ITEM 630 - SIGNING MISC.: OVERHEAD MOUNTED SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON

1. RRFB INDICATIONS

- A. EACH RRFB INDICATION LENS SHALL BE A MINIMUM SIZE OF APPROXIMATELY 5" WIDE X 2" HIGH.
- B. THE RRFB INDICATIONS SHALL BE ALIGNED HORIZONTALLY, WITH THE LONGER DIMENSION OF THE INDICATION HORIZONTAL. THERE SHALL BE ONE LED LIGHT INDICATOR FACING THE TRAVEL DIRECTION FOR THE POLE MOUNTED RRFB, AND THERE SHALL BE TWO LED LIGHT INDICATORS, ONE FACING EACH DIRECTION, FOR THE MAST ARM LED LIGHT INDICATOR.
- C. EACH RRFB SHALL BE SUPPLIED WITH ALL REQUIRED HARDWARE TO INSTALL ASSEMBLY. ALL EXPOSED HARDWARE SHALL BE ANTI-VANDAL.
- D. EACH POLE MOUNTED RRFB LED LIGHT INDICATOR SHALL
 BE LOCATED BETWEEN THE BOTTOM OF THE CROSSING
 WARNING SIGN AND THE TOP OF THE SUPPLEMENTAL
 DOWNWARD DIAGONAL ARROW PLAQUE, AS SHOWN ON
 THE DETAIL.
- E. EACH OVERHEAD MOUNTED RRFB LED LIGHT INDICATOR SHALL BE LOCATED BELOW THE BOTTOM OF THE CROSSING WARNING SIGN, AS SHOWN ON THE DETAIL.
- F. THE LIGHT INTENSITY OF THE YELLOW INDICATIONS SHALL MEET THE MINIMUM CLASS I SPECIFICATIONS OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 (DIRECTIONAL FLASHING OPTICAL WARNING DEVICES FOR AUTHORIZED EMERGENCY, MAINTENANCE, AND SERVICE VEHICLES) DATED JANUARY, 2005.
- G. TO MINIMIZE EXCESSIVE GLARE DURING NIGHTTIME CONDITIONS, AN AUTOMATIC SIGNAL DIMMING DEVICE SHALL BE USED TO REDUCE THE BRILLIANCE OF THE RRFB INDICATIONS.
- H. THE PUSHBUTTON INTERGRAL TO THE RRFB SHALL BE INTERNALLY ILLUMINATED.

2. SIGNS

- A. ALL SIGN ASSEMBLIES SHALL USE ANTI-VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.
- B. PEDESTRIAN PUSHBUTTONS SIGNS SHALL BE PROVIDED AND INCLUDE THE LEGEND "PUSH BUTTON TO TURN ON WARNING LIGHTS", SIGNS SHOULD BE MOUNTED ABOVE EACH PEDESTRIAN PUSHBUTTON.
- C. TWO SETS OF R1-9 SIGNS SHALL BE REQUIRED PER UNIT FOR VIEW FROM EACH APPROACH.
- D. ASSURE SIGN MEETS THE REQUIREMENTS OF C&MS 630.

3. <u>CONTROL CIRCUIT</u>

- A. THE CONTROL CIRCUIT SHALL HAVE THE CAPABILITY OF INDEPENDENTLY FLASHING UP TO TWO INDEPENDENT OUTPUTS. THE LED LIGHT OUTPUTS AND FLASH PATTERN SHALL BE COMPLETELY PROGRAMMABLE.
- B. THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.
- C. THE LEDS SHALL BE SEALED AGAINST DUST AND MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250-1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.

ITEM 630 - SIGNING MISC.: OVERHEAD MOUNTED SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON SIGN ASSEMBLY. CONTINUED

4. BATTERY AND SOLAR PANELS

- A. BATTERY UNIT SHALL BE A 12VDC, 35 AHR MINIMUM, SEALED GEL OR AGM LEAD ACID BATTERY. BATTERIES SHALL HAVE A WRITTEN TWO YEAR FULL REPLACEMENT WARRANTY.
- B. THE SOLAR PANEL SHALL PROVIDE A MINIMUM OF 40 WATTS PEAK TOTAL OUTPUT.
- C. THE SOLAR PANEL SHALL BE MOUNTED TO AN ALUMINUM PLATE AND BRACKET AT AN ANGLE OF 45 DEGREES- 60 DEGREES TO PROVIDE MAXIMUM OUTPUT.
- D. ALL FASTENERS USED SHALL BE ANTI-VANDAL.

