Purchasing Division
Finance Department

Room 120
411 West First Street
Duluth, Minnesota 55802

218-730-5340
purchasing@duluthmn.gov

Addendum 5
Solicitation 22-99418
City Hall MEP Renewal Project

This addendum serves to notify all bidders of the following changes to the solicitation documents:

Please see the attached changes.

Please acknowledge receipt of this Addendum by checking the acknowledgment box within the www.bidexpress.com solicitation. Posted: **June 7, 2022**

ADDENDUM

Date: June 7, 2022
Project: City of Duluth City Hall MEP Renewal
KFI Project Number: 21-0486.00
Addendum Number: 5

THIS ADDENDUM IS A CONTRACT DOCUMENT AND MAY APPLY TO ANY OR ALL CONTRACTS AND SUBCONTRACTS UNLESS OTHERWISE SPECIFIED HEREIN OR SHOWN ON THE ATTACHED DRAWINGS (IF ANY). ALL WORK REQUIRED BY THIS ADDENDUM SHALL BE IN COMPLETE ACCORD WITH THE CONTRACT DOCUMENTS AND SUBSEQUENT ADDENDA THERETO. THE ITEMS LISTED IN THIS ADDENDUM ARE NOT IN ANY ORDER IN REGARD TO THE DRAWINGS OR THE SPECIFICATIONS. ALL CONTRACTORS ARE CAUTIONED TO EXAMINE EACH AND EVERY ITEM OF THIS ADDENDUM.

THE FOLLOWING CHANGES OR CLARIFICATIONS TO THE PLANS & SPECIFICATIONS SHALL BE INCLUDED AS PART OF THE CONTRACT DOCUMENT

RESPONSES TO REQUESTS:

1. Add schedule information on air separator, expansion tank, and side stream filter.
2. Add details for side stream filter and chemical pot feeder.

PLAN SHEET CHANGES:

1. E501 Motor Schedules. Refer to E501 R2 for modifications.
2. E505 Panelboard Schedules. Refer to E505 R3 for modifications.
3. M700 Hydronic Piping Schematic. AS-1 and ET-1 shall be installed up steam of hydronic heating pumps as seen on detail 11/M801.
4. M801 Mechanical Details. Refer to M801 R1 for additional details.
5. M900 Mechanical Schedules. Add the following equipment:
    a. ET-1. Bell & Gossett, B-1,000. 76” tall, 36” dia. 2,750lbs. operating weight. 211 gal. acceptance volume. Pressure charge 12”psi. ASME certified.
    b. AS-1. Bell & Gossett, R-6F. 579 lbs. operating weight. 6” flanged pipe connections. Support of floor with galvanized steel.

