

F.R. DIV.6	TEXAS	CM 97 (449)	SHEET 15C
DALLAS	COUNTY	HWY BELTLNE	CONT 8050-18-34

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 620:  
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GROUNDING CONDUCTORS THAT SHARE THE SAME CONDUIT, JUNCTION BOX, GROUND BOX OR STRUCTURE SHALL BE BONDED TOGETHER AT EVERY ACCESSIBLE POINT IN ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE.

ITEM 628:  
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CONCRETE FOR SERVICE POLE FOUNDATIONS, WHEN REQUIRED, SHALL BE CLASS A AND SHALL BE IN ACCORDANCE WITH ITEM 421, "PORTLAND CEMENT CONCRETE". EXCEPT THAT CONCRETE WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 628. REINFORCING STEEL FOR SERVICE POLE FOUNDATIONS, WHEN REQUIRED, SHALL BE IN ACCORDANCE WITH ITEM 440, "REINFORCING STEEL". EXCEPT THAT REINFORCING STEEL WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 628.

THE ELECTRICAL SERVICE FOR THIS PROJECT SHALL BE BILLED IN THE NAME OF THE TOWN OF ADDISON.

ITEM 656:  
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THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF ADDISON WHEN PLACING THE CONCRETE FOR THE CONTROLLER FOUNDATION TO ENSURE THE ANCHOR BOLT SPACING WILL MATCH THE ANCHOR BOLTS AND CABINET SUPPLIED BY THE TOWN. ANCHOR BOLTS FOR TRAFFIC SIGNAL POLES SHALL BE FURNISHED BY THE TOWN. THE TOP 2 INCHES OF DRILL SHAFTS SHALL BE FORMED OR PROVIDED A SMOOTH FINISH SATISFACTORY TO THE ENGINEER. THE COST OF THE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

A 3/4 INCH CHAMFER SHALL BE FORMED ON THE TOP EDGE OF EACH SIGNAL POLE FOUNDATION.

THE CONTRACTOR SHALL PROBE BEFORE DRILLING FOUNDATIONS TO DETERMINE THE LOCATION OF UTILITIES AND STRUCTURES. FOUNDATIONS SHALL BE PAID FOR ONCE REGARDLESS OF EXTRA WORK CAUSED BY OBSTRUCTIONS.

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GENERAL NOTES AND SPECIFICATION DATA--

ITEM 666:  
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ALL MARKINGS SHALL BE APPLIED BY EXTRUSION.

ITEM 680:  
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THIS PROJECT SHALL CONSIST OF FURNISHING AND INSTALLING ALL MATERIALS AND EQUIPMENT NECESSARY FOR A COMPLETE SIGNAL SYSTEM AT THE PROPOSED LOCATION. IN ADDITION TO THESE ITEMS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:

- FURNISHING AND INSTALLING ALL SIGNS FOR MOUNTING ON SIGNAL POLES AND MAST ARMS. THESE SIGNS SHALL BE FURNISHED IN ACCORDANCE WITH ITEM 636, WILL NOT BE PAID FOR DIRECTLY, AND SHALL BE CONSIDERED SUBSIDIARY TO ITEM 680. SIGNS SHALL BE MOUNTED WITH ASTRO-SIGN BRAC OR SIGNFIX ALUMINUM CHANNEL OR EQUAL AS APPROVED BY THE ENGINEER.
- SUBMITTAL LITERATURE SHALL BE PROVIDED FOR ALL CONTRACTOR FURNISHED TRAFFIC SIGNAL EQUIPMENT PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF ADDISON TO HAVE A QUALIFIED TECHNICIAN ON THE PROJECT SITE TO PLACE THE TRAFFIC SIGNALS IN OPERATION.
- DURING THE THIRTY DAY TEST PERIOD, THE CONTRACTOR SHALL UTILIZE QUALIFIED PERSONEL TO RESPOND TO AND DIAGNOSE ALL TROUBLE CALLS. HE SHALL REPAIR ANY MALFUNCTIONS TO SIGNAL EQUIPMENT HE SUPPLIED ON THE PROJECT. A LOCAL TELEPHONE NUMBER (NOT SUBJECT TO FREQUENT CHANGES) WHERE TROUBLE CALLS ARE TO BE RECEIVED ON A 24-HOUR BASIS SHALL BE PROVIDED TO THE ENGINEER BY THE CONTRACTOR. THE CONTRACTOR'S RESPONSE TIME TO REPORTED CALLS SHALL BE WITHIN A REASONABLE TRAVEL TIME FROM A DALLAS ADDRESS, BUT NOT MORE THAN TWO (2) HOURS MAXIMUM. APPROPRIATE REPAIRS SHALL BE MADE WITHIN 24 HOURS. THE CONTRACTOR SHALL PLACE A LOG BOOK IN EACH CONTROLLER CABINET AND KEEP A RECORD OF EACH TROUBLE CALL REPORTED. HE SHALL NOTIFY THE ENGINEER OF EACH TROUBLE CALL. IF, AFTER DIAGNOSING THE PROBLEM, THE QUALIFIED TECHNICIAN DETERMINES THE PROBLEM IS IN THE EQUIPMENT SUPPLIED BY OTHERS, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER.
- THE TOWN OF ADDISON WILL FURNISH THE TRAFFIC SIGNAL