5. WIRELESS RADIO

- A. RADIO CONTROL SHALL OPERATE ON A 900 MHZ FREQUENCY HOPPING SPREAD SPECTRUM NETWORK, WI-FI OR APPROVED FOULL
- B. RADIO SHALL INTEGRATE COMMUNICATION OF RRFB CONTROL CIRCUIT TO ACTIVATE SIGN FROM PUSHBUTTON INPUT.
- C. THE RADIO SHALL BE SYNCHRONIZED SO ALL OF THE REMOTE RRFB LIGHT INDICATIONS WILL TURN ON WITHIN 120 MSEC OF EACH OTHER AND REMAIN SYNCHRONIZED THROUGH-OUT THE DURATION OF THE FLASHING CYCLE.

6. PUSHBUTTON

- A. THE PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION OVER A TEMPERATURE RANGE OF -30 DEGREES F TO +165 DEGREES F.
- B. PUSHBUTTON SHALL BE ADA COMPLIANT

7. OVERHEAD SUPPORT

A. MOUNT ON A STANDARD TC-16.21 DESIGN 5
SINGLE ARM OVERHEAD SUPPORT WITH A 21 FOOT ARM.
FOUNDATION SHALL BE A STANDARD TC-21.20 FOR
A STANDARD TC-16.21 DESIGN 5 SUPPORT.

CONSTRUCTION

THE RRFB SHALL BE ASSEMBLED AND CONSTRUCTED BY THE CONTRACTOR AS SHOWN AND SPECIFIED ON THE PLANS.

WARRANTY

WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE.

MEASUREMENT

THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS, TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL UNIT.

PAYMENT

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 630 - SIGNING MISC.: OVERHEAD MOUNTED SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON SIGN ASSEMBLY FOR ALL OF THE ITEMS LISTED IN THIS NOTE. THE RI-9 SIGNS AND THE 2 RIGID OVERHEAD SIGN SUPPORT FOUNDATIONS ARE PAID SEPARATELY FROM THIS PAY ITEM.

ITEM 632 - REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM: PEDESTRIAN HEADS, PUSHBUTTONS AND WIRING

THE REMOVAL AND DISPOSAL OF THESE ITEMS SHALL INCLUDE THE REMOVAL FROM THE EXISTING SIGNAL POLE ALONG THE NORTHWEST CORNER OF COLERAIN AVENUE AND EARL AVENUE 2 PEDESTRIAN HEADS AND ONE PUSH BUTTON. THE REMOVAL FROM THE EXISTING SIGNAL POLE ALONG THE SOUTHWEST CORNER OF COLERAIN AVENE AND EARL AVENUE, ONE PEDESTRIAN HEAD AND ONE PUSH BUTTON. THE REMOVAL FROM THE EXISTING SIGNAL POLE ALONG TH NORTHEASTERN CORNER OF COLERAIN AVENUE AND BYRNESIDE DRIVE, ONE PEDESTRIAN HEAD AND ONE PUSHBUTTION. THIS ITEM ALSO INCLUDES THE REMOVAL OF THE RUNS OF SIGNAL CABLE FROM THE 4 PEDESTRIAN HEADS TO THE CONTROLLER CABINET. ANY HOLES LEFT IN THE EXISTING SIGNAL POLES SHALL BE PLUGGED.

PAYMENT

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 632 - REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM: PEDESTRIAN HEADS, PUSHBUTTIONS AND WIRING.

- 4 PEDESTRIAN HEADS
- 3 PUSH BUTTONS
- 1 WIRING
- 8 ITEMS

ITEM 632 - MESSENGER WIRE MISC .: UNLASH AND RELASH

THE EXISTING MESSENGER WIRE AND ASSOCIATED WIRING ON THE NORTHEAST AND NORTHWEST CORNERS OF COLERAIN AVENUE AND BYRNESIDE/ EARL INTERSECTION SHALL BE UNLASHED AND RELASED FOR THE INSTALLATION OF THE NEW CONDUCTOR.

PAYMENT

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 632 - MESSENGER WIRE MISC.: UNLASH AND RELASH

ITEM 659 - SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

- 659, SOIL ANALYSIS TEST 2 EACH
- 659, TOPSOIL 246 CU. YD.
- 659, SEEDING AND MULCHING 2230 SQ. YD.
- 659, REPAIR SEEDING AND MULCHING 111 SQ. YD.
- 659, INTER-SEEDING 111 SQ. YD.
- 659, COMMERCIAL FERTILIZER 0.3 TON
- 659, LIME 0.5 ACRES
- 659, WATER 12 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

