BILL OF MATERIALS

ITEM	UNIT	QTY
PAD MOUNTED CONTROLLER & CABINET	EACH	1
TRAFFIC SIGNAL HEAD (SEE CHART A) W/ MOUNTING HARDWARE	EACH	24
TRAFFIC SIGNAL POLE (SEE CHART B) STEEL	EACH	4
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING – POLE	EACH	4
CONDUIT ELBOW 90°	EACH	As Req'd
CONDUIT ELBOW 90° 3"	EACH	As Req'd
BACK PLATE 5" – 3 SECTION	EACH	8
BACK PLATE 5" – 4 SECTION	EACH	–
BACK PLATE 5" – 5 SECTION	EACH	4
SERVICE BOX	EACH	5
GROUND ROD & CLAMP	EACH	6
CONDUIT CLAMP	EACH	As Req'd
TRAFFIC SIGNAL LAMP RED LED KIT	EACH	12
TRAFFIC SIGNAL LAMP YELLOW LED KIT	EACH	12
TRAFFIC SIGNAL LAMP GREEN LED KIT	EACH	12
TRAFFIC SIGNAL LAMP GREEN ARROW LED KIT	EACH	4
TRAFFIC SIGNAL LAMP YELLOW ARROW LED KIT	EACH	4
TRAFFIC SIGNAL LAMP WALK LED KIT	EACH	8
TRAFFIC SIGNAL LAMP DON'T WALK LED KIT	EACH	8
ENTRANCE HEAD	EACH	1
CIRCUIT BREAKER & BOX	EACH	1
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	8
LEAD–IN WIRE No. 4 A.W.G. 1/C (TYPE THNN)	LIN. Ft	572
STANDARD 1C #8 (GROUND)	LIN. Ft	792
MULTI–CONDUCTOR CABLE No. 16 A.W.G. 3/C (V3)	LIN. Ft	572
MULTI–CONDUCTOR CABLE No. 14 A.W.G. 7/C	LIN. Ft	1144
VIDEO CABLE 75 OHM COAXIAL (BELDON 8281) (CX)	LIN. Ft	572
CONDUIT 1–1/4"	LIN. Ft	220±
CONDUIT 2"	LIN. Ft	39
CONDUIT 3"	LIN. Ft	428
CAMERA HOUSING	EACH	4
VIDEO DETECTION CAMERA and MOUNTING HARDWARE	EACH	4
VIDEO DETECTION PROCESSOR UNIT	EACH	4
VIDEO MONITOR	EACH	1
CAMERA CHARGED COUPLING DEVICE	EACH	4
REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT **	L.S.	1
STREET NAME SIGNS W/MOUNTING HARDWARE (D–3)	EACH	4
LEFT TURN YIELD ON GREEN W/MOUNTING HARDWARE (R10–12)	EACH	4

GENERAL NOTES

1. SIGNAL TIMING BY THE CITY OF WICHITA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING THE CONTROLLER, CABINET, CONCRETE BASE, AND FOR ALL EQUIPMENT NECESSARY FOR THE COMPLETE AND SATISFACTORY OPERATION OF THE TRAFFIC SIGNAL, WHETHER SAID EQUIPMENT IS SPECIFICALLY MENTIONED OR NOT.
2. LENGTHS GIVEN ARE TO CENTERLINE OF POLE/BOX AND DO NOT INCLUDE LENGTHS FOR ELBOWS AND RISERS.
3. SIGNAL HEADS, PEDESTRIAN SIGNALS, TRAFFIC SIGNS & ETC. INCLUDE ALL BRACKETS, HARDWARE & OTHER INCIDENTALS NECESSARY FOR INSTALLATION.
4. SEE CITY OF WICHITA STANDARD SPECIFICATIONS FOR ADDITIONAL WIRING NOTES.
5. SALVAGABLE EQUIPMENT (CONTROLLERS, CABINETS, MANHOLE LIDS, POLES, MAST ARMS, ETC.) SHALL BE DELIVERED TO THE CENTRAL MAINTENANCE FACILITY , 1801 S. MCLEAN.

