METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

PLAN PACKAGE INDEX / DESCRIPTION
OPERATIONS AND MAINTENANCE FACILITY CONSTRUCTION
VOLUME 1 - CIVIL, TRACKWORK, SITE
VOLUME 2A - OMF BUILDING
VOLUME 2B - OMF BUILDING

OPERATIONS & MAINTENANCE FACILITY CONSTRUCTION

VOLUME 2B
OMF BUILDING

THE PROPOSED SOUTHWEST LRT PROJECT IS NOT FINAL BUT IS STILL UNDER ENVIRONMENTAL REVIEW AND THE PROJECT IS SUBJECT TO CHANGE. THESE PLANS ARE NOT FINAL.

THE COUNCIL, THROUGH THE DEVELOPMENT OF THESE PLANS, DOES NOT INTEND THAT THEY WILL PREJUDICE OR COMPROMISE ANY STATE OR FEDERAL ENVIRONMENTAL REVIEW OR OTHER LEGAL REQUIREMENTS. THESE PLANS DO NOT LIMIT THE PROJECT DESIGN ALTERNATIVES OR MITIGATIVE MEASURES THAT THE COUNCIL MAY UNDERTAKE IF THE PROPOSED SWLRT PROJECT PROCEEDS TO CONSTRUCTION.

THE COUNCIL WILL NOT TAKE FINAL ACTION ON THIS MATTER UNLESS THE COUNCIL PROCEEDS WITH THE PROJECT AFTER THE FTA'S RECORD OF DECISION AND THE COUNCIL'S DETERMINATION OF ADEQUACY.

WARNING: THIS RECORD MAY CONTAIN SENSITIVE SECURITY INFORMATION THAT IS CONTROLLED UNDER 49 CFR PARTS 15 AND 1520. NO PART OF THIS RECORD MAY BE DISCLOSED TO PERSONS WITHOUT A "NEED TO KNOW", AS DEFINED IN 49 CFR PARTS 15 AND 1520, EXCEPT WITH THE WRITTEN PERMISSION OF THE ADMINISTRATOR OF THE TRANSPORTATION SECURITY ADMINISTRATION OR THE SECRETARY OF TRANSPORTATION. UNAUTHORIZED RELEASE MAY RESULT IN CIVIL PENALTY OR OTHER ACTION. FOR U.S. GOVERNMENT AGENCIES, PUBLIC DISCLOSURE IS GOVERNED BY 5 U.S.C. 552 AND 49 CFR PARTS 15 AND 1520.

60% SUBMISSION
DATE : 09/28/15

AECOM

OPERATIONS AND MAINTENANCE FACILITY

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV
		VOLUME 2B - OMF BUILDING			
1	OMF-GEN-CVR-003	COVER SHEET			
2	OMF-GEN-IDX-002	VOLUME INDEX OF PLAN SHEETS SHEET 1			
3	OMF-GEN-IDX-003	VOLUME INDEX OF PLAN SHEETS SHEET 2			
4	OMF-MECH-GEN-M001	GENERAL NOTES & CODE INDEX			
5	OMF-MECH-GEN-M002	ABBREVIATIONS			
6	OMF-MECH-GEN-M003	STANDARD SYMBOLS AND LEGENDS			
7	OMF-MECH-SCH-M004	MECHANICAL SCHEDULES 1			
8	OMF-MECH-SCH-M005	MECHANICAL SCHEDULES 2			
9	OMF-MECH-SCH-M006	MECHANICAL SCHEDULES 3			
10	OMF-MECH-SCH-M007	MECHANICAL SCHEDULES 4			
11	OMF-MECH-PLN-M100	UNDERGROUND OVERALL HVAC PLAN			
12	OMF-MECH-PLN-M100J	UNDERGROUND - PARTIAL HVAC PLAN AREA J			
13	OMF-MECH-PLN-M100K	UNDERGROUND - PARTIAL HVAC PLAN AREA K			
14	OMF-MECH-PLN-M110	LEVEL ONE OVERALL HVAC FLOOR PLAN			
15	OMF-MECH-PLN-M110A	LEVEL ONE - PARTIAL HVAC PLAN AREA A			
16	OMF-MECH-PLN-M110B	LEVEL ONE - PARTIAL HVAC PLAN AREA B			
17	OMF-MECH-PLN-M110C	LEVEL ONE - PARTIAL HVAC PLAN AREA C			
18	OMF-MECH-PLN-M110D	LEVEL ONE - PARTIAL HVAC PLAN AREA D			
19	OMF-MECH-PLN-M110E	LEVEL ONE - PARTIAL HVAC PLAN AREA E			
20	OMF-MECH-PLN-M110F	LEVEL ONE - PARTIAL HVAC PLAN AREA F			
21	OMF-MECH-PLN-M110G	LEVEL ONE - PARTIAL HVAC PLAN AREA G			
22	OMF-MECH-PLN-M110H	LEVEL ONE - PARTIAL HVAC PLAN AREA H			
23	OMF-MECH-PLN-M110J	LEVEL ONE - PARTIAL HVAC PLAN AREA J			
24	OMF-MECH-PLN-M110K	LEVEL ONE - PARTIAL HVAC PLAN AREA K			
25	OMF-MECH-PLN-M110L	LEVEL ONE - PARTIAL HVAC PLAN AREA L			
26	OMF-MECH-PLN-M110M	LEVEL 0NE - PARTIAL HVAC PLAN AREA M			
27	OMF-MECH-PLN-M110N	LEVEL ONE - PARTIAL HVAC PLAN AREA N			
28	OMF-MECH-PLN-M115	MEZZANINE LEVEL OVERALL HVAC FLOOR PLAN			
29	OMF-MECH-PLN-M115J	MEZZANINE LEVEL - PARTIAL HVAC PLAN AREA J			
30	OMF-MECH-PLN-M115K	MEZZANINE LEVEL - PARTIAL HVAC PLAN AREA K			
31	OMF-MECH-PLN-M120	LEVEL TWO OVERALL HVAC FLOOR PLAN			
32	OMF-MECH-PLN-M120E	LEVEL TWO - PARTIAL HVAC PLAN AREA E			
33	OMF-MECH-PLN-M120F	LEVEL TWO - PARTIAL HVAC PLAN AREA F			
34	OMF-MECH-PLN-M120G	LEVEL TWO - PARTIAL HVAC PLAN AREA G			
35	OMF-MECH-PLN-M120H	LEVEL TWO - PARTIAL HVAC PLAN AREA H			
36	OMF-MECH-PLN-M130	ROOF LEVEL OVERALL HVAC AND PIPING PLAN			
37	OMF-MECH-PLN-M130A	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA A			
38	OMF-MECH-PLN-M130B	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA B			
39	OMF-MECH-PLN-M130C	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA C			
40	OMF-MECH-PLN-M130D	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA D			
41	OMF-MECH-PLN-M130E	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA E			
42	OMF-MECH-PLN-M130F	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA F			
43	OMF-MECH-PLN-M130G	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA G			
44	OMF-MECH-PLN-M130H	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA H			
45	OMF-MECH-PLN-M130J	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA J			
46	OMF-MECH-PLN-M130K	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA K			
47	OMF-MECH-PLN-M130L	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA L			
48	OMF-MECH-PLN-M130M	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA M			
49	OMF-MECH-PLN-M130N	ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA N			
50	OMF-MECH-PLN-M200	UNDERGROUND OVERALL RADIANT PIPING PLAN			
51	OMF-MECH-PLN-M200A	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA A			
52	OMF-MECH-PLN-M200D	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA D			
53	OMF-MECH-PLN-M200E	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA E			
54	OMF-MECH-PLN-M200H	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA H			
55	OMF-MECH-PLN-M200J	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA J			
56	OMF-MECH-PLN-M200K	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA K			
57	OMF-MECH-PLN-M200L	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA L			
58	OMF-MECH-PLN-M200N	UNDERGROUND - PARTIAL RADIANT PIPING PLAN AREA N			
59	OMF-MECH-PLN-M210	LEVEL ONE OVERALL PIPING PLAN			
60	OMF-MECH-PLN-M210A	LEVEL ONE - PARTIAL PIPING PLAN AREA A			
61	OMF-MECH-PLN-M210B	LEVEL ONE - PARTIAL PIPING PLAN AREA B			
62	OMF-MECH-PLN-M210C	LEVEL ONE - PARTIAL PIPING PLAN AREA C			
63	OMF-MECH-PLN-M210D	LEVEL ONE - PARTIAL PIPING PLAN AREA D			
64	OMF-MECH-PLN-M210E	LEVEL ONE - PARTIAL PIPING PLAN AREA E			

OPERATIONS AND MAINTENANCE FACILITY

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV
65	OMF-MECH-PLN-M210F	LEVEL ONE - PARTIAL PIPING PLAN AREA F			
66	OMF-MECH-PLN-M210G	LEVEL ONE - PARTIAL PIPING PLAN AREA G			
67	OMF-MECH-PLN-M210H	LEVEL ONE - PARTIAL PIPING PLAN AREA H			
68	OMF-MECH-PLN-M210J	LEVEL ONE - PARTIAL PIPING PLAN AREA J			
69	OMF-MECH-PLN-M210K	LEVEL ONE - PARTIAL PIPING PLAN AREA K			
70	OMF-MECH-PLN-M210L	LEVEL ONE - PARTIAL PIPING PLAN AREA L			
71	OMF-MECH-PLN-M210M	LEVEL ONE - PARTIAL PIPING PLAN AREA M			
72	OMF-MECH-PLN-M210N	LEVEL ONE - PARTIAL PIPING PLAN AREA N			
73	OMF-MECH-PLN-M215	MEZZANINE LEVEL OVERALL PIPING FLOOR PLAN			
74	OMF-MECH-PLN-M215J	MEZZANINE LEVEL - PARTIAL PIPING PLAN AREA J			
75	OMF-MECH-PLN-M215K	MEZZANINE LEVEL - PARTIAL PIPING PLAN AREA K			
76	OMF-MECH-PLN-M220	LEVEL TWO OVERALL PIPING FLOOR PLAN			
77	OMF-MECH-PLN-M220E	LEVEL TWO - PARTIAL PIPING PLAN AREA E			
78	OMF-MECH-PLN-M220F	LEVEL TWO - PARTIAL PIPING PLAN AREA F			
79	OMF-MECH-PLN-M220G	LEVEL TWO - PARTIAL PIPING PLAN AREA G			
80	OMF-MECH-PLN-M220H	LEVEL TWO - PARTIAL PIPING PLAN AREA H			
81	OMF-MECH-PLN-M500	ENLARGED MECHANICAL PLANS 1			
82	OMF-MECH-PLN-M501	ENLARGED MECHANICAL PLANS 2			
83	OMF-PLM-GEN-P001	GENERAL NOTES & CODE INDEX			
84	OMF-PLM-GEN-P002	ABBREVIATIONS			
85	OMF-PLM-GEN-P003	STANDARD SYMBOLS AND LEGENDS			
86	OMF-PLM-SCH-P004	PLUMBING SCHEDULES			
87	OMF-PLM-PLN-P100	UNDERGROUND OVERALL PLUMBING PLAN			
88	OMF-PLM-PLN-P100A	UNDERGROUND - PARTIAL PLUMBING PLAN AREA A			
89	OMF-PLM-PLN-P100B	UNDERGROUND - PARTIAL PLUMBING PLAN AREA B			
90	OMF-PLM-PLN-P100C	UNDERGROUND - PARTIAL PLUMBING PLAN AREA C			
91	OMF-PLM-PLN-P100D	UNDERGROUND - PARTIAL PLUMBING PLAN AREA D			
92	OMF-PLM-PLN-P100E	UNDERGROUND - PARTIAL PLUMBING PLAN AREA E			
93	OMF-PLM-PLN-P100F	UNDERGROUND - PARTIAL PLUMBING PLAN AREA F			
94	OMF-PLM-PLN-P100G	UNDERGROUND - PARTIAL PLUMBING PLAN AREA G			
95	OMF-PLM-PLN-P100H	UNDERGROUND - PARTIAL PLUMBING PLAN AREA H			
96	OMF-PLM-PLN-P100J	UNDERGROUND - PARTIAL PLUMBING PLAN AREA J			
97	OMF-PLM-PLN-P100K	UNDERGROUND - PARTIAL PLUMBING PLAN AREA K			
98	OMF-PLM-PLN-P100L	UNDERGROUND - PARTIAL PLUMBING PLAN AREA L			
99	OMF-PLM-PLN-P100M	UNDERGROUND - PARTIAL PLUMBING PLAN AREA M			
100	OMF-PLM-PLN-P100N	UNDERGROUND - PARTIAL PLUMBING PLAN AREA N			
101	OMF-PLM-PLN-P110	LEVEL ONE OVERALL PLUMBING FLOOR PLAN			
102	OMF-PLM-PLN-P110A	LEVEL ONE - PARTIAL PLUMBING PLAN AREA A			
103	OMF-PLM-PLN-P110B	LEVEL ONE - PARTIAL PLUMBINGPLAN AREA B			
104	OMF-PLM-PLN-P110C	LEVEL ONE - PARTIAL PLUMBING PLAN AREA C			
105	OMF-PLM-PLN-P110D	LEVEL ONE - PARTIAL PLUMBING PLAN AREA D			
106	OMF-PLM-PLN-P110E	LEVEL ONE - PARTIAL PLUMBING PLAN AREA E			
107	OMF-PLM-PLN-P110F	LEVEL ONE - PARTIAL PLUMBING PLAN AREA F			
108	OMF-PLM-PLN-P110G	LEVEL ONE - PARTIAL PLUMBING PLAN AREA G			
109	OMF-PLM-PLN-P110H	LEVEL ONE - PARTIAL PLUMBING PLAN AREA H			
110	OMF-PLM-PLN-P110J	LEVEL ONE - PARTIAL PLUMBING PLAN AREA J			
111	OMF-PLM-PLN-P110K	LEVEL ONE - PARTIAL PLUMBING PLAN AREA K			
112	OMF-PLM-PLN-P110L	LEVEL ONE - PARTIAL PLUMBING PLAN AREA L			
113	OMF-PLM-PLN-P110M	LEVEL 0NE - PARTIAL PLUMBING PLAN AREA M			
114	OMF-PLM-PLN-P110N	LEVEL ONE - PARTIAL PLUMBING PLAN AREA N			
115	OMF-PLM-PLN-P115	MEZZANINE LEVEL OVERALL PLUMBING FLOOR PLAN			
116	OMF-PLM-PLN-P115E	MEZZANINE LEVEL - PARTIAL PLUMBING PLAN AREA E			
117	OMF-PLM-PLN-P115J	MEZZANINE LEVEL - PARTIAL PLUMBING PLAN AREA J			
118	OMF-PLM-PLN-P115K	MEZZANINE LEVEL - PARTIAL PLUMBING PLAN AREA K			
119	OMF-PLM-PLN-P120	LEVEL TWO OVERALL PLUMBING FLOOR PLAN			
120	OMF-PLM-PLN-P120E	LEVEL TWO - PARTIAL PLUMBING PLAN AREA E			
121	OMF-PLM-PLN-P120F	LEVEL TWO - PARTIAL PLUMBING PLAN AREA F			
122	OMF-PLM-PLN-P120G	LEVEL TWO - PARTIAL PLUMBING PLAN AREA G			
123	OMF-PLM-PLN-P120H	LEVEL TWO - PARTIAL PLUMBING PLAN AREA H			
124	OMF-PLM-PLN-P130	ROOF LEVEL OVERALL PLUMBING PLAN			
125	OMF-PLM-PLN-P130A	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA A			
126	OMF-PLM-PLN-P130B	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA B			
127	OMF-PLM-PLN-P130C	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA C			
128	OMF-PLM-PLN-P130D	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA D			
129	OMF-PLM-PLN-P130E	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA E			
130	OMF-PLM-PLN-P130F	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA F			
131	OMF-PLM-PLN-P130G	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA G			
132	OMF-PLM-PLN-P130H	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA H			
133	OMF-PLM-PLN-P130J	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA J			
134	OMF-PLM-PLN-P130K	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA K			
135	OMF-PLM-PLN-P130L	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA L			
136	OMF-PLM-PLN-P130M	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA M			
137	OMF-PLM-PLN-P130N	ROOF LEVEL - PARTIAL PLUMBING PLAN AREA N			

OPERATIONS AND MAINTENANCE FACILITY

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV
138	OMF-PLM-PLN-P210	LEVEL ONE OVERALL COMPRESSED AIR FLOOR PLAN			
139	OMF-PLM-PLN-P210E	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA E			
140	OMF-PLM-PLN-P210F	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA F			
141	OMF-PLM-PLN-P210G	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA G			
142	OMF-PLM-PLN-P210H	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA H			
143	OMF-PLM-PLN-P210J	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA J			
144	OMF-PLM-PLN-P210K	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA K			
145	OMF-PLM-PLN-P210L	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA L			
146	OMF-PLM-PLN-P210M	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA M			
147	OMF-PLM-PLN-P210N	LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA N			
148	OMF-PLM-PLN-P215	MEZZANINE LEVEL OVERALL COMPRESSED AIR FLOOR PLAN			
149	OMF-PLM-PLN-P215J	MEZZANINE LEVEL - PARTIAL COMPRESSED AIR PLAN AREA J			
150	OMF-PLM-PLN-P215K	MEZZANINE LEVEL - PARTIAL COMPRESSED AIR PLAN AREA K			
151	OMF-PLM-PLN-P500	ENLARGED PLUMBING PLANS 1			
152	OMF-PLM-PLN-P501	ENLARGED PLUMBING PLANS 2			
153	OMF-PLM-PLN-P502	ENLARGED PLUMBING PLANS 3			
154	OMF-FP-PLN-FP-110	FIRE PROTECTION LEVEL ONE OVERALL PLAN			
155	OMF-FP-PLN-FP-115	FIRE PROTECTION MEZZANINE LEVEL OVERALL PLAN			
156	OMF-FP-PLN-FP-120	FIRE PROTECTION LEVEL TWO OVERALL PLAN			
157	OMF-FP-SCT-FP-600	FIRE PROTECTION SECTIONS AND DETAILS			
158	OMF-ELE-GEN-E001	ABBREVIATIONS & INDEX			
159	OMF-ELE-GEN-E002	SYMBOLS (1 OF 2)			
160	OMF-ELE-GEN-E003	SYMBOLS (2 OF 2)			
161	OMF-ELE-SIT-E051	SITE LIGHTING PLAN			
162	OMF-ELE-PLN-E110A	POWER - LEVEL ONE - AREA A			
163	OMF-ELE-PLN-E110B	POWER - LEVEL ONE - AREA B			
164	OMF-ELE-PLN-E110C	POWER - LEVEL ONE - AREA C			
165	OMF-ELE-PLN-E110D	POWER - LEVEL ONE - AREA D			
166	OMF-ELE-PLN-E110E	POWER - LEVEL ONE - AREA E			
167	OMF-ELE-PLN-E110F	POWER - LEVEL ONE - AREA F			
168	OMF-ELE-PLN-E110G	POWER - LEVEL ONE - AREA G			
169	OMF-ELE-PLN-E110H	POWER - LEVEL ONE - AREA H			
170	OMF-ELE-PLN-E110J	POWER - LEVEL ONE - AREA J			
171	OMF-ELE-PLN-E110K	POWER - LEVEL ONE - AREA K			
172	OMF-ELE-PLN-E110L	POWER - LEVEL ONE - AREA L			
173	OMF-ELE-PLN-E110M	POWER - LEVEL ONE - AREA M			
174	OMF-ELE-PLN-E110N	POWER - LEVEL ONE - AREA N			
175	OMF-ELE-PLN-E111A	POWER - ENLARGED PLANS - ELECTRICAL ROOMS			
176	OMF-ELE-PLN-E115J	POWER - MEZZANINE LEVEL - AREA J			
177	OMF-ELE-PLN-E115K	POWER - MEZZANINE LEVEL - AREA K			
178	OMF-ELE-PLN-E120E	POWER - LEVEL TWO - AREA E			
179	OMF-ELE-PLN-E120F	POWER - LEVEL TWO - AREA F			
180	OMF-ELE-PLN-E120G	POWER - LEVEL TWO - AREA G			
181	OMF-ELE-PLN-E120H	POWER - LEVEL TWO - AREA H			
182	OMF-ELE-PLN-E200A	LIGHTING - PIT LEVEL			
183	OMF-ELE-PLN-E210A	LIGHTING - LEVEL ONE - AREA A			
184	OMF-ELE-PLN-E210B	LIGHTING - LEVEL ONE - AREA B			
185	OMF-ELE-PLN-E210C	LIGHTING - LEVEL ONE - AREA C			
186	OMF-ELE-PLN-E210D	LIGHTING - LEVEL ONE - AREA D			
187	OMF-ELE-PLN-E210E	LIGHTING - LEVEL ONE - AREA E			
188	OMF-ELE-PLN-E210F	LIGHTING - LEVEL ONE - AREA F			
189	OMF-ELE-PLN-E210G	LIGHTING - LEVEL ONE - AREA G			
190	OMF-ELE-PLN-E210H	LIGHTING - LEVEL ONE - AREA H			
191	OMF-ELE-PLN-E210J	LIGHTING - LEVEL ONE - AREA J			
192	OMF-ELE-PLN-E210K	LIGHTING - LEVEL ONE - AREA K			
193	OMF-ELE-PLN-E210L	LIGHTING - LEVEL ONE - AREA L			
194	OMF-ELE-PLN-E210M	LIGHTING - LEVEL ONE - AREA M			
195	OMF-ELE-PLN-E210N	LIGHTING - LEVEL ONE - AREA N			
196	OMF-ELE-PLN-E220E	LIGHTING - LEVEL TWO - AREA E			
197	OMF-ELE-PLN-E220F	LIGHTING - LEVEL TWO - AREA F			
198	OMF-ELE-PLN-E220G	LIGHTING - LEVEL TWO - AREA G			
199	OMF-ELE-PLN-E220H	LIGHTING - LEVEL TWO - AREA H			
200	OMF-ELE-PLN-E310A	SYSTEMS - LEVEL ONE - AREA A			
201	OMF-ELE-PLN-E310B	SYSTEMS - LEVEL ONE - AREA B			
202	OMF-ELE-PLN-E310C	SYSTEMS - LEVEL ONE - AREA C			
203	OMF-ELE-PLN-E310D	SYSTEMS - LEVEL ONE - AREA D			
204	OMF-ELE-PLN-E310E	SYSTEMS - LEVEL ONE - AREA E			
205	OMF-ELE-PLN-E310F	SYSTEMS - LEVEL ONE - AREA F			
206	OMF-ELE-PLN-E310G	SYSTEMS - LEVEL ONE - AREA G			
207	OMF-ELE-PLN-E310H	SYSTEMS - LEVEL ONE - AREA H			

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY - V2B
OMF BUILDING
VOLUME INDEX OF PLAN SHEETS
SHEET 1

DISCIPLINE: GENERAL

SHEET NAME: OMF-GEN-IDX - 001

SHEET 2 OF 263

OPERATIONS AND MAINTENANCE FACILITY

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV
		VOLUME 2B - OMF BUILDING (cont'd)			
208	OMF-ELE-PLN-E310J	SYSTEMS - LEVEL ONE - AREA J			
209	OMF-ELE-PLN-E310K	SYSTEMS - LEVEL ONE - AREA K			
210	OMF-ELE-PLN-E310L	SYSTEMS - LEVEL ONE - AREA L			
211	OMF-ELE-PLN-E310M	SYSTEMS - LEVEL ONE - AREA M			
212	OMF-ELE-PLN-E310N	SYSTEMS - LEVEL ONE - AREA N			
213	OMF-ELE-PLN-E320E	SYSTEMS - LEVEL TWO - AREA E			
214	OMF-ELE-PLN-E320F	SYSTEMS - LEVEL TWO - AREA F			
215	OMF-ELE-PLN-E320G	SYSTEMS - LEVEL TWO - AREA G			
216	OMF-ELE-PLN-E320H	SYSTEMS - LEVEL TWO - AREA H			
217	OMF-ELE-PLN-E400A	GROUNDING ELECTRODE PLAN - LEVEL ONE			
218	OMF-ELE-PLN-E400B	GROUNDING ELECTRODE PLAN - LEVEL ONE			
219	OMF-ELE-PLN-E410A	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA A			
220	OMF-ELE-PLN-E410B	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA B			
221	OMF-ELE-PLN-E410C	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA C			
222	OMF-ELE-PLN-E410D	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA D			
223	OMF-ELE-PLN-E410E	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA E			
224	OMF-ELE-PLN-E410F	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA F			
225	OMF-ELE-PLN-E410G	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA G			
226	NOT USED				
227	OMF-ELE-PLN-E410J	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA J			
228	OMF-ELE-PLN-E410K	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA K			
229	OMF-ELE-PLN-E410L	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA L			
230	OMF-ELE-PLN-E410M	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA M			
231	OMF-ELE-PLN-E410N	SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA N			
232	OMF-ELE-PLN-E415J	SAFETY GROUNDING SYSTEM - MEZZANINE LEVEL - AREA J			
233	OMF-ELE-PLN-E415K	SAFETY GROUNDING SYSTEM - MEZZANINE LEVEL - AREA K			
234	OMF-ELE-OLD-E501	POWER ONE-LINE DIAGRAMS			
235	OMF-ELE-RSD-E502	POWER ONE-LINE DIAGRAMS			
236	OMF-ELE-RSD-E503	POWER ONE-LINE DIAGRAMS			
237	OMF-ELE-RSD-E504	POWER ONE-LINE DIAGRAMS			
238	OMF-ELE-DTL-E505	ELECTRICAL EQUIPMENT DETAILS			
239	OMF-ELE-DTL-E506	DUCTBANK DETAILS			
240	OMF-ELE-SCH-E801	LUMINAIRE SCHEDULE			
241	OMF-ELE-SCH-E805	INDUSTRIAL EQUIPMENT SCHEDULE			
242	OMF-IND-TYP-I009	INDUSTRIAL GENERAL INFORMATION			
243	OMF-IND-PLN- I110	LEVEL ONE OVERALL FLOOR PLAN			
244	OMF-IND-PLN-I110A	LEVEL ONE ENLARGED PLAN AREA A			
245	OMF-IND-PLN-I110B	LEVEL ONE ENLARGED PLAN AREA B			
246	OMF-IND-PLN-I110C	LEVEL ONE ENLARGED PLAN AREA C			
247	OMF-IND-PLN-I110D	LEVEL ONE ENLARGED PLAN AREA D			
248	OMF-IND-PLN-I110E	LEVEL ONE ENLARGED PLAN AREA E			
249	OMF-IND-PLN-I110F	LEVEL ONE ENLARGED PLAN AREA F			
250	OMF-IND-PLN-I110G	LEVEL ONE ENLARGED PLAN AREA G			
251	OMF-IND-PLN-I110H	LEVEL ONE ENLARGED PLAN AREA H			
252	OMF-IND-PLN-I110I	LEVEL ONE ENLARGED PLAN AREA I			
253	OMF-IND-PLN-I110J	LEVEL ONE ENLARGED PLAN AREA J			
254	OMF-IND-PLN-I110K	LEVEL ONE ENLARGED PLAN AREA K			
255	OMF-IND-PLN-I110L	LEVEL ONE ENLARGED PLAN AREA L			
256	OMF-IND-PLN-I110M	LEVEL ONE ENLARGED PLAN AREA M			
257	OMF-IND-PLN-I110N	LEVEL ONE ENLARGED PLAN AREA N			
258	OMF-IND-PLN-I115	MEZZANINE LEVEL OVERALL FLOOR PLAN			
259	OMF-IND-PLN-I120	MEZZANINE LEVEL ENLARGED PLAN J			
260	OMF-IND-PLN-I121	MEZZANINE LEVEL ENLARGED PLAN K			
261	OMF-IND-PLN-I122	SCREENED STORAGE			
262	OMF-IND-PLN-I123	EQUIPMENT DETAILS			
263	OMF-IND-PLN-I124	EQUIPMENT DETAILS			

OPERATIONS AND MAINTENANCE FACILITY

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV

OPERATIONS AND MAINTENANCE FACILITY

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY - V2B
OMF BUILDING
VOLUME INDEX OF PLAN SHEETS
SHEET 2

DISCIPLINE: GENERAL

SHEET NAME: OMF-GEN-IDX - 002

MECHANICAL GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. THEY ARE INTENDED TO SHOW SIZE, CAPACITY, APPROXIMATE LOCATION, DIRECTION AND GENERAL RELATIONSHIP OF ONE WORK PHASE TO ANOTHER, BUT NOT THE EXACT DETAIL OR ARRANGEMENT.

1A PROVIDE ALL MATTERIALS, EQUIPMENT, AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE, OPERABLE PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS, AND AS SPECIFIED AND REQUIRED BY CODE.

2. ANY OF THESE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING MAY APPEAR ON THE PROJECT DRAWINGS. USE ONLY THOSE WHICH ARE APPLICABLE TO THIS PROJECT.

2A ELEVATONS AS SHOWN ON THE DRAWINGS ARE TO THE BOTTOM OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING

3. IN GENERAL, ALL PIPING AND DUCTWORK SHALL BE RUN CONCEALED IN CEILING SPACES. CERTAIN ROOMS HAVE NO SUSPENDED CEILING. PIPING AND DUCTWORK ABOVE THESE ROOMS SHALL BE RUN EXPOSED.
4. PITCH ALL PIPING AS SPECIFIED TO PERMIT THOROUGH DRAINAGE. PROVIDE AND INSTALL DRAIN VALVES AT ALL LOW POINTS WITHIN THE BUILDING.
5. TEMPERATURE SENSORS LOCATED AT OUTSIDE WALLS SHALL BE MOUNTED ON INSULATED SUB-BASED TO MINIMIZE WALL EFFECT. AFTER INSTALLATION FILL INSULATED SUB-BASE W/PLASTIC FOAM INSULATION.
6. WHEN CONFLICTS BETWEEN FLOW DIAGRAMS AND FLOOR PLANS OCCUR ON PIPE SIZING AND ACCESSORIES SUCH AS GAUGES, THERMOSTATS, FLOW METERS, VALVES, ECT. THE FLOW DIAGRAM AND DETAILS SHALL TAKE PRECEDENCE.
7. DO NOT LOCATE ANY EQUIPMENT IN THE TUBE, COIL, OR FILTER PULL AREAS REQUIRED FOR CHILLERS, COILS, BOILERS, AHU'S ETC.
8. WELDING TO STRUCTURAL MEMBERS IS NOT PERMITTED.
9. SUPPLY AIR UNIT CONSTRUCTION SHALL PERMIT COIL, FILTER, AND FAN REMOVAL WITHOUT DISMANTLING UNIT HOUSING.
10. MINIMUM CLEARANCE FROM FINISHED FLOOR TO BOTTOM OF HORIZONTAL PIPES AND DUCTWORK IN MECHANICAL ROOMS IS 7'-0".
11. ALL HORIZONTAL WATER PIPING REDUCERS SHALL BE ECCENTRIC, FLAT ON TOP. AS DETAILED ON M8 SERIES DRAWINGS.
12. DO NOT USE BULL HEAD TEES ON WATER PIPING.
13. PIPE ALL COOLING, HEATING, AND REHEAT COILS FOR COUNTERFLOW OF AIR AND WATER.
14. INSTALL ALL NEW TEMPERATURE TRANSMITTERS FOR NEW VAV TERMINALS.
15. LOCATE ALL VALVES IN VERTICAL PIPING A MAXIMUM OF 6'-0" ABOVE FLOOR TO ALLOW FOR OPERATION WITHOUT USE OF A LADDER.
16. ALL NEW WORK IS SHOWN WITH SOLID (DARK) LINES AND ALL EXISTING IS SHOWN WITH SCREENED (LIGHT) LINES.
17. WHERE CAPS OR SHEET METAL CLOSURES ARE SHOWN ON EXISTING PIPING OR EXISTING DUCTWORK, SEAL WATER OR AIR TIGHT, AND REINSULATE CAPS AND CLOSURES TO MATCH EXISTING. REINSULATE AS SPECIFIED WITH THE SAME THICKNESS AS EXISTING
18. NO PIPING, DUCTWORK OR EQUIPMENT SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED OTHERWISE. REMOVE ALL ABANDONED PIPING, DUCTWORK, AND EQUIPMENT.
19. WHERE A NEW PIPE DESIGNATION IS SHOWN ON AN EXISTING PIPE, RELABEL AS SPECIFIED.
20. ALL UNUSED PORTIONS OF THE LOUVERS WILL BE BLANKED-OFF AS SPECIFIED IN DIVISION 10.
21. ALL INVERTS SHOWN FOR CHILLED WATER, HEATING WATER, AND STEAM PIPING ARE FOR REPRESENTATION OF SLOPE AND PLACEMENT OF PIPES. ACTUAL LOCATION SHALL BE COORDINATED BY THE CONTRACTOR.
22. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND SIZES OF ALL TERMINAL DEVICES (GRILLES, REGISTERS, LBD'S, LCD'S, ECT.)
23. SEE EQUIPMENT SCHEDULES FOR EQUIPMENT DESIGNATIONS.
24. DUCTWORK DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
25. COORDINATE ROUTING OF DUCTWORK WITH LIGHTING AND SPRINKLER. COORDINATE ROUTING OF DUCTWORK WITH LIGHTING AND SPRINKLER LAYOUTS AND ARCHITECTURAL DETAILS.
26. SUBMIT SHOP DRAWINGS FOR LOCATION OF ALL ACCESS PANELS, INDICATING: LOCATION, SIZE, TYPE, AND STYLE. THE CONTRACTOR SHALL RELOCATE AND OR ADJUST MECHANICAL EQUIPMENT AND OR DEVICES TO ALLOW FOR A SYMMETRICAL DESIGN OF ACCESS PANEL LOCATIONS AS REQUIRED AND APPROVED BY THE ARCHITECT.
27. CONTRACTOR SHALL SURVEY THE SITE PRIOR TO PREPARATION OF BID AND PRIOR TO PREPARATION OF SHOP DRAWINGS. INFORMATION SHOWN IN THESE DRAWINGS IS BASED ON THE AVAILABLE DRAWINGS OF THE BASE BUILDING. WORK UNDER THIS CONTRACT SHALL REFLECT ACTUAL EXISTING CONDITIONS. CONTRACTOR SHALL MAKE REVISIONS AS NECESSARY TO REFLECT EXISTING CONDITIONS AT NO COST TO THE OWNER. THIS SHALL INCLUDE SHOP DRAWING PREPARATION AS WELL AS CONSTRUCTION COST.
28. PROVIDE FLEXIBLE DUCTWORK AND ROUND DUCTWORK TO DIFFUSERS OF SAME SIZE OF DIFFUSER'S NECK. REFER TO DIFFUSER SCHEDULE FOR SIZE OF DIFFUSER'S NECK.

MECHANICAL GENERAL NOTES

29. CONNECTIONS TO EXISTING PIPING SHALL BE MADE BY THE USE OF A PIPE TEE FITTING TO MATCH EXISTING PIPING.
30. DUCTWORK TO THE INLET OF TERMINAL UNITS SHALL MATCH SIZE OF INLET OF TERMINAL UNIT.
31. PROVIDE UP AND DOWN TRANSITIONS AS NECESSARY TO INSTALL DUCT & PIPE AROUND NEW & EXISTING EQUIPMENT AND BUILDING STRUCTURE. MAKE ADJUSTMENT TO DUCTWORK AND PIPING AS NECESSARY TO COORDINATE WITH EXISTING AND NEW ELEMENTS: PIPES, DUCTS, CONDUITS, BEAMS AND BUILDING STRUCTURAL MEMBERS.
32. PROVIDE DUCT TRANSITIONS TO ALL EXISTING TERMINAL UNITS. DUCT TRANSITIONS SHALL CONNECT EXISTING TERMINAL UNITS TO DUCTWORK PROVIDED BY THIS CONTRACT. REFER TO DRAWINGS FOR DUCT SIZES. VISIT SITE AND OBTAIN OUTLET SIZE OF EXISTING TERMINAL UNITS.
33. CONTRACTOR TO COORDINATE LOCATION OF ALL THERMOSTATS/HUMIDISTATS AND TEMPERATURE SENSORS/HUMIDITY SENSORS WITH THE LATEST FURNITURE LAYOUT DRAWINGS. HEIGHT OF DEVICES SHALL BE PER ELEVATIONS ON ARCHITECTURAL DRAWINGS OR IN SPECIFICATION EXCEPT AS OTHERWISE TO COMPLY WITH AMERICANS WITH DISABILITIES ACT REQUIREMENTS.
34. ALL DUCTWORK AND PIPING NEEDS TO BE INSTALLED AS HIGH AS POSSIBLE AND TIGHT TO THE SLAB ABOVE. REFER TO THE ARCHITECTURAL CEILING PLANS FOR CEILING HEIGHT REQUIREMENTS.
35. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PENETRATION REQUIREMENTS AT UL-RATED ASSEMBLIES.
36. NOTIFY THE CAR OF ANY REQUIRED SHUT-DOWN OF EXISTING SYSTEMS TO PERFORM WORK. SCHEDULE SHUT-DOWNS WITH THE OWNER BEFORE PROCEEDING WITH THE WORK.
37. WORK THAT AFFECTS CRITICAL SERVICES MAY NEED TO BE PERFORMED AFTER NORMAL WORKING HOURS. COORDINATE THIS WORK WITH THE CAR.
38. COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICTS WITH EXISTING AND NEW PIPING, VENTILATION, PLUMBING, ELECTRICAL CONDUIT, CABLE TRAYS, ETC.
39. WHERE RELOCATIONS ARE REQUIRED, COORDINATE WITH OTHER TRADES TO DETERMINE THE MOST PRACTICAL METHOD OF RESOLUTION WITH THE LEAST IMPACT FROM AN OVERALL PROJECT PERSPECTIVE.
40. COORDINATE PLUMBING CONNECTIONS TO FIXTURES AND EQUIPMENT WITH ARCHITECTURAL ELEVATIONS AND EQUIPMENT SUPPLIERS.
41. INSTALL ALL EQUIPMENT AND APPURTENANCE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENT AND APPLICABLE CODES AND REGULATIONS.
42. PROVIDE VIBRATIONS ISOLATION FOR ALL EQUIPMENT TO PREVENT TRANMISSION OF BIRATION TO THE BUILDING STRUCTURE.
43. PROVIDE SHUTOOF VALVES IN ALL PIPING SYSTEM BRANCHS.
44. UNLESS OTHERSWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT OT THE UNDERSIDE OF SLAB, ABOVE DOORS & WINDOWS, WITH SPACE OF R INSULATION.
45. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING AND SO THAT ALL VALVES, STRINERS, UNITIONS, TRAPS, FLANGES, AND OTHER APPURTEANCES REQUIREING ACCESS ARE ACCESSIBLE.
46. UNLESS OTHERWISE NOTED, DRAINS SHALL BE INSTALLED AT THE LOW POINT OF ROOFS, AREAWAYS, FLOORS, ETC.
47. ALL CLEANOUTS SHALL BE THE FULL SIZE OF THE PIPE FOR PIPES 6" AND SMALLER, AND SHALL BE 6" FOR ALL PIPE SIZES LARGER THAN 6". PROVIDE CLEANOUTS IN SANITARY AND STORM SYSTEMS AT THE ENDS OF RUNS, AT CHANGES IN DIRECTION, NEAR THE BASE OF STACKS, EVERY 100'-0" IN HORIZONTAL RUNS AND ELSEWHERE AS DIRECTED OR AS DIRECTED BY CODE.
48. ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE THE FULL SIZE OF THE PIPE BEFORE REDUCING THE SIZE TO MAKE CONNECTIONS TO THE EQUIPMENT AND CONTROLS.
49. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
50. ALL VALVES SHALL BE INSTALLED SO THE VALVE REMAINS IN SERVICE WHEN THE EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS MOVED.
51. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE CAR.
52. ALL TEST SHALL BE COMPLETED BEFORE ANY EQUIPMENT OR PIPING INSULATIONS IS APPLIED.
53. CONCRETE HOUSEKEEPING PADS TO SUIT EQUIPMENT SHALL BE SIZED AND LOCATED BY THE CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALLL BE 4". PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 6" ON EACH SIDE. CONTRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSILITY OF THE PLUMBING CONTRACTOR TO COORDINATE THE SIZE AND LOCATIONS OF THE CONCRETE HOUSEKEEPING WITH THE GENERAL CONTRACTOR.
54. SEE ARCHITECTURAL PLANS FOR FINAL LOCATIONS BUT NOT LIMITED TO WATER CLOSES, LAVRATORIES, SINKS, SHOWERS.
55. SEE INDUSTRIAL PLANS (I-001 THRU I-208) FOR LOCATIONS BUT NOT LIMITED TO HOSE BIBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASHES, EMERGENCY SHOWERS, THE MAINS AND BRANCH PIPING TO EQUPMENT IS SHOWN IN THESE DRAWINGS AND SHALL BE INSTALLED BY THIS CONTRACTOR.

CODES MANUALS AND STANDARDS AS THEY APPLY

AMERICAN NATIONAL STANDARD INSTITUTE (ANSSI);
AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE);
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME);
AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)PUBLICATIONS;
CITY CODES;
COUNTY ORDINANCES
INTERNATIONAL BUILDING CODE (IBC) PUBLICATIONS
MINNESOTATE STATE BUILDING CODE (MSBC);
MINNESOTA STATE MECHANICAL CODE 2015
MINNESOTA ENERGY CODE 2015
NATIONAL ELECTRICAL MANUFACTURES ASSOCIATIONS (NEMA) STANDARDS;
STATE OF MINNESOTA SUSTAINABLE BUILDING GUIDELINES (MSBG);
UNDERWRITERS LABORATORIES (UL) STANDARDS;

BUILDING DESIGN DATA

OUTDOOR DESIGN TEMPERATURES:
WINTER: -40°F
SUMMER: 108°F DB
SUMMER: 71°F WB

INDOOR DESIGN CONDITIONS:
SUPPLY DISCHARGE AIR TEMPERATURES:
WINTER: 55°F OR HIGHER* (* REST WITH CAUTION)
SUMMER: 55°F

THERMOSTAT SET POINT TEMPERATURES:
AIR CONDITIONED SPACES:
BELOW 68°F - HEATING
ABOVE 75°F - COOLING

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
1	Date 1				Revision 1

AECOM
LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE
METROPOLITAN COUNCIL
SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

GENERAL NOTES & CODE INDEX

DISCIPLINE: MECHANICAL
SHEET NAME: OMF-MECH-GEN
M-001

MECHANICAL ABBREVIATIONS

ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
AD	AREA DRAIN, ACCESS DOOR
ADD	ADDENDUM
ADDL	ADDITIONAL
ADJ	ADJUST, ADJSTABLE
AFF	ABOVE FINISH FLOOR
AFMS	AIR FLOW MEASUREING STATION
AGA	AMERICAN GAS ASSOCIATION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AMB	AMBIENT
AMP	AMPERE (S)
ANC	ANCHOR(AGE)
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
ARCH	ARCHITET, ARCHITECTURAL
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
AS	AIR SEPERATOR
ASSY	ASSEMBLY
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATC	AUTOMATIC TEMERATURE CONTROLS
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
B	BOILER
BAL	BALANCE, BALANCING
BAS	BUILDING AUTOMATION SYSTEM
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER, BOILER HORSEPOWER
BLDG	BUILDING
BLW	BELOW
BM	BEAM
BO	BY OWNER
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BOF	BY OWNER FUTURE
BOT	BOTTOM
BP	BOILER PUMP (FEEDWATER)
BSMT	BASEMENT
BTW	BETWEEN
BTUH	BRITISH THERMAL UNITS PER HOUR
CAB	CABINET
CAP	CAPACITY
CC	COOLING COIL
CEN	CENT(ER)(TRAL)
CENT	CENTRIFUGAL
CF	CHEMICAL FEEDER VALVE
CFH	CUBMIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFP	CHEMICAL FEED PUMP
CH	CHILLER
CHWP	CHILLED WATER PUMP
CHWPP	CHILLED WATER PRIMARY PUMP
CHWRP	CHILLED WATER RECIRUCULATION PUMP
CHWSP	CHILLED WATER SECONDARY PUMP
CHWTP	CHILLED WATER TRANSFER PUMP
CI	CONSTRUCTION ISSUE
CIRC	CIRULATE/CIRCULATING
CL	CENTERLINE
CLR	CLEAR(ANCE)
CLG	CEILING
CO/C.O.	CLEANOUT
COL	COLUMN
COMP	COMPRESSOR
CONC	CONCRETE

MECHANICAL ABBREVIATIONS

COND	CONDENSATE, CONDENSER, CONDITION
CONF	CONFERENCE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINU(E)(OUS)(ATION)
CONTR	CONTRACT(OR)
CONV	CONVERTOR
COORD	COORDINATE
COP	COEFICIENT OF PERFORMANCE
CORR	CORRIDOR
CO2	CARBON DIOXIDE
CP	CONDENSATE PUMP, CONTROL PANEL, CONSTRUCTION PACKAGE
CR	CEILING REGISTER
CRG	CEILING RELIEF GRILLE
CSK	COUNTER(SINK)(SUNK)
CTOP	COUNTER TOP
CT	COMPRESSION TANK, COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CU IN	CUBIC INCHES
CTR	CENTER
CUFT	CUBIC FEET
CV	CONSTANT VOLUME
CW	CLOCKWISE, COLD WATER
CWP	CONDENSER WATER PUMP
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
D	DEEP, DEPTH, DRAIN
dB	DECIBELS
dBA	DECIBELS (A WEIGHTED SCALE)
DB	DRY BULB TEMPERATURE
DBP	DOMESTIC BOOSSTER PUMP
DC	DIRECT CURRENT, DRY COOLER
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE(S)(S FAREINHEIGHT)
DEMO	DEMO(LISH)(LITION)
DEPT	DEPARTMENT
DET/DTL	DETAIL
DF	DRINKING FOUNTIAN
DFU	DRAIN FIXTURE UNIT
DH	DUCT HUMIDIFIER
DIA	DIAMETER
DIF	DIFFEREN(CE)(TIAL)
DIFF	DIFFUSER
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTRIBUT(E)(ION)
DIV	DIVI(DE)(DED)(DER)(SION)
DL	DRUM LOUVER
CRU	CONDENSATE RETURN UNIT
DMPR	DAMPER
DN	DOWN
DOC	DOCUMENT(S)
DP	DATA PROCESSING, DEMOUNTABLE PARTITION
DPU	DATA PROCESSING UNIT
DS	DOWNSPOUT
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DWG(S)	DRAWING(S)
DWDI	DOUBLE WIDTH DOUBLE INLET
DWH	DOMESTIC WATER HEATER
DWRP	DOMESTIC WATER RECIRULATING PUMP
DWV	DRAIN, WASTE, VENT
DX	DIRECT EXPANSION
E	EAST
EA	EACH, EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULD TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EFTR	ELECTRIC FIN TURBE RADIATION
EH	ELECTRIC HUMIDIFIER
EHC	ELECTRIC HEATING COIL
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR

MECHANICAL ABBREVIATIONS

EMER	EMERGENCY
ENCL	ENCLOS(E)(ED)(URE)
ENGR	ENGINEER(S)
EPDM	ETHYENE PROPYLEVE DIENE TERPOLYMER
EQ	EQUAL
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWB	ENTERING WE BULB TEMPERATURE
EWC	ELECTRIC WATER COOLER
EUCH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWFMS	ELECTRIC WATER FLOW MEASURING STATION
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EX	EXAMPLE
EXC	EXCAVAT(E)(ED)(ION)
EXCL	EXLCUD(E)(ED)(ING)
EXCP	EXCEPT
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPAN(D)(SION)/EXPOSED
EXT	EXTERIOR
F	FIRE
FAB	FABRICAT(E)(ED)(OR)
FACP	FIRE ALARM CONTROL PANEL
FAS	FASTEN(ED)(ER)
FC	FAN COIL
FCO	FLOOR CLEAN OUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDC	FIRE DEPATMENT CONNECTION
FD/FS	FLOOR DRAIN W/FUNNEL STRAINER
FDMPR	FIRE DAMPER
FDN	FOUNDATION
FDV	FIRE DEPARTMENT VALVE
FF	FINISH FLOOR
FFCP	FIREFIGHTER'S CONTROL PANEL
FFE	FINISH FLOOR ELEVATION
FGL	FIBERGLASS
FHC	FIRE HOSE CABINET
FHV	FIRE HOSE VALVE
FIN	FINISH
FIXT	FIXTURE
FLA	FULL LOAD AMPERE(S)
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLANGED
FLR	FLOOR(ING)
FM	FIRE MAIN
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOC	FUEL OIL CLEANING SYSTEM
FOIC	FURNISHED BY OWNER, INSTALLED BY CONTR
FOIO	FURNISHED BY OWNER, INSTALLED BY OWNER
FOP	FUEL OIL PUMP
FOT	FLAT ON TOP, FUEL OIL TANK
FP	FIRE PROTECTION, FIRE PUMP
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FST	FUNNEL STRAINER
FSWH	FOOD SERVICE WATER HEATER
FT	FOOT OR FEET
FTG	FUEL TANK GAUGE OR FOOTING
FTR	FIN TUBE RADIATION
FU	FIXTURE UNIT(S)
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
GAS	GASOLINE
GC	GENERGAL CONTRACTOR
GCHWP	GLYCOL CHILLED WATER PUMP
GENL	GENERAL

MECHANICAL ABBREVIATIONS

GH	GROUND HYDRANT
GND	GROUND
GPM	GALLONS PER MINUTE
GRD	GRADE
GRL	GRILLE
GRV	GRAVITY ROOF VENTILTOR
GSKT	GASKET
GTG	GASOLINE TANK GAUGE
GWA	GENERAL WORK AREA
GPH	GALLONS PER HOUR
GWH	GAS WATER HEATER
H	HEIGHT, HIGH, HUMIDIFIER(S)
HB	HOSE BIB
HC	HEATING COIL
HCP	HANDICAP
HD	HEAD
HE	HEAT EXCHANGER
HD	HEAVY DUTY
HL	HIGH LIMIT
HOA	HAND-OFF-AUTOMATIC
HORZ	HORIZONTAL
HP	HORSE POWER
HPT	HIGH POINT
HR	HOUR
HTG	HEATING
HTR	HEATER
HU	HUMIDIFIER
HVAC	"HEATING, VENTILATION, & AIR-CONDITIONING"
HW	HOT WATER
HWP	HEATING WATER PUMP
HWPP	HEATING WATER PRIMARY PUMP
HWSP	HEATING WATER SECONDARY PUMP
HZ	"FREQUENCY, HERTZ"
IBR	INSTITUTE OF BOILER & RADIATOR MANUFACTURERS
ID	INSIDE DIAMETER/DIMINESION/IDENTIFICATOIN
IN.	INCH(ES)
INCL	INCLU(DE)(DED)(DING)(SIVE)
INFO	INFORMATOIN
INSUL	INSULAT(E)(ED)(ION)
INT	INTERIOR
INV	INVERT
IN WG	INCHES WATER GAUGE
JAN	JANITOR CLOSET
JP	JOCKEY PUMP
JST	JOIST
KFD	KICHEN FUNNEL DRAIN
KVA	KILO VOLT AMPERE(S)
KW	KILOWATT(S)
L	ANGLE, LONG,LENGTH
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBD	LINEAR BAR DIFFUSER
LBS	POUNDS (WIEGHT)
LBS/HR	POUNDS PER HOUR
LCD	LINEAR CEILING DIFFUSER
LCR	LINEAR CEILING RETURN
LDB	LEAVING DRY BULB TEMPERATURE
LF	LINEAR FEET
LH	LOUVER HOUSE
LHWP	LOW WATER HEATING WATER PUMP
LIN	LINEAR
LL	LOW LIMIT
LOC	LOCAT(E)(ION)
LP	LOW PRESSURE
LPT	LOW POINT
LRA	LOCKED ROTOR AMPERES
LRHP	LOW TEMPERATURE REHEAT PUMP
LWB	LEAVING WET BULB TEMPERATURE
LT	LIGHT
LTG	LIGHTING
LVL	LEVEL
LVR	LOUVER

MECHANICAL ABBREVIATIONS

LWT	LEAVING WATER TEMPERATURE
MAC	MEDICAL AIR COMPRESSOR
MAS	MASONRY
MATL	MATERIAL
MAX	MAXMUM
MBD	MOTORIZED BYPASS DAMPER
MBH	ONE THOUSAND BTU PER HOUR
MBR	MEMBER
MCC	MOTOR CONTROL CENTER
MCU	MODULAR COOLING UNIT
MECH	MECHANICAL(LY)
MED	MEDIUM
MEMB	MEMBRANE
MER	MECHANICAL EQUIPMENT ROOM
MET	METAL
MEZZ	MEZZANINE
MFD	MANUFACTURED
MFR	MANUFACTURER
MGR	MANAGER
MIN	MINIMUM
MIN	MINUTE
MISC	MIXCELLANEOUS
MON	MONITOR
MS	MOTOR STARTER
MSP	MOTOR STARTER PANEL
MSS	MOTOR STARTER SWITCH
MT(D)	MOUNT(ED)
MTL	METAL
MTR	MOTOR
MV	MOTORIZED VALVE
MVP	MEDICAL VACUUM PUMP
MWBP	MAKE-UP WATER BOOSTER PUMP
N	NECK (DIFFUSER)
N	NORTH
NA	NOT APPPLICABLE
NC, N.C.	NOISE CRITERIA
NC	NORMALLY CLOSED
NECSRY	MECESSARY
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
N.O	NORMALLY OPEN
NOM	NOMINAL
NPSH	NET POSITION SUCTION HEAD
NRC	NOISE REDUCTION COEFFICIENT
NT	NOTE
NTS	NOT TO SCALE
O	OXYGEN
OA	OUTSIDE AIR
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER/DIMENSION
OF	OVERFLOW
OFF	OFFICE
OH	OVERHEAD
OPNG	OPENING
OPT	OPTION(AL)
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE STEM AND YOKE
P	PLUMBING FIXTURE
PAR	PARALLEL
PCF	POUNDER PER CUBIC FOOT
PD	PERFORATED DIFFUSER
PD	PRESSURE DROP
PERIM	PERIMETER
PERM	PERMANET(LY)
PFB	PREFABRICATE(D)
PFN	PREFINISH(ED)
PH	PHASE
PHP	PRIMARY HEATING PUMP
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PLF	POUNDS PER LINEAL FOOT
PM	NIGHT TIME
PNL	PANEL

MECHANICAL ABBREVIATIONS

POL	POLISH(ED)
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRV	POWER ROOF VENTILATOR
PRVS	PRESSURE REDUCING VALVE STATION
PSF	POUNDS PER SQUARE FOOR
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	POST TENSION(ED)(ING)
PTD	PAINTED
QTY	QUANTITY
R	RADIUS, RISER
R	REGISTER
RA	RETURN AIR
R AND R	REMOVE(D) AND REPLACE(D)
RAD	RADIATION, RADIATOR, ROOF AREA DRAIN
RD	ROOF DRAIN
RDS	REFLIEF DUCT SILIENCER
RE	RETURN EXHAUST
REC	RECESSED
REF	REFER(ENCE)
REG	REGISTER
REM	REMOV(E)(ED)(ABLE)
REQD	REQUIRED
REQM	REQUIREMENT(S)
RET	RETURN(ED)
REV	REVIS(E)(ED)(ION)
RF	RETURN FAN
RGH	RADIANT GAS HEATER
RH	REALTIVE HUMIDITY
RLA	RUNNING LOAD AMPERES
RM	ROOM
RP	RADATION PUMP
RPC	REFRIGERANT PUMP OUR COMPRESSOR
RPM	REVOLUTIONS PRE MINUTE
RPZ	REDUCED PRESSURE BACKFLOW PREVENTER
RR	RETURN REGISTER
RWL	RAIN WATER LEADER
S	SINK
S	SOUTH
SA	SHOCK ABSORBER, SUPPLY AIR, SOUND ATTENUATOR
SBLK	SPLASH BLOCK
SCHED	SCHEDULE
SECT	SECTION
SENS	SENSIBLE
SF	SUPPLY FAN
SG	SIDE WALL GRILLE
SHT	SHEET
SHR	SHOWER
SIM	SIMILAR
SK	SINK
SMACNA	SHEET METAL AND AIR-CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
SOG	SLAB ON GRADE
SP	STATIC PRESSURE, STANDPIPE, SUMP PUMP, SPACE(S)
SPEC(S)	SPECIFICATION(S)
SPS	STATIC PRESSURE STATION
SPT	STATIC PRESSURE TRANSMITTER
SQ	SQUARE
SQ FT	SQUARE FOOT
SR	SERVICE RECEPTOR, SIDE WALL REGISTER
SRG	SIDE WALL RELIEF GRILLE
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STM	STEAM
STOR	STORAGE
STRUT	STRUCTURAL
SUSP	SUSPENDED
SWFG	SIDE WALL GRILLE FILTERED
SWP	STANDARD WORKING PRESSURE
SWSI	SINGLE WIDTH SINGLE INLET

MECHANICAL ABBREVIATIONS

T	THERMOSTAT, TOILET
T AND B	TOP AND BOTTOM
TBE	TOP OF BEAM ELEVATION
TCAC	TEMPERATURE CONTROL AIR COMPRESSOR
TCE	TOP OF PICLE CAP (CAISSON)
TCP	TEMPERATURE CONTROL PANEL
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TERM	TERMINA(L)(TE)(TION)
TF	TRANSFER FAN
TFE	TOP OF FOOTING ELEVEATION
THK	THICK(NESS)
TJE	TOP OF JOIST ELEVATION
TMPD	TEMPERED
TOR	TOP OF RAIL
TOT	TOTAL
TP	TRAP PRIMER
TPE	TOP OF PIER ELEVATION
TRANS	TRANSITION
TSE	TOP OF SLAB ELEVATION
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UT	UNDERGROUND TANK
UTIL	UTILITY
UV	ULTRAVIOLET
V	VALVE, VENT, VOLT
VAR	VAR(Y)(IES)(IATION)
VAV	VARIABLE AIR VOLUMNE
VB	VACUUM BREAKER
VC	VALVE CABINET
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VEST	VESTSIBULE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
VFY	VERIFY
VIF	VERIFY IN FIELD
VOL	VOLUME
VTR	VENT THROUGHT ROOF
W	WASTE, WEST, WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WB	WET BULB TEMPERATURE
WC	WATER CLOSET
WFMS	WATER FLOW MEASURE STATION
WG	WATER GAUGE
WH	WALL HYDRAINT, WATER HEATER
WOG	WATER, OIL AND GAS
W/O	WITHOUT
WP	WATER PROOF(ING)
WPD	PWATER PRESSURE DROP
WR	WALL REGISTER
WT	WEIGHT
WTR	WATER TEMPERATURE RISE, WATER
ZVB	ZONE VALVE BOX

MECHANICAL TEXT SYMBOLS

@	AT
X	BY
&	AND
Ø	DIAMETER
#	NUMBER, POUNDS
°	DEGREE
[	CHANNEL
"	INCHES
%	PERCENT
±	PLUS OR MINUS
□	TUBE

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AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ABBREVIATIONS

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-GEN

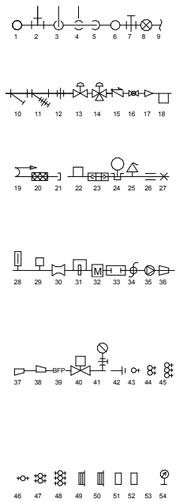
M-002

SHEET 5 OF 263

PLUMBING/PIPING LABELS

SYMBOL	ABBR.	DESCRIPTION
LRHS	LRHS	LOW TEMPERATURE REHEAT WATER SUPPLY
LRHR	LRHR	LOW TEMPERATURE REHEAT WATER RETURN
LHWS	LHWS	LOW TEMPERATURE HOT WATER SUPPLY
LHWR	LHWR	LOW TEMPERATURE HOT WATER RETURN
RS	RS	RADIATION WATER SUPPLY
RR	RR	RADIATION WATER RETURN
RHS	RHS	REHEAT WATER SUPPLY
RHR	RHR	REHEAT WATER RETURN
HWS	HWS	PRIMARY HEATING WATER SUPPLY
HWR	HWR	PRIMARY HEATING WATER RETURN
CHWS	CHWS	CHILLED WATER SUPPLY
CHWR	CHWR	CHILLED WATER RETURN
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
SCHWS	SCHWS	SECONDARY CHILLED WATER SUPPLY
SCHWR	SCHWR	SECONDARY CHILLED WATER RETURN
10#	10#	10 PSI STEAM (OR PRESSURE AS INDICATED)
HPR	HPR	HIGH PRESSURE STEAM RETURN
LPR	LPR	LOW PRESSURE STEAM RETURN
PC	PC	PUMPED CONDENSATE
HRS	HRS	HEAT RECOVERY SUPPLY
HRR	HRR	HEAT RECOVERY RETURN
LIQ	LIQ	REFRIGERANT (LIQUID)
SUC	SUC	REFRIGERANT (SUCTION)
HG	HG	HOT GAS
FOO	FOO	FUEL OIL OVERFLOW
FOR	FOR	FUEL OIL RETURN
FOS	FOS	FUEL OIL SUPPLY
FOV	FOV	FUEL OIL VENT
DI	DI	DEIONIZED WATER
DS	DS	DISTILLED WATER
RO	RO	REVERSE OSMOSIS WATER
90A	90A	NINETY POUND GENERAL AIR (OR OR PRESSURE AS INDICATED)
CO2	CO2	CARBON DIOXIDE
CW	CW	COLD WATER
NP	NP	NON - POTABLE COLD WATER
HW	HW	HOT WATER
RHW	RHW	RECIRCULATION HOT WATER
140°F HW	140°F HW	140°F HW (TEMP AS NOTED)
140°F RHW	140°F RHW	RECIRCULATING HOT WATER (TEMP AS NOTED)
F	F	FIRE SERVICE
FV	FV	FLAMMABLE VENT
FW	FW	FLAMMABLE WASTE
CSW	CSW	COLD SOFT WATER
MCW	MCW	MAKE - UP COLD WATER
ISD	ISD	INTERIOR SUB DRAIN
W	W	SOIL OR WASTE (SANITARY)
V	V	VENT (SANITARY)
PDL	PDL	PUMPED DISCHARGE LINE (SANITARY)
RWC	RWC	RAIN WATER CONDUCTOR (STORM)
ORWC	ORWC	OVERFLOW RAIN WATER CONDUCTOR (STORM)
ARW	ARW	ACID RESISTANT SOIL OR WASTE
ARV	ARV	ACID RESISTANT VENT
LPCW	LPCW	LOW PRESSURE COLD WATER
HA	HA	HOUSE AIR
A	A	COMPRESSED AIR
VV	VV	VAPOR VENT
V	V	VENT OFFSET
D	D	INDIRECT DRAIN
TW	TW	TEMPERED WATER
HT	HT	HEAT TRACE
IW	IW	INDIRECT WASTE
CMV	CMV	COMBINATION WASTE AND VENT