					SHEET	NUM.					 PAI		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET
4	5	6	10	11	12	13	14	15	38	67	01/SAF/ OT	02/SAF/ OT	I I E IVI	EXT	TOTAL	ONT	DESCRIFTION	NO.
																	ROADWAY	
											LS		201	11000	LS		CLEARING AND GRUBBING	
					1						1		202	20010	1		HEADWALL REMOVED	
					907						907		202	23000	907		PAVEMENT REMOVED	
					296 259						296 259		202 202	32000 35100	296 259		CURB REMOVED PIPE REMOVED, 24" AND UNDER	
-+					233						209		202	33100	233	7 7	TIL KEMOVED, 24 AND ONDER	
					1						1		202	58000	1	EACH	MANHOLE REMOVED	
					4						4		202	58100	4		CATCH BASIN REMOVED	
									940	11	940	11	203	10000	951		EXCAVATION	
									218	5	218	5	203 203	20000 35130	218 5		EMBANKMENT GRANULAR MATERIAL, TYPE D	
										5		5	203	35130	5	LT	GRANULAR MATERIAL, TIPE U	
			883	363							1,243		204	10000	1,246	SY	SUBGRADE COMPACTION	
			4,242	1,619							5,861		608	10000	5,861	SF	4" CONCRETE WALK	
			755	223							978		608	52000	978	SF	CURB RAMP	
											LS		878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
																	EROSION CONTROL	+
		2									2		659	00100	2	EACH	SOIL ANALYSIS TEST	
		246									246		659	00300	246	CY	TOPSOIL	
		2,230									2,230		659	10000	2,230	SY	SEEDING AND MULCHING	
		111 111									111 111		659 659	14000 15000	111 111		REPAIR SEEDING AND MULCHING INTER-SEEDING	
		111									111		659	13000	111	31	INTER-SEEDING	
		0.3									0.3		659	20000	0.3	TON	COMMERCIAL FERTILIZER	
		0.5									0.5		659	31000	0.5	ACRE	LIME	
		12									12		659	35000	12	MGAL	WATER	
											LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
											LS		832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
											LS		832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
											20,000		832	30000	10,000	EACH	EROSION CONTROL	
																	DRAINAGE	
						4					4		602	20000	4		CONCRETE MASONRY	
						914 45					914 45		605 611	06000 00410	914 45		4" BASE PIPE UNDERDRAINS 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
						16					16		611	04400	16		12" CONDUIT, TYPE B	
						94					94		611	04600	94		12" CONDUIT, TYPE C	
						12					12		611	06100	12	FT	15" CONDUIT, TYPE C	
						184 47					184 47		611 611	07400 07600	184 47		18" CONDUIT, TYPE B 18" CONDUIT, TYPE C	
						4					4		611	98180	4		CATCH BASIN, NO. 3A	
						1					1		611	98410	1	EACH	CATCH BASIN, NO. 8	
						2					2		611	98451	2		CATCH BASIN, NO. 2-2A, AS PER PLAN	5
						5 2					5 2		611 611	98470 98630	5 2		CATCH BASIN, NO. 2-2B CATCH BASIN ADJUSTED TO GRADE	
						2					2		611	98690	2		CATCH BASIN ADJUSTED TO GRADE CATCH BASIN, MISC.: EX. CATCH BASIN: ABANDON AND CONNECT THROUGH	5
						2					2		611	99574	2	EACH	MANHOLE, NO. 3	
																	PAVEMENT	
			1,700	29						01	1,715	01	252	01500	1,729		FULL DEPTH PAVEMENT SAWING	
			105	31						21 3	135	21 3	254 301	01000 46000	21 139		PAVEMENT PLANING, ASPHALT CONCRETE, 1" ASPHALT CONCRETE BASE, PG64-22	
			110	47				1			156		304	20000	157		AGGREGATE BASE	
			231	59							290		305	12010	290		8" CONCRETE BASE, CLASS QC 1P	
\Box T			27	1						2	28	2	407	10000	30		TACK COAT	
			- 01	10						1	70	1	441	10000	1 7.0		ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG64-22	
			24 699	12 426							36 1,125		441 609	50000 12000	36 1 , 125		ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 COMBINATION CURB AND GUTTER, TYPE 2	
-+			463	420							503		609	26000	503	FT	CURB, TYPE 6	
																	,	
			10								10		609	54000	10	SY	6" CONCRETE TRAFFIC ISLAND	
			10								10		003	34000	10	31	O CONCRETE TRAITIC ISLAND	

