

ADDENDUM #1

DATE: March 9, 2023

BID DATE: **March 15, 2023, 1:30 P.M.**

156th Street Traffic Signals - Project No. 2023-007

This addendum contains written or graphic instructions, which modify or interpret the construction documents, including drawings and specifications, and become a part of the contract documents. All cost implications herein shall be incorporated in the contract price. Also, instructions contained herein take precedence over any previously issued documents, which may differ. The contractor shall acknowledge receipt of this Addendum on the proposal form.

SPECIFICATIONS:

1. Revised Sheet PROP-5 for updated bid item (attached).

PLANS:

2. Sheet C.01 Estimated Project Quantities
 - A. In Base Bid, add Item #13: "Construction Survey", 1 LS
3. Sheet C.02 Estimate Reference Information
 - A. Add Note for new Item #13, "Construction Survey": "This item includes work listed in Section 11,010 of SUDAS, including but not limited to, all requirements to complete the proposed pedestrian curb ramps in addition to the traffic signalization. Item also includes resetting and filing of tie certificates of all disturbed section corners or lot corners."
4. Sheet N.05 Traffic Signal Details at Meredith Drive
 - A. In Estimated Signal Quantities, add Concrete Footings item: "Pedestrian Pushbutton Foundation 4'-0" Dia. X 4'-0"
5. Sheet N.06 Traffic Signal Details at Meredith Drive
 - A. Add Card Rack Detector Position table.
6. Sheet N.10 Traffic Signal Details at Waterford Road
 - A. In Estimated Signal Quantities, add Concrete Footings item: "Pedestrian Pushbutton Foundation 4'-0" Dia. X 4'-0"
7. Sheet N.11 Traffic Signal Details at Meredith Drive
 - A. Add Card Rack Detector Position table.

Bidders are to acknowledge receipt of this addendum on the proposal form. Bids are to be received at Urbandale City Hall 3600 86th Street, Urbandale, IA 50322. If you have any questions, or need further information, please call 515-278-3950.

Sincerely,



Kristin Brostrom, P.E.
Assistant Director of Engineering

PROPOSAL ATTACHMENT: PART C – BID ITEMS, QUANTITIES, AND PRICES

This is a UNIT BID PRICE CONTRACT. The bidder must provide the Unit Bid Price, the Total Bid Price, any Alternate Price(s) and the Total Construction Cost; In case of discrepancy, the Unit Bid Price governs. The quantities shown on the Proposal Attachment: Part C – Bid Items, Quantities and Prices are approximately only, but are considered sufficiently adequate for the purpose of comparing bids. The Total Construction Cost plus any alternate selected by the Jurisdiction shall be used only for comparison of bids. The Total Construction Cost, including any Add-Alternates, shall be used for determining the sufficiency of the bid security.

<i>Item</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Total Price</i>
156th Street Traffic Signals					
1	Manhole Adjustment	EA	2.0		
2	Removal of Sidewalk	SY	510.0		
3	Sidewalk, PCC, 6"	SY	510.0		
4	Detectable Warning	SF	225.0		
5	Full Depth Patches	SY	110.0		
6*	Traffic Signal (Douglas Parkway)	LS	1.0		
7*	Traffic Signal (Meredith Drive)	LS	1.0		
8*	Traffic Signal (Waterford Road)	LS	1.0		
9	Painted Pavement Markings, w/ Grooving	STA	50.0		
10	Temporary Traffic Control	LS	1.0		
11	Conventional Seeding, Fert + Mulch	EA	4,000.0		
12	Modular Block Retaining Wall	SF	225.0		
13	Construction Survey	LS	1.0		
14*	1 1/2" PVC Conduit	SF	5,125.0		
15*	1 1/2" Rigid Conduit	LF	120.0		
16*	1C #10 Tracer Wire	LF	6,070.0		
17*	Pull Rope	LF	6,070.0		
18*	12 Single-Mode Fiber Optic Cable	LF	70.0		
19*	24 Single-Mode Fiber Optic Cable	LF	540.0		
20*	36 Single-Mode Fiber Optic Cable	LF	5,825.0		
21*	Fiber Optic Termination	LF	174.0		
22*	Fiber Splice Enclosure	EA	4.0		
23*	Fiber Optic Splice	EA	90.0		
24*	Fiber Hub	EA	1.0		
25*	Type III Handhole	EA	7.0		
26*	Junction Box	EA	2.0		
Base Bid Sub Total 156th Street Traffic Signals					

