392	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	368		368	TON
SP, SS, & 405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")	15		15	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	200		200	TON
SP, SS, & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")	9		9	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	263	18	281	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		16	16	TON
SP, SS, & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	16	1	17	TON
SP, SS, & 505	PORTLAND CEMENT CONCRETE DRIVEWAY	359.57		360	SQ. YD.
601	MOBILIZATION	0.25	0.75	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	0.25		1	EACH
SP, SS, & 603	MAINTENANCE OF TRAFFIC	0.25	0.75	1.00	LUMP SUM
SS & 604	SIGNS	267	90	357	SQ. FT.
SS & 604	BARRICADES	32		32	LIN. FT.
SS & 604	TRAFFIC DRUMS	18	50	68	EACH
SP, SS, & 604	PORTABLE CHANGEABLE MESSAGE SIGN	3		3	WEEK
SS & 604	VERTICAL PANELS	18	50	68	EACH
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	98	4	102	LIN. FT.
SS & 606	29" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV)	46		46	LIN. FT.
SS & 606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	1		1	EACH
SS & 606	SELECTED PIPE BEDDING	15		15	CU. YD.
SS & 609	DROP INLETS (TYPE MO)	2	1	3	EACH
SS & 617	GUARDRAIL (TYPE A)		50	50	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)		2	2	EACH
621	SILT FENCE	127	392	519	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL	4	15	19	CU. YD.
SS & 621	FILTER SOCK (12")	138		138	LIN. FT.
SS, SS, & 632	CONCRETE ISLAND		415	415	SQ. YD.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	1248	530	1778	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	0.25	0.75	1.00	LUMP SUM
SS & 640	MODIFYING DROP INLETS	1		1	EACH
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)		4	4	EACH
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)		3	3	EACH
SP	E-NET CABLE (EXTERIOR CAT 5E)		280	280	LIN. FT.
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA		3	3	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)		40	40	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)		11	11	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)		2440	2440	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)		2360	2360	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)		1630	1630	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)		1572	1572	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)		385	385	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)		242	242	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES		1325	1325	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")		56	56	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")		60	60	LIN. FT.
710	NON-METALLIC CONDUIT (2")		242	242	LIN. FT.
710	NON-METALLIC CONDUIT (3")		1187	1187	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2)		3	3	EACH
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)		3	3	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)		10	10	EACH
SS & 711	CONCRETE PULL BOX (TYPE 3 HD)		1	1	EACH
SS & 713	SPAN WIRE ASSEMBLY		1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (26')		1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')		1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')		1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')		2	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')		2	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')		1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')		1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58'-52')		1	1	EACH
SP	LED LUMINAIRE ASSEMBLY		7	7	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)		4	4	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT		1.00	1.00	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 45')		4	4	EACH
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12")		712	712	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (12")		75	75	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6')	135	1801	1936	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8')		1101	1101	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12')		345	345	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6')	984	4229	5213	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (12')	32	80	112	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	1	8	9	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	4	20	24	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	6	101	107	EACH
SP	18" STREET NAME SIGN		11	11	EACH
SP & 733	VIDEO DETECTOR (IP)		9	9	EACH
SP & 733	HYBRID VIDEO/RADAR DETECTOR		6	6	EACH
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)		3240	3240	LIN. FT.
SP & 733	VIDEO MONITOR (CLR)		4	4	EACH
SP & 733	CENTRAL CONTROL UNIT (8 CHANNEL)		4	4	EACH



dh3593 5/12/2023
r090490.s01.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	25	61
SURVEY CONTROL DETAILS						



HIGHWAY 65

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	P.C.	0+00.00	703459.8278	979437.2618
8002	P.T.	29+07.63	705117.3927	977057.8649
8003	P.C.	43+56.69	706089.4667	975983.2336
8005	P.T.	50+89.44	706506.5633	975383.1952
8006	P.I.	53+61.88	706632.2600	975141.4890
8007	P.C.	56+08.17	706745.8909	974922.9846
8009	P.T.	62+81.69	707123.7105	974367.2797
8010	P.O.E.	72+69.40	707771.0125	973621.2455

Date: 8/14/2018
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, 050408 - 050409
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	701334.7163	981436.6772	1173.157	CTL	STD AHTD MON. STAMPED PN: 1
2	701671.5494	981796.0578	1181.582	CTL	STD AHTD MON. STAMPED PN: 2
3	701610.0911	981257.2545	1184.036	CTL	STD AHTD MON. STAMPED PN: 3
4	701683.7892	981068.1800	1186.685	CTL	STD AHTD MON. STAMPED PN: 4
5	701643.9463	980744.6817	1170.359	CTL	STD AHTD MON. STAMPED PN: 5
6	701688.0129	980436.2074	1174.200	CTL	STD AHTD MON. STAMPED PN: 6
7	701917.2990	980919.9181	1187.542	CTL	STD AHTD MON. STAMPED PN: 7
8	698364.9400	982751.1188	1105.798	CTL	STD AHTD MON. STAMPED PN: 8
9	698935.1278	982457.2752	1110.659	CTL	STD AHTD MON. STAMPED PN: 9
10	698396.6436	983801.8818	1096.135	CTL	STD AHTD MON. STAMPED PN: 10
11	698970.2775	983158.5819	1105.304	CTL	STD AHTD MON. STAMPED PN: 11
12	699433.8949	982561.3468	1111.367	CTL	STD AHTD MON. STAMPED PN: 12
13	699728.9200	981947.2443	1119.965	CTL	STD AHTD MON. STAMPED PN: 13
14	699918.1954	981065.5287	1126.869	CTL	STD AHTD MON. STAMPED PN: 14
15	700077.4911	982407.7587	1136.350	CTL	STD AHTD MON. STAMPED PN: 15
16	700712.7413	981820.8171	1148.196	CTL	STD AHTD MON. STAMPED PN: 16
17	701654.1998	982508.0904	1177.757	CTL	STD AHTD MON. STAMPED PN: 17
18	702489.6122	980582.5196	1195.932	CTL	STD AHTD MON. STAMPED PN: 18
19	702928.0306	980260.8990	1211.617	CTL	STD AHTD MON. STAMPED PN: 19
20	703467.8310	979519.4403	1195.107	CTL	STD AHTD MON. STAMPED PN: 20
100	691822.5828	985900.3779	1052.241	GPS	AHTD GPS MON 050408
101	711995.0045	968433.2382	1217.634	GPS	AHTD GPS MON 050409
107	697851.8783	983256.3894	1104.049	CTL	STD AHTD MON. STAMPED PN: 107
901	699261.6841	982453.9915	1110.243	TBM	CHIS SQUARE IN CONCRETE NW COR
902	700160.0716	982359.5710	1132.382	TBM	SQUARE CUT S END HW
903	701710.4515	981176.7035	1188.469	TBM	X CUT IN BOLT OF W SIGN POST 65
904	702241.1459	980773.0919	1182.033	TBM	SQUARE CUT CENTER E HW
905	703253.4641	979936.0912	1205.828	TBM	SQUARE CUT NW CRNR STORM
912	697966.7556	983133.5577	1104.842	TBM	SQUARE CUT IN CA
913	698530.7574	983629.1602	1099.414	TBM	SQUARE CUT W SIDE MH IN CA
914	699855.7791	981471.9226	1125.243	TBM	SQUARE CUT N OF MH IN CA
915	700578.3575	981936.4237	1141.605	TBM	SQUARE CUT CENTER W HW
916	701598.0785	982348.9588	1175.185	TBM	SQUARE CUT ON N END SIGN BASE
917	701676.2251	981065.6522	1186.071	TBM	SQUARE CUT BASE OF PA
918	701625.4223	980308.1252	1169.926	TBM	SQUARE CUT NE CRNR CONC VAULT

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999479879 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s090490.gi.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 050408 - 050409
CONVERGENCE ANGLE: 00 39 03 LEFT AT PN: 12 LT: 36-14-58N LG: 093-07-06W
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HESTER DR. / HARNESS ST.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8050	P.O.B.	7+24.89	704348.4836	977667.2615
8051	P.C.	8+87.75	704356.2578	977829.9363
8053	P.T.	9+20.87	704364.9766	977861.6141
8054	P.C.	11+00.93	704449.6224	978020.5340
8056	P.T.	14+18.06	704707.1196	978179.4137
8057	P.O.E.	15+50.00	704839.0229	978182.6180

WAL-MART DR.

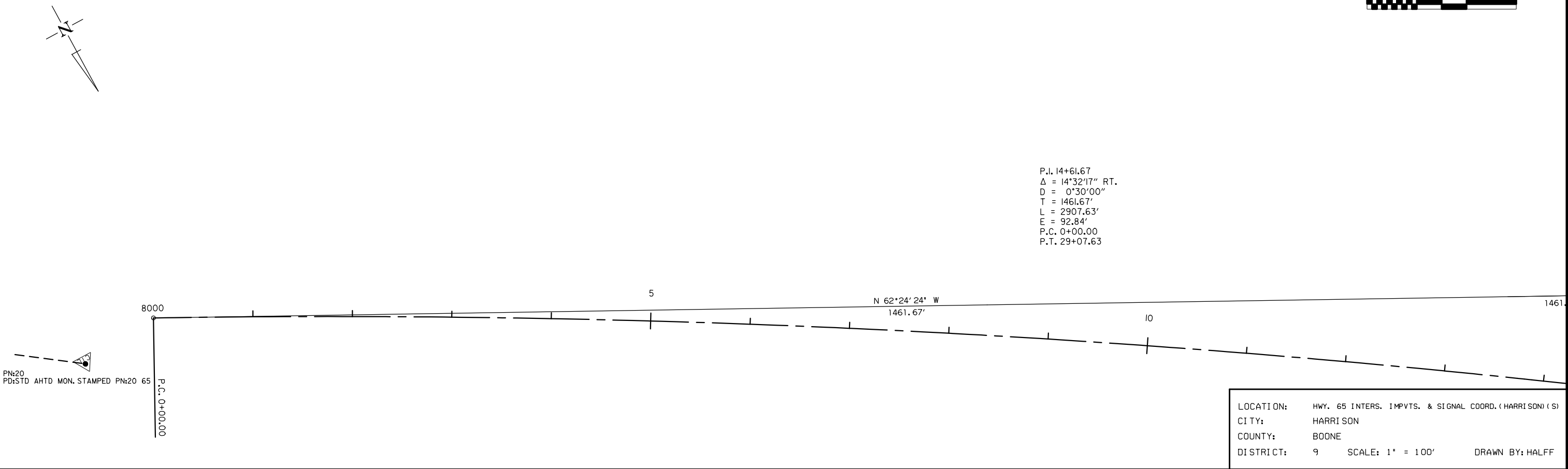
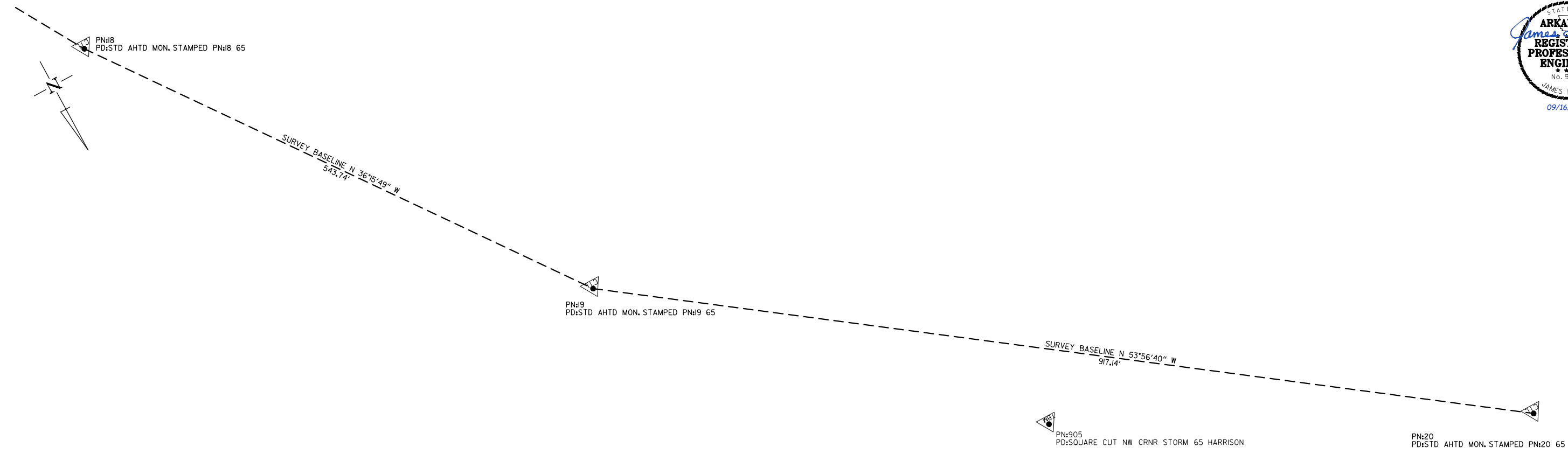
POINT NO.	TYPE	STATION	NORTHING	EASTING
8025	P.O.B.	7+41.15	705340.0604	976426.0718
8026	P.I.	10+00.00	705537.9468	976592.9409
8027	P.C.	11+41.50	705647.2577	976682.7970
8029	P.T.	12+43.35	705741.1507	976716.9158
8030	P.O.E.	12+92.15	705789.9468	976717.3579

AIRPORT RD.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8011	P.O.B.	3+20.04	706820.1300	973687.3623
8012	P.O.E.	10+00.00	707384.1847	974067.0757

LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE:NTS	DRAWN BY: HALFF

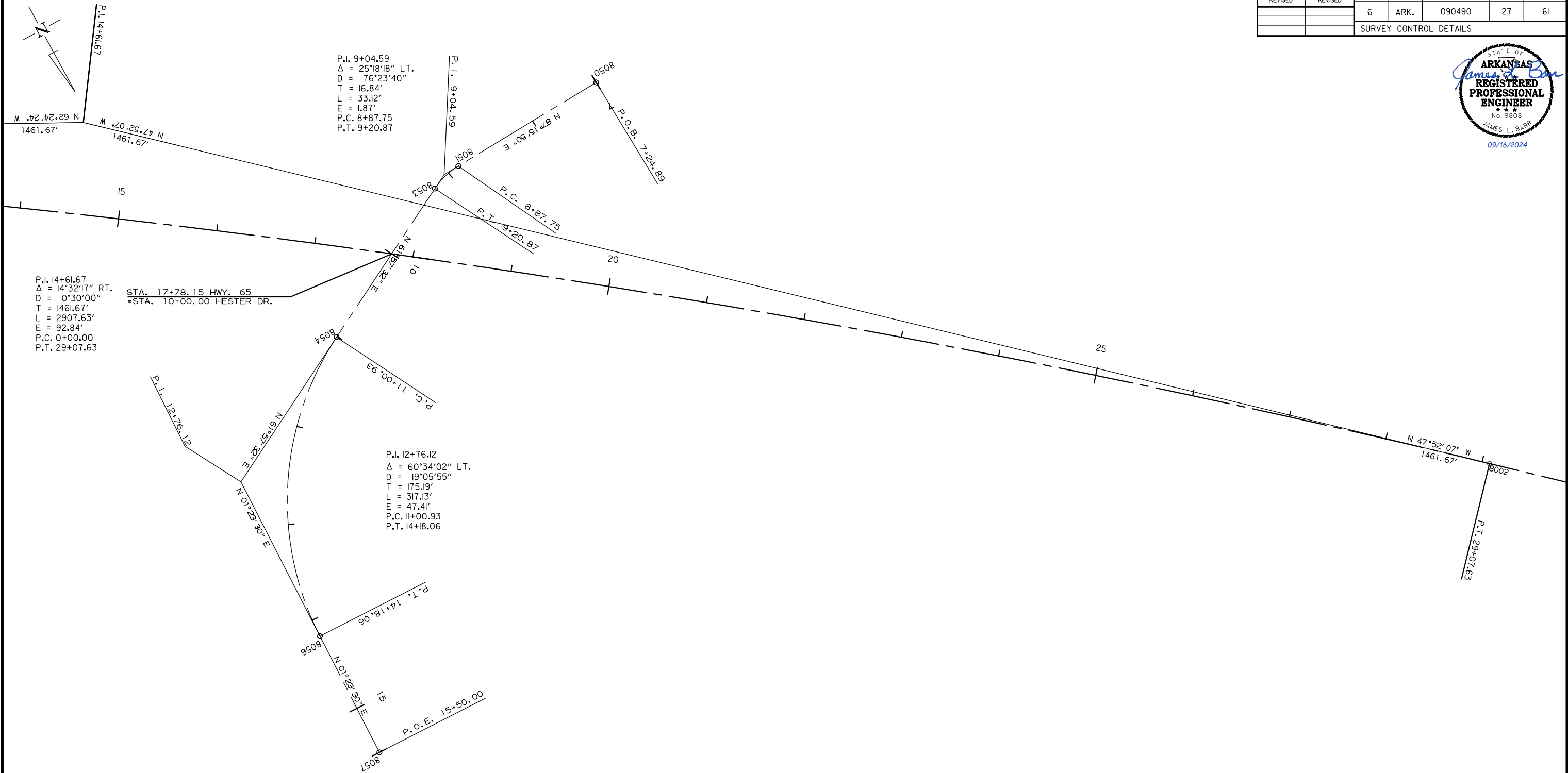
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	26	61
SURVEY CONTROL DETAILS						



LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: 1" = 100'	DRAWN BY: HALFF

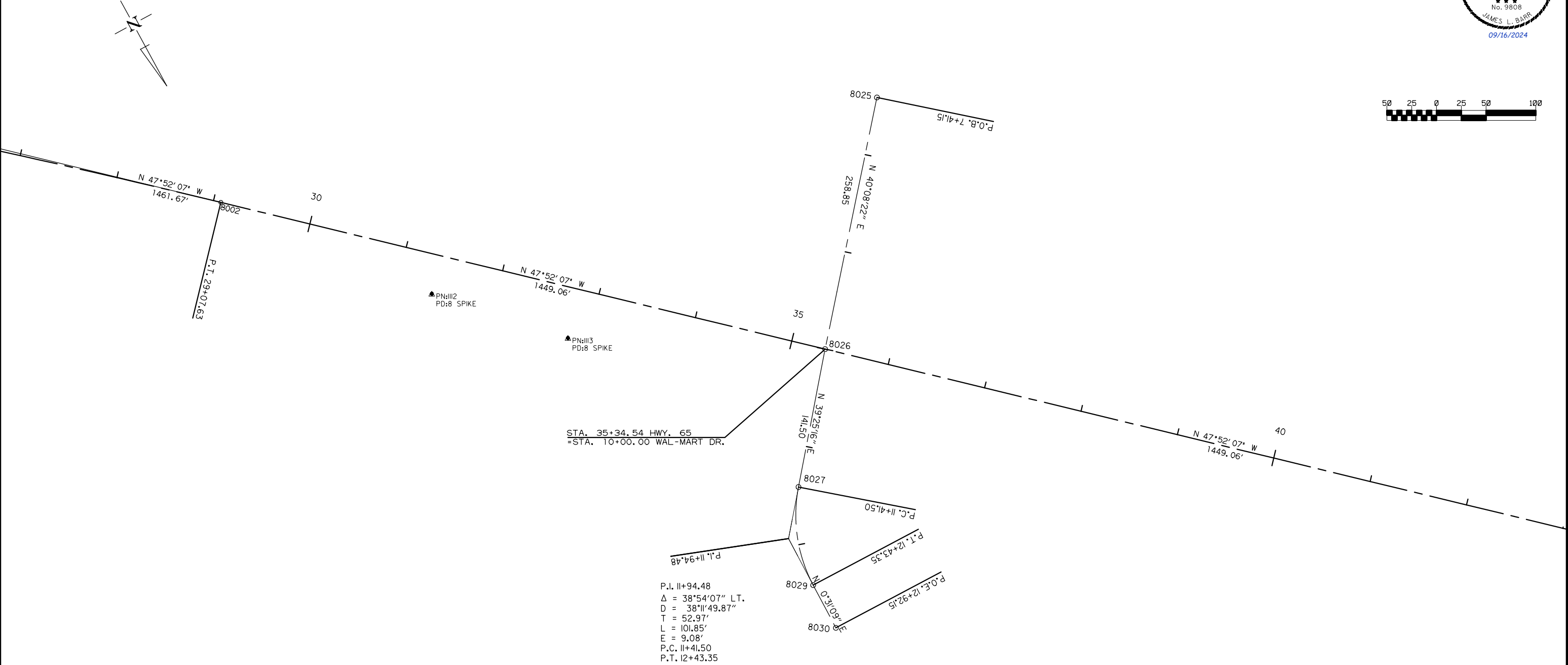
dh3708 5/12/2023
r090490.s02.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	27	61
SURVEY CONTROL DETAILS						



LOCATION: HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 100'
DRAWN BY: HALFF

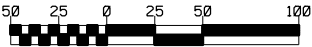
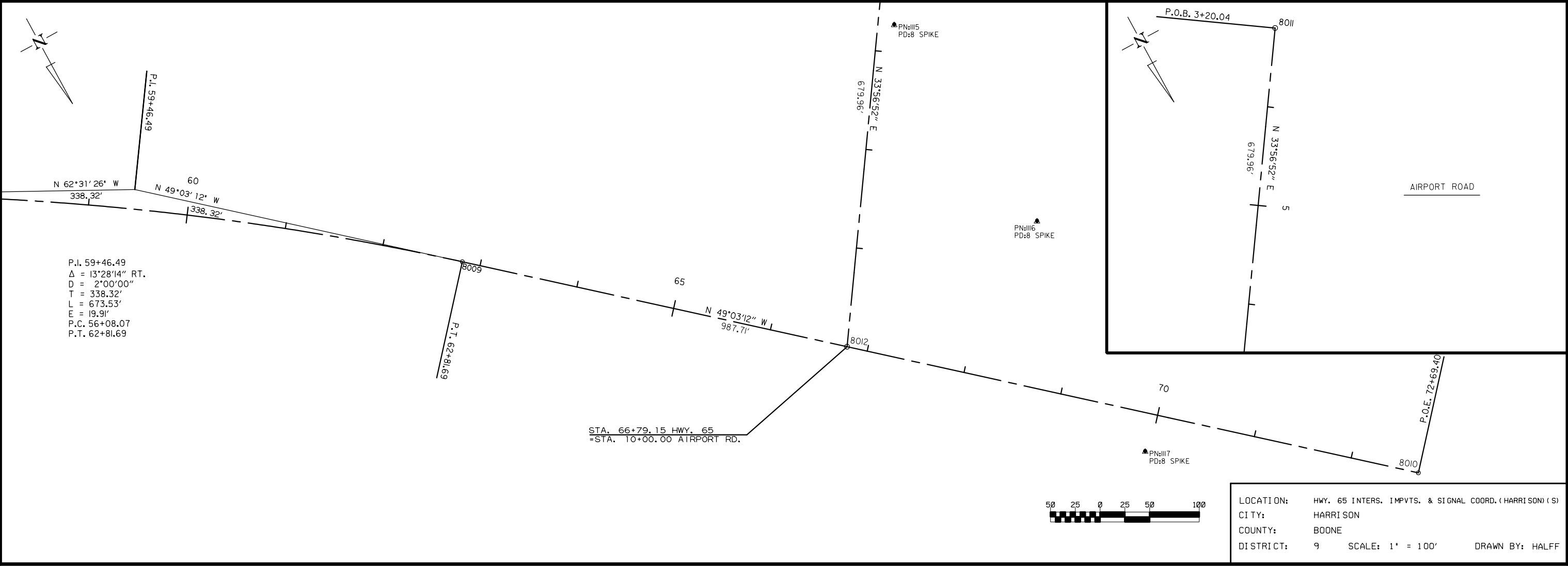
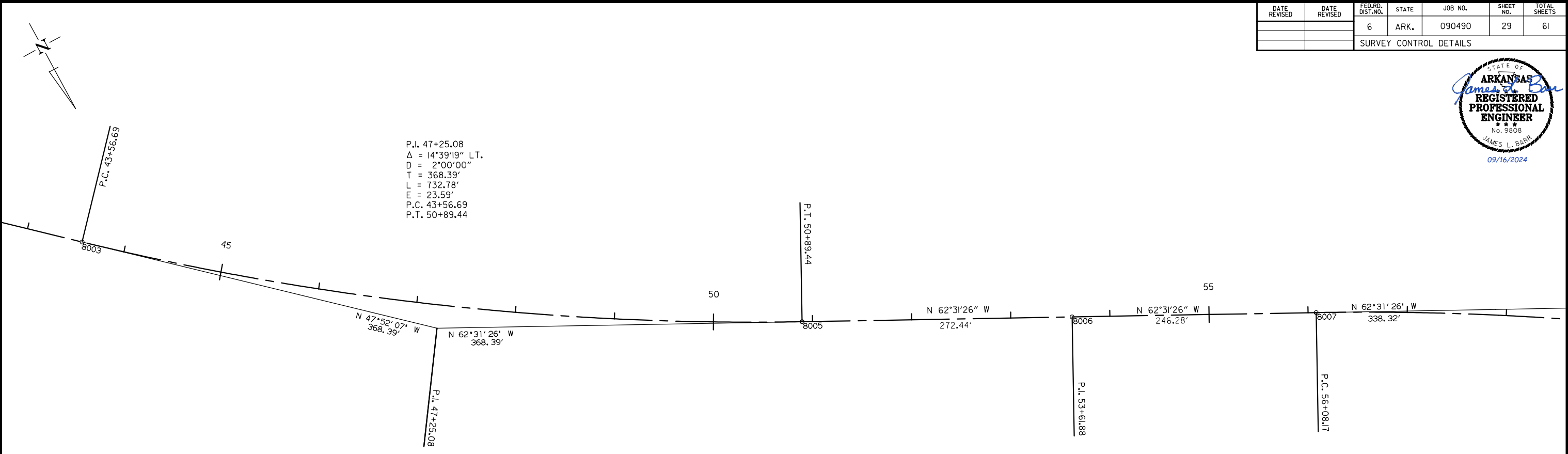
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	28	61
SURVEY CONTROL DETAILS						



P.I. II+94.48
Δ = 38°54'07" LT.
D = 38°11'49.87"
T = 52.97'
L = 101.85'
E = 9.08'
P.C. II+41.50
P.T. I2+43.35

LOCATION: HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 100'
DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	29	61
SURVEY CONTROL DETAILS						



LOCATION: HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: 1" = 100' DRAWN BY: HALFF

SEE SHEET 5 FOR
ADDITIONAL DRAINAGE
INFORMATION

OBLITERATE EXISTING PAVEMENT

STA 12+61 CONSTRUCT
DRIVEWAY ON LT. = 10 CU. YD.

STA. 14+10.00
END HARNESS ST.

P.I. 12+76.12
 $\Delta = 60^{\circ}34'02''$ LT.
 $D = 19^{\circ}05'55''$
 $T = 175.19'$
 $L = 317.13'$
 $E = 47.41'$
P.C. 11+00.93
P.T. 14+18.06

STA 12+50 CONSTRUCT
DRIVEWAY ON RT. = 65 CU. YD.

STA 13+42 CONSTRUCT
DRIVEWAY ON RT. = 5 CU. YD.

HARNESS ST.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

STA. 10+34.72 BEGIN SUPERELEVATION
STA. 11+34.72 END SUPERELEVATION
(MATCH HWY. 65)
(N.C. ' / ')

STA. 10+34.72
BEGIN HARNESS ST.

STA. 14+10.00
END HARNESS ST.

F.L. INLET = 1191.80 (RT.)
F.L. D.I. = 1191.76 (RT.)
F.L. D.I. = 1191.47 (LT.)

TOP D.I.
1195.76 (RT.) VC=160'
1195.72 (LT.)
 $e=1.18'$
 $K=27.12$

VC=140'
 $e=-0.96'$
 $K=25.40$

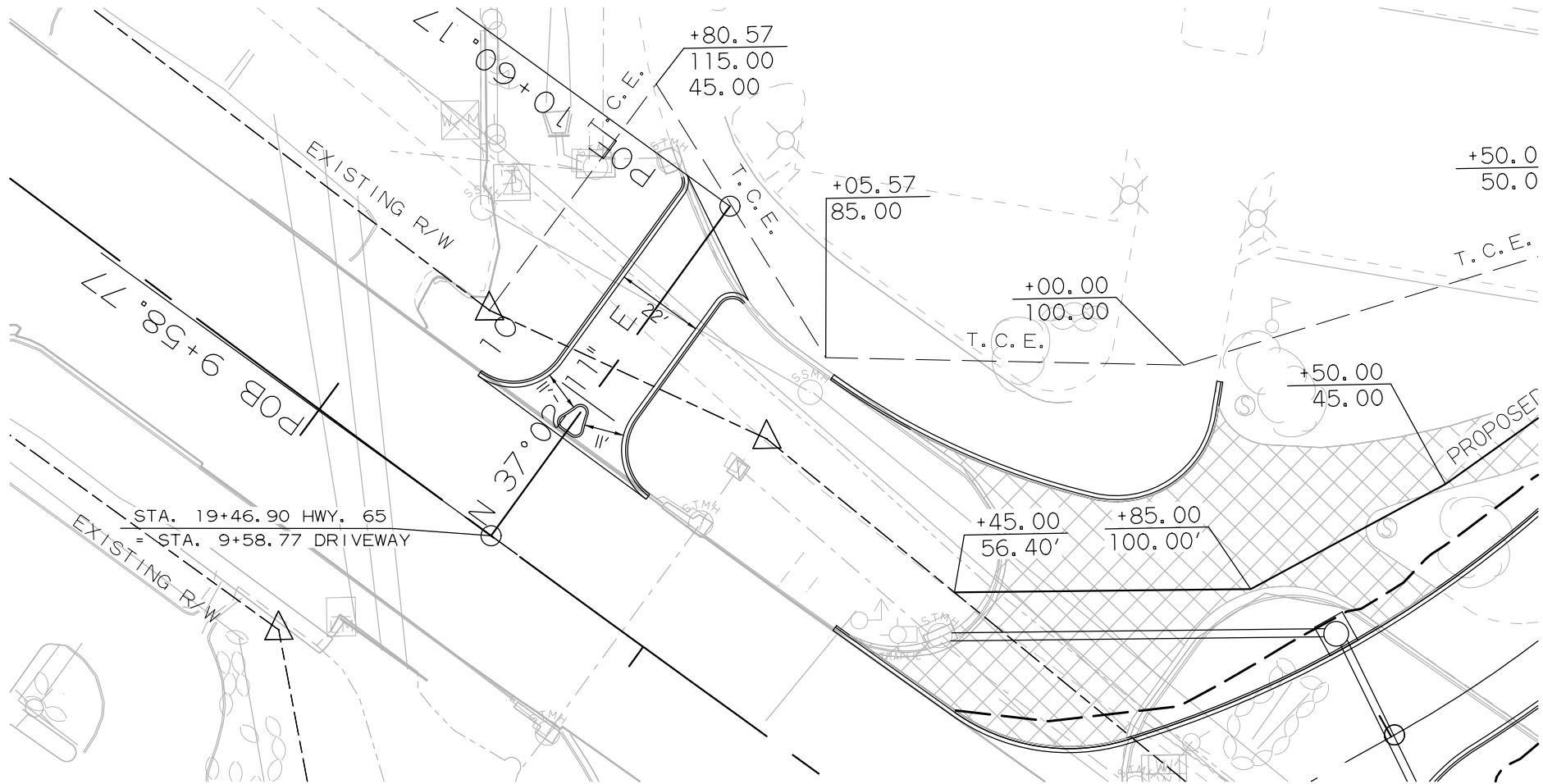
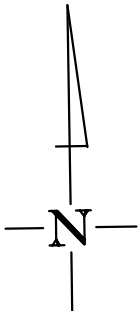
STA. 30+00 $\oslash$ DRIVEWAY =
STA. 12+50 $\oslash$ HARNESS ST.

P.V.I. 30+00.00
ELEV. 1203.72
P.V.I. 30+12.00
ELEV. 1203.48
P.V.I. 30+32.00
ELEV. 1203.98
P.V.I. 30+66.72
ELEV. 1205.99
P.V.I. 30+80.00
ELEV. 1206.39

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	30A	61
PLAN AND PROFILE SHEET						

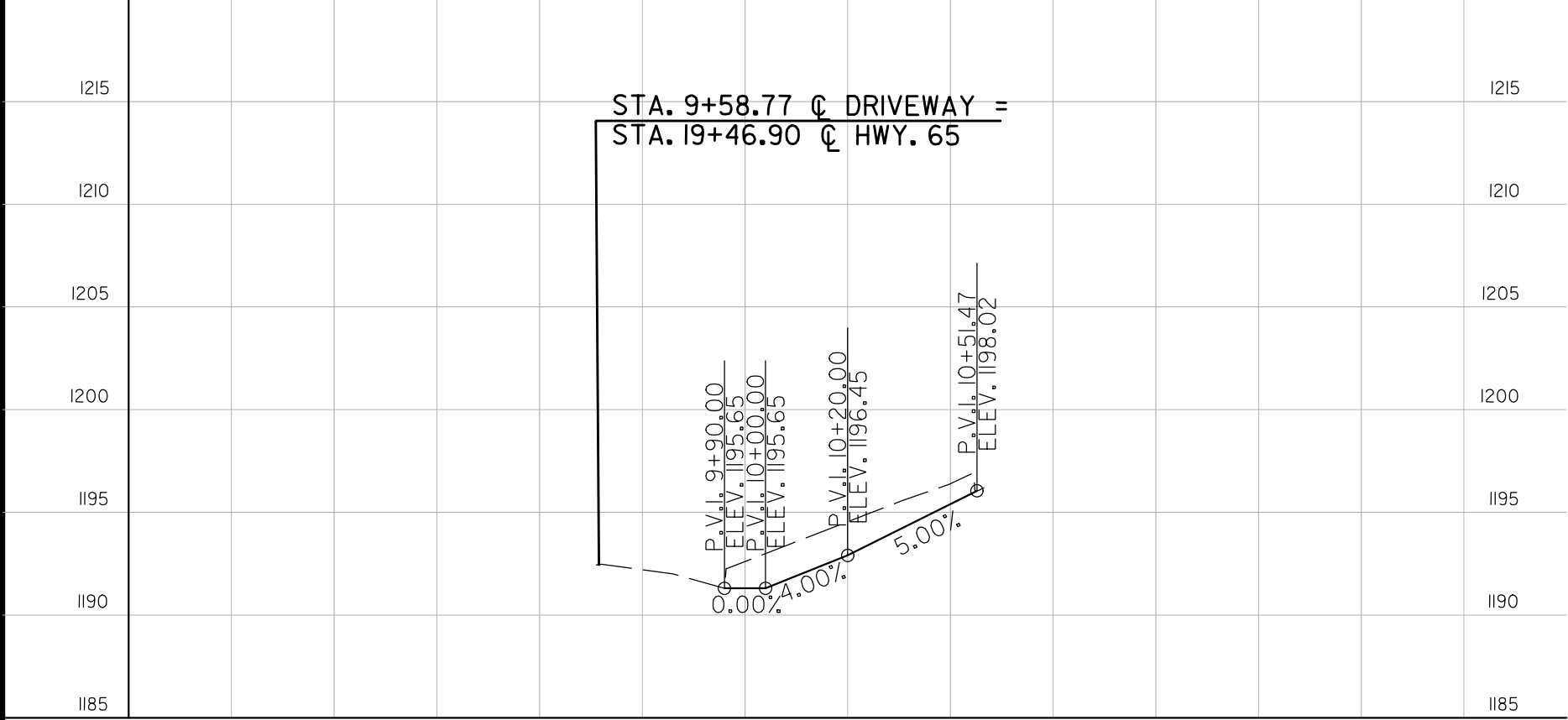


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	30B	61
PLAN AND PROFILE SHEET						



DRIVEWAY 19+46.90

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	31	61
SUMMARY OF TRAFFIC SIGNAL QUANTITIES						



SUMMARY OF TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	HESTER DRIVE	WAL-MART DRIVE	AIRPORT ROAD	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	2	1	4	EACH
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	1	1	3	EACH
SP	E-NET CABLE (EXTERIOR CAT 5E)	80	120	80	280	LIN. FT.
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	1	1	3	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	10	22	8	40	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4	6	1	11	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	483	1617	340	2440	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	295	1995	70	2360	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	650	700	280	1630	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	500	702	370	1572	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	110	110	165	385	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	48	137	57	242	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	330	455	540	1325	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	14	28	14	56	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")		60		60	LIN. FT.
710	NON-METALLIC CONDUIT (2")	48	137	57	242	LIN. FT.
710	NON-METALLIC CONDUIT (3")	420	507	260	1187	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2)		2	1	3	EACH
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)	1	2		3	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	3	4	3	10	EACH
SS & 711	CONCRETE PULL BOX (TYPE 3 HD)	1			1	EACH
SS & 713	SPAN WIRE ASSEMBLY		1		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (26')			1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	1			1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')		1		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')		1	1	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1		1	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')		1		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')		1		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58'-52')	1			1	EACH
SP	LED LUMINAIRE ASSEMBLY	2	2	3	7	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	2	1	4	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.34	0.66		1.00	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 45')		4		4	EACH
SP	18" STREET NAME SIGN	4	4	3	11	EACH
SP & 733	VIDEO DETECTOR (IP)	2	6	1	9	EACH
SP & 733	HYBRID VIDEO/RADAR DETECTOR	2	2	2	6	EACH
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	950	1840	450	3240	LIN. FT.
SP & 733	VIDEO MONITOR (CLR)	1	2	1	4	EACH
SP & 733	CENTRAL CONTROL UNIT (8 CHANNEL)	1	2	1	4	EACH

LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)				
CITY:	HARRISON				
COUNTY:	BOONE				
DISTRICT:	9	SCALE: NTS	DRAWN BY: HALFF		

TRAFFIC SIGNAL NOTES:

1. THE TRAFFIC SIGNAL SHALL NOT BE PUT INTO OPERATION OR SWITCHED TO THE NEXT CONSTRUCTION STAGE PRIOR TO THE FOLLOWING:
- A. ALL TRAFFIC SIGNAL EQUIPMENT HAS BEEN INSTALLED ACCORDING TO THE PLANS, SPECIAL PROVISIONS, AND PROPERLY FUNCTIONAL. THIS INCLUDES BUT NOT LIMITED TO: CABINETS, PULL BOXES, JUNCTION BOXES, POLES, MAST ARMS, FOUNDATIONS, LUMINAIRES, SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS, DETECTION SYSTEM, CONDUITS, CONDUCTORS, CABLES, TRAFFIC CONTROLLER, CONFLICT MONITOR, COMMUNICATION SYSTEM, SERVICE POINT, AND RAILROAD INTERCONNECT SYSTEM.

B. THE DETECTION SYSTEM SHALL BE INSTALLED, SETUP, AND CONFIGURED BY THE CONTRACTOR OR THEIR SUPPLIER PER PLANS. A TRAFFIC OPERATIONS INSPECTOR SHALL INSPECT AND PROVIDE APPROVAL IN ORDER TO PUT THE TRAFFIC SIGNAL INTO OPERATION.

C. THE TRAFFIC CONTROLLER AND CONFLICT MONITOR SHALL BE PROGRAMMED TO OPERATE AS REQUIRED PER THE PLANS (PHASING DIAGRAM, INTERVAL CHART, AND ANY ADDITIONAL NOTES), SPECIAL PROVISIONS AND ARDOT SPECIFICATIONS.

D. TIMING SETTINGS HAVE BEEN PROGRAMMED AND APPROVED AS REQUIRED BY ITS MANAGEMENT SECTION-MAINTENANCE DIVISION.

E. THE TRAFFIC SIGNAL HAS BEEN INSPECTED AND APPROVED BY A TRAFFIC OPERATIONS INSPECTOR.

F. ALL REQUIRED DOCUMENTS RELATED TO THE TRAFFIC SIGNAL EQUIPMENT, THIS INCLUDES BUT NOT LIMITED TO: TEST RESULTS, CONFIGURATION/DATA REPORTS, WARRANTIES, AND ANY OTHER DOCUMENTATION REQUIRED PER PLANS AND SPECIAL PROVISIONS.
2. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
3. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE 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.
4. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT, THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.
5. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (CURRENT EDITION) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
6. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. 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.
7. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY 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 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S/ COUNTY'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, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c#12 A.W.G. 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.
8. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
9. 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.
10. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUS.

11. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
12. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
13. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.
14. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.
15. 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.
16. 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.
17. THE LOCAL RADIO WITH ANTENNA AND TRAFFIC SIGNAL CONTROLLER SHALL BE COMPATIBLE WITH THE EXISTING COORDINATION SYSTEM IN THE CITY/COUNTY.
18. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHOD OR AS DIRECTED BY THE ENGINEER. PVC OR HDPE CONDUIT SHALL BE USED AND SHALL BE UL LISTED. PVC CONDUIT SHALL BE MARKED "DIR. BORING" OR "DIRECTIONAL BORING" PER NEC. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED. THE ENGINEER SHALL GRANT A WRITTEN APPROVAL PRIOR TO USING THE TRENCHING METHOD.
19. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS. ALL CONDUIT UNDER THE ROADWAY, SIDEWALKS, AND DRIVEWAYS SHALL HAVE A MINIMUM DEPTH OF 24" FROM THE TOP OF THE CONDUIT TO THE FINISHED GRADE. CONDUIT DEPTH MAY NEED TO INCREASE NEAR DRAINAGE STRUCTURES.
20. CONDUIT BELL END FITTINGS SHALL BE INSTALLED ON ALL TERMINATING ENDS OF NON-METALLIC CONDUIT RUNS. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS. THE COST OF THE FITTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE PAY ITEM. ALL NON-METALLIC CONDUIT SHALL USE LONG SWEEP 90 DEGREE ELBOWS ON ALL CONDUIT BENDS.
21. ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. PULL BOX LIDS SHALL CLOSE FLUSH WITHOUT PINCHING ANY CONDUCTORS. CONDUIT LENGTHS IN PULL BOXES SHALL BE SET ACCORDINGLY. ANY CONDUCTORS THAT HAVE BEEN DAMAGED BY PINCHING SHALL BE COMPLETELY REPLACED AT THE CONTRACTOR'S EXPENSE.
22. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.
23. CONTRACTOR SHALL ATTACH A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO EACH CONDUIT AT PULLBOXES, POLE BASES, JUNCTION BOXES AND CONTROLLER CABINETS. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. EACH TAG SHALL INDICATE THE END LOCATION OF CONDUIT RUN. THE COST OF THE TAGS SHALL BE SUBSIDIARY TO THE CONDUIT PAY ITEM.

