

DRAWING NAME: \$(GETVAR, "DWGPREFIX")\$(GETVAR, "DWGNAME") \$(GETVAR, "CTAB") \$(EDTIME, 0, MON DD " ", YYYY H:MMAM/PM) BY: \$(GETVAR, "LOGNAME")

ESTIMATED ROADWAY QUANTITIES					
ITEM NO.	DESCRIPTION	UNIT	KIRBY WHITTEN PKWY @ EGYPT CENTRAL RD	OLD BROWNSVILLE RD @ YALE RD	TOTAL QUANTITY
	105-01 CONSTRUCTION STAKES, LINES AND GRADES	LS	0.5	0.5	1
(1)	201-01 CLEARING AND GRUBBING	LS	0.5	0.5	1
(2)(3)	209-05 SEDIMENT REMOVAL	C.Y.	2	2	4
(2)(3)	209-09.43 CURB INLET PROTECTION (TYPE 4)	EACH	3	3	6
	701-01.01 CONCRETE SIDEWALK (4" THICK)	S.F.	190	160	350
	701-02.01 CONCRETE HANDICAP RAMP (RETROFIT)	S.F.	0	175	175
	712-01 TRAFFIC CONTROL	LS	0.5	0.5	1
(4)	713-15 REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	0.5	0.5	1
(5)	713-15.07 SUSPENDED FLAT SHEET ALUMINUM SIGN (0.080" THICK)	EACH	8	8	16
(6)	713-16.20 SIGNS (R3-7R)	EACH	4	2	6
	716-02.03 PLASTIC PAVEMENT MARKING (CROSS-WALK)	L.F.	840	760	1600
	716-02.04 PLASTIC PAVEMENT MARKING(CHANNELIZATION STRIPING)	S.Y.	7	6	13
	716-02.05 PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	206	192	398
	716-02.06 PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	7	6	13
	716-02.08 PLASTIC PAVEMENT MARKING (8" DOTTED LINE)	L.F.	110	0	110
	716-03.01 PLASTIC WORD PAVEMENT MARKING (ONLY)	EACH	7	2	9
	716-04.15 PLASTIC PAVEMENT MARKING-BIKE SYMBOL/ARROW	EACH	4	1	5
	716-05.01 PAINTED PAVEMENT MARKING (4" LINE)	L.M.	0.5	0.5	1
	717-01 MOBILIZATION	LS	0.5	0.5	1
(7)	730-01.02 REMOVAL OF SIGNAL EQUIPMENT	EACH	0	1	1
(8)	730-01.10 OVERHEAD UTILITY RELOCATION	ALLOW	0.5	0.5	1
(9)	730-02.08 SIGNAL HEAD ASSEMBLY (130 POLE MOUNTED)	EACH	4	4	8
(9)	730-02.09 SIGNAL HEAD ASSEMBLY (130 WITH BACKPLATE)	EACH	10	9	19
(9)	730-03.20 INSTALL PULL BOX (TYPE A)	EACH	8	8	16
(9)	730-03.21 INSTALL PULL BOX (TYPE B)	EACH	4	4	8
(10)	730-05.01 ELECTRICAL SERVICE CONNECTION (FROM CABINET TO POINT OF DEMARICATION)	EACH	1	1	2
(10)	730-05.02 ELECTRICAL SERVICE CONNECTION (MLGW FEE)	ALLOW	0.5	0.5	1
	730-08.02 SIGNAL CABLE - 5 CONDUCTOR	L.F.	920	810	1730
	730-08.03 SIGNAL CABLE - 7 CONDUCTOR	L.F.	2750	2530	5280
	730-12.01 CONDUIT 1" DIAMETER (PVC)	L.F.	1000	770	1770
	730-12.12 CONDUIT 1" DIAMETER (JACK AND BORE)	L.F.	60	210	270
	730-12.14 CONDUIT 3" DIAMETER (JACK AND BORE)	L.F.	525	475	1000
(9)(12)	730-13.02 VEHICLE DETECTOR (VIDEO)	EACH	1	1	2
(9)(13)	730-13.03 VEHICLE DETECTOR (4 - CHANNEL, RACK MOUNT)	EACH	1	1	2
(9)(14)	730-13.06 VEHICLE DETECTOR (OPTICALLY ACTIVATED PRIORITY CONTROL)	EACH	1	1	2
	730-14.01 SHIELDED DETECTOR CABLE	L.F.	1600	1500	3100
	730-14.02 SAW SLOT	L.F.	320	320	640
	730-14.03 LOOP WIRE	L.F.	700	700	1400
(9)(15)	730-15.32 CABINET (EIGHT PHASE BASE MOUNTED)	EACH	1	1	2
(9)(15)	730-16.02 EIGHT PHASE ACTUATED CONTROLLER	EACH	1	1	2
(16)	730-23.36 CANTILEVER SIGNAL SUPPORT (DECORATIVE POLE WITH DECORATIVE 58 FT ARM)	EACH	1	0	1
(16)	730-23.37 CANTILEVER SIGNAL SUPPORT (DECORATIVE POLE WITH DECORATIVE 64 FT ARM)	EACH	1	0	1
(16)	730-23.38 CANTILEVER SIGNAL SUPPORT (DECORATIVE POLE WITH DECORATIVE 66 FT ARM)	EACH	1	0	1
(16)(18)	730-23.39 CANTILEVER SIGNAL SUPPORT (DECORATIVE POLE WITH DECORATIVE 72 FT ARM)	EACH	1	0	1
(9)(17)	730-23.96 CANTILEVER SIGNAL SUPPORT (52 FT ARM)	EACH	0	1	1
(9)(17)	730-23.97 CANTILEVER SIGNAL SUPPORT (58 FT ARM)	EACH	0	1	1
(9)(17)	730-23.98 CANTILEVER SIGNAL SUPPORT (68 FT ARM)	EACH	0	2	2
(9)	730-26.05 COUNTDOWN PEDESTRIAN SIGNAL	EACH	8	8	16
(9)	730-26.09 PEDESTRIAN PUSHBUTTON WITH 15IN SIGN	EACH	8	8	16
	740-11.01 TEMPORARY SEDIMENT TUBE 8IN (SIGNAL POLE)	L.F.	150	150	300
	801-03 WATER (SEEDING & SODDING)	M.G.	0.5	0.5	1
(2)	803-01 SODDING (NEW SOD)	S.Y.	50	75	125

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 TDOT STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.
- (4) SEE DEMOLITION DIAGRAM FOR EACH INTERSECTION; INCLUDES REMOVAL OF ALL CONFLICTING PAVEMENT MARKINGS. REMOVED SIGNS TO REMAIN PROPERTY OF THE APPLICABLE MUNICIPALITY.
- (5) MAST ARM MOUNT.
- (6) INCLUDES SIGN, POST, AND FOOTING.
- (7) FOR EXISTING OVERHEAD BEACON, SPAN WIRES, POLES, AND CONTROLLER ON OLD BROWNSVILLE RD. AT YALE RD. REMOVED EQUIPMENT TO REMAIN PROPERTY OF THE CITY OF MEMPHIS.
- (8) ALLOWANCE FOR ADJUSTMENT TO OVERHEAD UTILITIES ONLY. THE UNIT PRICE BID FOR THIS ITEM WILL BE ADJUSTED BY THE ENGINEER TO MATCH THE ACTUAL FEE CHARGED BY UTILITY COMPANIES FOR ADJUSTMENT OF OVERHEAD LINES.
- (9) USE CITY OF MEMPHIS CURRENT SPECIFICATIONS FOR THIS ITEM.
- (10) CONTRACTOR RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH POWER CONNECTION FOR TRAFFIC SIGNAL FROM THE DEMARICATION POINT TO CABINET.
- (11) THIS ITEM IS TO BE USED AS AN ALLOWANCE FOR THE FEE CHARGED BY MLGW TO THE CONTRACTOR FOR PROVIDING ELECTRICAL SERVICE TO THE POINT OF DEMARICATION. THE UNIT PRICE BID FOR THIS ITEM WILL BE ADJUSTED BY THE ENGINEER TO MATCH THE ACTUAL FEE CHARGED BY MLGW FOR THE CONNECTION.

- (12) TO BE ITERIS VANTAGE SYSTEM OR APPROVED EQUIVALENT. INCLUDES DETECTION CAMERAS, PROCESSOR UNIT, CARD RACK, POWER SUPPLY UNIT, 10" COLOR LCD MONITOR, MOUSE, VIDEO REMOTE MANAGEMENT CARD WITH ETHERNET INTERFACE AND ALL OTHER CABLING, CONNECTIONS AND HARDWARE TO COMPLETE THE INSTALLATION OF A FULLY FUNCTIONAL VIDEO SYSTEM.
- (13) INSTALL ONE (1) DETECTOR CARD PER TWO (2) INTERSECTION APPROACHES WHERE ADVANCE DETECTION LOOPS ARE TO BE REPAIRED OR REPLACED. SEE INTERSECTION LAYOUT SHEETS.
- (14) 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. THE CONTRACTOR SHALL INSTALL EVP EQUIPMENT THAT INCLUDES MULT-MODE GPS/IR AT THE INTERSECTION IN THE CITY OF MEMPHIS.
- (15) THE TRAFFIC CONTROLLER SHALL BE AN EAGLE EPAC M52 KEYBOARD UNIT OR APPROVED EQUIVALENT WITH NTCIP COMPLIANT SOFTWARE AND SEPAC, BUILT-IN ETHERNET PORT 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 SSM12LEIP.
- (16) SEE SHEET 6 FOR DETAILS. BID PRICE FOR THIS ITEM TO INCLUDE FOUNDATION.
- (17) SEE NOTE No. 45 ON SHEET 3 FOR DESIGN CRITERIA. BID PRICE FOR THIS ITEM TO INCLUDE FOUNDATION.

- (18) 25'-0" DEPTH BY 3'-0" DIA. FOUNDATION FOOTING REQUIRED, WHICH IS NOT INCLUDED ON TDOT STD. DWG. T-SG-10. THEREFORE, USE 25 @ T400 BARS AND 16 @ A700 BARS.

