TDOT P.I.N.: 115241.11
FEDERAL PROJECT NO.: CM-7900(48)
STATE PE NO.: 79LPLM-F1-284
STATE CONSTRUCTION NO.: 79LPLM-F3-285
LOCALLY MANAGED PROJECT

STATE OF TENNESSEE

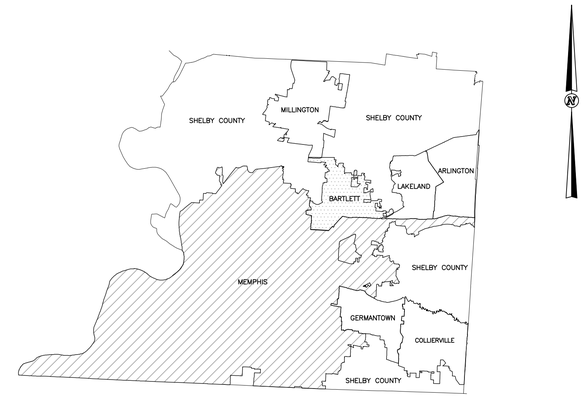
SHELBY COUNTY

DIVISION OF PUBLIC WORKS

PLAN FOR PROPOSED IMPROVEMENTS

CONGESTION MANAGEMENT PROGRAM

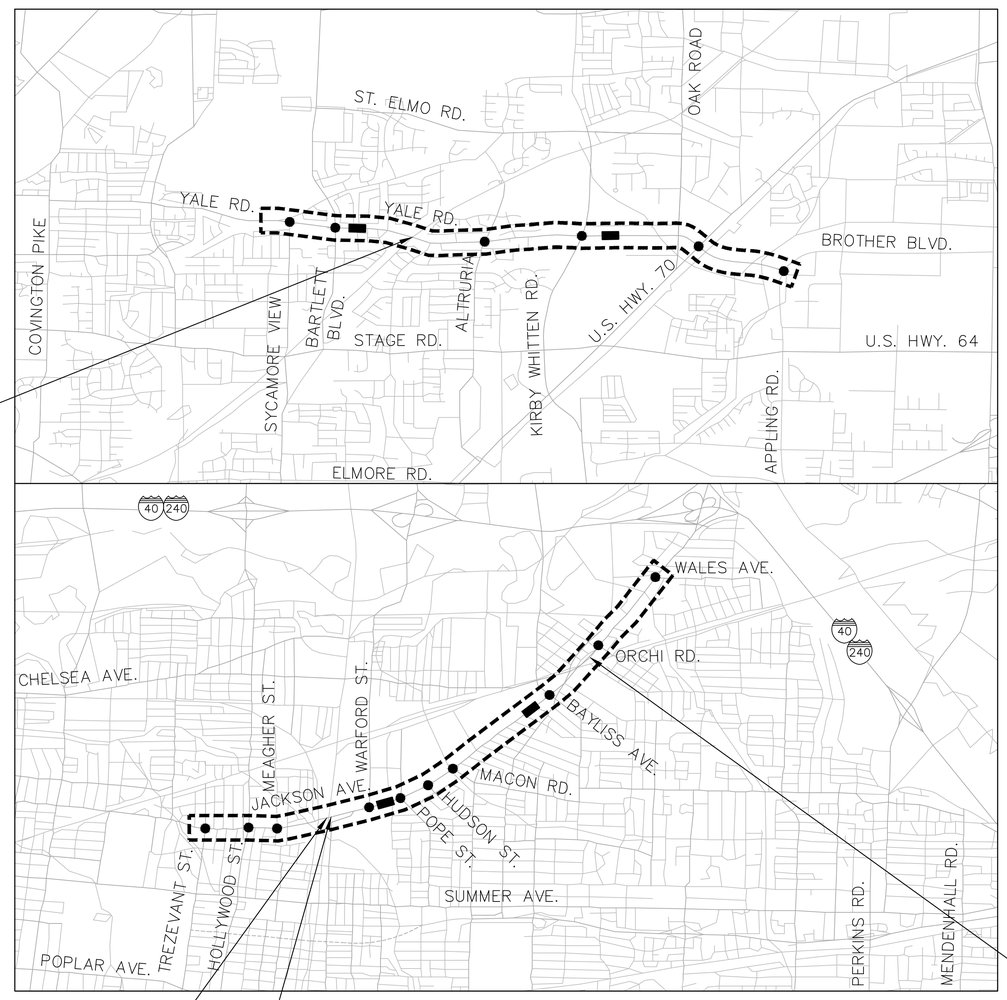
SIGNAL SYSTEM PROJECT SET #5



LOCATION MAP
NOT TO SCALE

SCOPE OF WORK

THE SCOPE OF WORK INCLUDES INSTALLING CONDUIT WITH FIBER OPTIC CABLE INTERCONNECT ALONG YALE RD FROM SYCAMORE VIEW RD TO BROTHER BLVD AND ALONG JACKSON AVE FROM TREZEVANT ST TO WALES AVE. THE SCOPE OF WORK ALSO INCLUDES THE INSTALLATION OF VIDEO DETECTION AND/OR EMERGENCY VEHICLE PREEMPTION EQUIPMENT AT SELECT INTERSECTIONS WITHIN THE PROJECT AREA.



INVENTORY # – 351812Y
LOG MILE LOCATION – 0363.91

– PROJECT LOCATIONS

– PROJECT INTERSECTION LOCATIONS

– RADAR DETECTION SYSTEM LOCATIONS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	QUANTITIES
4	TABULATED QUANTITIES
5	CABLE LAYOUT AND UTILITY SHEET KEY MAP
6	SYSTEM DETECTORS AND INTERSECTION I.D.
7	COMMUNICATIONS CABLE SCHEMATIC
8	COMMUNICATION CHANNEL SCHEMATIC
9	PHASING DIAGRAMS
10–24	CABLE LAYOUT SHEETS
25–40	INTERSECTION LAYOUT SHEET
41–52	SPLICE DIAGRAM SHEETS
53–67	EXISTING UTILITIES SHEETS
68–72	MISCELLANEOUS DETAILS

INVENTORY # – 348549W
LOG MILE LOCATION – 0371.91

INVENTORY # – 348548P
LOG MILE LOCATION – 0371.78

INVENTORY # – 348511A
LOG MILE LOCATION – 0369.68

VICINITY MAP
NOT TO SCALE

EQUATIONS: NONE
EXCEPTIONS: NONE

NOTES:

PROPOSALS MAY BE REJECTED BY THE COUNTY ENGINEER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE INITIATION OF ANY CONSTRUCTION ON THE PROJECT OR IN THE STREETS BORDERING THE PROJECT. THE CONTRACTOR SHALL ALSO ASSUME RESPONSIBILITY FOR ALL DAMAGE TO ANY UTILITY LINES, WHETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING WORK ON THE PROJECT.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

HON. MARK H. LUTTRELL, JR, MAYOR

APPROVED: _____ DATE: _____
MR. DARREN SANDERS, P.E.
SHELBY COUNTY ENGINEER

THE FOLLOWING SIGNATURES ONLY APPLY TO LOCATIONS WITHIN THE CITY OF MEMPHIS LIMITS.

REVIEWED: _____ DATE: _____
CITY OF MEMPHIS ENGINEER

REVIEWED: _____ DATE: _____
CITY OF MEMPHIS TRAFFIC ENGINEER

DOUGLAS A. SCOTT
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 001140
STATE OF TENNESSEE
11/19/25

LEGEND

(FOR CABLE LAYOUT SHEETS)

	EXISTING	PROPOSED
WOOD POLE		
METAL/ALUMINUM PEDESTAL POLE		
GUY WITH ANCHOR		
STANDARD PULL BOX		
FIBER OPTIC PULL BOX		
POLE MOUNTED RDS CABINET		
POLE MOUNTED CONTROLLER CABINET		
BASE MOUNTED CONTROLLER CABINET		
BASE MOUNTED HUB CABINET		
SPLICE ENCLOSURE		
TRENCH CONDUIT		
JACKED OR BORED CONDUIT		
LOOP LEAD-IN WIRE IN SAW CUT	NOT SHOWN	
MASTARM POLE		
VIDEO DETECTION CAMERA		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
PEDESTRIAN SIGNAL HEAD		
PEDESTRIAN PUSH BUTTON	PB	PB
SINGLE CHANNEL EMERGENCY VEHICLE PREEMPTION DETECTOR		
DUAL CHANNEL EMERGENCY VEHICLE PREEMPTION DETECTOR		
EMERGENCY VEHICLE PREEMPTION CONFIRMATION LAMP		
EMERGENCY VEHICLE PREEMPTION CONFIRMATION BEACON		
WATER LINE	W	
ELECTRIC LINE	E	
GAS LINE	GAS	
SEWER LINE	SS	
RIGHT OF WAY		

UTILITY OWNERS

CITY OF MEMPHIS

GAS, WATER, & ELECTRIC: MEMPHIS LIGHT, GAS, & WATER
220 S. MAIN ST.
MEMPHIS, TN 38103
(901) 528-4186
KEITH LEDBURY

TRAFFIC SIGNAL & COMMUNICATIONS: CITY OF MEMPHIS
980 S. THIRD ST.
MEMPHIS TN, 38106
(901) 528-2844
JAY WALKO

TELEPHONE: AT&T
5530 STAGE RD.
MEMPHIS, TN 38115
(901) 797-3501
ALEX LASKARIS

CATV: COMCAST INC.
5450 WINCHESTER RD.
MEMPHIS, TN 38115
(901) 365-1770 EXT. 4114
REX MORRIS

CITY OF BARTLETT

WATER & SEWER: CITY OF BARTLETT
6382 STADE RD.
BARTLETT, TN 38134
(901) 385-6499
TIMOTHY J. HERNDON, P.E.

TRAFFIC CONTROL NOTES

1. NOTHING IN THIS PLAN IS INTENDED TO SUPERSEDE OR RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING THE APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT STATE OF TENNESSEE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS."

2. THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE JURISDICTION IN WHICH THE WORK IS BEING DONE A MINIMUM OF 72 HOURS PRIOR TO COMMENCING CONSTRUCTION OR IMPLEMENTING A TRAFFIC CONTROL PLAN. FOR THIS PROJECT THE CONTRACTOR SHALL CONTACT THE FOLLOWING AGENCIES:

   CITY OF MEMPHIS CONSTRUCTION INSPECTION
   (901) 636-2462

   CITY OF BARTLETT
   (901) 385-6499

   ALL TRAFFIC CONTROL DEVICES MUST BE IN PLACE BEFORE CONSTRUCTION ACTIVITY BEGINS.

3. ALL TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL MEET THE STANDARD PRESCRIBED IN THE STATE OF TENNESSEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL COMPLY WITH THE STATE OF TENNESSEE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 712 TEMPORARY TRAFFIC CONTROL.

4. ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.

5. SIDE STREET, DRIVEWAY ACCESS, AND SAFE PEDESTRIAN WAYS SHALL BE MAINTAINED AT ALL TIMES.

6. THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THE RIGHT-OF-WAY OR WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHICHEVER IS LESS, WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THE RIGHT-OF-WAY OR WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE WHICHEVER IS LESS, AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE.

7. IF USED, THE CONTRACTOR SHALL USE PLASTIC DRUMS WITH TYPE "C" WARNING LIGHTS TO SEPARATE TRAFFIC FROM THE CONSTRUCTION AREA.

8. DRUMS WITH TYPE "C" WARNING LIGHTS SHALL DELINEATE THE EDGE OF PAVEMENT THROUGH THE ENTIRE CONSTRUCTION AREA, IF USED.

9. THE CONTRACTOR SHALL COVER ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SIGNS OR DEVICES DURING CONSTRUCTION AND THEY SHALL REMAIN COVERED DURING CONSTRUCTION AND UNTIL SUCH TIME THAT NO CONFLICT EXISTS.

10. DURING CONSTRUCTION, A MINIMUM OF ONE 11 FOOT LANE OF TRAFFIC IN EACH DIRECTION SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES.

11. ALL TEMPORARY OR PERMANENT TRAVELED SURFACE SHALL BE INSPECTED DAILY BY THE CONTRACTOR (INCLUDING WEEKENDS) AND NECESSARY PATCHING OR RE-FINISHING PERFORMED.

12. WORK WITHIN THE ROADWAY SHALL BE CONDUCTED BETWEEN 9:00 A.M. AND 4:00 P.M. THE ROADWAY SHALL BE COMPLETELY OPEN TO TRAFFIC AT ALL OTHER TIMES AND ALL INAPPROPRIATE SIGNS SHALL BE COVERED OR REMOVED.

13. THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE AGENCIES BEFORE CLOSING ANY ROADWAYS.

14. THE CONTRACTOR SHALL CONTACT THE CITY OF MEMPHIS SIGNAL SHOP AT 901-528-2844 FOR LOCATION OF SIGNAL CONDUIT AND WIRES.

CABLE MARKERS

1. THE CONTRACTOR SHALL INSTALL CABLE MARKERS TO IDENTIFY THE PROPOSED SIGNAL CABLES AND FIBER OPTIC COMMUNICATION CABLES. LEGENDS AND COLORS FOR MARKERS ARE TO APPEAR ACCORDING TO THE INFORMATION SUPPLIED BY THE CITY OF MEMPHIS SIGNAL MAINTENANCE DEPARTMENT. THE MARKERS ARE TO BE PERMANENT, BRIGHTLY COLORED, NON-REFLECTIVE, WITH BLACK LETTERING. CURB MARKERS SHALL BE RED IN COLOR FOR TRAFFIC SIGNALS AND ORANGE IN COLOR FOR FIBER OPTIC CABLES. MARKERS ARE TO BE MANUFACTURED OF PLASTIC, VINYL OR FIBERGLASS MATERIAL THAT IS DURABLE, UV LIGHT-RESISTANT, WEATHER-PROOF AND SCRATCH-RESISTANT.

2. CURB MARKERS SHALL BE INSTALLED TO IDENTIFY CABLES THAT ARE IN OR NEAR THE STREET. CURB MARKERS ARE TO BE FOUR-INCH DIAMETER ROUND DISKS APPLIED TO CONCRETE OR METAL SURFACES WITH AN ADHESIVE ACCORDING TO THE RECOMMENDATIONS OF THE MANUFACTURER. CURB MARKERS ARE TO BE INSTALLED ON CABINET AND POLE FOUNDATIONS ON THE SIDE ABOVE THE CABLE. CURB MARKERS ARE TO BE INSTALLED ON THE STREET CURB OVER THE LOCATION OF CROSSING CABLES. CURB MARKERS ARE ALSO TO BE PLACED ON THE CURB AT 100-FOOT SPACING ALONG ANY RUN OF CABLE THAT IS PARALLEL TO THE CURB. WHERE PAVED SHOULDER EXISTS INSTEAD OF CURB, PLACE CURB MARKERS ON THE PAVEMENT SURFACE ONE FOOT FROM THE EDGE OF THE SURFACE, OR DIRECTLY OVER THE CONDUIT OR CABLE. CURB MARKERS ARE TO BE DURACAST STYLE CURB MARKERS AS MADE BY DAS MANUFACTURING, WILLIAM FRICK AND CO., OR APPROVED EQUAL. CURB MARKERS SHALL BE ABRASION AND UV-RESISTANT.

3. PAYMENT AT THE CONTRACT UNIT PRICE, PER EACH, SHALL BE MADE FOR EACH INSTALLED AND ACCEPTED CABLE MARKER AS FOLLOWS:

   ITEM NUMBER 730-12.42 – CURB MARKERS (CURB MOUNTED CABLE MARKER)

MISCELLANEOUS

1. THE LOCATIONS OF ALL NEW PULL BOXES AND CABINETS ARE SCHEMATIC. ADDITIONAL PULL BOXES MAY BE REQUIRED FOR BORING UNDER DRIVEWAYS. THE ENGINEER SHALL APPROVE THE FINAL LOCATIONS OF ALL PULL BOXES IN THE FIELD. THE CONTRACTOR SHALL PROVIDE AS-BUILT DOCUMENTATION (RED-LINE OF PLAN SET) WHICH SHOWS EXACT, FINAL DIMENSIONS BETWEEN PULL BOXES AND OTHER POINTS OF CONDUIT TERMINATION.

2. CONTACT SHELBY COUNTY DEPARTMENT OF ROADS AND BRIDGES AT (901) 222-7742 AT LEAST 72 HOURS BEFORE BEGINNING ANY WORK ON THIS PROJECT.

3. SIGNAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE CITY OF MEMPHIS TRAFFIC SIGNAL SPECIFICATIONS.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING THE SIGNAL TIMING IN THE CONTROLLER. CONTACT THE ENGINEER TO OBTAIN TIMINGS.

5. ALL SALVAGEABLE ITEMS TO BE DELIVERED TO THE LOCAL JURISDICTION:

   CITY OF MEMPHIS: 980 SOUTH THIRD STREET
   CITY OF BARTLETT: 3585 ALTURIA ROAD

6. THE CONTRACTOR SHALL BRING THE NEW CONTROLLER UNITS AND THE SIGNAL TIMING SHEETS TO THE CITY OF MEMPHIS TRAFFIC SIGNAL MAINTENANCE OFFICE FOR REVIEW PRIOR TO INSTALLATION OF THE CONTROLLERS IN THE CABINET.

7. THE CONTRACTOR SHALL COIL 50' OF (EACH) FIBER OPTIC CABLE IN ALL FIBER OPTIC PULL BOXES.

8. CONTRACTOR SHALL HAVE SIGNAL MAINTENANCE RESPONSIBILITY OF THE INTERSECTION ONCE WORK ON EACH INTERSECTION HAS BEGUN. THE RESPONSIBILITY SHALL EXTEND TO CONTRACT ITEMS ONLY AND SHALL END UPON SUBSTANTIAL COMPLETION AND ACCEPTANCE OF THE WORK AT THE INTERSECTION.

9. THE CONTRACTOR SHALL NOT SPLICE ANY VIDEO DETECTION OR EVP EQUIPMENT CABLES.

10. THE CONTRACTOR SHALL INSTALL EVP EQUIPMENT THAT INCLUDES MULTI-MODE GPS/IR AT INTERSECTIONS IN CITY OF MEMPHIS.

APPLICABLE CITY OF MEMPHIS DESIGN STANDARDS
T-S-1

APPLICABLE T.D.O.T. STANDARD DRAWINGS
T-SG-2, T-SG-3, T-SG-5, T-SG-9A, T-WZ-50, T-FO-1, T-FO-2, T-FO-3, T-FO-4

SPECIAL DETAILS WITHIN THIS PLAN SET SHALL SUPERSEDE THOSE FOUND ON THE LISTED STANDARD DRAWINGS.

GENERAL NOTES

UTILITIES

1. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF THEIR PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

2. IT IS THE CONTRACTOR'S RESPONSIBILTY TO LOCATE AND AVOID ALL UTILITIES AND UNDERGROUND STRUCTURES. THE CONTRACTOR SHOULD NOTE THAT EXISTING GAS LINES, WATER LINES, STORM DRAINAGE AND SANITARY SEWER STRUCTURES, AND OTHER UTILITIES MAY BE PRESENT.

3. EXISTING UTILITY LOCATIONS, AS SHOWN ON THESE PLANS, WERE COMPILED BASED ON INFORMATION AVAILABLE TO THE ENGINEER. UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND ARE NOT INTENDED TO BE EXACT OR COMPLETE.

4. SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111.
   THE CONTRACTOR SHALL CALL THE TENNESSEE ONE CALL SYSTEM, INC. AT LEAST 72 HOURS, BUT NOT MORE THAN FIVE (5) DAYS PRIOR TO ANY PLANNED EXCAVATION BY THE CONTRACTOR.

PHASE DIAGRAM LEGEND

DISPLAYED VEHICULAR GREEN

PROTECTED TURN

PERMISSIVE TURN

DISPLAYED WALK INDICATION

NOTE: CLEARANCE INTERVALS ARE NOT SHOWN

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. KIMLEY REGISTERED ENGINEER AGRICULTURE COMMERCE No. 00116 STATE OF TENNESSEE 11/19/15

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

GENERAL NOTES

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:

	CONGESTION MANAGEMENT PROGRAM (SIGNAL SYSTEM SET #5)		
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
105-01	CONSTRUCTION STAKES, LINES AND GRADES	L.S.	1
201-01	CLEARING AND GRUBBING	L.S.	1
209-05	SEDIMENT REMOVAL	C.Y.	10
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	300
209-09-43	CURB INLET PROTECTION (TYPE 4)	EACH	100
701-01.01	CONCRETE SIDEWALK	S.F.	340
712-01	TRAFFIC CONTROL	L.S.	1
714-25.09	ELECTRICAL CONNECTION (FOR MLGW COST ONLY)	EACH	4
716-02.05	PLASTIC PAVEMENT MARKING (STOPLINE)	L.F.	120
716-03.02	PLASTIC WORD PAVEMENT MARKING (RXR)	EACH	4
717-01	MOBILIZATION	L.S.	1
725-02.79	FIBER SPLICE ENCLOSURE (WEATHER PROOF)	EACH	19
725-03.09	ETHERNET SWITCH (TYPE A)	EACH	20
725-03.28	RAILROAD FLAGMAN	DAY	20
725-21.22	TERMINAL SERVER (SERIAL DEVICE SERVER)	EACH	8
725-21.88	BLUETOOTH DETECTION SYSTEM	EACH	6
725-21.91	RADAR DETECTION SYSTEM	EACH	6
725-21.96	RDS COMM CABLE	EACH	6
725-24.01	CABINET (TYPE A)	EACH	4
725-24.04	CABINET (TYPE D)	EACH	2
730-03.12	AERIAL SPLICE ENCLOSURE	EACH	2
730-03.21	INSTALL PULL BOX (TYPE B)	EACH	17
730-03.23	INSTALL PULL BOX (FIBER OPTIC-TYPE A)	EACH	89
730-03.24	INSTALL PULL BOX (FIBER OPTIC-TYPE B)	EACH	20
730-03.31	FIBER DISTRIBUTION BOX	EACH	19
730-05.01	ELECTRICAL SERVICE CONNECTION	EACH	10
730-08.07	SIGNAL CABLE - 16 CONDUCTOR	L.F.	465
730-08.40	INTERCONNECT CABLE - FIBER OPTIC (36-FIBER, SINGLE MODE)	L.F.	76,000
730-08.41	INTERCONNECT CABLE - FIBER OPTIC (DROP CABLE, 6-FIBER, SINGLE MODE)	L.F.	3,390
730-11.10	RISER ASSEMBLY (3" WEATHERHEAD)	EACH	13
730-11.11	RISER ASSEMBLY (2")	EACH	1
730-11.12	RISER ASSEMBLY (3")	EACH	3
730-12.02	CONDUIT 2" DIAMETER (PVC)	L.F.	1,700
730-12.03	CONDUIT 3" DIAMETER (PVC)	L.F.	532
730-12.09	CONDUIT 3" DIAMETER (RGS)	L.F.	2,995
730-12.13	CONDUIT 2" DIAMETER (JACK AND BORE)	L.F.	43,625
730-12.14	CONDUIT 3" DIAMETER (JACK AND BORE)	L.F.	13
730-12.42	CURB MARKERS (CURB MOUNTED CABLE MARKERS)	EACH	413
730-13.02	VEHICLE DETECTOR (VIDEO)	EACH	16
730-13.03	VEHICLE DETECTOR (4-CHANNEL, RACK-MOUNT)	EACH	1
730-13.06	VEHICLE DETECTOR (OPTICALLY ACTIVATED PRIORITY CONTROL)	EACH	15
730-14.01	SHIELDED DETECTOR CABLE	L.F.	795
730-14.02	SAW SLOT	L.F.	130
730-14.03	LOOP WIRE	L.F.	365
730-15.11	MODIFY CABINET (POLE-MOUNT ENTRANCE)	EACH	3
730-15.11	MODIFY CABINET (BASE-MOUNT ENTRANCE)	EACH	7
730-15.32	CABINET (EIGHT PHASE BASE MOUNTED)	EACH	6
730-16.02	EIGHT PHASE ACTUATED CONTROLLER	EACH	3
730-18.01	MASTER CONTROLLER	EACH	1
730-23.30	PEDESTAL POLE (ALUMINUM, 20' LENGTH)	EACH	6
801-03	WATER (SEEDING & SODDING)	M.G.	3
803-01	SODDING (NEW SOD)	S.Y.	300
920-16.07	RAILROAD PROTECTIVE INSURANCE	EACH	1

FOOTNOTES

1. FOR TREE TRIMMING AS DIRECTED BY THE ENGINEER.
2. TO BE USED AS DIRECTED BY THE ENGINEER.
3. SEE SUBSECTION 209.07 OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.
4. TO INCLUDE ALL NECESSARY ITEMS TO PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH TDOT STANDARD DRAWINGS T-WZ-12, T-WZ-51, AND T-WZ-52.
5. ALLOWANCE TO COVER THE COST ASSOCIATED WITH POWER CONNECTION FOR THE TRAFFIC SIGNAL OR RDS UNIT FROM THE TRANSFORMER TO THE DEMARCATION POINT.
6. SEE THE LATEST "CITY OF MEMPHIS - STANDARD CONSTRUCTION SPECIFICATIONS" FOR TECHNICAL REQUIREMENTS.
7. SEE CITY OF MEMPHIS STANDARD SPECIFICATIONS FOR "RUGGEDIZED ETHERNET CABINET SWITCH."
8. SEE CITY OF MEMPHIS STANDARD SPECIFICATIONS FOR "SERIAL DEVICE SERVER."
9. THE INSTALLATION AT EACH LOCATION SHALL INCLUDE BLUETOOTH SENSOR, NEMA ENCLOSURE, CONDUIT AND RISER FROM CONTROLLER CABINET TO SIGNAL POLE, CELLULAR COMMUNICATION SYSTEM, POWER OVER ETHERNET SUBSYSTEM, ANTENNA, ETHERNET CABLE, AND ALL OTHER CABLING, CONNECTIONS AND HARWARE TO COMPLETE THE INSTALLATION OF A FULLY FUNCTIONAL BLUETOOTH DETECTION SYSTEM. THIS LUMP SUM ITEM ALSO INCLUDES THE BLUETOOTH SOFTWARE LICENSE FEE AND 24-MONTH BLUETOOTH CELLULAR SERVICE FEE FOR ALL INSTALLED UNITS. THE LUMP SUM PRICE INCLUDES ALL SOFTWARE AND HARDWARE INSTALLATION AND INTEGRATION WORK PROVIDE A FULLY FUNCTIONAL BLUETOOTH SYSTEM THAT ALLOWS THE CITY TO MONITOR AND RETRIEVE TRAVEL TIME AND SPEED DATA REMOTELY.
10. SEE PROJECT SPECIAL PROVISIONS FOR RADAR DETECTION EQUIPMENT.
11. SEE PROJECT SPECIAL PROVISIONS FOR UTILITY CABINETS. TYPE A CABINETS ARE FOR PRIMARY CABINETS. TYPE D CABINETS ARE FOR SECONDARY CABINETS. TYPE D CABINET TO INCLUDE ALL NECESSARY CABLING TO CONNECT TO TYPE A CABINET.
12. COST INCLUDES ALL LABOR AND MATERIALS (REMOVING AND REPLACING NECESSARY SIDE WALK PANELS, REPAIR LANDSCAPING, REMOVING EXISTING PULL BOX, AND OTHER MISCELLANEOUS MATERIALS) TO COMPLETE PULL BOX INSTALLATION.
13. CONTRACTOR RESPONSIBLE FOR ALL COST ASSOCIATED WITH POWER CONNECTION FOR TRAFFIC SIGNAL OR RDS UNIT FROM THE DEMARCATION POINT TO THE CABINET.
14. CONTRACTOR SHALL INSTALL A TRACER WIRE WITH THE FIBER OPTIC CABLE FOR ALL CONDUIT ROUTING. TRACER WIRE SHALL BE 10 AWG STRANDED COPPER CONDUCTOR CABLE WITH BOTH THHN AND THWN RATINGS AND YELLOW IN COLOR.
15. TO BE INSTALLED ON EXISTING SIGNAL POLE (SEE IL SHEETS AS NOTED ON LEGEND NOTE 24)
16. SEE CONSTRUCTION DETAIL SHEETS FOR BRIDGE ATTACHMENT DETAILS. ITEM TO INCLUDE ALL MATERIALS NESSESARY TO ATTACH CONDUIT TO BRIDGE.
17. TO BE ITERIS VANTAGE SYSTEM OR APPROVED EQUIVALENT. INCLUDES DETECTION CAMERAS, PROCESSOR UNIT, CARD RACK, POWER SUPPLY UNIT, 10" COLOR LCD MONITOR, VIDEO REMOTE MANAGEMENT CARD, MOUSE AND ALL OTHER CABLING, CONNECTIONS AND HARDWARE TO COMPLETE THE INSTALLATION OF A FULLY FUNCTIONAL VIDEO DETECTION SYSTEM.
18. INSTALL ONE (1) DETECTOR CARD PER INTERSECTION APPROACH WHERE ADVANCE DETECTION LOOPS ARE TO BE REPAIRED OR REPLACED. SEE INTERSECTION LAYOUT SHEETS.
19. TO BE GTT OPTICOM SYSTEM OR APPROVED EQUIVALENT. INCLUDES OPTICAL DETECTORS, CONFIRMATION LAMPS (PAR 90), POLE-MOUNTED BEACONS, FOUR-CHANNEL PHASE SELECTOR, CARD RACK (OPTICOM 760) AND ALL CABLING, CONNECTIONS AND HARDWARE TO COMPLETE THE INSTALLATION OF A FULLY-FUNCTIONAL PREEMPTION SYSTEM, INCLUDING FIELD FINE-TUNING.
20. SEE INTERSECTION LAYOUT SHEET FOR CABINET MODIFICATION DETAILS.
21. THE CONTROLLER CABINET SHALL BE AN EIGHT PHASE CABINET SIZE P CABINET. CABINET SHALL INCLUDE 1 VEHICLE DETECTOR CARD (4-CHANNEL) IN ADDITION TO THE QUANTITIES OF ITEM NUMBER 730-13.02.
22. THE TRAFFIC SIGNAL CONTROLLER SHALL BE AN EAGLE EPAC M52 KEYBOARD UNIT OR APPROVED EQUIVALENT WITH BUILT-IN PORT 3 FIBER MODEM (SINGLE MODE), AND BUILT-IN STRETCH AND DELAY FEATURES FOR EACH PHASE. THE TRAFFIC CONTROLLER INSTALLATION ALONG WITH ALL AUXILIARY EQUIPMENT TO BE INSTALLED IN THE CABINET SHALL BE MANUFACTURED, SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST CITY OF MEMPHIS TRAFFIC SIGNAL CONTROLLER AND CABINET SPECIFICATIONS. THE INSTALLATION SHALL HAVE A 12-CHANNEL MALFUNCTION MONITOR UNIT INSTALLED AS MODEL EDI SSM12LE-P.
23. INCLUDES CONCRETE FOUNDATION OR SCREW DOWN ANCHOR FOUNDATION AS APPROVED BY THE ENGINEER.
24. SEE TYPICAL COUNT ZONE DETAIL FOR ZONE LOCATION SETUP.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. SMITH REGISTERED ENGINEER AGRICULTURE COMMERCE No. 00114011 STATE OF TENNESSEE 12/19/15

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

QUANTITIES

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:

CABLE LAYOUT SHEET NO.	INTERSECTION/RDS ID	LOCATION		CABINET			CONTROLLER		CABINET ENTRY				EMERGENCY VEHICLE PREEMPTION					VIDEO DETECTION						FIBER OPTIC EQUIPMENT			PULLBOX/SPLICE ENCLOSURE				RADAR DETECTION SYSTEM				
				RETAIN EXISTING CABINET	INSTALL VEHICLE DETECTOR CARD (4-CHANNEL RACK-MOUNT)	INSTALL NEW BASE MOUNTED CONTROLLER CABINET	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER	INSTALL FIELD MASTER CONTROLER	INSTATLL 2" RISER INTO BOTTOM OF CABINET	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET	INSTATLL 3" RISER INTO BOTTOM OF CABINET	INSTALL OPTICOM DETECTOR MODEL 711	INSTALL OPTICOM DETECTOR MODEL 722	INSTALLE EVP PHASE SELECTION MODEL 754 (4-CHANNEL)	INSTALL EVP CONFIRMATION LAMP	INSTALL EVP CONFIRMATION BEACON	VIDEO DETECTION CAMERA TYPE 2 MOUNT	VIDEO DETECTION CAMERA TYPE 3 MOUNT	VIDEO DETECTION CARD RACK	VIDEO DETECTION PROCESSOR (DUAL CHANNEL)	VIDEO REMOTE MANAGEMENT CARD	MONITOR AND MOUSE	INSTALL ETHERNET CABINET SWITCH	INSTALL SERIAL DEVICE SERVER	INSTALL FIBER DISTRIBUTION BOX IN LOCAL CONTROLLER CABINET	INSTALL PULLBOX (TYPE B)	INSTALL PULLBOX (F.O. TYPE B)	INSTALL WEATHERPROOF SPLICE ENCLOSURE IN PULLBOX	INSTALL 3" RISER WITH WEATHER HEAD	INSTALL RADAR DETECTION SYSTEM	INSTALL 20' ALUMINUM PEDESTAL POLE	INSTALL NEW PRIMARY POLE MOUNTED RDS CABINET (TYPE A)	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET (TYPE D)	MIGW POWER SERVICE CONNECTION
		PLAN SHEET CALL-OUT SYMBOL		B1	D10	B3	C4	C3	3	8	14	17	D1	D1	D8	D3	D2	D5	D6	-	D9	D14	-	C6	C7	B7	B9	B11	B6	13	D13	B13	D12	D15	B15
		ITEM NUMBER		-	730-13.03	-	-	730-18.01	-	-		-	730-13.06	730-13.06	730-13.06	730-13.06	730-13.06	730-13.02	730-13.02	730-13.02	730-13.02		730-13.02	725-10.01	725-10.03	730-03.16	730-03.21	730-03.24	725-02.79	730-11.11	725-21.91	730-23.30	725-24.01	725-24.04	714-25.09
		UNIT		EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
		CITY OF MEMPHIS																																	
CL-01	8157	JACKSON	TREZEVANT	1	-	-	1		-	-	-	-	1	1	1	3	2	3	-	1	1	1	1	1	-	1	-	1	-	-	-	-	-	-	-
CL-01	8448	JACKSON	HOLLYWOOD	-	-	1	-		-	-	-	-	-	2	1	4	2	4	-	1	1	1	1	1	-	1	1	1	1	1	-	-	-	-	-	-
CL-02	8445	JACKSON	MEAGHER	1	-	-	-		-	-	-	-	1	1	1	3	2	3	-	1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-
CL-03	8443	JACKSON	WARFORD	-	-	1	-		-	-	-	1	1	1	1	3	2	1	2	1	1	1	1	1	-	1	1	1	1	1	-	-	-	-	-
CL-03	RD1	JACKSON	BTWN WARFORD AND POPE	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	2	2	1	1	1
CL-03	8442	JACKSON	POPE	-	1	1	-		-	-	-	-	1	1	1	3	2	4	-	1	1	1	1	1	-	1	5	1	1	-	-	-	-	-	-
CL-04	8155	JACKSON	HUDSON	-	-	1	-		-	-	-	1	1	1	1	3	2	4	-	1	1	1	1	1	-	1	1	1	1	1	-	-	-	-	-
CL-04	8440	JACKSON	MACON	1	-	-	-		-	2	-	-	-	-	-	-	-	3	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-
CL-05	RD2	JACKSON	BTWN MACON AND BAYLISS	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	2	2	1	1	1
CL-06	8438	JACKSON	BAYLISS	-	-	1	-		-	-	-	-	-	2	1	4	2	4	-	1	1	1	1	1	-	1	1	1	1	-	-	-	-	-	-
CL-07	8436	JACKSON	ORCHI	-	-	1	-		-	-	-	1	1	1	1	3	2	3	1	1	1	1	1	1	-	1	1	1	1	1	-	-	-	-	-
CL-08	8435	JACKSON	WALES	1	-	-	1		-	1	1	-	-	2	1	4	2	4	-	1	1	1	1	1	-	-	1	1	1	-	-	-	-	-	-
		CITY OF BARTLETT																																	
CL-09	5506	YALE	SYCAMORE VIEW	1	-	-	-		-	1	1	-	-	2	1	4	2	2	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-
CL-09	6100	YALE	BARTLETT	1	-	-	-		1	1	-	-	-	2	1	4	2	4	-	1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-
CL-09	RD3	YALE	BTWN BARTLETT AND ALTRURIA	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	1	1	1	-	1
CL-11	6103	YALE	ALTRURIA	1	-	-	-		-	1	1	-	1	-	1	4	2	4	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-
CL-12	6106	YALE	KIRBY WHITTEN	1	-	-	1		-	1	1	-	-	2	1	4	2	4	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-
CL-13	RD4	YALE	BTWN KIRBY WHITTEN AND U.S. 70	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	1	1	1	-	1
CL-14	5551	YALE	U.S. 70	1	-	-	-		-	1	1	-	-	2	1	4	2	4	-	1	1	1	1	1	1	-	1	1	1	-	-	-	-	-	-
CL-15	5548	YALE	BROTHER	1	-	-	-	1	-	1	1	-	1	1	1	3	2	3	-	1	1	1	1	1	1	-	1	1	1	-	-	-	-	-	-
			TOTALS	10	1	6	3	1	1	9	6	3	8	21	15	53	30	54	3	16	16	16	16	20	8	13	17	20	19	3	6	6	4	2	4

REVISIONS

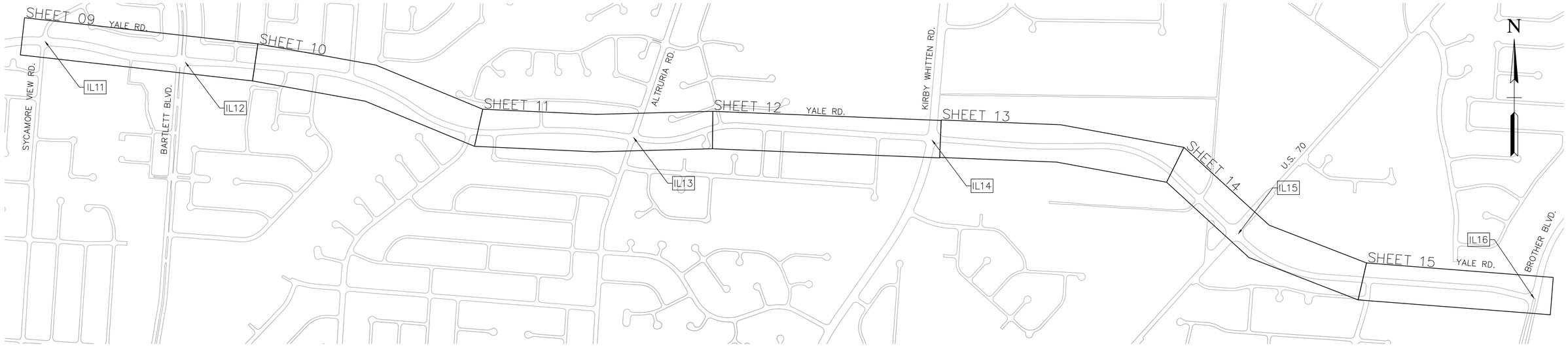
DATE	DESCRIPTIONS	APPROVED

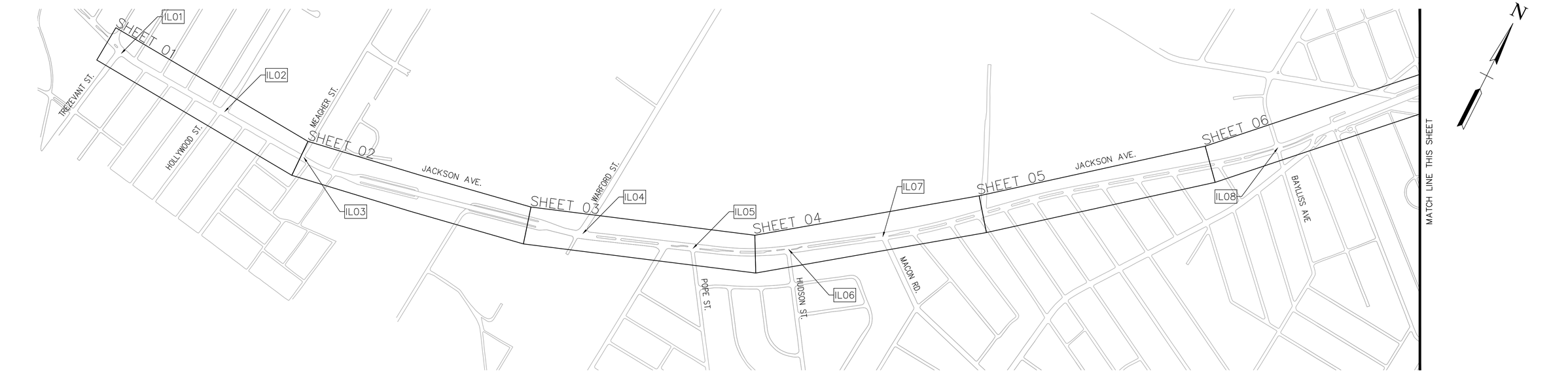
Kimley»Horn

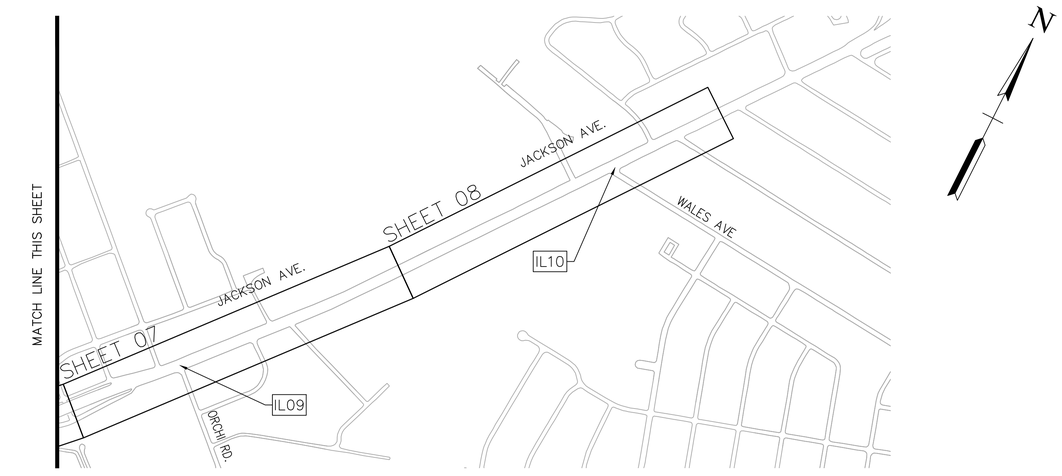
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

TABULATED QUANTITIES

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:







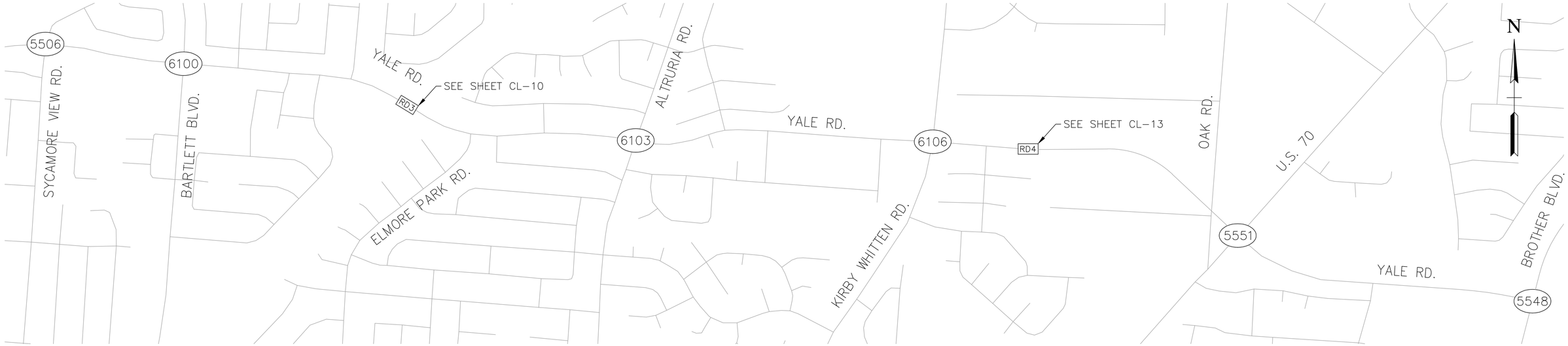
REVISIONS		
DATE	DESCRIPTIONS	APPROVED

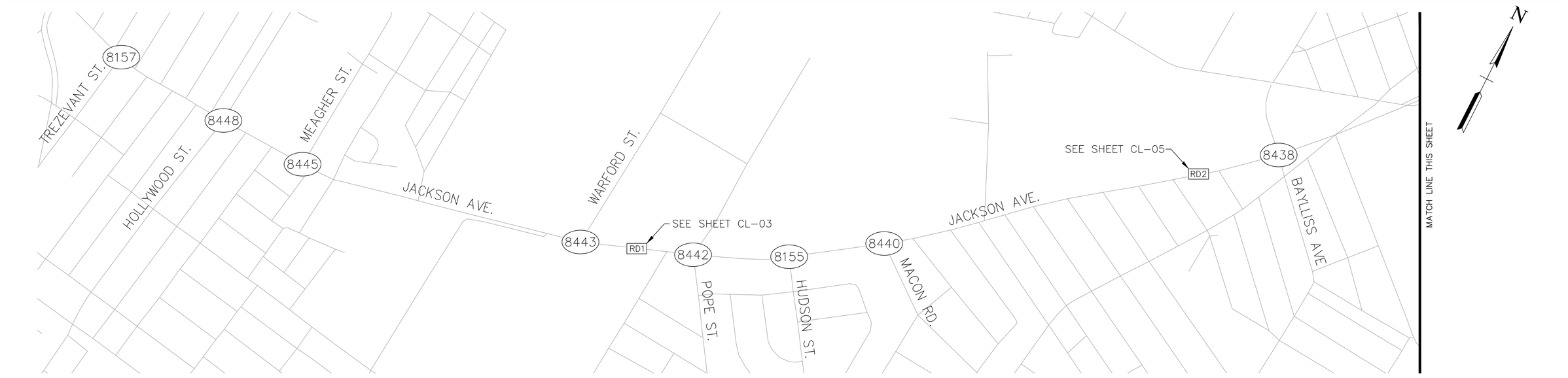
Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

CABLE LAYOUT AND UTILITY
SHEET KEY MAP

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:





LEGEND

(300) INTERSECTION ID.

[RD1] RADAR DETECTION SYSTEM

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

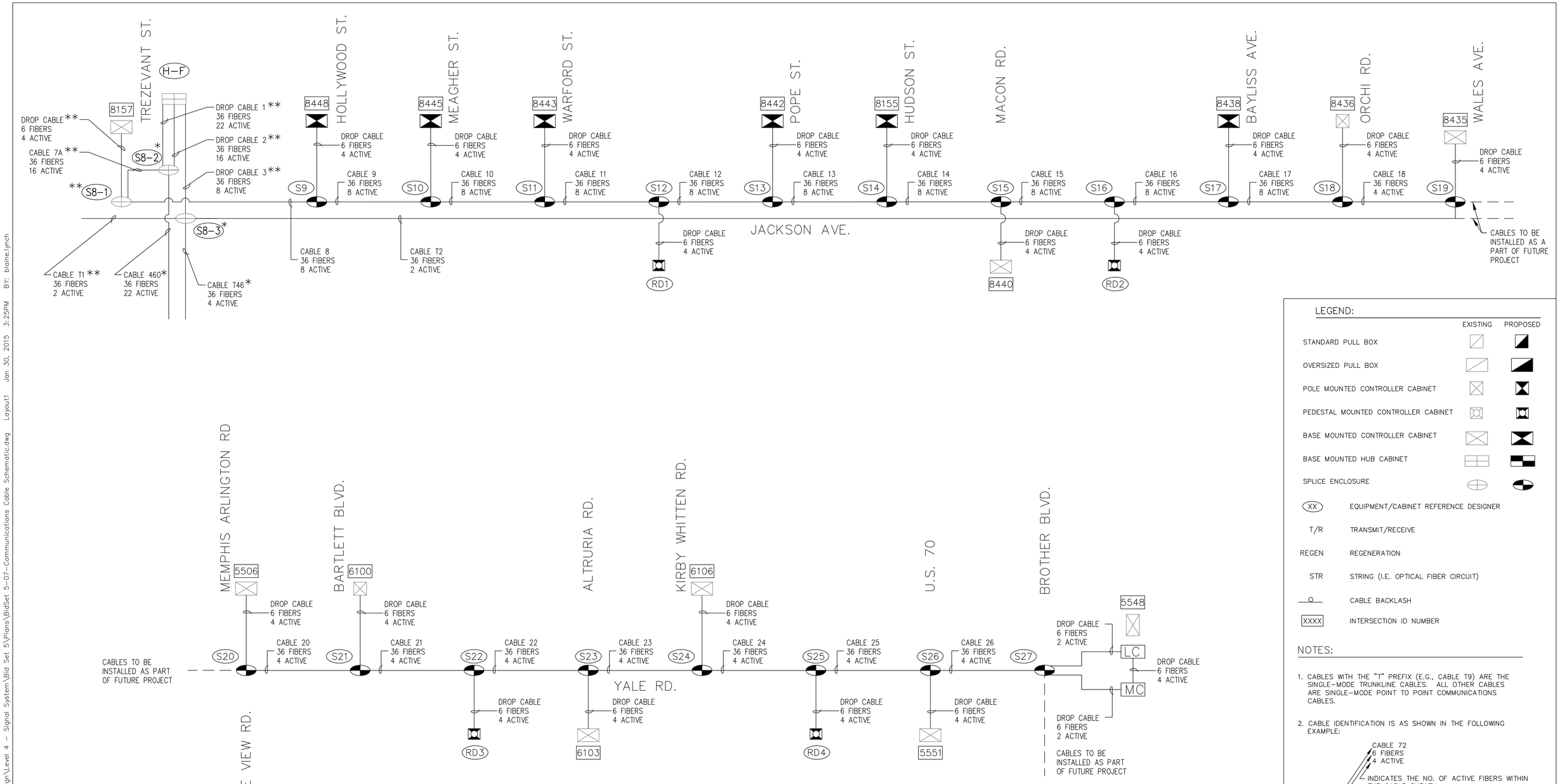
Kimley»Horn

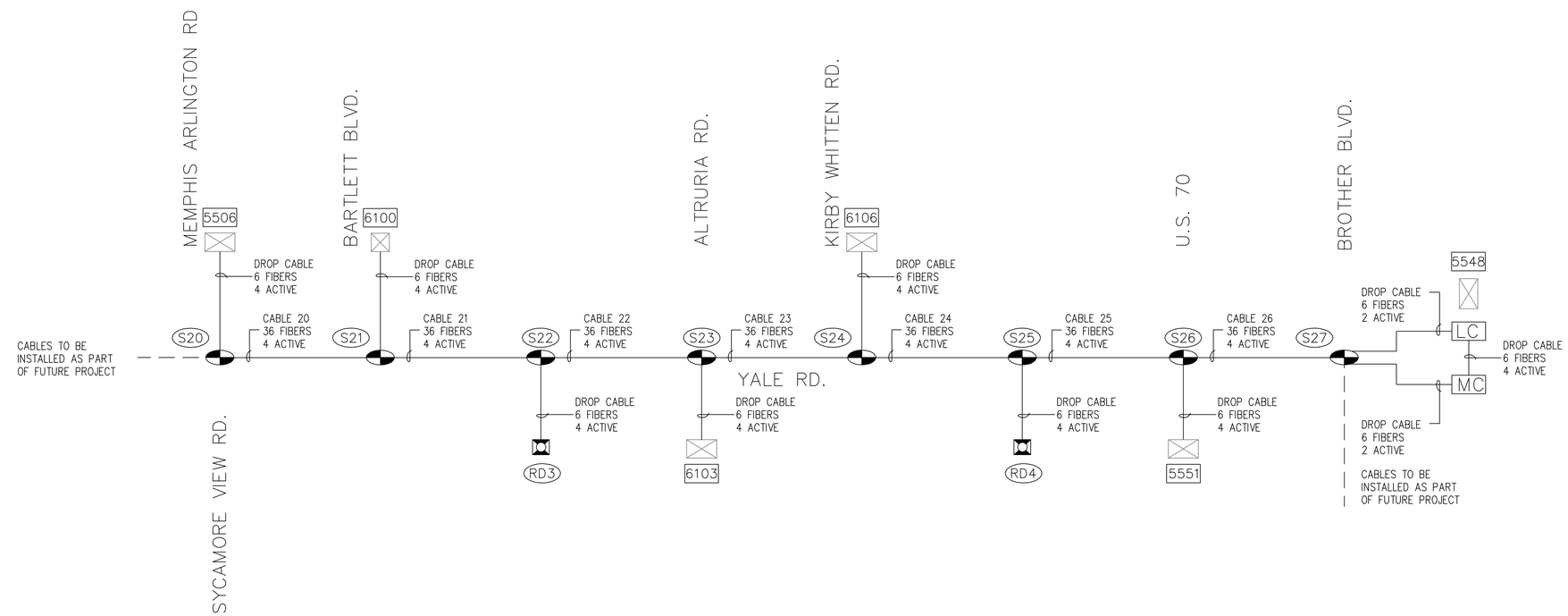
DOUGLAS A. SCOTT
REGISTERED ENGINEER
AGRICULTURE
17 19 15
COMMERCE
No. 00115211
STATE OF TENNESSEE

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SYSTEM DETECTORS AND INTERSECTION I.D.

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:





LEGEND:

	EXISTING	PROPOSED
STANDARD PULL BOX		
OVERSIZED PULL BOX		
POLE MOUNTED CONTROLLER CABINET		
PEDESTAL MOUNTED CONTROLLER CABINET		
BASE MOUNTED CONTROLLER CABINET		
BASE MOUNTED HUB CABINET		
SPLICE ENCLOSURE		

XX	EQUIPMENT/CABINET REFERENCE DESIGNER
T/R	TRANSMIT/RECEIVE
REGEN	REGENERATION
STR	STRING (I.E. OPTICAL FIBER CIRCUIT)
—o—	CABLE BACKLASH
XXXX	INTERSECTION ID NUMBER

NOTES:

1. CABLES WITH THE "T" PREFIX (E.G., CABLE T9) ARE THE SINGLE-MODE TRUNKLINE CABLES. ALL OTHER CABLES ARE SINGLE-MODE POINT TO POINT COMMUNICATIONS CABLES.
2. CABLE IDENTIFICATION IS AS SHOWN IN THE FOLLOWING EXAMPLE:

CABLE 72
6 FIBERS
4 ACTIVE

- INDICATES THE NO. OF ACTIVE FIBERS WITHIN THE CABLE SHEATH.
- NO. OF FIBERS WITHIN CABLE SHEATH.
- INDICATES THE CABLE NO. ASSIGNMENT. GENERALLY, THE CABLE NO. CORRESPONDS WITH THE EQUIPMENT NO. IN WHICH END OF THE CABLE IS TERMINATED (THE EXCEPTIONS ARE SINGLE-MODE TRUNK CABLES. SEE NOTE 1 ABOVE).

3. INTERMEDIATE FIBER PULL BOXES ARE NOT SHOWN ON THIS SCHEMATIC.

* DENOTES CABLES AND SPLICE ENCLOSURES INSTALLED AS PART OF PROJECT 040723 (CMAQ YEAR 3 – BID SET 1)

** DENOTES CABLES AND SPLICE ENCLOSURES INSTALLED AS PART OF PROJECT 112875 (STP – JACKSON AVE SIGNAL SYSTEM)

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. SCHMIDT REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 00113221 7/19/15 STATE OF TENNESSEE

Kimley»Horn

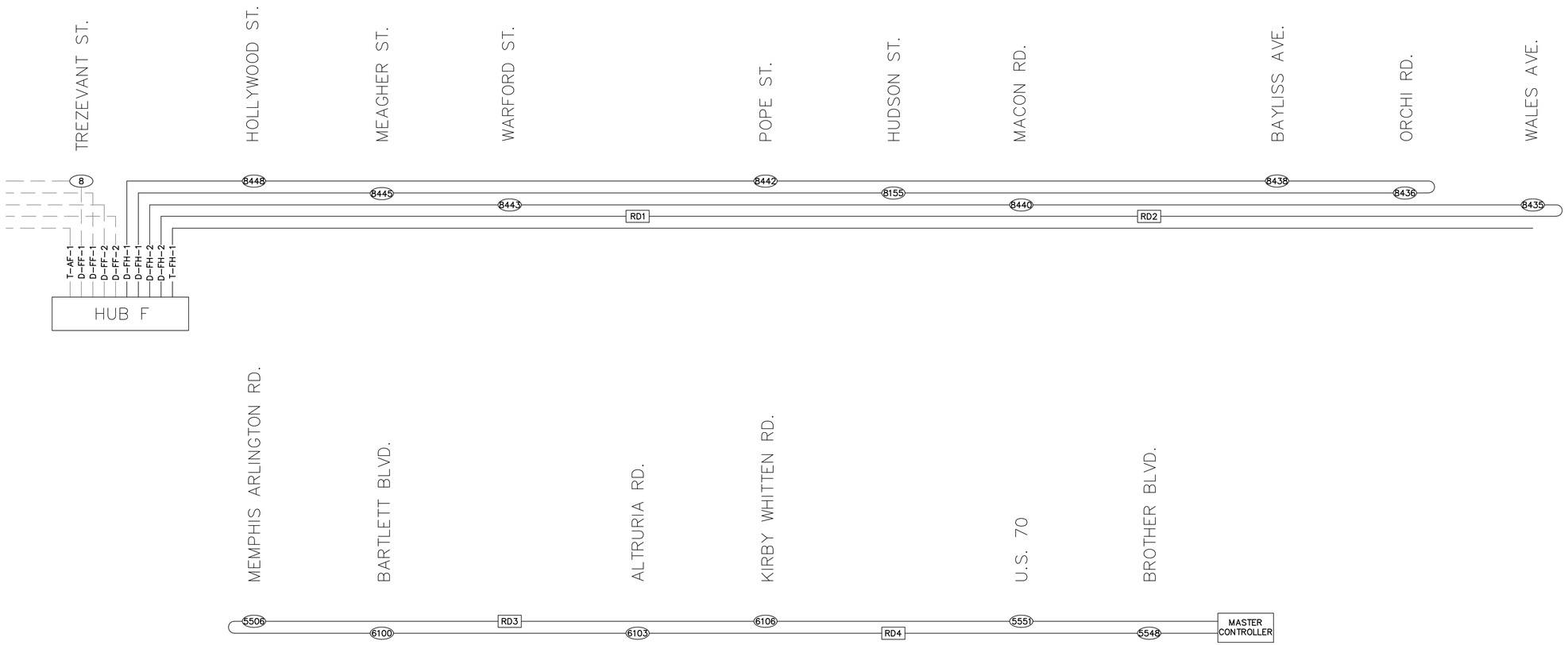
E1

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

COMMUNICATIONS
CABLE SCHEMATIC

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____ SHEET 7 OF 72

DRAWING NAME: K:\MEM_TPTO\115087002 – Shelby County CMP 2\Design\Level 4 – Signal System\Bid Set 5\Plans\BidSet 5-07-Communications Cable Schematic.dwg Layout1 Jan 30, 2015 3:25PM BY: blaine.lynch



NOTES

1. THIS SCHEMATIC IS AN OVERVIEW OF THE BACKBONE NETWORK AND FIELD SUB-NETWORK TOPOLOGY. THE PURPOSE IS TO SHOW THE COMMUNICATION CHANNEL ASSIGNMENT AND THE UPSTREAM/DOWNSTREAM RELATIONSHIP OF THE LOCAL CONTROLLERS.