END OF ADDENDUM

MOTOR AND EQUIPMENT WIRING SCHEDULE

UNIT NO./ TAG	DESCRIPTION		HP	KW	V/PH/HZ	MCA	MOCP	MIN SCCR	CONTROLLER/STARTER TYPE	CONTROLLER/STARTER SIZE	CONTROLLER/STARTER FURN. BY	DISCONNECT AT MOTOR NEMA	DISCONNECT AT MOTOR SIZE	DISCONNECT AT MOTOR FURN. BY	DISCONNECT AT MOTOR FUSE SIZE	CONTROL BY	DUCT SMOKE DETECTORS	CONDUIT/CONDUCTOR SIZE & QUANTITY	PANEL NAME	CIRCUIT NUMBER(S)	OVERCURRENT PROTECTION AMP/POLE	NOTES
AHP-1	CHILLER UNIT	2ND FLOOR ROOF			208/3/60	110	150	32000	N/A	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	2"C, 3#3/0, 1#3 GND	D3LS-G02	8	150A/3P	2,3,4
AHP-2	CHILLER UNIT	2ND FLOOR ROOF			208/3/60	110	150	32000	N/A	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	2"C, 3#3/0, 1#3 GND	D3LS-G02	9	150A/3P	2,3,4
DC-1	DRY COOLER	3RD FLOOR ROOF		25.0	208/3/60		100	10000	N/A	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	1 1/2"C, 3#2, 1#8 GND	LP3N-306	14,16,18	100A/3P	2,3
EF-1	EXHAUST FAN	3RD FLOOR			120/1/60	0.1	20	5000	N/A	N/A	MECH	1	MSS	ELEC	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-305	2	20A/1P	
DOAS-1 (RETURN)	DED, OUTDOOR AIR SYS.	GROUND FLOOR	7. 5		208/3/60	25.3	50	10000	VFD	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	1"C, 3#6, 1#10 GND	LP3N-G09	1,3,5	50A/3P	1,3
DOAS-1 (SUPPLY)	DED, OUTDOOR AIR SYS.	GROUND FLOOR	15		208/3/60	48.3	90	10000	VFD	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	1 1/2"C, 3#2, 1#8 GND	LP3N-G09	7,9,11	90A/3P	1,3
DOAS-2 (RETURN)	DED, OUTDOOR AIR SYS.	GROUND FLOOR	7. 5		208/3/60	25.3	50	10000	VFD	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	1"C, 3#6, 1#10 GND	LP3N-G09	13.15.17	50A/3P	1,3
DOAS-2 (SUPPLY)	DED, OUTDOOR AIR SYS.	GROUND FLOOR	15		208/3/60	48.3	90	10000	VFD	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	1 1/2"C, 3#2, 1#8 GND	LP3N-G09	19,21,23	90A/3P	1,3
WHP-A1	WATER HEAT PUMP	GROUND FLOOR			208/3/60	44	70	10000	N/A	N/A	N/A	1	60A	ELEC	50A	BAS	N/A	1 1/4"C, 3#4, 1#8 GND	LP3N-G09	25,27,29	70A/3P	3
WHP-F1	WATER HEAT PUMP	GROUND FLOOR			208/3/60	35	60	10000	N/A	N/A	N/A	1	60A	ELEC	50A	BAS	N/A	1 1/4"C, 3#4, 1#10 GND	LP3N-G09	31,33,35	60A/3P	3
WHP-G1	WATER HEAT PUMP	GROUND FLOOR			208/3/60	54	90	10000	N/A	N/A	N/A	1	100A	ELEC	80A	BAS	N/A	1 1/4"C, 3#2, 1#8 GND	LP3N-G09	37,39,41	90A/3P	3
WHP-H1	WATER HEAT PUMP	3RD FLOOR			208/3/60	69	110	10000	N/A	N/A	N/A	1	200A	ELEC	110A	BAS	N/A	1 1/4"C, 3#2, 1#6 GND	LP3N-204	7,9,11	110A/3P	3
WHP-I1	WATER HEAT PUMP	3RD FLOOR			208/3/60	79	125	10000	N/A	N/A	N/A	1	200A	ELEC	125A	BAS	N/A	1 1/2"C, 3#1, 1#6 GND	LP3N-204	11,13,15	125A/3P	3
WHP-K1	WATER HEAT PUMP	3RD FLOOR			208/3/60	35	60	10000	N/A	N/A	N/A	1	60A	ELEC	50A	BAS	N/A	1 1/4"C, 3#4, 1#10 GND	LP3N-306	2,4,6	60A/3P	3
WHP-J1	WATER HEAT PUMP	3RD FLOOR			208/3/60	29	50	10000	N/A	N/A	N/A	1	60A	ELEC	45A	BAS	N/A	1 1/4"C, 3#6, 1#10 GND	LP3N-306	8,10,12	50A/3P	3
WHP-L1	WATER HEAT PUMP	3RD FLOOR			208/3/60	35	60	10000	N/A	N/A	N/A	1	60A	ELEC	50A	BAS	N/A	1 1/4"C, 3#4, 1#10 GND	LP3N-204	1,3,5	60A/3P	3
WHP-M1	WATER HEAT PUMP	3RD FLOOR			208/3/60	69	110	10000	N/A	N/A	N/A	1	200A	ELEC	110A	BAS	N/A	1 1/4"C, 3#2, 1#6 GND	LP3N-204	59,61,63	110A/3P	3
P-1	HEATING WATER PUMP	GROUND FLOOR	10		208/3/60	29.5	45	32000	VFD	N/A	MECH	1	N/A	MECH	N/A	BAS	N/A	3/4"C, 3#6, 1#10 GND	D3LS-G02	3	45A/3P	3,4
P-2	HEATING WATER PUMP	GROUND FLOOR	10		208/3/60	29.5	45	32000	VFD	N/A	MECH	1	N/A	MECH	N/A	BAS	N/A	3/4"C, 3#6, 1#10 GND	D3LS-G02	7	45A/3P	3,4
P-3	CONDENSER WATER PUMP	GROUND FLOOR	7. 5		208/3/60	23.3	30	10000	VFD	N/A	MECH	1	N/A	MECH	N/A	BAS	N/A	3/4"C, 3#10, 1#10 GND	LP3N-G09	8,10,12	30A/3P	3
P-4	CONDENSER WATER PUMP	GROUND FLOOR	7. 5		208/3/60	23.3	30	10000	VFD	N/A	MECH	1	N/A	MECH	N/A	BAS	N/A	3/4"C, 3#10, 1#10 GND	LP3N-G09	14,16,18	30A/3P	3
ERU-1A	ENERGY RECOVERY UNIT	PENTHOUSE			208/3/60	17.53	25	10000	N/A	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 3#10, 1#10 GND	LP3N-306	48,50,52	25A/3P	3
ERU-1B	ENERGY RECOVERY UNIT	PENTHOUSE			208/3/60	58.38	80	10000	N/A	N/A	MECH	N/A	N/A	MECH	N/A	BAS	N/A	1 1/4"C, 3#3, 1#8 GND	LP3N-306	54,56,58	80A/3P	3
FC 0-102	VFR CASSETTE	GROUND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	8,10	15A/2P	
FC 0-103	VFR CASSETTE	GROUND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	8,10	15A/2P	
FC 0-105	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	12,14	15A/2P	
FC 0-106	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	12,14	15A/2P	
FC 0-107	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	16,18	15A/2P	
FC 0-108	VFR CASSETTE	GROUND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	16,18	15A/2P	
FC 0-109	VFR CASSETTE	GROUND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	16,18	15A/2P	
FC 0-110	VFR CASSETTE	GROUND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	20,22	15A/2P	
FC 0-111	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	20,22	15A/2P	
FC 0-112	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	20,22	15A/2P	
FC 0-113	VFR CASSETTE	GROUND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	24,26	15A/2P	
FC 0-114	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	24,26	15A/2P	
FC 0-115	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	36,38	15A/2P	
FC 0-116	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	24,26	15A/2P	
FC 0-117	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	28,30	15A/2P	
FC 0-118	VFR CASSETTE	BASEMENT			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	28,30	15A/2P	
FC 0-119	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	32,34	15A/2P	
FC 0-120	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	32,34	15A/2P	
FC 0-121	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	32,34	15A/2P	
FC 0-122	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	36,38	15A/2P	
FC 0-123	VFR CASSETTE	GROUND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G09	36,38	15A/2P	
FC 0-124	VFR CASSETTE	GROUND FLOOR			208/1/60	4.25	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-G04	31,33	15A/2P	
FC 1-101	VFR CASSETTE	1ST FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	19,21	15A/2P	
FC 1-102	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	19,21	15A/2P	
FC 1-103	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	19,21	15A/2P	
FC 1-104	VFR CASSETTE	1ST FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	23,25	15A/2P	
FC 1-106	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	23,25	15A/2P	
FC 1-108	VFR CASSETTE	1ST FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	27,29	15A/2P	
FC 1-109A	VFR CASSETTE	1ST FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	27,29	15A/2P	
FC 1-109B	VFR CASSETTE	1ST FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	27,29	15A/2P	
FC 1-110	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	31,33	15A/2P	
FC 1-111	VFR CASSETTE	1ST FLOOR			208/1/60	2.94	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	31,33	15A/2P	
FC 1-112	VFR CASSETTE	1ST FLOOR			208/1/60	2.94	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	31,33	15A/2P	
FC 1-113	VFR CASSETTE	1ST FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	35,37	15A/2P	
FC 1-114	VFR CASSETTE	1ST FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	35,37	15A/2P	
FC 1-115	VFR CASSETTE	1ST FLOOR			208/1/60	2.94	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	35,37	15A/2P	
FC 1-116	VFR CASSETTE	1ST FLOOR			208/1/60	4.25	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	39,41	15A/2P	
FC 1-117	VFR CASSETTE	1ST FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	39,41	15A/2P	
FC 1-118	VFR CASSETTE	1ST FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	39,41	15A/2P	
FC 1-119	VFR CASSETTE	1ST FLOOR			208/1/60	2.94	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	43,45	15A/2P	
FC 1-121	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	43,45	15A/2P	
FC 1-122	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	47,49	15A/2P	
FC 1-123	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	47,49	15A/2P	
FC 1-124	VFR CASSETTE	1ST FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	47,49	15A/2P	
FC 1-125	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	51,53	15A/2P	
FC 1-127	VFR CASSETTE	1ST FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	51,53	15A/2P	
FC 1-128	VFR CASSETTE	1ST FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	55,57	15A/2P	
FC 1-129	VFR CASSETTE	1ST FLOOR			208/1/60	4.25	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	55,57	15A/2P	
FC 1-131	VFR CASSETTE	1ST FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	2,4	15A/2P	
FC 2-101	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	6,8	15A/2P	
FC 2-102	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	6,8	15A/2P	
FC 2-103	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	6,8	15A/2P	
FC 2-104	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	10,12	15A/2P	
FC 2-106	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	10,12	15A/2P	
FC 2-108	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	14,16	15A/2P	
FC 2-109	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	14,16	15A/2P	
FC 2-111	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	18,20	15A/2P	
FC 2-112	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	18,20	15A/2P	
FC 2-114	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	22,24	15A/2P	
FC 2-115	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	22,24	15A/2P	
FC 2-116	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	26,28	15A/2P	
FC 2-117	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	26,28	15A/2P	
FC 2-118	VFR CASSETTE	2ND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	26,28	15A/2P	
FC 2-120	VFR CASSETTE	2ND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	30,32	15A/2P	
FC 2-121	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	30,32	15A/2P	
FC 2-123	VFR CASSETTE	2ND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	34,36	15A/2P	
FC 2-124	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	34,36	15A/2P	
FC 2-125	VFR CASSETTE	2ND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	38,40	15A/2P	
FC 2-126	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	38,40	15A/2P	
FC 2-127	VFR CASSETTE	2ND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	38,40	15A/2P	
FC 2-129	VFR CASSETTE	2ND FLOOR			208/1/60	2.94	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	42,44	15A/2P	
FC 2-130	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	42,44	15A/2P	
FC 2-131	VFR CASSETTE	2ND FLOOR			208/1/60	2.88	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	46,48	15A/2P	
FC 2-132	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	46,48	15A/2P	
FC 2-133	VFR CASSETTE	2ND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	46,48	15A/2P	
FC 2-134	VFR CASSETTE	2ND FLOOR			208/1/60	2.13	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	50,52	15A/2P	
FC 2-135	VFR CASSETTE	2ND FLOOR			208/1/60	2.94	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	50,52	15A/2P	
FC 2-136	VFR CASSETTE	2ND FLOOR			208/1/60	1.75	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	50,52	15A/2P	
FC 2-137A	VFR CASSETTE	2ND FLOOR			208/1/60	4.38	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	54,56	15A/2P	
FC 2-137B	VFR CASSETTE	2ND FLOOR			208/1/60	4.38	15	10000	N/A	N/A	N/A	N/A	N/A	MECH	N/A	BAS	N/A	3/4"C, 2#12, 1#12 GND	LP3N-204	58,60	15A/2P	