STANDARD DRAWINGS

THE FOLLOWING STANDARD DRAWINGS ARE HEREBY INCORPORATED AND MADE A PART OF THE PROJECT DOCUMENTS:

TENNESSEE DEPARTMENT OF TRANSPORTATION

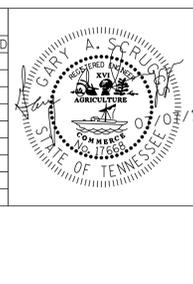
DRAWING	REV. DATE	DRAWING NAME
RP-S-7	06-04-13	DETAILS FOR STANDARD CONCRETE SIDEWALKS
T-S-17	07-19-13	STANDARD GROUND MOUNTED SIGN USING PERFORATED/ KNOCKOUT SQUARE TUBE
T-S-20	11-01-11	SIGN DETAILS
T-SG-2	07-29-04	LOOP LEAD-INS, CONDUIT AND PULL BOXES
T-SG-3	11-11-04	STANDARD NOTES AND DETAILS OF INDUCTIVE LOOPS
T-SG-3A		ALTERNATE DETECTION DETAILS
T-SG-5	12-04-13	CONTROLLER CABINET DETAILS
T-SG-7	11-01-11	SIGNAL HEAD ASSEMBLIES AND PEDESTRIAN PUSH BUTTON SIGNS
T-SG-7A	11-01-11	TYPICAL SIGN HEAD PLACEMENT
T-SG-9	12-04-13	DETAILS OF CANTILEVER SIGNAL SUPPORT
T-SG-9A	12-04-13	MISCELLANEOUS SIGNAL DETAILS
T-SG-10	12-04-13	MAST ARM POLE AND STRAIN POLES FOUNDATION DETAILS
T-SG-12	11-01-11	TYPICAL WIRING FOR SIGNAL HEADS AND DETECTION LOOPS
T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-40	04-02-12	RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-41	04-02-12	LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-42	04-02-12	CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-51	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR ROUTES

CITY OF MEMPHIS

DRAWING	REV. DATE	DRAWING NAME
T/S 3	03-26-02	SIGNAL MOUNTING HEIGHTS MAST ARM MOUNTING
T/S 5	04-16-99	MOUNTING SIGNAL HEADS ON MAST ARMS
T/S 6	05-28-93	PEDESTRIAN AND VEHICLE DETECTION DETAIL
T/S 7		GROUNDING AND BONDING
T/S 9	11-13-78	PULL BOXES, SPLICING, AND CABLE DETAILS
7A	03-09-06	CURB RAMP WITH DETECTABLE WARNING SURFACE FOR NEW CONSTRUCTION
8	11-06-00	CURB RAMP IN EXISTING CONDITIONS

NOTE: SPECIAL DETAILS AS INDICATED IN THE PLANS SHALL SUPERCEDE THE STANDARD DRAWINGS LISTED ABOVE

REVISIONS		
DATE	DESCRIPTIONS	APPROVED



DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
NEW SIGNAL SET #1
SHELBY COUNTY, TN.

**ESTIMATED QUANTITIES
STANDARD DRAWINGS**

SURVEY: THY, INC. DATE: N/A BOOK: N/A
 DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
 DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14

SHEET 2 OF 9



GENERAL NOTES

UTILITIES

1. THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY AND ARE NOT INTENDED TO BE EXACT OR COMPLETE. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-811-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED. THE CONTRACTOR SHALL CALL THE TENNESSEE ONE CALL SYSTEM AT LEAST SEVENTY TWO (72) HOURS, BUT NOT MORE THAN FIVE (5) DAYS PRIOR TO ANY PLANNED EXCAVATION BY THE CONTRACTOR.
2. UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.
3. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS.
4. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS NECESSARY TO PROVIDE ELECTRICAL SERVICE TO THE CONTROLLER.
5. THE CONTRACTOR MUST CONTACT THE ENGINEER IF EXISTING UTILITIES CONFLICT WITH INSTALLATION OR OPERATION OF ANY PROPOSED EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AVOID ALL UTILITIES AND UNDERGROUND STRUCTURES. REFER TO THE SIGNAL LAYOUT SHEET FOR EXISTING UTILITIES THAT HAVE BEEN IDENTIFIED AT THE INTERSECTION.
6. THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS 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 IN THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106
8. INSTALLATION OF TRAFFIC SIGNAL POLES AND MAST ARMS SHALL CONFORM TO MLGW STANDARDS WHEN CROSSING OVERHEAD ELECTRIC FACILITIES. TRAFFIC SIGNAL POLES SHALL BE INSTALLED A MINIMUM OF TEN (10) FEET FROM THE OVERHEAD ELECTRIC WIRES. FOR OVERHEAD WIRES, A MINIMUM CLEARANCE OF 4.5 FEET SHOULD BE MAINTAINED BETWEEN MLGW'S LOWEST FACILITY AND THE SIGNAL POLE MAST ARM.
9. ADJUST OVERHEAD WIRE/CABLE AS REQUIRED TO MINIMIZE OR ELIMINATE SIGNAL HEAD VISIBILITY OBSTRUCTIONS.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL NOTES

10. 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.
11. NOTHING IN THIS PLAN IS INTENDED TO SUPERSEDE OR RELIEVE THE CONTRACTOR OF HIS 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*.
12. THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE SHELBY COUNTY CONSTRUCTION INSPECTION OFFICE (BOB EVANS @ 901-222-7742), CITY OF MEMPHIS (GARY VADEN @ 901-576-6725), AND CITY OF BARTLETT (RICK McCLANAHAN @ 901-385-6499) A MINIMUM OF SEVENTY TWO (72) HOURS PRIOR TO IMPLEMENTING A TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION. ALL TRAFFIC CONTROL DEVICES MUST BE IN PLACE BEFORE CONSTRUCTION ACTIVITY BEGINS.
13. IF USED, THE CONTRACTOR SHALL USE PLASTIC DRUMS WITH TYPE "C" WARNING LIGHTS TO SEPARATE TRAFFIC FROM THE CONSTRUCTION AREA. DRUMS WITH TYPE "C" WARNING LIGHTS SHALL DELINEATE THE EDGE OF PAVEMENT THROUGH THE ENTIRE CONSTRUCTION AREA, IF USED.
14. ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE (1) WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
15. IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM 712-01.
16. A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED, PROVIDED THE SIGN FACE IS FULLY COVERED.
17. THE CONTRACTOR SHALL COVER ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL SIGNS OR DEVICES DURING CONSTRUCTION, AND THEY SHALL REMAIN COVERED DURING CONSTRUCTION AND UNTIL SUCH TIME THAT NO CONFLICT EXISTS. TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
18. USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
19. THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES.
20. ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. SIDE STREET, DRIVEWAY ACCESS, AND SAFE PEDESTRIAN WAYS SHALL BE MAINTAINED AT ALL TIMES.
21. DURING CONSTRUCTION, A MINIMUM OF ONE ELEVEN (11) FOOT LANE OF TRAFFIC IN EACH DIRECTION SHALL REMAIN OPEN AT ALL TIMES.
22. THE PROPOSED TRAFFIC SIGNAL SHALL BE COMPLETELY INSTALLED, OPERATING, AND CONTROLLING TRAFFIC PRIOR TO REMOVAL OF ANY EXISTING TRAFFIC CONTROL APPURTENANCES, SUCH AS SIGNS AND PAVEMENT MARKINGS.

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

MISCELLANEOUS

24. PROPERTY AND/OR R.O.W. LINES SHALL BE FIELD VERIFIED, IF REQUIRED, PRIOR TO CONSTRUCTION.
25. VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION, NOTIFY THE SHELBY COUNTY CONSTRUCTION INSPECTION OFFICE OF ANY VARIATIONS PRIOR TO THE COMMENCEMENT OF WORK.
26. LANDSCAPING AND MAILBOXES DISTURBED BY THIS PROJECT SHOULD BE RETURNED TO AN AESTHETIC CONDITION EQUAL TO ITS EXISTING CONDITION.
27. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS.
28. CONTRACTOR SHALL PROVIDE DESIGN ENGINEER WITH MATERIALS SUBMITTALS. DESIGN ENGINEER WILL SUBMIT ACCEPTED SUBMITTALS TO THE COUNTY ENGINEER'S OFFICE FOR APPROVAL.
29. ALL SALVAGEABLE ITEMS SHALL BE DELIVERED TO THE JURISDICTION IN WHICH THE WORK IS BEING DONE.
30. THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS.
31. CONSTRUCTION OPERATIONS SHALL BE LIMITED TO THE MINIMUM NECESSARY AS REQUIRED FOR THE PROJECT. EXISTING VEGETATION SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. ALL DISTURBED AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE.
32. FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DIALY IF POSSIBLE, BUT NO LATER THAN SEVEN (7) DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOIL OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE STATE UTILITY CONTRACTOR UNTIL SUCH TIME AS THE TRENCH IS BACKFILLED.
33. TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORM WATER RUNOFF TO CONCENTRATE AT THE TRENCH LINE. ADDITIONAL EPSC MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE ENGINEER.