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GENERAL NOTES AND SPECIFICATION DATA--

ITEM 680: CONT'D  
CONTROLLER AND CABINET. THE CONTRACTOR SHALL CONNECT ALL FIELD WIRING TO THE CONTROLLER ASSEMBLY. THE TOWN WILL ASSIST IN DETERMINING HOW THE DETECTOR LOOP LEAD-IN CABLES ARE TO BE CONNECTED (I.E., SERIES OR PARALLEL). THE TOWN WILL PROGRAM THE CONTROLLER FOR OPERATION, HOOK UP THE CONFLICT MONITOR, DETECTOR UNITS, AND OTHER EQUIPMENT IN THE CONTROLLER CABINET AND TURN ON THE CONTROLLER. THE CONTRACTOR SHALL OBTAIN THE SIGNAL CABINET FROM THE TOWN OF ADDISON SERVICE CENTER.

- THE CONTRACTOR SHALL PLACE DUCT SEAL AT THE ENDS OF ALL CONDUIT WHERE CONDUCTORS AND/OR CABLES ARE PRESENT AND REQUIRED FOR THE INTENDED OPERATION OF THE TRAFFIC SIGNALS.
- THE CONTRACTOR SHALL INSTALL THE OPTICOM EQUIPMENT SUPPLIED BY OTHERS.
- THE CONTRACTOR SHALL INSTALL THE TRAFFIC SIGNAL POLES SUPPLIED BY OTHERS.
- THE CONTRACTOR SHALL INSTALL THE TRAFFIC SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, BACKPLATES, AND PEDESTRIAN PUSH BUTTONS/SIGNS SUPPLIED BY OTHERS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MOUNTING HARDWARE FOR TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEADS FURNISHED BY OTHERS. THIS SHALL INCLUDE ALL MATERIAL NECESSARY TO COMPLETELY ASSEMBLE AND INSTALL THE HEADS.
- FURNISHING AND INSTALLING ALL VIBRATION DAMPERS ON SIGNAL POLE MAST ARMS.

NO EXTRA COMPENSATION WILL BE ALLOWED FOR FULFILLING THE REQUIREMENTS STATED ABOVE. THIS SHALL INCLUDE PICKING UP AND DELIVERING THE TOWN-FURNISHED MATERIALS TO THE JOB SITE.

THE LIST OF MATERIAL BELOW IS FOR THE CONTRACTOR'S INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL ITEMS AND QUANTITIES LISTED BELOW.

LIST OF MATERIAL/LABOR  
SUBSIDIARY TO ITEM 680

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GENERAL NOTES AND SPECIFICATION DATA--

ITEM 680: CONT'D

DESCRIPTION	UNIT	QUANTITY
SIGN R10-5	EA	8
SIGN R3-8LL	EA	8
SIGN SR3-4	EA	8

LIST OF MATERIAL  
FURNISHED BY THE TOWN OF ADDISON

DESCRIPTION	UNIT	QUANTITY
OPTICOM CABLE	LF	1280
OPTICOM DETECTORS W/MOUNTING BRACKETS	EA	8
OPTICOM MODULES (2 CHANNEL)	EA	4
OPTICOM CARD RACK AND HARNESS	EA	2
VEHICLE SIGNAL SECTION (12 IN)	EA	125
BACKPLATE (12 IN) (3 SECTION)	EA	35
BACKPLATE (12 IN) (4 SECTION)	EA	5
PEDESTRIAN SIGNAL SECTION	EA	16
CONTROLLER ASSEMBLY COMPLETE WITH CABINET AND ACCESSORIES	EA	2
TRAFFIC SIGNAL POLE ASSY WITH ANCHOR BOLTS	EA	8
PEDESTRIAN PUSH BUTTON/SIGN	EA	16

A CONTINUOUS BARE OR GREEN INSULATED COPPER WIRE NO. 8 OR LARGER SHALL BE INSTALLED IN EVERY PVC RMC AND LTFC THROUGHOUT THE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE ELECTRICAL DETAIL SHEETS, AND THE LATEST

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GENERAL NOTES AND SPECIFICATION DATA--

DESCRIPTION	UNIT	QUANTITY
CONT'D EDITION OF THE NATIONAL ELECTRICAL CODE, EXCEPT FOR CONDUIT WITH LOOP DETECTORS ONLY.		

ITEM 682:  
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ALL SIGNAL HEAD ATTACHMENTS SHALL BE DESIGNED SUCH THAT THE WIRING TO EACH SIGNAL HEAD SHALL PASS FROM THE MAST ARM THROUGH THE SIGNAL HEAD BRACING OR ATTACHMENT HARDWARE TO THE SIGNAL HEAD. NO EXPOSED CABLE OR WIRING WILL BE PERMITTED.