EXAMPLES FOR CONDUIT IN SIDE CABINET: "TO POLE A AND B" OR "TO POLE C"

EXAMPLES FOR CONDUIT IN PULL BOX: "TO POLE A" OR "TO TRAFFIC CABINET"
24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.
25. ALL TRAFFIC SIGNAL POLES SHALL BE GALVANIZED.
26. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
27. 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 STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	32	61
TRAFFIC SIGNAL NOTES						



28. 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, THIRTY-EIGHT (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 TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
29. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (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.
30. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
31. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.
32. BACKPLATES SHALL BE SUPPLIED FOR ALL TRAFFIC SIGNAL HEADS, REFER TO THE RETROREFLECTIVE BACKPLATES SPECIAL PROVISION FOR REQUIREMENTS.
33. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.
34. BEFORE FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL, THE CONTRACTOR SHALL PROVIDE TWO (2) SETS OF LEDGER SIZE (11" X 17") AS-BUILT TRAFFIC SIGNAL PLANS TO THE MAINTENANCE AUTHORITY AND ARDOT.
35. ALL SIGNAL HEADS AND SIGNS ON THE TEMPORARY SPAN WIRE SHALL HAVE AN ADDITIONAL TETHER WIRE (NOT SHOWN ON SD-7) AT THE BOTTOM CHORD TO MINIMIZE MOVEMENT DUE TO WIND EFFECTS. THE BOTTOM TETHER, HARDWARE, BRACKETS, AND MATERIALS FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE TEMPORARY SIGNAL. THE BOTTOM TETHER SHALL BE INSTALLED BETWEEN THE MINIMUM AND MAXIMUM HEIGHT CLEARANCE ABOVE THE ROADWAY.

LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)				
CITY:	HARRISON				
COUNTY:	BOONE				
DISTRICT:	9	SCALE:	N/A	DRAWN BY: HALFF	

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	33	61
SYSTEM MAP						



ANTENNA ORIENTATION
HWY. 65/WAL-MART DR.

134°12'31" E OF N

ANTENNA ORIENTATION
HWY. 65/AIRPORT RD.

131°24'09" E OF N

ANTENNA ORIENTATION
HWY. 65/HESTER DR.

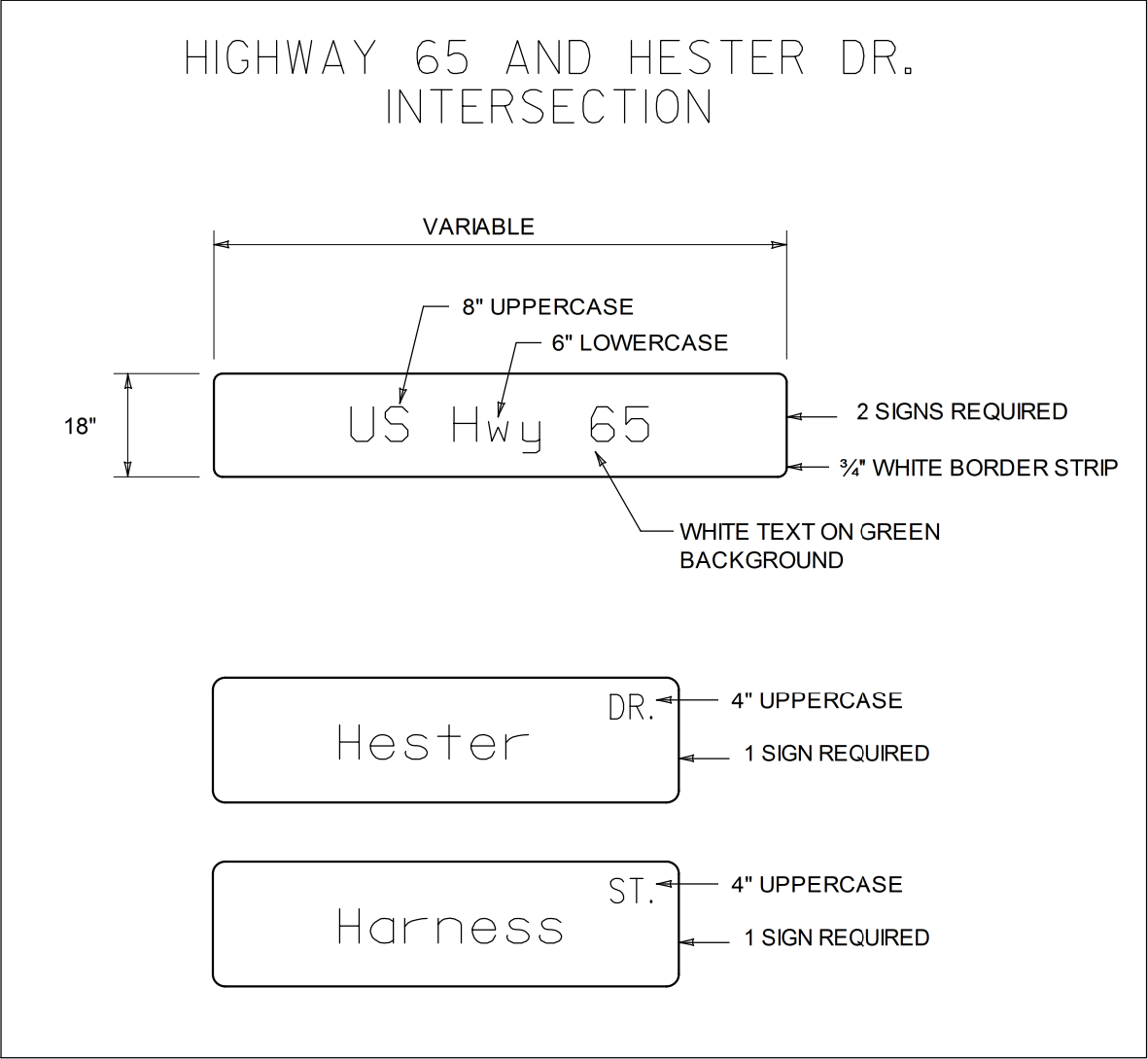
135°30'17" E OF N

MASTER ANTENNA SITE
LOCATED AT THE INTERSECTION OF
HWY. 65/INDUSTRIAL PARK RD.
IN THE CITY OF HARRISON

LOCATION: HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: N/A DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	34	61
TRAFFIC SIGNAL STREET NAME SIGNS						

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED



- NOTES:
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.
 2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ALODIZED. 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/ COUNTY.
 3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM ON THE NEAR SIDE LEFT POLE. SEE STANDARD DRAWING SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.
 4. THE SERIES C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.

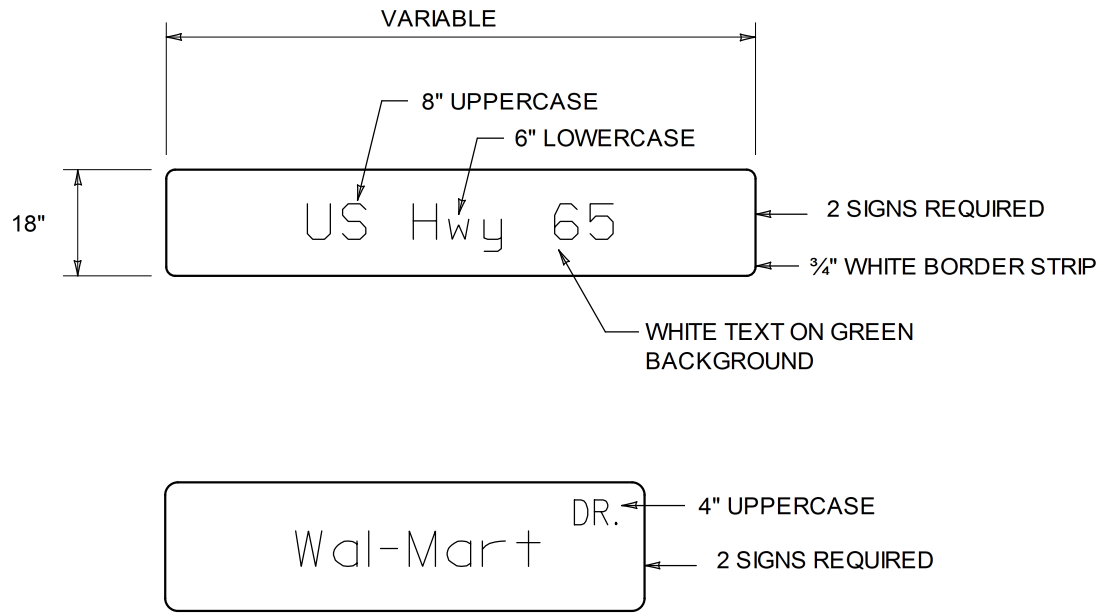
LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: N/A	DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	35	61
TRAFFIC SIGNAL STREET NAME SIGNS						

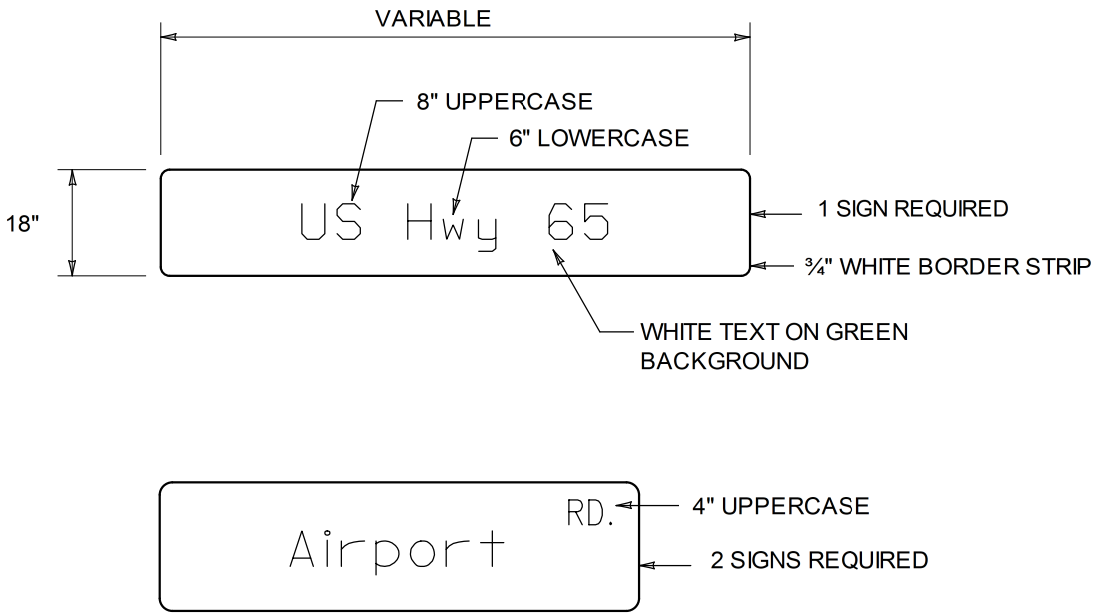


OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED

HIGHWAY 65 AND WAL-MART DR.
INTERSECTION



HIGHWAY 65 AND AIRPORT RD.
INTERSECTION



NOTES:

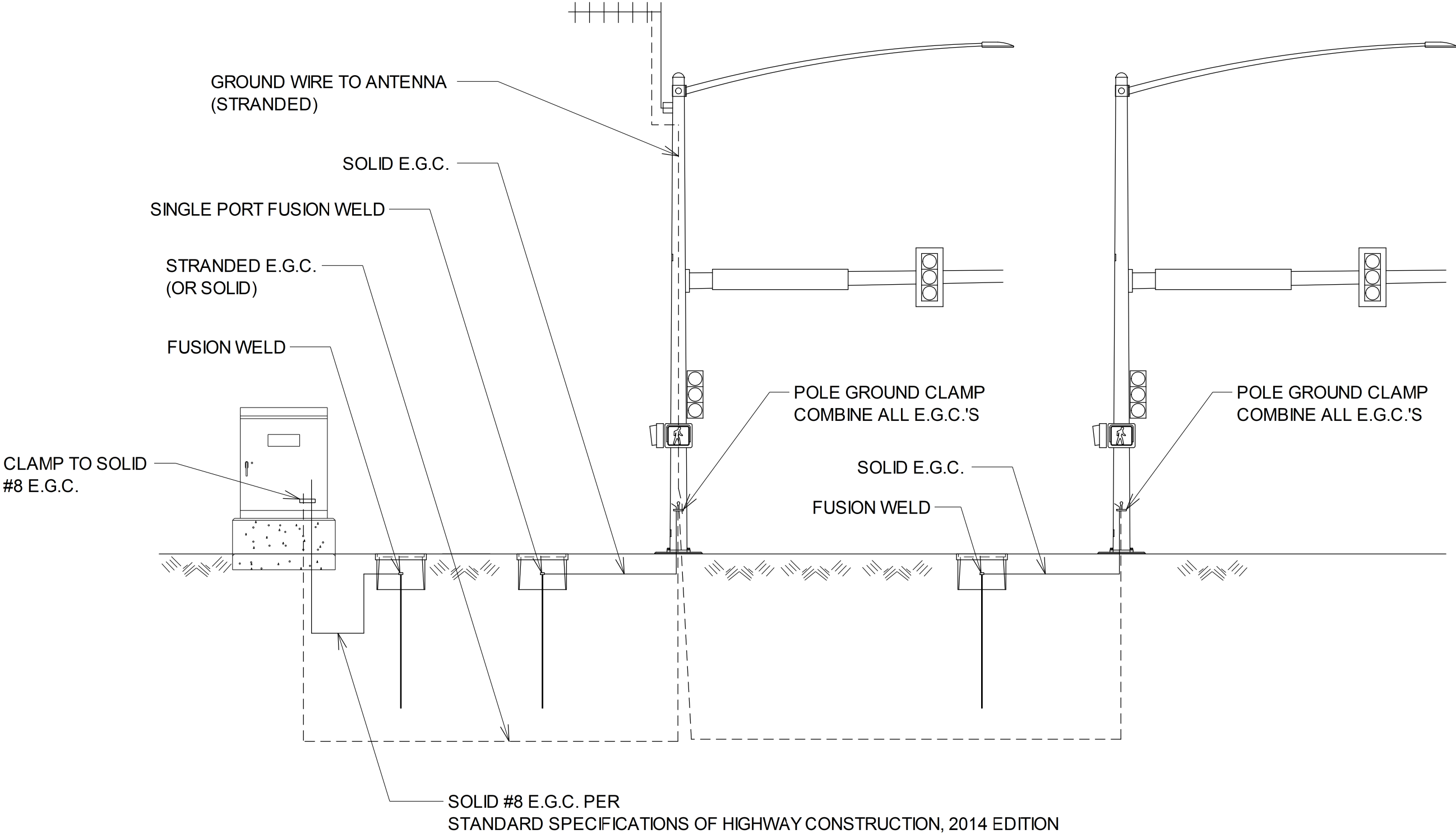
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.
2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ALODIZED. 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/ COUNTY.
3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM ON THE NEARSIDE LEFT POLE. SEE STANDARD DRAWING SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.
4. THE SERIES C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.

LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: N/A	DRAWN BY: HALFF

GROUNDING ARRAY

SINGLE-PORT FUSION WELDS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	36	61
GROUNDING ARRAY DETAIL						



LOCATION:	HWY. 65 INTERS. IMPVTS. & SIGNAL COORD. (HARRISON) (S)				
CITY:	HARRISON				
COUNTY:	BOONE				
DISTRICT:	9	SCALE:	N/A	DRAWN BY:	HALFF

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	37	61
TRAFFIC SIGNAL QUANTITIES - HESTER DR.						



TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	EACH
SP	E-NET CABLE (EXTERIOR CAT 5E)	80	LIN. FT.
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	10	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	483	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	295	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	650	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	500	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	110	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	48	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	330	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	14	LIN. FT.
710	NON-METALLIC CONDUIT (2")	48	LIN. FT.
710	NON-METALLIC CONDUIT (3")	420	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)	1	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	3	EACH
SS & 711	CONCRETE PULL BOX (TYPE 3 HD)	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58'-52')	1	EACH
SP	LED LUMINAIRE ASSEMBLY	2	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.34	LUMP SUM
SP	18" STREET NAME SIGN	4	EACH
SP & 733	VIDEO DETECTOR (IP)	2	EACH
SP & 733	HYBRID VIDEO/RADAR DETECTOR	2	EACH
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	950	LIN. FT.
SP & 733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	CENTRAL CONTROL UNIT (8 CHANNEL)	1	EACH

PERMANENT TRAFFIC SIGNAL:
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS.)

LOCATION:	HWY. 65 & HESTER DR.		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: N/A	DRAWN BY: HALFF

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+090490.sig02.60.dgn

DETECTOR SPACING CHART

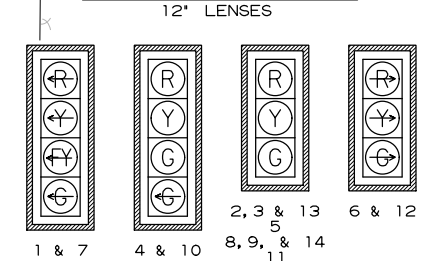
HWY. 65 VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
HESTER DRIVE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
30 MPH	85'	N/A

P. T. 14+18.06

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	38	61
SIGNALIZATION PLAN SHEETS						



SIGNAL FACES



- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

SIGNAL CABINET
SECONDARY BREAKER
BY CONTRACTOR.

LOCAL RADIO WITH ANTENNA,
CAT 5E CABLE, MOUNTED TO
POLE A

SERVICE POINT AND MAIN BREAKER
BY CONTRACTOR WITH 2" DIA. NMC
AND CONCRETE PULL BOX (TYPE 1HD).

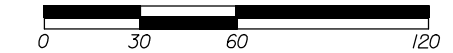
VIRTUAL 6'X50' PRESENCE VDZ (TYPICAL)
LOCATED 85' BEHIND STOP LINE

STA. 17+78.15 HWY. 65
= STA. 10+00.00 HESTER DR. W.

VIRTUAL 6'X6' PULSE VDZ (TYPICAL)
LOCATED 115' BEHIND STOP LINE

VIRTUAL 6'X6' PULSE VDZ (TYPICAL)
LOCATED 260' BEHIND STOP LINE

SCALE IN FEET

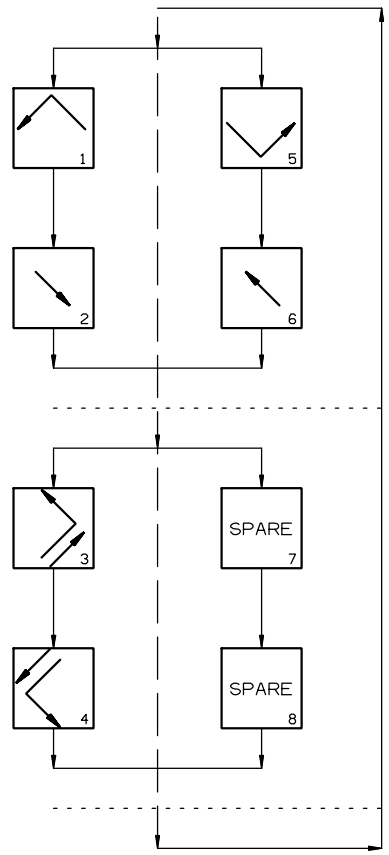


LOCATION: HWY. 65 & HESTER DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 60'

DRAWN BY: HALFF

PHASING DIAGRAM



NOTE TO CONTRACTOR:
CONTACT THE CITY OF HARRISON
FOR ANTENNA ORIENTATION

HIGHWAY 65 AND HESTER DRIVE POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	** HAND HOLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	28'	310°	90°	35'	15'	310°
B	52'/58'	36°/306°	90°/180°	21'	N/A	N/A
C	40'	216°	90°	35'	15'	216°

* MAST ARM AND LUMINAIRE ARM ANGLE MEASURED FROM PLAN NORTH = 0°,
CLOCKWISE ROTATION.

** HAND HOLE LOCATION MEASURED CLOCKWISE FROM MAST ARM.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	39	61
SIGNALIZATION PLAN SHEETS						

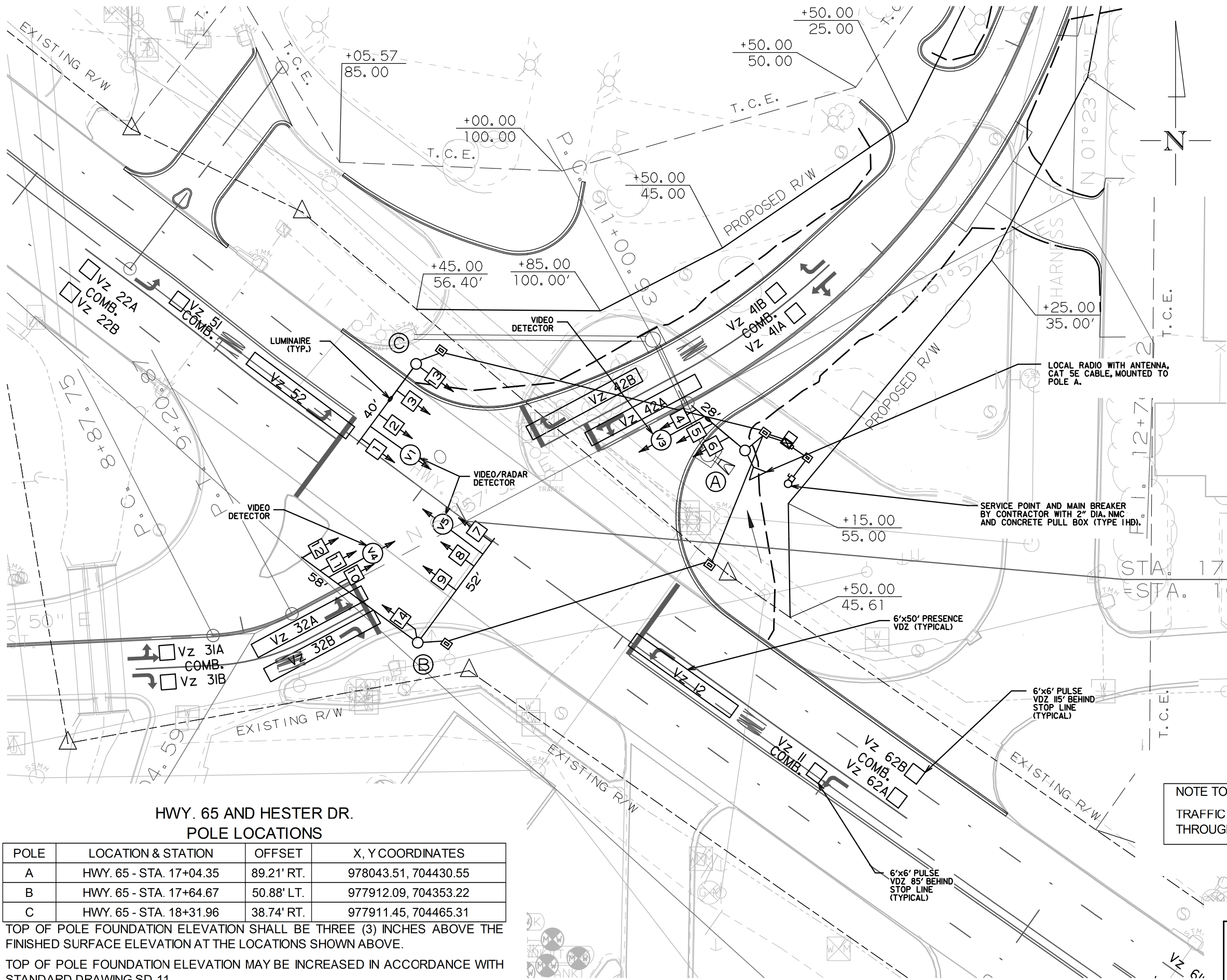


DESIGN PARAMETERS

- POSTED SPEED LIMIT:
45 MPH HWY. 65
30 MPH HESTER DRIVE
- NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON
PERMANENT PAVEMENT MARKING
DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND CURB



HWY. 65 AND HESTER DR.
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 65 - STA. 17+04.35	89.21' RT.	978043.51, 704430.55
B	HWY. 65 - STA. 17+64.67	50.88' LT.	977912.09, 704353.22
C	HWY. 65 - STA. 18+31.96	38.74' RT.	977911.45, 704465.31

TOP OF POLE FOUNDATION ELEVATION SHALL BE THREE (3) INCHES ABOVE THE
FINISHED SURFACE ELEVATION AT THE LOCATIONS SHOWN ABOVE.

TOP OF POLE FOUNDATION ELEVATION MAY BE INCREASED IN ACCORDANCE WITH
STANDARD DRAWING SD-11.

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



LOCATION: HWY. 65 & HESTER DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

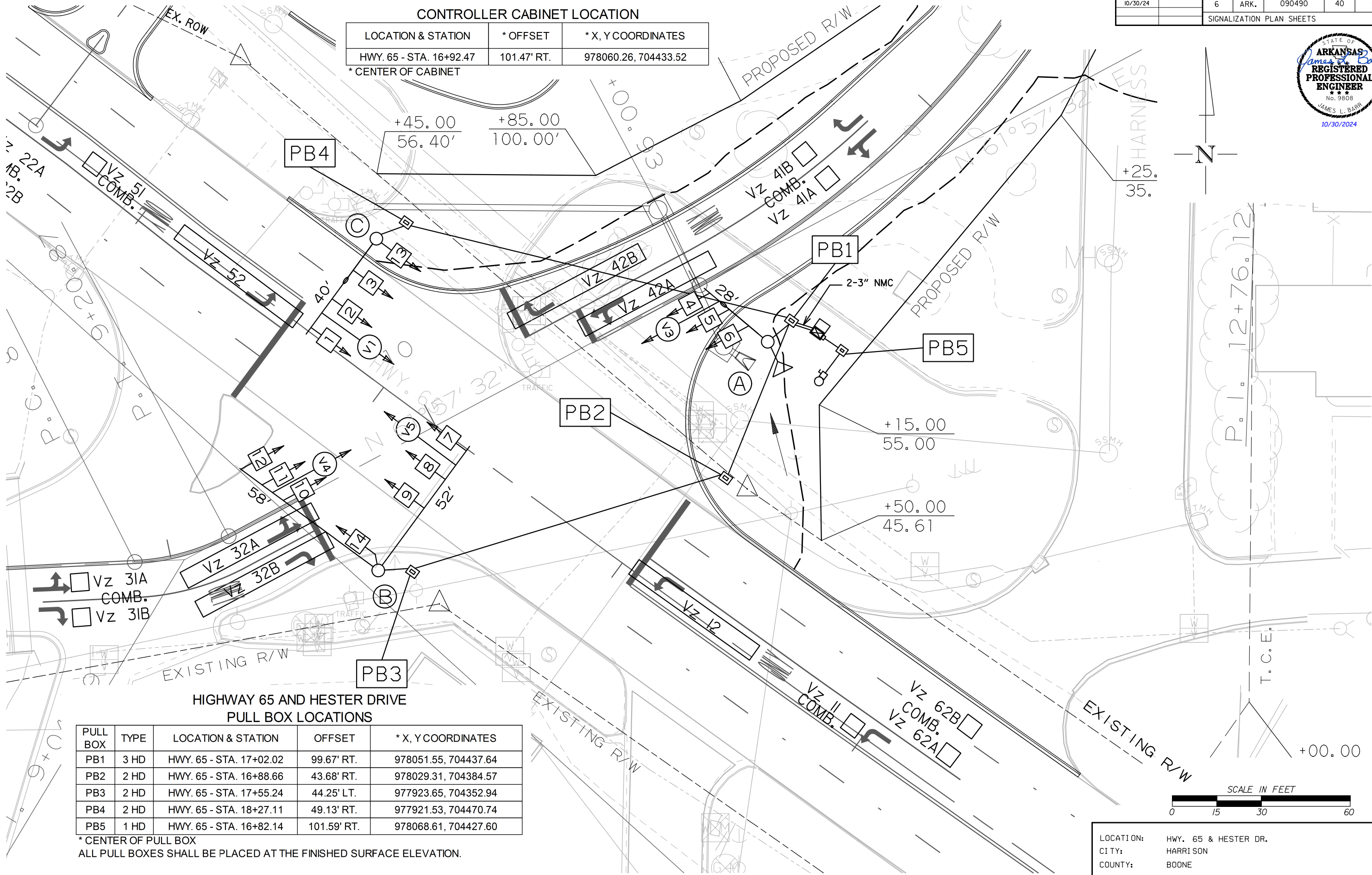
SCALE: 1" = 40'

DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
10/30/24		6	ARK.	090490	40	61
SIGNALIZATION PLAN SHEETS						



CONTROLLER CABINET LOCATION		
LOCATION & STATION	* OFFSET	* X, Y COORDINATES
HWY. 65 - STA. 16+92.47	101.47' RT.	978060.26, 704433.52
* CENTER OF CABINET		



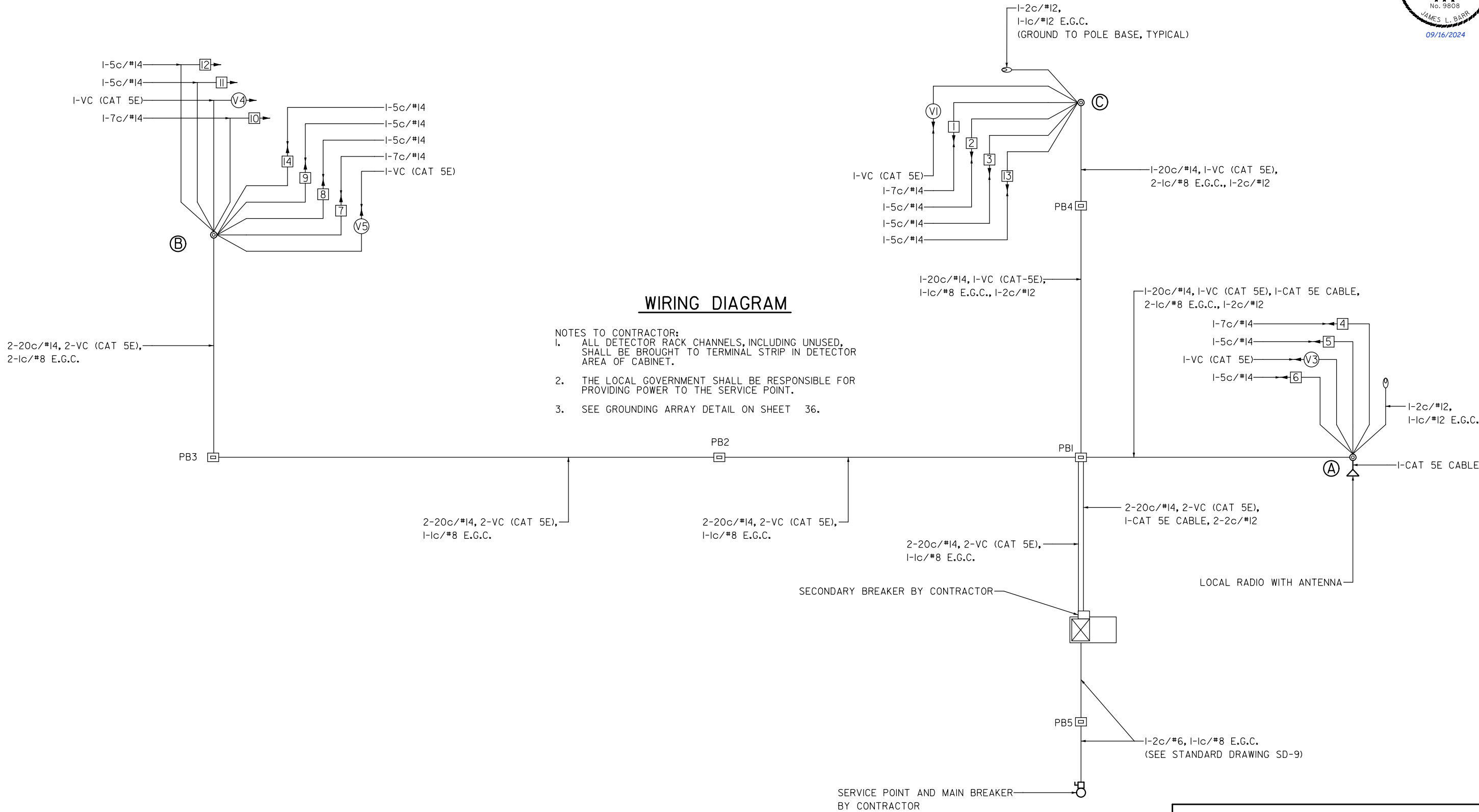
HIGHWAY 65 AND HESTER DRIVE PULL BOX LOCATIONS				
PULL BOX	TYPE	LOCATION & STATION	OFFSET	* X, Y COORDINATES
PB1	3 HD	HWY. 65 - STA. 17+02.02	99.67' RT.	978051.55, 704437.64
PB2	2 HD	HWY. 65 - STA. 16+88.66	43.68' RT.	978029.31, 704384.57
PB3	2 HD	HWY. 65 - STA. 17+55.24	44.25' LT.	977923.65, 704352.94
PB4	2 HD	HWY. 65 - STA. 18+27.11	49.13' RT.	977921.53, 704470.74
PB5	1 HD	HWY. 65 - STA. 16+82.14	101.59' RT.	978068.61, 704427.60

* CENTER OF PULL BOX
ALL PULL BOXES SHALL BE PLACED AT THE FINISHED SURFACE ELEVATION.



LOCATION:	HWY. 65 & HESTER DR.		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: 1" = 30'	DRAWN BY: HALFF

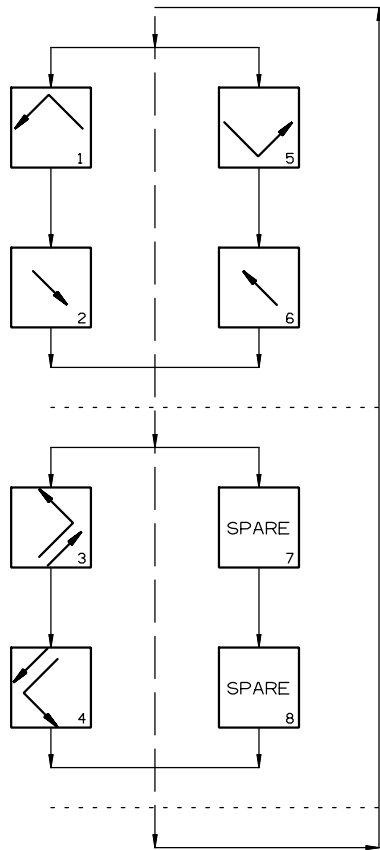
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	41	61
SIGNALIZATION PLAN SHEETS						



LOCATION:	HWY. 65 & HESTER DR.
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	N/A
DRAWN BY:	HALFF

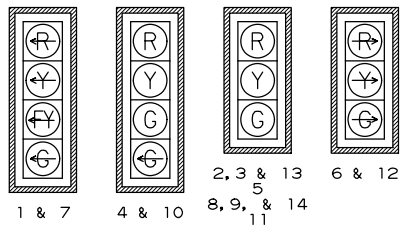


PHASING DIAGRAM



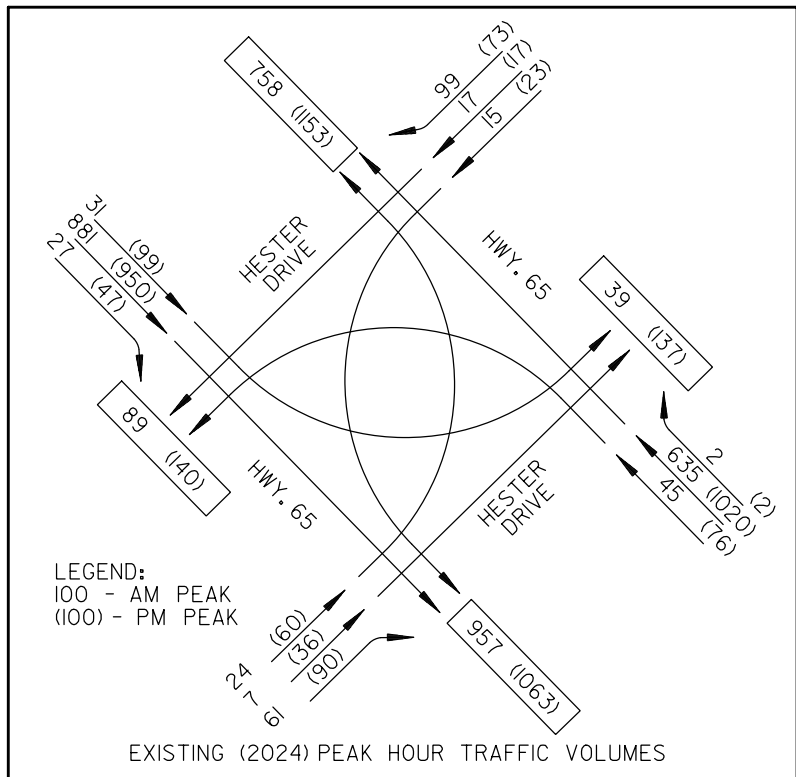
SIGNAL FACES

12" LENSES



- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

TRAFFIC FLOW DIAGRAM



DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 090490											
HWY. 65 AND HESTER DRIVE DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
							PHS	SYSTEM DET. #			
Vz11	WB LEFT TURN FAR	COMB.				V9	1	1		V1	MAST ARM MOUNTED
Vz12	WB LEFT TURN	LOCAL				V1	1			V1	
Vz21 A&B	EB ADVANCE	LOCAL				V2	2			V5	MAST ARM MOUNTED
Vz22 A&B	EB NEAR	COMB.				V10	2	2		V5	
Vz31 A&B	NB ADVANCE	COMB.				V11	3	3		V3	46"
Vz32 A&B	NB NEAR	LOCAL				V3	3			V3	46"
Vz41 A&B	SB ADVANCE	COMB.				V12	4	4		V4	46"
Vz42 A&B	SB NEAR	LOCAL				V4	4			V4	46"
Vz51	EB LEFT TURN FAR	COMB.				V13	5	5		V5	MAST ARM MOUNTED
Vz52	EB LEFT TURN	LOCAL				V5	5			V5	
Vz61 A&B	WB ADVANCE	LOCAL				V6	6			V1	MAST ARM MOUNTED
Vz62 A&B	WB NEAR	COMB.				V14	6	6		V1	

CONTROLLER INPUT ABBREVIATIONS:

V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

INTERVAL CHART

SIGNAL FACES	HWY. 65 AND HESTER DRIVE												FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3	CLR.	4	CLR.	
1	<G	*	<G	*	<FY	***	<FY	***	<R	<R	<R	<R	<R
2, 3, & 13	R	R	G	**	R	R	G	**	R	R	R	R	R
4	R	R	R	R	R	R	R	R	G<G	Y	R	R	R
5	R	R	R	R	R	R	R	R	G	Y	R	R	R
6	R>	R>	R>	R>	R>	R>	R>	R>	G>	Y>	R>	R>	R>
7	<G	*	<FY	***	<G	*	<FY	***	<R	<R	<R	<R	<R
8, 9, & 14	R	R	R	R	G	**	G	**	R	R	R	R	R
10	R	R	R	R	R	R	R	R	R	R	G<G	Y	R
11	R	R	R	R	R	R	R	R	R	R	G	Y	R
12	R>	R>	R>	R>	R>	R>	R>	R>	R>	R>	G>	Y>	R>

- * DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

LOCATION: HWY. 65 & HESTER DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: N/A DRAWN BY: HALFF

dh5402 5/12/2023
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TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	EACH
SP	E-NET CABLE (EXTERIOR CAT 5E)	120	LIN. FT.
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	11	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	3	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	567	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	220	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	700	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	610	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	110	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	45	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	455	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	14	LIN. FT.
710	NON-METALLIC CONDUIT (2")	45	LIN. FT.
710	NON-METALLIC CONDUIT (3")	495	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2)	2	EACH
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)	1	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	4	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')	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 (48')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')	1	EACH
SP	LED LUMINAIRE ASSEMBLY	2	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM
SP	18" STREET NAME SIGN	4	EACH
SP & 733	VIDEO DETECTOR (IP)	2	EACH
SP & 733	HYBRID VIDEO/RADAR DETECTOR	2	EACH
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	980	LIN. FT.
SP & 733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	CENTRAL CONTROL UNIT (8 CHANNEL)	1	EACH

PERMANENT TRAFFIC SIGNAL:
INSTALL PERMANENT SIGNAL PRIOR TO REMOVAL OF TEMPORARY TRAFFIC SIGNAL.
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS.)

TEMPORARY TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	11	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	3	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1050	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	1775	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	92	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	92	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	14	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")	60	LIN. FT.
710	NON-METALLIC CONDUIT (2")	92	LIN. FT.
710	NON-METALLIC CONDUIT (3")	12	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)	1	EACH
SS & 713	SPAN WIRE ASSEMBLY	1	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 45')	4	EACH
SP & 733	VIDEO DETECTOR (IP)	4	EACH
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	860	LIN. FT.
SP & 733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	CENTRAL CONTROL UNIT (8 CHANNEL)	1	EACH

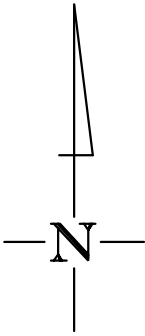
STAGE 1:
INSTALL ALL TEMPORARY TRAFFIC SIGNAL EQUIPMENT AS SHOWN ON THE STAGE 1 TEMPORARY TRAFFIC SIGNAL PLANS AND REMOVE
ALL EXISTING TRAFFIC SIGNAL EQUIPMENT. INSTALL TEMPORARY SIGNAL PRIOR TO REMOVAL OF EXISTING TRAFFIC SIGNAL.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1 TRAFFIC SIGNAL PLANS.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	43	61
TRAFFIC SIGNAL QUANTITIES - WAL-MART DR.						