SIGNALIZATION

34. THE CONTRACTOR SHALL ADJUST OR MODIFY THE LOCATIONS OF THE EMERGENCY VEHICLE OPTICAL DETECTORS TO ACHIEVE RELIABLE PERFORMANCE, AS DETERMINED BY THE ENGINEER WHEN FIELD-TESTED WITH ACTUAL FIRE DEPARTMENT VEHICLES. OPTICAL DETECTORS SHALL BE EITHER UNI-DIRECTIONAL/SIGNAL CHANNEL OR BI-DIRECTIONAL/DUAL CHANNEL, AS REQUIRED.
 35. REGARDLESS OF THE ENGINEER'S PRE-INSTALLATION APPROVAL, THE CONTRACTOR SHALL ADJUST OR MODIFY THE LOCATIONS OF THE CONFIRMATION LAMP(S) AND BEACON(S) TO ACHIEVE SATISFACTORY VISIBILITY, AS DETERMINED BY THE ENGINEER.
 36. ALL EMERGENCY VEHICLE PREEMPTION EQUIPMENT INCLUDING OPTICAL DETECTION CABLE SHALL BE SUPPLIED BY THE SAME MANUFACTURER
 37. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING THE SIGNAL TIMING IN THE CONTROLLER. CONTACT JAMES COLLINS, KIMLEY-HORN AND ASSOCIATES, INC. AT (901) 374-9109 A MINIMUM OF THIRTY (30) DAYS PRIOR TO ACTIVATION OF THE NEW SIGNAL TO OBTAIN TIMINGS. THE CONTRACTOR SHALL BRING THE NEW CONTROLLER UNIT AND THE SIGNAL TIMING SHEET TO THE CITY OF MEMPHIS TRAFFIC SIGNAL MAINTENANCE OFFICE FOR REVIEW PRIOR TO INSTALLATION OF THE CONTROLLER IN THE CABINET.
 38. ANY SIGNAL HEADS, WHEN VISIBLE TO DRIVERS BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED.
 39. THE LOCATIONS OF ALL NEW PULLBOXES ARE SCHEMATIC. ADDITIONAL PULLBOXES MAY BE REQUIRED FOR BORING UNDER DRIVEWAYS. THE ENGINEER SHALL APPROVE THE FINAL LOCATIONS OF ALL PULLBOXES IN THE FIELD. THE CONTRACTOR SHALL PROVIDE AS-BUILT DOCUMENTATION (RED-LINE MARK-UP OF PLAN SET) WHICH SHOWS EXACT FINAL DIMENSIONS BETWEEN PULLBOXES AND OTHER POINTS OF CONDUIT TERMINATION.
 40. SIGNAL HEADS ON THE MAST ARM POLES ARE TO BE LOCATED SUCH THAT THE BOTTOM OF THE INDICATIONS ARE A MINIMUM OF TEN (10) FEET FROM FINISHED GRADE AT THE BASE OF THE POLE.
 41. ALL SIGNAL HEADS SHALL BE LED DISPLAYS WITH BACKPLATES.
 42. CABINET SHALL BE WIRED FOR EIGHT (8) PHASES. THE CONFLICT MONITOR, BACK PANEL LOAD SWITCHES, RELAYS, AND OTHER ACCESSORIES SHALL BE PROVIDED FOR EIGHT (8) PHASE OPERATION. THE PHASE SELECTOR APPARATUS SHALL BE INSTALLED IN THE TRAFFIC SIGNAL CONTROLLER CABINET.
 43. THE 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.
 44. THE CONTRACTOR SHALL NOT SPLICE ANY VIDEO DETECTION OR EVP EQUIPMENT CABLES.
 45. DESIGN: THE ENTIRE POLE ASSEMBLY SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 6th EDITION PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) IN 2013. ALL SUPPORTING CALCULATIONS FOR THE DESIGN ARE REQUIRED FOR 100 MPH WIND ZONE WITH 1.30 GUST FACTOR, FATIGUE CATEGORY 1.
- AT A MINIMUM, ALL POLES AND MAST ARMS SHALL BE DESIGNED TO ACCOMODATE 3 @ 3 SECTION SIGNAL HEADS (WITH BACKPLATES), 1 @ 5 SECTION SIGNAL HEAD (WITH BACKPLATE) MOUNTED ON THE MAST ARM, AND ONE 5 SECTION SIGNAL HEAD ON THE POLE. THE MINIMUM MAST ARM AND POLE DESIGN SHOULD ALSO INCLUDE 20 SF OF SIGNAGE, VIDEO DETECTION AND MOUNT, EVP PREEMPTION, AND STROBE. THIS EQUIPMENT IS A MINIMUM, AND THE SIGNAL LAYOUTS AS INDICATED HEREIN MAY REQUIRE ADDITIONAL LOADINGS.
46. SIGNAL HEADS SHALL FLASH A MINIMUM OF SEVEN (7) DAYS PRIOR TO ACTIVATION OF THE SIGNAL.
 47. THE POLE FACE OF CURB OFFSETS AS SHOWN ON THE SIDEWALK DETAILS AT EACH QUADRANT ARE FOR CONTRACTORS PRELIMINARY LAYOUT ONLY, AND ARE NOT INTENDED FOR FINAL LAYOUT. THE COORDINATES AS INDICATED ON THE POLE LAYOUT ARE TO BE UTILIZED FOR FINAL POLE LAYOUT, UNLESS DIRECTED OTHERWISE.

CABLE MARKERS

48. THE CONTRACTOR SHALL INSTALL CABLE MARKERS TO IDENTIFY THE TRAFFIC SIGNAL CONDUCTOR, DETECTION, AND EMERGENCY VEHICLE PREEMPTION CABLES. LEGENDS AND COLORS FOR MARKERS ARE TO APPEAR ACCORDING TO THE INFORMATION SUPPLIED BY THE CITY OF MEMPHIS SIGNAL MAINTENANCE DEPARTMENT. MARKERS ARE TO BE PERMANENT, BRIGHTLY COLORED, NON-REFLECTIVE, WITH BLACK LETTERING. MARKERS ARE TO BE MANUFACTURED OF PLASTIC, VINYL, OR FIBERGLASS MATERIAL THAT IS DURABLE, UV LIGHT-RESISTANT, WEATHER-PROOF, AND SCRATCH-RESISTANT.
49. 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 RECOMMENDATION OF THE MANUFACTURER. CURB MARKERS ARE TO BE INSTALLED ON CABINET AND POLE FOUNDATIONS ON THE SIDE ABOVE THE CABLE. 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 EXIST INSTEAD OF CURB, PLACE CURB MARKERS ON THE PAVEMENT SURFACE ONE (1) 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 & CO., OR APPROVED EQUAL. CURB MARKERS SHALL BE ABRASION AND UV-RESISTANT.

UTILITY OWNERS

<u>GAS:</u>	MEMPHIS LIGHT, GAS, & WATER 220 S. MAIN ST. MEMPHIS, TN 38103 (901) 528-4186 TOM WORD	<u>TELEPHONE:</u>	AT&T 315 E. COLLEGE ST. JACKSON, TN 38301 (731) 423-5037 DON ROE
	WESPAC PIPELINE, LLC 2640 RENTAL RD. MEMPHIS, TN 38118 (901) 262-5384 LEE ANDERSON	<u>CABLE:</u>	COMCAST P.O. BOX 140400 MEMPHIS, TN 37214 (615) 244-7462 TONY COOK
<u>WATER:</u>	MEMPHIS LIGHT, GAS, & WATER 220 S. MAIN ST. MEMPHIS, TN 38103 (901) 528-4186 TOM WORD	<u>FIBER OPTIC:</u>	TW TELECOM 6000 POPLAR AVE MEMPHIS, TN 38119 (901) 260-5011 SEAN MOSS
	CITY OF BARTLETT 6382 STAGE RD. BARTLETT, TN 38134 (901) 385-6499 RICK McCLANAHAN, P.E.		ZAYO BANDWIDTH 7620 APPLING CTR DR. MEMPHIS, TN 38133 (901)651-4975 JIM MILLER
<u>SEWER:</u>	CITY OF MEMPHIS 1600 2ND AVE. NORTH MEMPHIS, TN 38103 (901) 576-6725 GARY VADEN		KENTUCKY DATA LINK 936 LAKE DR. FULTON, MS 38843 (812)454-1918 GEORGE BUTLER
	CITY OF BARTLETT 6382 STAGE RD. BARTLETT, TN 38134 (901) 385-6499 RICK McCLANAHAN, P.E.	<u>ELECTRIC:</u>	MEMPHIS LIGHT, GAS, & WATER 220 S. MAIN ST. MEMPHIS, TN 38103 (901) 528-4186 TOM WORD

REVISIONS		
DATE	DESCRIPTIONS	APPROVED




DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
NEW SIGNAL SET #1
SHELBY COUNTY, TN.

**GENERAL NOTES
UTILITY OWNERS**

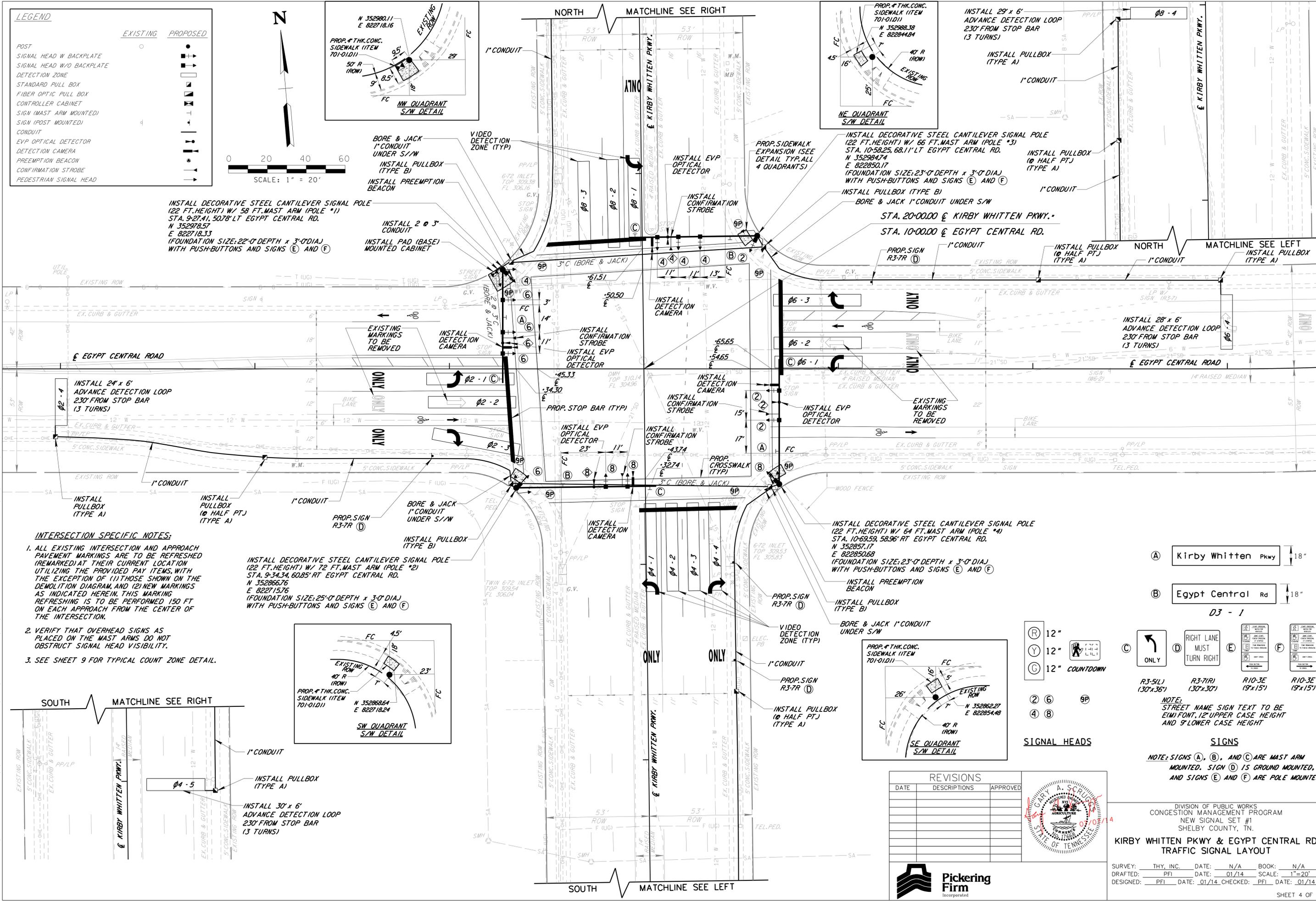
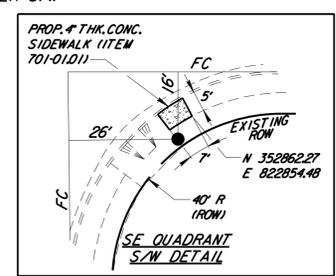
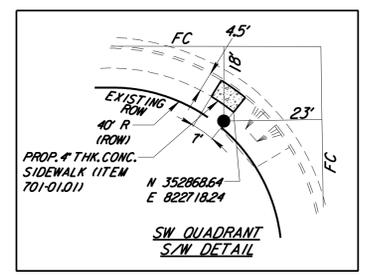
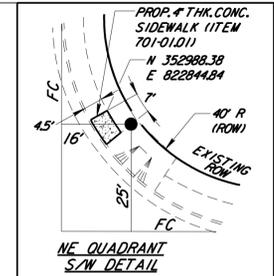
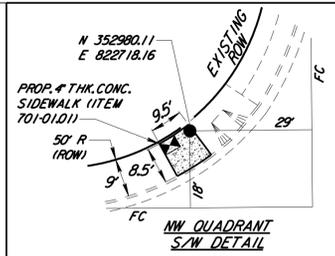
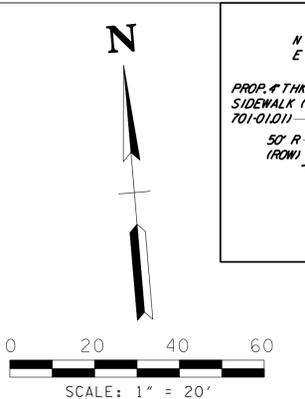
SURVEY: THY, INC. DATE: N/A BOOK: N/A
 DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
 DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14