ESTIMATED PROJECT QUANTITIES					
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANT	AS BUILT QUANT.
1	6010-E-1	MANHOLE ADJUSTMENT	EA	2	
2	7030-A-1	REMOVAL OF SIDEWALK	SY	510	
3	7030-E	SIDEWALK, PCC, 6"	SY	510	
4	7030-G	DETECTABLE WARNING	SF	225	
5	7040-A	FULL DEPTH PATCHES	SY	110	
6	8010-A	TRAFFIC SIGNAL (DOUGLAS PARKWAY)	LS	1	
7	8010-A	TRAFFIC SIGNAL (MEREDITH DRIVE)	LS	1	
8	8010-A	TRAFFIC SIGNAL (WATERFORD ROAD)	LS	1	
9	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE, W/ GROOVING	STA	50	
10	8030-A	TEMPORARY TRAFFIC CONTROL	LS	1	
11	9010-A	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING	SF	4000	
12	9070-A	MODULAR BLOCK RETAINING WALL	SF	225	
13	11010-A	CONSTRUCTION SURVEY	LS	1	
14	8010-999-A	1 1/2" PVC CONDUIT	LF	5125	
15	8010-999-B	1 1/2" RIGID CONDUIT	LF	120	
16	8010-999-C	1C #10 TRACER WIRE	LF	6070	
17	8010-999-D	PULL ROPE	LF	6070	
18	8010-999-E	12 SINGLE-MODE FIBER OPTIC CABLE	LF	70	
19	8010-999-F	24 SINGLE-MODE FIBER OPTIC CABLE	LF	540	
20	8010-999-G	36 SINGLE-MODE FIBER OPTIC CABLE	LF	5825	
21	8010-999-H	FIBER OPTIC TERMINATION	EA	174	
22	8010-999-I	FIBER SPLICE ENCLOSURES	EA	4	
23	8010-999-J	FIBER OPTIC SPLICE	EA	90	
24	8010-999-K	FIBER HUB	EA	1	
25	8010-999-L	HANDHOLE, PRE-CAST CONCRETE COMPOSITE, TYPE III	EA	7	
26	8010-999-M	JUNCTION BOX	EA	2	



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DESIGNED	ZAP	REV	DESCRIPTION	DATE
DRAWN	MLW	1	SURVEY BID ITEM	03/08/23
CHECKED	JLM			
CLIENT PROJ. NO.	0T4.127691			