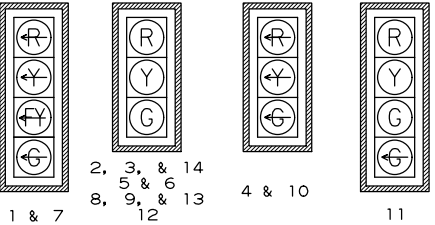


LOCATION:	HWY. 65 & WAL-MART DR.		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: N/A	DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	44	61
SIGNALIZATION PLAN SHEETS						



SIGNAL FACES
12" LENSES



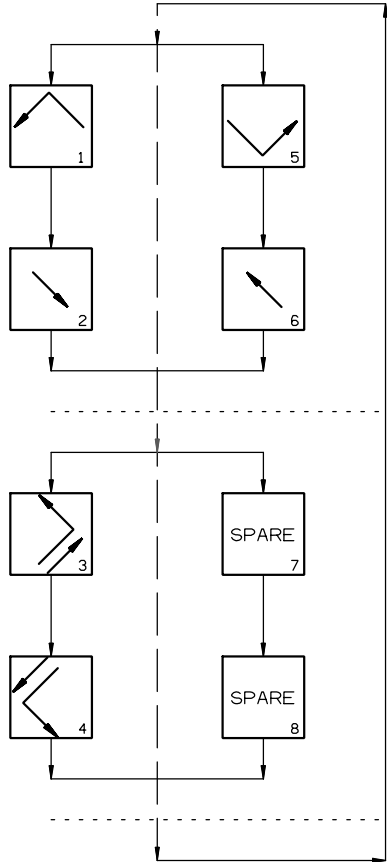
- NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

DETECTOR SPACING CHART

HWY. 65 VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
WAL-MART DRIVE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
N/A	85'	N/A

- NOTES TO CON:
1. TRAFFIC S THROUGH
 2. THE TOP C AT THE FIN

PHASING DIAGRAM



HIGHWAY 65 AND WAL-MART DRIVE
POLE DIMENSIONS

POLE	CLASS	HEIGHT	* LUM. ARM	LUM. ANGLE
A	2	45'	25'	**
B	2	45'	25'	**
C	2	45'	25'	**
D	2	45'	25'	**

ALL POLES ARE TREATED WOOD POLES.
STANDARD GUY INSTALLATION (TYPICAL), IF SIDEWALK GUY INSTALLATION IS NECESSARY SEE STANDARD DRAWING SD-7.
* SEE TYPICAL WOOD POLE WITH LUMINAIRE ARM DETAIL ON NEXT SHEET.
** REFER TO PLAN SHEETS FOR LUMINAIRE ARM ORIENTATION.



LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 60'
DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	45	61
SIGNALIZATION PLAN SHEETS						



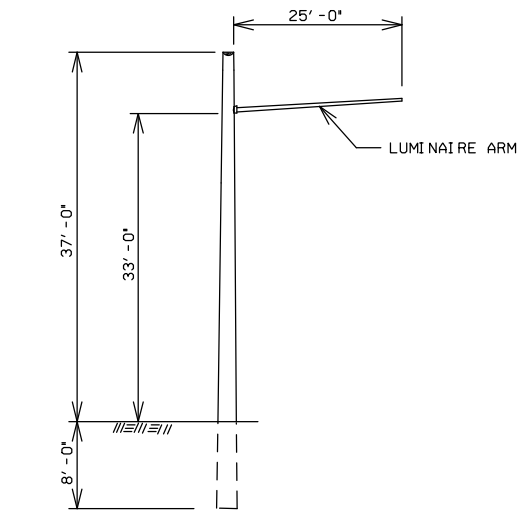
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH NORTH AND SOUTH APPROACH
35 MPH EAST AND WEST APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON
PERMANENT PAVEMENT MARKING
DETAILS (SEE SEPARATE SHEET).

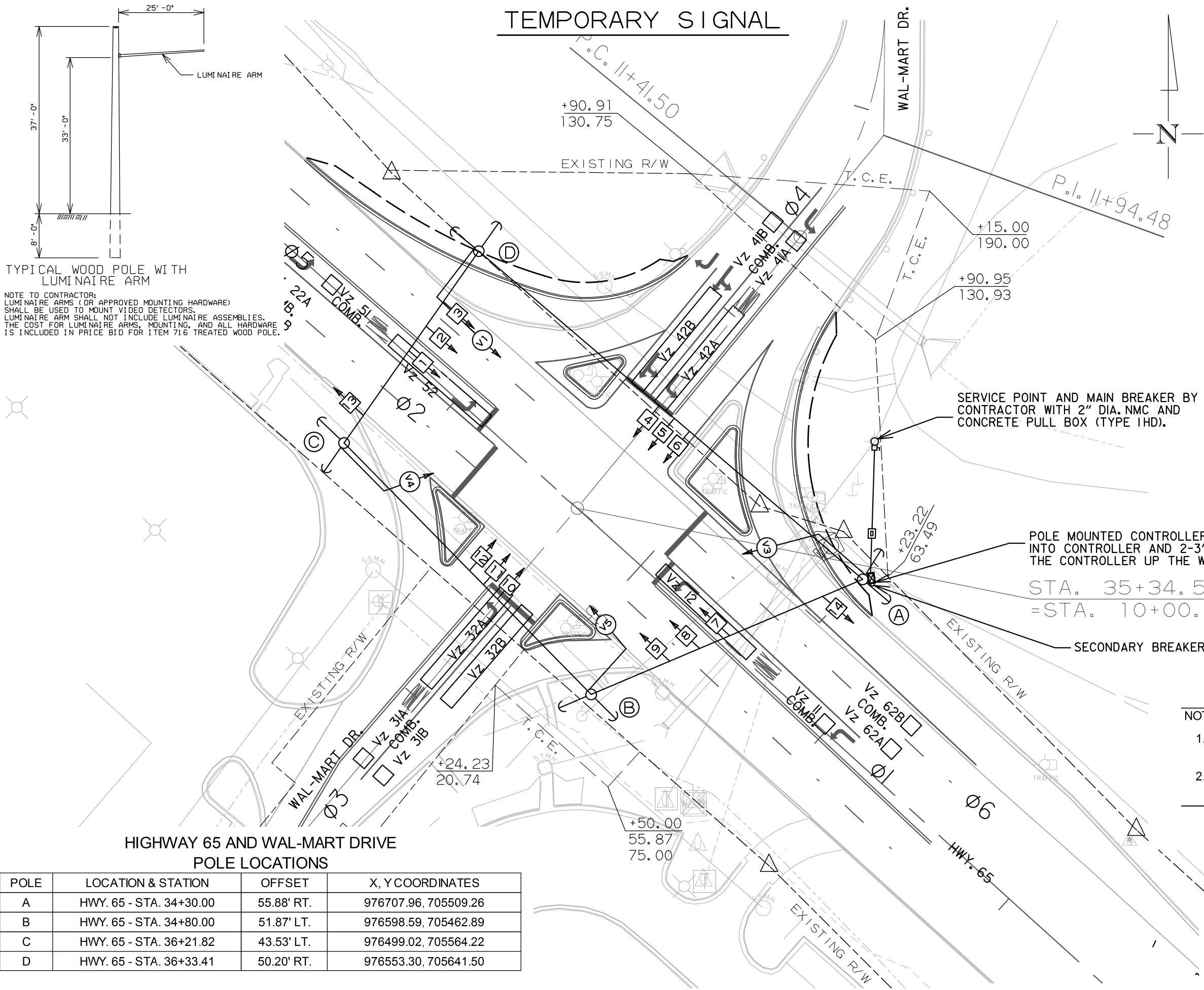
MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND CURB



TYPICAL WOOD POLE WITH
LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE)
SHALL BE USED TO MOUNT VIDEO DETECTORS.
LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES.
THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE
IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

TEMPORARY SIGNAL



HIGHWAY 65 AND WAL-MART DRIVE
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 65 - STA. 34+30.00	55.88' RT.	976707.96, 705509.26
B	HWY. 65 - STA. 34+80.00	51.87' LT.	976598.59, 705462.89
C	HWY. 65 - STA. 36+21.82	43.53' LT.	976499.02, 705564.22
D	HWY. 65 - STA. 36+33.41	50.20' RT.	976553.30, 705641.50

NOTES TO CONTRACTOR:

1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED
THROUGHOUT ALL CONSTRUCTION PHASES.
2. THE TOP OF ALL PULL BOXES SHALL BE INSTALLED
AT THE FINISHED SURFACE ELEVATION.

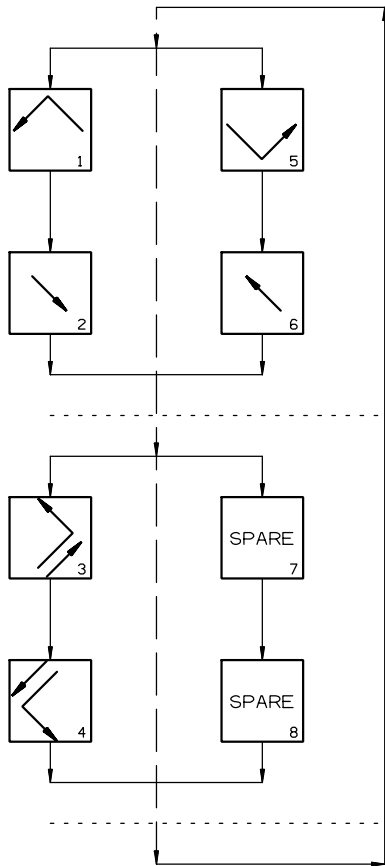


LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 40'

DRAWN BY: HALFF

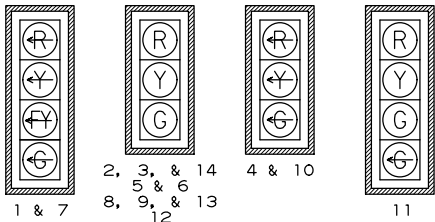
PHASING DIAGRAM



TEMPORARY SIGNAL

SIGNAL FACES

12" LENSES



- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISION 'RETROREFLECTIVE BACKPLATES' FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 090490											
HWY. 65 AND WAL-MART DRIVE DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #	MASTER SYSTEM DETECTOR NUMBERS		
Vz11	WB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	23"
Vz12	WB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23"
Vz21 A&B	EB ADVANCE	LOCAL			5	V2	2			CAMERA V5	23"
Vz22 A&B	EB NEAR	COMB.			6	V10	2	2		CAMERA V5	23"
Vz31 A&B	NB ADVANCE	COMB.			9	V11	3	3		CAMERA V3	23"
Vz32 A&B	NB NEAR	LOCAL			10	V3	3			CAMERA V3	23"
Vz41 A&B	SB ADVANCE	COMB.			11	V12	4	4		CAMERA V4	23"
Vz42 A&B	SB NEAR	LOCAL			12	V4	4			CAMERA V4	23"
Vz51	EB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5	23"
Vz52	EB LEFT TURN	LOCAL			8	V5	5			CAMERA V5	23"
Vz61 A&B	WB ADVANCE	LOCAL			3	V6	6			CAMERA V1	23"
Vz62 A&B	WB NEAR	COMB.			4	V14	6	6		CAMERA V1	23"
					SPARE: 13 - 16						

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

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

INTERVAL CHART

SIGNAL FACES	HWY. 65 AND WAL-MART DRIVE												FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3	CLR.	4	CLR.	
1	<G	*	<G	*	<FY	***	<FY	***	<R	<R	<R	<R	<R
2, 3, & 14	R	R	G	**	R	R	G	**	R	R	R	R	R
4	<R	<R	<R	<R	<R	<R	<R	<R	<G	<Y	<R	<R	<R
5 & 6	R	R	R	R	R	R	R	R	G	Y	R	R	R
7	<G	*	<FY	***	<G	*	<FY	***	<R	<R	<R	<R	<R
8, 9, & 13	R	R	R	R	G	**	G	**	R	R	R	R	R
10	<R	<R	<R	<R	<R	<R	<R	<R	<R	<R	<G	<Y	<R
11	R	R	R	R	R	R	R	R	R	R	G	Y	R
12	R	R	R	R	R	R	R	R	R	R	G	Y	R

- * DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

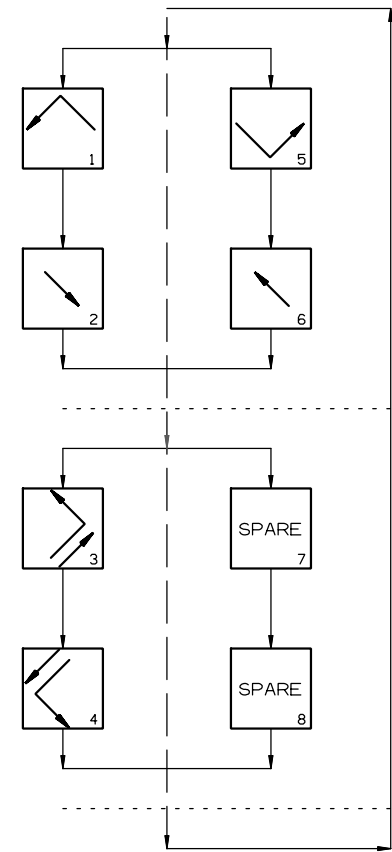
LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: N/A
DRAWN BY: HALFF



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	48	61
SIGNALIZATION PLAN SHEETS						



PHASING DIAGRAM



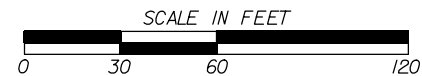
HIGHWAY 65 AND WAL-MART DRIVE POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	** HAND HOLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	32'	310°	90°	35'	15'	220°
B	48'	41°	90°	21'	N/A	N/A
C	30'	131°	90°	35'	15'	41°
D	58'	221°	90°	21'	N/A	N/A

* MAST ARM AND LUMINAIRE ARM ANGLE MEASURED FROM PLAN NORTH = 0°,
CLOCKWISE ROTATION.

** HAND HOLE LOCATION MEASURED CLOCKWISE FROM MAST ARM.

NOTE TO CONTRACTOR:
CONTACT THE CITY OF HARRISON
FOR ANTENNA ORIENTATION



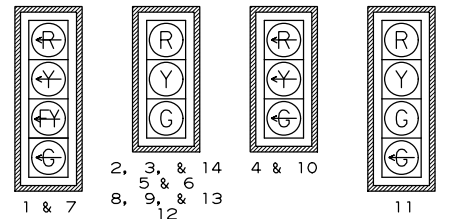
LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 60'

DRAWN BY: HALFF

SIGNAL FACES

12" LENSES

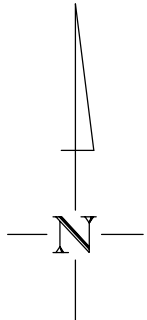


- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

DETECTOR SPACING CHART

HWY. 65 VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
WAL-MART DRIVE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
N/A	85'	N/A

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	49	61
SIGNALIZATION PLAN SHEETS						



DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
35 MPH NORTH AND SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

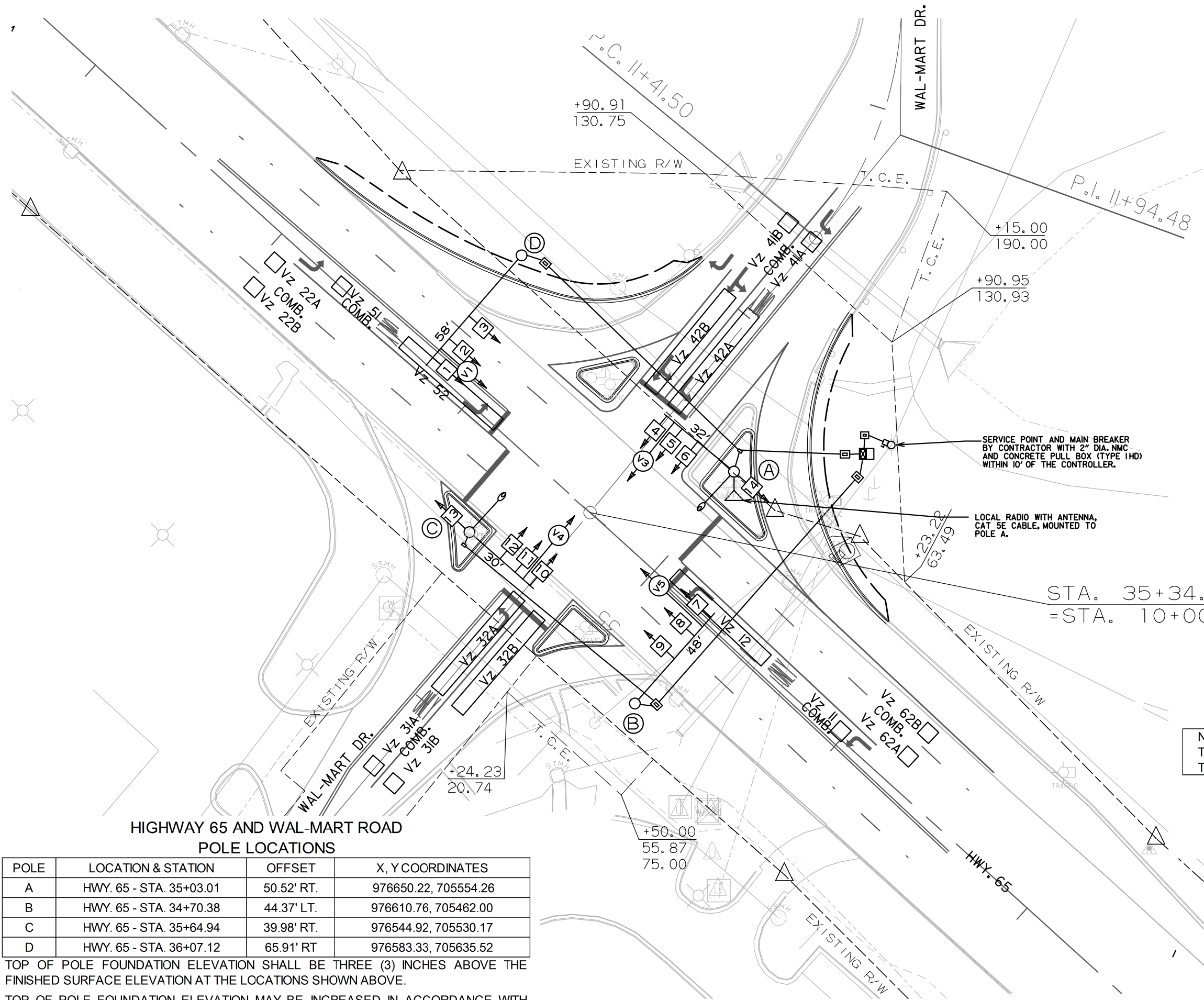
LOCATION OF STOP LINES SHOWN ON
PERMANENT PAVEMENT MARKING
DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND CURB

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



LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9
SCALE: 1" = 40'
DRAWN BY: HALFF



HIGHWAY 65 AND WAL-MART ROAD
POLE LOCATIONS

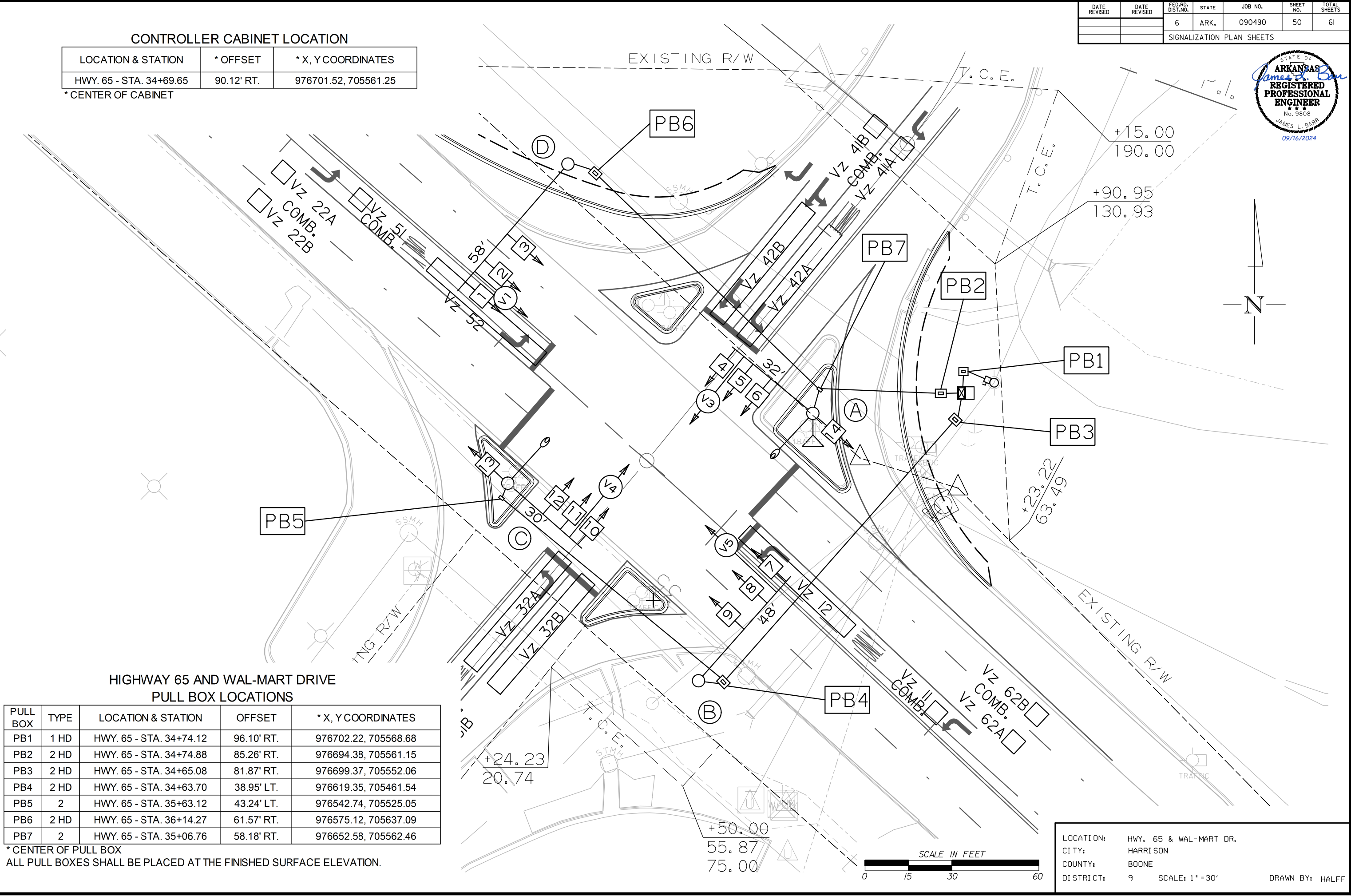
POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 65 - STA. 35+03.01	50.52' RT.	976650.22, 705554.26
B	HWY. 65 - STA. 34+70.38	44.37' LT.	976610.76, 705462.00
C	HWY. 65 - STA. 35+64.94	39.98' RT.	976544.92, 705530.17
D	HWY. 65 - STA. 36+07.12	65.91' RT	976583.33, 705635.52

TOP OF POLE FOUNDATION ELEVATION SHALL BE THREE (3) INCHES ABOVE THE
FINISHED SURFACE ELEVATION AT THE LOCATIONS SHOWN ABOVE.
TOP OF POLE FOUNDATION ELEVATION MAY BE INCREASED IN ACCORDANCE WITH
STANDARD DRAWING SD-11.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	50	61
SIGNALIZATION PLAN SHEETS						



CONTROLLER CABINET LOCATION		
LOCATION & STATION	* OFFSET	* X, Y COORDINATES
HWY. 65 - STA. 34+69.65	90.12' RT.	976701.52, 705561.25
* CENTER OF CABINET		



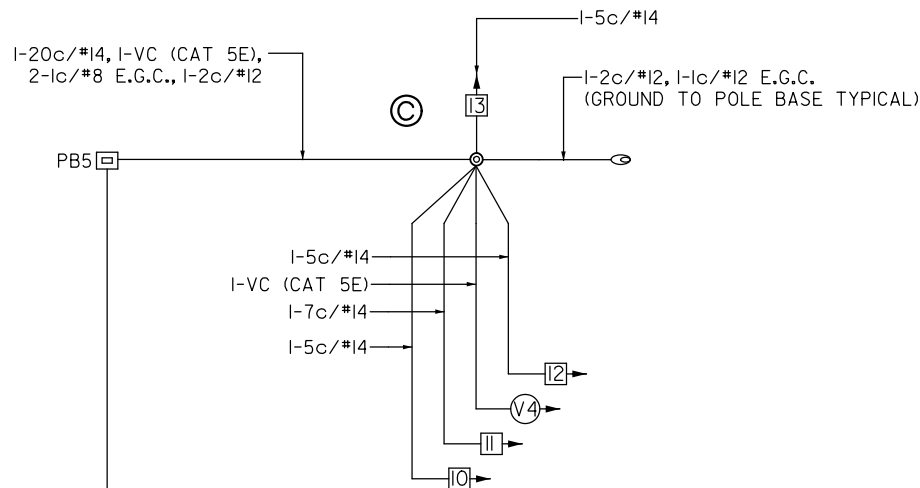
HIGHWAY 65 AND WAL-MART DRIVE PULL BOX LOCATIONS				
PULL BOX	TYPE	LOCATION & STATION	OFFSET	* X, Y COORDINATES
PB1	1 HD	HWY. 65 - STA. 34+74.12	96.10' RT.	976702.22, 705568.68
PB2	2 HD	HWY. 65 - STA. 34+74.88	85.26' RT.	976694.38, 705561.15
PB3	2 HD	HWY. 65 - STA. 34+65.08	81.87' RT.	976699.37, 705552.06
PB4	2 HD	HWY. 65 - STA. 34+63.70	38.95' LT.	976619.35, 705461.54
PB5	2	HWY. 65 - STA. 35+63.12	43.24' LT.	976542.74, 705525.05
PB6	2 HD	HWY. 65 - STA. 36+14.27	61.57' RT.	976575.12, 705637.09
PB7	2	HWY. 65 - STA. 35+06.76	58.18' RT.	976652.58, 705562.46
* CENTER OF PULL BOX				

ALL PULL BOXES SHALL BE PLACED AT THE FINISHED SURFACE ELEVATION.



LOCATION:	HWY. 65 & WAL-MART DR.
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	1" = 30'
DRAWN BY:	HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	51	61
SIGNALIZATION PLAN SHEETS						



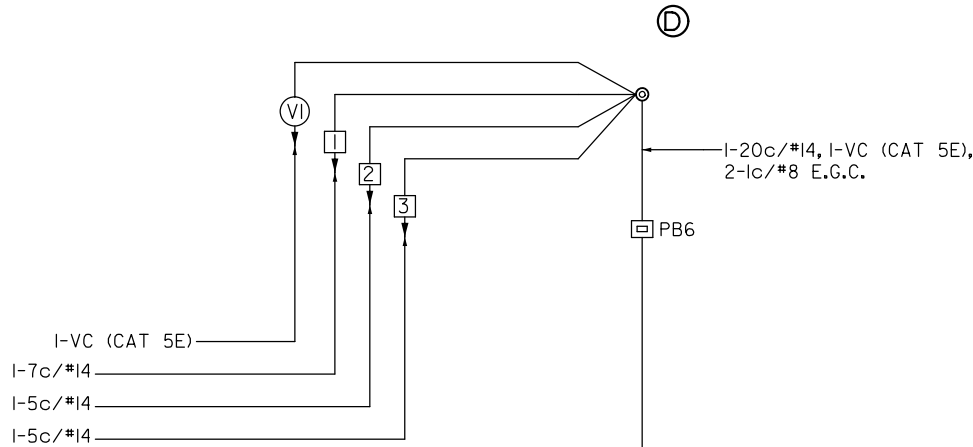
WIRING DIAGRAM

- NOTES TO CONTRACTOR:
- ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
 - THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
 - SEE GROUNDING ARRAY ON SHEET 36.

I-20c/#14, I-VC (CAT 5E),
I-lc/#8 E.G.C., I-2c/#12

I-20c/#14, I-VC (CAT 5E),
2-lc/#8 E.G.C.

I-5c/#14
I-5c/#14
I-7c/#14
I-VC (CAT 5E)



I-20c/#14, I-VC (CAT 5E), I-CAT 5E CABLE,
2-lc/#8 E.G.C., I-2c/#12

I-5c/#14
I-VC (CAT 5E)
I-5c/#14
I-5c/#14

2-20c/#14, 2-VC (CAT 5E), I-CAT 5E CABLE,
I-lc/#8 E.G.C., I-2c/#12

I-2c/#12,
I-lc/#12 E.G.C.

I-5c/#14

LOCAL RADIO WITH ANTENNA

I-CAT 5E CABLE

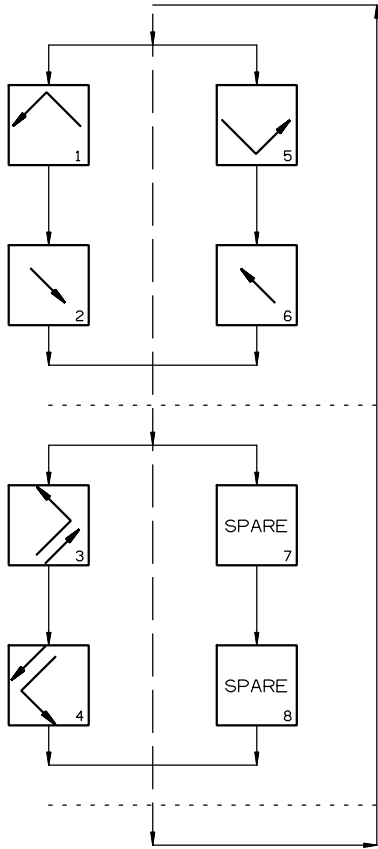
2-20c/#14, 2-VC (CAT 5E),
I-lc/#8 E.G.C., I-2c/#12

SERVICE POINT AND
MAIN BREAKER BY
CONTRACTOR

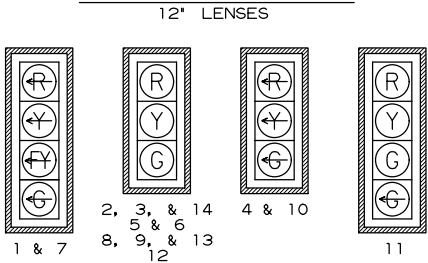
I-2c/#6, I-lc/#8 E.G.C.
(SEE STANDARD DRAWING SD-9)

LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: N/A DRAWN BY: HALFF

PHASING DIAGRAM

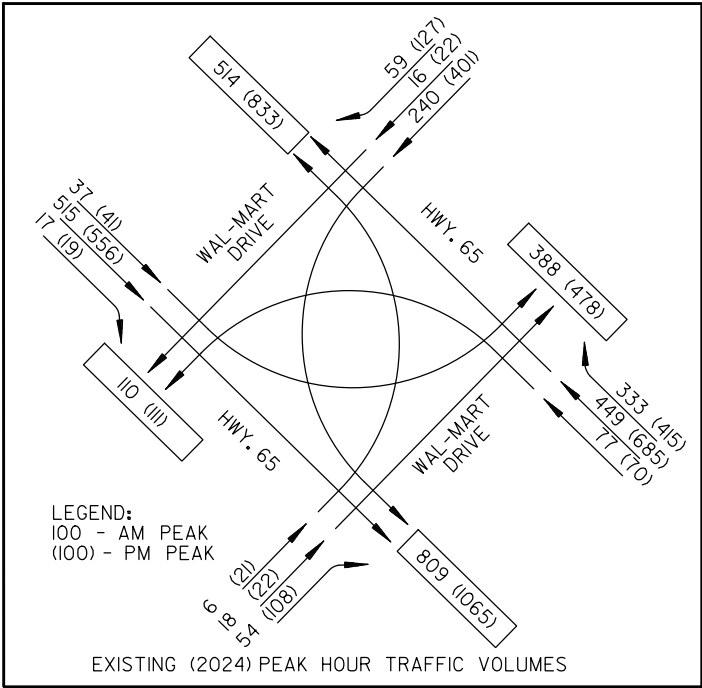


SIGNAL FACES



- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

TRAFFIC FLOW DIAGRAM



DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 090490										
HWY. 65 AND WAL-MART DRME DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS		COMMENTS	TUBE LENGTHS
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #		
Vz11	WB LEFT TURN FAR	COMB.				V9	1	1	V1	MAST ARM MOUNTED
Vz12	WB LEFT TURN	LOCAL				V1	1		V1	
Vz21 A&B	EB ADVANCE	LOCAL				V2	2		V5	MAST ARM MOUNTED
Vz22 A&B	EB NEAR	COMB.				V10	2	2	V5	
Vz31 A&B	NB ADVANCE	COMB.				V11	3	3	V3	46"
Vz32 A&B	NB NEAR	LOCAL				V3	3		V3	46"
Vz41 A&B	SB ADVANCE	COMB.				V12	4	4	V4	46"
Vz42 A&B	SB NEAR	LOCAL				V4	4		V4	46"
Vz51	EB LEFT TURN FAR	COMB.				V13	5	5	V5	MAST ARM MOUNTED
Vz52	EB LEFT TURN	LOCAL				V5	5		V5	
Vz61 A&B	WB ADVANCE	LOCAL				V6	6		V1	MAST ARM MOUNTED
Vz62 A&B	WB NEAR	COMB.				V14	6	6	V1	

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

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

INTERVAL CHART

SIGNAL FACES	HWY. 65 AND WAL-MART DRIVE												FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3	CLR.	4	CLR.	
1	<G	*	<G	*	<FY	***	<FY	***	<R	<R	<R	<R	<R
2, 3, & 14	R	R	G	**	R	R	G	**	R	R	R	R	R
4	<R	<R	<R	<R	<R	<R	<R	<R	<G	<Y	<R	<R	<R
5 & 6	R	R	R	R	R	R	R	R	G	Y	R	R	R
7	<G	*	<FY	***	<G	*	<FY	***	<R	<R	<R	<R	<R
8, 9, & 13	R	R	R	R	G	**	G	**	R	R	R	R	R
10	<R	<R	<R	<R	<R	<R	<R	<R	<R	<R	<G	<Y	<R
11	R	R	R	R	R	R	R	R	R	R	G	Y	R
12	R	R	R	R	R	R	R	R	R	R	G	Y	R

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

LOCATION: HWY. 65 & WAL-MART DR.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: N/A DRAWN BY: HALFF



dh3593 5/12/2023
+090490.sig04.qucn.dgn

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	53	61
TRAFFIC SIGNAL QUANTITIES - AIRPORT RD.						



TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	EACH
SP	E-NET CABLE (EXTERIOR CAT 5E)	80	LIN. FT.
SP	LOCAL RADIO (E-NET 5.8) WITH ANTENNA	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	340	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	70	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	280	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	370	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	165	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	57	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	540	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	14	LIN. FT.
710	NON-METALLIC CONDUIT (2")	57	LIN. FT.
710	NON-METALLIC CONDUIT (3")	260	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2)	1	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	3	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (26')	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 (40')	1	EACH
SP	LED LUMINAIRE ASSEMBLY	3	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	18" STREET NAME SIGN	3	EACH
SP & 733	VIDEO DETECTOR (IP)	1	EACH
SP & 733	HYBRID VIDEO/RADAR DETECTOR	2	EACH
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	450	LIN. FT.
SP & 733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	CENTRAL CONTROL UNIT (8 CHANNEL)	1	EACH

PERMANENT TRAFFIC SIGNAL:
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS.)

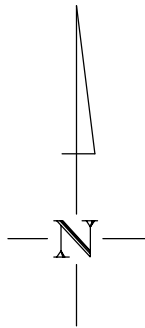
LOCATION:	HWY. 65 & AIRPORT RD.		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: N/A	DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	54	61
SIGNALIZATION PLAN SHEETS						



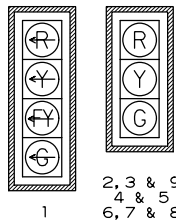
DETECTOR SPACING CHART

HWY. 65 VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
AIRPORT ROAD VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
35 MPH	85'	N/A



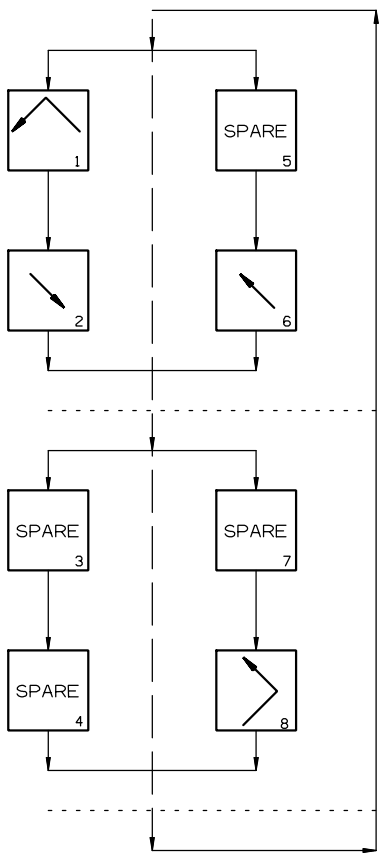
SIGNAL FACES

12" LENSES



- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASING DIAGRAM



HIGHWAY 65 AND AIRPORT RD.
POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	** HAND HOLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	26'	311°	90°	35'	N/A	N/A
B	32'	41°	90°	35'	15'/15'	41°/311°
C	40'	221°	180°	35'	15'	221°

* MAST ARM AND LUMINAIRE ARM ANGLE MEASURED FROM PLAN NORTH = 0°,
CLOCKWISE ROTATION.

** HAND HOLE LOCATION MEASURED CLOCKWISE FROM MAST ARM.

NOTE TO CONTRACTOR:
CONTACT THE CITY OF HARRISON
FOR ANTENNA ORIENTATION

SCALE IN FEET



LOCATION: HWY. 65 & AIRPORT RD.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 60'

DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	55	61
SIGNALIZATION PLAN SHEETS						



DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH NORTH AND SOUTH APPROACH
35 MPH EAST AND WEST APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON
PERMANENT PAVEMENT MARKING
DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND CURB

VIRTUAL 6'X6' PULSE VDZ (TYPICAL)
LOCATED 115' BEHIND STOP LINE

SERVICE POINT AND MAIN BREAKER BY
CONTRACTOR WITH 2" DIA. NMC AND
CONCRETE PULL BOX (TYPE 2 HD)
WITHIN 10' OF THE CONTROLLER.

LOCAL RADIO WITH ANTENNA,
CAT 5E CABLE, MOUNTED TO
POLE A.

VIRTUAL 6'X50' PRESENCE VDZ (TYPICAL)

VIRTUAL 6'X6' PULSE VDZ (TYPICAL)
LOCATED 85' BEHIND STOP LINE

VIRTUAL 6'X6' PULSE VDZ (TYPICAL)
LOCATED 115' BEHIND STOP LINE

VIRTUAL 6'X6' PULSE VDZ (TYPICAL)
LOCATED 260' BEHIND STOP LINE

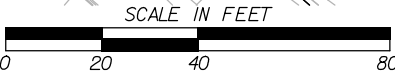
VIRTUAL 6'X6' PULSE VDZ (TYPICAL)
LOCATED 85' BEHIND STOP LINE

HIGHWAY 65 AND AIRPORT ROAD
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 65 - STA. 66+45.55	38.00' RT.	974117.36, 707390.87
B	HWY. 65 - STA. 66+38.93	41.60' LT.	974070.19, 707326.41
C	HWY. 65 - STA. 67+18.82	39.76' RT.	974063.17, 707440.22

TOP OF POLE FOUNDATION ELEVATION SHALL BE THREE (3) INCHES ABOVE THE
FINISHED SURFACE ELEVATION AT THE LOCATIONS SHOWN ABOVE.

TOP OF POLE FOUNDATION ELEVATION MAY BE INCREASED IN ACCORDANCE WITH
STANDARD DRAWING SD-11.