SHEET 3 OF 9

DRAWING NAME: \$(GETVAR, "DWGPREFIX")\$(GETVAR, "DWGNAME") \$(GETVAR, "CTAB") \$(EDTIME, 0, MON DD " ", YYYY H:MMAM/PM) BY: \$(GETVAR, "LOGNAME")

LEGEND

EXISTING	PROPOSED
POST	POST
SIGNAL HEAD W/ BACKPLATE	SIGNAL HEAD W/O BACKPLATE
DETECTION ZONE	DETECTION ZONE
STANDARD PULL BOX	FIBER OPTIC PULL BOX
CONTROLLER CABINET	SIGN (MAST ARM MOUNTED)
SIGN (POST MOUNTED)	CONDUIT
EVP OPTICAL DETECTOR	DETECTION CAMERA
PREEMPTION BEACON	CONFIRMATION STROBE
PEDESTRIAN SIGNAL HEAD	



INTERSECTION SPECIFIC NOTES:

- ALL EXISTING INTERSECTION AND APPROACH PAVEMENT MARKINGS ARE TO BE REFRESHED (REMARKED) AT THEIR CURRENT LOCATION UTILIZING THE PROVIDED PAY ITEMS, WITH THE EXCEPTION OF (1) THOSE SHOWN ON THE DEMOLITION DIAGRAM, AND (2) NEW MARKINGS AS INDICATED HEREIN. THIS MARKING REFRESHING IS TO BE PERFORMED 150 FT ON EACH APPROACH FROM THE CENTER OF THE INTERSECTION.
- VERIFY THAT OVERHEAD SIGNS AS PLACED ON THE MAST ARMS DO NOT OBSTRUCT SIGNAL HEAD VISIBILITY.
- SEE SHEET 9 FOR TYPICAL COUNT ZONE DETAIL.

INSTALL DECORATIVE STEEL CANTILEVER SIGNAL POLE (22 FT. HEIGHT) W/ 72 FT. MAST ARM (POLE *2)
 STA. 9+34.34, 60.85' RT EGYPT CENTRAL RD.
 N 352866.76 E 822715.76
 (FOUNDATION SIZE: 25'-0" DEPTH x 3'-0" DIA) WITH PUSH-BUTTONS AND SIGNS (E) AND (F)

INSTALL DECORATIVE STEEL CANTILEVER SIGNAL POLE (22 FT. HEIGHT) W/ 64 FT. MAST ARM (POLE *4)
 STA. 10+69.59, 58.96' RT EGYPT CENTRAL RD.
 N 352857.17 E 822850.88
 (FOUNDATION SIZE: 23'-0" DEPTH x 3'-0" DIA) WITH PUSH-BUTTONS AND SIGNS (E) AND (F)

(A) Kirby Whitten Pkwy 18"

(B) Egypt Central Rd 18"
D3 - 1

(C) ONLY

(D) RIGHT LANE MUST TURN RIGHT

(E)

(F)

R3-5(L) (30'x36') R3-7(R) (30'x30') R10-3E (19'x15') R10-3E (19'x15')

NOTE: STREET NAME SIGN TEXT TO BE 6" MIN FONT, 12" UPPER CASE HEIGHT AND 9" LOWER CASE HEIGHT

(R) 12"

(Y) 12"

(G) 12" COUNTDOWN

2 6 9P

4 8

SIGNAL HEADS

SIGNS

NOTE: SIGNS (A), (B), AND (C) ARE MAST ARM MOUNTED. SIGN (D) IS GROUND MOUNTED, AND SIGNS (E) AND (F) ARE POLE MOUNTED

REVISIONS

DATE	DESCRIPTIONS	APPROVED



DIVISION OF PUBLIC WORKS
 CONGESTION MANAGEMENT PROGRAM
 NEW SIGNAL SET #1
 SHELBY COUNTY, TN

**KIRBY WHITTEN PKWY & EGYPT CENTRAL RD
 TRAFFIC SIGNAL LAYOUT**

SURVEY: THY, INC. DATE: N/A BOOK: N/A
 DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
 DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14



ZONE	MODE
Ø2 - 1	PRESENCE
Ø2 - 2	PRESENCE
Ø2 - 3	PRESENCE
Ø2 - 4	PULSE
Ø4 - 1	PRESENCE
Ø4 - 2	PRESENCE
Ø4 - 3	PRESENCE
Ø4 - 4	PRESENCE
Ø4 - 5	PULSE
Ø6 - 1	PRESENCE
Ø6 - 2	PRESENCE
Ø6 - 3	PRESENCE
Ø6 - 4	PULSE
Ø8 - 1	PRESENCE
Ø8 - 2	PRESENCE
Ø8 - 3	PRESENCE
Ø8 - 4	PULSE

DETECTOR ZONE ASSIGNMENTS

* - 5 SECOND DELAY

PROTECTED/PERMISSIVE LEFT TURN 7C CABLE	
PHASE	CONDUCTOR COLOR
RED	RED
YELLOW	ORANGE
GREEN	GREEN
YELLOW ARROW	BLACK
GREEN ARROW	BLUE
NEUTRAL	WHITE
SPARE	WHITE/BLACK

PROTECTED ONLY LEFT TURN 7C CABLE	
PHASE	CONDUCTOR COLOR
RED	RED
YELLOW ARROW	BLACK
GREEN ARROW	BLUE
NEUTRAL	WHITE
SPARE	ORANGE
SPARE	GREEN
SPARE	WHITE/BLACK

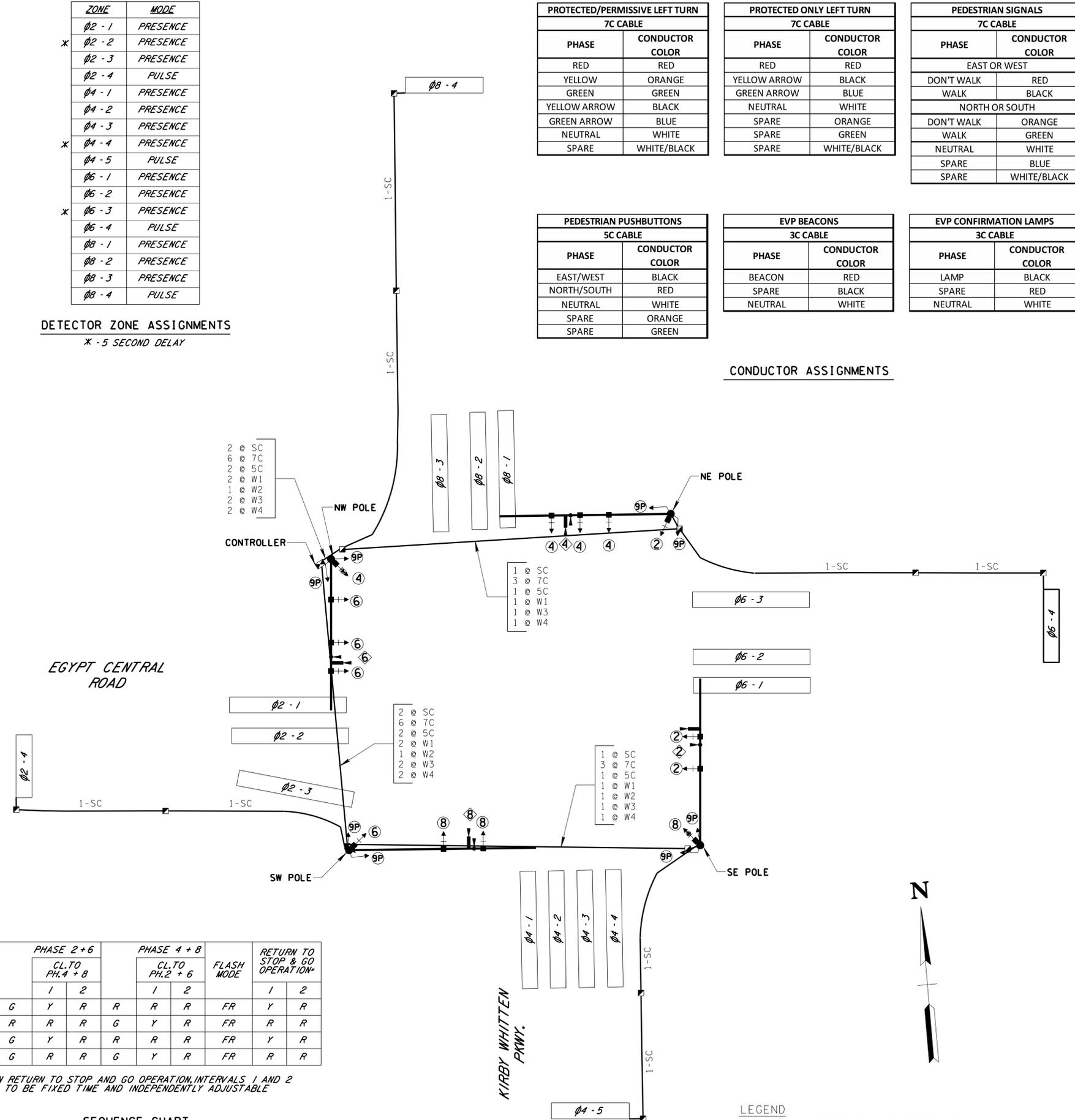
PEDESTRIAN SIGNALS 7C CABLE	
PHASE	CONDUCTOR COLOR
EAST OR WEST	
DON'T WALK	RED
WALK	BLACK
NORTH OR SOUTH	
DON'T WALK	ORANGE
WALK	GREEN
NEUTRAL	WHITE
SPARE	BLUE
SPARE	WHITE/BLACK