SPECIAL FINISH FOR TRAFFIC SIGNAL EQUIPMENT:

The traffic signal controller cabinet, brackets, sign blank backs, signal backs and other exposed surfaces shall be shop painted with an aerosol lacquer cellulose ester to match the traffic signal pole color. The contractor shall submit two copies of the proposed coating system to the City for approval to application.

TRAFFIC SIGNAL POLE & PEDESTAL EXTERIOR COATING:

In addition to being galvanized, all exterior surfaces shall be coated with a zinc rich epoxy powder to a minimum dry film thickness of 2.0 mils. The coating shall be electrostatically applied and partially cured in a gas fired convection oven by heating the steel substrate to a minimum of 250 degrees Fahrenheit.

The powder primed surface shall be coated with an intermediate coat of polyester powder to a minimum dry film thickness of 2.0 mils. The coating shall be electrostatically applied and cured by heating the steel substrate in a convection oven to minimum of 350 degrees and a maximum of 400 degrees Fahrenheit.

The intermediate coat shall be top coated with one coat of high-build acrylic polyurethane enamel to a minimum dry film thickness of 2.0 mils. The coating shall be electrostatically applied and cured by heating the substrate in a convection oven to a minimum of 225 degrees Fahrenheit. The final top coating color shall be BLACK

CHART 'A' - SIGNAL INVENTORY

NO. WAYS	NO. SECTIONS (Per Face)	SIGNAL FACE ARRANGEMENT	MOUNTING TYPE	QTY
1	3	A	RIGID MAST ARM	8
1	3	A	VERTICAL BRACKET	4
1	5	I	RIGID MAST ARM	4
1	2	K (SYM8)	VERTICAL BRACKET	8
TOTAL SIGNAL HEADS THIS PROJECT				

CHART "C" CONDUIT SUMMARY

CONDUIT SIZE (Inches)		TRENCHED (Lineal Feet)	PUSHED (Lineal Feet)
1 1/4"	Rigid Galv	220±	-
2"	Rigid Galv	38.6	-
3"	Rigid Galv	427.6	-

CHART 'D' - TRAFFIC MANHOLE SUMMARY

STATION	DIST.	SIDE
168+23.79	40.17'	LEFT
168+90.05	50.47'	LEFT
169+49.63	31.30'	LEFT
168+34.47	55.69'	RIGHT
169+36.45	66.55'	RIGHT

CHART 'E' - STREET NAME SIGN SUMMARY

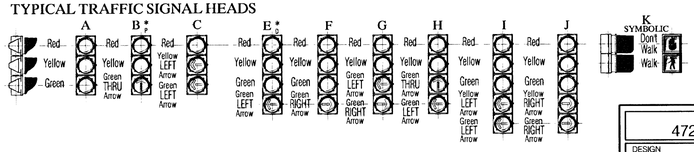
LEGEND	TYPE	QTY	UNITS	SIZE (Inches)
HYDRAULIC	D-3	2	EA	30" x 60"
MacARTHUR	D-3	2	EA	30" x 60"

CHART 'B' - TRAFFIC SIGNAL POLES

STATION	DIST.	SIDE	ARM LENGTH	NO. OF SIGNALS ON ARM	SIGNAL SPACING	TYPE
168+21.74	42.47'	LEFT	46'	3	24'–11'–11'	STD
169+35.33	46.65'	LEFT	44'	3	25'–11'–8'	STD
168+58.60	31.38'	RIGHT	48'	3	26'–11'–11'	JU
169+43.36	58.60'	RIGHT	52'	3	30'–11'–11'	STD