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					JIILL	T NUM.			1	,	PA		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET
	5	6	10	11	12	13	14	15	38	67	01/SAF/ OT	02/SAF/ OT	172101	EXT	TOTAL	0/1/	BESCHI TION	NO.
																	WATER WORK	
										2		2		638E86000	2	EACH	SPECIAL-FIRE HYDRANT REMOVED (CIN. 1114)	
										63		63		638E87200	63	FT	SPECIAL-3/4" COPPER WATER SERVICE LINE, W/ AQUA SHIELD (CIN. 1126)	67
										1		1		638E88700	1	EACH	SPECIAL-FURNISHING AND INSTALLING CURB AND ROADWAY BOX (RENEW) (CIN. 1131)	67
										1		1	SPECIAL	638E86100	1	EACH	SPECIAL-FURNISHING AND INSTALLING FIRE HYDRANT EXTENTION, (12" LONG) (CIN. 1115)	67
						+				2		2	SPECIAL	638E86100	2	EACH	SPECIAL-FURNISHING AND INSTALLING FIRE HYDRANT EXTENTION, (6" LONG) (CIN. 1115)	67
										2		2		638E86300	2		SPECIAL-FURNISHING AND INSTALLING VALVE BOX COMPLETE (CIN. 1116)	67
										2		2		638E85700	2		SPECIAL-HAULING AND INSTALLING FIRE HYDRANT (CIN. 1112)	67
										1		1		638E89296	11	EACH	SPECIAL-RELOCATING EXISTING 5/8" FROST-PROOF METER SETTING (CIN. 1134)	67
										57		57	SPECIAL	638E80600	57	FT	SPECIAL-FURNISHING AND LAYING 6" DUCTILE IRON PIPE & FITTINGS (CIN. 1101)	67
																	OTHER UTILITIES	
	4										4		SPECIAL	61199700	4	EACH	GAS VALVE BOX ADJUSTED TO GRADE	5
																	TRAFFIC CONTROL	
							70				70		630	03100	70	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
							2				2		630	79500	2	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
							107				107		630	80100	107		SIGN, FLAT SHEET	
							2				2		630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
							1				1		630	84900	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
+							1				1		630	86002	1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	LS										LS		630	95000	LS		SIGNING, MISC.: OVERHEAD MOUNTED SOLAR POWERED RRFB ASSEMBLY	5
	LS										LS		630	95000	LS		SIGNING, MISC.: POLE MOUNTED SOLAR POWERED RRFB ASSEMBLY	5
							840				840		642	30000	840	FT	REMOVAL OF PAVEMENT MARKING	
							2				2		642	30020	2	EACH	REMOVAL OF PAVEMENT MARKING	
+							0.02				0.02		644	00300	0.02	MILE	CENTER LINE	
							57				57		644	00404	57	FT	CHANNELIZING LINE, 12"	
							56				56		644	00500	56	FT	STOP LINE	
							1,083				1,083		644	00600	1,083	FT	CROSSWALK LINE	
						1	281				281		644	00700	281	FT	TRANSVERSE/DIAGONAL LINE	
							1				1		644	01300	1	EACH	LANE ARROW	
							96				96		644	20800	96	FT	YIELD LINE	
																	TRAFFIC SIGNALS	
								30			30		625	25400	30	FT	CONDUIT, 2", 725.04	
								30			30		625	29000	30		TRENCH	
								2			2		625	32000	2	EACH	GROUND ROD	
								30			30		625	36000	30	FT	PLASTIC CAUTION TAPE	
								3			3		632	20720	3	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2	
						+		2			2		632	20750	2	EACH	ACCESSIBLE PEDESTRIAN PUSHBUTTON	
								3			3		632	25010	3		COVERING OF PEDESTRIAN SIGNAL HEAD	
								166			166		632	30500	166	FT	MESSENGER WIRE, MISC.: UNLASH AND RELASH	6
								256			256		632	40300	256	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
								256			256		632	40500	256	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
+								6			6		632	64020	6	EACH	PEDESTAL FOUNDATION	
								2			2		632	89900	2	EACH	PEDESTAL, 8', TRANSFORMER BASE	
								8			8		632	90020	8	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM: PEDESTRIAN HEAD, PUSHBUTTON,	6
+						+											AND WIRING	
																	MISCELLANEOUS STRUCTURE	
											LS		202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	4
_						1					1		608	98200	1	EACH	WALKWAY, MISC.: 4" CONCRETE WALK	4
_						<u> </u>											INCIDENTALS	
											LS	LS	614	11000	LS		MAINTAINING TRAFFIC	
_					1	1		-			LS LS	LS LS	623 624	10000 10000	LS LS	<u>LS</u> LS	CONSTRUCTION LAYOUT STAKES AND SURVEYING MOBILIZATION	
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GENERAL PROVISIONS

The Contractor is advised that there are several changes to the most recent edition of the City of Cincinnati Supplement dated January 1, 2013. These General Provisions include these changes. The Supplement and a Summary of Changes can be purchased or downloaded from the City's website: http://www.cincinnati-oh.gov/date/assets/Pile/2013%20CTPY%20SUPPLEMENT-FINAL.pdf

Water main items are to be constructed in accordance with the provisions of the State of Ohio, Water main items are to be constructed in accordance with the provisions of the State of Ohio, Department of Transportation, Construction and Material Specifications, dated January 1, 2013, and modified by the City of Cincinnati Supplement to said State of Ohio Specifications, effective January 1, 2013, and any supplements or changes hereto. Copies of the State specifications are on file at the Office of Contract Sales of the State of Ohio, Department of Transportation, 25 South Front Street, Columbus, Ohio, and at the offices of the City Engineer of Cincinnatio, 150 Submittal of a bid for this project implies that the Contractor has taken all provisions of the Supplement into account.