PLUMBING/PIPING SYMBOLS

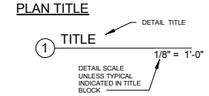


1. PIPE UP
2. PIPE CONNECTION
3. TOP CONNECTION
4. BOTTOM CONNECTION
5. PIPE DROP
6. PIPE RISE
7. SHUT OFF VALVE
8. BALANCING VALVE
9. PIPE BREAK
10. STRAINER
11. STRAINER W/BLOWDOWN VALVE
12. UNION
13. MOTORIZED VALVE - 2 WAY
14. MOTORIZED VALVE - 3 WAY
15. CHECK VALVE
16. DRAIN VALVE
17. FLOW ARROW
18. STEAM TRAP
19. ARROW INDICATES DIRECTION OF PIPE PITCH
20. FLEXIBLE CONNECTION
21. PIPE/DUCT CAP
22. PRESSURE AND TEMPERATURE STATION
23. RADIATION ELEMENT
24. TEMPERATURE TRANSMITTER IN PIPE WELL
25. RELIEF VALVE
26. PIPE GUIDE
27. ANCHOR PRESSURE GAGE
28. THERMOMETER
29. AIR VENT
30. VENTURI WATER FLOW MEASURING STATION
31. TURBIN WATER FLOW MEASURING STATION
32. METER
33. EXPANSION COMPENSTOR
34. FLOW ALARM
35. INLINE PUMP
36. CONCENTRIC PIPE REDUCER
37. ECCENTRIC PIPE REDUCER (FLAT ON TOP)
38. ECCENTRIC PIPE REDUCER (FLAT ON BOTTOM)
39. REDUCED PRESSURE ZONE BACKFLOW PREVENTER
40. SOLENOID VALVE
41. SHOCK ABSORBER (SA) (PDI SYMBOL)
42. CLEAN OUT
49. ZONE VALVE BOX (ZVB)
50. ROOM VALVE BOX (RVB)
51. MASTER ALARM PANEL (AAP)
52. AREA ALARM PANEL (AAP)
53. NITROGEN CONTROL CABINET
54. PRESSURE GAUGE

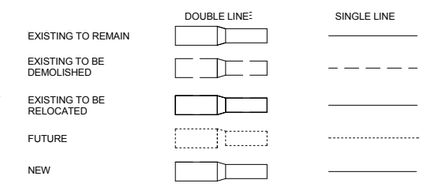
DETAIL REFERENCE

SECTION/ELEVATION REFERENCE

PLAN TITLE

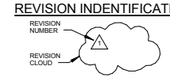


CONSTRUCTION PIPE TYPES



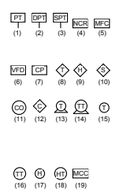
SPECIFIC NOTE SYMBOL

REVISION INDENTIFICATION



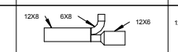
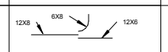
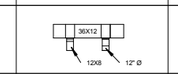
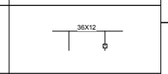
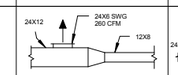
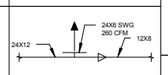
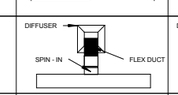
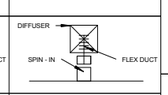
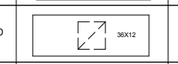
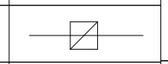
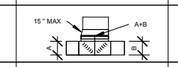
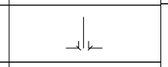
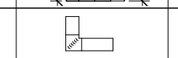
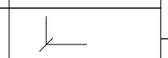
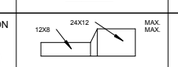
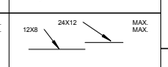
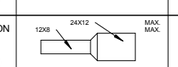
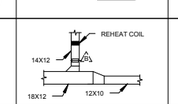
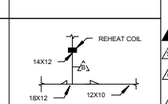
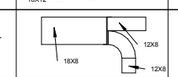
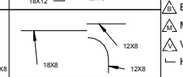
CONNECTION TO EXISTING

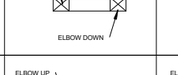
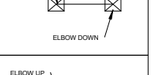
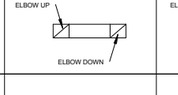
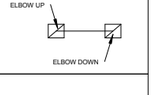
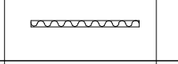
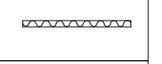
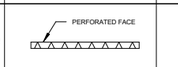
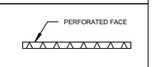
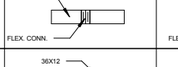
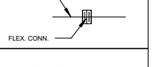
MECHANICAL SYMBOLS



1. PRESSURE TRANSMITTER
2. DIFFERIENTIAL PRESSURE TRANSMITTER
3. STATIC PRESSURE TRANSMITTER
4. NETWORK CONTOLLER/ROUTER (NCR)
5. MULTI FUNCTION CONTOLLER (MFC)
6. VARIABLE FREQUENCY DRIVE
7. CONTROL PANEL
8. OVERTEMP DETECTOR
9. HEAT DETECTOR
10. SMOKE DETECTOR
11. CARBON MONOXIDE (CO) MONITOR
12. CARBON DIOXIDE (CO2) MONITOR
13. THERMOSTAT WITH INSULATED SUBBASE
14. TEMPERATURE TRANSMITTER W/ SUBBASE
15. THERMOSTAT
16. TEMPERATURE TRANSMITTER
17. HUMIDISTAT
18. HUMIDITY TRANSMITTER
19. DIFFERIENTIAL PRESSURE MONITOR

VENTILATION SYMBOLS

ITEM INDICATED	DOUBLE LINE DRAWING REPRESENTATION	SINGLE LINE DRAWING REPRESENTATION
TAKEOFFS IN SUPPLY DUCT		
BRANCH DUCTS		
BUTTED TAKEOFF TO REGISTER OR GRILLE W/WO AIR EXTRACTOR		
SUPPLY DIFFUSER RUNOUT		
RETURN/EXH. REG OR GRILLE CENTERED IN BOTTOM OF DUCT		
DUCT SPLIT USING MITERED ELBOWS W/ TURNING VANES		
SQUARE ELBOW W/ TURNING VANES		
ONE SIDED EXPANSION OR CONTRACTION (INDICATE ONLY WHERE MANDATORY)		
TWO SIDED EXPANSION OR CONTACTION (INDICATE ONLY WHERE MANDATORY)		
TYPICAL BUTTED TAKEOFF WITH VOLUME DAMPER AND REHEAT COIL		
RETURN OR EXHAUST DUCT TAKEOFF		
VERTICAL SPLIT TAKEOFF(PLAN VIEW)		

ITEM INDICATED	DOUBLE LINE DRAWING REPRESENTATION	SINGLE LINE DRAWING REPRESENTATION
RISE OR DROP IN DIRECTION OF AIR FLOW (ARROW SHOWS DIRECTION OF AIR)		
SUPPLY DUCTWORK TURNING UP AND DOWN		
RETURN DUCTWORK TURNING UP AND DOWN		
DOUBLE WALL DUCT, PLENUM OR HOUSING WITH 4" THICK INSULATION BETWEEN		
DOUBLE WALL DUCT, PLENUM OR HOUSING PERFORATED INTERIOR WALL WITH 4" THICK INSULATION BETWEEN		
FLEXIBLE DUCT CONNECTION		
INTERNAL DUCT INSULATION		
DAMPER IN HORIZ. OR VERTICAL DUCT FIRE DAMPER SMOKE DAMPER COMBINATION SMOKE AND FIRE DAMPER BACK DRAFT DAMPER MOTORIZED DAMPER VOLUME DAMPER HAND DAMPER	 SEE SPECIFICATIONS FOR DEFINITIONS OF DAMPER TYPES	

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

STANDARD SYMBOLS AND LEGENDS

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-GEN

M-003

SHEET 6 OF 263

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CHILLER SCHEDULE

CHILLER NO.	TYPE	CHILLER CAPACITY (TONS)	EVAPORATOR EWT (°F)	EVAPORATOR LWT (°F)	EVAPORATOR FLOW RATE (GPM)	EVAPORATOR MAX. PRESSURE DROP (FT)	EVAPORATOR WATER PASSES	EVAPORATOR FOULING FACTOR	EVAPORATOR DESIGN PRESSURE (PSI)	CONDENSER EWT (°F)	CONDENSER LWT (°F)	CONDENSER FLOW RATE	CONDENSER MAX. PRESSURE DROP (FT)	CONDENSER WATER PASSES	CONDENSER FOULING FACTOR	CONDENSER DESIGN PRESSURE (PSI)	MAXIMUM KW/TON AT DESIGN	CB INTERUPTING CAPACITY (AMPS)	VOLTAGE	VIBRATION ISOLATOR TYPE	NOISE LEVEL (dBA)	VFD	REMARKS
CH 1	CENTRIFUGAL																						

COOLING TOWER SCHEDULE

UNIT ID	TYPE	LOCATION	GPM	NO. OF CELLS	VFD	FANS HP	FANS VOLTS	FANS PHASE	FANS HZ	SUMMER EWT (°F)	SUMMER LWT (°F)	SUMMER ENTERING AIR WET BULB (°F)	WINTER EWT (°F)	WINTER LWT (°F)	WINTER ENTERING AIR WET BULB (°F)	MAX STATIC LIFT (FT)	MAKEUP WATER (GPM)	SUMP HEATER KW	SUMP HEATER VOLTS	SUMP HEATER PHASE	SUMP HEATER HZ	INLET SIZE (IN)	OUTLET SIZE (IN)	OPERATING WEIGHT	MFG	MODEL NO.	REMARKS
CT 1			0	0		8	480	3	60	-460	-460	0	-460	-460	-460	0	0	0	0		60 Hz	0"	0"	0.00	Baltimore Aircoil Company	FXV-0818A-23Q-L	

FLAT PLATE HEAT EXCHANGER SCHEDULE

MARK	LOCATION	SYSTEM SERVED	HOT SIDE FLUID TYPE	HOT SIDE TEMP IN (°F)	HOT SIDE TEMP OUT (°F)	HOT SIDE PRESSURE DROP (PSI)	HOT SIDE GPM	COLD SIDE FLUID TYPE	COLD SIDE TEMP IN (°F)	COLD SIDE TEMP OUT (°F)	COLD SIDE PRESSURE DROP (PSI)	COLD SIDE GPM	DESIGN PRESSURE (PSIG)	REMARKS
HX 1	LRV STORAGE ROOM	SNOW MELT SYTEM	40% GLYCOL	160.0	130.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	205.0	0	BASED ON AIC SARAH
HX 2	LRV STORAGE ROOM	SNOW MELT SYTEM	40% GLYCOL	160.0	130.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	235.0	0	BASED ON AIC SARAH
HX 3	FABRICATION AREA	SNOW MELT SYTEM	40% GLYCOL	160.0	130.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	125.0	0	BASED ON AIC SARAH
HX 4	S&I PITS	SNOW MELT SYTEM	40% GLYCOL	160.0	130.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	125.0	0	BASED ON AIC SARAH
HX 5	COMPONENT WORK AREA	SNOW MELT SYTEM	40% GLYCOL	160.0	130.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	110.0	0	BASED ON AIC SARAH
HX 6	WASH SUPPORT	SNOW MELT SYTEM	40% GLYCOL	160.0	130.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	110.0	0	BASED ON AIC SARAH
HX 7	LEVEL TWO MECHANICAL ROOM	DOMESTIC HOT WATER	40% GLYCOL	160.0	130.0	0.0	0	WATER	115.0	140.0	0.0	0.0	0	
HX 8	LEVEL TWO MECHANICAL ROOM	DOMESTIC HOT WATER	40% GLYCOL	160.0	130.0	0.0	0	WATER	115.0	140.0	0.0	0.0	0	

PUMP SCHEDULE

wt	SYSTEM	LOCATION	PUMP TYPE	DESIGN CAPACITY (GPM)	DESIGN HEAD (FT)	MAXIMUM SHUTOFF HEAD (FT)	115% CAPACITY HEAD (FT)	MINIMUM PUMP EFFICIENCY (%)	MOTOR HP	MOTOR RPM	VFD	PUMP SIZE SUCTION (IN)	PUMP SIZE DISCHARGE (IN)	ISOLATION TYPE	REMARKS
P 1	SNOW MELT SYTEM	LRV STORAGE ROOM	IN-LINE	165	0	0	0	0.0	0.75	0	YES	0.00	0.00		BASED ON B&G
P 2	SNOW MELT SYTEM	LRV STORAGE ROOM	IN-LINE	235	0	0	0	0.0	0.75	0	YES	0.00	0.00		BASED ON B&G
P 3	SNOW MELT SYTEM	FABRICATION AREA	IN-LINE	215	0	0	0	0.0	0.75	0	YES	0.00	0.00		BASED ON B&G
P 4	SNOW MELT SYTEM	COMPONENT WORK AREA	IN-LINE	110	0	0	0	0.0	0.75	0	YES	0.00	0.00		BASED ON B&G
P 5	SNOW MELT SYTEM	S&I PITS	IN-LINE	135	0	0	0	0.0	0.75	0	YES	0.00	0.00		BASED ON B&G
P 6	SNOW MELT SYTEM	WASH SUPPORT	IN-LINE	109	0	0	0	0.0	0.75	0	YES	0.00	0.00		BASED ON B&G
P 7	HYDRONIC HEATING	LEVEL TWO MECHANICAL ROOM	BASE MOUNTED	1850	0	0	0	0.0	40.00	0	YES	0.00	0.00		BASED ON B&G
P 8	HYDRONIC HEATING	LEVEL TWO MECHANICAL ROOM	BASE MOUNTED	1850	0	0	0	0.0	40.00	0	YES	0.00	0.00		BASED ON B&G
P 9	COOLING TOWER SUMP	THIRD FLOOR MECHANICAL ROOM	BASE MOUNTED	250	0	0	0	0.0	7.50	0	YES	0.00	0.00		BASED ON B&G
P 10	COOLING TOWER SUMP	THIRD FLOOR MECHANICAL ROOM	BASE MOUNTED	250	0	0	0	0.0	7.50	0	YES	0.00	0.00		BASED ON B&G
P 11	BOILER	LEVEL TWO MECHANICAL ROOM	IN-LINE	265	0	0	0	0.0	5.00	0		0.00	0.00		
P 12	BOILER	LEVEL TWO MECHANICAL ROOM	IN-LINE	265	0	0	0	0.0	5.00	0		0.00	0.00		
P 13	BOILER	LEVEL TWO MECHANICAL ROOM	IN-LINE	265	0	0	0	0.0	5.00	0		0.00	0.00		
P 14	BOILER	LEVEL TWO MECHANICAL ROOM	IN-LINE	265	0	0	0	0.0	5.00	0		0.00	0.00		
P 15	BOILER	LEVEL TWO MECHANICAL ROOM	IN-LINE	265	0	0	0	0.0	5.00	0		0.00	0.00		
P 16	CHILLED WATER	LEVEL TWO MECHANICAL ROOM	BASE MOUNTED	500	0	0	0	0.0	30.00	0	YES	0.00	0.00		BASED ON B&G
P 17	CHILLED WATER	LEVEL TWO MECHANICAL ROOM	BASE MOUNTED	500	0	0	0	0.0	30.00	0	YES	0.00	0.00		BASED ON B&G
~~P 18~~	~~DRY COOLER~~	~~LEVEL TWO MECHANICAL ROOM~~	~~BASE MOUNTED~~	~~50~~	~~0~~	~~0~~	~~0~~	~~0.0~~	~~7.50~~	~~0~~	~~YES~~	~~0.00~~	~~0.00~~		~~BASED ON B&G~~
P 19	DRY COOLER	LEVEL TWO MECHANICAL ROOM	BASE MOUNTED	50	0	0	0	0.0	7.50	0	YES	0.00	0.00		BASED ON B&G

DIAPHRAGM EXPANSION TANK SCHEDULE

UNIT ID	SYSTEM	LOCATION	DESIGN HEIGHT	SIZE DIAMETER (IN)	CAPACITY ACCEPTANCE VOLUME (GAL)	PRE-CHARGE (PSI)	SYSTEM CONNECTION SIZE (IN)	SYSTEM OPERATING RANGE MAX. PSIG	REMARKS
ET 1			0' - 0"	0' - 0"	0.0	0.00	0"	0.00	
ET 2			0' - 0"	0' - 0"	0.0	0.00	0"	0.00	

FIN TUBE RADIATION SCHEDULE (TYPE)

TYPE	TUBE SIZE (INCHES)	FIN SIZE (INCHES)	MATERIAL	CAPACITY (BTUH/LIN. FT.)	FINS PER FOOT	ENCLOSURE HEIGHT (IN.)	ENCLOSURE STYLE	TIERS	EWT (°F)	LWT (°F)	REMARKS
FTR 1	1 1/4"	4 1/4"	STEEL	1110	40	0	DOUBLE SLOP TOP	2	160	140	BASED ON STERLING "SS" STYLE

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

MECHANICAL SCHEDULES 1

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-SCH

M-004

FAN SCHEDULE

UNIT ID	LOCATION	AREA SERVED	CAPACITY (CFM)	STATIC PRESSURE (IN W.G.)	FAN RPM	FAN TYPE	MOTOR HP	VOLTAGE	PHASE	MOTOR RPM	BHP	VFD	REMARKS
EF 1	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 2	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 3	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 4	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 5	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 6	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 7	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 8	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 9	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 10	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 11	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 12	LRV STORAGE ROOF	LRV STORAGE	4,850	0.25	419	CENTRIFUGAL	1	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 13	SALLY PORT ROOF	SALLY ROOF	400	0.25	870	CENTRIFUGAL	0	115 V	1	1725	0	NO	BASED ON GREENHECK GB-091-4
EF 14	STORAGE ROOM ROOF	RESTROOM 129	140	0.25	1665	CENTRIFUGAL	0	115 V	1	1725	0	NO	BASED ON GREENHECK G-060-VG
EF 15	MAINTENANCE AREA ROOF	2ND FLOOR TOILET & LOCKER ROOM	2,500	0.63	1130	CENTRIFUGAL	1	460 V	3	1725	1	NO	BASED ON GREENHECK GB-161-7
EF 16	MAINTENANCE AREA ROOF	BREAK ROOM	2,500	1.16	13370	CENTRIFUGAL	1	460 V	3	1725	1	NO	BASED ON GREENHECK GB-161
EF 17	LRV STORAGE ROOF	SALT TRUCK AREA/COMPACTOR AREA/SYSTEM MAINTENANCE	7,200	0.63	443	CENTRIFUGAL	2	460 V	3	1725	1	NO	BASED ON GREENHECK GB-360-15
EF 18	SANDING TRACK ROOF	SANDING BAY	9,700	0.25	419	CENTRIFUGAL	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 19	SANDING TRACK ROOF	SANDING BAY	9,700	0.25	419	CENTRIFUGAL	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 20	SANDING TRACK ROOF	SANDING BAY	9,700	0.25	419	CENTRIFUGAL	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 21	SANDING TRACK ROOF	SANDING BAY	9,700	0.25	419	CENTRIFUGAL	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 22	SALLY PORT ROOF	SALLY ROOF	400	0.25	870	CENTRIFUGAL	0	115 V	1	1725	0	NO	BASED ON GREENHECK GB-091-4

GRAVITY ROOF VENTILATOR SCHEDULE

MARK	LOCATION	TYPE	CFM	DIMENSIONS (IN) L	W	H	THROAT L	W	STATIC PRESSURE (IN. W.G.)	MINIMUM FREE AREA (S.F.)	REMARKS
GRV 1	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 2	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 3	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 4	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 5	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 6	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 7	LRV STORAGE ROOM	GRV	9700	4' - 0"	8' - 0"	2' - 6"	48"	96"	0.04	32	BASED ON RUSKIN PH811
GRV 8	LRV STORAGE ROOM	GRV	9700	4' - 0"	8' - 0"	2' - 6"	48"	96"	0.04	32	BASED ON RUSKIN PH811
GRV 10		GRV	5000	2' - 6"	4' - 0"	2' - 1"	30"	48"	0.04	10	
GRV 12		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 13		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 14		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 15		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 15		GRV	5000	2' - 0"	2' - 0"	2' - 1"	24"	24"	0.04	4	
GRV 16		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 17		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 18		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 19		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	
GRV 20		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	
GRV 21		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	
GRV 22		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	

VAV BOX SCHEDULE

UNIT ID	AREA SERVED	MINIMUM CFM	MAXIMUM CFM	PRIMARY RUNOUT TO INLET SIZE	HEATING COIL HEATING CAPACITY (MBH)	HEATING COIL ROWS	HEATING COIL WATER FLOW (GPM)	HEATING COIL WATER PRESSURE DROP (FT.)	HEATING COIL EWT (°F)	HEATING COIL LWT (°F)	WATER TEMPERATURE DROP (°F)	HEATING COIL EAT (°F)	HEATING COIL LAT (°F)	AIR TEMPERATURE RISE (°F)	REMARKS
VAV 1-1	1ST FLOOR RESTROOM	200	532	14"Ø	0	0	0	0.00	160	140	20	55	72	17	
VAV 1-2	MAINT OFFICE	400	536	14"Ø	17	1	0	0.00	160	140	20	1	18	17	
VAV 1-3	CLERK	400	536	14"Ø	17	1	0	0.00	160	140	20	1	18	17	
VAV 1-4	PARTS OFFICE	100	309	12"Ø	17	1	0	0.00	180	165	15	1	18	17	
VAV 2-1	CONFERENCE ROOM	190	640	14"Ø	27648	0	2	0.00	160	140	20	55	72	17	
VAV 2-2	CONFERENCE ROOM	200	660	14"Ø	28512	0	2	0.00	160	140	20	55	72	17	
VAV 2-3	CONFERENCE ROOM	85	280	10"Ø	12096	0	1	0.00	160	140	20	55	72	17	
VAV 2-4	REFERENCE LIBRARY	100	285	10"Ø	12312	0	1	0.00	160	140	20	55	72	17	
VAV 2-5	CONFERENCE ROOM	100	175	10"Ø	7560	0	1	0.00	160	140	20	55	72	17	
VAV 2-6	SIGNAL SUPERVISOR	100	190	10"Ø	8208	0	1	0.00	160	140	20	55	72	17	
VAV 2-7	TRACK ASSIST MANAGER	100	230	10"Ø	9936	0	1	0.00	160	140	20	55	72	17	
VAV 2-8	TRACK SUPERVISOR	100	180	10"Ø	7776	0	1	0.00	160	140	20	55	72	17	
VAV 2-9	POWER ASSIST MANAGER	100	190	10"Ø	8208	0	1	0.00	160	140	20	55	72	17	
VAV 2-10	SIGNAL SUPERVISOR	125	410	14"Ø	17712	0	1	0.00	160	140	20	55	72	17	
VAV 2-11	SIGNAL ASSIST MANAGER	100	230	10"Ø	9936	0	1	0.00	160	140	20	55	72	17	
VAV 2-12	REFERENCE LIBRARY	105	285	10"Ø	12312	0	1	0.00	160	140	20	55	72	17	
VAV 2-13	COMM ASSIST MANAGER	65	195	10"Ø	8424	0	1	0.00	160	140	20	55	72	17	
VAV 2-14	ADMIN/COPY AREA/CORRIDOR	220	735	14"Ø	31752	0	3	0.00	160	140	20	55	72	17	
VAV 2-15	COMM ASSIST MANAGER	105	205	10"Ø	8856	0	1	0.00	160	140	20	55	72	17	
VAV 2-16		105	135	10"Ø	5832	0	1	0.00	160	140	20	55	72	17	
VAV 2-17	CONFERENCE ROOM	210	705	14"Ø	30456	0	2	0.00	160	140	20	55	72	17	
VAV 2-18	SWING OFFICE	105	160	10"Ø	6912	0	1	0.00	160	140	20	55	72	17	
VAV 2-19	COMM ASSIST MANAGER	105	195	10"Ø	8424	0	1	0.00	160	140	20	55	72	17	
VAV 2-20	BREAK ROOM	190	570	14"Ø	24624	0	2	0.00	160	140	20	55	72	17	
VAV 2-21	COMM ASSIST MANAGER	105	160	10"Ø	6912	0	1	0.00	160	140	20	55	72	17	
VAV 2-22	BREAK ROOM	190	570	14"Ø	24624	0	2	0.00	160	140	20	55	72	17	
VAV 2-23	COMM ASSIST MANAGER	105	310	10"Ø	13392	0	1	0.00	160	140	20	55	72	17	
VAV 2-24	TRAINING ROOM	190	510	14"Ø	22032	0	2	0.00	160	140	20	55	72	17	
VAV 2-25	COMM ASSIST MANAGER	190	380	14"Ø	16416	0	1	0.00	160	140	20	55	72	17	
VAV 2-26	TRAINING ROOM	190	510	14"Ø	22032	0	2	0.00	160	140	20	55	72	17	
VAV 2-27	COMPUTER LAB	105	270	10"Ø	11664	0	1	0.00	160	140	20	55	72	17	
VAV 2-28	WOMENS LOCKER RM	300	935	14"Ø	40392	0	3	0.00	160	140	20	55	72	17	
VAV 2-29	COMM ASSIST MANAGER	190	580	14"Ø	25056	0	2	0.00	160	140	20	55	72	17	
VAV 2-30	LOCKER/REST ROOMS	425	1135	18"Ø	49032	0	4	0.00	160	140	20	55	72	17	
VAV 2-31	FITNESS CENTER	300	495	14"Ø	21384	0	2	0.00	160	140	20	55	72	17	
VAV 2-32	LOCKER/REST ROOMS	75	75	9"Ø	3240	0	0	0.00	180	160	20	55	72	17	
VAV 2-33	STORAGE	190	495	14"Ø	21384	0	2	0.00	160	140	20	55	72	17	
VAV 2-34	2ND FLOOR RESTROOM	85	130	9"Ø	5616	0	0	0.00	180	160	20	55	72	17	
VAV 2-35	STORAGE	300	820	14"Ø	35424	0	3	0.00	160	140	20	55	72	17	
VAV 2-36	LOCKER/REST ROOMS	190	700	14"Ø	30240	0	2	0.00	160	140	20	55	72	17	
VAV 2-37	RAIL SUPERVISOR OFFICE	190	585	14"Ø	25272	0	2	0.00	160	140	20	55	72	17	
VAV 2-38	LOCKER/REST ROOMS	425	1125	18"Ø	48600	0	4	0.00	160	140	20	55	72	17	
VAV 2-39	SWING OFFICE	85	190	9"Ø	8208	0	1	0.00	180	160	20	55	72	17	
VAV 2-40	LOCKER/REST ROOMS	1900	390	14"Ø	16848	0	1	0.00	160	140	20	55	72	17	
VAV 2-41	SWING OFFICE	85	190	9"Ø	8208	0	1	0.00	180	160	20	55	72	17	
VAV 2-42	LOCKER/REST ROOMS	190	735	14"Ø	31752	0	3	0.00	160	140	20	55	72	17	
VAV 2-43	SWING OFFICE	85	190	9"Ø	8208	0	1	0.00	180	160	20	55	72	17	
VAV 2-44	CFA/WAITING/CORRIDOR	190	680	14"Ø	29376	0	2	0.00	160	140	20	55	72	17	
VAV 2-45	AOM OFFICE	105	190	10"Ø	8208	0	1	0.00	160	140	20	55	72	17	
VAV 2-46	BREAK ROOM	300	990	14"Ø	42768	0	3	0.00	160	140	20	55	72	17	
VAV 2-47	ATM OFFICE	105	230	10"Ø	9936	0	1	0.00	160	140	20	55	72	17	
VAV 2-48	SERVER ROOM	85	100	9"Ø	4320	0	0	0.00	180	160	20	55	72	17	
VAV 2-49	AOM OFFICE	105	300	10"Ø	12960	0	1	0.00	160	140	20	55	72	17	
VAV 2-50	CONFERENCE ROOM	190	640	14"Ø	27648	0	2	0.00	160	140	20	55	72	17	
VAV 2-52	RAIL SUPERVISOR OFFICE	105	250	10"Ø	10800	0	1	0.00	160	140	20	55	72	17	
VAV 2-54	OFFICE	190	400	14"Ø	17280	0	1	0.00	160	140	20	55	72	17	
VAV 2-56	SERVER ROOM	425	1200	18"Ø	51840	0	4	0.00	160	140	20	55	72	17	

FAN COIL SCHEDULE

wt	LOCATION	AREA SERVED	UNIT TYPE	SUPPLY FAN AIRFLOW (CFM)	E.S.P. (IN. W.G.)	COOLING TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	WATER FLOW	EWT (°F)	LWT (°F)	W.P.D. (FT.)	ROWS	FPI
FC 1-1		FABRICATION AREA		1600	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-2		GEAR ROOM		1000	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-3		GEAR ROOM		250	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-4		GEAR ROOM		820	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-5		TRACK SHOP		1060	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-6		POWER SHOP		1060	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-7		SIGNAL SHOP		1060	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-8		COMM SHOP		1060	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-9		EMR		150	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-10		COORIDOR		300	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-11		MACHINE SHOP		1080	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-12		MACHINE SHOP		1080	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-13		TRUCK WASH		600	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-14		ELECTRICAL ROOM		1500	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-15		LOBBY		500	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-16		VESTIBULE		275	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-17		EMR		300	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-18		COMM CLOSET		300	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-19		ELECTRICAL & COMM ROOM		150	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-20		EMERGENCY POWER		600	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-21		FIRE RISER		450	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-22		TOOL CRIB		150	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-23		GEAR ROOM		150	0.00			80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-24		SW 321		2000	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 1-25		COMPRESSOR ROOM		2000	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 2-1		ELECTRICAL ROOM		250	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 2-2		COMM ROOM		300	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0
FC 2-3		ELECTRICAL ROOM		300	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0

wt	HEATING CAPACITY (MBH)	EAT (°F)	LAT (°F)	ROWS	FPI	WATER FLOW (GPM)	EWT (°F)	LWT (°F)	W.P.D. (FT.)	MOTOR HP	RPM	REMARKS	SCHEDULE PARAMETER
FC 1-1	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-2	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-3	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-4	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-5	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-6	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-7	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-8	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-9	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-10	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-11	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-12	0.0	-460	-460	0		0	-460	-460	0.00	1			FCU
FC 1-13	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-14	0.0	-460	-460	0		0	-460	-460	0.00				
FC 1-15	0.0	-460	-460	0		0	-460	-460	0.00	0			
FC 1-16	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-17	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-18	0.0	-460	-460	0		0	-460	-460	0.00				
FC 1-19	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-20	0.0	-460	-460	0		0	-460	-460	0.00				
FC 1-21	0.0	-460	-460	0		0	-460	-460	0.00				
FC 1-22	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-23	0.0	-460	-460	0		0	-460	-460	0.00	0			FCU
FC 1-24	0.0	-460	-460	0		0	-460	-460	0.00				
FC 1-25	0.0	-460	-460	0		0	-460	-460	0.00				
FC 2-1	0.0	-460	-460	0		0	-460	-460	0.00				
FC 2-2	0.0	55	72	1		0	-460	160	0.00				
FC 2-3	0.0	55	72	1		0	-460	160	0.00				

DIFFUSER SCHEDULE

UNIT ID	TYPE EQUIPMENT	INLET DUCT SIZE	BRANCH RUNOUT SIZE	MODULE SIZE	MIN FLOW	MAX FLOW	THROW RANGE	NC RANGE
E1	CG	10x10	12Ø / 10x10	12x12	0	430	-	20
E2	CG	10x10	12Ø / 10x10	12x12	0	450		20
E3	CG	22x4	22x4 / 12Ø	24x6	0	375	-	18
E4	CG	22x10	16Ø / 22x10	24x12	705	1000	-	19
E16	G / SWG	24x12	16Ø / 24x8	26x14	0	1100		21
E17	G / SWG	24x18	18Ø / 24x12	26x20	0	1650		23
R4	CG	22x10	16Ø / 22x10	24x12	705	1000		19
R6	CG	22x22	22Ø / 22x22	24x24	1505	2300		25
S6	VD	6"Ø	8x6 / 6"Ø	24x24	0	120	4	16
S7	VD	8"Ø	10x6 / 8"Ø	24x24	125	210	5	19
S8	VD	10"Ø	12x8 / 10"Ø	24x24	215	330	7	22
S32	R / SWR	12x8	10Ø / 12x8	14x10	255	345	19	20

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

MECHANICAL SCHEDULES 2

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-SCH

M-005

AIR HANDLING UNIT SCHEDULE (PART 1)

					CFM			SUPPLY FAN											RETURN FAN											AIR BLENDER			
																MOTOR											MOTOR						
UNIT ID	LOCATION	AREA SERVED	AHU TYPE	CONFIGURATION	UNIT SUPPLY CFM	UNIT OSA CFM	OSA%	SUPPLY FAN TYPE	FAN QUANTITY	MAX CFM	EXTERNAL S.P. (IN W.C.)	TOTAL S.P. (IN W.C.)	WHEEL DIAMETER (IN)	FAN RPM	FAN CLASS	HP EACH	RPM	VFD	RETURN FAN TYPE	FAN QUANTITY	MAX CFM	EXTERNAL S.P. (IN W.C.)	TOTAL S.P. (IN W.C.)	WHEEL DIAMETER (IN)	FAN RPM	FAN CLASS	HP EACH	RPM	VFD	QUANTITY	SIZE (IN)	FACE VELOCITY (FPM)	PRESSURE DROP (IN W.C.)
AHU 1																																	
AHU 2																																	

AIR HANDLING UNIT SCHEDULE (PART 2)

		HEATING COIL																												COOLING COIL																	AIR FILTERS									
								NORMAL MODE OF OPERATION										SMOKE MODE OF OPERATION																		ENTERING AIR		LEAVING AIR		WATER TEMP								PRE FILTER			FINAL FILTER					
UNIT ID	AREA SERVED	COIL TYPE	NUMBER OF COILS	ROWS	FPI	MINIMUM CONNECTION SIZE (IN)	TOTAL FACE AREA (S.F.)	CFM	CAPACITY(MBH)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	MAXIMUM FACE VELOCITY (FPM)	APD (IN W.C.)	TOTAL GPM	WPD (FT)	OPERATING MODE	CFM	CAPACITY (MBH)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	MAX FACE VELOCITY (FPM)	APD (IN W.C.)	GPM	WPD (FT)	HUMIDIFIER	COIL TYPE	ROWS	FPI	NUMBER OF COILS	MINIMUM COIL CONNECTION SIZE (IN)	TOTAL FACE AREA (S.F.)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	EWT (°F)	LWT (°F)	SENSIBLE COOLING CAPACITY (MBH)	TOTAL COOLING CAPACITY(MBH)	APD (IN W.C.)	APD (IN W.C.)	TOTAL GPM	FACE VELOCITY	MERV RATING	CLEAN PD (IN W.C.)	DIRTY PD (IN W.C.)	MERV RATING	CLEAN PD (IN W.C.)	DIRTY PD (IN W.C.)	ENERGY RECOVERY WHEEL	REMARKS	new
AHU 1																																																								
AHU 2																																																								

COMPUTER ROOM AIR CONDITIONING UNIT

		FAN				COOLING COIL											HUMIDIFIER		ELECTRICAL									
									ENTERING AIR		LEAVING AIR		WATER TEMP.						INDOOR UNIT				DRY COOLER					
UNIT ID	LOCATION	CFM	QTY	MOTOR HP	E.S.P. (IN. W.C.)	TYPE	SENSIBLE (MBH)	TOTAL (MBH)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	EWT (°F)	LWT (°F)	WATER PRESSURE DROP (FT.)	GPM	LBS/HR	KW	VOLTS	PHASE	HZ	FLA	VOLTS	PHASE	HZ	FLA	DESIGN OAT	REMARKS
CRAC 1	EQUIPMENT CONTROL ROOM #1		1	2		CHILLED WATER			75.0	62.5	53.0	51.0	43.0	61.0	0.0	0	0											

HUMIDIFIER SCHEDULE

					MANIFOLD				
MARK	SYSTEM SERVED	LOCATION	NO. OF VALVES	TOTAL CAPACITY LBS./HR.	QUANTITY	LENGTH (IN.)	INLET PRESSURE (PSIG)	CONTROL VALVE PRESSURE DROP (PSIG)	REMARKS

CONVERTOR SCHEDULE

				SHELL											
UNIT ID	LOCATION	SERVING	GPM	LENGTH (IN)	DIA. (IN)	FLUID TYPE	INLET WATER TEMP (°F)	LEAVING WATER TEMP (°F)	SHELL INLET PRESS. (PSIG)	RELIEF VALVE SETTING (PSIG)	SQ. FT. HEATING SURFACE	CONTROL VALVE PRESSURE DROP (PSI)	STEAM LBS/HR RATE_DESIGN	TYPE	REMARKS

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NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

MECHANICAL SCHEDULES 3

DISCIPLINE: **MECHANICAL**

SHEET NAME: **OMF-MECH-SCH**

M-006

SHEET
9
OF
263

UNIT HEATER SCHEDULE

UNIT ID	LOCATION	TYPE	CAPACITY (BTUH)	EWT (°F)	LWT (°F)	GPM	GLYCOL TYPE	COIL PRESS. DROP (FT)	MAXIMUM CFM	MOTOR HP	VOLTAGE	PHASE	MAXIMUM THROW AT 50 FPM (FT)	REMARKS
UH 1	SALLY PORT	VERTICAL	30000.0	140	110 °F	2		5.00	10	0 W			0	BASED ON TRANE P-122
UH 2	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5	ETHELYN	5.00	1790	0 W			0	BASED ON TRANE P-122
UH 3	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5	ETHELYN	5.00	1790	0 W			0	BASED ON TRANE P-122
UH 4	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 5	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 6	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 7	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 8	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 9	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 10	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 11	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 12	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 13	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 14	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 15	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 16	LRV STORAGE ROOM	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 17	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 18	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 19	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 20	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 21	LRV STORAGE ROOM	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 22	SALT TRUCK AREA	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 23	COMPACTOR AREA	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 24	FM SHOP	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 25	SYSTEMS MAINTENANCE PARKING	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 26	SYSTEMS MAINTENANCE PARKING	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 27	SYSTEMS MAINTENANCE PARKING	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 28	FABRICATION AREA	VERTICAL	49040.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 29	COMPONENT WORK AREA	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 30	CCO LIFTS	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 31	S&I PITS	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 32	S&I PITS	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 33	COMPONENT WORK AREA	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 34	CCO LIFTS	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 35	MEZZANINIE AREA	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 36	TRUCK STORAGE	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 37	CCO LIFTS	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 38	MEZZANINIE AREA	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 39	UNSCHEDULED MAINTENANCE	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 40	CCO LIFTS	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 41	MEZZANINIE AREA	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 42	UNSCHEDULED MAINTENANCE	VERTICAL	49040.0	140	110 °F	3	ETHELYN	5.00	1790	0 W			0	BASED ON TRANE P-122
UH 43	CCO LIFTS	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 44	MEZZANINIE AREA	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 45	UNSCHEDULED MAINTENANCE	VERTICAL	60000.0	140	110 °F	5	ETHELYN	5.00	1790	0 W			0	BASED ON TRANE P-122
UH 46	CCO LIFTS	VERTICAL	60000.0	140	110 °F	5	ETHELYN	5.00	1790	0 W			0	BASED ON TRANE P-122
UH 47	S&I PITS	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 48	S&I PITS	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 49	WASH SUPPORT	VERTICAL	49040.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 50	WASH SUPPORT	VERTICAL	49040.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 51	TRUCK WASH	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 52	TRUCK WASH	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 53	WASH TRACK	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 54	WASH TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 55	WASH TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 56	WASH TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 57	WASH TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 58	SANDING TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 59	SANDING TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 60	SANDING TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 61	SANDING TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 62	SANDING TRACK	VERTICAL	49040.0	140	110 °F	3		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 63	SANDING TRACK	VERTICAL	60000.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122
UH 64	SYSTEMS MAINTENANCE PARKING	VERTICAL	49040.0	140	110 °F	5		5.00	1790	0 W			0	BASED ON TRANE P-122

BOILER SCHEDULE

UNIT ID	TYPE	LOCATION	WATER INLET TEMP	WATER OUTLET TEMP	FLUID TYPE	MINIMUM THERMAL EFFICIENCY	FLUE DIA (IN)	FUEL TYPE	INPUT MBH	OUTPUT MBH	REMARKS
B 1	CONDENSING	3RD FLOOR MECHANICAL ROOM	130 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 2	CONDENSING	3RD FLOOR MECHANICAL ROOM	130 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 3	CONDENSING	3RD FLOOR MECHANICAL ROOM	130 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 4	CONDENSING	3RD FLOOR MECHANICAL ROOM	130 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 5	CONDENSING	3RD FLOOR MECHANICAL ROOM	130 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

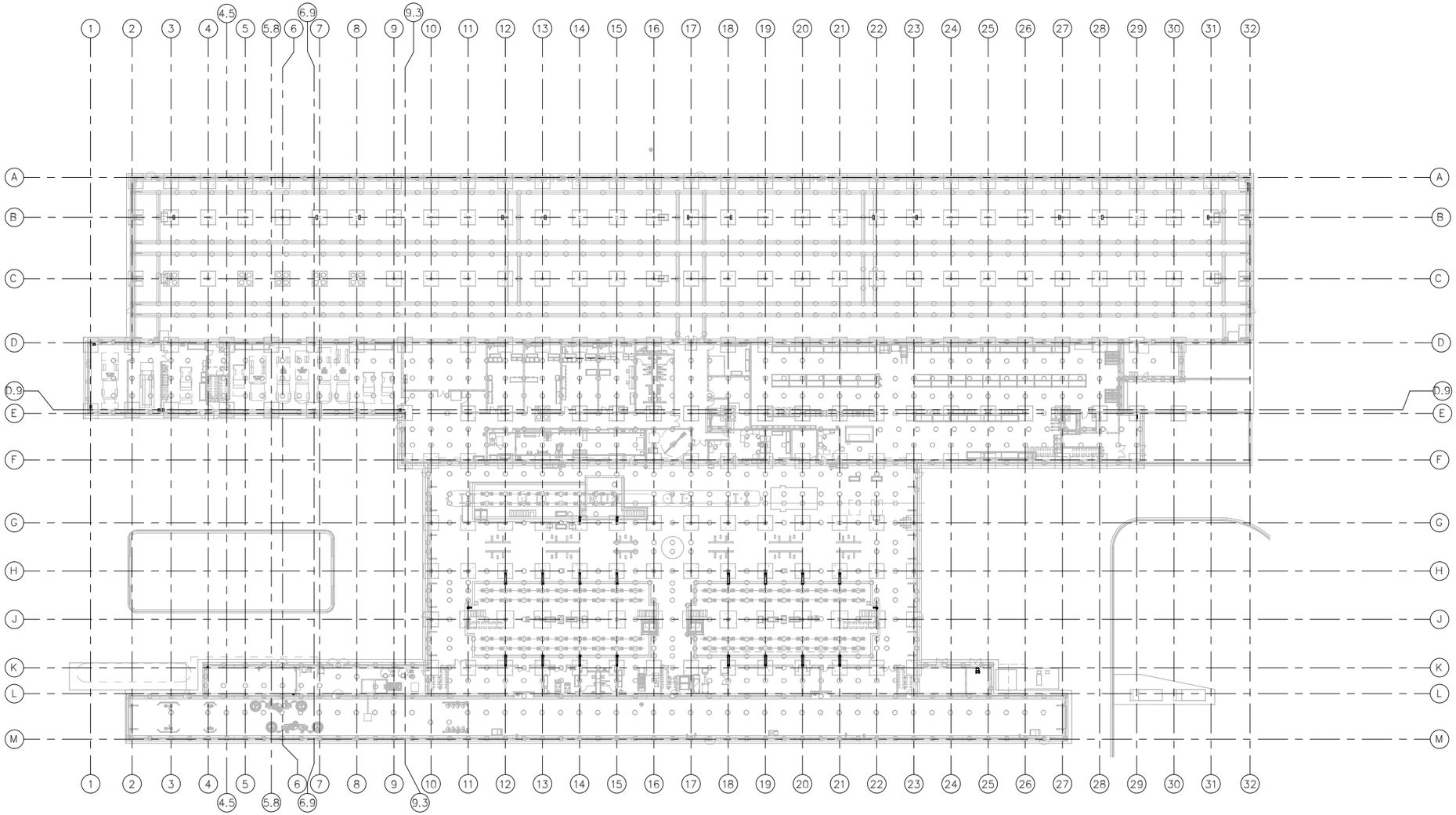
OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

MECHANICAL SCHEDULES 4

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-SCH

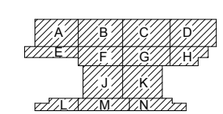
M-007



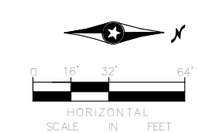
1 M-100 OVERALL UNDERGROUND HVAC PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

UNDERGROUND OVERALL HVAC PLAN

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-100

SHEET 11 OF 263

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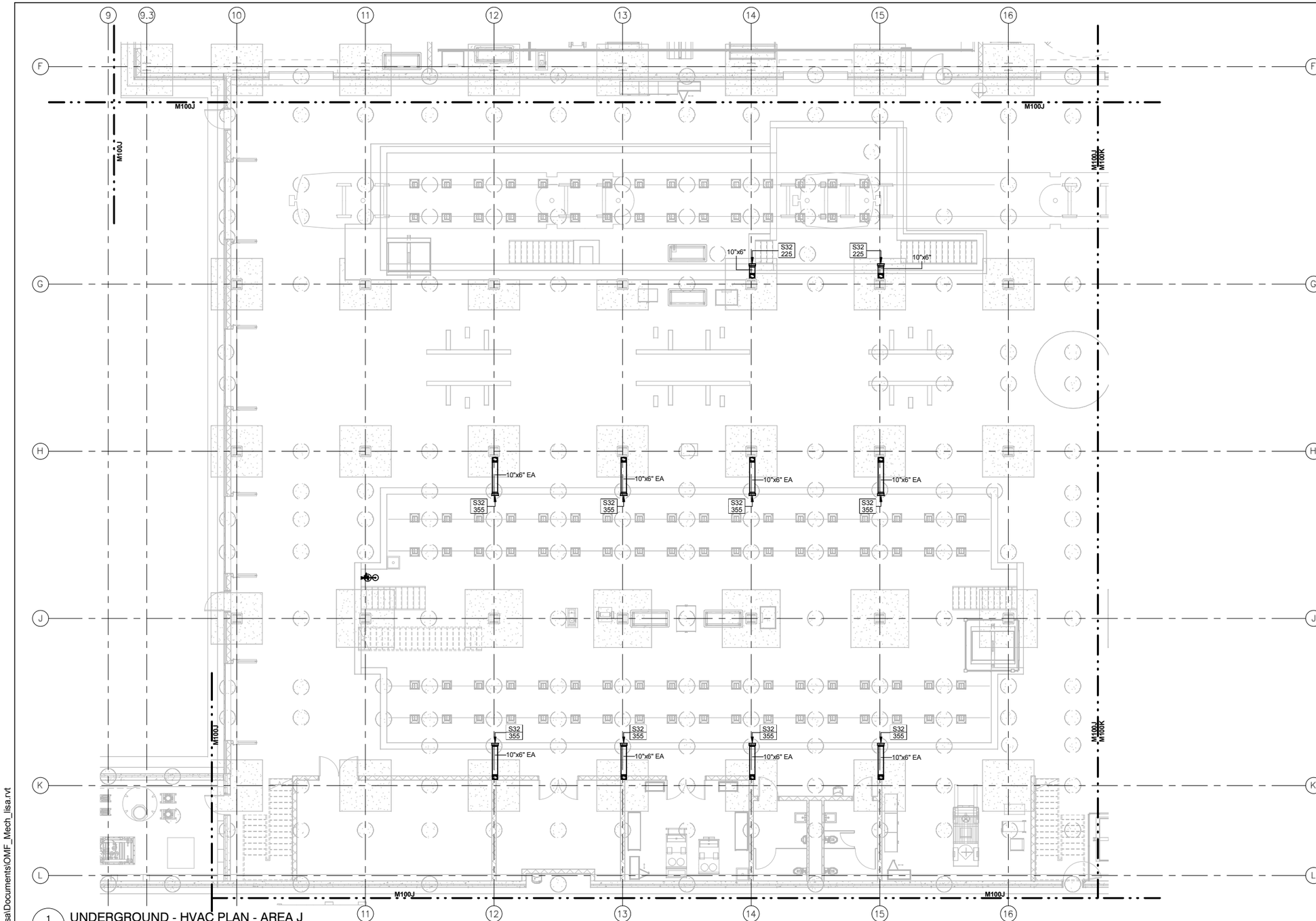
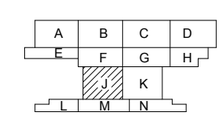


1 M-100J UNDERGROUND - HVAC PLAN - AREA J

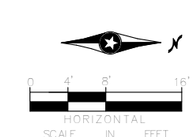
SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL HVAC PLAN
AREA J

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-100J

SHEET 12 OF 263

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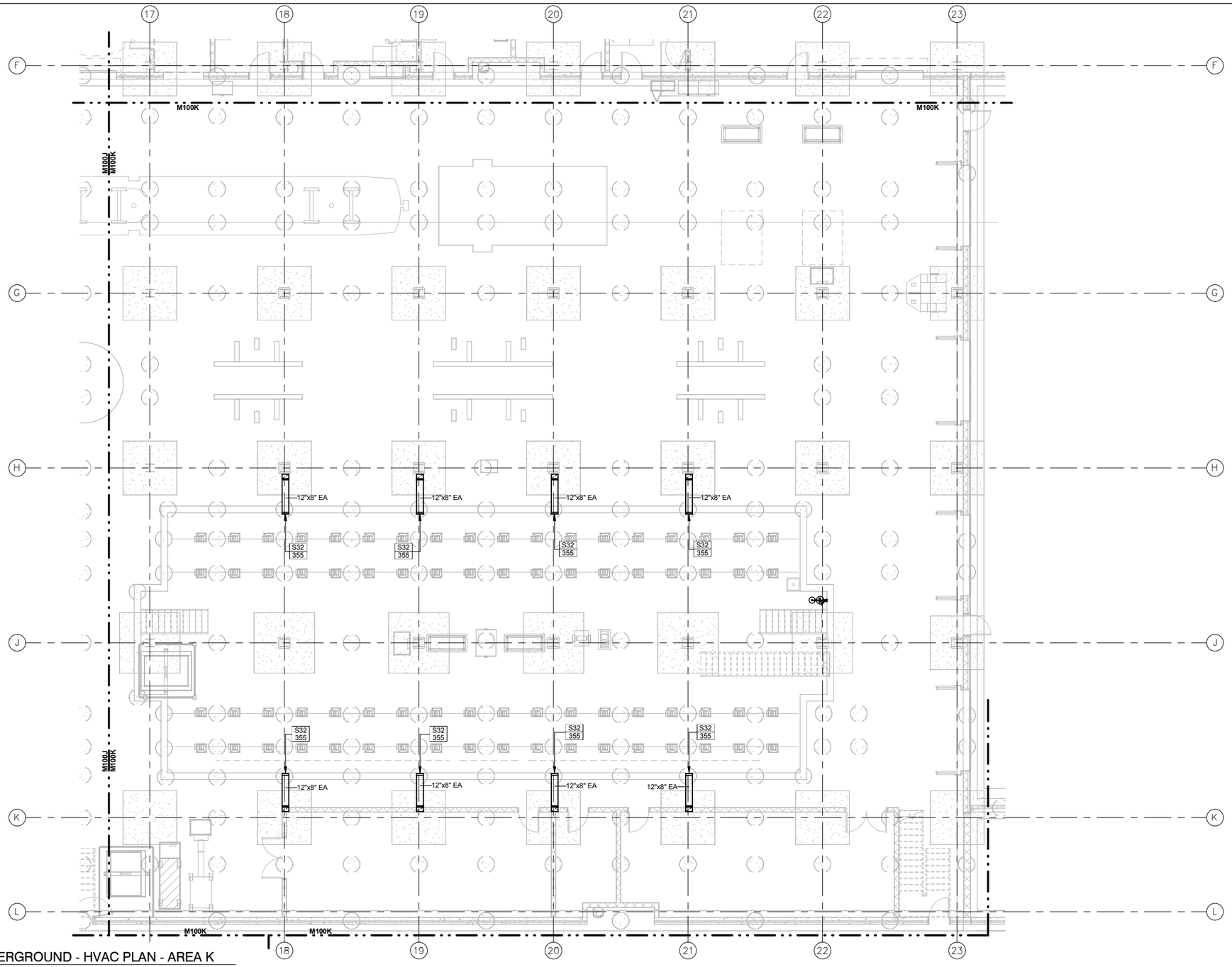
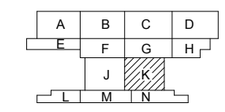


1 M-100K UNDERGROUND - HVAC PLAN - AREA K

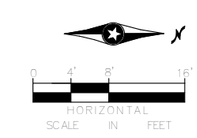
SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL HVAC PLAN
AREA K

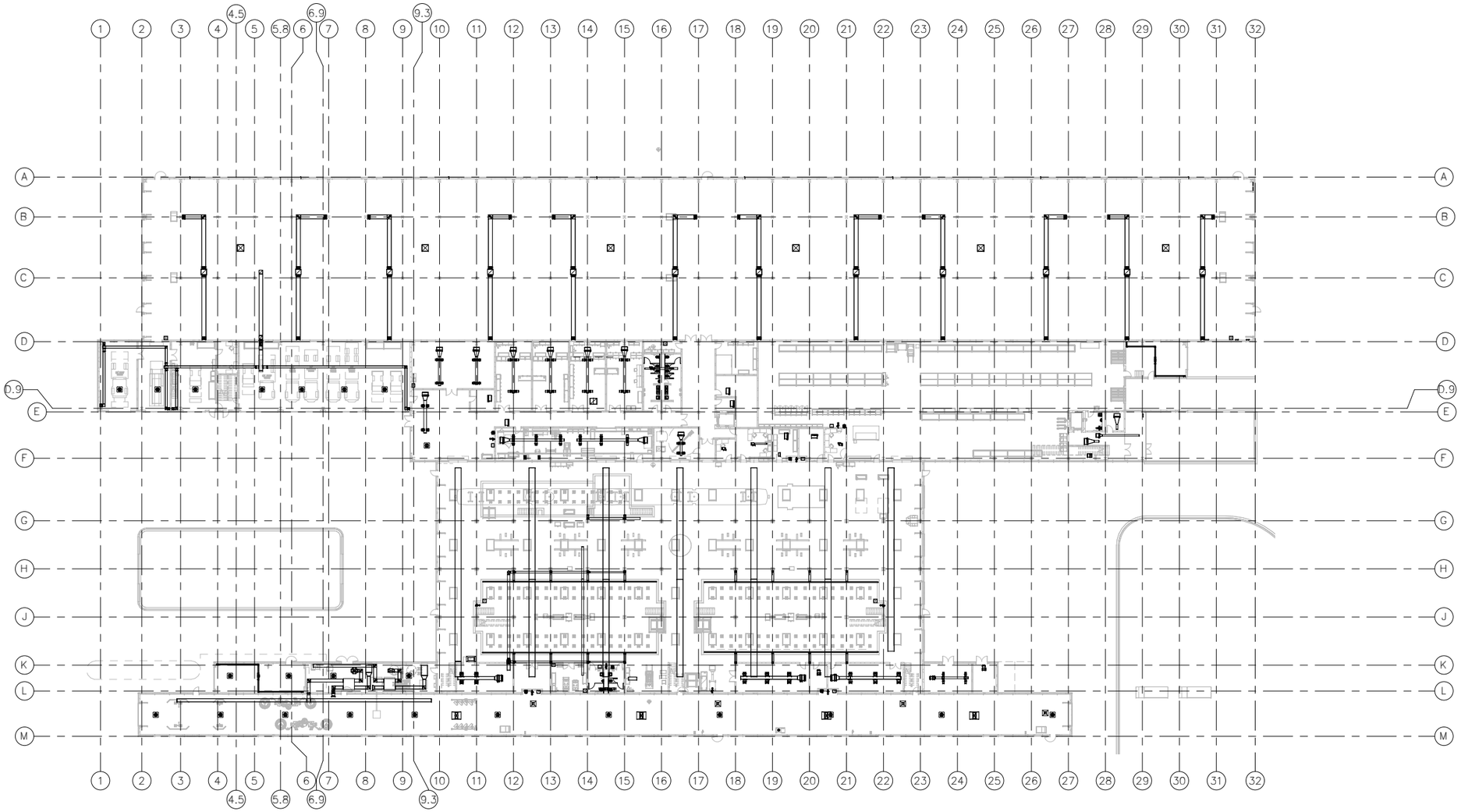
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-100K

SHEET 13 OF 263

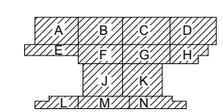
9/21/2015 11:29:16 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



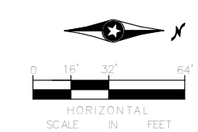
1 M-110 OVERALL LEVEL ONE HVAC PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE OVERALL HVAC FLOOR PLAN

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110

SHEET 14 OF 263

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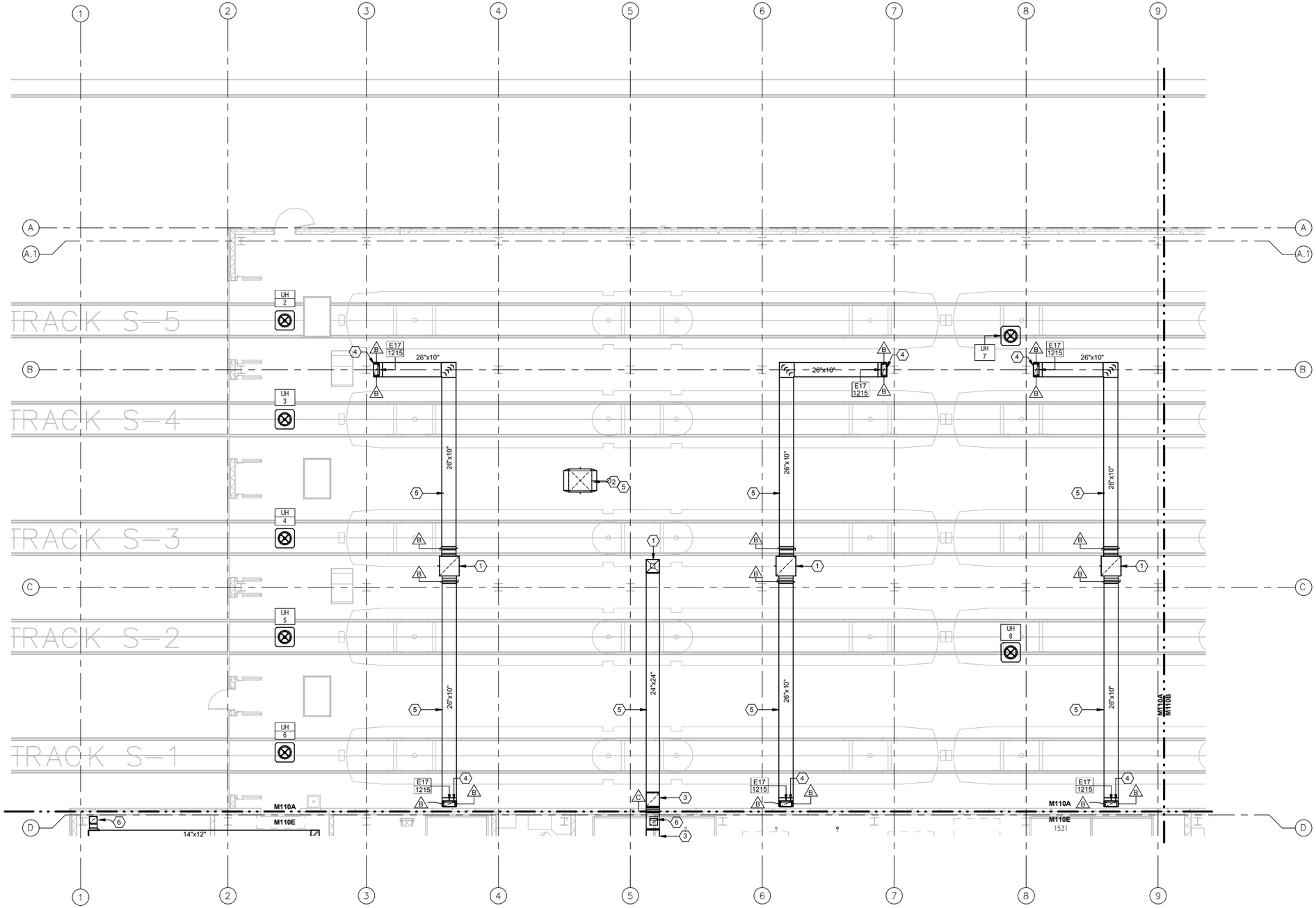
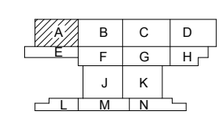


KEYED NOTES

1. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
2. 42"X42" OUTSIDE DUCT UP TO GRV. REFER TO SHEET OMF-MECH-PLN-M130.
3. OFFSET EXHAUST DUCTWORK AROUND HYDRONIC PIPING.
4. TERMINATE 20"X10" EXHAUST DUCT 24" BELOW ROOF DECK, INSTALL BALANCING DAMPER, CAP WITH 1/2" ALUMINUM BIRD SCREEN, AND BALANCE TO 1215 CFM. REFER TO ?/OMF-MECH-SECT-???
5. EXHAUST DUCTWORK/SUPPORT DEVICES/DUCT ACCESSORIES IN SALLY PORT & LRV STORAGE AREA SHALL BE CONSTRUCTED OF ALUMINUM.
6. EXHAUST DROP DOWN. TERMINATE 18" AFF



KEY PLAN - SCALE: N.T.S.