2. ALL SPLICE ENCLOSURES AND DROP CABLES ARE NOT SHOWN. SEE COMMUNICATION CABLE SCHEMATIC SHEET FOR CABLE AND SPLICE ENCLOSURE DETAILS. SEE SPLICE DIAGRAMS (SHEET SD1-SD13) FOR SPLICING DETAILS AND FIBER STRANDS IN USE.

3. EACH LINE SHOWN ON THIS SCHEMATIC REPRESENTS TWO STRANDS OF FIBERS (TRANSMIT AND RECEIVE).

4. COMMUNICATION CHANNELS ARE NAMED BY THE FOLLOWING CONVENTION:

CHANNEL TYPE	—	FROM HUB ID	—	TO HUB ID	—	CHANNEL SEQUENCE

CHANNELTYPE:
T – BACKBONE CHANNEL FOR HUB TO HUB COMMUNICATIONS
D – DISTRIBUTION CHANNEL FOR FIELD DEVICE COMMUNICATIONS

EXAMPLE:
T-GJ-1 BACKBONE CHANNEL #1 FROM HUB G TO J
D-JM-2 DISTRIBUTION CHANNEL #2 FROM HUB J TO M

HUB ID:
CH – CITY HALL
LC – LOCAL CONTROLLER

REVISIONS

DATE	DESCRIPTIONS	APPROVED

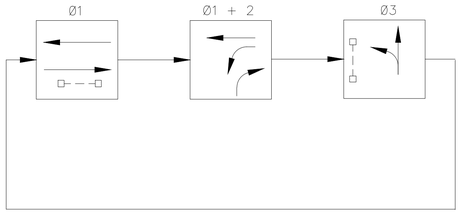
Kimley»Horn

CC1

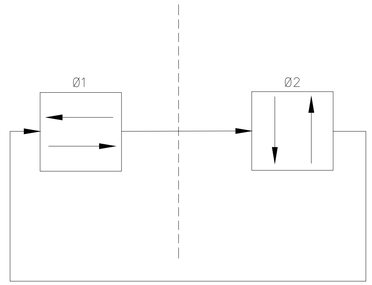
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

COMMUNICATION
CHANNEL SCHEMATIC

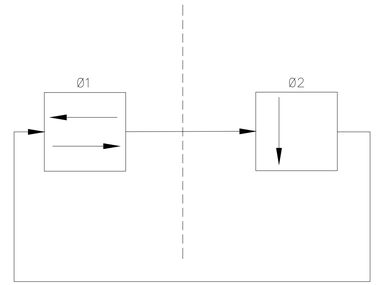
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



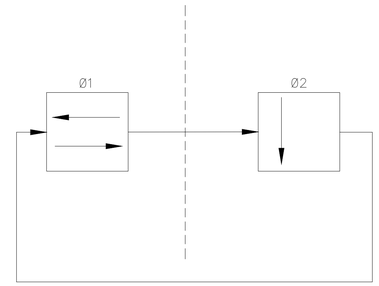
INTERSECTION #8157
JACKSON AVE. & TREAZEVANT ST.



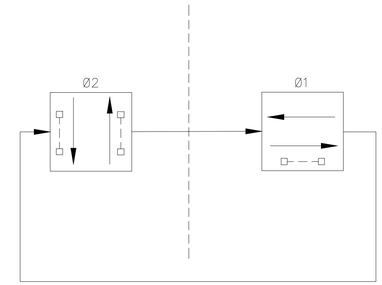
INTERSECTION #8448
JACKSON AVE. & HOLLYWOOD ST.



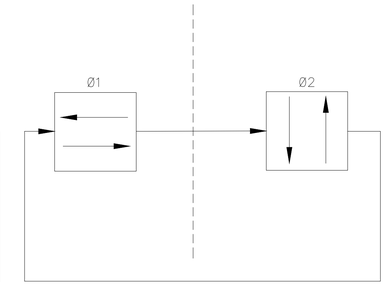
INTERSECTION #8445
JACKSON AVE. & MEAGHER ST.



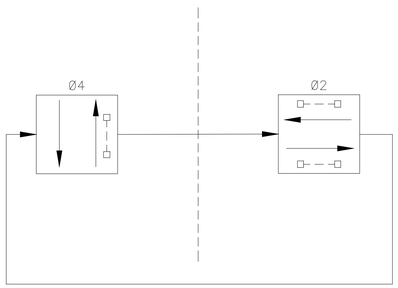
INTERSECTION #8443
JACKSON AVE. & WARFORD ST.



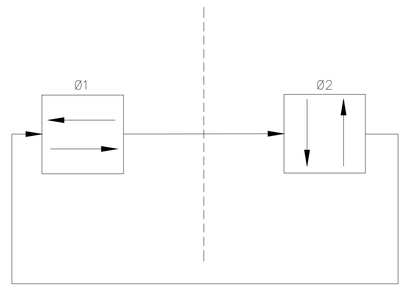
INTERSECTION #8442
JACKSON AVE. & POPE ST.



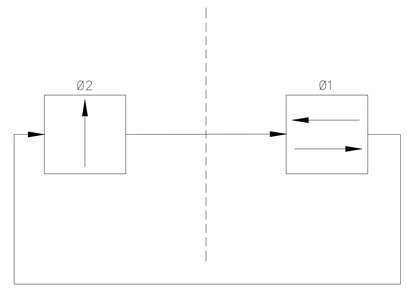
INTERSECTION #8155
JACKSON AVE. & HUDSON ST.



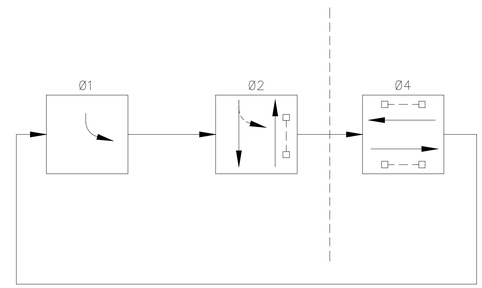
INTERSECTION #8440
JACKSON AVE. & MACON RD.



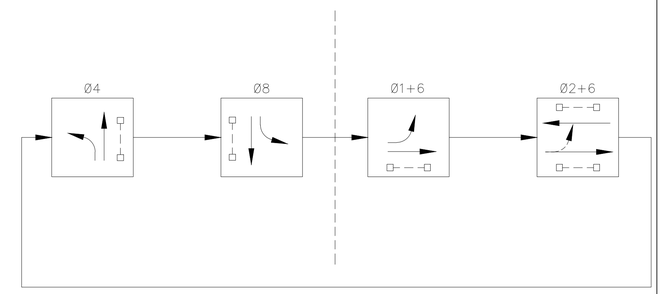
INTERSECTION #8438
JACKSON AVE. & BAYLISS AVE.



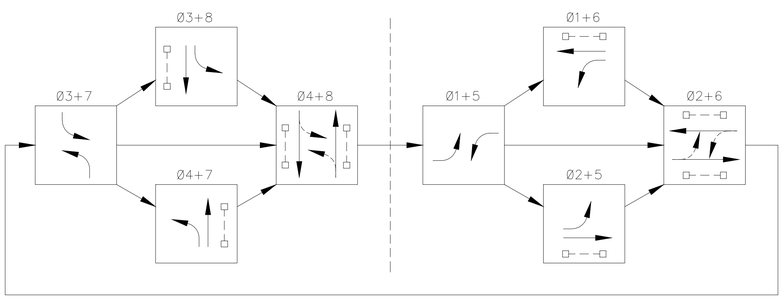
INTERSECTION #8436
JACKSON AVE. & ORCHI RD.



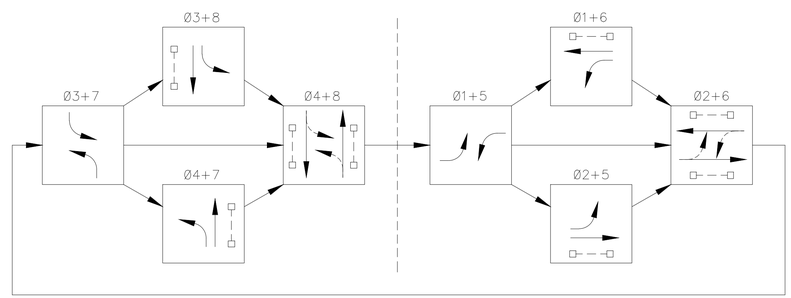
INTERSECTION #8435
JACKSON AVE. & WALES AVE.



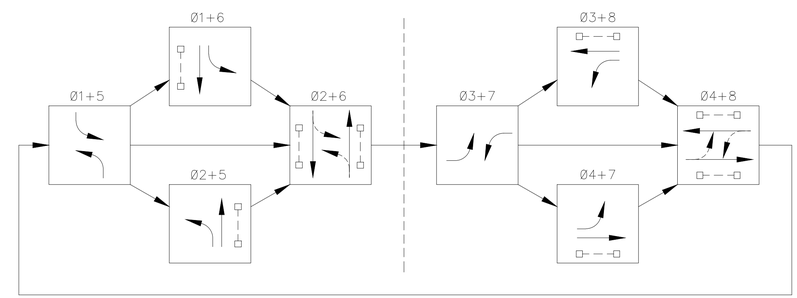
INTERSECTION #5506
YALE RD. & SYCAMORE VIEW/MEMPHIS ARLINGTON RD.



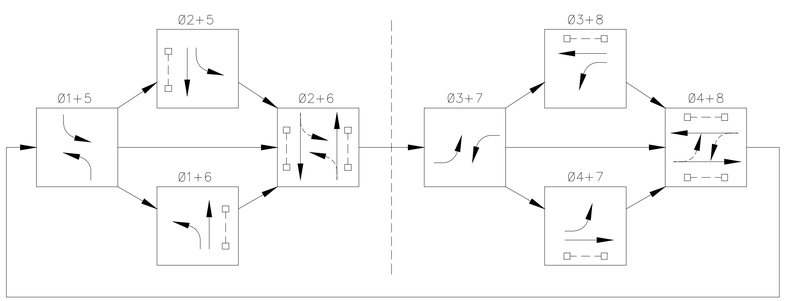
INTERSECTION #6100
YALE RD. & BARTLETT BLVD.



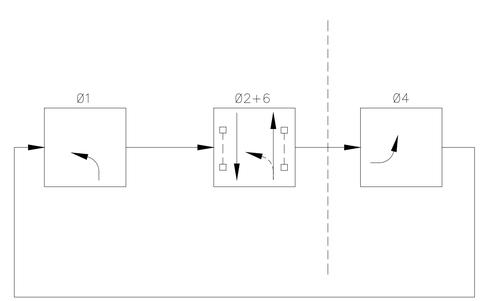
INTERSECTION #6103
YALE RD. & ALTRURIA RD.



INTERSECTION #6106
YALE RD. & KIRBY WHITTEN RD.



INTERSECTION #5551
YALE RD. & U.S. 70



INTERSECTION #5548
YALE RD. & BROTHER BLVD.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

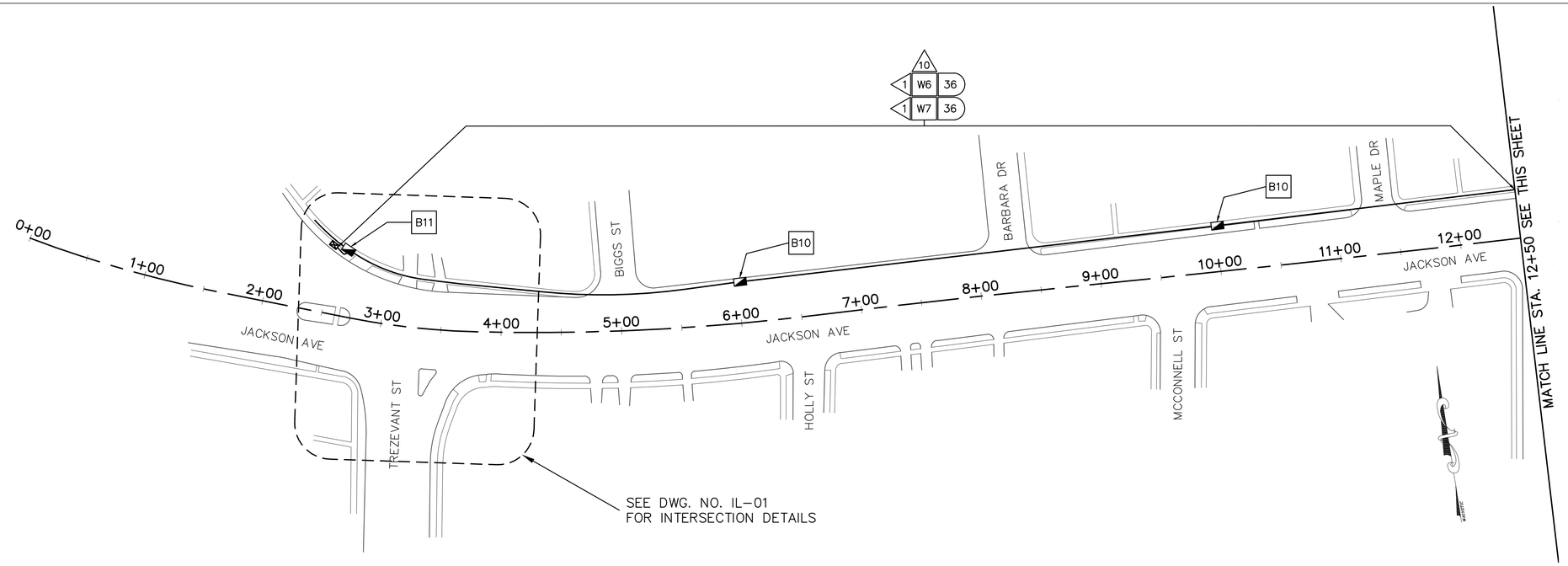
DOUGLAS A. [illegible]
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
COMMERCE
NO. 00113221
STATE OF TENNESSEE
1/9/15

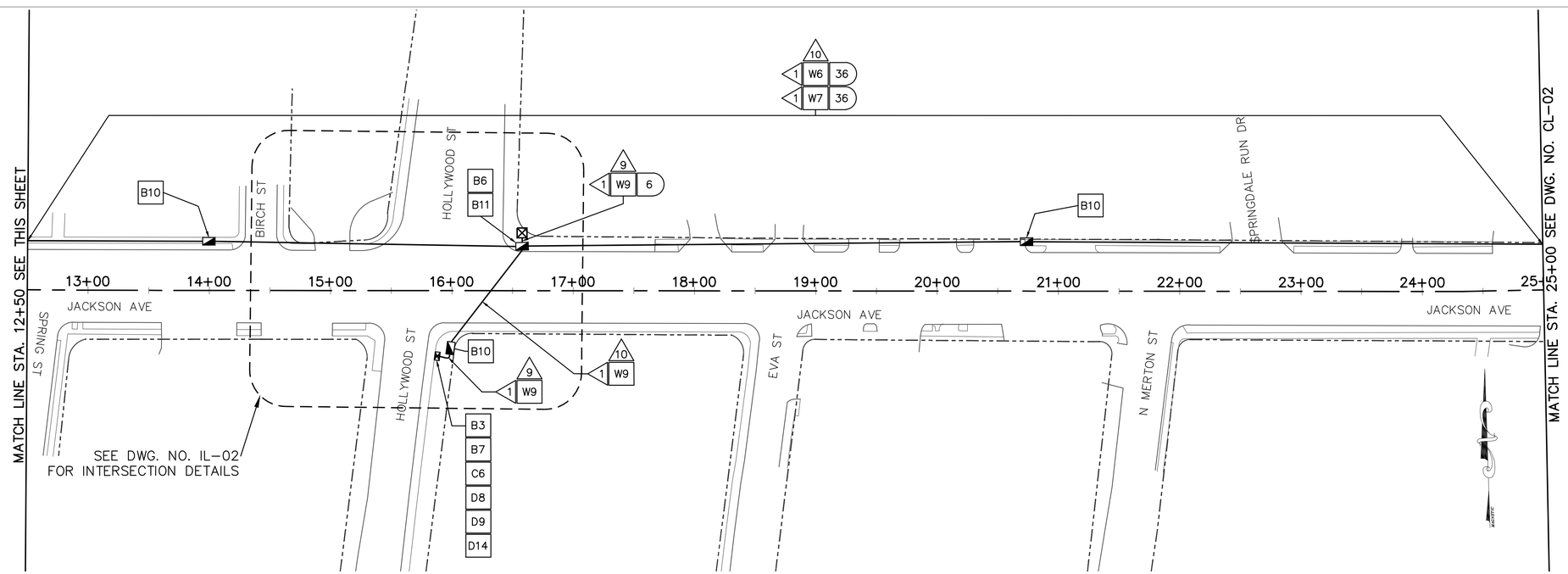
Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

PHASING DIAGRAMS

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____





NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
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17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER No. 16276 STATE OF TENNESSEE 01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

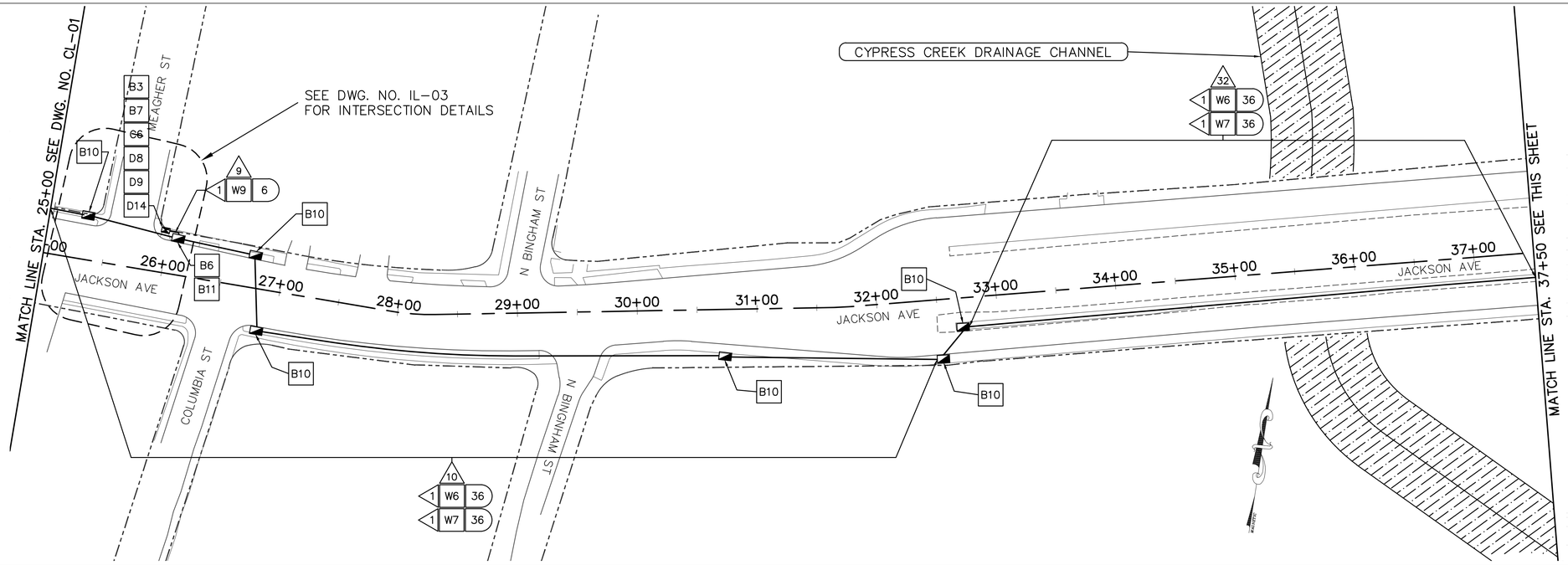
CL-01

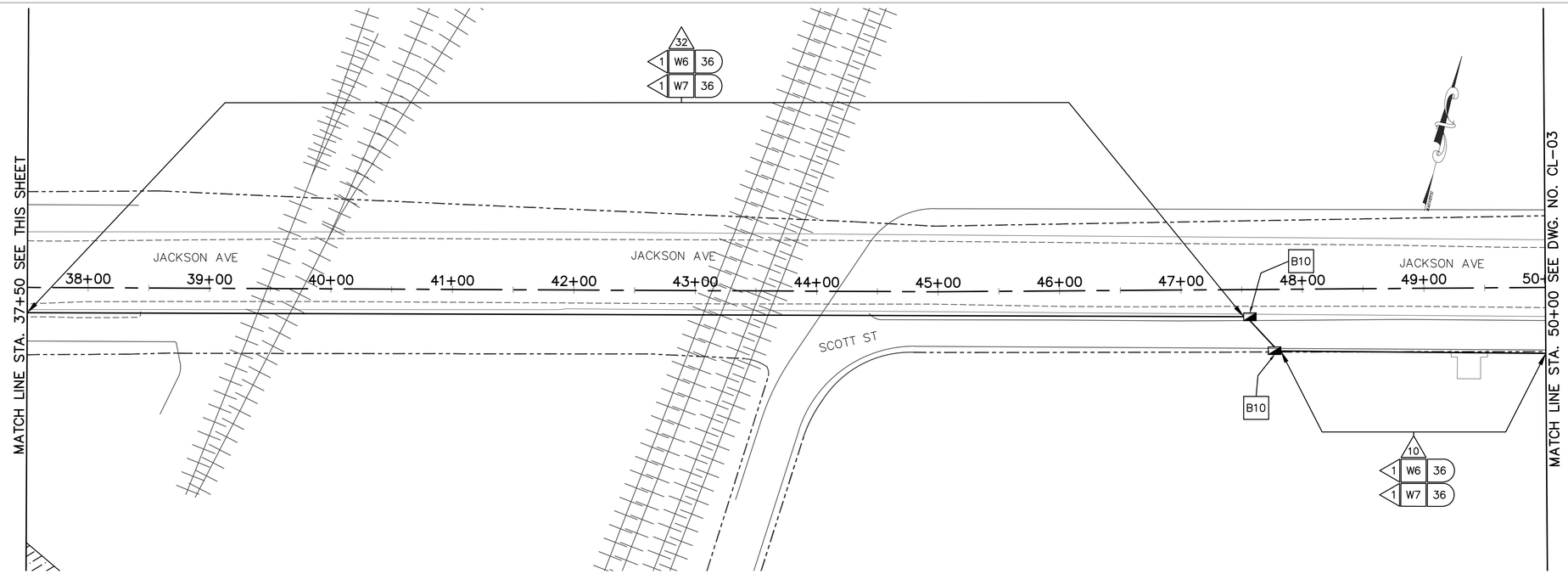
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 0+00 TO 25+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 10 OF 72





B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
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B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
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D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
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D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
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W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
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5	INSTALL 2" RISER WITH SEALING BUSHING
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8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
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27	INSTALL CABLES IN PROPOSED POLE
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30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER No. 16276 STATE OF TENNESSEE

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

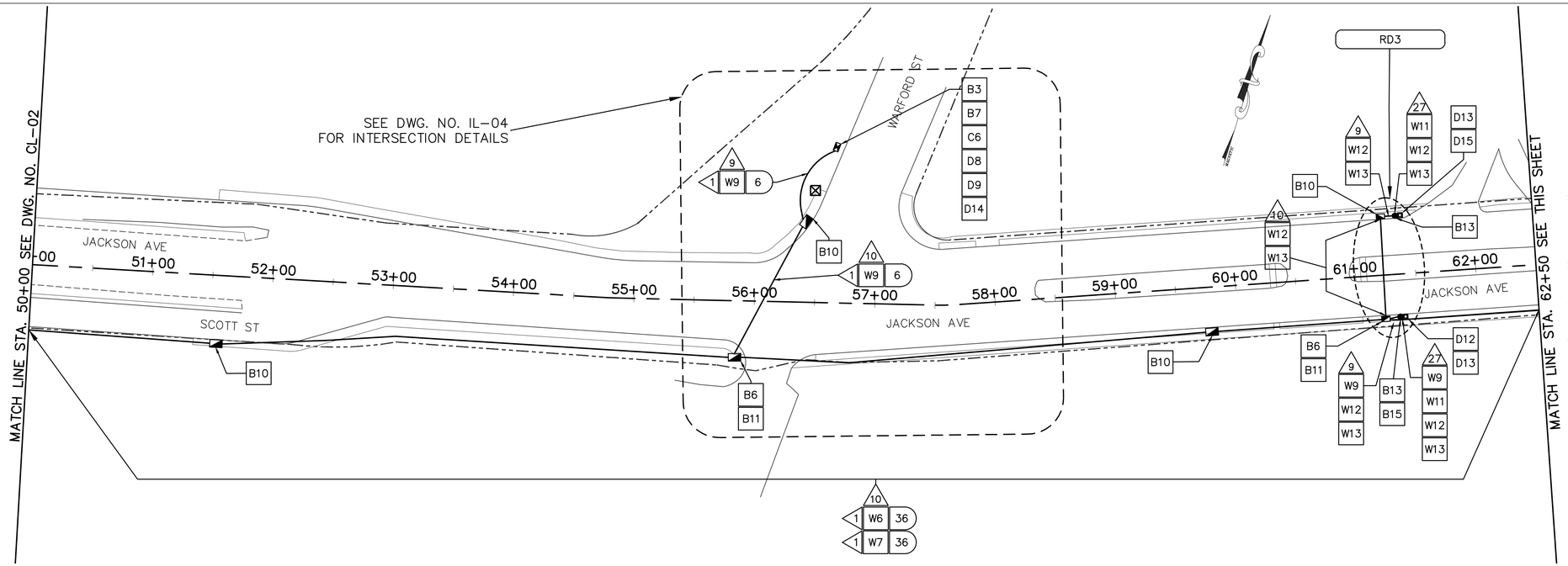
CL-02

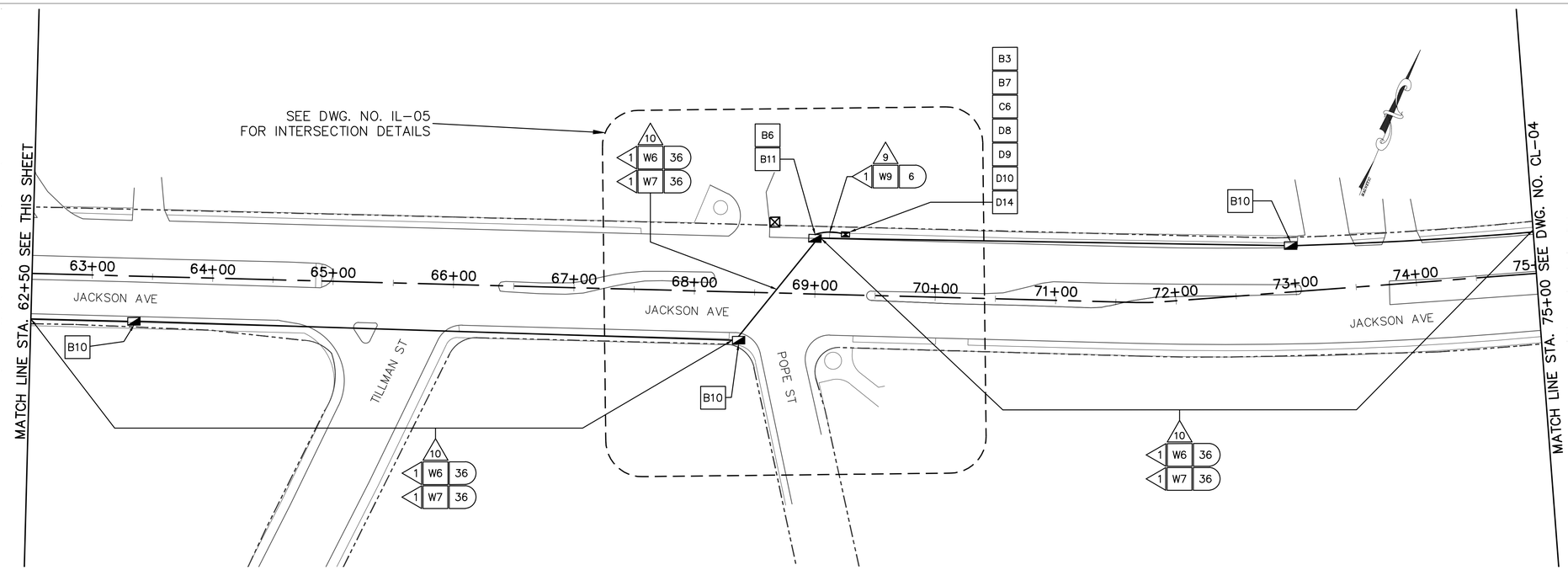
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 25+00 TO 50+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:





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B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
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C5	INSTALL FIBER OPTIC MODEM
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C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
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D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
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D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
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D9	INSTALL VIDEO DETECTION PROCESSOR
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D14	VIDEO REMOTE MANAGEMENT CARD
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W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
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5	INSTALL 2" RISER WITH SEALING BUSHING
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30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER No. 16276 STATE OF TENNESSEE 1/24/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

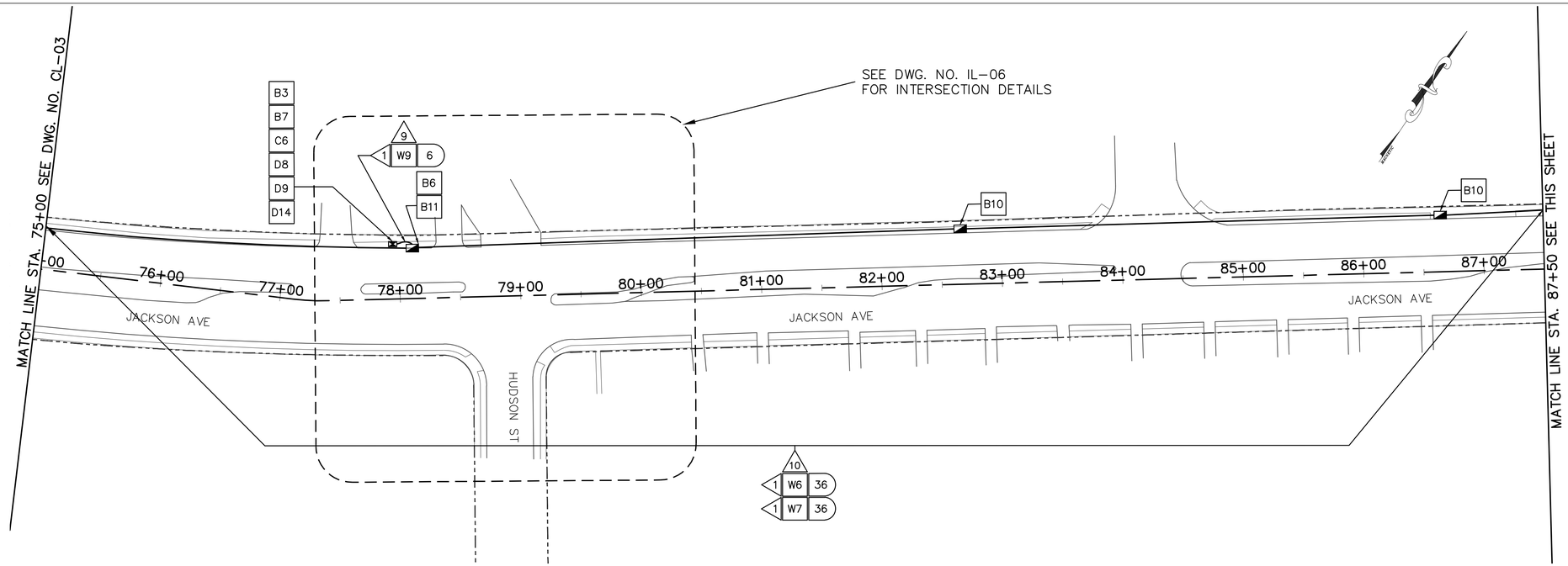
CL-03

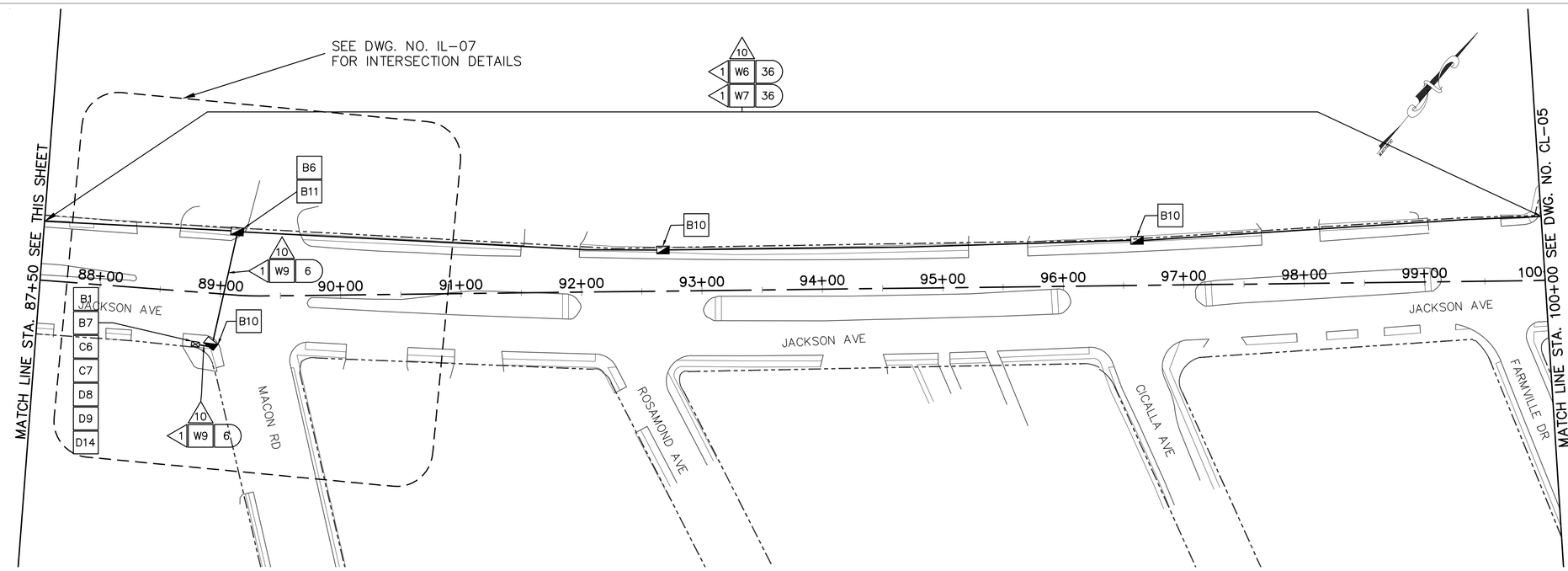
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 50+00 TO 75+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 12 OF 72





B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
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B13	INSTALL 20' PEDESTAL POLE
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C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
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W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
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5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
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32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE CIVIL STRUCTURAL No. 16276 STATE OF TENNESSEE 01/09/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

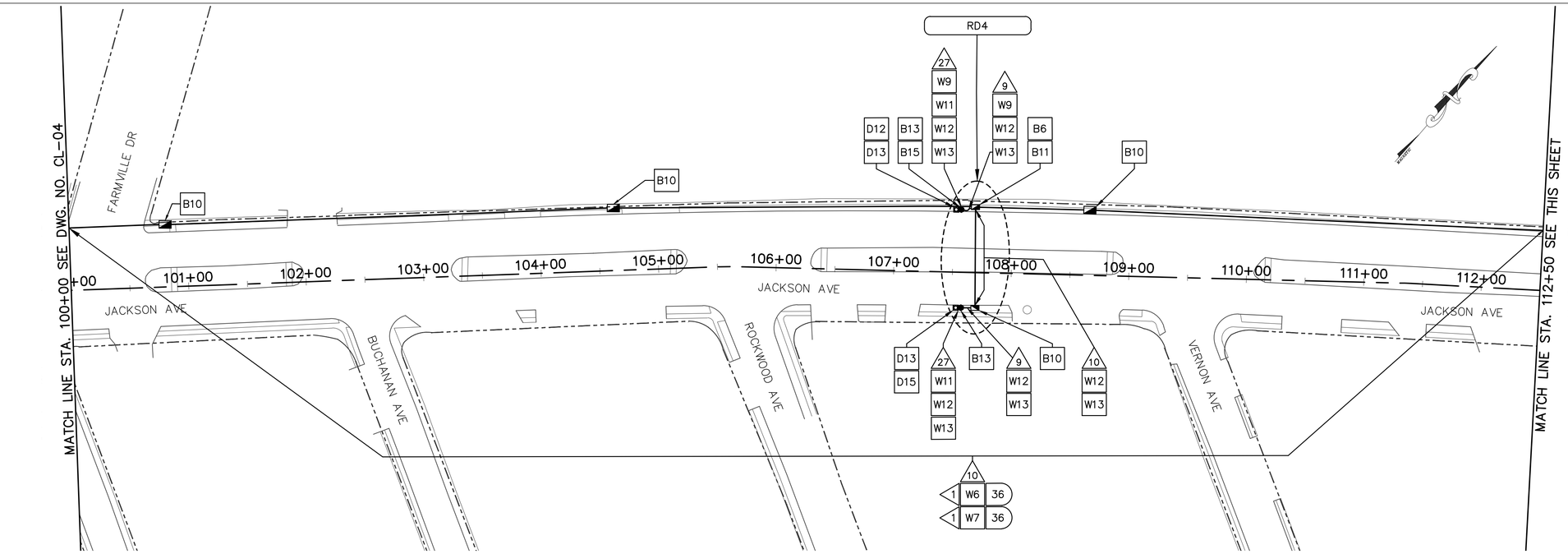
CL-04

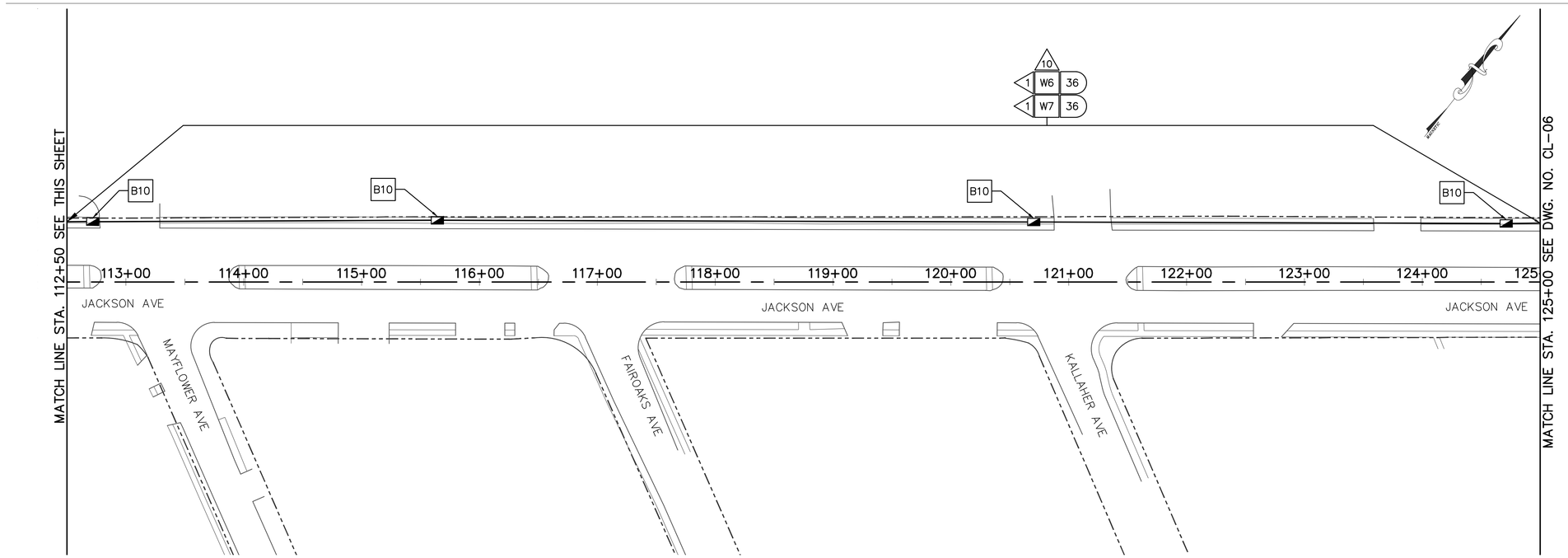
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 75+00 TO 100+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 13 OF 72





B1	RETAIN AND MODIFY EXISTING CABINET
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NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE NO. 16276 STATE OF TENNESSEE 11/19/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

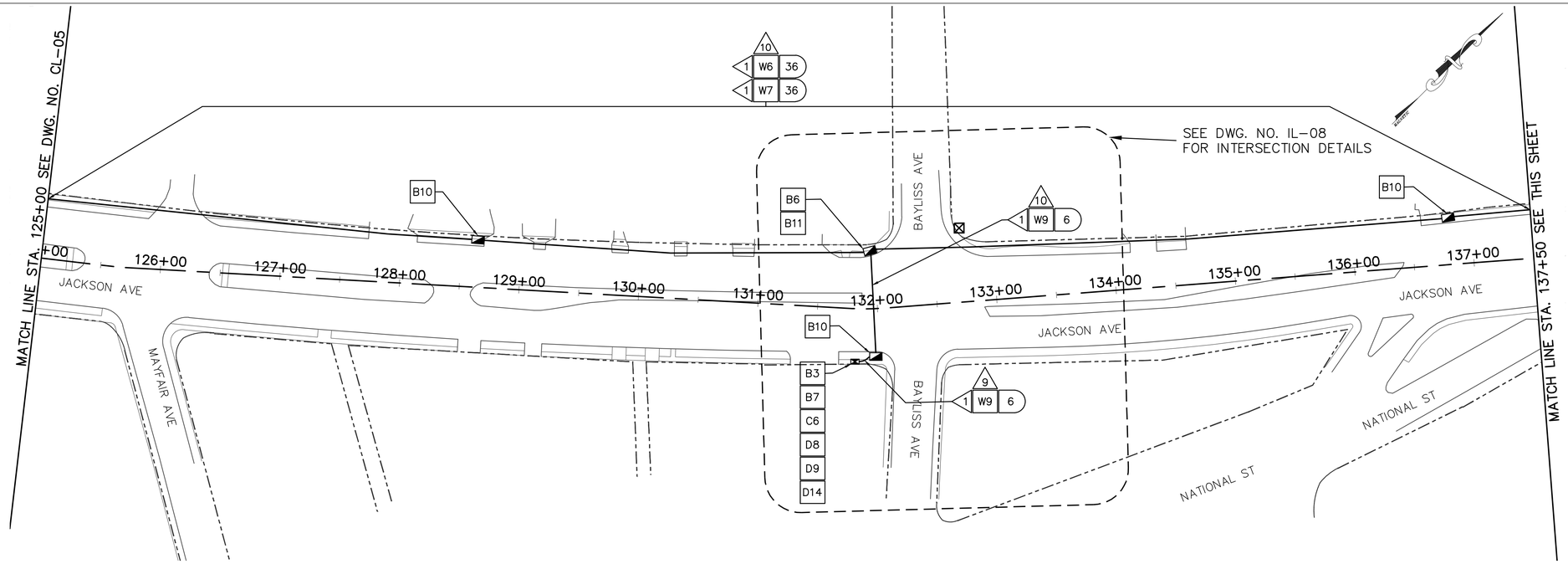
CL-05

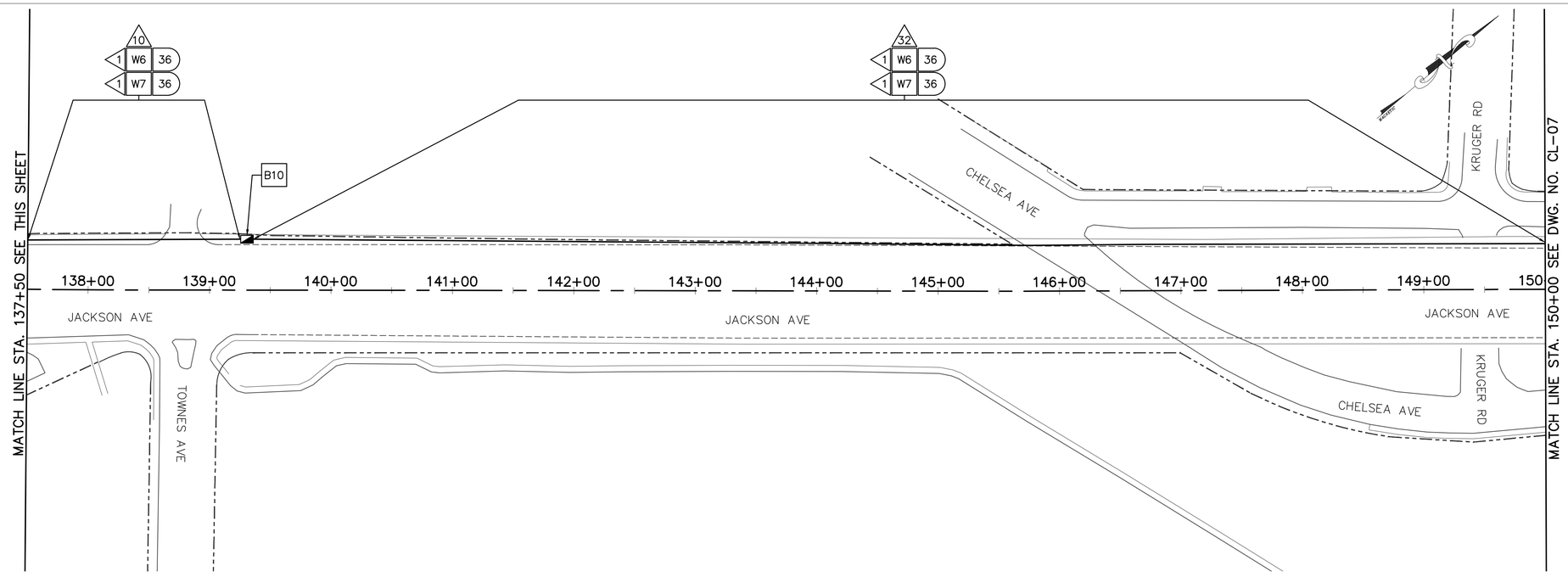
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 100+00 TO 125+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:





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B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE TECHNOLOGY 16276 STATE OF TENNESSEE 01/09/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

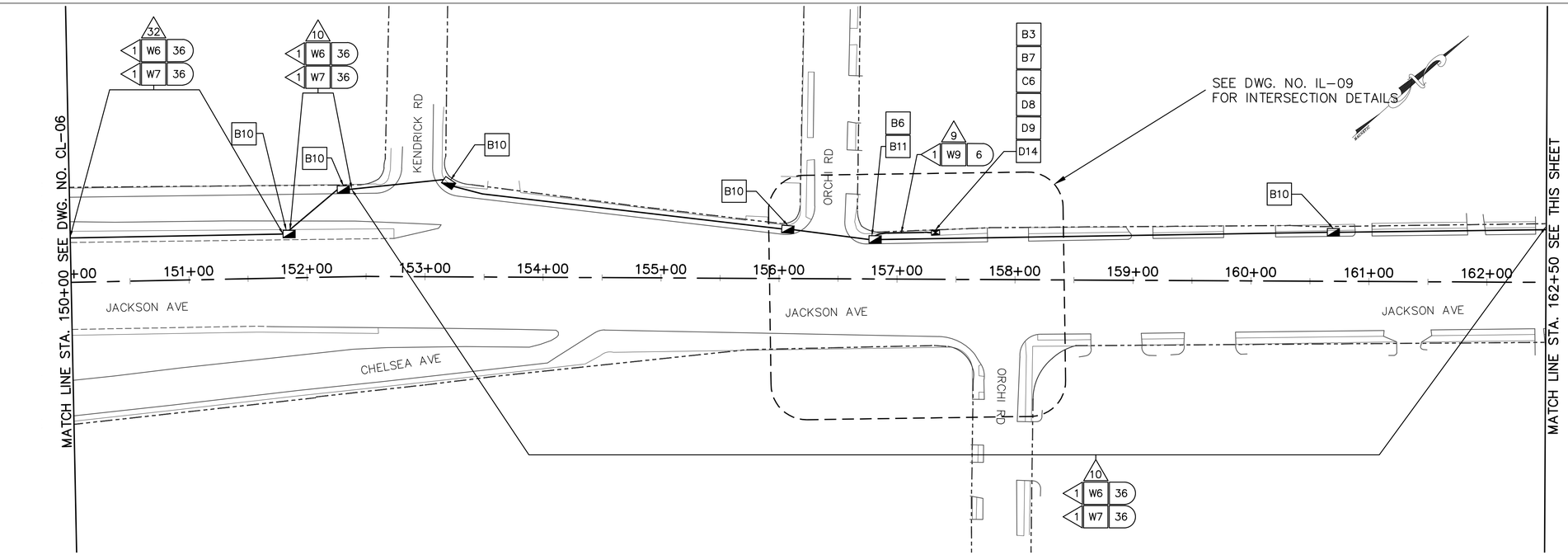
CL-06

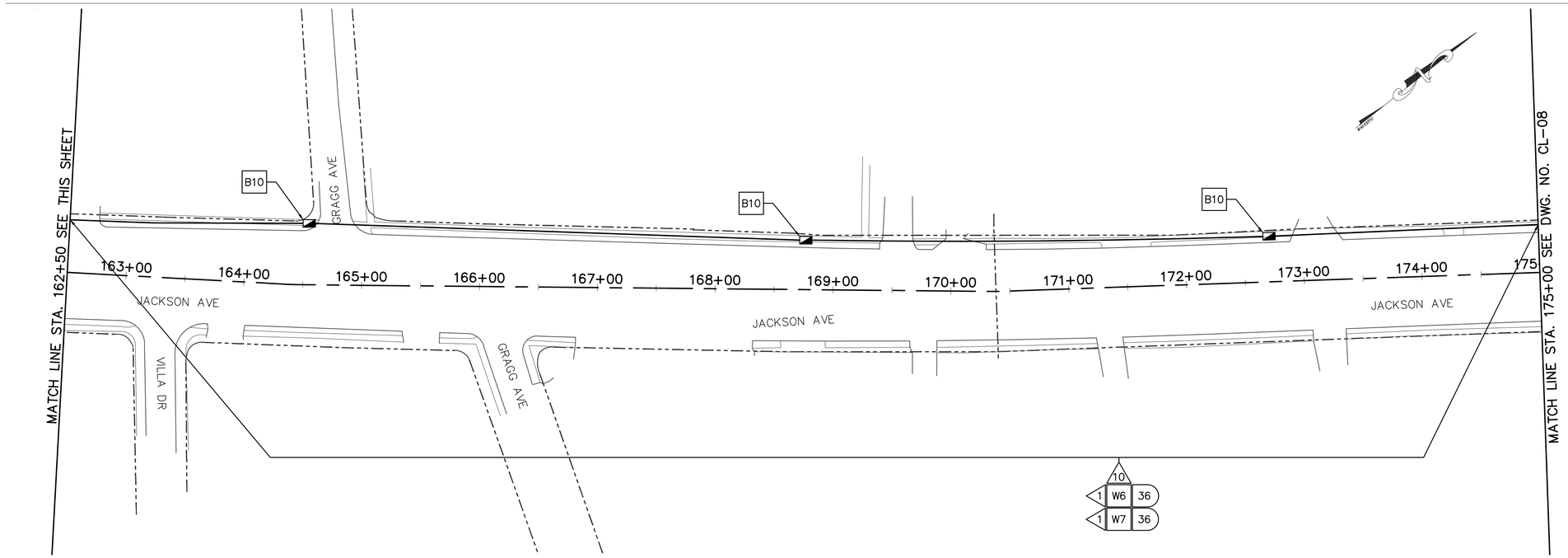
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 125+00 TO 150+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 15 OF 72





B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
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17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 16276 STATE OF TENNESSEE 01/09/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

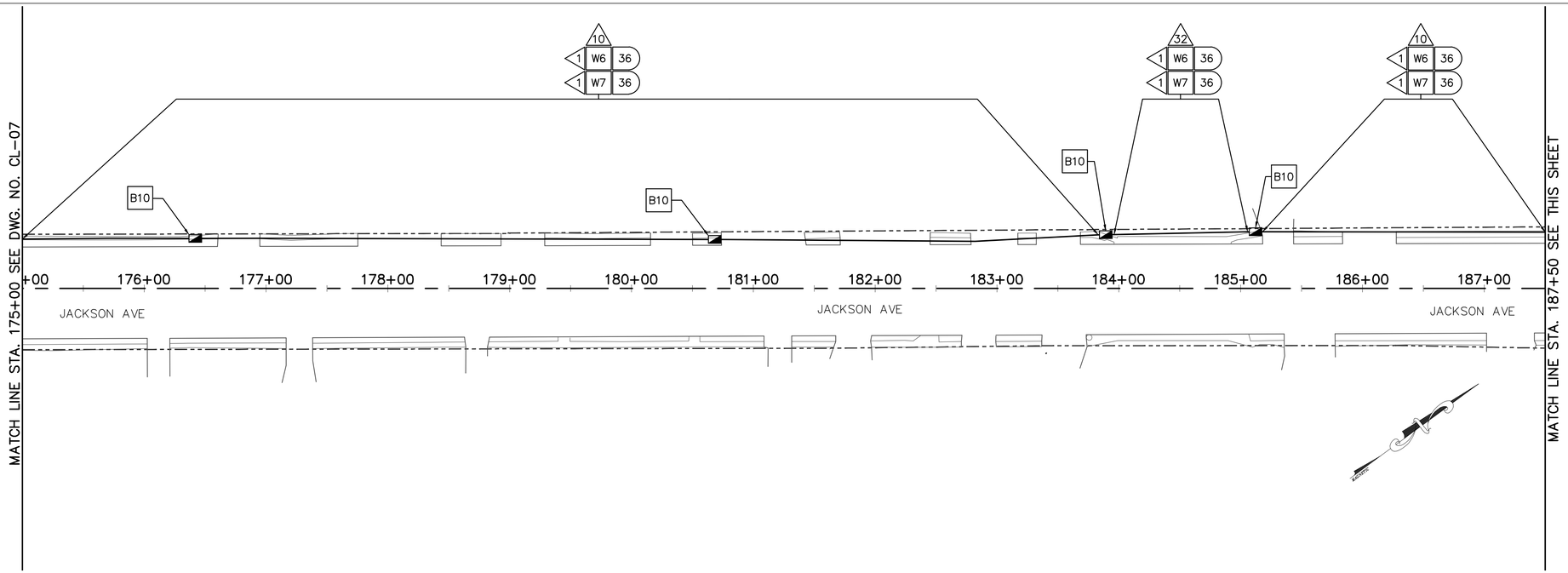
CL-07

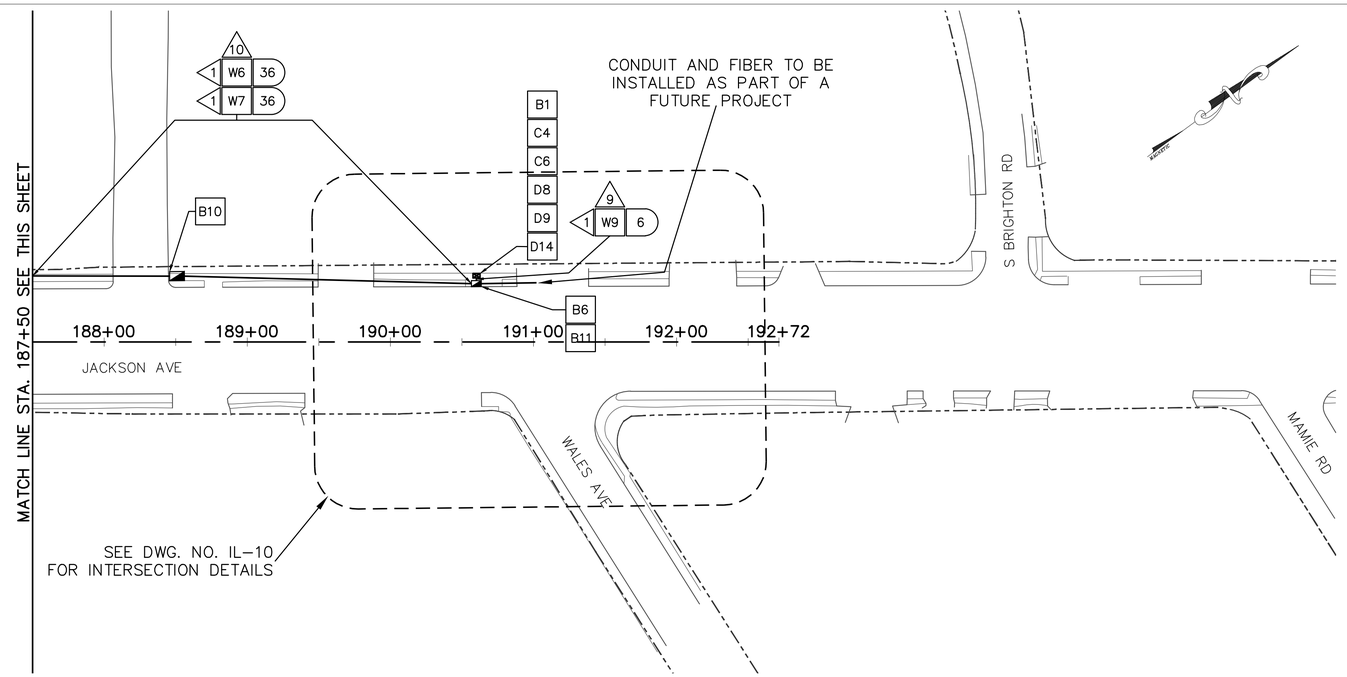
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 150+00 TO 175+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:





B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
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17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

1 W6 36 — NUMBER OF CABLES, LOOPS, ETC.
X — NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE 16274 STATE OF TENNESSEE 01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

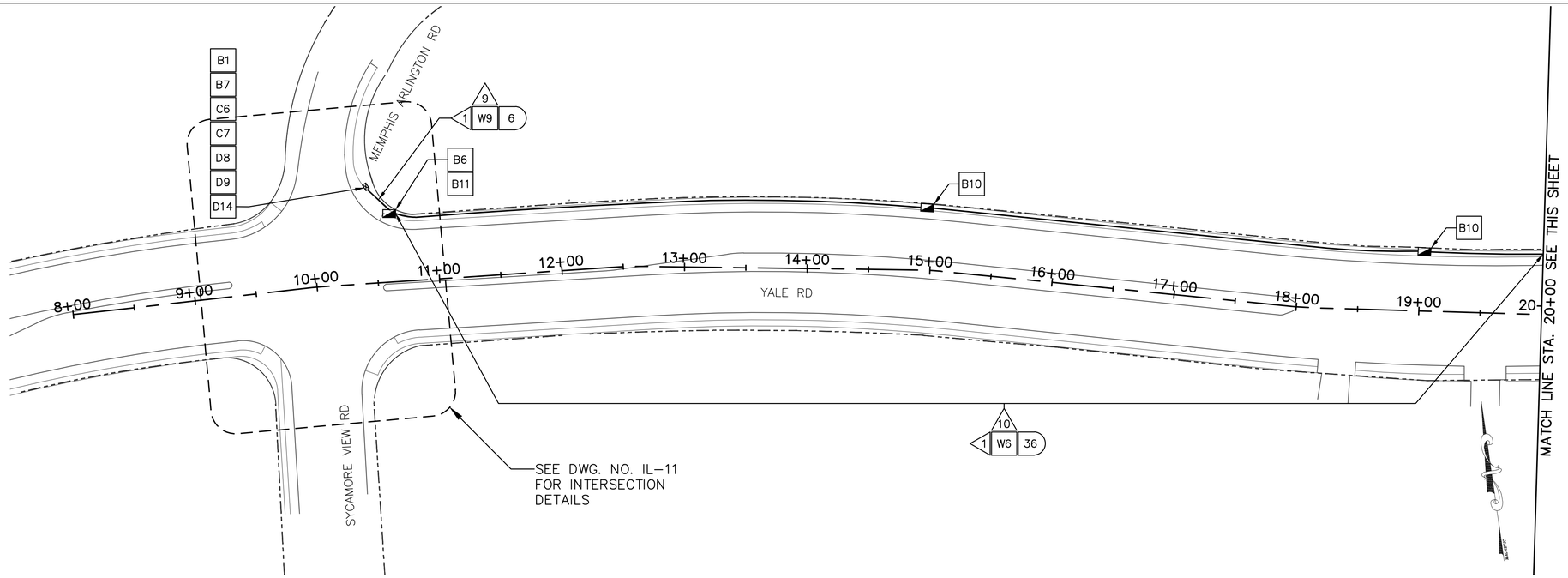
CL-08

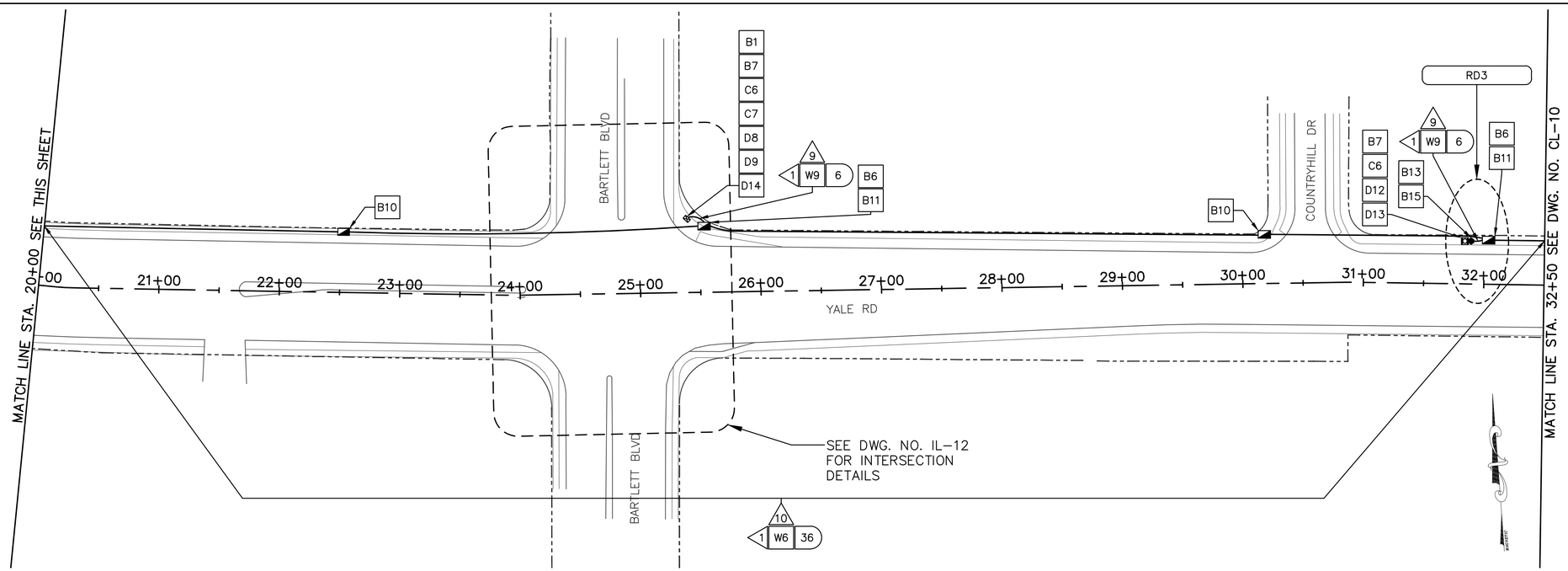
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

CABLE LAYOUT
FROM 175+00 TO 192+72

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 17 OF 72





B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER MISSISSIPPI 16276 STATE OF TENNESSEE 12-09-15

Kimley-Horn and Associates, Inc.