CITY OF URBANDALE, IOWA
 156TH ST SIGNALS
 ESTIMATED PROJECT QUANTITIES

SHEET
 C.01

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	6010-E-1	MANHOLE ADJUSTMENT ITEM SHALL INCLUDE, BUT IS NOT LIMITED TO, REMOVING THE EXISTING CASTING AND ADJUSTMENT RINGS, FURNISHING AND INSTALLING ADJUSTMENT RINGS, AND FURNISHING AND INSTALLING NEW CASTING. UNIT PRICE ALSO INCLUDES INSTALLING NEW INFILTRATION BARRIER FOR SANITARY SEWER MANHOLES. PAYMENT SHALL BE FOR EACH REGARDLESS OF TYPE OF MANHOLE.
2	7030-A-1	REMOVAL OF SIDEWALK ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY THE ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED, REGARDLESS OF PAVEMENT THICKNESS. THE CONTRACTOR SHALL LEAVE EXISTING SIDEWALK IN PLACE UNTIL SIDEWALK CONSTRUCTION IS READY TO COMMENCE.
3	7030-E	SIDEWALK, PCC, 6" CONCRETE WILL BE A C-4 MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. JOINTING, EXPANSION MATERIAL, EXCAVATION, BACKFILLING, ETC. SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. SUBBASE INSTALLATION AND COMPACTION, CURB STOP AND VALVE BOX ADJUSTMENTS TO FINISHED GRADE THAT FALL WITHIN THE SIDEWALK, AND CONCRETE WASHOUT SHALL ALSO BE CONSIDERED INCIDENTAL TO THIS ITEM.
4	7030-G	DETECTABLE WARNING INCLUDES MANUFACTURED DETECTABLE WARNING PANELS. CONTRACTOR TO SUBMIT MATERIAL AND COLOR FOR APPROVAL PRIOR TO PURCHASE. CUTTING/ TRIMMING/ MODIFYING OF ANY DETECTABLE WARNING PANELS TO FIT PAVEMENT GEOMETRICS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. DETECTABLE WARNINGS SHALL BE ARMOR TILE, ADA SOLUTIONS, OR APPROVED EQUAL, BRICK RED IN COLOR, CAST-IN-PLACE.
5	7040-A	FULL DEPTH PATCHES SAWING, REMOVING, AND DISPOSING OF EXISTING PAVEMENT AND REINFORCING; RESTORING THE SUBGRADE; FURNISHING AND INSTALLING TIE BARS AND DOWEL BARS; FURNISHING AND PLACING THE PATCH MATERIAL, WHILE MATCHING EXISTING PAVEMENT DEPTHS, INCLUDING THE ASPHALT BINDER AND TACK COAT; FORMING AND CONSTRUCTING INTEGRAL CURB; SURFACE CURING AND PAVEMENT PROTECTION; JOINT SAWING AND FILLING; AND PLACING BACKFILL AND RESTORING DISTURBED SURFACES.
6	8010-A	TRAFFIC SIGNAL (DOUGLAS PARKWAY) SEE N SHEETS. INCLUDES FURNISHING AND INSTALLING PTZ CAMERA ON INPLACE SIGNAL POLE. PTZ CAMERA TO BE CONNECTED TO THE CABINET AND OPERATIONAL. ROCKETLINX ES8108 SM SWITCH TO BE PROVIDED IN TRAFFIC CABINET.
7	8010-A	TRAFFIC SIGNAL (MEREDITH DRIVE) SEE N SHEETS FOR ADDITIONAL DETAILS AND NOTES. INCLUDES PURCHASE OF MAXVIEW/KINETIC SYSTEM LICENSES FOR NEW CONTROLLER AND INTERSECTION SETUP IN SOFTWARE. ROCKETLINX ES8108 SM SWITCH TO BE PROVIDED IN TRAFFIC HUB.
8	8010-A	TRAFFIC SIGNAL (WATERFORD ROAD) SEE N SHEETS FOR ADDITIONAL DETAILS AND NOTES. INCLUDES PURCHASE OF MAXVIEW/KINETIC SYSTEM LICENSES FOR NEW CONTROLLER AND INTERSECTION SETUP IN SOFTWARE. ROCKETLINX ES8108 SM SWITCH TO BE PROVIDED IN TRAFFIC CABINET.
9	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE, W/ GROOVING REFLECTORIZING SPHERES, LAYOUT, SURFACE PREPARATION, GROOVING, AND APPLICATION OF MARKING PAINT. QUANTITIES FOR STRIPING ARE PAID OUT AS 4" EQUIVALENT.
10	8030-A	TEMPORARY TRAFFIC CONTROL ITEM SHALL INCLUDE INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY TRAFFIC CONTROL; ONE LANE OF THRU TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. LANE CLOSURES SHALL USE ARROW BOARDS AND FOLLOW TRAFFIC CONTROL GUIDANCE PER MUTCD AND SUDAS. REMOVAL AND REINSTALLATION OR COVERING OF PERMANENT TRAFFIC CONTROL DEVICES THAT CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL PLAN; MONITORING AND DOCUMENTING TRAFFIC CONTROL CONDITIONS; AND FLAGGERS.