GENERAL MOTOR AND EQUIPMENT SCHEDULE NOTES:

A. DIVISION 26 CONTRACTOR TO VERIFY EQUIPMENT SPECIFICATION INFORMATION WITH CORRESPONDING MECHANICAL SCHEDULES AND SHOP DRAWINGS PRIOR TO INSTALLATION.
B. DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED ELECTRICAL INTERCONNECTING POWER WIRING BETWEEN STARTER/VFD'S, DISCONNECTS AND CONNECTIONS TO MECHANICAL EQUIPMENT LISTED UNLESS NOTED OTHERWISE.
C. DUCT SMOKE DETECTORS SHALL BE PROVIDED ON BOTH THE SUPPLY AND RETURN DUCT WHEN INDICATED ON SCHEDULE.
D. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY DIVISION 26 CONTRACTOR, INSTALLED BY DIVISION 23 CONTRACTOR.
E. ALL EQUIPMENT SIZES, LOADS, HP RATINGS, CIRCUIT BREAKER SIZES, STARTER SIZES, CONNECTION TYPE, AND CONDUIT/WIRE SIZES ARE AS PER THE SIZES AND BASIS OF DESIGN EQUIPMENT COORDINATED DURING DESIGN WITH THE VARIOUS DISCIPLINES. ALL REVISIONS AFTER BID (PER EQUIPMENT SUBMITTALS AND ACTUAL SUPPLIED EQUIPMENT) SHALL BE CONSOLIDATED INTO A SINGLE CONFIRMING RFI SUBMITTED BY THE ELECTRICAL CONTRACTOR SHOWING REDLINED PROPOSED REVISIONS TO BE REVIEWED BY KFI.