PEDESTRIAN PUSHBUTTONS 5C CABLE	
PHASE	CONDUCTOR COLOR
EAST/WEST	BLACK
NORTH/SOUTH	RED
NEUTRAL	WHITE
SPARE	ORANGE
SPARE	GREEN

EVP BEACONS 3C CABLE	
PHASE	CONDUCTOR COLOR
BEACON	RED
SPARE	BLACK
NEUTRAL	WHITE

EVP CONFIRMATION LAMPS 3C CABLE	
PHASE	CONDUCTOR COLOR
LAMP	BLACK
SPARE	RED
NEUTRAL	WHITE

CONDUCTOR ASSIGNMENTS



SIGNAL HEAD		PHASE 2 + 6		PHASE 4 + 8			FLASH MODE	RETURN TO STOP & GO OPERATION*	
		CL. TO PH. 4 + 8		CL. TO PH. 2 + 6				1	2
		1	2	1	2	1			
2	G	Y	R	R	R	R	FR	Y	R
4	R	R	R	G	Y	R	FR	R	R
6	G	Y	R	R	R	R	FR	Y	R
8	G	R	R	G	Y	R	FR	R	R

* - IN RETURN TO STOP AND GO OPERATION, INTERVALS 1 AND 2 ARE TO BE FIXED TIME AND INDEPENDENTLY ADJUSTABLE

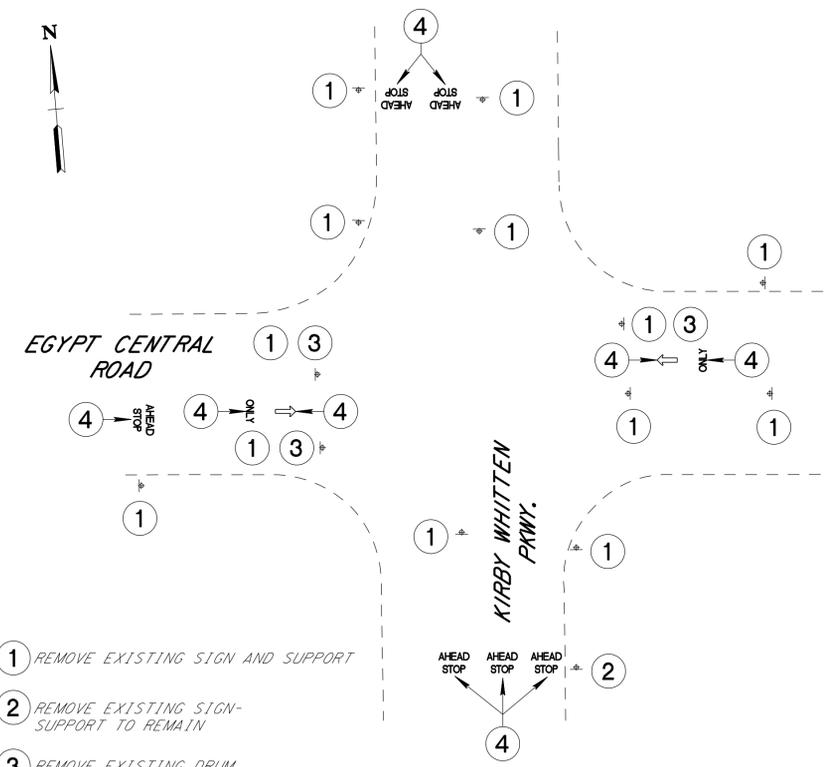
SEQUENCE CHART

DISPLAY WIRING SCHEMATIC

NTS

LEGEND

- W1 = EVP CONFIRMATION LAMP POWER CABLE
- W2 = EVP CONFIRMATION BEACON POWER CABLE
- W3 = EVP DETECTOR CABLES
- W4 = VIDEO DETECTION CAMERA POWER CABLE AND COAX CABLE

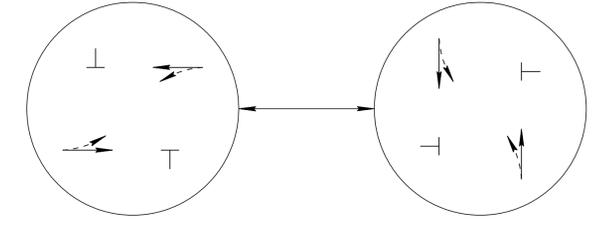


- REMOVE EXISTING SIGN AND SUPPORT
- REMOVE EXISTING SIGN-SUPPORT TO REMAIN
- REMOVE EXISTING DRUM
- OBLITERATE EXISTING PAVEMENT MARKINGS

DEMOLITION DIAGRAM

NTS

EVP PREEMPTION TABLE	
EVP DETECTOR	PHASE(S) CALLED
Ø2	2 + 6
Ø6	2 + 6
Ø4	4 + 8
Ø8	4 + 8



PHASING DIAGRAM

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

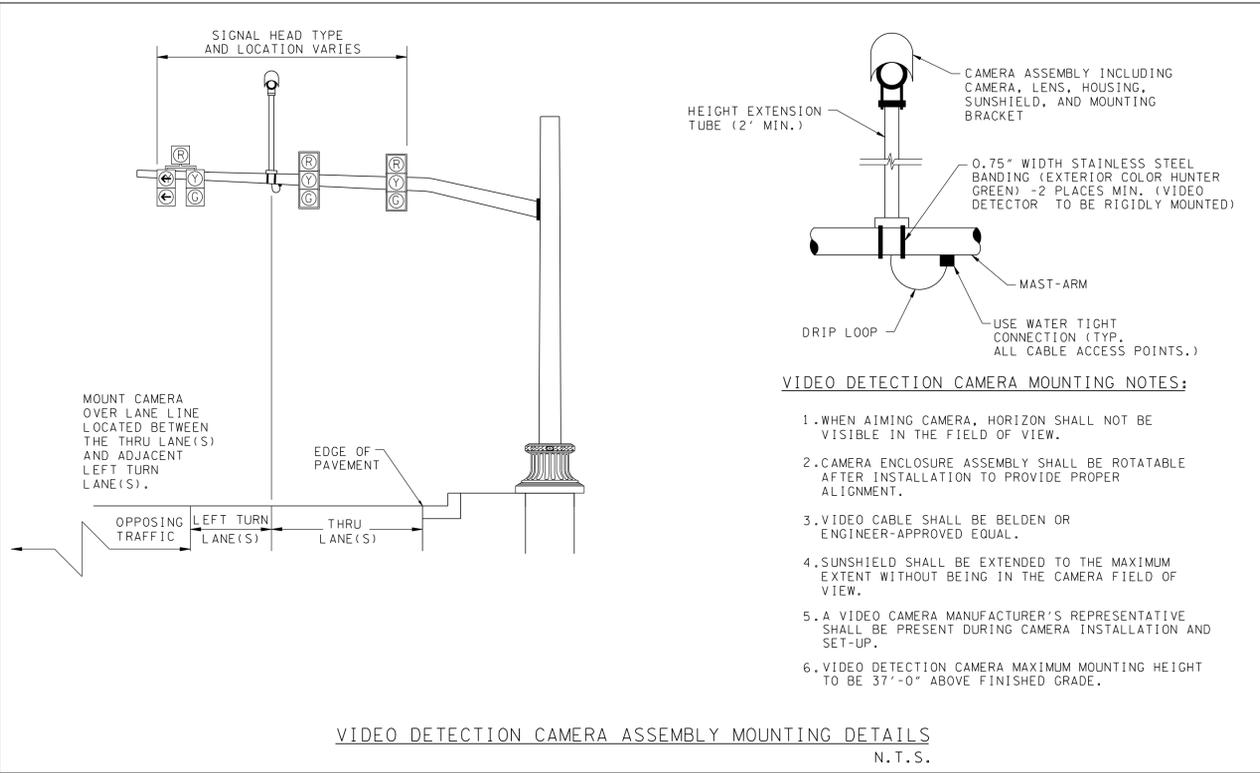


DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
NEW SIGNAL SET #1
SHELBY COUNTY, TN.

**KIRBY WHITTEN PKWY & EGYPT CENTRAL RD
TRAFFIC SIGNAL DETAILS**

SURVEY: THY, INC. DATE: N/A BOOK: N/A
 DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
 DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14





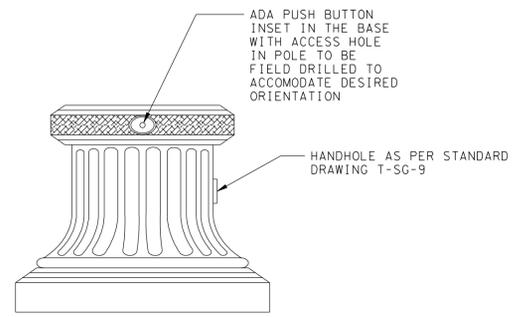
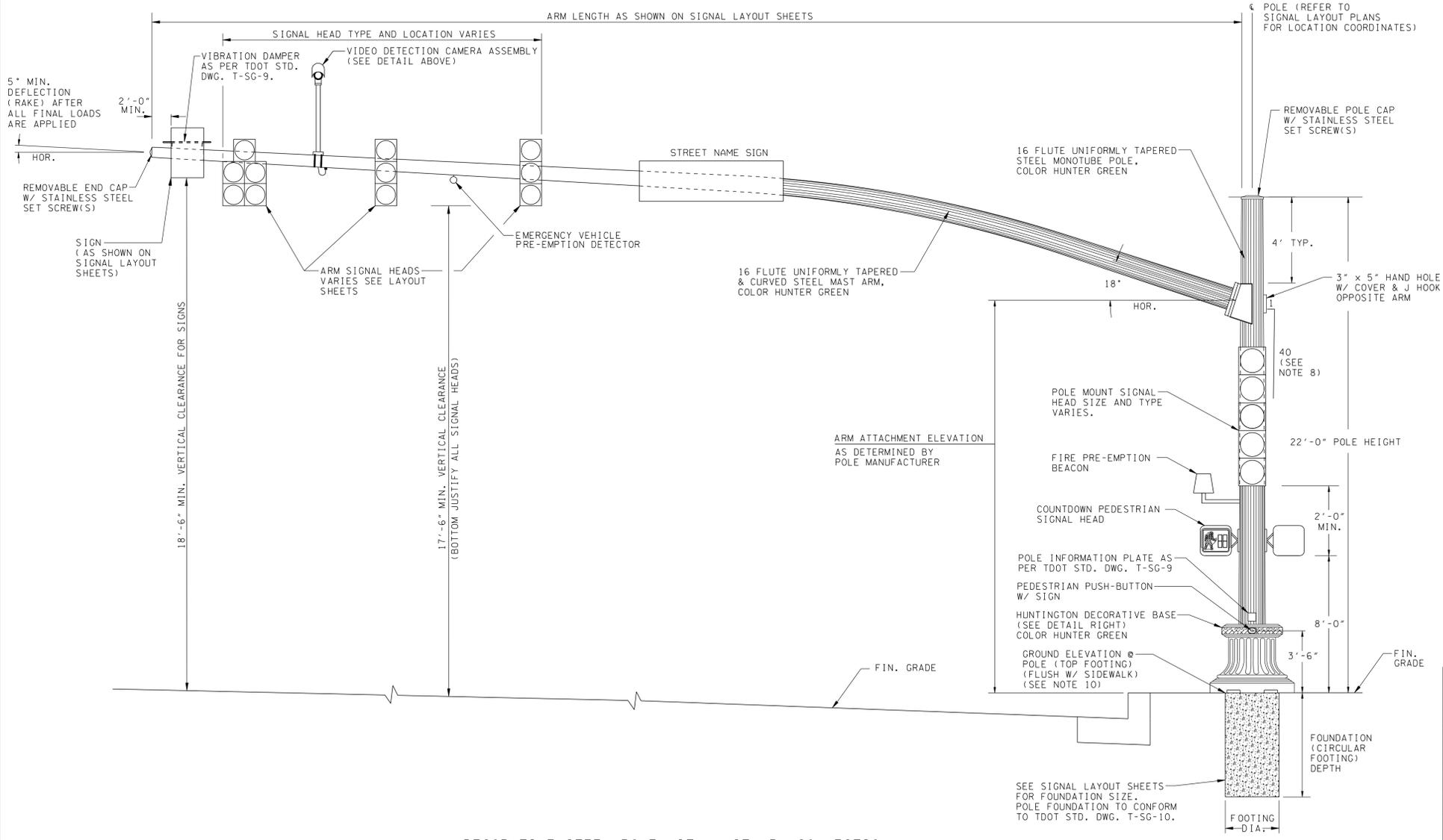
VIDEO DETECTION CAMERA MOUNTING NOTES:

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.
5. A VIDEO CAMERA MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING CAMERA INSTALLATION AND SET-UP.
6. VIDEO DETECTION CAMERA MAXIMUM MOUNTING HEIGHT TO BE 37'-0" ABOVE FINISHED GRADE.

NOTES

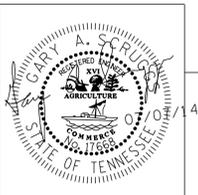
1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHOW ANY VARIATIONS IN THE SHOP DRAWINGS.
2. THE POLE DESIGN, BASED UPON GROUNDLINE MOMENTS, SHALL BE CAPABLE OF SUPPORTING NOT LESS THAN 2.0 TIMES THE DESIGN HORIZONTAL AND VERTICAL LOADS BOTH INDIVIDUALLY AND COMBINED. STRESSES DUE TO THE MOMENT SHALL BE CALCULATED BASED ON THE DIMENSIONS VERIFIED IN THE FIELD.
3. THE FABRICATION OF THE SIGNAL POLE ASSEMBLY SHALL BE DONE IN A PLANT CERTIFIED BY THE *AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)*, CATEGORY 1. THIS CERTIFICATION MUST BE PRESENTED TO THE OWNER PRIOR TO THE BID DATE.
4. DESIGN: THE ENTIRE POLE ASSEMBLY SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THE *STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 6TH EDITION* PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) IN 2013. ALL SUPPORTING CALCULATIONS FOR THE DESIGN ARE REQUIRED FOR 100 MPH WIND ZONE WITH 1.30 GUST FACTOR, FATIGUE CATEGORY 1.

AT A MINIMUM, ALL POLES AND MAST ARMS SHALL BE DESIGNED TO ACCOMMODATE 3 @ 3 SECTION SIGNAL HEADS (WITH BACKPLATES), 1 @ 5 SECTION SIGNAL HEAD (WITH BACKPLATE) MOUNTED ON THE MAST ARM, AND ONE 5 SECTION SIGNAL HEAD ON THE POLE. THE MINIMUM MAST ARM AND POLE DESIGN SHOULD ALSO INCLUDE 20 SF OF SIGNAGE, VIDEO DETECTION AND MOUNT, EVP PREEMPTION, AND STROBE. THIS EQUIPMENT IS A MINIMUM, AND THE SIGNAL LAYOUTS AS INDICATED HEREIN MAY REQUIRE ADDITIONAL LOADINGS.
5. PRIOR TO FABRICATION, THE CONTRACTOR SHALL PREPARE POLE, MAST ARM, FOUNDATION REINFORCING BAR, AND ANCHOR BOLT DESIGN CALCULATIONS. THESE CALCULATIONS SHALL BE PREPARED BY AND SEALED BY A TENNESSEE PROFESSIONAL ENGINEER. NO FABRICATION NOR CONSTRUCTION MAY BEGIN UNTIL THE CALCULATIONS AND ACCOMPANYING SHOP DRAWINGS ARE APPROVED.
6. ALL BANDING UTILIZED TO FASTEN EQUIPMENT TO THE POLE OR MAST ARM SHALL BE MADE OF STAINLESS STEEL WITH AN EXTERIOR (EXPOSED) FINISH THAT MATCHES THE POLE AND ARM COLOR, UNLESS DIRECTED OTHERWISE.
7. THIS DRAWING IS INTENDED TO BE SUPPLEMENTED WITH T.D.O.T. STANDARD DRAWINGS T-SG-9 AND T-SG-10. IN CASES OF CONFLICTING INFORMATION, USE THE MORE STRINGENT REQUIREMENT.
8. 40V:1H POLE RAKE AFTER INSTALLATION AND LOADING IS COMPLETE. AFTER FINAL INSTALLATION AND LOADING, ANY MAST ARM AND/OR POLE THAT EXHIBITS LESS THAN REQUIRED POLE RAKE OR THE REQUIRED MAST ARM ANGLE OF INSTALLATION SHALL BE REPLACED AT NO ADDITIONAL CONTRACT COST.
9. FINISH COLOR PAINT MAY EITHER BE APPLIED AT THE FACTORY (WITH FIELD TOUCH UP AS REQUIRED) OR IN THE FIELD.
10. POLE BASE PLATE AND DECORATIVE BASE SHALL BE INSTALLED SO AS TO ALLOW AIR CIRCULATION AND FREE DRAINAGE AT THE BASE. GROUTING BETWEEN THE POLE BASE PLATE AND TOP OF FOOTING WILL NOT BE ALLOWED.



HUNTINGTON DECORATIVE BASE

REVISIONS		
DATE	DESCRIPTIONS	APPROVED



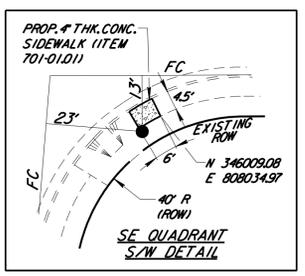
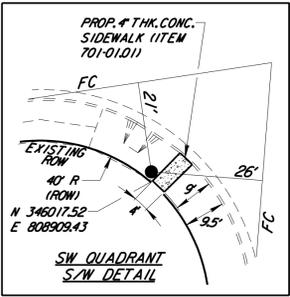
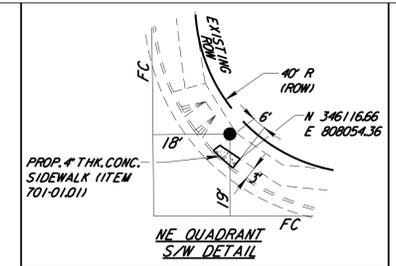
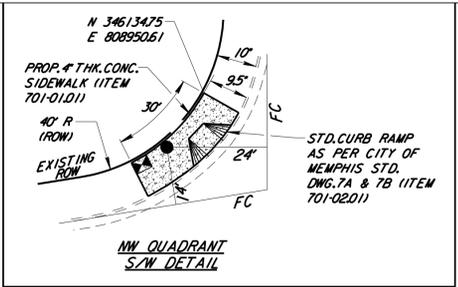
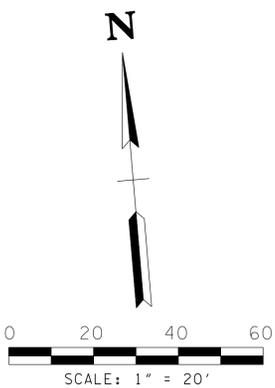
DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
NEW SIGNAL SET #1
SHELBY COUNTY, TN.
**KIRBY WHITTEN PKWY & EGYPT CENTRAL RD
TRAFFIC SIGNAL POLE DETAILS**

SURVEY: THY, INC. DATE: N/A BOOK: N/A
DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14