The Greater Cincinnati Water Works (GCWW) understands that differing site conditions results in The Greater Cincinnati Water Works (CCWW) understands that differing site conditions results in extra work-change orders to the project. Change orders on CCWW contracts will be done in strict accordance with Item 109.05 C of the State of Ohio Department of Transportation Construction and Material Specifications dated January 1, 2013 or most recent edition and as modified in this City of Cincinnati Supplement. CCWW limits the mark up on wages and fringe benefits as described in 109.05 C. 2. "Lobor" to 30%. It is expressly understood that regardless of the nature of the claim, or change in scope of work, the Contractor is not entitled to compensation for loss of anticipated profit or production.

As defined in the City of Cincinnati Supplement, sections 107.07 and 107.071, the Contractor is required to submit, at the time of the pre-construction meeting, a Site Safety Plan. Furthermore, the Contractor shall have an authorized and competent safety representative assigned to the project site.

The Contractor is advised that he has certain responsibilities under Section 153.64 of The Ohio Revised Code. For all underground utilities, contact the Ohio Utilities Protection Service at 1-800-362-2764 (toll free) 48 hours in advance of work. The Contractor is advised that all utility information has been shown on the contract plans from information provided by the owner of each utility in compliance with Sec. 153.64 of the Ohio Revised Code. In cases where utility information is incorrect and it results in a change in the contract plans the Contractor shall submit any subsequent claims as a result of downtine or additional work to the owner of the ICCMW will not accept claims for any utility other than those as a result of incorrect water main and related appurtenance information.

The Contractor must locate or "pot hole" all utilities within the alignment of the proposed main a minimum of 50 feet ahead of pipe laying. Test holes must be dug, or trench excavated, a minimum of 50 feet (15.2 m) in advance of pipe laying, to assure proper clearance between the water main and any utility crossing, or underground structure. All utilities and structures shall be suitably braced and supported. The Contractor shall understand that any obstructions encountered in the installation of the main, due to the failure of having 50 feet (15.2m) of trench excavated ahead of laying operations, may require removal and relaying of the pipe at the contractors expense. The GCWW will not accept a claim for different utility conditions encountered when test holes are not performed as required.

Item 1120, "Exploratory Excavation", shall not include excavations within the limits of the prop trench as defined in 1101.04 and 1101.05. Test holes are required on all utilities within 50 feet the last laid pipe. Test holes within the diignment of the proposed trench are included in the Controctor's unit bid for Item 1101. Locations to be explored will vary from areas within the roadway to areas outside of the roadway.

it is the nature of construction that unmarked utilities or utilities not shown on the plans may be encountered within the excavation for the proposed work. The Contractor is responsible to identify and remove any abandoned utilities encountered in the excavation. No extra payment will be made to the Contractor for the identification and removal of the abandoned utility. All costs shall be included in the contractor's unit price bid for the appropriate Item 1101—Furnishing & Laying Pipe

Street payement or sidewalk should not be disturbed for a distance of more than 200 Feet (61.0 m) ahead of the last laid pipe. Backfill shall be completed within 50 feet (15.2 m) of the last laid pipe. Temporary or permanent surface restoration must be installed within a distance of 200 land pipe. Temporary or permanent surface restoration must be instanted within a facilitiest of 20 (lett (51.0 m) of the laid pipe, including those areas where main installations occur within a closed lane or closed street condition. Roadway plates may be used as a temporary measure for a period not to exceed 24 hours without the approval of the GCWW.

Any undermined povement of more than 6 inches horizontal must be removed prior to starting trench backfill. If undermining of povement occurs more than 1 foot, then povement must be shored to protect traffic, or arrangements made for additional lane closures must be made. If problems continue to occur regarding trenching integrity, sheeting and bracing can be required by the City Engineer or the City Engineer's representative, at the contractor's expense. If any tunneling is necessary, adequate information shown in both plan and profile and tunneling procedures must be submitted to the City Engineer's Office prior to commencement of work.