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
11	9010-A	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING THIS ITEM IS FOR ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY FOR SEEDING, FERTILIZING AND MULCHING AREAS DISTURBED BY CONSTRUCTION. SEED MIX SHALL BE SUDAS TYPE 1 (PERMANENT LAWN). FERTILIZER SHALL BE 6-24-24 AND APPLIED AT A RATE OF 300 LB/ACRE. SEED, FERTILIZER, AND MULCH SHALL BE DELIVERED ONSITE UNOPENED AND LABELED FOR INSPECTION. ENGINEER WILL COLLECT MATERIAL TICKETS TO VERIFY QUANTITIES. PAYMENT SHALL BE QUANTITY MEASURED IN THE FIELD. THE COST FOR WATERING, ROCK PICKING, FINISH GRADING, SEED BED PREP AND RESEEDING ARE CONSIDERED INCIDENTAL TO THIS ITEM. NO ADDITIONAL PAYMENTS WILL BE MADE FOR RESEEDED AREAS. THE CONTRACTOR IS RESPONSIBLE FOR MOWING AND MAINTAINING SEEDED AREAS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. SEEDING OF AREAS DISTURBED OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
12	9070-A	MODULAR BLOCK RETAINING WALL BID ITEM TO BE USED ONLY IF NEW MODULAR BLOCK IS NEEDED WHERE WALL IS IMPACTED BY SIDEWALK CONSTRUCTION. MATCH STYLE AND COLOR OF EXISTING WALL. NEW BLOCKS TO BE USED ON BOTTOM OF WALL. EXISTING BLOCKS MAY BE REUSED WITH APPROVAL OF ENGINEER. ITEM TO BE MEASURED BY AREA OF WALL REBUILT.
13	11010-A	CONSTRUCTION SURVEY THIS ITEM INCLUDES WORK LISTED IN SECTION 11.010 OF SUDAS, INCLUDING BUT NOT LIMITED TO, ALL REQUIREMENTS TO COMPLETE THE PROPOSED PEDESTRIAN CURB RAMPS IN ADDITION TO THE TRAFFIC SIGNALIZATION. ITEM ALSO INCLUDES RESETTING AND FILING OF TIE CERTIFICATES OF ALL DISTURBED SECTION CORNERS OR LOT CORNERS.
14	8010-999-A	1 1/2" PVC CONDUIT ENCLOSURE OF OPEN BORE PITS/EXCAVATION SITES WITH ORANGE CONSTRUCTION FENCING IS INCIDENTAL TO THE CONDUIT INSTALLATION. ITEM TO BE MEASURED BY THE AMOUNT OF LINEAR FEET OF CONDUIT INSTALLED.
15	8010-999-B	1 1/2" RIGID CONDUIT ENCLOSURE OF OPEN BORE PITS/EXCAVATION SITES WITH ORANGE CONSTRUCTION FENCING IS INCIDENTAL TO THE CONDUIT INSTALLATION. ITEM TO BE MEASURED BY THE AMOUNT OF LINEAR FEET OF CONDUIT INSTALLED.
16	8010-999-C	1C #10 TRACER WIRE TRACER WIRE SHALL BE WITHIN ALL NEW CONDUIT. ITEM TO BE MEASURED BY THE AMOUNT OF LINEAR FEET OF TRACER WIRE INSTALLED.
17	8010-999-D	PULL ROPE PULL ROPE SHALL BE WITHIN ALL NEW CONDUIT. ITEM TO BE MEASURED BY THE AMOUNT OF LINEAR FEET OF PULL ROPE INSTALLED.
18	8010-999-E	12 SINGLE-MODE FIBER OPTIC CABLE PRICE PER LINEAR FOOT SHALL BE FULL COMPENSATION FOR FURNISHING EQUIPMENT, MATERIALS, AND ALL OTHER WORK NECESSARY, INCLUDING TESTING, TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL FIBER SYSTEM.
19	8010-999-F	24 SINGLE-MODE FIBER OPTIC CABLE PRICE PER LINEAR FOOT SHALL BE FULL COMPENSATION FOR FURNISHING EQUIPMENT, MATERIALS, AND ALL OTHER WORK NECESSARY, INCLUDING TESTING, TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL FIBER SYSTEM.
20	8010-999-G	36 SINGLE-MODE FIBER OPTIC CABLE PRICE PER LINEAR FOOT SHALL BE FULL COMPENSATION FOR FURNISHING EQUIPMENT, MATERIALS, AND ALL OTHER WORK NECESSARY, INCLUDING TESTING, TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL FIBER SYSTEM.
21	8010-999-H	FIBER OPTIC TERMINATION PAYMENT WILL BE FOR EACH FIBER OPTIC TERMINATION PERFORMED. ALL JUMPERS REQUIRED SHALL BE SC. JUMPERS ARE INCIDENTAL TO FIBER OPTIC TERMINATION. QUANTITIES FOR INCIDENTAL JUMPERS INCLUDE 2 AT DOUGLAS PARKWAY, 4 AT MEREDITH DRIVE, AND 6 AT WATERFORD ROAD.
22	8010-999-I	FIBER SPLICE ENCLOSURES
23	8010-999-J	FIBER OPTIC SPLICE
24	8010-999-K	FIBER HUB FIBER SHALL BE PAD MOUNTED AND ACCESSIBLE FROM BOTH SIDES. PAYMENT WILL BE MADE FOR EACH FIBER HUB INSTALLED.
25	8010-999-L	HANDHOLE, PRE-CAST CONCRETE COMPOSITE, TYPE III
26	8010-999-M	JUNCTION BOX