LOCATION: HWY. 65 & AIRPORT RD.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9

SCALE: 1" = 40'

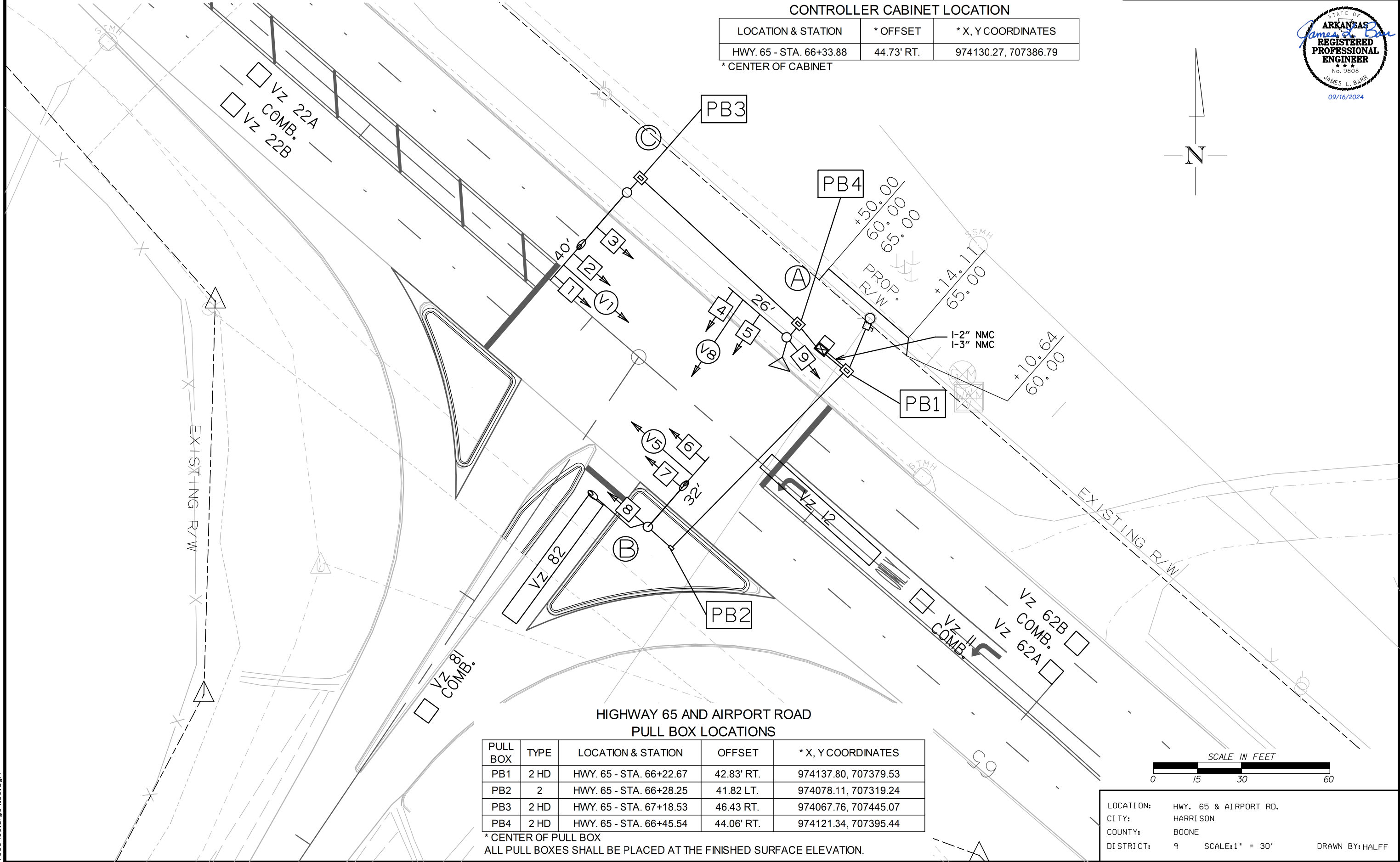
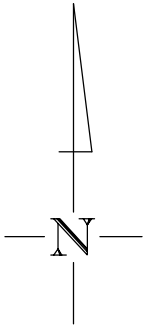
DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	56	61
SIGNALIZATION PLAN SHEETS						



CONTROLLER CABINET LOCATION

LOCATION & STATION	* OFFSET	* X, Y COORDINATES
HWY. 65 - STA. 66+33.88	44.73' RT.	974130.27, 707386.79
* CENTER OF CABINET		



HIGHWAY 65 AND AIRPORT ROAD
PULL BOX LOCATIONS

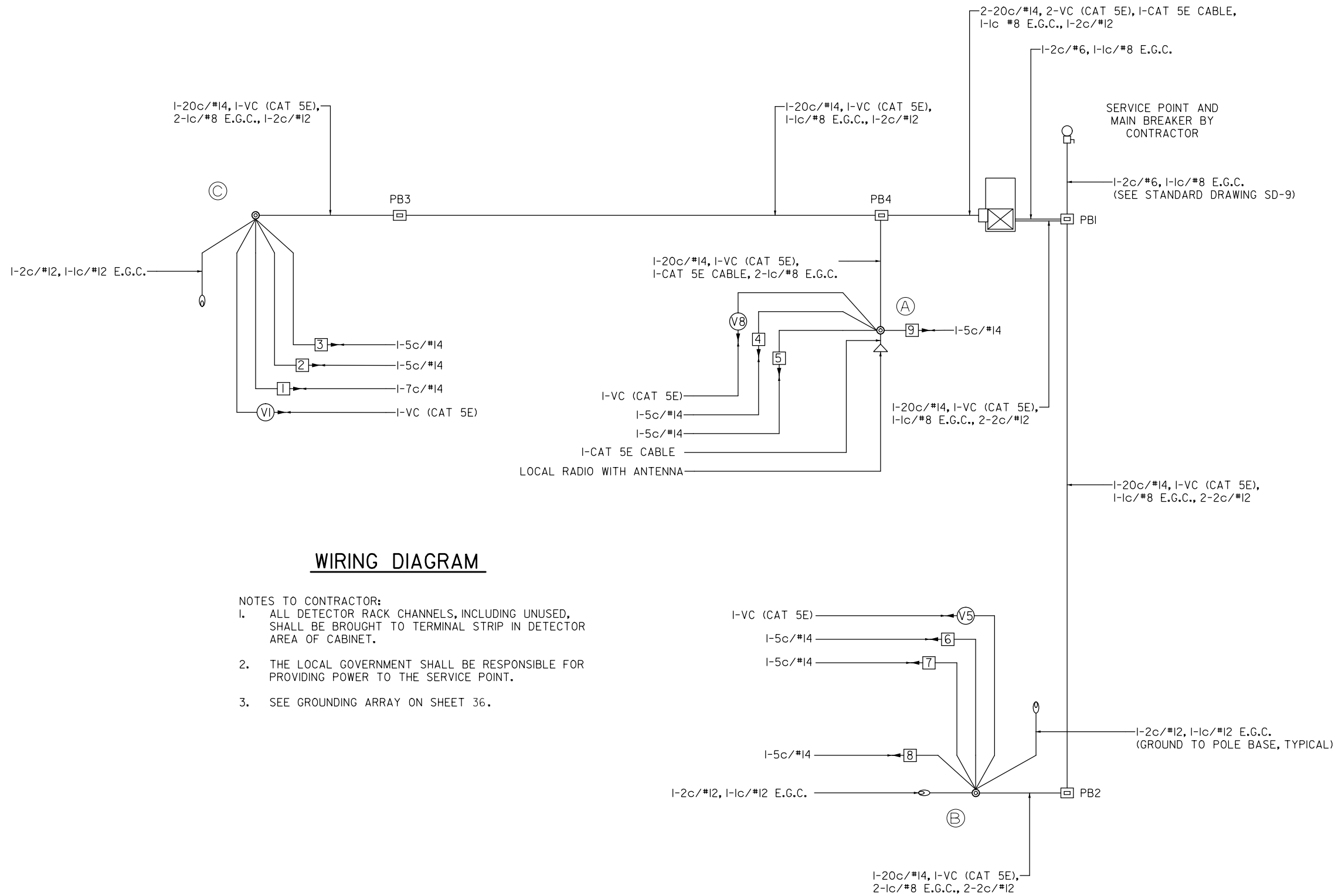
PULL BOX	TYPE	LOCATION & STATION	OFFSET	* X, Y COORDINATES
PB1	2 HD	HWY. 65 - STA. 66+22.67	42.83' RT.	974137.80, 707379.53
PB2	2	HWY. 65 - STA. 66+28.25	41.82 LT.	974078.11, 707319.24
PB3	2 HD	HWY. 65 - STA. 67+18.53	46.43 RT.	974067.76, 707445.07
PB4	2 HD	HWY. 65 - STA. 66+45.54	44.06' RT.	974121.34, 707395.44

* CENTER OF PULL BOX
ALL PULL BOXES SHALL BE PLACED AT THE FINISHED SURFACE ELEVATION.



LOCATION:	HWY. 65 & AIRPORT RD.		
CITY:	HARRISON		
COUNTY:	BOONE		
DISTRICT:	9	SCALE: 1" = 30'	DRAWN BY: HALFF

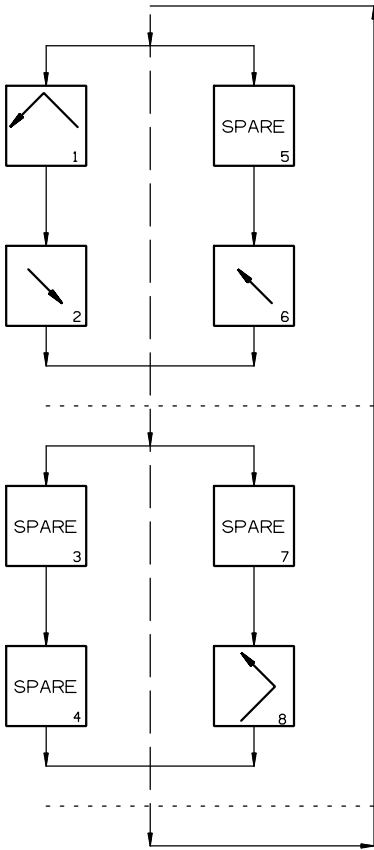
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	57	61
SIGNALIZATION PLAN SHEETS						



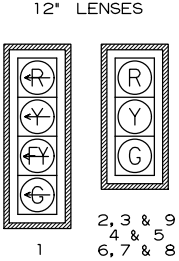
LOCATION:	HWY. 65 & AIRPORT RD.
CITY:	HARRISON
COUNTY:	BOONE
DISTRICT:	9
SCALE:	N/A
DRAWN BY:	HALFF



PHASING DIAGRAM

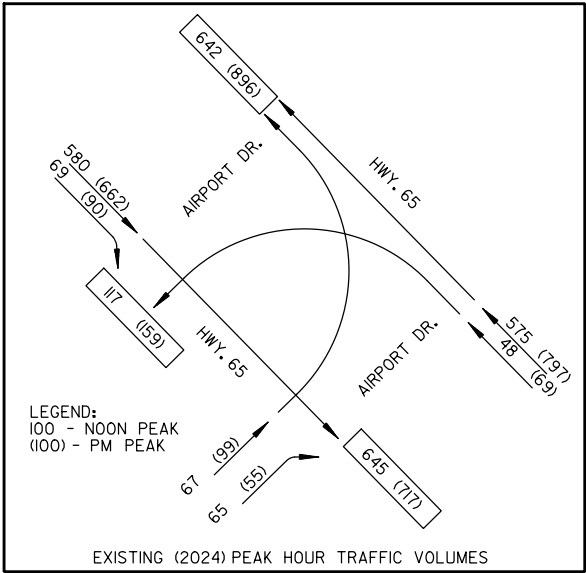


SIGNAL FACES



- NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

TRAFFIC FLOW DIAGRAM



DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 090490										
HWY. 65 AND AIRPORT ROAD DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS		COMMENTS	TUBE LENGTHS
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	LOCAL	MASTER SYSTEM DETECTOR NUMBERS		
Vz11	WB LEFT TURN FAR	COMB.				V9	1	1	V1	MAST ARM MOUNTED
Vz12	WB LEFT TURN	LOCAL				V1	1		V1	
Vz21 A&B	EB ADVANCE	LOCAL				V2	2		V5	MAST ARM MOUNTED
Vz22 A&B	EB NEAR	COMB.				V10	2	2	V5	
Vz61 A&B	WB ADVANCE	LOCAL				V6	6		V1	MAST ARM MOUNTED
Vz62 A&B	WB NEAR	COMB.				V14	6	6	V1	
Vz81	NB ADVANCE	COMB.				V16	8	8	V8	46"
Vz82	NB NEAR	LOCAL				V8	8		V8	46"

CONTROLLER INPUT ABBREVIATIONS:

V = VEHICLE INPUT

D = SYSTEM OR AUXILIARY INPUT

P = PEDESTRIAN INPUT

NOTE:

"AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.

THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.

EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

INTERVAL CHART

SIGNAL FACES	HWY. 65 AND AIRPORT RD.						FLASH SEQUENCE
	1+6	CLR.	2+6	CLR.	8	CLR.	
1	←G	*	←FY	***	←R	←R	←R
2, 3, & 9	G	**	G	**	R	R	R
4 & 5	R	R	R	R	G	Y	R
6, 7, & 8	R	R	G	**	R	R	R

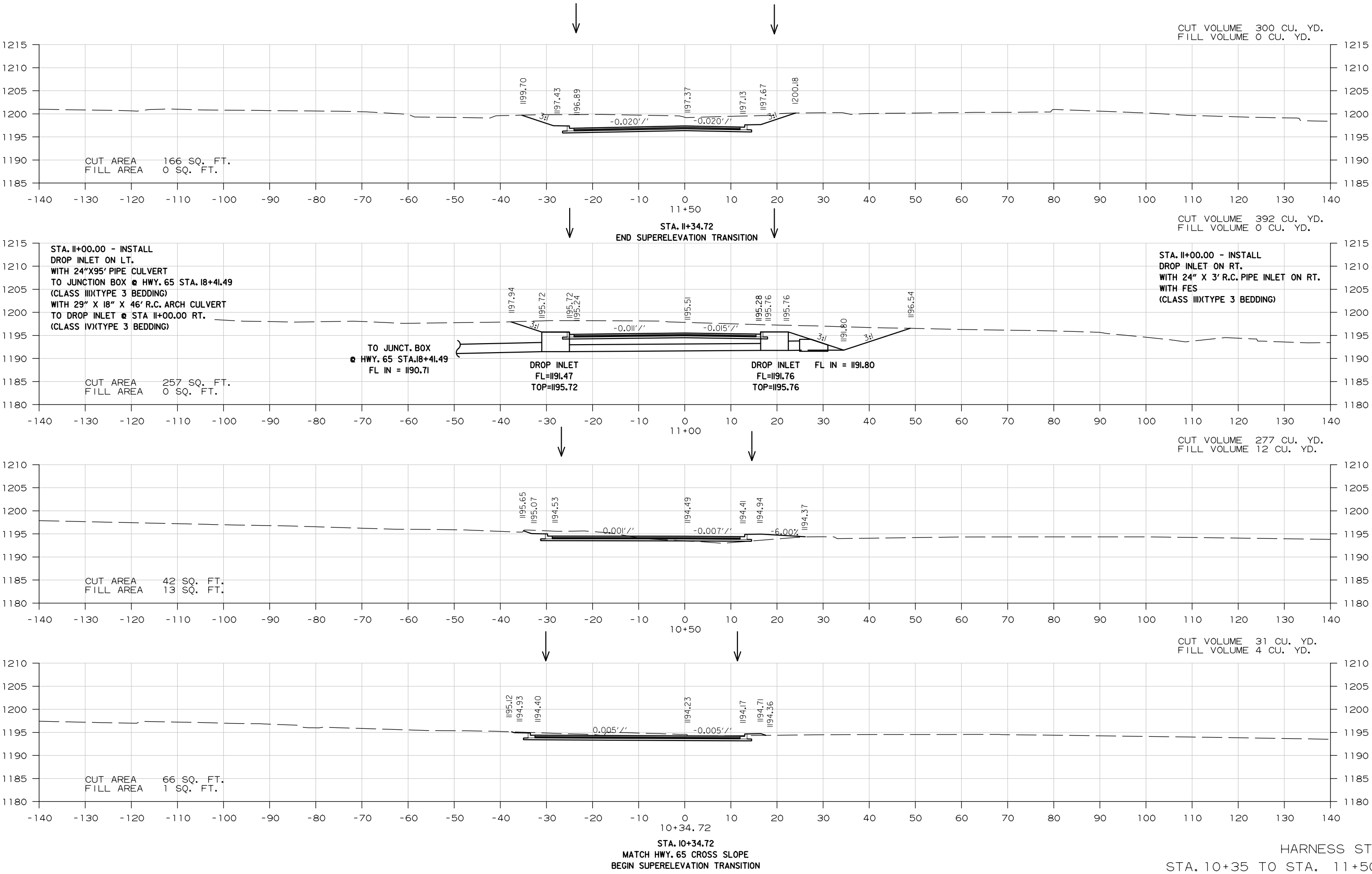
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

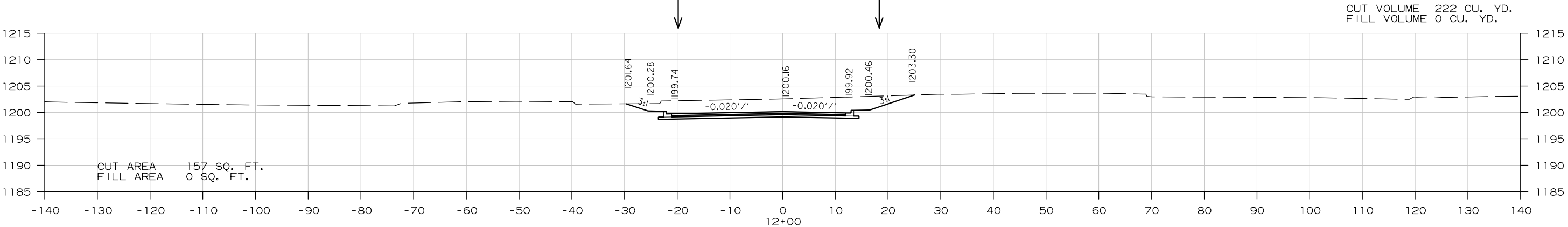
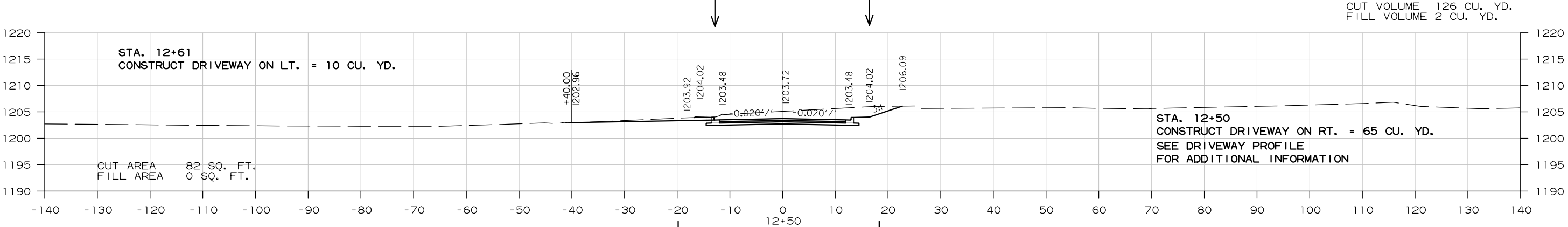
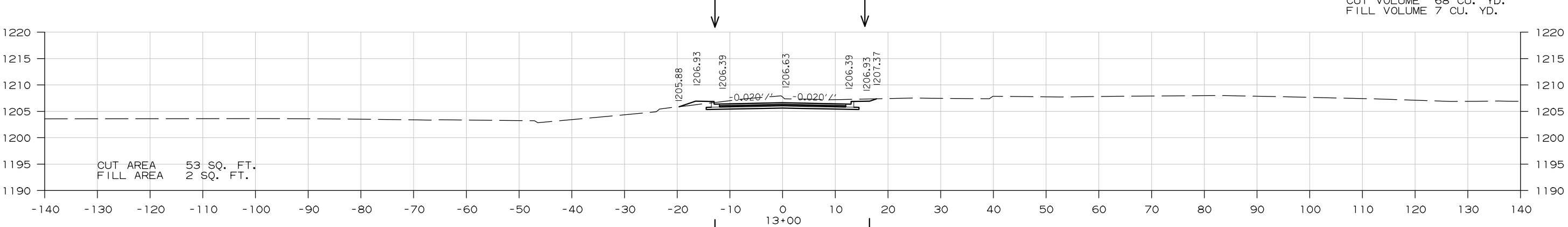
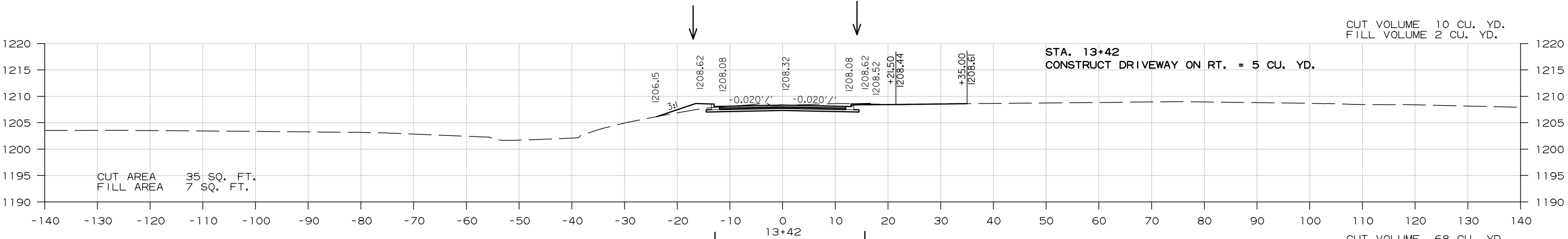
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

LOCATION: HWY. 65 & AIRPORT RD.
CITY: HARRISON
COUNTY: BOONE
DISTRICT: 9 SCALE: N/A DRAWN BY: HALFF

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	59	61
CROSS SECTIONS						



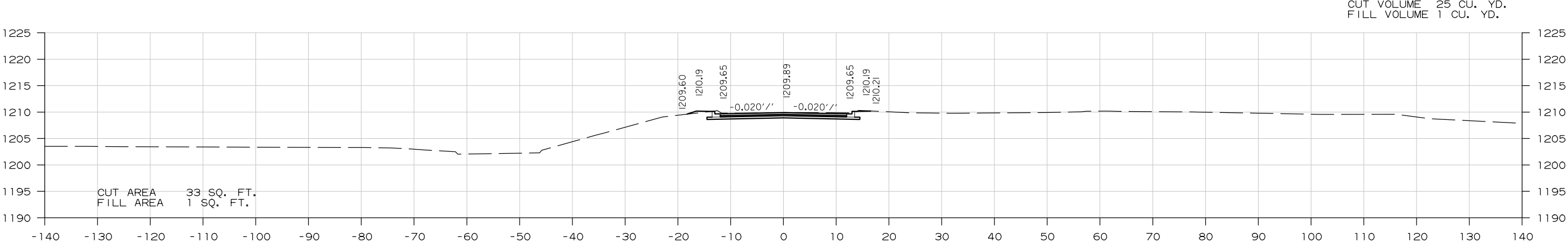
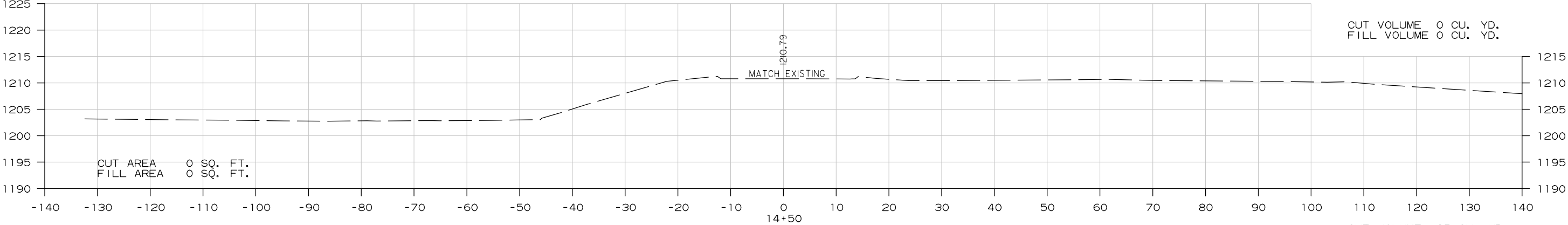
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	60	61
CROSS SECTIONS						



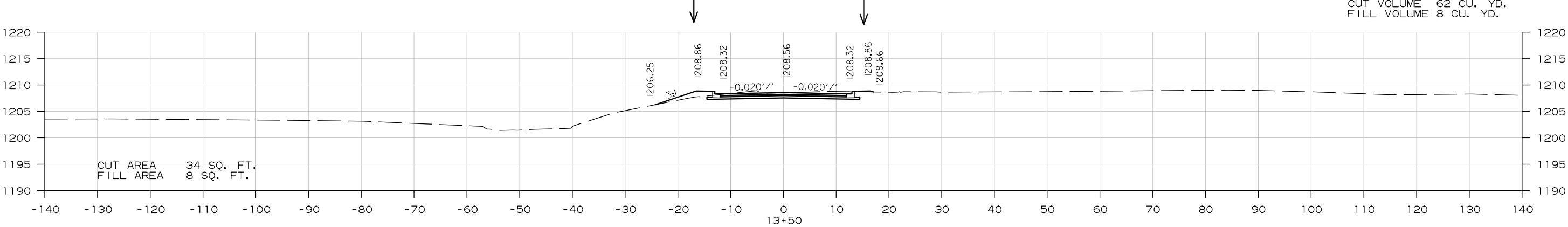
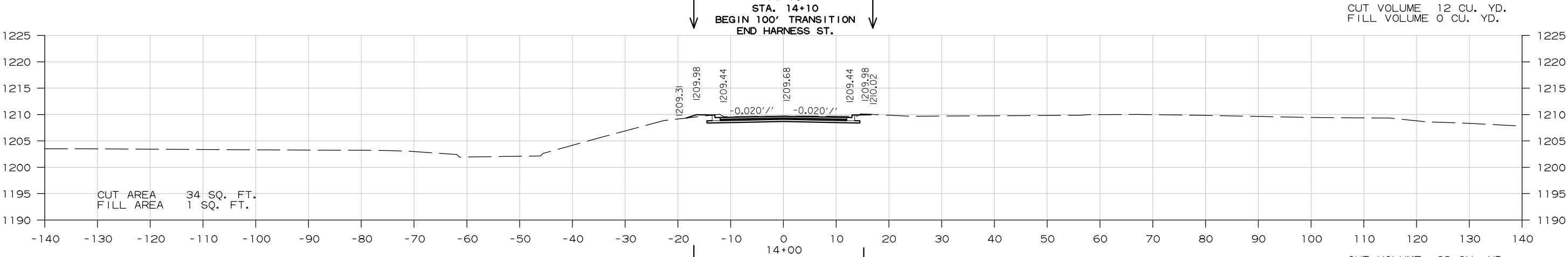
HARNESS ST.
STA. 12+00 TO STA. 13+42

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090490	61	61
CROSS SECTIONS						

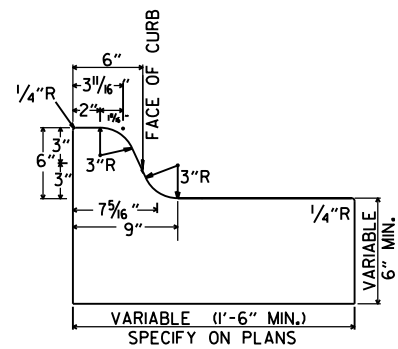
STA. 15+10
END 100' TRANSITION



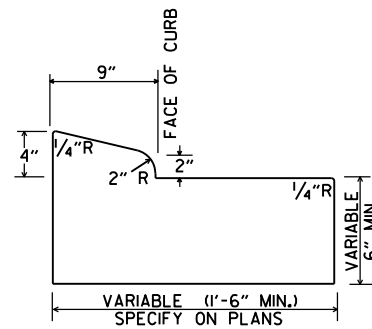
STA. 14+10
BEGIN 100' TRANSITION
END HARNESS ST.



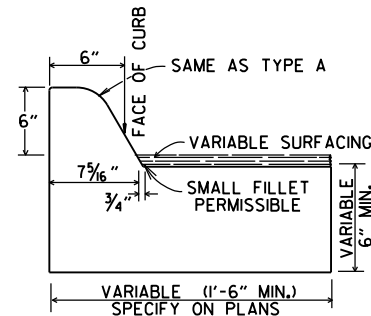
HARNESS ST.
STA. 13+50 TO STA. 14+50



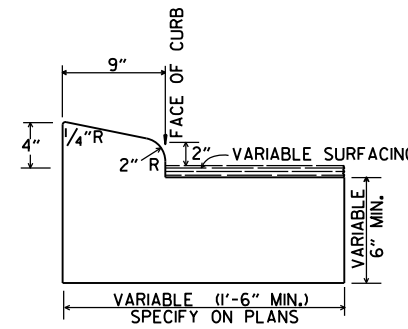
TYPE A



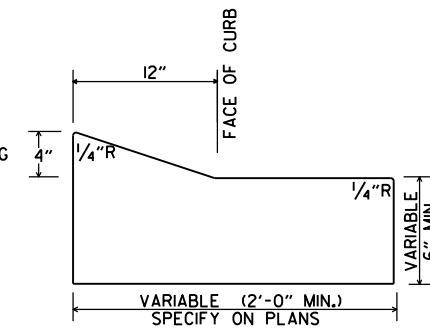
TYPE B-1



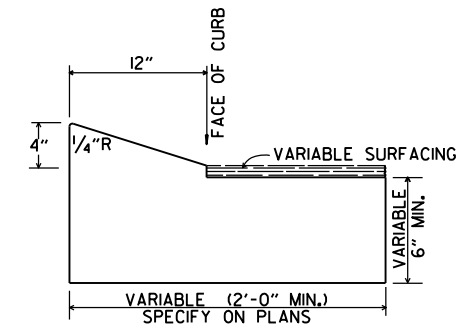
TYPE C



TYPE B-2

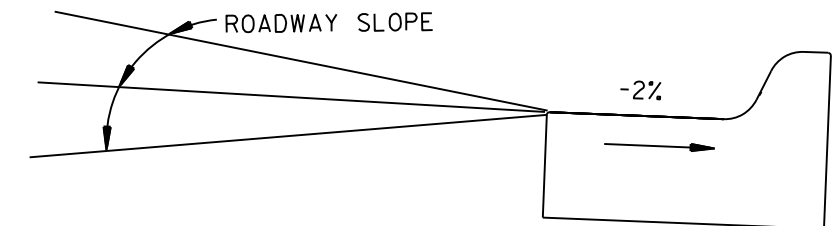


TYPE E-1

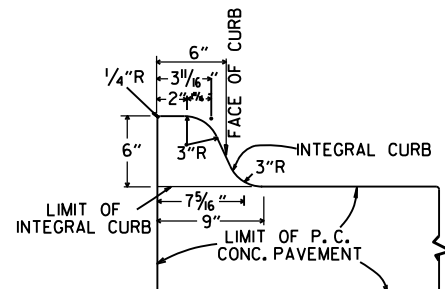


TYPE E-2

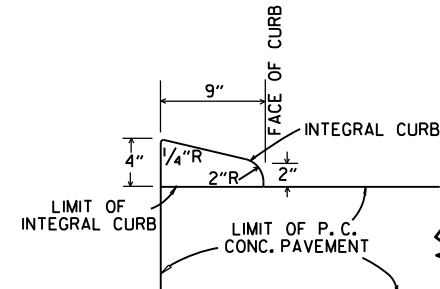
CONCRETE COMBINATION CURB AND GUTTER



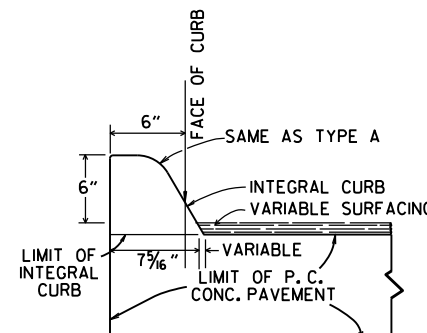
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

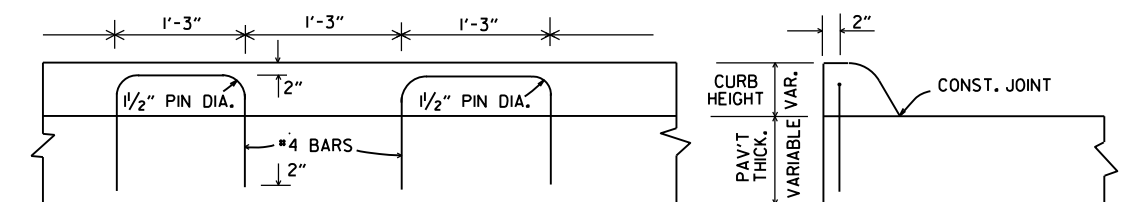


TYPE B



TYPE C

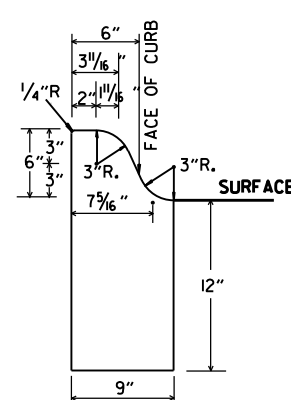
INTEGRAL CURB



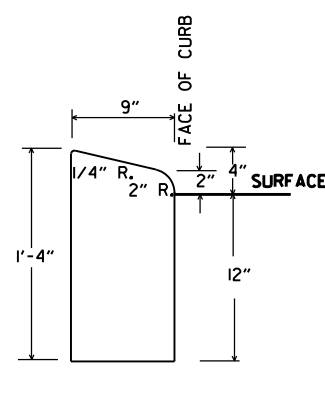
LONGITUDINAL SECTION

ELEVATION

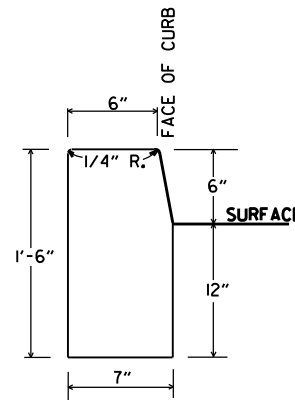
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



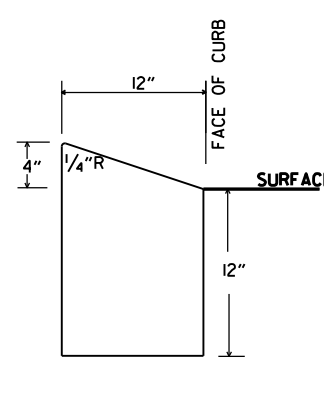
TYPE A



TYPE B

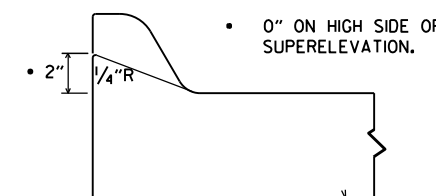


TYPE D



TYPE E

CONCRETE CURB



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

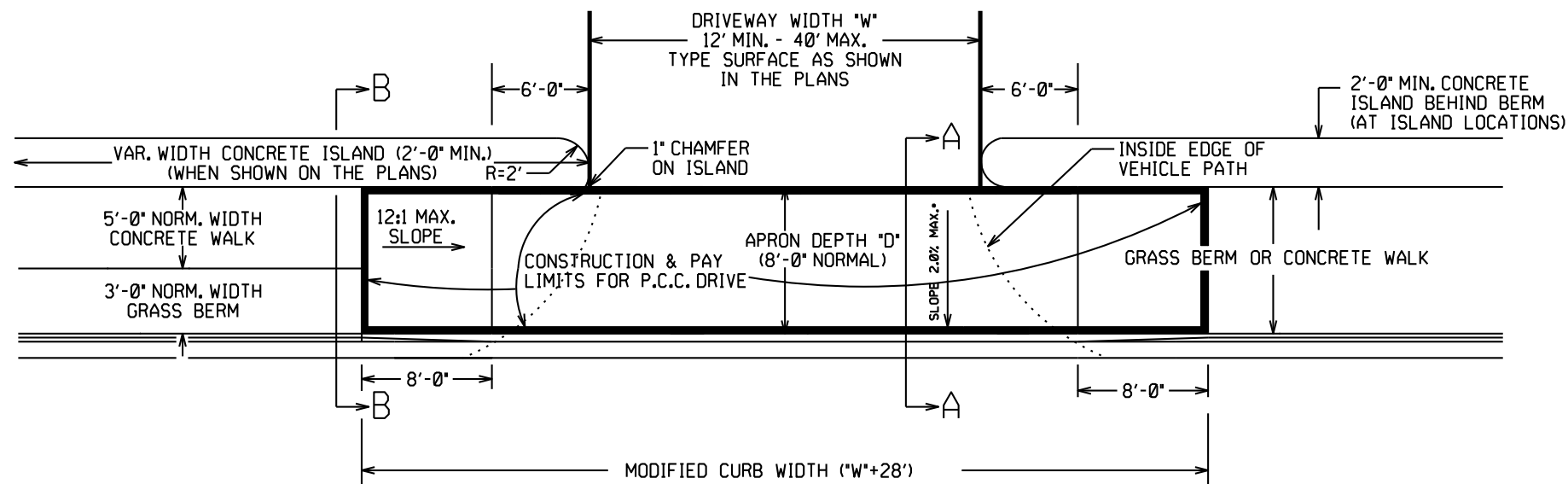
DETAILS OF MODIFIED CURB

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

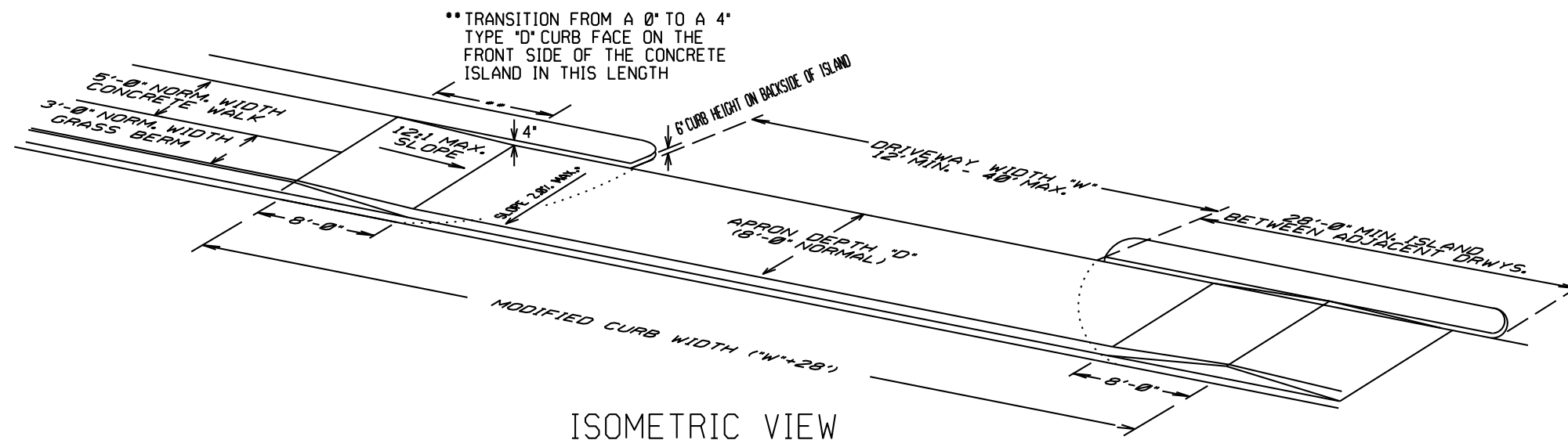
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

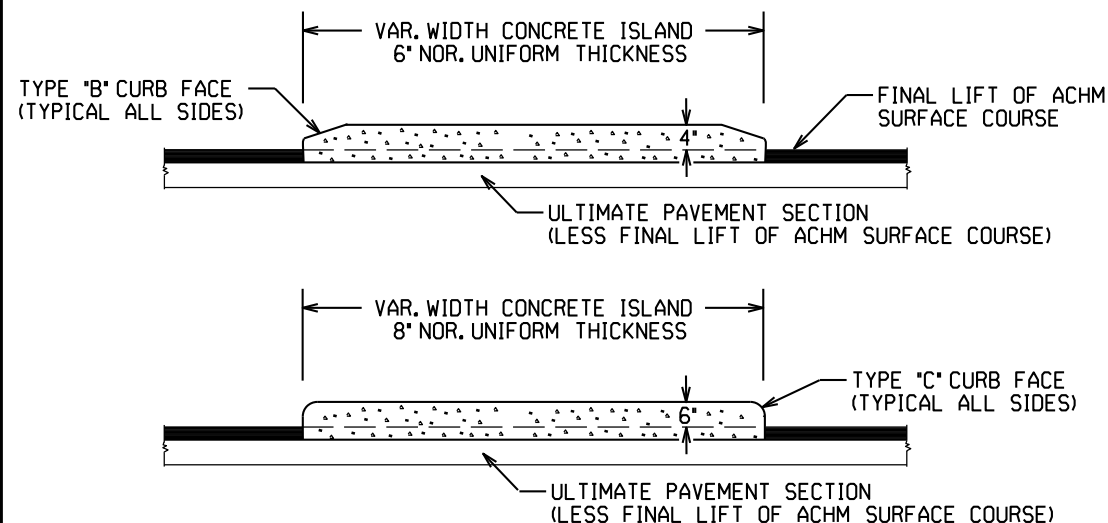
STANDARD DRAWING CG-1



PLAN VIEW



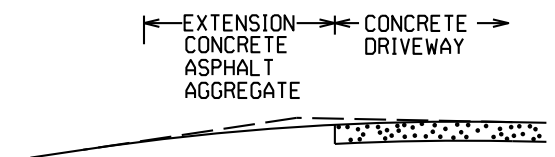
ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

CONCRETE ISLAND NOTES:

1. 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".
2. TRANSVERSE EXPANSION JOINTS, NOT LESS THAN 1/2" WIDE, SHALL BE PLACED AT MINIMUM INTERVAL OF 45'. TRANSVERSE JOINT SHALL BE CONSTRUCTED USING A JOINT FILLER COMPLYING WITH AASHTO M213.