1 / M-110A LEVEL ONE - HVAC PLAN - AREA A

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

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SOUTHWEST

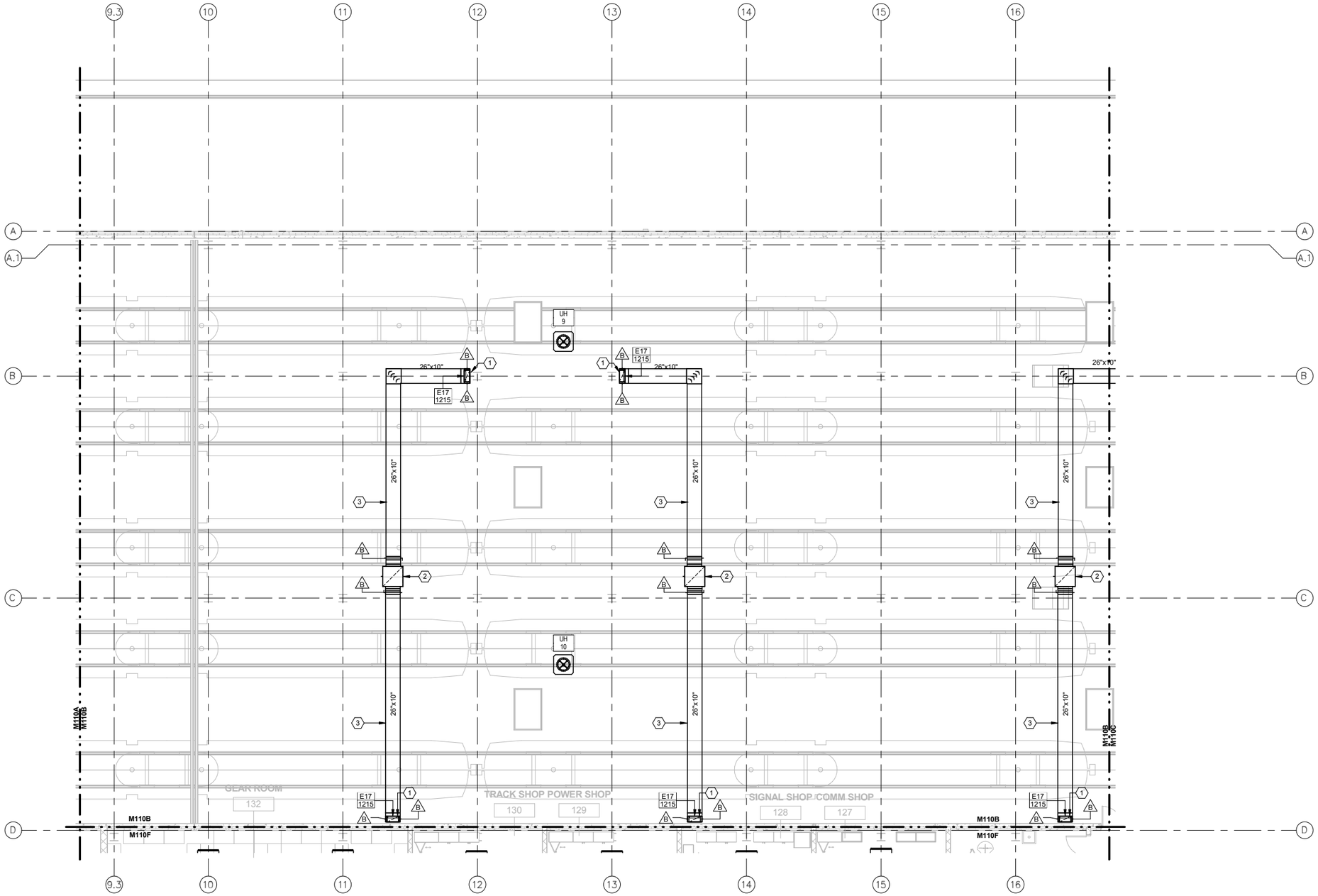
OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA A

DISCIPLINE: MECHANICAL

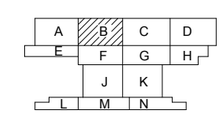
SHEET NAME: OMF-MECH-PLN

M-110A

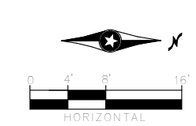


KEYED NOTES

1. TERMINATE 20"X10" EXHAUST DUCT 24" BELOW ROOF DECK, INSTALL BALANCING DAMPER, CAP WITH 1/2" ALUMINUM BIRD SCREEN, AND BALANCE TO 1215 CFM. REFER TO ?/OMF-MECH-SECT-???
2. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
3. EXHAUST DUCTWORK/SUPPORT DEVICES/DUCT ACCESSORIES IN SALLY PORT & LRV STORAGE AREA SHALL BE CONSTRUCTED OF ALUMINUM.



KEY PLAN - SCALE: N.T.S.



1 / M-110B LEVEL ONE - HVAC PLAN - AREA B

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA B

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110B

SHEET 16 OF 263

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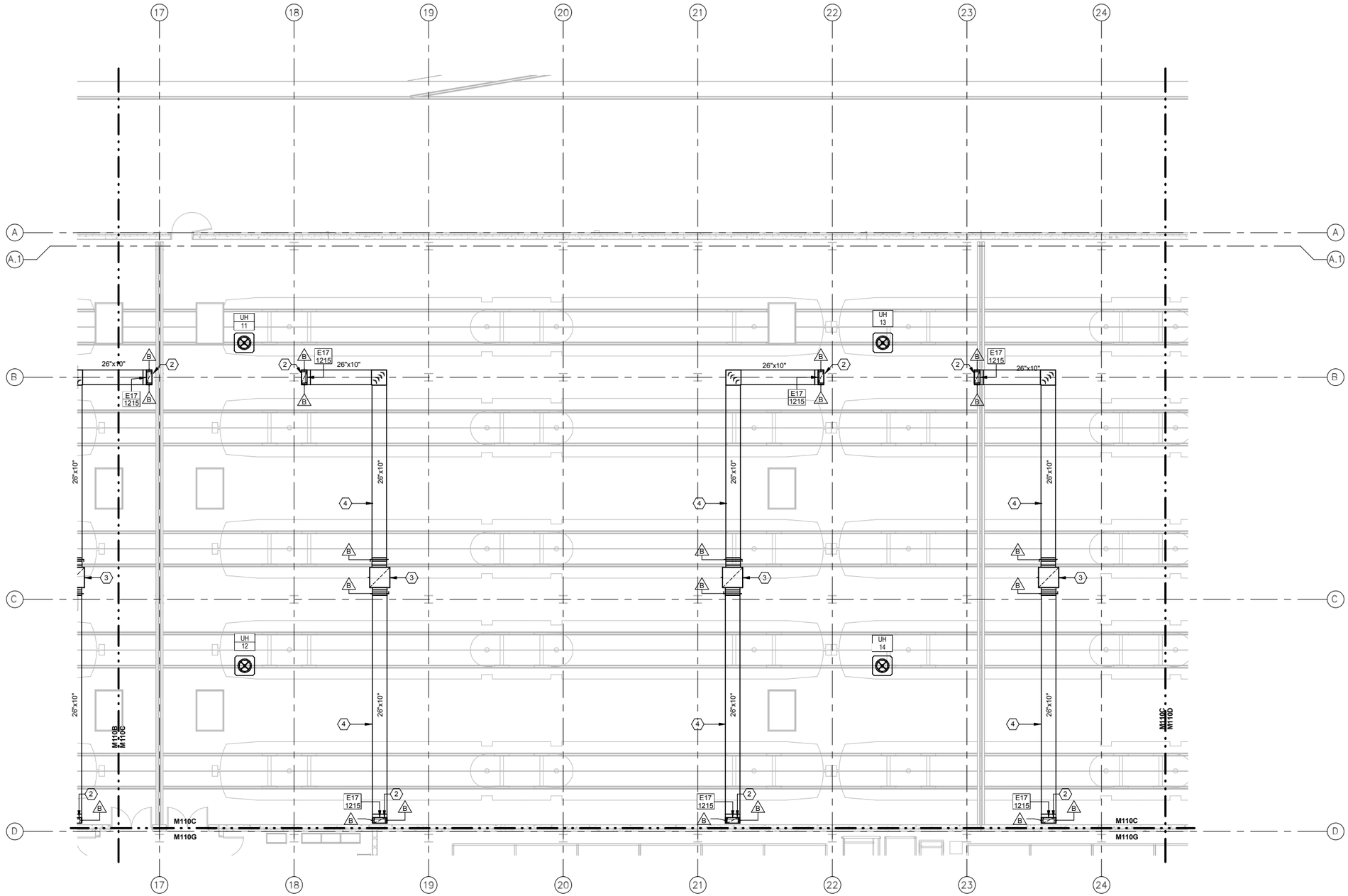
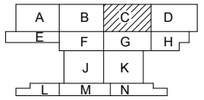
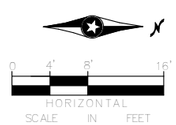


KEYED NOTES

1. RUN DUCTWORK AS HIGH AS POSSIBLE.
2. TERMINATE 20"X10" EXHAUST DUCT 24" BELOW ROOF DECK, INSTALL BALANCING DAMPER, CAP WITH 1/2" ALUMINUM BIRD SCREEN, AND BALANCE TO 1215 CFM. REFER TO ?/OMF-MECH-SECT-???
3. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
4. EXHAUST DUCTWORK/SUPPORT DEVICES/DUCT ACCESSORIES IN SALLY PORT & LRV STORAGE AREA SHALL BE CONSTRUCTED OF ALUMINUM.



KEY PLAN - SCALE: N.T.S.



1 / M-110C LEVEL ONE - HVAC PLAN - AREA C

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

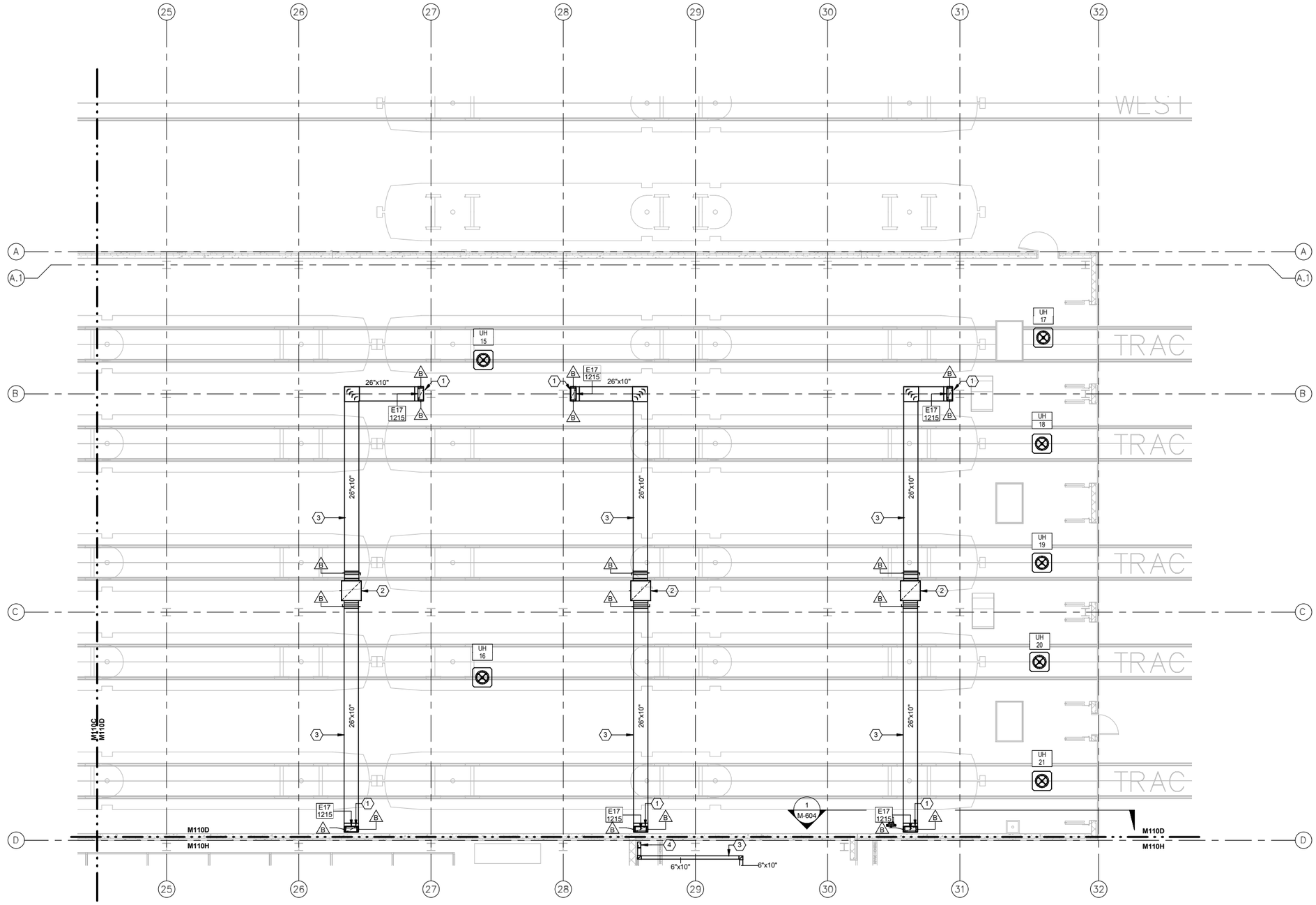
OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA C

DISCIPLINE: MECHANICAL

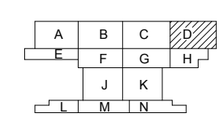
SHEET NAME: OMF-MECH-PLN

M-110C

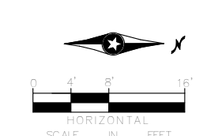


KEYED NOTES

1. TERMINATE 20"X10" EXHAUST DUCT 24" BELOW ROOF DECK, INSTALL BALANCING DAMPER, CAP WITH 1/2" ALUMINUM BIRD SCREEN, AND BALANCE TO 1215 CFM. REFER TO ?/OMF-MECH-SECT-???
2. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
3. EXHAUST DUCTWORK/SUPPORT DEVICES/DUCT ACCESSORIES IN SALLY PORT & LRV STORAGE AREA SHALL BE CONSTRUCTED OF ALUMINUM.
4. EXTEND 10"X16" EXHAUST DOWN. TERMINATE 18" ABOVE FINISHED FLOOR WITH MITERED END AND 1/2" ALUMINUM BIRD SCREEN.



KEY PLAN - SCALE: N.T.S.



1 / M-110D LEVEL ONE - HVAC PLAN - AREA D

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA D

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110D

SHEET 18 OF 263

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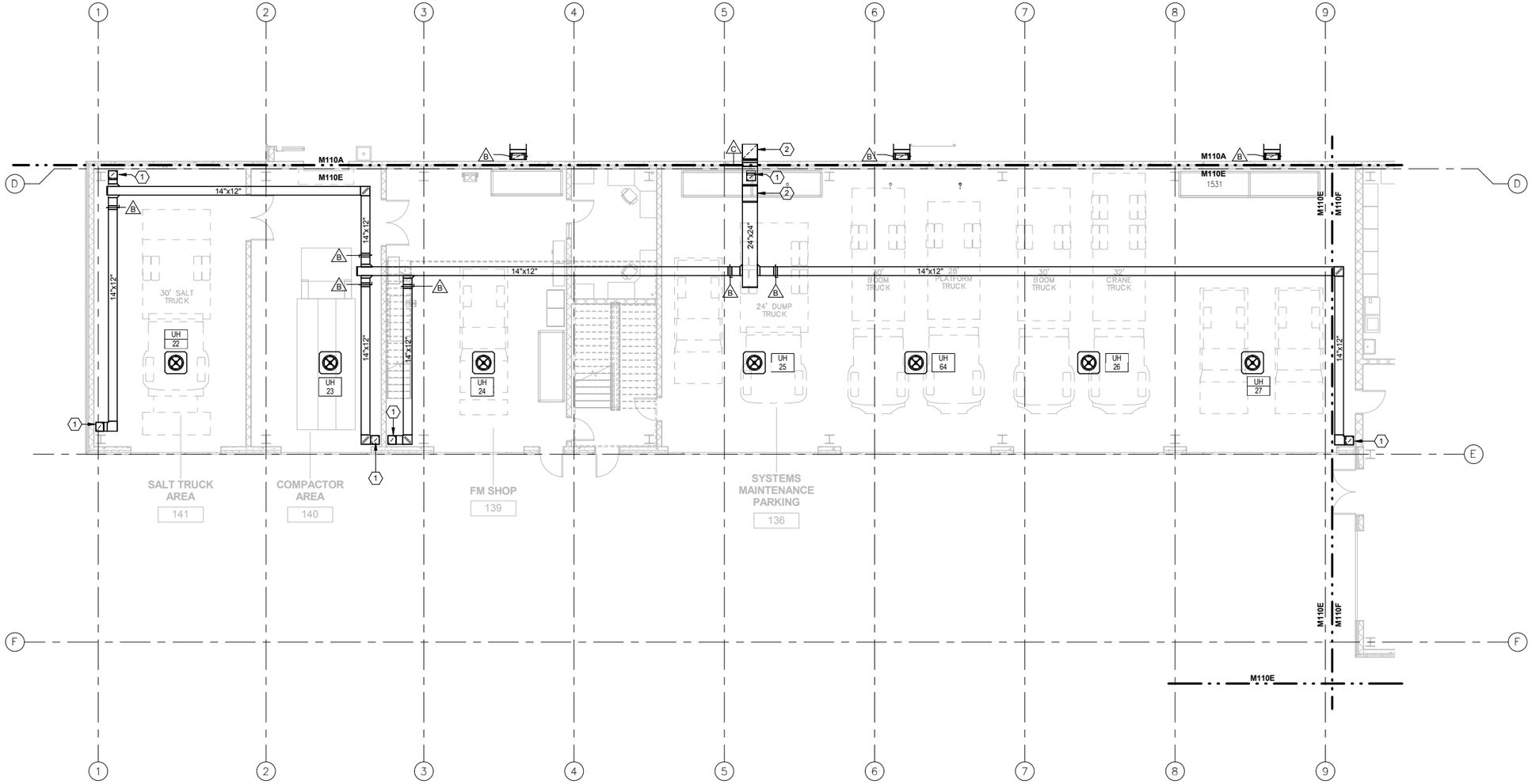


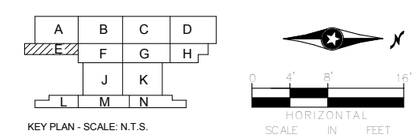
KEYED NOTES

1. EXHAUST DROP DOWN. TERMINATE 18" AFF
2. OFFSET EXHAUST DUCTWORK AROUND HYDRONIC PIPING.

1 / M-110E LEVEL ONE - HVAC PLAN - AREA E

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA E

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110E

SHEET 19 OF 263

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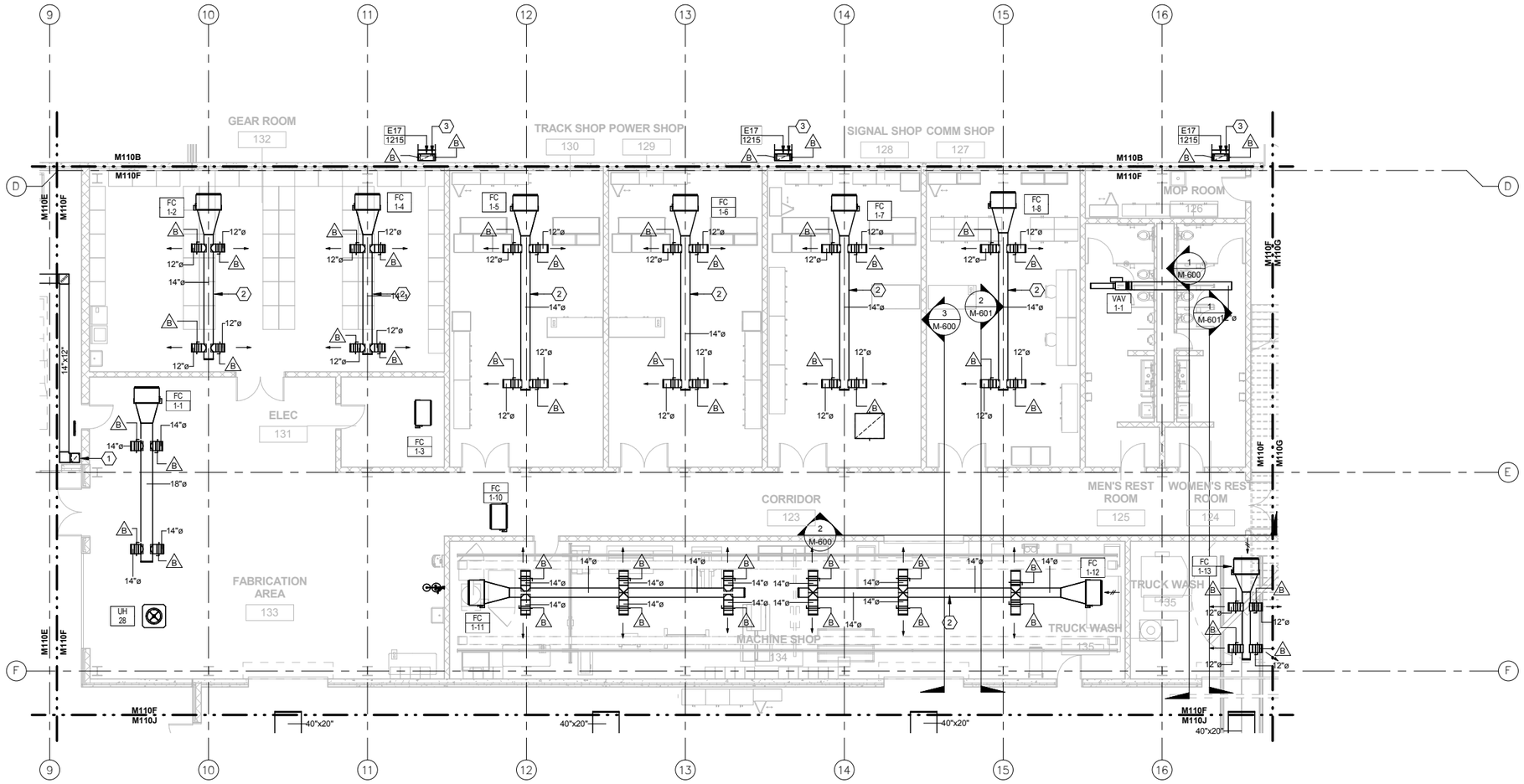


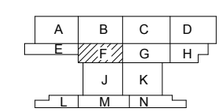
KEYED NOTES

1. EXHAUST DROP DOWN. TERMINATE 18" AFF
2. RUN DUCTWORK AS HIGH AS POSSIBLE.
3. TERMINATE 20"X10" EXHAUST DUCT 24" BELOW ROOF DECK, INSTALL BALANCING DAMPER, CAP WITH 1/2" ALUMINUM BIRD SCREEN, AND BALANCE TO 1215 CFM. REFER TO ?/OMF-MECH-SECT-???

1 / M-110F LEVEL ONE - HVAC PLAN - AREA F

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



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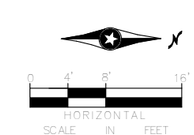

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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA F

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110F

SHEET 20 OF 263

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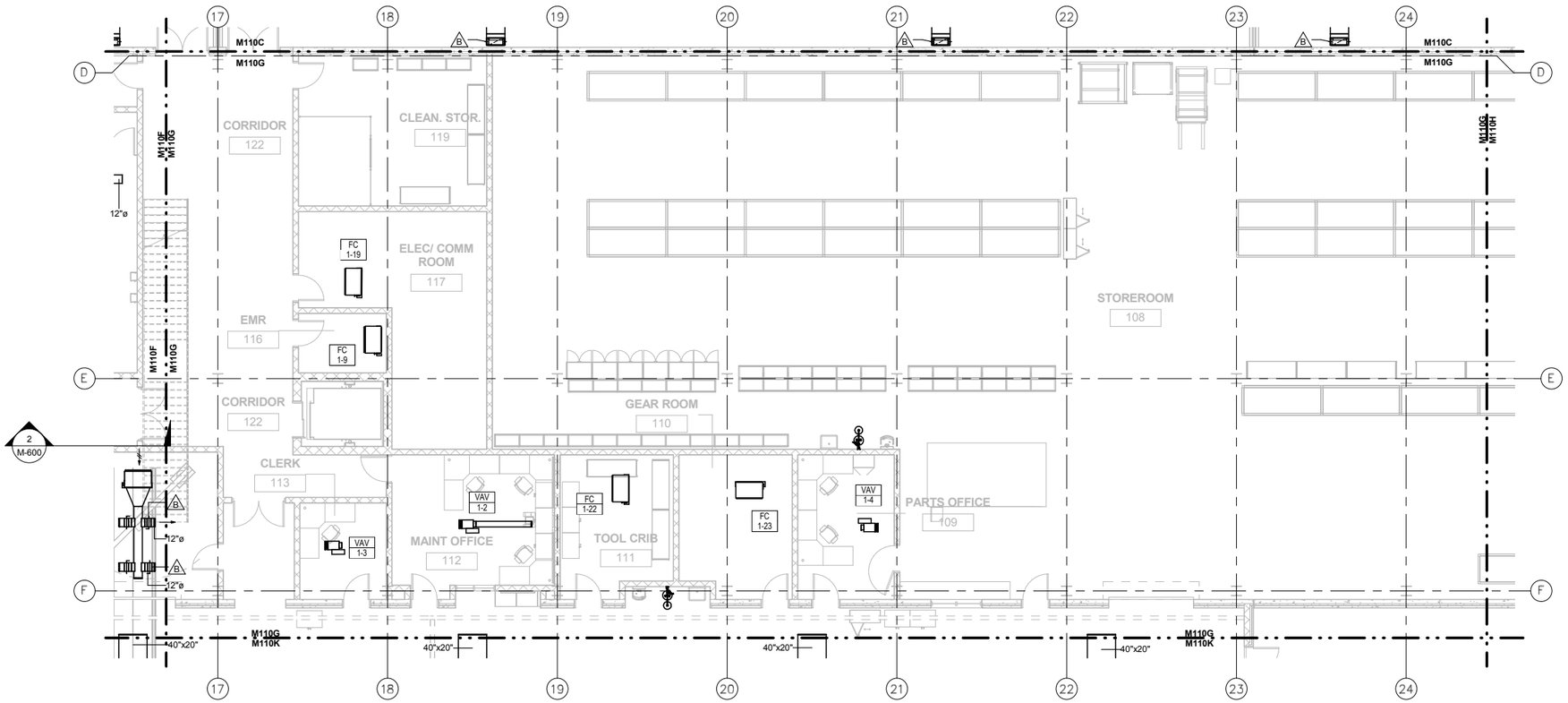
KEYED NOTES

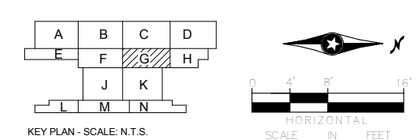
1 RUN DUCTWORK AS HIGH AS POSSIBLE.



1 M-110G LEVEL ONE - HVAC PLAN - AREA G

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA G

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110G

SHEET 21 OF 263

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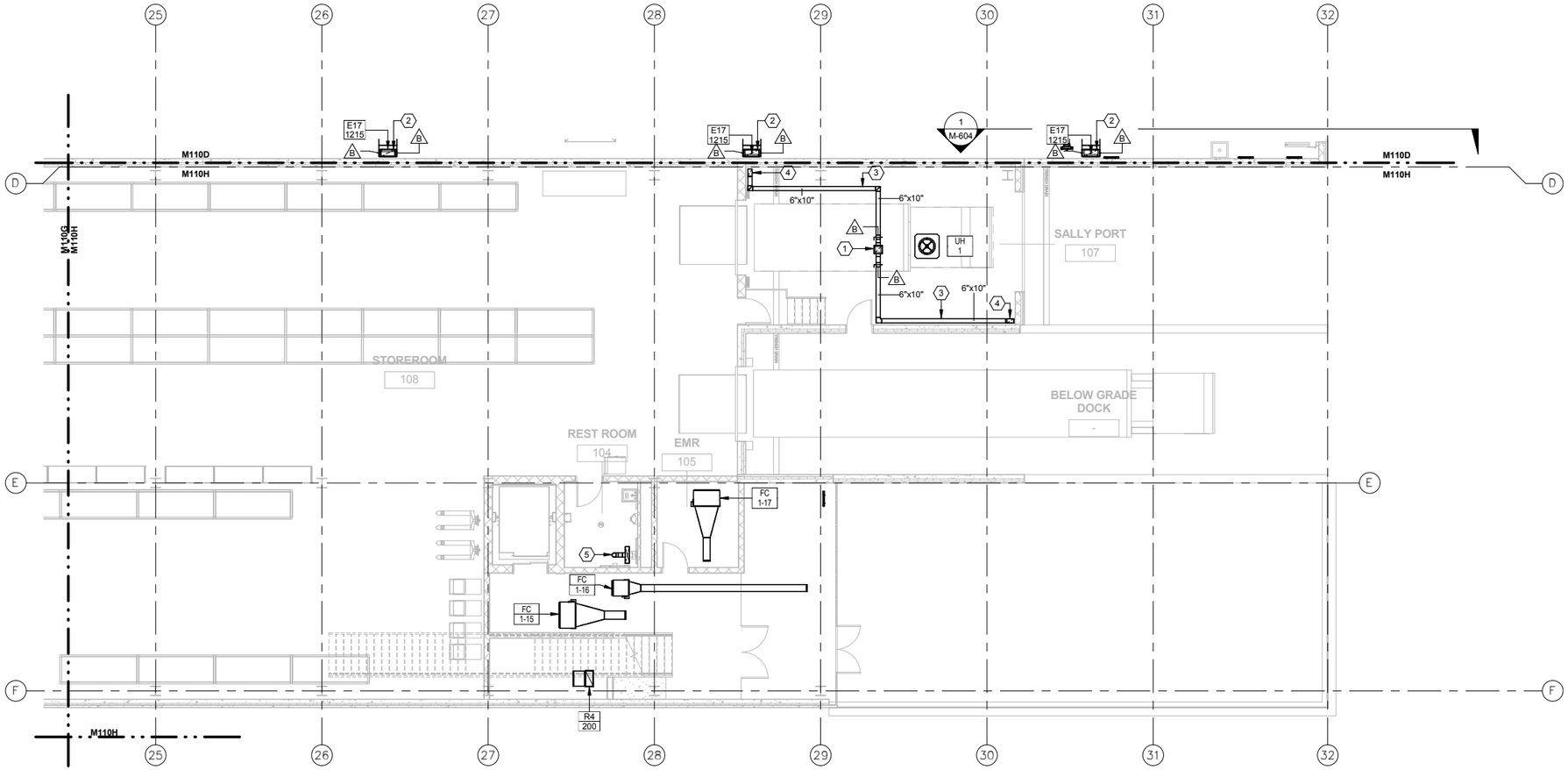


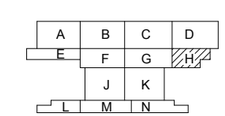
KEYED NOTES

1. 12"X12" EXHAUST UP TO EF-?. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130.
2. TERMINATE 20"X10" EXHAUST DUCT 24" BELOW ROOF DECK, INSTALL BALANCING DAMPER, CAP WITH 1/2" ALUMINUM BIRD SCREEN, AND BALANCE TO 1215 CFM. REFER TO ?/OMF-MECH-SECT-???
3. EXHAUST DUCTWORK/SUPPORT DEVICES/DUCT ACCESSORIES IN SALLY PORT & LRV STORAGE AREA SHALL BE CONSTRUCTED OF ALUMINUM.
4. EXTEND 10"X16" EXHAUST DOWN. TERMINATE 18" ABOVE FINISHED FLOOR WITH MITERED END AND 1/2" ALUMINUM BIRD SCREEN.
5. 8" EXHAUST UP TO EF-??. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130.

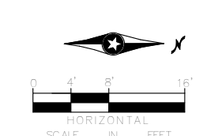
1 / M-110H LEVEL ONE - HVAC PLAN - AREA H

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA H

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110H

SHEET 22 OF 263

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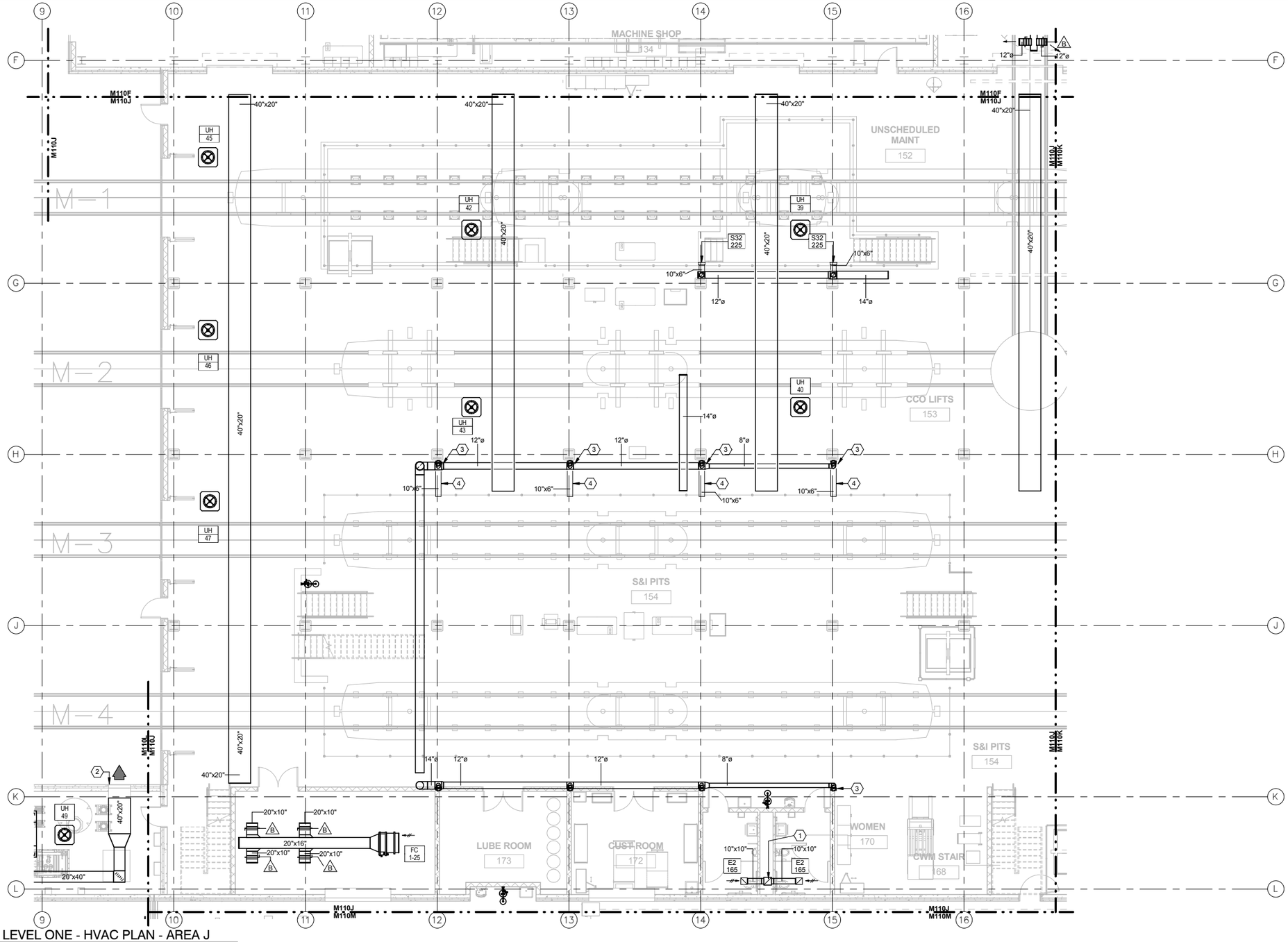


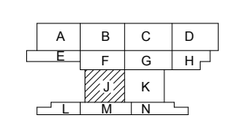
1 M-110J LEVEL ONE - HVAC PLAN - AREA J

SCALE: 1/8" = 1'-0"

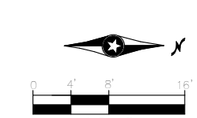
REF SHEET: M-603 / REF DETAIL: 1

KEYED NOTES

1. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
2. LOUVER BY OTHERS
3. ROOLING OFFSET 8"Ã¯ DOWN, TRANSITION TO 10"X6", PROVIDE ACCESS PANEL 18" AFF. ROUTE UNDER STRUCTURAL SLAB TO MAINTENANCE PIT.
4. DUCTWORK UNDER SLAB SHALL BE FIBERGLASS. REFER TO SPECIFICATION ????



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA J

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECCH-PLN

M-110J

SHEET 23 OF 263

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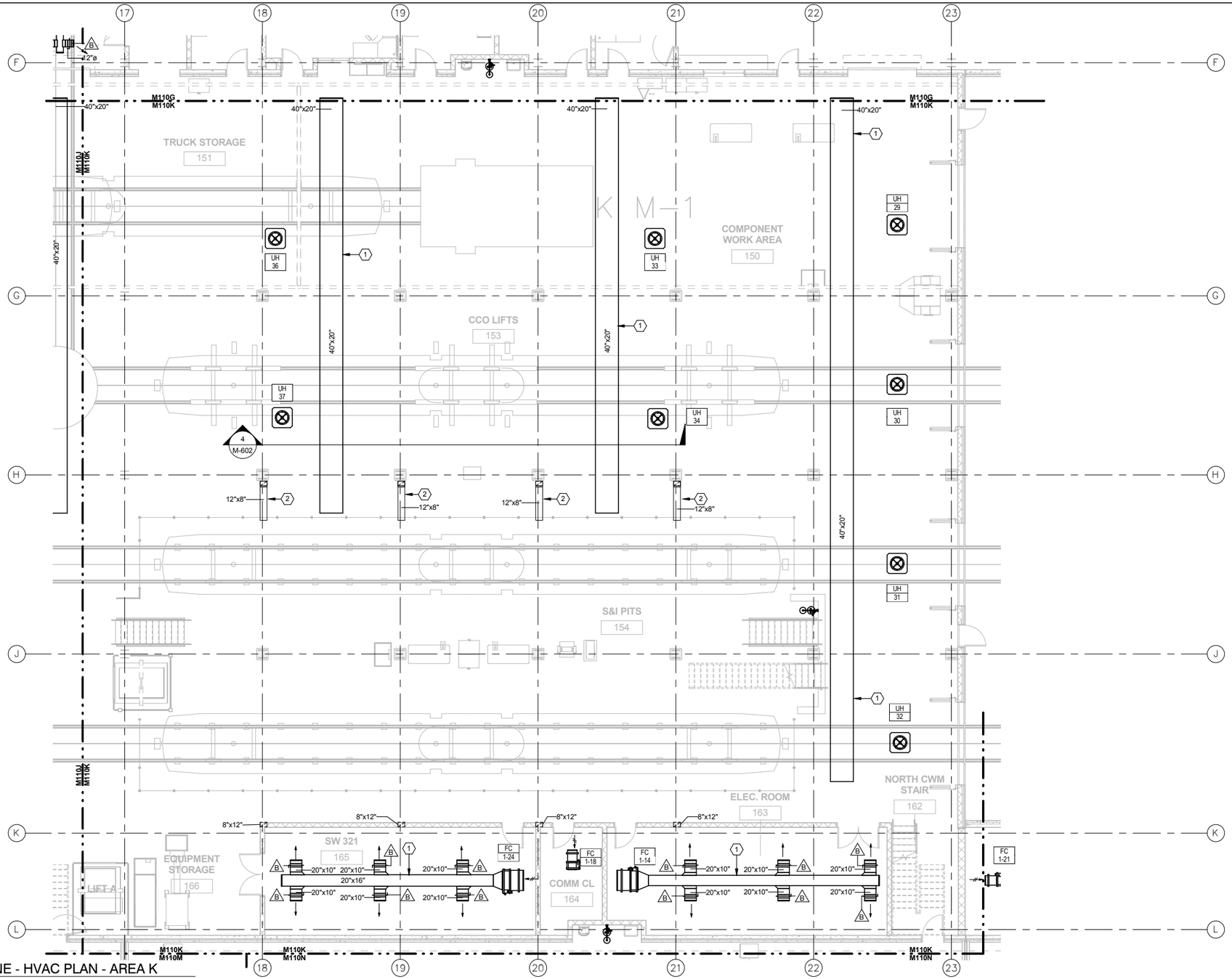


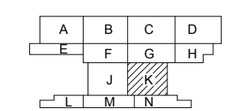
1 M-110K LEVEL ONE - HVAC PLAN - AREA K

SCALE: 1/8" = 1'-0"

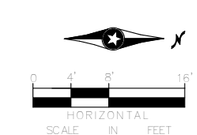
REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1. RUN DUCTWORK AS HIGH AS POSSIBLE.
2. DUCTWORK UNDER SLAB SHALL BE FIBERGLASS. REFER TO SPECIFICATION ????
3. 36"X30" OA UP TO GRV. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130.



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA K

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110K

SHEET 24 OF 263

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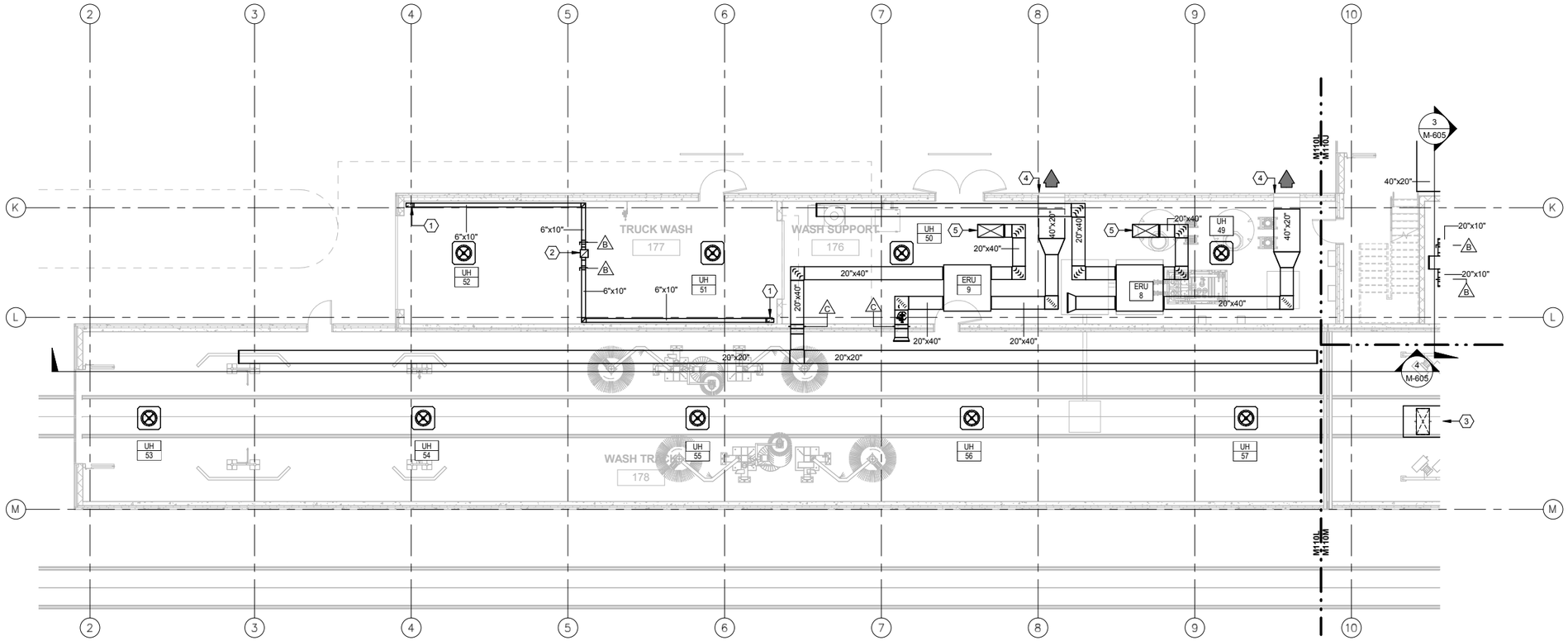


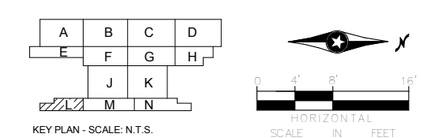
KEYED NOTES

1. EXHAUST DROP DOWN. TERMINATE 18" AFF
2. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
3. 42"X42" OUTSIDE DUCT UP TO GRV. REFER TO SHEET OMF-MECH-PLN-M130.
4. LOUVER BY OTHERS
5. 20"X40" OUTSIDE AIR UP TO GRV. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130.

1 / M-110L LEVEL ONE - HVAC PLAN - AREA L

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARITAL HVAC PLAN AREA L

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110L

SHEET 25 OF 263

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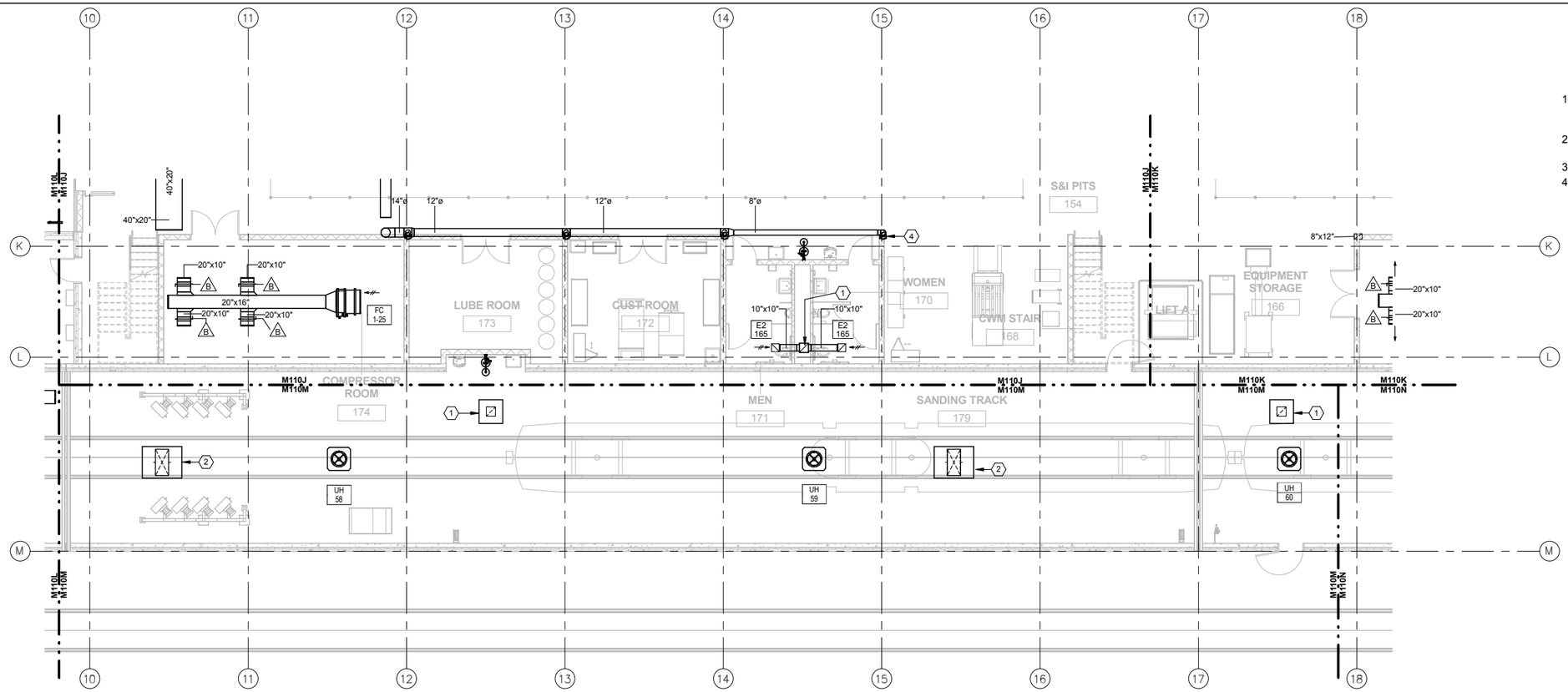


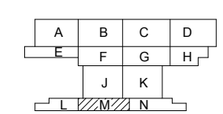
1 M-110M LEVEL ONE - HVAC PLAN - AREA M

SCALE: 1/8" = 1'-0"

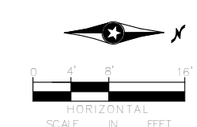
REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
2. 42"X42" OUTSIDE DUCT UP TO GRV. REFER TO SHEET OMF-MECH-PLN-M130.
3. LOUVER BY OTHERS
4. ROOLING OFFSET 8"Ã˜ DOWN, TRANSITION TO 10"X6", PROVIDE ACCESS PANEL 18" AFF. ROUTE UNDER STRUCTURAL SLAB TO MAINTENANCE PIT.



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA M

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110M

SHEET 26 OF 263

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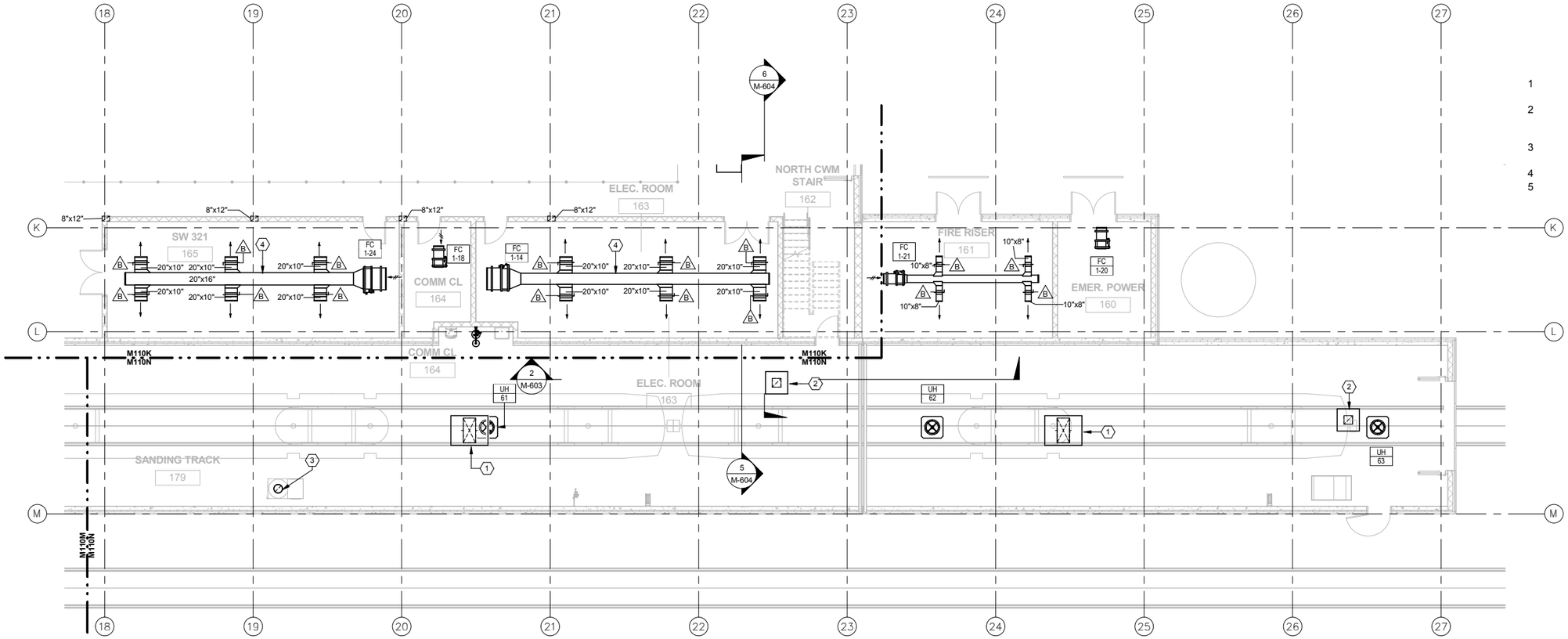


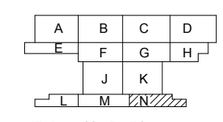
1 M-110N LEVEL ONE - HVAC PLAN - AREA N

SCALE: 1/8" = 1'-0"

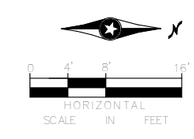
REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1. 42"X42" OUTSIDE DUCT UP TO GRV. REFER TO SHEET OMF-MECH-PLN-M130.
2. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
3. VENT FOR INDUSTRIAL EQUIPMENT #3720. REFER TO INDUSTRIAL PLANS FOR SIZE AND LOCATION.
4. RUN DUCTWORK AS HIGH AS POSSIBLE.
5. 36"X30" OA UP TO GRV. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130.



