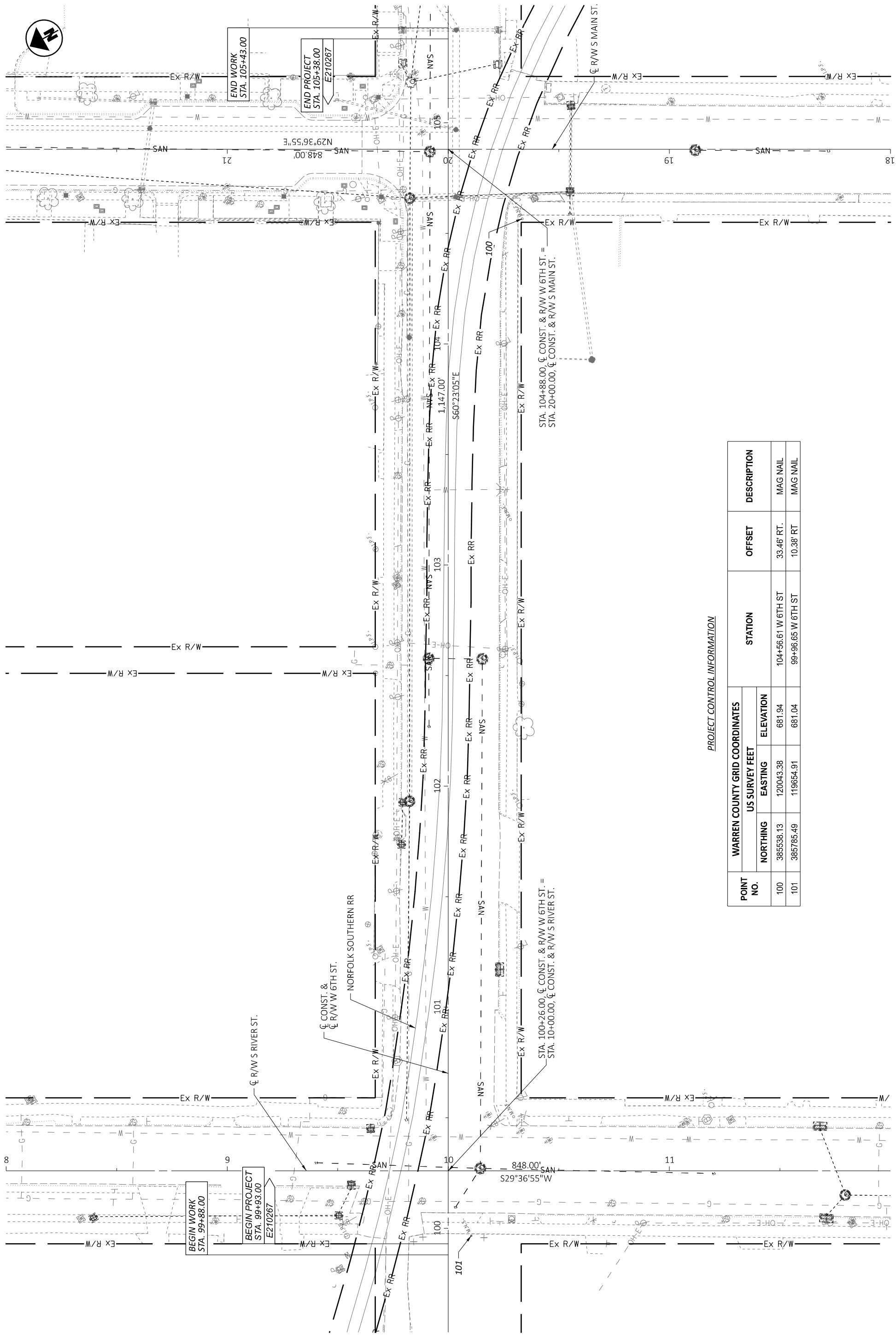




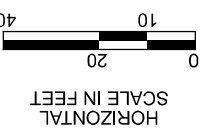
POINT NO.	WARREN COUNTY GRID COORDINATES			STATION	OFFSET	DESCRIPTION
	NORTHING	EASTING	ELEVATION			
100	385538.13	120043.38	681.94	104+56.61 W 6TH ST	33.46' RT.	MAG NAIL
101	385785.49	119654.91	681.04	99+96.65 W 6TH ST	10.38' RT	MAG NAIL

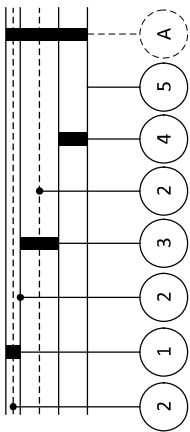
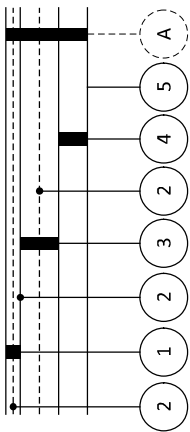
PROJECT CONTROL INFORMATION

SCHEMATIC PLAN

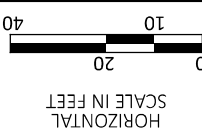


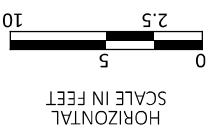
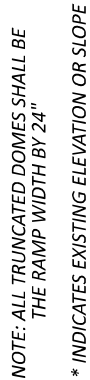
DESIGNER	ARM
REVIEWER	SJS
PROJECT ID	06/07/24
SHEET	115153
TOTAL	29
P.02	



