

ESTIMATED ROADWAY QUANTITIES				
	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
	209-01.10	EROSION AND SILTATION CONTROL	L.S.	1
13	701-01.01	CONCRETE SIDEWALK (4 ")	S.F.	820
13	701-02.01	CONCRETE CURB RAMP (RETROFIT)	S.F.	300
	712-01	TRAFFIC CONTROL	L.S.	1
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	100
	712-06	SIGNS (CONSTRUCTION)	S.F.	792
	712-08.03	ARROW BOARD (TYPE C)	EACH	4
1	714-25.09	ELECTRICAL CONNECTION (FOR MLGW COST ONLY)	EACH	2
	717-01	MOBILIZATION	L.S.	1
2	725-02.79	FIBER SPLICE ENCLOSURE(WEATHER PROOF)	EACH	15
19	725-03.09	ETHERNET SWITCH (TYPE A)	EACH	15
20	725-03.10	ETHERNET SWITCH (TYPE B)	EACH	1
15	725-03.60	CABLE MARKER	EACH	16
21	725-21.22	TERMINAL SERVER (SERIAL DEVICE SERVER)	EACH	2
4	725-21.88	BLUETOOTH DETECTION SYSTEM	EACH	2
3	725-21.91	RADAR DETECTION SYSTEM	EACH	7
3	725-21.96	RDS COMM CABLE	L.F.	210
14	725-21.97	SOLAR POWER FOR RDS	EACH	5
22	725-24.01	CABINET (TYPE A)	EACH	7
23	725-24.11	ITS COMMUNICATIONS HUB (INCLUDING PATCH PANEL)	EACH	1
16	730-01.02	REMOVAL OF SIGNAL EQUIPMENT	EACH	7
	730-02.17	SIGNAL HEAD ASSEMBLY (150 A2H WITH BACKPLATE)	EACH	2
	730-02.18	SIGNAL HEAD ASSEMBLY (150 A2V)	EACH	2
	730-03.21	INSTALL PULL BOX (TYPE B)	EACH	6
5	730-03.23	INSTALL PULL BOX (FIBER OPTIC-TYPE A)	EACH	49
6	730-03.24	INSTALL PULL BOX (FIBER OPTIC-TYPE B)	EACH	15
	730-03.31	FIBER DISTRIBUTION BOX	EACH	15
7	730-05.01	ELECTRICAL SERVICE CONNECTION	EACH	2
	730-08.02	SIGNAL CABLE - 5 CONDUCTOR	L.F.	230
	730-08.03	SIGNAL CABLE - 7 CONDUCTOR	L.F.	460
8	730-08.40	INTERCONNECT CABLE - FIBER OPTIC (36-FIBER, SINGLE MODE)	L.F.	58250
8	730-08.41	INTERCONNECT CABLE - FIBER OPTIC (DROP CABLE, 6-FIBER, SINGLE MODE)	L.F.	1330
8	730-08.42	INTERCONNECT CABLE - FIBER OPTIC (DROP CABLE, 36-FIBER, SINGLE MODE)	L.F.	200
	730-12.02	CONDUIT 2" DIAMETER (PVC)	L.F.	10820
	730-12.03	CONDUIT 3" DIAMETER (PVC)	L.F.	100
17	730-12.08	CONDUIT 2" DIAMETER (RGS)	L.F.	800
18	730-12.09	CONDUIT 3" DIAMETER (RGS)	L.F.	1510
	730-12.13	CONDUIT 2" DIAMETER (JACK AND BORE)	L.F.	15520
	730-12.42	CURB MARKER (CURB MOUNTED CABLE MARKER)	EACH	260
9	730-13.02	VEHICLE DETECTOR (VIDEO)	EACH	7
10	730-13.03	VEHICLE DETECTOR (4 - CHANNEL, RACK MOUNT)	EACH	19
11	730-13.06	VEHICLE DETECTOR (OPTICALLY ACTIVATED PRIORITY CONTROL)	EACH	8
	730-14.01	SHIELDED DETECTOR CABLE	L.F.	160
	730-15.12	MODIFY CABINET (BASE-MOUNT ENTRANCE)	EACH	3
	730-15.15	MODIFY CABINET (INSTALL DUPLEX GFI OUTLET)	EACH	3
	730-15.32	CABINET (EIGHT PHASE BASE MOUNTED)	EACH	5
12	730-16.02	EIGHT PHASE ACTUATED CONTROLLER	EACH	6
	730-23.30	PEDESTAL POLE (ALUMINUM, 20' LENGTH)	EACH	7
	801-03	WATER (SEEDING & SODDING)	M.G.	8
	803-01	SODDING (NEW SOD)	S.Y.	800