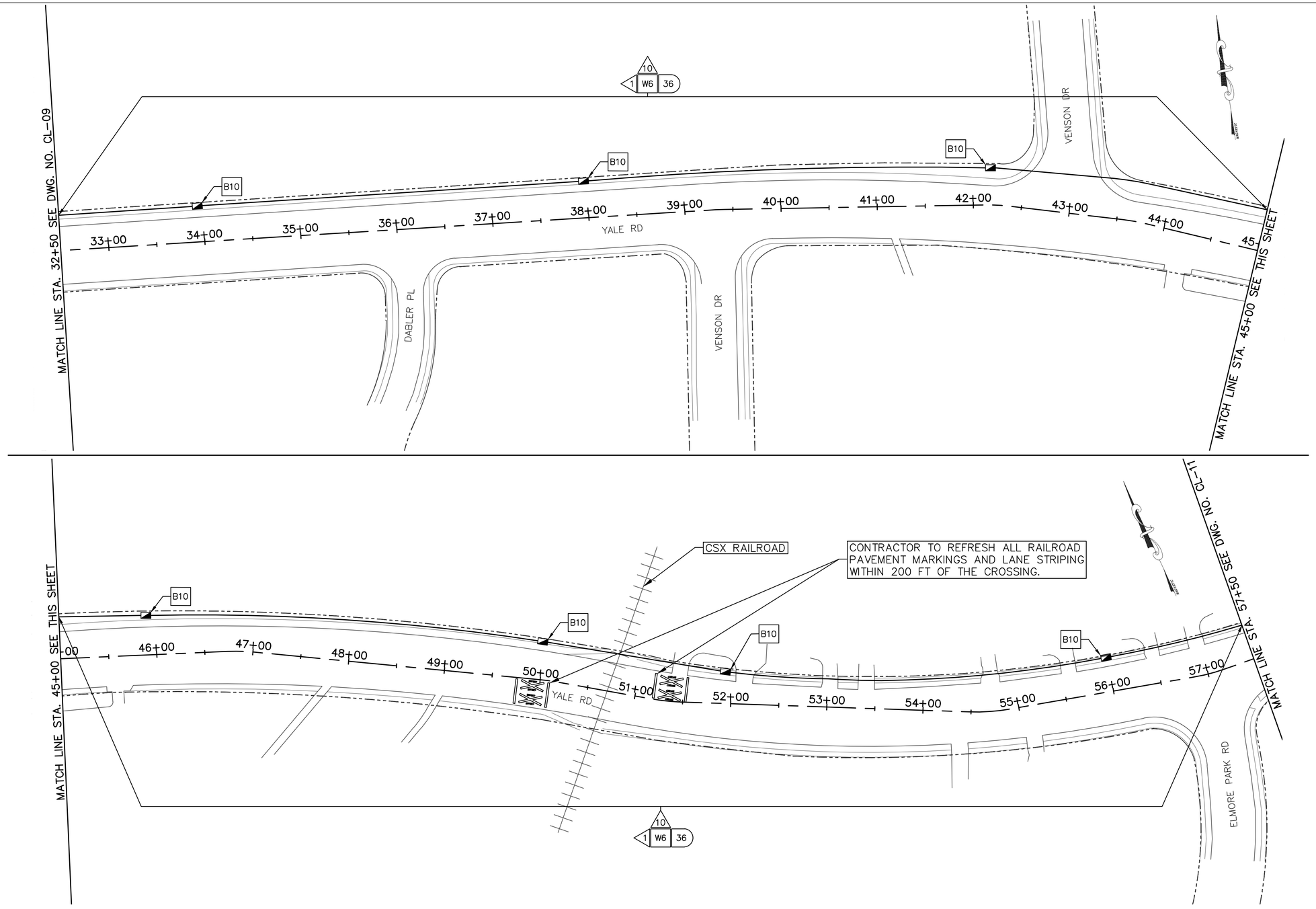
CL-09

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

CABLE LAYOUT
FROM 8+00 TO 32+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:



B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
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7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
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18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
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26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL
REGISTERED ENGINEER
AGRICULTURE
No. 16272
STATE OF TENNESSEE
01/14/15

Kimley-Horn and Associates, Inc.

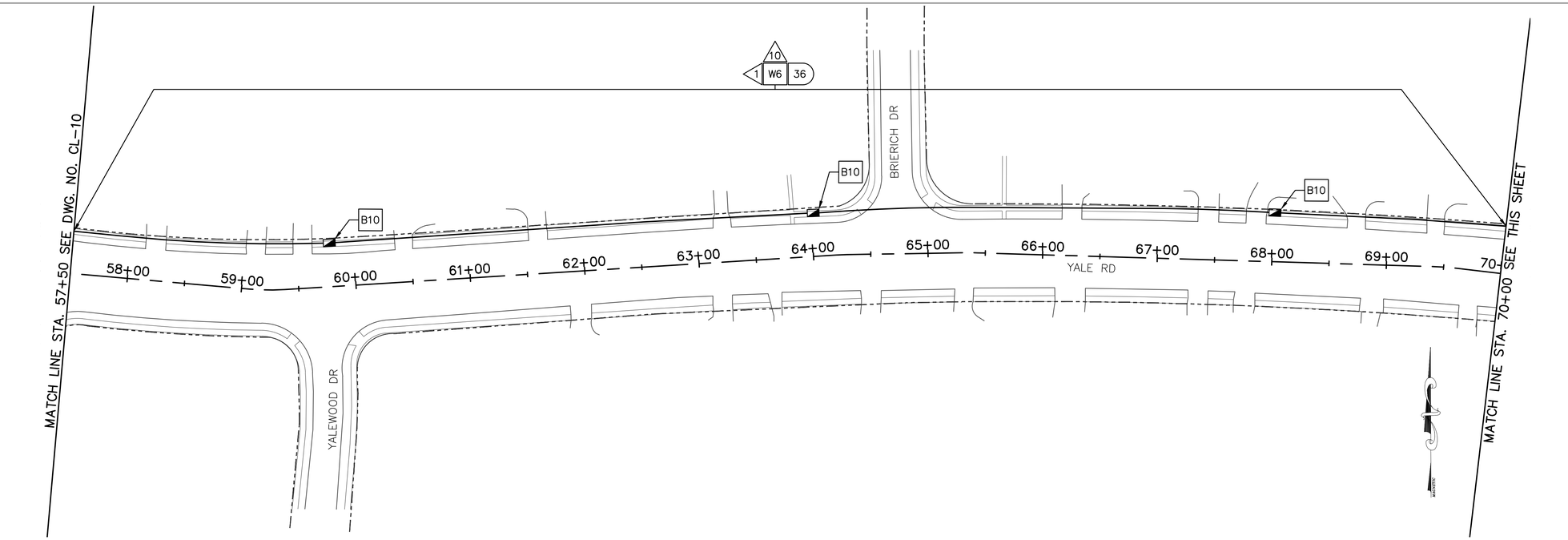
CL-10

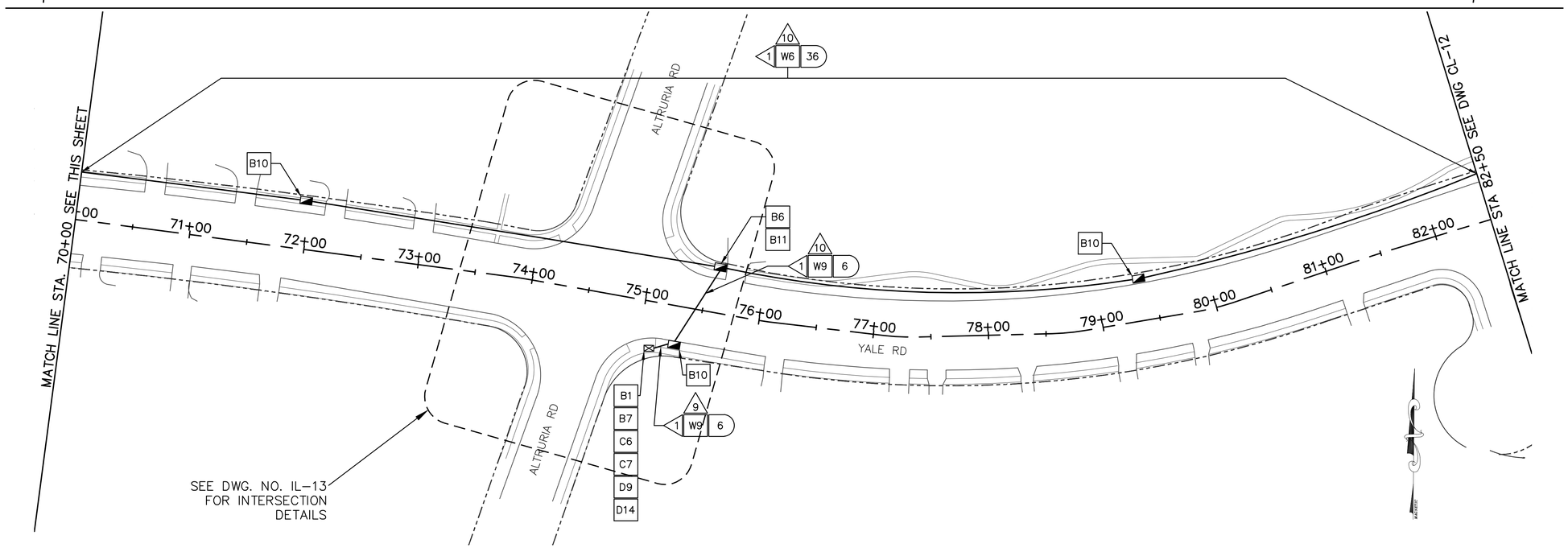
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

CABLE LAYOUT
FROM 32+50 TO 57+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:





B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
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B13	INSTALL 20' PEDESTAL POLE
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D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
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W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER No. 16276 STATE OF TENNESSEE 07/01/15

Kimley-Horn and Associates, Inc.

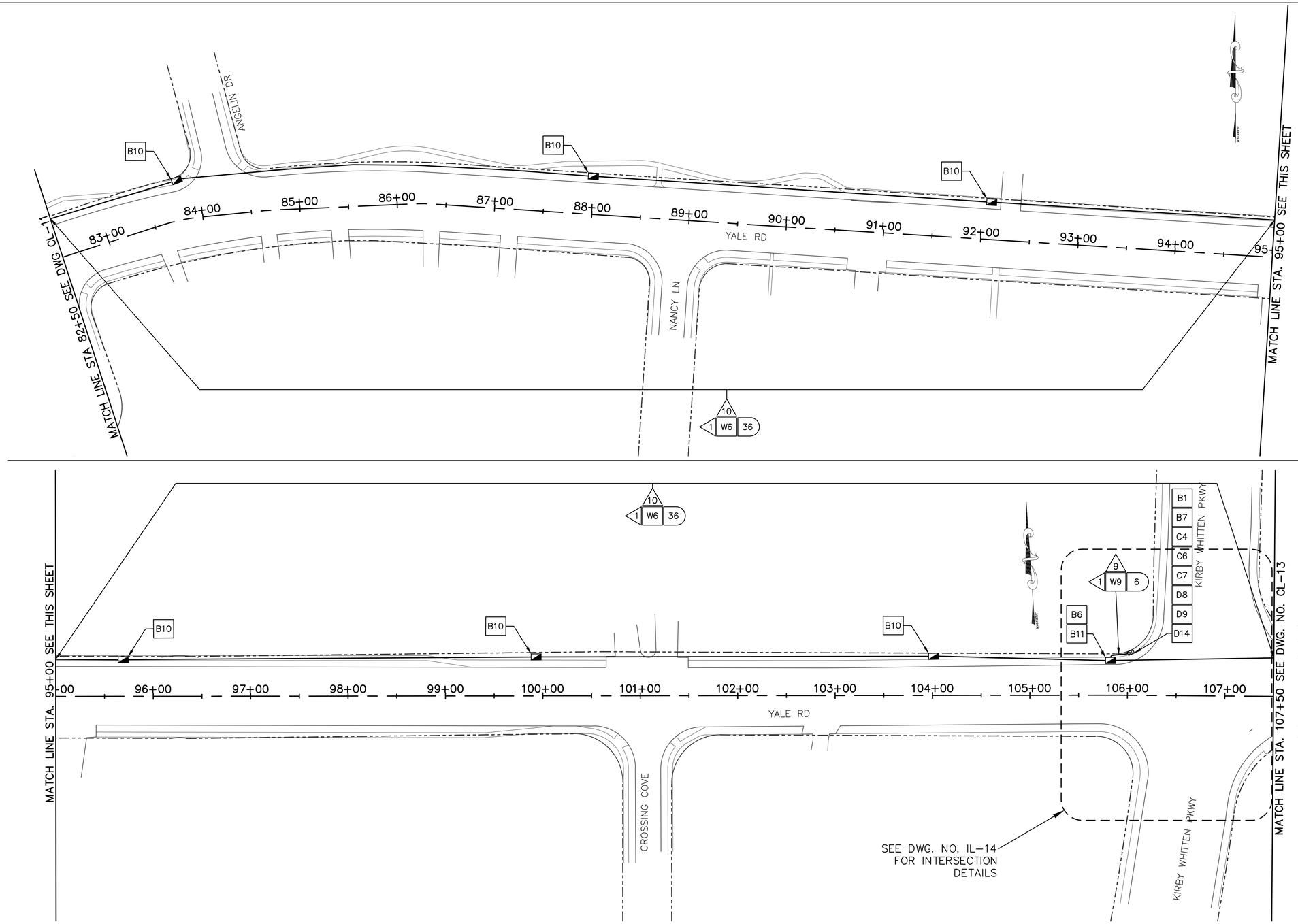
CL-11

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

CABLE LAYOUT
FROM 57+50 TO 82+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 20 OF 72



B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER MISSISSIPPI 18276 STATE OF TENNESSEE 01/29/15

Kimley-Horn and Associates, Inc.

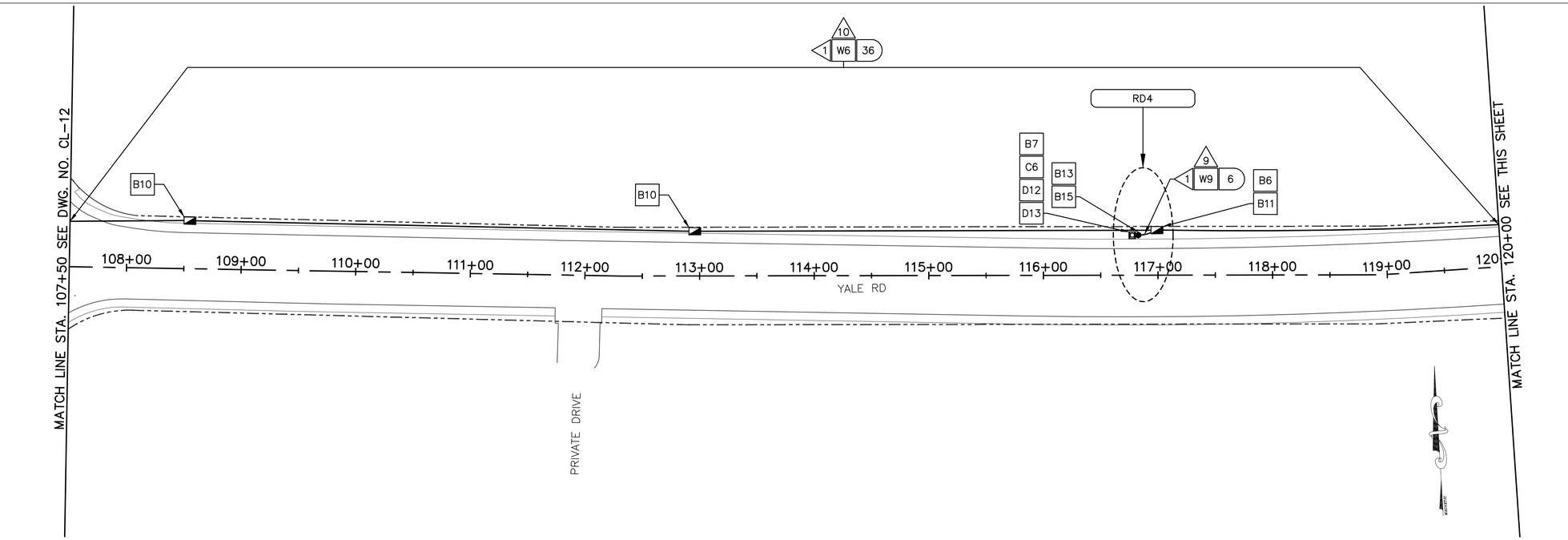
CL-12

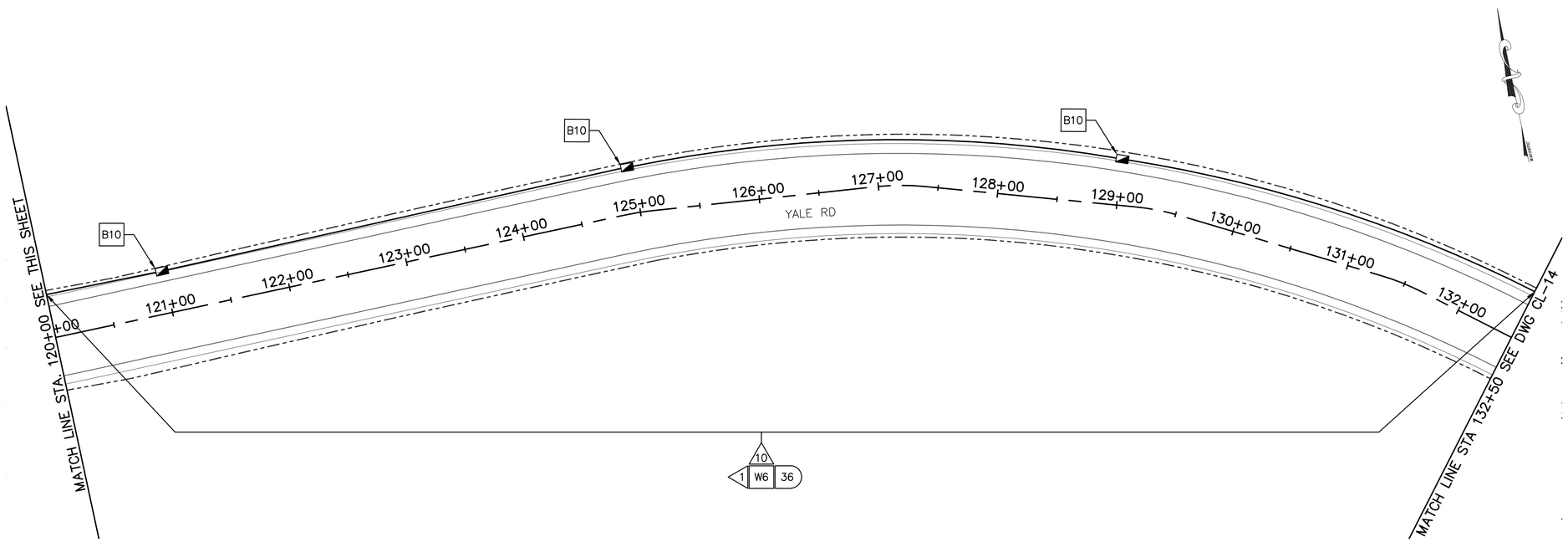
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

CABLE LAYOUT
FROM 82+50 TO 107+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:





B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

X NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 18276 STATE OF TENNESSEE 01/09/15

Kimley-Horn and Associates, Inc.

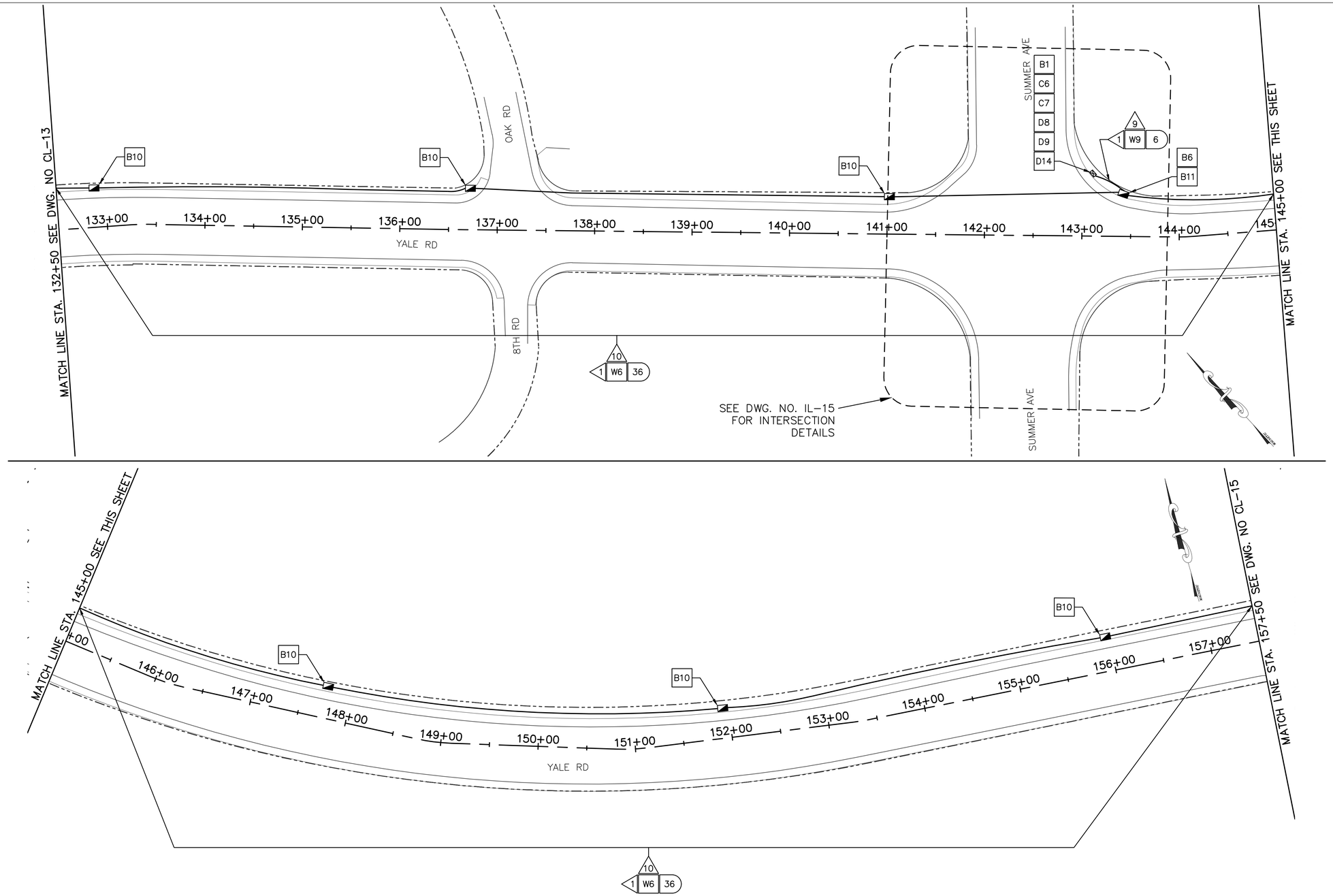
CL-13

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

CABLE LAYOUT
FROM 107+50 TO 132+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 22 OF 72



B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER NO. 18276 STATE OF TENNESSEE 01/09/15

Kimley-Horn and Associates, Inc.

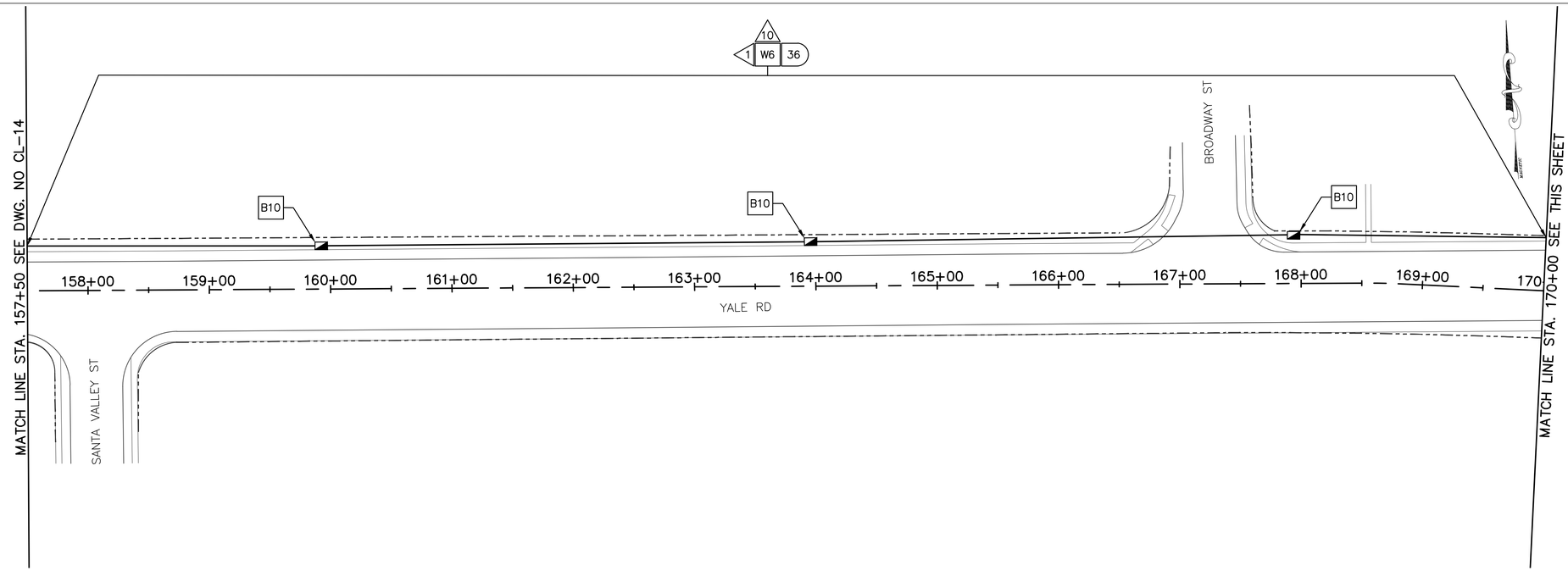
CL-14

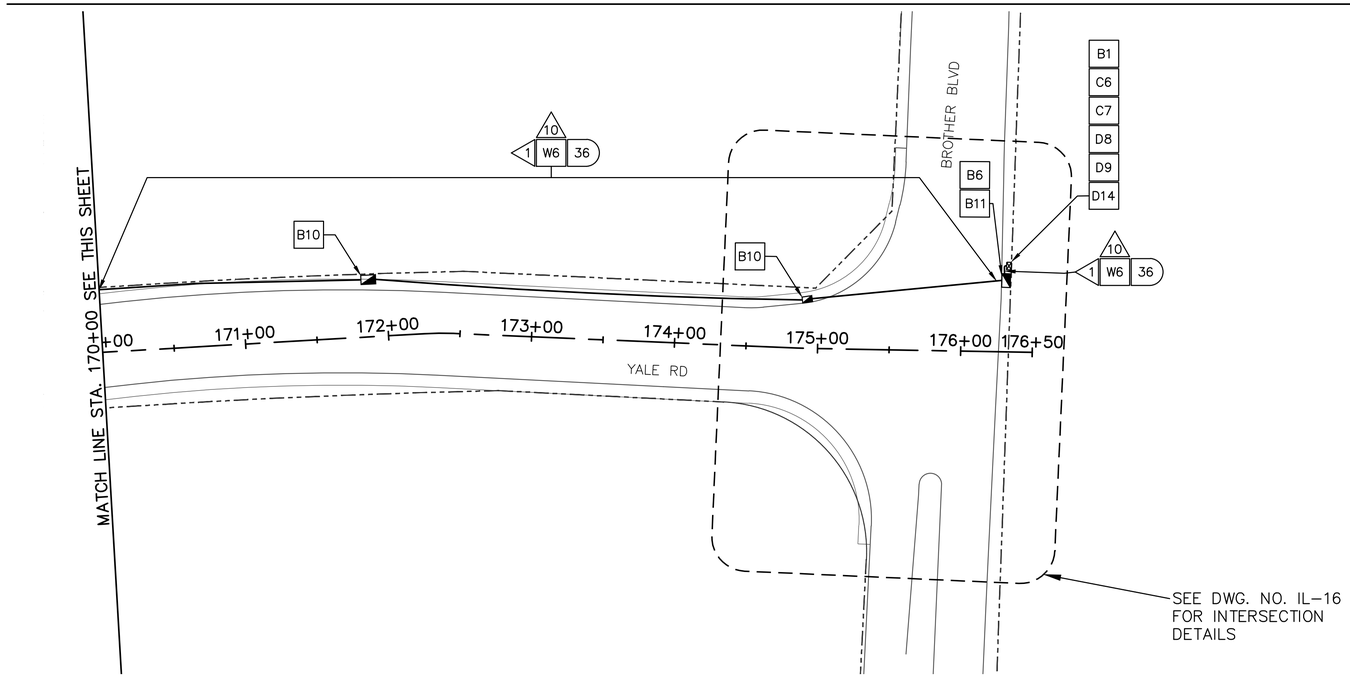
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

CABLE LAYOUT
FROM 132+50 TO 157+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 23 OF 72





SEE DWG. NO. IL-16 FOR INTERSECTION DETAILS

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W12	RDS POWER CABLE
W13	ETHERNET DATA CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
5	INSTALL 2" RISER WITH SEALING BUSHING
6	INSTALL 2" CONDUIT ENTRANCE INTO EXISTING FOUNDATION
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
17	REUSE EXISTING RISER WITH SEALING BUSHING
18	TIE CONDUIT INTO EXISTING PULLBOX
19	REUSE EXISTING CONDUIT
20	REUSE EXISTING RISER WITH WEATHERHEAD
21	ATTACH CONDUIT TO EXISTING CONDUIT STUB-OUT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE CIVIL 18276 STATE OF TENNESSEE 12-19-15

Kimley-Horn and Associates, Inc.

CL-15

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

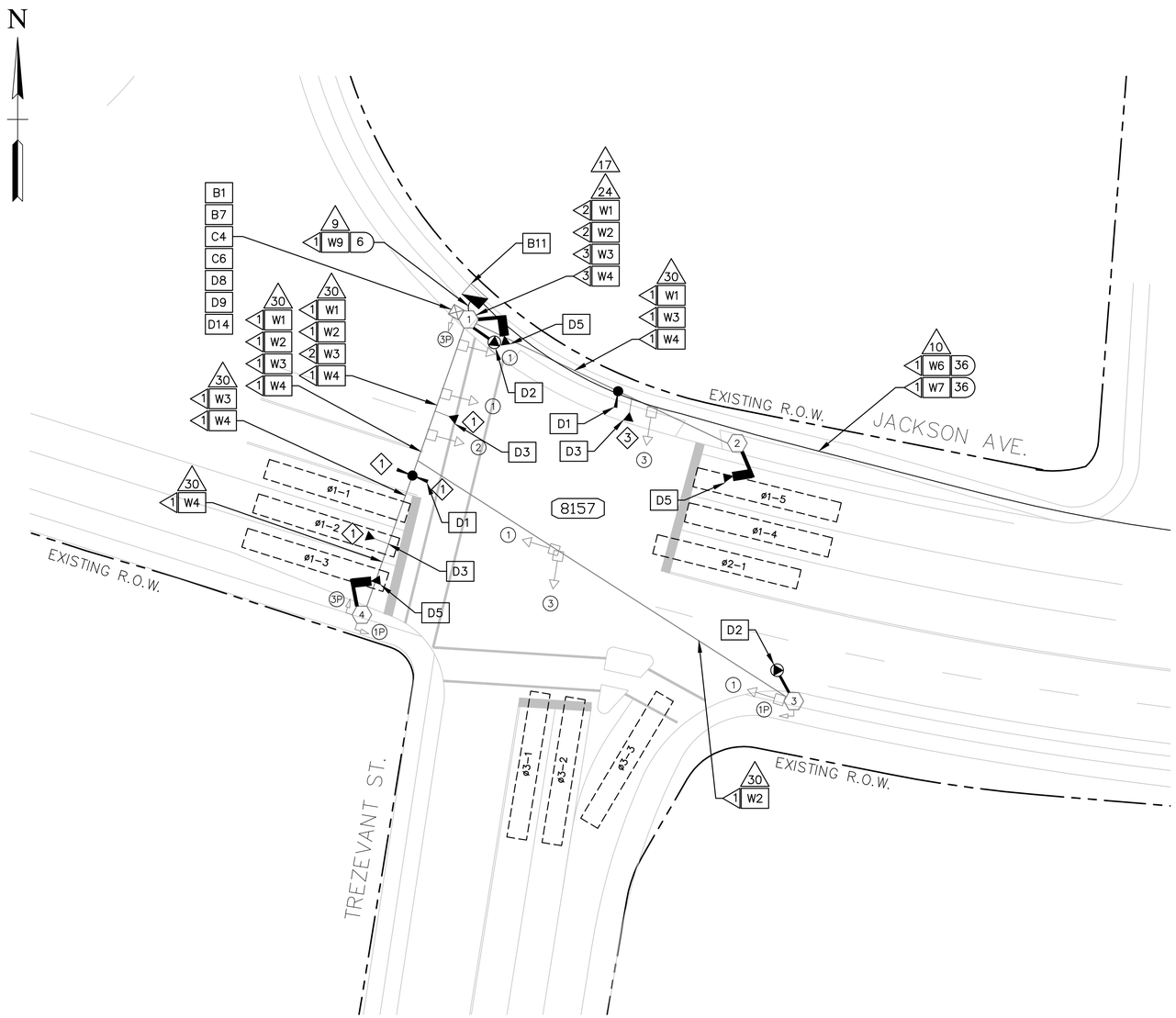
YALE ROAD

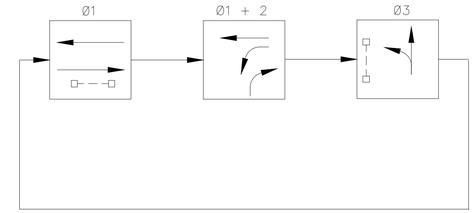
CABLE LAYOUT
FROM 157+50 TO 176+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





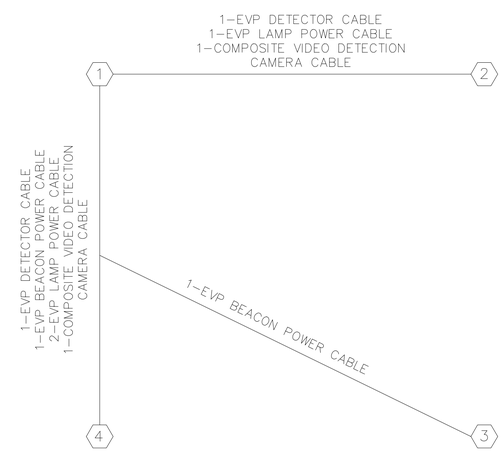
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
3	3

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø2-1	PRESENCE
ø1-2	PRESENCE	ø3-1	PRESENCE
ø1-3	PRESENCE	ø3-2	PRESENCE
ø1-4	PRESENCE	ø3-3*	PRESENCE
ø1-5	PRESENCE		

* 5 SECOND DELAY

ZONE ASSIGNMENT CHART

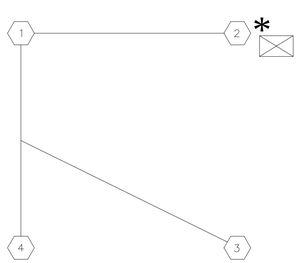


GENERAL WIRING DIAGRAM

◁ NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

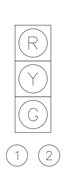
B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
W14	16 CONDUCTOR CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
16	JACK AND BORE 3" CONDUIT
17	INSTALL 3" RISER INTO BOTTOM OF CABINET
18	INSTALL 3" RGS CONDUIT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-01



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES TO REMAIN.
_ REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
_ REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.



EXISTING SIGNAL HEAD TYPES

EXISTING SIGNS

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

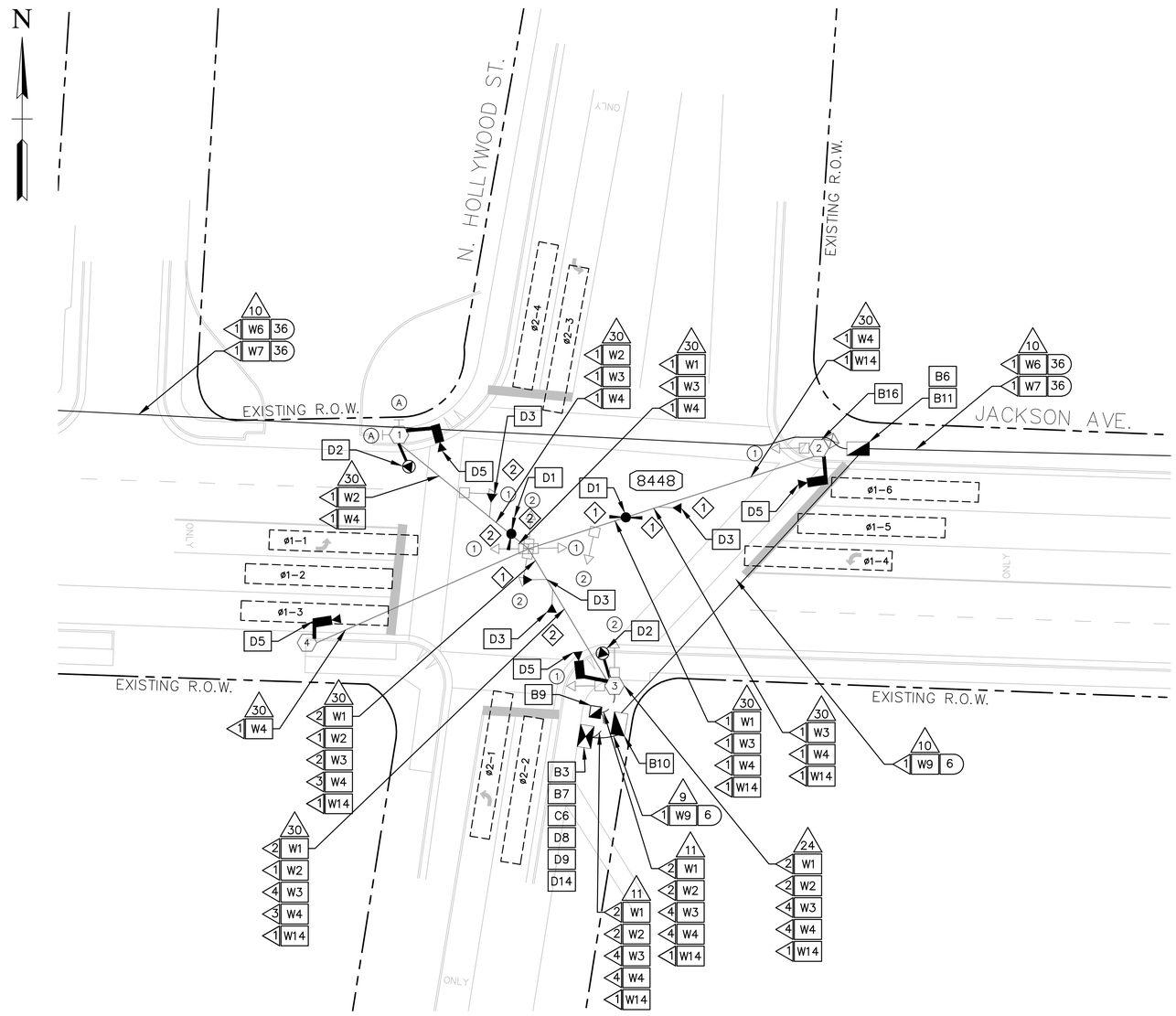
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

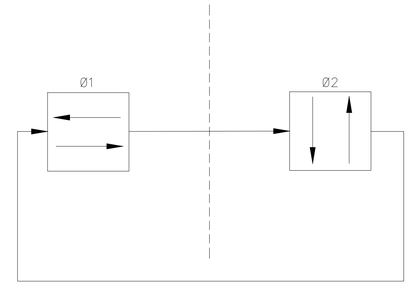
JACKSON AVE. AT TREZEVANT ST. INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.



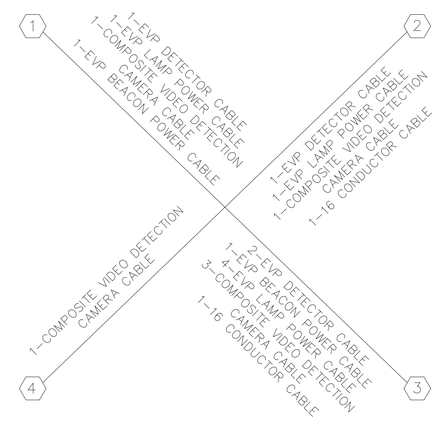


PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
2	2

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø1-6	PRESENCE
ø1-2	PRESENCE	ø2-1	PRESENCE
ø1-3	PRESENCE	ø2-2	PRESENCE
ø1-4	PRESENCE	ø2-3	PRESENCE
ø1-5	PRESENCE	ø2-4	PRESENCE

ZONE ASSIGNMENT CHART

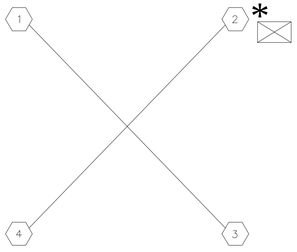


GENERAL WIRING DIAGRAM

X NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

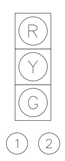
B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
W14	16 CONDUCTOR CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
16	JACK AND BORE 3" CONDUIT
17	INSTALL 3" RISER INTO BOTTOM OF CABINET
18	INSTALL 3" RGS CONDUIT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-02



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES TO REMAIN.
_ REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
_ REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.



EXISTING SIGNAL HEAD TYPES

STREET NAME
A

EXISTING SIGNS

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. CONLEY
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00116111
STATE OF TENNESSEE
12/19/15

Kimley»Horn

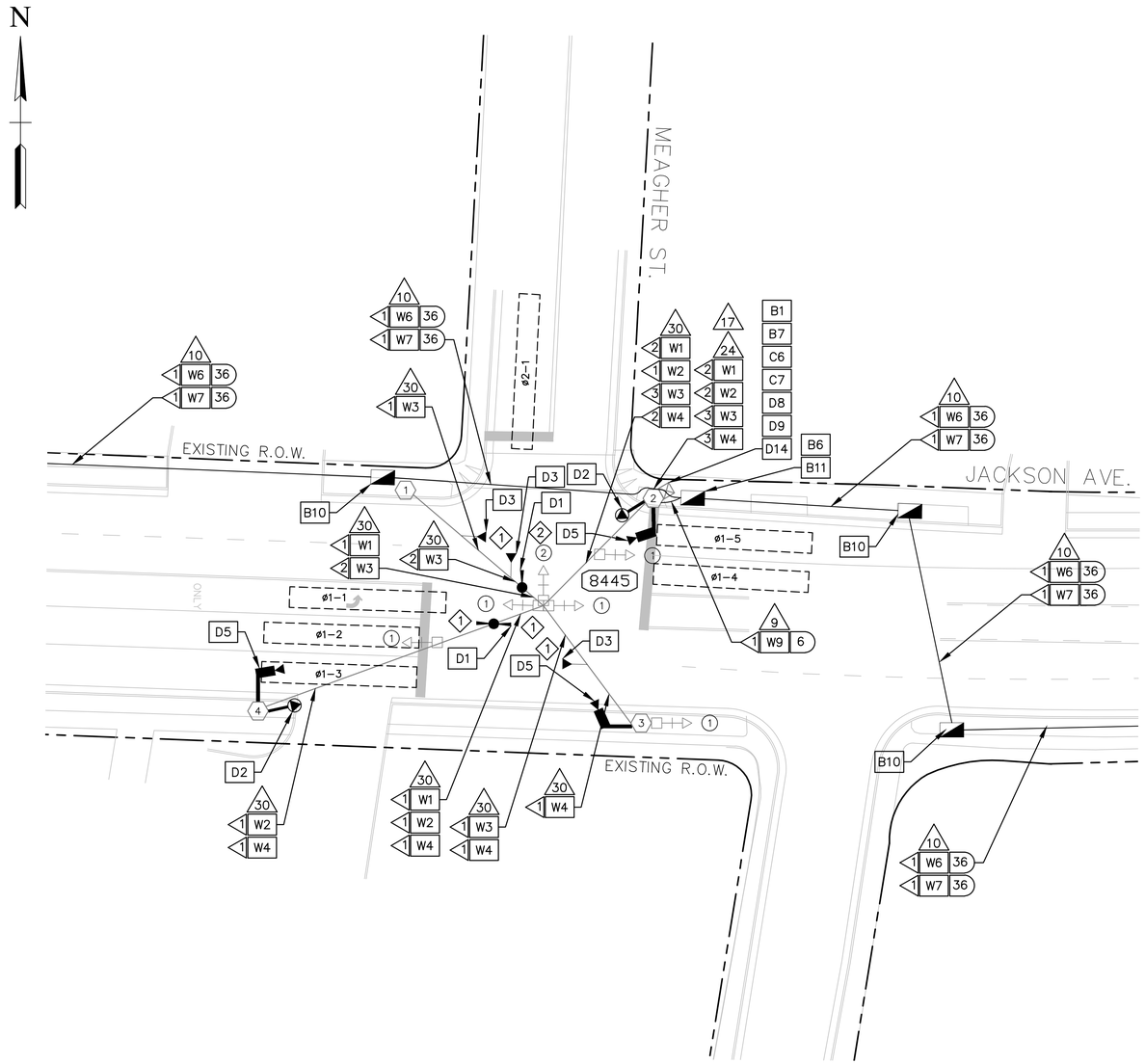
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

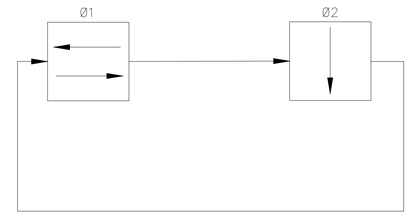
JACKSON AVE. AT N. HOLLYWOOD ST.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.



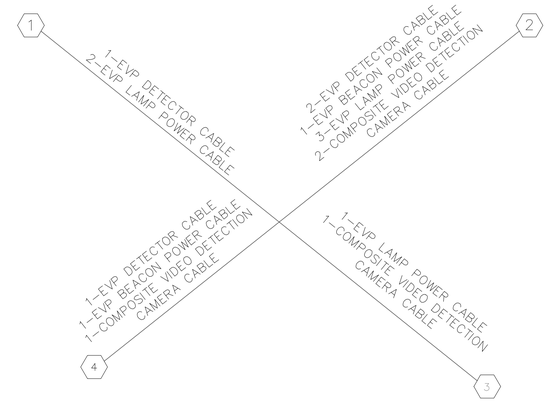


PHASE DIAGRAM

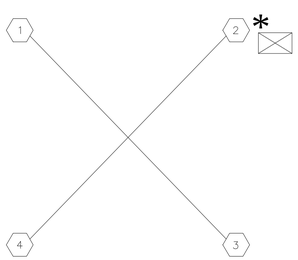
PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
2	2

ZONE	MODE	ZONE	MODE
ø1–1	PRESENCE	ø1–4	PRESENCE
ø1–2	PRESENCE	ø1–5	PRESENCE
ø1–3	PRESENCE	ø2–1	PRESENCE

ZONE ASSIGNMENT CHART

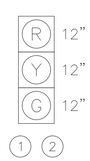


GENERAL WIRING DIAGRAM



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES TO REMAIN.
- REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
- REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.



EXISTING SIGNAL HEAD TYPES

◁ NUMBER OF CABLES, LOOPS, ETC.
(X) NUMBER OF CONDUCTORS, PAIRS, ETC.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8–PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4–CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6–FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
W14	16 CONDUCTOR CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
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11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
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16	JACK AND BORE 3" CONDUIT
17	INSTALL 3" RISER INTO BOTTOM OF CABINET
18	INSTALL 3" RGS CONDUIT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-03

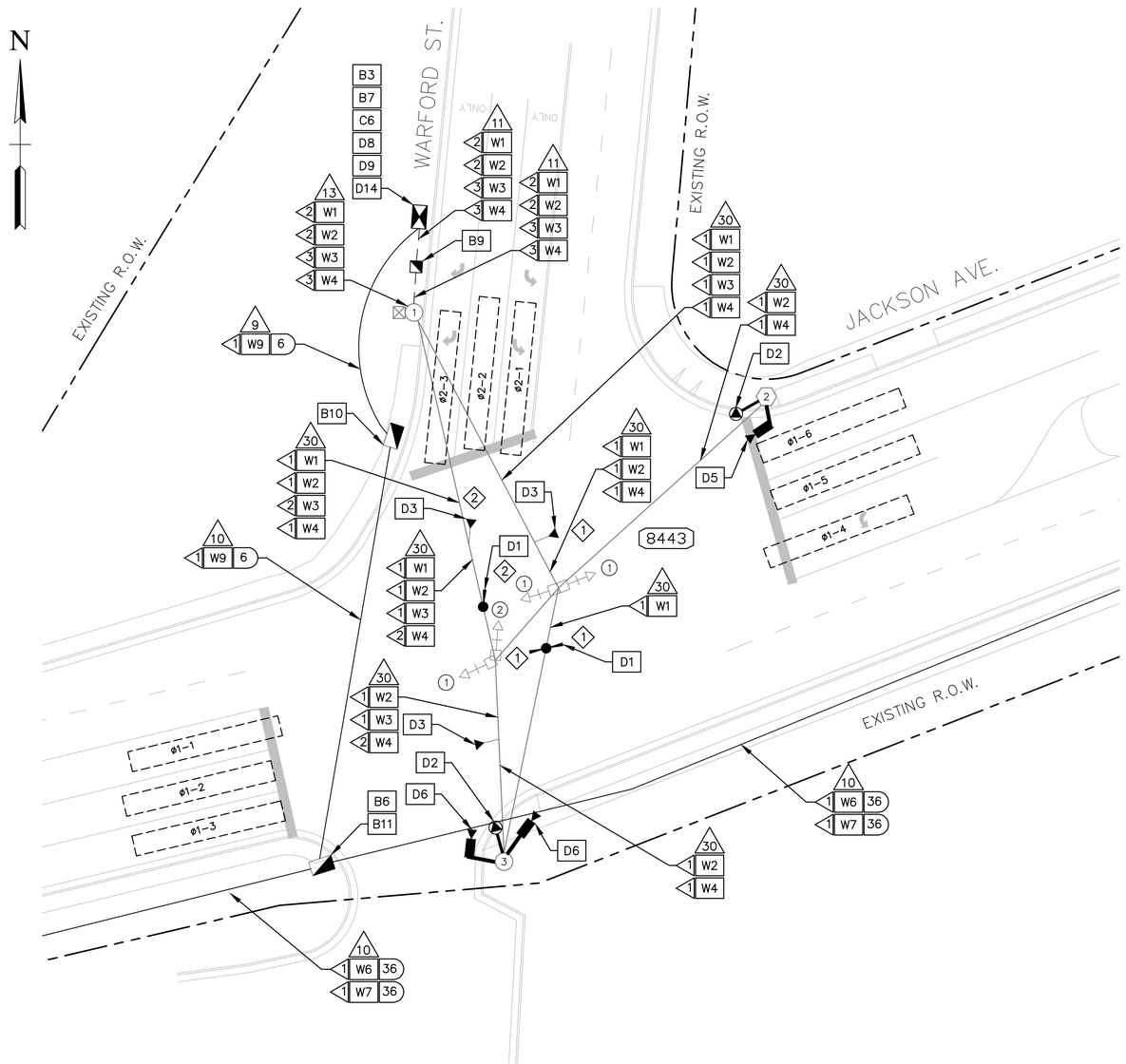
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

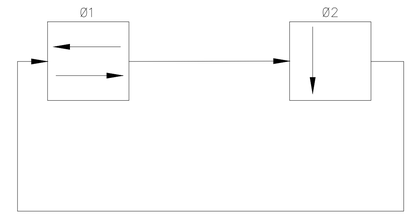
JACKSON AVE. AT MEAGHER ST. INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

NOTES:

1) POLES 1, 2 AND 3: CONTRACTOR TO COORDINATE CAMERA INSTALLATION WITH MLGW AND ENGINEER FOR POTENTIAL OVERHEAD UTILITY CONFLICTS.
2) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





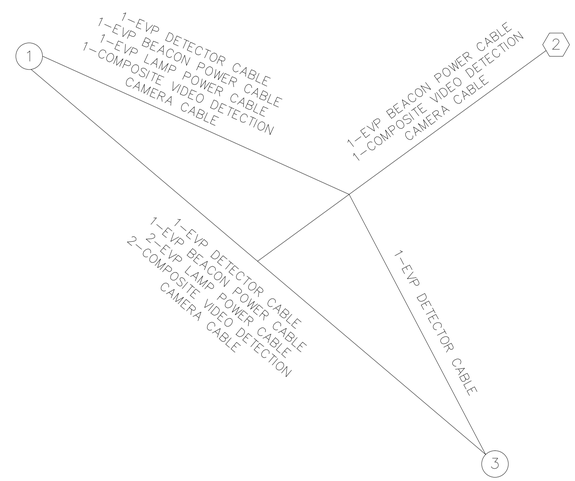
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
2	2

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø1-6	PRESENCE
ø1-2	PRESENCE	ø2-1	PRESENCE
ø1-3	PRESENCE	ø2-2	PRESENCE
ø1-4	PRESENCE	ø2-3*	PRESENCE
ø1-5	PRESENCE		

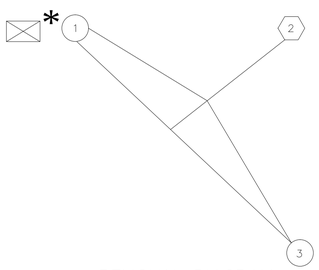
* 5 SECOND DELAY

ZONE ASSIGNMENT CHART

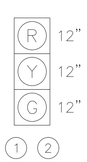


GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.



REMOVAL DIAGRAM



EXISTING SIGNAL HEAD TYPES

* EXISTING SIGNAL POLES TO REMAIN.
_ REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
_ REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
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8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
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23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-04

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVE. AT WARFORD ST.
INTERSECTION LAYOUT

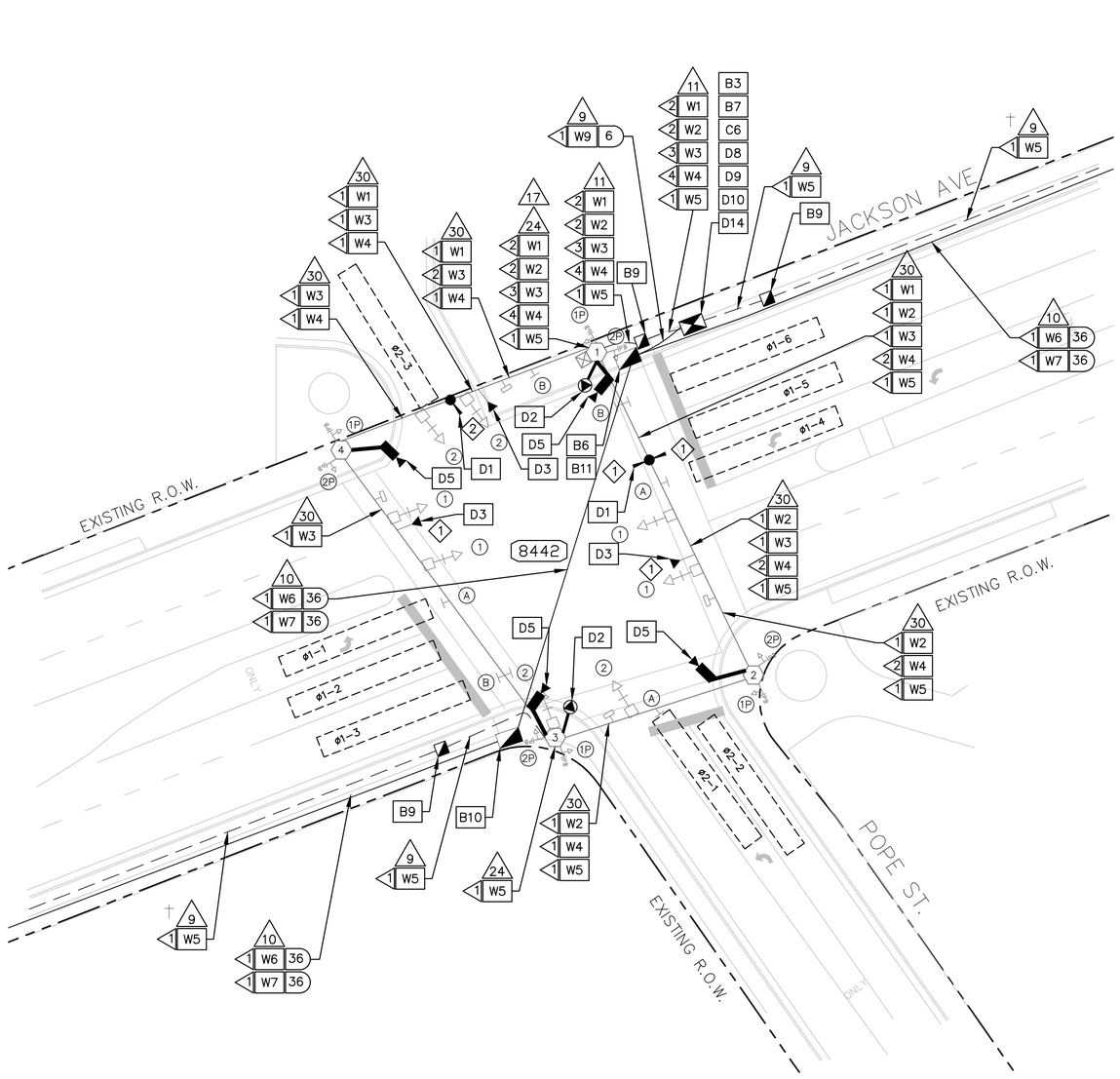
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

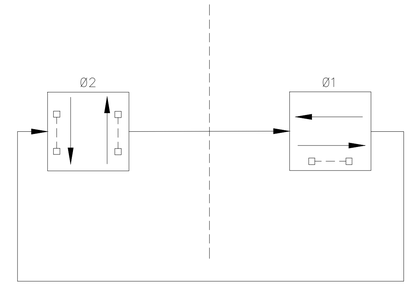
NOTES:

1) POLE 1: CONTRACTOR TO COORDINATE CAMERA INSTALLATION WITH MLGW AND ENGINEER FOR POTENTIAL OVERHEAD UTILITY CONFLICTS.
2) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.