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL HVAC PLAN AREA N

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-110N

SHEET 27 OF 263

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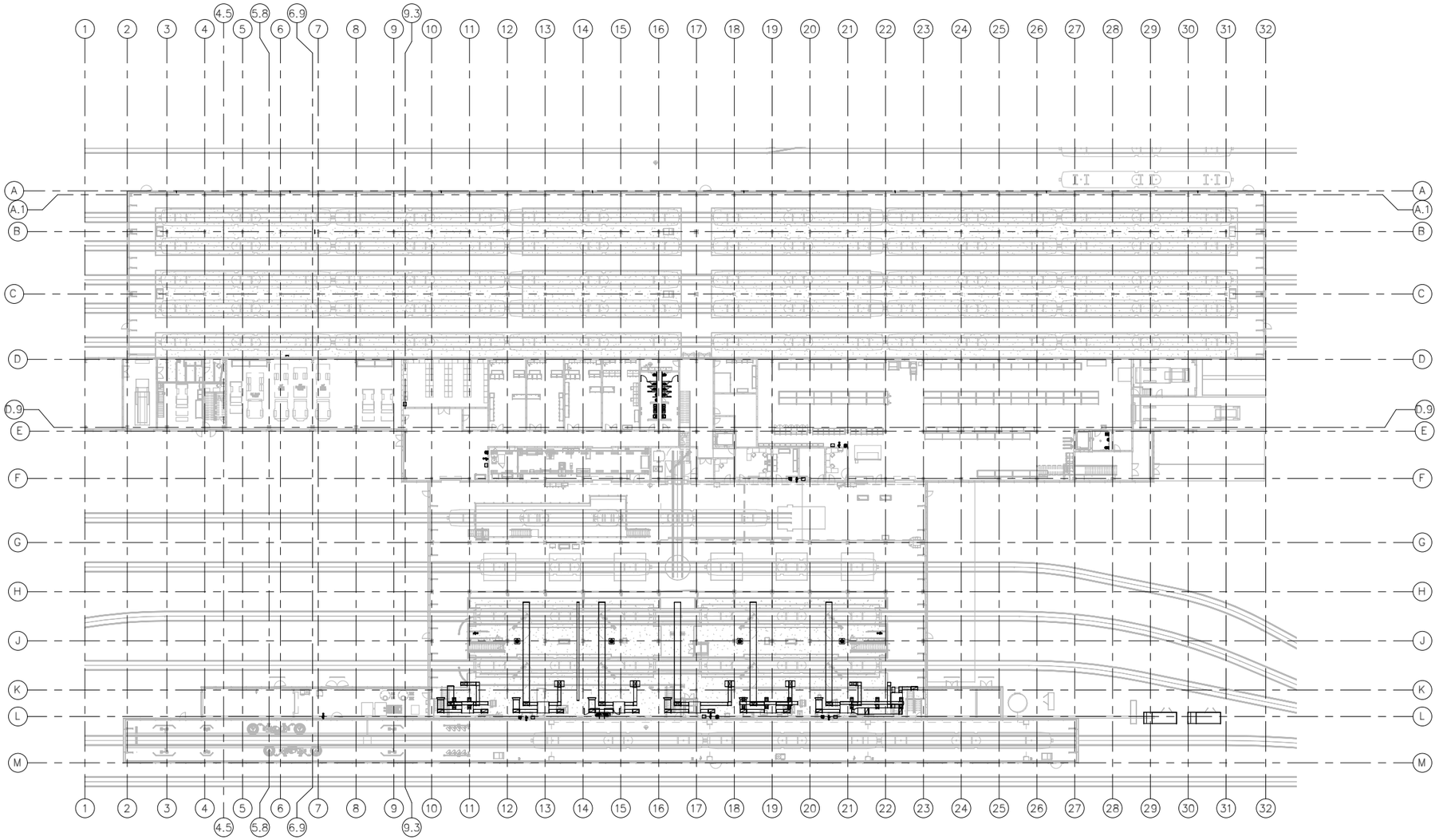
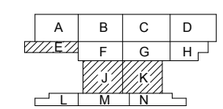


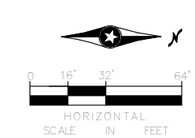
1 M-115 MEZZANINE LEVEL HVAC PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-602 / REF. DETAIL: 2



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
MEZZANINE LEVEL OVERALL HVAC FLOOR PLAN

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-115

SHEET 28 OF 263

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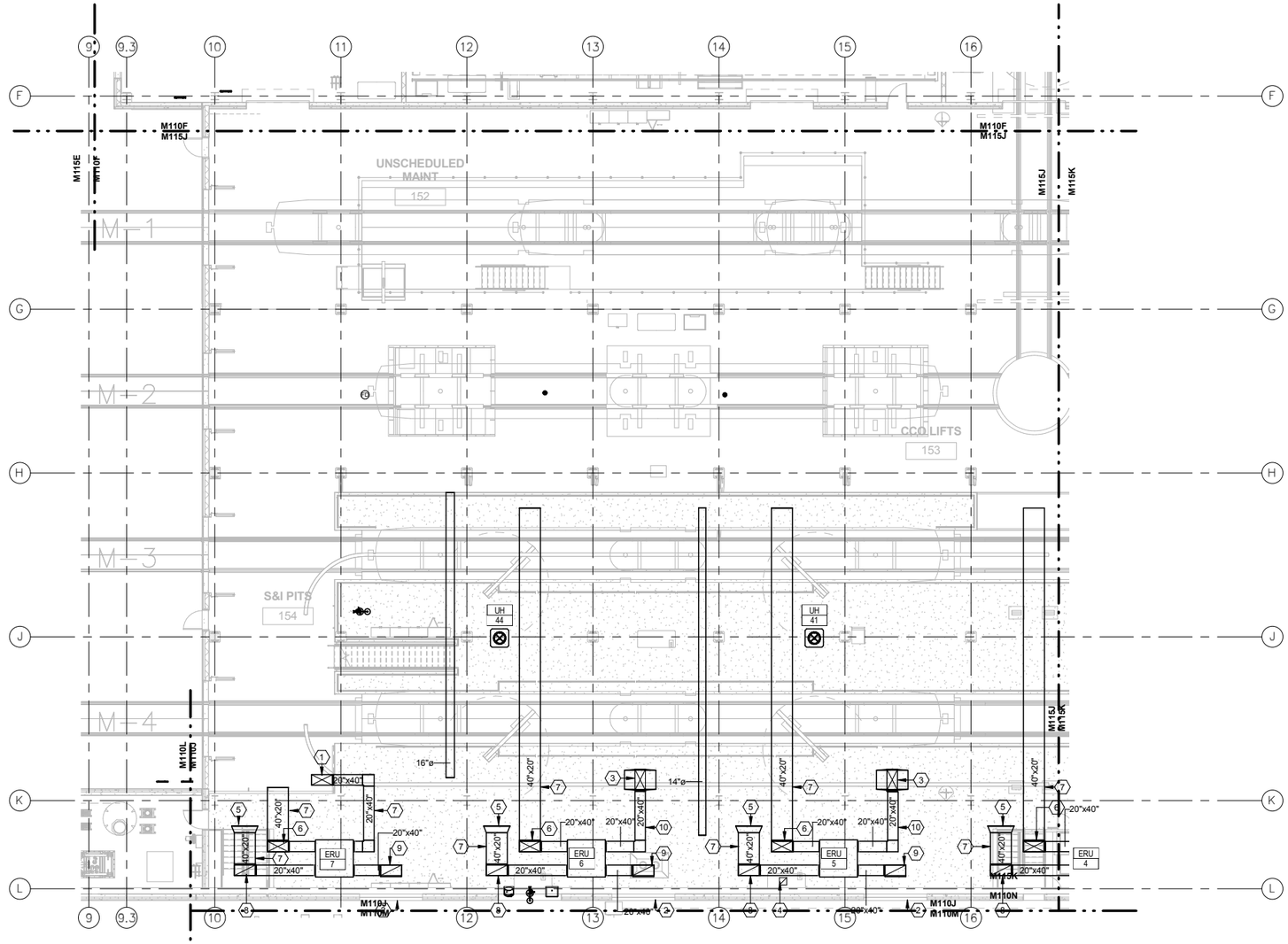


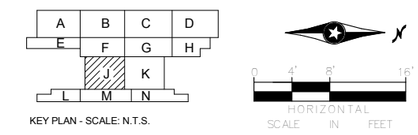
1 M-115J MEZZANINE LEVEL - HVAC PLAN - AREA J

SCALE: 3/32" = 1'-0"

REF. SHEET: M-602 / REF. DETAIL: 2

KEYED NOTES

1	20"X40" OUTSIDE AIR UP TO GRV. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130.
2	LOUVER BY OTHERS
3	42"X42" OUTSIDE DUCT UP TO GRV. REFER TO SHEET OMF-MECH-PLN-M130.
4	EXHAUST DUCTWORK DN TO RESTROOM GRILLE
5	50"X26" BELL MOUTH WITH 1/2" STAINLESS STEEL BIRD SCREEN
6	40"X20" OFFSET SUPPLY DOWN
7	RUN DUCTWORK AS HIGH AS POSSIBLE.
8	40"X20" RETURN OFFSET DOWN
9	40"X20" EXHAUST OFFSET DOWN
10	EXHAUST DROP DOWN. TERMINATE 18" AFF



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
MEZZANINE LEVEL - PARTIAL HVAC PLAN
AREA J

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-115J

SHEET 29 OF 263

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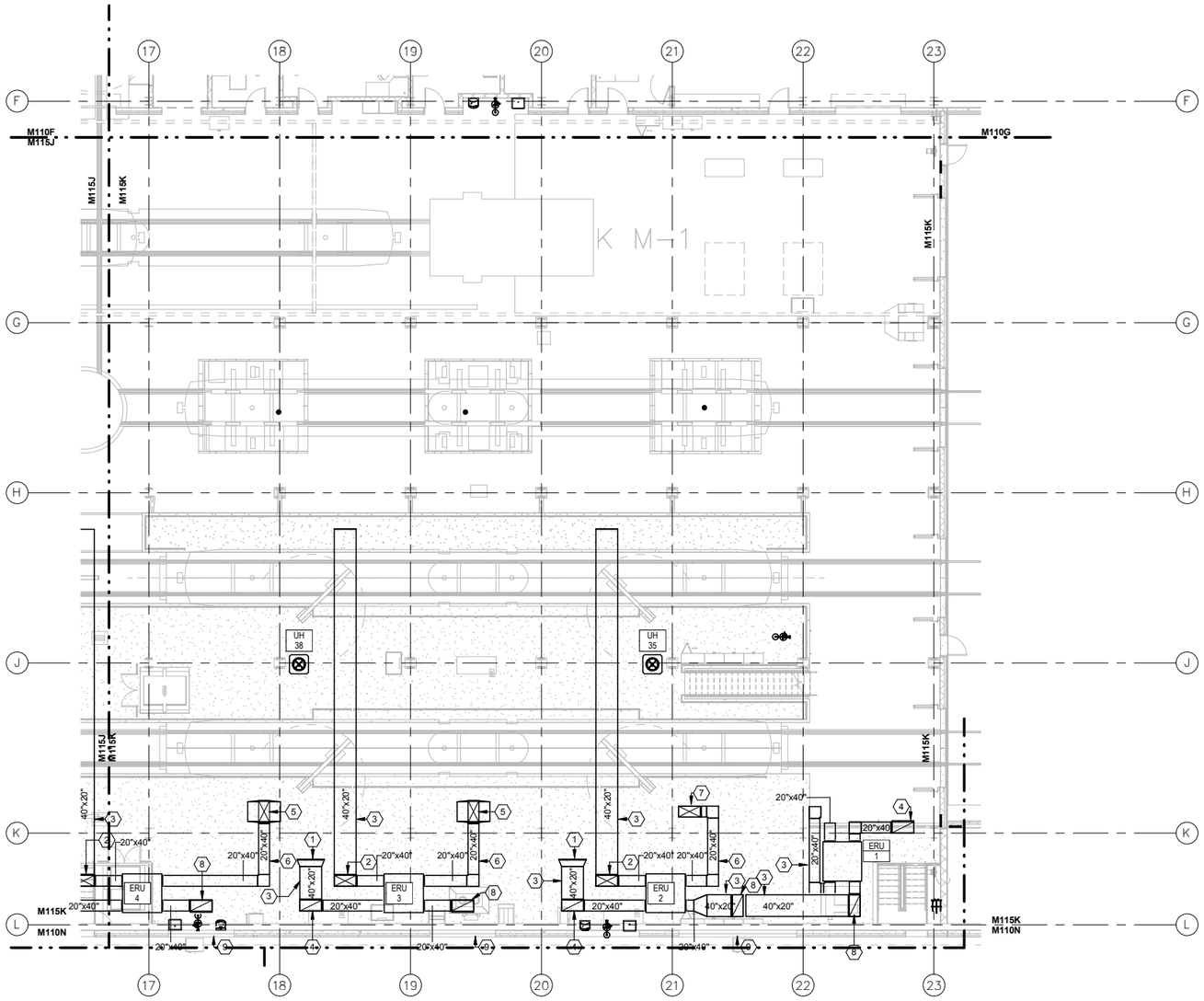


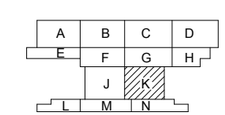
1 M-115K MEZZANINE LEVEL - HVAC PLAN - AREA K

SCALE: 3/32" = 1'-0"

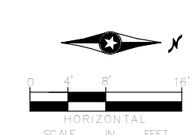
REF. SHEET: M-602 / REF. DETAIL: 2

KEYED NOTES

1	50"X26" BELL MOUTH WITH 1/2" STAINLESS STEEL BIRD SCREEN
2	40"X20" OFFSET SUPPLY DOWN
3	RUN DUCTWORK AS HIGH AS POSSIBLE.
4	40"X20" RETURN OFFSET DOWN
5	42"X42" OUTSIDE DUCT UP TO GRV. REFER TO SHEET OMF-MECH-PLN-M130.
6	EXHAUST DROP DOWN. TERMINATE 18" AFF
7	20"X40" OUTSIDE AIR UP TO GRV. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130.
8	40"X20" EXHAUST OFFSET DOWN
9	LOUVER BY OTHERS



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
MEZZANINE LEVEL - PARTIAL HVAC PLAN
AREA K

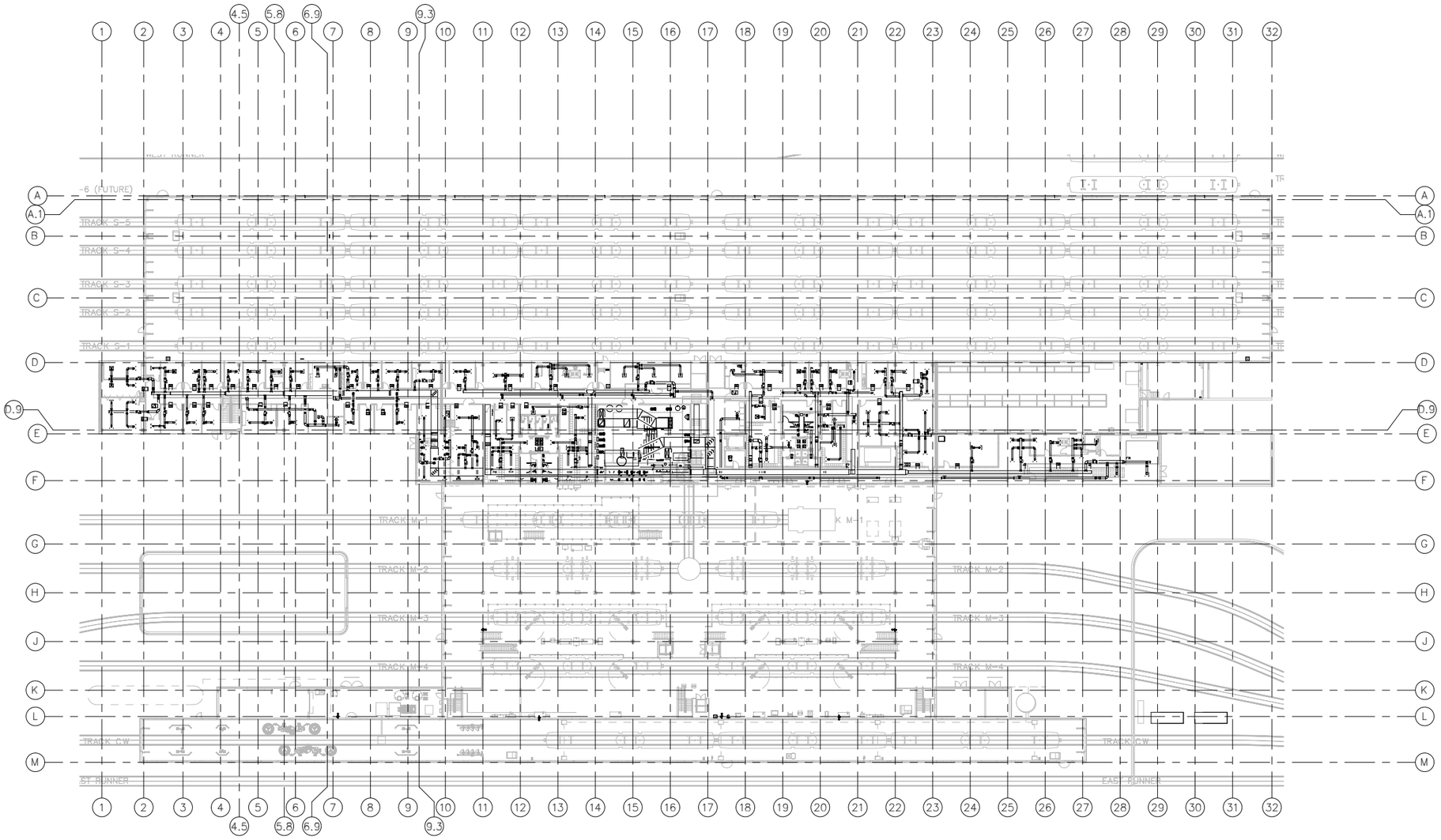
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-115K

SHEET 30 OF 263

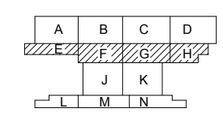
9/21/2015 12:36:50 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



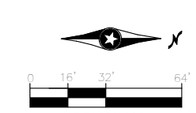
1 M-120 LEVEL TWO OVERALL HVAC PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL TWO OVERALL HVAC FLOOR PLAN

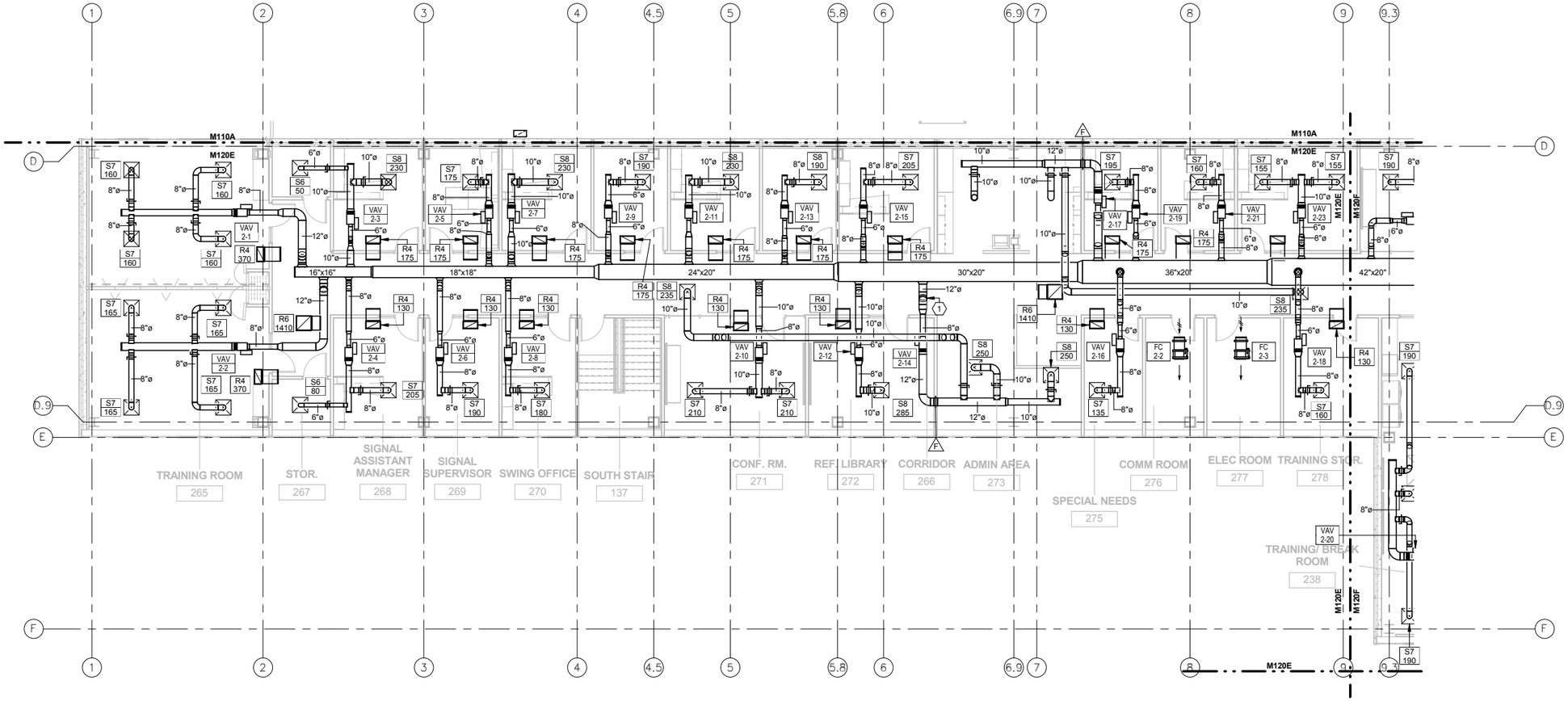
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-120

SHEET 31 OF 263

9/21/2015 1:00:27 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



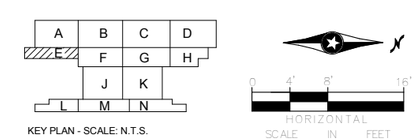
1 M-120E LEVEL TWO - HVAC PLAN - AREA E

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3

KEYED NOTES

1 ROLLING SUPPLY OFFSET



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SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL TWO - PARTIAL HVAC PLAN AREA E

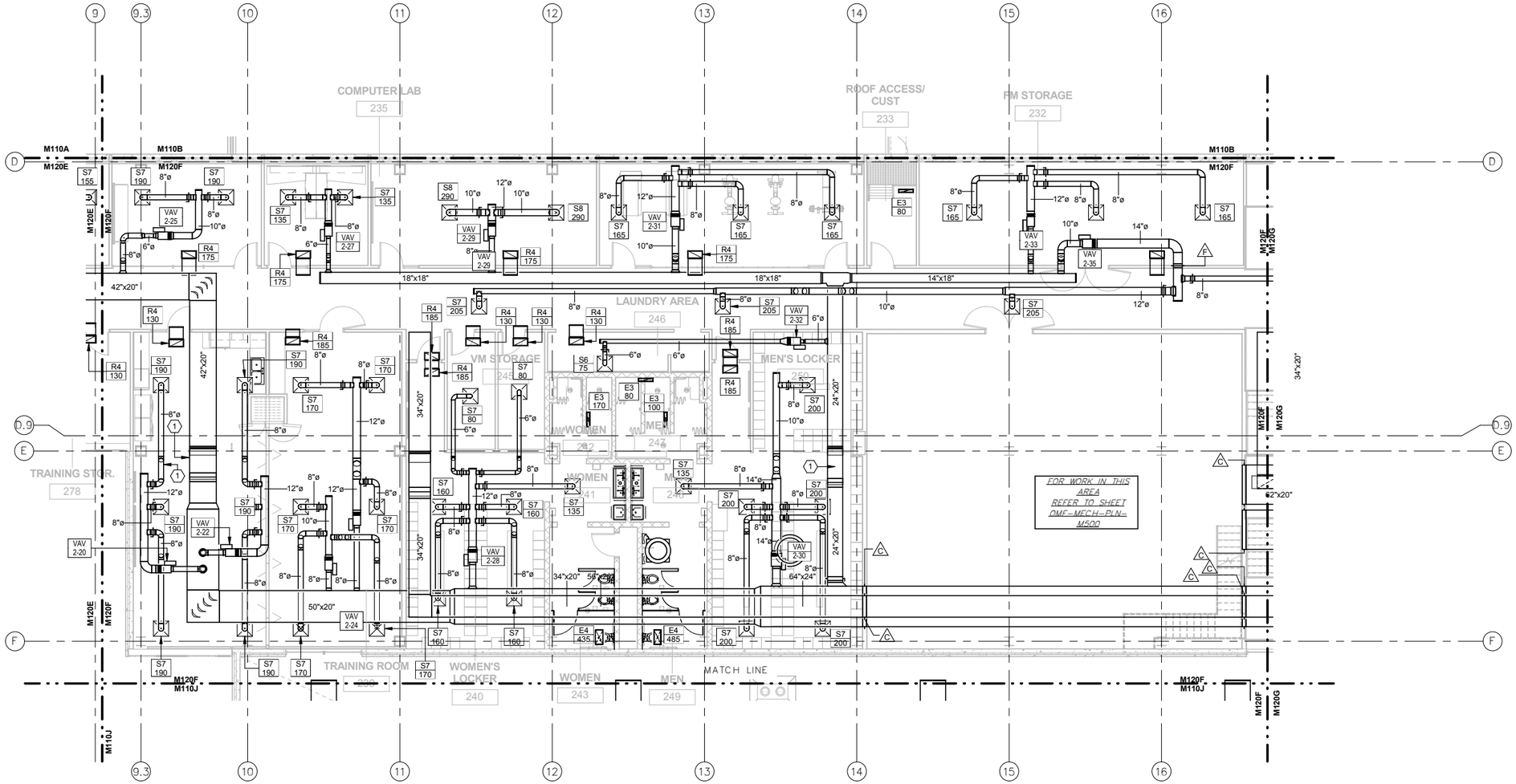
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-120E

SHEET 32 OF 263

9/21/2015 11:31:32 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



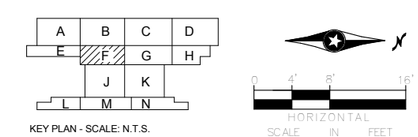
KEYED NOTES

1 ROLLING SUPPLY OFFSET

1 / M-120F LEVEL TWO - HVAC PLAN - AREA F

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL TWO - PARTIAL HVAC PLAN AREA F

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

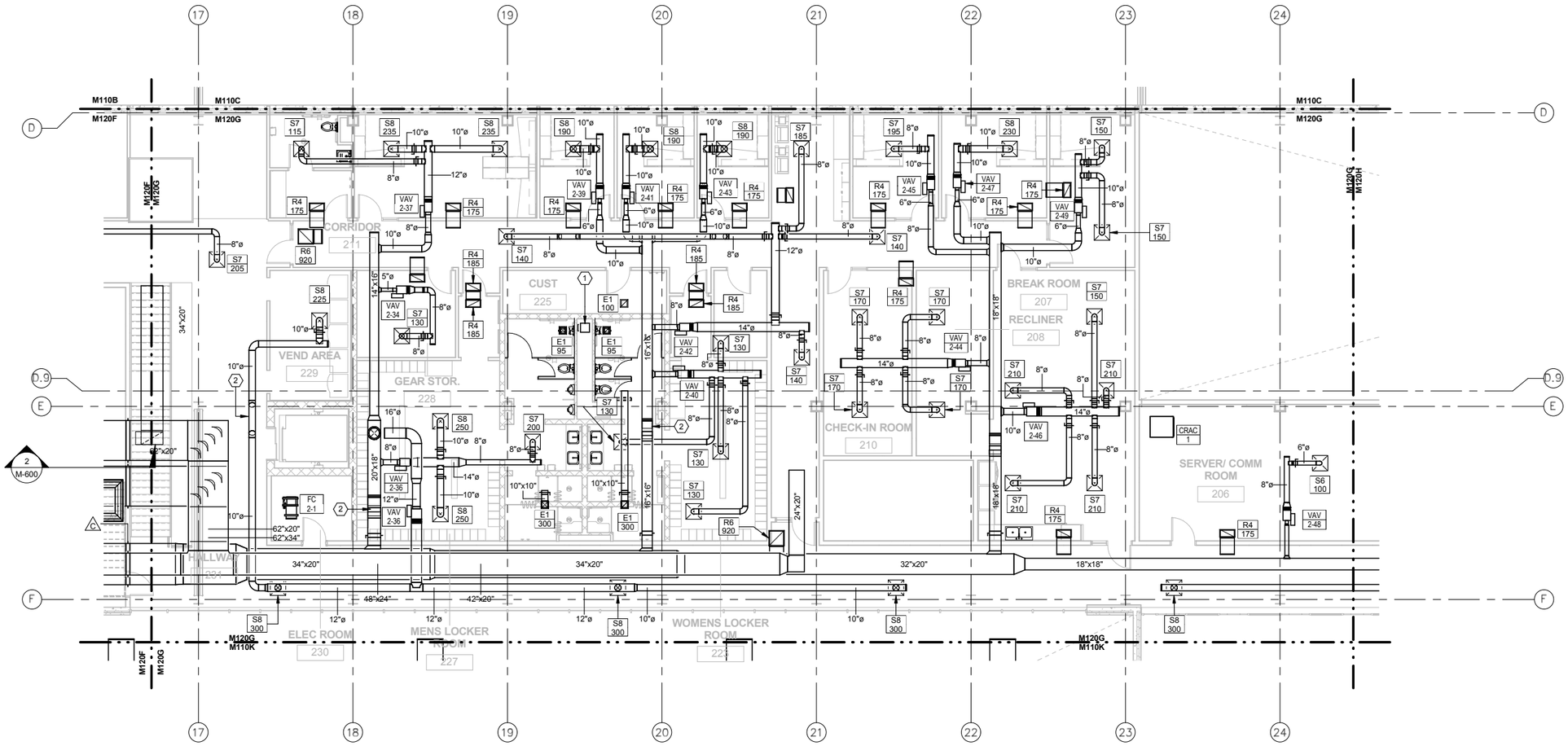
M-120F

SHEET 33 OF 263

9/21/2015 11:31:36 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

KEYED NOTES

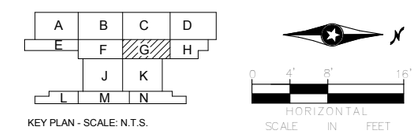
1. 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.
2. ROLLING SUPPLY OFFSET



1 M-120G LEVEL TWO - HVAC PLAN - AREA G

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL TWO - PARTIAL HVAC PLAN AREA G

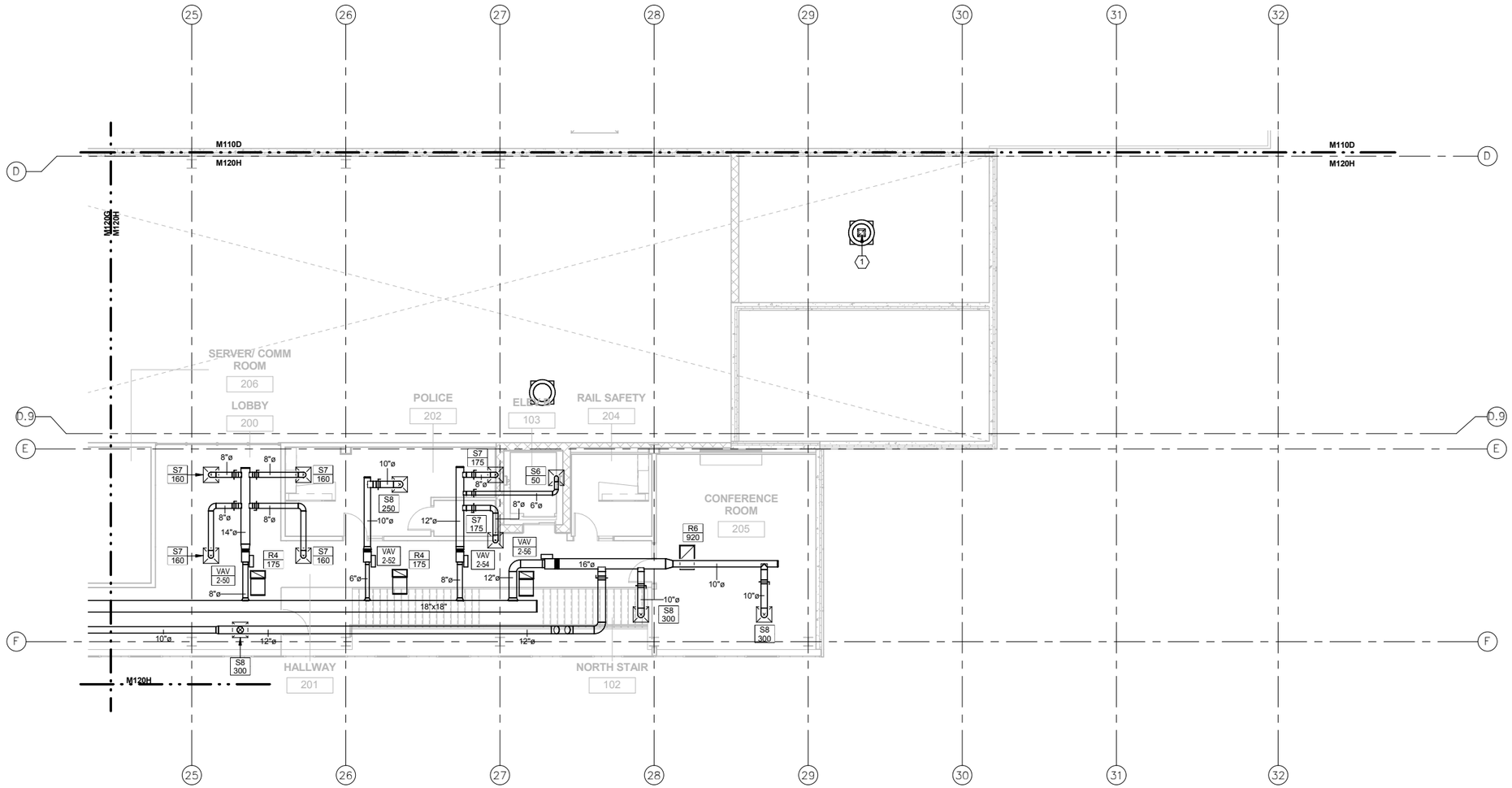
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-120G

SHEET 34 OF 263

9/21/2015 11:31:40 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



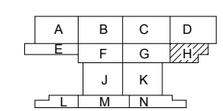
KEYED NOTES

1 36"X36" EXHAUST DUCT UP TO EXHAUST FAN. REFER TO SHEET OMF-MECH-PLN-M130 FOR CONTINUATION.

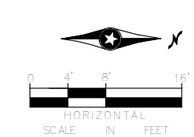
1 / M-120H LEVEL TWO - HVAC PLAN - AREA H

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL TWO - PARTIAL HVAC PLAN AREA H

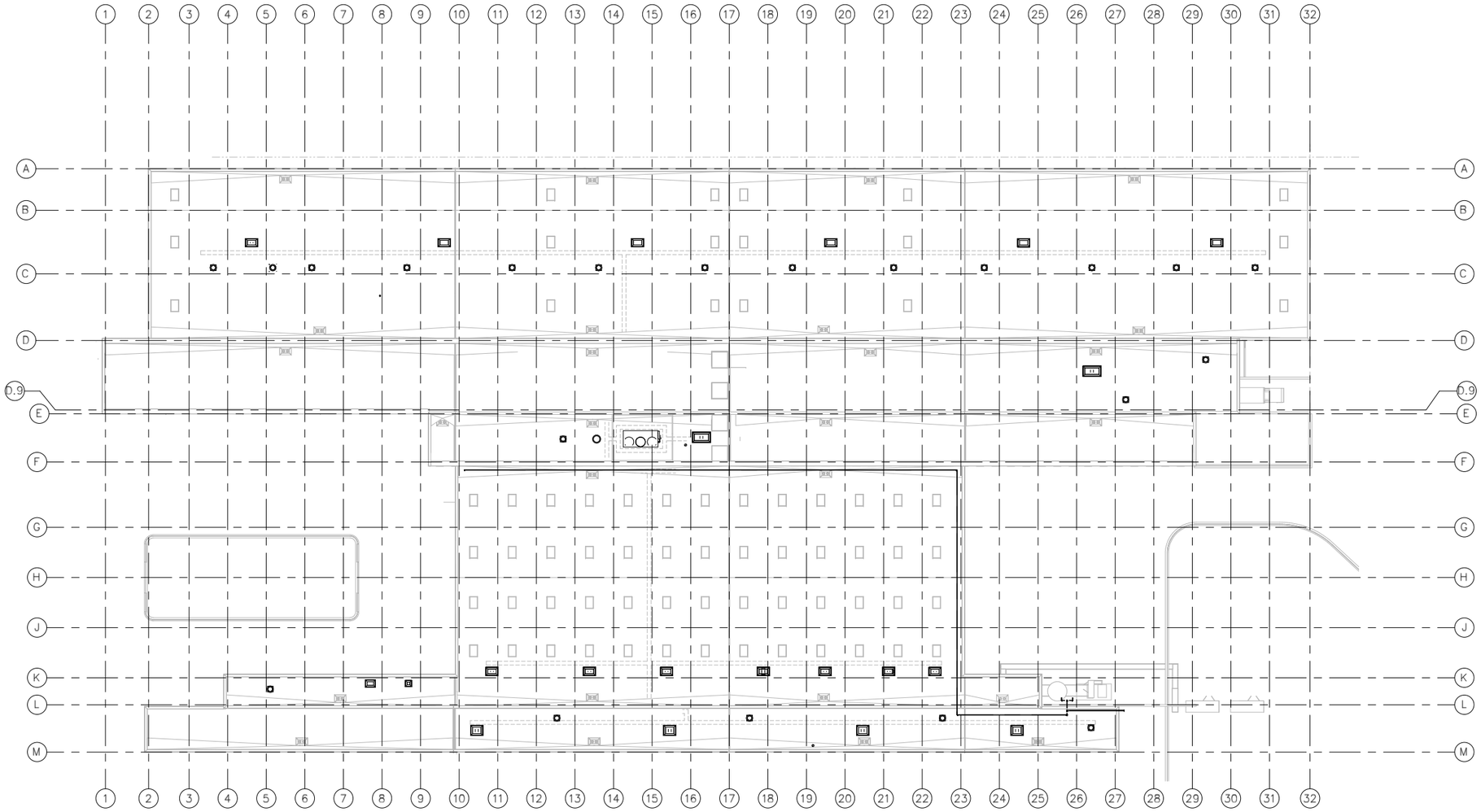
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-120H

SHEET 35 OF 263

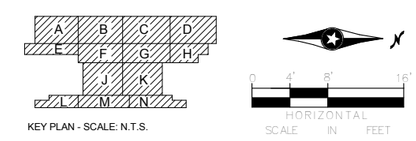
9/21/2015 11:31:42 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



1 M-130 OVERALL MECHANICAL ROOF PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL OVERALL HVAC AND PIPING PLAN

DISCIPLINE: MECHANICAL

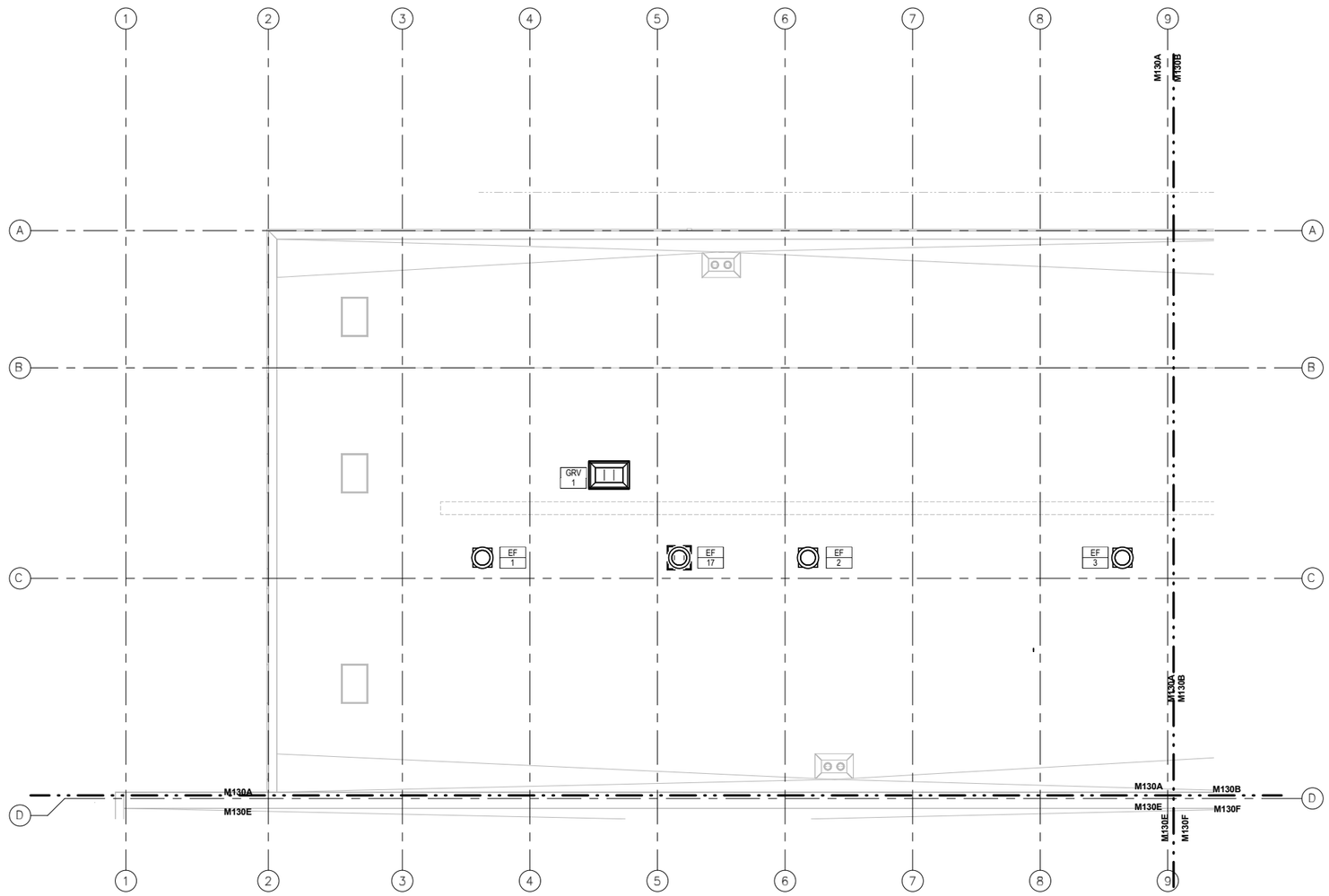
SHEET NAME: OMF-MECH-PLN

M-130

SHEET 36 OF 263

9/21/2015 11:31:46 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

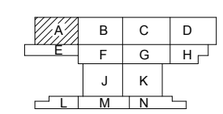
KEYED NOTES



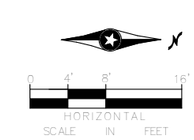
1 M-130A MECHANICAL ROOF PLAN - AREA A

SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

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OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA A

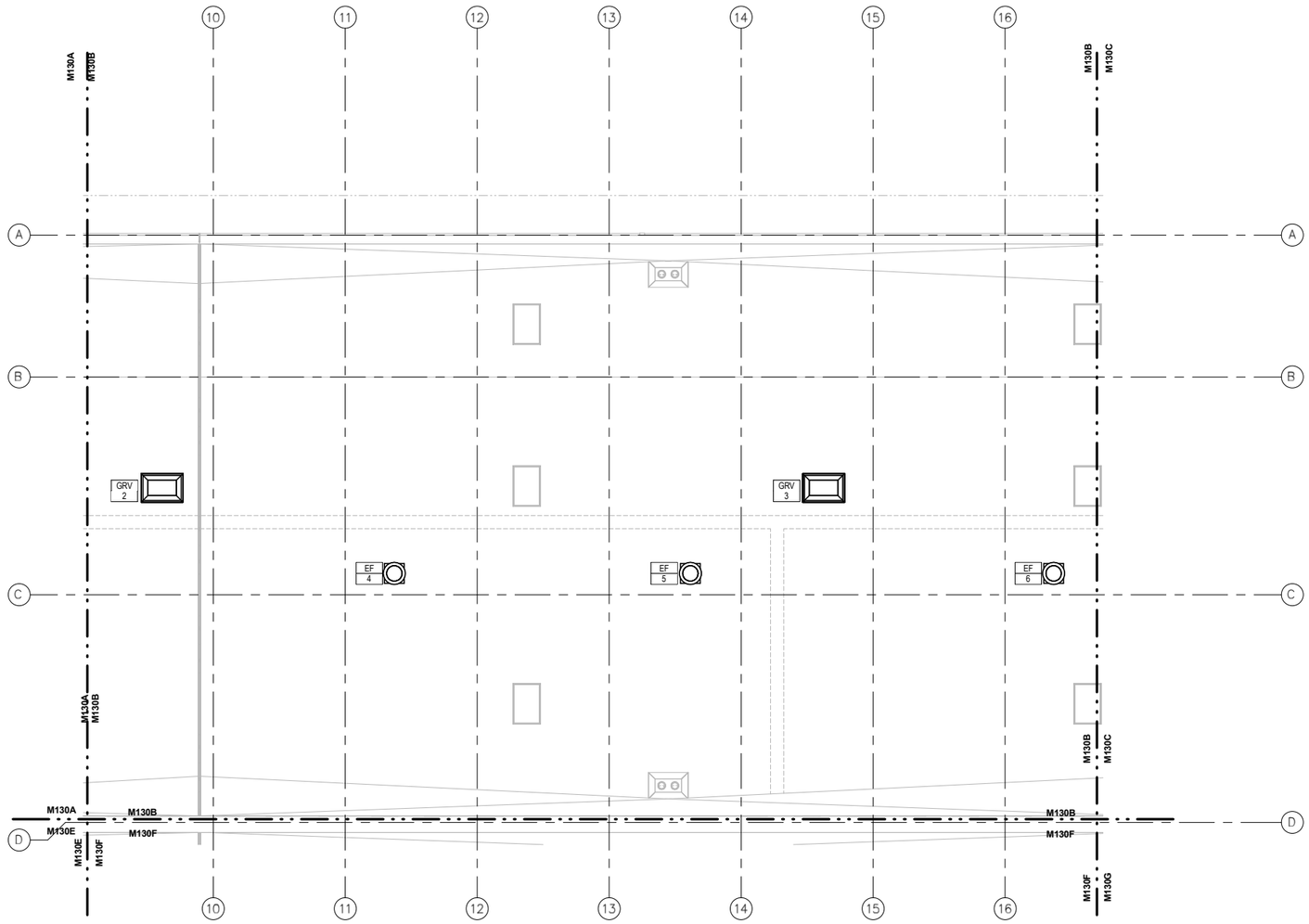
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130A

SHEET 37 OF 263

9/21/2015 12:36:52 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

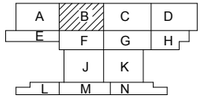


1 M-130B MECHANICAL ROOF PLAN - AREA B

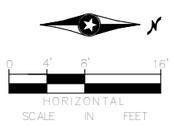
SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA B

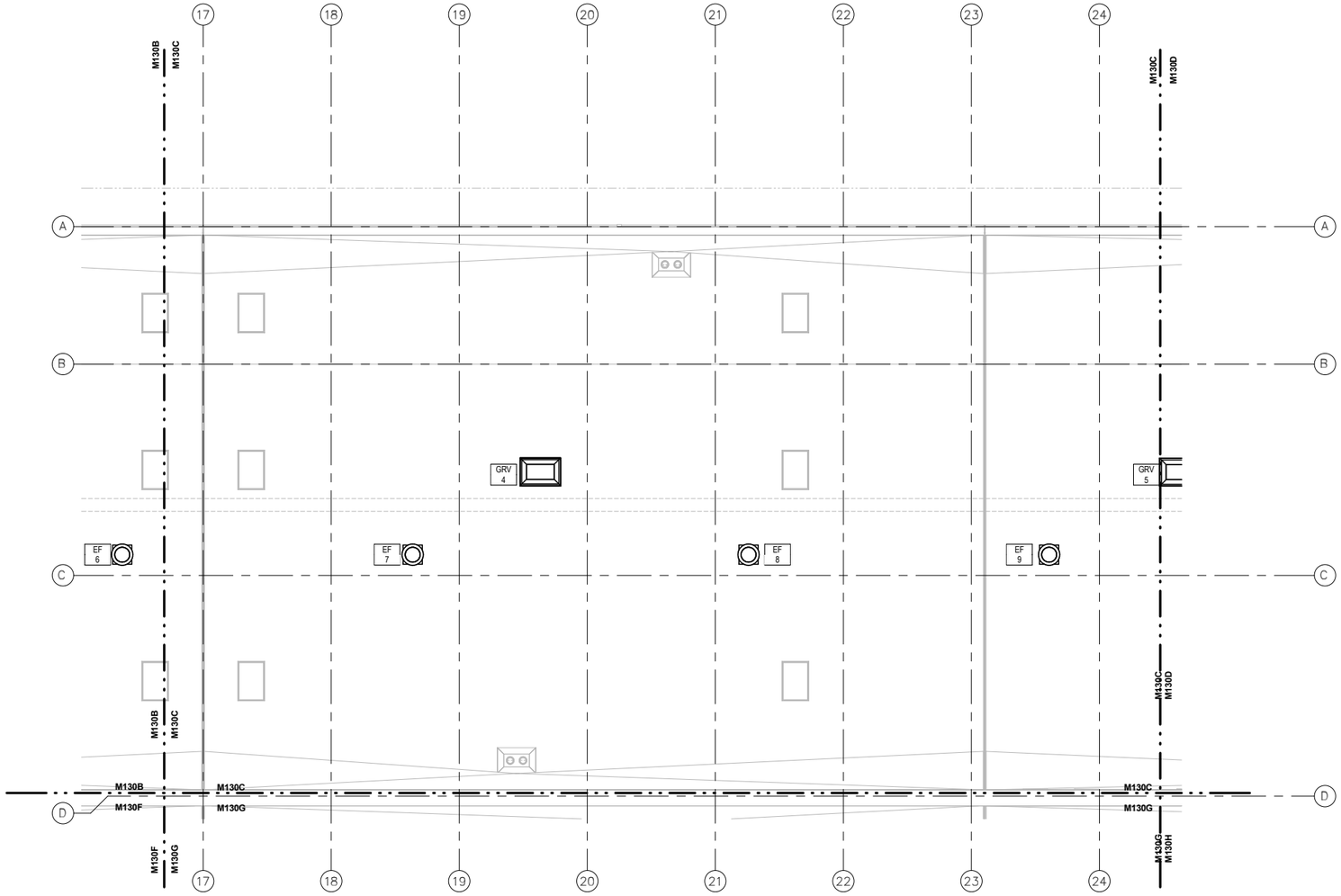
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130B

SHEET 38 OF 263

9/21/2015 12:36:53 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

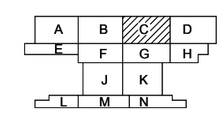


1 M-130C MECHANICAL ROOF PLAN - AREA C

SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA C

DISCIPLINE: MECHANICAL

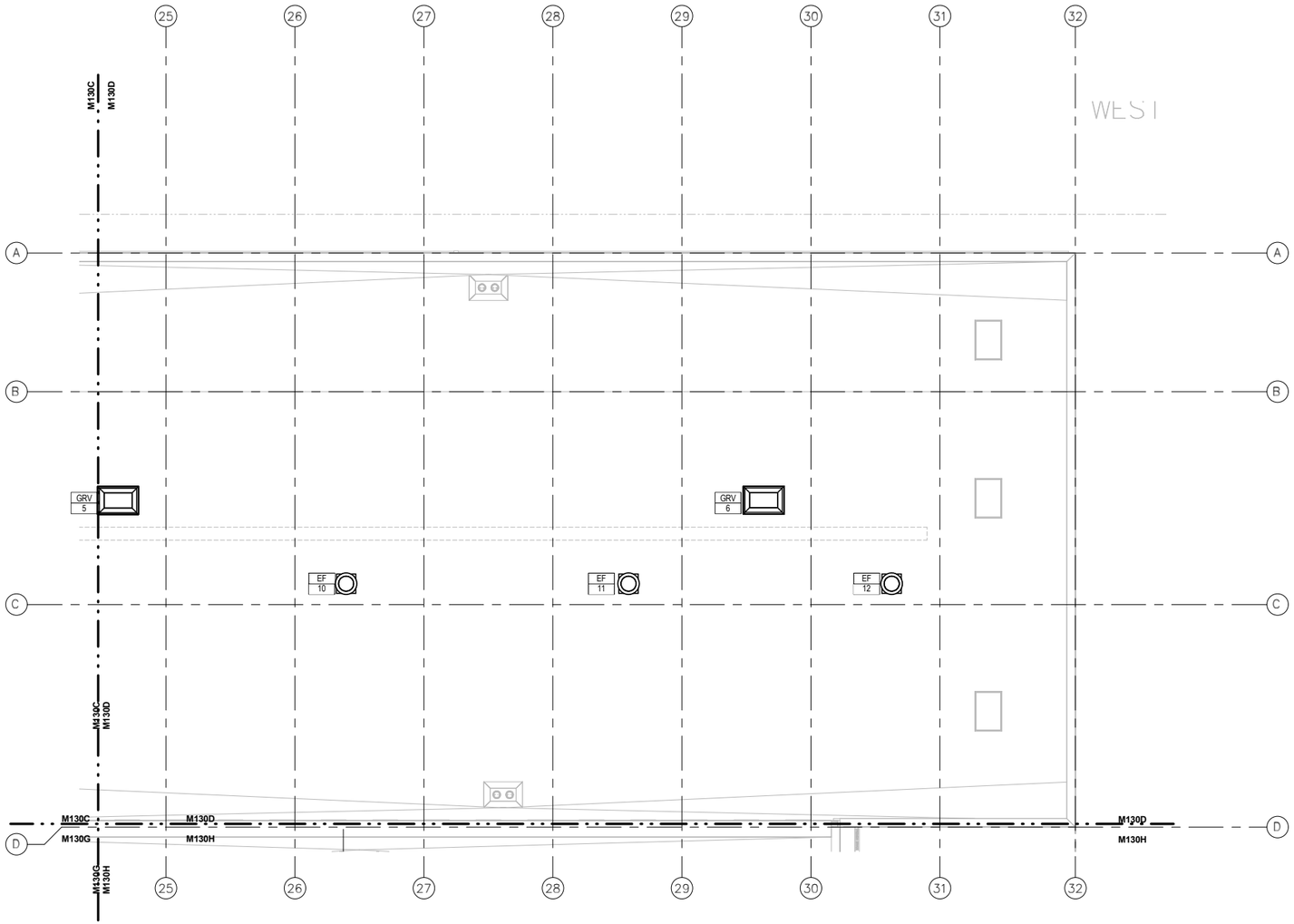
SHEET NAME: OMF-MECH-PLN

M-130C

SHEET 39 OF 263

9/21/2015 12:36:54 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

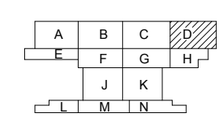
KEYED NOTES



1 M-130D MECHANICAL ROOF PLAN - AREA D

SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

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SOUTHWEST

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OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA D

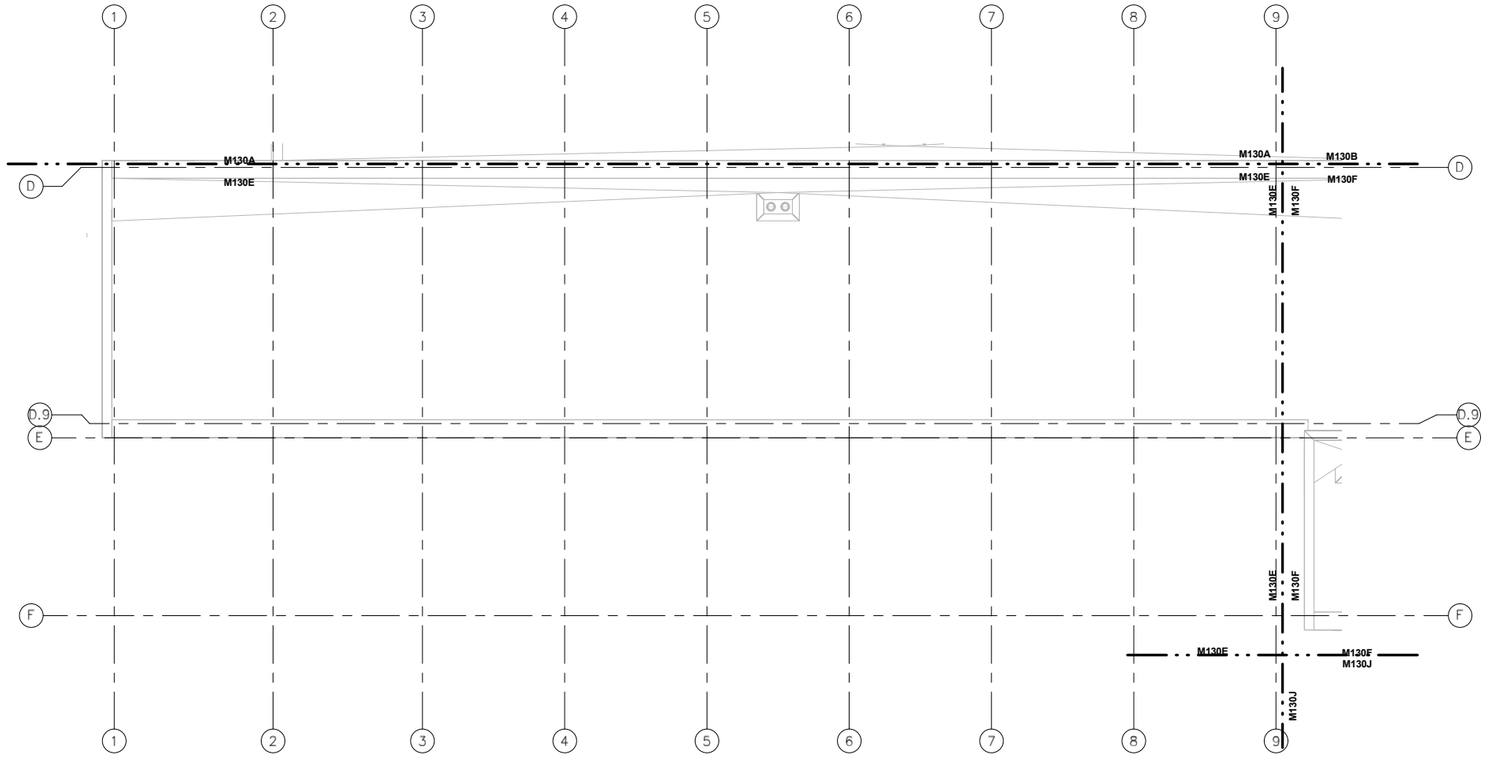
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130D

SHEET 40 OF 263

9/21/2015 12:36:56 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

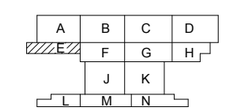


1 M-130E MECHANICAL ROOF PLAN - AREA E

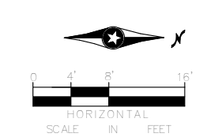
SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA E

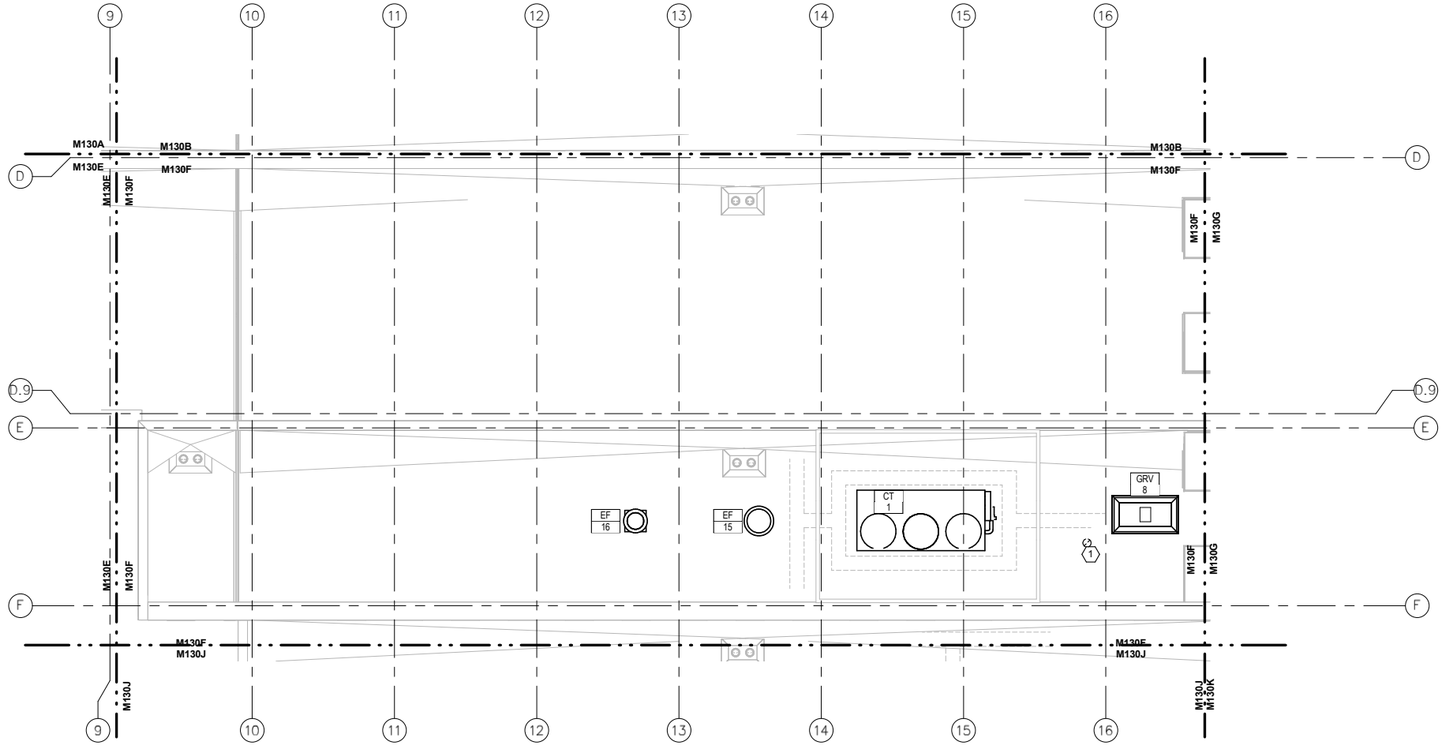
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130E

SHEET 41 OF 263

9/21/2015 12:36:58 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



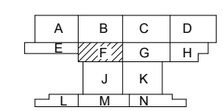
1 M-130F MECHANICAL ROOF PLAN - AREA F

SCALE: 3/32" = 1'-0"

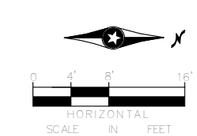
REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1 VENT FOR INDUSTRIAL EQUIPMENT #3720. REFER TO INDUSTRIAL PLANS FOR SIZE AND LOCATION.



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA F

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

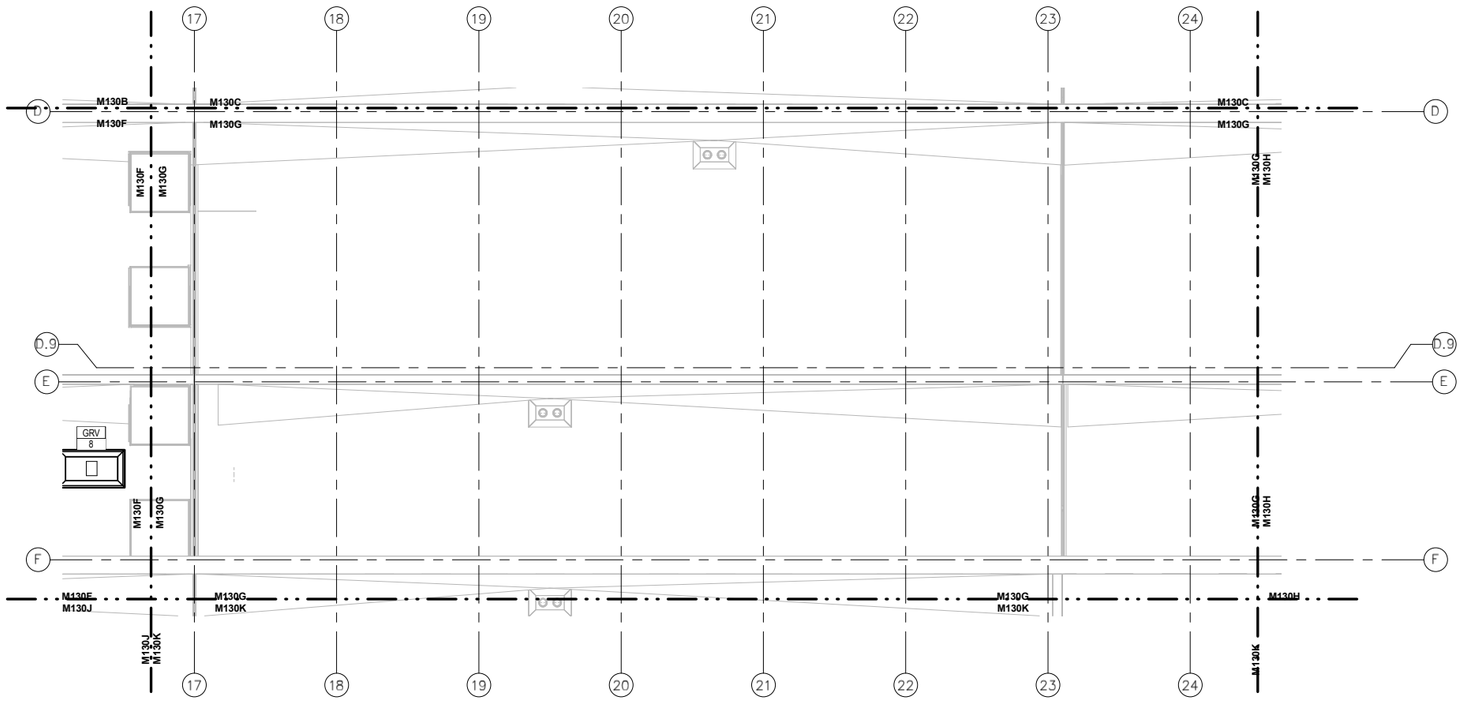
M-130F

SHEET 42 OF 263

9/21/2015 12:37:00 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

KEYED NOTES

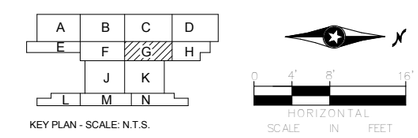
1 VENT FOR INDUSTRIAL EQUIPMENT #3720. REFER TO INDUSTRIAL PLANS FOR SIZE AND LOCATION.