WAR-S RIVER & S MAIN NS		MODEL: Sheet_SurFI.PAPER SIZE: 17x11 (in.) DATE: 11/4/2024 TIME: 3:34:25 PM USER: 02866 X:\012500\220106\01115315_VAR-STW-GES ORDC 2022\115153_WAR-S River & S Main NS\400-Engineering\Roadway\Sheets\115153_GN01.dgn																																											
WORK LIMITS THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS. UTILITIES LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS: UTILITY CONTACTS ARE TO BE PROVIDED BY ODOT DISTRICT 8 UTILITY ENGINEER. DUKE ENERGY ELECTRIC 2010 Dana Ave, EF324 Cincinnati, Ohio 45207 Chris Tepe 513-514-8209 chris.tepe@duke-energy.com DUKE ENERGY GAS 139 E. Fourth St., Rm. 460A Cincinnati, Ohio 45202 Mark Branscum or Denise Gross OH/KYHouseBill@duke-energy.com ALTA FIBER (FORMERLY CINCINNATI BELL) 201 E Fourth St. Bldg. 121-900 Cincinnati, Ohio 45201 513-565-7043 Robert Wittenberg robert.wittenberg@altafiber.com AT&T OHIO 7201 Far Hills Avenue Dayton, Ohio 45459 Alan Stutes 937-708-1026 AS1634@att.com WARREN COUNTY WATER & SEWER 406 Justice Drive Lebanon, Ohio 45036 Chris Brausch 513-695-1377 Chris.brausch@co.warren.oh.us CITY OF FRANKLIN Nick Miller, Assistant Public Works Director 937-746-5001 nmiller@Franklinohio.org INDEPENDENT'S FIBER NETWORK/COMNET 13888 S Dixie Drive Wapakoneta, Ohio 45895 OSPeng@cniteam.com THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.		ADDITIONAL PROJECT CONTACTS LISTED BELOW IS INFORMATION FOR ADDITIONAL PROJECT CONTACTS: Ohio Rail Development Commission Allen Bell - Safety Manager 614-644-0313 allen.bell@dot.ohio.gov Ohio Rail Development Commission Heather Hamilton - Safety Division Coordinator 614-644-0307 heather.hamilton@dot.ohio.gov Ohio Rail Development Commission Representative Mott MacDonald Zoltan Szabo 216-535-3642 zoltan.szabo@mottmac.com Norfolk Southern Railroad Aaron Pease 440-429-1960 aaron.pease@nscorp.com CITY OF FRANKLIN Nick Miller, Assistant Public Works Director 937-746-5001 nmiller@Franklinohio.org CLEARING AND GRUBBING ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING. ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE: 1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION. 2. COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03. 3. PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06. 4. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE. ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN REMOVE AND REPLACE THE EXISTING ROCK BEHIND CR-2 AND CR-3 WITH IN-KIND MATERIAL. IF POSSIBLE, REUSE THE EXISTING ROCK. A CONTINGENCY QUANTITY HAS BEEN INCLUDED AND CARRIED TO THE SUBSUMMARY ON SHEET P.09 ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTIONS, AS PER PLAN 9 SQ. YD. MANHOLE AND VALVES ADJUSTED TO GRADE (PRIVATELY OWNED) ALL MANHOLES AND VALVES ENCOUNTERED IN AREAS THAT REQUIRE GRADE ADJUSTMENT WILL BE PERFORMED PRIOR TO THE APPLICATION OF THE SURFACE COURSE BY THE UTILITY OWNER. CONTACT THE UTILITY OWNER 2 WEEKS PRIOR TO WHEN THE ADJUSTMENTS ARE TO BE COMPLETED.																																											
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ITEM 608 - CURB RAMP, AS PER PLAN IN AREAS OF INTERSECTION WHERE CURB IS REPLACED, WHEEL CHAIR RAMPS SHALL BE CONSTRUCTED TO MEET ADA REQUIREMENTS IN ACCORDANCE WITH ODOT STANDARD DRAWING BP-7.1 AND AS DIRECTED BY THE ENGINEER. THE INTENT OF THIS ITEM IS TO INSTALL ADA CURB RAMPS WHERE INDICATED IN THIS SET OF PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE EXISTING WALK AND/OR CURB AND GUTTER IN A MANNER THAT DOES NOT DAMAGE OTHER AREAS MEANT TO REMAIN IN PLACE (SEE CURRENT STANDARD DRAWING BP-7.1). AS THESE INSTALLATIONS ARE BEING MADE TO FIT EXISTING CONDITIONS, VARIATIONS FROM STANDARD MAY OCCUR. ANY DEVIATIONS FROM DETAIL IN THESE PLANS MUST FIRST BE APPROVED BY THE ENGINEER. RESTORATION TO EXISTING PAVEMENT AREAS IN FRONT OF THE PROPOSED CURB RAMPS SHALL BE INCLUDED IN THIS ITEM OF WORK. RESTORATION SHALL BE MADE UP TO AND INCLUDE THE SURFACE COURSE. ALL WORK, LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 608, CURB RAMP, AS PER PLAN. PAVEMENT REPAIR PAVEMENT REPAIR SHALL CONSIST OF PAVEMENT REMOVED AND REPLACED TO CORRECT COUNTER SLOPE AND/OR CROSS SLOPE AT PROPOSED CURB RAMP BASES, AND/OR FOR EASE OF CONSTRUCTION. IN ADDITION TO THE REQUIREMENT OF ODOT C&MS SECTION 253, THE CONTRACTOR SHALL REMOVE AN ADDITIONAL WIDTH OF PAVEMENT MEASURED 2 FEET FROM THE FACE OF THE CURB/GUTTER TO BE REMOVED. REFER TO THE TYPICAL SECTION BELOW FOR PAVEMENT BUILD-UP OF THE REPLACEMENT MATERIAL. ESTIMATED QUANTITIES ARE INCLUDED IN THE SUBSUMMARY ON SHEET P.09 THE 6" AGGREGATE BASE SHALL BE INSTALLED UNDER THE CURB AND SHALL EXTEND WIDTHWISE APPROXIMATELY 10" PAST THE BACK OF CURB. ALL OF THESE ITEMS, INCLUDING THE PAVEMENT REMOVAL, ARE INCLUDED IN THE SQ FT ITEM, CURB RAMP, AS PER PLAN. TYPICAL SECTION: PAVEMENT REPAIR, AS PER PLAN  ITEM 202 - PAVEMENT REMOVED ITEM 441 - 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 (2 LIFTS) ITEM 407 - NON-TRACKING TACK COAT ITEM 301 - 8" ASPHALT CONCRETE BASE, PG64-22 (2 LIFTS) ITEM 304 - 6" AGGREGATE BASE ITEM 204 - SUBGRADE COMPACTION EXISTING PAVEMENT BUILD-UPS WERE NOT FOUND. THE EXISTING PAVEMENT IS EXPECTED TO BE BITUMINOUS CONCRETE OVER PENETRATION MACADAM. REGARDLESS OF MATERIAL FOUND, BACKFILL AS SHOWN IN TYPICAL SECTION ABOVE.		ITEM 608 - CURB RAMP, AS PER PLAN IN AREAS OF INTERSECTION WHERE CURB IS REPLACED, WHEEL CHAIR RAMPS SHALL BE CONSTRUCTED TO MEET ADA REQUIREMENTS IN ACCORDANCE WITH ODOT STANDARD DRAWING BP-7.1 AND AS DIRECTED BY THE ENGINEER. THE INTENT OF THIS ITEM IS TO INSTALL ADA CURB RAMPS WHERE INDICATED IN THIS SET OF PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE EXISTING WALK AND/OR CURB AND GUTTER IN A MANNER THAT DOES NOT DAMAGE OTHER AREAS MEANT TO REMAIN IN PLACE (SEE CURRENT STANDARD DRAWING BP-7.1). AS THESE INSTALLATIONS ARE BEING MADE TO FIT EXISTING CONDITIONS, VARIATIONS FROM STANDARD MAY OCCUR. ANY DEVIATIONS FROM DETAIL IN THESE PLANS MUST FIRST BE APPROVED BY THE ENGINEER. RESTORATION TO EXISTING PAVEMENT AREAS IN FRONT OF THE PROPOSED CURB RAMPS SHALL BE INCLUDED IN THIS ITEM OF WORK. RESTORATION SHALL BE MADE UP TO AND INCLUDE THE SURFACE COURSE. ALL WORK, LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 608, CURB RAMP, AS PER PLAN. PAVEMENT REPAIR PAVEMENT REPAIR SHALL CONSIST OF PAVEMENT REMOVED AND REPLACED TO CORRECT COUNTER SLOPE AND/OR CROSS SLOPE AT PROPOSED CURB RAMP BASES, AND/OR FOR EASE OF CONSTRUCTION. IN ADDITION TO THE REQUIREMENT OF ODOT C&MS SECTION 253, THE CONTRACTOR SHALL REMOVE AN ADDITIONAL WIDTH OF PAVEMENT MEASURED 2 FEET FROM THE FACE OF THE CURB/GUTTER TO BE REMOVED. REFER TO THE TYPICAL SECTION BELOW FOR PAVEMENT BUILD-UP OF THE REPLACEMENT MATERIAL. ESTIMATED QUANTITIES ARE INCLUDED IN THE SUBSUMMARY ON SHEET P.09 THE 6" AGGREGATE BASE SHALL BE INSTALLED UNDER THE CURB AND SHALL EXTEND WIDTHWISE APPROXIMATELY 10" PAST THE BACK OF CURB. ALL OF THESE ITEMS, INCLUDING THE PAVEMENT REMOVAL, ARE INCLUDED IN THE SQ FT ITEM, CURB RAMP, AS PER PLAN. TYPICAL SECTION: PAVEMENT REPAIR, AS PER PLAN  ITEM 202 - PAVEMENT REMOVED ITEM 441 - 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 (2 LIFTS) ITEM 407 - NON-TRACKING TACK COAT ITEM 301 - 8" ASPHALT CONCRETE BASE, PG64-22 (2 LIFTS) ITEM 304 - 6" AGGREGATE BASE ITEM 204 - SUBGRADE COMPACTION EXISTING PAVEMENT BUILD-UPS WERE NOT FOUND. THE EXISTING PAVEMENT IS EXPECTED TO BE BITUMINOUS CONCRETE OVER PENETRATION MACADAM. REGARDLESS OF MATERIAL FOUND, BACKFILL AS SHOWN IN TYPICAL SECTION ABOVE.																																											
GENERAL NOTES		DESIGN AGENCY Mead & Hunt CLIENT																																											
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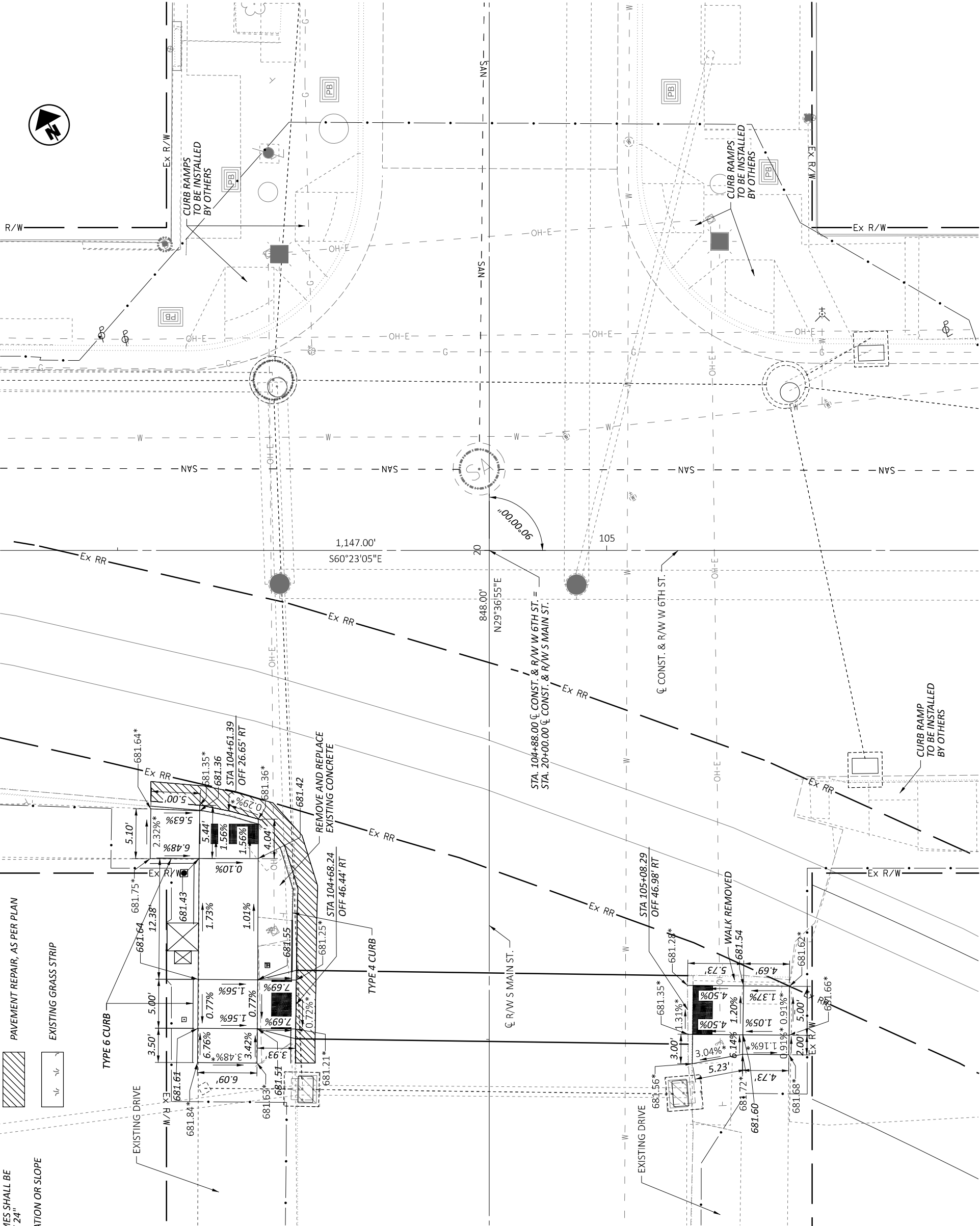
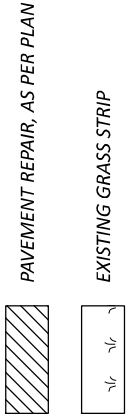
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WAR-S RIVER & S MAIN NS		MODEL: Sheet_Survey PAPER SIZE: 17x11 (in.) DATE: 11/4/2024 TIME: 3:34:26 PM USER: 02666	
GENERAL NOTES		DESIGN AGENCY Mead & Hunt CLIENT	
		DESIGNER ARM	
		REVIEWER	
		SJS 06/07/24	
		PROJECT ID 115153	
		SHEET TOTAL	
		P.04 29	
WORK INSPECTION		THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER WITH 72-HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.	
CONSTRUCTION NOISE		ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 8:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.	
COORDINATION WITH RAILROAD		THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH NORFOLK SOUTHERN RAILROAD ON THIS PROJECT.	
		THE CONTRACTOR WILL NEED TO COORDINATE WITH NORFOLK SOUTHERN TO DETERMINE THE METHOD AND SCHEDULE OF INTERCONNECTION. AT MINIMUM, THE CONTRACTOR SHALL CONNECT THE PROVIDED 200' OF INTERCONNECT CABLE TO THE TRAFFIC SIGNAL CONTROL CABINET. THE CONTRACTOR SHALL COMPLETE THE CONNECTION BETWEEN THE TRAFFIC SIGNAL CONTROLLER CABINET AND THE RAILROAD BUNGALOW IN ACCORDANCE WITH SS819. SPLICES ARE NOT ACCEPTABLE.	
ITEM 202 - CURB REMOVED, AS PER PLAN		SAW CUT THE EXISTING CURB FOR THE LIMITS SHOWN ON THE PLANS SUCH THAT THE CURB IS FLUSH WITH THE ADJACENT SURFACES.	
WORK NEAR GAS LINE		BEFORE WORKING IN THE AREA AROUND SIGNAL SUPPORT SP-2 IN THE NORTHEAST CORNER OF THE S RIVER ST./W 6TH ST. INTERSECTION, CONTACT DUKE GAS AT THE NUMBER BELOW: JOHN REICHENBERGER 513-497-8423	



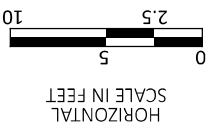


NOTE: ALL TRUNCATED DOMES SHALL BE THE RAMP WIDTH BY 24"

* INDICATES EXISTING ELEVATION OR SLOPE



CURB RAMP DETAILS
W 6TH ST AND S MAIN ST



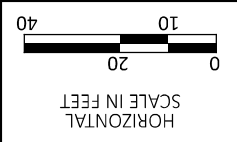
DESIGN AGENCY	MEAD & HUNT	CLIENT
DESIGNER	ARM	
REVIEWER	SJS	06/07/24
PROJECT ID	115153	
SHEET	P.12	TOTAL 29