FOOTNOTES:

- ALLOWANCE TO COVER THE COST ASSOCIATED WITH POWER CONNECTION FOR THE TRAFFIC SIGNAL OR RDS UNIT FROM THE TRANSFORMER TO THE DEMARCATION POINT. THE UNIT PRICE BID FOR THIS ITEM WILL BE ADJUSTED BY SHELBY COUNTY TO MATCH THE FEE CHARGED BY MLGW FOR PROVIDING THE ELECTRICAL SERVICE CONNECTION.
- SEE THE LATEST "CITY OF MEMPHIS - STANDARD CONSTRUCTION SPECIFICATIONS" FOR TECHNICAL REQUIREMENTS.
- SEE PROJECT SPECIAL PROVISIONS FOR RADAR DETECTION EQUIPMENT.
- SEE CITY OF MEMPHIS SPECIFICATIONS FOR "BLUETOOTH DETECTION SYSTEM". THE INSTALLATION AT EACH LOCATION SHALL INCLUDE BLUETOOTH SENSOR, NEMA ENCLOSURE, CONDUIT AND RISER FROM CONTROLLER CABINET TO SIGNAL POLE, POWER OVER ETHERNET SUBSYSTEM, ANTENNA, ETHERNET CABLE, AND ALL OTHER CABLING, CONNECTIONS AND HARDWARE TO COMPLETE THE INSTALLATION OF A FULLY FUNCTIONAL BLUETOOTH DETECTION SYSTEM ON THE EXISTING SIGNAL POLE WHICH IS DENOTED ON THE PLANS. THIS LUMP SUM ITEM ALSO INCLUDES THE BLUETOOTH SOFTWARE LICENSE FEE FOR ALL INSTALLED UNITS. THE LUMP SUM PRICE INCLUDES ALL SOFTWARE AND HARDWARE INSTALLATION AND INTEGRATION WORK TO PROVIDE A FULLY FUNCTIONAL BLUETOOTH SYSTEM THAT ALLOWS MONITORING AND RETRIEVAL OF TRAVEL TIME AND SPEED DATA REMOTELY.
- QUAZITE BRAND (MODEL NO. PG2436BB24 WITH PG2436HH6L COVER) OR APPROVED EQUIVALENT. COST INCLUDES REPAIR OF LANDSCAPING, REMOVING EXISTING PULL BOX, AND OTHER MISCELLANEOUS WORK NECESSARY TO COMPLETE PULL BOX INSTALLATION.
- QUAZITE BRAND (MODEL NO. PG3048BB36 WITH PG3048HS6L COVER) OR APPROVED EQUIVALENT. COST INCLUDES REPAIR OF LANDSCAPING, REMOVING EXISTING PULL BOX, AND OTHER MISCELLANEOUS WORK NECESSARY TO COMPLETE PULL BOX INSTALLATION.
- CONTRACTOR RESPONSIBLE FOR ALL COST ASSOCIATED WITH POWER CONNECTION FOR TRAFFIC SIGNAL OR RDS UNIT FROM THE DEMARCATION POINT TO THE CABINET.
- 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.
- 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 DETECTION SYSTEM.
- INSTALL ONE (1) DETECTOR CARD PER INTERSECTION APPROACH WHERE ADVANCE DETECTION LOOPS ARE TO BE REPAIRED OR REPLACED. SEE INTERSECTION LAYOUT SHEETS.
- 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 TRAFFIC SIGNAL 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 EDI SSM12LEIP.
- FOR USE WHERE AND AS DIRECTED BY THE ENGINEER. INCLUDES REMOVAL OF EXISTING CURB RAMP, SIDEWALK, CURB, AND GUTTER AS REQUIRED, AND CONSTRUCTION OF NEW SIDEWALK AND RAMP WITH LANDING AREA AND TRANSITIONS.
- ITEM TO INCLUDED ALL MATERIALS AND LABOR NECESSARY FOR INSTALLATION AND CONNECTION OF SOLAR POWER TO RDS UNIT.
- FOR-POST TYPE CABLE MARKERS USED IN INTERCHANGES AND OPEN AREAS.
- ITEM TO INCLUDED REMOVAL OF ALL EXISTING SIGNAL EQUIPMENT AS SHOWN IN PLANS. INCLUDES BUT IS NOT LIMITED TO REMOVAL OF SIGNAL CABINET, SIGNAL HEADS, WIRING, ETC. MEASURED ON A PER EACH INTERSECTION WHERE EQUIPMENT REMOVAL IS REQUIRED.
- ITEM TO INCLUDE ALL MATERIALS NESSARY TO ATTACH CONDUIT TO BRIDGE FOR EVP SYSTEM EQUIPMENT INSTALLATION. INCLUDES WRAP AROUND CABLE MARKERS AT 100 FOOT SPACING.
- ITEM TO INCLUDE ALL MATERIALS NESSARY TO ATTACH CONDUIT TO BRIDGE. INCLUDES WRAP AROUND CABLE MARKERS AT 100 FOOT SPACING.
- SEE CITY OF MEMPHIS SPECIFICATIONS FOR "RUGGEDIZED ETHERNET CABINET SWITCH".
- SEE CITY OF MEMPHIS SPECIFICATIONS FOR "RUGGEDIZED ETHERNET HUB SWITCH".
- SEE CITY OF MEMPHIS SPECIFICATIONS FOR "SERIAL DEVICE SERVER".
- SEE PROJECT SPECIAL PROVISIONS FOR UTILITY CABINETS. TYPE "A" CABINET SHALL BE UTILIZED AS PRIMARY RDS CABINET. TYPE "D" CABINET SHALL BE UTILIZED AS SECONDARY RDS CABINET.
- SEE CITY OF MEMPHIS SPECIFICATIONS FOR "FIELD HUB CABINET".