† ADVANCE DETECTION NOTES:

1) INSTALL NEW ADVANCE DETECTION LOOPS FOR EB APPROACH (ø1–7) AND WB APPROACH (ø1–8) 230' FROM STOP BAR
2) SEE DETAIL "A" ON ADVANCE LOOP DETECTION DETAIL SHEET



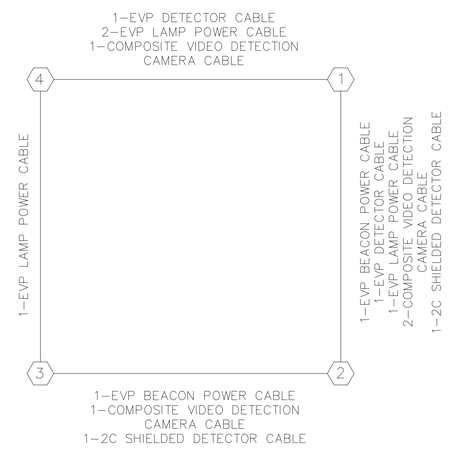


PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
2	2

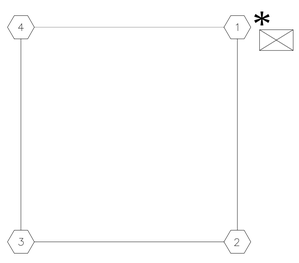
ZONE	MODE	ZONE	MODE
ø1–1	PRESENCE	ø1–7	PULSE
ø1–2	PRESENCE	ø1–8	PULSE
ø1–3	PRESENCE	ø2–1	PRESENCE
ø1–4	PRESENCE	ø2–2	PRESENCE
ø1–5	PRESENCE	ø2–3	PRESENCE
ø1–6	PRESENCE		

ZONE ASSIGNMENT CHART



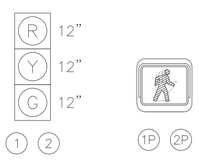
GENERAL WIRING DIAGRAM

X NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

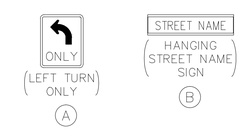


REMOVAL DIAGRAM

*EXISTING SIGNAL POLES TO REMAIN.
_ REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
_ REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.



EXISTING SIGNAL HEAD TYPES



EXISTING OVERHEAD SIGNS

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8–PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4–CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6–FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
W14	16 CONDUCTOR CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
13	INSTALL 3" RISER WITH WEATHERHEAD
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17	INSTALL 3" RISER INTO BOTTOM OF CABINET
18	INSTALL 3" RGS CONDUIT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

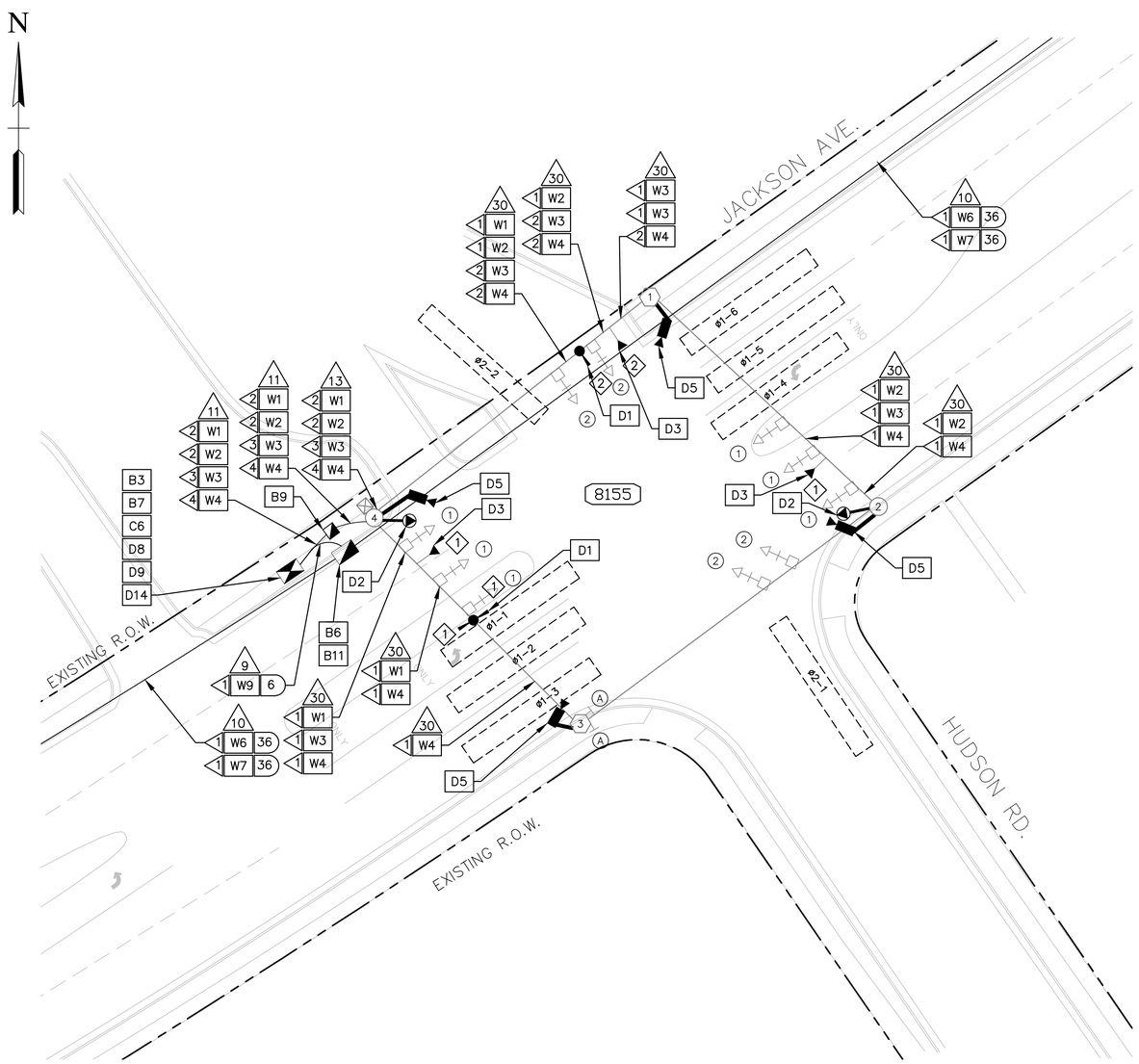
IL–05

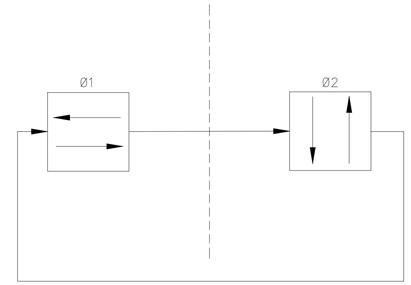
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVE. AT POPE ST. INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

NOTES:
1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.



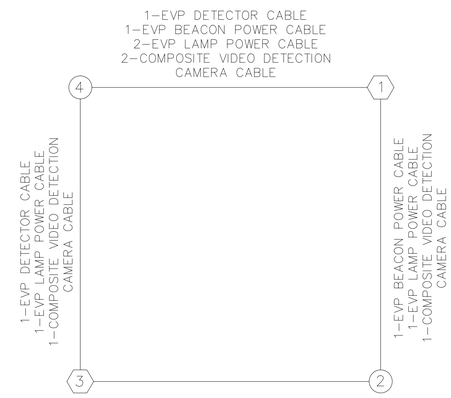


PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
2	2

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø1-5	PRESENCE
ø1-2	PRESENCE	ø1-6	PRESENCE
ø1-3	PRESENCE	ø2-1	PRESENCE
ø1-4	PRESENCE	ø2-2	PRESENCE

ZONE ASSIGNMENT CHART



GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
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D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
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D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
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W2	EVP CONFIRMATION BEACON POWER CABLE(S)
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W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
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8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
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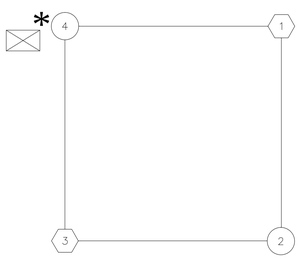
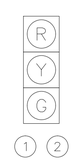
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-06



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES TO REMAIN.
_ REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
_ REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.



EXISTING SIGNAL HEAD TYPES

STREET NAME
A

EXISTING SIGNAL POLE-MOUNTED SIGNS

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. [illegible] REGISTERED ENGINEER AGRICULTURE COMMERCE No. 101142 STATE OF TENNESSEE 7/19/15

Kimley»Horn

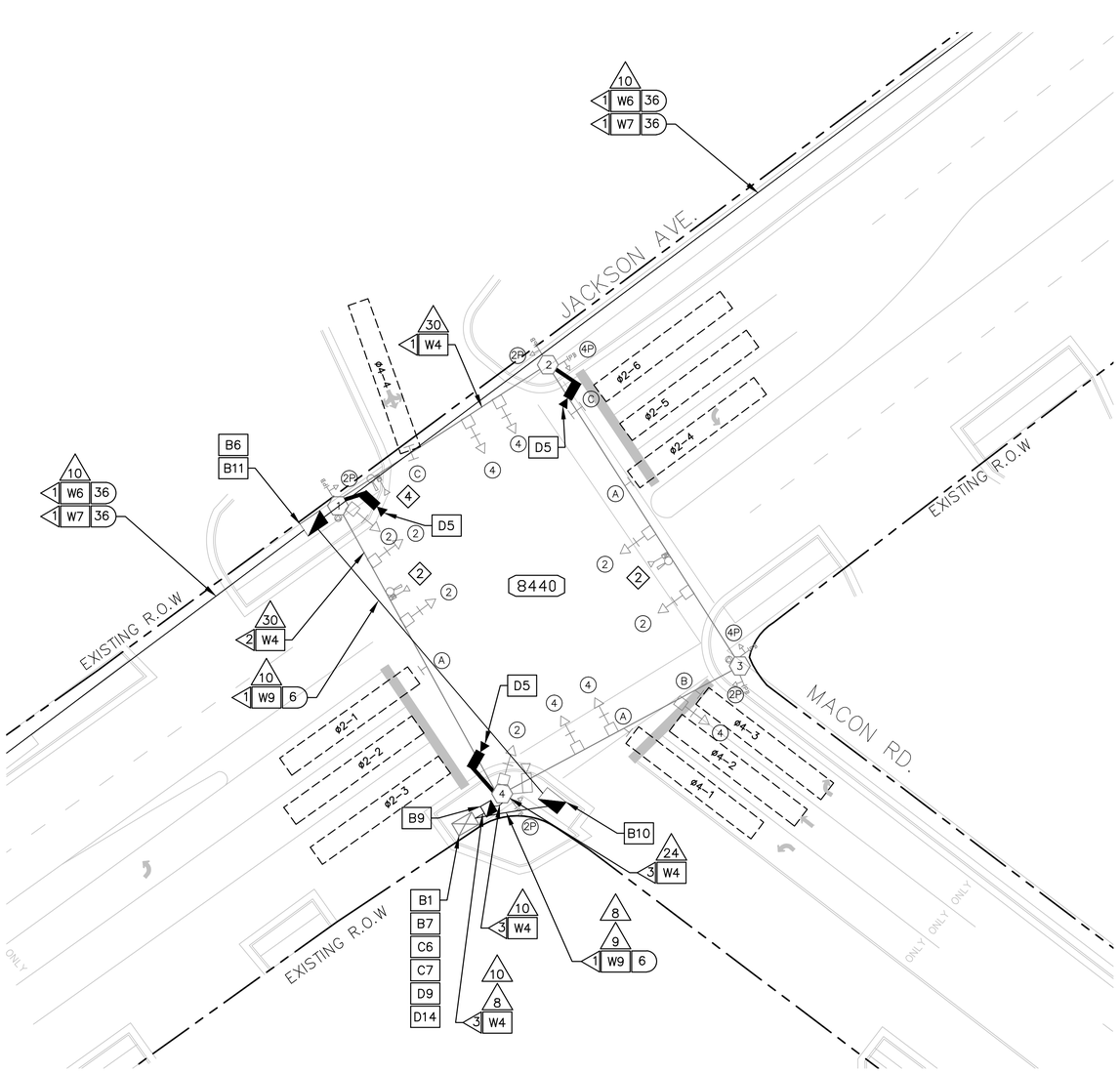
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

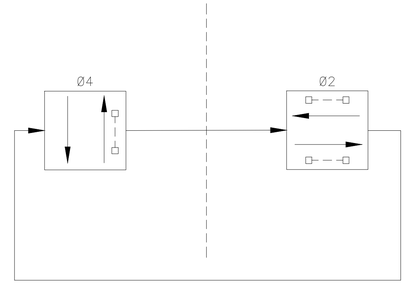
JACKSON AVE AT HUDSON RD.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





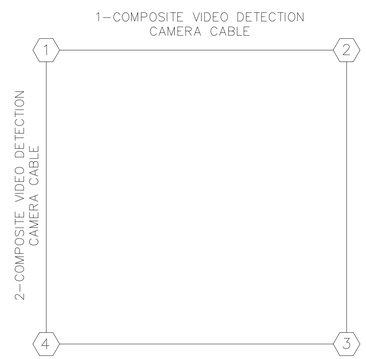
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2
4	4

ZONE	MODE	ZONE	MODE
ø2-1	PRESENCE	ø2-6	PRESENCE
ø2-2	PRESENCE	ø4-1	PRESENCE
ø2-3	PRESENCE	ø4-2	PRESENCE
ø2-4	PRESENCE	ø4-3*	PRESENCE
ø2-5	PRESENCE	ø4-4	PRESENCE

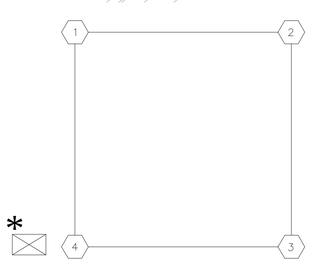
* 5 SECOND DELAY

ZONE ASSIGNMENT CHART



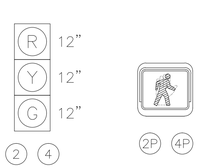
GENERAL WIRING DIAGRAM

◁ NUMBER OF CABLES, LOOPS, ETC.
(X) NUMBER OF CONDUCTORS, PAIRS, ETC.

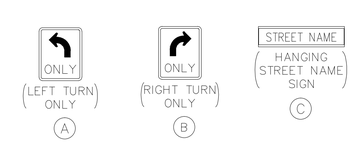


REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
_ TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.



EXISTING SIGNAL HEAD TYPES



EXISTING OVERHEAD SIGNS

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
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C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
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D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
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24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-07

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

DALLAS A. ARNOLD III
AGRICULTURE COMMERCE
LICENSE NO. 0011421
7/19/15
STATE OF TENNESSEE

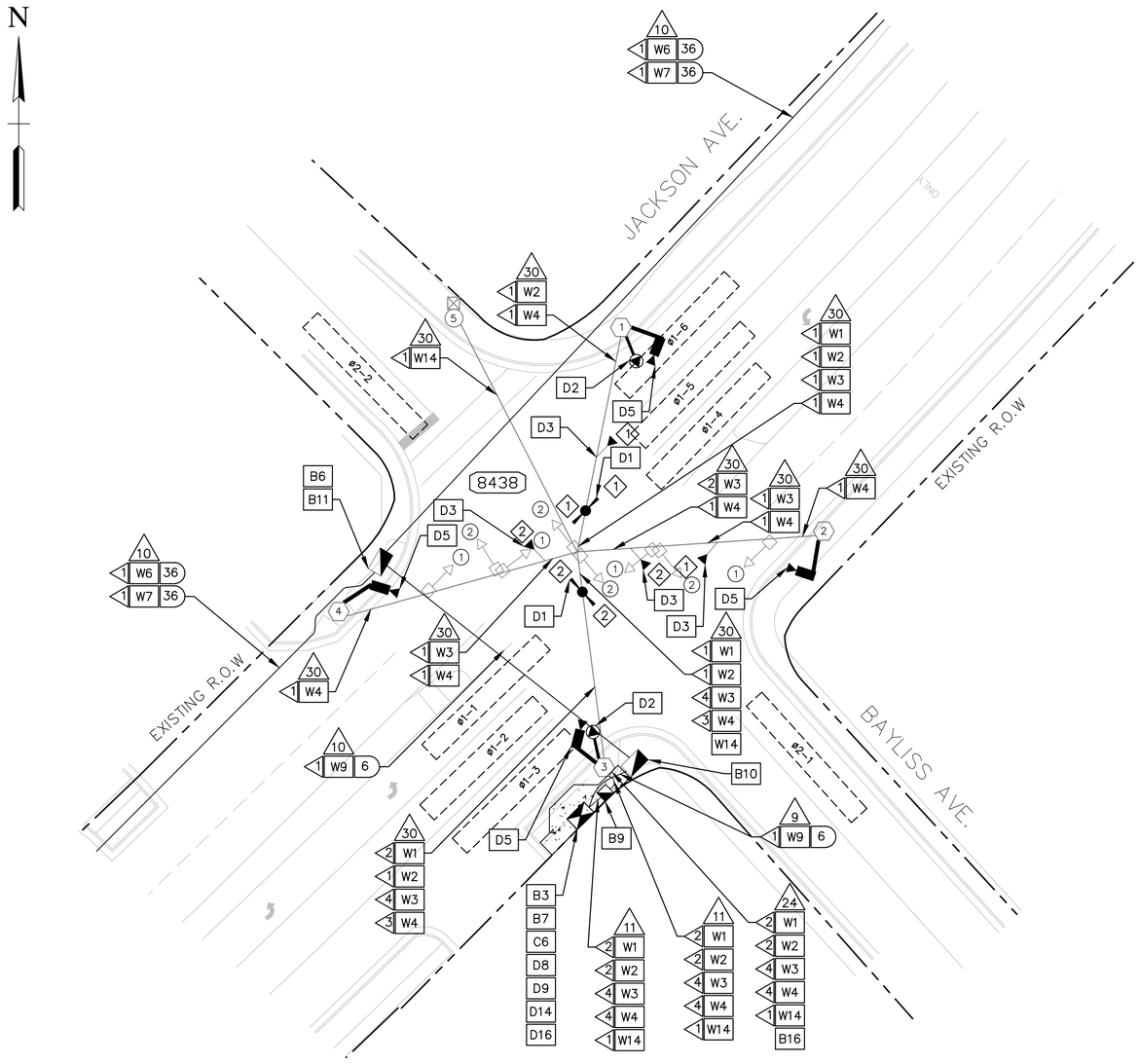
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

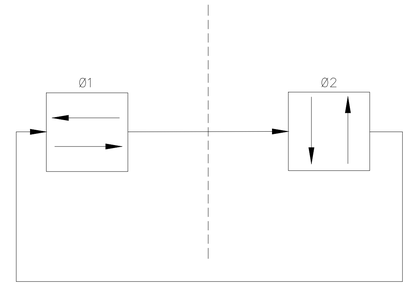
JACKSON AVE. AT MACON RD.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

DRAWING NAME: K:\MEM_TPTO\115087002 - Shelby County CMP 2\Design\Level 4 - Signal System\Bid Set 5\Plans\BidSet 5-31-IL-07-Jackson at Macon.dwg Layout Jan 30, 2015 3:27PM BY: blaine.lynch

NOTES:
1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.
2) CONTRACTOR TO CONNECT EXISTING SIGNAL CABLES IN EXISTING JUNCTION BOX TO PROPOSED JUNCTION BOX WITH 16 CONDUCTOR CABLE.



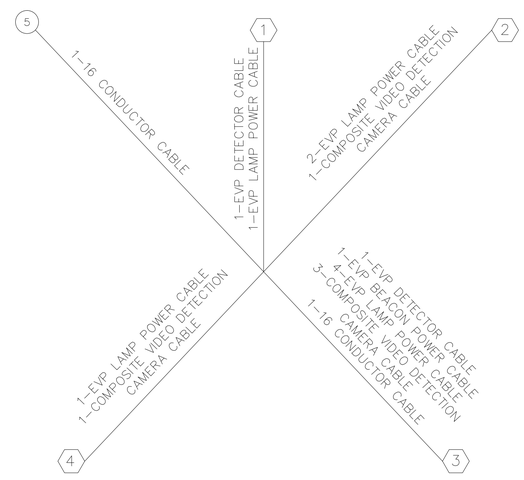


PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
2	2

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø1-5	PRESENCE
ø1-2	PRESENCE	ø1-6	PRESENCE
ø1-3	PRESENCE	ø2-1	PRESENCE
ø1-4	PRESENCE	ø2-2	PRESENCE

ZONE ASSIGNMENT CHART



GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
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D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
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W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
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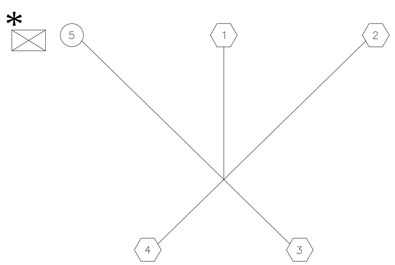
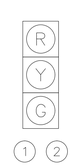
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-08



REMOVAL DIAGRAM



EXISTING SIGNAL HEAD TYPES

* EXISTING SIGNAL POLES TO REMAIN.
- REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
- REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. KIMLEY REGISTERED ENGINEER AGRICULTURE COMMERCE No. 00113621 STATE OF TENNESSEE 12/19/15

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVE. AT BAYLISS AVE.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

NOTES:
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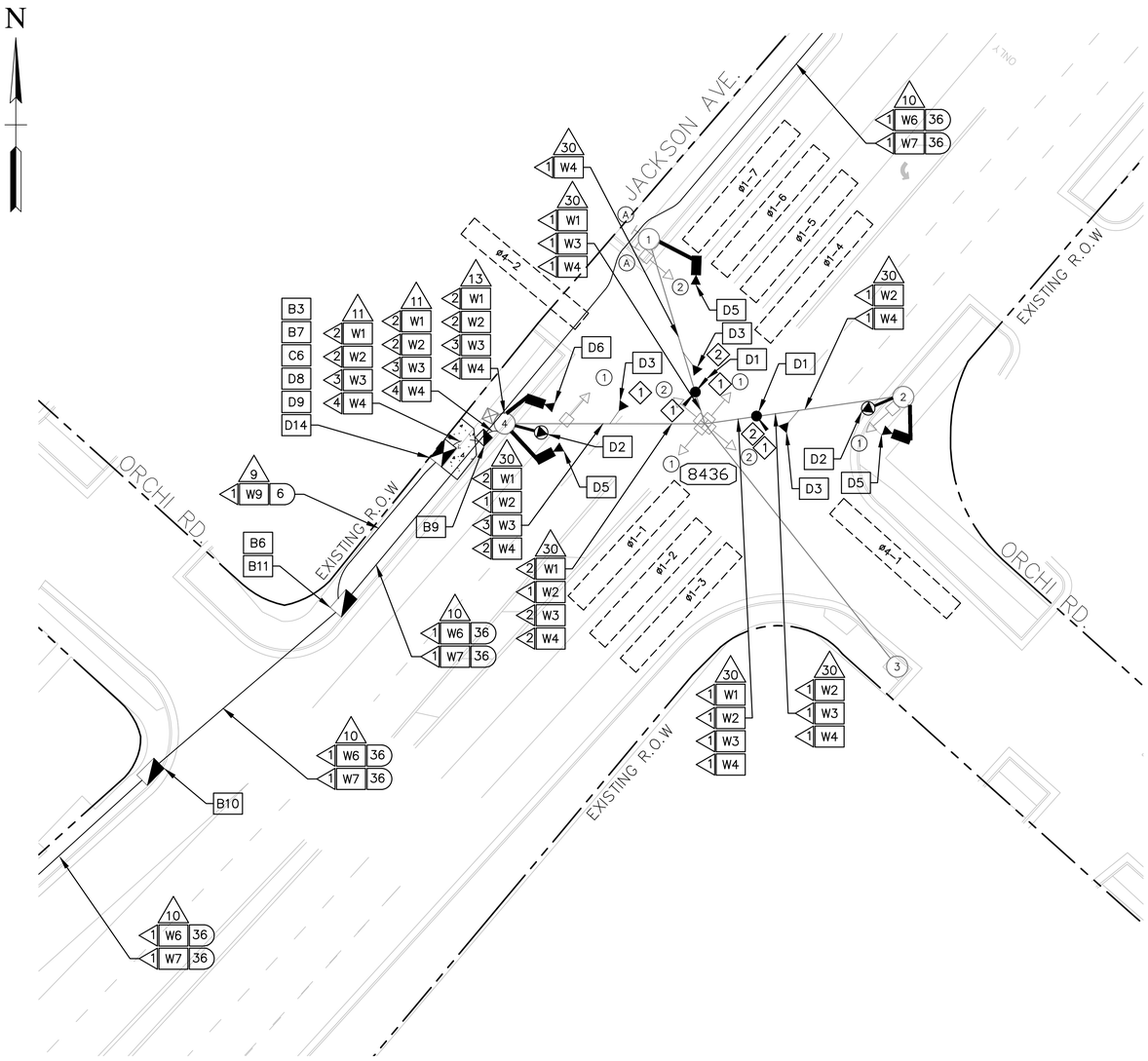
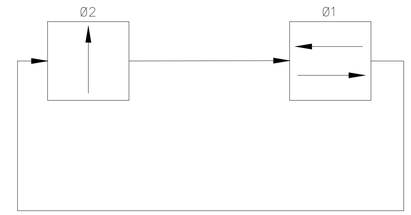


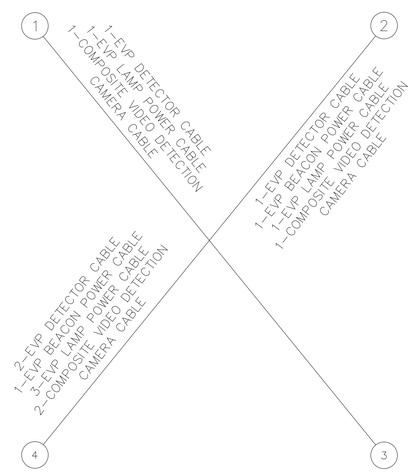


PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
1	1
2	2

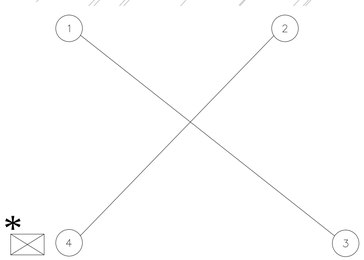
ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø1-6	PRESENCE
ø1-2	PRESENCE	ø1-7	PRESENCE
ø1-3	PRESENCE	ø2-1	PRESENCE
ø1-4	PRESENCE	ø2-2	PRESENCE
ø1-5	PRESENCE		

ZONE ASSIGNMENT CHART



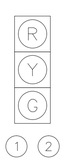
GENERAL WIRING DIAGRAM

◁ NUMBER OF CABLES, LOOPS, ETC.
(X) NUMBER OF CONDUCTORS, PAIRS, ETC.



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES TO REMAIN.
_ REMOVE ALL STOP BAR VEHICLE DETECTOR AMPLIFIERS FROM CABINET.
_ REMOVE EXISTING POLE MOUNTED CABINET AND CONTROLLER.



EXISTING SIGNAL HEAD TYPES

STREET NAME
(A)

EXISTING SIGNAL POLE-MOUNTED SIGNS

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
W14	16 CONDUCTOR CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
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14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
16	JACK AND BORE 3" CONDUIT
17	INSTALL 3" RISER INTO BOTTOM OF CABINET
18	INSTALL 3" RGS CONDUIT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-09

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

DALLAS A. WILLIAMS JR. REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 00114214 STATE OF TENNESSEE 7/19/15

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

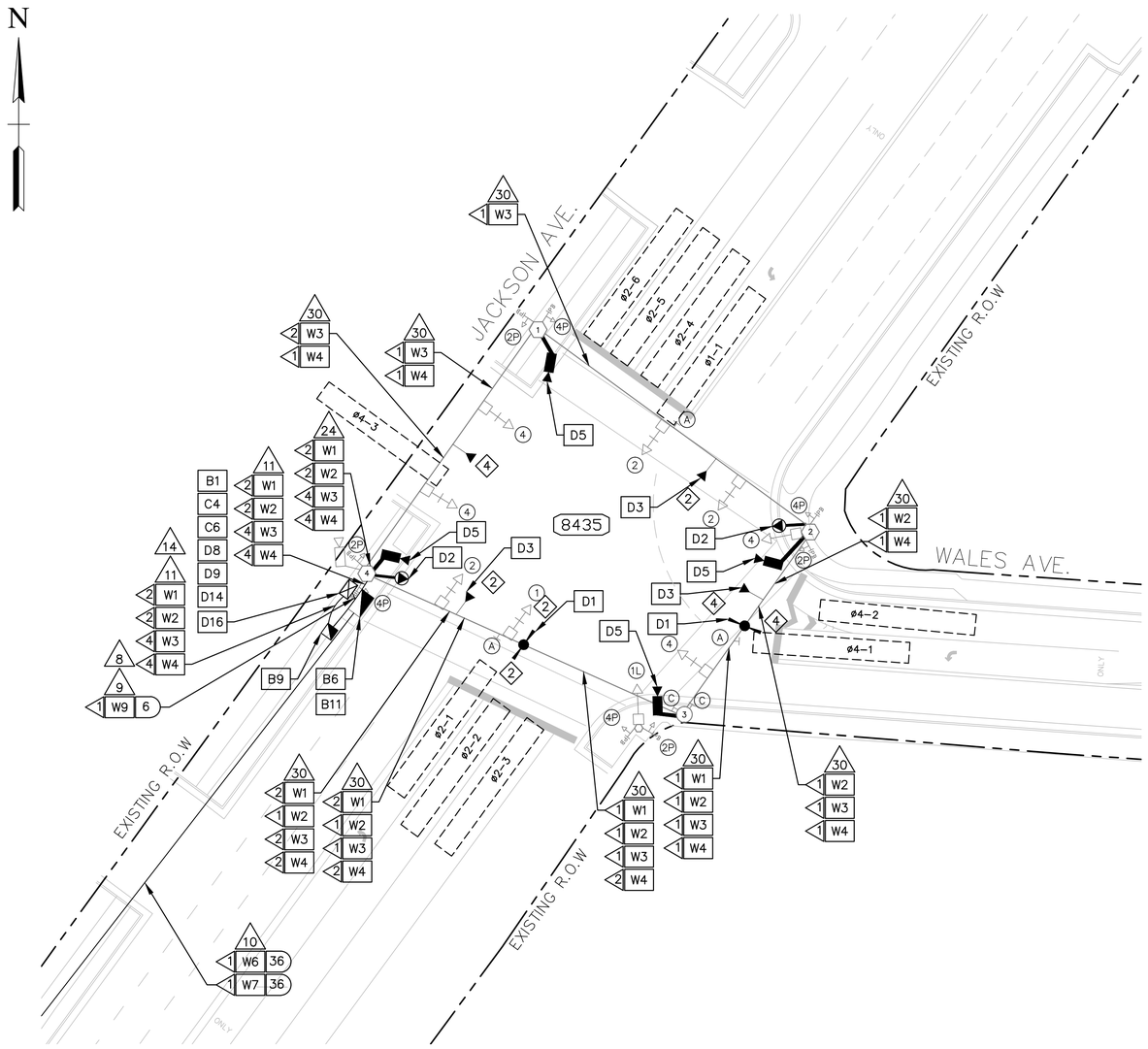
JACKSON AVE. AT ORCHI RD.
INTERSECTION LAYOUT

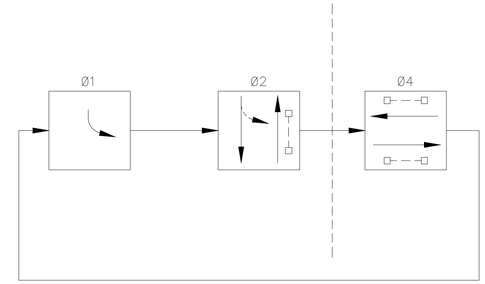
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____ SHEET 33 OF 72

DRAWING NAME: K:\WEM_TPTO\115087002 - Shelby County CMP 2\Design\Level 4 - Signal System\Bid Set 5\Plans\BidSet 5-33-IL-09-Jackson at Orchi.dwg Layout Jan 30, 2015 3:27PM BY: blaine.lynch

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.



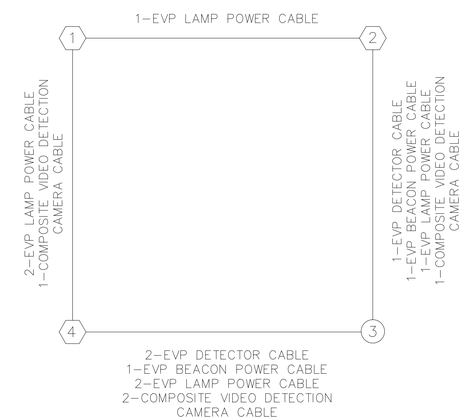


PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2
4	4

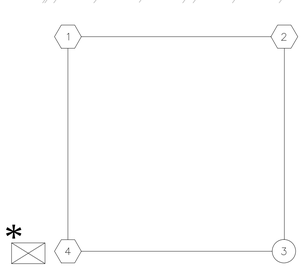
ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø2-5	PRESENCE
ø2-1	PRESENCE	ø2-6	PRESENCE
ø2-2	PRESENCE	ø4-1	PRESENCE
ø2-3	PRESENCE	ø4-2	PRESENCE
ø2-4	PRESENCE	ø4-3	PRESENCE

ZONE ASSIGNMENT CHART



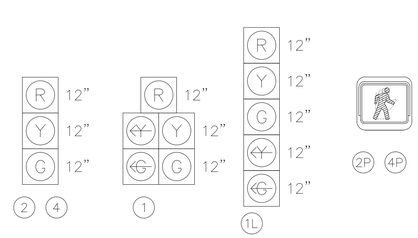
GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
- TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.
- ADVANCE DETECTION AMPLIFIERS TO REMAIN.
- REMOVE EXISTING CAMERA ON POLE 4.



EXISTING SIGNAL HEAD TYPES

EXISTING OVERHEAD SIGNS

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
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C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
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D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
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25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-10

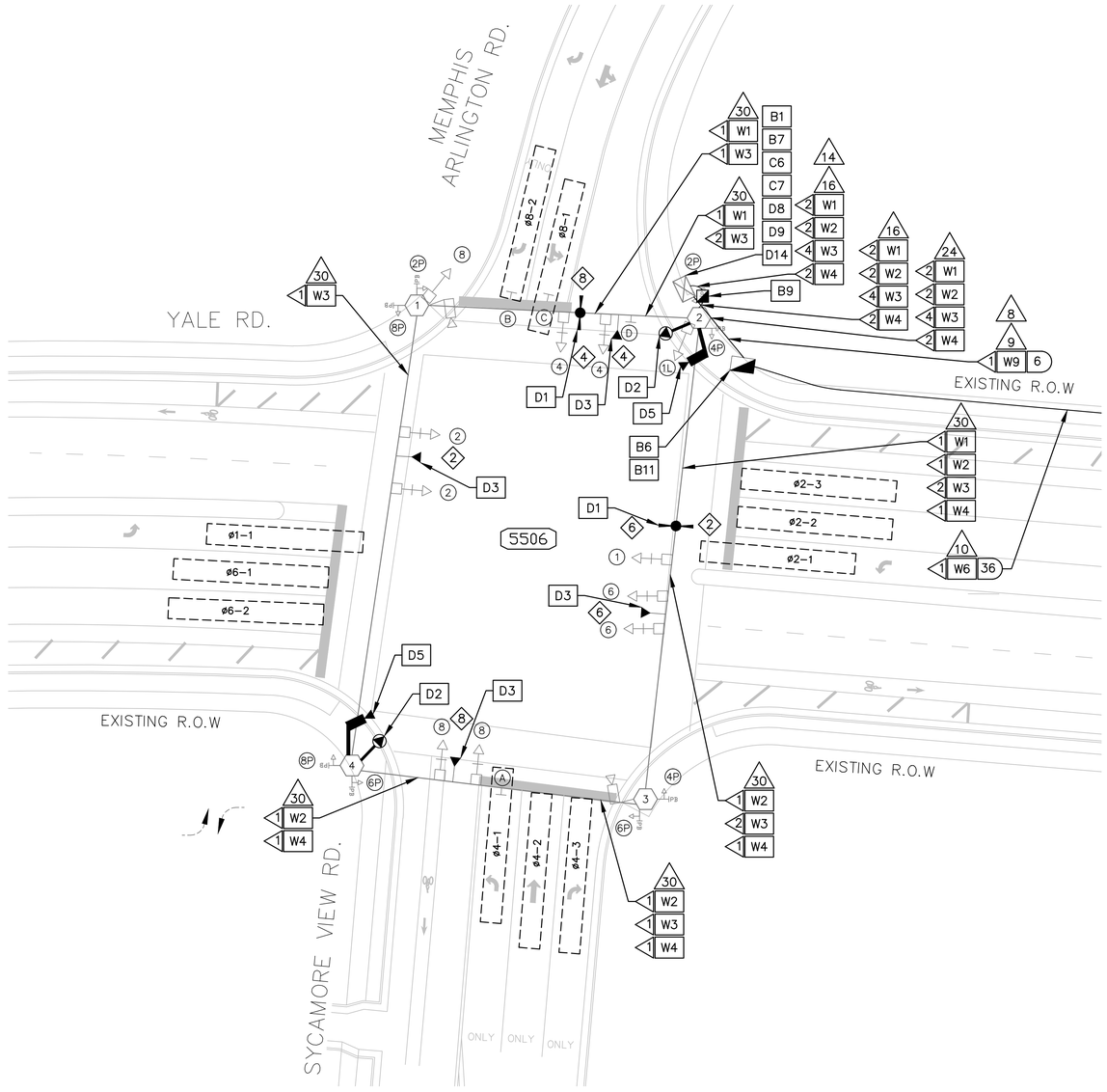
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

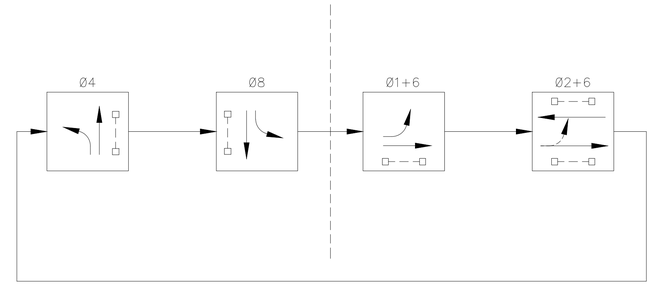
JACKSON AVE. AT WALES AVE.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF MEMPHIS

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





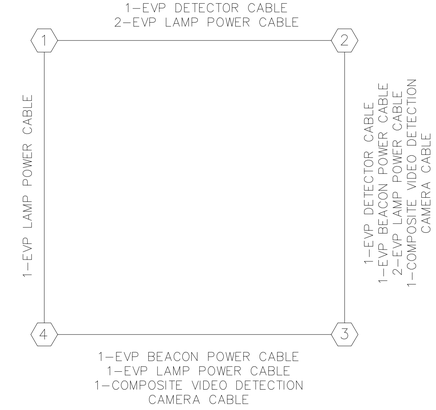
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2 & 6
4	4 & 8
6	2 & 6
8	4 & 8

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø4-3*	PRESENCE
ø2-1	PRESENCE	ø6-1	PRESENCE
ø2-2	PRESENCE	ø6-2	PRESENCE
ø2-3	PRESENCE	ø8-1	PRESENCE
ø4-1	PRESENCE	ø8-2*	PRESENCE
ø4-2	PRESENCE		

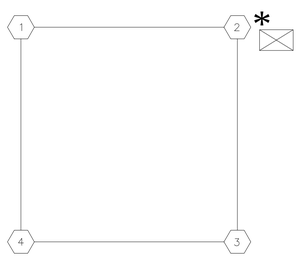
* 5 SECOND DELAY

ZONE ASSIGNMENT CHART



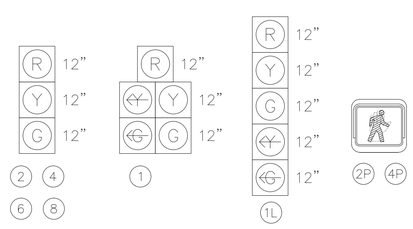
GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

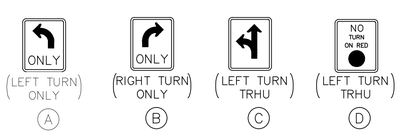


REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
- TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.
- ADVANCE DETECTION AMPLIFIERS TO REMAIN.



EXISTING SIGNAL HEAD TYPES



EXISTING OVERHEAD SIGNS

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
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C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
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D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
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D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
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W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
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W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
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24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-11

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. [illegible] REGISTERED AGRICULTURAL COMMERCE No. (0011421) STATE OF TENNESSEE 7/19/15

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

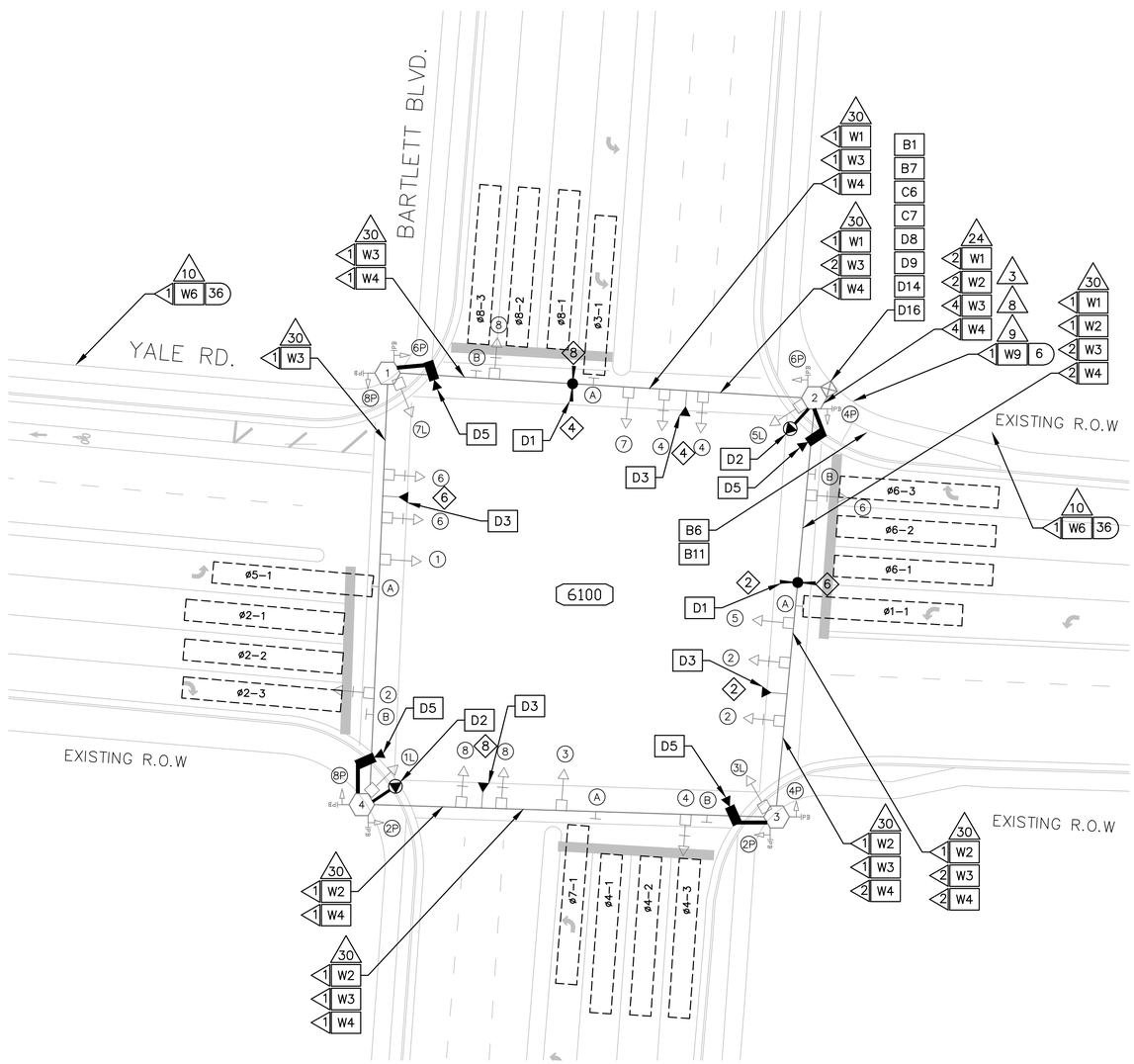
YALE RD. AT SYCAMORE VIEW RD.
INTERSECTION LAYOUT

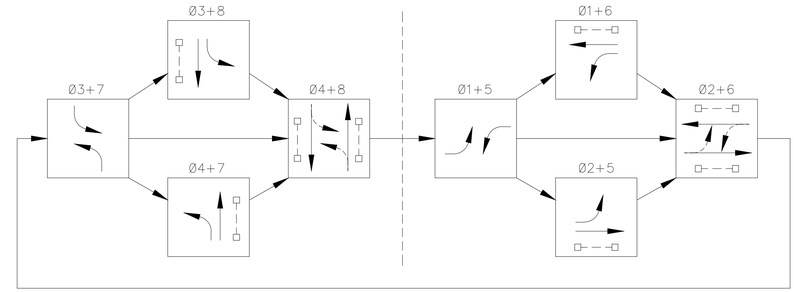
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF BARTLETT

DRAWING NAME: K:\MEM_TPTO\115087002 - Shelby County CMP 2\Design\Level 4 - Signal System\Bid Set 5\Plans\BidSet 5-35-IL-11-Yale at Sycamore.dwg Layout Jan 30, 2015 3:27PM BY: blaine.lynch

NOTES:

1) POLE 2: TREE TRIMMING REQUIRED FOR CAMERA INSTALLATION.
2) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





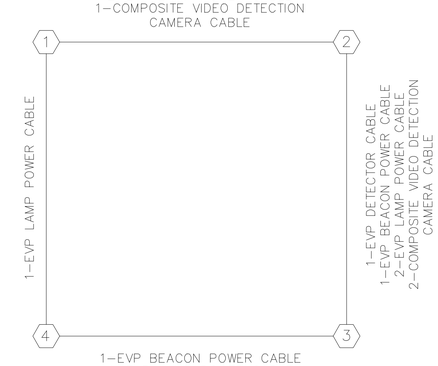
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2 & 6
4	4 & 8
6	2 & 6
8	4 & 8

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø5-1	PRESENCE
ø2-1	PRESENCE	ø6-1	PRESENCE
ø2-2	PRESENCE	ø6-2	PRESENCE
ø2-3*	PRESENCE	ø6-3*	PRESENCE
ø3-1	PRESENCE	ø7-1	PRESENCE
ø4-1	PRESENCE	ø8-1	PRESENCE
ø4-2	PRESENCE	ø8-2	PRESENCE
ø4-3	PRESENCE	ø8-3	PRESENCE

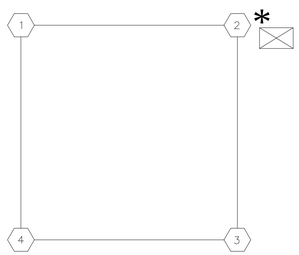
* 5 SECOND DELAY

ZONE ASSIGNMENT CHART



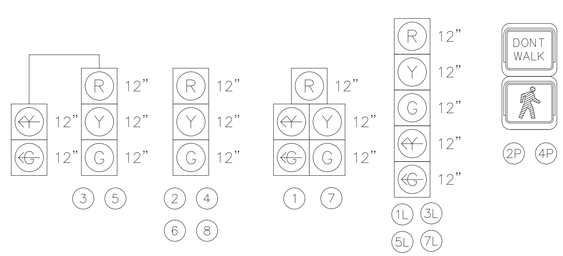
GENERAL WIRING DIAGRAM

◁ NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
– TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.
– ADVANCE DETECTION AMPLIFIERS TO REMAIN.



EXISTING SIGNAL HEAD TYPES

EXISTING OVERHEAD SIGNS

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
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B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
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D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
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D13	INSTALL RADAR DETECTION SYSTEM
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W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
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W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
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13	INSTALL 3" RISER WITH WEATHERHEAD
14	INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
16	JACK AND BORE 3" CONDUIT
17	INSTALL 3" RISER INTO BOTTOM OF CABINET
18	INSTALL 3" RGS CONDUIT
23	INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24	INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-12

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. [illegible] REGISTERED ENGINEER AGRICULTURE COMMERCE No. 101142 STATE OF TENNESSEE 7/19/15

Kimley»Horn

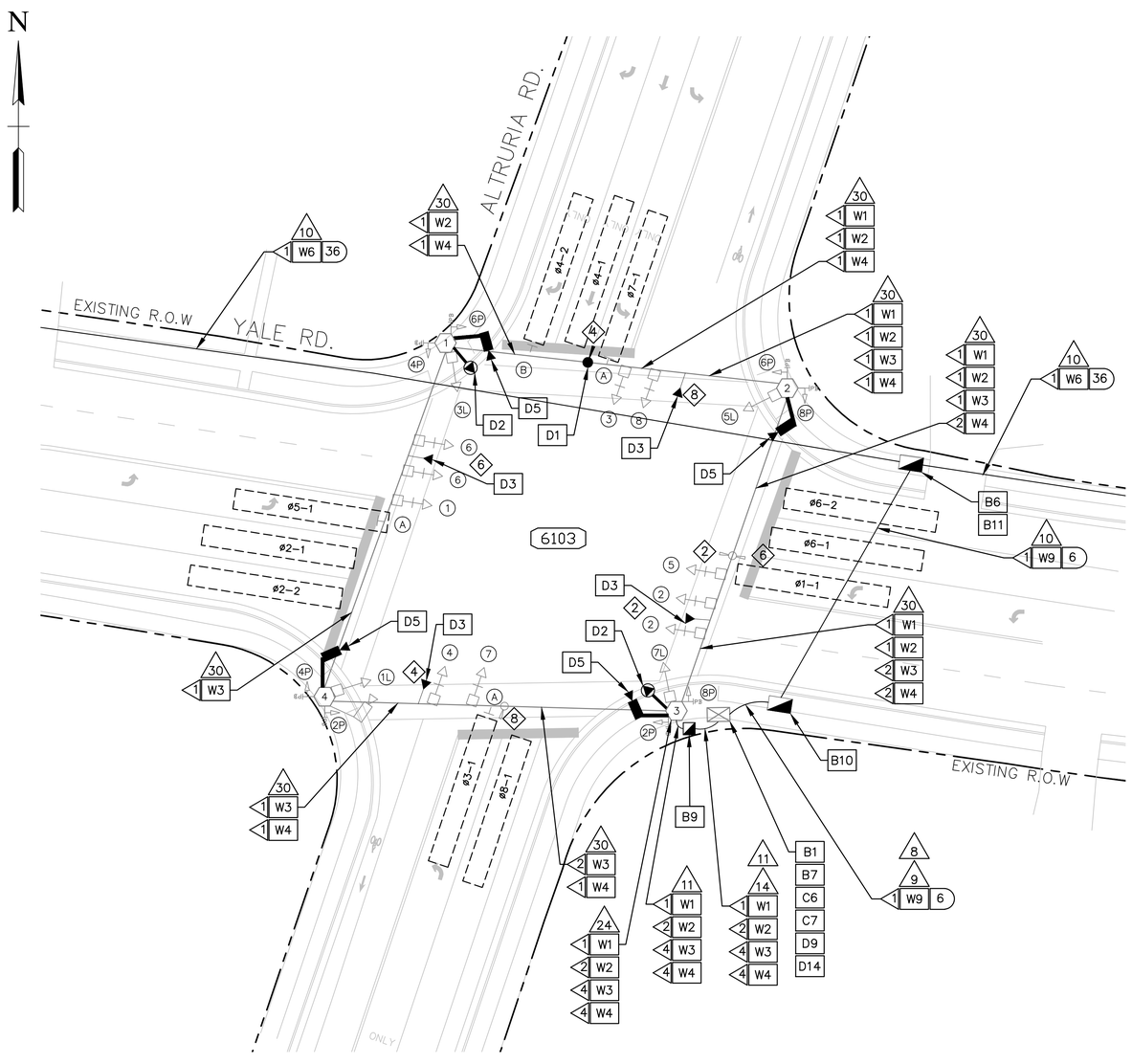
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

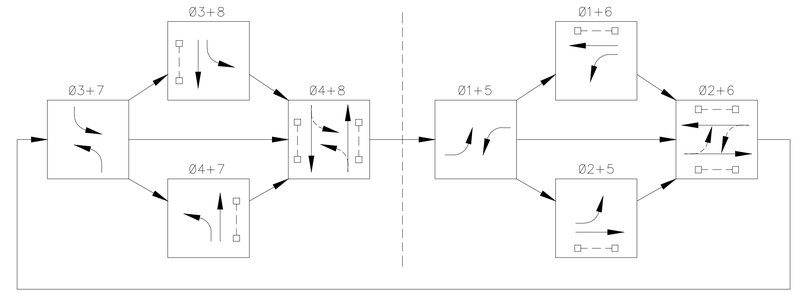
YALE RD. AT BARTLETT BLVD.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF BARTLETT

NOTES:

1) POLE 2: CONTRACTOR TO COORDINATE CAMERA INSTALLATION WITH MLGW AND ENGINEER FOR POTENTIAL OVERHEAD UTILITY CONFLICTS.
2) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





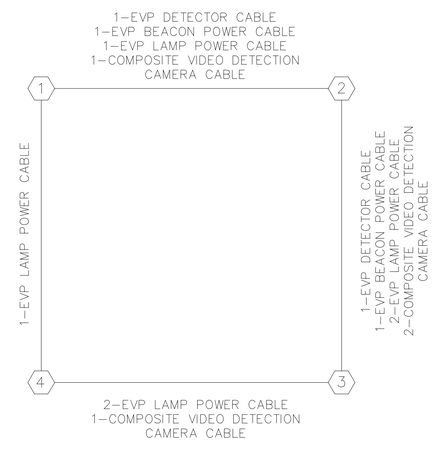
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2 & 6
4	4 & 8
6	2 & 6
8	4 & 8

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø5-1	PRESENCE
ø2-1	PRESENCE	ø6-1	PRESENCE
ø2-2	PRESENCE	ø6-2	PRESENCE
ø3-1	PRESENCE	ø7-1	PRESENCE
ø4-1	PRESENCE	ø8-1	PRESENCE
ø4-2*	PRESENCE		

* 5 SECOND DELAY

ZONE ASSIGNMENT CHART



GENERAL WIRING DIAGRAM

◁ NUMBER OF CABLES, LOOPS, ETC.
(X) NUMBER OF CONDUCTORS, PAIRS, ETC.

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
W13	COIL 50' OF SMFO CABLE
W14	16 CONDUCTOR CABLE
3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9	INSTALL 2" PVC CONDUIT
10	JACK AND BORE 2" CONDUIT
11	INSTALL 3" PVC CONDUIT
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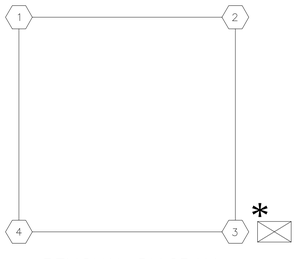
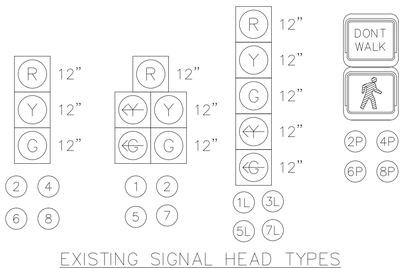
25	INSTALL CABLES IN EXISTING WEATHERHEAD
26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-13

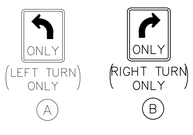


REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
- TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.
- ADVANCE DETECTION AMPLIFIERS TO REMAIN.
- REMOVE EXISTING CAMERA ON POLE 4.