WAR-S RIVER & S MAIN NS										PAVEMENT MARKING SUBSUMMARY											
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REF NO.	SHEET NO.	STATION TO STATION				642	642	642	644	644	644	644	644	644	644	644	644	644	644	644	644
						TO															
R-1	15	RIVER	10+40		10+35																
R-2	15	RIVER	10+36		10+27																
R-3	15	SIXTH	100+61																		
R-4	15	SIXTH	100+49																		
R-5	15	SIXTH	100+49		104+54																
R-6	15	SIXTH	104+10		104+54																
R-7	15	SIXTH	104+15		104+45		2														
R-8	15	SIXTH	104+54				25														
R-9	15	SIXTH	104+61				96														
R-10	15	MAIN	19+66		19+74		105														
R-11	15	SIXTH	105+50.47					1													
R-12	15	SIXTH	105+70.29					1													
R-13	15	SIXTH	105+50.47					1													
CW-1	16	RIVER	9+58.36		9+55.54						77										
CW-2	16	SIXTH	100+50.40		100+57.38						93										
SL-1	16	RIVER	9+51.00						26												
SL-2	16	SIXTH	100+61						11												
CL-1	16	SIXTH	100+61		104+17					0.07											
CL-2	16	SIXTH	101+01		104+17					0.06											
SL-3	16	SIXTH	104+17						13												
CW-3	16	SIXTH	14+59.19		104+69.64						95										
CW-4	16	MAIN	19+48.46		19+47.92						80										
DL-1	16	SIXTH	104+17		105+32											114					
RR-1	16	SIXTH	102+94.65																		
RR-2	16	SIXTH	103+17.34																		
EW-1	16	SIXTH	100+61		102+16																
SL-4	16	SIXTH	102+16																		
A-1	16	MAIN	18+98.00																		
A-2	16	MAIN	19+30.77																		
A-3	16	SIXTH	105+41.10																		
DE-1	16	RIVER	0+13.25		9+65.25																
TOTALS CARRIED TO GENERAL SUMMARY							873	5			63		345	0.01	0.02		2	4	114		

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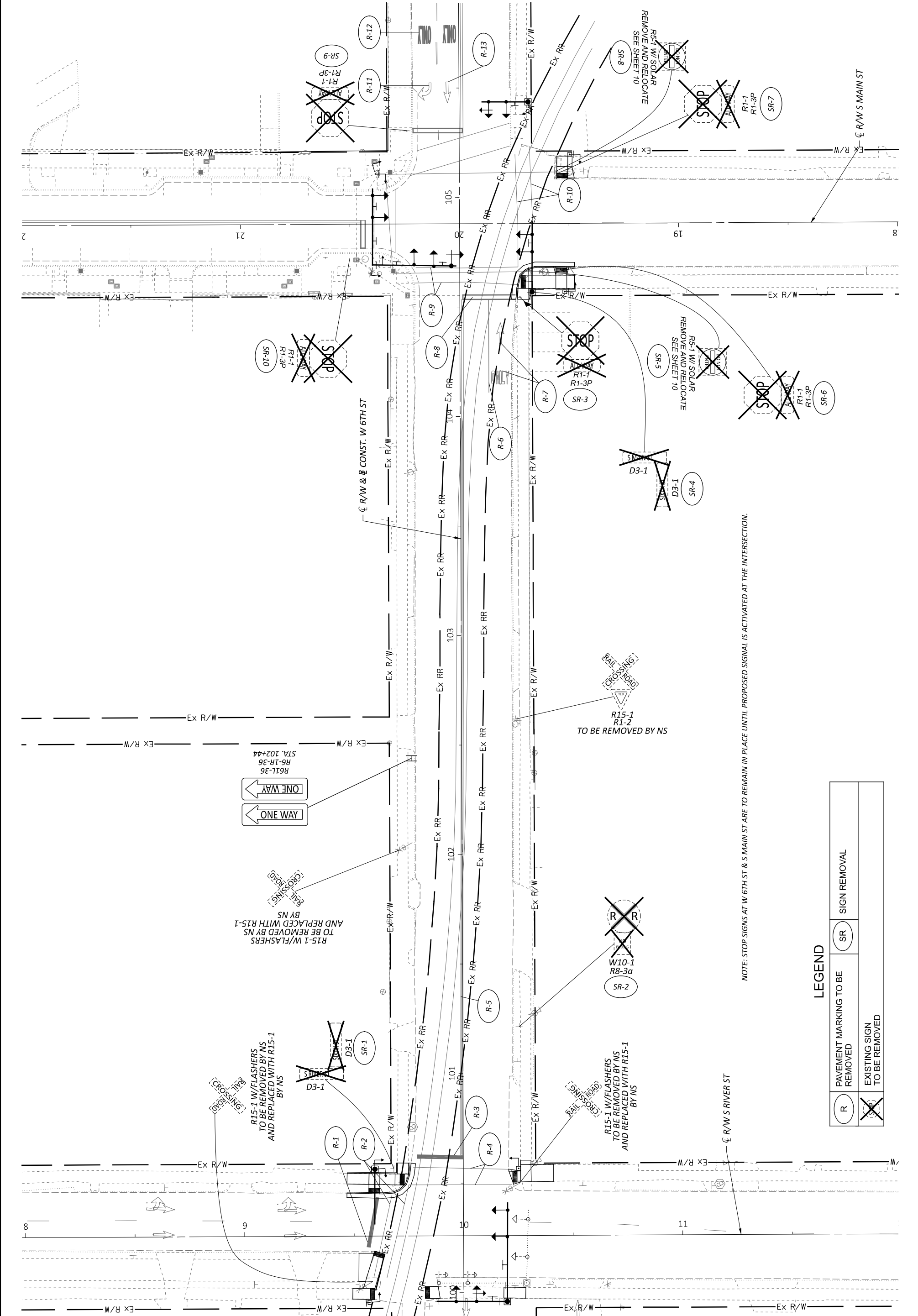


DESIGN AGENCY
Mead & Hunt
 CLIENT
 DESIGNER
 DLW
 REVIEWER
 SJS 06/07/24
 PROJECT ID
 115153
 SHEET
 TOTAL
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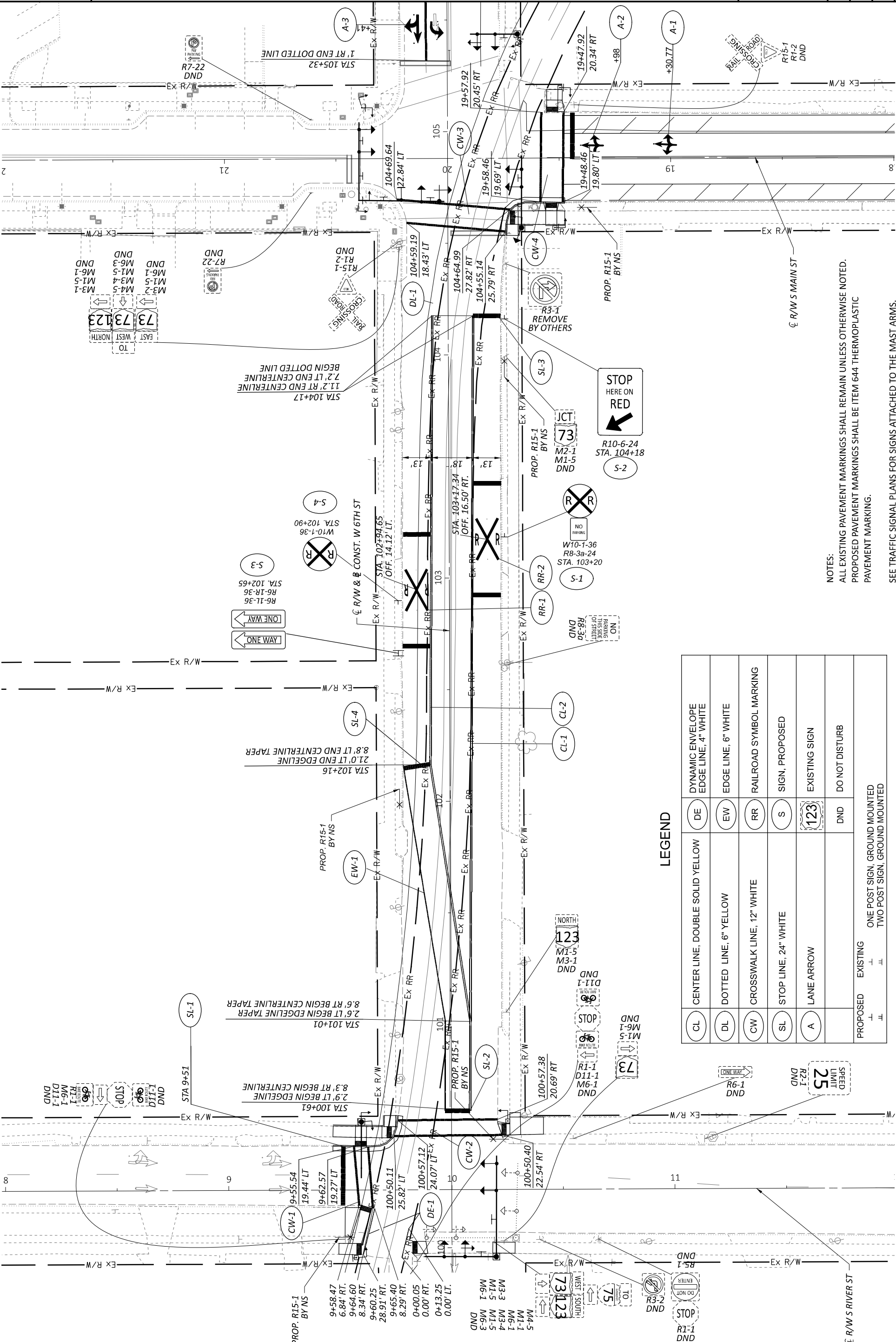


SIGNING AND PAVEMENT MARKING REMOVAL PLAN
WEST 6TH STREET

DESIGN AGENCY	MEAD & HUNT
CLIENT	
DESIGNER	TK
REVIEWER	
DLW	05/31/24
PROJECT ID	115153
SHEET	TOTAL
P.15	29



SIGNING AND MARKING PLANS WEST 6TH STREET



	CENTER LINE, DOUBLE SOLID YELLOW		DYNAMIC ENVELOPE EDGE LINE, 4" WHITE
	DOTTED LINE, 6" YELLOW		EDGE LINE, 6" WHITE
	CROSSWALK LINE, 12" WHITE		RAILROAD SYMBOL MARKING
	STOP LINE, 24" WHITE		SIGN, PROPOSED
	LANE ARROW		EXISTING SIGN
		DND	DO NOT DISTURB
PROPOSED  	EXISTING  	ONE POST SIGN, GROUND MOUNTED TWO POST SIGN, GROUND MOUNTED	

NOTES:
ALL EXISTING PAVEMENT MARKINGS SHALL REMAIN UNLESS OTHERWISE NOTED.
PROPOSED PAVEMENT MARKINGS SHALL BE ITEM 644 THERMOPLASTIC
PAVEMENT MARKING.

SEE TRAFFIC SIGNAL PLANS FOR SIGNS ATTACHED TO THE MAST ARMS.