SPECIFIC MOTOR AND EQUIPMENT SCHEDULE NOTES:

1. PROVIDE (2) DEDICATED 120 VOLT, 20 AMP CIRCUIT TO UNIT, ONE FOR GENERAL PURPOSE GFCI OUTLETS AND GENERAL LIGHTING AND THE SECOND CIRCUIT FOR THE 120V HEAT WHEEL 3/4HP MOTOR.
2. PROVIDE DEDICATED 120 VOLT, 20 AMP CIRCUIT TO UNIT FOR GENERAL PURPOSE GFCI WEATHERPROOF OUTLET.
3. COORDINATE LOCATION OF ANY STARTERS/VFD'S AND DISCONNECTS PROVIDED BY MECHANICAL WITH EQUIPMENT, ALSO COORDINATE POINT OF CONNECTION TO EQUIPMENT FOR ELECTRICAL FEEDER WITH MECHANICAL CONTRACTOR.
4. CIRCUIT BREAKER NUMBER FOR THIS EQUIPMENT TO BE COORDINATED ON SITE. THIS NEW BREAKER IS REPLACING IN PLACE AN EXISTING BREAKER IN D3LS-G02, SEE SCHEDULE D3LS-G02.

No:	Date:	By:	Revision:
2	06-07-2022	LAA	ADDENDUM #5
1	06-02-2022	LAA	ADDENDUM #3

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: LUCIA A. ANDERSON
DATE: 05-03-2022 REG. NO.: 27049

KFI ENGINEERS
670 County Road B West
St. Paul, Minnesota 55113
Tel: (651) 771-0880 Fax: (651) 771-0878
Email: kfi@kfi-eng.com

Project Title:
CITY OF DULUTH
CITY HALL MEP RENEWAL DESIGN
411 WEST 1ST STREET
DULUTH, MN 55802

Sheet Title:
MOTOR SCHEDULE

Date: 05-03-2022
Drawn By: GAA
Checked By: LAA
Project No: 21-0486
DWG Scale: AS NOTED
Sheet Size: 30x42

Revision Number: 2
Sheet Number: E501

(NEW PANEL)

PANEL: LP3N-G09 — VOLTAGE: 120/208V, 3PH, 4W — SD QM F 08-1002: 1

NO.	AMP/P	NOTE	DESCRIPTION	PH	CODE L VA	CODE C VA	CODE R VA	CODE M VA	CODE E VA	CODE K VA	CODE D VA
1				- A -				2795			
3	50/3		DOAS-1 (RETURN FAN)	- B -				2795			
5				- C -				2795			
7				- A -				3539			
9	90/3		DOAS-1 (SUPPLY FAN)	- B -				3539			
11				- C -				3539			
13				- A -				2795			
15	50/3		DOAS-2 (RETURN FAN)	- B -				2795			
17				- C -				2795			
19				- A -				3539			
21	90/3		DOAS-2 (SUPPLY FAN)	- B -				3539			
23				- C -				3539			
25		2		- A -				5280			
27	70/3		WHP-A1 (WATER HEAT PUMP)	- B -				5280			
29				- C -				5280			
31				- A -				4198			
33	60/3		WHP-F1 (WATER HEAT PUMP)	- B -				4198			
35				- C -				4198			
37				- A -				6477			
39	90/3		WHP-G1 (WATER HEAT PUMP)	- B -				6477			
41				- C -				6477			
43				- A -							
45	15/3		SPARE	- B -							
47				- C -							
49				- A -							
51	20/3		SPARE	- B -							
53				- C -							
55				- A -				2904			
57	30/3		P-3 (HOT WATER PUMP)	- B -				2904			
59				- C -				2904			
2				- A -				2904			
4	30/3		P-4 (HOT WATER PUMP)	- B -				2904			
6				- C -				2904			
8	15/2		FC 0-102, FC 0-103	- A -					443		
10				- B -					443		
12	15/2		FC 0-105, FC 0-106	- C -					364		
14				- A -					364		
16	15/2		FC 0-107, FC 0-108, FC 0-109	- B -					703		
18				- C -					703		
20	15/2		FC 0-110, FC 0-111, FC 0-112	- A -					664		
22				- B -					664		
24	15/2		FC 0-113, FC 0-114, FC 0-116	- C -					664		
26				- A -					664		
28	15/2		FC 0-117, FC 0-118	- B -					404		
30				- C -					404		
32	15/2		FC 0-119, FC 0-120, FC 0-121	- A -					546		
34				- B -					546		
36	15/2		FC 0-115, FC 0-122, FC 0-123	- C -					546		
38				- A -					546		
40				- B -							
42	20/3		SPARE	- C -							
44				- A -							
46				- B -							
48	20/3		SPARE	- C -							
50				- A -							
52				- B -							
54	20/3		SPARE	- C -							
56				- A -							
58	15/2		SPARE	- B -							
60				- C -							
THROUGH FEED LUG CONNECTION				- A -							
				- B -							
				- C -							
MAIN BREAKER	400/3			- A -	0	0	0	34431	3227	0	0
				- B -	0	0	0	34431	2760	0	0
				- C -	0	0	0	34431	2681	0	0
								Total	- A -	- B -	- C -
								112.0	37.7	37.2	37.1

OVERCURRENT DEVICE NOTES:		CONN KVA PHASE LOADS	
1 -	PROVIDE LOCK-ON DEVICE		
2 -	CONNECT VIA TIMECLOCK	DMD	CONN
3 -		0.0	0.0
4 -		0.0	0.0
5 -		0.0	0.0
	Panelboard Notes:	103.3	103.3
1 -	PROVIDE DUTY TYPE SWITCHES	8.7	8.7
2 -	E.C SHALL BALANCE EACH PHASE WITHIN 10%	0.0	0.0
3 -		0.0	0.0
4 -		112	112
5 -		0	SPARE KVA