The GCMW has made every effort to depict the pipe severs and lateral information on the plans. The Contractor is advised that sever laterals are shown in plan view only. The Contractor shall determine the elevation of the sever laterals are shown in plan view only. The Contractor shall determine the elevation of the sever laterals require changing in order to avoid conflict with the water main, or if the Contractor encounters a pipe sever or lateral in the excavation that was not shown on the plans and requires a change of grade or alignment due to the installation of the water main, the Contractor shall furnish all necessary labor, material, tools, and equipment required to change the grade or alignment of pipe sewers and laterals of various sizes, allowing installation of water mains and appurtenances as shown on the plans, or as directed by the GCMW inspector. This work shall include all necessary excavation, backfill, and restoration. The Contractor will be compensated under Item 1123, "Changing Pipe Sewers 8 Inch and Under". When crossing sanitary and combination sewers, a vertical clearance of 18" must be maintained.

The Contractor is responsible for all pipe sewers disturbed in the completion of this project. In the event it becomes necessary to repair or replace existing pipe sewers, the Contractor must notify Sewer (513)244-1369, before proceeding with the work.

The Contractor is advised that his unit bid prices for the appropriate Item 1101, "Furnish & Install Pipe and Fittings", includes final restoration of all disturbed surfaces. The GCWW will not make full compensation under Item 1101 until final restoration is complete.

Notice of Confidentiality - Public Infrastructure Record

This Document is a Public Infrastructure Record of the City of Cincinnati and its Greater Cincinnati Water Works, and is not subject to the public disclosure requirements of the public records laws of the State of Ohio and federal government. This Document is being provided on the basis of your reported need, and shall be considered confidential. By accepting this Document, you agree that it will not be shared or otherwise disclosed to anyone other than persons who have a direct need to know for the sole purpose of carrying out the project for which this Document was obtained. Anyone receiving this Document is bound by the same confidentiality requirements and must take precautions to protect against its dissemination.

The failure to observe the confidentiality requirements of this Notice shall serve as the basis for the City of Cincinnati to immediately seek legal recourse, including the recovery of actual damages resulting from unauthorized access or disclosure of this Document.

Final restoration shall be done in accordance with the restoration detail drawing as shown on Sheet 1.

The Contractor is advised that due to the alignment of the proposed water main, it may be necessary to install a temporary valve box over an existing chambered valve that must remain in service during the water main installation as directed by the GCWW Inspector. The chamber shall be abandoned, a valve box (furnished by the contractor) placed over the valve, and upon project completion, the valve box must be removed. The contractor will not receive additional compensation for this work, but should include the cost of this work in his unit bid price for Item 1101, "Furnishing & Lavina Ductile Iron Pipe and Fittings".

It is the Contractor's responsibility to provide adequate water supply for domestic and fire fighting purposes. In order to accomplish the water main connections with a minimum amount of inconvenience to the consumers, it may be necessary to do the work at other than normal working hours or as may be scheduled by the CCWW.

The Contractor is advised that the operating pressure of the existing water main within the limits of the subject project is approximately $81-93\,P.S.I.$

In order to minimize the inconvenience of the consumers, the number of shutdowns required to do the proposed water main work shall be limited. Only one shutdown, limited to 8 hours, will be allowed during a 24 hour period.

The Contractor is advised that it shall be necessary to install temporary Plug/caps on the existing and proposed water mains in order to maintain service during testing and water main and branch connections. These temporary Plug shall be furnished by the contractor. He is responsible for their proper installation. The cost for this work shall be included in the Contractor's unit bid price for the appropriate Item 1101,"Furnishing & Laying Ductile Iron Pipe and Fittings".

The Contractor is required to excavate and expose the existing utilities and existing water mains along the line of the proposed water main and all proposed connection points to verify location, diameter, line and grade. Also, if the removal of the bulkhead or plug is required all excavation and temporary/permanent restoration shall be compensated under the Contractor's unit bid price for Item 1101, "Furnishing & Laying Ductlie Iron Pipe and Fittings".

The Contractor is advised that all C.J. Plug are to be restrained with a Field Lok Gasket and all M.J. caps are to be restrained using a Megalug Assembly. This includes temporary Plug and caps for testing purposes. When a temporary plug is used, the contractor is permitted to remove the plug by cutting the section of pipe containing the plug and using a solid sleeve at that point to complete the tie—in. In the event that a cap is used, the contractor shall remove the Megalug Assembly and cap before completing the tie—in.

The Contractor is advised that on any fire hydrant required to be relocated with this project, all bolt assemblies shall be replaced. The cost for this work shall be included in the unit bid price for Item 1113 "Relocating Existing Fire Hydrants".

No part of any fire hydrant setting shall be installed closer than five feet to any driveway, inlet.

Item 1111, "Water Works Valve Chambers", shall also cover the furnishing and installing of Precast Reinfarced Concrete Chambers in accordance with 0.D.O.T. Specification 706.13. All pertinent provisions of this item and GCWW Standard Drawing No. 104-14 shall apply. Precast chambers shall be used in all locations where space permits and as directed by the GCWW.

Air cocks may be necessary for the proper operation of the water system. The Air Release Assembly, which may not be shown on the drawing, will be furnished and installed by the Contractor per the detail on these plans, if required by the CCWW.