1 M-130G MECHANICAL ROOF PLAN - AREA G

SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

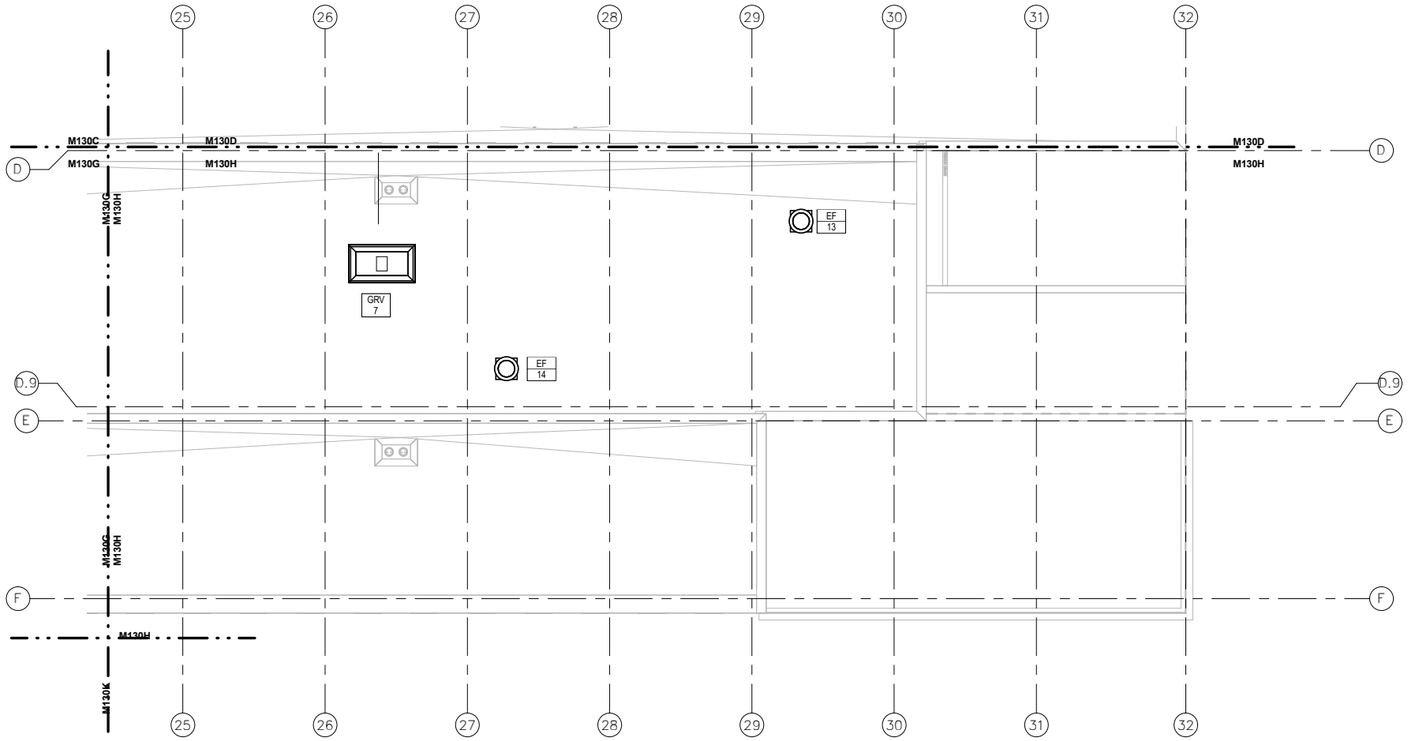
SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA G

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130G

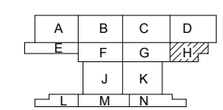


1 M-130H MECHANICAL ROOF PLAN - AREA H

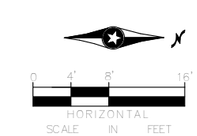
SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA H

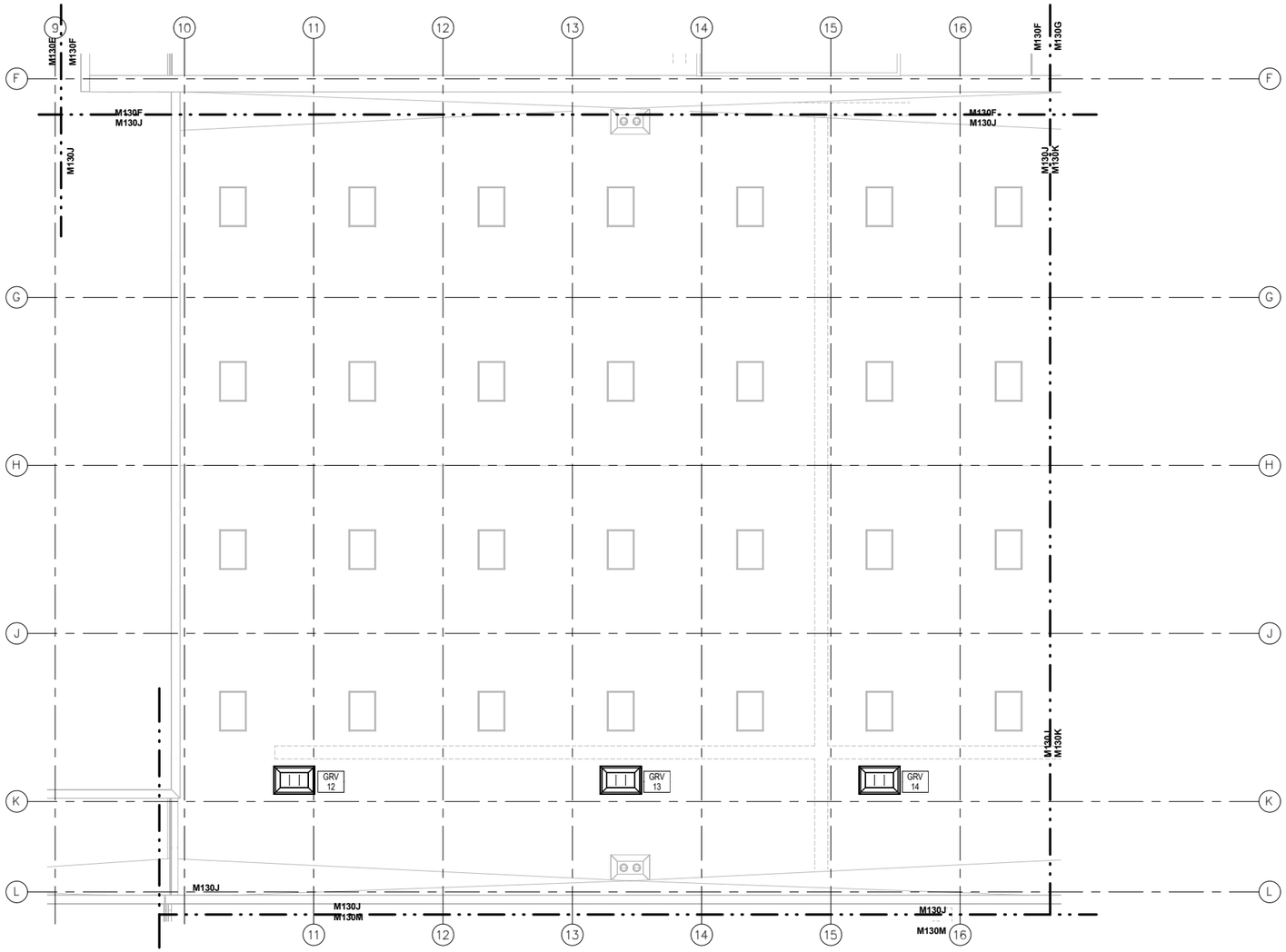
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130H

SHEET 44 OF 263

9/21/2015 12:37:02 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



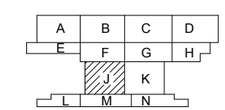
1 M-130J MECHANICAL ROOF PLAN - AREA J

SCALE: 3/32" = 1'-0"

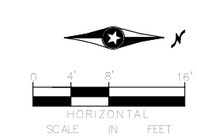
REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1 VENT FOR INDUSTRIAL EQUIPMENT #3720. REFER TO INDUSTRIAL PLANS FOR SIZE AND LOCATION.



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

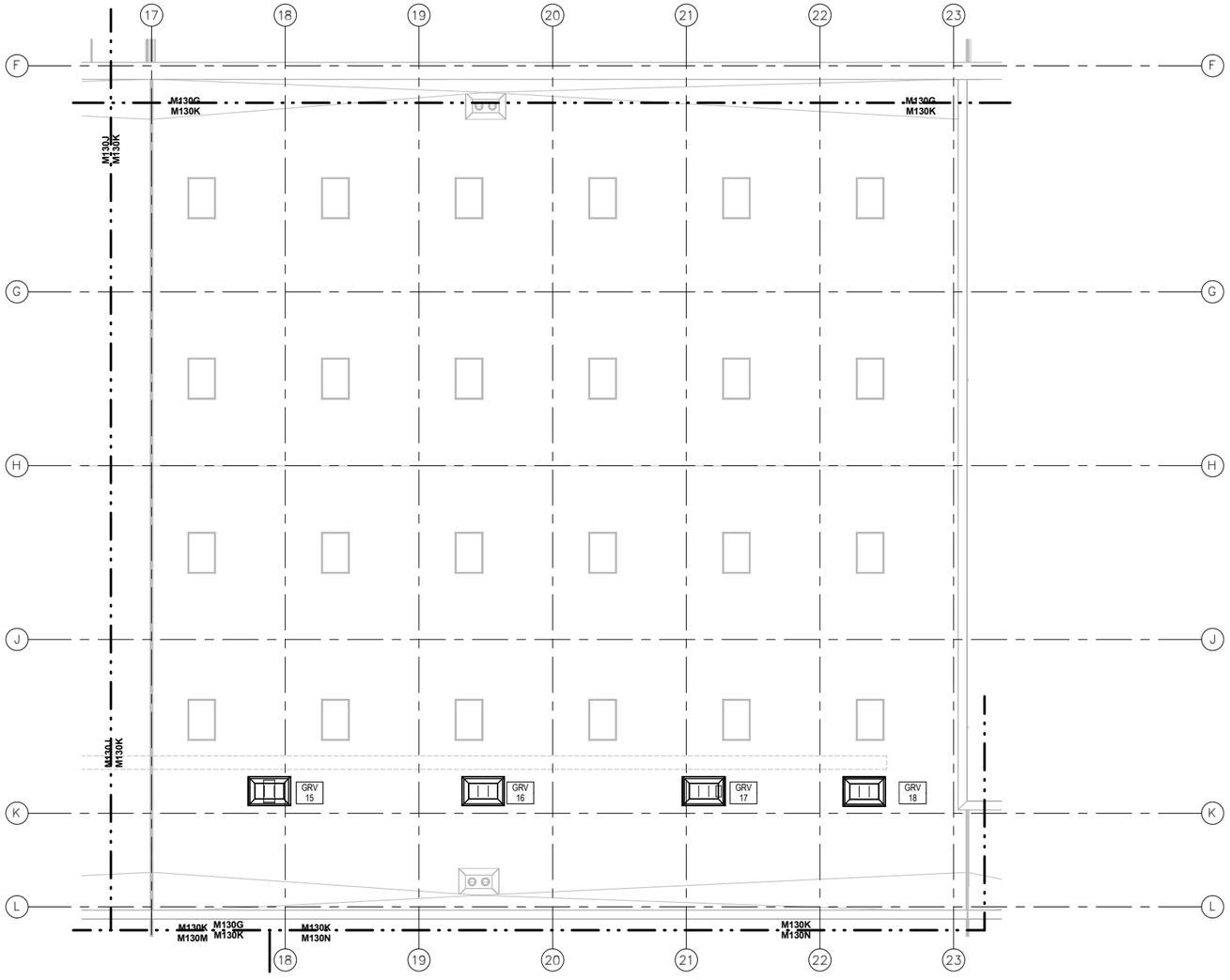
SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA J

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130J

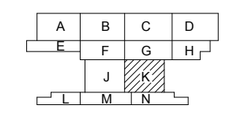


1 / M-130K MECHANICAL ROOF PLAN - AREA K

SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



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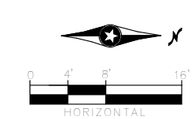

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA K

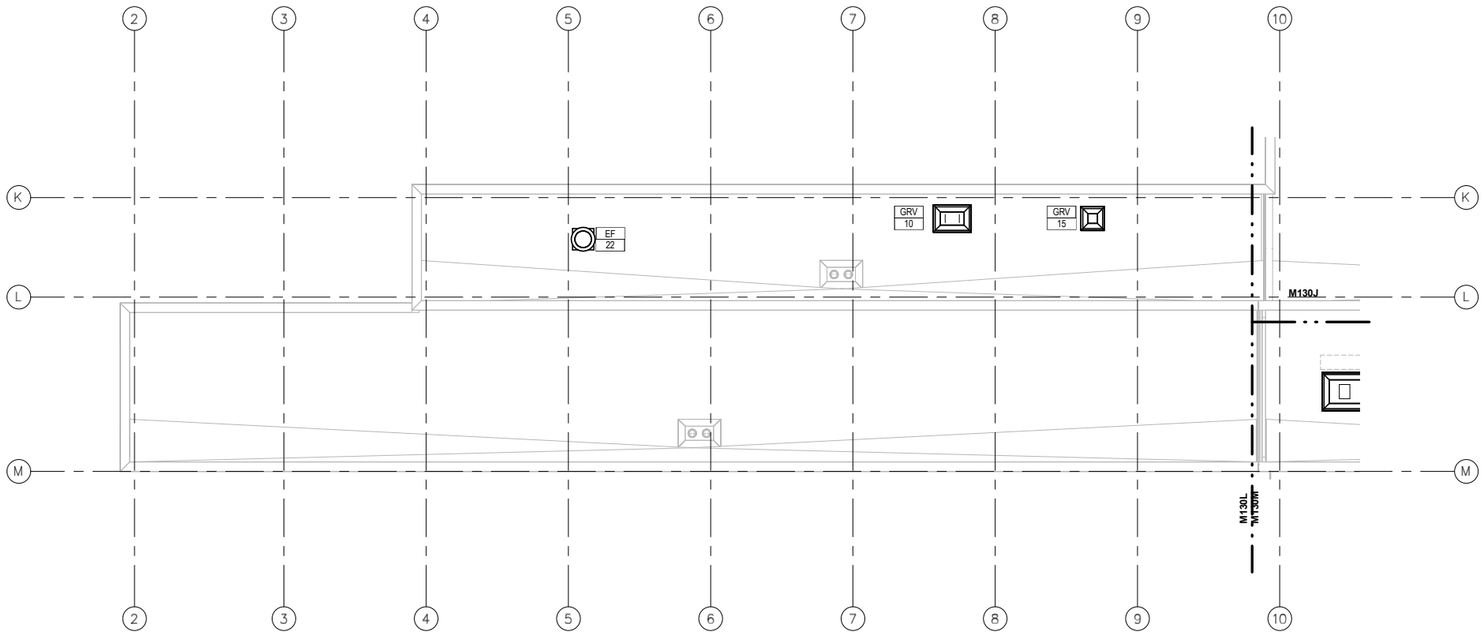
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130K

SHEET 46 OF 263

9/21/2015 12:37:06 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

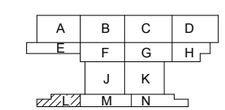


1 M-130L MECHANICAL ROOF PLAN - AREA L

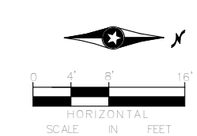
SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA L

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130L

SHEET 47 OF 263

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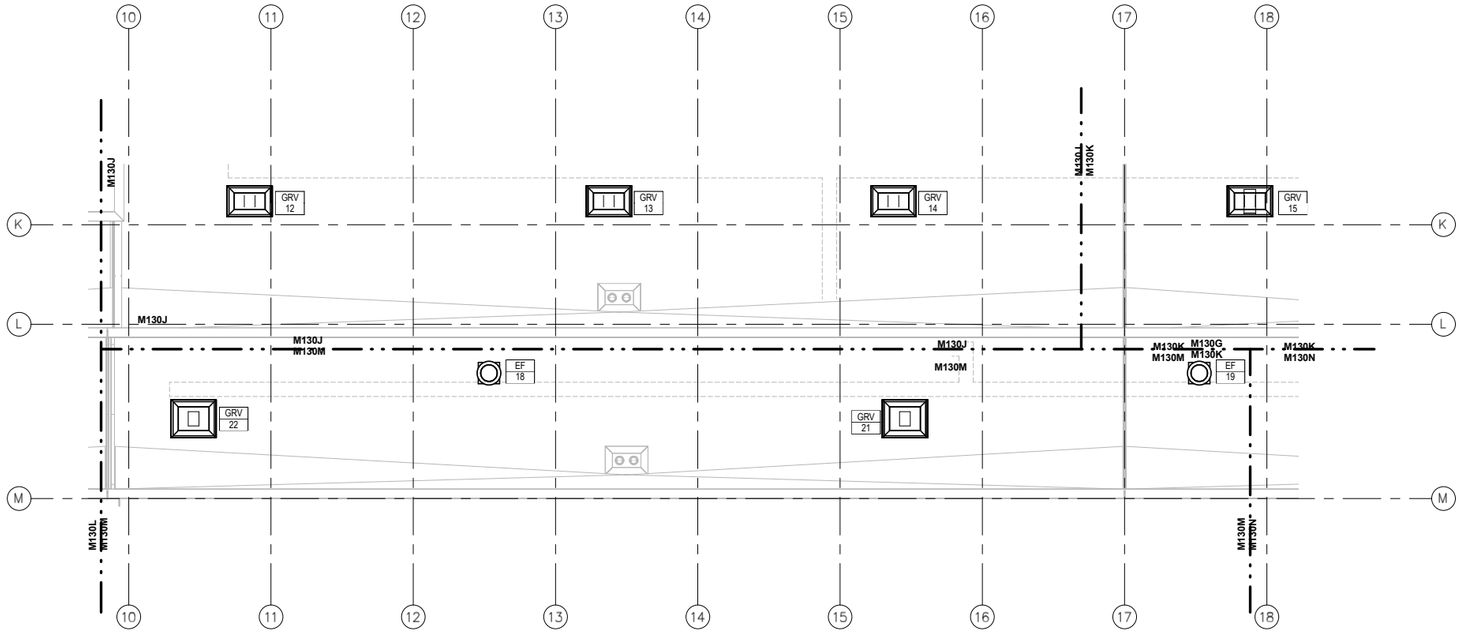
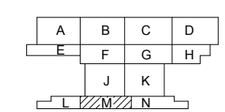
KEYED NOTES



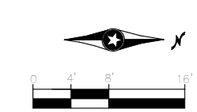
1 M-130M MECHANICAL ROOF PLAN - AREA M

SCALE: 3/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

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OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA M

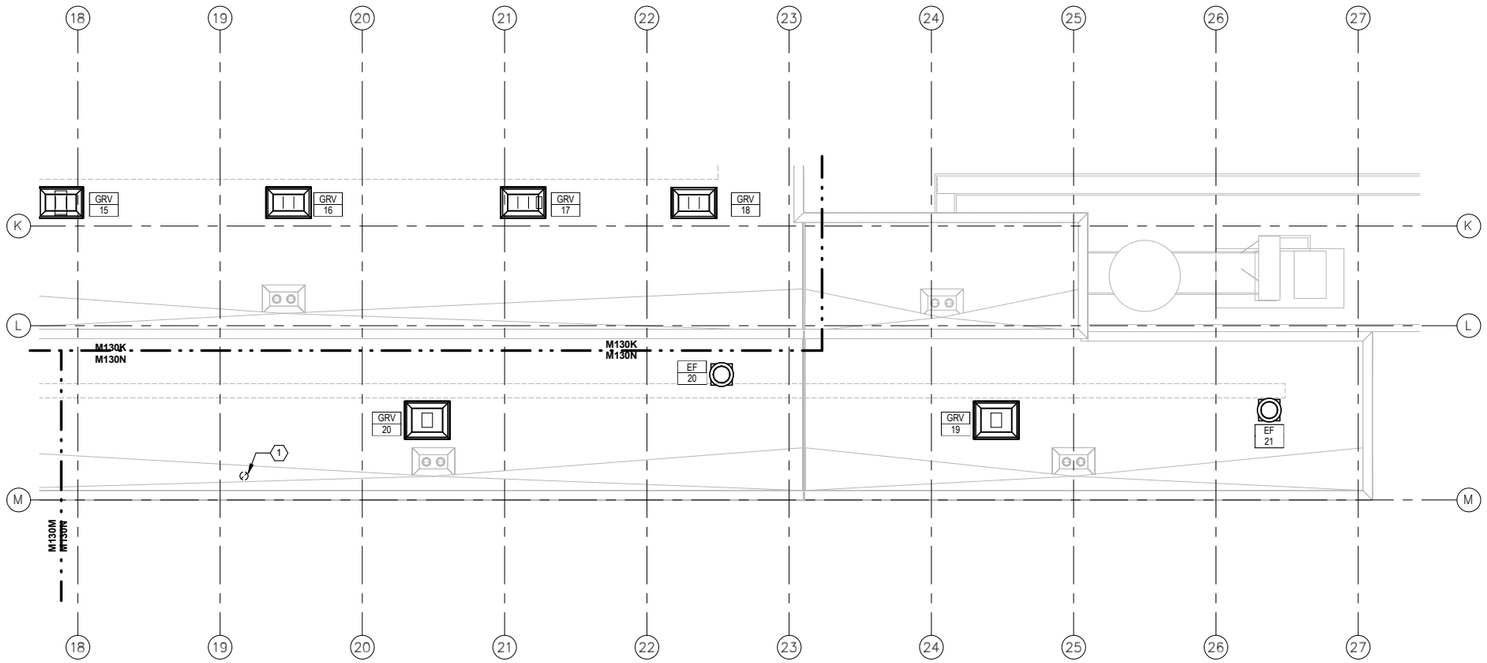
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130M

SHEET 48 OF 263

9/21/2015 12:37:09 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



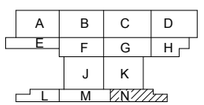
1 M-130N MECHANICAL ROOF PLAN - AREA N

SCALE: 3/32" = 1'-0"

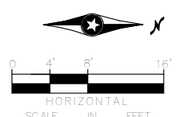
REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1 VENT FOR INDUSTRIAL EQUIPMENT #3720. REFER TO INDUSTRIAL PLANS FOR SIZE AND LOCATION.



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
ROOF LEVEL - PARTIAL HVAC AND PIPING PLAN AREA N

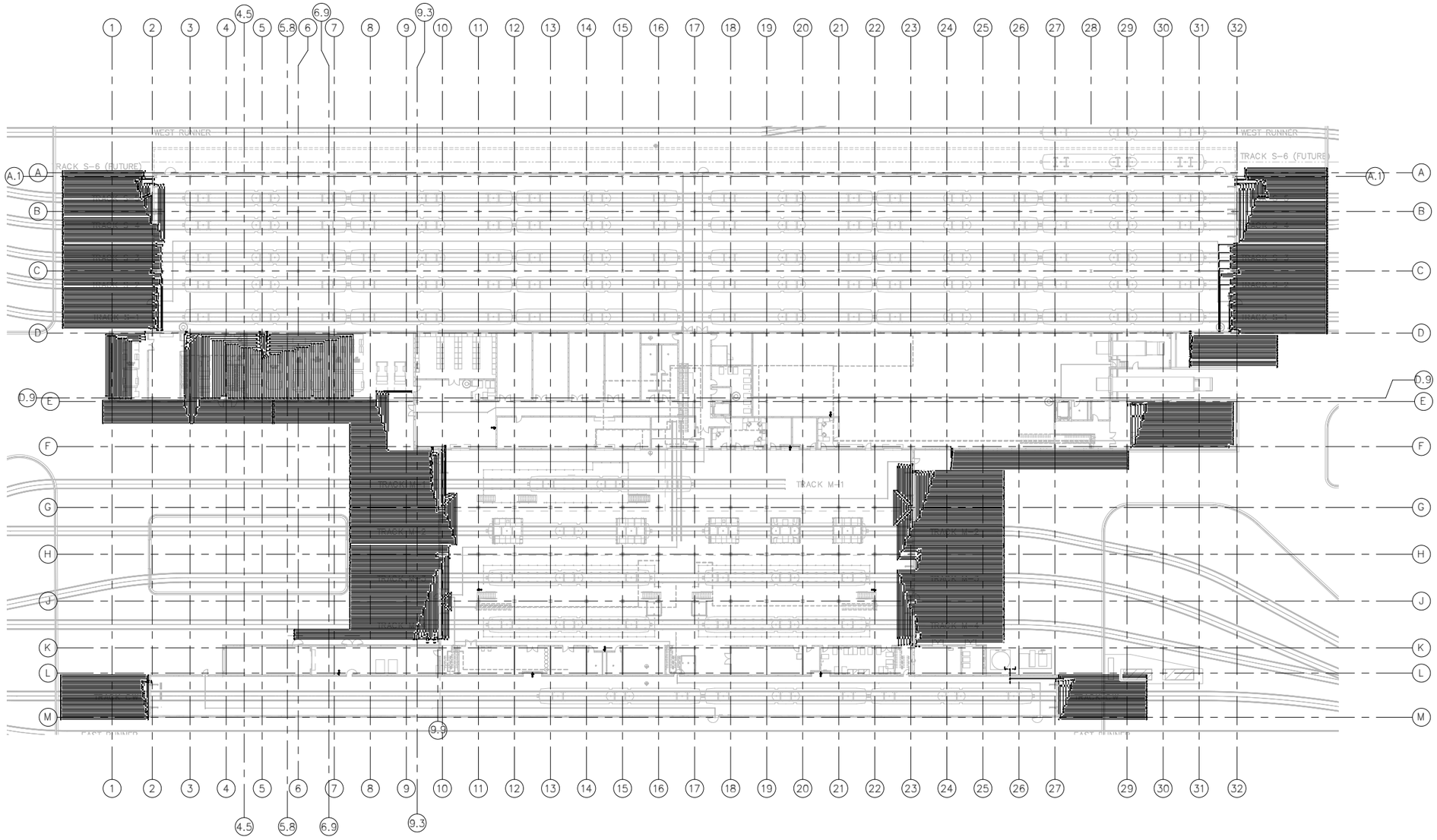
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-130N

SHEET 49 OF 263

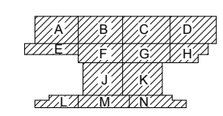
9/21/2015 12:37:11 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



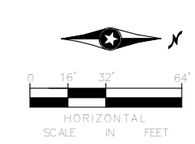
1 M-200 OVERALL UNDERGROUND PIPING PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL UNDERGROUND OVERALL RADIANT PIPING PLAN

DISCIPLINE: MECHANICAL

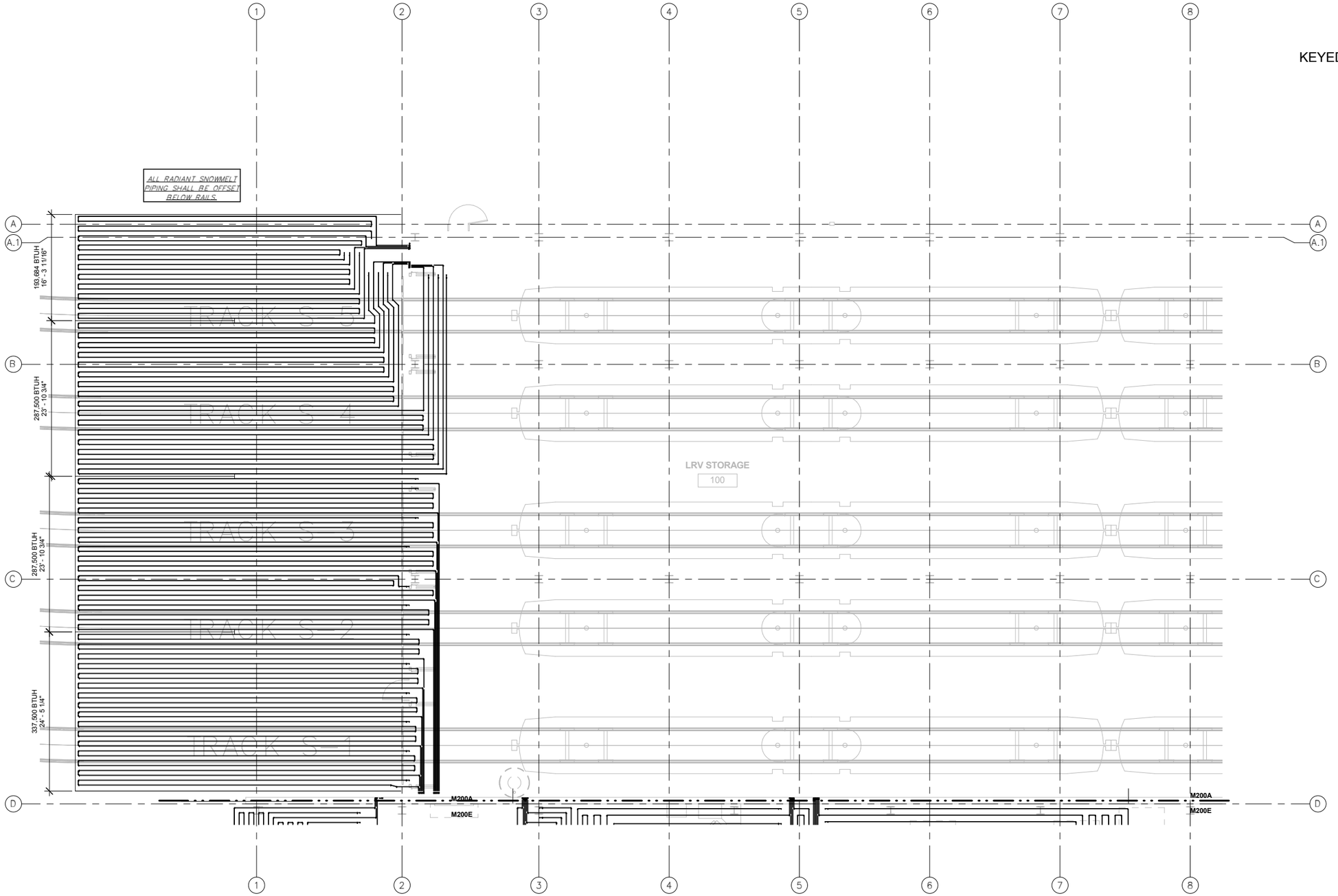
SHEET NAME: OMF-MECH-PLN

M-200

SHEET 50 OF 263

9/21/2015 11:33:26 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

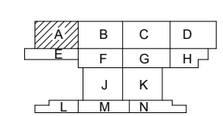
KEYED NOTES



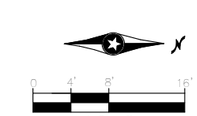
1 M-200A UNDERGROUND PIPING PLAN - AREA A

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA A

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-200A

SHEET 51 OF 263

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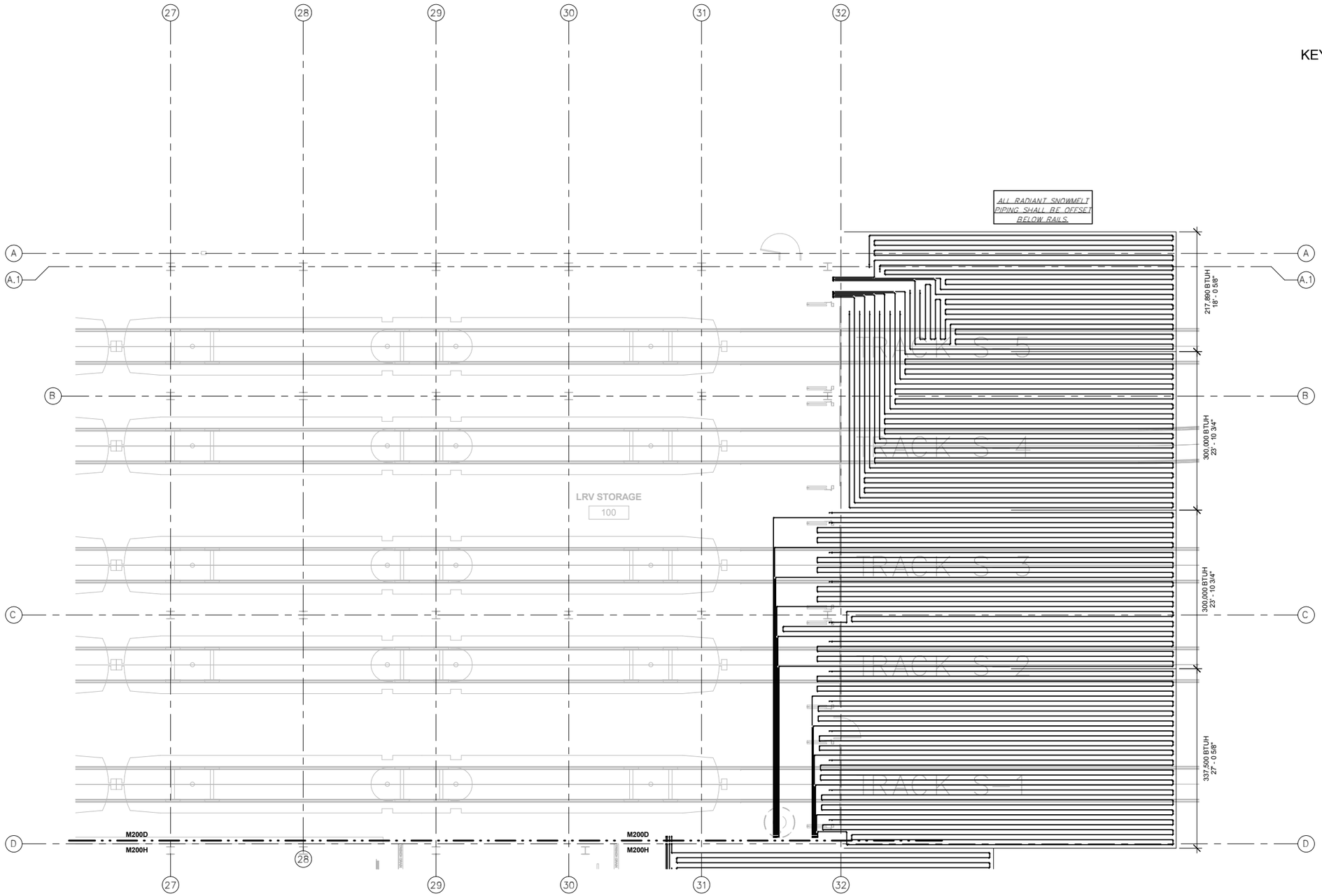
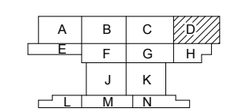
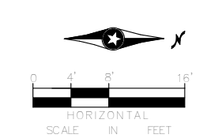
KEYED NOTES





KEY PLAN - SCALE: N.T.S.



1 M-200D UNDERGROUND PIPING PLAN - AREA D

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA D

DISCIPLINE: MECHANICAL

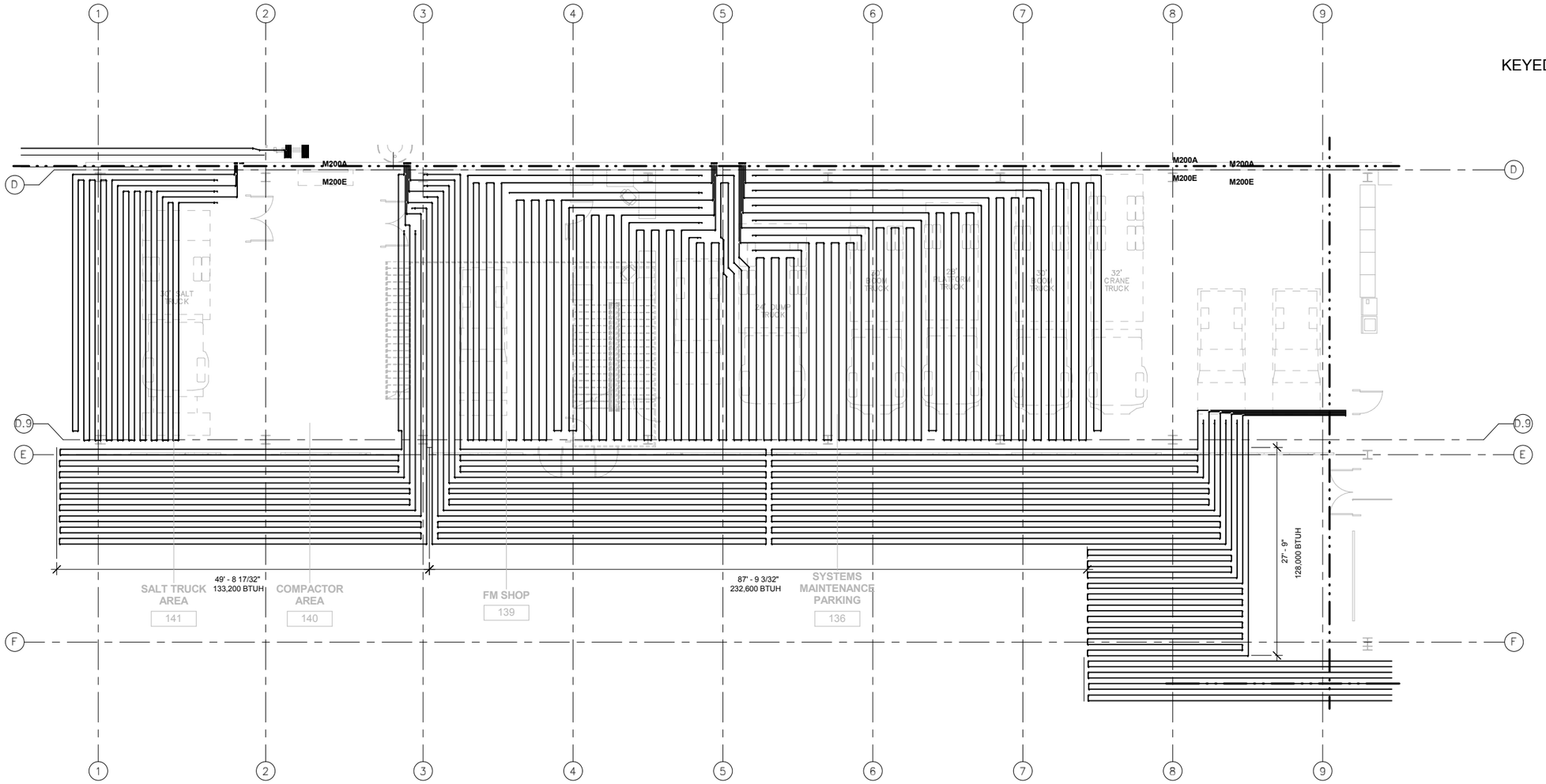
SHEET NAME: OMF-MECH-PLN

M-200D

SHEET 52 OF 263

9/21/2015 11:33:36 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

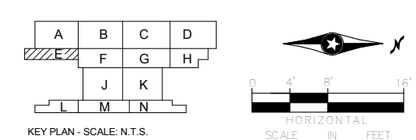
KEYED NOTES



1 M-200E UNDERGROUND PIPING PLAN - AREA E

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA E

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-200E

SHEET 53 OF 263

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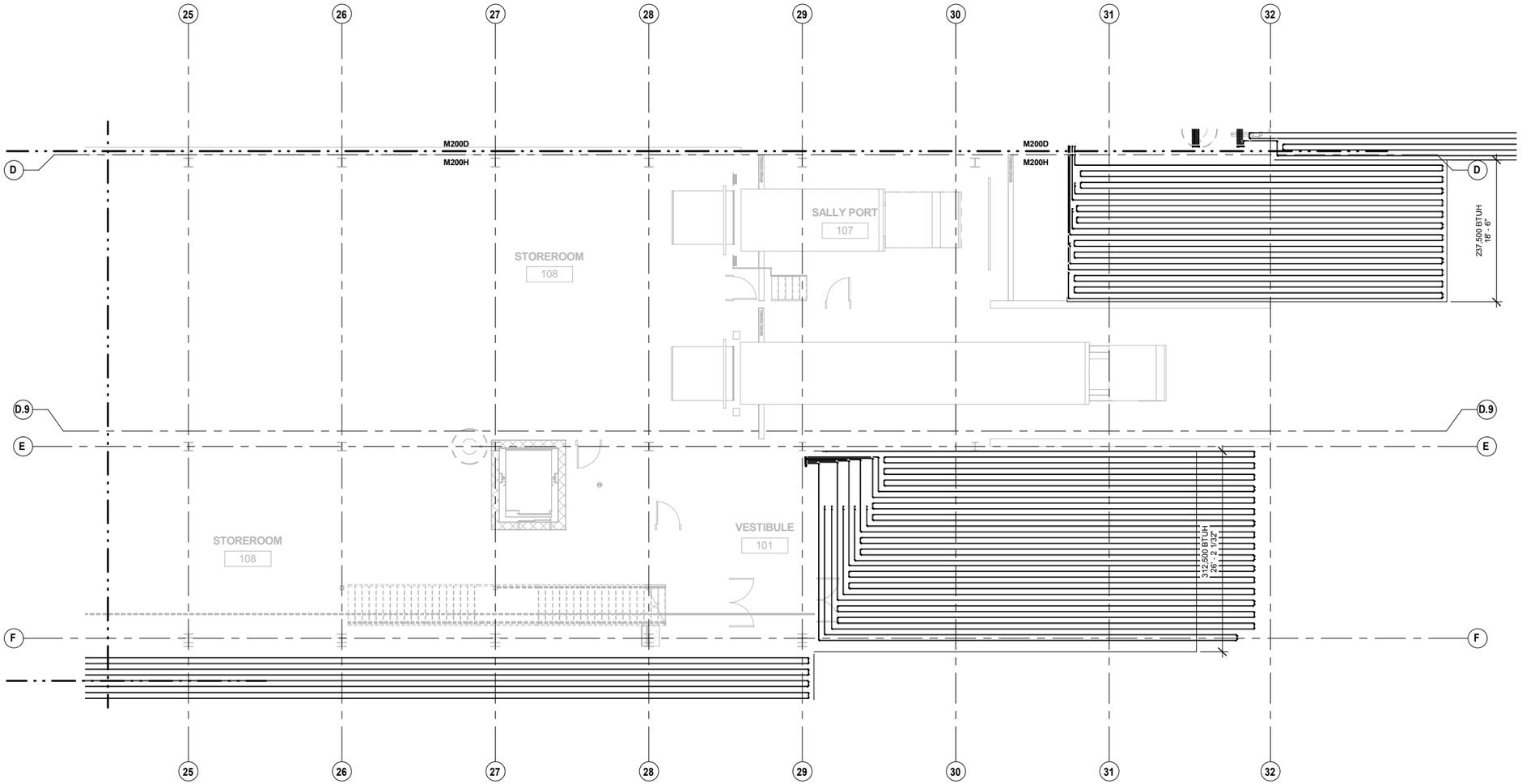
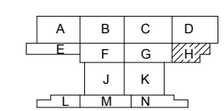


1 M-200H UNDERGROUND PIPING PLAN - AREA H

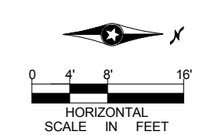
SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA H

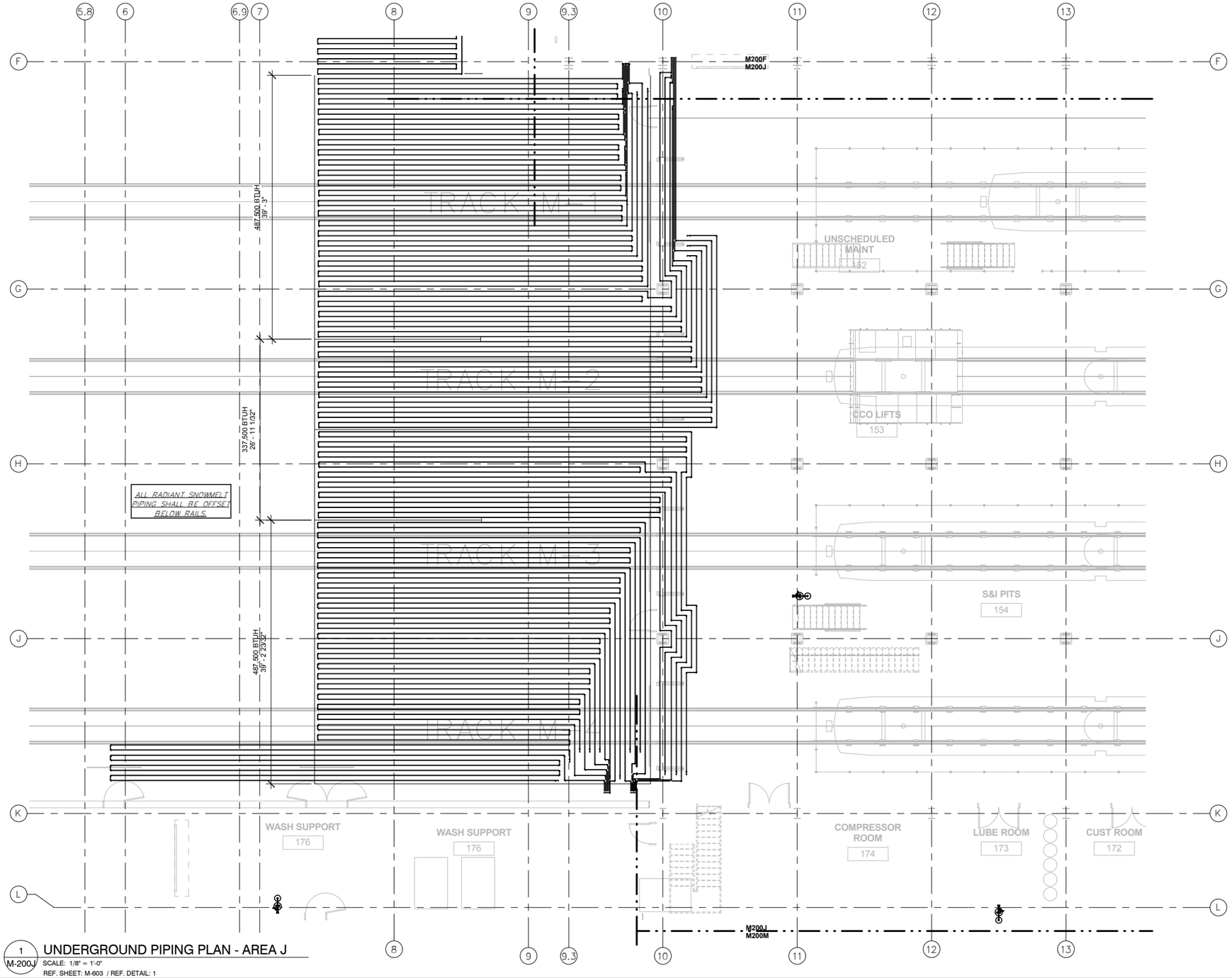
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-200H

SHEET 54 OF 263

9/21/2015 8:44:28 PM C:\Users\george\Documents\OMF_Mech_george.rvt

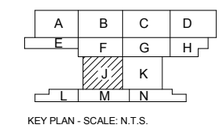


1 M-200J UNDERGROUND PIPING PLAN - AREA J

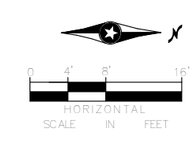
SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA J

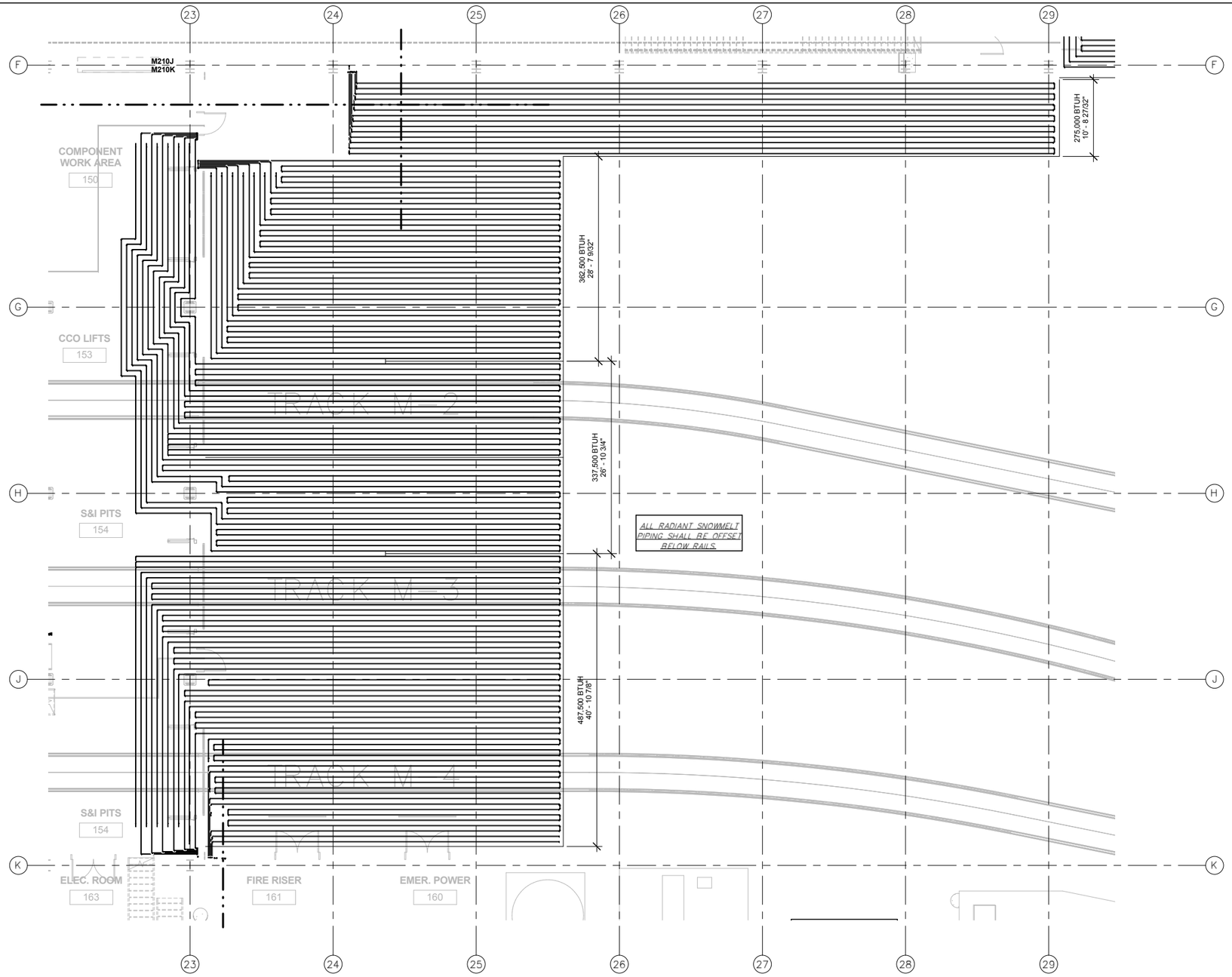
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

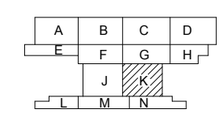
M-200J

SHEET 55 OF 263

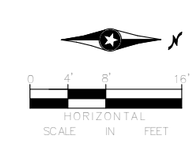
9/21/2015 11:33:50 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



KEYED NOTES



KEY PLAN - SCALE: N.T.S.



1 M-200K UNDERGROUND PIPING PLAN - AREA K

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA K

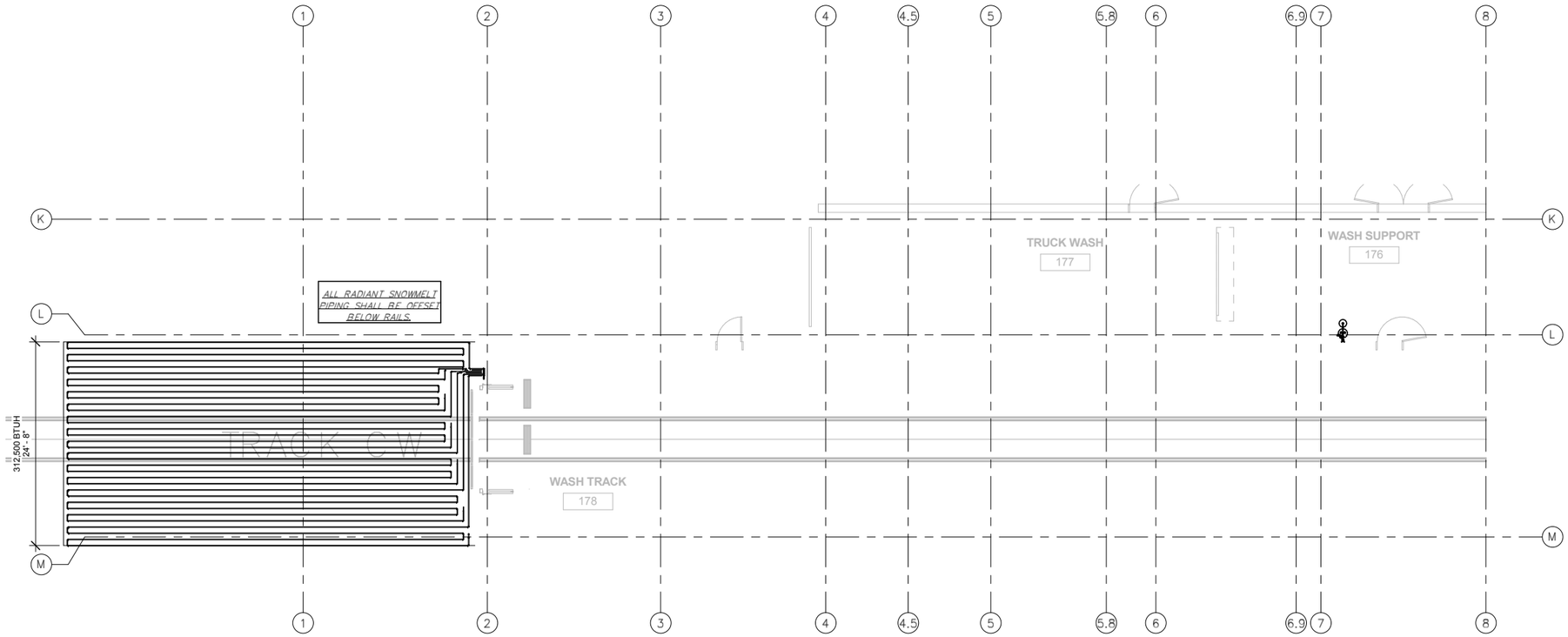
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-200K

SHEET 56 OF 263

9/21/2015 11:33:55 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

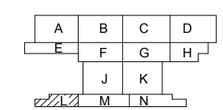


1 M-200L UNDERGROUND PIPING PLAN - AREA L

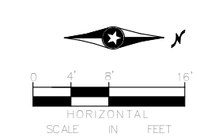
SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA L

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-200L

SHEET 57 OF 263

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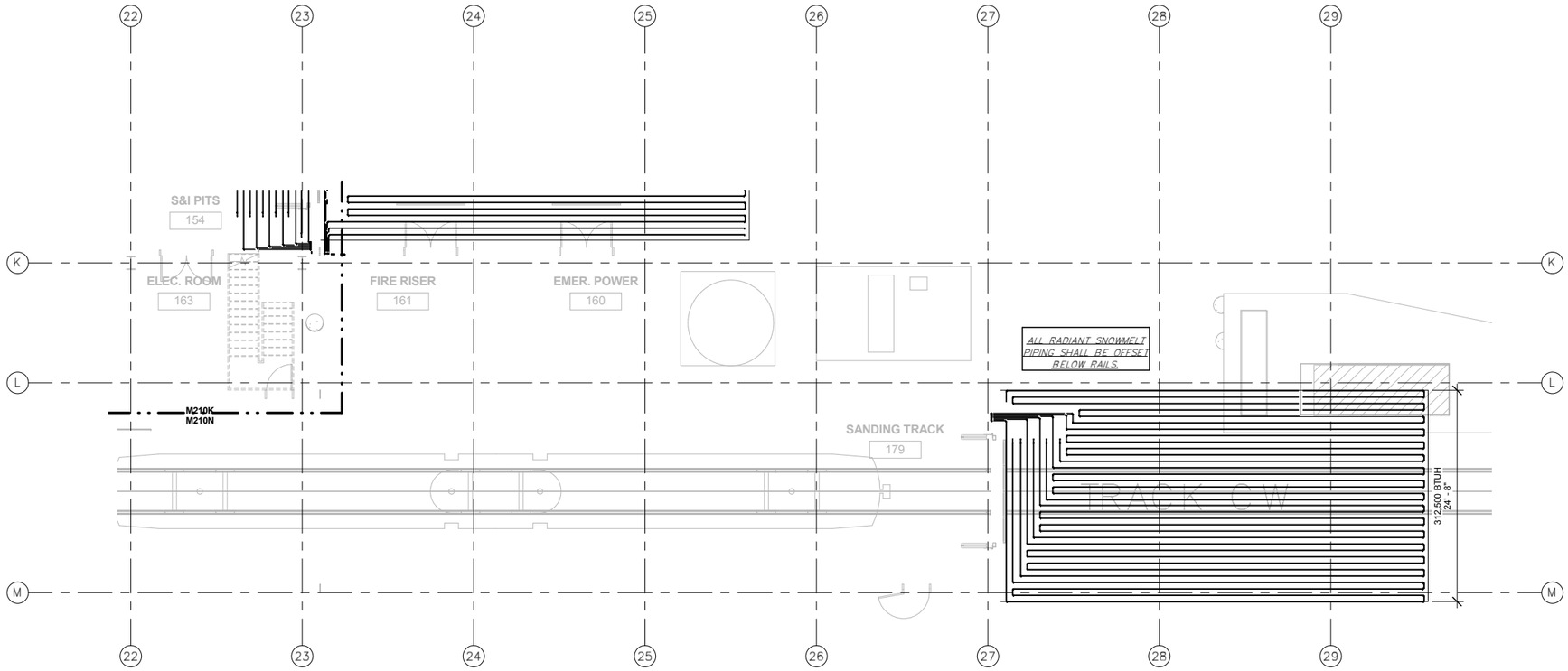
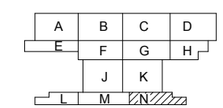


KEYED NOTES

1 M-200N UNDERGROUND PIPING PLAN - AREA N

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



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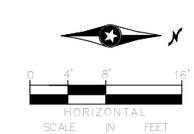

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
UNDERGROUND - PARTIAL RADIANT PIPING PLANS AREA N

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-200N

SHEET 58 OF 263

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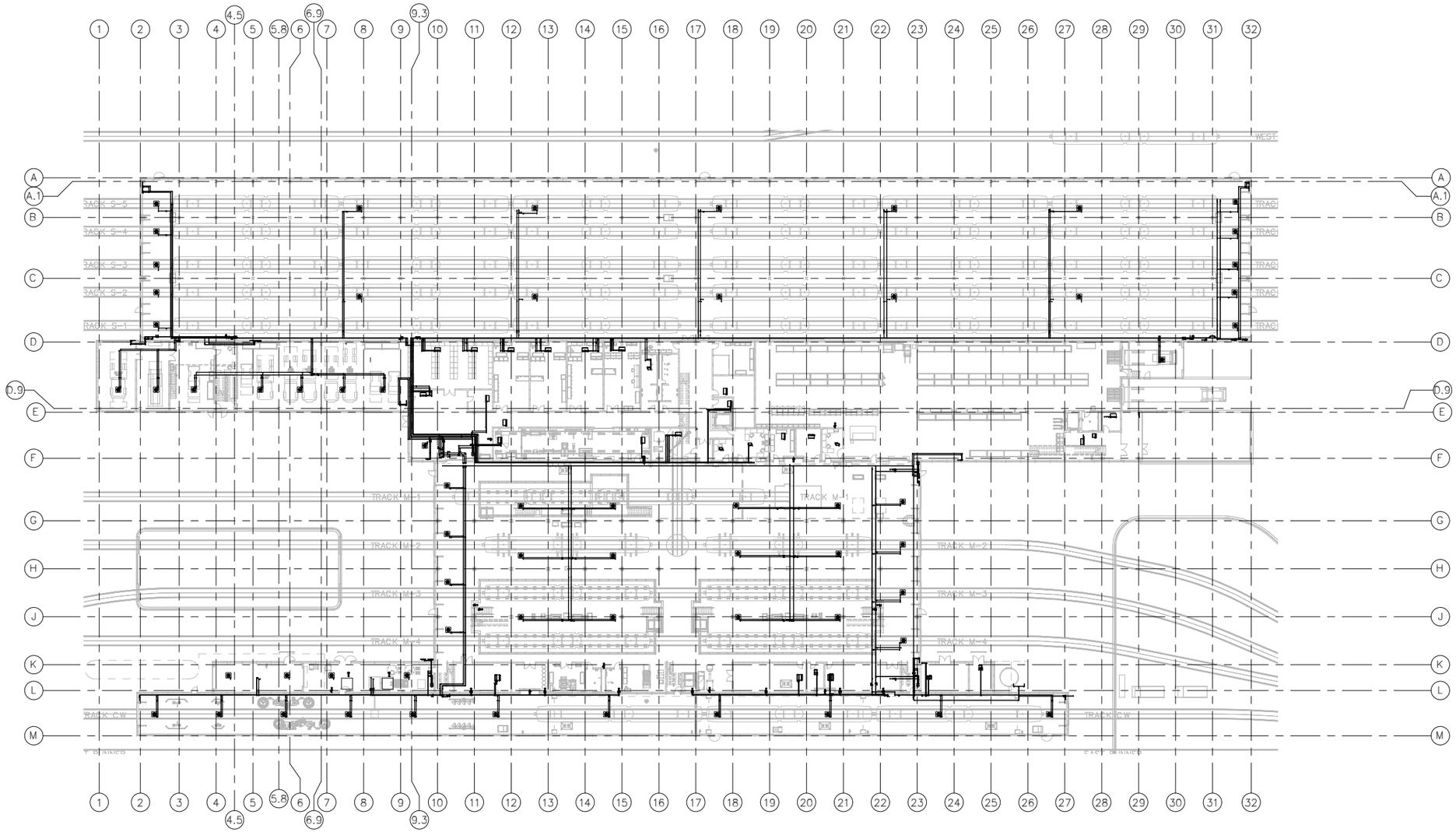
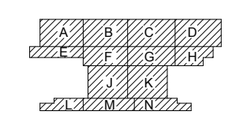
KEYED NOTES



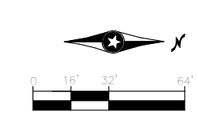
1 M-210 OVERALL LEVEL ONE PIPING PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE OVERALL PIPING PLAN

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

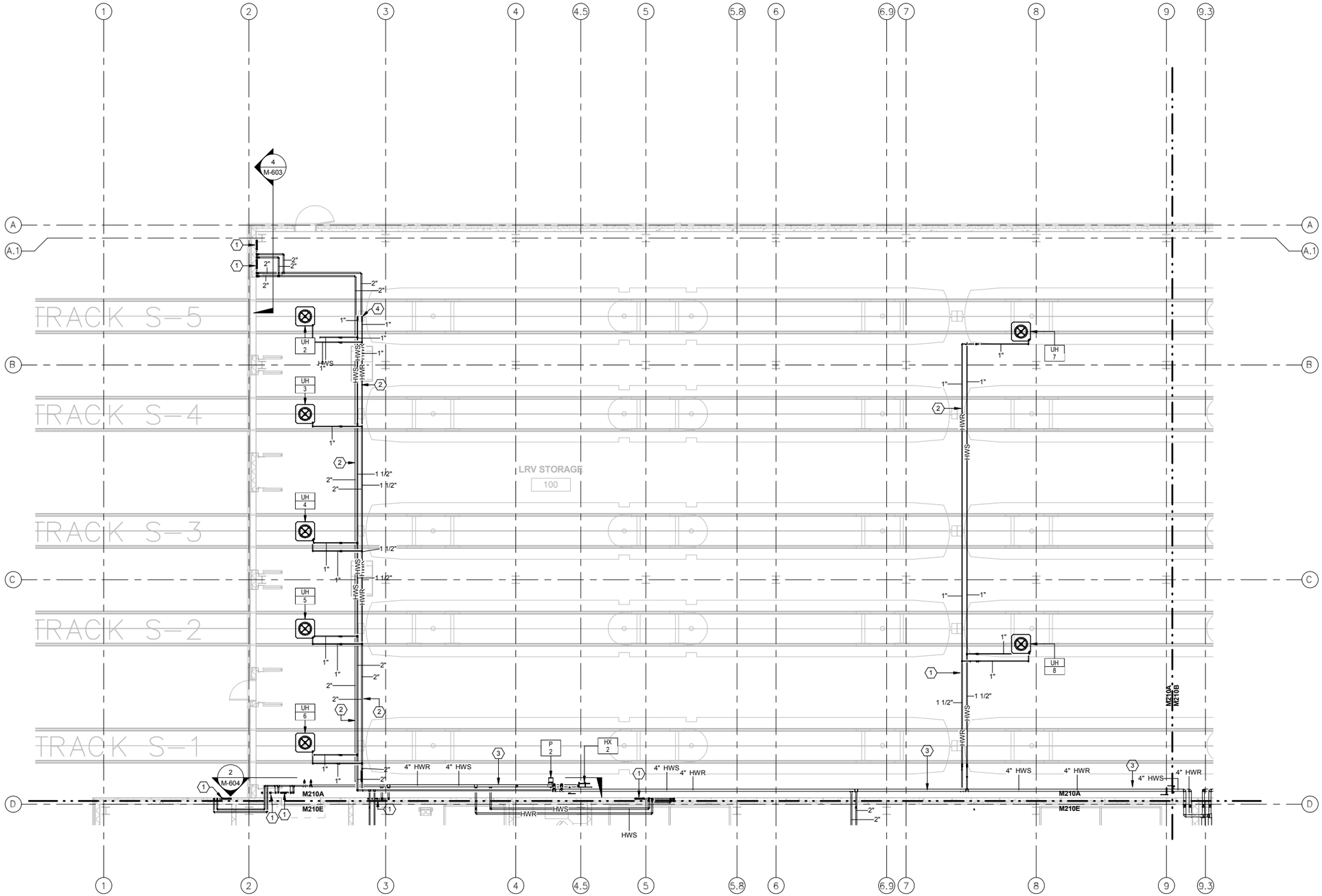
M-210

SHEET 59 OF 263

9/21/2015 11:34:10 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

KEYED NOTES

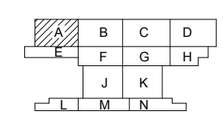
1. RADIANT SNOW MELT MANIFOLD ASSEMBLY
2. RUN HYDRONIC PIPING IN JOIST SPACE
3. RACK HYDRONIC PIPING ON WALL
4. VALVE AND CAP FOR FUTURE