EXISTING SIGNAL HEAD TYPES



EXISTING OVERHEAD SIGNS

REVISIONS

DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

DOUGLAS A. BLACKMON
AGRICULTURE
COMMERCE
REG. NO. 00114621
7/19/15
STATE OF TENNESSEE

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

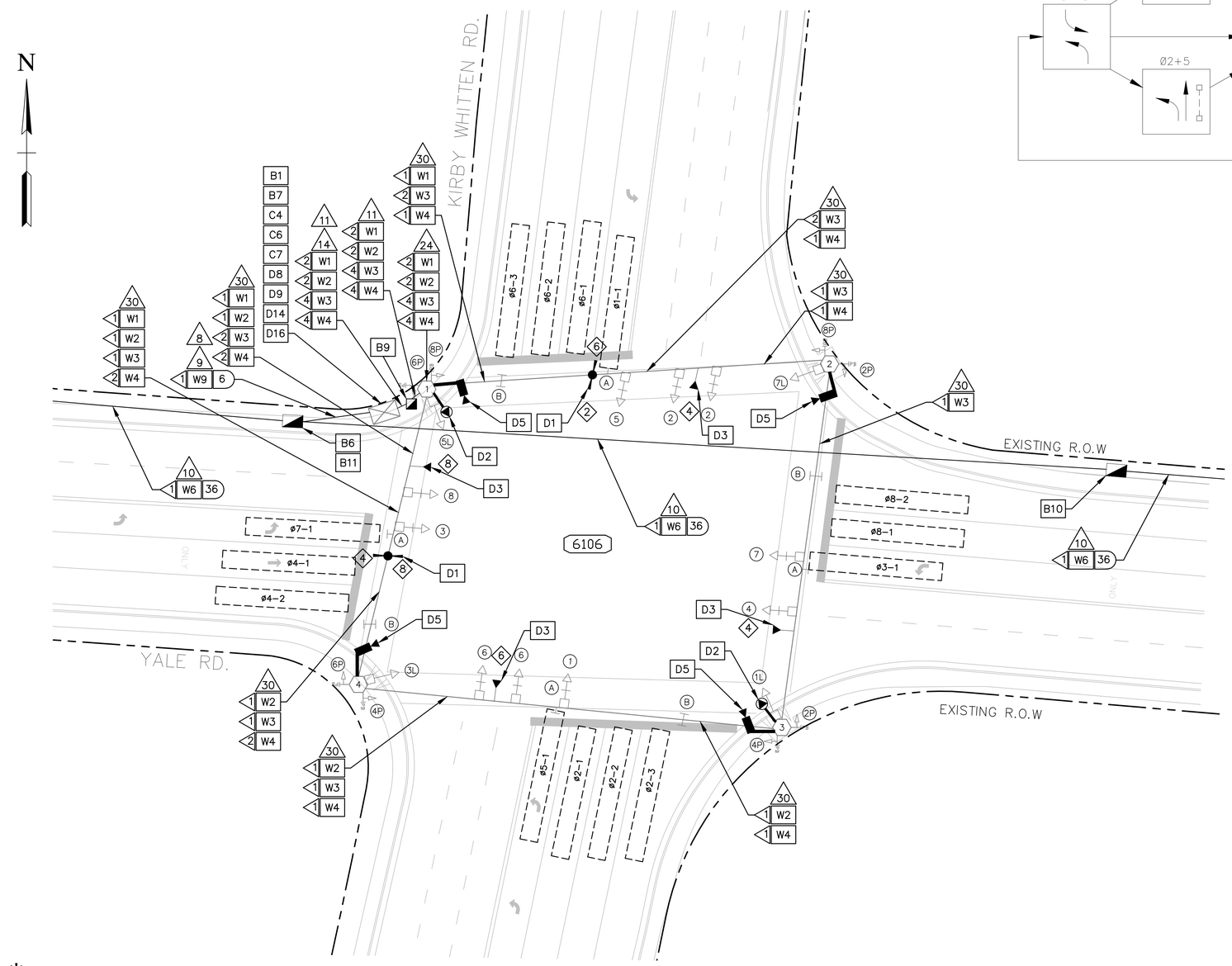
YALE RD. AT ALTRURIA RD.
INTERSECTION LAYOUT

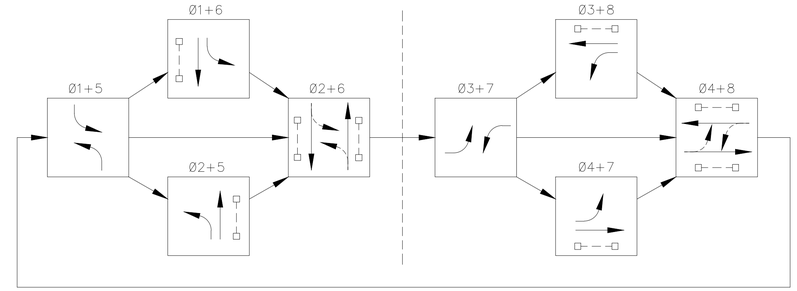
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF BARTLETT

DRAWING NAME: K:\WEM_TPTO\115087002 - Shelby County CMP 2\Design\Level 4 - Signal System\Bid Set 5\Plans\BidSet 5-37-IL-13-Yale at Altruria.dwg Layout Jan. 30, 2015 3:27PM BY: blaine.lynch

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.



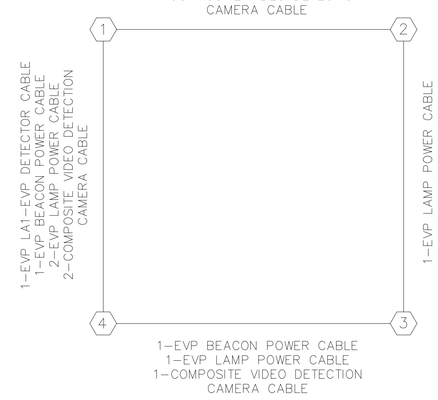


PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2 & 6
4	4 & 8
6	2 & 6
8	4 & 8

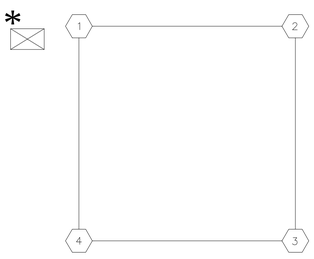
ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø5-1	PRESENCE
ø2-1	PRESENCE	ø6-1	PRESENCE
ø2-2	PRESENCE	ø6-2	PRESENCE
ø2-3	PRESENCE	ø6-3	PRESENCE
ø3-1	PRESENCE	ø7-1	PRESENCE
ø4-1	PRESENCE	ø8-1	PRESENCE
ø4-2	PRESENCE	ø8-2	PRESENCE

ZONE ASSIGNMENT CHART



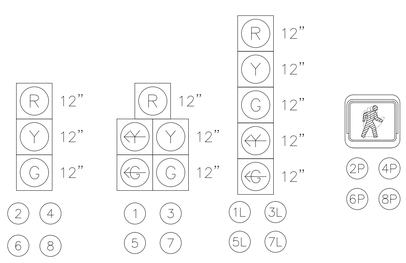
GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
- TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.
- ADVANCE DETECTION AMPLIFIERS TO REMAIN.



EXISTING SIGNAL HEAD TYPES

EXISTING OVERHEAD SIGNS

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
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B11	INSTALL FIBER OPTIC PULLBOX TYPE B
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C2	INSTALL 8-PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
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D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
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D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
W3	EVP CONFIRMATION LAMP POWER CABLE(S)
W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
W9	DROP CABLES (6-FIBER)
W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
4	INSTALL 2" RISER WITH WEATHERHEAD
7	INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8	INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
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26	INSTALL CABLES IN EXISTING POLE
27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL-14

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

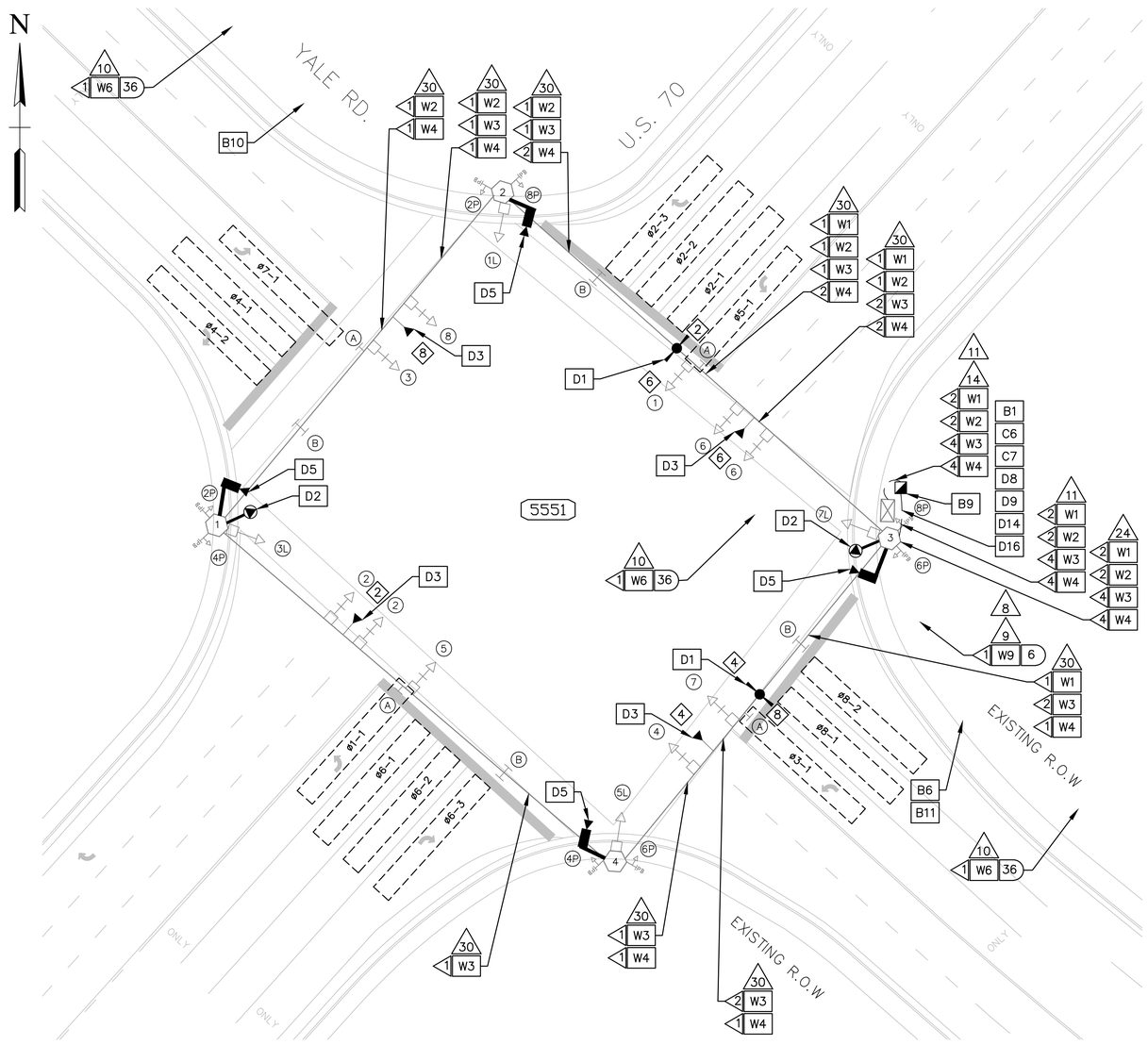
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

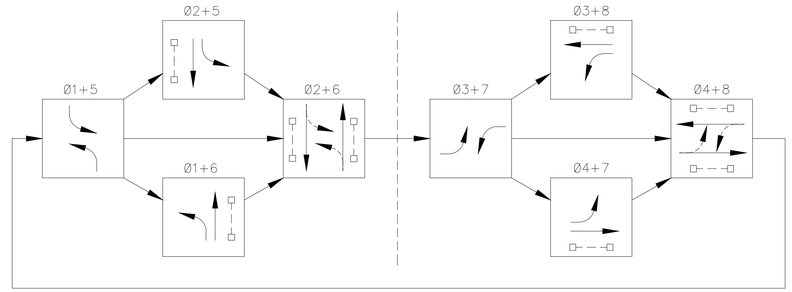
YALE RD. AT KIRBY WHITTEN RD.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF BARTLETT

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





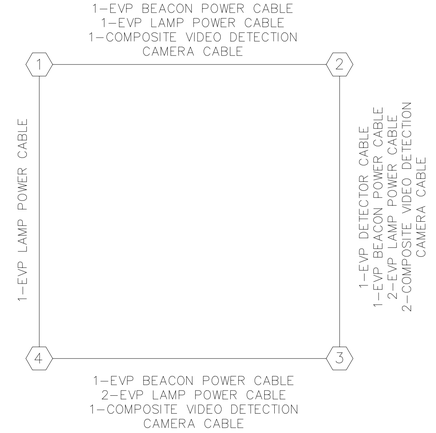
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2 & 6
4	4 & 8
6	2 & 6
8	4 & 8

ZONE	MODE	ZONE	MODE
ø1–1	PRESENCE	ø5–1	PRESENCE
ø2–1	PRESENCE	ø6–1	PRESENCE
ø2–2	PRESENCE	ø6–2	PRESENCE
ø2–3*	PRESENCE	ø6–3*	PRESENCE
ø3–1	PRESENCE	ø7–1	PRESENCE
ø4–1	PRESENCE	ø8–1	PRESENCE
ø4–2*	PRESENCE	ø8–2	PRESENCE

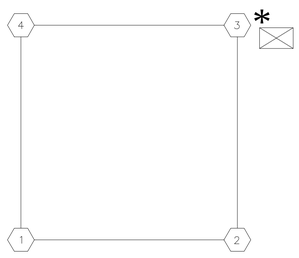
* 5 SECOND DELAY

ZONE ASSIGNMENT CHART



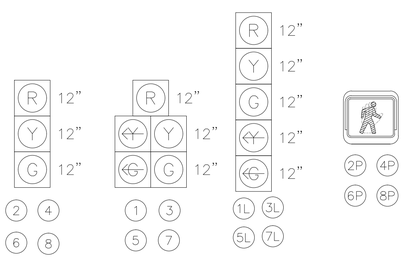
GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.



REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
– TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.
– ADVANCE DETECTION AMPLIFIERS TO REMAIN.



EXISTING SIGNAL HEAD TYPES

EXISTING OVERHEAD SIGNS

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

B1	RETAIN AND MODIFY EXISTING CABINET
B3	INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6	INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7	INSTALL FIBER DISTRIBUTION BOX
B9	INSTALL TRAFFIC SIGNAL PULLBOX
B10	INSTALL FIBER OPTIC PULLBOX TYPE A
B11	INSTALL FIBER OPTIC PULLBOX TYPE B
B13	INSTALL 20' PEDESTAL POLE
B15	MLGW POWER SERVICE CONNECTION
B16	INSTALL JUNCTION BOX
C2	INSTALL 8–PHASE CONTROLLER
C4	REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5	INSTALL FIBER OPTIC MODEM
C6	INSTALL ETHERNET CABINET SWITCH
C7	INSTALL SERIAL DEVICE SERVER
D1	INSTALL EVP DETECTOR
D2	INSTALL EVP CONFIRMATION BEACON
D3	INSTALL EVP CONFIRMATION LAMP
D4	INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5	INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6	INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8	INSTALL EVP PHASE SELECTOR
D9	INSTALL VIDEO DETECTION PROCESSOR
D10	INSTALL DETECTOR AMPLIFIER (4–CHANNEL) IN CABINET
D11	REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12	INSTALL NEW POLE MOUNTED RDS CABINET
D13	INSTALL RADAR DETECTION SYSTEM
D14	INSTALL VIDEO REMOTE MANAGEMENT CARD
D15	INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16	INSTALL BLUETOOTH DETECTION SYSTEM
W1	EVP DETECTOR CABLE(S)
W2	EVP CONFIRMATION BEACON POWER CABLE(S)
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W4	VIDEO DETECTOR CABLE(S)
W5	2C DETECTOR CABLE(S)
W6	SMFO CABLE
W7	SMFO TRUNK CABLE
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W11	RDS CABLE
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3	INSTALL 2" RISER INTO BOTTOM OF CABINET
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27	INSTALL CABLES IN PROPOSED POLE
29	INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30	LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32	ATTACH CONDUIT TO BRIDGE

IL–15

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

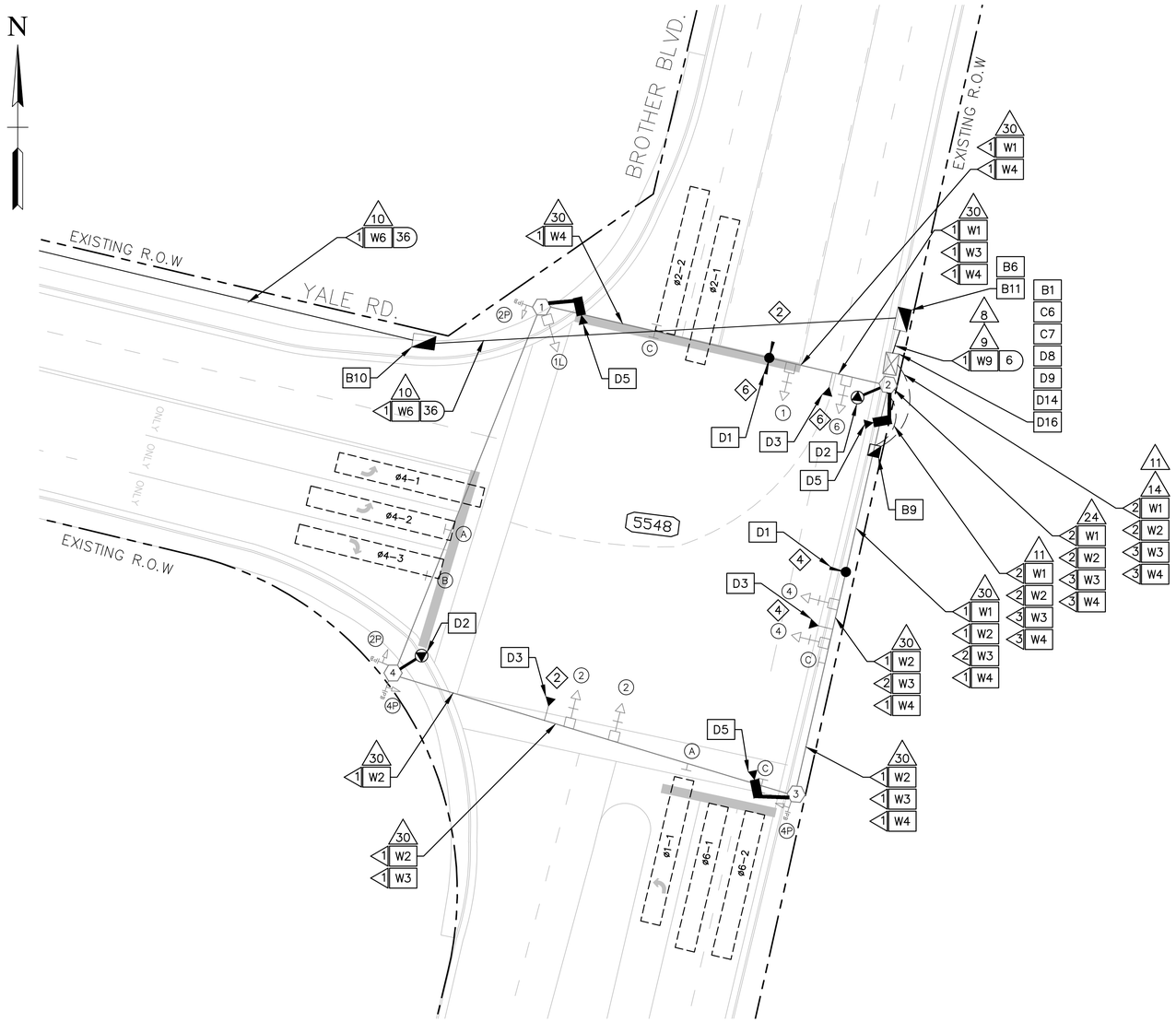
YALE RD. AT U.S. 70
INTERSECTION LAYOUT

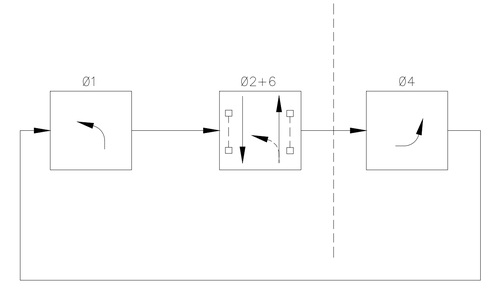
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF BARTLETT

DRAWING NAME: K:\MEM_TPTO\115087002 – Shelby County CMP 2\Design\Level 4 – Signal System\Bid Set 5\Plans\BidSet 5–39–IL–15–Yale at US–70.dwg Layout Jan 30, 2015 3:28PM BY: blaine.lynch

NOTES:

1) ALL CONDUIT WORK IS SCHEMATIC AND MUST BE PERFORMED WITHIN THE EXISTING R.O.W.





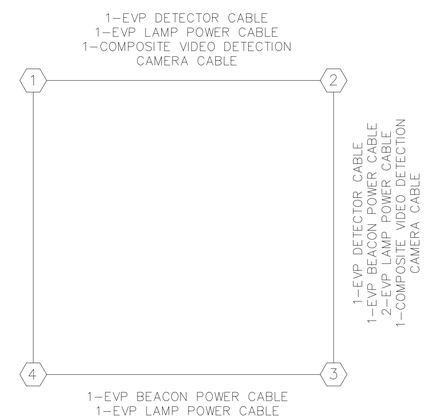
PHASE DIAGRAM

PREEMPT TABLE	
DETECTOR	PHASE(S) CALLED
2	2 & 6
4	4
6	2 & 6

ZONE	MODE	ZONE	MODE
ø1-1	PRESENCE	ø4-2	PRESENCE
ø2-1	PRESENCE	ø4-3*	PRESENCE
ø2-2	PRESENCE	ø6-1	PRESENCE
ø4-1	PRESENCE	ø6-2	PRESENCE

* 5 SECOND DELAY

ZONE ASSIGNMENT CHART

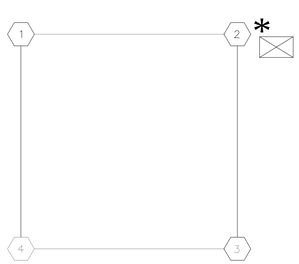


GENERAL WIRING DIAGRAM

NUMBER OF CABLES, LOOPS, ETC.
X NUMBER OF CONDUCTORS, PAIRS, ETC.

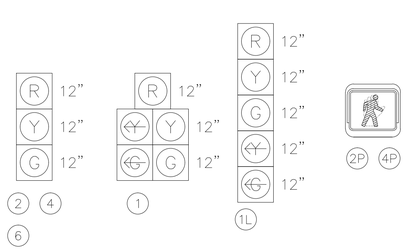
B1 RETAIN AND MODIFY EXISTING CABINET
B3 INSTALL NEW BASE MOUNTED CONTROLLER CABINET
B6 INSTALL WEATHER PROOF SPLICE ENCLOSURE
B7 INSTALL FIBER DISTRIBUTION BOX
B9 INSTALL TRAFFIC SIGNAL PULLBOX
B10 INSTALL FIBER OPTIC PULLBOX TYPE A
B11 INSTALL FIBER OPTIC PULLBOX TYPE B
B13 INSTALL 20' PEDESTAL POLE
B15 MLGW POWER SERVICE CONNECTION
B16 INSTALL JUNCTION BOX
C2 INSTALL 8-PHASE CONTROLLER
C4 REMOVE EXISTING CONTROLLER AND INSTALL NEW CONTROLLER
C5 INSTALL FIBER OPTIC MODEM
C6 INSTALL ETHERNET CABINET SWITCH
C7 INSTALL SERIAL DEVICE SERVER
D1 INSTALL EVP DETECTOR
D2 INSTALL EVP CONFIRMATION BEACON
D3 INSTALL EVP CONFIRMATION LAMP
D4 INSTALL VIDEO DETECTION CAMERA WITH TYPE 1 MOUNT
D5 INSTALL VIDEO DETECTION CAMERA WITH TYPE 2 MOUNT
D6 INSTALL VIDEO DETECTION CAMERA WITH TYPE 3 MOUNT
D8 INSTALL EVP PHASE SELECTOR
D9 INSTALL VIDEO DETECTION PROCESSOR
D10 INSTALL DETECTOR AMPLIFIER (4-CHANNEL) IN CABINET
D11 REUSE SYSTEM DETECTOR AMPLIFIER(S) (SEE REMOVAL DIAGRAM)
D12 INSTALL NEW POLE MOUNTED RDS CABINET
D13 INSTALL RADAR DETECTION SYSTEM
D14 INSTALL VIDEO REMOTE MANAGEMENT CARD
D15 INSTALL NEW SECONDARY POLE MOUNTED RDS CABINET
D16 INSTALL BLUETOOTH DETECTION SYSTEM
W1 EVP DETECTOR CABLE(S)
W2 EVP CONFIRMATION BEACON POWER CABLE(S)
W3 EVP CONFIRMATION LAMP POWER CABLE(S)
W4 VIDEO DETECTOR CABLE(S)
W5 2C DETECTOR CABLE(S)
W6 SMFO CABLE
W7 SMFO TRUNK CABLE
W9 DROP CABLES (6-FIBER)
W11 RDS CABLE
W13 COIL 50' OF SMFO CABLE
W14 16 CONDUCTOR CABLE
3 INSTALL 2" RISER INTO BOTTOM OF CABINET
4 INSTALL 2" RISER WITH WEATHERHEAD
7 INSTALL 2" RGS CONDUIT ON EXISTING STRUCTURE
8 INSTALL 2" CONDUIT INTO EXTERIOR OF CABINET
9 INSTALL 2" PVC CONDUIT
10 JACK AND BORE 2" CONDUIT
11 INSTALL 3" PVC CONDUIT
13 INSTALL 3" RISER WITH WEATHERHEAD
14 INSTALL 3" CONDUIT INTO EXTERIOR OF CABINET
16 JACK AND BORE 3" CONDUIT
17 INSTALL 3" RISER INTO BOTTOM OF CABINET
18 INSTALL 3" RGS CONDUIT
23 INSTALL CABLES IN EXISTING POLE IN EXISTING WEATHERHEAD
24 INSTALL CABLES IN EXISTING POLE IN PROPOSED WEATHERHEAD
25 INSTALL CABLES IN EXISTING WEATHERHEAD
26 INSTALL CABLES IN EXISTING POLE
27 INSTALL CABLES IN PROPOSED POLE
29 INSTALL CABLES IN EXISTING CONDUIT(S) INTO CABINET
30 LASH TO EXISTING MESSENGER WIRE/SPANWIRE
32 ATTACH CONDUIT TO BRIDGE

IL-16

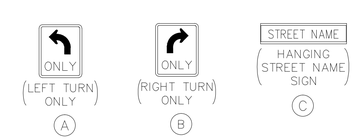


REMOVAL DIAGRAM

* EXISTING SIGNAL POLES AND CONTROLLER CABINET TO REMAIN.
- TURN OFF STOP BAR VEHICLE DETECTOR CHANNELS ON EXISTING AMPLIFIERS IN CABINET.
- ADVANCE DETECTION AMPLIFIERS TO REMAIN.



EXISTING SIGNAL HEAD TYPES



EXISTING OVERHEAD SIGNS

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

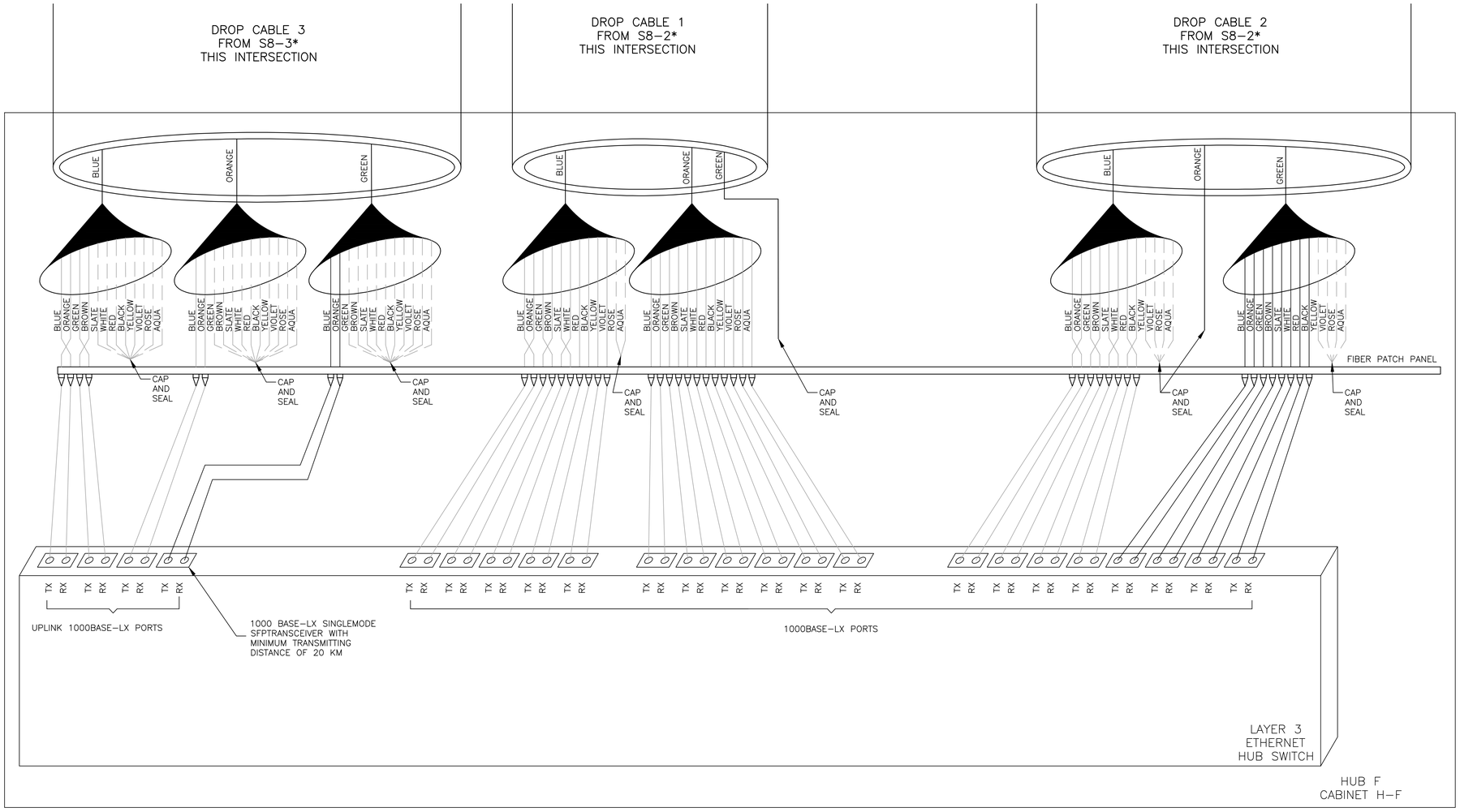
Kimley»Horn

DOUGLAS A. KOTTS
AGRICULTURE
COMMERCE
No. 00114011
STATE OF TENNESSEE
12/19/15

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE RD. AT BROTHER BLVD.
INTERSECTION LAYOUT

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: 1"=20'
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: CITY OF BARTLETT



* DENOTES CABLES AND SPLICE ENCLOSURES INSTALLED AS PART OF PROJECT 112875 (STP – JACKSON AVE SIGNAL SYSTEM)

* DENOTES CABLE OR SPLICE ENCLOSURE TO BE INSTALLED AS PART OF PROJECT 040723 (CMAQ YEAR 3 BID SET 1).

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

SPLICE DIAGRAM FOR
HUB CABINET F
JACKSON AVE. AT
TREZEVANT ST.

COLOR CODE
TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE — SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE EXISTING FIBER

ACTIVE FIBER

INACTIVE FIBER

X — CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DALLAS A. ROGERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 00114211
1/9/15
STATE OF TENNESSEE

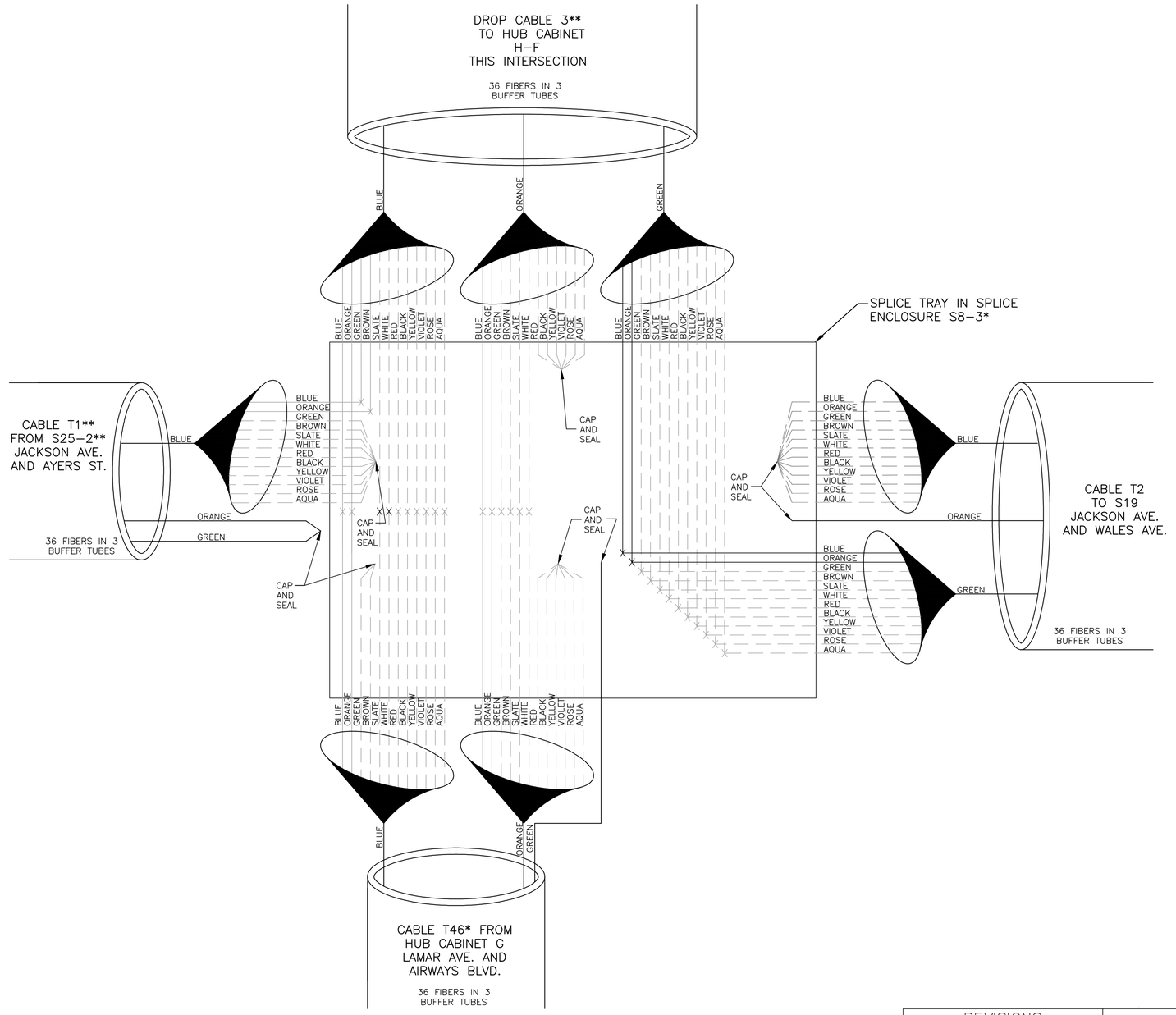
Kimley»Horn

SD-01

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



* DENOTES CABLES AND SPLICE ENCLOSURES INSTALLED AS PART OF PROJECT 040723 (CMAQ YEAR 3 – BID SET 1)

** DENOTES CABLES AND SPLICE ENCLOSURES INSTALLED AS PART OF PROJECT 112875 (STP – JACKSON AVE SIGNAL SYSTEM)

NOTES:

1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598–A	
(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE — SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE EXISTING FIBER

ACTIVE FIBER

INACTIVE FIBER

CONNECTION/SPLICE TO BE MADE BY OTHERS.

SPLICE DIAGRAM FOR
INTERSECTION #8157
JACKSON AVE AT
TREZEVANT ST.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

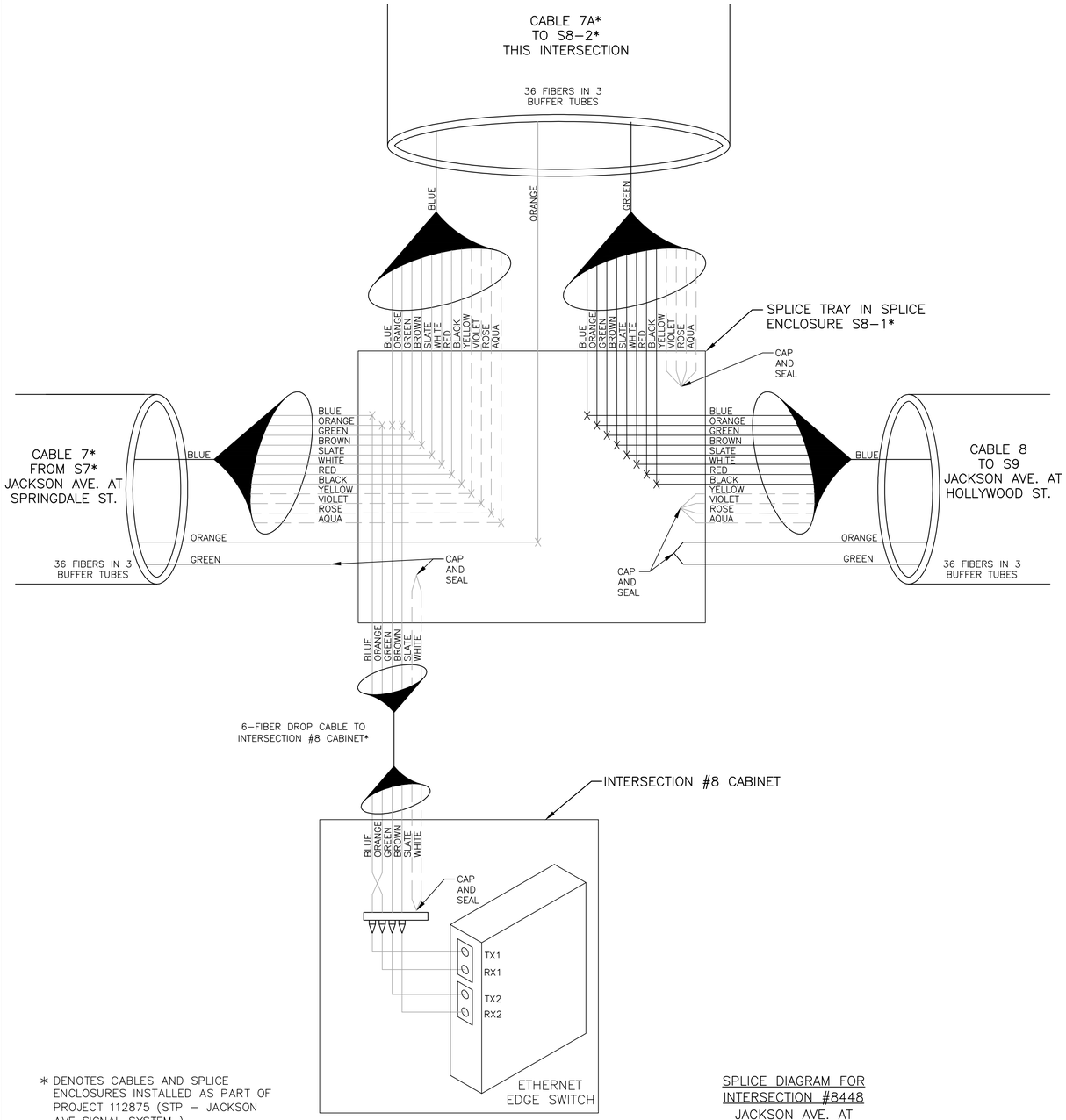
Kimley»Horn

SD-02

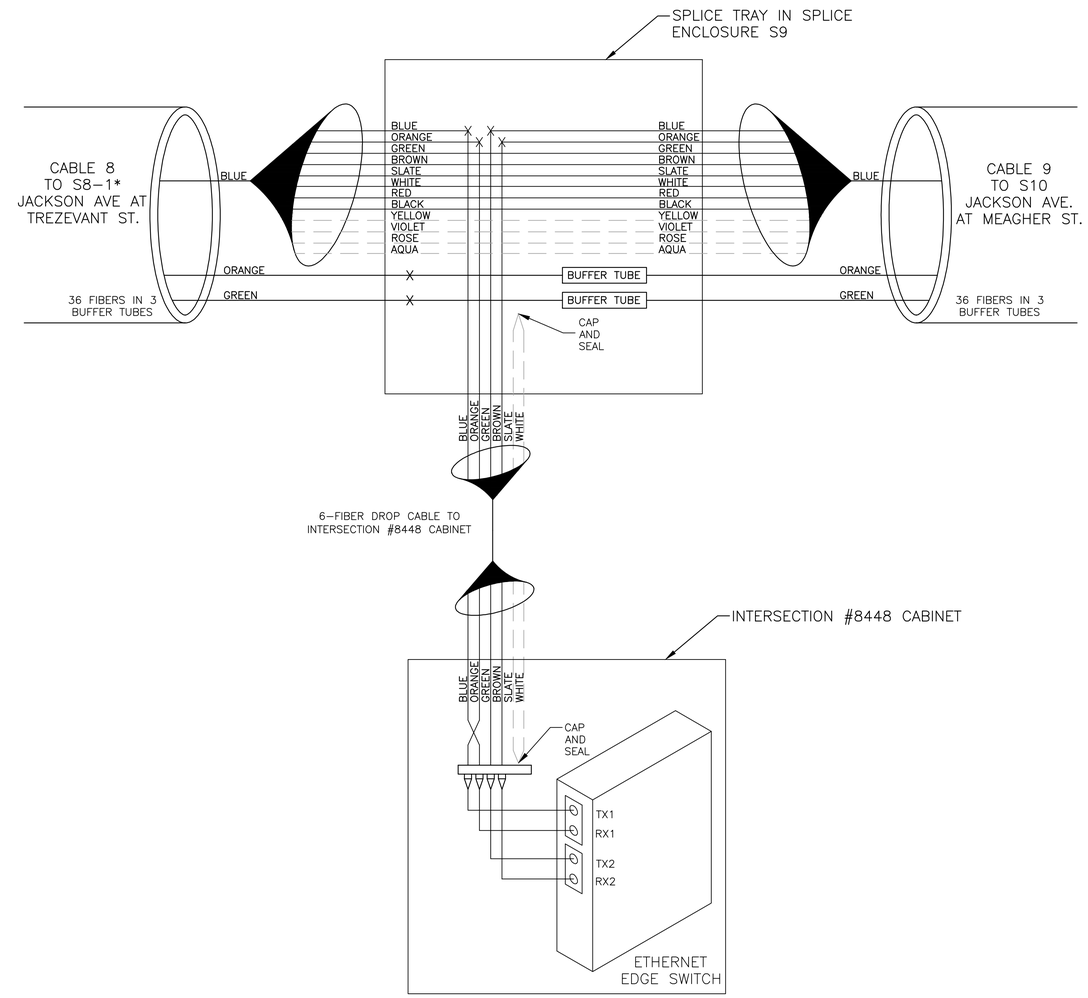
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____ SHEET 42 OF 72



SPLICE DIAGRAM FOR
INTERSECTION #8448
JACKSON AVE. AT
TREZEVANT ST.



SPLICE DIAGRAM FOR
INTERSECTION #8448
JACKSON AVE. AT
HOLLYWOOD ST.

* DENOTES CABLES AND SPLICE ENCLOSURES INSTALLED AS PART OF PROJECT 112875 (STP – JACKSON AVE SIGNAL SYSTEM)

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A	
(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE — SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE EXISTING FIBER

ACTIVE FIBER

INACTIVE FIBER

CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

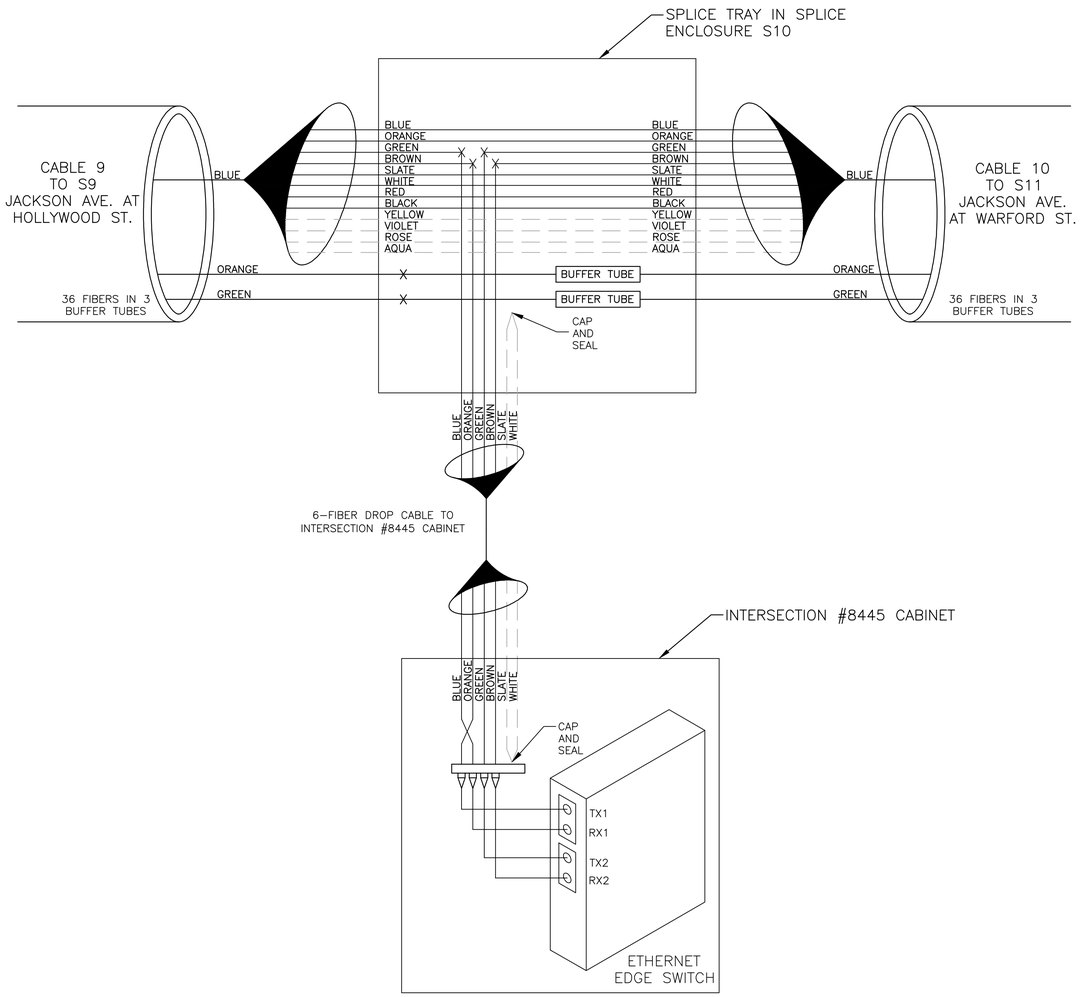
Kimley»Horn

SD-03

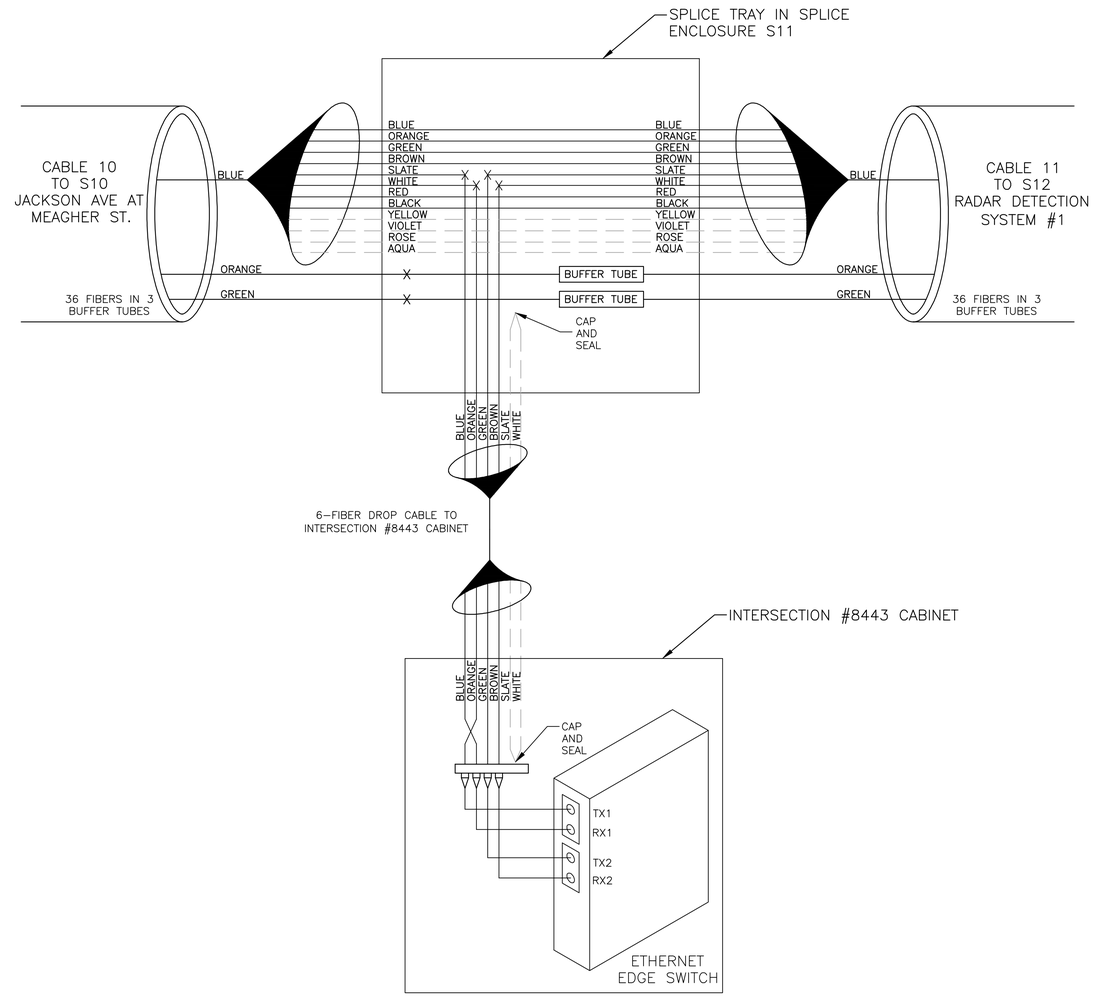
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



SPLICE DIAGRAM FOR INTERSECTION #8445
JACKSON AVE. AT MEAGHER ST.



SPLICE DIAGRAM FOR INTERSECTION #8443
JACKSON AVE. AT WARFORD ST.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

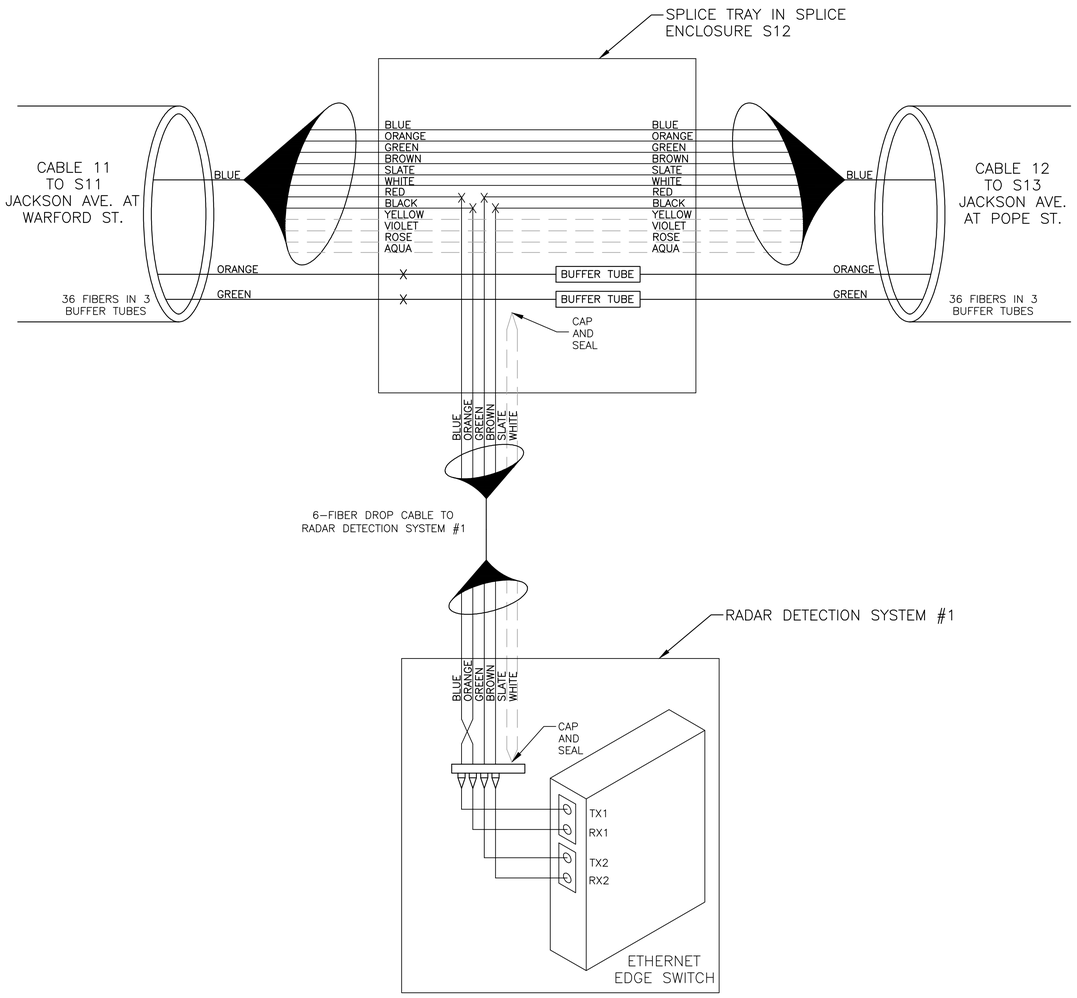
Kimley»Horn

SD-04

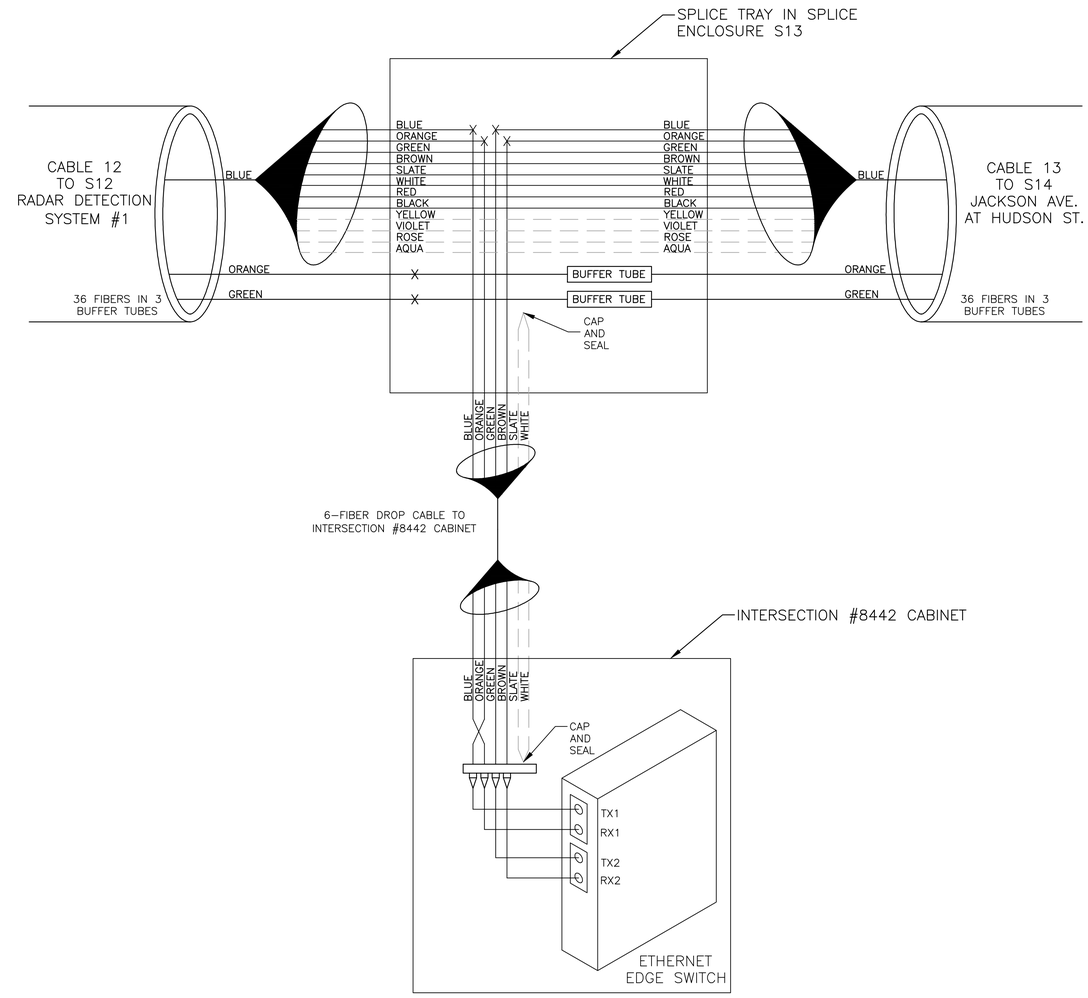
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____ SHEET 44 OF 72



SPLICE DIAGRAM FOR
RADAR DETECTION SYSTEM #1



SPLICE DIAGRAM FOR
INTERSECTION #8442
JACKSON AVE. AT
POPE ST.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE
TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

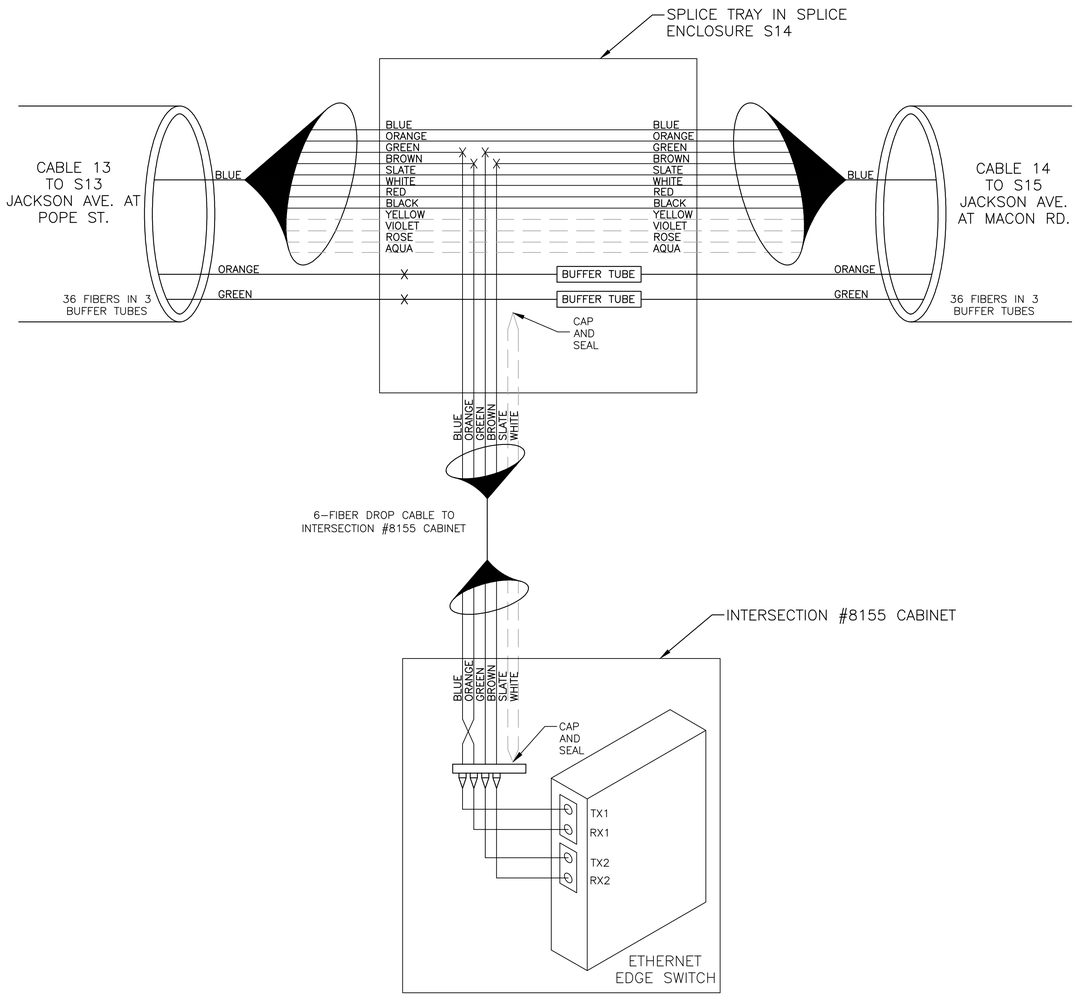
Kimley»Horn

SD-05

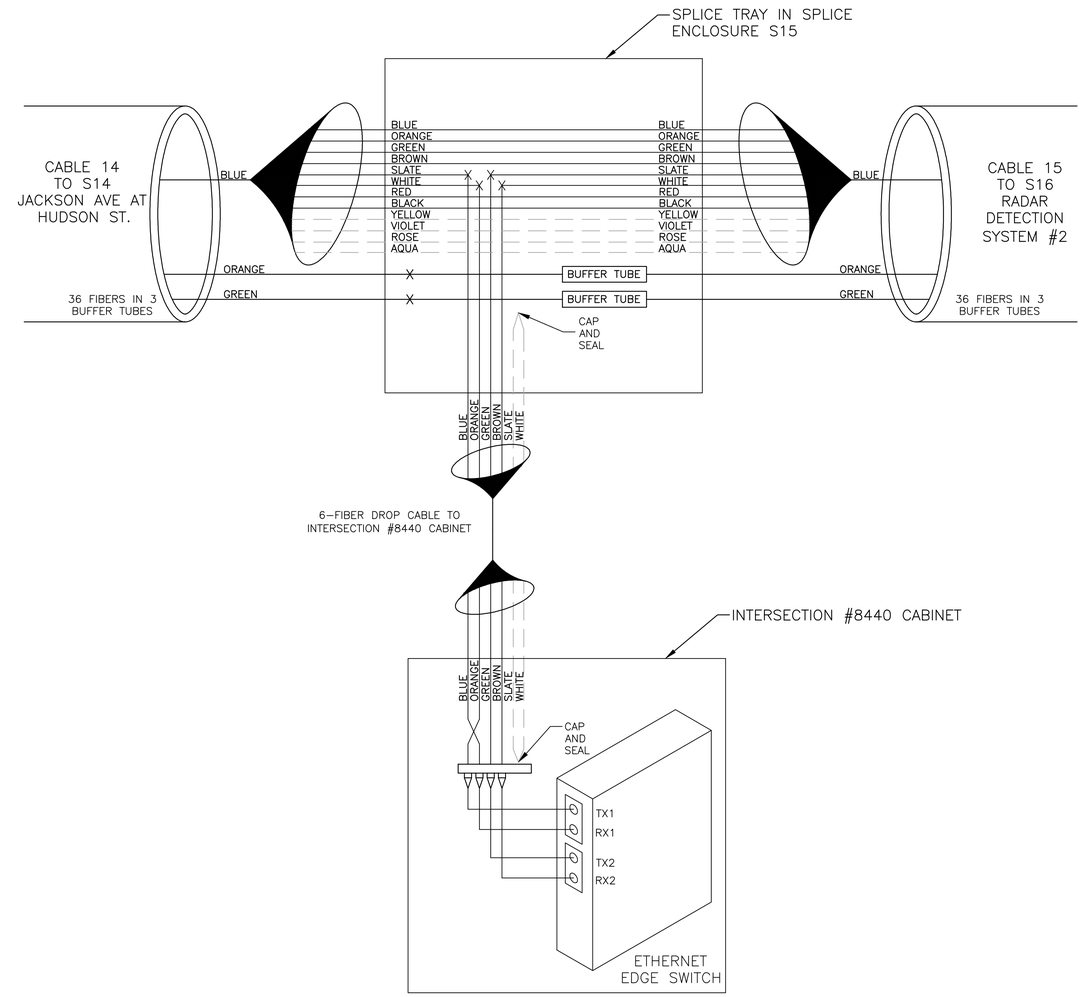
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____ SHEET 45 OF 72



SPLICE DIAGRAM FOR INTERSECTION #8155
JACKSON AVE. AT HUDSON ST.