It shall be the Contractor's responsibility to arrange for the removal and replacement of any poles and guyo necessary for the installation of the proposed water mains, and any cost connected there

All pipe and specials shall be in accordance with City of Cincinnati Specification 40-110-12.

All procured water main and appurtenance materials, other than those furnished through the GCWW must be properly certified; certified for GCWW Inspection: or already inspected by the GCWW. Pipe, fittings, valves and fire hydrants must be GCWW inspected and stamped materials.

The Contractor should be advised that all Fittings (Bends, Offset Bends, Tees, Crosses, Sleeves, Caps and Plug) supplied for this job may be either ANS/AWMA C-110 Full-body Ductile Iron, Cement Lined Fittings or ANS/AWMA C-153 Compact Ductile Iron, Fusion Bonded Epoxy Coated Fittings are considered for the Contract of Plugham Contract of Plugham Contract, Desparation of Plugham Standard Specification No. 40-110-12 for Plugham Cittings Water, Ductile Iron 3" to 60". All fittings are subject to inspection and approval by appropriate GCWW Inspection personnel. Minor pinholes and abrasions to epoxy coated valves and fittings are to be repaired using 3M Hott Melt Patch Compounds (HMP.C.) in the stick form. Repair procedures shall be in accordance with the General Application Steps Identified for the H.M.P.C. All 7 repairs to epoxy coated fittings are subject to inspection and approval by appropriate GCWW Inspection personnel. The Contractor should be advised that all Fittings (Bends, Offset Bends, Tees, Crosses, Sleeves, Caps

All rejected material, including pipe and fittings, shall be removed from the project site immediately,

The Contractor must maintain access to sidewalks at all times. Storage of any materials within the public Right of Way, including sidewalks, is not permitted unless approved by GCWW, the Project Engineer, or as indicated on the approved plans.

All copper tubing shall be type "K" of a standard nominal size: 3/4", 1", 1-1/2" and 2". All fittings will have copper flare type connections and shall be in accordance with City of Cincinnati Specification No. 40-113-05.

The contractor shall furnish the necessary certifications for branch material.

All proposed water mains will be hydrostatically tested for leakage in accordance with 1101.054, Hydrostatic Test for Leakage', of the appropriate Item 1101, "Furnishing & Laying Ductile

The Contractor will be responsible for filling, flushing, and pressure testing new water mains, 20" or smaller. The contractor will provide all labor, material and equipment (including the necessary pumps to apply the pressure test). The Water Works will provide the necessary meter and gauge. All costs for this work shall be included in the contractor's unit bid price for Item 1101, "Furnishing & Laying Ductile Iron Pipe and Fittings. Once the filling and pressure testing are completed, the Contractor will be responsible for flushing the proposed water main and the CGWW will be responsible for bacteria sampling. The GCWW will be responsible for flushing the proposed water main and the CGWW will be responsible for mains greater than 20°.

BEFORE YOU DIG



CALL 1-800-362-2764 (TOLL FREE (IT'S THE LAW)



X OEPA CERTIFICATION EXEMPT

Supervising Engineer - Design

SUGGESTED BILL OF MATERIAL

(Furnished By Contractor)
THE FOLLOWING BILL OF MATERIALS IS NOT INTENDED TO BE A LIST OF
BID ITEMS FOR THE PROJECT. SEE GENERAL SUMMARY FOR BID ITEMS.

Each 6" Ductile Iron Pipe, C.J., Th. Cl. 55, 20' Length Fach 16" Wide Polyethylene Flattened Tube, 4 Mil Thickness Cross Laminate, 20' Length

Each 1 1/2" Wide Polyethylene Tape with Adhesive

Each 6" Plug, M.J. (Temporary)

Each 6" Solid Sleeve, D.P.

Each 6" x 6" Tee, 2 M.J. x Flg.

Each 6" Flange Tyte Rubber Gasket

Each 6" Megalug Assembly

Each 6" Field Lok Gasket

Each 6" Valve, Flg. x M.J.**

Each 6" Fire Hydrant Extension, (6" Long)

Each Valve Box Complete Iron Each Valve Box Frost Plug

Each BOXLOK Valve Box Alignment Device

SERVICE BRANCH MATERIAL

Lin. Ft. - 3/4" Copper Service Pipe w/ Aqua Shield

EACH - 3/4" Ferrule (Note 2)

FACH - 3/4" Insulating Coupling (Note 2)

- 3/4" Stop Cock (Note 2)