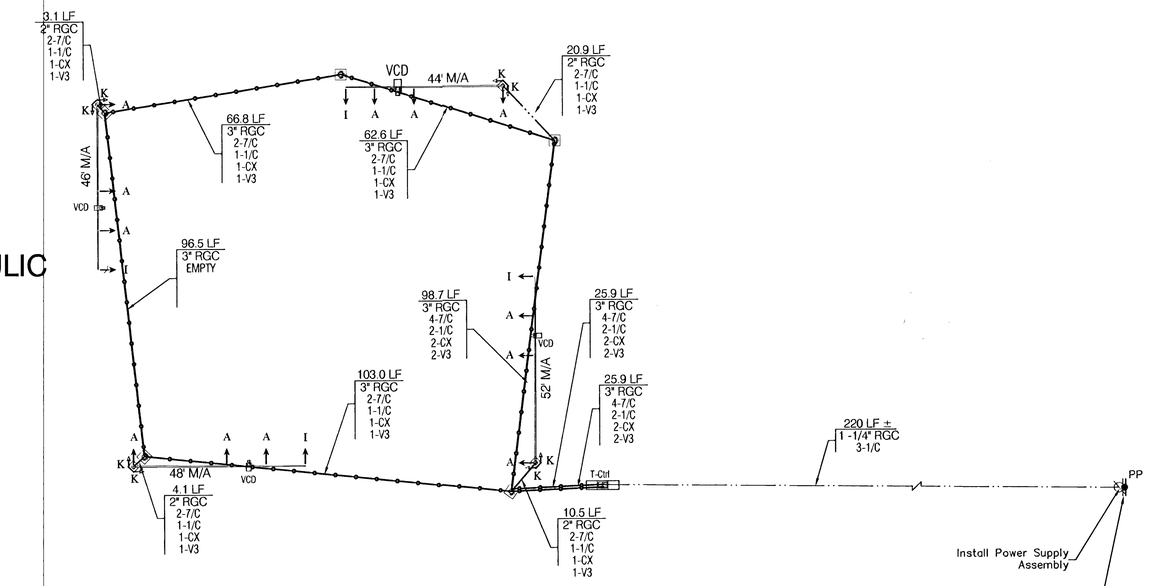
1. QUANTITIES ARE FOR INFORMATION ONLY. The Contractor shall supply and install all necessary materials and equipment for the complete installation and operation of the traffic signal system whether specifically mentioned or not.
2. ** Removal of existing traffic signal equipment shall include removal of foundations, old service risers, service boxes, and junction boxes to be paid as INCIDENTAL to R/W Clearing & Site Preparation. See construction traffic control regarding removal of existing signals.

TYPICAL TRAFFIC SIGNAL HEADS



MacARTHUR

HYDRAULIC



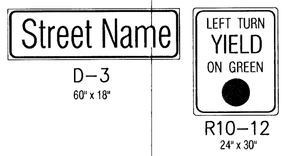
3" RIGID CONDUIT
2" RIGID CONDUIT
1 1/4" RIGID CONDUIT
3/4" RIGID CONDUIT

- TYPICAL LOOP DIMENSIONS -
PRESENCE = 50.0' x 6.0'
PULSE = Varies x 6.0'

0 10 20

SCALE: 1" = 20'

OVERHEAD MOUNT



Type 170 Controller System to include:

1. Model 170E controller unit complete with W4IKS (56A or Latest Revisions) traffic program on 412B system memory module with a 400 modem.
2. One (1) Model 332 Cabinet complete with all accessories & shall include:
   A. One (1) Model 210ECL or 210MS Conflict Monitor with software.
   B. Four (4) Model 430 Transfer Relays.
   C. Two (2) Model 204 Flashing Units.
   D. Twelve (12) Model 200 Switch Packs.
   E. Three (3) Model 242 DC Isolators.
   F. One (1) Surge Arrester.

PROJECT NUMBER	SHEET NAME	ENGINEERING DIRECTORY
472-76-245-83324	WIRING	F:\Eng\Hydraulic\Traffic

DESIGN	DRAWN	APPROVED	DATE	SCALE	BAUGHMAN NO
JFB	Sonny/KR	JFB	Sept. 2002	None	99-09-E450

CAPITAL IMPROVEMENT PROJECT
HYDRAULIC & MACARTHUR
SIGNALIZATION WIRING PLAN
HYDRAULIC AVENUE PAVING - 47TH STREET TO MACARTHUR ROAD

BAUGHMAN COMPANY, P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211