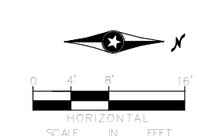
1 M-210A LEVEL ONE - AREA A - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA A

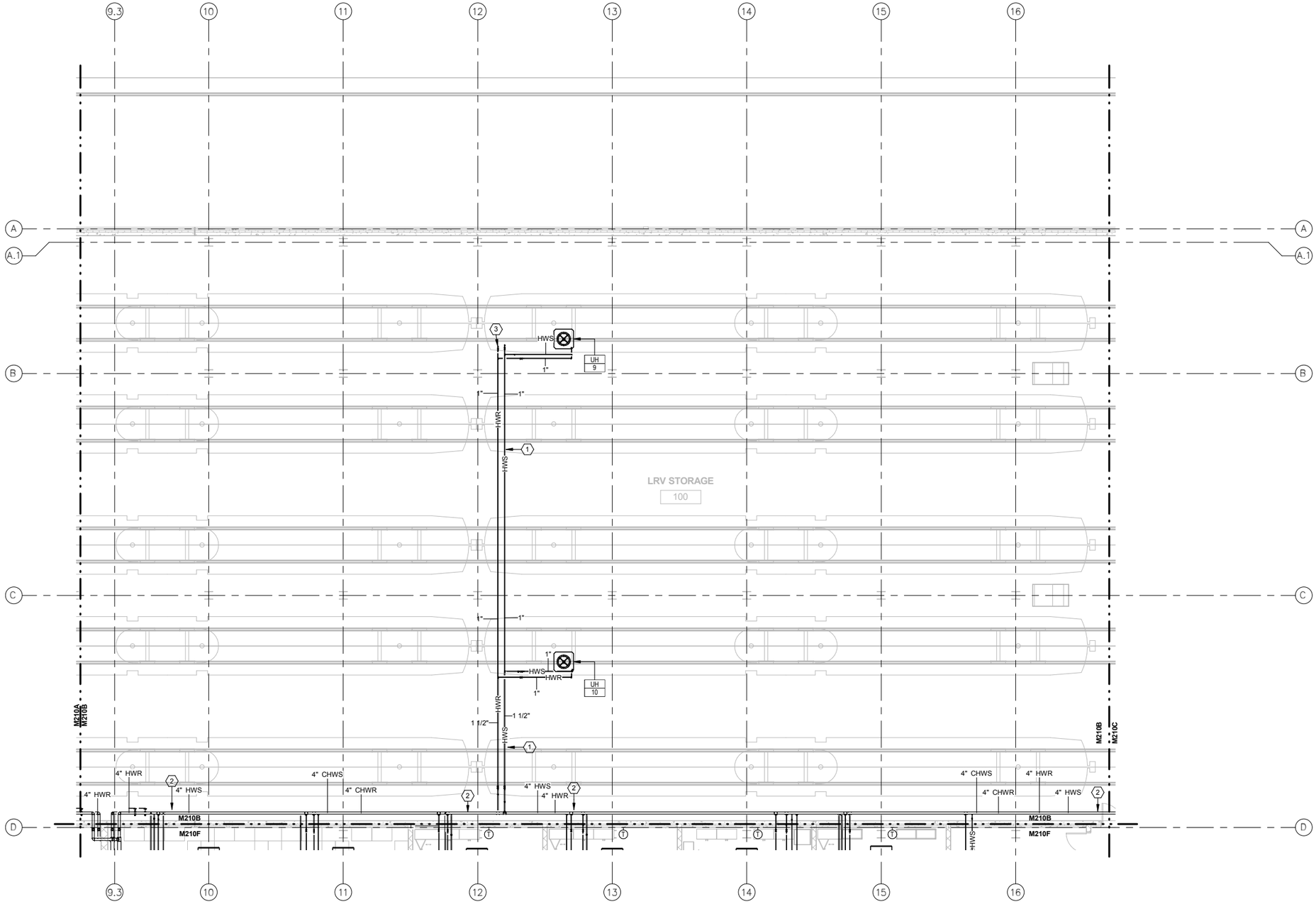
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210A

SHEET 60 OF 263

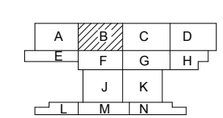
9/21/2015 11:34:15 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



KEYED NOTES

1 RUN HYDRONIC PIPING IN JOIST SPACE
2 RACK HYDRONIC PIPING ON WALL
3 VALVE AND CAP FOR FUTURE

1 / M-210B LEVEL ONE - AREA B - PIPING PLAN
SCALE: 1/8" = 1'-0"
REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL
SOUTHWEST

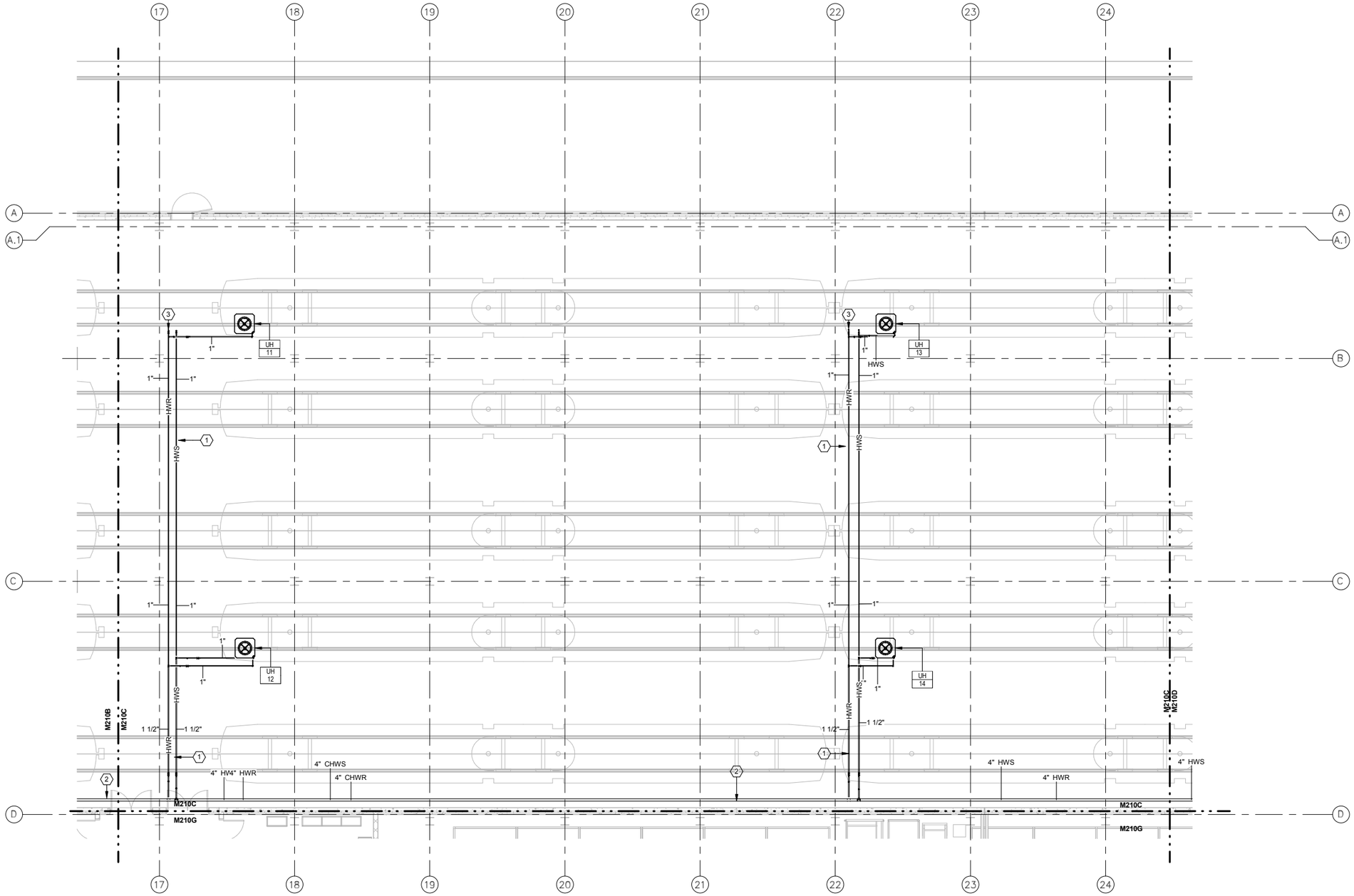
OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA B

DISCIPLINE: MECHANICAL
SHEET NAME: OMF-MECH-PLN
M-210B

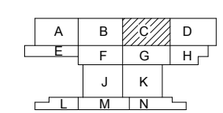
SHEET 61 OF 263

9/21/2015 11:34:20 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



KEYED NOTES

1 RUN HYDRONIC PIPING IN JOIST SPACE
2 RACK HYDRONIC PIPING ON WALL
3 VALVE AND CAP FOR FUTURE



KEY PLAN - SCALE: N.T.S.

1 / M-210C LEVEL ONE - AREA C - PIPING PLAN

SCALE: 1/8" = 1'-0"
REF. SHEET: M-603 / REF. DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA C

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210C

SHEET 62 OF 263

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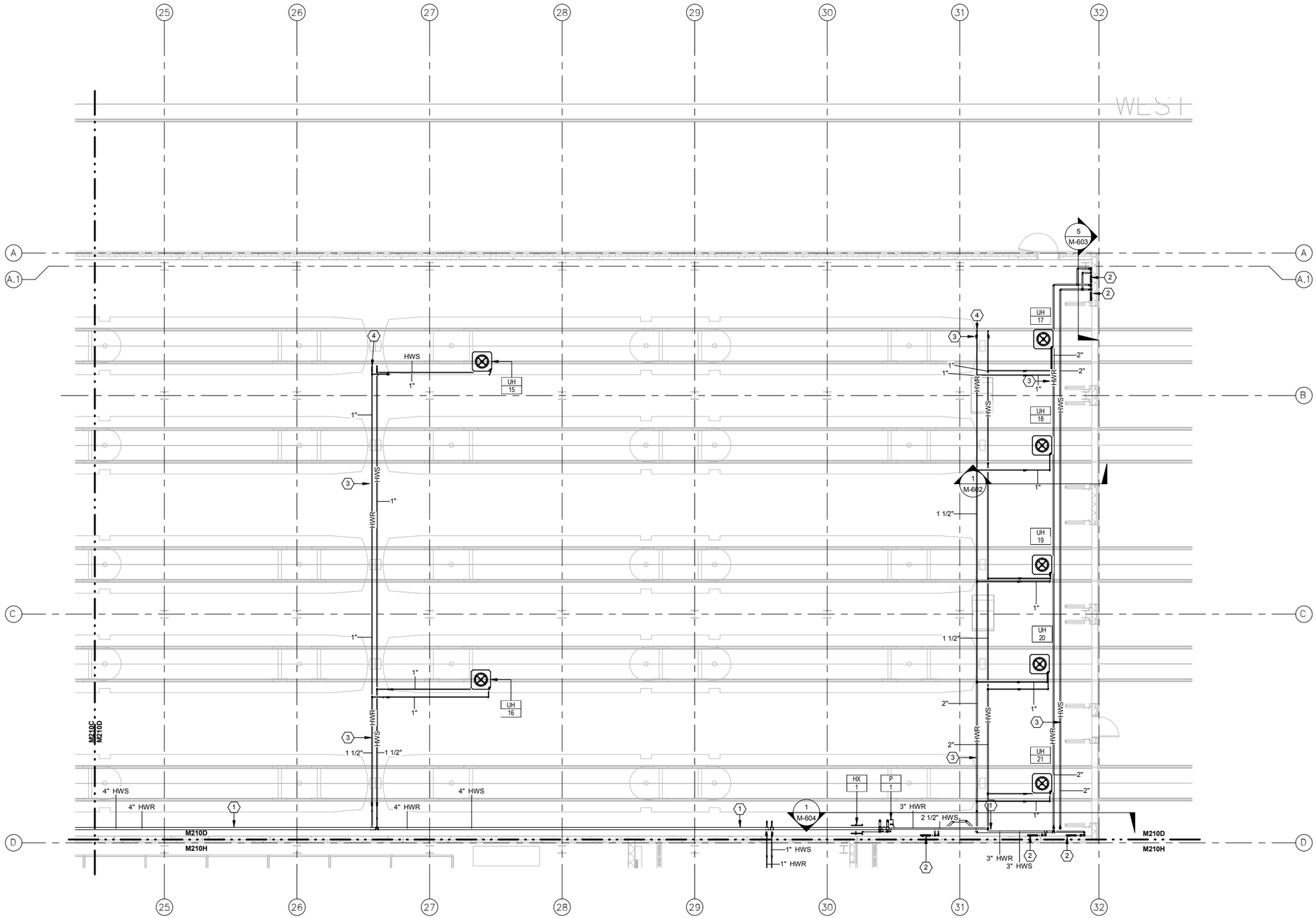
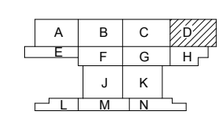


KEYED NOTES

1. RACK HYDRONIC PIPING ON WALL
2. RADIANT SNOW MELT MANIFOLD ASSEMBLY
3. RUN HYDRONIC PIPING IN JOIST SPACE
4. VALVE AND CAP FOR FUTURE



KEY PLAN - SCALE: N.T.S.

1 / M-210D LEVEL ONE - AREA D - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA D

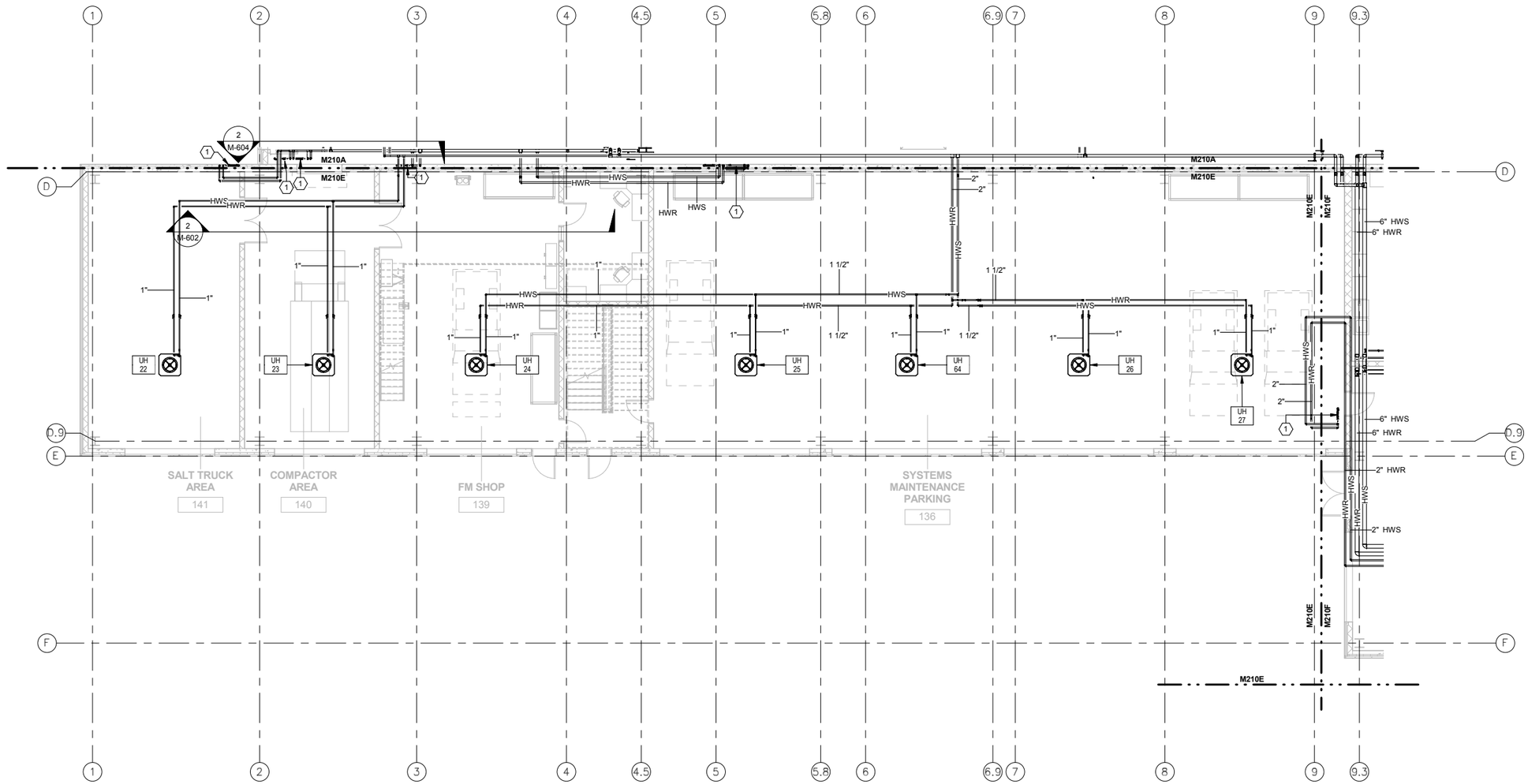
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210D

SHEET 63 OF 263

9/21/2015 11:34:30 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



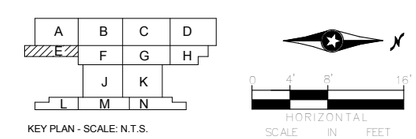
KEYED NOTES

1 RADIANT SNOW MELT MANIFOLD ASSEMBLY

1 / M-210E LEVEL ONE- AREA E -PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA E

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210E

SHEET 64 OF 263

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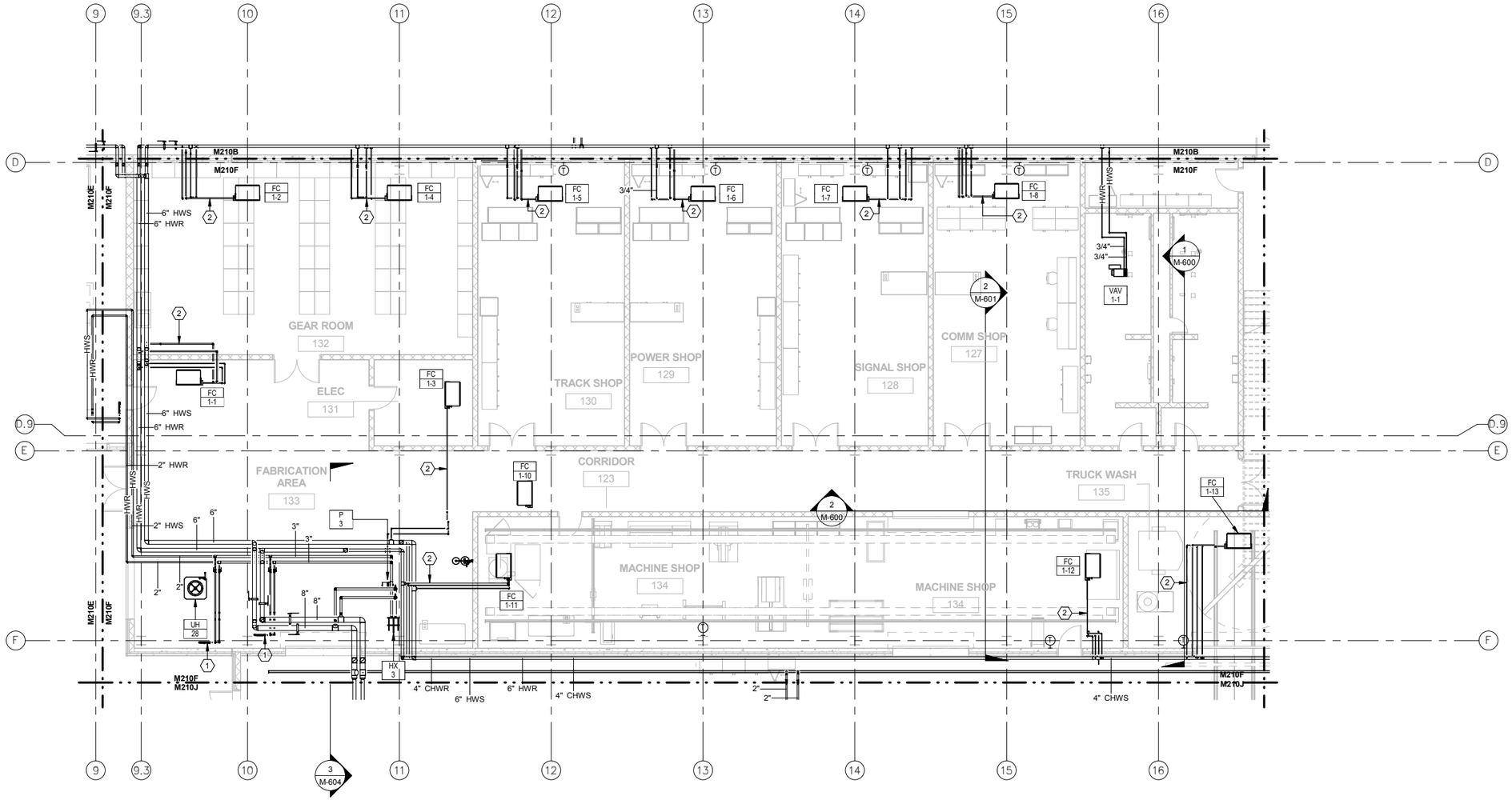


1 M-210F LEVEL ONE - AREA F - PIPING PLAN

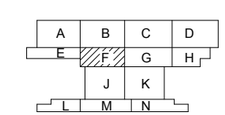
SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

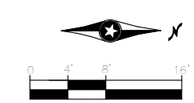
KEYED NOTES

1 RADIANT SNOW MELT MANIFOLD ASSEMBLY

2 3/4" HWS, 3/4" HWR, 1 1/2" CWS, & 1 1/2" CWR. ROUTE PIPING AS HIGH AS POSSIBLE.



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA F

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

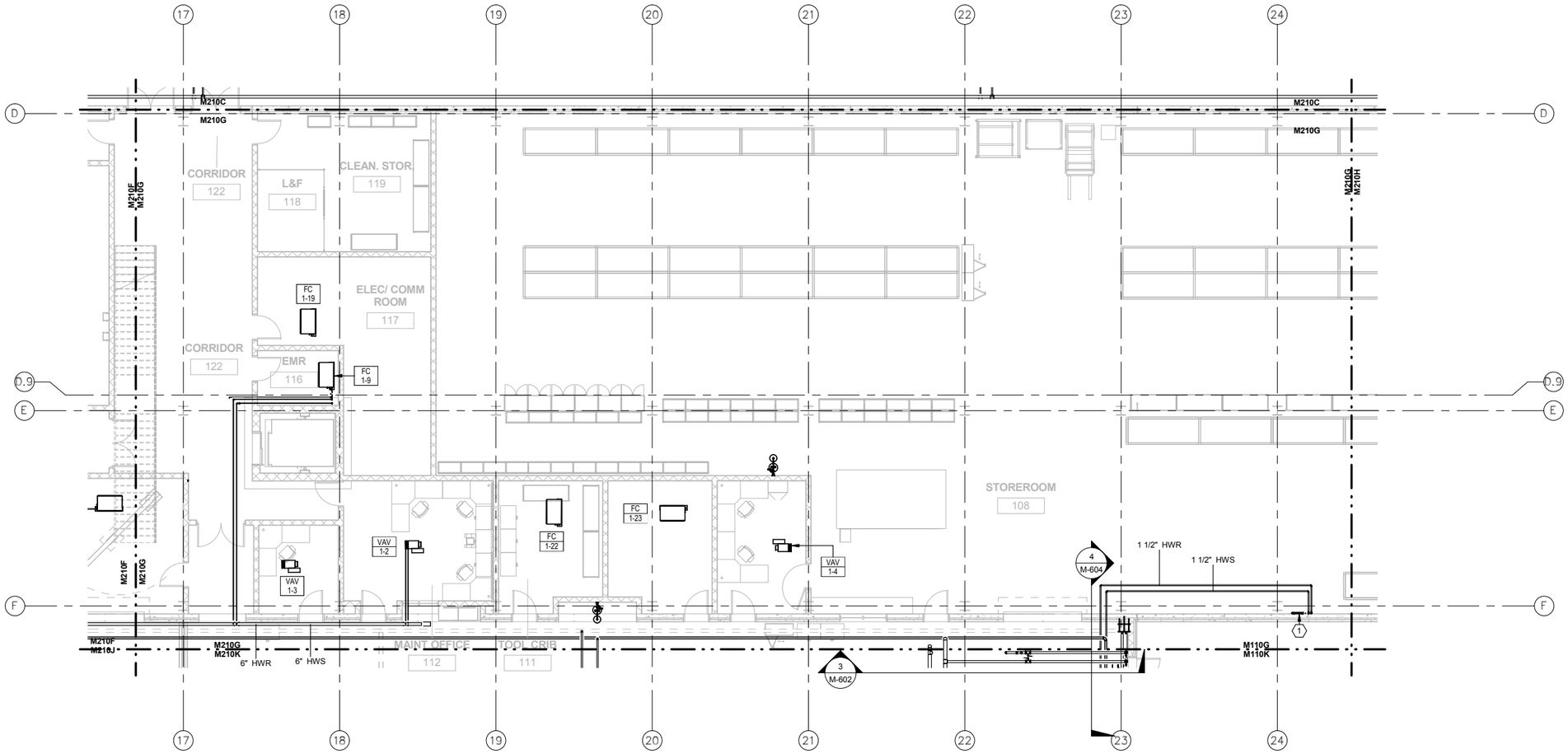
M-210F

SHEET 65 OF 263

9/21/2015 11:34:44 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

KEYED NOTES

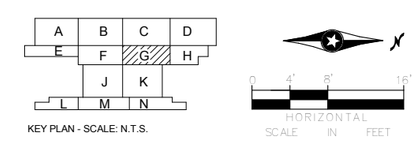
1 RADIANT SNOW MELT MANIFOLD ASSEMBLY



1 / M-210G LEVEL ONE - AREA G - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA G

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210G

SHEET 66 OF 263

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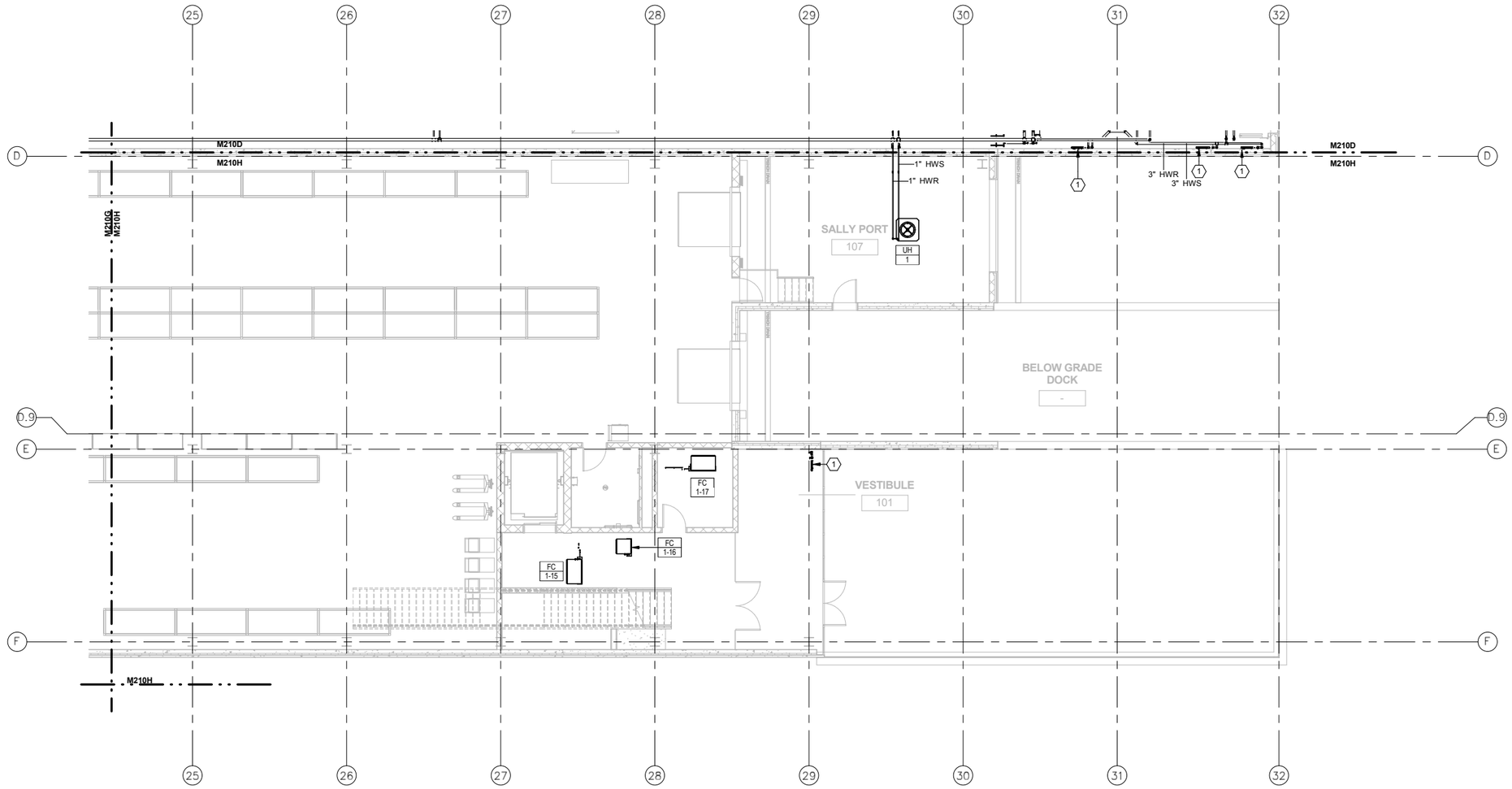


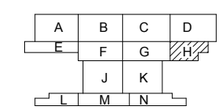
KEYED NOTES

1 RADIANT SNOW MELT MANIFOLD ASSEMBLY

1 / M-210H LEVEL ONE - AREA H - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA H

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210H

SHEET 67 OF 263

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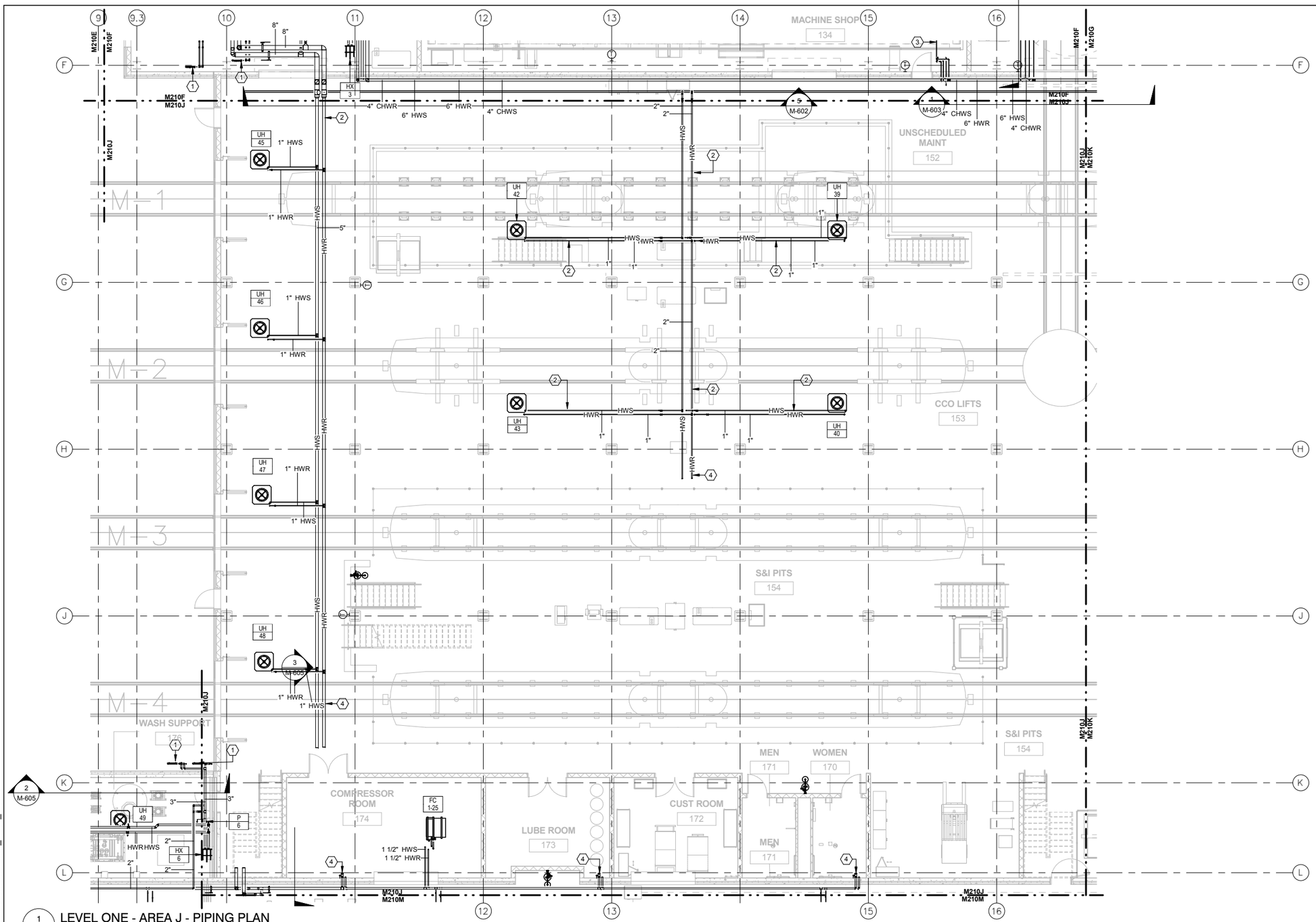
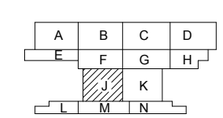
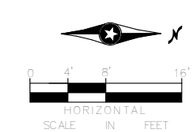


KEYED NOTES

1. RADIANT SNOW MELT MANIFOLD ASSEMBLY
2. RUN HYDRONIC PIPING IN JOIST SPACE
3. 3/4" HWS, 3/4" HWR, 1 1/2" CWS, & 1 1/2" CWR. ROUTE PIPING AS HIGH AS POSSIBLE.
4. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M215J



KEY PLAN - SCALE: N.T.S.



1 M-210J LEVEL ONE - AREA J - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF SHEET: M-603 / REF DETAIL: 1

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA J

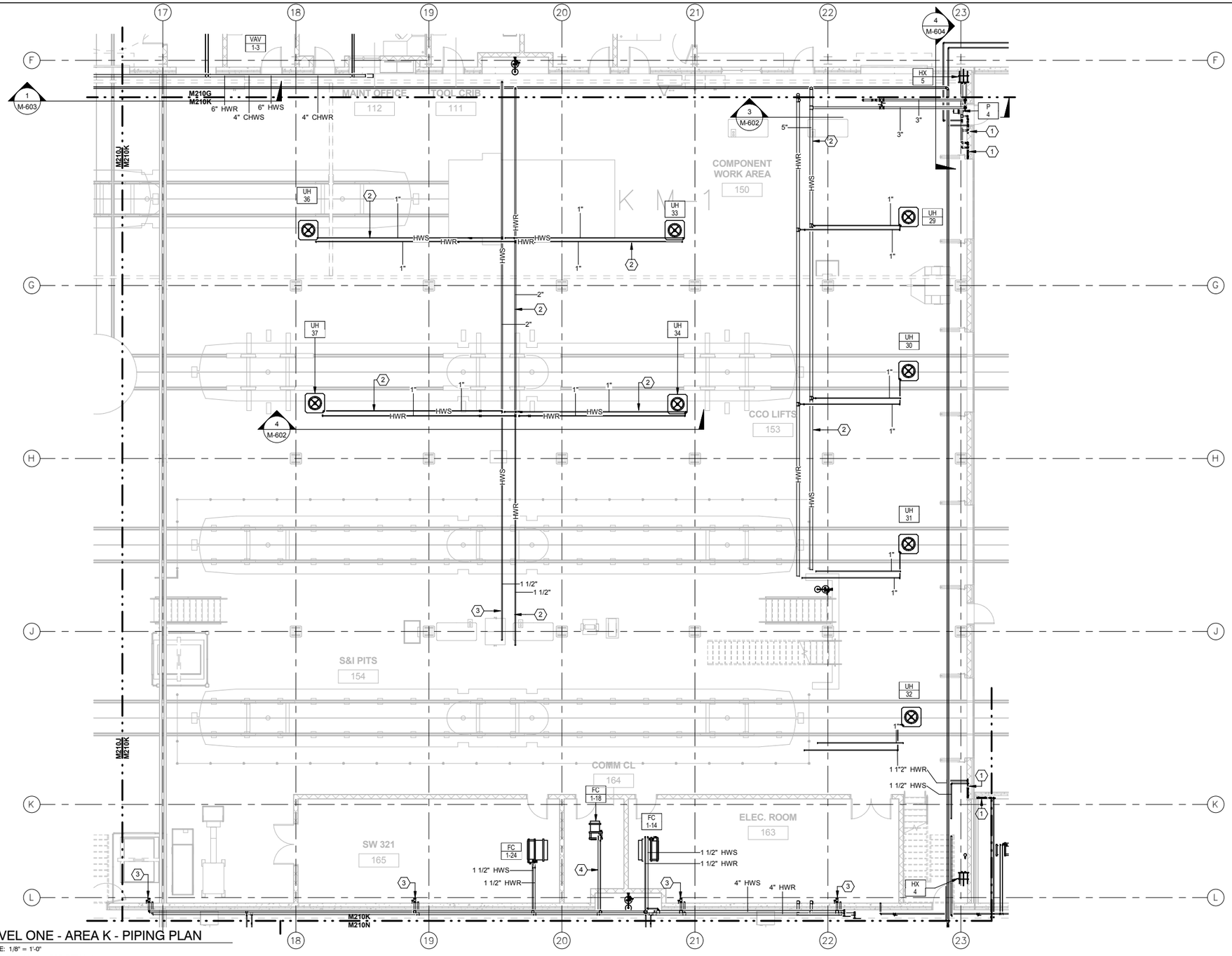
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210J

SHEET 68 OF 263

9/21/2015 11:35:02 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



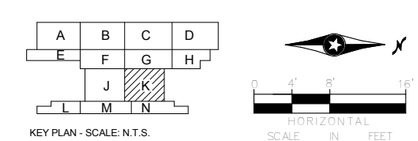
1 M-210K LEVEL ONE - AREA K - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1. RADIANT SNOW MELT MANIFOLD ASSEMBLY
2. RUN HYDRONIC PIPING IN JOIST SPACE
3. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M215K
4. RUN 3/4" HWS & 3/4" HWR AS HIGH AS POSSIBLE



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA K

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210K

SHEET 69 OF 263

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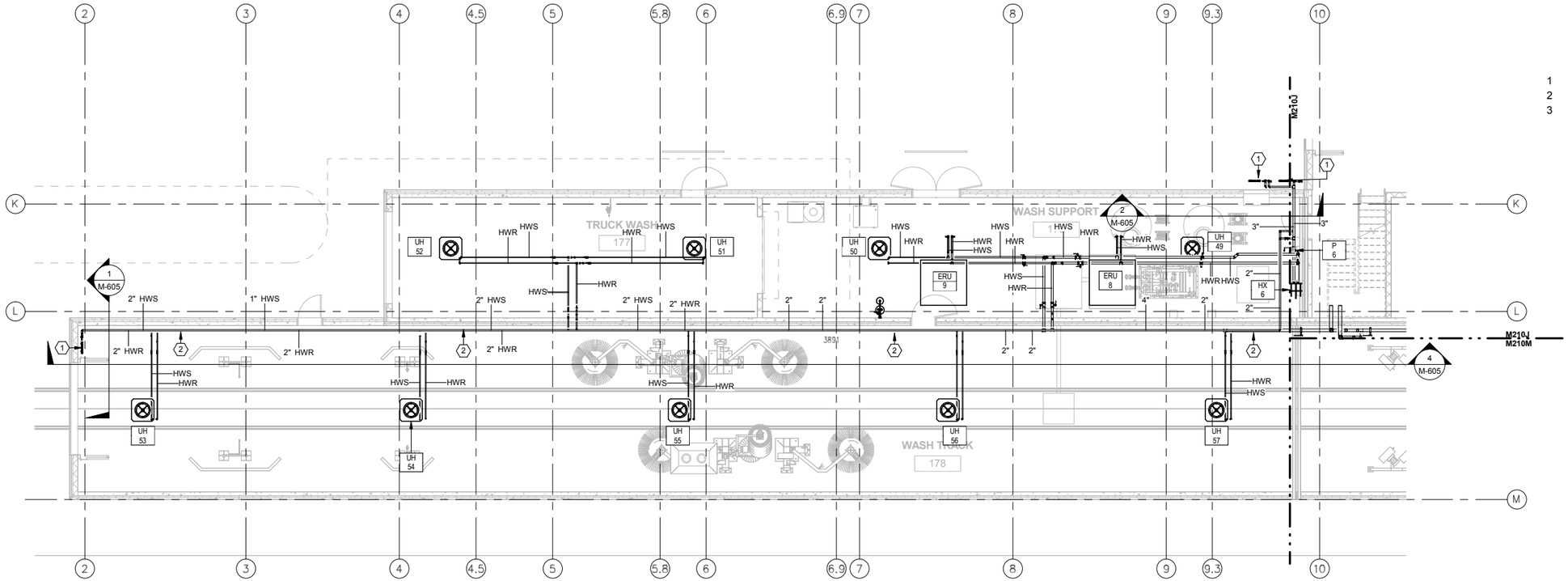


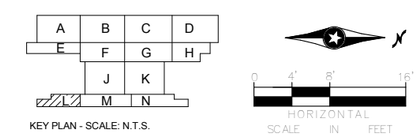
KEYED NOTES

1. RADIANT SNOW MELT MANIFOLD ASSEMBLY
2. RACK HYDRONIC PIPING ON WALL
3. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M215J

1 / M-210L LEVEL ONE - AREA L - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA L

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210L

SHEET 70 OF 263

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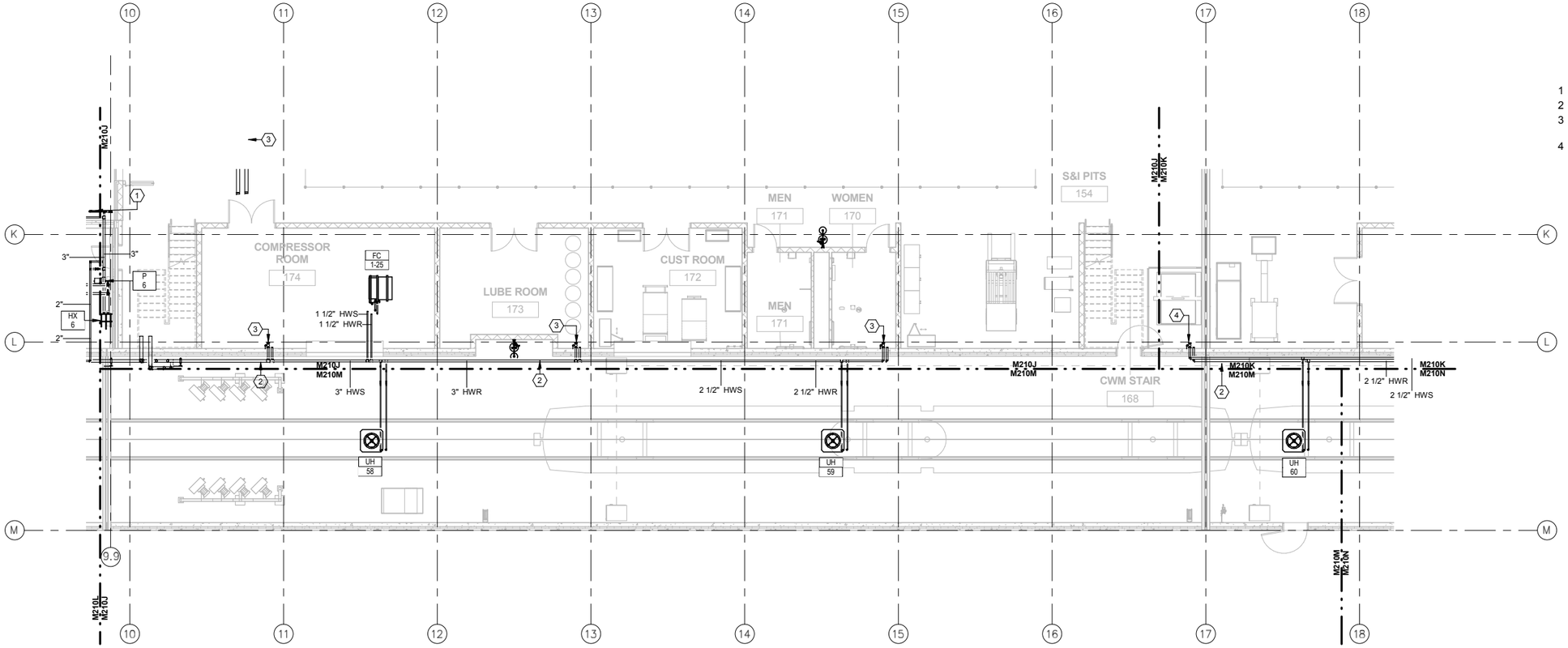


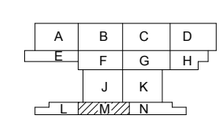
1 M-210M LEVEL ONE - AREA M - PIPING PLAN

SCALE: 1/8" = 1'-0"

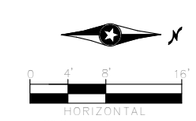
REF. SHEET: M-603 / REF. DETAIL: 1

KEYED NOTES

1. RADIANT SNOW MELT MANIFOLD ASSEMBLY
2. RACK HYDRONIC PIPING ON WALL
3. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M215J
4. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M215K



KEY PLAN - SCALE: N.T.S.



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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA M

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-210M

SHEET 71 OF 263

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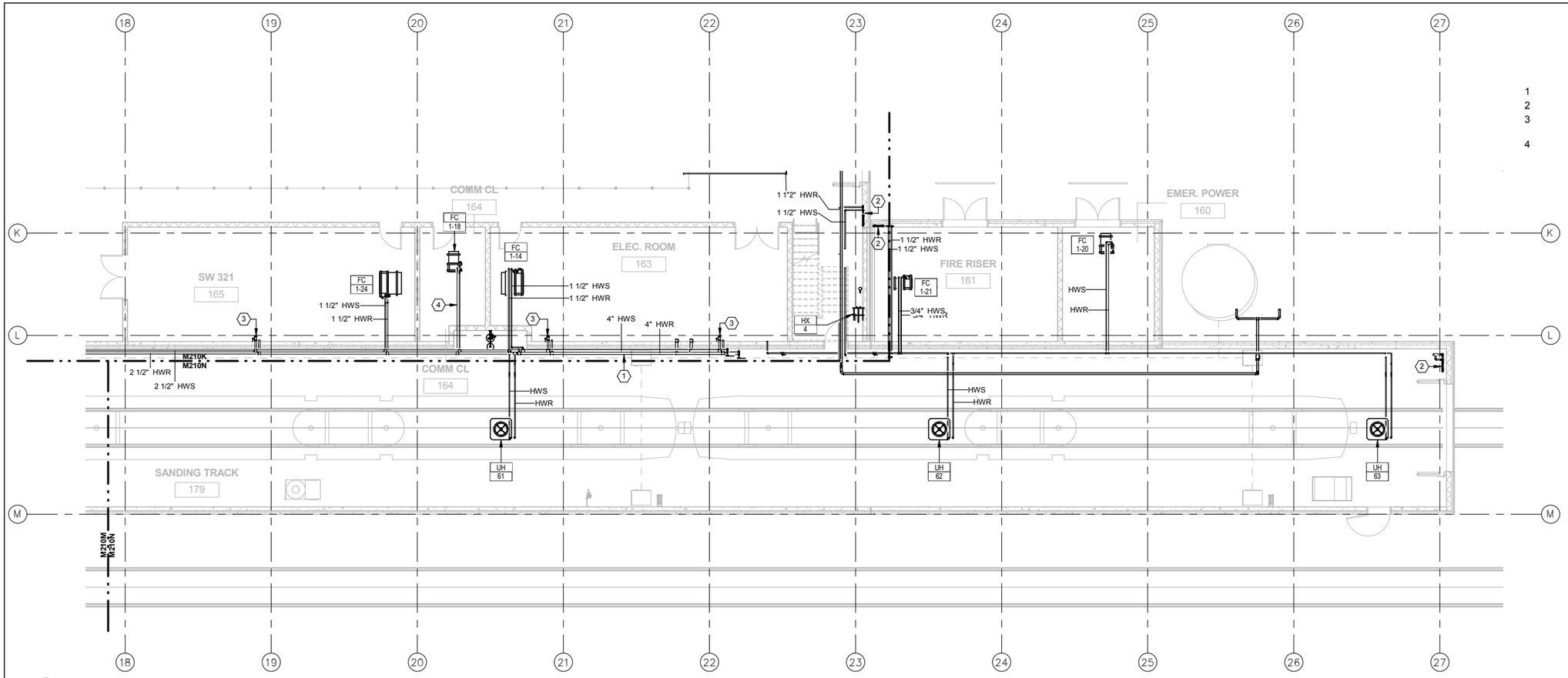


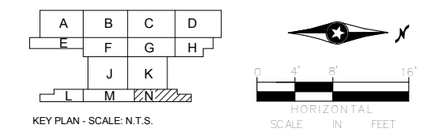
KEYED NOTES

1. RACK HYDRONIC PIPING ON WALL
2. RADIANT SNOW MELT MANIFOLD ASSEMBLY
3. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M215K
4. RUN 3/4" HWS & 3/4" HWR AS HIGH AS POSSIBLE

1 / M-210N LEVEL ONE - AREA N - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-603 / REF. DETAIL: 1



KEY PLAN - SCALE: N.T.S.

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL ONE - PARTIAL PIPING PLAN AREA N

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN M-210N

SHEET 72 OF 263

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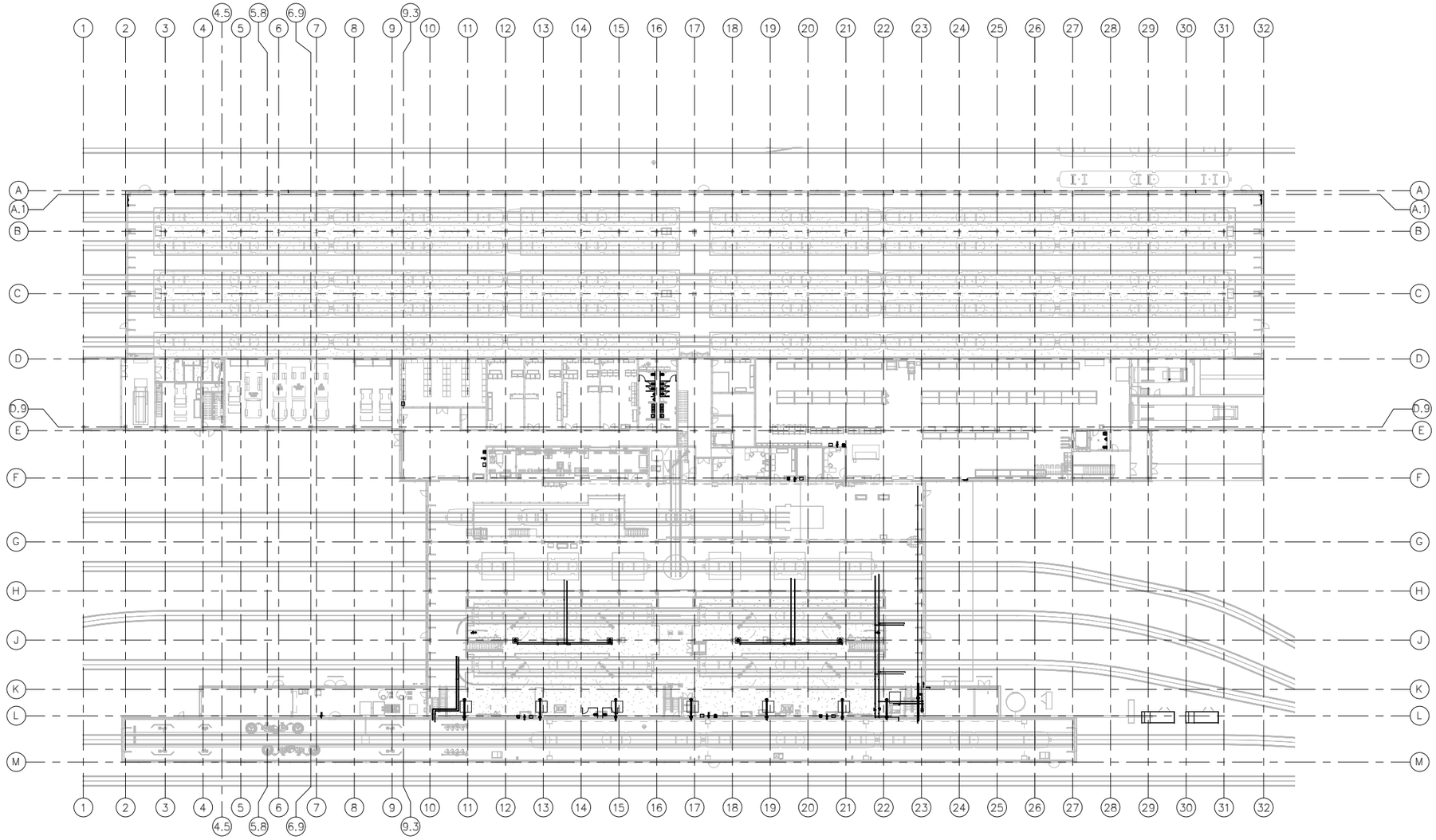
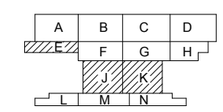


KEYED NOTES

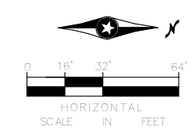
1 M-215 OVERALL MEZZANINE LEVEL PIPING PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-602 / REF. DETAIL: 2



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
MEZZANINE LEVEL OVERALL PIPING FLOOR PLAN

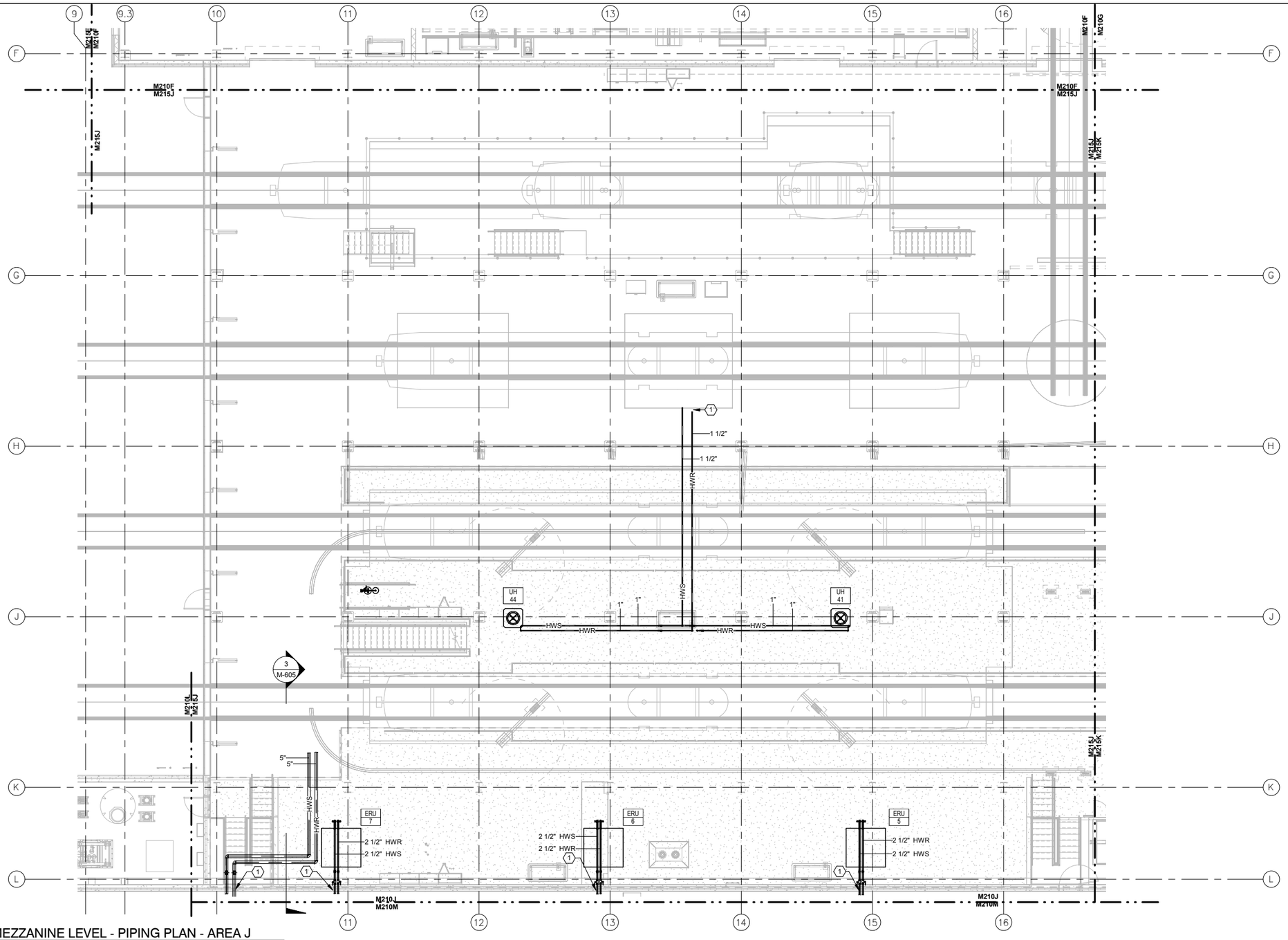
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-215

SHEET 73 OF 263

9/21/2015 11:35:31 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



1 M-215J MEZZANINE LEVEL - PIPING PLAN - AREA J

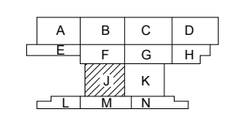
SCALE: 1/8" = 1'-0"

REF. SHEET: M-602 / REF. DETAIL: 2

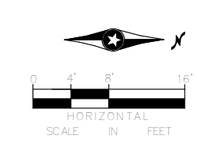
KEYED NOTES

1 FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M210J

2 FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M-210N.



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
MEZZANINE LEVEL - PARTIAL PIPING PLAN AREA J

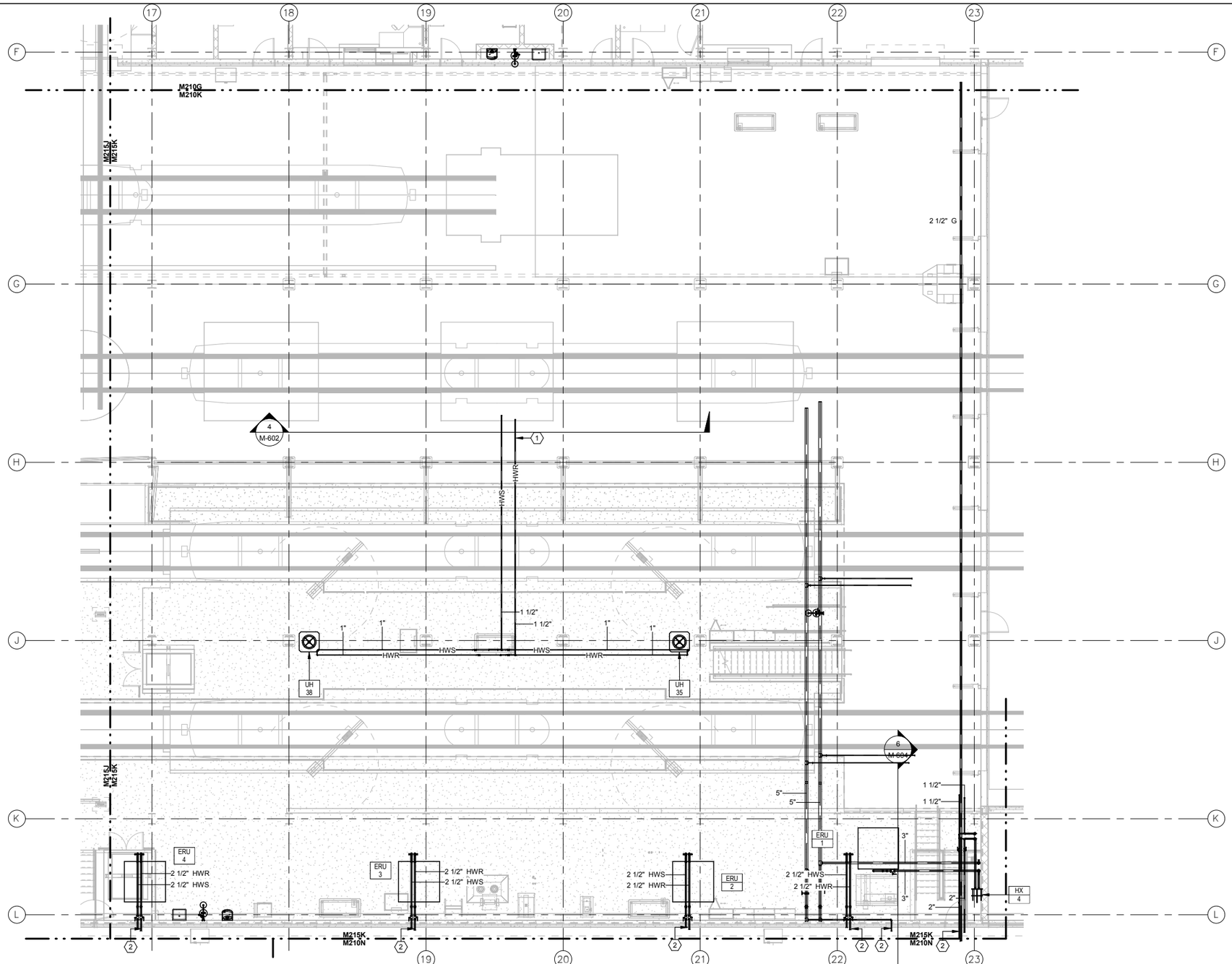
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-215J

SHEET 74 OF 263

9/21/2015 11:35:34 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



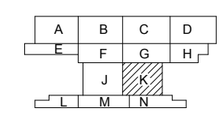
1 M-215K MEZZANINE LEVEL - PIPING PLAN - AREA K

SCALE: 1/8" = 1'-0"

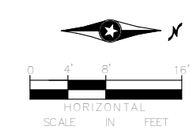
REF. SHEET: M-602 / REF. DETAIL: 2

KEYED NOTES

1. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M210K.
2. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M-210N.