BUS KVA LOADS		
CODE L - LIGHTING		
CODE C - CONVENIENCE RECEPTACLES (180 W)		
CODE R - RECEPTACLES (NON CONVENIENCE)		
CODE M - MOTORS	LARGEST MTR VA =	0
CODE E - ELECTRIC HEAT		
CODE K - KITCHEN EQUIP	DMD =	100%
CODE D - DWELLING UNITS (HOTEL/MOTEL ROOMS)		
TOTAL KVA		
SPARE KVA	SPARE =	0%

SURFACE	: MOUNTING	112	ADJUSTED KVA (DEMAND + SPARE KVA)	
22KA	: SCCR RATING	311	**ADJUSTED AMPS (DEMAND + SPARE KVA)**	
400	: AMP RATING OF BUS			6/7/2022
400	: PANEL AMP RATING (MIN MAIN)	FILE NAME:	PROJECT NUMBER :	PROJECT NAME :
208	: PHASE TO PHASE VOLTAGE	120/208V	21-0486	Duluth City Hall

(NEW PANEL, RELABELED)

PANEL: LP3N-G10 — VOLTAGE: 120/208V, 3PH, 4W — SD QM F 08-1002: 1

NO.	AMP/P	NOTE	DESCRIPTION	PH	CODE L VA	CODE C VA	CODE R VA	CODE M VA	CODE E VA	CODE K VA	CODE D VA
1				- A -							
3	60/3		EXISTING LOAD	- B -							
5				- C -							
7				- A -							
9	60/3		EXISTING LOAD	- B -							
11				- C -							
13	20/1		EXISTING LOAD	- A -							
15	20/1		EXISTING LOAD	- B -							
17	20/1		EXISTING LOAD	- C -							
19	20/1		EXISTING LOAD	- A -							
21	20/1		EXISTING LOAD	- B -							
23	20/1		SPARE	- C -							
25	20/1		SPARE	- A -							
27	20/1		SPARE	- B -							
29	20/1		SPARE	- C -							
31	20/1		SPARE	- A -							
33	20/1		SPACE	- B -							
35	20/1		SPACE	- C -							
37	20/1		SPACE	- A -							
39	20/1		SPACE	- B -							
41	20/1		SPACE	- C -							
2				- A -							
4	60/3		EXISTING LOAD	- B -							
6				- C -							
8	30/2		EXISTING LOAD	- A -							
10				- B -							
12	20/1			- C -							
14	20/1			- A -							
16	20/2		EXISTING LOAD	- B -							
18				- C -							
20	20/1		EXISTING LOAD	- A -							
22	20/1		EXISTING LOAD	- B -							
24	20/1		SPARE	- C -							
26	20/1		SPARE	- A -							
28	20/1		SPARE	- B -							
30	20/1		SPARE	- C -							
32	20/1		SPARE	- A -							
34	20/1		SPACE	- B -							
36	20/1		SPACE	- C -							
38	20/1		SPACE	- A -							
40	20/1		SPACE	- B -							
42	20/1		SPACE	- C -							
THROUGH FEED LUG CONNECTION			----	- A -							
			----	- B -							
			----	- C -							
MAIN BREAKER	150/3		----	- A -	0	0	0	0	0	0	0
			----	- B -	0	0	0	0	0	0	0
			----	- C -	0	0	0	0	0	0	0
								Total	- A -	- B -	- C -
								0	0	0	0

OVERCURRENT DEVICE NOTES:		CONN KVA PHASE LOADS	
1 -	PROVIDE LOCK-ON DEVICE		
2 -	E.C SHALL BALANCE EACH PHASE WITHIN 10%	DMD	CONN
3 -		0.0	0.0
4 -		0.0	0.0
5 -		0.0	0.0
	Panelboard Notes:	0.0	0.0
1 -	PROVIDE DUTY TYPE SWITCHES	0.0	0.0
2 -	E.C SHALL BALANCE EACH PHASE WITHIN 10%	0.0	0.0
3 -		0.0	0.0
4 -		0	0
5 -		0	SPARE KVA

BUS KVA LOADS		
CODE L - LIGHTING		
CODE C - CONVENIENCE RECEPTACLES (180 W)		
CODE R - RECEPTACLES (NON CONVENIENCE)		
CODE M - MOTORS	LARGEST MTR VA =	0
CODE E - ELECTRIC HEAT		
CODE K - KITCHEN EQUIP	DMD =	100%
CODE D - DWELLING UNITS (HOTEL/MOTEL ROOMS)		
TOTAL KVA		
SPARE KVA	SPARE =	0%

SURFACE	: MOUNTING	0	ADJUSTED KVA (DEMAND + SPARE KVA)	
10KA	: SCCR RATING	0	**ADJUSTED AMPS (DEMAND + SPARE KVA)**	
100	: AMP RATING OF BUS			6/7/2022
100	: PANEL AMP RATING (MIN MAIN)	FILE NAME:	PROJECT NUMBER :	PROJECT NAME :
208	: PHASE TO PHASE VOLTAGE	120/208V	21-0486	Duluth City Hall

(NEW PANEL, RELABELED)