1

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DESIGNED	REV	DESCRIPTION	DATE
ZAP	1	SURVEY BID ITEM	03/08/23
DRAWN			
MLW			
CHECKED			
JLM			
CLIENT PROJ. NO.			
0T4.127691			

CITY OF URBANDALE, IOWA
156TH ST SIGNALS

ESTIMATED PROJECT QUANTITIES

SHEET

C.02

ESTIMATE OF TRAFFIC SIGNAL QUANTITIES

ITEM	DESCRIPTION	UNITS	TOTAL
CABINET	8-PHASE CONTROLLER CABINET, TS1, P44 SIZE, 18" RISER, AND ACCESSORIES	LS	1
	CONTROLLER : INTELIGHT XN-2 WITH ABCD CONNECTORS	LS	1
	CONFLICT MONITOR: EDI MMU-2-16LEIP SMART MONITOR WITH SDLC AND ETHERNET	LS	1
	GPS EVP SYSTEM: GTT GPS OPTICOM 768	LS	1
	ETHERNET SWITCH: ROCKETLINX ES8108 SM SWITCH	LS	1
	UNINTERRUPTABLE POWER SUPPLY (BATTERY BACK-UP), TESCO CONTROL	LS	1
DETECTION	PTZ CAMERA: POE CAMERA, AXIS Q6075-E	LS	1
	6X8 DETECTION LOOPS	EACH	36
TRAFFIC SIGNAL HEADS	PEDESTRIAN PUSH BUTTON STATION (APS) WITH SIGN	EACH	8
	12" LED <R,<Y,<FY,<G MAST ARM MOUNT	EACH	4
	12" LED R,Y,G MAST ARM MOUNT	EACH	8
	12" LED R,Y,G POLE MOUNT	EACH	4
POWER SUPPLY	LED PEDESTRIAN SIGNAL HEAD SIDE OF POLE MOUNT	EACH	8
	POWER SUPPLY	EACH	1
HANDHOLES	TYPE I - PRE-CAST CONCRETE HANDHOLE	EACH	11
	TYPE III - 24" X 36" PRE-CAST POLYMER-CONCRETE HANDHOLE	EACH	1
WIRE AND CABLE	SIGNAL CABLE - 2C #14 AWG	LIN FT	1715
	SIGNAL CABLE - 5C #14 AWG	LIN FT	914
	SIGNAL CABLE - 7C #14 AWG	LIN FT	640
	SIGNAL CABLE - 16C #14 AWG	LIN FT	1020
	LOOP DETECTION CABLES	LIN FT	4778
	EMERGENCY VEHICLE PREEMPTION CABLE	LIN FT	140
	TMC CABLE	LIN FT	156
	DETECTOR - 2C #14 AWG	LIN FT	4300
	LUMINAIRE CABLE - 1C #8 AWG	LIN FT	1900
	LUMINAIRE CABLE - 1C #10 AWG	LIN FT	160
	POWER - 1C #6	LIN FT	290
	GROUND - 1C #6 BARE	LIN FT	1625
	TRACER - 1C #10	LIN FT	1625
	PULL TAPE	LIN FT	1625
CONDUIT	2" PVC, TRENCHED	LIN FT	790
	2" PVC, PUSHED	LIN FT	115
	3" PVC, TRENCHED	LIN FT	85
	3" PVC, PUSHED	LIN FT	480
CONCRETE FOOTINGS	CONTROLLER CABINET FOOTING	EACH	1
	SIGNAL POLE FOOTING 3'-0" DIA. X 14'-0"	EACH	2
	SIGNAL POLE FOOTING 3'-0" DIA. X 18'-0"	EACH	1
	SIGNAL POLE FOOTING 3'-6" DIA. X 18'-0"	EACH	1
TRAFFIC SIGNAL POLES	PEDESTRIAN PUSHBUTTON FOUNDATION 4'-0" DIA. X 4'-0"	EACH	8
	COMBINATION SIGNAL/LIGHTING - 41' MAST ARM	EACH	1
	COMBINATION SIGNAL/LIGHTING - 45' MAST ARM	EACH	1
	COMBINATION SIGNAL/LIGHTING - 65' MAST ARM	EACH	1
LUMINAIRE	COMBINATION SIGNAL/LIGHTING - 66' MAST ARM	EACH	1
	LUMINAIRE, LED, TYPE II	EACH	8
	CONNECTOR, Y-1	EACH	8
MISC.	CONNECTOR, Y-2	EACH	12
	STREETNAME SIGNS	EACH	4
	WIND DAMPENING DEVICE	EACH	4
	TRAFFIC SIGN	EACH	4