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WAR-S RIVER & S MAIN NS		MODEL: Sheet_SuwrFt_PAPER SIZE: 17x11 (in.) DATE: 11/4/2024 TIME: 3:34:40 PM USER: 02866	
SIGNAL ACTIVATION		PRIORITY TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC.) IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE CITY OF FRANKLIN ENGINEER. THE CITY OF FRANKLIN ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.	
GROUNDING AND BONDING		THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS (C&MS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS: ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL A. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR. B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED. C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR. D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED. E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS. F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT. 2. CONDUITS. A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR SWITCH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED. B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS. C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR. D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR. 3. WIRE FOR GROUNDING AND BONDING. A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS: I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.	
GROUNDING AND BONDING (CONT)		II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE. III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE. IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPES(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS. B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG. 4. GROUND ROD. A. A 3/4-INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR. B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER. 5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS: COND. NO. COLOR VEHICLE SIGNAL PEDESTRIAN SIGNAL 1 BLACK GREEN BALL #1 WALK 2 WHITE AC NEUTRAL AC NEUTRAL 3 RED RED BALL #1 DW/FDW 4 GREEN EQUIPMENT GROUND EQUIPMENT GROUND 5 ORANGE YELLOW BALL #2 DW/FDW 6 BLUE GREEN ARROW #2 WALK 7 WHITE/BLACK YELLOW ARROW NOT USED STRIPE 6. POWER SERVICE AND DISCONNECT SWITCH. A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE. B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH. I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.	
GROUNDING AND BONDING (CONT)		II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES. 7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT. 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, SIGNAL SUPPORTS, CABINET, CONTROLLER ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS. POWER SERVICE SHALL BE REMOVE IN ACCORDANCE WITH C&MS 625.21.F. REMOVED ITEMS LISTED BELOW SHALL BE DELIVERED TO THE CITY OF FRANKLIN FACILITY PROVIDED HERE. SIGNAL HEADS CABINET CONTROLLER REMOVED ITEMS SHALL BE DELIVERED TO THE CITY OF FRANKLIN FACILITY WHOSE ADDRESS IS LISTED BELOW: FRANKLIN PUBLIC WORKS DEPARTMENT 202 BAXTER DRIVE FRANKLIN, OH 45005 M-F, 7:00 AM - 4:00 PM ATTN: STEVE INMAN, PUBLIC WORKS DIRECTOR PHONE: 937-743-1701 IN THE EVENT THE ITEMS LISTED HERE FOR SALVAGE ARE NOT WANTED BY THE LOCAL AGENCY, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT. SIGNAL INSPECTION THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER, CITY TRAFFIC ENGINEER AND ORDC WITH 72-HOUR NOTICE OF THE FINAL SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE. THIS IS FOR THE PURPOSE OF TESTING THE TRAFFIC SIGNAL AND THE RAILROAD SIGNAL EQUIPMENT INTERFACE. A REPRESENTATIVE FROM ORDC SHALL BE ON SITE TO OVERSEE THE FINAL INSPECTION AND CONFIRM THAT THE TRAFFIC SIGNAL AND THE RAILROAD DEVICES ARE WORKING PER THE REQUIREMENTS SET FORTH IN THE TEM FOR RAILROAD PREEMPTION. THIS INSPECTION WILL BE IN ADDITION TO THE FINAL SIGNAL INSPECTION. PAYMENT FOR THE SECOND INSPECTION SHALL BE INCLUDED IN PAYMENT WITH ITEM 819 RAILROAD PREEMPTION INTERFACE.	
TRAFFIC SIGNAL NOTES		DESIGN AGENCY Mead & Hunt CLIENT  DESIGNER DLW REVIEWER SJS 06/07/24 PROJECT ID 115153 SHEET TOTAL P.17 29	

WAR-S RIVER & S MAIN NS		MODEL: Sheet_Surfrt.PAPER:SIZE: 17x11 (in.). DATE: 11/4/2024 TIME: 3:34:41 PM USER: 02866		X:\012500\220106\011\151531_V&R-STW-GES ORDC 2022\115153_Signals\Sheets\15153_CN002.dgn					
633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN		828 LED BLANKOUT SIGN (NO TURN - TRAIN)		632 SIGNAL SUPPORT FOUNDATION		UNDERDRAINS FOR PULL BOXES		TRAFFIC SIGNAL NOTES	
IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, POLE ATTACHMENT HARDWARE WILL BE INCLUDED FOR POLE-MOUNTED CABINETS, AND A CABINET RISER (8-INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE CITY TRAFFIC ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION. THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY-DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSES OVER THE POWER CORD. THE CABINET SHALL HAVE A DOOR STOP MECHANISM AND THERMOSTATICALLY CONTROLLED FAN. ADDITIONALLY, THE CABINET SHALL BE BUILT WITH ALL BATTERIES ALWAYS BELOW THE INVERTER TO AVOID POTENTIAL FUTURE BATTERY LEAKAGE ISSUES. THE CABINET SHALL INCLUDE A BATTERY BALANCING DEVICE THAT REGULATES THE BATTERIES AND OPTIMIZES PERFORMANCE. AFTER FOUR (4) HOURS OF BATTERY RUNTIME, THE SYSTEM SHALL BE PROGRAMMED TO SWITCH THE INTERSECTION FROM FULL OPERATION TO CONTROLLER AUTOMATIC FLASH OPERATION THROUGH THE MONITOR. THE CONTROLLER SHALL BE PROGRAMMED SO THAT FLASH OPERATION SHALL BEGIN ONCE THE INTERSECTION RUNS MINOR STREET GREEN (TYP. PH. 4 &8), ALL-RED CLEARANCE, AND THEN FLASH OPERATION. THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL OR THROUGH THE CONTROLLER WITH A C11 TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER. THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED ON THE SIDE OF THE UPS CABINET FACING TOWARDS THE MAINLINE ROADWAY AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED. THE UPS INVERTER SHALL BE CONNECTED TO THE CONTROLLER ETHERNET PORT USING A CAT-5 CABLE AND PROGRAMMED FOR THE REMOTE COMMUNICATIONS. IP ADDRESS INFORMATION: 6TH AT RIVER UPS IP: 10.35.30.17 DEFAULT GATEWAY: 10.35.63.254 SUBNET MASK: 255.255.0.0 6TH AT MAIN UPS IP: 10.35.30.20 DEFAULT GATEWAY: 10.35.63.254 SUBNET MASK: 255.255.0.0		THE CONTRACTOR SHALL PROVIDE AND INSTALL A SOLID FILLED RED SYMBOL, SOLID FILLED WHITE ARROW NO RIGHT TURN SYMBOL SIGN ON THE TRAFFIC SIGNAL MAST ARM AT THE LOCATIONS INDICATED ON THE PLANS. THE SYMBOL SIGN SHALL BE A WEATHER TIGHT NEMA ENCLOSURE. THE FOLLOWING SPECIFICATIONS SHALL APPLY: VOLTAGE: 120V ILLUMINATION: LED SYMBOL HEIGHT: 20.0" CABINET SIZE: 30"H x 24"W x 5.5" D FINISH: BLACK WARRANTY: 5 YEARS THE SIGNS SHALL BE WIRED TO ACTIVATE DURING THE RAILROAD PREEMPTION PHASES AND REMAIN ON FOR THE ENTIRE RAILROAD PREEMPTION CYCLE. THE MAST ARM MOUNTING BRACKET SHALL BE SUPPLIED BY THE SIGN MANUFACTURER AND INSTALLED BY THE CONTRACTOR. THE SIGN SHALL BE ACTIVATED (ON) WHEN THE CONTROLLER RECEIVES A RAILROAD PREEMPTION CALL. THE REMAINING TIME THE SIGN SHALL BE BLANK OR OFF. PAYMENT FOR THE ABOVE ITEM SHALL BE PAID AT THE UNIT PRICE BID PER EACH FOR ITEM 828. LED BLANKOUT SIGN, LED BLANKOUT SIGN COMPLETE. PRICE SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, MOUNTING HARDWARE FOR RIGID MOUNTING, POWER CABLE AND ALL INCIDENTALS TO COMPLETE THE WORK. 632 PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 THE FOLLOWING SHALL APPLY: - SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS. - PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING. - PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM. - THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE. - NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED. - THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04. THE CONTRACTOR SHALL PROVIDE THE CITY OF FRANKLIN ENGINEER, IN WRITING, WITH THE LED MANUFACTURER NAME SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.		PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD. THEN THE CONTRACTOR SHALL MEET THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORTS. DUE TO THE FURTHER POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATION FOR THIS ITEM, AND CONSEQUENTLY, THE DESIGN OF THE SUPPORT AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THE ITEM UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED, AT FINAL GRADE, AND THE CONTRACTOR HAS RECEIVED, FROM ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THE ITEM. IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAINTAINING AGENCY, WHO WILL DETERMINE THE REVISED LOCATION AND IF NEEDED, THE SUPPORT DESIGN. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT. THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE. NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN. PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.		REFERENCE TRAFFIC SCD HL-30.11 FOR DETAILS ABOUT DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE: ITEM 611 4" CONDUIT, TYPE E 100 FT. 631. INTERNALLY ILLUMINATED FIXED MESSAGE SIGN, AS PER PLAN (STREET NAME SIGN) THIS ITEM SHALL CONSIST OF SUPPLYING AND INSTALLING INTERNALLY ILLUMINATED FIXED MESSAGE STREET NAME SIGNS WITH EDGE LIT LIGHT EMITTING DIODES (LED) OR LIGHT EMITTING CAPACITORS (LEC). THE SIGNS SHALL CONFORM TO ODOT CMS 631 AND 731.05. THE SIGN LEGEND SHALL CONFORM THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (O.M.U.T.C.D.). STREET NAME SIGNS SHALL HAVE ONE (1) FACE. THE LEGEND BACKGROUND SHALL BE GREEN WITH WHITE LETTERS FOR THE STREET NAME SIGNS. THE SIGN HOUSING ENCLOSURE AND ALL MOUNTING HARDWARE SHALL BE BLACK IN COLOR. SIGN HANGER ASSEMBLIES (SUPPLIED AS PART OF A SEPARATE ITEM) SHALL BE USED TO RIGIDLY MOUNT THE ILLUMINATED STREET NAME SIGN ON THE MAST ARM. THE SIZE OF THE VIEWABLE SIGN LEGEND SHALL BE PER THE DETAILS IN THE PLANS. THIS ITEM SHALL INCLUDE SUPPLYING AND INSTALLING A WATERPROOF SPLICE KIT APPROVED BY THE CITY IF PIGTAILS ARE SUPPLIED WITH THE SIGN. THE CONTRACTOR SHALL SUPPLY SHOP DRAWINGS TO THE CITY FOR REVIEW PRIOR TO FABRICATION. THE COST FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT FOR A COMPLETE AND OPERATIONAL INTERNALLY ILLUMINATED SIGN, TESTED AND ACCEPTED. 630. SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN IN ADDITION TO THE REQUIREMENTS OF CMS 630 (SIGN HANGER ASSEMBLY, MAST ARM) THE CONTRACTOR SHALL SUPPLY A RIGID MOUNT TYPE SIGN HANGER ASSEMBLY. THE SIGN HANGER ASSEMBLY SHALL CONTAIN A BRACE THAT RUNS ALONG THE COMPLETE VERTICAL HEIGHT OF THE SIGNS. THE SIGN HANGER ASSEMBLY AND ALL MISCELLANEOUS HARDWARE SHALL BE BLACK IN COLOR. PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT UNIT BID PRICE PER EACH AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIAL, INCLUDING HARDWARE, INSTALLED COMPLETE.			