PANEL: LP3N-102 — VOLTAGE: 120/208V, 3PH, 4W — SD QM F 08-1002: 1

NO.	AMP/P	NOTE	DESCRIPTION	PH	CODE L VA	CODE C VA	CODE R VA	CODE M VA	CODE E VA	CODE K VA	CODE D VA
1	20/1		EXISTING LOAD	- A -							
3	20/1		EXISTING LOAD	- B -							
5	20/1		EXISTING LOAD	- C -							
7	20/1		EXISTING LOAD	- A -							
9	20/1		EXISTING LOAD	- B -							
11	20/1		EXISTING LOAD	- C -							
13	20/1		EXISTING LOAD	- A -							
15	20/1		SPARE	- B -							
17				- C -							
19	30/3		EXISTING LOAD	- A -							
21				- B -							
23	20/1		EXISTING LOAD	- C -							
25	20/1		SPARE	- A -							
27	20/1		SPARE	- B -							
29	20/1		SPARE	- C -							
31	20/1		SPARE	- A -							
33	20/1		SPARE	- B -							
35	20/1		EXISTING LOAD	- C -							
37	20/1		EXISTING LOAD	- A -							
39	20/1		EXISTING LOAD	- B -							
41	20/1		EXISTING LOAD FROM LOAD CENTER	- C -							
43	20/1		EXISTING LOAD FROM LOAD CENTER	- A -							
45	20/1		EXISTING LOAD FROM LOAD CENTER	- B -							
47	20/1		EXISTING LOAD FROM LOAD CENTER	- C -							
49	20/1		EXISTING LOAD FROM LOAD CENTER	- A -							
51	20/2		EXISTING LOAD FROM LOAD CENTER	- B -							
53				- C -							
55	20/1		SPARE	- A -							
57	20/1		SPARE	- B -							
59	20/1		SPARE	- C -							
2	20/1		EXISTING LOAD	- A -							
4	20/1		EXISTING LOAD	- B -							
6	20/1		EXISTING LOAD	- C -							
8	20/1		EXISTING LOAD	- A -							
10	20/1		EXISTING LOAD	- B -							
12	20/1		EXISTING LOAD	- C -							
14	20/1		EXISTING LOAD	- A -							
16	20/1		EXISTING LOAD	- B -							
18	20/1		EXISTING LOAD	- C -							
20	20/1		EXISTING LOAD	- A -							
22	20/1		EXISTING LOAD	- B -							
24	20/1		EXISTING LOAD	- C -							
26	20/1		SPARE	- A -							
28	20/1		SPARE	- B -							
30	20/1		EXISTING LOAD	- C -							
32	20/1		EXISTING LOAD	- A -							
34	20/1		EXISTING LOAD	- B -							
36	20/1		EXISTING LOAD	- C -							
38	20/1		SPARE	- A -							
40	20/1		SPARE	- B -							
42	20/1		EXISTING LOAD	- C -							
44	15/2		BCC-F1	- A -							
46				- B -							
48	20/1		SPARE	- C -							
50	20/1		SPARE	- A -							
52	20/1		SPARE	- B -							
54	20/1		SPARE	- C -							
56	20/1		SPARE	- A -							
58	20/1		SPARE	- B -							
60	20/1		SPARE	- C -							
THROUGH FEED LUG CONNECTION				- A -							
				- B -							
				- C -							
MAIN BREAKER	100/3			- A -	0	0	0	0	0	0	0
				- B -	0	0	0	0	0	0	0
				- C -	0	0	0	0	0	0	0
								Total	- A -	- B -	- C -
								0.0	0.0	0.0	0.0

OVERCURRENT DEVICE NOTES:		CONN KVA PHASE LOADS	
1 -	PROVIDE LOCK-ON DEVICE		
2 -	CONNECT VIA TIMECLOCK	DMD	CONN
3 -		0.0	0.0
4 -		0.0	0.0
5 -		0.0	0.0
	Panelboard Notes:	0.0	0.0
1 -	PROVIDE DUTY TYPE SWITCHES	0.0	0.0
2 -	E.C SHALL BALANCE EACH PHASE WITHIN 10%	0.0	0.0
3 -		0.0	0.0
4 -		0	0
5 -		0	SPARE KVA

BUS KVA LOADS		
CODE L - LIGHTING		
CODE C - CONVENIENCE RECEPTACLES (180 W)		
CODE R - RECEPTACLES (NON CONVENIENCE)		
CODE M - MOTORS	LARGEST MTR VA =	0
CODE E - ELECTRIC HEAT		
CODE K - KITCHEN EQUIP	DMD =	100%
CODE D - DWELLING UNITS (HOTEL/MOTEL ROOMS)		
TOTAL KVA		
SPARE KVA	SPARE =	0%

SURFACE	: MOUNTING	0	ADJUSTED KVA (DEMAND + SPARE KVA)	
10KA	: SCCR RATING	0	**ADJUSTED AMPS (DEMAND + SPARE KVA)**	
100	: AMP RATING OF BUS			5/23/2022
100	: PANEL AMP RATING (MIN MAIN)	FILE NAME:	PROJECT NUMBER :	PROJECT NAME :
208	: PHASE TO PHASE VOLTAGE	120/208V	21-0486	Duluth City Hall

No:	Date:	By:	Revision:
3	06-07-2022	LAA	ADDENDUM #5
2	06-02-2022	LAA	ADDENDUM #3
1	05-25-2022	LAA	ADDENDUM #2

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: LUCIA A. ANDERSON
DATE: 05-03-2022 REG. NO.: 27049

KFI ENGINEERS
670 County Road B West
St. Paul, Minnesota 55113
Tel: (651) 771-0880 Fax: (651) 771-0878
Email: kfi@kfi-eng.com

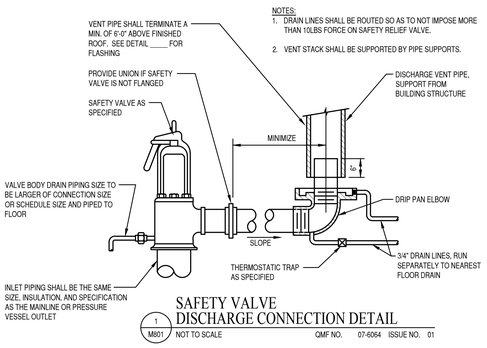
Project Title:
CITY OF DULUTH
CITY HALL MEP RENEWAL DESIGN
411 WEST 1ST STREET
DULUTH, MN 55802

Sheet Title:
PANELBOARD SCHEDULES

Date:	05-03-2022
Drawn By:	GAA
Checked By:	LAA
Project No:	21-0486
DWG Scale:	AS NOTED
Sheet Size:	30x42