SPLICE DIAGRAM FOR INTERSECTION #8440
JACKSON AVE. AT MACON RD.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DALAS A. JOHNSON REGISTERED ENGINEER AGRICULTURE COMMERCE No. 00114211 STATE OF TENNESSEE 7/19/15

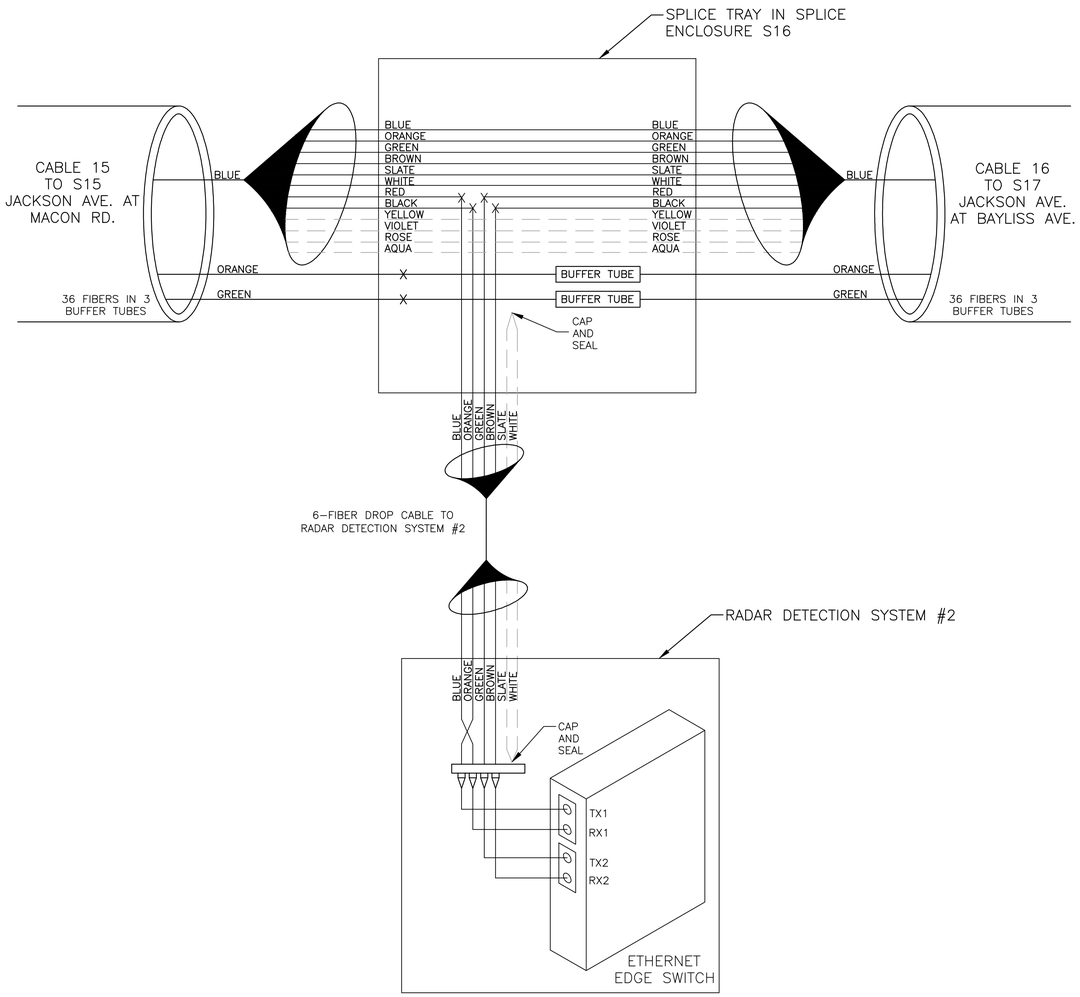
Kimley»Horn

SD-06

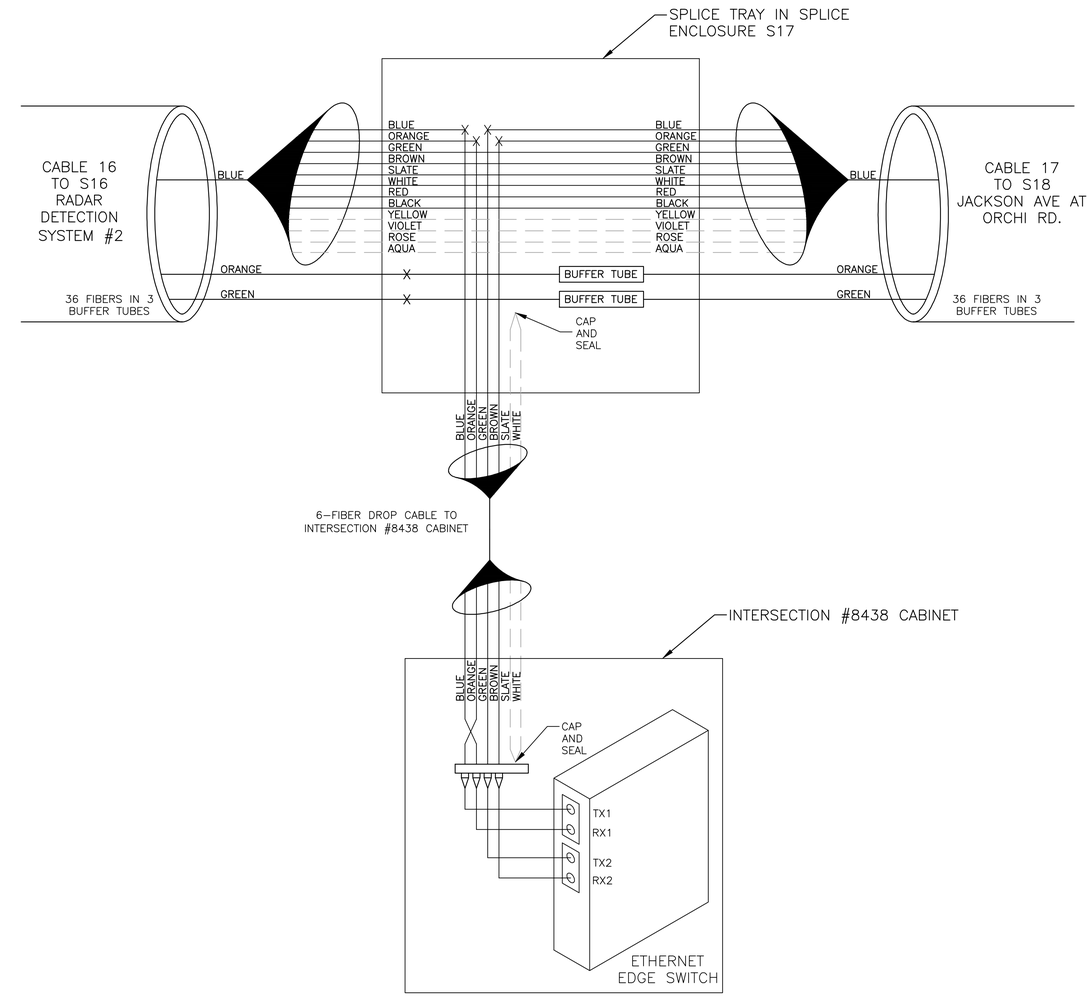
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



SPLICE DIAGRAM FOR
RADAR DETECTION SYSTEM #2



SPLICE DIAGRAM FOR
INTERSECTION #8438
JACKSON AVE. AT
BAYLISS AVE.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DALAS A. JONES
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 0011421
7/19/15
STATE OF TENNESSEE

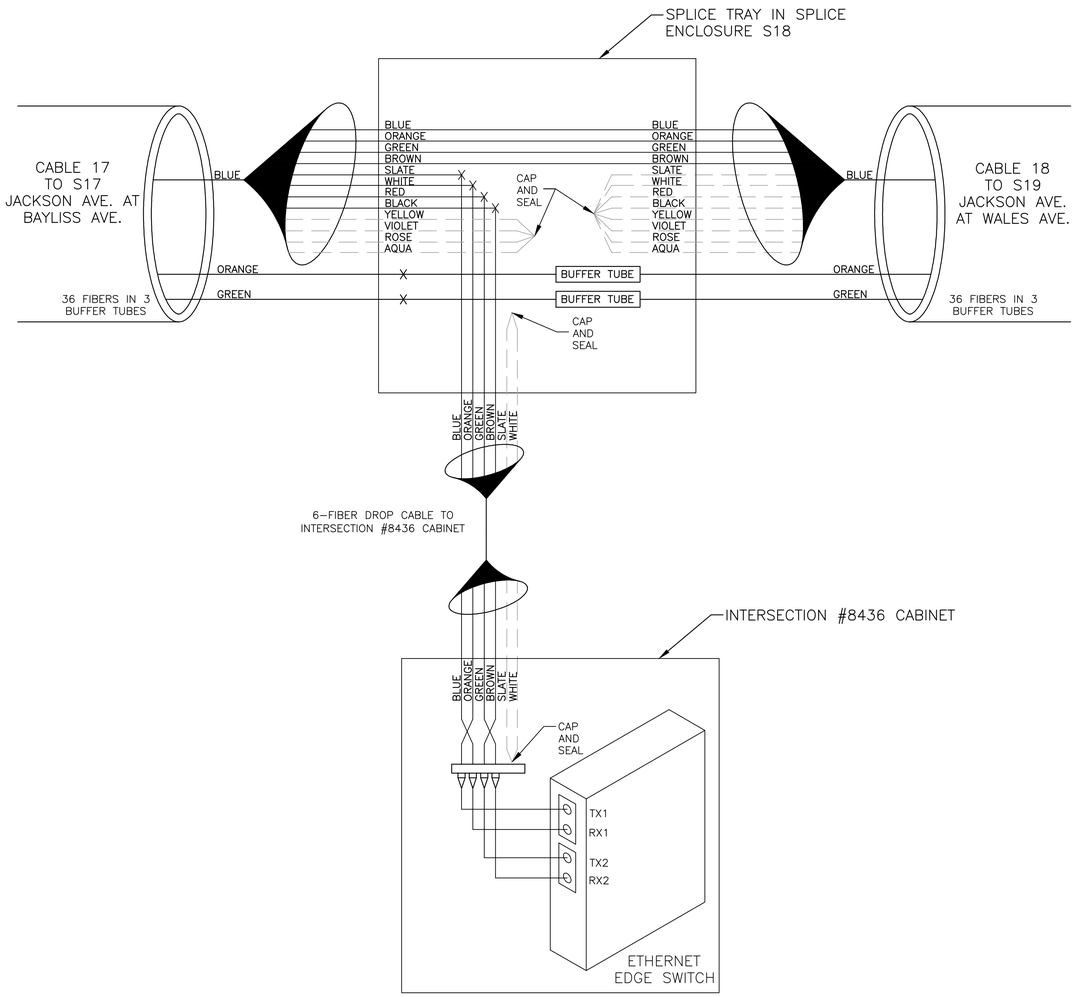
Kimley»Horn

SD-07

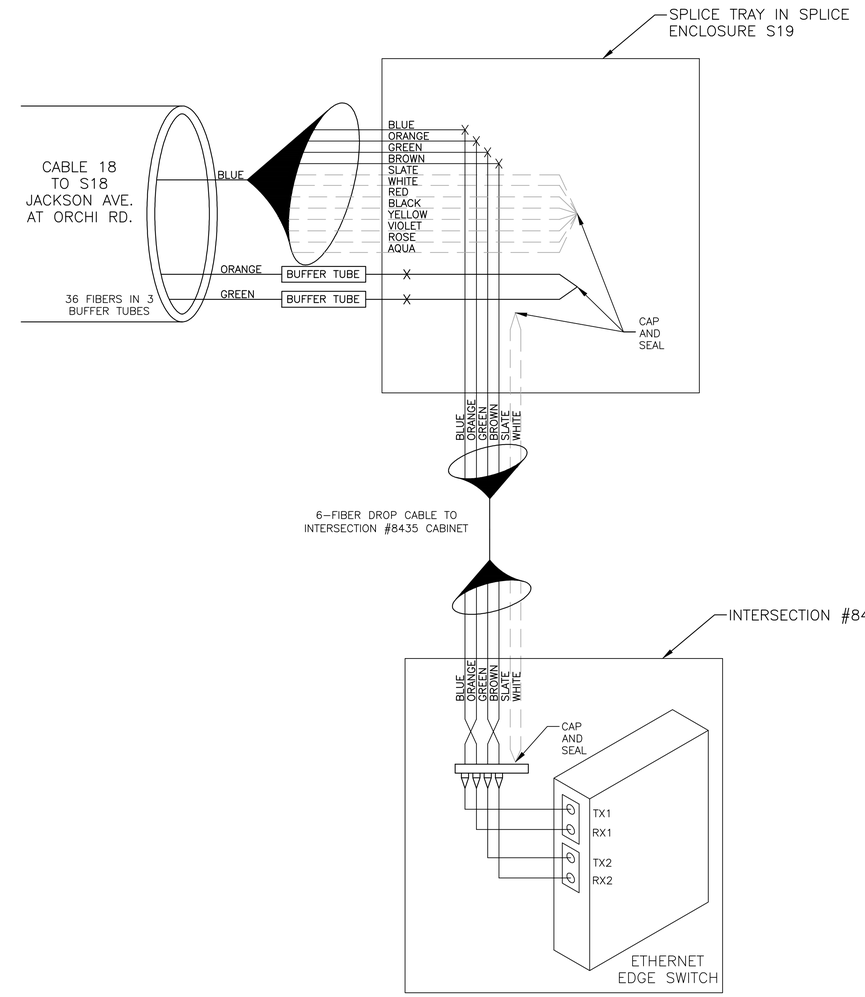
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



SPLICE DIAGRAM FOR INTERSECTION #8436
JACKSON AVE. AT ORCHI RD.



SPLICE DIAGRAM FOR INTERSECTION #8435
JACKSON AVE. AT WALES AVE.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

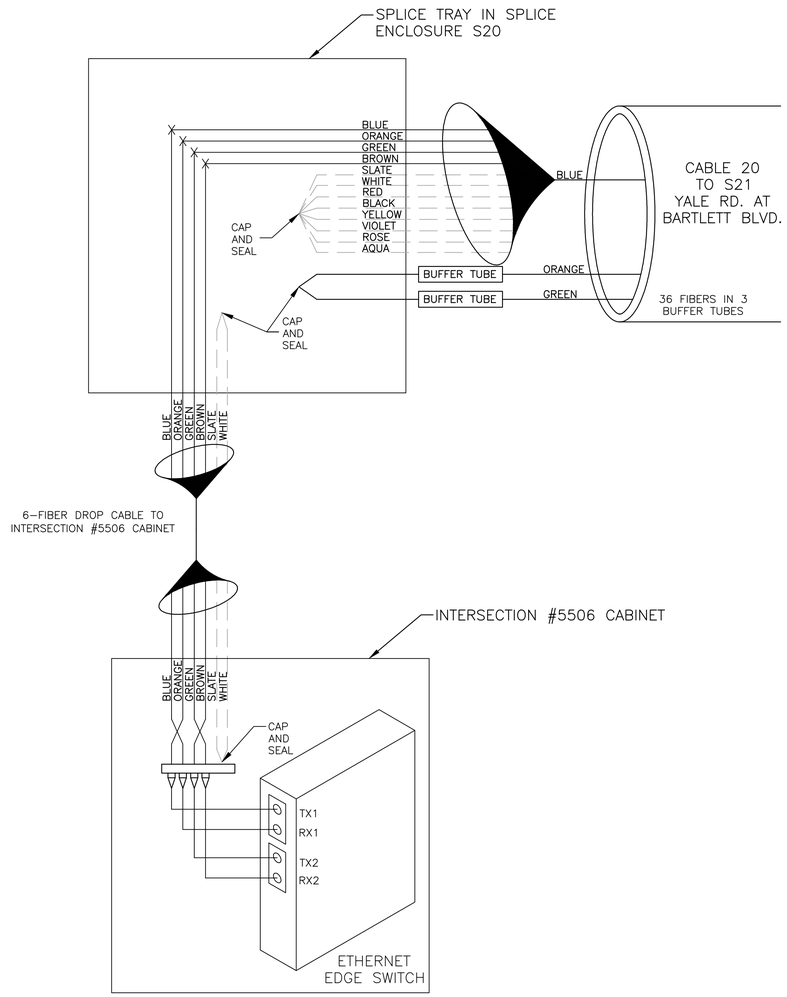
SD-08

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

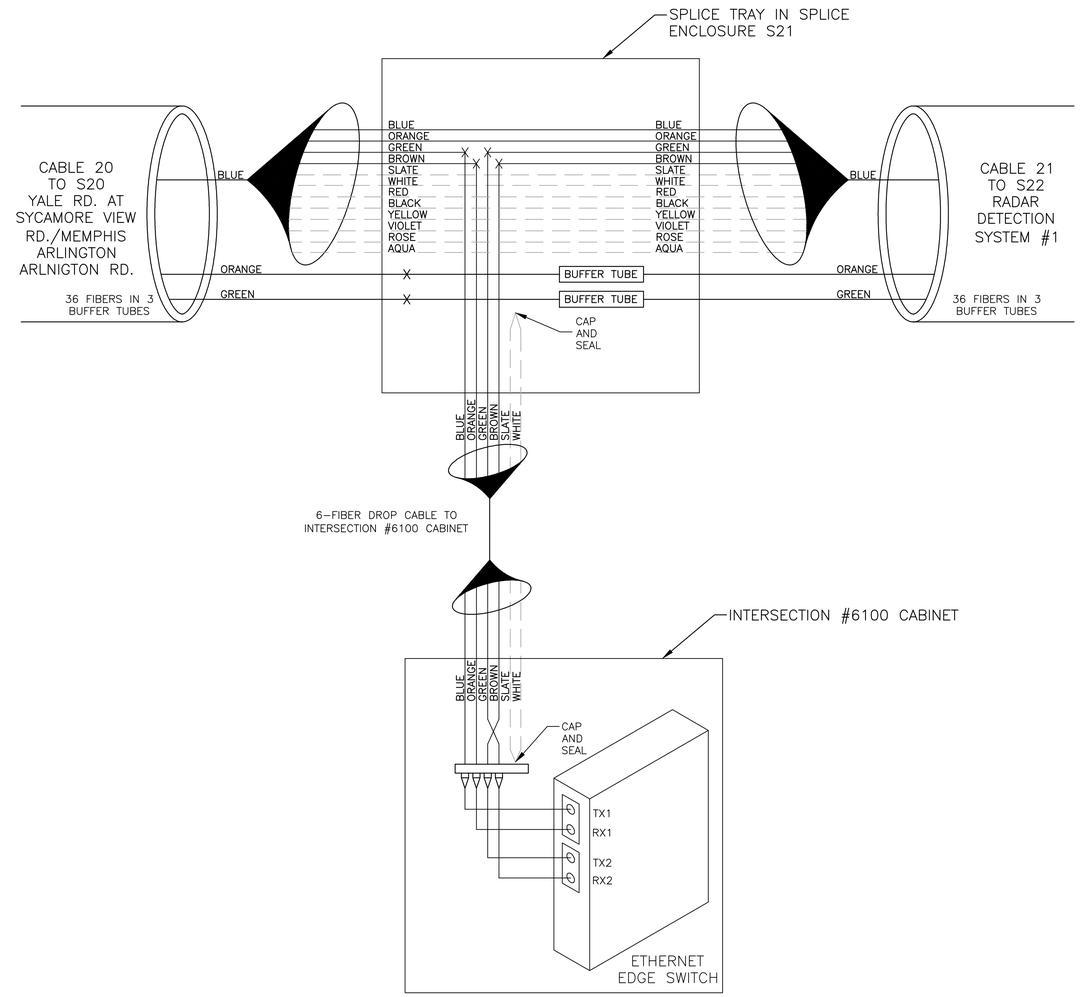
SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____ SHEET 48 OF 72

DRAWING NAME: K:\WEM_TPTO\115087002 – Shelby County CMP 2\Design\Level 4 – Signal System\Bid Set 5\Plans\BidSet 5-48-SD-08.dwg Layout1 Jan 30, 2015 3:29PM BY: blaine.lynch



SPLICE DIAGRAM FOR
INTERSECTION #5506
YALE RD. AT
SYCAMORE VIEW RD./
MEMPHIS ARLINGTON RD.



SPLICE DIAGRAM FOR
INTERSECTION #6100
YALE RD. AT
BARTLETT BLVD.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DALAS A. HOLT
LICENSED
PROFESSIONAL ENGINEER
AGRICULTURE
7/19/15
COMMERCE
No. 0011421
STATE OF TENNESSEE

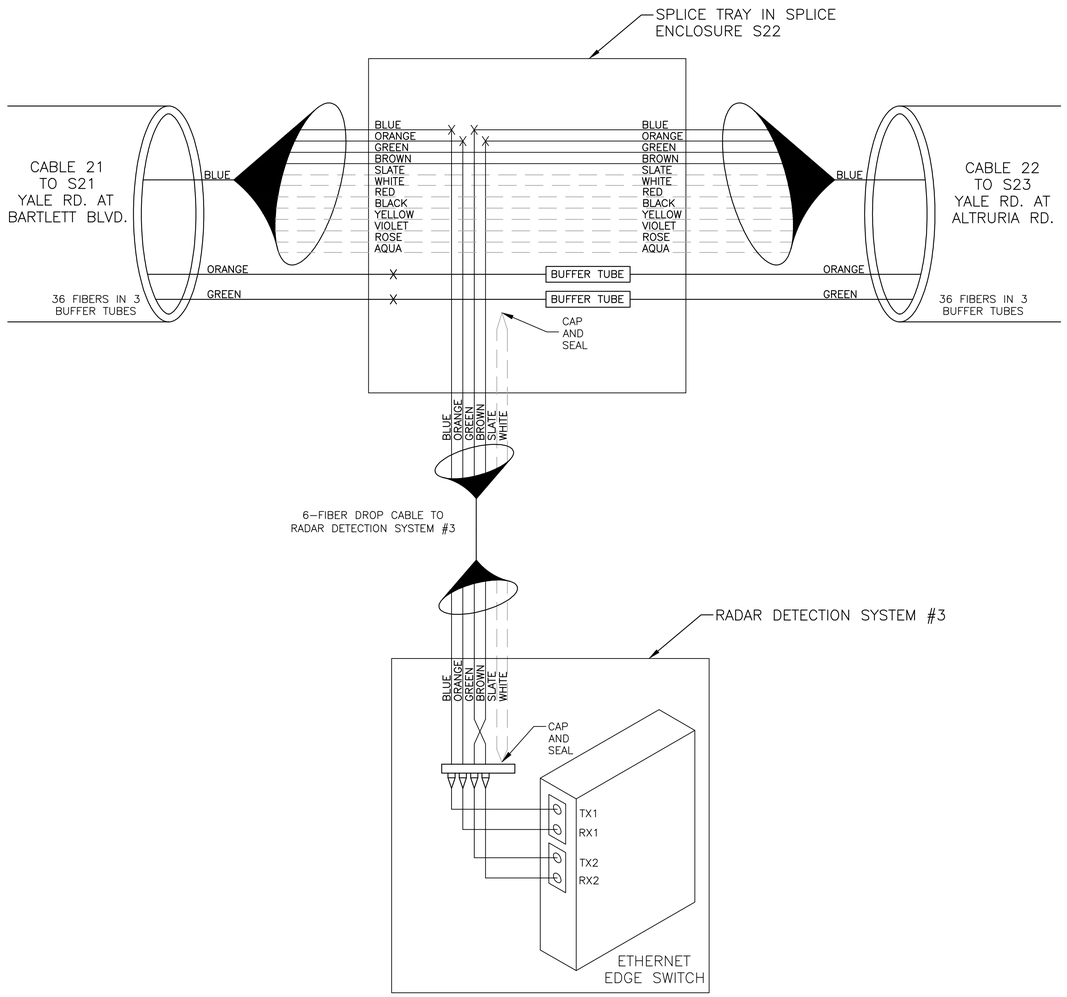
Kimley»Horn

SD-09

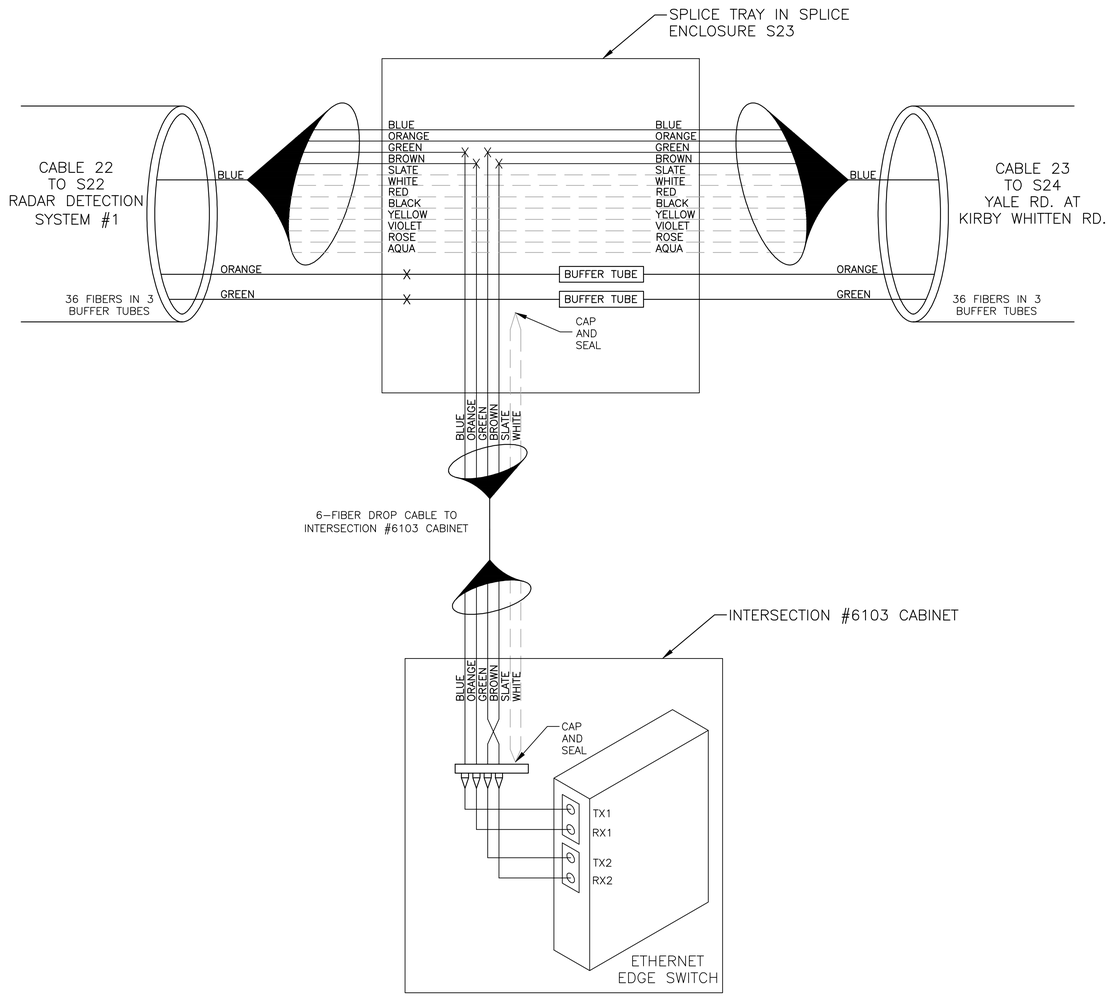
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



SPLICE DIAGRAM FOR
RADAR DETECTION SYSTEM #3



SPLICE DIAGRAM FOR
INTERSECTION #6103
YALE RD. AT
ALTRURIA RD.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A	
(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

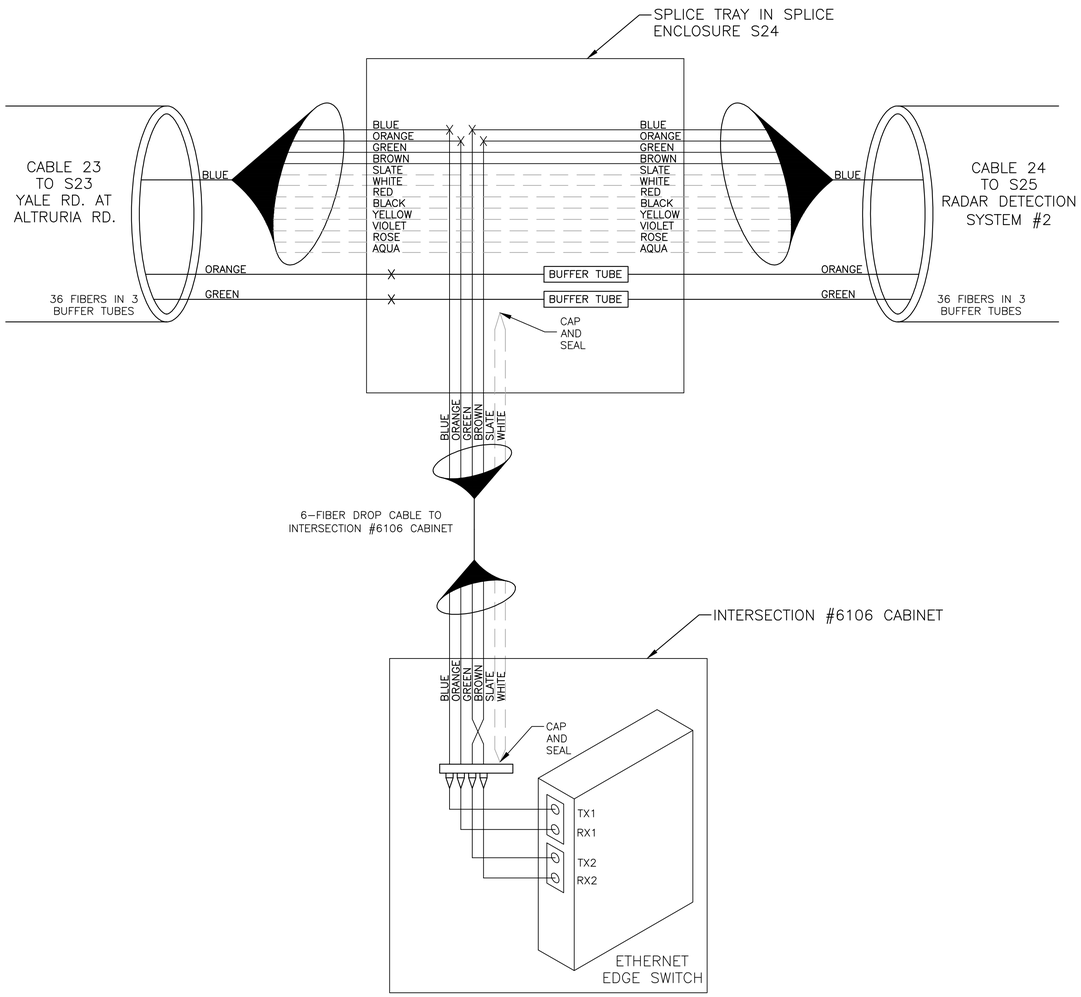
SD-10

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

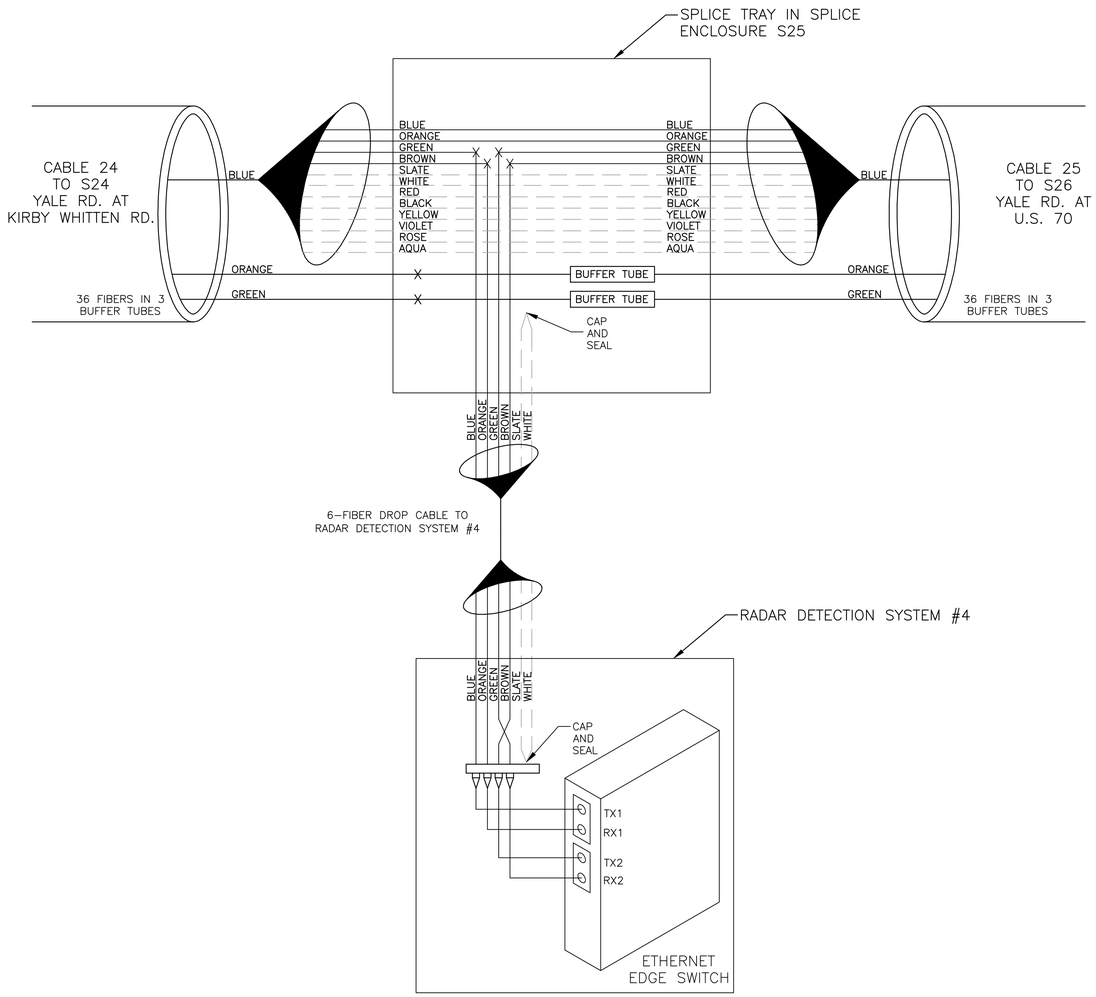
SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:

DRAWING NAME: K:\WEM_TPTO\115087002 – Shelby County CMP 2\Design\Level 4 – Signal System\Bid Set 5\Plans\BidSet 5-50-SD-10.dwg Layout1 Jan 30, 2015 3:29PM BY: blaine.lynch



SPLICE DIAGRAM FOR
INTERSECTION #6106
YALE RD. AT
KIRBY WHITTEN RD.



SPLICE DIAGRAM FOR
RADAR DETECTION SYSTEM #4

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE – SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

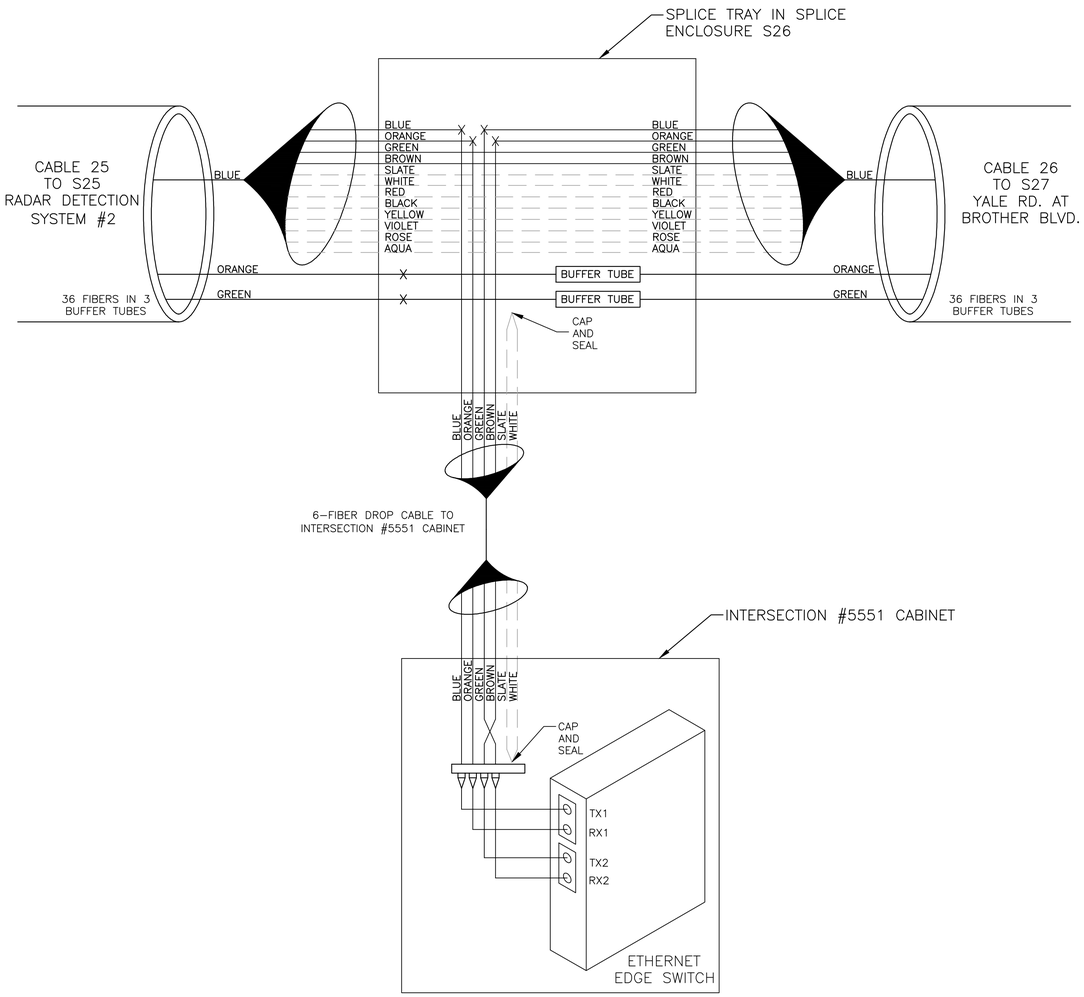
Kimley»Horn

SD-11

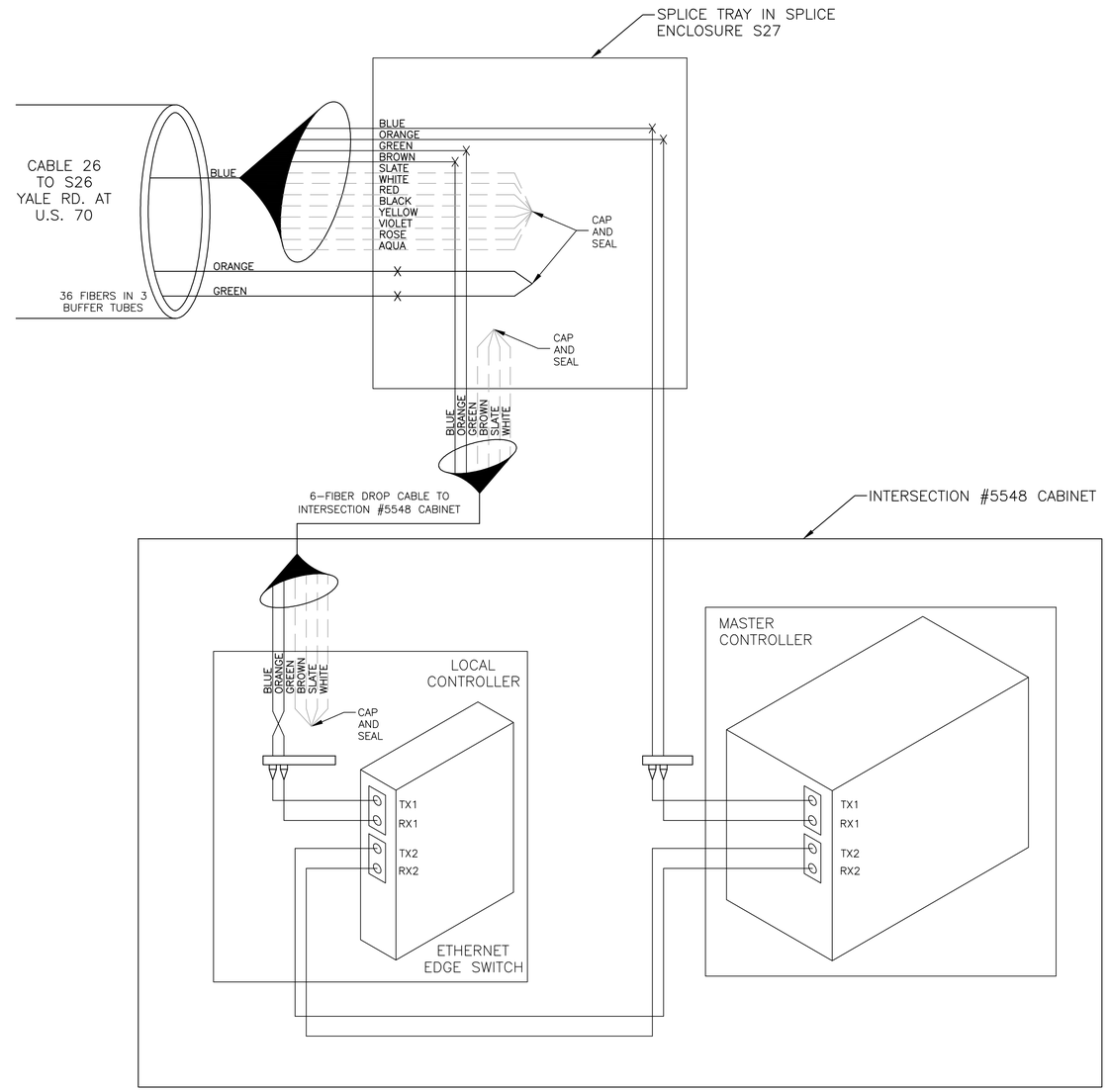
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____ SHEET 51 OF 72



SPLICE DIAGRAM FOR
INTERSECTION #5551
YALE RD. AT
U.S. 70



SPLICE DIAGRAM FOR
INTERSECTION #5548
YALE RD. AT
BROTHER BLVD.

* DENOTES EXISTING CABLES OR SPLICE ENCLOSURES

NOTES:
1. FIBER INTERCONNECT CENTER RACKS ARE SCHEMATIC ONLY ACTUAL EQUIPMENT FORM MAY VARY.

COLOR CODE TIA/EIA 598-A	
(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X – FUSION SPLICE INDIVIDUAL FIBER

BUFFER TUBE — SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

ACTIVE FIBER

INACTIVE FIBER CONNECTION/SPLICE TO BE MADE BY OTHERS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DALLAS A. ARMSTRONG REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 00114211 STATE OF TENNESSEE 1/19/15

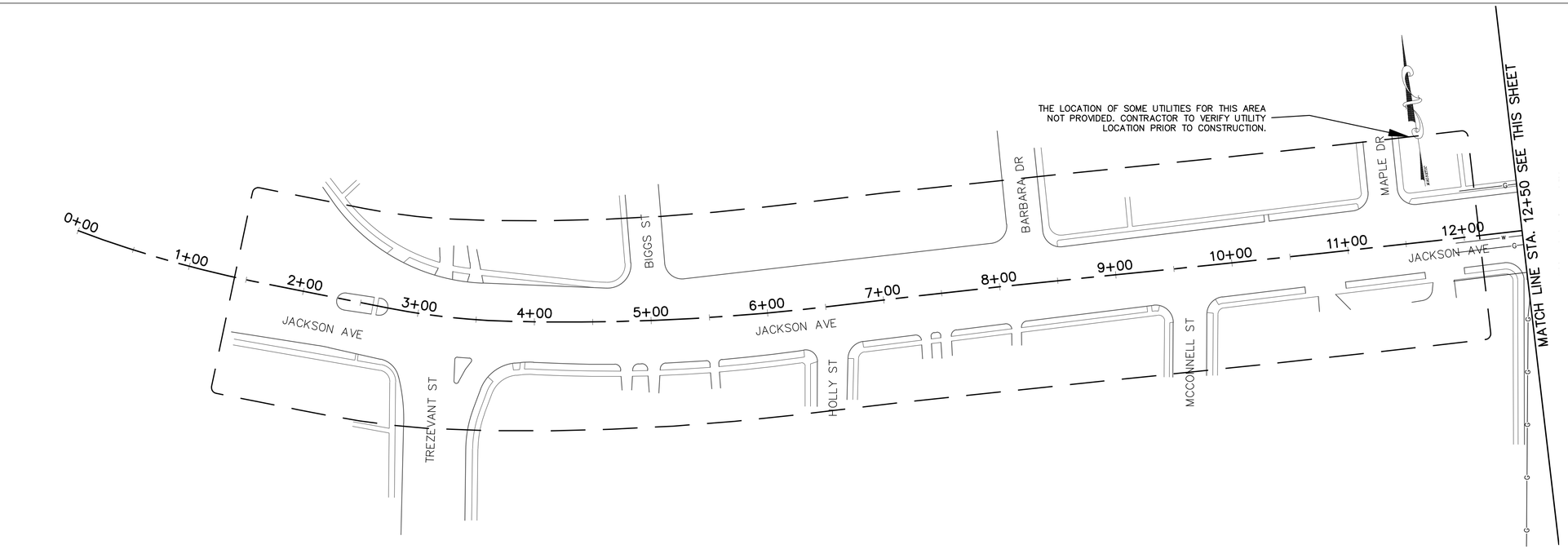
Kimley»Horn

SD-12

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

SPLICE DIAGRAM

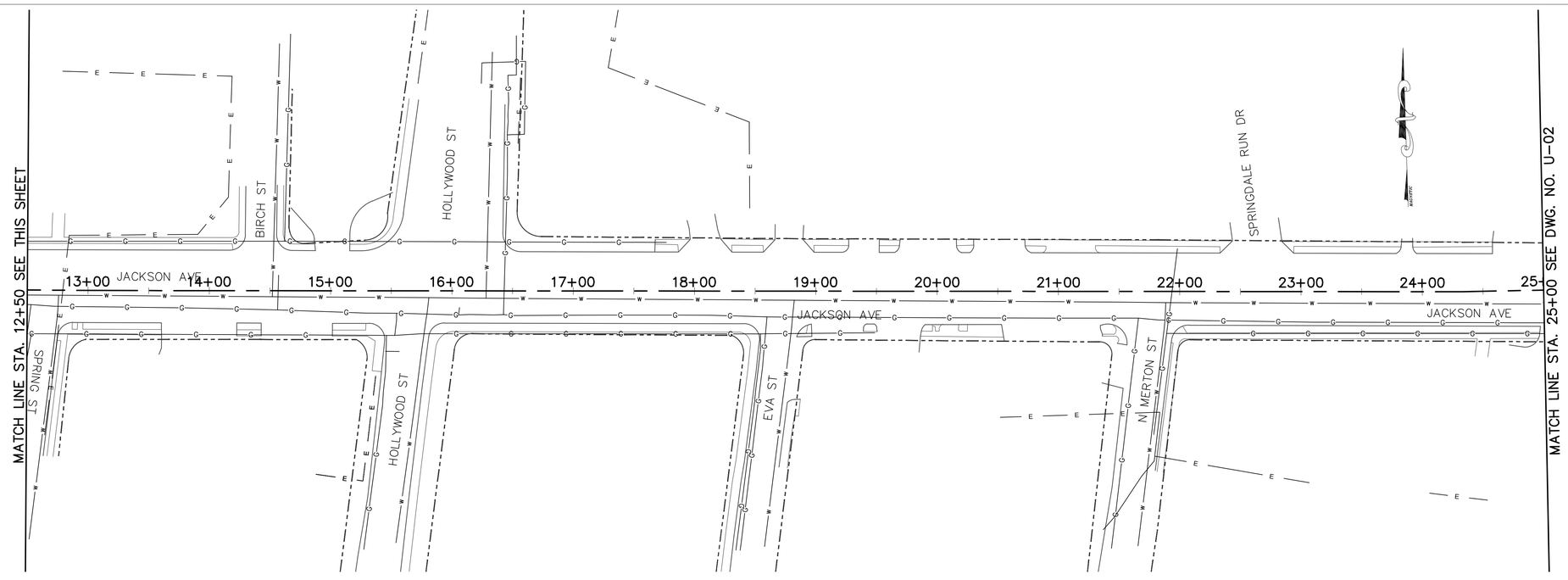
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



LEGEND

—— E —— E ——	EXISTING ELECTRIC LINE
—— W —— W ——	EXISTING WATER LINE
—— G —— G ——	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE CIVIL No. 16074 STATE OF TENNESSEE 01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

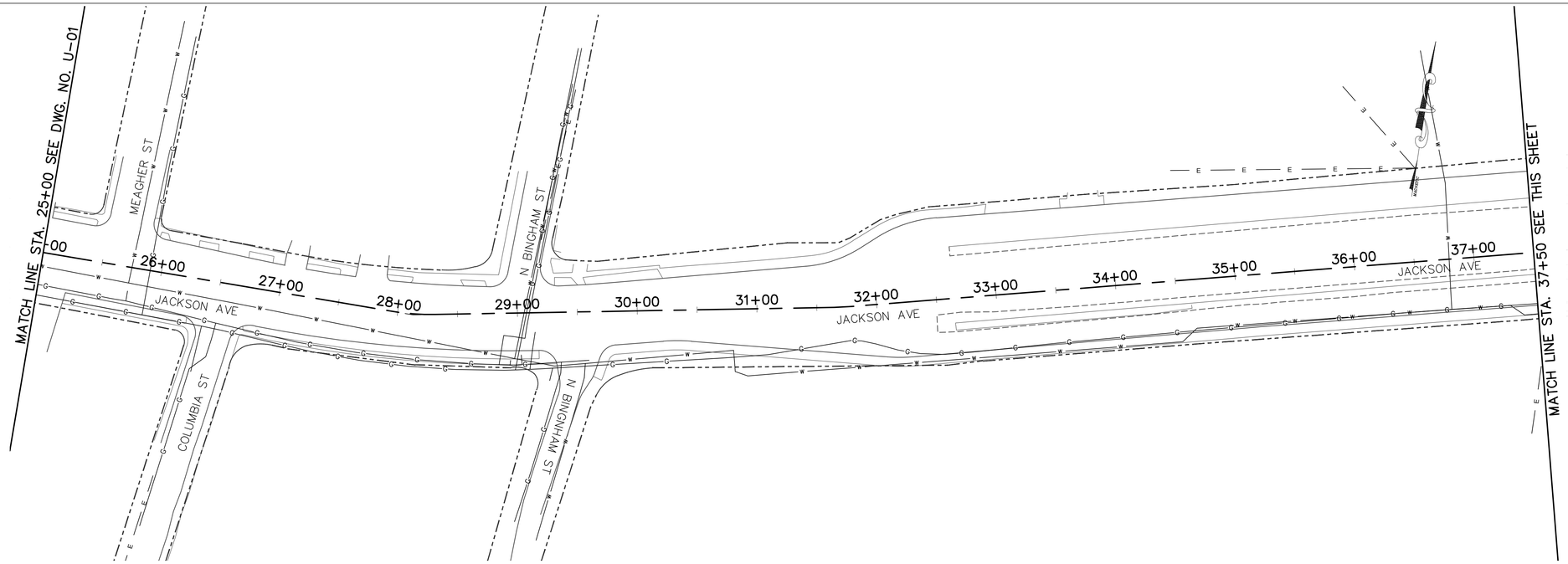
U-01

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 0+00 TO 25+00

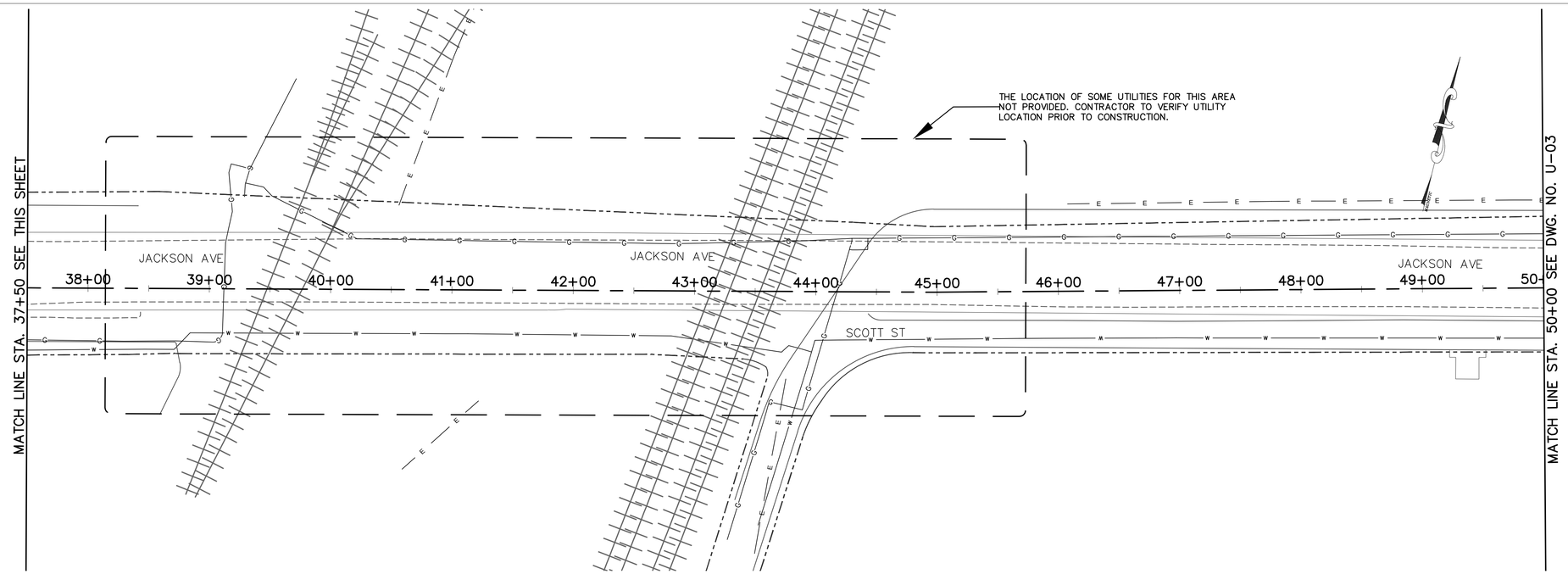
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 53 OF 72



LEGEND

—— E —— E ——	EXISTING ELECTRIC LINE
—— W —— W ——	EXISTING WATER LINE
—— G —— G ——	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL
REGISTERED ENGINEER
AGRICULTURE
No. 16276
STATE OF TENNESSEE
01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