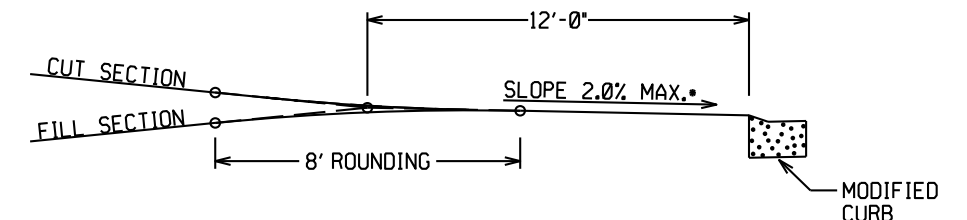


EXTENSION TYPICAL SECTIONS

- 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

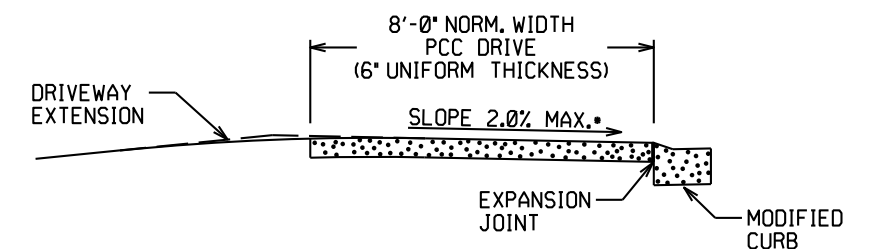
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

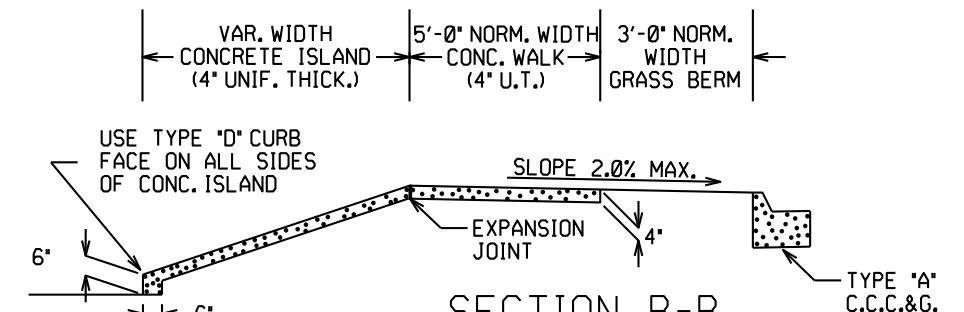


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



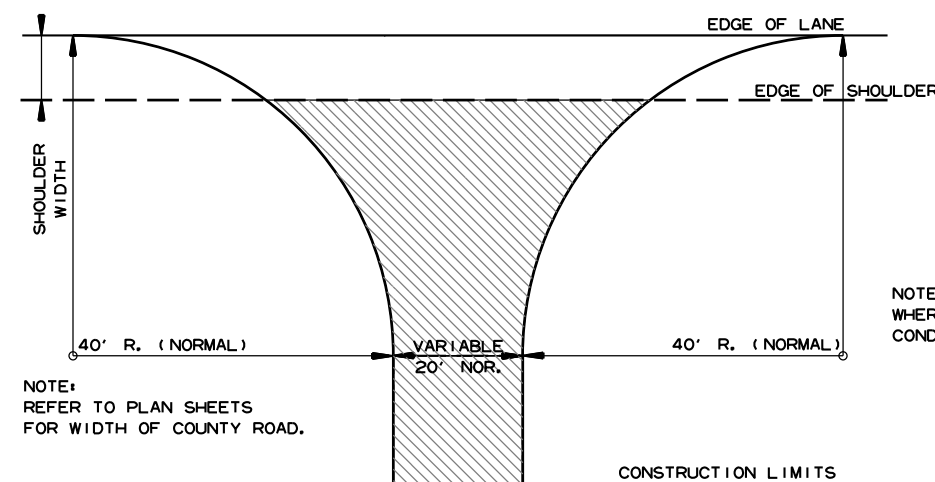
SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

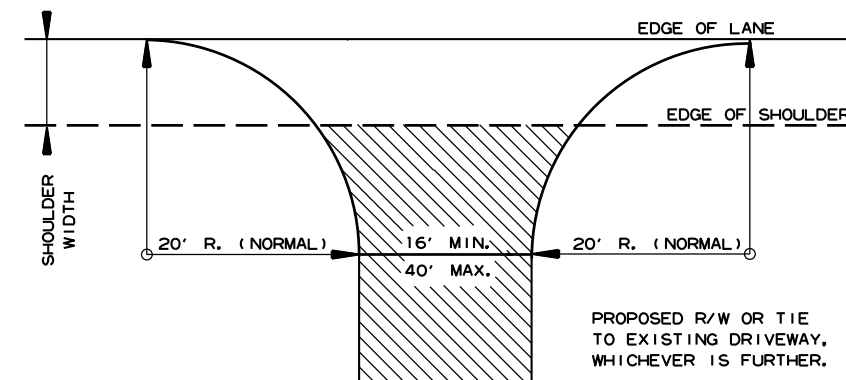
DATE	REV	DATE FILMED	DESCRIPTION
5-19-22			REVISED ISLAND NOTES
11-07-19			REVISED WALK DETAILS
2-27-14			REVISED PLAN & ISOMETRIC VIEW
11-29-07			ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05			REV. APRON SLOPE & DEPTH OF AGG. BASE.
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



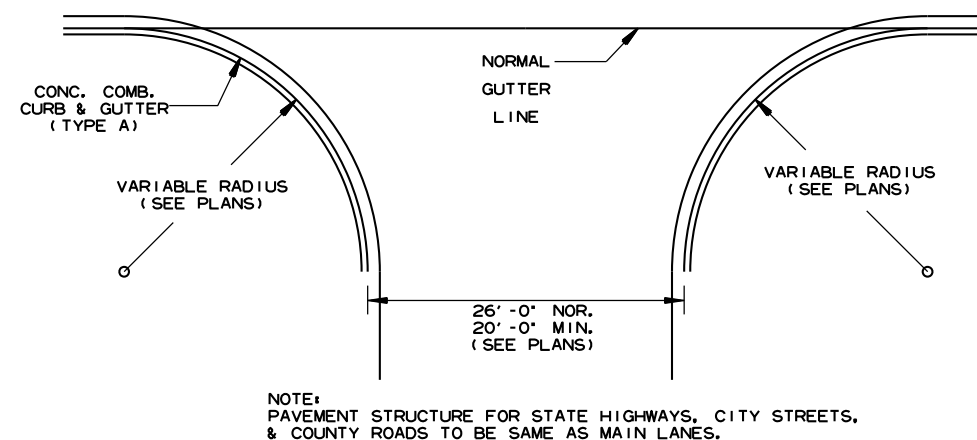
DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION

ACHM SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH, UNLESS OTHERWISE
SPECIFIED IN PLANS.

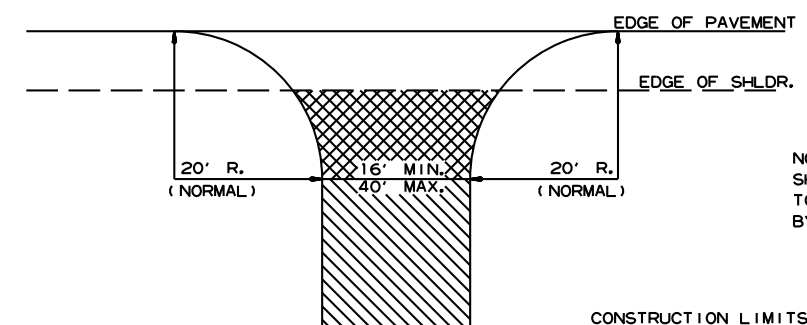


DETAIL FOR DRIVEWAY TURNOUTS
OPEN SHOULDER SECTION
(ARTERIALS)

ACHM SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT OR
GRAVEL DRIVE EXISTING; OR 6"
CONCRETE IF CONCRETE DRIVE
EXISTING.



DETAIL OF TURNOUTS, ASPHALT STREETS,
COUNTY ROADS & STATE HIGHWAYS
CURB & GUTTER SECTION



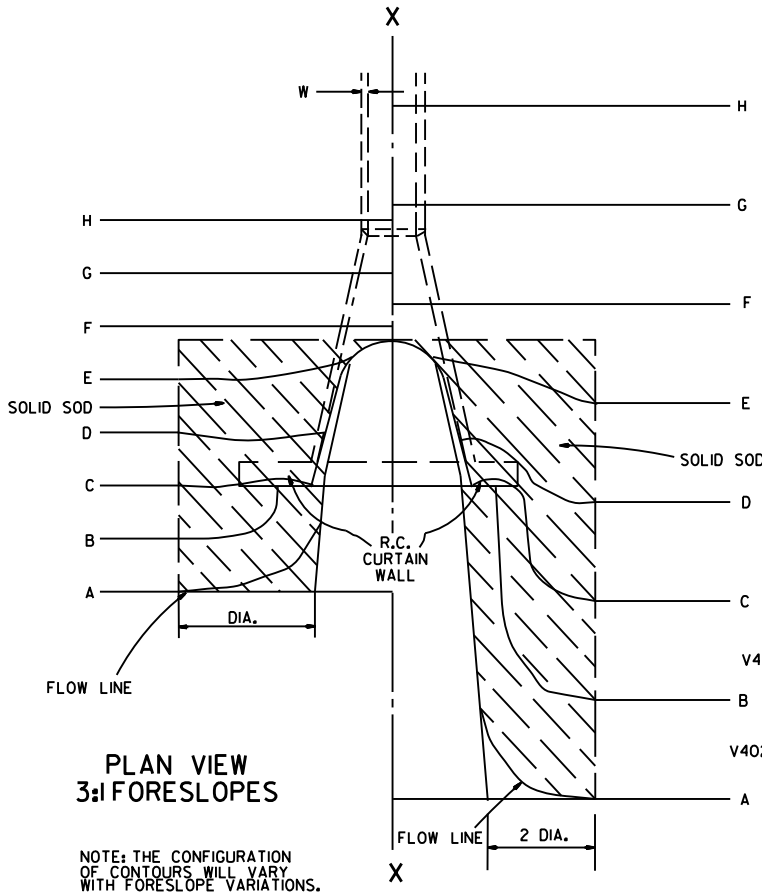
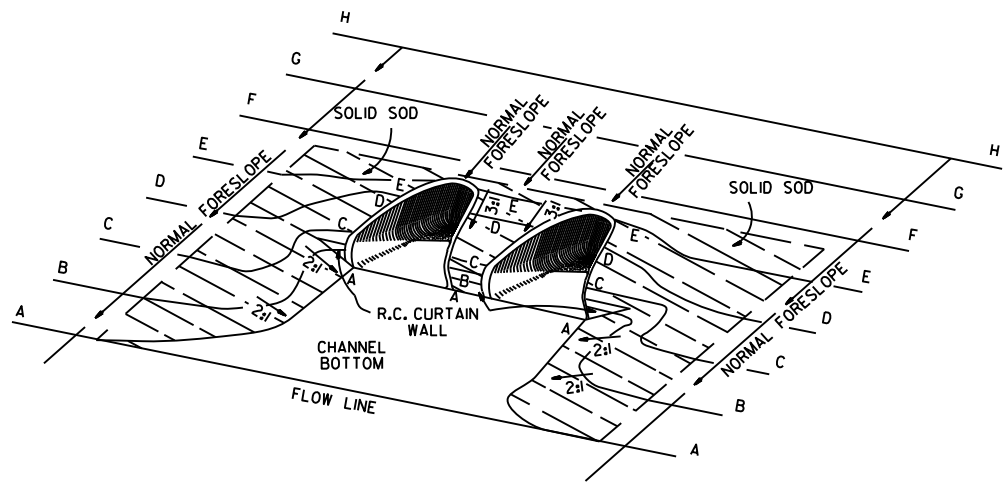
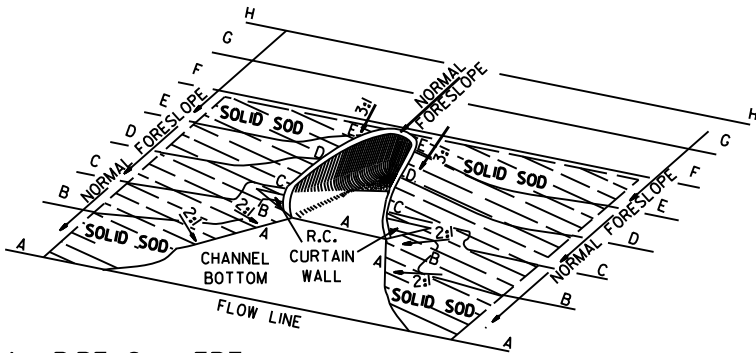
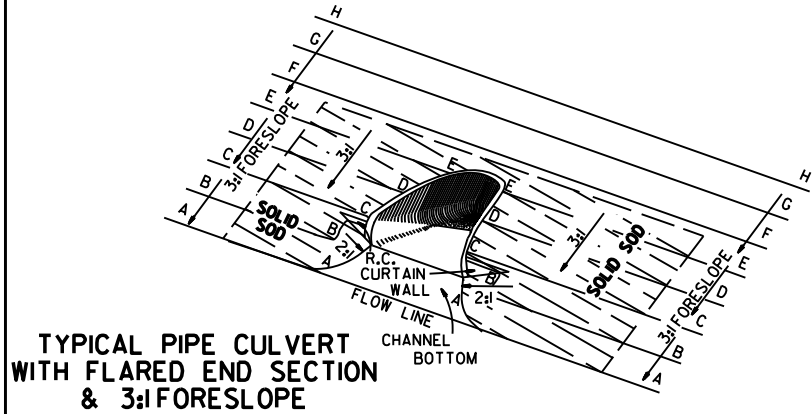
ASPHALT CONCRETE HOT MIX SURFACE
COURSE (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR
6" CONCRETE IF CONCRETE DRIVE EXIST.

AGGREGATE BASE COURSE (CLASS 7)
9" COMP. DEPTH OR CONFORM
TO EXISTING DRIVEWAY

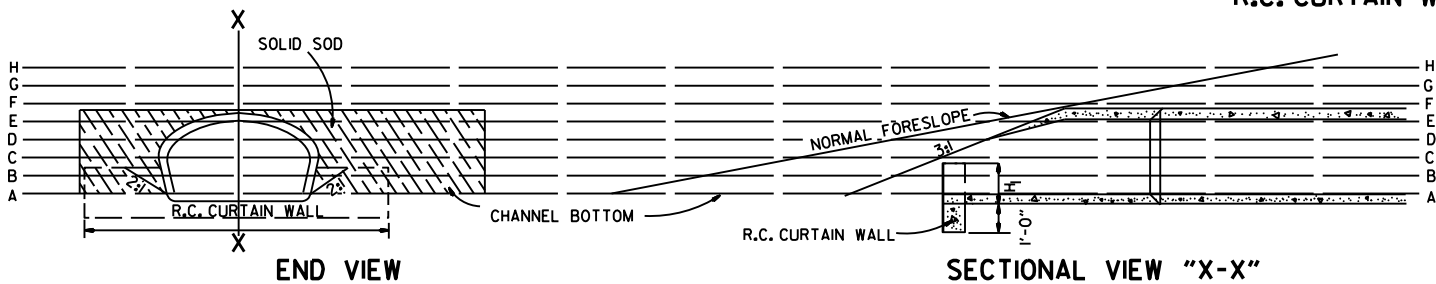
DETAIL FOR DRIVEWAY TURNOUTS
(COLLECTORS)

5-19-22		ISSUED
DATE REV	DATE FILMED	DESCRIPTION

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & STREET
TURNOUTS
STANDARD DRAWING DR-2



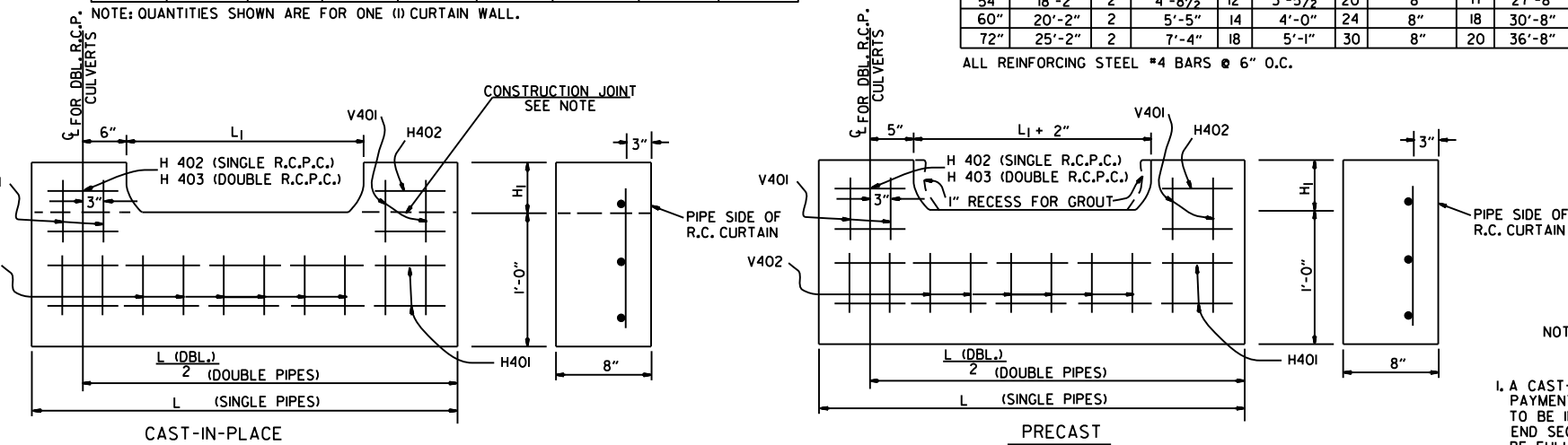
PLAN VIEW
FLATTENED FORESLOPES



R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

PIPE DIA.	H ₁	L ₁	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



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

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

SOLID SODDING

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

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

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

10-18-96	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING		
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	STANDARD DRAWING FES-1

FLARED END SECTION

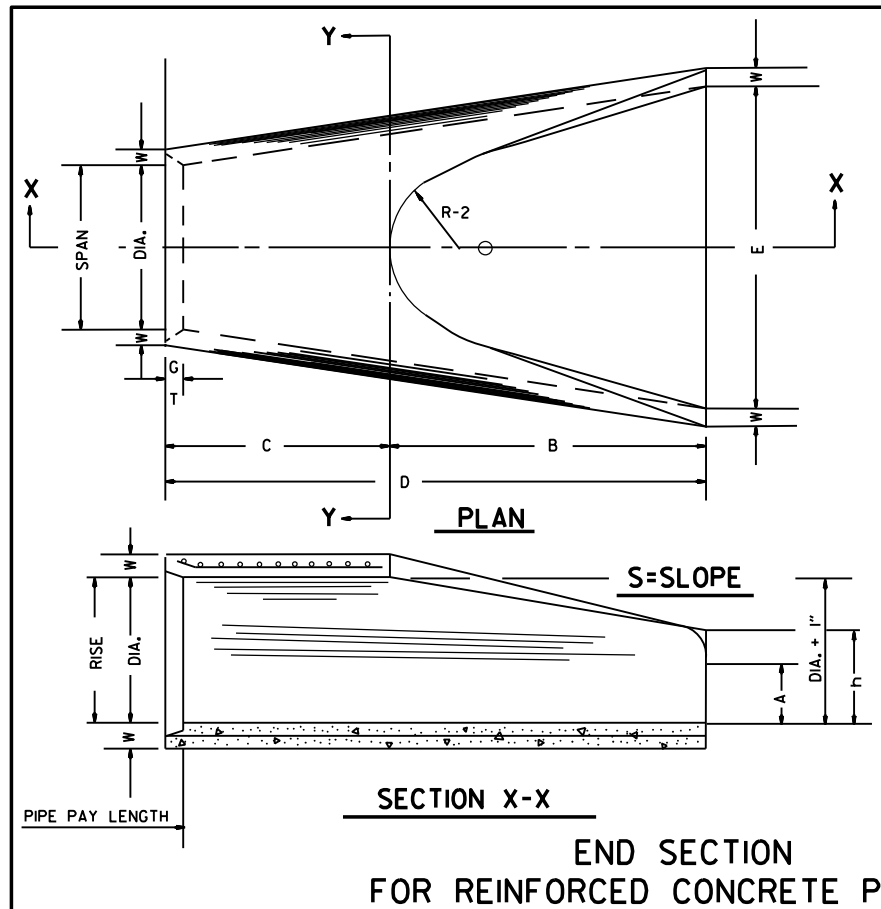
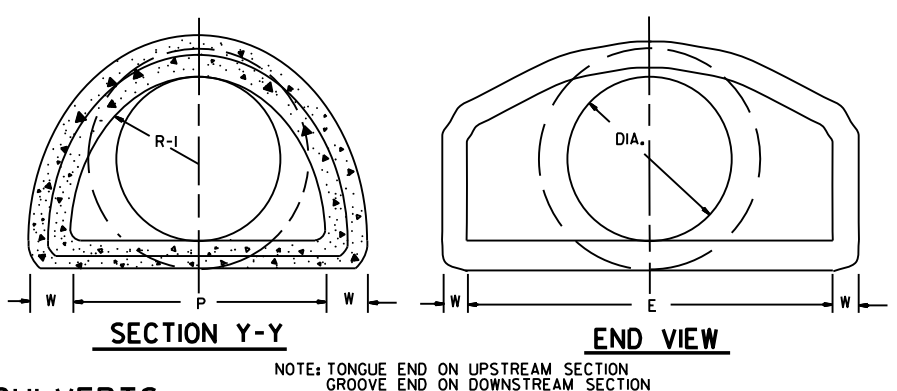
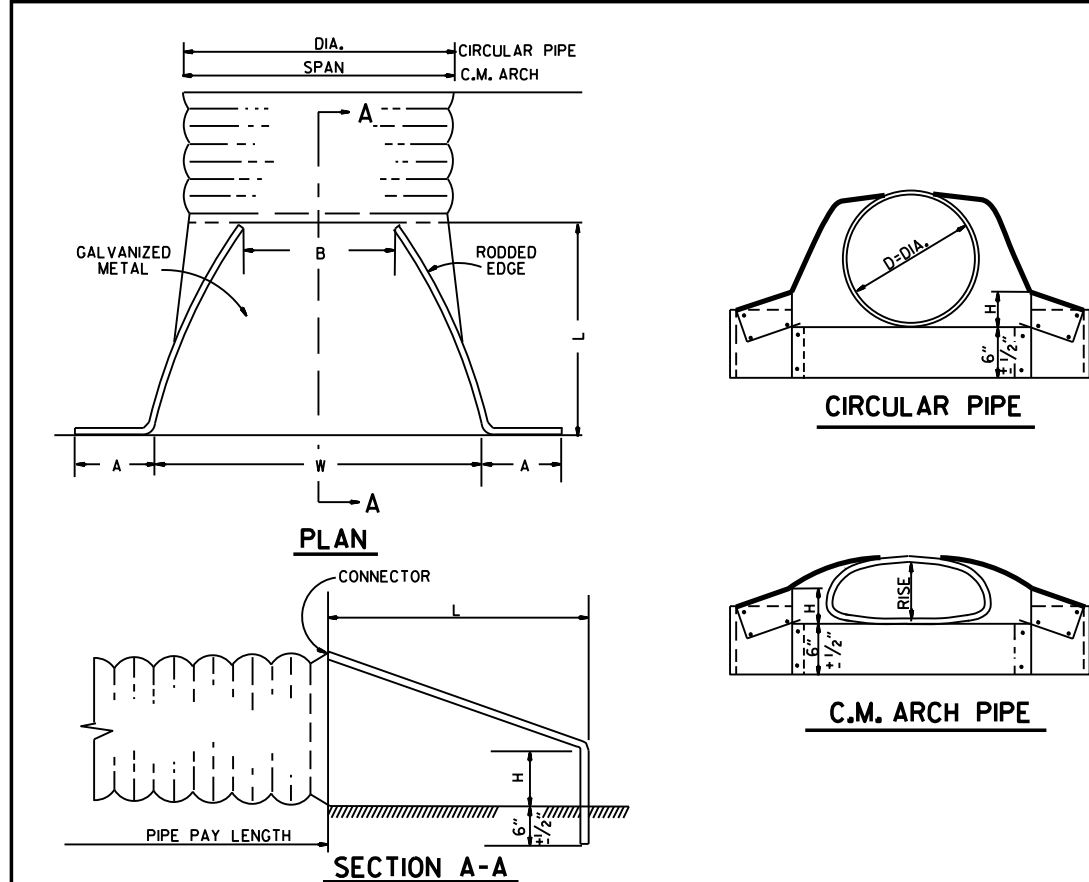
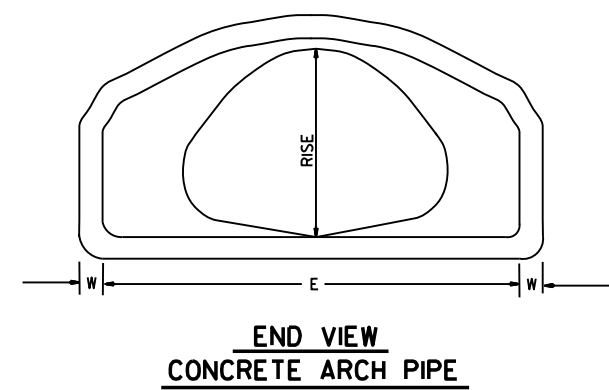


TABLE OF DIMENSIONS														
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 1/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 1/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 1/8"	38 1/8"	24"	5"	13250	4'-6"



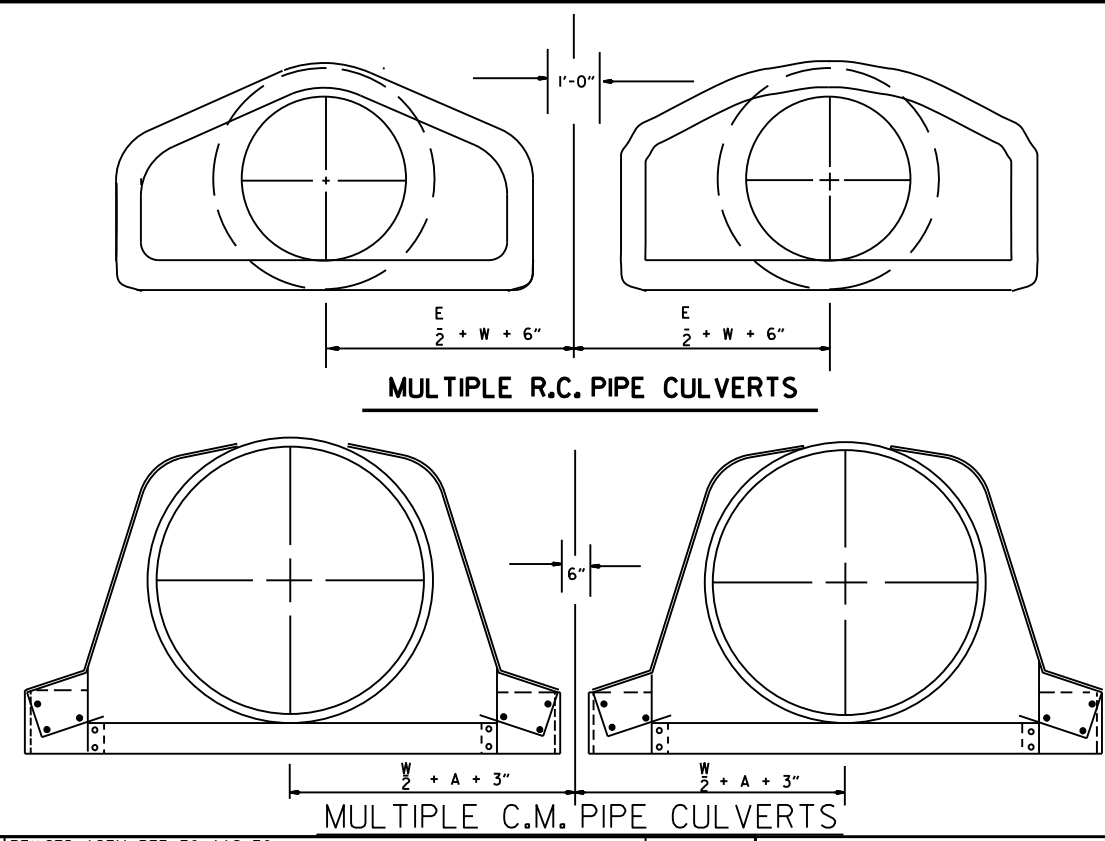
ARCH PIPE														
EQUIV. DIA.	• SPAN		• RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 1/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 1/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 5/8	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 7/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2 1/4:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/8"	24"	5"	2 1/4:1

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

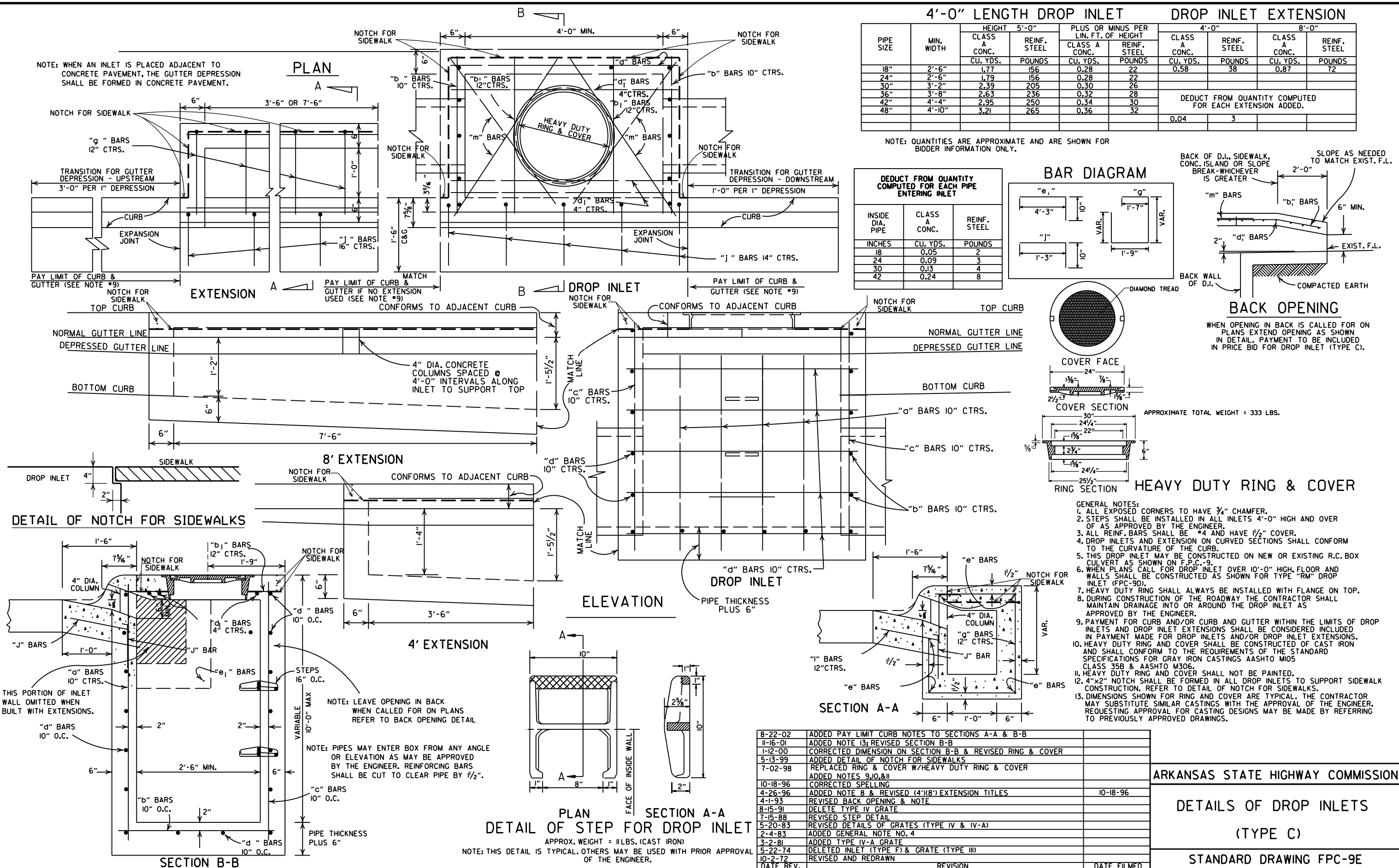


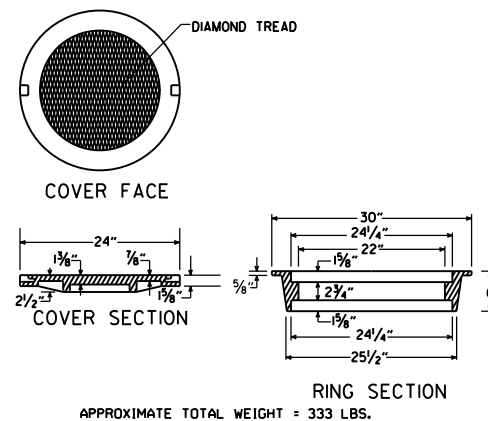
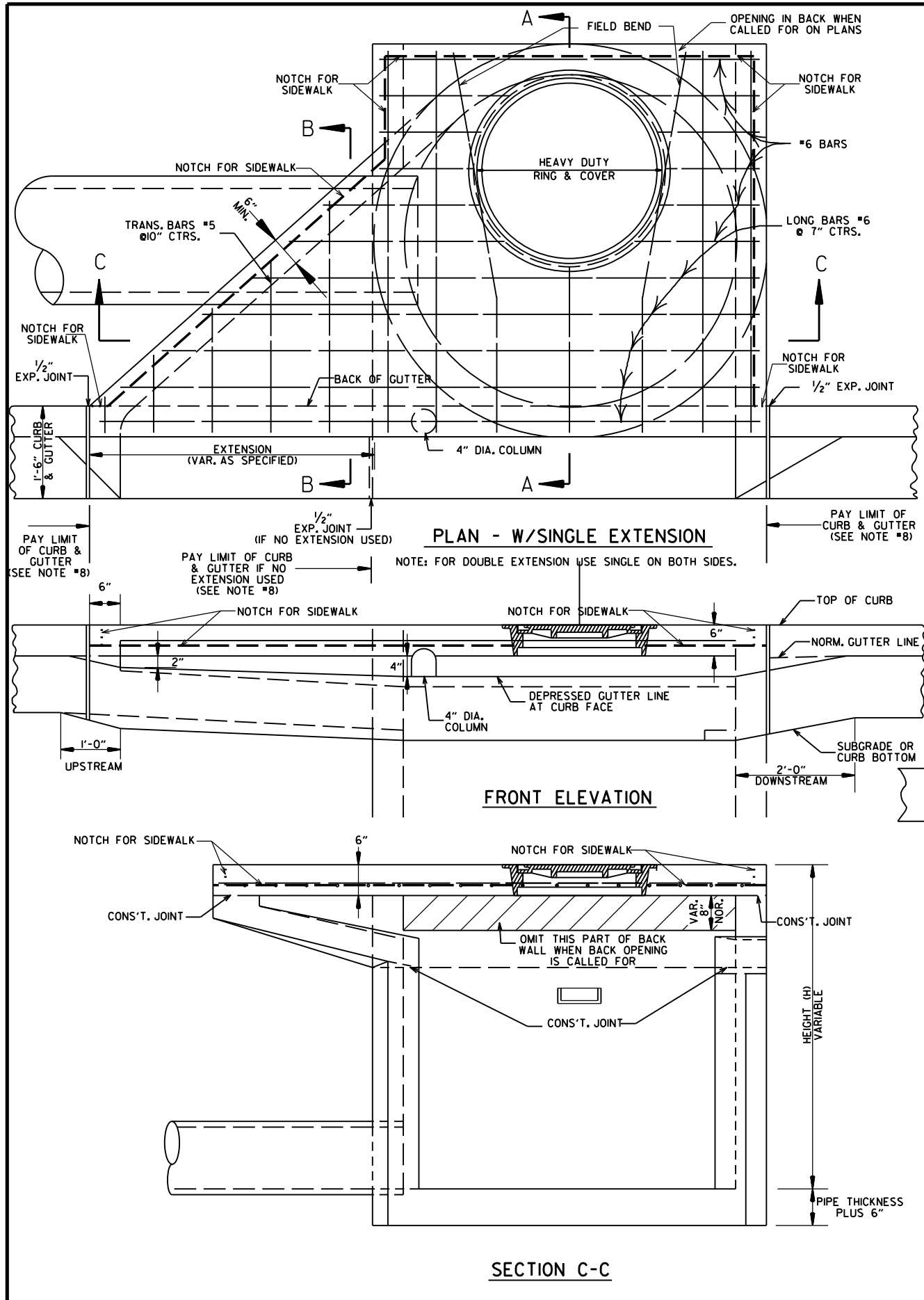
CIRCULAR PIPE								
D. DIA.	GAUGE	A 1" $\pm$	B. MAX.	H 1" $\pm$	L 1 1/2" $\pm$	W 2" $\pm$	S	
INCHES								
12	16	6	6	6	21	24	2 1/2:1	
15	16	7	8	6	26	30	2 1/2:1	
18	16	8	10	6	31	36	2 1/2:1	
21	16	9	12	6	36	42	2 1/2:1	
24	16	10	13	6	41	48	2 1/2:1	
30	14	12	16	8	51	60	2 1/2:1	
36	14	14	19	9	60	72	2 1/2:1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

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



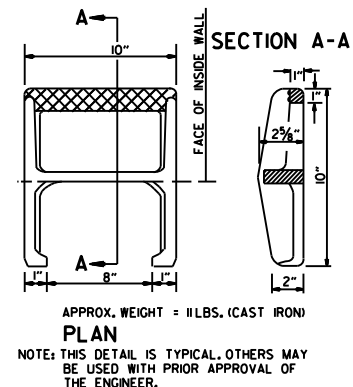
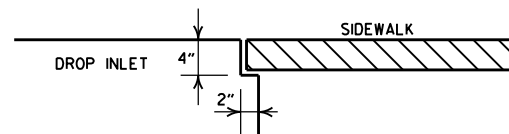
10-18-96	REVISED ASTM REF. TO AASHTO		ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.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





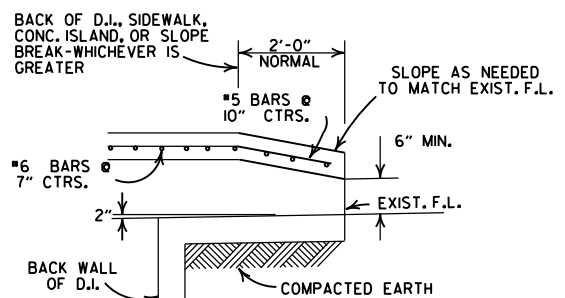
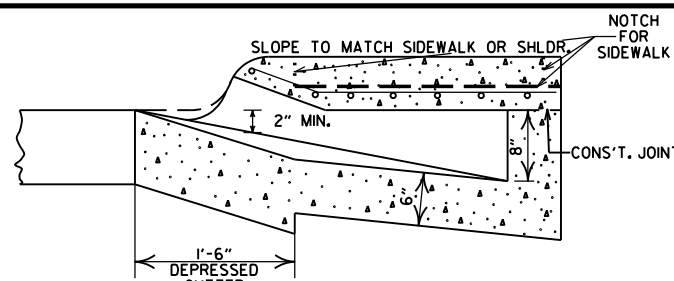
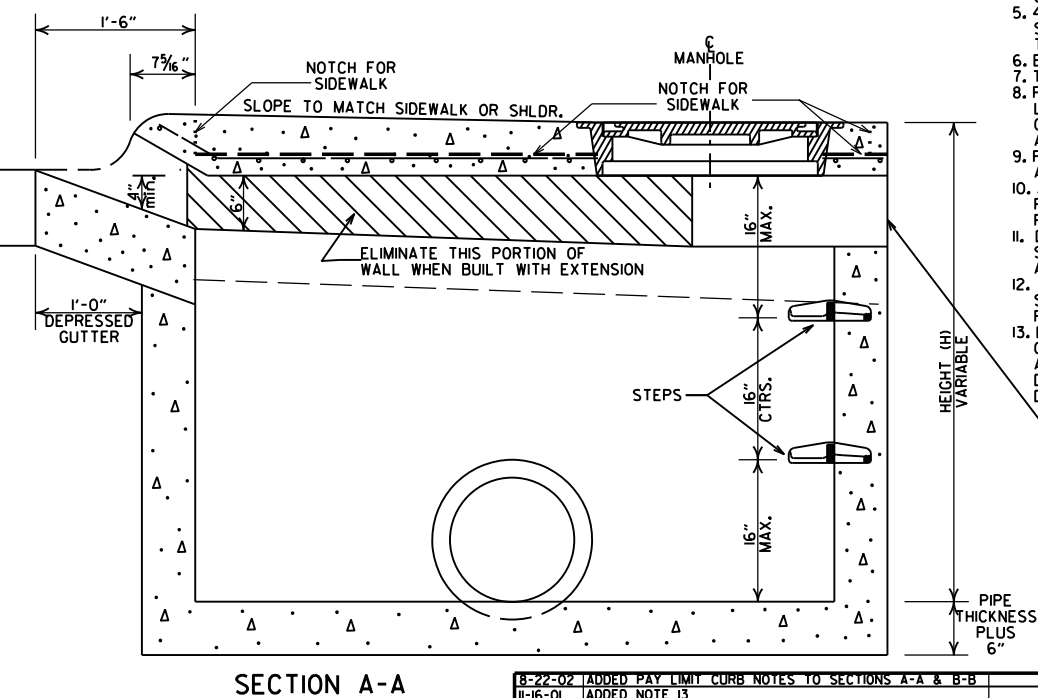
HEAVY DUTY RING & COVER