SIGNAL SUBSUMMARY

NEW ITEMS REQUIRED FOR INTERCONNECT
WITH NS PROJECT 10.3274

ALL ADDITIONAL INTERCONNECT CABLE
PAYABLE UNDER 819 RAILROAD
PREEMPTION INTERFACE

SOUTH RIVER ST. & WEST 6TH ST.
SIGNAL REMOVAL PLAN

DESIGN AGENCY
Mead & Hunt
CLIENT

DESIGNER
DLW

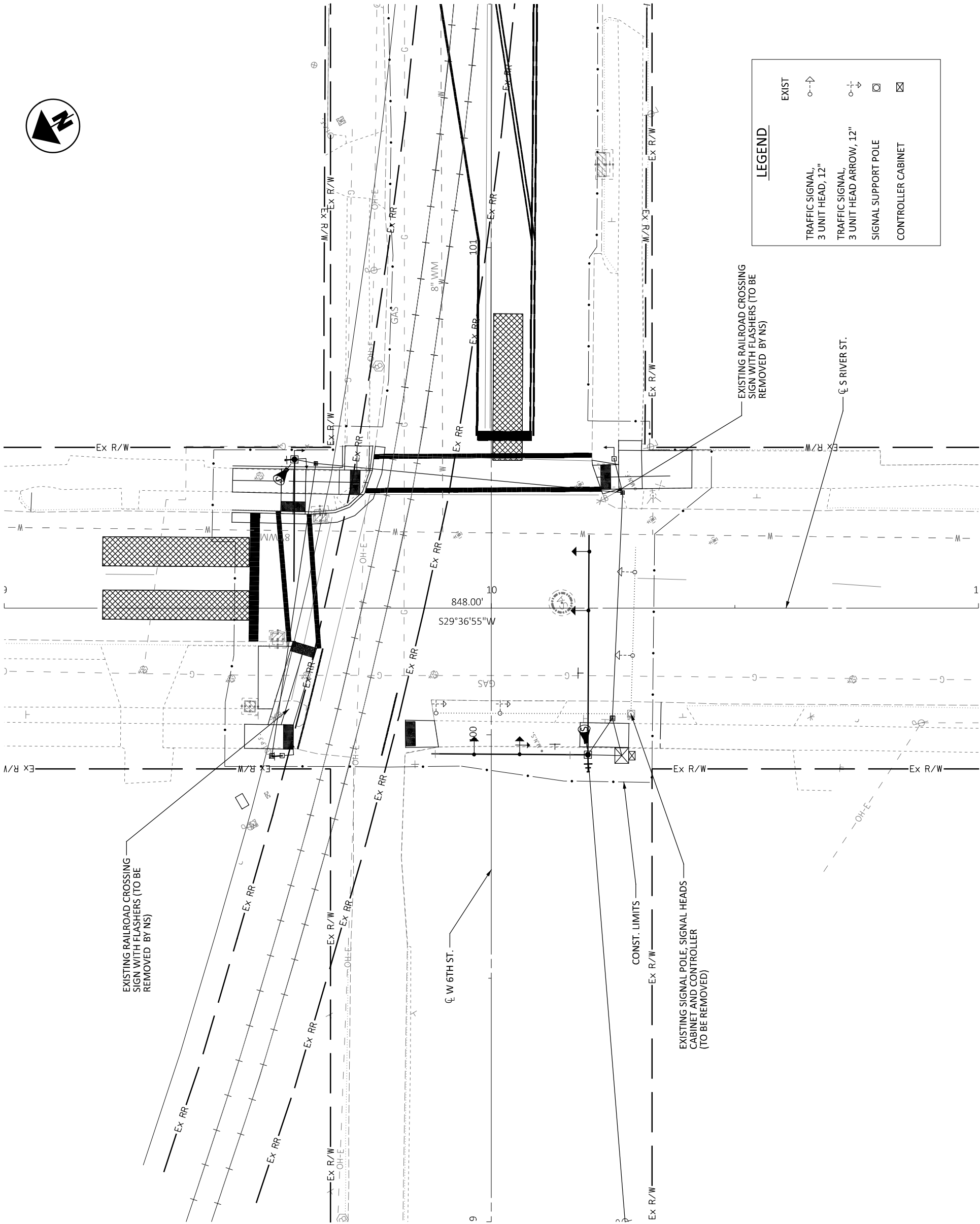
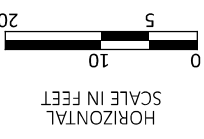
REVIEWER
SJS

PROJECT ID
06/07/24

PROJECT ID
115153

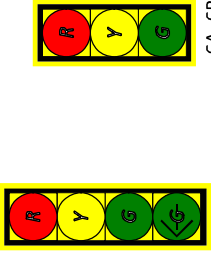
SHEET
TOTAL

P.21
29



LEGEND	
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD ARROW, 12"	o-->
SIGNAL SUPPORT POLE	o-->
CONTROLLER CABINET	o-->

SIGNAL HEADS



ALL SIGNAL HEADS SHALL BE 12" LED WITH BACKPLATES.

PEDESTRIAN SIGNAL HEADS



PH2A, PH2B
PH8A, PH8B

LED INTERNALLY ILLUMINATED SIGNS

SIGNS TO BE MOUNTED ON SIGNAL MAST ARM SP-2 AND ARE PAID UNDER THE TRAFFIC CONTROL QUANTITIES



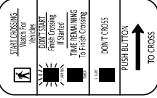
S2
D3-1, 78"x18" (SIGN FACE)
1-WAY LED INTERNALLY ILLUMINATED,
8" INCH "STANDARD HIGHWAY
SERIES D" LETTERS



S3
D3-1, 72"x18" (SIGN FACE)
1-WAY LED INTERNALLY ILLUMINATED,
8" INCH "STANDARD HIGHWAY
SERIES D" LETTERS

PEDESTRIAN SIGNS

S1 (2-SIGNS)
THESE SIGNS ARE INCLUDED IN PAYMENT WITH THE PED PUSHBUTTON AND ARE LOCATED ABOVE THE PUSHBUTTON

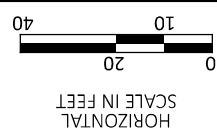


R10-3E-9
1-LEFT ARROWS
1-RIGHT ARROWS

LAYOUT ON THIS SHEET ACCEPTABLE
819 RRPE INTERFACE REQUIRED AT SIGNAL CONTROLLER PER SIGNAL QUANTITIES AND NOTES

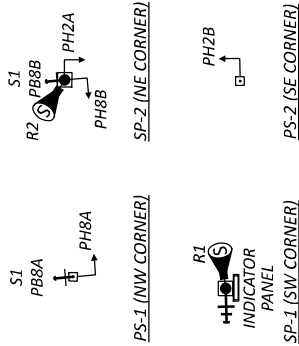
PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)
PB-1	100+03	RIGHT	25'	24
PB-2	99+96	LEFT	45'	24
PB-3	100+56	LEFT	36'	18
PB-4	100+50	RIGHT	27'	18

This will be the preemption interconnection pull box for NS project 10.3273



SOUTH RIVER ST & WEST 6TH ST
TRAFFIC SIGNAL PLAN

SIGNAL POLE & PEDESTRIAN POLE DETAILS



LEGEND

EXIST	PROP

THE RAILROAD CONTROLLER AND BOTH SIGNAL CONTROLLERS ARE CONNECTED BY EITHER A INTERCONNECTION CABLE OR RADIO ETHERNET. WHEN THE RAILROAD CONTROLLER RECEIVES A CALL THAT A TRAIN IS APPROACHING FROM THE EAST OR WEST, BOTH SIGNAL CONTROLLERS WILL GO INTO THE RAILROAD PREEMPTION SIGNAL PHASE.

SIGNAL TIMING CHART

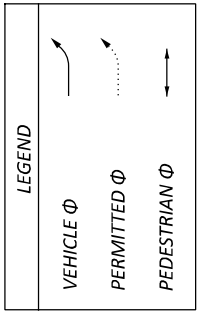
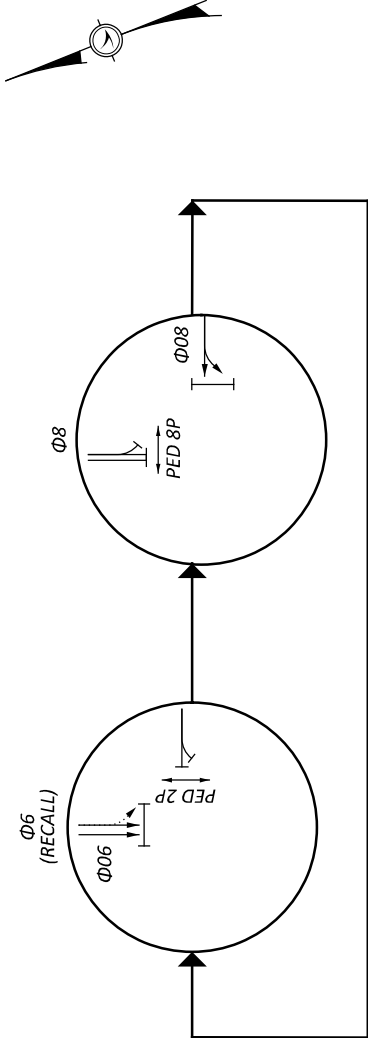
INTERSECTION: WAR-S RIVER & S MAIN NS														
MAINTAINING AGENCY: CITY OF FRANKLIN														
START UP			DUAL ENTRY:		PHASES:		RING 1		YES		RING 2		-	
REST IN RED:			YES		YES		YES		YES		YES		YES	
OVERLAP					A		B		C		D			
PHASES					-		-		-		-			
CONTROLLER MOVEMENT NO.														
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NOTES:
1. COUNTDOWN PEDESTRIAN SIGNAL HEADS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.

RADAR DETECTION CHART

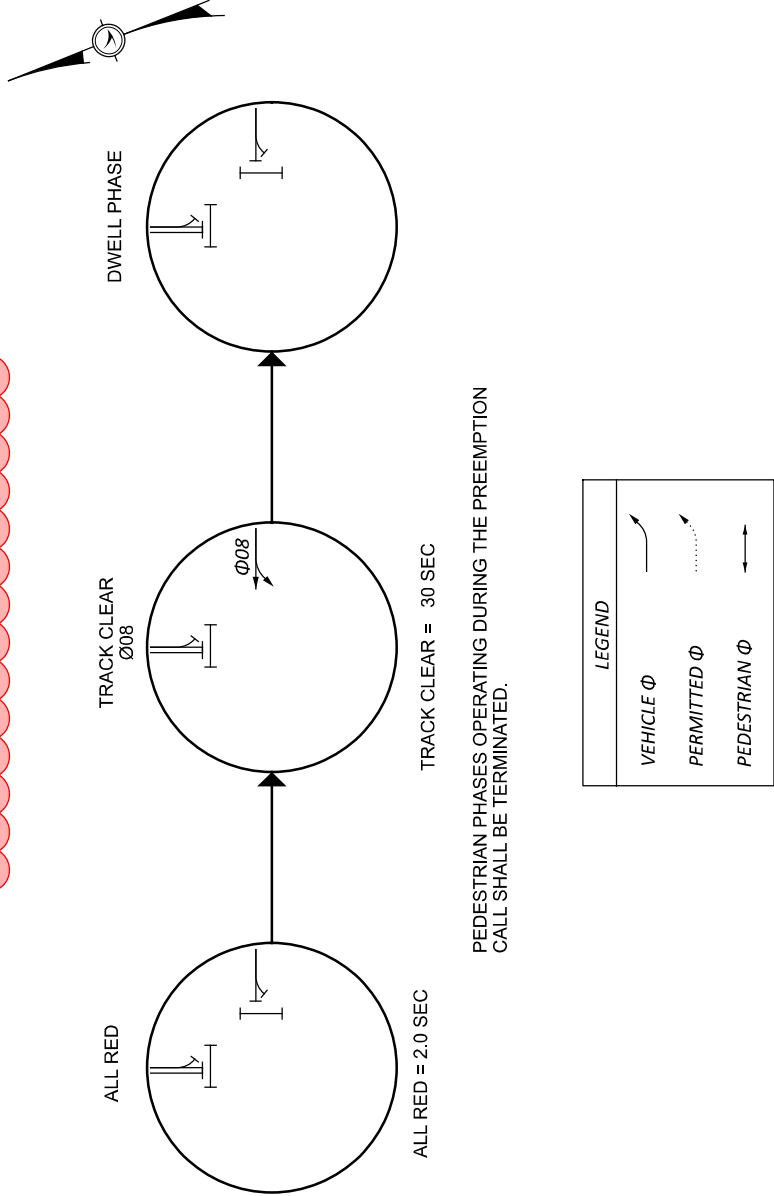
DETECTION ZONE	RADAR NO.	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY PROGRAMMED IN CONTROLLER (SEC.)	EXTENSION PROGRAMMED IN CONTROLLER (SEC.)	DELAY INHIBITED PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
RZ8A	R1	WB	PRESENCE	8				CALL/EXTEND PHASE 8	30'
RZ8A	R2	SB	PRESENCE	6				CALL/EXTEND PHASE 6	30'