CONDUIT QUANTITIES (FT)

FROM	TO	TRENCHED		PUSHED	
		2" DIA NMC	3" DIA NMC	2" DIA NMC	3" DIA NMC
SOP	CAB			115	
CAB	HH1		30		
HH1	POLE 1				70
HH1	PED STN 5	45			
HH1	PED STN 6	10			
HH1	HH2	10			
HH2	HH9	200			
HH1	HH3				110
HH3	POLE 2		10		
HH3	PED STN 7	5			
HH3	PED STN 8	25			
HH3	HH4	40			
HH4	HH10	200			
HH3	HH5				150
HH5	POLE 3		25		
HH5	PED STN 9	30			
HH5	PED STN 10	10			
HH5	HH6	15			
HH6	HH11	200			
HH1	HH7				150
HH7	POLE 4		20		
HH7	PED STN 11	25			
HH7	PED STN 12	20			
HH7	HH8	45			
HH8	HH12	195			
	AT HH2	75			
	AT HH9	10			
	AT HH4	110			
	AT HH10	30			
	AT HH6	75			
	AT HH11	15			
	AT HH8	75			
	AT HH12	15			
SUB-TOTALS		790	85	115	480

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DESIGNED	ZAP	REV	DESCRIPTION	DATE
DRAWN	MLW	1	PEDESTRIAN PUSHBUTTON FOUNDATION	03/08/23
CHECKED	JLM			
CLIENT PROJ. NO.	0T4.127691			