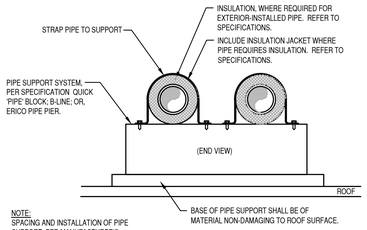
Revision Number: 3

Sheet Number: E505



SAFETY VALVE DISCHARGE CONNECTION DETAIL

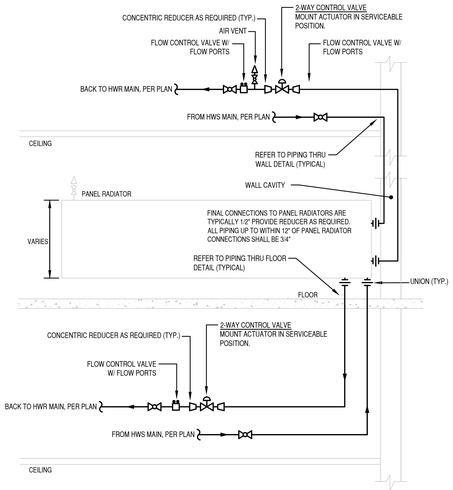
1 / M801 — NOT TO SCALE — QMF NO. 07-6064 — ISSUE NO. 01



NOTE:
SPACING AND INSTALLATION OF PIPE SUPPORT, PER MANUFACTURER'S RECOMMENDATIONS.

PIPE ON ROOF SUPPORT

4 / M801 — NOT TO SCALE — QMF NO. 07-6054 — ISSUE NO. 01



NOTES:

A. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF CONTROL VALVE AND HYDRONIC ACCESSORIES.

B. PROVIDE ACCESS IN CEILING FOR SERVICING THE CONTROL VALVE, FLOW CONTROL VALVE, AND AIR VENT.

C. COORDINATE PANEL RADIATOR INSTALLATION WITH ALL ELECTRICAL WALL OUTLETS AND DEVICES. ALERT ENGINEER OF CONFLICTS PRIOR TO INSTALLATION OF RADIATORS.

D. CONNECTIONS MAY BE SAME END OR OPPOSITE END; REFER TO PLANS.

E. DETAIL SHOWS TWO OPTIONS: SERVING PANEL RADIATOR FROM BELOW, AND SERVING PANEL RADIATOR FROM ABOVE. SEE PLANS FOR EACH PANEL ROUTING INTENT.

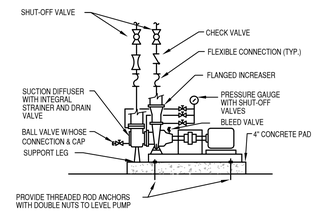
F. WHERE MULTIPLE PANELS SERVE A SINGLE SPACE (AND RESPOND TO A SINGLE SENSOR), ONLY ONE CONTROL VALVE ASSEMBLY IS REQUIRED. SEE PLANS AND SCHEMATICS.

G. REFER TO PLAN AND SCHEDULE FOR MOUNTING HEIGHT ABOVE FINISHED FLOOR.

PANEL RADIATOR PIPING

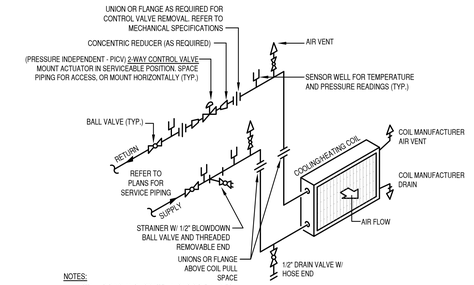
5 / M801 — NOT TO SCALE — QMF NO. 07-6088 — ISSUE NO. 01

NOTE:
1. PRESSURE GAUGE AND VALVES TO BE LOCATED IN PUMP PORTS WHEN AVAILABLE.
2. RE-ALIGN PUMPS AFTER INSTALLATION.
3. GROUT PUMP FRAME WITH NON SHRINKING GROUT.



BASE-MOUNTED PUMP

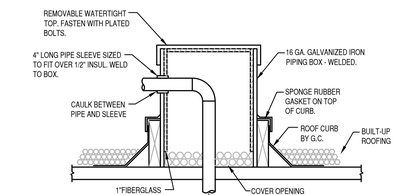
7 / M801 — NOT TO SCALE — QMF NO. 07-6012 — ISSUE NO. 03



NOTES:
1. INSTALL PIPING AND LOCATE UNIONS OR FLANGES SO COIL CAN BE PULLED WITHOUT DISMANTLING PIPING.
2. COILS SHALL HAVE SAME END CONNECTIONS
3. THIS DETAIL APPLIES TO REHEAT, FAN POWERED VAV'S, AND FAN COIL UNIT HEATING AND COOLING COILS
4. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.

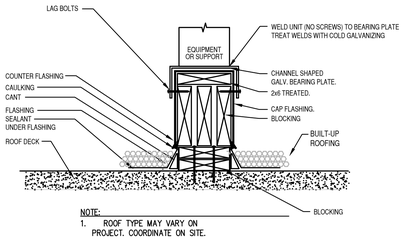
PRESSURE INDEPENDENT VAV / FAN COIL PIPING

10 / M801 — NOT TO SCALE — QMF NO. - — ISSUE NO. -



ROOF PIPING BOX DETAIL

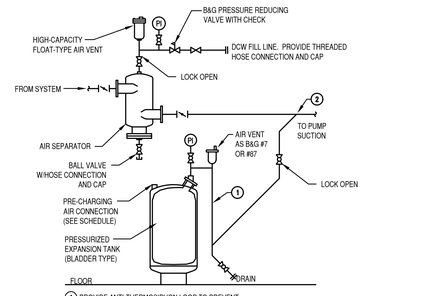
2 / M-801 — NOT TO SCALE — QMF NO. 07-7036 — ISSUE NO. 01



NOTE:
1. ROOF TYPE MAY VARY ON PROJECT. COORDINATE ON SITE.