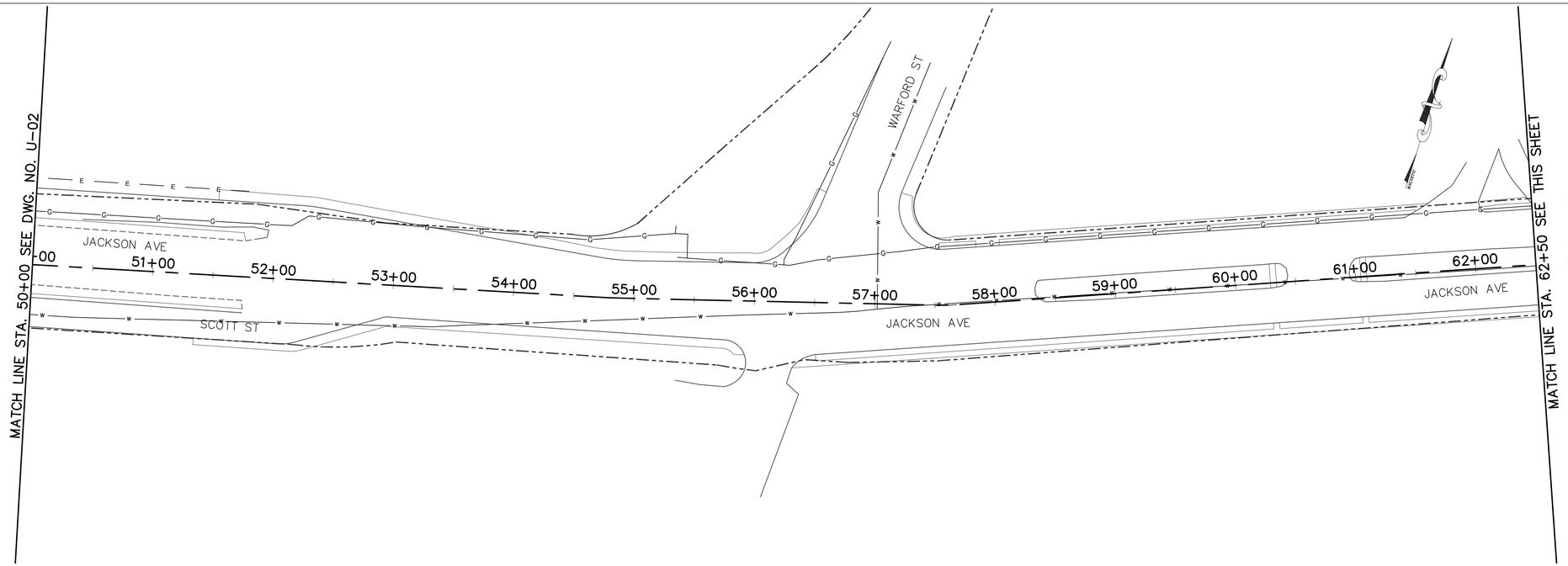
U-02

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 25+00 TO 50+00

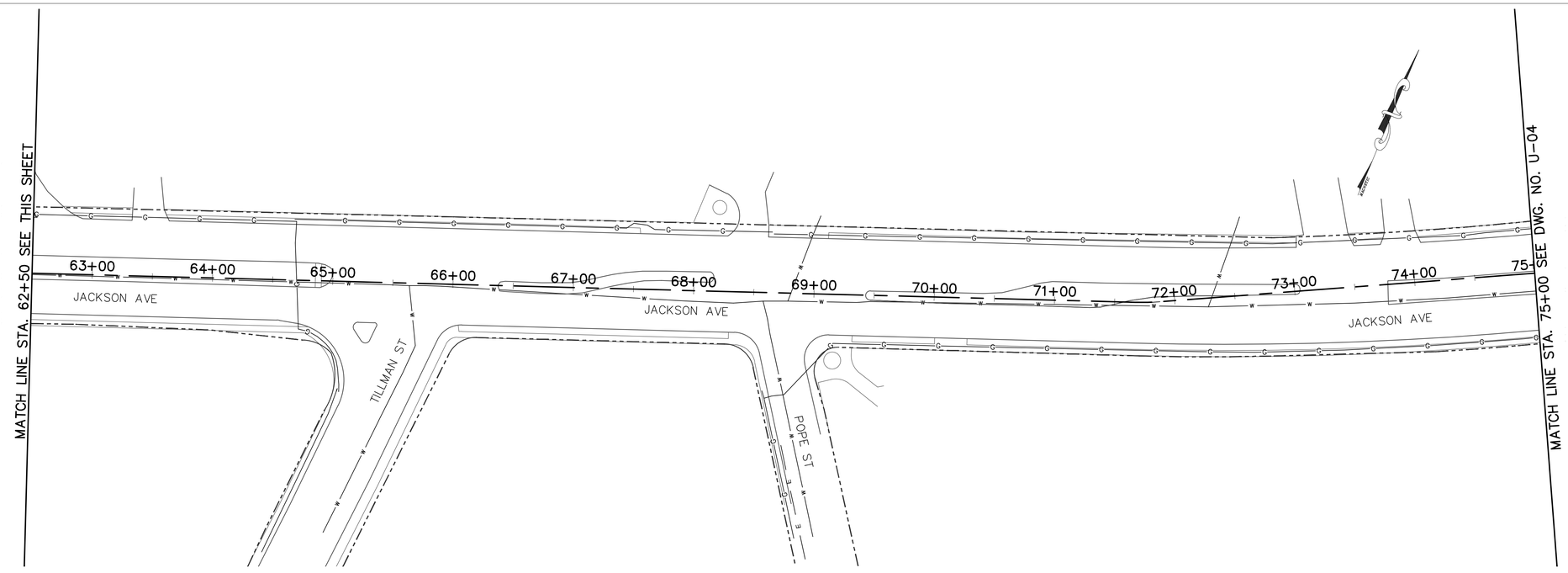
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 54 OF 72



LEGEND

—— E —— E ——	EXISTING ELECTRIC LINE
——W——W——	EXISTING WATER LINE
——G——G——	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE CIVIL 16276 STATE OF TENNESSEE 01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

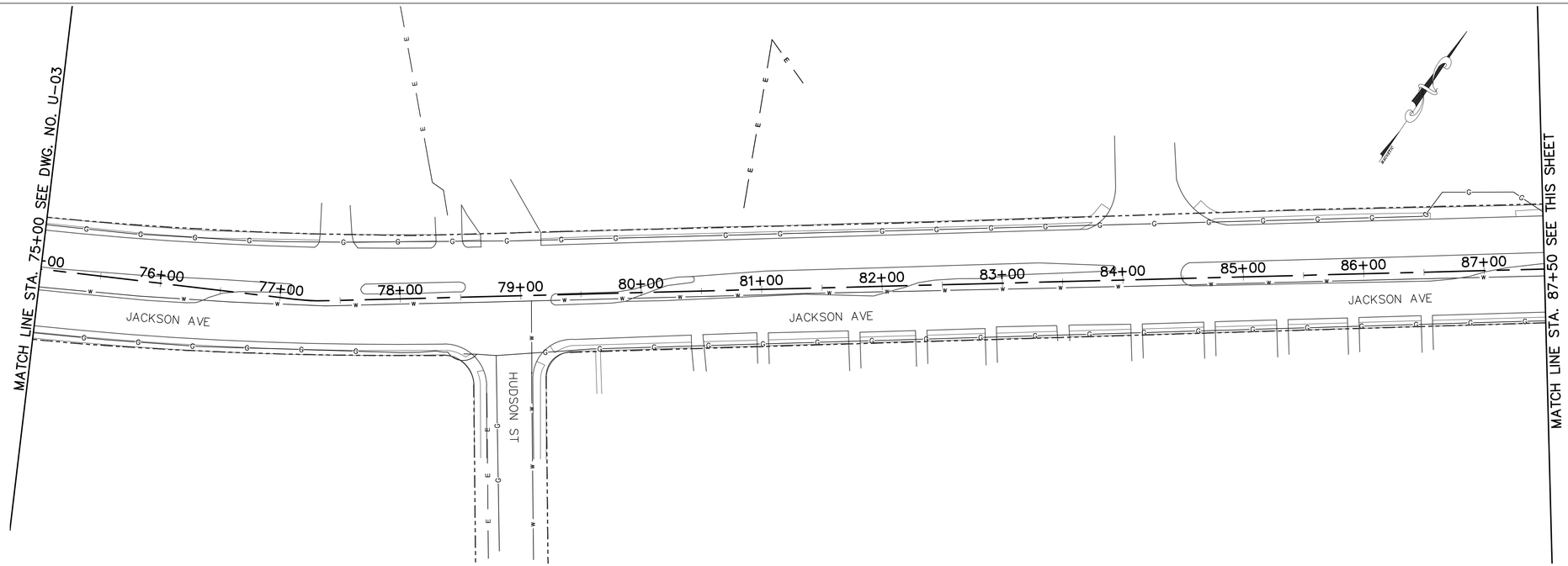
U-03

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 50+00 TO 75+00

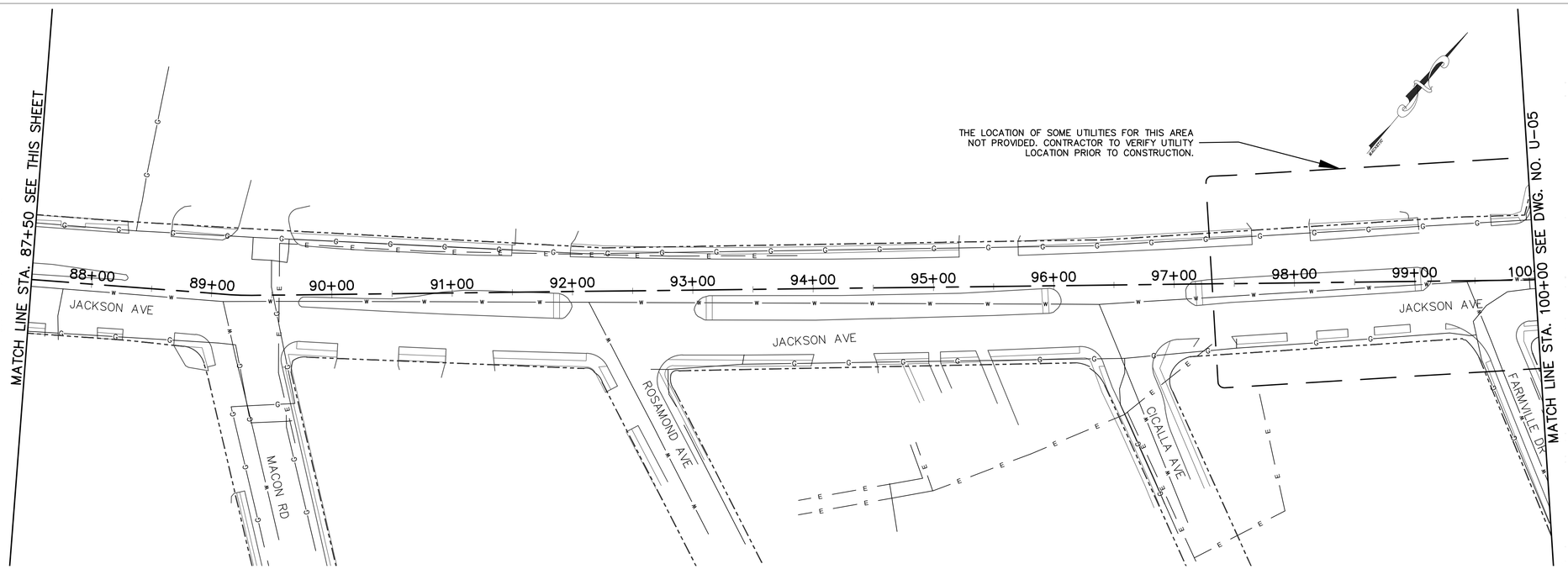
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 55 OF 72



LEGEND

—— E —— E ——	EXISTING ELECTRIC LINE
—— W —— W ——	EXISTING WATER LINE
—— G —— G ——	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE COMMERCE No. 16276 STATE OF TENNESSEE 01/09/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

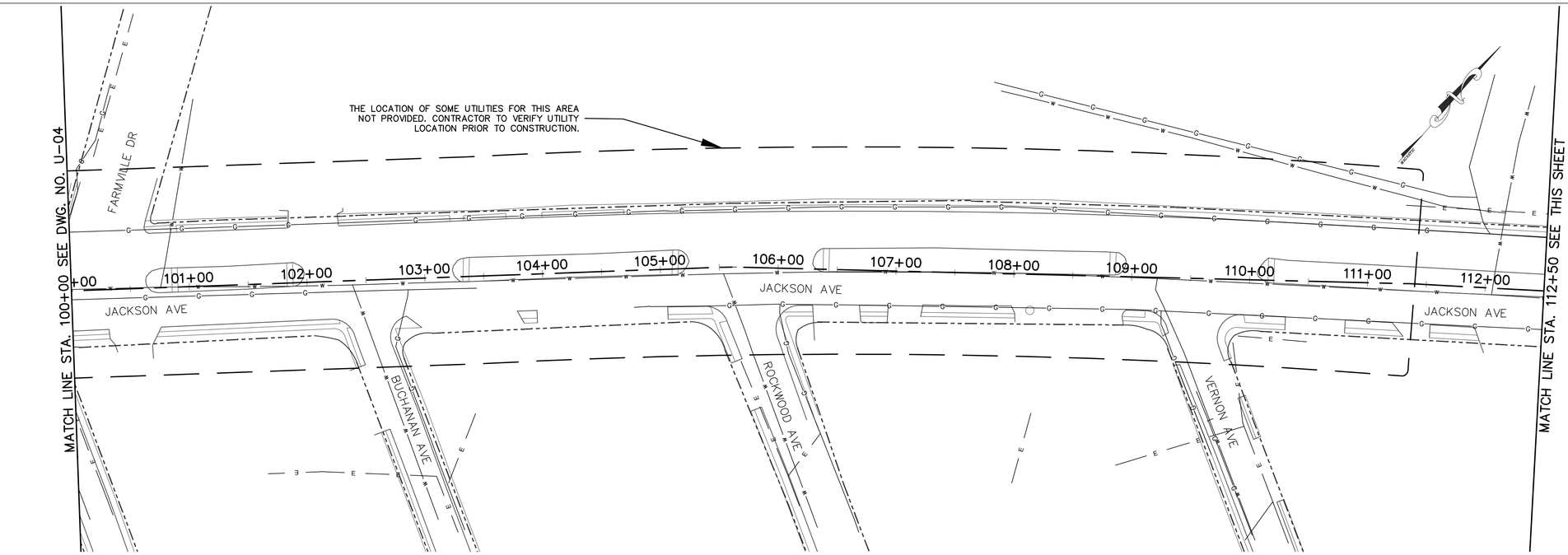
U-04

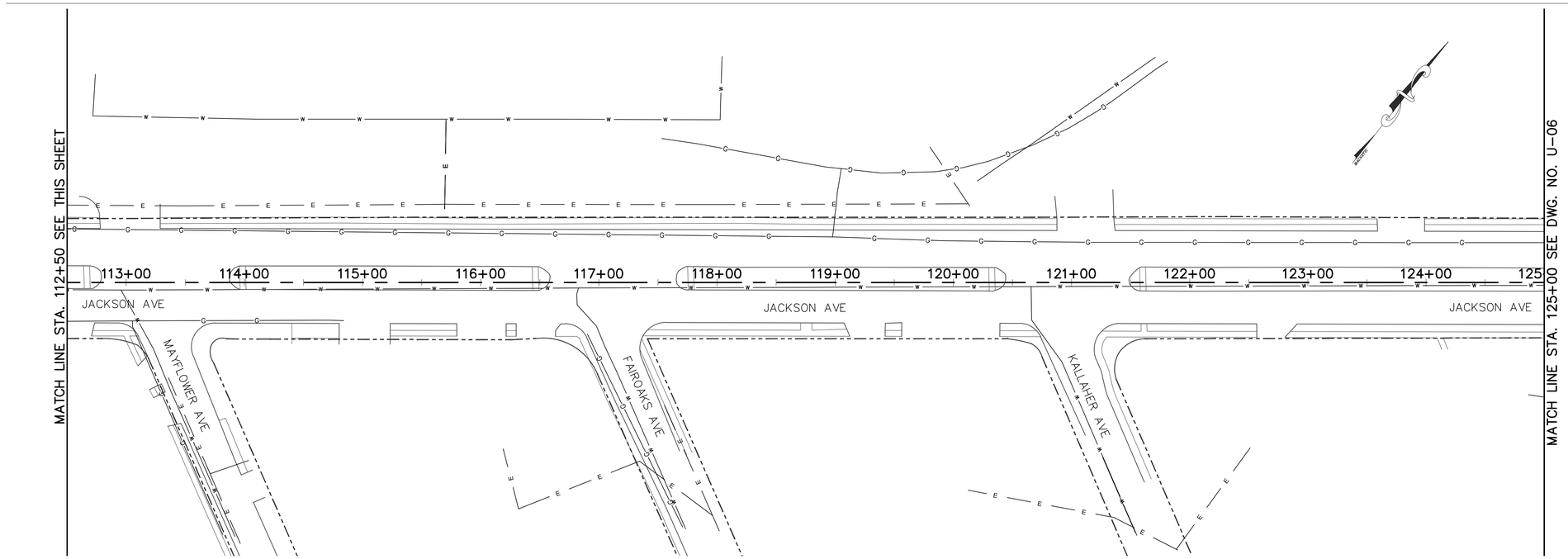
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 75+00 TO 100+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 56 OF 72





LEGEND

E E	EXISTING ELECTRIC LINE
W W	EXISTING WATER LINE
G G	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL
REGISTERED ENGINEER
AGRICULTURE
CIVIL
No. 16276
STATE OF TENNESSEE
01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

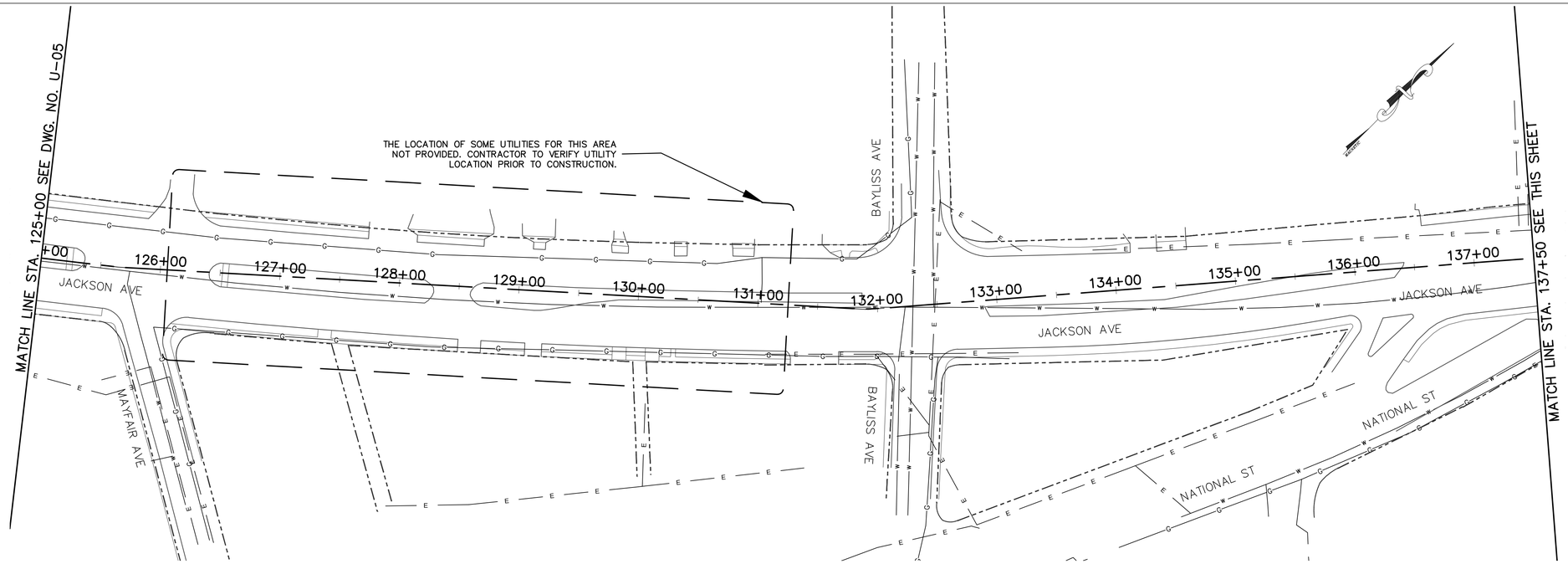
U-05

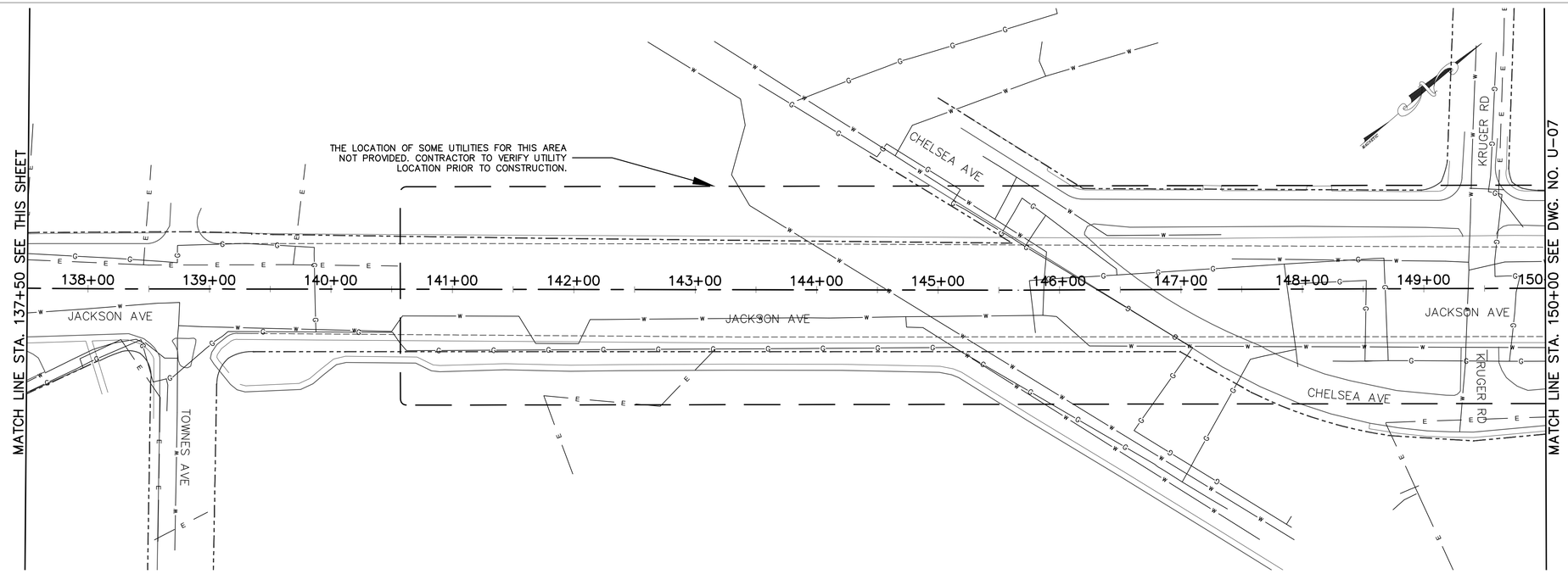
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 100+00 TO 125+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION:





LEGEND

—— E —— E ——	EXISTING ELECTRIC LINE
—— W —— W ——	EXISTING WATER LINE
—— G —— G ——	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE No. 16076 STATE OF TENNESSEE 01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

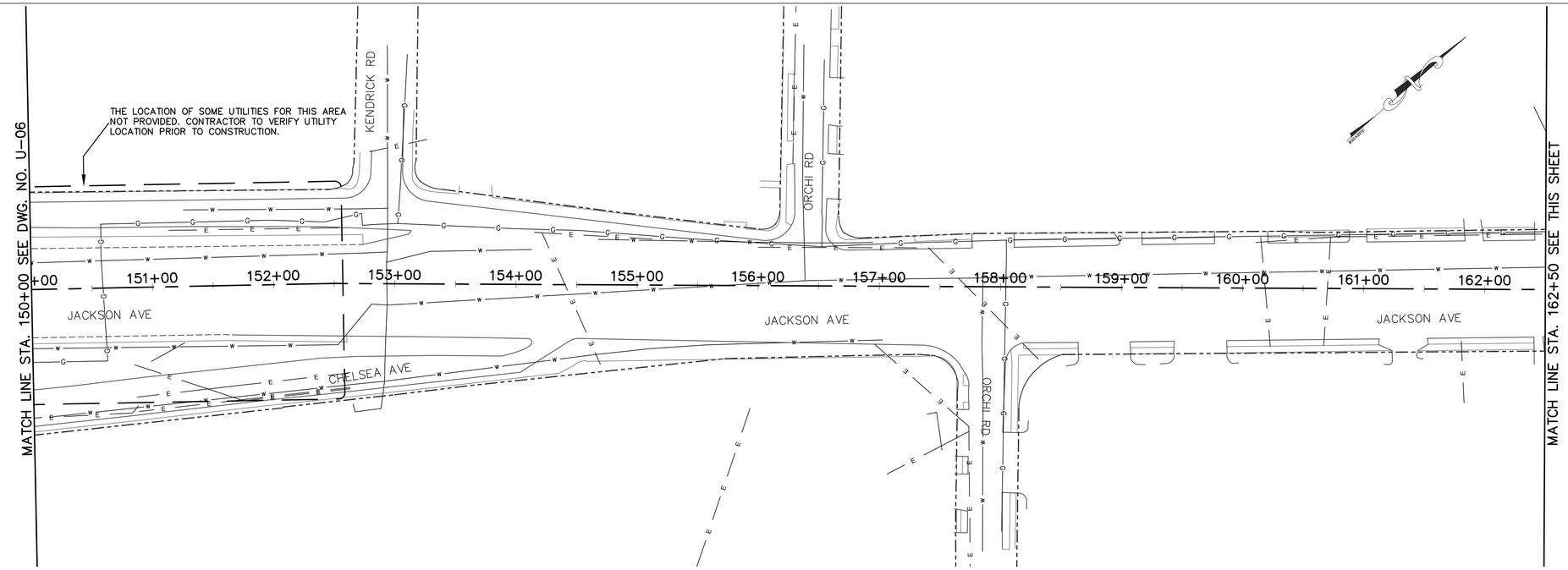
U-06

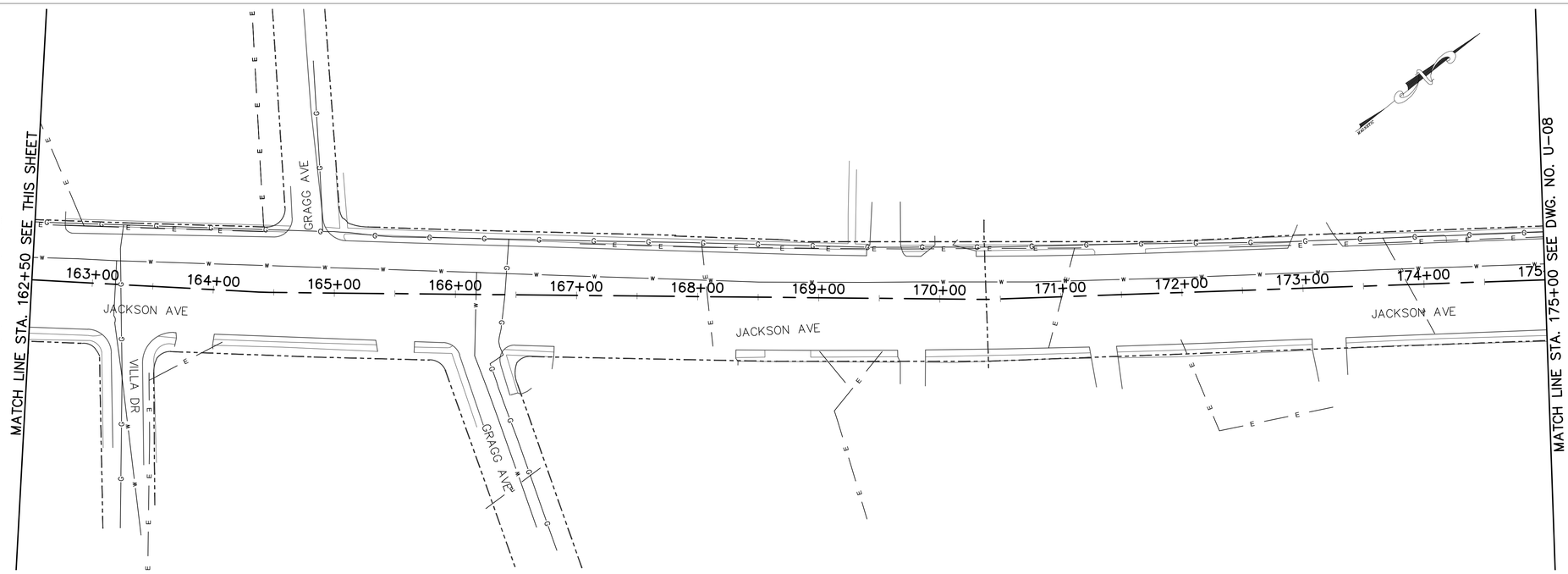
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 125+00 TO 150+00

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 58 OF 72





LEGEND

—— E —— E ——	EXISTING ELECTRIC LINE
——W——W——	EXISTING WATER LINE
——G——G——	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER NO. 16276 STATE OF TENNESSEE 01/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

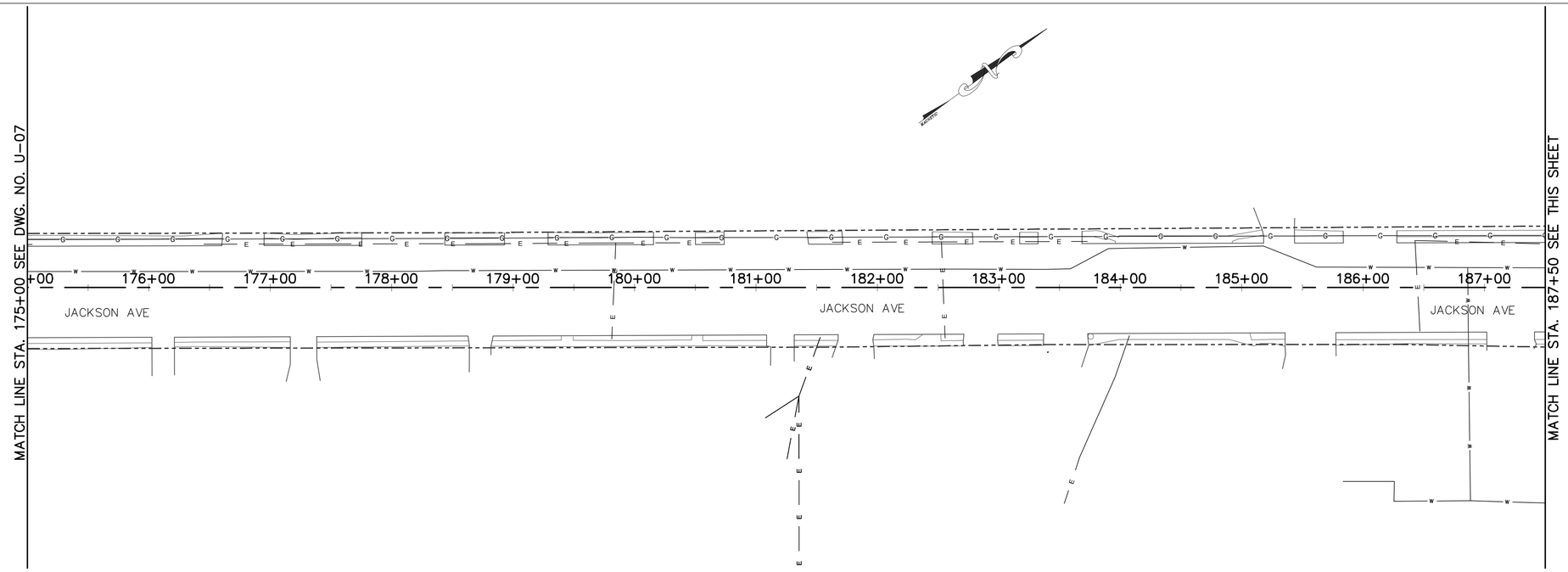
U-07

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 150+00 TO 175+00

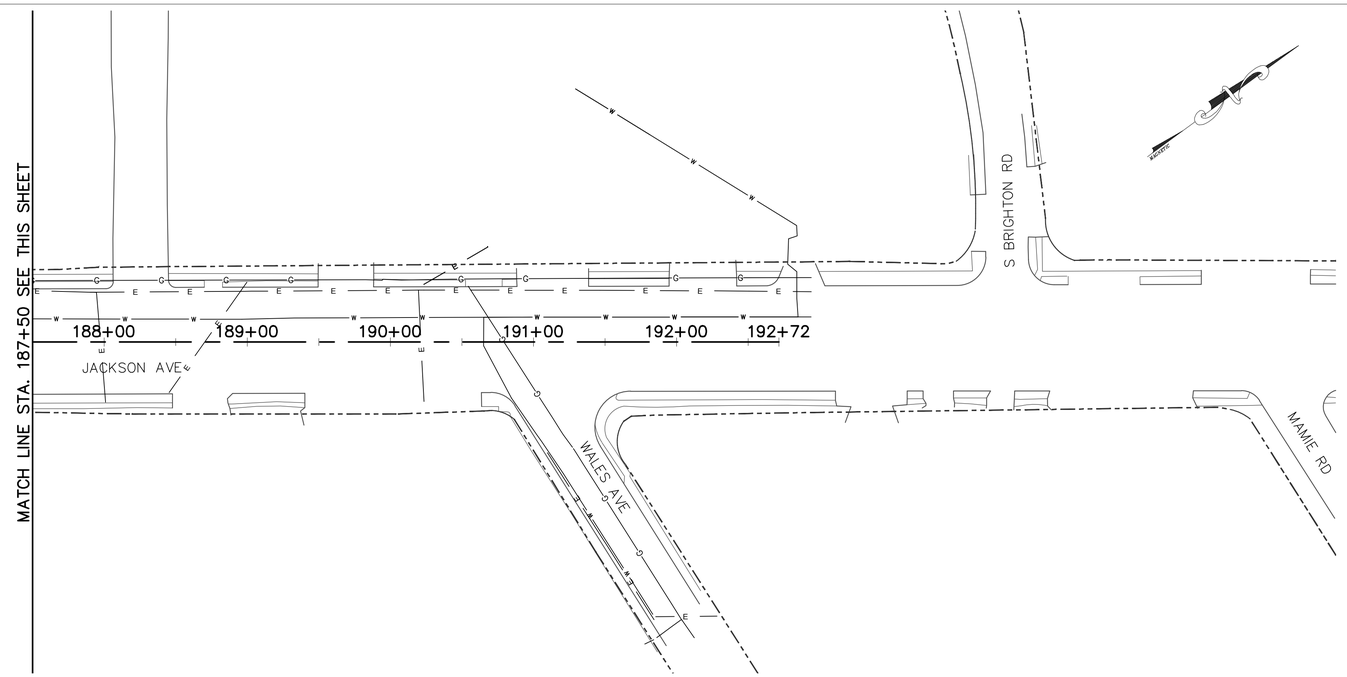
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____



LEGEND

—— E —— E ——	EXISTING ELECTRIC LINE
—— W —— W ——	EXISTING WATER LINE
—— G —— G ——	EXISTING GAS LINE

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE COMMERCE No. 16276 STATE OF TENNESSEE

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

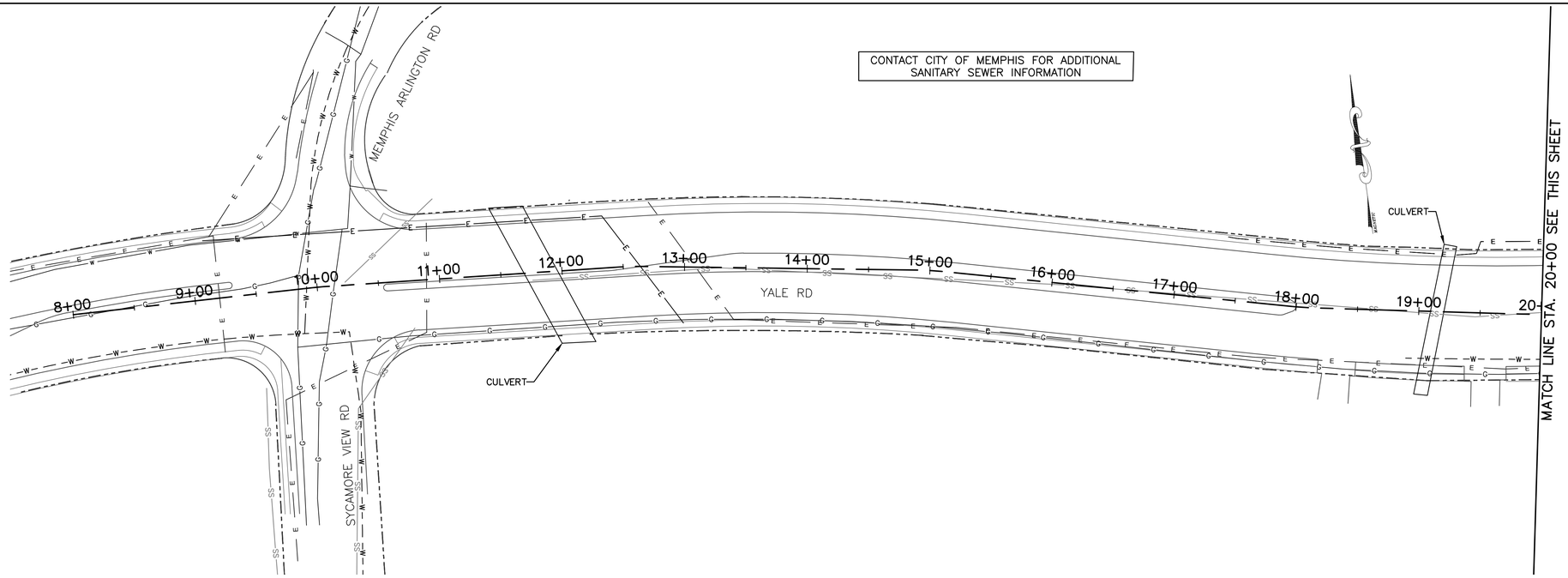
U-08

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

JACKSON AVENUE

EXISTING UTILITIES
FROM 175+00 TO 192+72

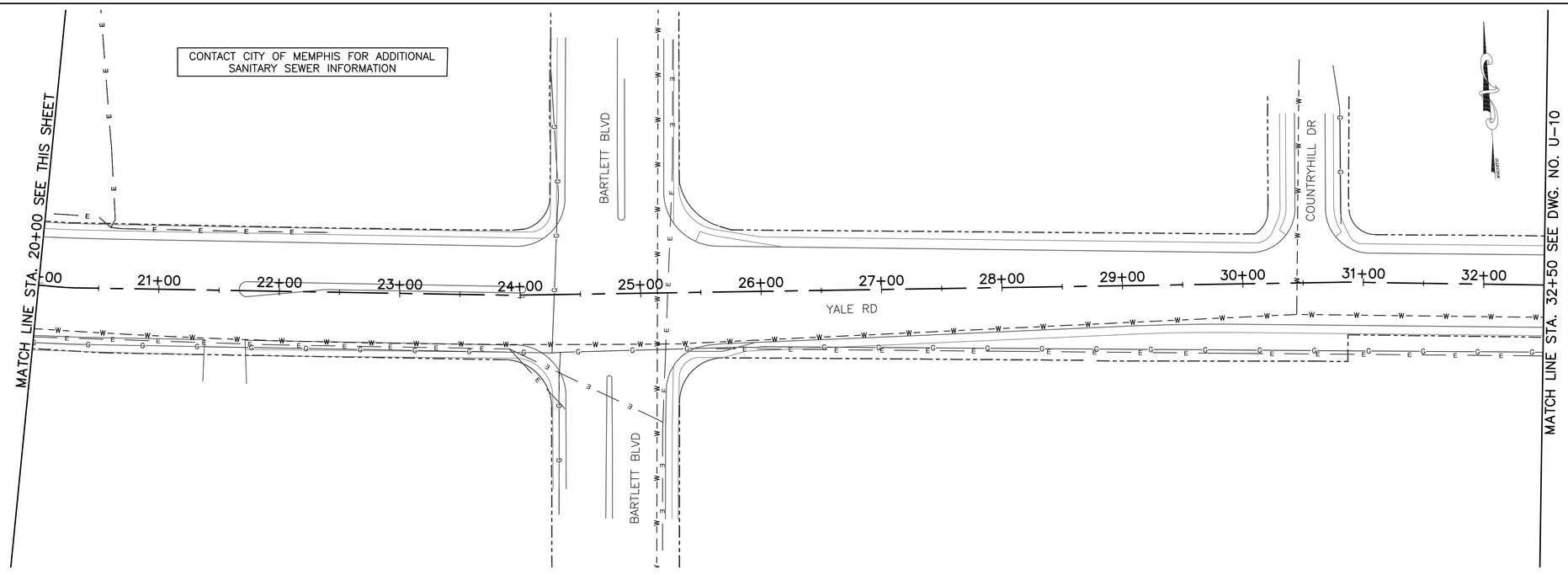
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 60 OF 72



LEGEND

E E	EXISTING ELECTRIC LINE
W W	EXISTING WATER LINE
G G	EXISTING GAS LINE
W W	BARTLETT WATER LINE
SS SS	SEWER

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE COMMERCE No. 16276 STATE OF TENNESSEE 1/14/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

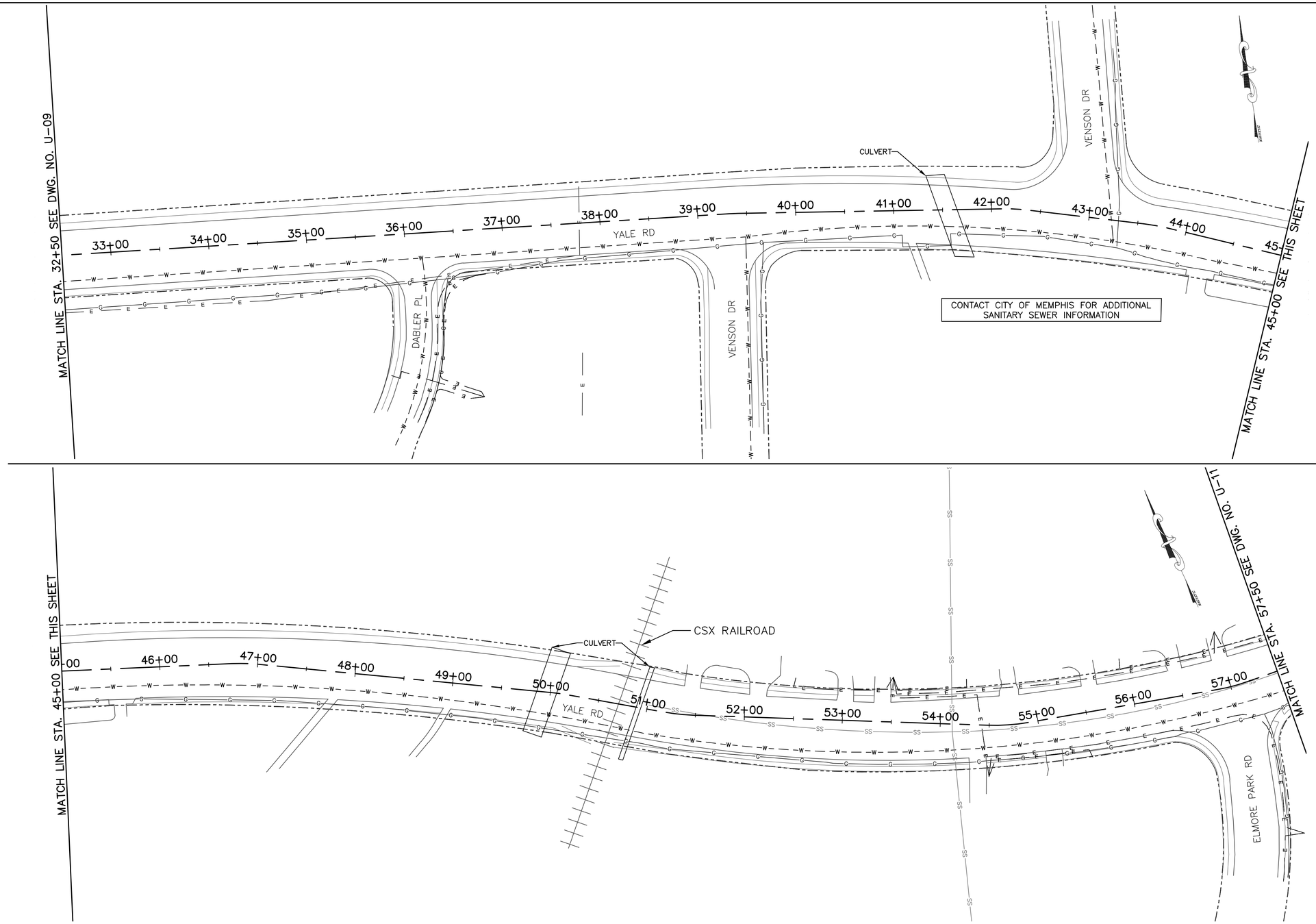
U-09

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

EXISTING UTILITIES
FROM 8+00 TO 32+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 61 OF 72



LEGEND

E	EXISTING ELECTRIC LINE
W	EXISTING WATER LINE
G	EXISTING GAS LINE
W	BARTLETT WATER LINE
SS	SEWER

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE No. 16276 STATE OF TENNESSEE 1/29/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

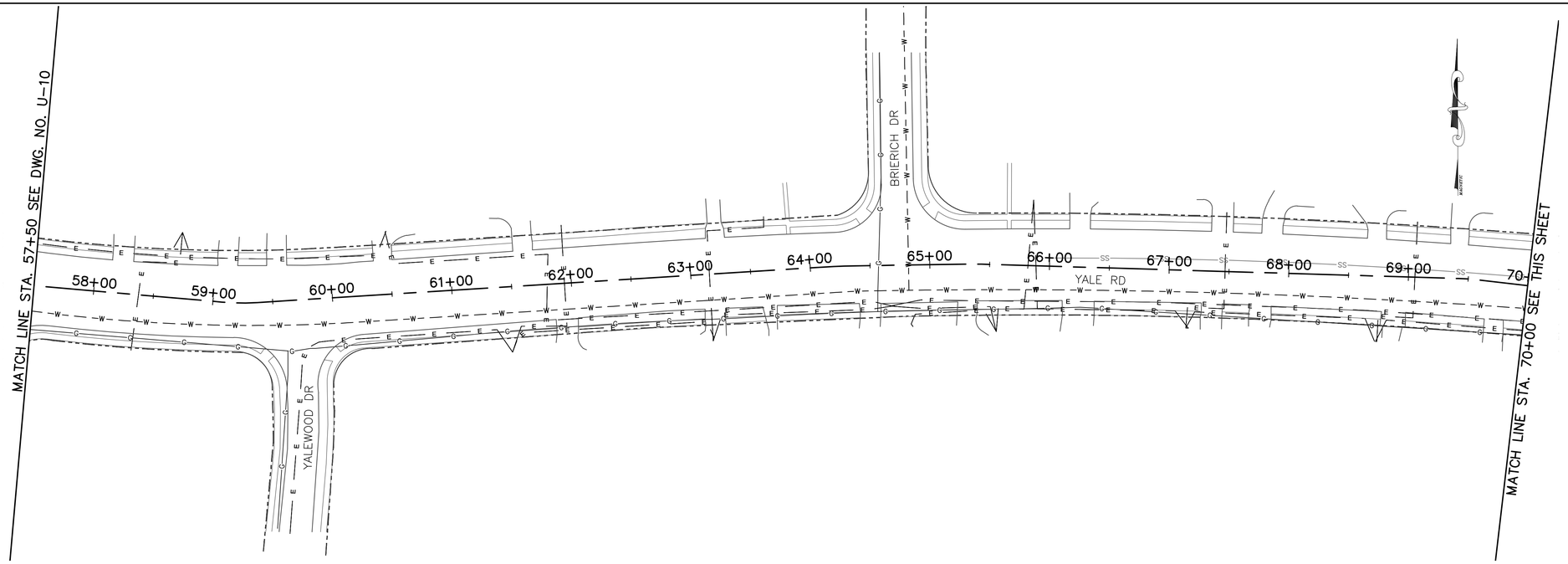
U-10

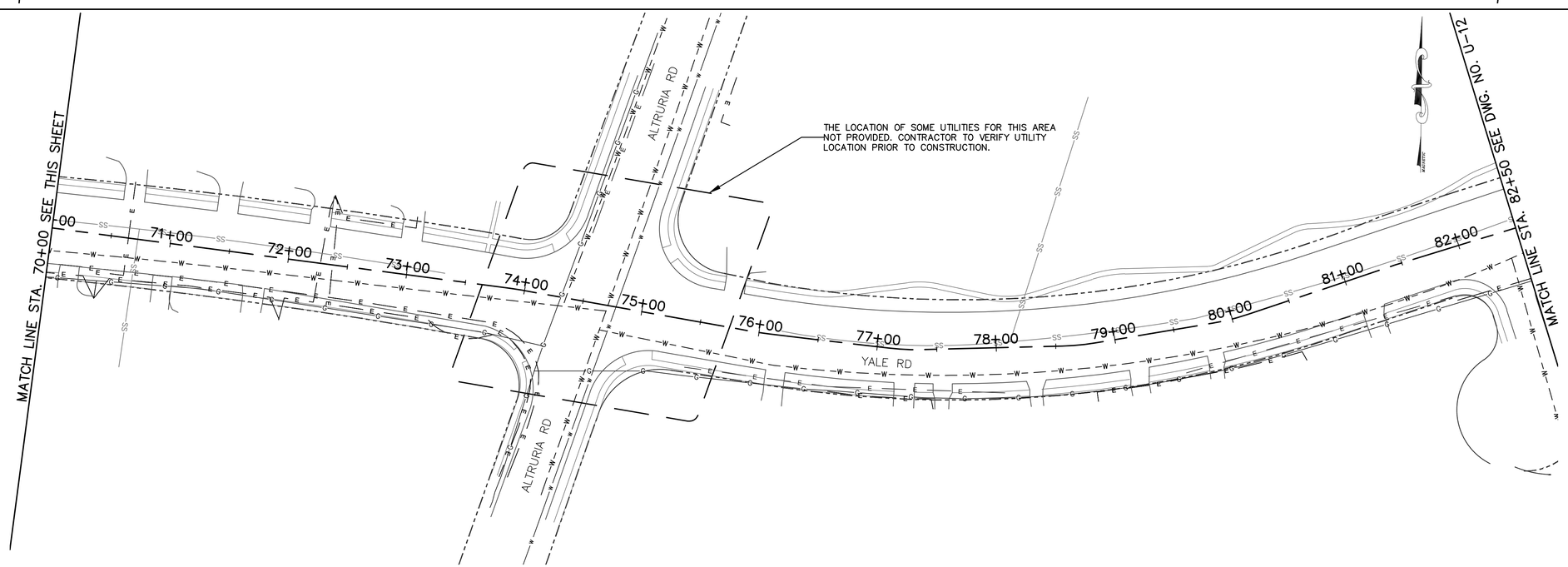
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

EXISTING UTILITIES
FROM 32+50 TO 57+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 62 OF 72





LEGEND

E E	EXISTING ELECTRIC LINE
W W	EXISTING WATER LINE
G G	EXISTING GAS LINE
W W	BARTLETT WATER LINE
SS SS	SEWER

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE CIVIL 18276 STATE OF TENNESSEE 01/29/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

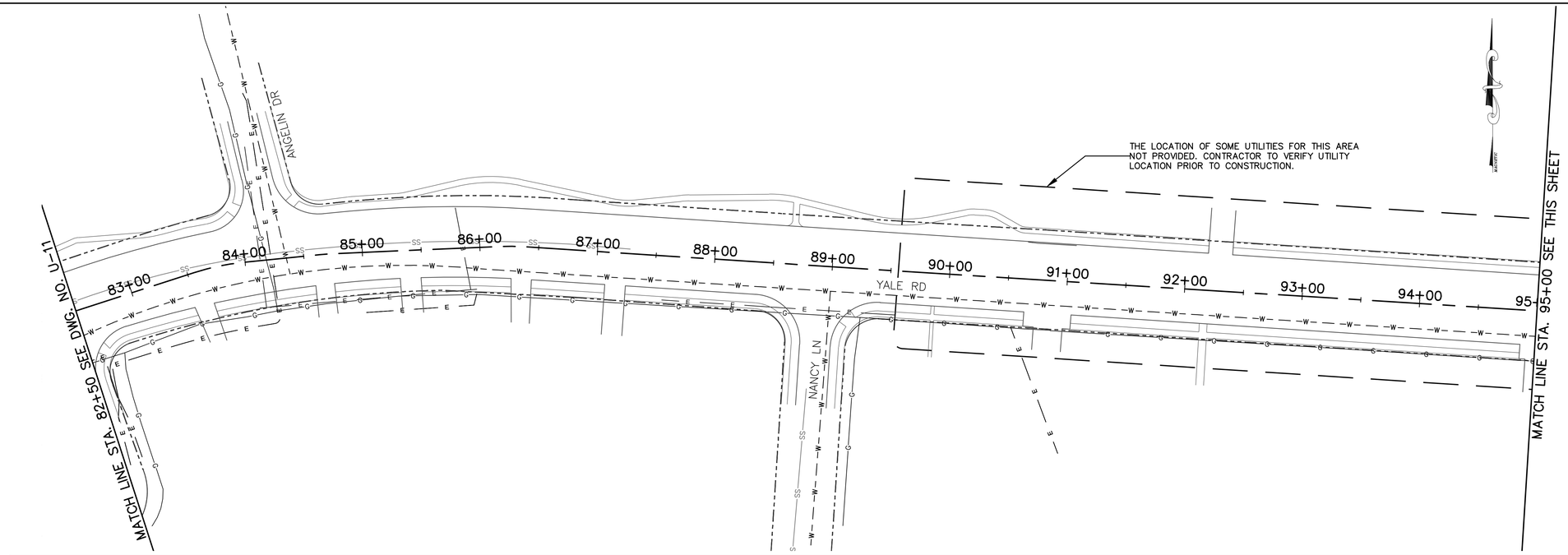
U-11

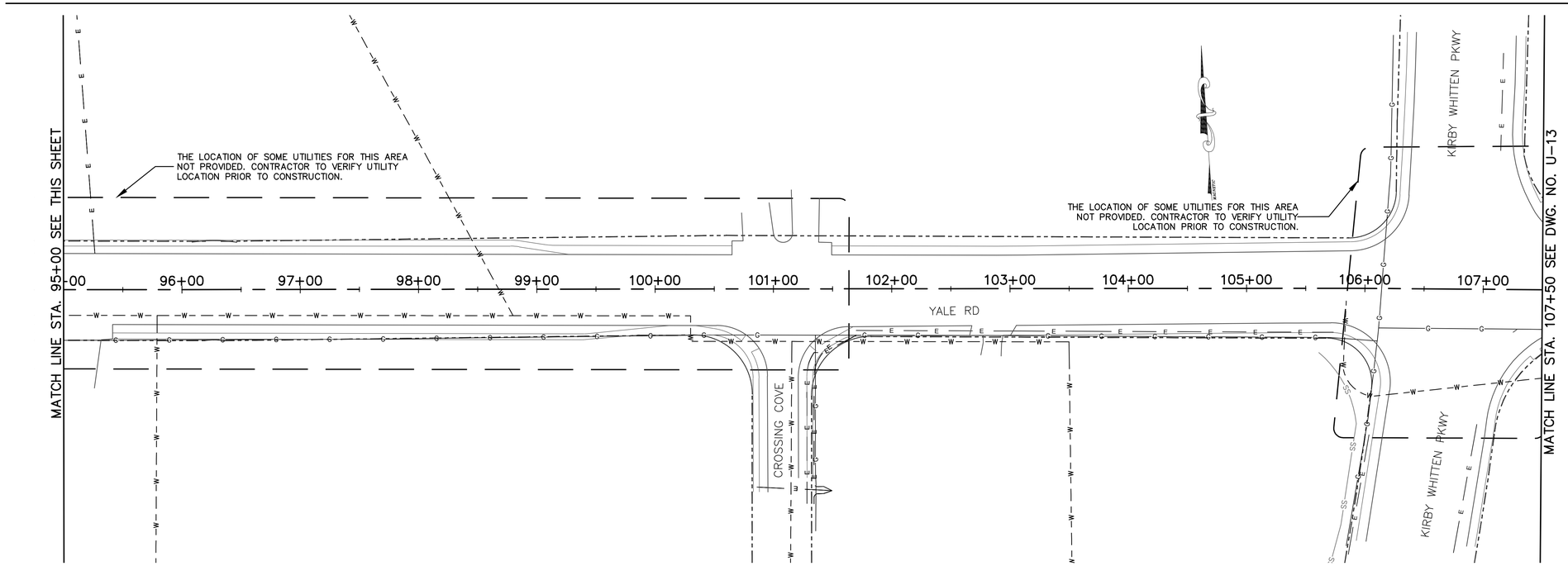
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

EXISTING UTILITIES
FROM 57+50 TO 82+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 63 OF 72





LEGEND

E E	EXISTING ELECTRIC LINE
W W	EXISTING WATER LINE
G G	EXISTING GAS LINE
W W	BARTLETT WATER LINE
SS SS	SEWER

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE CIVIL STRUCTURAL ELECTRICAL REG. 16276 STATE OF TENNESSEE 01/09/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

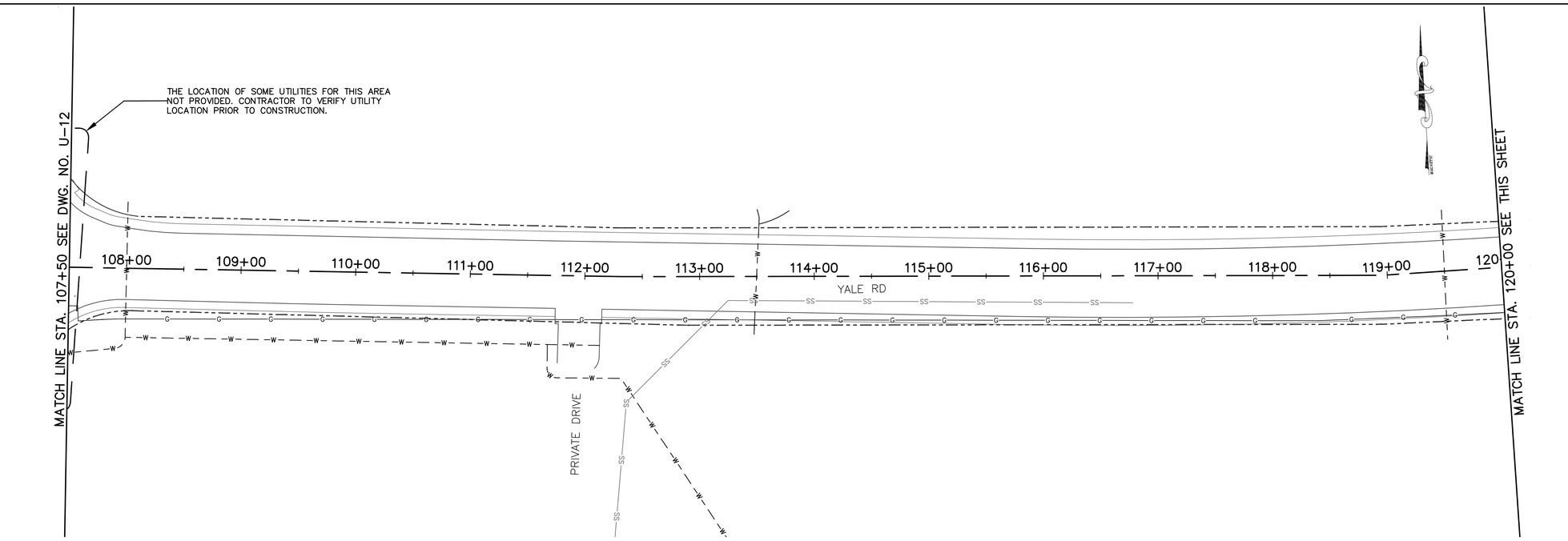
U-12

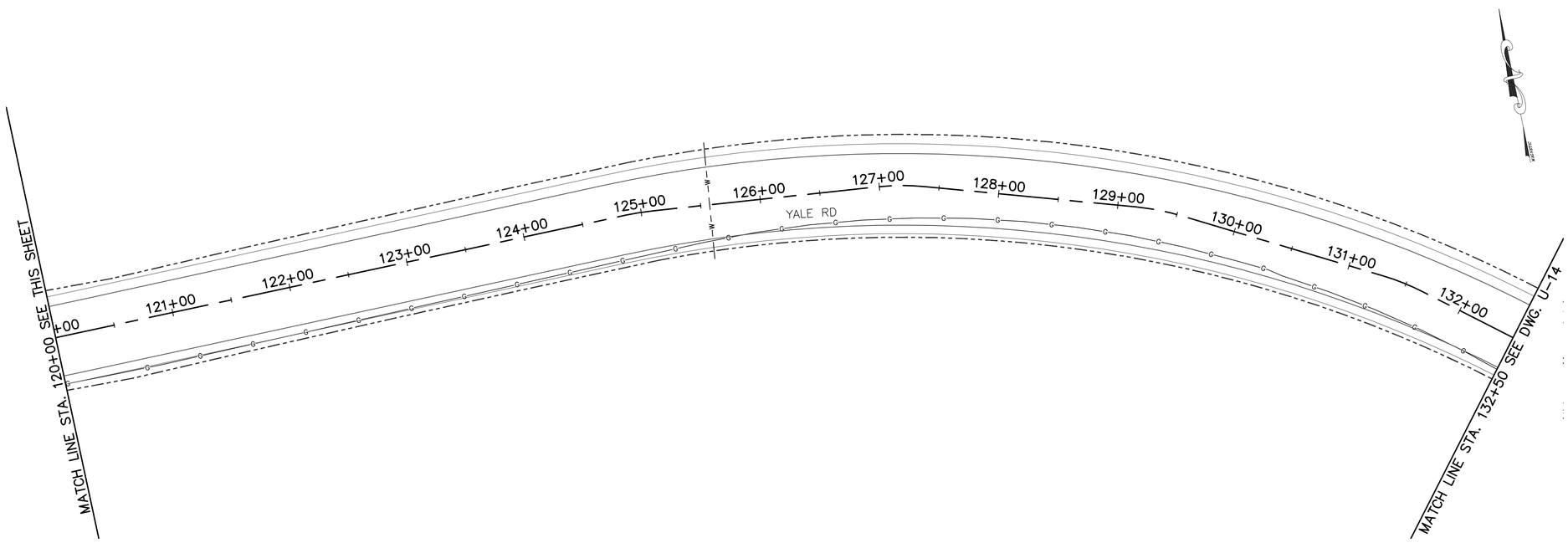
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