CITY OF URBANDALE, IOWA
156TH ST SIGNALS
TRAFFIC SIGNAL DETAILS
MEREDITH DRIVE

SHEET
N.05

ESTIMATE OF TRAFFIC SIGNAL QUANTITIES

ITEM	DESCRIPTION	UNITS	TOTAL	
CABINET	8-PHASE CONTROLLER CABINET, TS1, P44 SIZE, 18" RISER, AND ACCESSORIES	LS	1	
	CONTROLLER : INTELIGHT XN-2 WITH ABCD CONNECTORS	LS	1	
	CONFLICT MONITOR: EDI MMU-2-16LEIP SMART MONITOR WITH SDLC AND ETHERNET	LS	1	
	GPS EVP SYSTEM: GTT GPS OPTICOM 768	LS	1	
	ETHERNET SWITCH: ROCKETLINX ES8108 SM SWITCH	LS	1	
	UNINTERRUPTABLE POWER SUPPLY (BATTERY BACK-UP), TESCO CONTROL	LS	1	
	PTZ CAMERA: POE CAMERA, AXIS Q6075-E	LS	1	
DETECTION	6X8 DETECTION LOOPS	EACH	35	
	PEDESTRIAN PUSH BUTTON STATION (APS) WITH SIGN	EACH	8	
TRAFFIC SIGNAL HEADS	12" LED <R,<Y,<FY,<G MAST ARM MOUNT	EACH	4	
	12" LED R,Y,G MAST ARM MOUNT	EACH	8	
	12" LED R,Y,G POLE MOUNT	EACH	4	
	LED PEDESTRIAN SIGNAL HEAD SIDE OF POLE MOUNT	EACH	8	
POWER SUPPLY	POWER SUPPLY	EACH	1	
HANDHOLES	TYPE I - PRE-CAST CONCRETE HANDHOLE	EACH	11	
	TYPE III - 24" X 36" PRE-CAST POLYMER-CONCRETE HANDHOLE	EACH	1	
WIRE AND CABLE	SIGNAL CABLE - 2C #14 AWG	LIN FT	1490	
	SIGNAL CABLE - 5C #14 AWG	LIN FT	695	
	SIGNAL CABLE - 7C #14 AWG	LIN FT	342	
	SIGNAL CABLE - 16C #14 AWG	LIN FT	675	
	LOOP DETECTION CABLES	LIN FT	4549	
	EMERGENCY VEHICLE PREEMPTION CABLE	LIN FT	130	
	TMC CABLE	LIN FT	450	
	DETECTOR - 2C #14 AWG	LIN FT	4480	
	LUMINAIRE CABLE - 1C #8 AWG	LIN FT	1780	
	LUMINAIRE CABLE - 1C #10 AWG	LIN FT	160	
	SIREN - 2C #14 AWG	LIN FT	90	
	POWER - 1C #6	LIN FT	270	
	GROUND - 1C #6 BARE	LIN FT	1620	
	TRACER - 1C #10	LIN FT	1620	
	PULL TAPE	LIN FT	1620	
	CONDUIT	2" PVC, TRENCHED	LIN FT	1500
		2" PVC, PUSHED	LIN FT	70
		3" PVC, TRENCHED	LIN FT	65
3" PVC, PUSHED		LIN FT	445	
CONCRETE FOOTINGS	CONTROLLER CABINET FOOTING	EACH	1	
	SIGNAL POLE FOOTING 3'-6" DIA. X 18'-0"	EACH	4	
	SIGNAL POLE FOOTING 3'-6" DIA. X 18'-0"	EACH	1	
	PEDESTRIAN PUSHBUTTON FOUNDATION 4'-0" DIA. X 4'-0"	EACH	8	
TRAFFIC SIGNAL POLES	STEEL COMBINATION SIGNAL/LIGHTING - 65' MAST ARM	EACH	2	
	STEEL COMBINATION SIGNAL/LIGHTING - 70' MAST ARM	EACH	2	
LUMINAIRE	LUMINAIRE, LED, TYPE II	EACH	8	
	CONNECTOR, Y-1	EACH	8	
	CONNECTOR, Y-2	EACH	12	
MISC.	STREETNAME SIGNS	EACH	4	
	WIND DAMPENING DEVICE	EACH	4	
	TRAFFIC SIGN	EACH	4	

CONDUIT QUANTITIES (FT)

FROM	TO	TRENCHED		PUSHED	
		2" DIA NMC	3" DIA NMC	2" DIA NMC	3" DIA NMC
SOP	CAB	105			
CAB	HH7				60
HH7	POLE 1		20		
HH7	PED STN 11	15			
HH7	PED STN 12	25			
HH7	HH8	40			
HH8	HH12	200			
HH7	HH5				120
HH5	POLE 4		20		
HH5	PED STN 9	25			
HH5	PED STN 10	20			
HH5	HH6	45			
HH6	HH11	200			
HH5	HH3				125
HH3	POLE 3		25		
HH3	PED STN 7	20			
HH3	PED STN 8	15			
HH3	HH4	35			
HH4	HH10	200			
HH7	HH1				125
HH1	POLE 2				15
HH1	PED STN 5			15	
HH7	PED STN 6			15	
HH1	HH2			40	
HH2	HH9	200			
	AT HH2	80			
	AT HH9	15			
	AT HH4	50			
	AT HH10	15			
	AT HH6	75			
	AT HH11	30			
	AT HH8	75			
	AT HH12	15			
SUB-TOTALS		1500	65	70	445



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ZAP	1	PEDESTRIAN PUSHBUTTON FOUNDATION	03/08/23
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JLM			
CLIENT PROJ. NO.			
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CITY OF URBANDALE, IOWA
156TH ST SIGNALS
TRAFFIC SIGNAL DETAILS
WATERFORD RD

SHEET
N.10