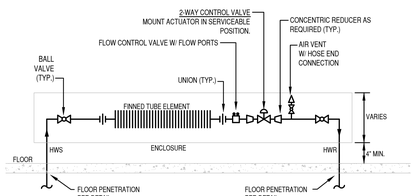
SLEEPER SUPPORT

8 / M801 — NOT TO SCALE — QMF NO. 07-5092 — ISSUE NO. 01



AIR MANAGEMENT - BLADDER EXPANSION TANK

11 / M801 — NOT TO SCALE — QMF NO. 07-6010 — ISSUE NO. 02

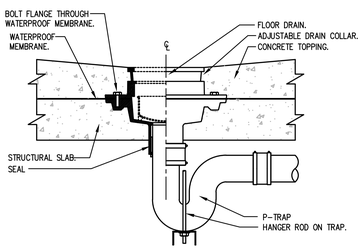


NOTES:
1. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.
2. PROVIDE ACCESS IN FINNED TUBE ENCLOSURE FOR SERVICING THE CONTROL VALVE, FLOW CONTROL VALVE, AND AIR VENT
3. COORDINATE ENCLOSURE INSTALLATION WITH ALL ELECTRICAL WALL OUTLETS AND DEVICES

FINNED TUBE - HWS/R PIPING THRU FLOOR

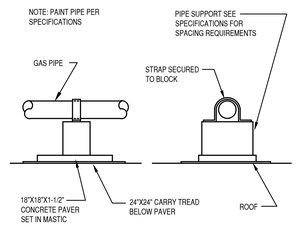
3 / M801 — NOT TO SCALE — QMF NO. 07-6033 — ISSUE NO. 03

NOTES: FLOOR DRAINS
1. INSTALL FLOOR DRAINS IN ACCORDANCE WITH MANUFACTURES INSTRUCTIONS AND AT THE LOCATION WHERE INDICATED
2. INSTALL FLOOR DRAINS AT THE LOW POINTS OF SURFACE AREAS TO BE DRAINED OR AS INDICATED. SET TOPS OF DRAINS 1/2" BELOW FINISHED FLOOR ELEVATION. GENERAL CONTRACTOR WILL DISH THE CONCRETE TO DRAIN SURFACE AS REQUIRED.
3. INSTALL A DRAIN FLASHING COLLAR OR FLANGE SO THAT NO LEAKAGE BETWEEN THE DRAIN AND THE ADJOINING FLOORING. MAINTAIN THE INTEGRITY OF THE WATERPROOF MEMBRANE.
4. POSITION DRAINS FOR EASY ACCESSIBILITY TO MAINTAIN.



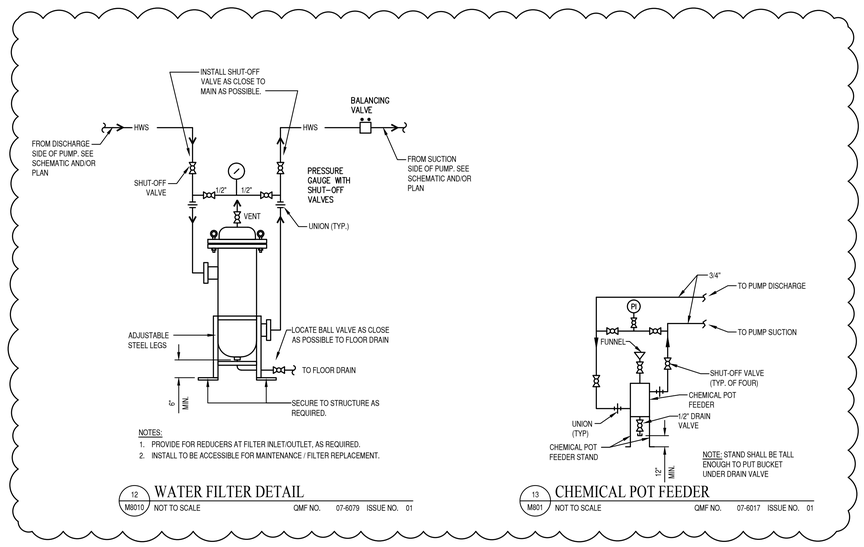
FLOOR DRAIN W/ MEMBRANE DETAIL

6 / M801 — NOT TO SCALE — QMF NO. 07-7016 — ISSUE NO. 01



GAS PIPING ROOF SUPPORT DETAIL

9 / M801 — NOT TO SCALE — QMF NO. 07-7019 — ISSUE NO. 01



NOTES:
1. PROVIDE FOR REDUCERS AT FILTER INLET/OUTLET, AS REQUIRED.
2. INSTALL TO BE ACCESSIBLE FOR MAINTENANCE / FILTER REPLACEMENT.

NOTE: STAND SHALL BE TALL ENOUGH TO PUT BUCKET UNDER DRAIN VALVE

WATER FILTER DETAIL

12 / M8010 — NOT TO SCALE — QMF NO. 07-6079 — ISSUE NO. 01

CHEMICAL POT FEEDER

13 / M801 — NOT TO SCALE — QMF NO. 07-6017 — ISSUE NO. 01

No:	Date:	By:	Revision:
1	06/07/22	MDP	ADDENDUM 5

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____

DATE: 05-03-2022 REG. NO.: _____

KFI ENGINEERS
670 County Road B West
St. Paul, Minnesota 55113
Tel: (651) 771-0880 Fax: (651) 771-0878
Email: kfi@kfi-eng.com

Project Title:
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CITY HALL MEP RENEWAL DESIGN
411 WEST 1ST STREET
DULUTH, MN 55802

Sheet Title:
MECHANICAL DETAILS

Date:	05-03-2022
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Checked By:	MDP
Project No:	21-0486
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Sheet Size:	30x42

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