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL
MEZZANINE LEVEL - PARTIAL PIPING PLAN AREA K

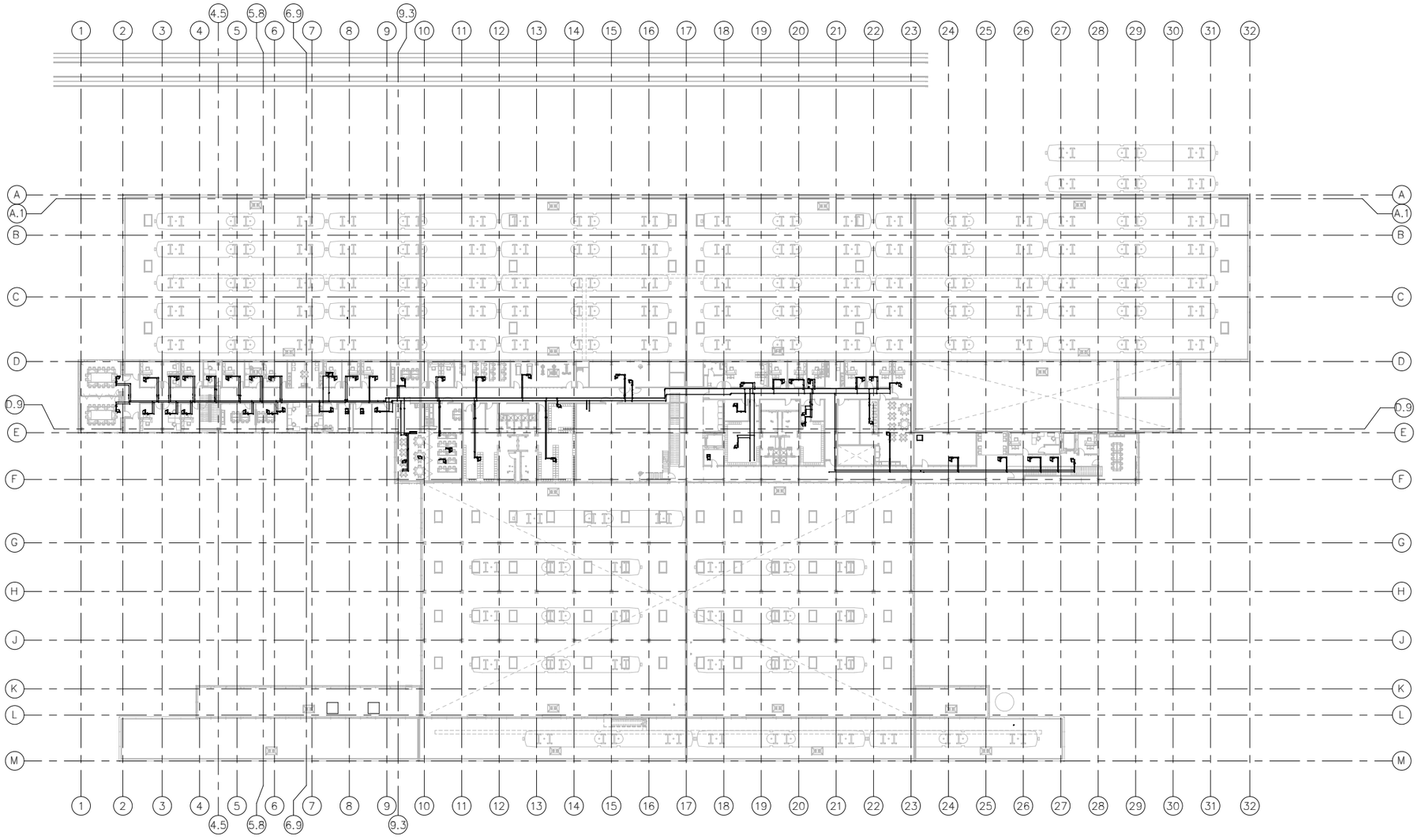
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-215K

SHEET 75 OF 263

9/21/2015 11:35:36 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

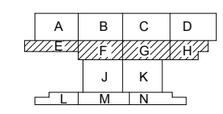


KEYED NOTES

1 M-220 OVERALL LEVEL TWO PIPING PLAN

SCALE: 1/32" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



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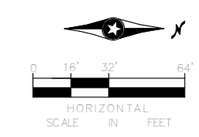

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL TWO OVERALL PIPING FLOOR PLAN

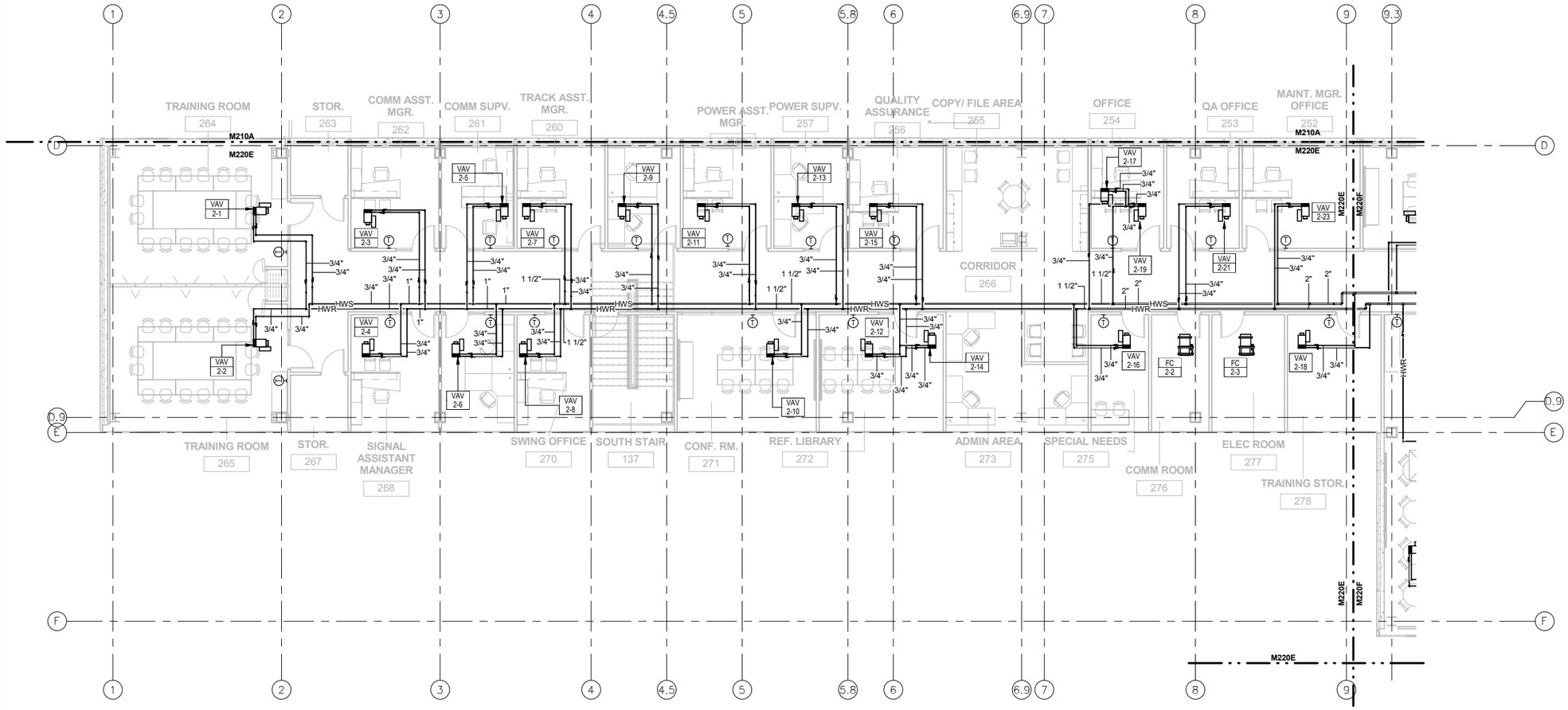
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-220

SHEET 76 OF 263

9/21/2015 11:35:40 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

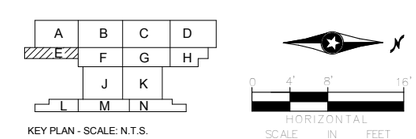


1 M-220E LEVEL TWO - AREA E - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3

KEYED NOTES



KEY PLAN - SCALE: N.T.S.

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL TWO - PARTIAL PIPING PLAN AREA E

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

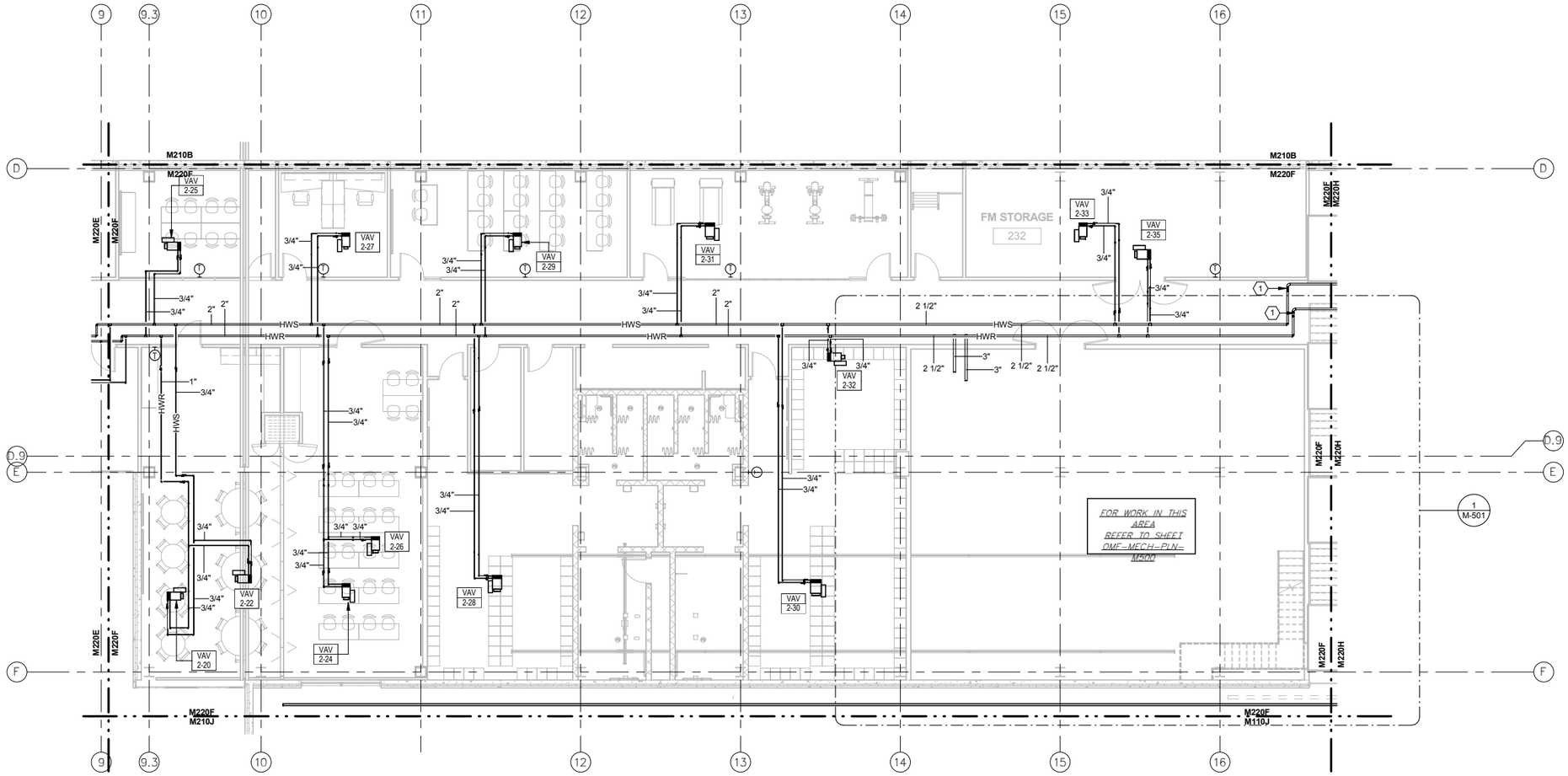
M-220E

SHEET 77 OF 263

9/21/2015 11:35:44 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

KEYED NOTES

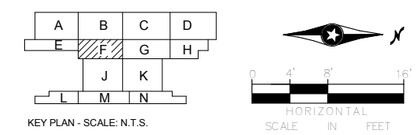
1 OFF SET HYDRONIC PIPING



1 M-220F LEVEL TWO - AREA F - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



KEY PLAN - SCALE: N.T.S.

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OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL TWO - PARTIAL PIPING PLAN AREA F

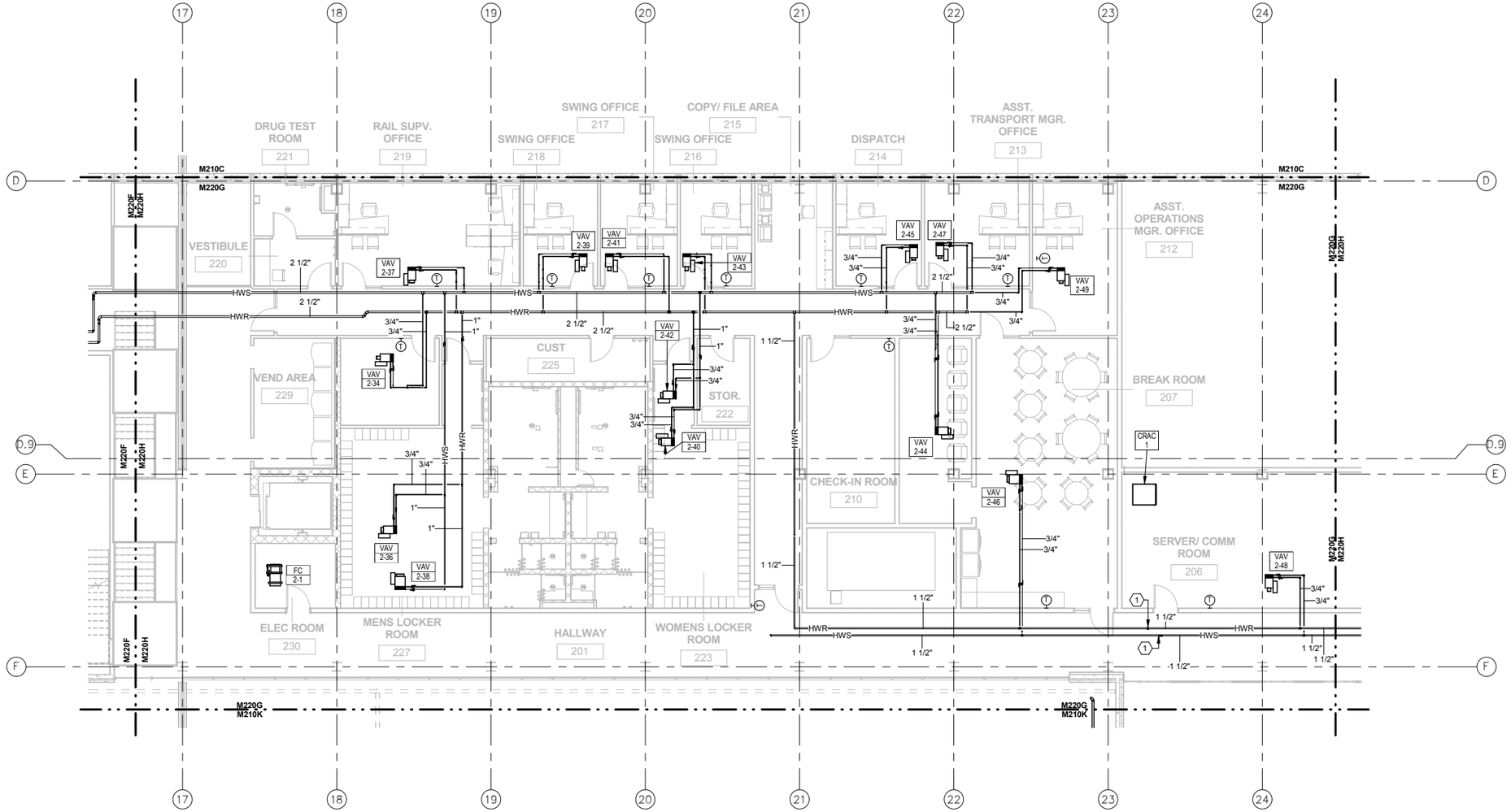
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-220F

SHEET 78 OF 263

9/21/2015 12:37:13 PM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



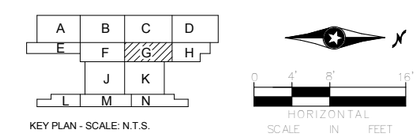
KEYED NOTES

1 OFF SET HYDRONIC PIPING

1 / M-220G LEVEL TWO - AREA G - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



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OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

LEVEL TWO - PARTIAL PIPING PLAN AREA G

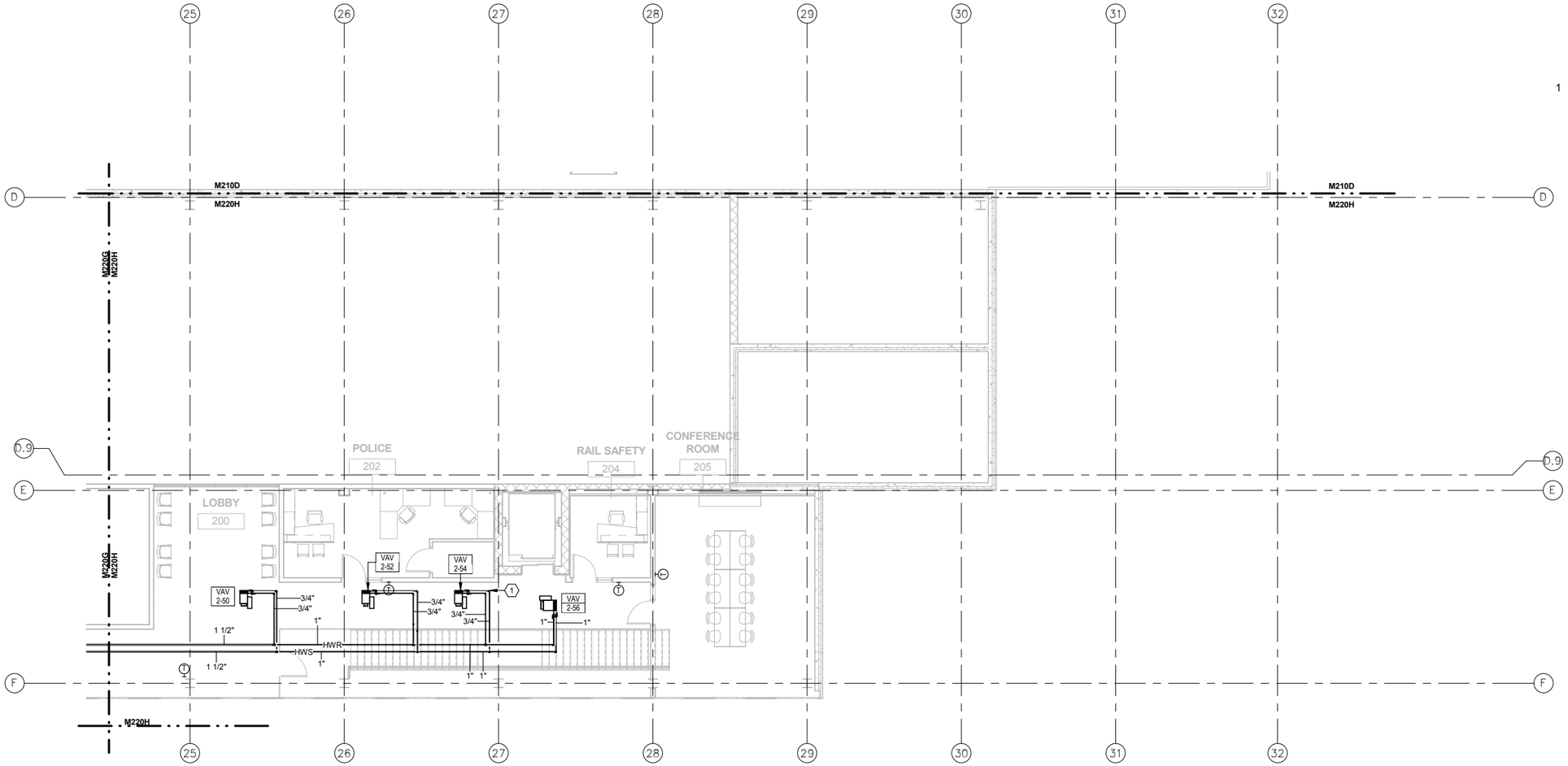
DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

M-220G

SHEET 79 OF 263

9/21/2015 11:35:52 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt



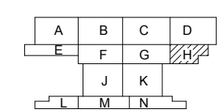
KEYED NOTES

1 OFF SET HYDRONIC PIPING

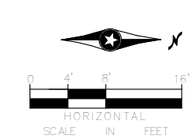
1 / M-220H LEVEL TWO - AREA H - PIPING PLAN

SCALE: 1/8" = 1'-0"

REF. SHEET: M-600 / REF. DETAIL: 3



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

LEVEL TWO - PARTIAL PIPING PLAN AREA H

DISCIPLINE: MECHANICAL

SHEET NAME: OMF-MECH-PLN

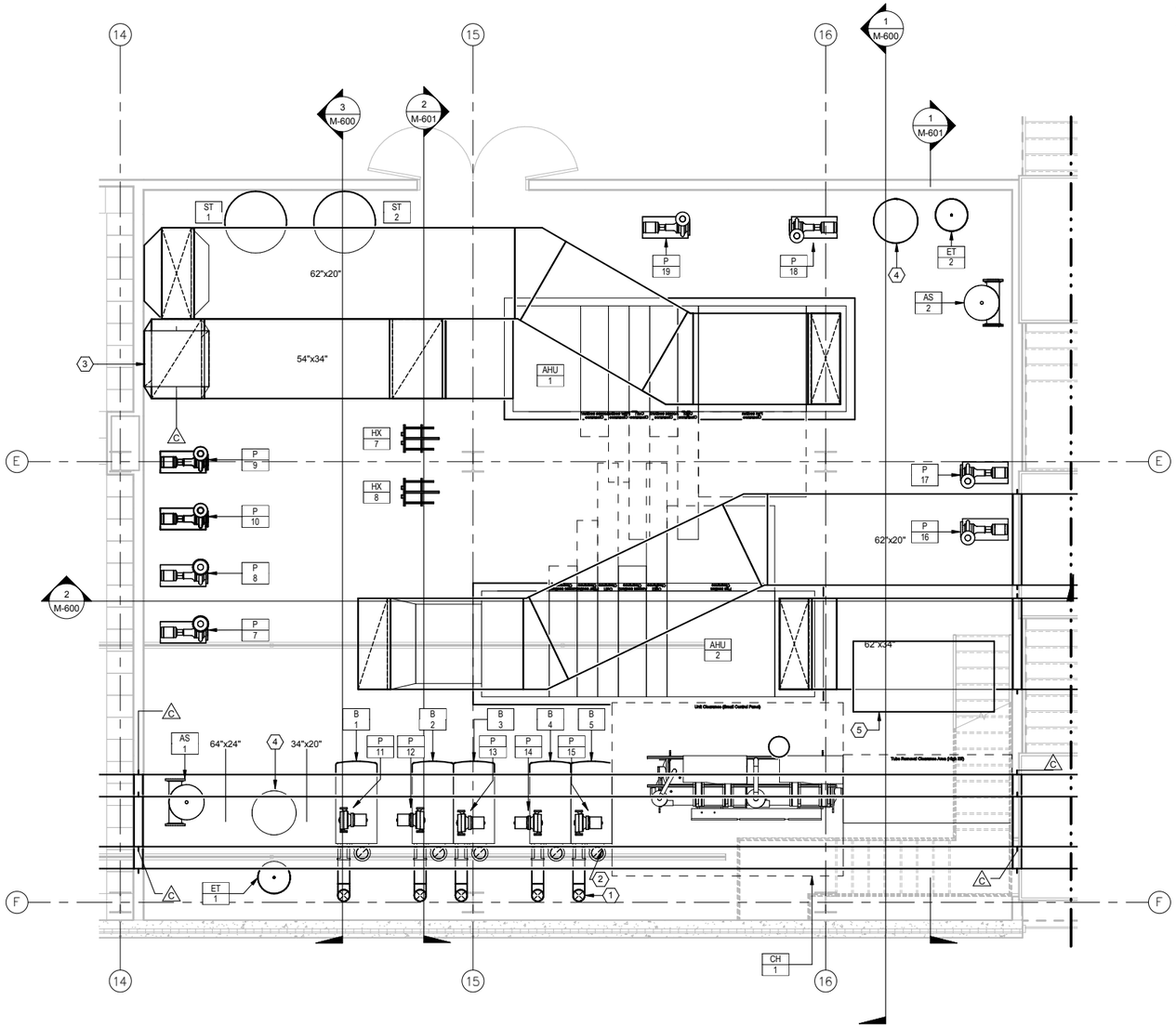
M-220H

SHEET 80 OF 263

9/21/2015 11:35:54 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

KEYED NOTES

1. 8" CPVC COMBUSTION AIR ROUTE TO LOUVER. LOUVER PROVIDED BY OTHERS
2. 8" STAINLESS STEEL FLUE UP THRU ROOF. REFER TO DETAIL TERMINATION
3. 44X38 RA DN FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M110F
4. GLYCOL MAKE UP WATER UNIT. REFER TO SPECIFICATION ???
5. OUTSIDE AIR 96X48. EXTEND UP TO GRV. FOR CONTINUATION REFER TO SHEET OMF-MECH-PLN-M130G



1 M-500 ENLARGED MECHANICAL ROOM HVAC PLAN
SCALE: 1/4" = 1'-0"

0 4' 8' 16'
HORIZONTAL SCALE IN FEET

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OPERATIONS & MAINTENANCE FACILITY -V2B
MECHANICAL

ENLARGED MECHANICAL PLANS 1

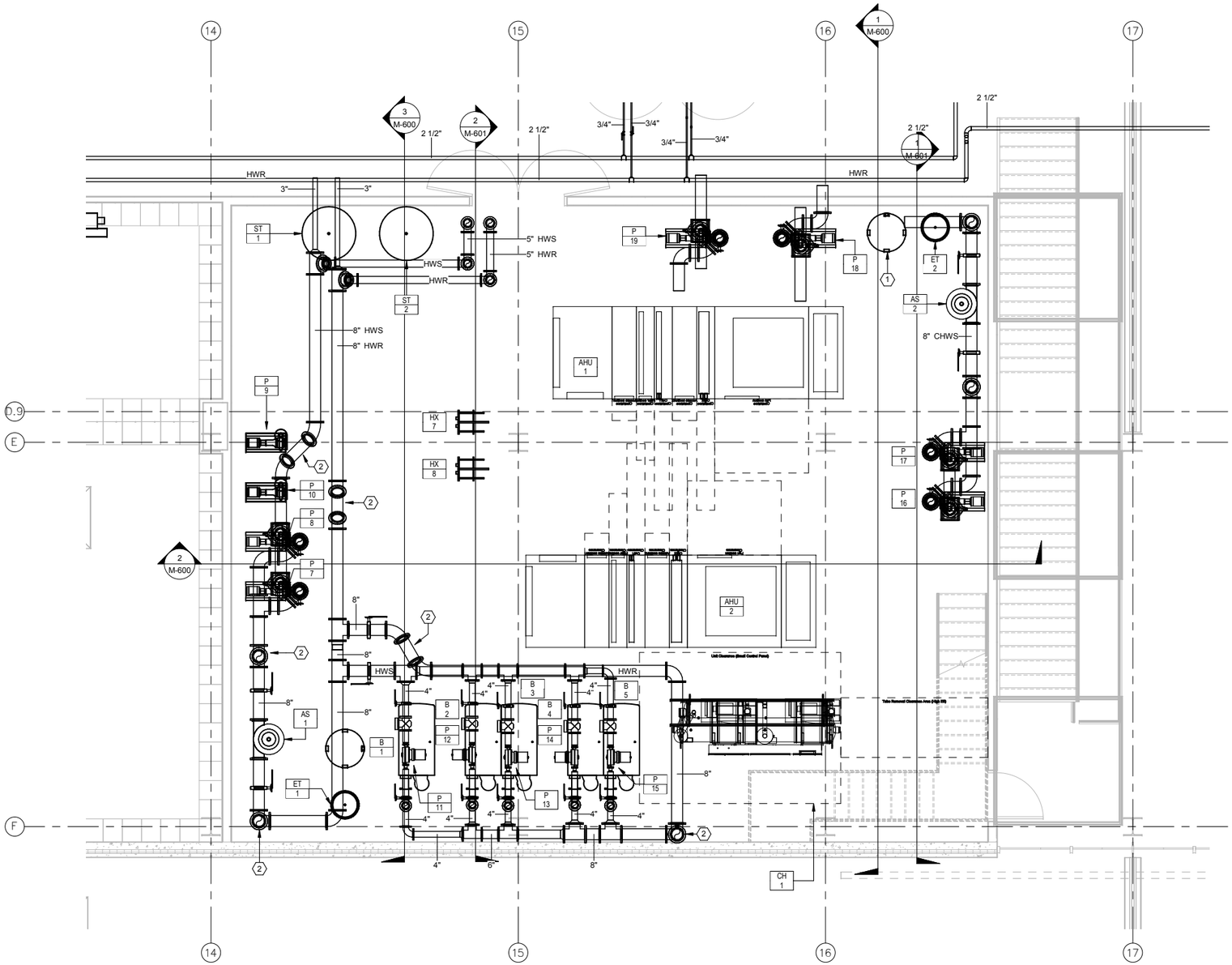
DISCIPLINE: MECHANICAL
SHEET NAME: OMF-MECH-PLN
M-500

SHEET 81 OF 263

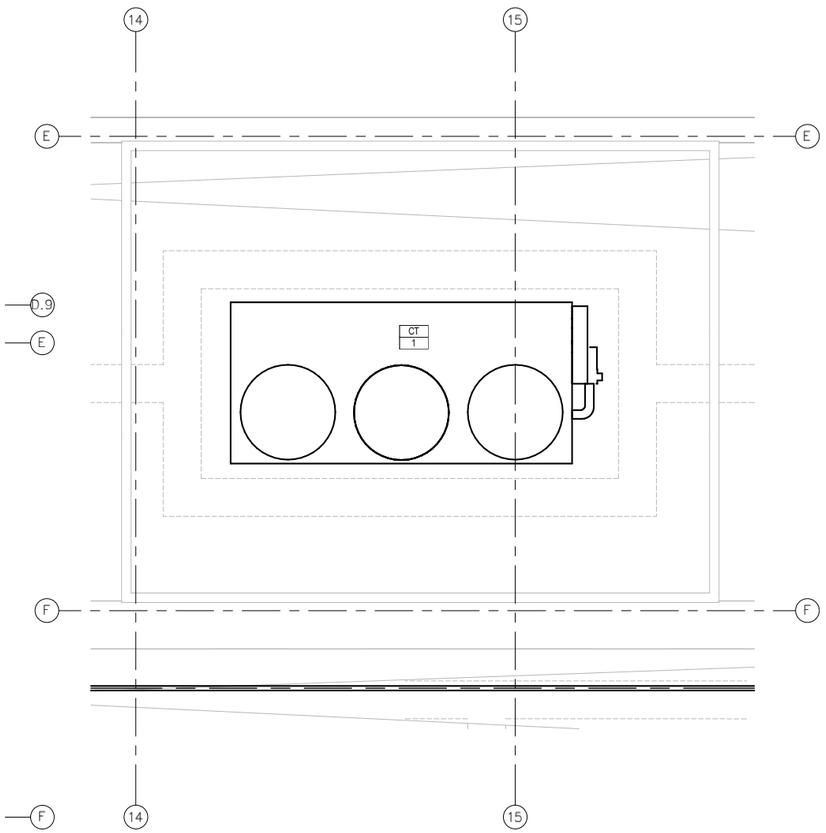
9/21/2015 11:35:56 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

KEYED NOTES

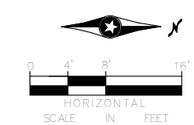
1 GLYCOL MAKE UP WATER UNIT. REFER TO SPECIFICATION ???
2 OFF SET HYDRONIC PIPING



1 M-501 ENLARGED MECHANICAL ROOM PIPING PLAN
SCALE: 1/4" = 1'-0"
REF. SHEET: M-220E / REF. DETAIL: 1



2 M-501 ENLARGED PIPING ROOF PLAN
SCALE: 1/4" = 1'-0"



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OPERATIONS & MAINTENANCE FACILITY -V2B MECHANICAL

ENLARGED MECHANICAL PLANS 2

DISCIPLINE: MECHANICAL
SHEET NAME: OMF-MECH-PLN
M-501

SHEET 82 OF 263

9/21/2015 11:35:58 AM C:\Users\lisa\Documents\OMF_Mech_lisa.rvt

PLUMBING GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. THEY ARE INTENDED TO SHOW SIZE, CAPACITY, APPROXIMATE LOCATION, DIRECTION AND GENERAL RELATIONSHIP OF ONE WORK PHASE TO ANOTHER, BUT NOT THE EXACT DETAIL OR ARRANGEMENT.

1A PROVIDE ALL MATTERIALS, EQUIPMENT, AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE, OPERABLE PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS, AND AS SPECIFIED AND REQUIRED BY CODE.

2. ANY OF THESE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING MAY APPEAR ON THE PROJECT DRAWINGS. USE ONLY THOSE WHICH ARE APPLICABLE TO THIS PROJECT.

2A ELEVATONS AS SHOWN ON THE DRAWINGS ARE TO THE BOTTOM OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING

3. IN GENERAL, ALL PIPING AND DUCTWORK SHALL BE RUN CONCEALED IN CEILING SPACES. CERTAIN ROOMS HAVE NO SUSPENDED CEILING. PIPING AND DUCTWORK ABOVE THESE ROOMS SHALL BE RUN EXPOSED.
4. PITCH ALL PIPING AS SPECIFIED TO PERMIT THOROUGH DRAINAGE. PROVIDE AND INSTALL DRAIN VALVES AT ALL LOW POINTS WITHIN THE BUILDING.
5. TEMPERATURE SENSORS LOCATED AT OUTSIDE WALLS SHALL BE MOUNTED ON INSULATED SUB-BASED TO MINIMIZE WALL EFFECT. AFTER INSTALLATION FILL INSULATED SUB-BASE W/PLASTIC FOAM INSULATION.
6. WHEN CONFLICTS BETWEEN FLOW DIAGRAMS AND FLOOR PLANS OCCUR ON PIPE SIZING AND ACCESSORIES SUCH AS GAUGES, THERMOSTATS, FLOW METERS, VALVES, ECT. THE FLOW DIAGRAM AND DETAILS SHALL TAKE PRECEDENCE.
7. DO NOT LOCATE ANY EQUIPMENT IN THE TUBE, COIL, OR FILTER PULL AREAS REQUIRED FOR CHILLERS, COILS, BOILERS, AHU'S ETC.
8. WELDING TO STRUCTURAL MEMBERS IS NOT PERMITTED.
9. SUPPLY AIR UNIT CONSTRUCTION SHALL PERMIT COIL, FILTER, AND FAN REMOVAL WITHOUT DISMANTLING UNIT HOUSING.
10. MINIMUM CLEARANCE FROM FINISHED FLOOR TO BOTTOM OF HORIZONTAL PIPES AND DUCTWORK IN MECHANICAL ROOMS IS 7'-0".
11. ALL HORIZONTAL WATER PIPING REDUCERS SHALL BE ECCENTRIC, FLAT ON TOP. AS DETAILED ON M8 SERIES DRAWINGS.
12. DO NOT USE BULL HEAD TEES ON WATER PIPING.
13. PIPE ALL COOLING, HEATING, AND REHEAT COILS FOR COUNTERFLOW OF AIR AND WATER.
14. INSTALL ALL NEW TEMPERATURE TRANSMITTERS FOR NEW VAV TERMINALS.
15. LOCATE ALL VALVES IN VERTICAL PIPING A MAXIMUM OF 6'-0" ABOVE FLOOR TO ALLOW FOR OPERATION WITHOUT USE OF A LADDER.
16. ALL NEW WORK IS SHOWN WITH SOLID (DARK) LINES AND ALL EXISTING IS SHOWN WITH SCREENED (LIGHT) LINES.
17. WHERE CAPS OR SHEET METAL CLOSURES ARE SHOWN ON EXISTING PIPING OR EXISTING DUCTWORK, SEAL WATER OR AIR TIGHT, AND REINSULATE CAPS AND CLOSURES TO MATCH EXISTING. REINSULATE AS SPECIFIED WITH THE SAME THICKNESS AS EXISTING
18. NO PIPING, DUCTWORK OR EQUIPMENT SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED OTHERWISE. REMOVE ALL ABANDONED PIPING, DUCTWORK, AND EQUIPMENT.
19. WHERE A NEW PIPE DESIGNATION IS SHOWN ON AN EXISTING PIPE, RELABEL AS SPECIFIED.
20. ALL UNUSED PORTIONS OF THE LOUVERS WILL BE BLANKED-OFF AS SPECIFIED IN DIVISION 10.
21. ALL INVERTS SHOWN FOR CHILLED WATER, HEATING WATER, AND STEAM PIPING ARE FOR REPRESENTATION OF SLOPE AND PLACEMENT OF PIPES. ACTUAL LOCATION SHALL BE COORDINATED BY THE CONTRACTOR.
22. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND SIZES OF ALL TERMINAL DEVICES (GRILLES, REGISTERS, LBD'S, LCD'S, ECT.)
23. SEE EQUIPMENT SCHEDULES FOR EQUIPMENT DESIGNATIONS.
24. DUCTWORK DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
25. COORDINATE ROUTING OF DUCTWORK WITH LIGHTING AND SPRINKLER. COORDINATE ROUTING OF DUCTWORK WITH LIGHTING AND SPRINKLER LAYOUTS AND ARCHITECTURAL DETAILS.
26. SUBMIT SHOP DRAWINGS FOR LOCATION OF ALL ACCESS PANELS, INDICATING: LOCATION, SIZE, TYPE, AND STYLE. THE CONTRACTOR SHALL RELOCATE AND OR ADJUST MECHANICAL EQUIPMENT AND OR DEVICES TO ALLOW FOR A SYMMETRICAL DESIGN OF ACCESS PANEL LOCATIONS AS REQUIRED AND APPROVED BY THE ARCHITECT.
27. CONTRACTOR SHALL SURVEY THE SITE PRIOR TO PREPARATION OF BID AND PRIOR TO PREPARATION OF SHOP DRAWINGS. INFORMATION SHOWN IN THESE DRAWINGS IS BASED ON THE AVAILABLE DRAWINGS OF THE BASE BUILDING. WORK UNDER THIS CONTRACT SHALL REFLECT ACTUAL EXISTING CONDITIONS. CONTRACTOR SHALL MAKE REVISIONS AS NECESSARY TO REFLECT EXISTING CONDITIONS AT NO COST TO THE OWNER. THIS SHALL INCLUDE SHOP DRAWING PREPARATION AS WELL AS CONSTRUCTION COST.
28. PROVIDE FLEXIBLE DUCTWORK AND ROUND DUCTWORK TO DIFFUSERS OF SAME SIZE OF DIFFUSER'S NECK. REFER TO DIFFUSER SCHEDULE FOR SIZE OF DIFFUSER'S NECK.

PLUMBING GENERAL NOTES

29. CONNECTIONS TO EXISTING PIPING SHALL BE MADE BY THE USE OF A PIPE TEE FITTING TO MATCH EXISTING PIPING.
30. DUCTWORK TO THE INLET OF TERMINAL UNITS SHALL MATCH SIZE OF INLET OF TERMINAL UNIT.
31. PROVIDE UP AND DOWN TRANSITIONS AS NECESSARY TO INSTALL DUCT & PIPE AROUND NEW & EXISTING EQUIPMENT AND BUILDING STRUCTURE. MAKE ADJUSTMENT TO DUCTWORK AND PIPING AS NECESSARY TO COORDINATE WITH EXISTING AND NEW ELEMENTS: PIPES, DUCTS, CONDUITS, BEAMS AND BUILDING STRUCTURAL MEMBERS.
32. PROVIDE DUCT TRANSITIONS TO ALL EXISTING TERMINAL UNITS. DUCT TRANSITIONS SHALL CONNECT EXISTING TERMINAL UNITS TO DUCTWORK PROVIDED BY THIS CONTRACT. REFER TO DRAWINGS FOR DUCT SIZES. VISIT SITE AND OBTAIN OUTLET SIZE OF EXISTING TERMINAL UNITS.
33. CONTRACTOR TO COORDINATE LOCATION OF ALL THERMOSTATS/HUMIDISTATS AND TEMPERATURE SENSORS/HUMIDITY SENSORS WITH THE LATEST FURNITURE LAYOUT DRAWINGS. HEIGHT OF DEVICES SHALL BE PER ELEVATIONS ON ARCHITECTURAL DRAWINGS OR IN SPECIFICATION EXCEPT AS OTHERWISE TO COMPLY WITH AMERICANS WITH DISABILITIES ACT REQUIREMENTS.
34. ALL DUCTWORK AND PIPING NEEDS TO BE INSTALLED AS HIGH AS POSSIBLE AND TIGHT TO THE SLAB ABOVE. REFER TO THE ARCHITECTURAL CEILING PLANS FOR CEILING HEIGHT REQUIREMENTS.
35. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PENETRATION REQUIREMENTS AT UL-RATED ASSEMBLIES.
36. NOTIFY THE CAR OF ANY REQUIRED SHUT-DOWN OF EXISTING SYSTEMS TO PERFORM WORK. SCHEDULE SHUT-DOWNS WITH THE CAR BEFORE PROCEEDING WITH THE WORK.
37. WORK THAT AFFECTS CRITICAL SERVICES MAY NEED TO BE PERFORMED AFTER NORMAL WORKING HOURS. COORDINATE THIS WORK WITH THE CAR.
38. COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICTS WITH EXISTING AND NEW PIPING, VENTILATION, PLUMBING, ELECTRICAL CONDUIT, CABLE TRAYS, ETC.
39. WHERE RELOCATIONS ARE REQUIRED, COORDINATE WITH OTHER TRADES TO DETERMINE THE MOST PRACTICAL METHOD OF RESOLUTION WITH THE LEAST IMPACT FROM AN OVERALL PROJECT PERSPECTIVE.
40. COORDINATE PLUMBING CONNECTIONS TO FIXTURES AND EQUIPMENT WITH ARCHITECTURAL ELEVATIONS AND EQUIPMENT SUPPLIERS.
41. INSTALL ALL EQUIPMENT AND APPURTENANCE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENT AND APPLICABLE CODES AND REGULATIONS.
42. PROVIDE VIBRATIONS ISOLATION FOR ALL EQUIPMENT TO PREVENT TRANMISSION OF BIRATION TO THE BUILDING STRUCTURE.
43. PROVIDE SHUTOOF VALVES IN ALL PIPING SYSTEM BRANCHS.
44. UNLESS OTHERSWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT OT THE UNDERSIDE OF SLAB, ABOVE DOORS & WINDOWS, WITH SPACE OF R INSULATION.
45. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING AND SO THAT ALL VALVES, STRINERS, UNITIONS, TRAPS, FLANGES, AND OTHER APPURTEANCES REQUIREING ACCESS ARE ACCESSIBLE.
46. ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE THE FULL SIZE OF THE PIPE BEFORE REDUDING THE SIZE TO MAKE CONNECTIONS TO THE EQUIPMENT AND CONTROLS.
47. UNLESS OTHERWISE NOTED, DRAINS SHALL BE INSTALLED AT THE LOW POINT OF ROOFS, AREAWAYS, FLOORS, ETC.
48. ALL CLEANOUTS SHALL BE THE FULL SIZE OF THE PIPE FOR PIPES 6" AND SMALLER, AND SHALL BE 6" FOR ALL PIPE SIZES LARGER THAN 6". PROVIDE CLEANOUTS IN SANITARY AND STORM SYSTEMS AT THE ENDS OF RUNS, AT CHANGES IN DIRECTIN, NEAR THE BASE OF STACKS, EVERY 100'-0" IN HORIZONTAL RUNS AND ELSEWHERE AS DIRECTED OR AS DIRECTED BY CODE.
49. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
50. ALL VALVES SHALL BE INSTALLED SO THE VALVE REMAINS IN SERVICE WHEN THE EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS MOVED.
51. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE CAR.
52. ALL TEST SHALL BE COMPLETED BEFORE ANY EQUIPMENT OR PIPING INSULATIONS IS APPLIED.
53. CONCRETE HOUSEKEEPING PADS TO SUIT EQUIPMENT SHALL BE SIZED AND LOCATED BY THE CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALLL BE 4". PAD SHALL EXTEDN BYOND THE EQUIPMENT A MINIMUM OF 6" ON EACH SIDE. CONTRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSILITY OF THE PLUMBING CONTRACTOR TO CORRDIANTE THE SIZE AND LOCATIONS OF THE CONCRETE HOUSEKEEPING WITH THE GENERLA CONTRACTOR.
54. SEE ARCHITECTURAL PLANS FOR FINAL LOCATIONS BUT NOT LIMITED TO WATER CLOSES, LAVRATORIES, SINKS, SHOWERS.
55. SEE INDUSTRIAL PLANS (I-001 THRU I-208) FOR LOCATIONS BUT NOT LIMITED TO HOSE BIBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASHES, EMERGENCY SHOWERS, THE MAINS AND BRANCH PIPING TO EQUPMENT IS SHOWN IN THESE DRAWINGS AND SHALL BE INSTALLED BY THIS CONTRACTOR.

CODES MANUALS AND STANDARDS AS THEY APPLY

AMERICAN NATIONAL STANDARD INSTITUTE (ANSSI);
AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE);
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME);
AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)PUBLICATIONS;
CITY CODES;
COUNTY ORDINANCES
INTERNATIONAL BUILDING CODE (IBC) PUBLICATIONS
MINNESOTA STATE STATE BUILDING CODE (MSBC);
NATIONAL ELECTRICAL CODE (NEC0;
NATIONAL ELECTRICAL MANUFACTURES ASSOCIATIONS (NEMA) STANDARDS;
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) PUBLICATIONS
UNDERWRITERS LABORATORIES (UL) STANDARDS;

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING

GENERAL NOTES & CODE INDEX

DISCIPLINE: PLUMBING | SHEET NAME: OMF-PLM-GEN | P-001

SHEET 83 OF 263

9/21/2015 12:04:17 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

MECHANICAL ABBREVIATIONS

ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
AD	AREA DRAIN, ACCESS DOOR
ADD	ADDENDUM
ADDL	ADDITIONAL
ADJ	ADJUST, ADJSTABLE
AFF	ABOVE FINISH FLOOR
AFMS	AIR FLOW MEASUREING STATION
AGA	AMERICAN GAS ASSOCIATION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AMB	AMBIENT
AMP	AMPERE (S)
ANC	ANCHOR(AGE)
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
ARCH	ARCHITET, ARCHITECTURAL
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
AS	AIR SEPERATOR
ASSY	ASSEMBLY
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATC	AUTOMATIC TEMERATURE CONTROLS
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
B	BOILER
BAL	BALANCE, BALANCING
BAS	BUILDING AUTOMATION SYSTEM
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER, BOILER HORSEPOWER
BLDG	BUILDING
BLW	BELOW
BM	BEAM
BO	BY OWNER
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BOF	BY OWNER FUTURE
BOT	BOTTOM
BP	BOILER PUMP (FEEDWATER)
BSMT	BASEMENT
BTW	BETWEEN
BTUH	BRITISH THERMAL UNITS PER HOUR
CAR	CONSTRUCTION ADMINISTRATION REPRESENTATIVE
CAB	CABINET
CAP	CAPACITY
CC	COOLING COIL
CEN	CENT(ER)(TRAL)
CENT	CENTRIFUGAL
CF	CHEMICAL FEEDER VALVE
CFH	CUBMIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFP	CHEMICAL FEED PUMP
CH	CHILLER
CHWP	CHILLED WATER PUMP
CHWPP	CHILLED WATER PRIMARY PUMP
CHWRP	CHILLED WATER RECIRUCULATION PUMP
CHWSP	CHILLED WATER SECONDARY PUMP
CHWTP	CHILLED WATER TRANSFER PUMP
CI	CONSTRUCTION ISSUE
CIRC	CIRULATE/CIRCULATING
CL	CENTERLINE
CLR	CLEAR(ANCE)
CLG	CEILING
CO/C.O.	CLEANOUT
COL	COLUMN
COMP	COMPRESSOR

MECHANICAL ABBREVIATIONS

CONC	CONCRETE
COND	CONDENSATE, CONDENSER, CONDITION
CONF	CONFERENCE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINU(E)(OUS)(ATION)
CONTR	CONTRACT(OR)
CONV	CONVERTOR
COORD	COORDINATE
COP	COEFICIENT OF PERFORMANCE
CORR	CORRIDOR
CO2	CARBON DIOXIDE
CP	CONDENSATE PUMP, CONTROL PANEL, CONSTRUCTION PACKAGE
CR	CEILING REGISTER
CRG	CEILING RELIEF GRILLE
CSK	COUNTER(SINK)(SUNK)
CTOP	COUNTER TOP
CT	COMPRESSION TANK, COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CU IN	CUBIC INCHES
CTR	CENTER
CUFT	CUBIC FEET
CV	CONSTANT VOLUME
CW	CLOCKWISE, COLD WATER
CWP	CONDENSER WATER PUMP
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
D	DEEP, DEPTH, DRAIN
dB	DECIBELS
dBA	DECIBELS (A WEIGHTED SCALE)
DB	DRY BULB TEMPERATURE
DBP	DOMESTIC BOOSSTER PUMP
DC	DIRECT CURRENT, DRY COOLER
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE(S)(S FAREINHEIGHT)
DEMO	DEMO(LISH)(LITION)
DEPT	DEPARTMENT
DET/DTL	DETAIL
DF	DRINKING FOUNTIAN
DFU	DRAIN FIXTURE UNIT
DH	DUCT HUMIDIFIER
DIA	DIAMETER
DIF	DIFFEREN(CE)(TIAL)
DIFF	DIFFUSER
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTRIBUT(E)(ION)
DIV	DIVI(DE)(DED)(DER)(SION)
DL	DRUM LOUVER
CRU	CONDENSATE RETURN UNIT
DMPR	DAMPER
DN	DOWN
DOC	DOCUMENT(S)
DP	DATA PROCESSING, DEMOUNTABLE PARTITION
DPU	DATA PROCESSING UNIT
DS	DOWNSPOUT
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DWG(S)	DRAWING(S)
DWDI	DOUBLE WIDTH DOUBLE INLET
DWH	DOMESTIC WATER HEATER
DWRP	DOMESTIC WATER RECIRULATING PUMP
DWV	DRAIN, WASTE, VENT
DX	DIRECT EXPANSION
E	EAST
EA	EACH, EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULD TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EFTR	ELECTRIC FIN TURBE RADIATION
EH	ELECTRIC HUMIDIFIER
EHC	ELECTRIC HEATING COIL
EL	ELEVATION
ELEC	ELECTRIC(AL)

MECHANICAL ABBREVIATIONS

ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOS(E)(ED)(URE)
ENGR	ENGINEER(S)
EPDM	ETHYENE PROPYLEVE DIENE TERPOLYMER
EQ	EQUAL
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWB	ENTERING WE BULB TEMPERATURE
EWC	ELECTRIC WATER COOLER
EUCH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWFMS	ELECTRIC WATER FLOW MEASURING STATION
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EX	EXAMPLE
EXC	EXCAVAT(E)(ED)(ION)
EXCL	EXLCUD(E)(ED)(ING)
EXCP	EXCEPT
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPAN(D)(SION)/EXPOSED
EXT	EXTERIOR
F	FIRE
FAB	FABRICAT(E)(ED)(OR)
FACP	FIRE ALARM CONTROL PANEL
FAS	FASTEN(ED)(ER)
FC	FAN COIL
FCO	FLOOR CLEAN OUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDC	FIRE DEPATMENT CONNECTION
FD/FS	FLOOR DRAIN W/FUNNEL STRAINER
FDMPR	FIRE DAMPER
FDN	FOUNDATION
FDV	FIRE DEPARTMENT VALVE
FF	FINISH FLOOR
FFCP	FIREFIGHTER'S CONTROL PANEL
FFE	FINISH FLOOR ELEVATION
FGL	FIBERGLASS
FHC	FIRE HOSE CABINET
FHV	FIRE HOSE VALVE
FIN	FINISH
FIXT	FIXTURE
FLA	FULL LOAD AMPERE(S)
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLANGED
FLR	FLOOR(ING)
FM	FIRE MAIN
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOC	FUEL OIL CLEANING SYSTEM
FOIC	FURNISHED BY OWNER, INSTALLED BY CONTR
FOIO	FURNISHED BY OWNER, INSTALLED BY OWNER
FOP	FUEL OIL PUMP
FOT	FLAT ON TOP, FUEL OIL TANK
FP	FIRE PROTECTION, FIRE PUMP
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FST	FUNNEL STRAINER
FSWH	FOOD SERVICE WATER HEATER
FT	FOOT OR FEET
FTG	FUEL TANK GAUGE OR FOOTING
FTR	FIN TUBE RADIATION
FU	FIXTURE UNIT(S)
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
GAS	GASOLINE
GC	GENERGAL CONTRACTOR
GCHWP	GLYCOL CHILLED WATER PUMP

MECHANICAL ABBREVIATIONS

GENL	GENERAL
GH	GROUND HYDRANT
GND	GROUND
GPM	GALLONS PER MINUTE
GRD	GRADE
GRL	GRILLE
GRV	GRAVITY ROOF VENTILTOR
GSKT	GASKET
GTG	GASOLINE TANK GAUGE
GWA	GENERAL WORK AREA
GPH	GALLONS PER HOUR
GWH	GAS WATER HEATER
H	HEIGHT, HIGH, HUMIDIFIER(S)
HB	HOSE BIB
HC	HEATING COIL
HCP	HANDICAP
HD	HEAD
HE	HEAT EXCHANGER
HD	HEAVY DUTY
HL	HIGH LIMIT
HOA	HAND-OFF-AUTOMATIC
HORZ	HORIZONTAL
HP	HORSE POWER
HPT	HIGH POINT
HR	HOUR
HTG	HEATING
HTR	HEATER
HU	HUMIDIFIER
HVAC	"HEATING, VENTILATION, & AIR-CONDITIONING"
HW	HOT WATER
HWP	HEATING WATER PUMP
HWPP	HEATING WATER PRIMARY PUMP
HWSP	HEATING WATER SECONDARY PUMP
HZ	"FREQUENCY, HERTZ"
IBR	INSTITUTE OF BOILER & RADIATOR MANUFACTURERS
ID	INSIDE DIAMETER/DIMINESION/IDENTIFICATOIN
IN.	INCH(ES)
INCL	INCLU(DE)(DED)(DING)(SIVE)
INFO	INFORMATOIN
INSUL	INSULAT(E)(ED)(ION)
INT	INTERIOR
INV	INVERT
IN WG	INCHES WATER GAUGE
JAN	JANITOR CLOSET
JP	JOCKEY PUMP
JST	JOIST
KFD	KICHEN FUNNEL DRAIN
KVA	KILO VOLT AMPERE(S)
KW	KILOWATT(S)
L	ANGLE, LONG,LENGTH
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBD	LINEAR BAR DIFFUSER
LBS	POUNDS (WIEGHT)
LBS/HR	POUNDS PER HOUR
LCD	LINEAR CEILING DIFFUSER
LCR	LINEAR CEILING RETURN
LDB	LEAVING DRY BULB TEMPERATURE
LF	LINEAR FEET
LH	LOUVER HOUSE
LHWP	LOW WATER HEATING WATER PUMP
LIN	LINEAR
LL	LOW LIMIT
LOC	LOCAT(E)(ION)
LP	LOW PRESSURE
LPT	LOW POINT
LRA	LOCKED ROTOR AMPERES
LRHP	LOW TEMPERATURE REHEAT PUMP
LWB	LEAVING WET BULB TEMPERATURE
LT	LIGHT
LTG	LIGHTING
LVL	LEVEL

MECHANICAL ABBREVIATIONS

LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MAC	MEDICAL AIR COMPRESSOR
MAS	MASONRY
MATL	MATERIAL
MAX	MAXMUM
MBD	MOTORIZED BYPASS DAMPER
MBH	ONE THOUSAND BTU PER HOUR
MBR	MEMBER
MCC	MOTOR CONTROL CENTER
MCU	MODULAR COOLING UNIT
MECH	MECHANICAL(LY)
MED	MEDIUM
MEMB	MEMBRANE
MER	MECHANICAL EQUIPMENT ROOM
MET	METAL
MEZZ	MEZZANINE
MFD	MANUFACTURED
MFR	MANUFACTURER
MGR	MANAGER
MIN	MINIMUM
MIN	MINUTE
MISC	MIXCELLANEOUS
MON	MONITOR
MS	MOTOR STARTER
MSP	MOTOR STARTER PANEL
MSS	MOTOR STARTER SWITCH
MT(D)	MOUNT(ED)
MTL	METAL
MTR	MOTOR
MV	MOTORIZED VALVE
MVP	MEDICAL VACUUM PUMP
MWBP	MAKE-UP WATER BOOSTER PUMP
N	NECK (DIFFUSER)
N	NORTH
NA	NOT APPPLICABLE
NC, N.C.	NOISE CRITERIA
NC	NORMALLY CLOSED
NECSRY	MECESSARY
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
N.O	NORMALLY OPEN
NOM	NOMINAL
NPSH	NET POSITION SUCTION HEAD
NRC	NOISE REDUCTION COEFFICIENT
NT	NOTE
NTS	NOT TO SCALE
O	OXYGEN
OA	OUTSIDE AIR
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER/DIMENSION
OF	OVERFLOW
OFF	OFFICE
OH	OVERHEAD
OPNG	OPENING
OPT	OPTION(AL)
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE STEM AND YOKE
P	PLUMBING FIXTURE
PAR	PARALLEL
PCF	POUNDER PER CUBIC FOOT
PD	PERFORATED DIFFUSER
PD	PRESSURE DROP
PERIM	PERIMETER
PERM	PERMANET(LY)
PFB	PREFABRICATE(D)
PFN	PREFINISH(ED)
PH	PHASE
PHP	PRIMARY HEATING PUMP
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PLF	POUNDS PER LINEAL FOOT
PM	NIGHT TIME

MECHANICAL ABBREVIATIONS

PNL	PANEL
POL	POLISH(ED)
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRV	POWER ROOF VENTILATOR
PRVS	PRESSURE REDUCING VALVE STATION
PSF	POUNDS PER SQUARE FOOR
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	POST TENSION(ED)(ING)
PTD	PAINTED
QTY	QUANTITY
R	RADIUS, RISER
R	REGISTER
RA	RETURN AIR
R AND R	REMOVE(D) AND REPLACE(D)
RAD	RADIATION, RADIATOR, ROOF AREA DRAIN
RD	ROOF DRAIN
RDS	REFLIEF DUCT SILIENCER
RE	RETURN EXHAUST
REC	RECESSED
REF	REFER(ENCE)
REG	REGISTER
REM	REMOV(E)(ED)(ABLE)
REQD	REQUIRED
REQM	REQUIREMENT(S)
RET	RETURN(ED)
REV	REVIS(E)(ED)(ION)
RF	RETURN FAN
RGH	RADIANT GAS HEATER
RH	REALTIVE HUMIDITY
RLA	RUNNING LOAD AMPERES
RM	ROOM
RP	RADATION PUMP
RPC	REFRIGERANT PUMP OUR COMPRESSOR
RPM	REVOLUTIONS PRE MINUTE
RPZ	REDUCED PRESSURE BACKFLOW PREVENTER
RR	RETURN REGISTER
RWL	RAIN WATER LEADER
S	SINK
S	SOUTH
SA	SHOCK ABSORBER, SUPPLY AIR, SOUND ATTENUATOR
SBLK	SPLASH BLOCK
SCHED	SCHEDULE
SECT	SECTION
SENS	SENSIBLE
SF	SUPPLY FAN
SG	SIDE WALL GRILLE
SHT	SHEET
SHR	SHOWER
SIM	SIMILAR
SK	SINK
SMACNA	SHEET METAL AND AIR-CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
SOG	SLAB ON GRADE
SP	STATIC PRESSURE, STANDPIPE, SUMP PUMP, SPACE(S)
SPEC(S)	SPECIFICATION(S)
SPS	STATIC PRESSURE STATION
SPT	STATIC PRESSURE TRANSMITTER
SQ	SQUARE
SQ FT	SQUARE FOOT
SR	SERVICE RECEPTOR, SIDE WALL REGISTER
SRG	SIDE WALL RELIEF GRILLE
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STM	STEAM
STOR	STORAGE
STRUT	STRUCTURAL
SUSP	SUSPENDED
SWFG	SIDE WALL GRILLE FILTERED
SWP	STANDARD WORKING PRESSURE

MECHANICAL ABBREVIATIONS

SWSI	SINGLE WIDTH SINGLE INLET
T	THERMOSTAT, TOILET
T AND B	TOP AND BOTTOM
TBE	TOP OF BEAM ELEVATION
TCAC	TEMPERATURE CONTROL AIR COMPRESSOR
TCE	TOP OF PICLE CAP (CAISSON)
TCP	TEMPERATURE CONTROL PANEL
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TERM	TERMINA(L)(TE)(TION)
TF	TRANSFER FAN
TFE	TOP OF FOOTING ELEVEATION
THK	THICK(NESS)
TJE	TOP OF JOIST ELEVATION
TMPD	TEMPERED
TOR	TOP OF RAIL
TOT	TOTAL
TP	TRAP PRIMER
TPE	TOP OF PIER ELEVATION
TRANS	TRANSITION
TSE	TOP OF SLAB ELEVATION
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UT	UNDERGROUND TANK
UTIL	UTILITY
UV	ULTRAVIOLET
V	VALVE, VENT, VOLT
VAR	VAR(Y)(IES)(IATION)
VAV	VARIABLE AIR VOLUMNE
VB	VACUUM BREAKER
VC	VALVE CABINET
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VEST	VESTSIBULE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
VFY	VERIFY
VIF	VERIFY IN FIELD
VOL	VOLUME
VTR	VENT THROUGHT ROOF
W	WASTE, WEST, WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WB	WET BULB TEMPERATURE
WC	WATER CLOSET
WFMS	WATER FLOW MEASURE STATION
WG	WATER GAUGE
WH	WALL HYDRAINT, WATER HEATER
WOG	WATER, OIL AND GAS
W/O	WITHOUT
WP	WATER PROOF(ING)
WPD	PWATER PRESSURE DROP
WR	WALL REGISTER
WT	WEIGHT
WTR	WATER TEMPERATURE RISE, WATER
ZVB	ZONE VALVE BOX

MECHANICAL TEXT SYMBOLS

@	AT
X	BY
&	AND
Ø	DIAMETER
#	NUMBER, POUNDS
°	DEGREE
[	CHANNEL
"	INCHES
%	PERCENT
±	PLUS OR MINUS
□	TUBE

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ABBREVATIONS

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-GEN

P-002

DRAWING SYMBOLS LEGEND

NOT ALL SYMBOLS DEPICTED ON THIS LEGEND ARE USED IN THE MECHANICAL DRAWINGS

SHEET NUMBER

P101

3. SHEET NUMBER
2. SHEET TYPE
1. DISCIPLINE CODE

SHEET NUMBERING EXPLANATION:

1. **DISCIPLINE DESIGNATOR** - SIGNIFIES THE SHEET DISCIPLINE
2. **SHEET TYPE DESIGNATOR** - SIGNIFIES THE TYPE OF INFORMATION ON THE SHEET
   - 0 - GENERAL (SYMBOLS, LEGENDS, NOTES, ETC.)
   - 1 - PLAN VIEWS
   - 2 - ELEVATION VIEWS
   - 3 - BUILDING SECTIONS
   - 4 - WALL SECTIONS
   - 5 - EXTERIOR DETAILS
   - 6 - VERTICAL CIRCULATION
   - 7 - INTERIOR ELEVATIONS / DETAILS
   - 8 - SCHEDULES
3. **SHEET SEQUENCE NUMBER** - SIGNIFIES EITHER THE NUMBER OF THE FLOOR SHOWN ON THE SHEET OR THE NEXT SEQUENTIAL NUMBER OF THAT SERIES OF SHEETS.