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



DETAIL OF STEP FOR DROP INLET

DETAIL OF NOTCH FOR SIDEWALKS



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

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

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

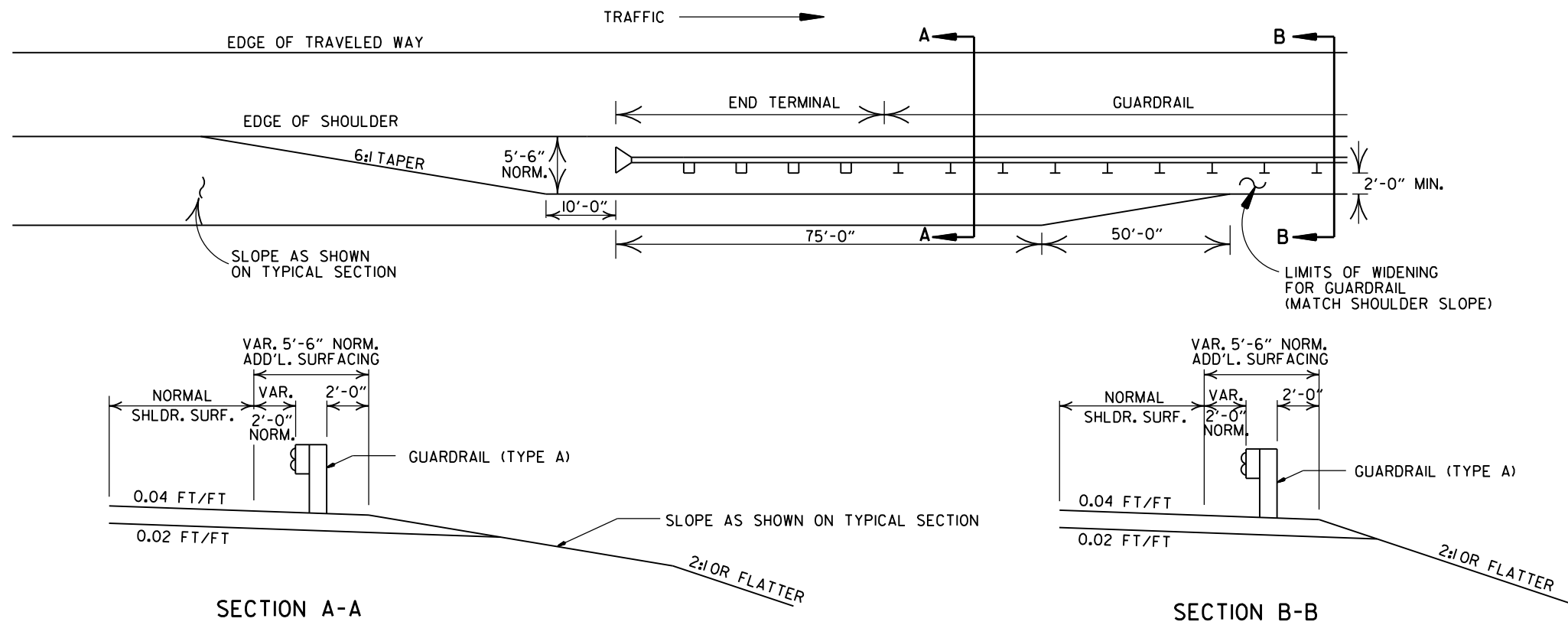
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REV. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET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

ARKANSAS STATE HIGHWAY COMMISSION

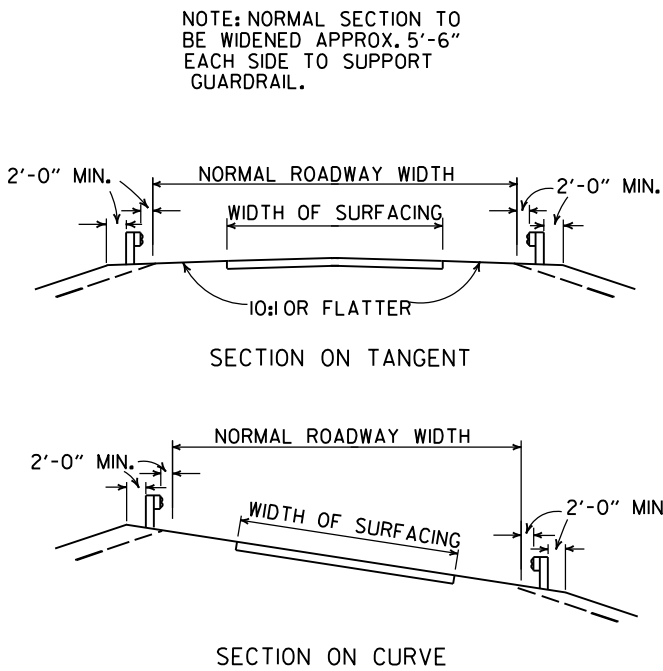
DETAILS OF DROP INLET
(TYPE MO)

STANDARD DRAWING FPC-9M

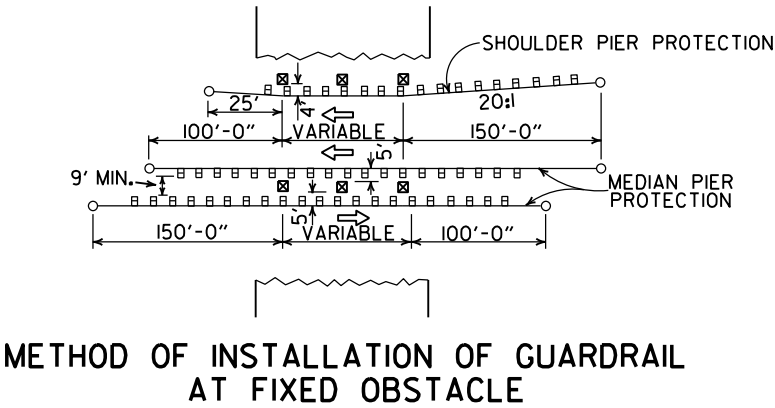
STANDARD DRAWING GR-6



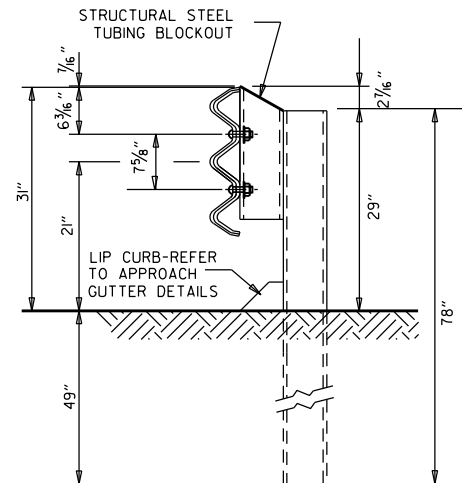
DETAILS OF WIDENING FOR GUARDRAIL



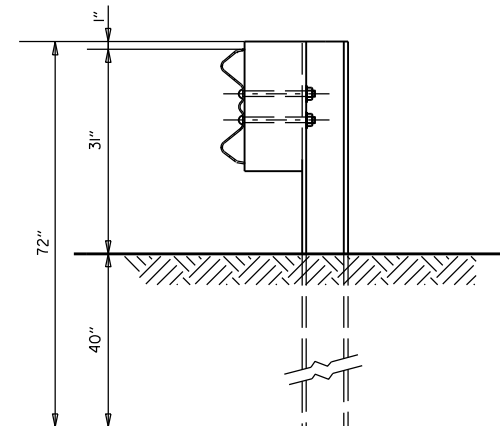
DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY



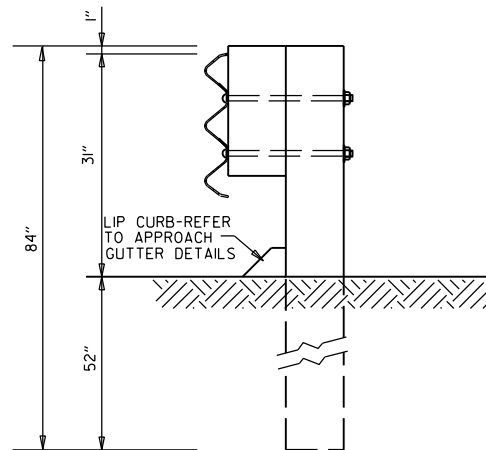
			ARKANSAS STATE HIGHWAY COMMISSION
			GUARDRAIL DETAILS
			STANDARD DRAWING GR-9
11-07-19	RENUMBERED AND RENAMED		
4-17-08	MINOR REVISION		
11-10-05	DRAWN		
DATE	REVISION	DATE FILED	



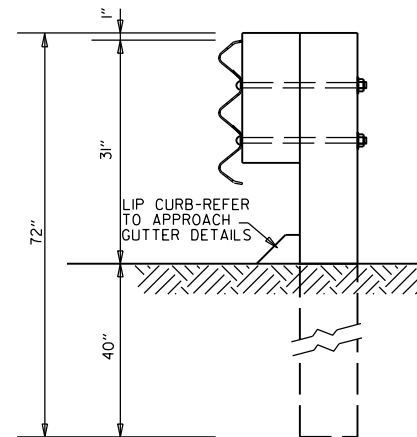
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



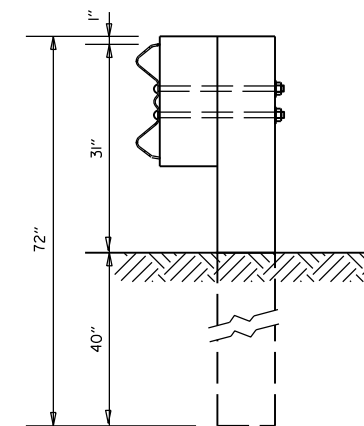
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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



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



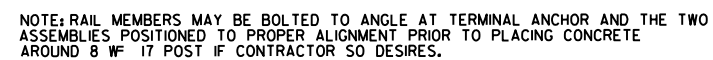
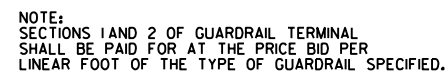
W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

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

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 350 f SOUTHERN PINE.

			ARKANSAS STATE HIGHWAY COMMISSION
11-07-19	RENAMED		GUARDRAIL DETAILS
11-16-17	REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-II		
07-14-10	REVISED POST 8 DIMENSIONS		
11-29-07	ADDED PLASTIC BLOCKOUTS		
08-22-02	REVISED LIP CURB NOTE		
03-30-00	DRAWN & ISSUED		STANDARD DRAWING GR-II
DATE	REVISION	FILMED	



II-07-19	RENAMED & REVISED REFERENCE.		ARKANSAS STATE HIGHWAY COMMISSION GUARDRAIL DETAILS STANDARD DRAWING GRT-1
II-16-17	REVISED GUARDRAIL HEIGHT AND LOCATION OF POSTS		
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"		
06-26-97	REVISED LAP NOTE		
10-18-96	REVISED ASTM REF. TO AASHTO		
II-03-94	DIMENSION TERMINAL DETAIL		
II-II-92	ADDED NOTE FOR PAYMENT	II-II-92	
10-01-92	DRAWN & ISSUED	10-11-92	
DATE	REVISION	FILED	

REINFORCED CONCRETE
ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51½	51	31¾	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL
PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

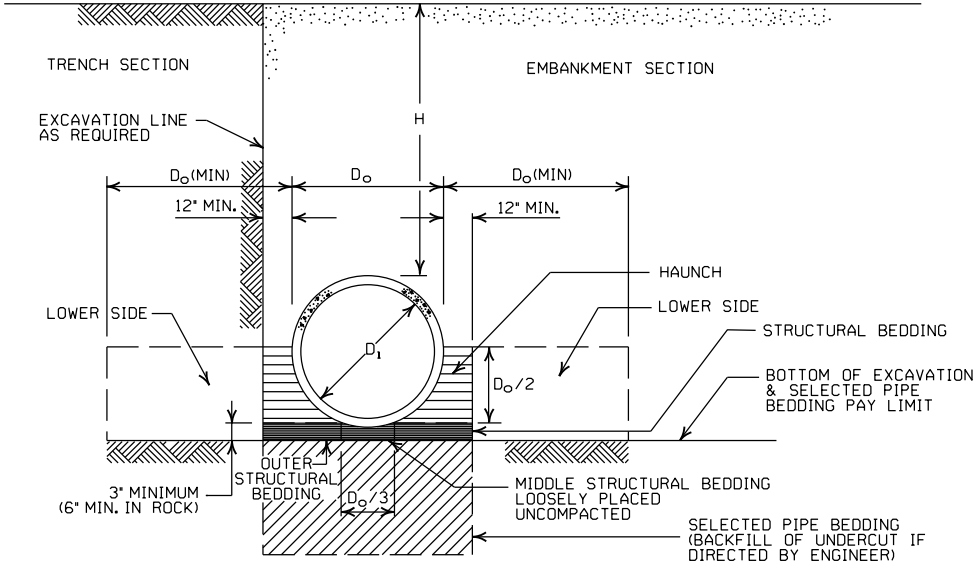
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1



CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	
				INSTALLATION	INSTALLATION		INSTALLATION	INSTALLATION	
				TYPE 1	TYPE 1		TYPE 1	TYPE 1	
			2 ¾ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ¾ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15	
18	21x15	3	0.064	2	15	0.060	2	15	
21	24x18	3	0.064	2,25	15	0.060	2,25	15	
24	28x20	3	0.064	2,5	15	0.075	2,5	15	
30	35x24	3	0.079	3	12	0.075	3	12	
36	42x29	3½	0.079	3	12	0.105	3	12	
42	49x33	4	0.079	3	12	0.105	3	12	
48	57x38	5	0.109	3	13	0.135	3	13	
54	64x43	6	0.109	3	14	0.135	3	14	
60	71x47	7	0.138	3	15	0.135	3	15	
66	77x52	8	0.168	3	15	0.164	3	15	
72	83x57	9	0.168	3	15				
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				① FOR MINIMUM COVER VALUES, "H" SHALL ② WHERE THE STANDARD 2 2/3" x ½" COR WITH A 3' x 1' OR 5' x 1' CORRUGATION OR GREATER THAN THE MAXIMUM FILL		
			INSTALLATION		INSTALLATION				
			TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15		
42	46x36	6	0.079	3	2	13	15		
48	53x41	7	0.079	3	2	13	15		
54	60x46	8	0.079	3	2	13	15		
60	66x51	9	0.079	3	2	13	15		
66	73x55	12	0.079	3	2	15	15		
72	81x59	14	0.079	3	2	15	15		
78	87x63	14	0.079	3	2	15	15		
84	95x67	16	0.109	3	2	15	15		
90	103x71	16	0.109	3	2	15	15		
96	112x75	18	0.109	3	2	15	15		
102	117x79	18	0.109	3	2	15	15		
108	128x83	18	0.138	3	2	15	15		

CONSTRUCTION SEQUENCE

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

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

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

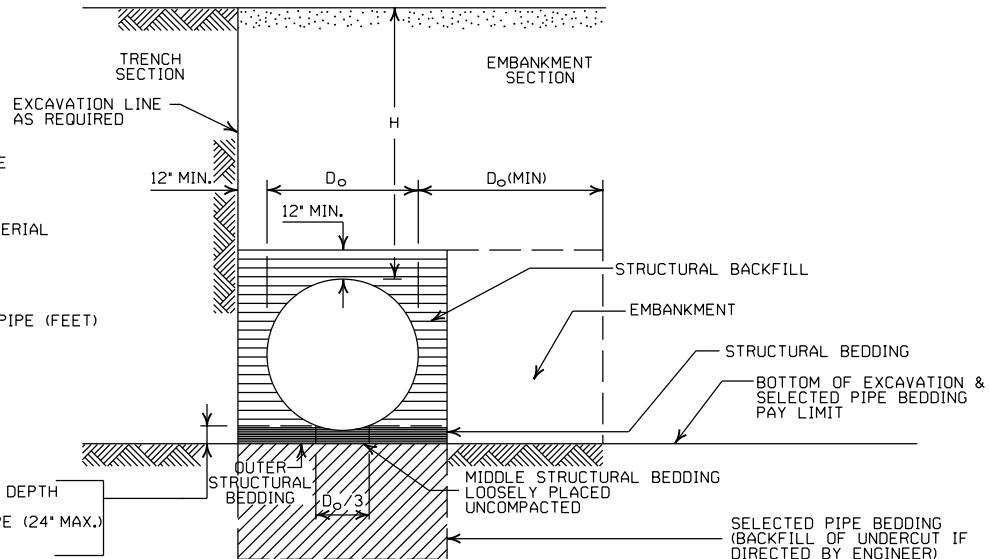
EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

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

IN SOIL-MIN. EQUALS TWICE CORRUGATION DEPTH
IN ROCK-MIN. EQUALS GREATER OF:
1/2" PER FOOT OF FILL OVER PIPE (24" MAX.)
TWICE CORRUGATION DEPTH



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/4" X 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3" X 1/2" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" X 1" OR 5" X 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

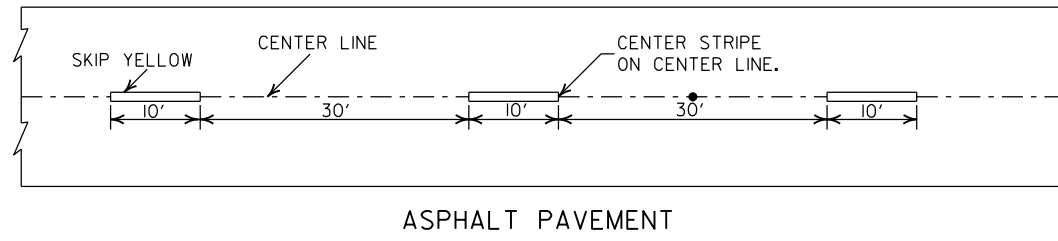
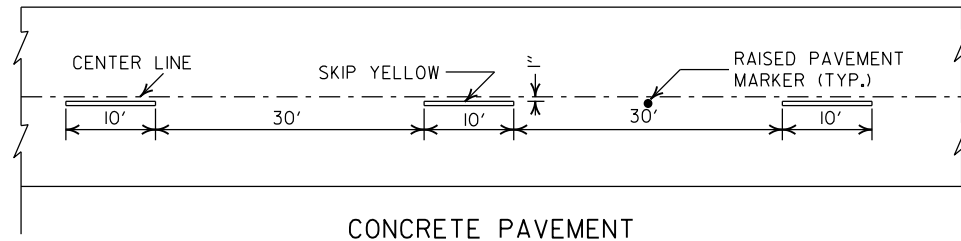
2-27-14	REVISED GENERAL NOTE 1	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

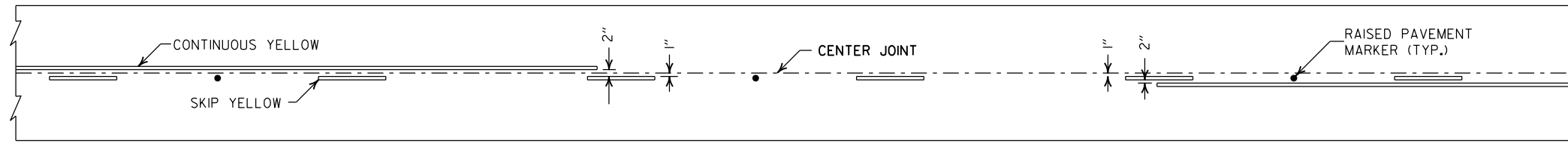
METAL PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

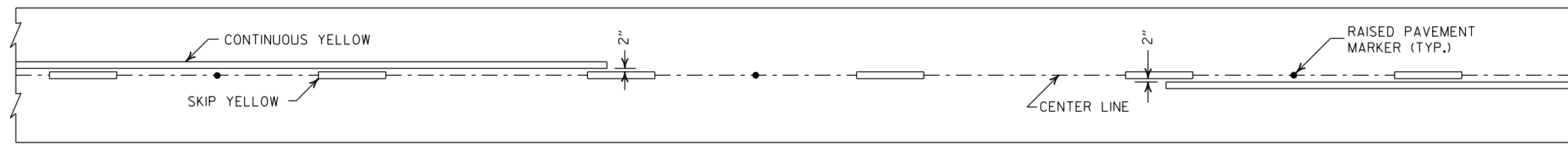




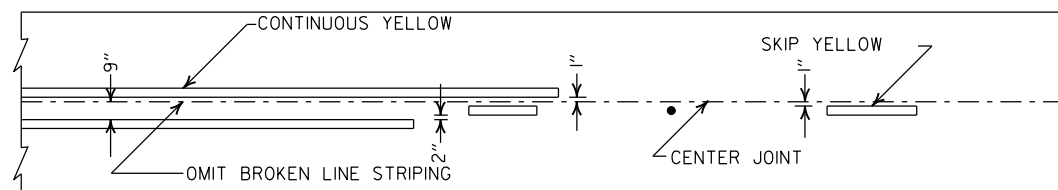
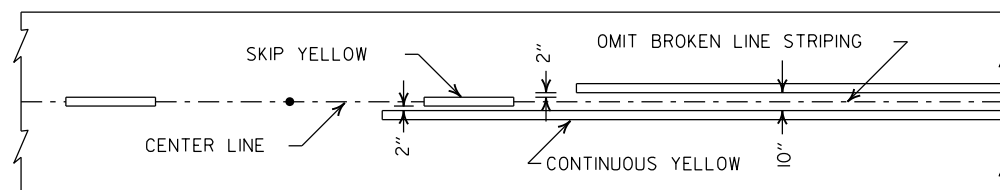
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



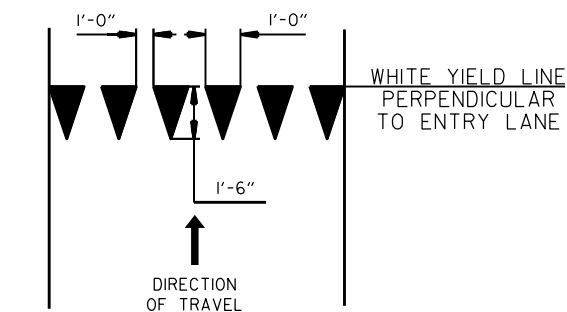
SOLID LINE STRIPING ON ASPHALT PAVEMENT



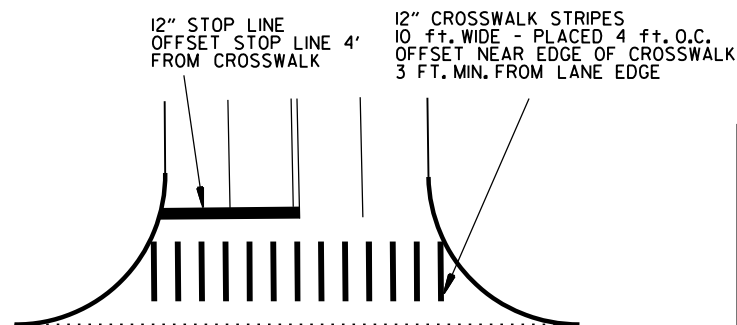
ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL

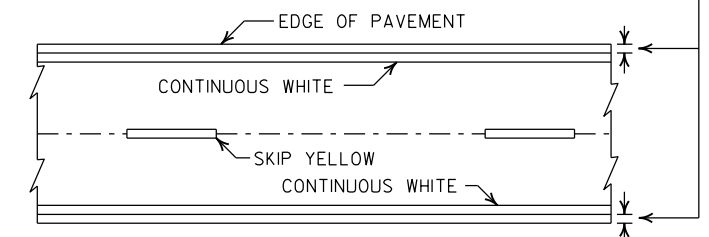


CROSSWALK AND STOP LINE DETAILS

NOTES:

1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

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

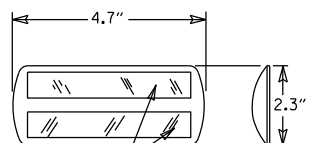


PAVEMENT EDGE LINE MARKING

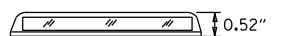
NOTE:
THE RED LENS OF THE
TYPE II R.P.M. SHALL
FACE THE INCORRECT
TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW

PRISMATIC REFLECTOR



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 ARDOT QUALIFIED
PRODUCTS LIST.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

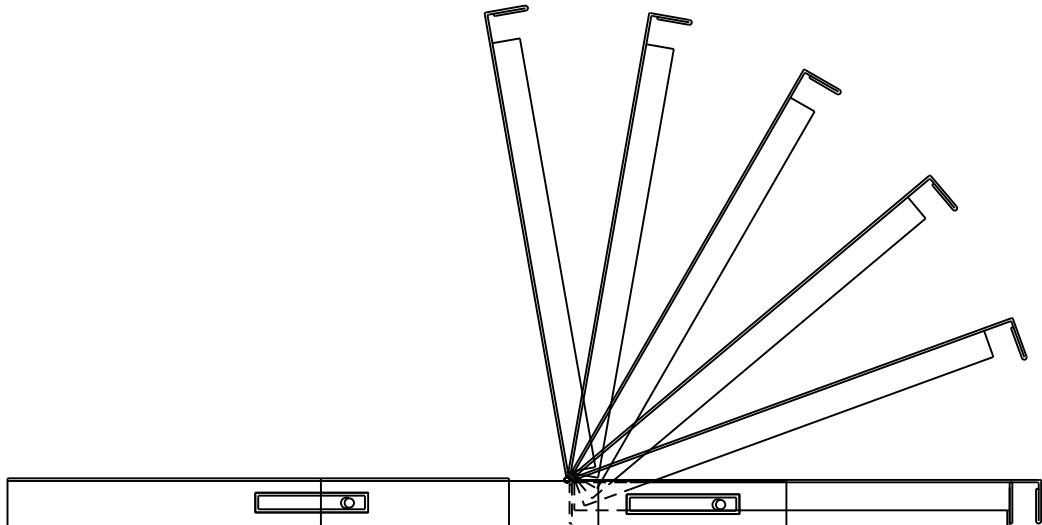
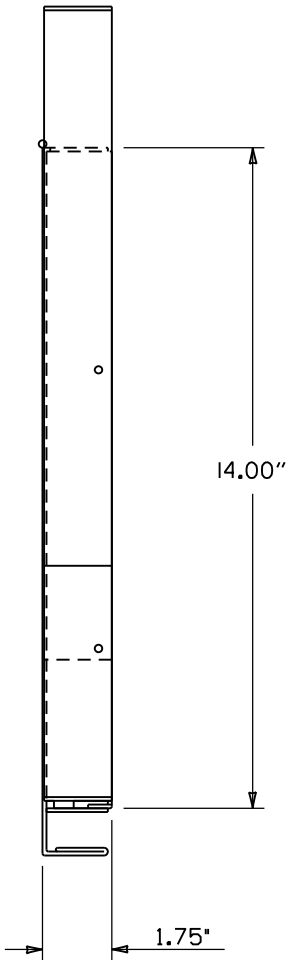
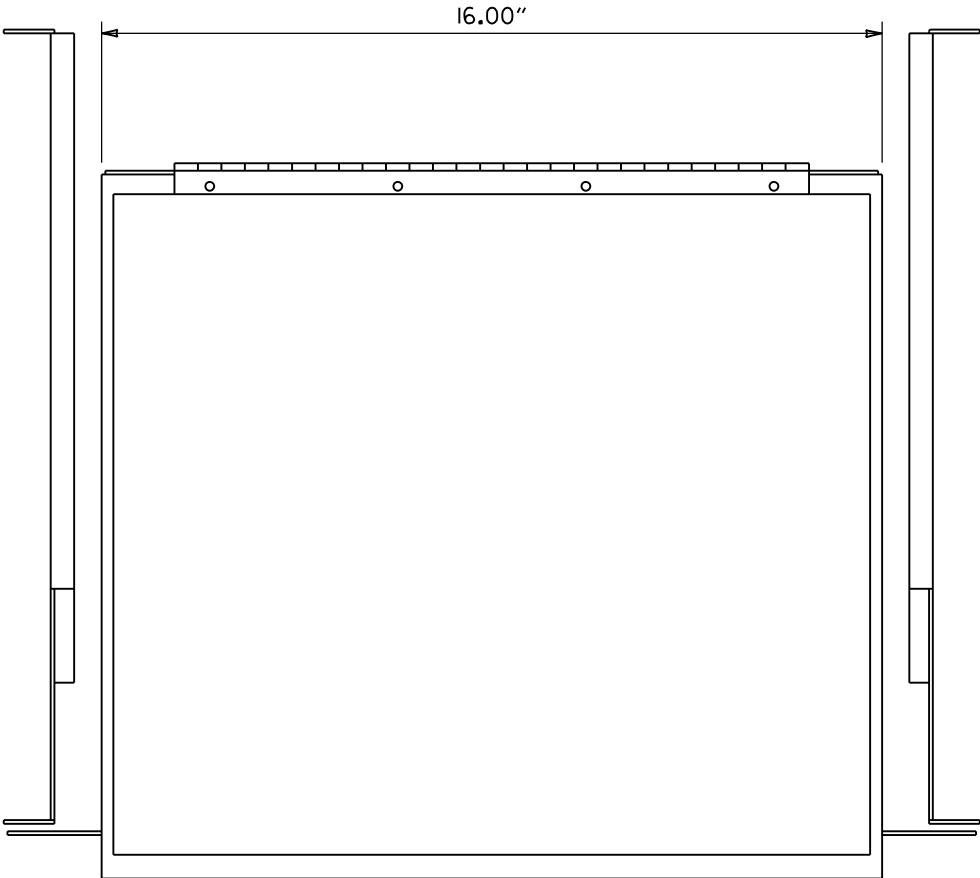
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & 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
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

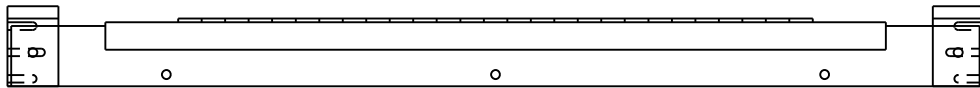
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

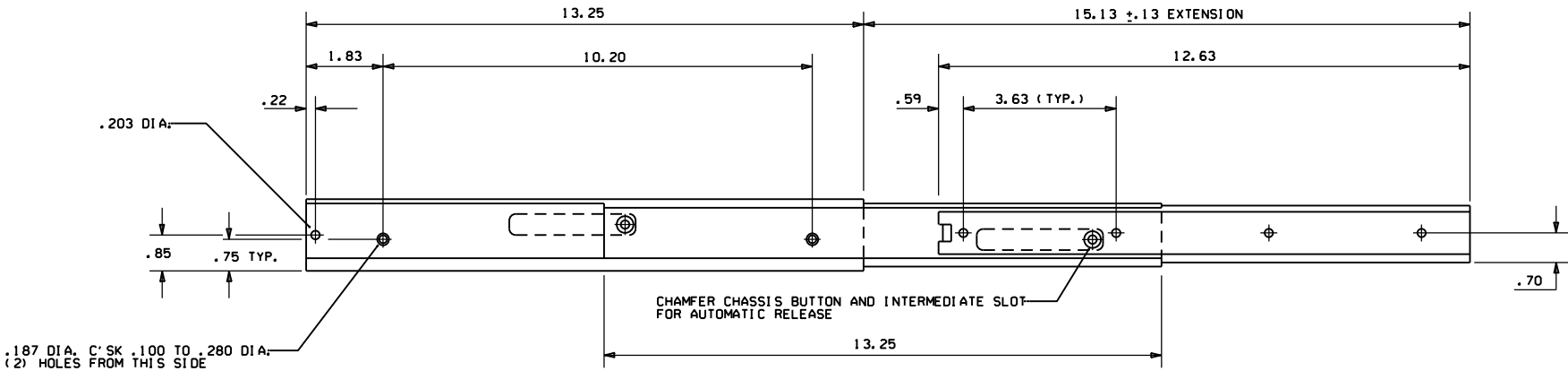
DRAWER PLAN VIEW



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



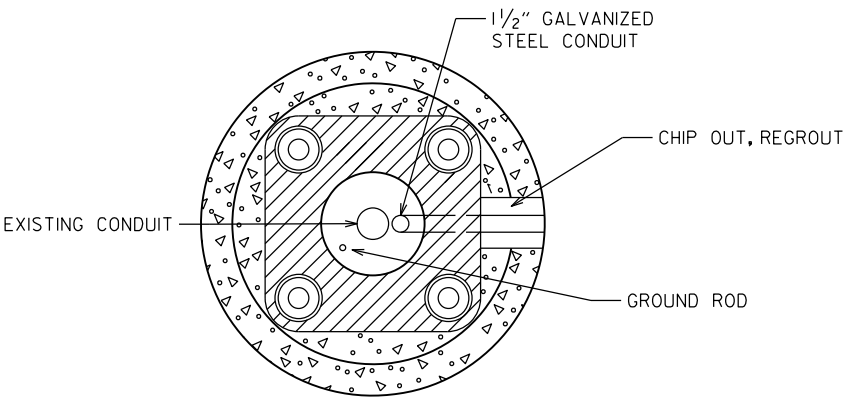
FRONT VIEW



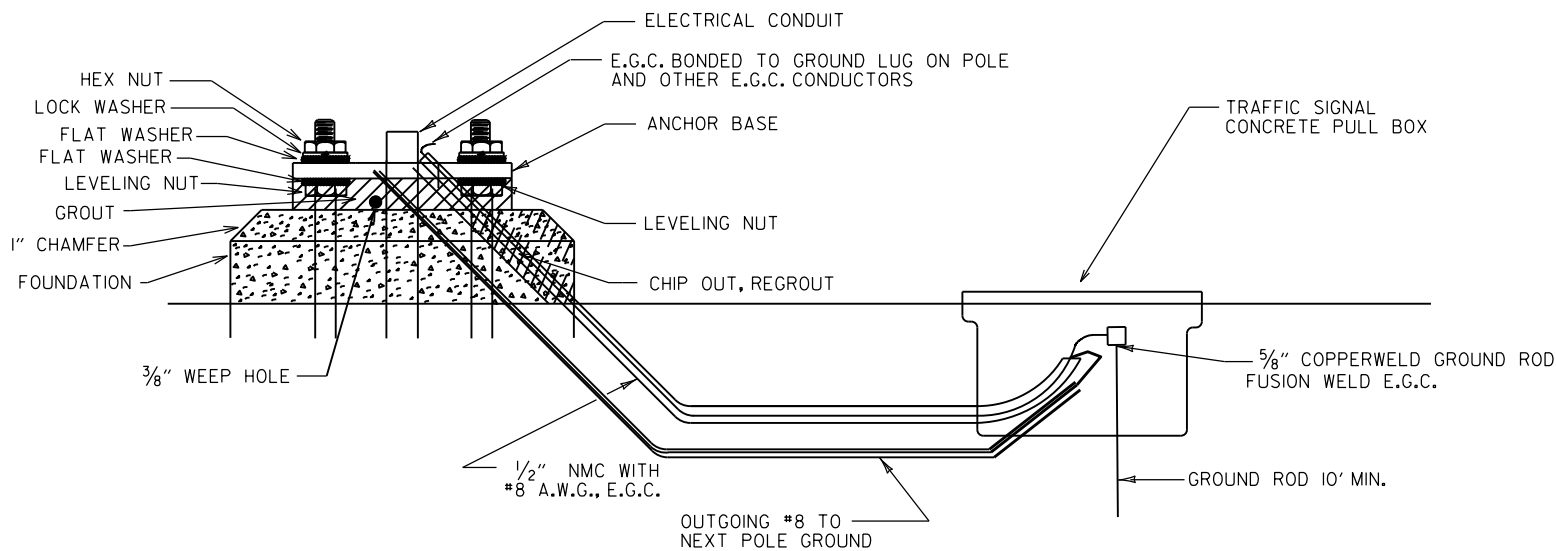
RIGHT SIDE ASSEMBLY

			ARKANSAS STATE HIGHWAY COMMISSION
			CONTROLLER CABINET UTILITY DRAWER
9-12-13	ISSUED AS STANDARD DRAWING		
6-15-05	ISSUED		
DATE	REVISION	DATE	FILM
			STANDARD DRAWING SD-5

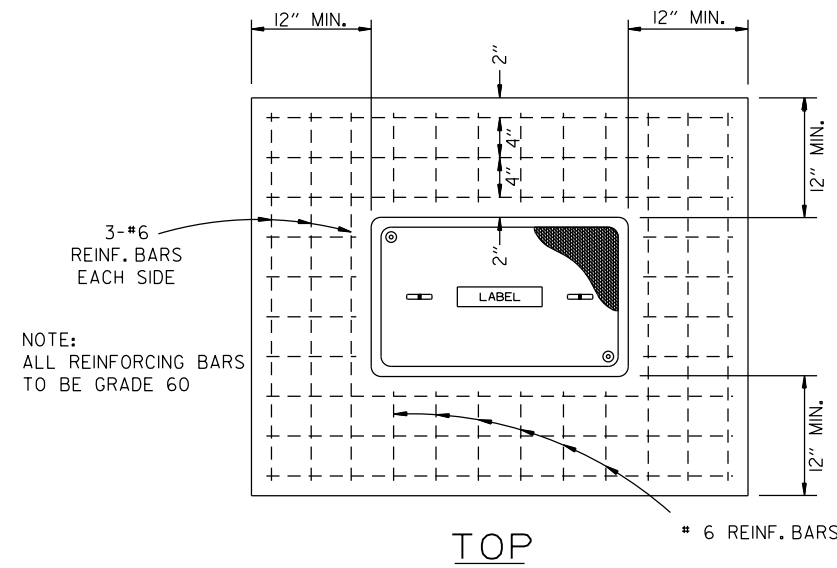
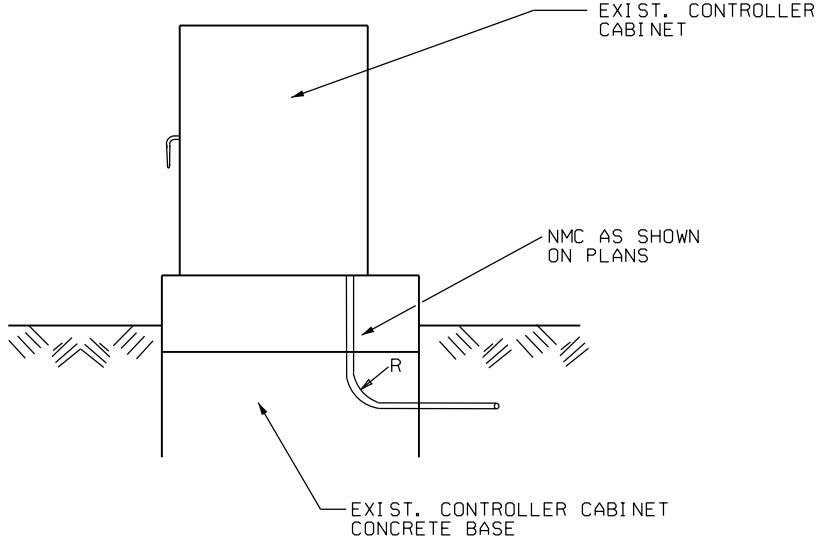
CONDUIT ENTRY TO EXISTING POLE BASE



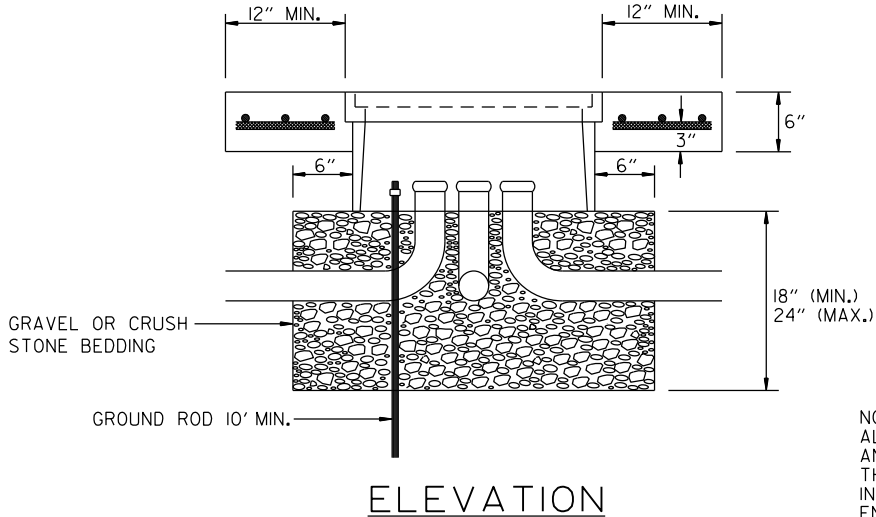
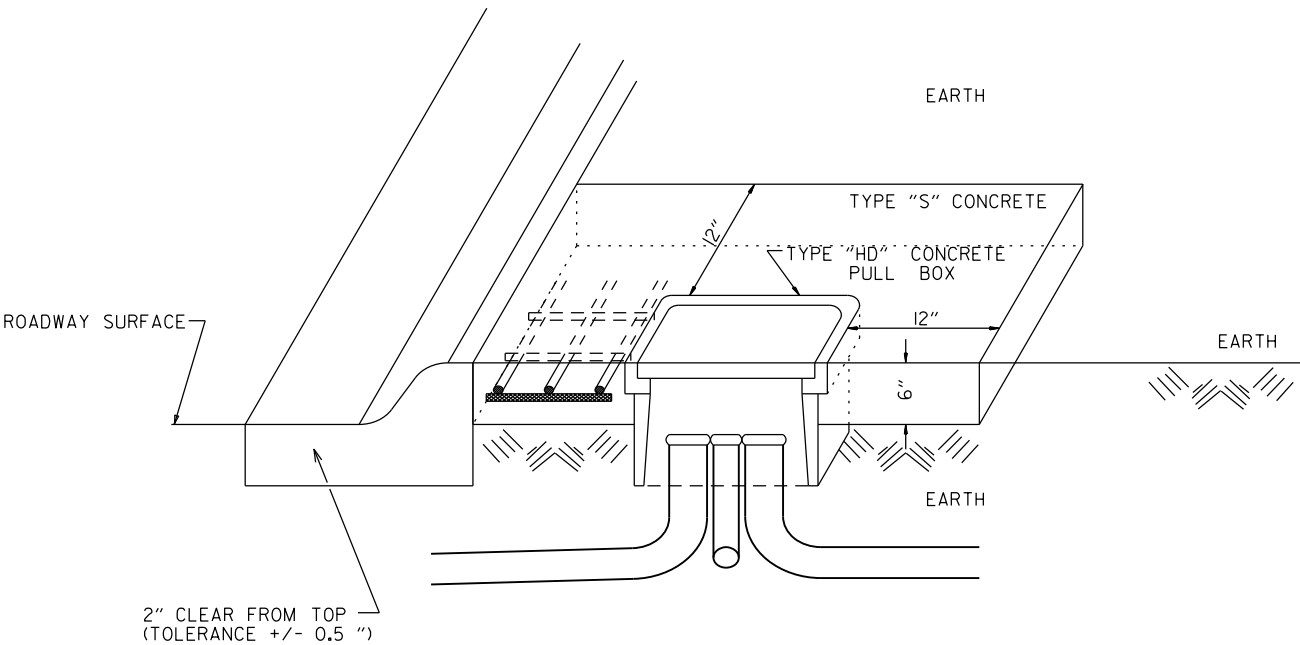
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