EXISTING UTILITIES
FROM 82+50 TO 107+50

SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 64 OF 72





LEGEND

E E	EXISTING ELECTRIC LINE
W W	EXISTING WATER LINE
G G	EXISTING GAS LINE
W W	BARTLETT WATER LINE
SS SS	SEWER

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE No. 16074 STATE OF TENNESSEE 1-29-15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

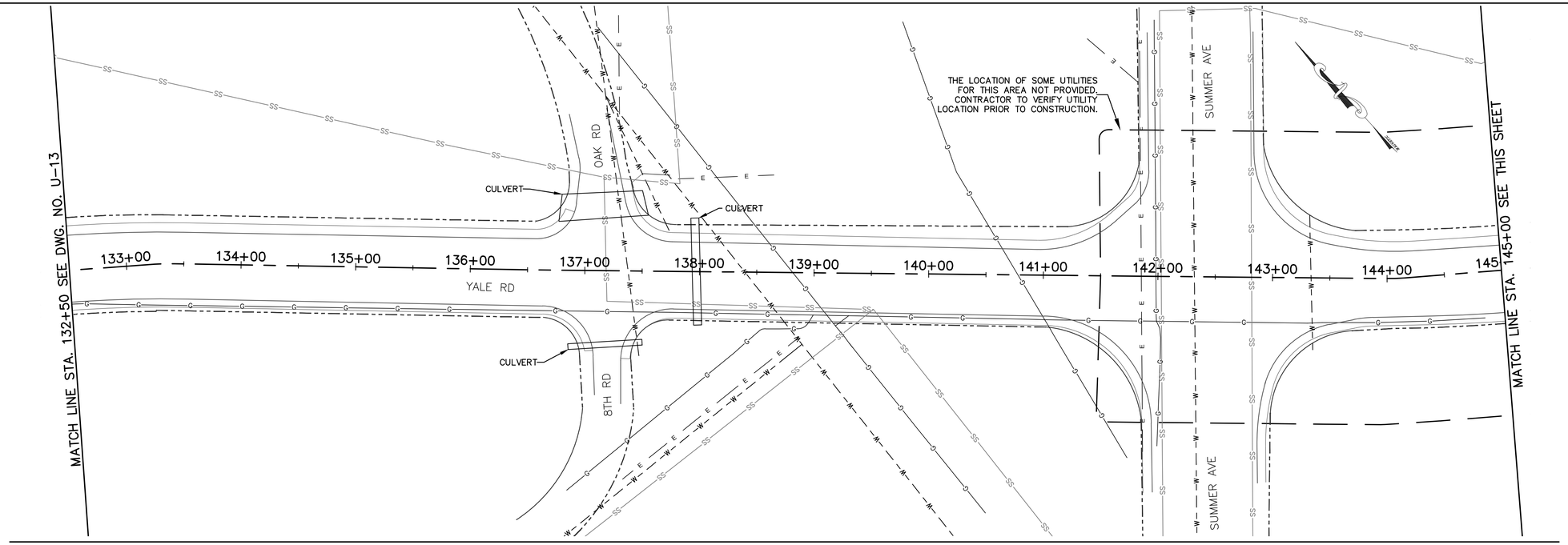
U-13

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

EXISTING UTILITIES
FROM 107+50 TO 132+50

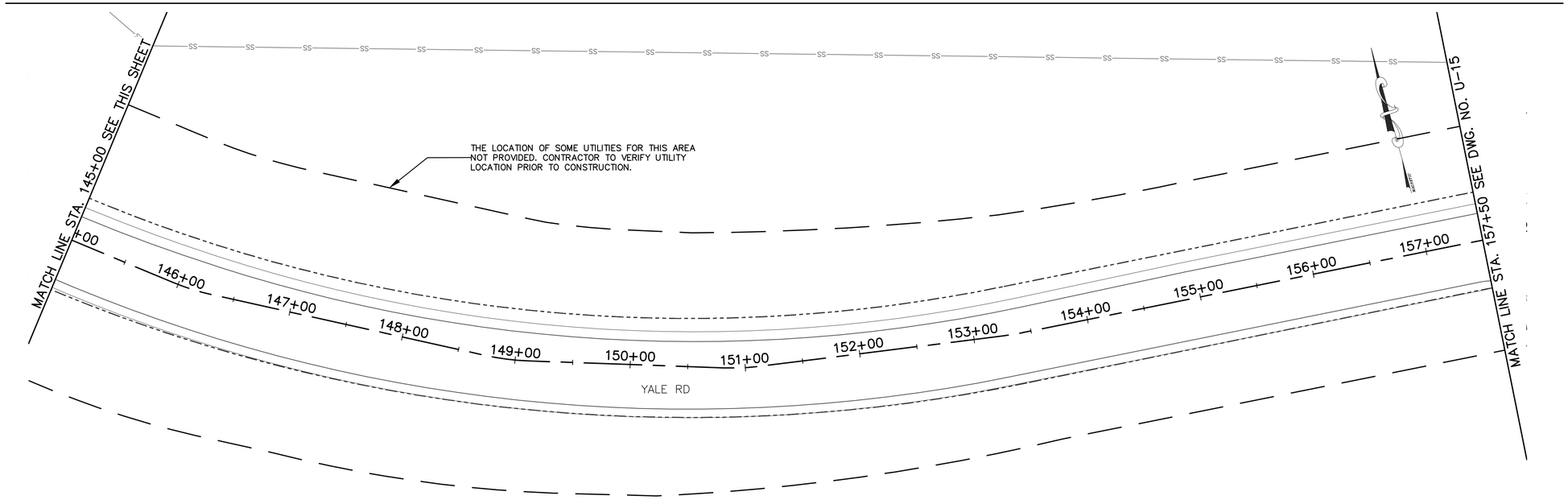
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 65 OF 72



LEGEND

E E	EXISTING ELECTRIC LINE
W W	EXISTING WATER LINE
G G	EXISTING GAS LINE
W W	BARTLETT WATER LINE
SS SS	SEWER

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

STEVEN HILL REGISTERED ENGINEER AGRICULTURE COMMERCE No. 16276 STATE OF TENNESSEE 27 APR 15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

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DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

EXISTING UTILITIES
FROM 132+50 TO 157+50

SURVEY: N/A DATE: N/A BOOK: N/A
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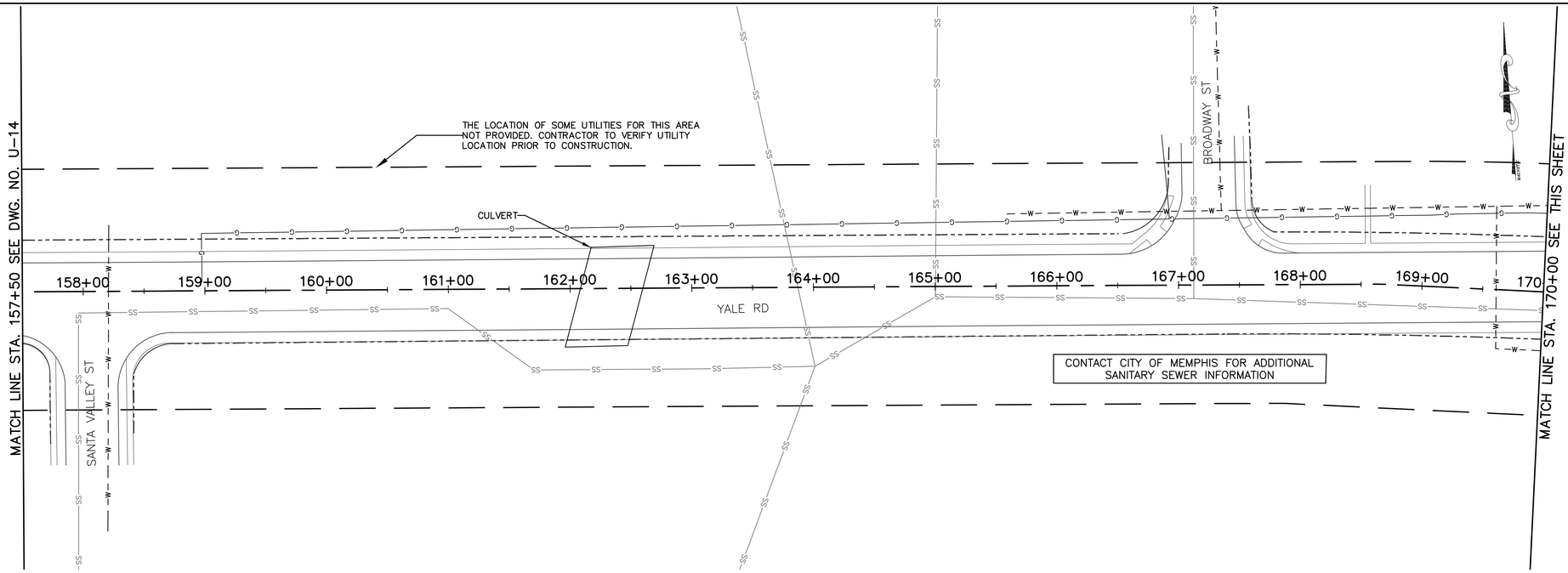
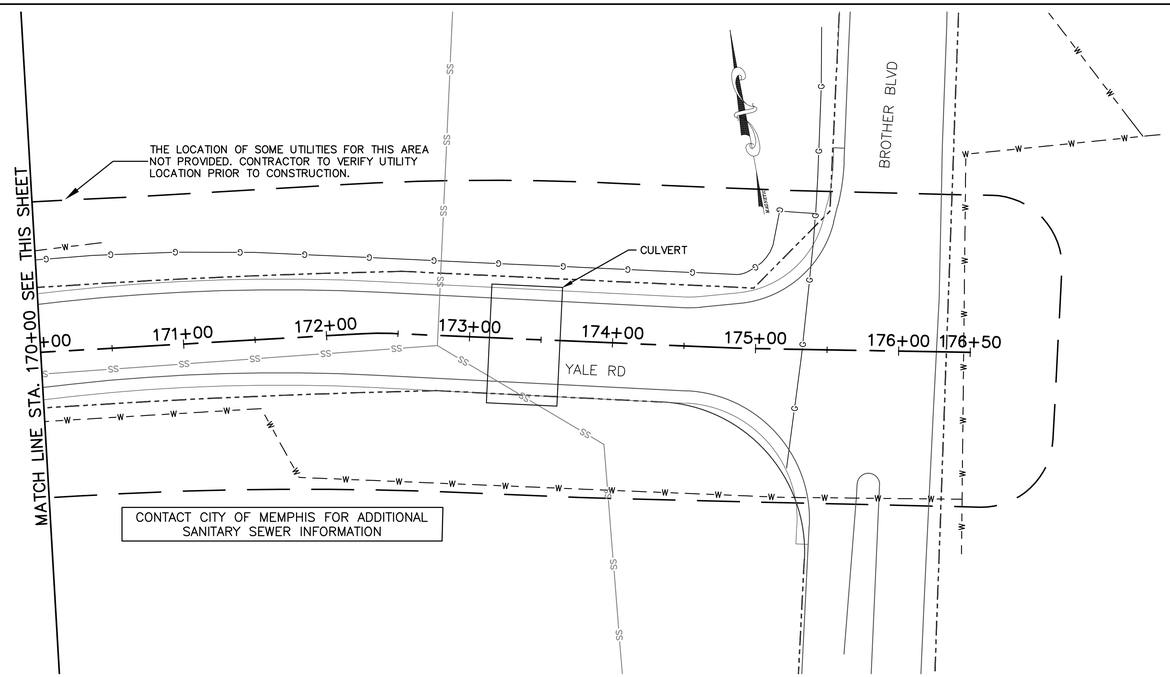
JURISDICTION:





LEGEND

E — E	EXISTING ELECTRIC LINE
W — W	EXISTING WATER LINE
G — G	EXISTING GAS LINE
W — W	BARTLETT WATER LINE
SS — SS	SEWER

SOME UTILITY INFORMATION FOR THE WORK AREAS ARE NOT PROVIDED; CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

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STEVEN HILL REGISTERED ENGINEER AGRICULTURE NO. 16276 STATE OF TENNESSEE 01/09/15

POWERS HILL DESIGN
CIVIL ENGINEERING. CIVIL RESPONSIBILITY.

Kimley-Horn and Associates, Inc.

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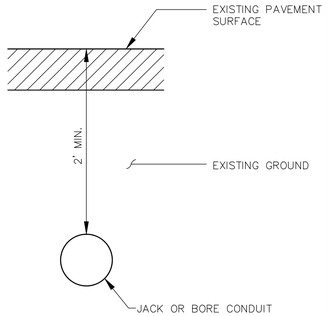
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

YALE ROAD

EXISTING UTILITIES
FROM 157+50 TO 176+50

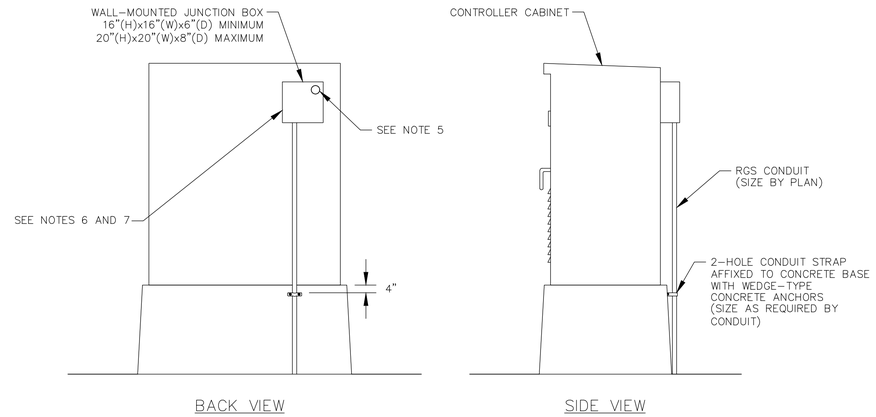
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: APL DATE: 01/14 SCALE: 1"=50'
DESIGNED: SH DATE: 01/14 CHECKED: SH DATE: 01/14
JURISDICTION: _____ SHEET 67 OF 72



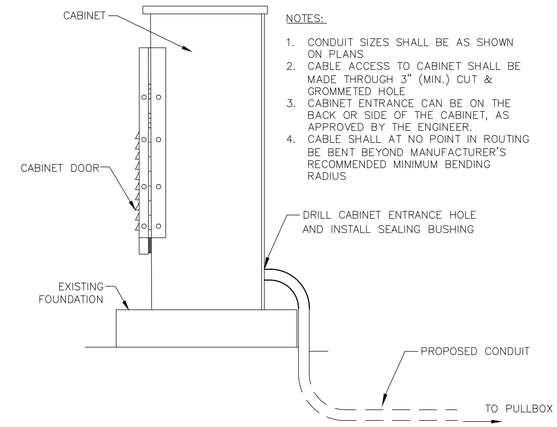
NOTE:
1. CONTRACTOR SHALL SET DEPTH TO AVOID EXISTING UTILITIES (MINIMUM OF 2' DEPTH)

DETAIL OF JACKED OR BORED CONDUIT

N.T.S.



9 DETAILS FOR INSTALLING NEW CONDUIT INTO EXISTING BASE MOUNTED CABINET FOUNDATION



NOTES:

1. CONDUIT SIZES SHALL BE AS SHOWN ON PLANS
2. CABLE ACCESS TO CABINET SHALL BE MADE THROUGH 3" (MIN.) CUT & GROMMETED HOLE
3. CABINET ENTRANCE CAN BE ON THE BACK OR SIDE OF THE CABINET, AS APPROVED BY THE ENGINEER.
4. CABLE SHALL AT NO POINT IN ROUTING BE BENT BEYOND MANUFACTURER'S RECOMMENDED MINIMUM BENDING RADIUS

14 UNDERGROUND ROUTING DETAILS FOR INSTALLING NEW CONDUIT (OPTION 2)

NOTES:

1. THIS DETAIL IS THE APPROVED METHOD FOR ENTRY INTO A SOLID-BASE CABINET FOUNDATION THAT HAS NO SPARE CONDUITS AVAILABLE. ALL OTHER CASES MUST RECEIVE PRIOR APPROVAL FROM THE CITY OF MEMPHIS.

2. WALL-MOUNTED JUNCTION BOX SHALL BE A NEMA 3R CONTINUOUS HINGED ENTRY BOX OR APPROVED EQUIVALENT. THE NEMA 3R BOX SHALL BE MADE OF GALVANIZED STEEL WITH A POWDER COATED FINISH AND SHALL HAVE A CONTINUOUS HINGE THAT IS MADE OF GALVANIZED STEEL WITH A STAINLESS STEEL PIN ON THE LEFT SIDE AND CAPTIVE SCREWS ON THE RIGHT SIDE. THE NEMA 3R BOX SHALL HAVE A HASP PROVISION (OR APPROVED ALTERNATE) ON THE RIGHT SIDE FOR PADLOCKING DOOR FOR SECURING THE DOOR.

3. THE BOX SHALL BE MOUNTED ON THE BACK SIDE OF THE CABINET NEAR THE TOP. ALTERNATIVE LOCATIONS ON THE CABINET TO SECURE THE WALL-MOUNTED JUNCTION BOX MUST HAVE PRIOR APPROVAL BY THE CITY OF MEMPHIS.

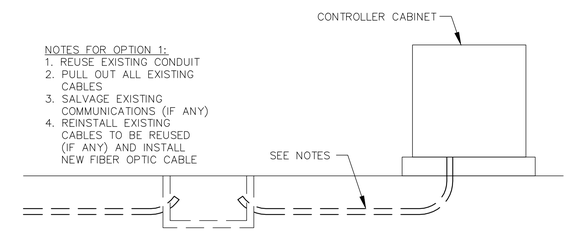
4. CONDUIT STRAP IS NOT TO BE SECURED TO THE CABINET. CONDUIT STRAP MUST BE SECURED TO THE CABINET FOUNDATION.

5. DRILL HOLE INTO CABINET AND INSTALL THREADED NIPPLE. INSTALL RUBBER GASKET, FLAT METAL WASHER AND LOCKER RING ON BOTH SIDES.

6. JUNCTION BOX SHALL BE ATTACHED SECURELY TO THE CABINET WITH FOUR METAL SCREWS. MOUNTING HOLES SHALL BE INSIDE THE BOX AROUND THE FOUR CORNERS.

7. THE CONTRACTOR SHALL APPLY SEALANT BETWEEN THE EDGE OF THE JUNCTION BOX AND THE CABINET. SEALANT SHALL BE RATED FOR OUTDOOR USE, WATER-PROOF BELOW WATER LINES, UV RESISTANT AND CLEAR OR GRAY IN COLOR.

NOTES FOR OPTION 1:
1. REUSE EXISTING CONDUIT
2. PULL OUT ALL EXISTING CABLES
3. SALVAGE EXISTING COMMUNICATIONS (IF ANY)
4. REINSTALL EXISTING CABLES TO BE REUSED (IF ANY) AND INSTALL NEW FIBER OPTIC CABLE



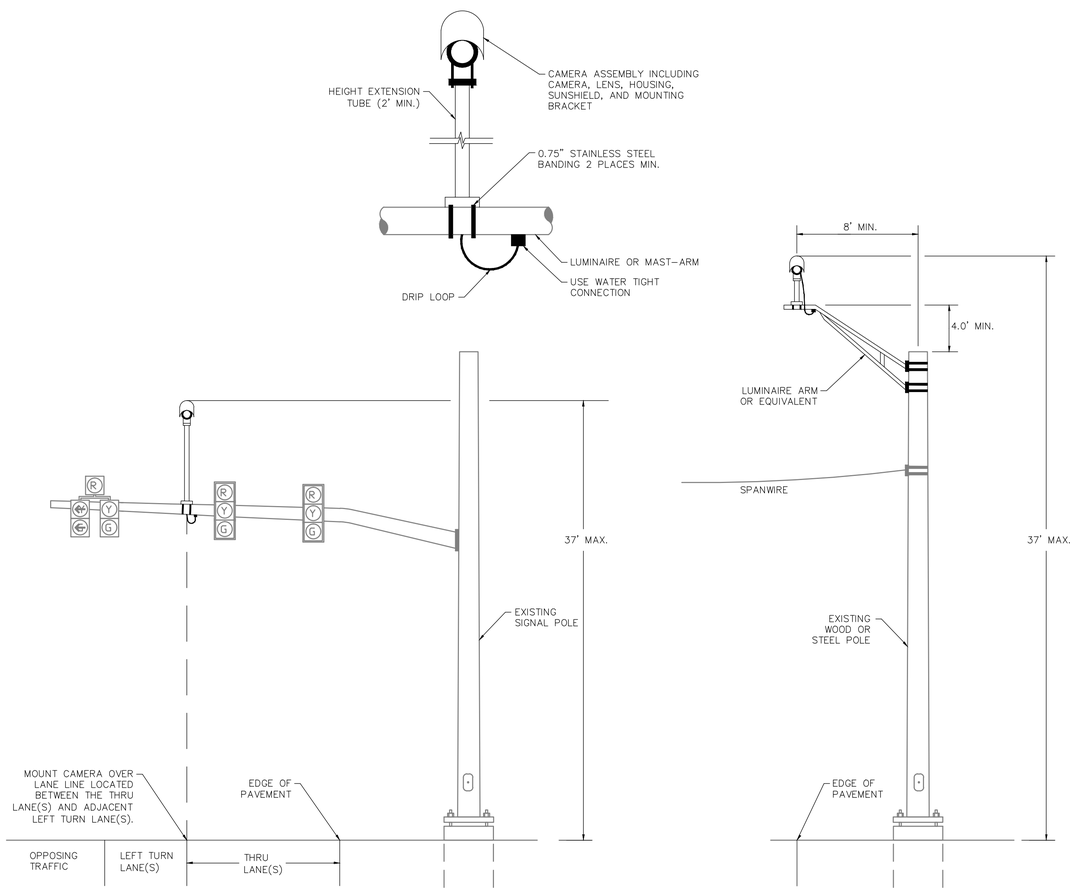
OPTION 1 (SHOWN)- REUSE EXISTING CONDUIT

OPTION 2 (NOT SHOWN)- INSTALL CONDUIT ENTRANCE INTO FOUNDATION AND CONNECT TO PULL BOX (SEE DETAIL THIS SHEET)

UNDERGROUND ROUTING

VIDEO DETECTION CAMERA MOUNTING NOTES:

1. WHEN AIMING CAMERA, HORIZON SHALL NOT BE VISIBLE IN THE FIELD OF VIEW.
2. CAMERA ENCLOSURE ASSEMBLY SHALL BE ROTATABLE AFTER INSTALLATION TO PROVIDE PROPER ALIGNMENT.
3. VIDEO CABLE SHALL BE BELDEN OR ENGINEER-APPROVED EQUAL.
4. SUNSHIELD SHALL BE EXTENDED TO THE MAXIMUM EXTENT WITHOUT BEING IN THE CAMERA FIELD OF VIEW.



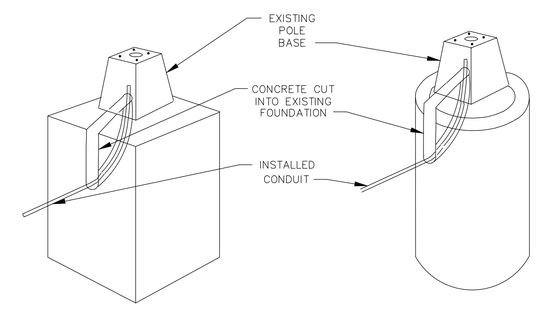
TYPE 1 MOUNT

TYPE 2 MOUNT

TYPE 3 MOUNT

VIDEO DETECTION CAMERA MOUNTING DETAILS

N.T.S.



NOTES:

1. CONCRETE CUTS SHALL NOT BE MORE THAN 1" GREATER THAN THE DIAMETER OF THE CONDUIT BEING INSTALLED.
2. FILL ALL CONCRETE CUTS WITH GROUT.
3. ALL WORK ASSOCIATED WITH TYING CONDUIT INTO AN EXISTING FOUNDATION SHALL BE DONE WITHOUT INTERFERING WITH THE OPERATION OF THE SIGNAL.

DETAILS FOR INSTALLING NEW CONDUIT INTO EXISTING PEDESTAL/ POLE FOUNDATION

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DOUGLAS A. KIMLEY REGISTERED ENGINEER AGRICULTURE COMMERCE No. 0011C11 STATE OF TENNESSEE 12/19/15

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

MISCELLANEOUS DETAILS

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DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
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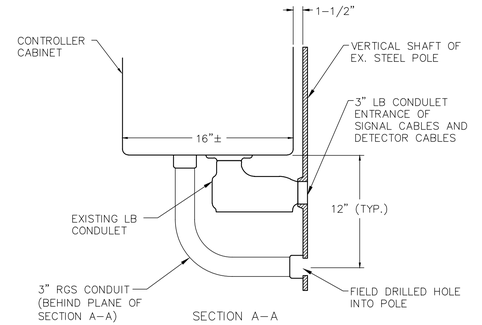
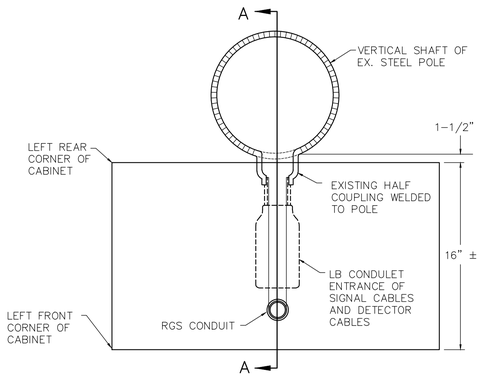
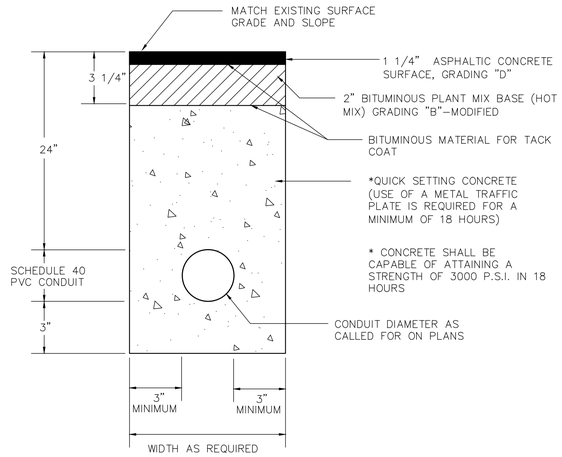


SECTION A-A



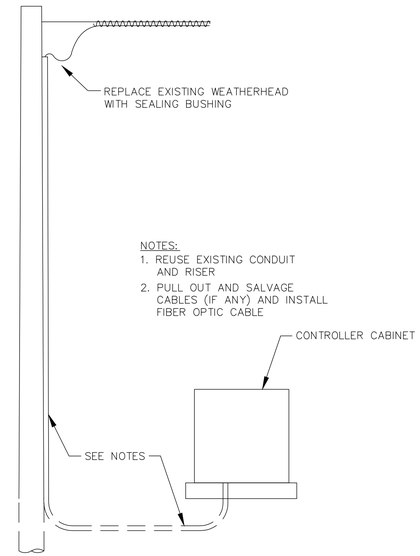
DETAIL OF PROPOSED CONDUIT SWEEP
INTO BOTTOM OF STEEL POLE MOUNTED CABINET

N.T.S.



DETAIL OF TRENCHED
ENCASED CONDUIT

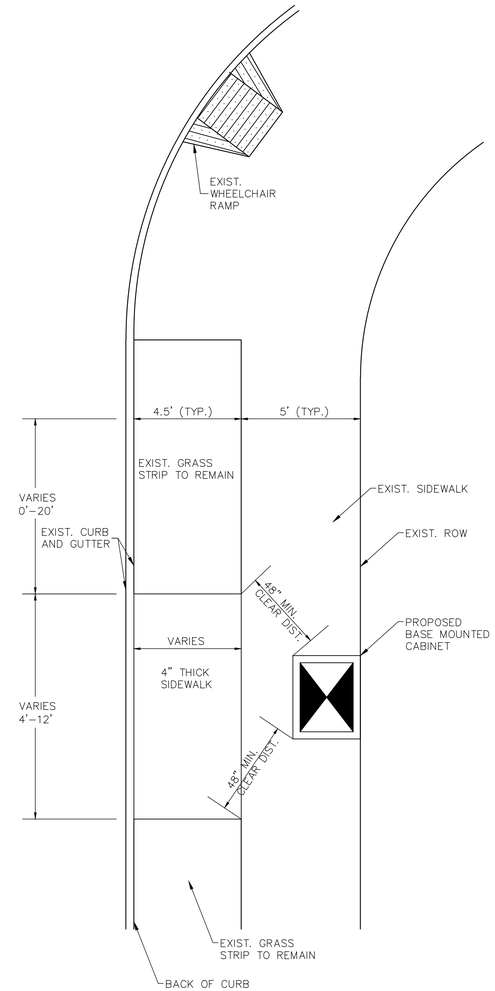
N.T.S.



OPTION 1 (SHOWN)- REUSE EXISTING RISER (USE THIS OPTION ONLY IF THERE IS A SPARE EXISTING RISER OR IF AN EXISTING RISER CONTAINS ONLY EXISTING COMMUNICATIONS CABLE)

OPTION 2 (NOT SHOWN)- INSTALL NEW CONDUIT INTO FOUNDATION AND CONNECT TO NEW RISER (SEE DETAIL THIS SHEET)

AERIAL ROUTING

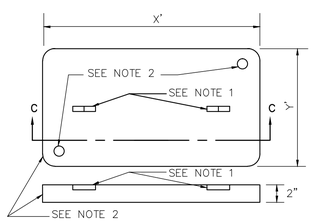


NOTES:

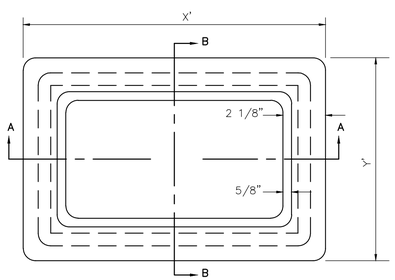
1. CABINET LOCATION AND LIMITS OF NEW SIDEWALK AS DIRECTED BY THE ENGINEER.
2. MAINTAIN A MINIMUM CLEAR PATH OF 48" FROM THE EDGE OF THE CABINET BASE TO THE EDGE OF SIDEWALK.
3. FINAL CABINET LOCATION SHALL BE APPROVED BY THE ENGINEER.

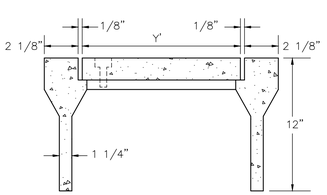
TYPICAL BASE MOUNTED CABINET INSTALLATION
AND SIDEWALK REPLACEMENT DETAILS

N.T.S.

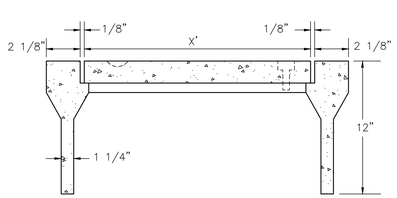


SECTION C-C





SECTION B-B



SECTION A-A

DETAIL OF STANDARD PULL BOX
DESIGN AND INSTALLATION

COVER

TYPE	X'	Y'
STANDARD	17 1/4"	10 1/4"

PULL BOX

TYPE	X'	Y'
STANDARD	21 3/4"	14 3/4"

NOTES:

1. NOTCHES SHALL BE PROVIDED FOR REMOVING THE COVER.
2. BRASS "L" BOLTS AND NUTS ARE TO BE PROVIDED IN DIAGONAL CORNERS - TWO REQUIRED (3/8").
3. COVER TO HAVE ROUGHENED TOP SURFACE OF 1/8" IN RELIEF. THE WORDS "TRAFFIC SIGNAL" TO BE INSCRIBED ON THE TOP COVER WITH LETTERS 1-1/2" HIGH WITH 1/8" RELIEF.
4. CONCRETE TO BE 5000 PSI.
5. CONDUITS MAY ENTER THE BOX AT AN ANGLE OF APPROX. 45 DEGREES FROM HORIZONTAL. RADIUS SHALL BE 24" (MIN.).
6. GROUNDING ELECTRODE AND GROUND WIRE REQUIRED ONLY IF PULL BOX CONTAINS METALLIC CONDUITS WITH CIRCUITS HAVING VOLTAGES GREATER THAN 24 VOLTS AND ONLY IF CONDUITS NOT OTHERWISE GROUNDED WITHIN 1000 LINEAR FEET.
7. A KNOCK-OUT MAY BE USED AT THE BOTTOM OF THE ENDS OF BOX IF NECESSARY TO ACCOMMODATE THE DEPTH OF EXISTING CONDUITS. IF USED, KNOCK-OUTS SHALL BE SEALED WITH GROUT AFTER BOX IS PLACED OVER CONDUITS.
8. NUMBER AND SIZES OF CONDUITS SHALL BE AS REQUIRED BY THE PLANS. NO MORE THAN 8 CONDUITS SHALL ENTER A PULL BOX . NO MORE THAN 3 OF THOSE CONDUITS SHALL BE 2" OR LARGER.
9. EXCEPT FOR DIMENSIONS AND ANGLE OF ENTERING CONDUITS, DESIGN AND INSTALLATION DETAILS SHALL BE SAME FOR STANDARD PULL BOX AND OVERSIZED PULL BOX.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

DALLAS A. SMITH REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 00113221 STATE OF TENNESSEE 12/19/15

Kimley»Horn

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

MISCELLANEOUS DETAILS

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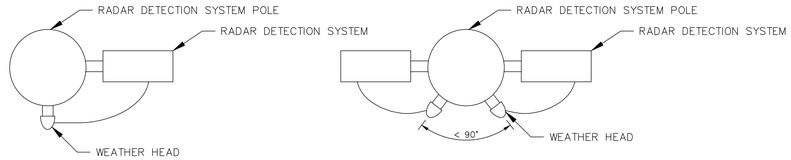
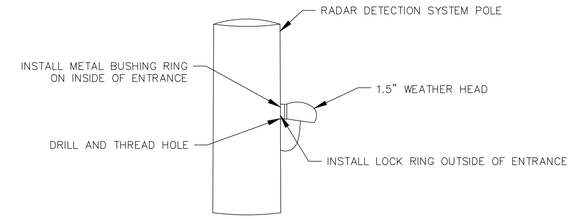


CASE 1: ONE RADAR DETECTION SYSTEM ON ONE POLE

NOTE: OFFSET HEIGHT BETWEEN WEATHER HEADS BY 2".

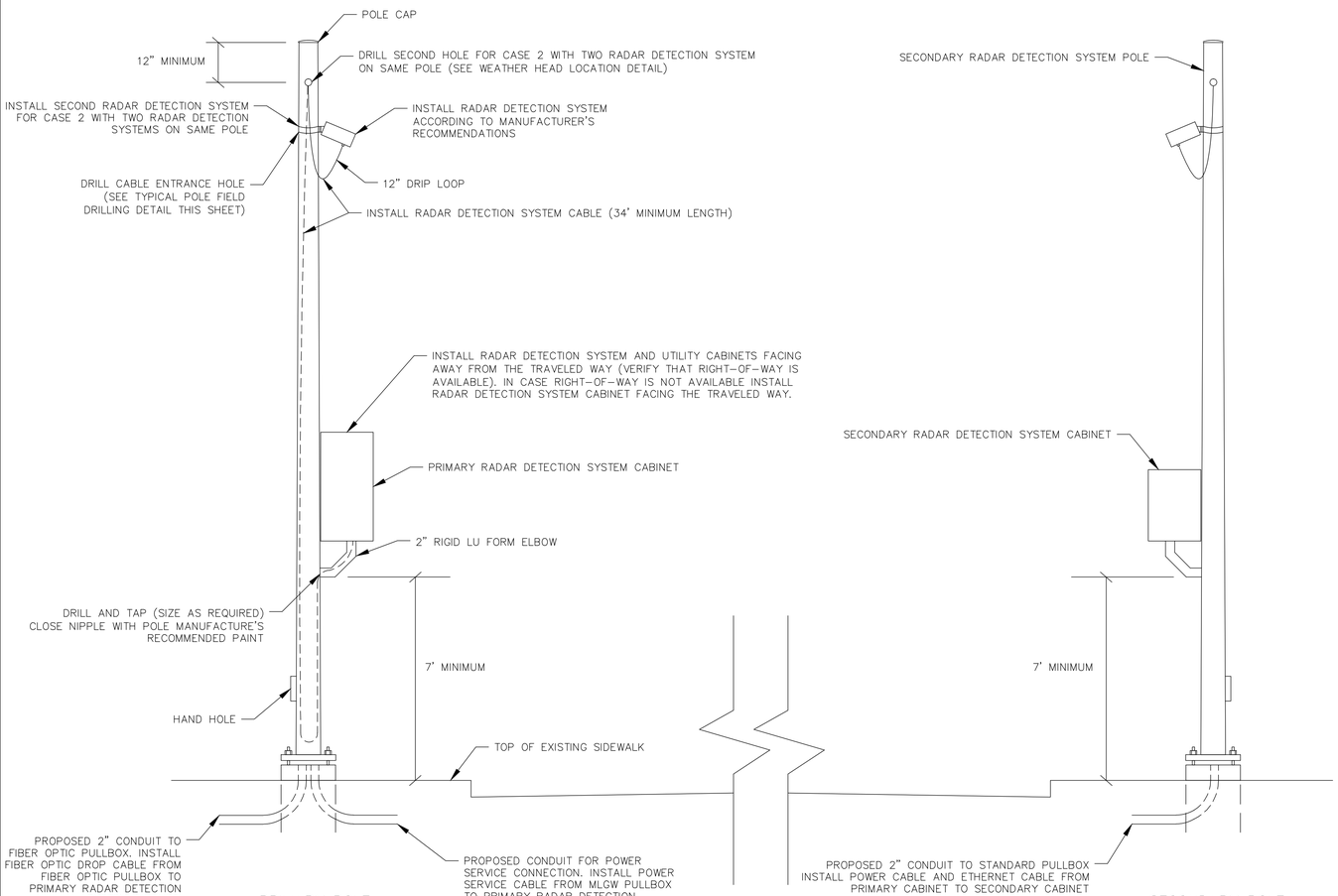
CASE 2: TWO RADAR DETECTION SYSTEMS ON ONE POLE

WEATHER HEAD LOCATION DETAIL (PLAN VIEW)



NOTE: SEE WEATHER HEAD LOCATION DETAIL FOR POSITIONING OF WEATHER HEAD(S) RELATIVE TO THE RADAR DETECTION SYSTEMS.

TYPICAL POLE FIELD DRILLING DETAIL



PRIMARY POLE

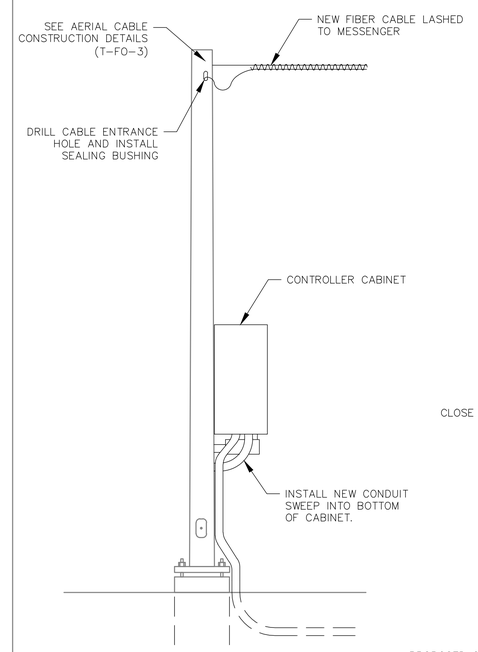
INSTALL POWER AND ETHERNET CABLES FROM SECONDARY RADAR DETECTION SYSTEM CABINET TO PRIMARY RADAR DETECTION SYSTEM CABINET (IF SECONDARY POLE AND RADAR DETECTION SYSTEM UNIT IS CALLED FOR ON PLAN SHEETS)

SECONDARY POLE

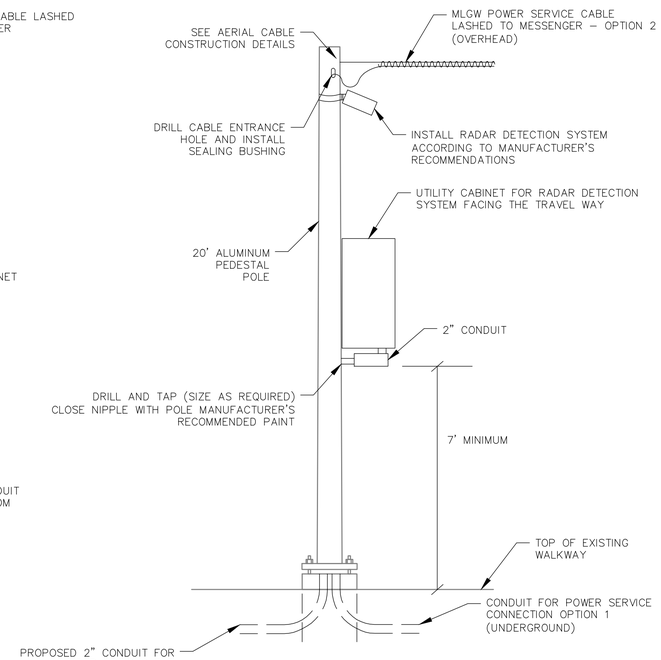
NOTE: INSTALL SECONDARY RADAR DETECTION SYSTEM POLE AS NEEDED FOR PLAN SHEETS.

TYPICAL RADAR DETECTION SYSTEM (RDS)

ON NEW 20' ALUMINUM PEDESTAL POLE



AERIAL AND/OR UNDERGROUND ROUTING STEEL POLE ON FOUNDATION



RADAR DETECTION SYSTEM (RDS) CABINET INSTALLATION DETAILS

POLE MOUNTED CABINET DETAILS

NOTES:

1. SEE PROJECT SPECIAL PROVISIONS FOR MATERIAL AND INSTALLATION REQUIREMENTS FOR RDS UNIT, PRIMARY RADAR DETECTION SYSTEM CABINET, SECONDARY RADAR DETECTION SYSTEM CABINET AND RADAR DETECTION SYSTEM CABLE.

2. SEE TDOT STANDARD DRAWING TSG-10 FOR CONCRETE PEDESTAL POLE FOUNDATION DETAILS. ALTERNATIVELY, A STEEL ANCHOR FOUNDATION CAN BE USED. SEE TDOT STANDARD DRAWING T-L-1 FOR STEEL ANCHOR FOUNDATION DETAILS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

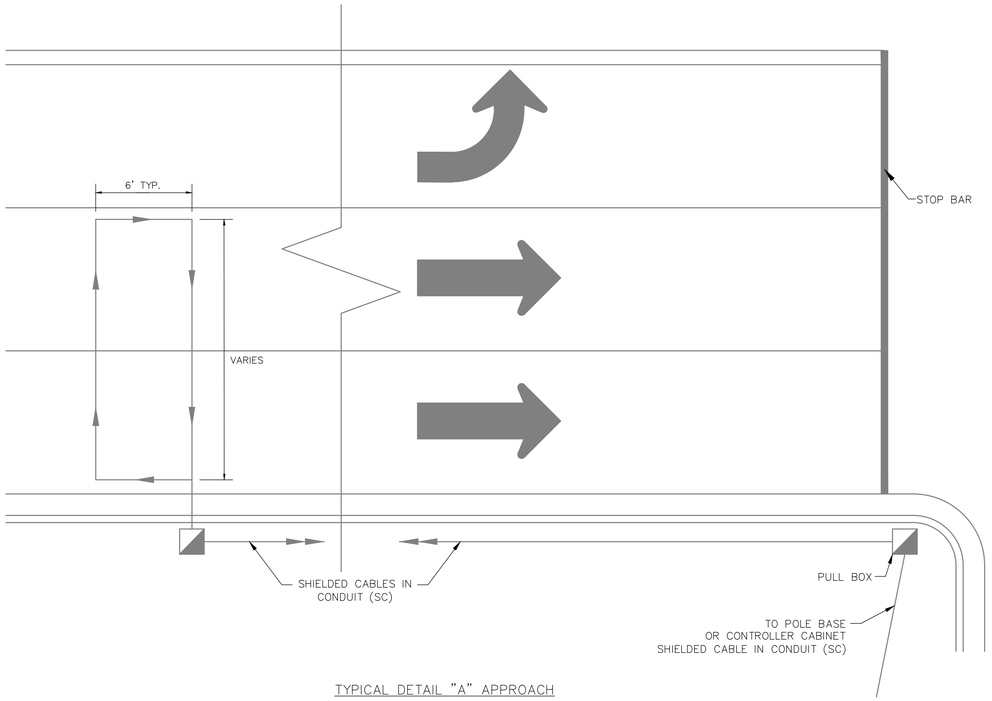
DOUGLAS A. KIMLEY REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 00114214 STATE OF TENNESSEE 12/19/15

Kimley»Horn

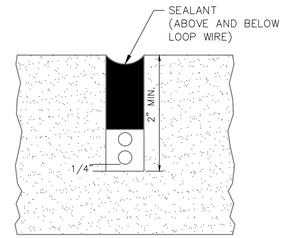
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
SIGNAL SYSTEM PROJECT SET #5
SHELBY COUNTY, TN.

MISCELLANEOUS DETAILS

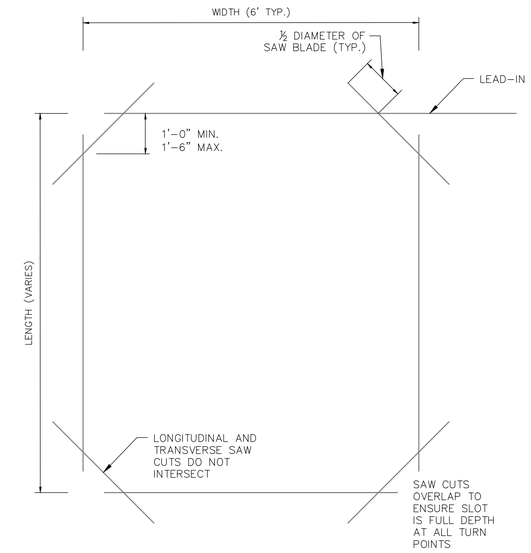
SURVEY: N/A DATE: N/A BOOK: N/A
DRAFTED: KHA DATE: 12/13 SCALE: N.T.S.
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION:



TYPICAL DETAIL "A" APPROACH
TWO OR MORE THROUGH-LANE



TYPICAL SAW SLOT AND LOOP WIRE DETAIL



SAW SLOT CONSTRUCTION DETAIL

LOOP TURNS		
LOOP LENGTH	NO. TURNS IN ASPHALT	NO. TURNS IN CONCRETE
6-24	3	4
24-50	2	3

INDUCTION DETECTION LOOP NOTES

(A) THE DETECTOR LOOPS SHALL BE OF THE SIZE AND LOCATION DETAILED IN THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

(B) THE CONTRACTOR SHALL INSTALL LOOPS BY WET CUTTING A NARROW SLOT (⅜ INCH WIDE) IN THE ROADWAY SURFACE WITH A DIAMOND SAW. INSTALLING THE WIRE AND BACKFILLING WITH A SUITABLE SEALER. SAW SLOTS SHALL BE A MINIMUM OF 2" IN DEPTH.

(C) THE CONTRACTOR SHALL EXERCISE CARE IN PLACING THE DETECTION LOOPS AND LEAD-INS IN THE PAVEMENT SLOTS. PRESSURE CLEAN WITH WATER, THEN FILTERED COMPRESSED AIR SHALL BE USED TO REMOVE ALL DUST AND MOISTURE FROM THE SLOT. THE LOOP WIRE WILL THEN BE PUSHED INTO THE SLOTS WITHOUT THE USE OF SHARP OBJECTS WHICH MIGHT DAMAGE THE WIRE INSULATION. USE OF METAL TOOLS IS NOT PERMITTED.

(D) THE DETECTION LOOPS IN ANY GIVEN TRAFFIC LANE SHALL BE WIRED TOGETHER IN SERIES TO ENTER ONE DETECTOR SENSOR UNIT UNLESS OTHERWISE NOTED ON THE PLANS. IF THE MANUFACTURER OF THE RELATED DETECTOR SENSOR UNIT RECOMMENDS ANOTHER WIRING SCHEME. APPROVAL SHALL BE OBTAINED FROM THE ENGINEER BEFORE CHANGING THE WIRING.

(E) BEFORE THE SLOTS ARE SEALED, THE RESISTANCE OF THE DETECTION LOOPS AND LEAD-INS (INCLUDING SPLICES) SHALL BE CHECKED AGAINST GROUND WITH A MEGGAR. A RESISTANCE OF LESS THAN TEN MEGAOHMS WILL INDICATE A FAULT REQUIRING CORRECTION BEFORE THE SLOT IS SEALED.

(F) ALSO BEFORE THE SLOTS ARE SEALED, THE INDUCTANCE OF THE DETECTION LOOP AND LEAD-INS SHALL BE CHECKED AT THE LOCATION OF THE DETECTOR SENSOR UNIT. THE INDUCTANCE SHALL BE NO LESS THAN 50 MICROHENRIES AND NO MORE THAN 300 MICROHENRIES. IF IT MEASURES OUT OF THIS RANGE ADDITIONAL TURNS SHALL BE ADDED OR SPLICING OF THE LOOPS (SERIES AND/OR PARALLEL) SHALL BE CHANGED TO PROVIDE AN INDUCTANCE READING BETWEEN 50 AND 300 MICROHENRIES.

(G) AFTER THE LOOP WIRES ARE INSTALLED AND ALL CHECKS SATISFACTORILY COMPLETED, THE SLOT SHALL BE BACKFILLED AND SEALED WITH AN APPROVED LOOP SEALANT TO WITHIN ⅛" OF THE PAVEMENT SURFACE. SURPLUS SEALANT SHALL BE REMOVED FROM THE ADJACENT ROAD SURFACE WITHOUT THE USE OF SOLVENTS. ASPHALTIC BASED SEALERS ARE NOT ACCEPTABLE.

(H) LOOPS AND HOME RUNS TO PULL BOXES SHALL BE ONE CONTINUOUS LENGTH OF NO. 14 AWG STRANDED CROSS-LINK POLYETHYLENE SINGLE CONDUCTOR WIRE. WHICH MEET THE REQUIREMENTS OF I.M.S.A. SPECIFICATION NO. 51-3. THE HOME RUN TO THE PULL BOX SHALL BE TWISTED 3 TIMES PER FOOT.

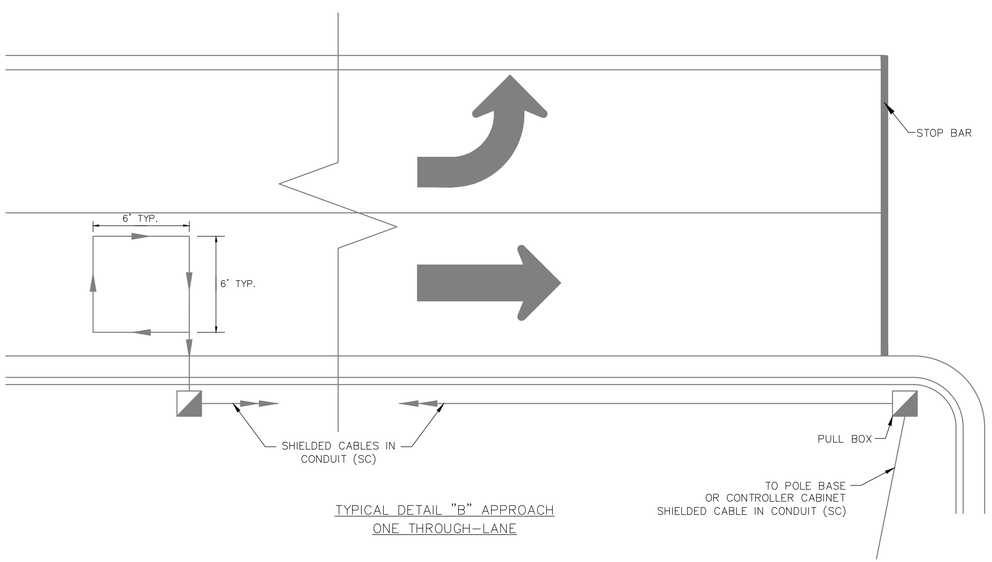
(I) SPLICES SHALL BE PERMITTED ONLY IN PULL BOXES, POLE BASES, CONDULETS, OR CABINETS AND SHALL BE WATERPROOF.

(J) ALL CABLE FROM PULL BOX TO CONTROLLER SHALL CONSIST OF A TWISTED PAIR OF SHIELDED CABLES, NO. 14 AWG STRANDED, WHICH MEET THE REQUIREMENTS OF I.M.S.A. SPECIFICATION NO. 50-2.

(K) ALL CABLES ARE TO BE COLOR-CODED. ALL LOOP LEAD-INS ARE TO BE LABELED IN PULL BOXES, SHIELDED CABLE TO BE LABELED IN CONTROLLER CABINETS.

(L) NO LOOPS ARE TO BE INSTALLED THROUGH, OVER, OR UNDER TRANSVERSE CONCRETE JOINTS IN CONCRETE PAVEMENT. AND NO MANHOLES, INLETS, ETC. MAY BE LOCATED WITHIN A LOOP. IF ANY OF THE ABOVE ARE ENCOUNTERED THE LOCATION OF THE LOOP MAY BE VARIED SLIGHTLY AS DIRECTED BY THE ENGINEER, IF THE ABOVE ITEMS ARE UNAVOIDABLE, SMALLER LOOPS IN THE SERIES MAY BE USED. SMALLER LOOPS USED TO REPLACE ONE LARGE LOOP MAY BE CONNECTED TO ONE CHANNEL.

(M) ALL LOOPS TO BE CENTERED IN TRAVEL LANE.



TYPICAL DETAIL "B" APPROACH
ONE THROUGH-LANE

REVISIONS

DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

DALLAS A. ARMSTRONG
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 00114211
STATE OF TENNESSEE
1/19/15

DIVISION OF PUBLIC WORKS
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ADVANCED LOOP DETECTION DETAILS

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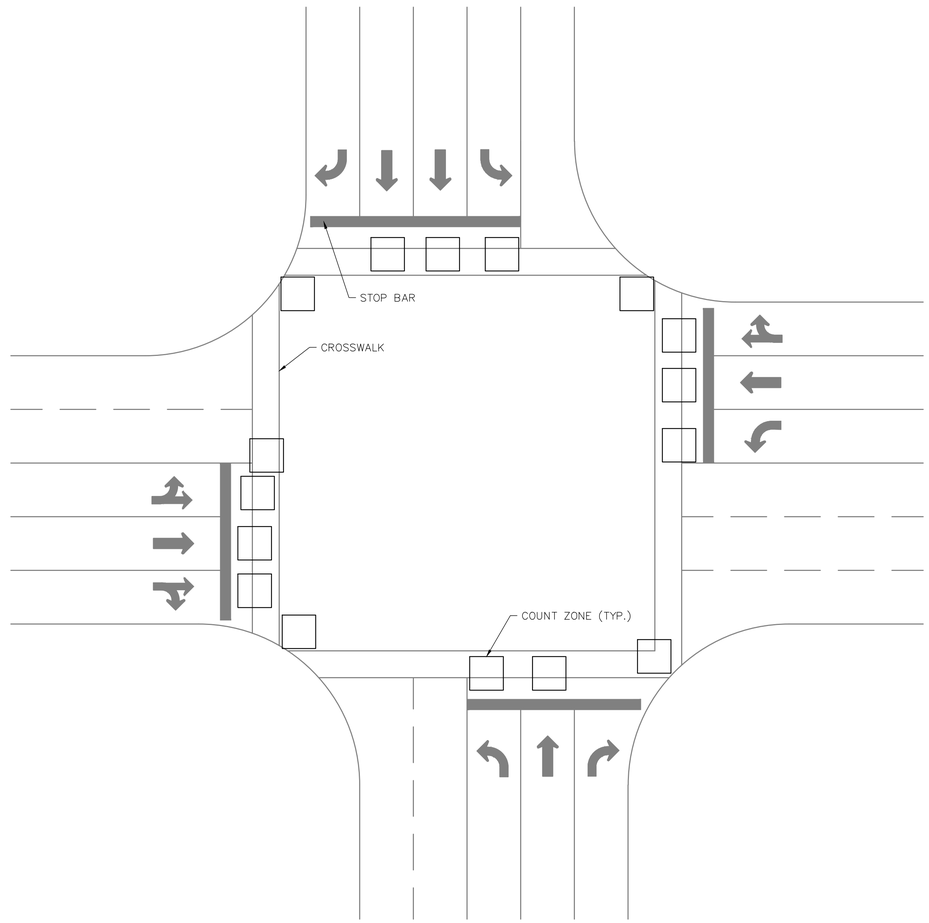
DESIGNED: KHA DATE: 12/13 CHECKED: JFC DATE: 12/13
JURISDICTION: _____

NOTES:

1. ALL COUNT ZONES TO BE DRAWN AS 6'X6' ZONES
2. ALL COUNT ZONES TO BE SET TO DIRECTIONAL AND TO COUNT ALL THE TIME UNLESS DIRECTED OTHERWISE BY THE ENGINEER
3. ALL COUNT ZONE LOCATIONS TO BE APPROVED BY THE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE INTERSECTION
4. COUNT ZONES TO BE NUMBERED SEQUENTIALLY AFTER THE DETECTION ZONES ACCORDING TO THE PHASE ASSIGNMENT AT THE INTERSECTION.



TYPICAL COUNT ZONE DETAIL

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

Kimley»Horn

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JURISDICTION: _____ SHEET 72 OF 72

DRAWING NAME: K:\MEM_TPTO\115087002 - Shelby County CMP 2\Design\Level 4 - Signal System\Bid Set 5\Plans\BidSet 5-72-Details-05.dwg Layout1 Jan 30, 2015 3:29PM BY: blaine.lynch