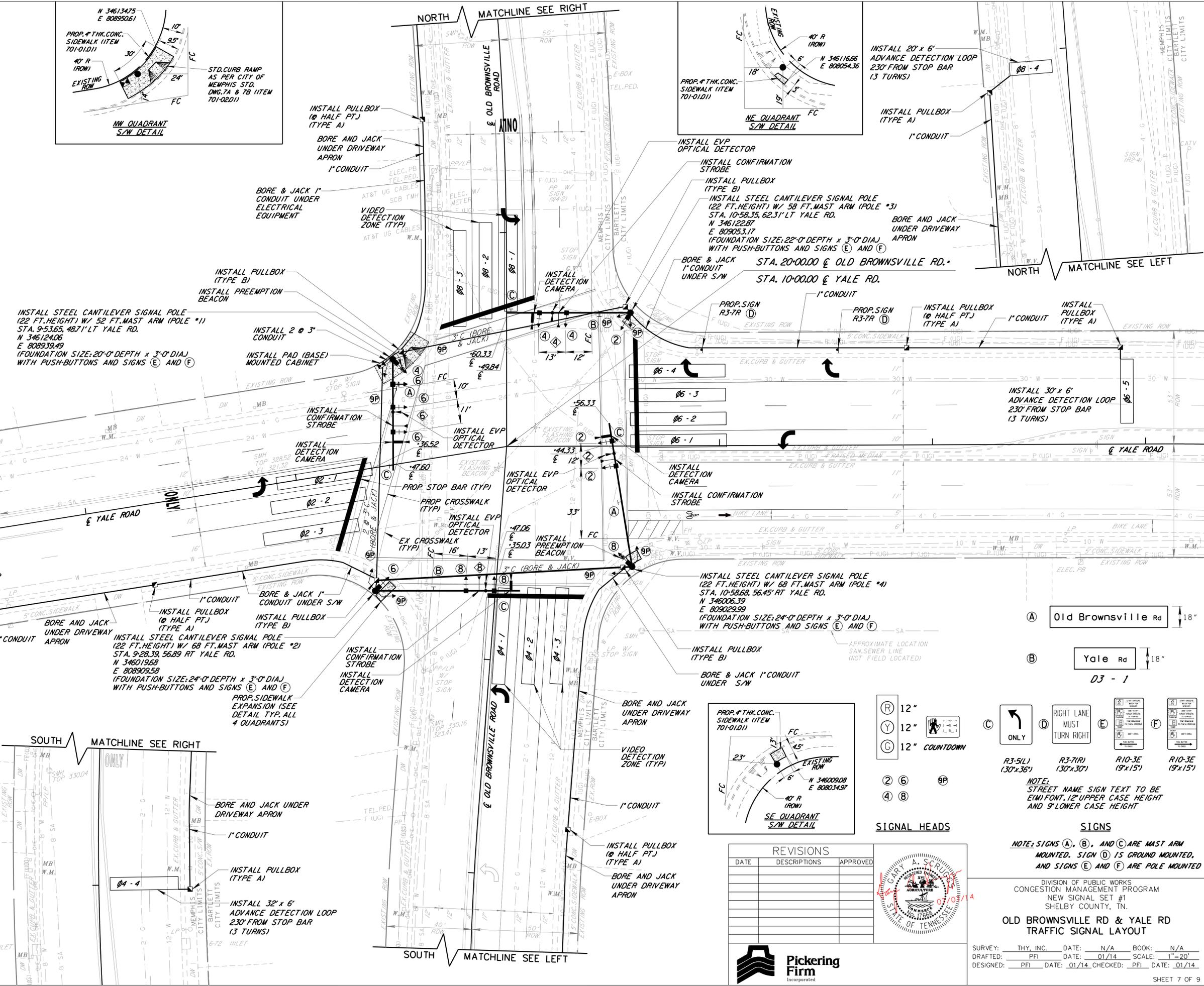


LEGEND

- | | |
|---------------------------|----------|
| EXISTING | PROPOSED |
| POST | ● |
| SIGNAL HEAD W/ BACKPLATE | ■ |
| SIGNAL HEAD W/O BACKPLATE | □ |
| DETECTION ZONE | ▭ |
| STANDARD PULL BOX | ▭ |
| FIBER OPTIC PULL BOX | ▭ |
| CONTROLLER CABINET | ▭ |
| SIGN (MAST ARM MOUNTED) | ▭ |
| SIGN (POST MOUNTED) | ▭ |
| CONDUIT | — |
| EVP OPTICAL DETECTOR | ○ |
| DETECTION CAMERA | ○ |
| PREEMPTION BEACON | ○ |
| CONFIRMATION STROBE | ○ |
| PEDESTRIAN SIGNAL HEAD | ○ |



- INTERSECTION SPECIFIC NOTES:**
- ALL EXISTING INTERSECTION AND APPROACH PAVEMENT MARKINGS ARE TO BE REFRESHED (REMARKED) AT THEIR CURRENT LOCATION UTILIZING THE PROVIDED PAY ITEMS, WITH THE EXCEPTION OF (1) THOSE SHOWN ON THE DEMOLITION DIAGRAM, AND (2) NEW MARKINGS AS INDICATED HEREIN. THIS MARKING REFRESHING IS TO BE PERFORMED 150 FT ON EACH APPROACH FROM THE CENTER OF THE INTERSECTION.
 - VERIFY THAT OVERHEAD SIGNS AS PLACED ON THE MAST ARMS DO NOT OBSTRUCT SIGNAL HEAD VISIBILITY.
 - SEE SHEET 9 FOR TYPICAL COUNT ZONE DETAIL.



SIGNAL HEADS

(R) 12"	(Y) 12"	(G) 12" COUNTDOWN
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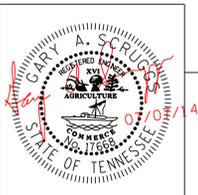
SIGNS

(C) ONLY	(D) RIGHT LANE MUST TURN RIGHT	(E) R3-5(L) (30'x36')	(F) R3-7(R) (30'x30')	(G) R10-3E (19'x15')	(H) R10-3E (19'x15')
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NOTE: STREET NAME SIGN TEXT TO BE 12" FONT, 12" UPPER CASE HEIGHT AND 9" LOWER CASE HEIGHT

REVISIONS

DATE	DESCRIPTIONS	APPROVED



NOTE: SIGNS (A), (B), AND (C) ARE MAST ARM MOUNTED. SIGN (D) IS GROUND MOUNTED, AND SIGNS (E) AND (F) ARE POLE MOUNTED

DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
NEW SIGNAL SET #1
SHELBY COUNTY, TN

**OLD BROWNSVILLE RD & YALE RD
TRAFFIC SIGNAL LAYOUT**

SURVEY: THY, INC. DATE: N/A BOOK: N/A
 DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
 DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14



DRAWING NAME: \$(GETVAR, "DIMGPREFIX")\$(GETVAR, "DWGNAME") \$(GETVAR, "CTAB") \$(GETTIME, "O. MON DD." "YYYY H:MMAM/PM") BY: \$(GETVAR, "LOGINNAME")

ZONE	MODE
Ø2 - 1	PRESENCE
Ø2 - 2	PRESENCE
Ø2 - 3	PRESENCE
Ø2 - 4	PULSE
Ø4 - 1	PRESENCE
Ø4 - 2	PRESENCE
Ø4 - 3	PRESENCE
Ø4 - 4	PULSE
Ø6 - 1	PRESENCE
Ø6 - 2	PRESENCE
Ø6 - 3	PRESENCE
Ø6 - 4	PRESENCE
Ø6 - 5	PULSE
Ø8 - 1	PRESENCE
Ø8 - 2	PRESENCE
Ø8 - 3	PRESENCE
Ø8 - 4	PULSE

DETECTOR ZONE ASSIGNMENTS

* - 5 SECOND DELAY

PROTECTED/PERMISSIVE LEFT TURN 7C CABLE	
PHASE	CONDUCTOR COLOR
RED	RED
YELLOW	ORANGE
GREEN	GREEN
YELLOW ARROW	BLACK
GREEN ARROW	BLUE
NEUTRAL	WHITE
SPARE	WHITE/BLACK

PROTECTED ONLY LEFT TURN 7C CABLE	
PHASE	CONDUCTOR COLOR
RED	RED
YELLOW ARROW	BLACK
GREEN ARROW	BLUE
NEUTRAL	WHITE
SPARE	ORANGE
SPARE	GREEN
SPARE	WHITE/BLACK

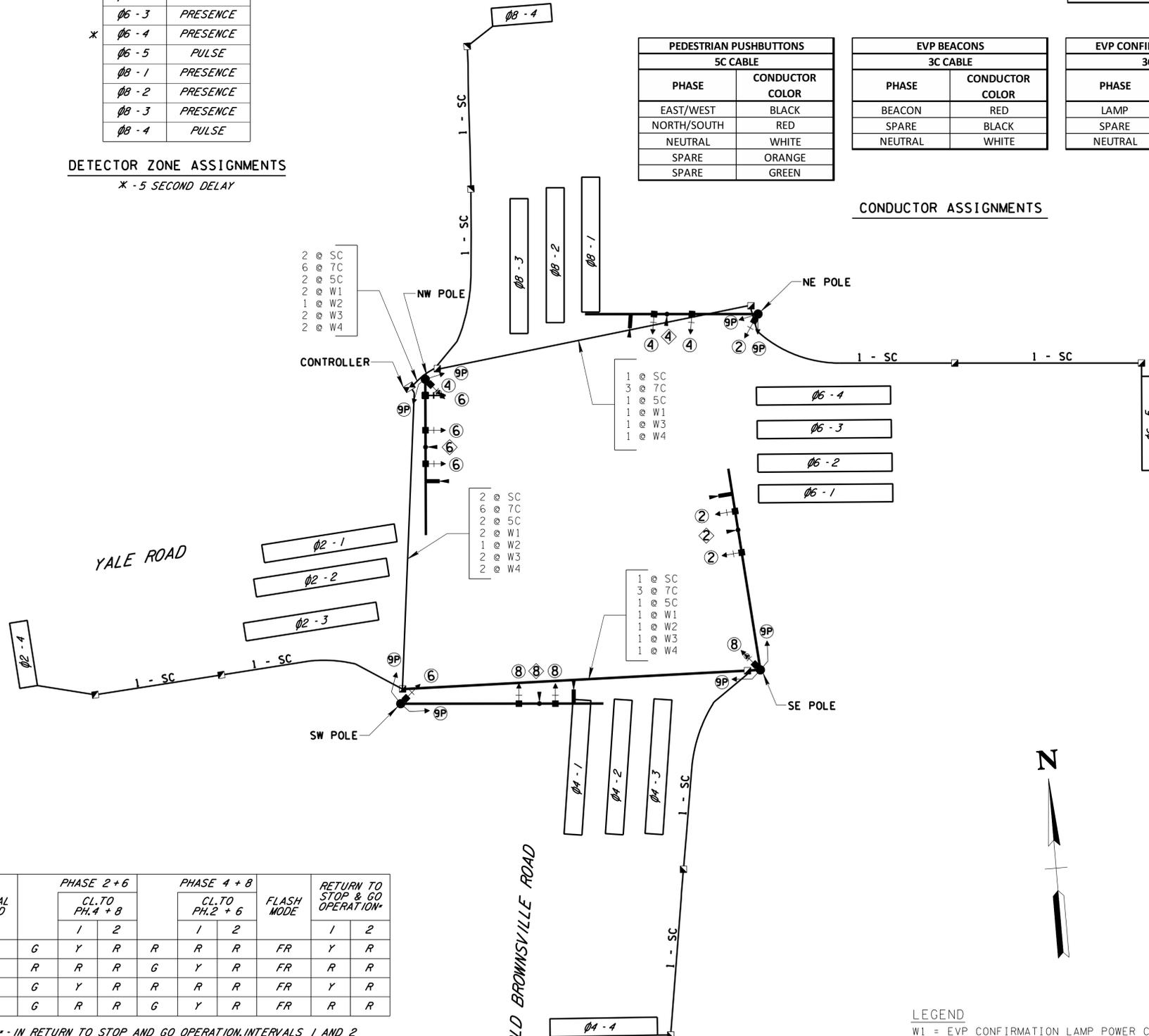
PEDESTRIAN SIGNALS 7C CABLE	
PHASE	CONDUCTOR COLOR
EAST OR WEST	
DON'T WALK	RED
WALK	BLACK
NORTH OR SOUTH	
DON'T WALK	ORANGE
WALK	GREEN
NEUTRAL	WHITE
SPARE	BLUE
SPARE	WHITE/BLACK

PEDESTRIAN PUSHBUTTONS 5C CABLE	
PHASE	CONDUCTOR COLOR
EAST/WEST	BLACK
NORTH/SOUTH	RED
NEUTRAL	WHITE
SPARE	ORANGE
SPARE	GREEN