TYPE "HD" CONCRETE PULL BOX DETAIL



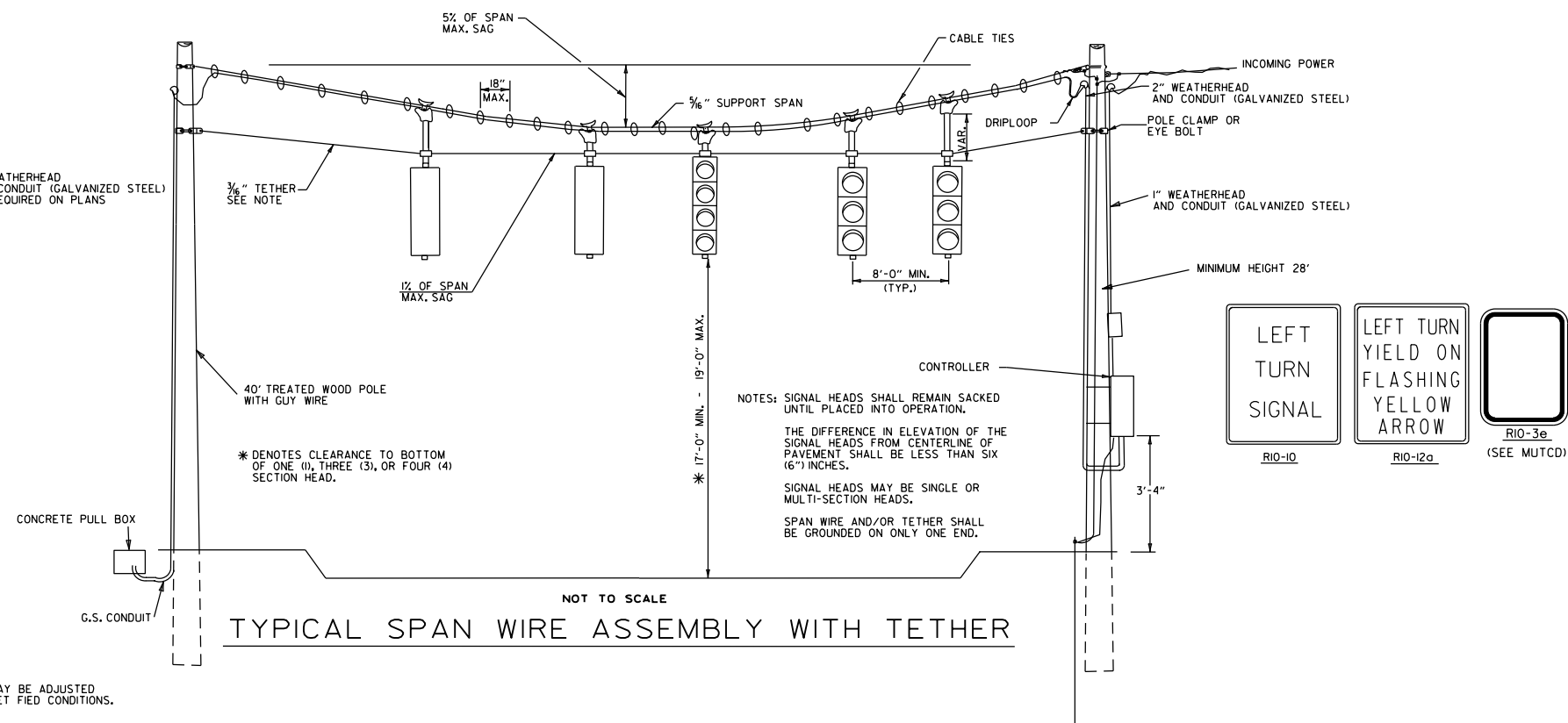
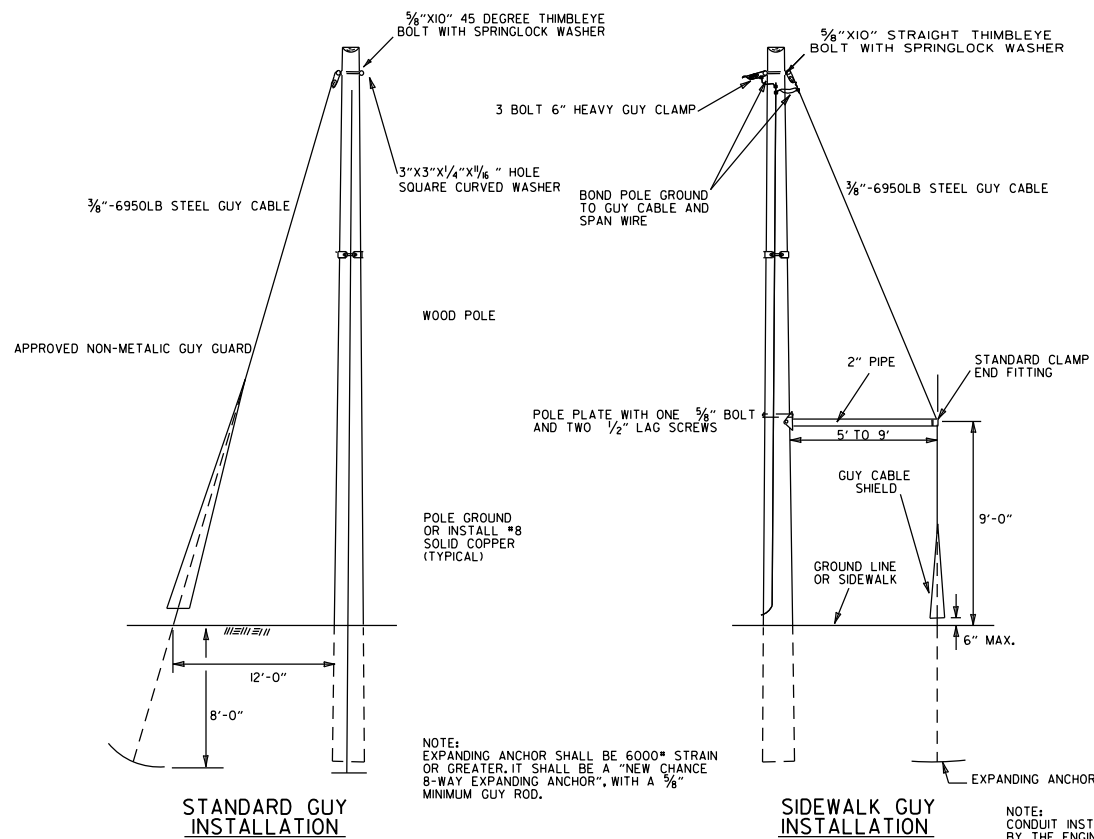
NOTE:
ALL TYPE 1 HD, TYPE 2 HD, AND TYPE 3 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 6" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

DATE	REVISION	FILMED
02-13-24	REVISED NOTES AND TYPE "HD" CONCRETE PULL BOX DETAILS	
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

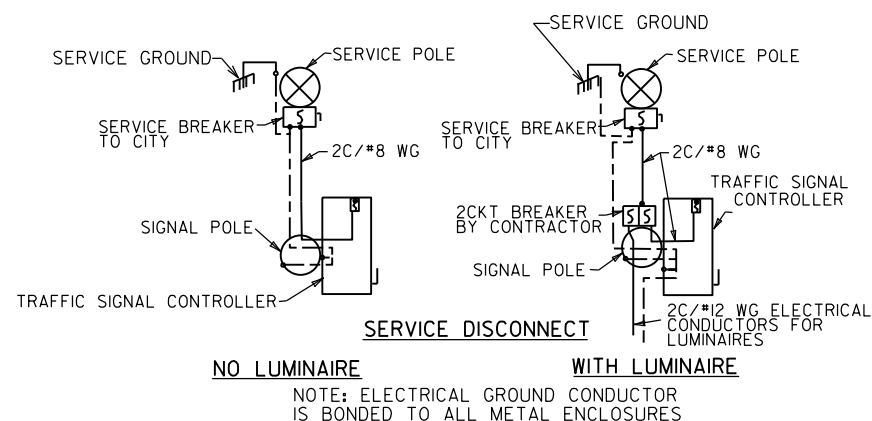
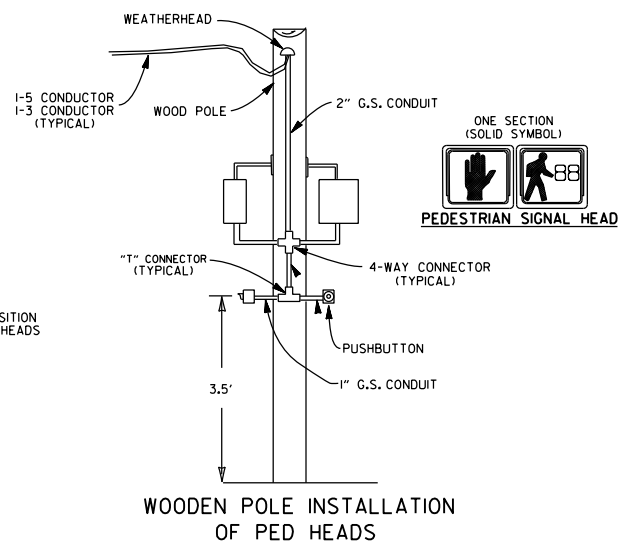
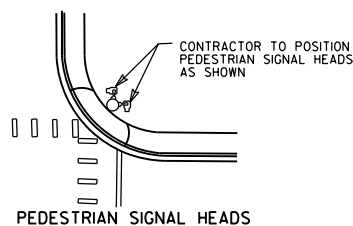
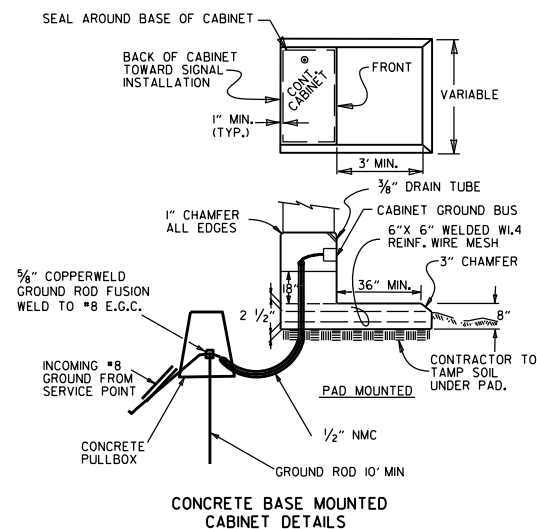
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6

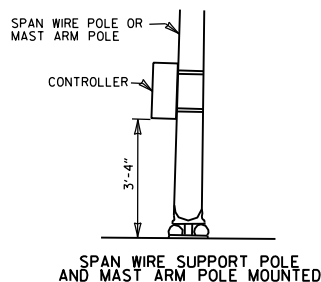


NOTES:
SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4) FEET BEHIND CURB OR SHOULDER.
SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.
CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).
THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 A.W.G. SOLID COPPER WIRE. ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X 5/8" COPPERWELD GROUND ROD.



NOTES:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SIGN (RIO-12a) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN 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 (RIO-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.
ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.
ALL SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.
SIGNAL OPERATION NOTES:
FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

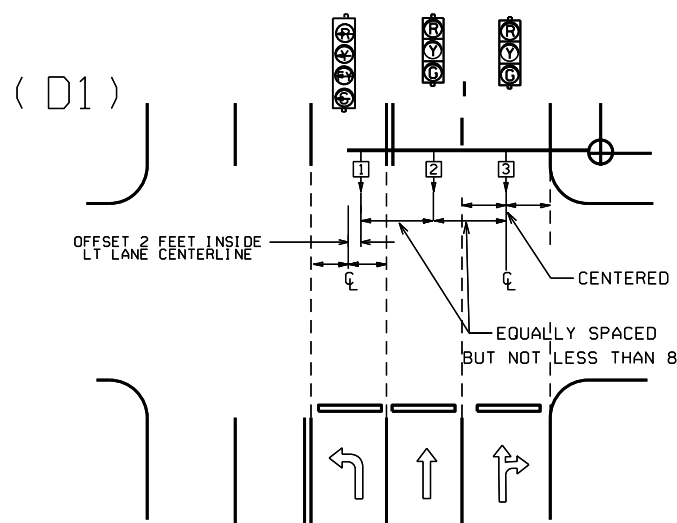
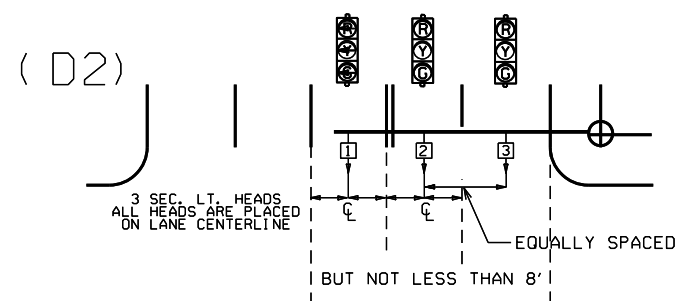
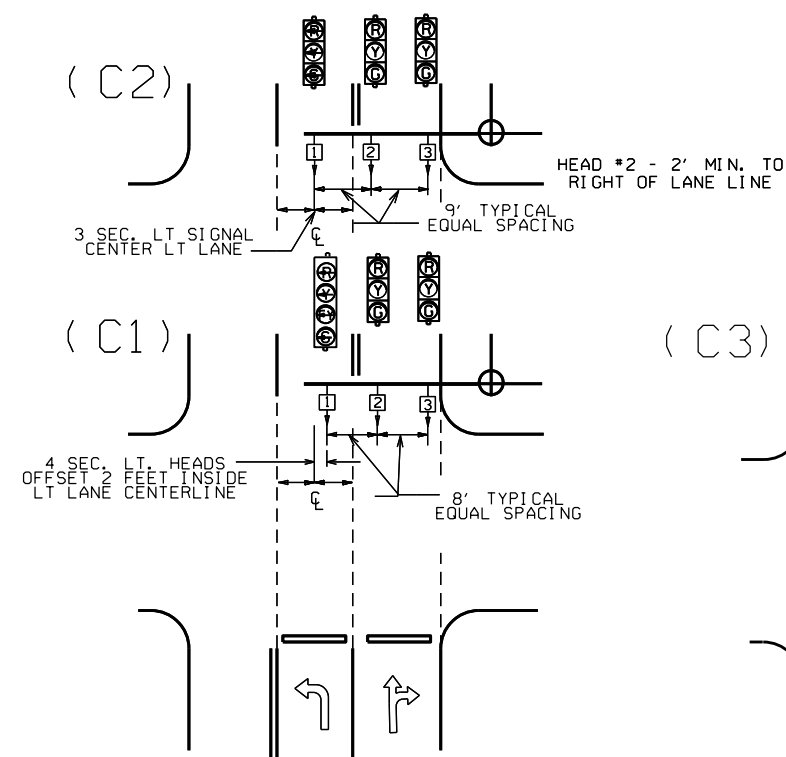
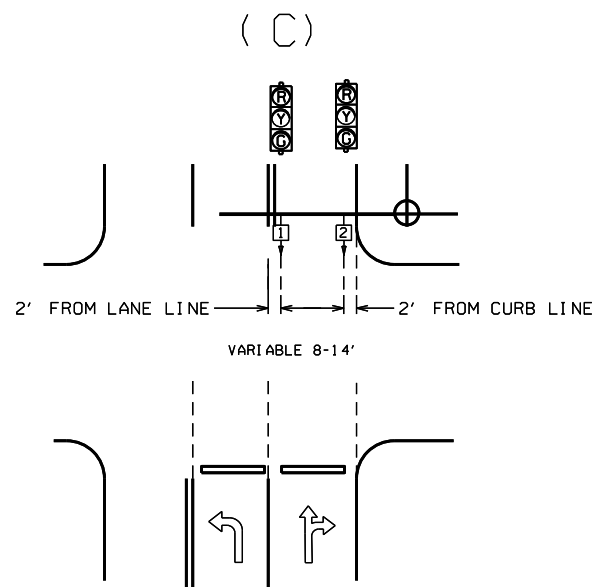
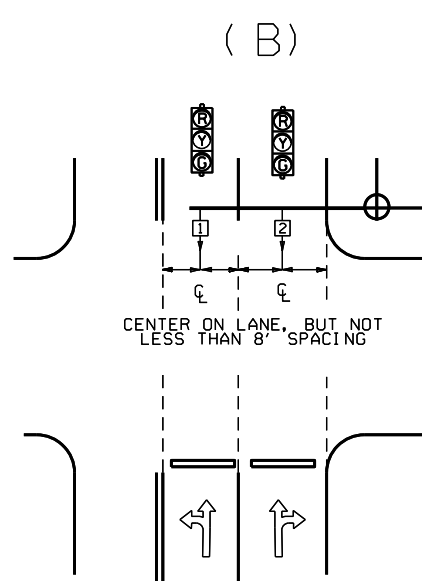
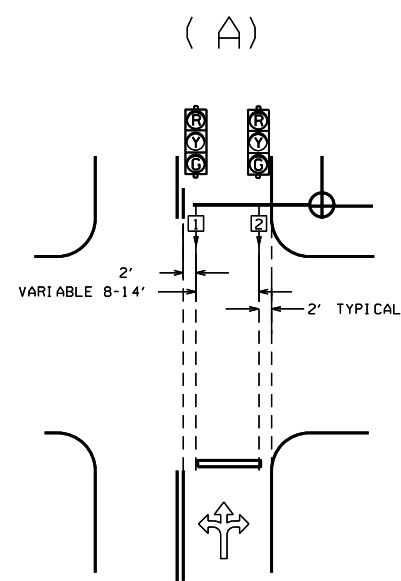
CABINET NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.



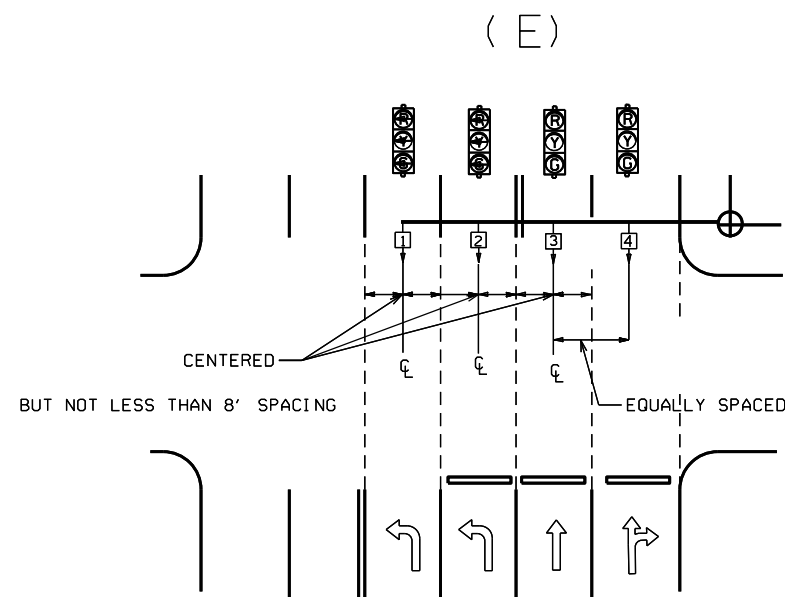
MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.
CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.
BASE WIND SPEED: 90 MPH
STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

02-13-24	REVISED SPECIAL SIGN TO RIO-12a SIGN	
11-16-17	REVISED NOTES, ADDED SPAN WIRE SUPPORT POLE DETAIL, ADDED PEDESTRIAN SIGNAL HEAD DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED PEDESTRIAN SIGN & GROUNDING	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENTATION & SIGNAL OPERATION	
05-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISION TO NOTES	
11-21-95	ISSUED	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION
**SPAN WIRE ASSEMBLY
WOOD POLE**
STANDARD DRAWING SD-7



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.



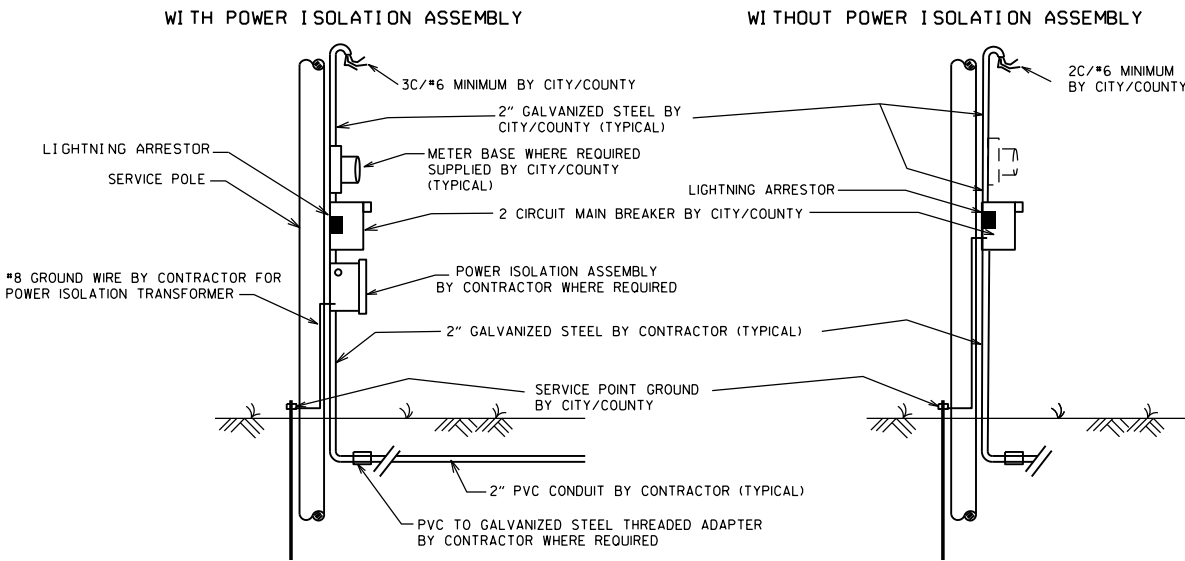
GENERAL NOTES:

- 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-5 OF 2009 MUTCD.

CL = CENTER OF LANE FROM APPROACH SIDE

			ARKANSAS STATE HIGHWAY COMMISSION
12-8-16	REVISED NOTE 6		SIGNAL HEAD PLACEMENT
9-12-13	ISSUED AS STANDARD DRAWING		
3-11-10	2009 MUTCD		
12-9-99	ISSUED		STANDARD DRAWING SD-8
DATE	REVISION	DATE FILM	

MAIN BREAKER NOT NEAR CONTROLLER CABINET
SECONDARY REQUIRED



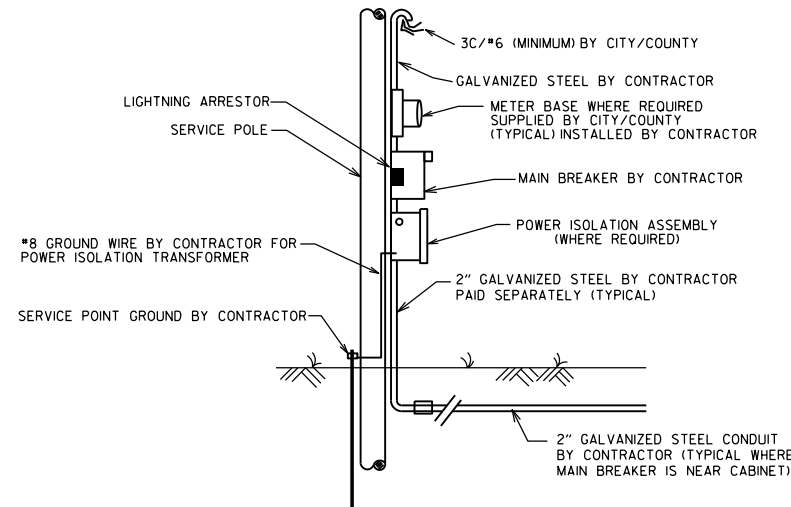
NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

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/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

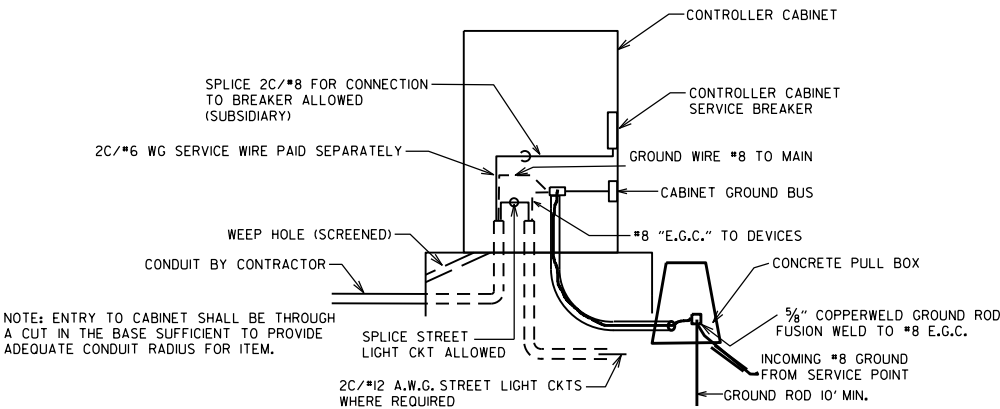
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINLIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. 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.

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.

MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

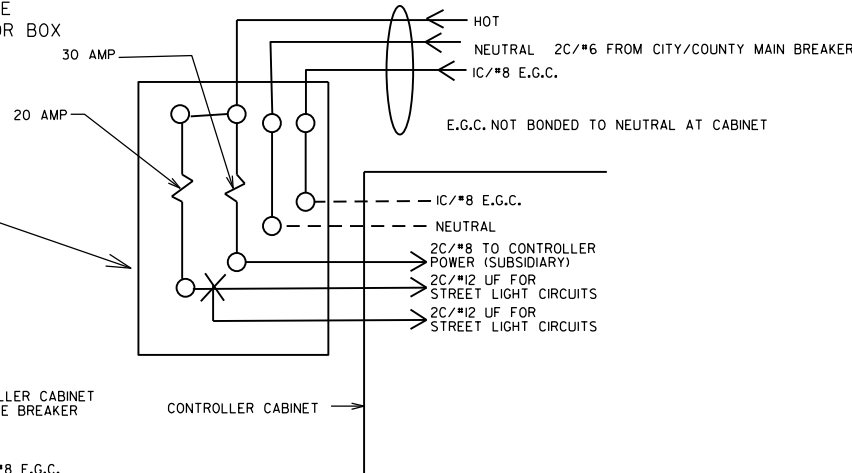
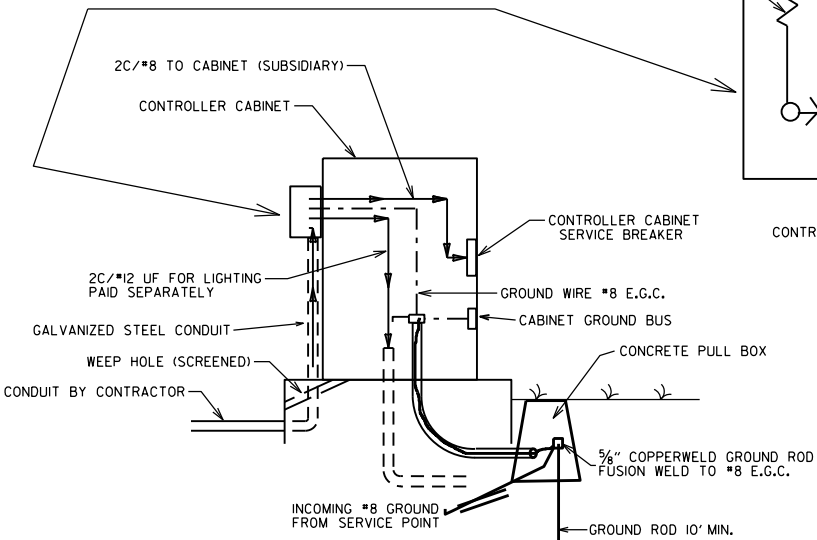


MAIN BREAKER NEAR CONTROLLER CABINET
SECONDARY NOT REQUIRED



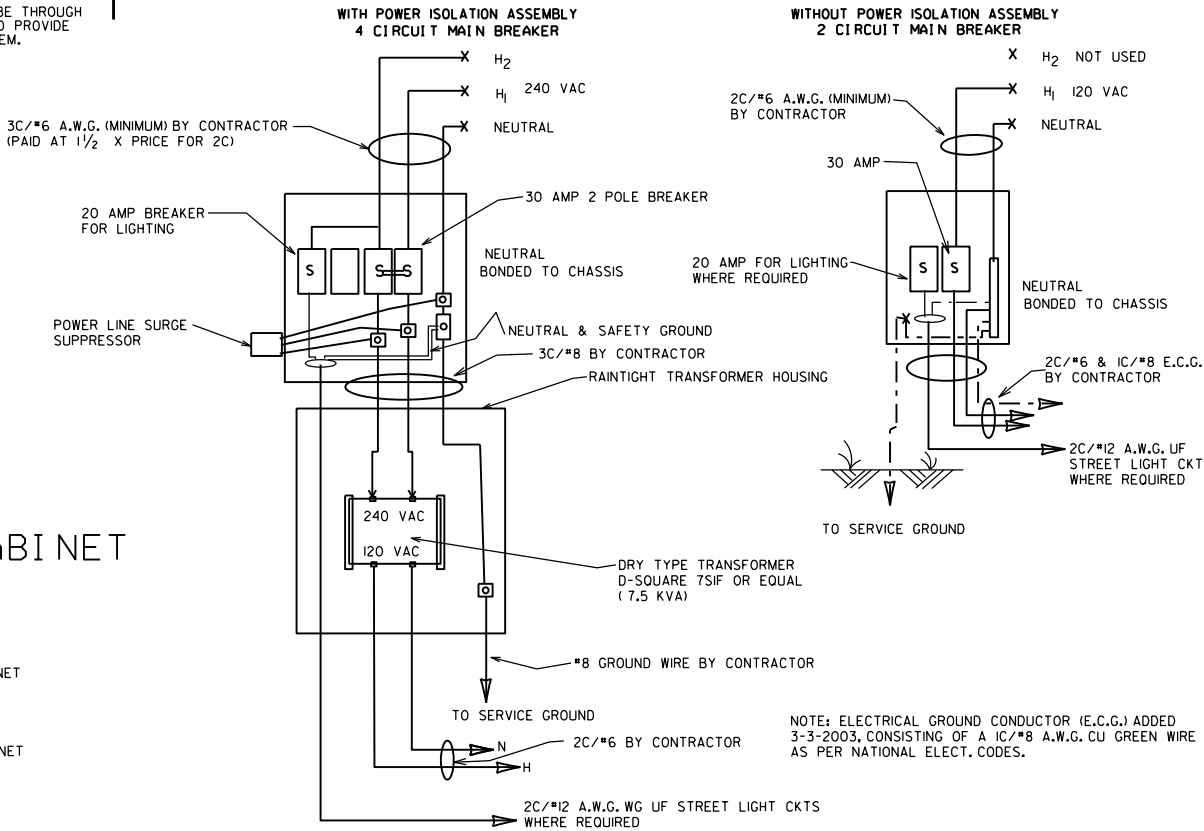
GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

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.



11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., I-WAY)" SHALL INCLUDE A SIGN (RIO-12a) 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., I-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (RIO-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 RIO-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

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 FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS 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 (2000) 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 THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

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

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

CONSTRUCTION SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

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

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

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.); DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

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. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE, POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

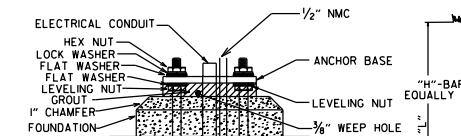
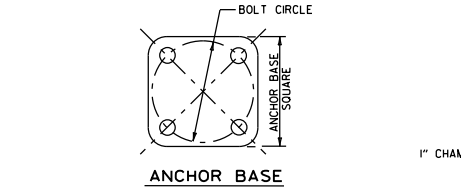
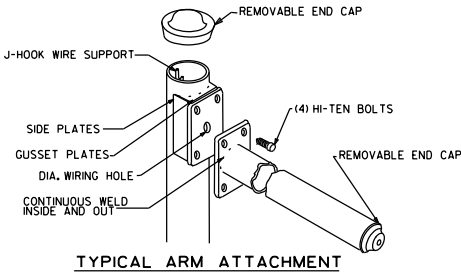
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. 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 HOLE WITHIN 12 INCHES OF MAST ARMS ATTACHMENT(S).

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

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

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

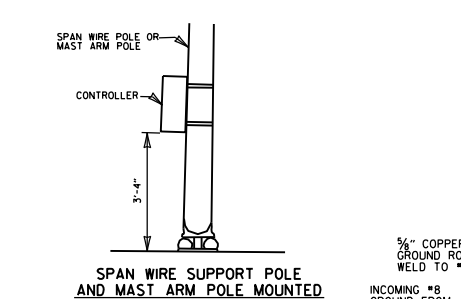


THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

THE GROUND ROD SHALL BE FUSION WELDED TO A 1/2" X 8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

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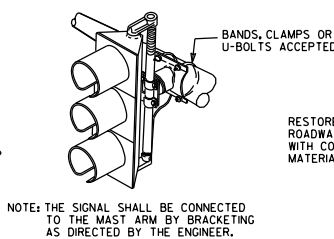
CONTROLLER CABINET MOUNTING DETAILS

NOTE:
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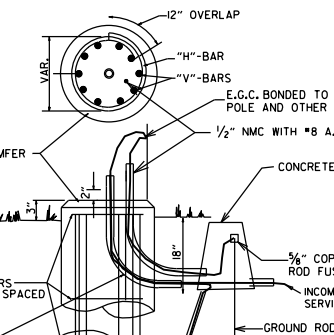
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TRENCHING DETAIL

(FOR SAW CUT TRENCH IN ROADWAY)



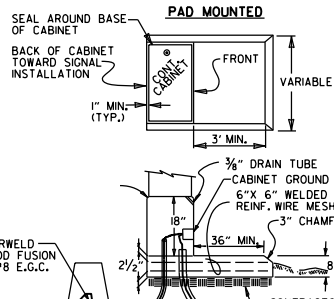
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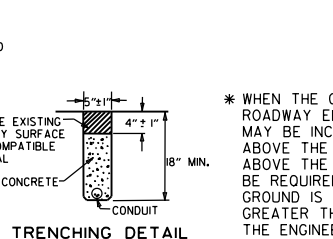
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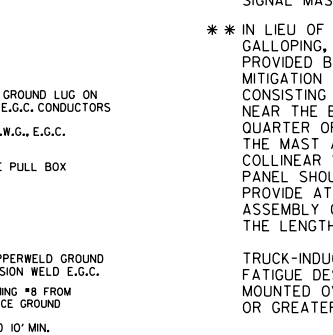
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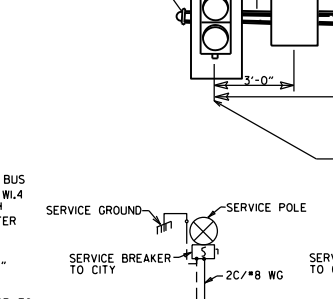
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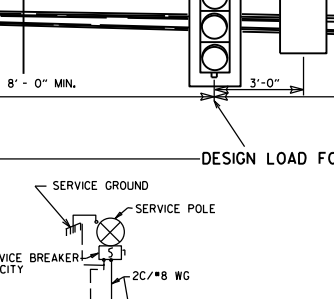
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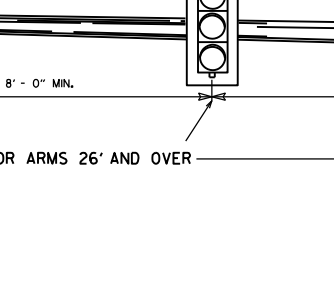
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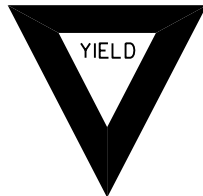
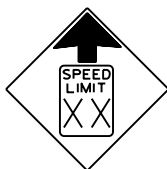
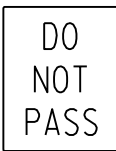
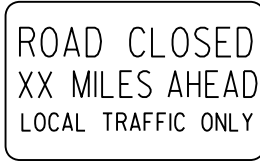
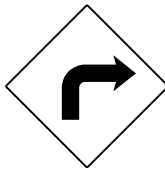
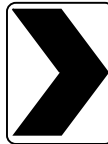
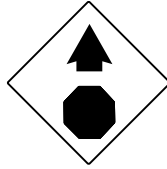
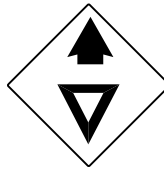
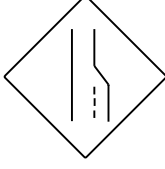
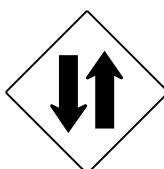
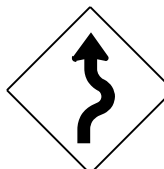
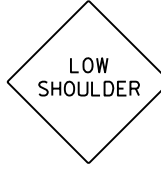
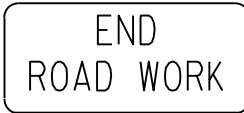
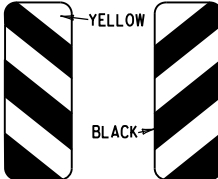
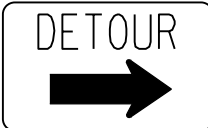
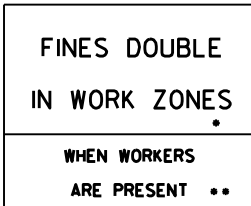


CONCRETE BASE MOUNTED CABINET DETAILS

NOTE:
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.

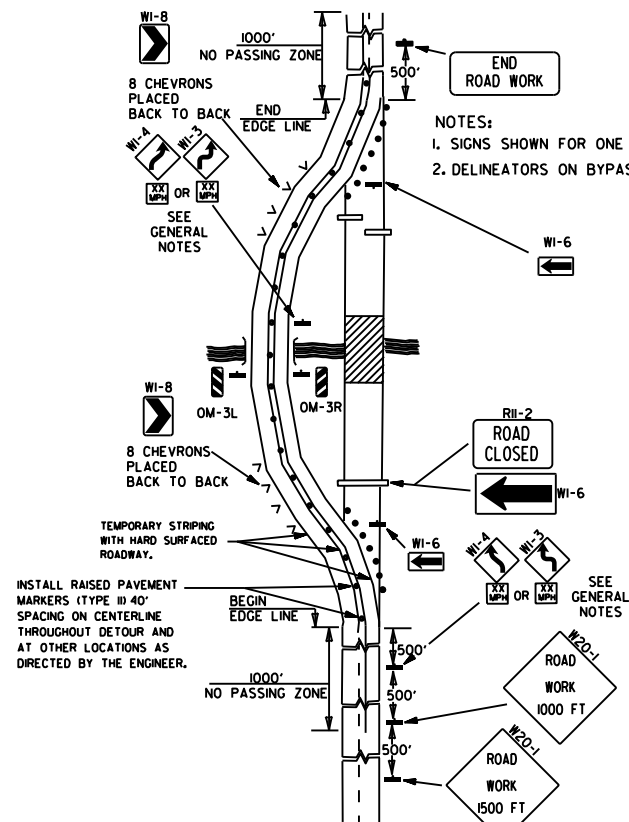
8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPARATELY.