STANDARD ROADWAY DRAWINGS

DWG. NO REV. DESCRIPTION

TDOT ROADWAY DESIGN STANDARDS

ROADWAY AND PAVEMENT APPURTENANCES

RP-S-7 06-04-13 DETAILS FOR STANDARD CONCRETE SIDEWALKS

TRAFFIC CONTROL

T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-FO-2		FIBER OPTIC UNDERGROUND ENTRANCE DETAILS
T-FO-4		FIBER OPTIC PULL BOX, CABINET & POLE DETAILS
T-L-1	12-04-13	STANDARD LIGHTING FOUNDATION DETAILS
T-SG-2	07-29-04	LOOP LEAD-INS, CONDUIT AND PULL BOXES
T-SG-3A		ALTERNATE DETECTION DETAILS
T-SG-10	06-11-14	MAST ARM POLE AND STRAIN POLES FOUNDATION DETAILS
T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-11	03-13-09	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
T-WZ-18	03-13-09	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
T-WZ-50	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 2 OR 3 LANE MAJOR ROUTES
T-WZ-51	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR ROUTES
T-WZ-52	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR AND MINOR ROUTES
T-WZ-53	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES
T-WZ-54	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES AND 4 OR MORE LANE MINOR ROUTES
T-WZ-55		SIDEWALK TRAFFIC CONTROL

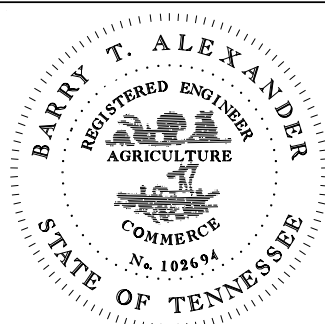


CITY OF MEMPHIS DESIGN STANDARDS

TRAFFIC SIGNAL DETAILS

T/S-1	CONTROLLER CABINET AND RISER INSTALLATION DETAILS
T/S-4	SIGNAL HEAD MOUNTING STANDARDS
T/S-7	GOUNDING AND BOUNDING
T/S-8	FOUNDATION DETAILS
T/S-9	PULL BOXES, SPLICING, AND CABLE DETAILS

CIVIL DETAILS

7A	CURB RAMP WITH DETECTABLE WARNING SURFACE FOR NEW CONSTRUCTION
8	CURB RAMP IN EXISTING CONDITIONS

REVISIONS			
DATE	DESCRIPTIONS	APPROVED	
5/1/15	PER ADDENDUM #1		
 POWERS HILL DESIGN CIVIL ENGINEERING. CIVIL RESPONSIBILITY.			<div>DIVISION OF PUBLIC WORKS CONGESTION MANAGEMENT PROGRAM SIGNAL SYSTEM PROJECT SET #8 SHELBY COUNTY, TN.</div> <div>ESTIMATED QUANTITIES & STANDARD DRAWINGS</div> <div>SURVEY: N/A DATE: N/A BOOK: N/A DRAFTED: DATE: 04/14 SCALE: N.T.S. DESIGNED: RSW DATE: 04/14 CHECKED: BTA DATE: 04/14 JURISDICTION: SHEET 2 OF 50</div>
 NEEL-SCHAFFER Solutions you can build upon			