EVP BEACONS 3C CABLE	
PHASE	CONDUCTOR COLOR
BEACON	RED
SPARE	BLACK
NEUTRAL	WHITE

EVP CONFIRMATION LAMPS 3C CABLE	
PHASE	CONDUCTOR COLOR
LAMP	BLACK
SPARE	RED
NEUTRAL	WHITE

CONDUCTOR ASSIGNMENTS



SIGNAL HEAD		PHASE 2 + 6		PHASE 4 + 8		FLASH MODE	RETURN TO STOP & GO OPERATION*	
		1	2	1	2		1	2
2	G	Y	R	R	R	FR	Y	R
4	R	R	R	G	Y	FR	R	R
6	G	Y	R	R	R	FR	Y	R
8	G	R	R	G	Y	FR	R	R

* - IN RETURN TO STOP AND GO OPERATION, INTERVALS 1 AND 2 ARE TO BE FIXED TIME AND INDEPENDENTLY ADJUSTABLE

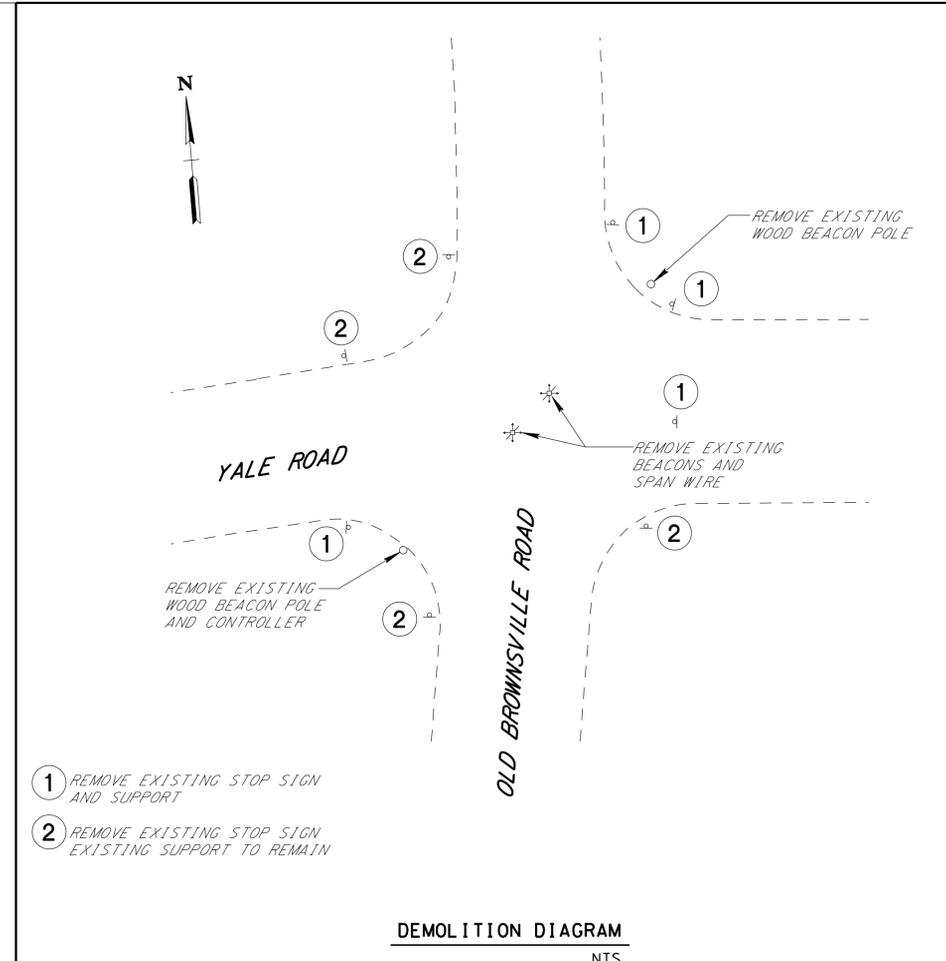
SEQUENCE CHART

DISPLAY WIRING SCHEMATIC

NTS

LEGEND

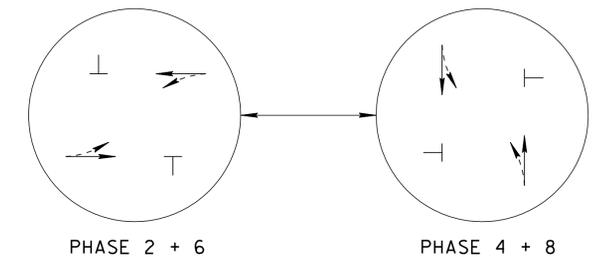
- W1 = EVP CONFIRMATION LAMP POWER CABLE
- W2 = EVP CONFIRMATION BEACON POWER CABLE
- W3 = EVP DETECTOR CABLES
- W4 = VIDEO DETECTION CAMERA POWER CABLE AND COAX CABLE



DEMOLITION DIAGRAM

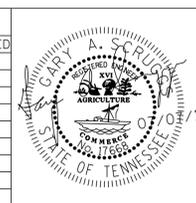
NTS

PREEMPTION TABLE		
DETECTOR	PHASE(S)	CALLED
Ø2	2 + 6	
Ø6	2 + 6	
Ø4	4 + 8	
Ø8	4 + 8	



PHASING DIAGRAM

REVISIONS		
DATE	DESCRIPTIONS	APPROVED



DIVISION OF PUBLIC WORKS
CONGESTION MANAGEMENT PROGRAM
NEW SIGNAL SET #1
SHELBY COUNTY, TN.

**OLD BROWNSVILLE RD & YALE RD
TRAFFIC SIGNAL DETAILS**

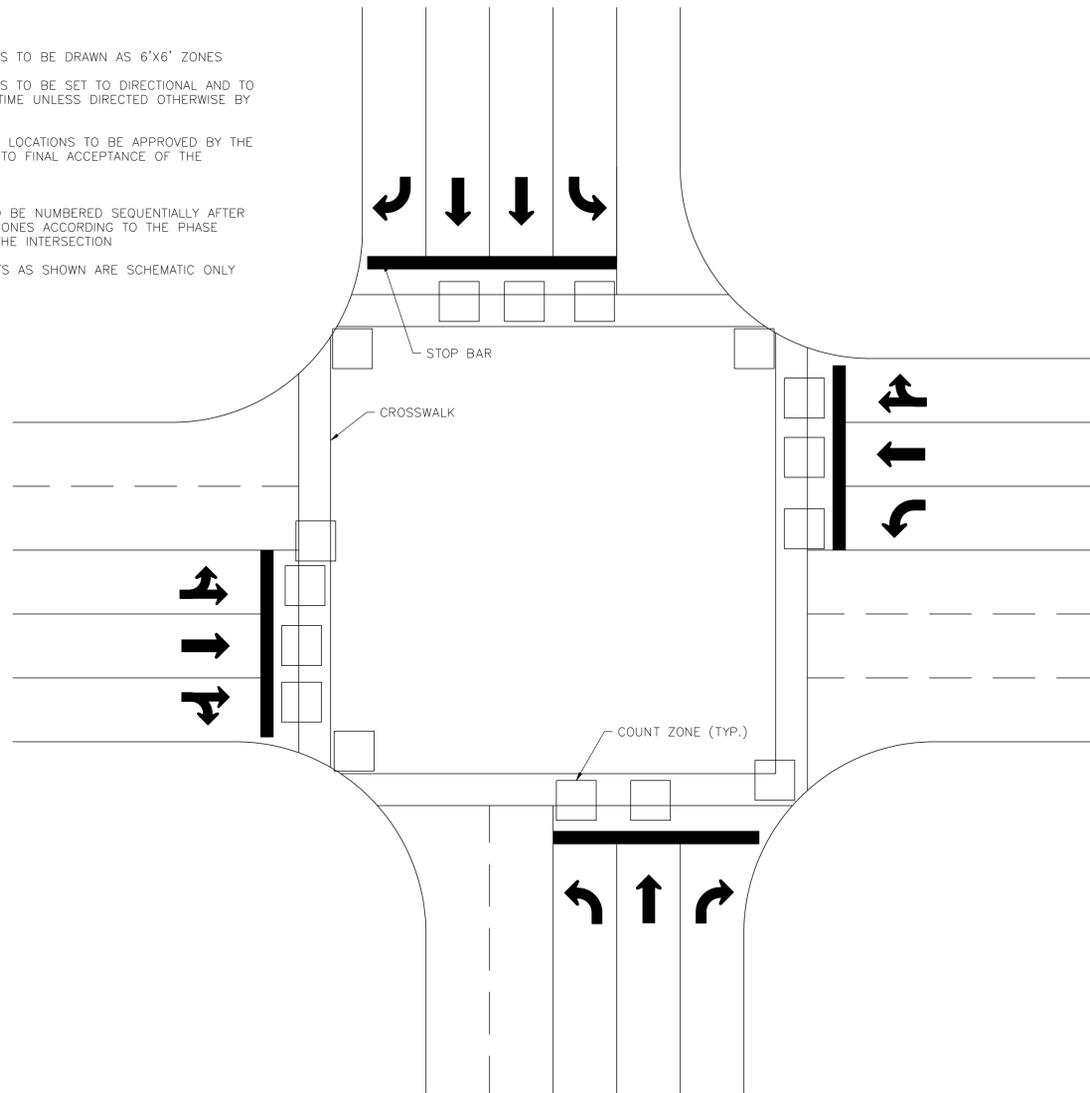
SURVEY: THY, INC. DATE: N/A BOOK: N/A
DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14



DRAWING NAME: \$(GETVAR, "DWGPREFIX")\$(GETVAR, "DWGNAME") \$(GETVAR, "CTAB") \$(EDTIME, 0, MON DD " " YYYY H:MMAM/PM) BY: \$(GETVAR, "LOGINNAME")

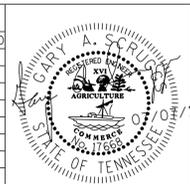
NOTES:

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
5. LANE ASSIGNMENTS AS SHOWN ARE SCHEMATIC ONLY



TYPICAL COUNT ZONE DETAIL

REVISIONS		
DATE	DESCRIPTIONS	APPROVED



DIVISION OF PUBLIC WORKS
 CONGESTION MANAGEMENT PROGRAM
 NEW SIGNAL SET #1
 SHELBY COUNTY, TN.
TRAFFIC SIGNAL DETAILS



SURVEY: THY, INC. DATE: N/A BOOK: N/A
 DRAFTED: PFI DATE: 01/14 SCALE: 1"=20'
 DESIGNED: PFI DATE: 01/14 CHECKED: PFI DATE: 01/14