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

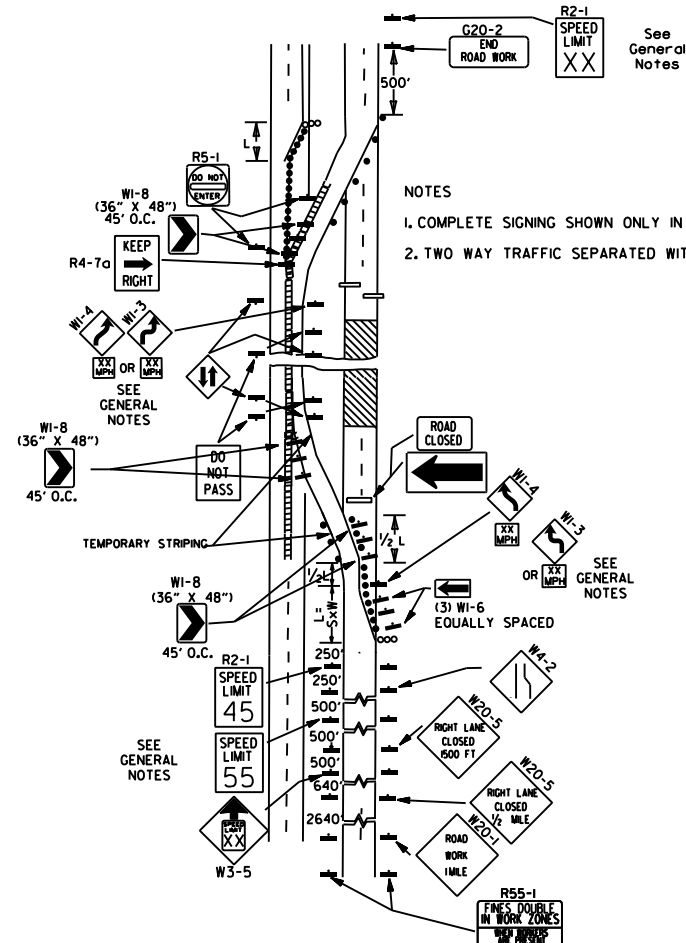
RI-I  STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"	RI-2  STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"	R2-I  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	W3-5  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	W3-5a  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	R4-I  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R4-2  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	ADVANCE DISTANCES (XXXX) 500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD GENERAL NOTES: 1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. 3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.
R5-I  STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"	R1I-2  48"x30"	R1I-3A  60"x30"	R1I-4  60"x30"	W2I-5a  STD. 36"x36" FWY. 48"x48"	WI-I  STD. 36"x36" FWY. 48"x48"	WI-2  STD. 36"x36" FWY. 48"x48"	
WI-3  STD. 48"x48"	WI-4  STD. 48"x48"	WI-6  STD. 48"x24" SPECIAL 60"x30"	WI-8  STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"	W3-I  STD. 36"x36" SPECIAL 48"x48"	W3-2  STD. 36"x36" SPECIAL 48"x48"	W4-2  STD. 36"x36" FWY. 48"x48"	
W5-I  STD. 36"x36" SPECIAL 48"x48"	W6-3  EXPWY. 36"x36" SPECIAL 48"x48"	W8-7  EXPWY. 36"x36" FWY. 48"x48"	W9-2  STD. 36"x36" FWY. 48"x48"	WI3-I  STD. 24"x24"	W20-I  STD. 48"x48"	W20-2  STD. 48"x48"	W20-3  STD. 48"x48"
W20-4  STD. 48"x48"	W20-5  STD. 48"x48"	W20-7a  18" 500 FEET 24" W16-2 STD. 36"x36" FWY. 48"x48"	W2I-2  STD. 30"x30" SPECIAL 36"x36"	W2I-5  STD. 30"x30" SPECIAL 36"x36"	W24-I  STD. 36"x36"	WI-4b  STD. 48"x48"	R56-I  STD. 18"x18"
W8-II  STD. 36"x36" FWY. 48"x48"	W8-9  STD. 36"x36" FWY. 48"x48"	G20-I  60"x24"	G20-2  48"x24"	OM-3L OM-3R  12"x36"	M4-9  STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"	M4-10  48"x18"	R55-I  36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS

II-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W2I-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

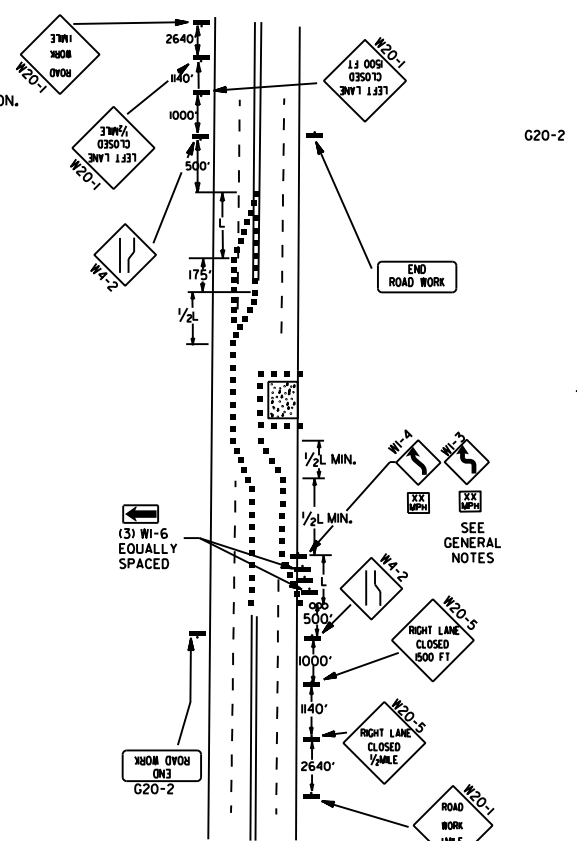
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



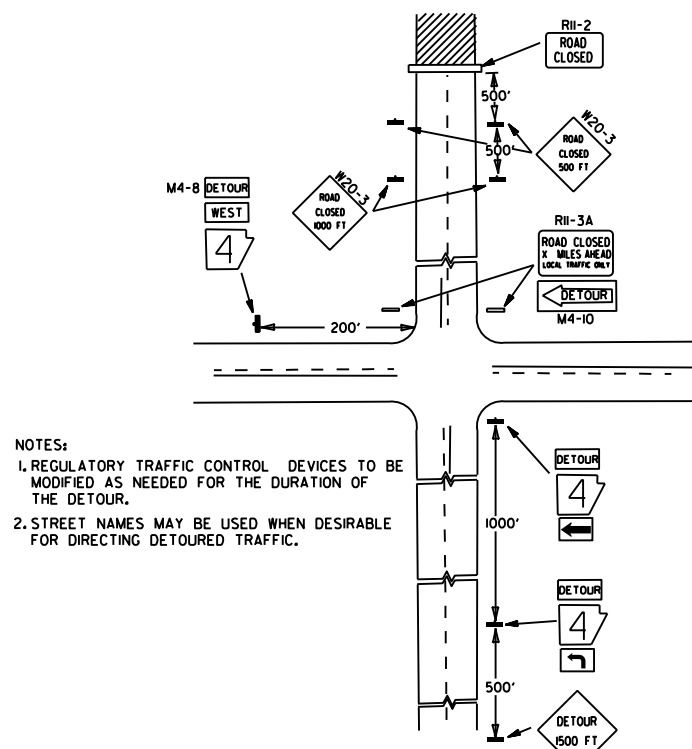
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



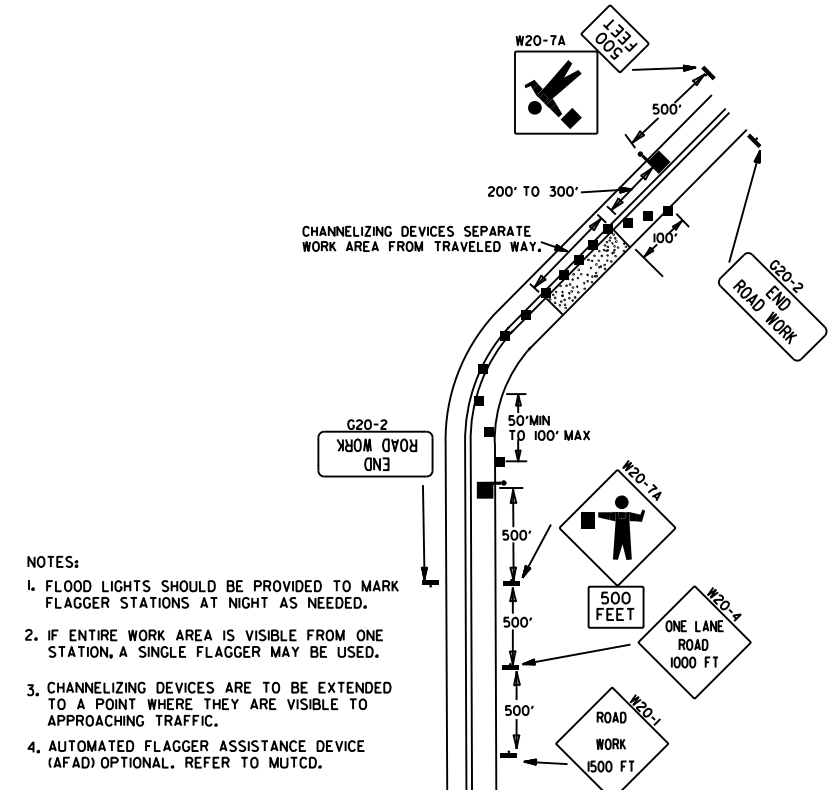
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



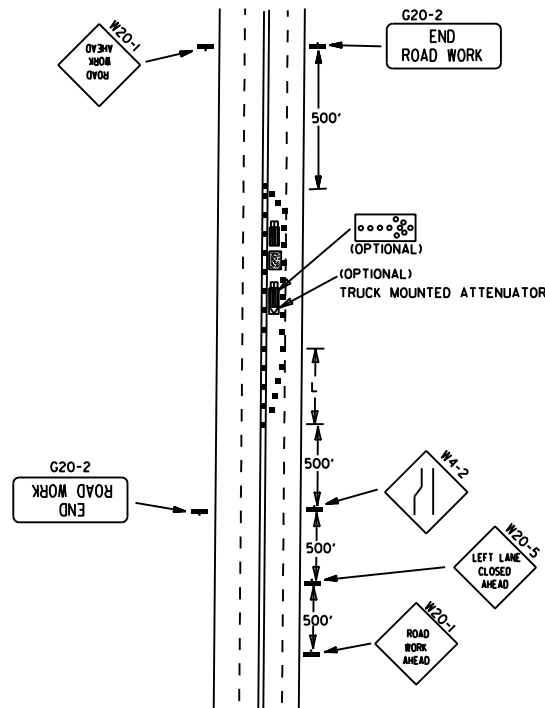
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



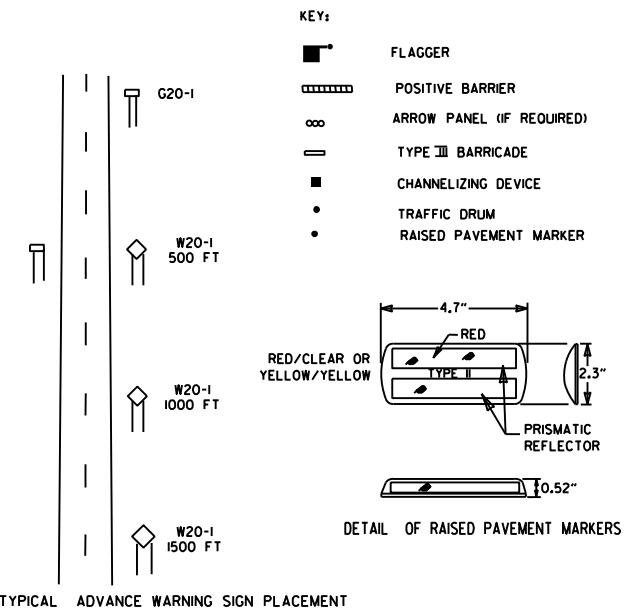
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.



- GENERAL NOTES:
- THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 - 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 W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH 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.
 - 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)MPH 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.
 - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 - TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
 - 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 ARDOT QUALIFIED PRODUCTS LIST.
 - ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

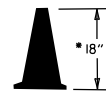
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED 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	
DATE	REVISION	FILMED

(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY 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.

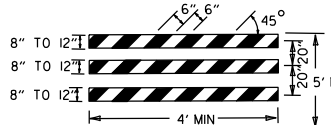
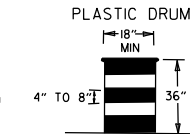
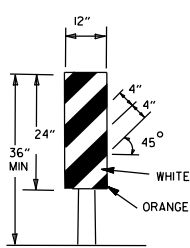
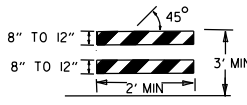
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

CHANNELIZING DEVICES



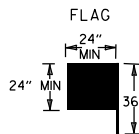
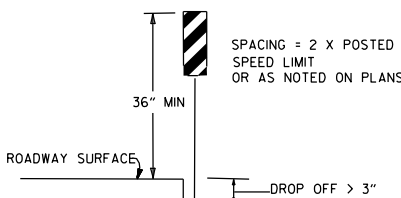
• WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

CONES



NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

VERTICAL PANEL PLACEMENT



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

KEY:

- ○ ○ ○ ARROW PANEL (IF REQUIRED)
- CHANNELIZING DEVICE
- TRAFFIC DRUM

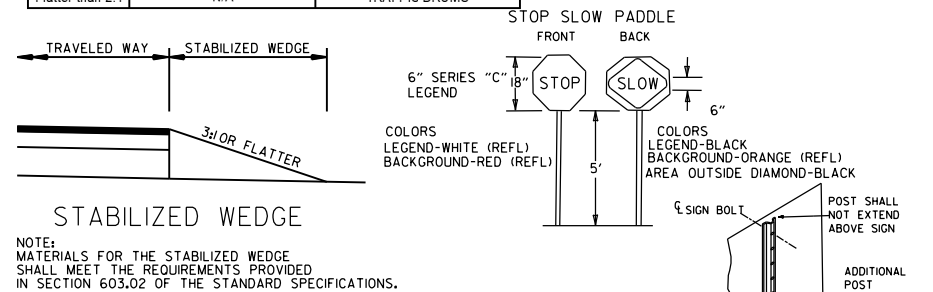
GENERAL NOTES:

- 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-(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-(65) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
- WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
- PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
- 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 (1/2 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 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. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
- ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

TRAFFIC CONTROL DEVICES			
NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
≤ 3"	CENTERLINE	STANDARD LANE CLOSURE ⁽⁶⁾	STANDARD LANE CLOSURE ⁽⁶⁾
> 3"	CENTERLINE	STANDARD LANE CLOSURE ⁽⁶⁾	STANDARD LANE CLOSURE ⁽⁶⁾
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS ⁽¹⁾	W8-9 AND TRAFFIC DRUMS ⁽¹⁾
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS ⁽³⁾
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES

INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

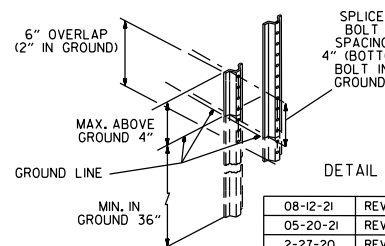
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS



STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

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.

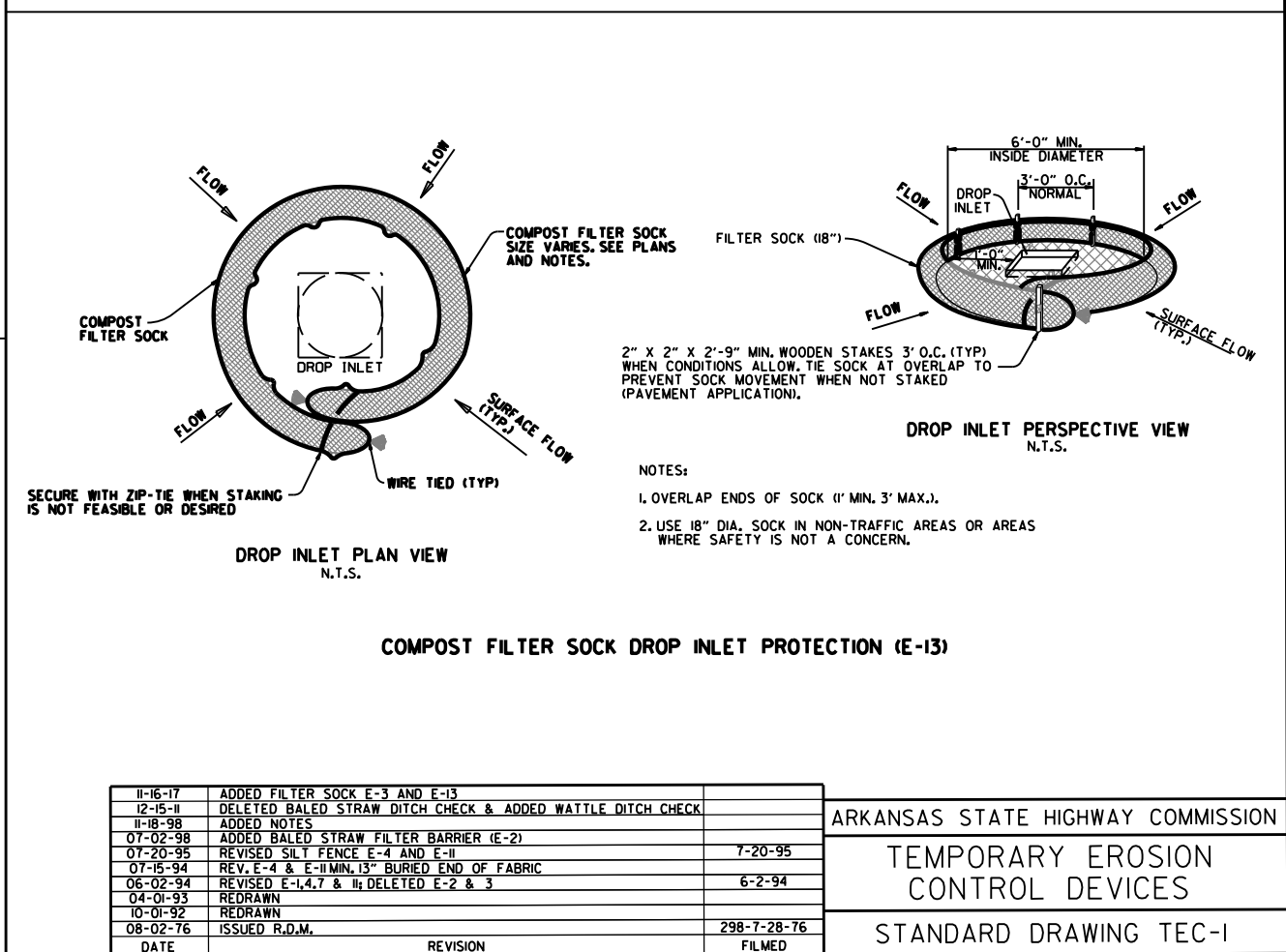
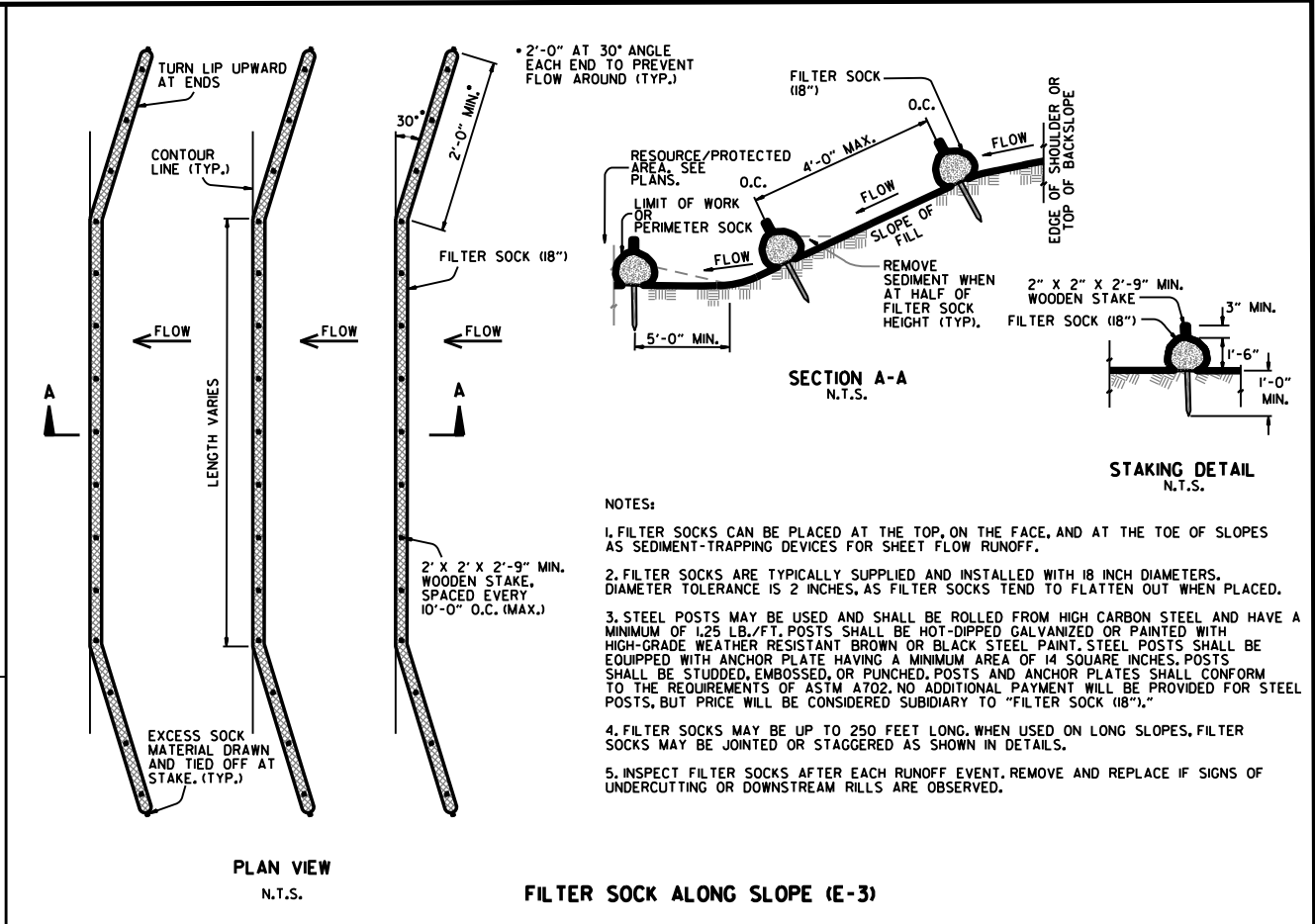
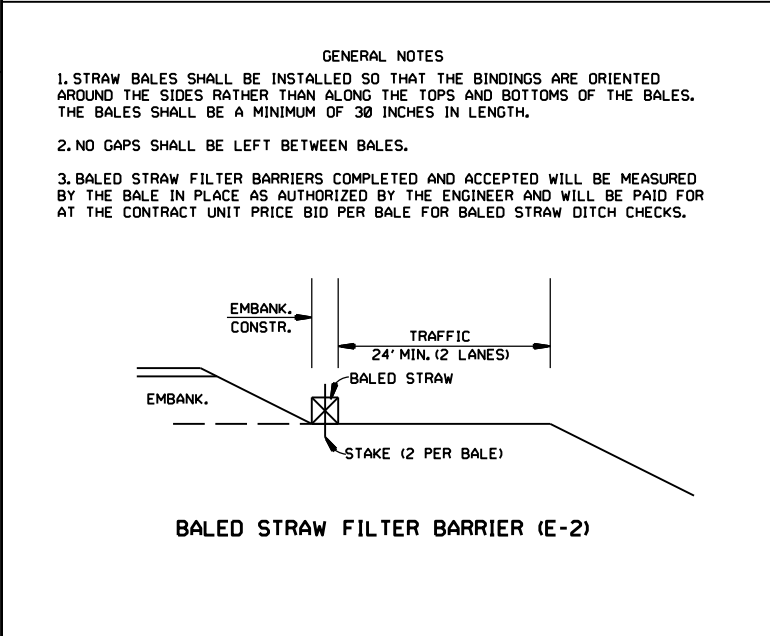
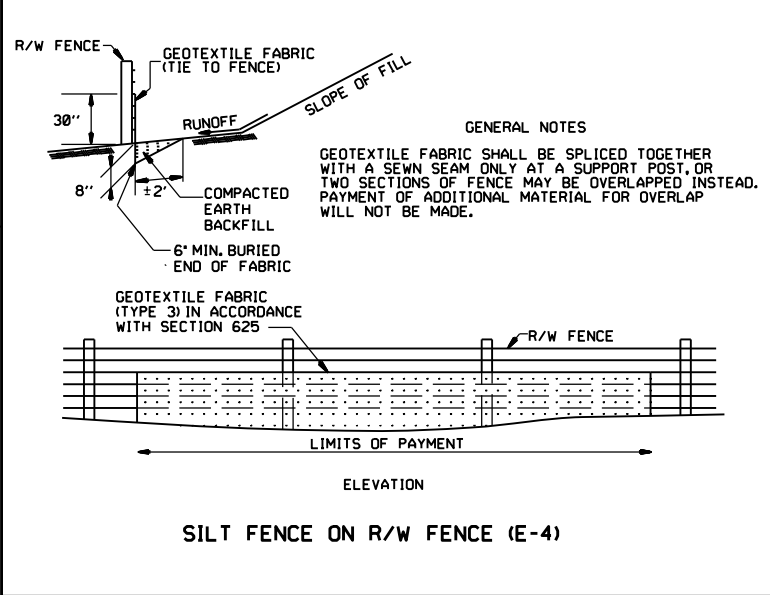
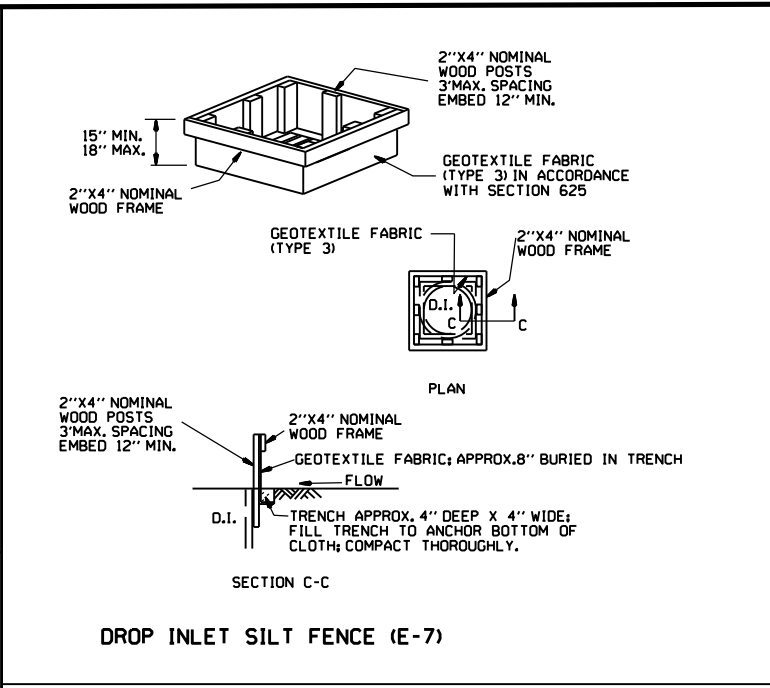
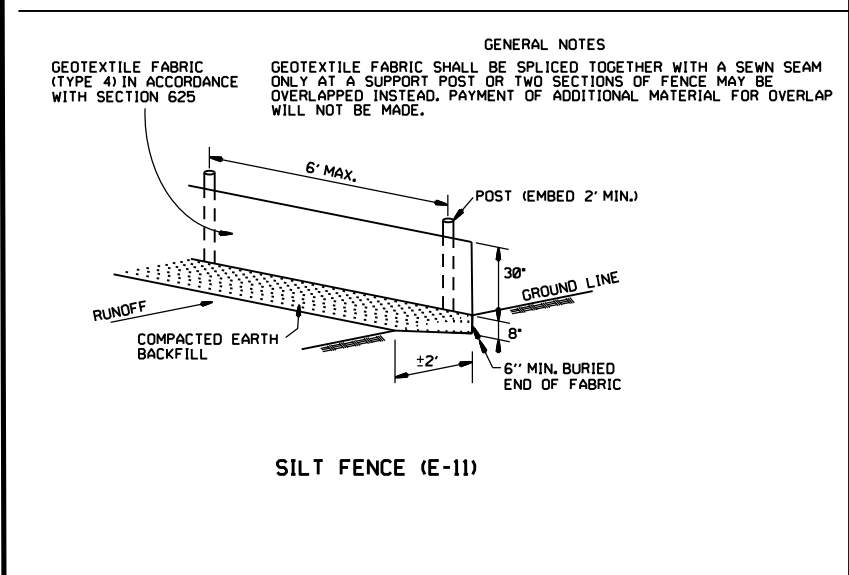
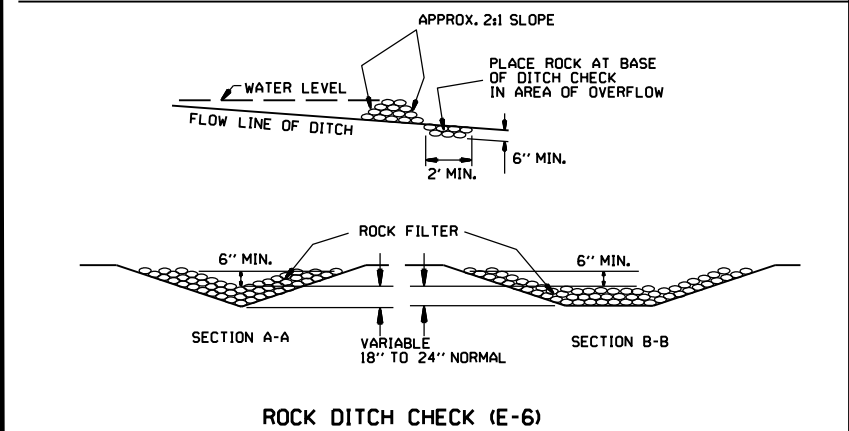
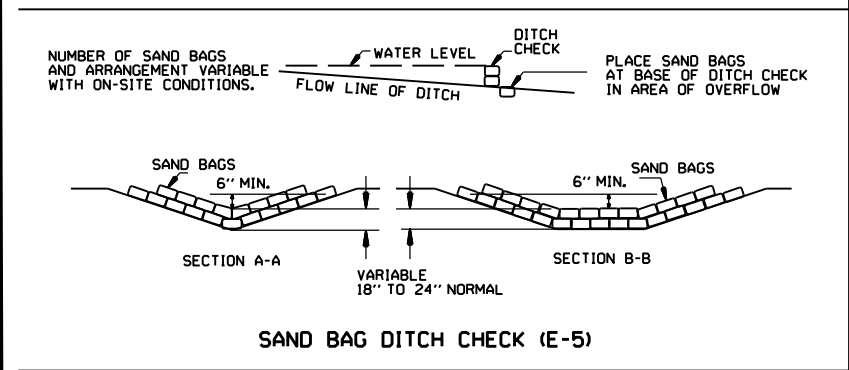
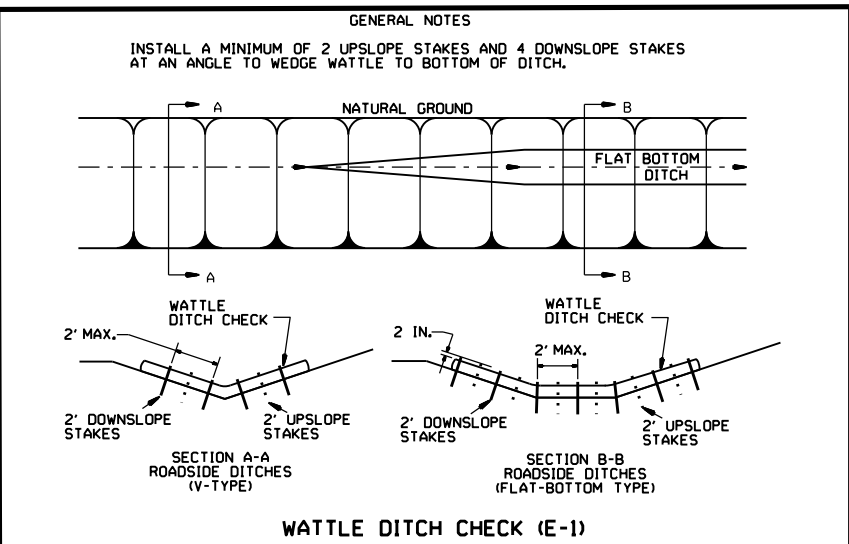


DETAIL OF SPLICES

DATE	REVISION	FILED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE II	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
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 W6-18 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

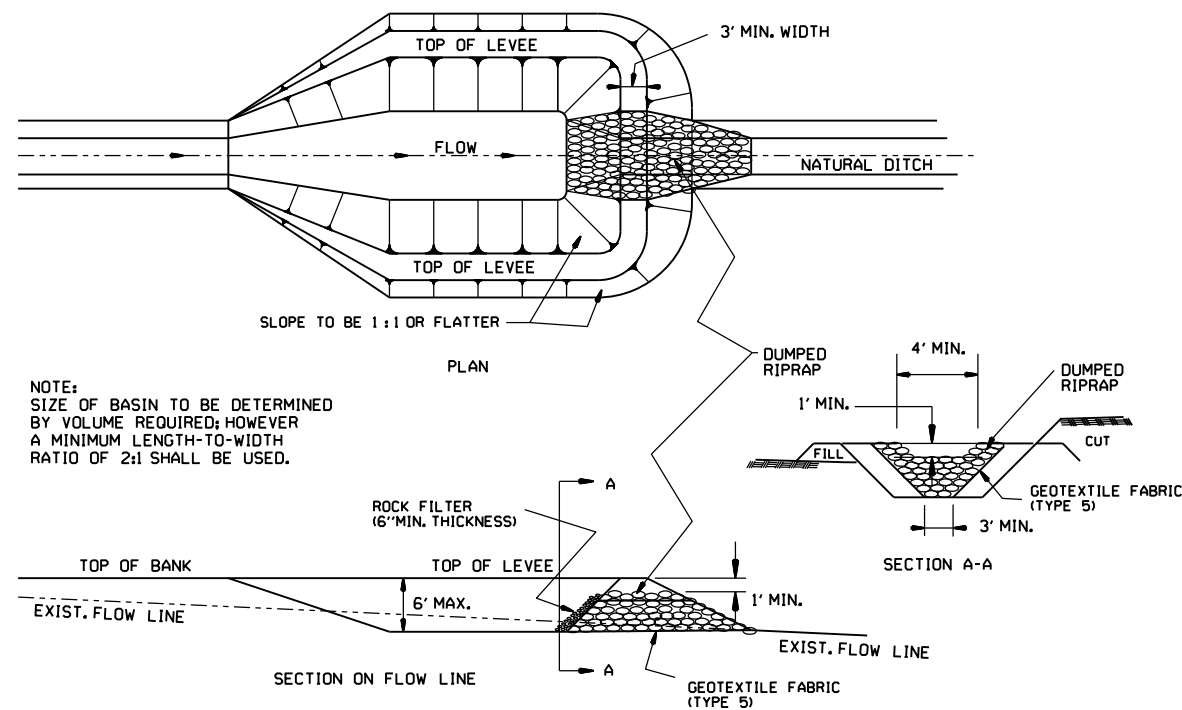


11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILTS FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1, 4, 7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76
DATE	REVISION	FILMED

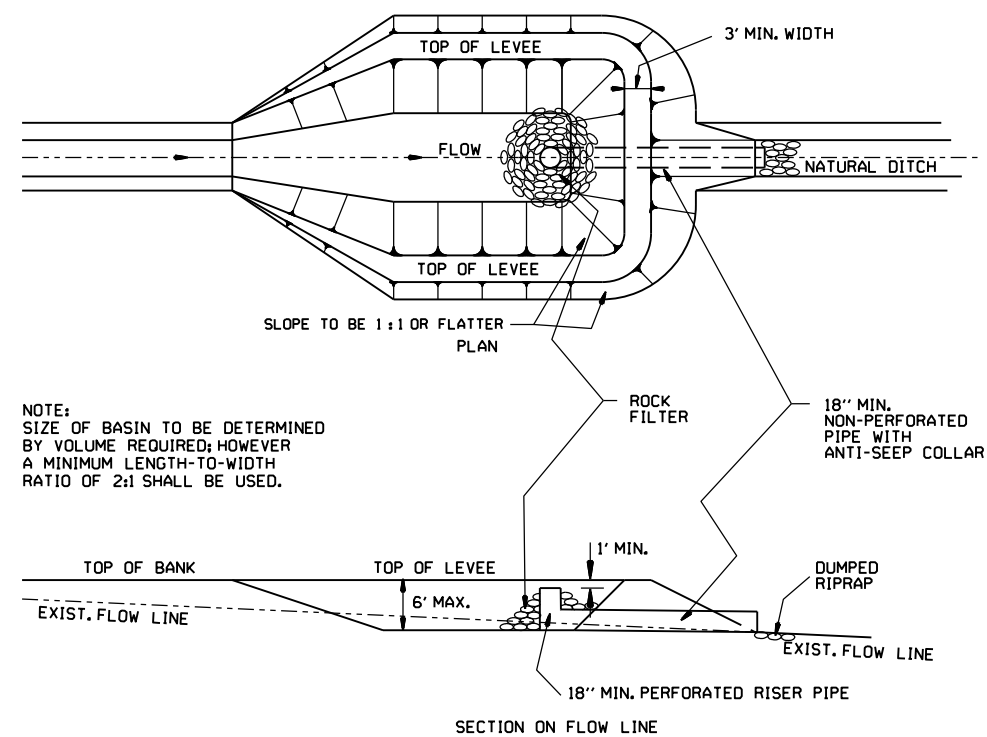
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

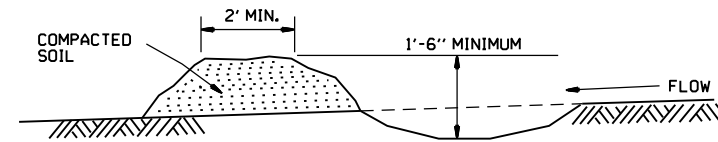
STANDARD DRAWING TEC-1



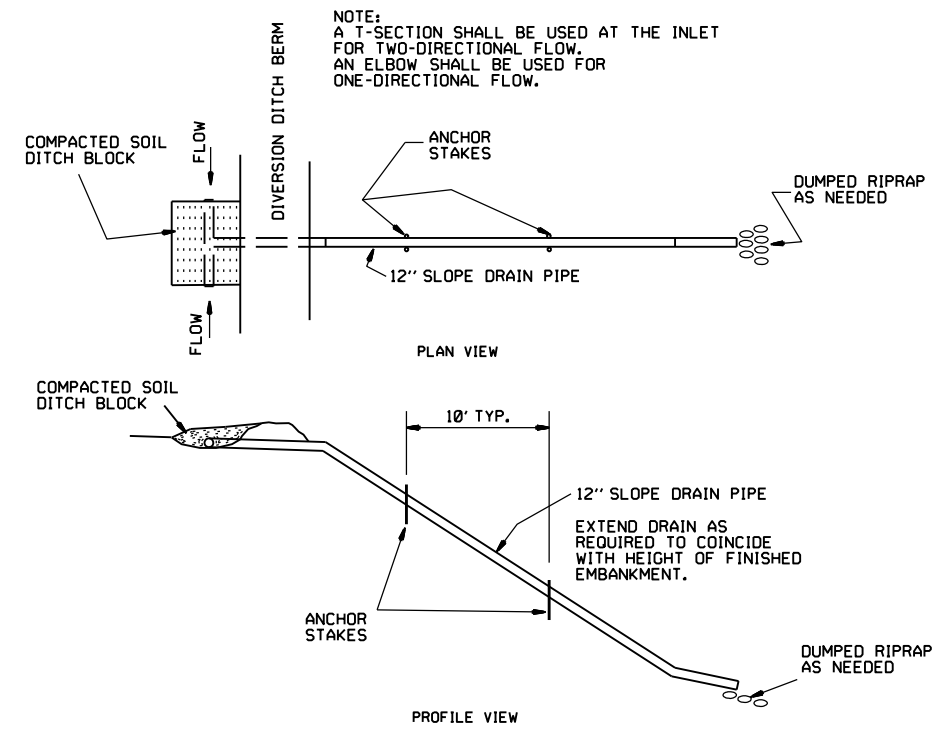
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



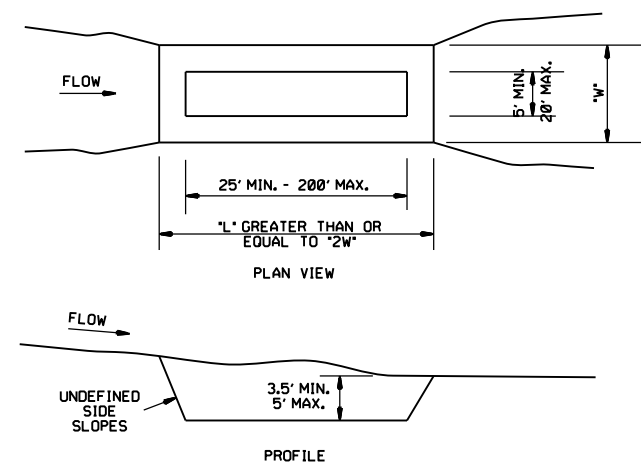
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



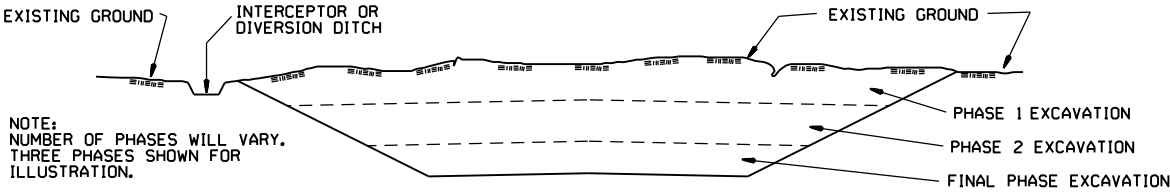
SEDIMENT BASIN (E-14)

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		STANDARD DRAWING TEC-2
4-1-93	ISSUED		
DATE	REVISION	FILMED	

CLEARING AND GRUBBING

- CONSTRUCTION SEQUENCE
- 1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES ,DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
 - 2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION

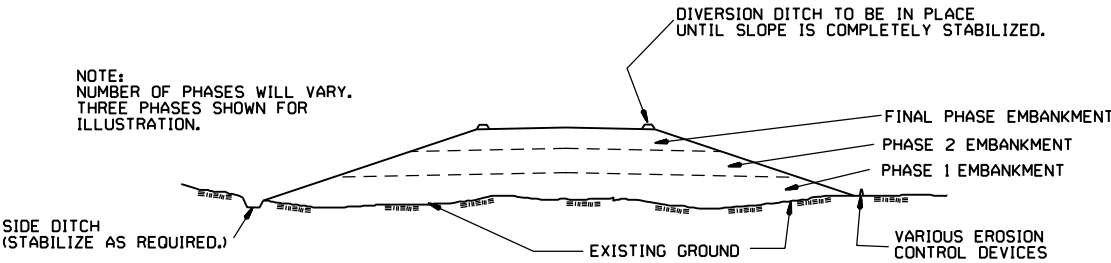


GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

- CONSTRUCTION SEQUENCE
- 1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
 - 2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
 - 3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
 - 4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

- CONSTRUCTION SEQUENCE
- 1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
 - 2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
 - 3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
 - 4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
11-03-94	CORRECTED SPELLING		STANDARD DRAWING TEC-3
6-2-94	Drawn & Issued	6-2-94	
DATE	REVISION	FILMED	