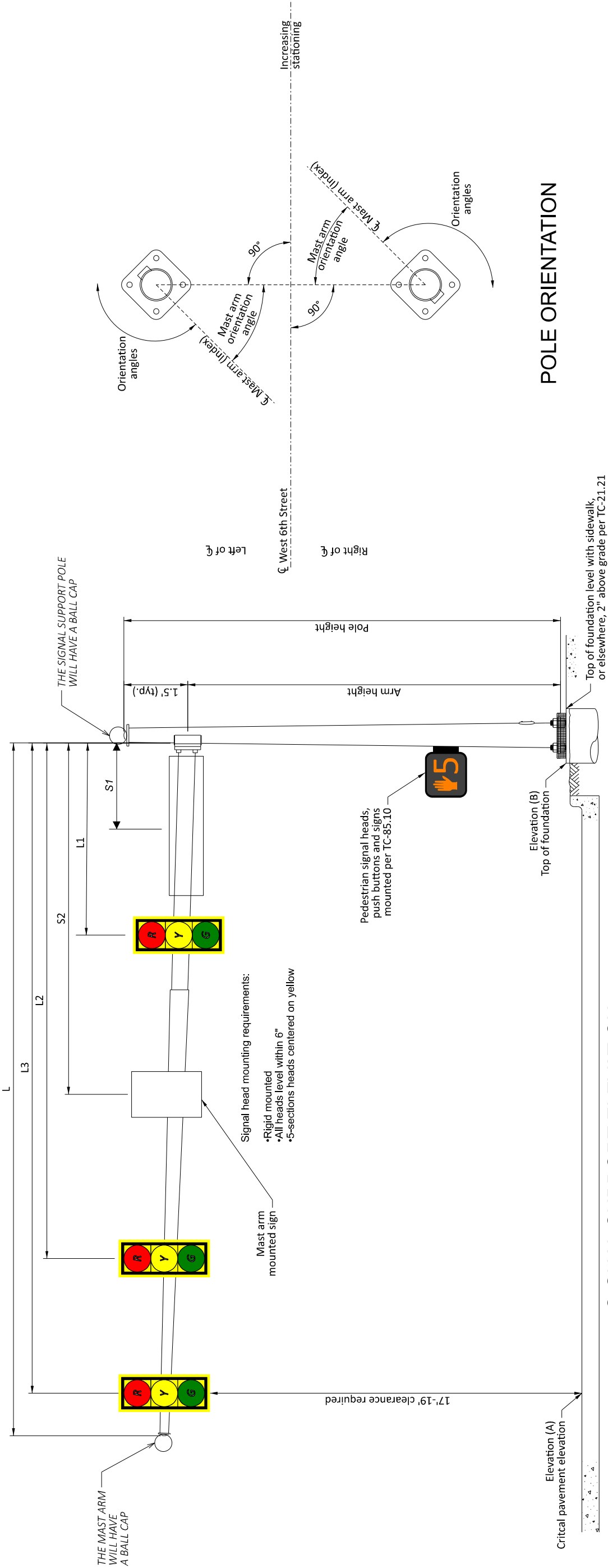
PHASING DIAGRAM



RRPE AT THIS SIGNAL SHALL BE INITIATED BY INPUT FROM RIVER/6TH ST NS RRPE PEDESTAL

PREEMPTION PHASING DIAGRAM



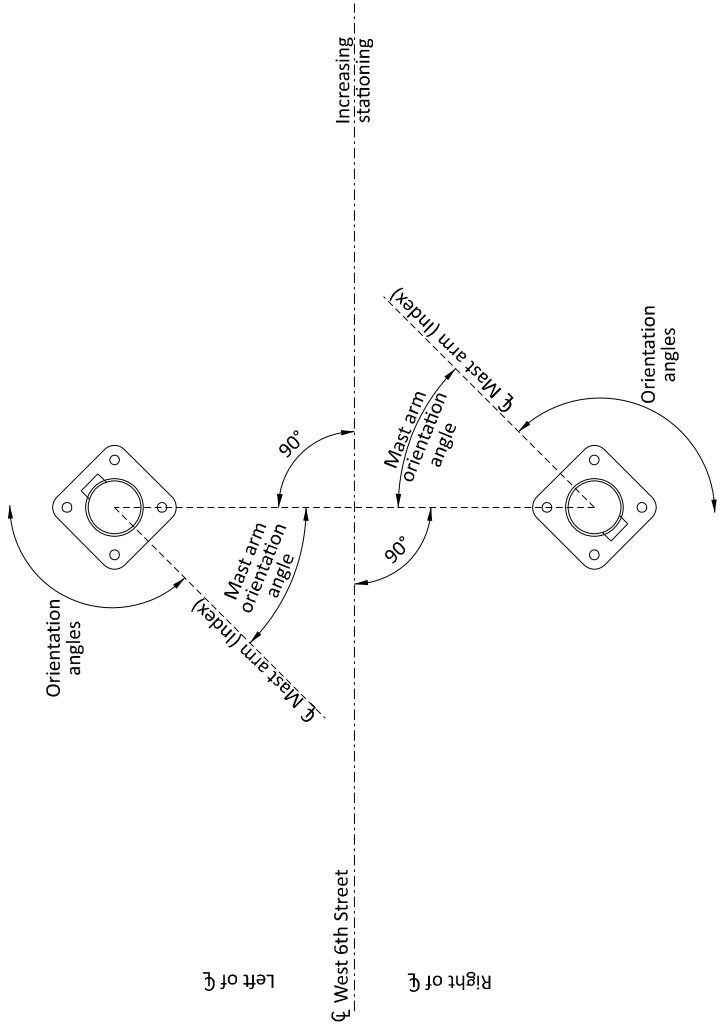


SIGNAL SUPPORT ELEVATION

MAST ARM TABLE

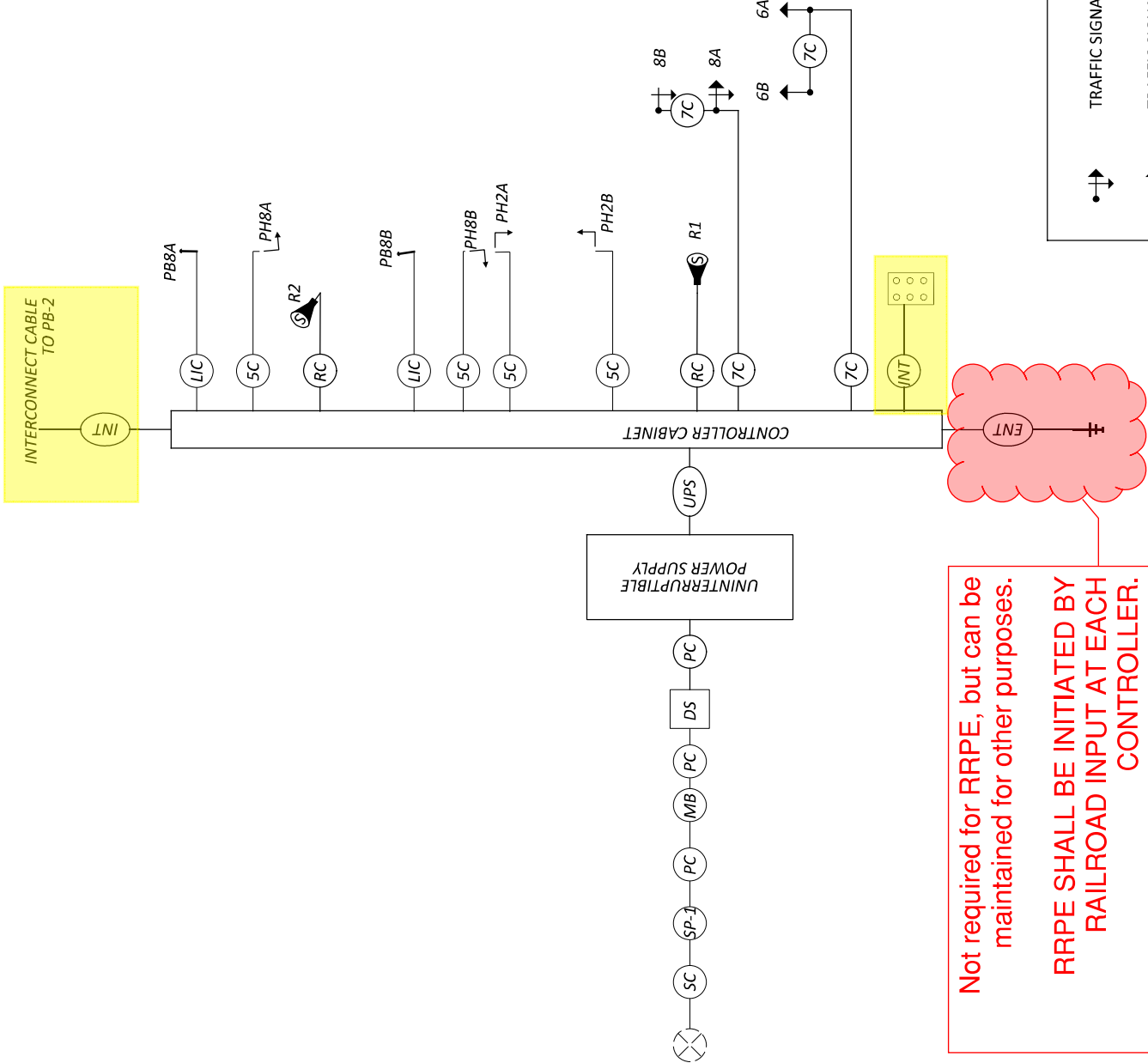
SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS								ORIENTATION ANGLES FROM MAST ARM								
			A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	S1	S2	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	POWER SERVICE	STOP LINE RADAR UNIT	HANDHOLE	CABLE ENTRANCE 12" FROM TOP
SP-1	99+96	19.8' RT		680.62	TC-12.31	6	23														
SP-1(ARM A)			681.02		TC-81.22	2		21.5	32	14	23	7	28	-	0	-	-	268	81		268
SP-1(ARM B)			681.09		TC-81.22	12		20	45	30	42	15	-	90	-	-	-	-	-	180	-
SP-2	100+57	40.4' LT	681.30	681.18	TC-81.22	2	22	20.5	25					90	-	17 ⁹ / ₂₆₅	85	-	-	180	-
PS-1	99+96	42.9' LT	-	-	-	-	11	-	-	-	-	-	-	-	-	355	185	-	-	90	-
PS-2	100+57	25.2' RT	-	-	-	-	11	-	-	-	-	-	-	-	-	90	-	-	-	180	-

POLE ORIENTATION



WIRING DIAGRAM

FIELD WIRING HOOKUP CHART



Not required for RRPE, but can be maintained for other purposes.