THE SIGNAL HEAD-TO-MAST ARM CONNECTION MUST ALLOW FOR ADJUSTMENT ABOUT THE HORIZONTAL AND VERTICAL AXIS.

ALL SIGNAL HEADS SHALL BE COVERED WITH BURLAP OR OTHER MATERIAL APPROVED BY THE ENGINEER UNTIL PLACED INTO OPERATION.

SIGNAL HEADS MOUNTED ON POLES AND MAST ARMS SHALL BE LEVEL AND PLUMB AND AIMED AS DIRECTED BY THE ENGINEER.

ITEM 684:  
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THE TYPE "C" CABLE FOR LOOP DETECTOR LEAD-IN SHALL BE NO. 18 AWG WIRE.

THE CONDUCTORS IN THE TRAFFIC SIGNAL CABLE SHALL BE STRANDED FOR THIS PROJECT. INDIVIDUAL CONDUCTORS SHALL BE NO. 12 AWG.

THE MULTICONDUCTOR SIGNAL CABLE SHOWN ON THE PLANS SHALL BE SPLICED TO INDIVIDUAL CABLES IN THE TRANSFORMER BASE. THESE SEPARATE MULTICONDUCTOR CABLES (16 AWG) SHALL BE USED INSIDE THE SIGNAL POLES FROM THE TRANSFORMER BASE TO EACH SIGNAL HEAD AS FOLLOWS:

HEAD TYPE	CONDUCTOR SIZE
V3/V3LT	5 CNDR
V4RT	7 CNDR
143C	5 CNDR (2 EA)

SPLICES IN THE CABLES FROM THE TRANSFORMER BASE TO THE SIGNAL HEADS WILL NOT BE PERMITTED IN THE POLE SHAFT OR IN THE MAST ARM.

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GENERAL NOTES AND SPECIFICATION DATA--

ITEM 684: CONT'D  
EACH CABLE SHALL BE IDENTIFIED AS SHOWN ON THE PLANS (CABLE 1, ETC.) WITH PERMANENT MARKING LABELS (PANDUIT TYPE PLM STANDARD SINGLE MARKER TIE, THOMAS & BETTS TYPE 548M OR EQUIVALENT) AT EACH GROUND BOX, POLE BASE AND CONTROLLER.

ITEM 686:  
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ALL STEEL MAST ARMS OVER 24' IN LENGTH SHALL BE PROVIDED WITH VIBRATION DAMPERS. DAMPERS SHALL BE INSTALLED USING ASTRO-SIGN BRAC OR SIGNFIX ALUMINUM CHANNEL OR EQUAL, A MAXIMUM OF 3 FEET FROM THE END OF THE MAST ARM.

ITEM 688:  
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THIS PROJECT REQUIRES THAT SEVERAL LOOPS IN THE STREET SHARE THE SAME GROUND BOX FOR CONNECTIONS TO THE LOOP LEAD-IN CABLE. THE LEAD-IN SAW CUTS FROM THE STREET TO THE GROUND BOX SHALL MAINTAIN A MINIMUM SEPARATION FROM OTHER LOOPS OF 12 INCHES AND A MINIMUM SEPARATION OF 6 INCHES FROM OTHER LEAD-IN SAW CUTS.

ALL LOOP WIRE FROM THE LOOP IN THE STREET TO THE GROUND BOX SHALL BE TIGHTLY TWISTED A MINIMUM OF 5 TIMES PER FOOT AS IT IS PLACED IN THE LEAD-IN SAW CUT.

GROUNDING SHIELDS ARE REQUIRED ON THE DETECTOR LEAD-IN CABLE AT THE CONTROLLER ONLY. DETECTOR LEAD-IN CABLES SHALL BE RUN CONTINUOUSLY WITHOUT SPLICES FROM THE CURBSIDE GROUND BOX TO THE CONTROLLER WHERE POSSIBLE. IF SPLICES MUST BE MADE, THEY SHOULD BE MADE IN A POLE BASE. IF POSSIBLE, SPLICES SHALL BE SOLDER CONNECTED (INCLUDING THE GROUND WIRE) AND THE SPLICING CONNECTION SHALL BE INSULATED WITH THERMO-SETTING MATERIALS. SPLICES AT THE CURB SIDE GROUND BOXES SHALL ALSO BE MADE IN THE SAME MANNER.

DETECTOR LEAD-IN CABLES SHALL BE IDENTIFIED AS SHOWN ON THE PLANS (PHASE 1, ETC.) WITH PERMANENT MARKING LABELS (PANDUIT TYPE PLM, THOMAS & BETTS TYPE 548M STANDARD SINGLE MARKER TIE OR EQUIVALENT) AT EACH GROUND BOX, POLE BASE, AND CONTROLLER.

INSTALLATION OF THE LOOP DETECTORS SHALL BE MADE DURING OFF-PEAK TRAFFIC PERIODS.

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