FACH Curb Box

2 Each 6" Fire Hydrant, (Kennedy K81-A)

RESTORATION QUANTITIES CARRIED TO GENERAL SUMMARY

ITEM	203	203	254	301	407	441
STATION	GRANULAR MATERIAL, TYPE D	EXCAVATION	PAVEMENT PLANING, ASPHALT CONCRETE	ASPHALT CONCRETE BASE COURSE	TACK COAT	ASPHALT CONCRETE SURFACE COURSE
	CY	CY	SY	CY	SY	CY
532+24	2.0	3.5	9.3	1.1	0.7	0.35
536+94	2.7	7.1	11.6	1.5	0.9	0.48
TOTAL	5	11	21	3	2	1

The materials listed are only suggested for use during the water main and branch relocation work as proposed on the drawings. The contractor shall furnish additional material where needed. No allowance will be made for unused material nor will any extra payment be made for additional specials required to complete the water main work. The contractor is responsible for making his own field measurements before ordering. Before ordering material the contractor is responsible for making his own field measurements and for field verifying the O.D. of existing water mains where sleeves and pipe couplings are involved.

Note 1: Valves furnished by the contractor shall be; American Resilient Wedge Gote Valve Series 2500, U.S. Pipe Metroseal Gate Valve, Kennedy Valve Ken Seal II Resilient Gate Valve, Clow F-6100 Series Resilient Wedge Gate Valve, Mueller 2360 Resilient Wedge Gate Valve.

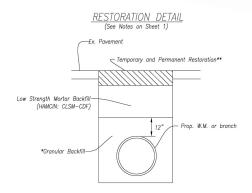
Gate Valve.

Note 2:

All components in contact with water shall be fabricated from Sebiloy II or Federalloy I-836 alloys or a material approved by the Engineer. All components that do not come in contact with water shall comply with the requirements of ASTM B 62 Copper Alloy Number. Coated or washed metals are not acceptable if their lead levels exceed .25% by weight prior to the coating or washing process. All service fittings and materials shall be certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components — Health Effects. All service fittings shall either be stamped or embossed with the letter "NL", to indicate "No-Lead", or marked to indicate that the product is manufactured from the low-lead alloys.

Certification of compliance is required to be submitted to the Cincinnati Water Works prior to use.

"All valve boxes shall be domestically manufactured. All valve boxes for 1-inch air release assemblies and gate valves 12-inch and smaller shall be Tyler Union Series 6850, East Jordan Iron Works Series 8550, or a domestically manufactured approved equal. The approved equal will be determined by the City of Cincinnati Greater Cincinnati Water Works. A valve box frost plug shall also be included. All valve boxes for gate valves 12-inch and smaller shall include the BOXLOK valve box alignment device from EMMA Sales, LLC. All costs associated with adherence to this requirement shall be included in the Contractor's unit bid price for Item 1116 - Furnishing and Installing Valve Box Complete"



**Temporary and Permanent Restoration shall be done in accordance with the Contract specifications and/or project plan typical sections.

Unless otherwise noted on the plans, areas where the existing povement, base and/or sub-base are not to be disturbed, the cost for temporary and permanent pavement restoration shall be included in the Contractor's appropriate Unit Bid Price for Item 1101 or Item 1126.

*Backfill of the water main and branch trench shall be done in accordance with G.C.W.M. specifications. All water mains and branches installed outside of the pavement area shall utilize Granular Backfill in lieu of the Control Density Fill. All costs for backfill shall be included under Item 1101, "Furnishing and Installing Ductile Iron Pipe and Fittings

Please note that the G.C.W.W. requirement is in addition to HAMCIN specifications for flowable fill products. A copy of the G.C.W.W. requirement is available at the G.C.W.W. Engineering Office located at 4747 Spring Grove Avenue. Contact the Supervisor of Inspection at 591–7870.

Prior to the start of construction, the Contractor shall submit the necessary Controlled Density Fill compliance documentation for review and approval by the G.C.W.W.

GCWW Note: All field layout of water main pipe and specials shall be the responsibility of the Contractor and shall be performed by a licensed surveyor.

Controlled Density Fill must meet both HAMCIN: CLSM—CDF performance specification and O.D.O.T. specification. All flowable fill products shall meet requirements of the current HAMCIN CLSM—CDF Backfill Specification (dated March 2015). Copies of the HAMCIN CLSM—CDF Backfill Specification are made available at the GCWW Engineering Offices at 4747 Spring Grove Avenue, Cincinnati Department of Transportation & Engineering at 801 Plum Street, or their website http://www.cincinnati-oh.gov/dote/manuals-permits-supplements, Also, the Contractor shall submit, prior to the start of construction, the necessary documentation for review and approval by the GCWW.

HAM 27-10.39 Street Improvement

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APPROVED:

SCALE: 1" = 20'

PRINCIPAL ENGINEER - SYSTEM FACILITIES

SUPERVISING ENGINEER - DESIGN

CHIFE ENGINEER



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