RRPE SHALL BE INITIATED BY RAILROAD INPUT AT EACH CONTROLLER.

RRPE SHALL NOT BE INITIATED BY RADIO.

LAYOUT ON THIS SHEET ACCEPTABLE

819 RRPE INTERFACE REQUIRED AT SIGNAL CONTROLLER PER SIGNAL QUANTITIES AND NOTES

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
6A, 6B (SB)	R	6R	Y	-			
	Y	6Y					
	G	6G					
	-	-					
8A (WB LT)	-	-	R	-			
	R	8R/LS 15 R					
	Y	8Y/LS 15 Y					
	G	8G/LS 15 G					
(WB LT)	<--G--	8Y/LS 15G					
	-	-					
	-	-					
	-	-					
8B (WB LT)	R	8R/LS 15R	R				OUT
	Y	8Y/LS 15Y					
	G	8G/LS 15G					
	-	-					
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	-	-					
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PH2A, PH2B
PH4A, PH4B
PH6A, PH6B
PH8A, PH8B

MAST ARM SP-1 AND ARE PAID UNDER-
TRAFFIC CONTROL QUANTITIES

D3-1, 78"X18" (SIGN FACE),
1-WAY LED INTERNALLY ILLUMINATED,
8" INCH "STANDARD HIGHWAY
SERIES D" LETTERS

D3-1, 72"X18" (SIGN FACE),
1-WAY LED INTERNALLY ILLUMINATED,
8" INCH "STANDARD HIGHWAY
SERIES D" LETTERS

S1 & S2 ARE LED BLANKOUT SIGNS
AND SHALL BE WIRED TO
THE SIGNAL CONTROLLER.

	START CROSSING Walk for 10 seconds
	DO NOT START From Crossing If Sun Is In Your Face
	TIME REMAINING To Finish Crossing
	DO NOT CROSS
	PUSH BUTTON TO CROSS

S4 (4-SIGNS)
2-LEFT ARROWS
2 RIGHT ARROWS

ADD 200' EXTRA SLACK AT NEW PULL BOX
FOR INTERCONNECT WITH NS PROJECT
10.3274

NEW PULL BOX 725.08,
24" REQUIRED FOR
INTERCONNECTION TO
NS PROJECT 10.3274

SIGNAL POLE & PEDESTRIAN POLE DETAILS

SP-3 (SE CORNER)

PS-3 (SE CORNER)

PROPOSED PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)
PB-1	19+57.58	LEFT	22'	24
PB-2	19+52.79	RIGHT	21'	24
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	
TRAFFIC SIGNAL, PROTECTED LEFT/RIGHT 3 UNIT HEAD, 12"	
TRAFFIC SIGNAL, 4 UNIT HEAD, 12"	
SIGNAL SUPPORT POLE	
PEDESTRIAN HEAD	
PEDESTRIAN PUSH BUTTON	
CONTROLLER CABINET	
TRAFFIC PULL BOX	
DETECTION ZONE	
STOP LINE RADAR DETECTION UNIT	
ETHERNET RADIO	

SIGNAL TIMING CHART

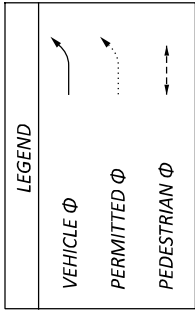
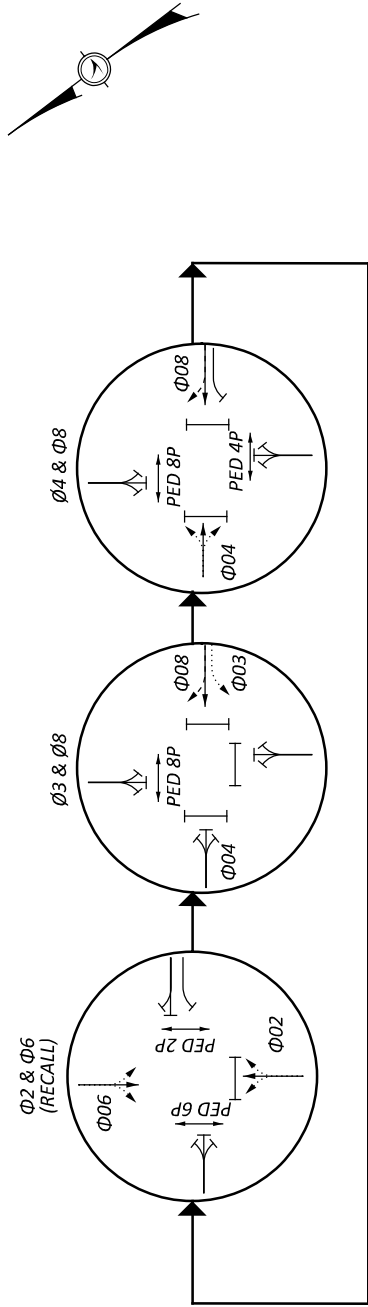
INTERSECTION: WAR-S MAIN ST & W 6TH ST											
MAINTAINING AGENCY: CITY OF FRANKLIN											
START UP		DUAL ENTRY:		YES		PHASES:		RING 1		YES	
REST IN RED:		OVERLAP		A		B		C		D	
PHASES				-		-		-		-	
CONTROLLER MOVEMENT NO.											
INTERVAL OR FEATURE											
INTERSECTION MOVEMENT (PHASE)											
DIRECTION											
MINIMUM GREEN (INITIAL) (SEC.)											
ADDED INITIAL *(SEC./ACTUATION)											
MAXIMUM INITIAL (SEC.)											
PASSAGE TIME (PRESET GAP) (SEC.)											
TIME BEFORE REDUCTION *(SEC.)											
MINIMUM GAP *(SEC.)											
TIME TO REDUCE *(SEC.)											
MAXIMUM GREEN I (SEC.)											
MAXIMUM GREEN II (SEC.)											
YELLOW CHANGE (SEC.)											
ALL RED CLEARANCE (SEC.)											
WALK (SEC.)											
PEDESTRIAN CLEARANCE (SEC.)											
RECALL											
MEMORY											
*VOLUME DENSITY CONTROLS											

NOTES:
1. COUNTDOWN PEDESTRIAN SIGNAL HEADS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.

RADAR DETECTION CHART

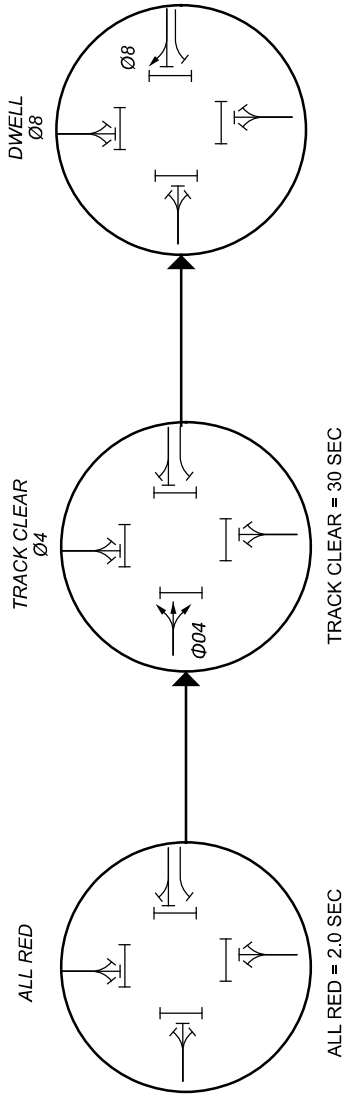
DETECTION ZONE	RADAR NO.	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY PROGRAMMED IN CONTROLLER (SEC.)	EXTENSION (SEC.)	PROGRAMMED IN CONTROLLER (SEC.)	DELAY INHIBITED PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
RZ2A	R2	NB	PRESENCE	2					CALL/EXTEND PHASE 2	30'
RZ3A	R3	WBLT	PRESENCE	3					CALL/EXTEND PHASE 3	30'
RZ4A	R1	EB	PRESENCE	4					CALL/EXTEND PHASE 4	30'
RZ6A	R3	SB	PRESENCE	6					CALL/EXTEND PHASE 6	30'
RZ8A	R3	WB	PRESENCE	8					CALL/EXTEND PHASE 8	30'

PHASING DIAGRAM

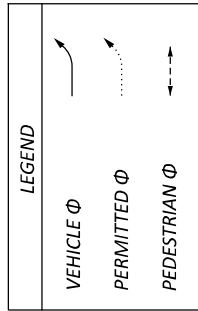


PREEMPTION PHASING DIAGRAM

RRPE AT THIS SIGNAL SHALL BE INITIATED BY INPUT FROM MAIN/6TH ST NS RRPE PEDESTAL

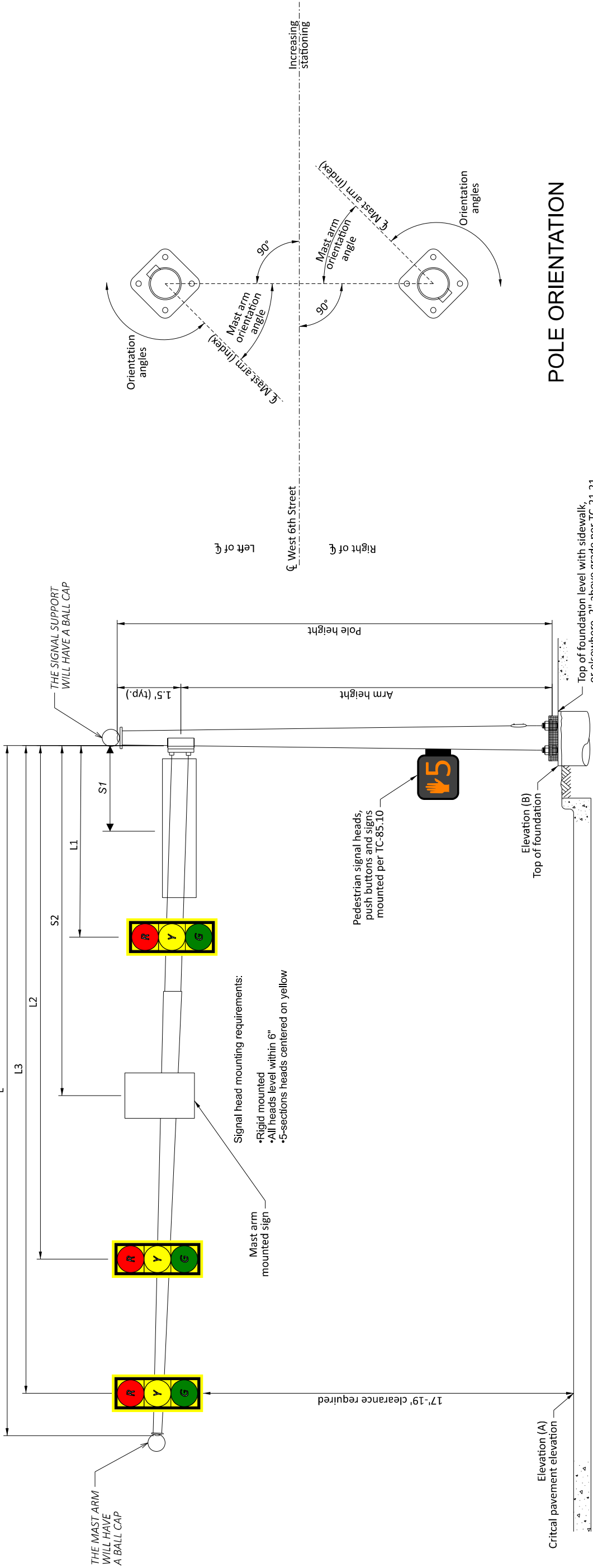


ALL RED = 2.0 SEC
TRACK CLEAR = 30 SEC
PEDESTRIAN PHASES OPERATING DURING THE PREEMPTION CALL SHALL BE TERMINATED.



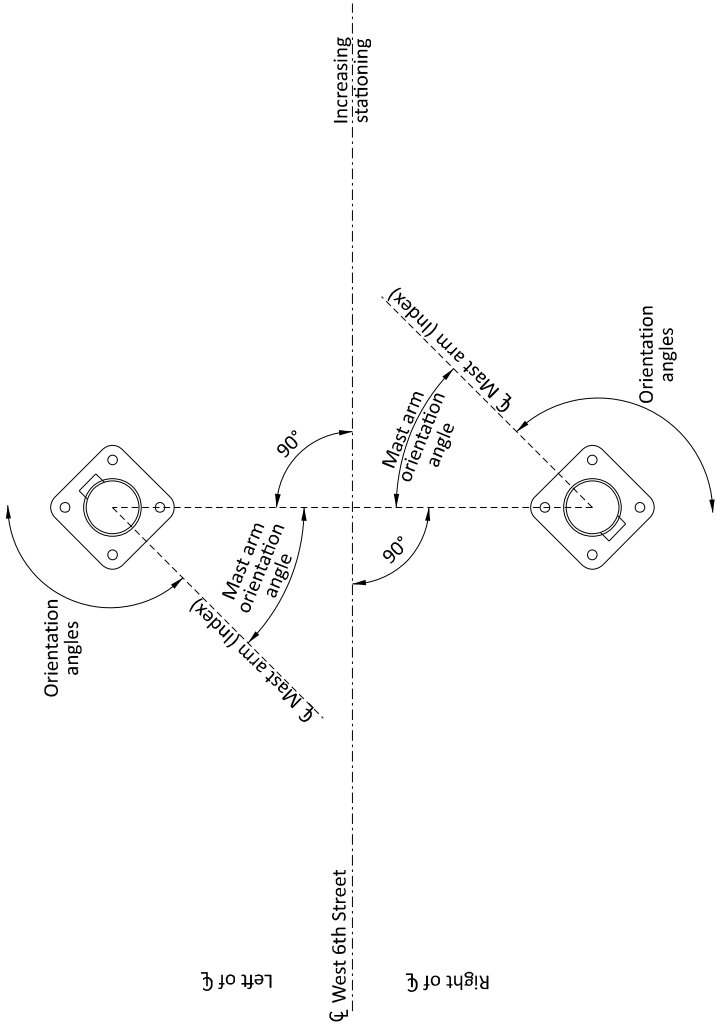
LED BLANKOUT SIGN S1 & S2 SHALL BE ACTIVE DURING ALL PHASES OF PREEMPTION

TRAFFIC SIGNAL DETAILS
SOUTH MAIN STREET & WEST 6TH STREET



SIGNAL SUPPORT ELEVATION

POLE ORIENTATION



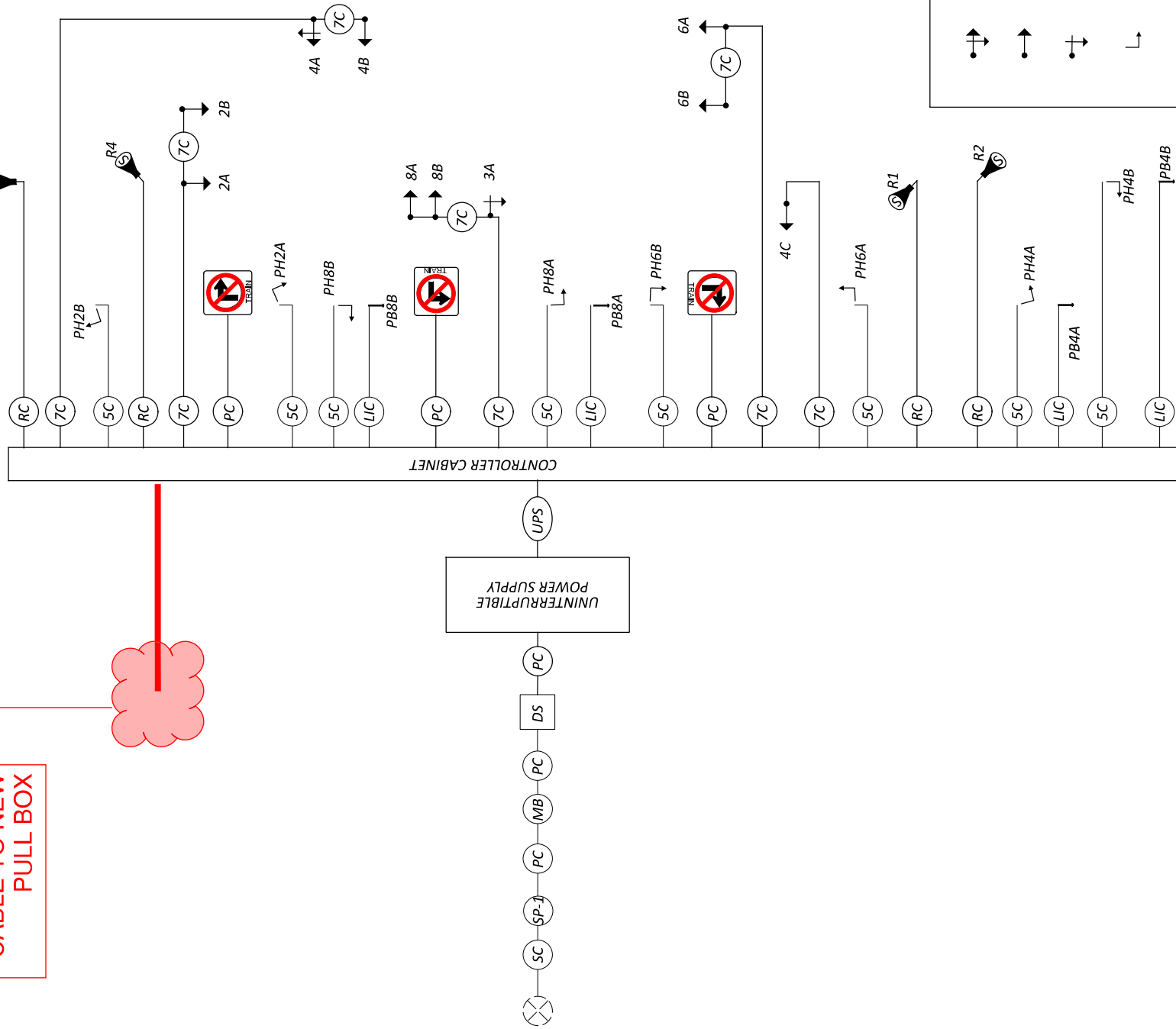
MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS										ORIENTATION ANGLES FROM MAST ARM								POLE MOUNTED SIGNAL HEAD	STOP BAR DETECTOR
			A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	L3	S1	S2	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	POWER SERVICE	STOP LINE RADAR UNIT	HANDHOLE	CABLE ENTRANCE 12" FROM TOP		
SP-1	104+57	33.0' RT	681.43	681.76	TC-81.22	4	21.5	20	32	18	26		9	22	90	-	4	-	172	4 1/200	180	172	DEG	DEG
SP-2	104+69	39.8' LT		680.97	TC-12.31	6	23								1	-	0 3/4	0	-		90			
SP-2 (ARM A) SP-2 (ARM B)			681.11		TC-81.21	4		19.5	38	19	28	36	11	32		-								
			680.92		TC-81.21	4		21	35	21	32		10	26		-								
SP-3	105+44	31.5' RT	681.75	682.03	TC-81.22	2	21.5	20	21	10	18	-	5		0	-	254	-	-	343	180	-		
PS-1	104+57	48.0' RT				-	11	-		-	-	-	-		-	-	180	180	-	-	270	-		
PS-2	105+11	38.4' LT	-	-	-	-	11	-	-	-	-	-	-		-	-	0 1/254	0	-	-	270	-		
PS-3	105+20	50.5' RT	-	-	-	-	11	-	-	-	-	-	-		-	-	180	180	-	-	90	-		
			-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-		

INTERCONNECT
CABLE TO NEW
PULL BOX

WIRING DIAGRAM

FIELD WIRING HOOKUP CHART



Not required for RRPE, but can be maintained for other purposes.

RRPE SHALL BE INITIATED BY RAILROAD INPUT AT EACH CONTROLLER.

RRPE SHALL NOT BE INITIATED BY RADIO.

LEGEND

	TRAFFIC SIGNAL, 4 UNIT HEAD, 12"		2/C NO. 14 AWG (LEAD-IN CABLE)		SERVICE CABLE, 3 CONDUCTOR, NO. 4 AWG
	TRAFFIC SIGNAL, 3 UNIT HEAD, 12"		SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG		POWER CABLE, 2 CONDUCTOR, NO. 4 AWG
	TRAFFIC SIGNAL, PROTECTED LEFT/RIGHT 3 UNIT HEAD, 12"		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG		METER BASE
	PEDESTRIAN SIGNAL		RADAR DETECTION CABLE		SIGNAL DISCONNECT SWITCH
	PEDESTRIAN PUSH BUTTON		6-PAIR INTERCONNECT CABLE		UNINTERRUPTIBLE POWER SUPPLY CABLE
	STOP LINE RADAR DETECTION UNIT		POWER SOURCE		SIGNAL SUPPORT POLE
	ETHERNET RADIO		ETHERNET CABLE		
	LED BLANKOUT SIGN (NO RIGHT TURN)		RAILROAD INDICATOR PANEL		

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A, 2B	R	2R		8A, 8B	R	8R/LS 14R	
(NB)	Y	2Y			Y	8Y/LS 14Y	
	G	2G	R		G	8G/LS 14G	R
	-	-		(WB RT)	-		
	-	-			-		
3A	R	4R					
	Y	4Y					
	G	4G	R				
(EB)	-	-		4A	R	4R	
	-	-			Y	4Y	
	-	-			G	4G	R
4B,4C	Y	4Y		(EB LT)	<--G--	7Y/LS 14Y	
	G	4G	R		-		
(EB)	-	-			-		
	-	-					
6A, 6B	R	6R		PED-2	W	2 PED/LS 10G	OUT
(SB)	Y	6Y	R		DW	2 PED/LS 10R	
	G	6G		PED-4	W	4 PED/LS 11G	OUT
	-				DW	4 PED/LS 11R	
	-			PED-6	W	6 PED/LS 12G	OUT
	-				DW	6 PED/LS 12R	
	-				W	8 PED/LS/13G	OUT
	-			PED-8	DW	8 PED/LS 13R	OUT
	-					OVERLAPS	
	-				--Y-->	8Y/LS 14Y	
	-			OLA	--G-->	8G/LS 14G	
	-			S1 & S2		LS 14 R	OUT

LS 14 IS ONLY ACTIVATED DURING TRACK CLEAR OF THE PREEMPTION - GREEN (ARROW /BALL)

LS 14 ACTIVATE DURING ALL PHASES OF PREEMPTION - LED BLANKOUT SIGN S1

TRAFFIC SIGNAL DETAILS
SOUTH MAIN STREET & WEST 6TH STREET