ROOM NAME & NUMBER TAG

ROOM NAME

A100

3. ROOM DESIGNATION
2. LEVEL NUMBER
1. BUILDING AREA DESIGNATION

ROOM NUMBER TAG EXPLANATION:

1. **BUILDING AREA DESIGNATION** - SIGNIFIES THE BUILDING AREA DESIGNATION THAT THE ROOM OCCURS IN
2. **LEVEL NUMBER** - SIGNIFIES THE LEVEL ON WHICH THE ROOM IS LOCATED
3. **ROOM DESIGNATION** - SIGNIFIES THE SEQUENTIAL ROOM NUMBER FOR A PARTICULAR BUILDING AREA

CONSTRUCTION PIPE TYPES

DOUBLE LINE | SINGLE LINE

FUTURE

NEW

NORTH ARROW

NORTH

DATUM POINT

MATCH LINE

MATCH LINE
SEE 1/M102

SHEET NUMBER ON WHICH CONTINUATION IS FOUND

BREAK LINE

DRAWING TITLE

TITLE

1 DRAWING

1/4" = 1'-0"

SCALE

PLAN OR DETAIL DESIGNATION

EQUIPMENT TAG

1531

MATERIAL IDENTIFICATION CODE

45925C

BUILDING SECTION TAG

DETAIL NUMBER

1 M102 | 1 M102

SHEET NUMBER

DETAIL/ELEVATION TAG

DETAIL NUMBER

1 M102

SHEET NUMBER

GRAPHIC SCALE

0 2' 4' 8'

SCALE: 1" = 4'-0"

GRID LINES AND DESIGNATORS

1 2

A

B

KEY NOTE

XXX

VERTICAL ELEVATION

LEVEL 2
118'-6"

SPOT ELEVATION

LEVEL 2
118'-6"

PARTIAL PLAN & DETAIL TAG

PLAN OR DETAIL NUMBER

1 M102

SHEET NUMBER

EXTERIOR ELEVATION TAG

1 M102

ELEVATION DESIGNATION

SHEET NUMBER

DRAWING REVISIONS

REVISION NUMBER

3

PLUMBING FIXTURE SYMBOLS

- WALL HUNG LAVATORY
- SHOWER
- WATER CLOSET FLUSH VALVE TYPE
- SINK
- JANITOR'S CLOSET
- SERVICE RECEPTOR
- FD — FLOOR DRAIN
- FD/FS — FLOOR DRAIN WITH FUNNEL STRAINER
- RD — ROOF DRAIN
- ORD — OVERFLOW ROOF DRAIN
- SD — SHOWER DRAIN
- AD — AREA DRAIN
- SHOWER HEAD
- SLOPED TRENCH DRAIN
- SAND TRAP
- INFLAMMABLE INTERCEPTOR
- HB — HOSE BIBB
- A — AIR OUTLET
- WH — WALL HYDRANT

NOTE: REFER TO PLUMBING DESIGN NARRATIVE FOR ADDITIONAL INFORMATION ABOUT PLUMBING FIXTURES.

EQUIPMENT LABELING

B-1 A

MECHANICAL ABBREVIATIONS | NUMBER (1, 2) | UNIT DESIGNATION (A, B)

PLUMBING/PIPING LABELS

SYMBOL	ABBR.	DESCRIPTION
LRHS	LRHS	LOW TEMPERATURE REHEAT WATER SUPPLY
LRHR	LRHR	LOW TEMPERATURE REHEAT WATER RETURN
LHWS	LHWS	LOW TEMPERATURE HOT WATER SUPPLY
LHWR	LHWR	LOW TEMPERATURE HOT WATER RETURN
RS	RS	RADIATION WATER SUPPLY
RR	RR	RADIATION WATER RETURN
RHS	RHS	REHEAT WATER SUPPLY
RHR	RHR	REHEAT WATER RETURN
HWS	HWS	PRIMARY HEATING WATER SUPPLY
HWR	HWR	PRIMARY HEATING WATER RETURN
CHWS	CHWS	CHILLED WATER SUPPLY
CHWR	CHWR	CHILLED WATER RETURN
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
SCHWS	SCHWS	SECONDARY CHILLED WATER SUPPLY
SCHWR	SCHWR	SECONDARY CHILLED WATER RETURN
10#	10#	10 PSI STEAM (OR PRESSURE AS INDICATED)
HPR	HPR	HIGH PRESSURE STEAM RETURN
LPR	LPR	LOW PRESSURE STEAM RETURN
PC	PC	PUMPED CONDENSATE
HRS	HRS	HEAT RECOVERY SUPPLY
HRR	HRR	HEAT RECOVERY RETURN
LIQ	LIQ	REFRIGERANT (LIQUID)
SUC	SUC	REFRIGERANT (SUCTION)
HG	HG	HOT GAS
FOO	FOO	FUEL OIL OVERFLOW
FOR	FOR	FUEL OIL RETURN
FOS	FOS	FUEL OIL SUPPLY
FOV	FOV	FUEL OIL VENT
DI	DI	DEIONIZED WATER
DS	DS	DISTILLED WATER
RO	RO	REVERSE OSMOSIS WATER
90A	90A	NINETY POUND GENERAL AIR (OR OR PRESSURE AS INDICATED)
G	G	GAS - NATURAL
VE	VE	VACUUM EXHAUST
CO2	CO2	CARBON DIOXIDE
CW	CW	COLD WATER
NP	NP	NON - POTABLE COLD WATER
HW	HW	HOT WATER
RHW	RHW	RECIRCULATION HOT WATER
140°F HW	140°F HW	140°F HW (TEMP AS NOTED)
140°F RHW	140°F	RECIRCULATING HOT WATER (TEMP AS NOTED)
F	RHW	FIRE SERVICE
FV	F	FLAMMABLE VENT
FW	FV	FLAMMABLE WASTE
CSW	FW	COLD SOFT WATER
MCW	CSW	MAKE - UP COLD WATER
ISD	MCW	INTERIOR SUB DRAIN
W	ISD	SOIL OR WASTE (SANITARY)
V	W	VENT (SANITARY)
PDL	V	PUMPED DISCHARGE LINE (SANITARY)
RWC	PDL	RAIN WATER CONDUCTOR (STORM)
ORWC	RWC	OVERFLOW RAIN WATER CONDUCTOR (STORM)
ARW	ORWC	ACID RESISTANT SOIL OR WASTE
ARV	ARW	ACID RESISTANT VENT
LPCW	ARV	LOW PRESSURE COLD WATER
HA	LPCW	HOUSE AIR
A	HA	COMPRESSED AIR
VV	A	VAPOR VENT
V	VV	VENT OFFSET
D	V	INDIRECT DRAIN
TW	D	TEMPERED WATER
HT	TW	HEAT TRACE
IW	HT	INDIRECT WASTE
CMV	IW	COMBINATION WASTE AND VENT
	CMV	

PLUMBING/PIPING SYMBOLS

1 2 3 4 5 6 7 8 9

10 11 12 13 14 15 16 17

18 19 20 21 22 23 24 25

26 27 28 29 30 31 32 33 34

35 36 37 38 39 40

41 42

1. PIPE UP
2. PIPE CONNECTION
3. TOP CONNECTION
4. BOTTOM CONNECTION
5. PIPE DROP
6. PIPE RISE
7. SHUT OFF VALVE
8. BALANCING VALVE
9. PIPE BREAK
10. STRAINER
11. STRAINER W/BLOWDOWN VALVE
12. UNION
13. MOTORIZED VALVE - 2 WAY
14. MOTORIZED VALVE - 3 WAY
15. CHECK VALVE
16. DRAIN VALVE
17. FLOW ARROW
18. ARROW INDICATES DIRECTION OF PIPE PITCH
19. FLEXIBLE CONNECTION
20. PIPE/DUCT CAP
21. PRESSURE AND TEMPERATURE STATION
22. TEMPERATURE TRANSMITTER IN PIPE WELL
23. RELIEF VALVE
24. PIPE GUIDE
25. ANCHOR PRESSURE GAGE
26. THERMOMETER
27. AIR VENT
28. VENTURI WATER FLOW MEASURING STATION
29. TURBIN WATER FLOW MEASURING STATION
30. METER
31. EXPANSION COMPENSTOR
32. FLOW ALARM
33. INLINE PUMP
34. CONCENTRIC PIPE REDUCER
35. ECCENTRIC PIPE REDUCER (FLAT ON TOP)
36. ECCENTRIC PIPE REDUCER (FLAT ON BOTTOM)
37. REDUCED PRESSURE ZONE BACKFLOW PREVENTER
38. SOLENOID VALVE
39. SHOCK ABSORBER (SA) (PDI SYMBOL)
40. CLEAN OUT
41. NITROGEN CONTROL CABINET
42. PRESSURE GAUGE

PLUMBING SYMBOLS

PT (1) EPT (2) SPT (3) NCR (4) MFC (5)

NFD (6) (7) MCC (8)

1. PRESSURE TRANSMITTER
2. DIFFERENTIAL PRESSURE TRANSMITTER
3. STATIC PRESSURE TRANSMITTER
4. NETWORK CONTOLLER/ROUTER (NCR)
5. MULTI FUNCTION CONTOLLER (MFC)
6. VARIABLE FREQUENCY DRIVE
7. OVERTEMP DETECTOR
8. DIFFERENTIAL PRESSURE MONITOR
9.

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING

STANDARD SYMBOLS AND LEGENDS

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-GEN

P-003

SHEET 85 OF 263

9/21/2015 12:04:19 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

PUMP SCHEDULE

UNIT ID	SYSTEM	LOCATION	PUMP TYPE	DESIGN CAPACITY (GPM)	DESIGN HEAD (FT)	MAXIMUM SHUTOFF HEAD (FT)	115% CAPACITY HEAD (FT)	MINIMUM PUMP EFFICIENCY (%)	MOTOR		VFD	PUMP SIZE		ISOLATION		REMARKS
									HP	RPM		SUCTION (IN)	DISCHARGE (IN)	TYPE	DEFLECTION (IN)	

SUMP PUMP AND SEWAGE EJECTOR SCHEDULE

MARK	SYSTEM SERVED	LOCATION	PUMP TYPE	DESIGN CAPACITY (GPM)	DISCHARGE HEAD (FT)	MOTOR		BASIN SIZE				INLET (IN)	INLET ABOVE BOTTOM (IN)	VENT (IN)	REMARKS
						HP	RPM	DIAMETER (IN)	LENGTH (IN)	WIDTH (IN)	DEPTH (IN)				
SE 1		CLEAN STORAGE ROOM 119		0	0.0	7.50	0	4"			0"	0"	0"	3"	
SE 2				0	0.0	3.00	0	0"			0"	0"	0"	4"	
SE 3				0	0.0	2.00	0	0"			0"	0"	0"	4"	
SE 4				0	0.0	3.00	0	0"			0"	0"	0"	4"	

OIL INTERCEPTOR

UNIT ID	SYSTEM SERVED	LOCATION	MAX FLOW RATE (GPM)	TANK VOLUME (GAL)	MAX OIL CAPACITY (GAL)	BASIN SIZE (IN)					REMARKS
						LENGTH (IN)	WIDTH (IN)	INLET SIZE (IN)	OUTLET SIZE (IN)	VENT (IN)	

BOOSTER PUMP SCHEDULE

MARK	SYSTEM	LOCATION	DESIGN CAPACITY (GPM)	DESIGN HEAD (FT)	PUMP SIZE		MOTOR		MINIMUM DESIGN SUCTION PRESSURE	MAXIMUM DESIGN SUCTION PRESSURE	DESIGN PRESSURE	REMARKS
					SUCTION	DISCHARGE	RPM	HP				

DIAPHRAGM EXPANSION TANK SCHEDULE

UNIT ID	SYSTEM	LOCATION	SIZE		CAPACITY		PRE-CHARGE (PSI)	SYSTEM WATER VOLUME (GAL)	SYSTEM CONNECTION SIZE (IN)	SYSTEM OPERATING RANGE		REMARKS
			LENGTH (IN)	DIAMETER (IN)	ACCEPTANCE VOLUME (GAL)	MIN. TANK VOLUME (GAL)				MIN. PSIG	MAX. PSIG	

WATER SOFTENER SCHEDULE

UNIT ID	LOCATION	EXCHANGE CAPACITY (GALLONS)	BRINE TANK SIZE (GALLONS)	RESIN (CUBIC FEET)	POUNDS OF SALT PER REGENERATION	MAXIMUM PRESSURE DROP (PSI)	MAXIMUM FLOW (GPM)	CONTINUOUS FLOW (GPM)	GRAINS HARDNESS_INLET (GRAINS)	GRAINS HARDNESS_OUTLET (GRAINS)	REMARKS
				0.00	0.00 kip	0.00	0	0	0	0	

TRAP PRIMER SCHEDULE

UNIT ID	LOCATION	SYSTEM SERVED	TYPE EQUIPMENT	INLET PIPE DIAMETER	OUTLET PIPE DIAMETER	VOLTAGE	PHASE	REMARKS

DOMESTIC HOT WATER STORAGE TANK SCHEDULE

UNIT ID	SYSTEM	LOCATION	VOLUME	LWT	NOMINAL HEIGHT	NOMINAL DIAMETER	REMARKS

PLUMBING FIXTURE SCHEDULE REVIT

UNIT ID	FIXTURE TYPE	WASTE (IN)	VENT (IN)	COLD (IN)	HOT (IN)	CWFU	HWFU	MANUFACTURER	MODEL	DESCRIPTION
4" VTR			4"							
AD-1						0	0			
CO-1	FLOOR CLEANOUT					0	0			
DF-1								Elkay	LZS8WSSP	
EEW-1	EMERGENCY EYEWASH & SHOWER					0		Bradley Corporation	S19-310TT	Combination Drench Shower/Eye/Face Wash Unit
FD-1						0	0			
FD-2						0	0			
FD-3						0	0			
FWT										
L-1A		2"	2"	3/8"	3/8"					
L-2						0	0	Elkay Manufacturing	EWMA4820C	Wash-Up Lavatory Sinks
L-3						0	0	Elkay Manufacturing		Wash-Up Lavatory Sinks
L-3A						0	0	Elkay Manufacturing	WCLWO1923OSDC	Wash-Up Lavatory Sinks
L-4						0	0	Elkay Manufacturing		Wash-Up Lavatory Sinks
ORD-1										
P										
P13	STAINLESS STEEL SINK	1 1/2"	1 1/2"	1/2"	1/2"	1.5	1.5			
P29B	HOSE BIB			3/4"						
RD-1										
SE-2			0"							
SP-2			0"							
SS-1		3"	1 1/2"	3/4"	3/4"					
TD-1										
TD-2										
UR-1										
UR-1A										
WC-1				1"			0			
WC-1A				1"			0			
WH	WALL HYDRANT			3/4"		2	0			RECESSED WALL HYDRANT
WH-1	WALL HYDRANT			3/4"		2	0			RECESSED WALL HYDRANT
YH-1	WALL HYDRANT			3/4"		2	0			RECESSED WALL HYDRANT

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SOUTHWEST

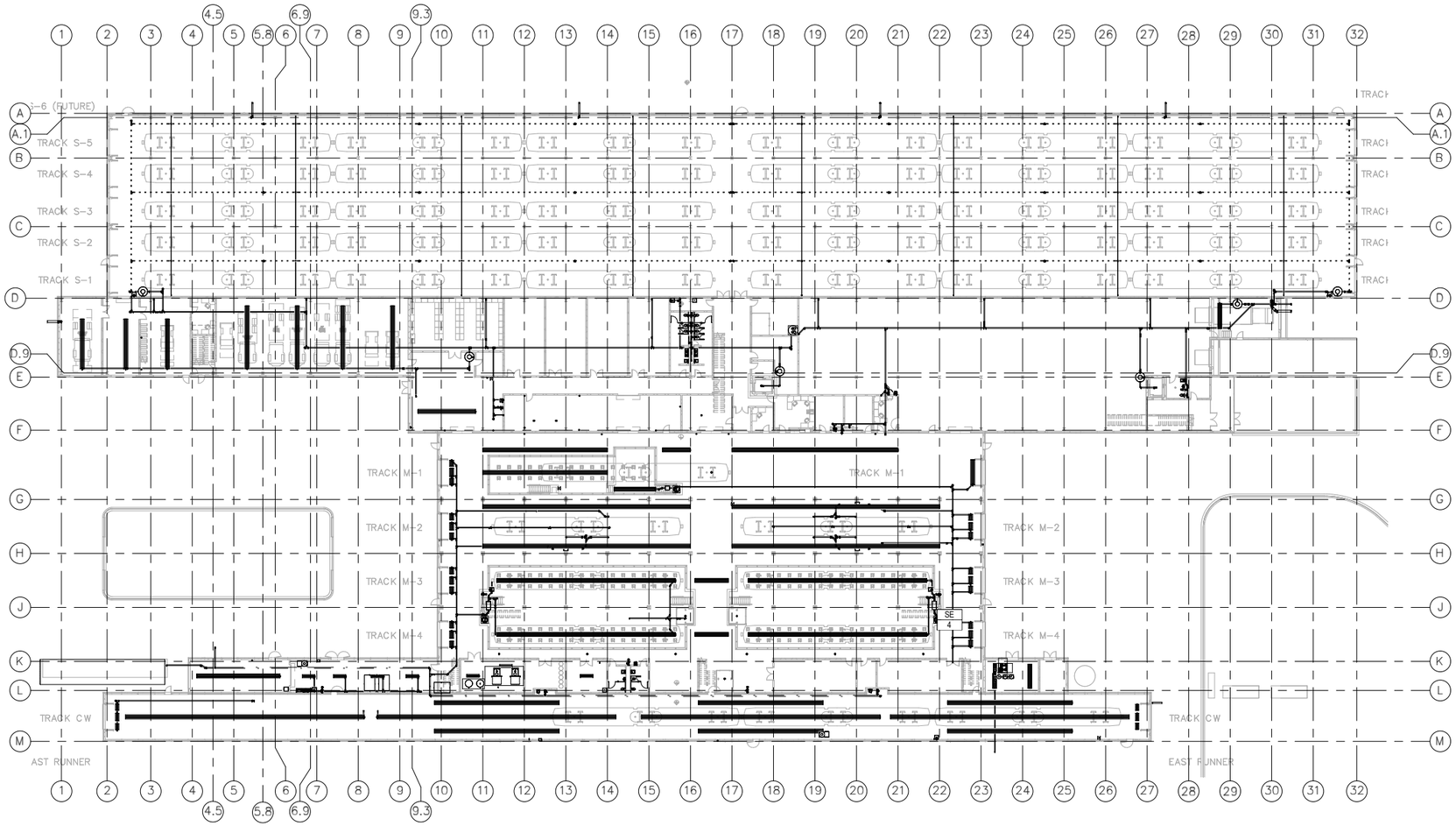
OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING

PLUMBING SCHEDULES

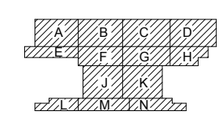
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-SCH

P-004



1 P-100 OVERALL UNDERGROUND PLUMBING PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

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OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING

UNDERGROUND OVERALL PLUMBING PLAN

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-100

SHEET 87 OF 263

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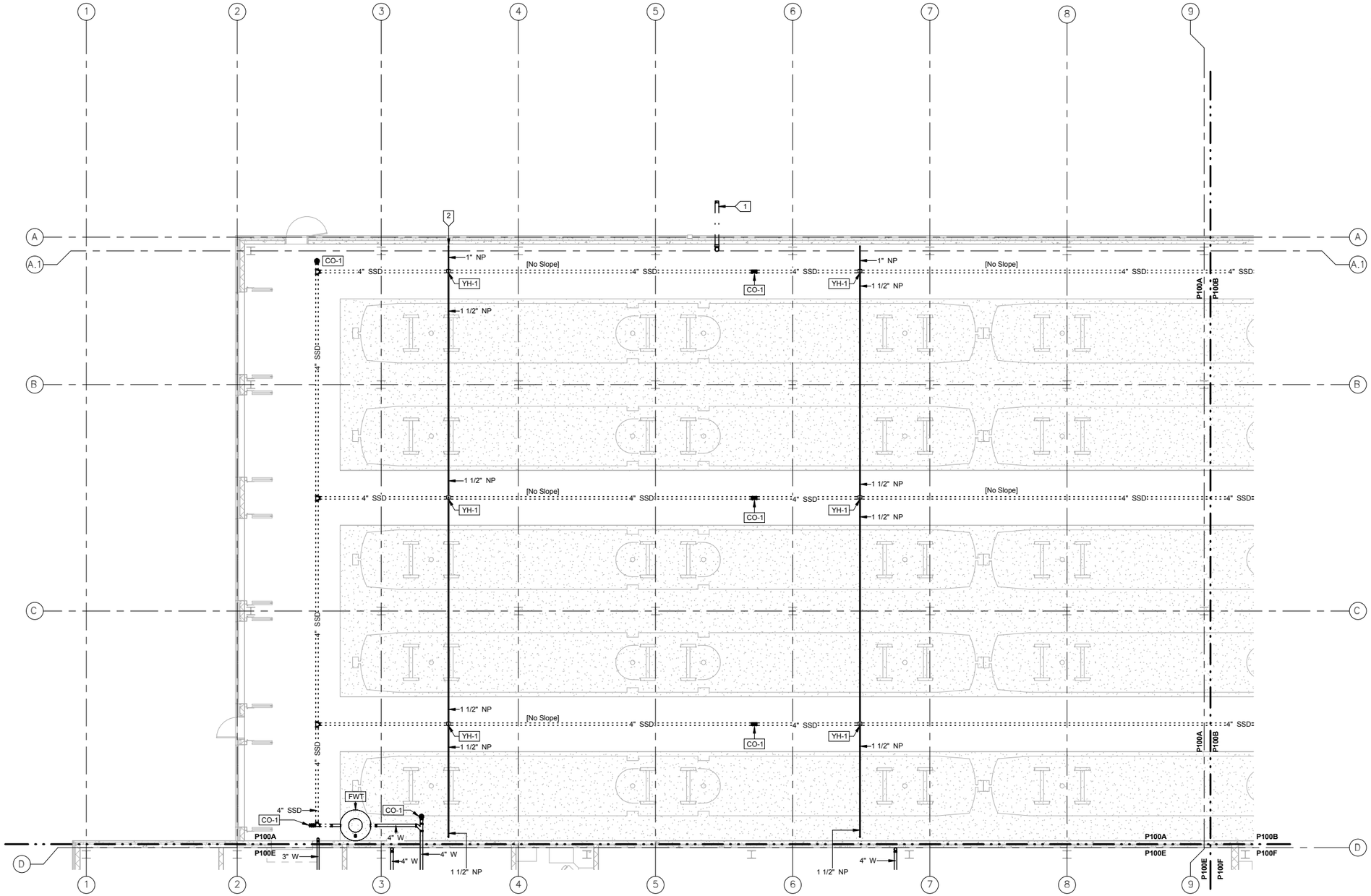
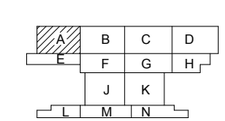


KEYED NOTES

1. TERMINATE STORM 5'-0" OUTSIDE OF BUILDING. 6" STORM INV 96.0' (CIVIL-902.64), REFER TO CIVIL FOR CONTINUATION & COORDINATION.
2. 1" NON-POTABLE WATER UP. FOR CONTINUATION REFER TO SHEET OMF-PLM-PLN-110A.



KEY PLAN - SCALE: N.T.S.

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

1 / P-100A UNDERGROUND - PLUMBING PLAN - AREA A

SCALE: 1/8" = 1'-0"

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN AREA A

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-100A

SHEET 88 OF 263

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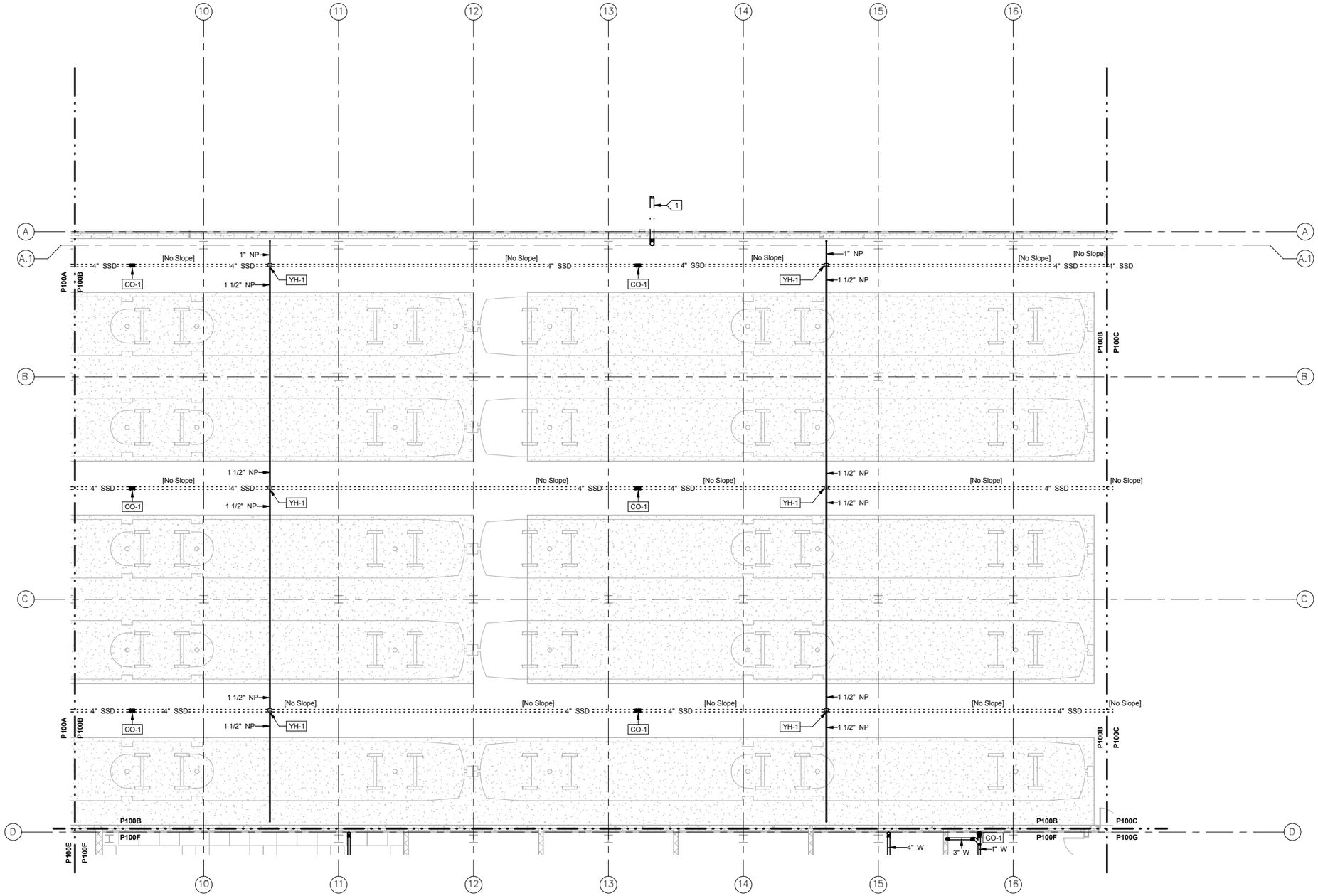
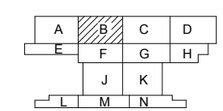
KEYED NOTES

1 TERMINATE STORM 5'-0" OUTSIDE OF BUILDING. 6" STORM INV 96.0' (CIVIL-902.64), REFER TO CIVIL FOR CONTINUATION & COORDINATION.

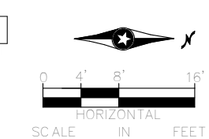


1 P-100B UNDERGROUND - PLUMBING PLAN - AREA B

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN
AREA B

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-100B

SHEET 89 OF 263

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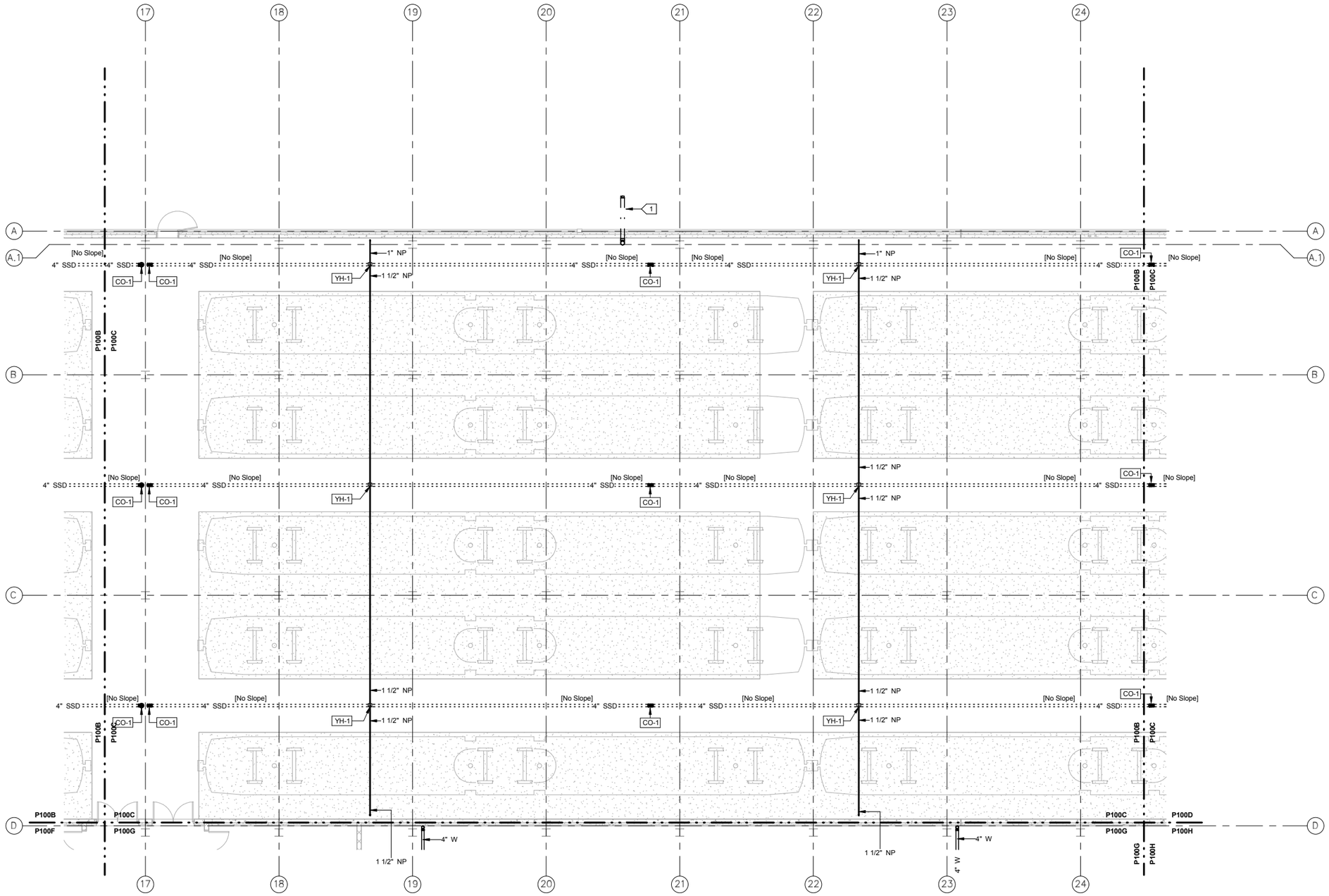
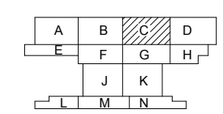
KEYED NOTES

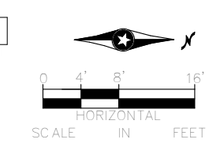
1 TERMINATE STORM 5'-0" OUTSIDE OF BUILDING. 6" STORM INV 96.0' (CIVIL-902.64), REFER TO CIVIL FOR CONTINUATION & COORDINATION.



1 P-100C UNDERGROUND - PLUMBING PLAN - AREA C
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN AREA C

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

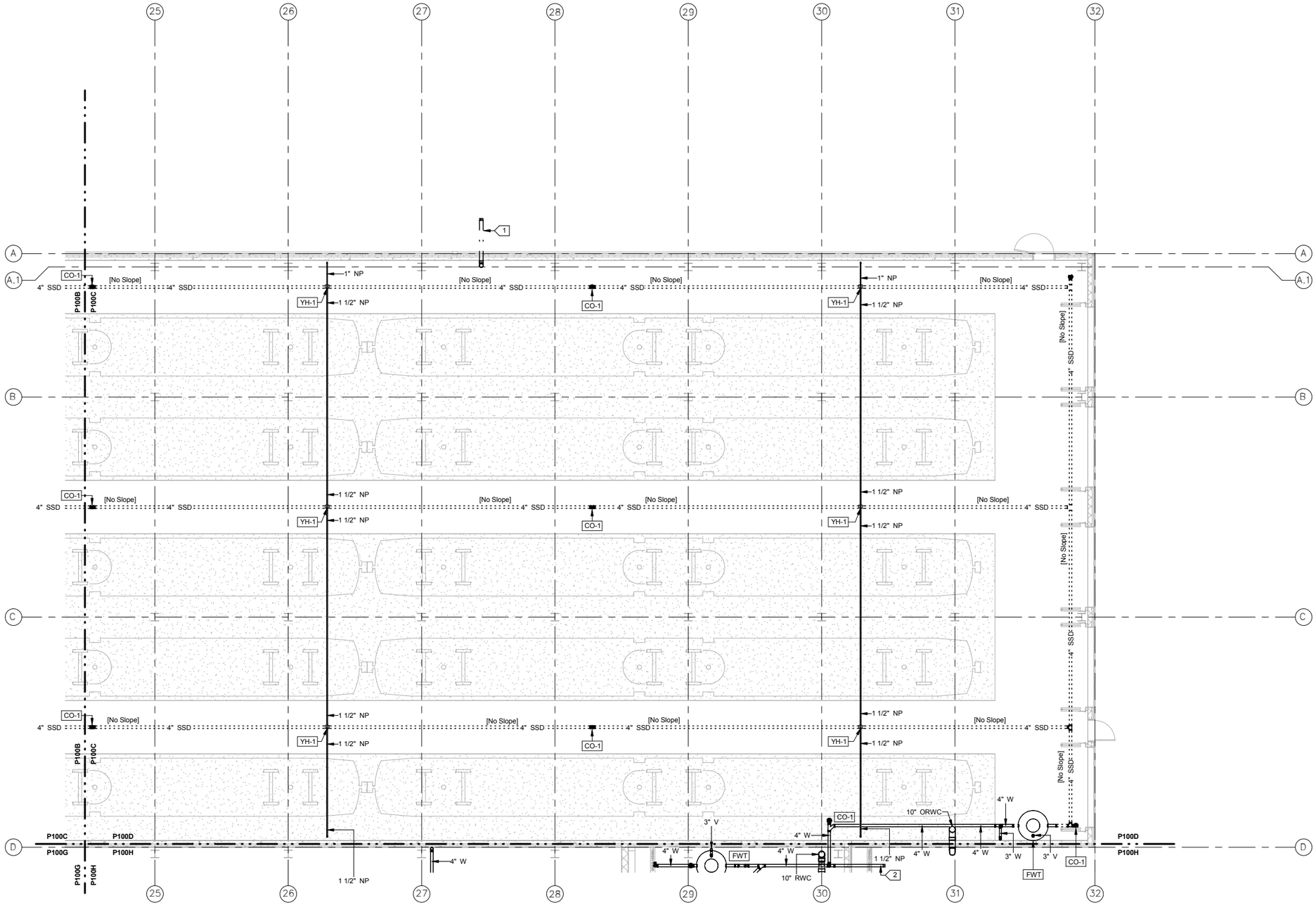
P-100C

SHEET 90 OF 263

9/21/2015 12:05:05 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

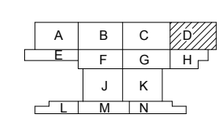
KEYED NOTES

1. TERMINATE STORM 5'-0" OUTSIDE OF BUILDING. 6" STORM INV 96.0' (CIVIL-902.64), REFER TO CIVIL FOR CONTINUATION & COORDINATION.
2. TERMINATE SANITARY 5'-0" OUTSIDE OF BUILDING. 6" SANITARY INV. 80.86' (CIVIL 897.5). REFER TO CIVIL FOR CONTINUATION & COORDINATION.

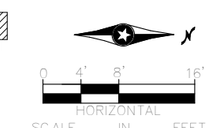


1 P-100D UNDERGROUND - PLUMBING PLAN - AREA D

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN AREA D

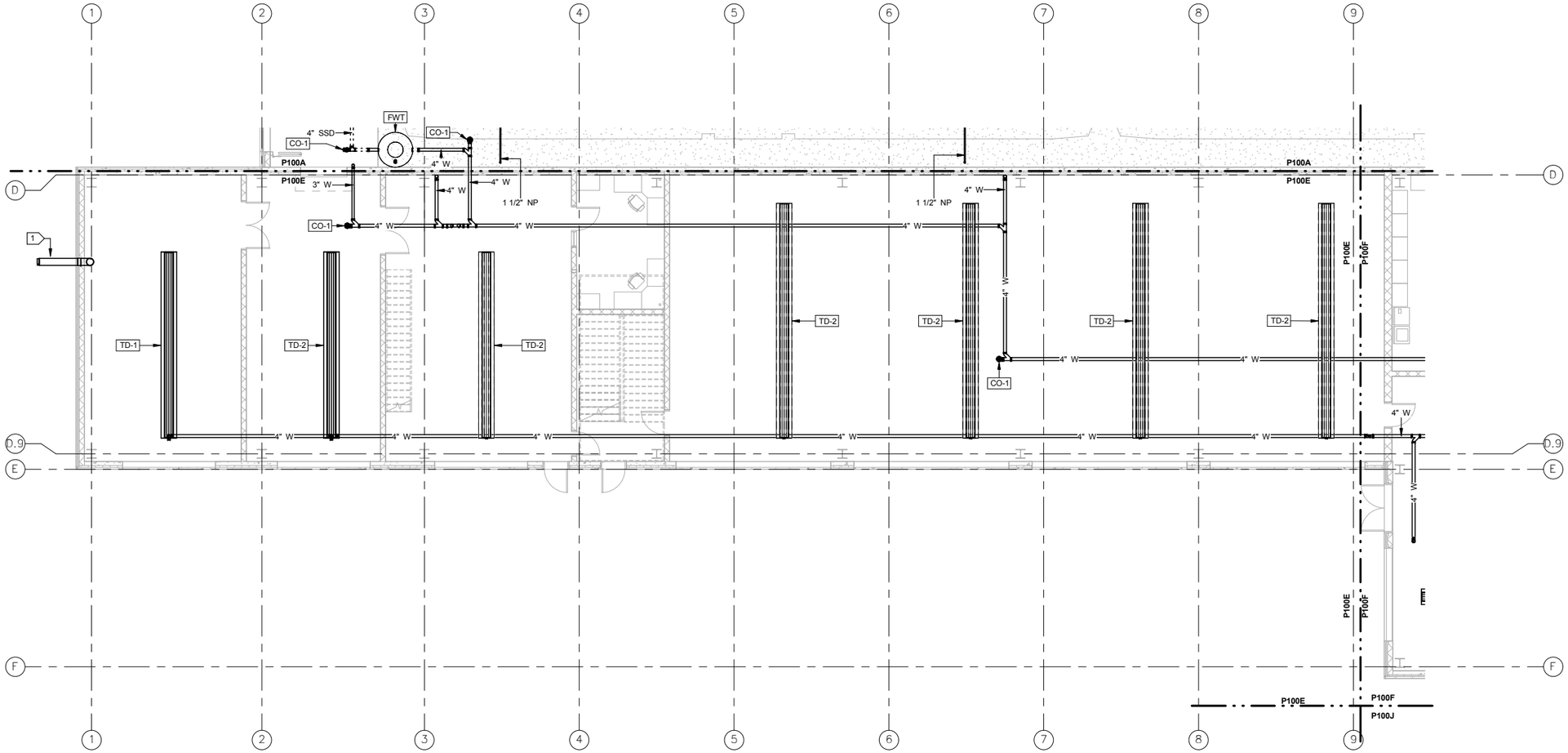
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-100D

SHEET 91 OF 263

9/21/2015 12:05:07 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

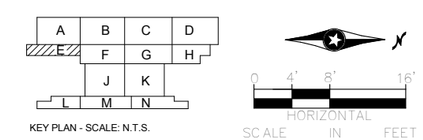


KEYED NOTES

1 TERMINATE STORM 5'-0" OUTSIDE OF BUILDING. 12" STORM INV 96.0' (CIVIL-902.64), REFER TO CIVIL FOR CONTINUATION & COORDINATION.

1 / P-100E UNDERGROUND - PLUMBING PLAN -AREA E

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN
AREA E

DISCIPLINE: PLUMBING

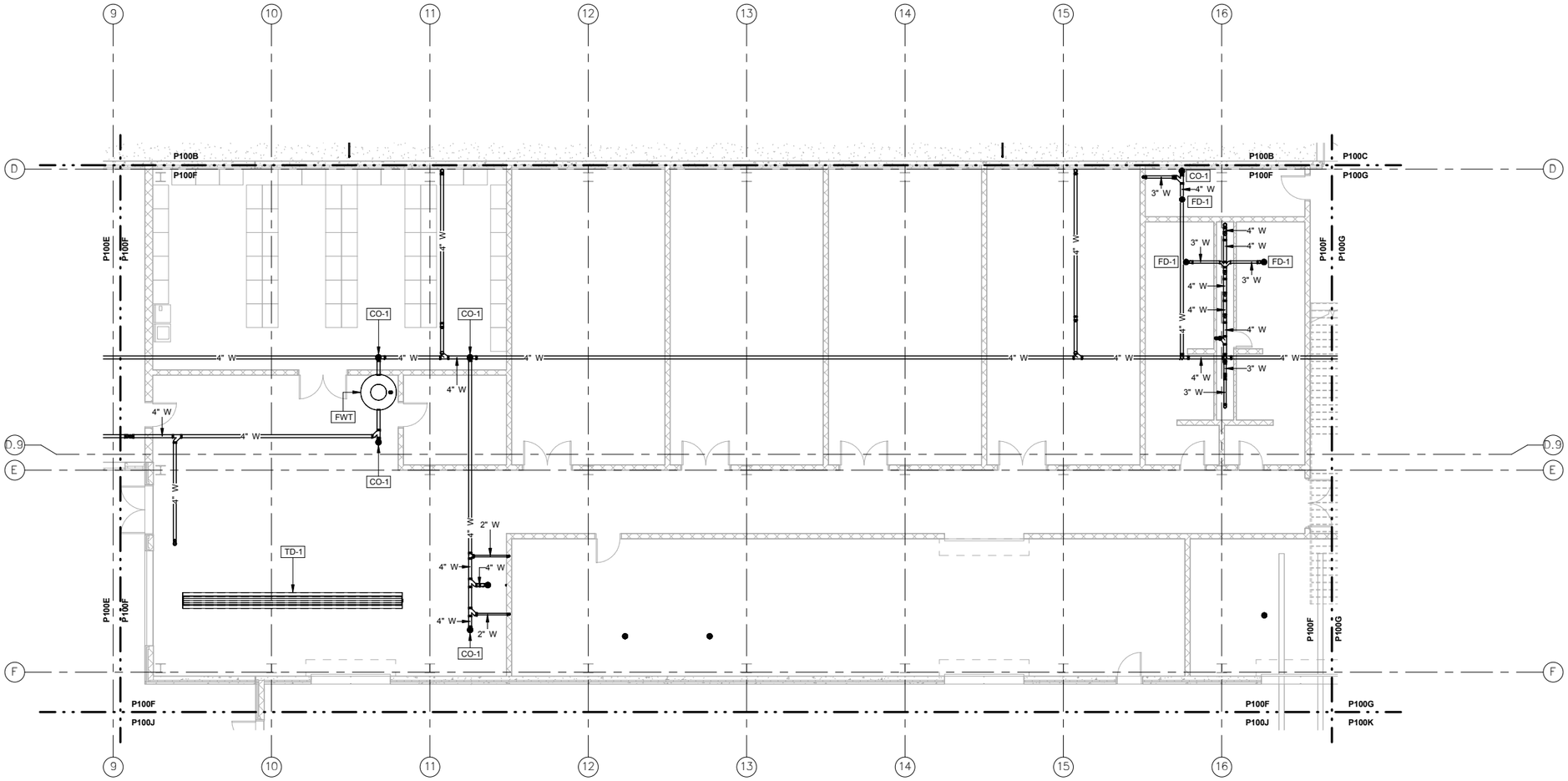
SHEET NAME: OMF-PLM-PLN

P-100E

SHEET 92 OF 263

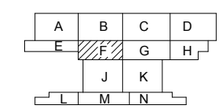
9/21/2015 12:05:09 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES

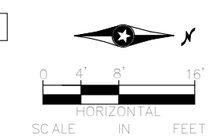


1 P-100F UNDERGROUND - PLUMBING PLAN - AREA F

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN
AREA F

DISCIPLINE: PLUMBING

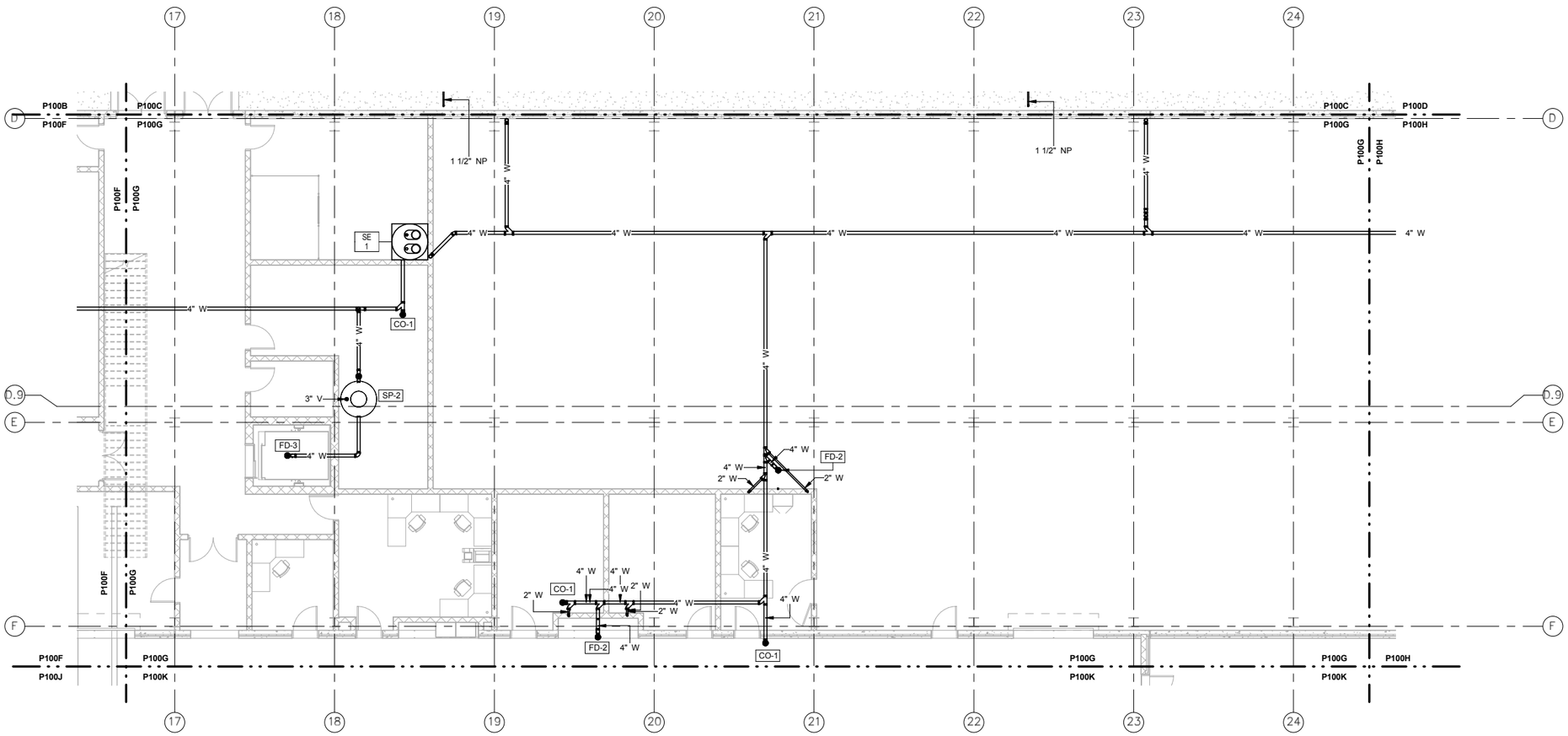
SHEET NAME: OMF-PLM-PLN

P-100F

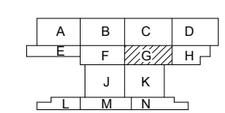
SHEET 93 OF 263

9/21/2015 12:05:11 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

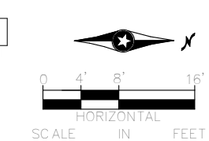
KEYED NOTES



1 P-100G UNDERGROUND - PLUMBING PLAN - AREA G
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

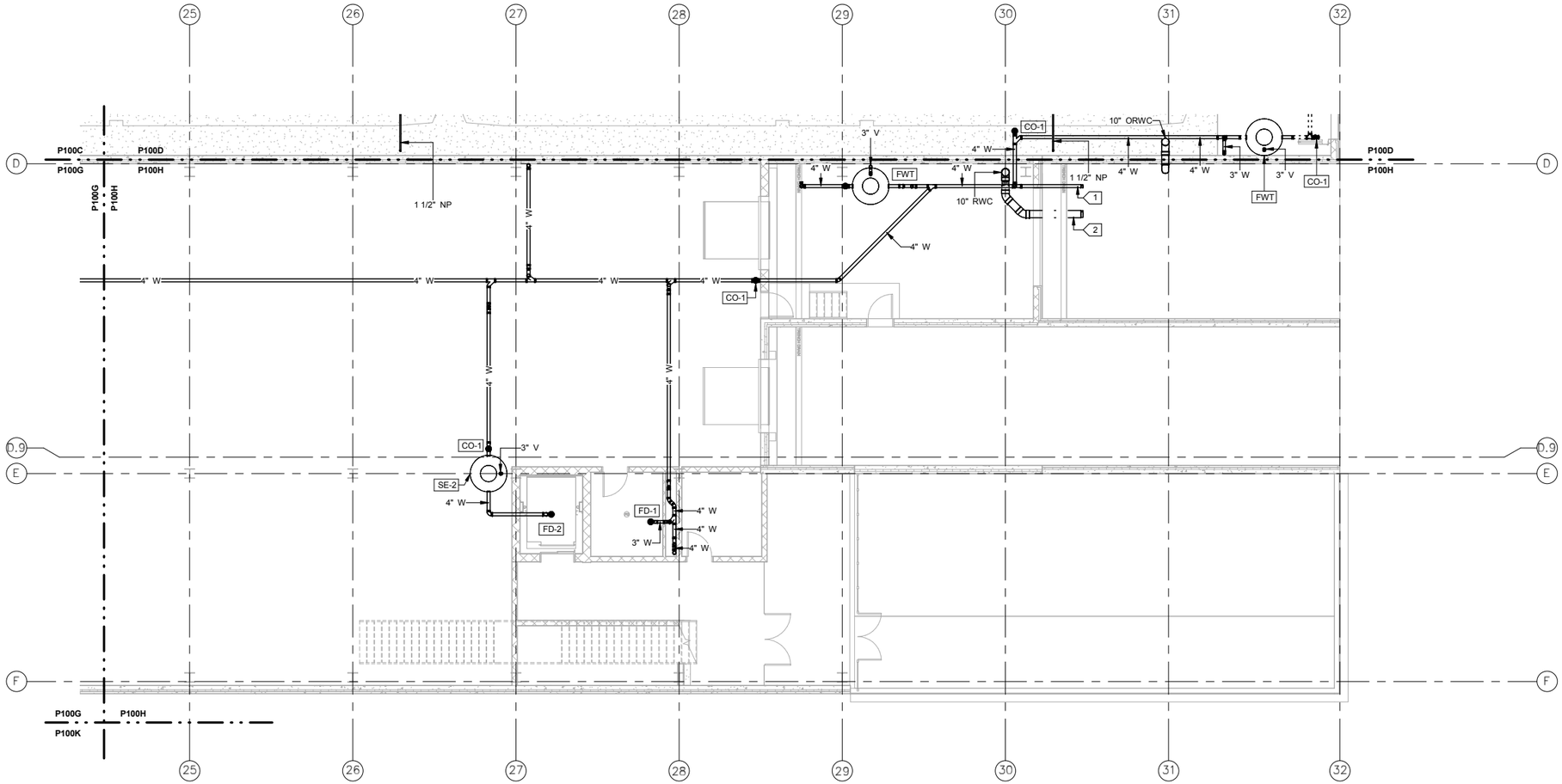
METROPOLITAN COUNCIL SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN
AREA G

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-100G

SHEET 94 OF 263

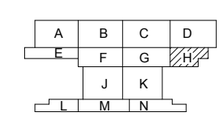
9/21/2015 12:05:13 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



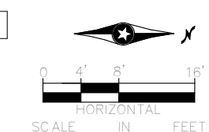
1 UNDERGROUND - PLUMBING PLAN - AREA H
P-100H SCALE: 1/8" = 1'-0"

KEYED NOTES

1. TERMINATE SANITARY 5'-0" OUTSIDE OF BUILDING. 6" SANITARY INV. 80.86' (CIVIL 897.5). REFER TO CIVIL FOR CONTINUATION & COORDINATION.
2. TERMINATE STORM 5'-0" OUTSIDE OF BUILDING. 12" STORM INV 94.0' (CIVIL-900.56), REFER TO CIVIL FOR CONTINUATION & COORDINATION.



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN
AREA H

DISCIPLINE: PLUMBING

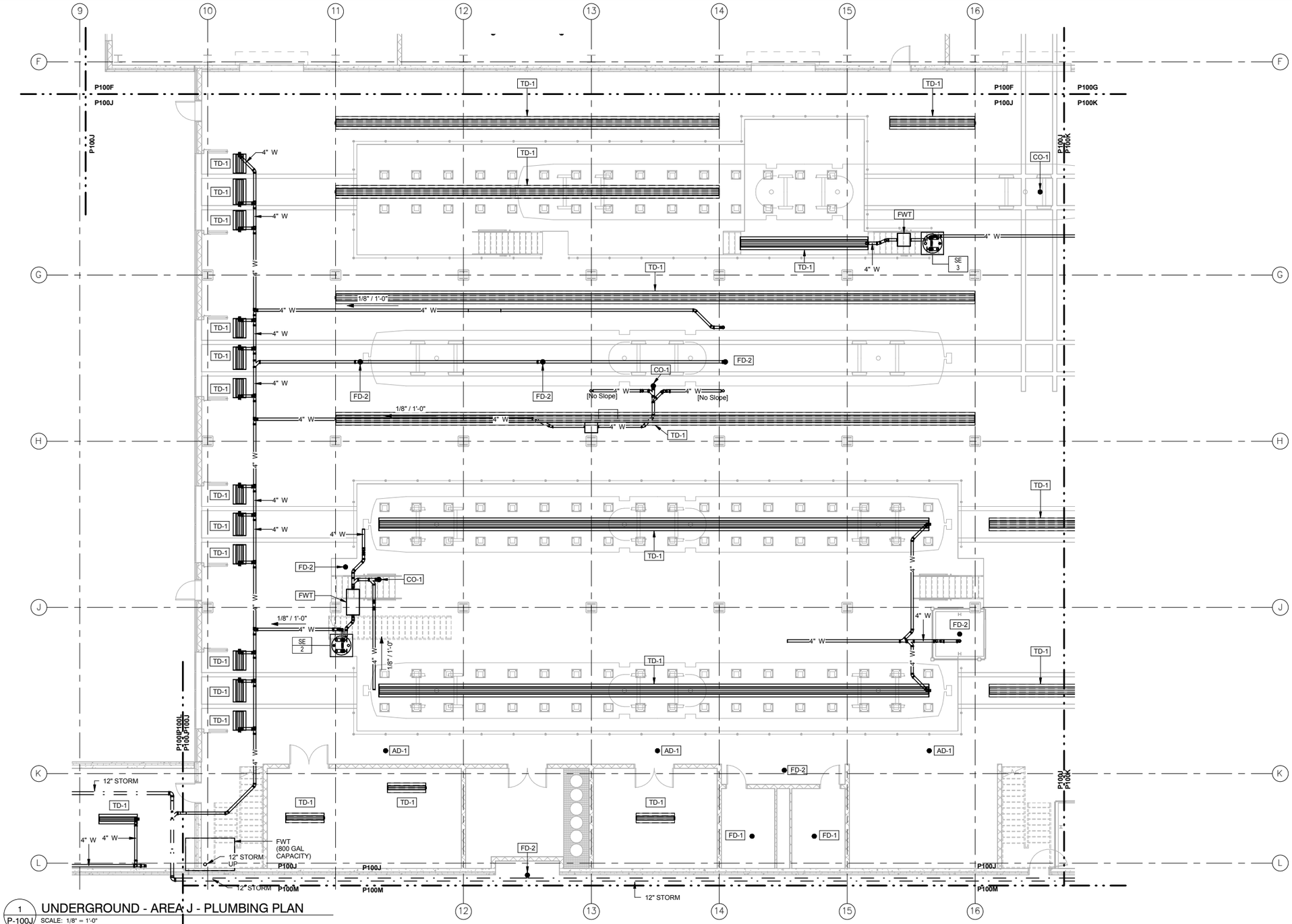
SHEET NAME: OMF-PLM-PLN

P-100H

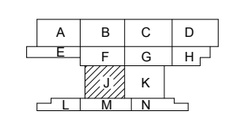
SHEET 95 OF 263

9/21/2015 12:05:15 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

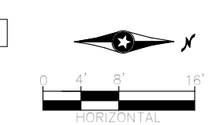
KEYED NOTES



1 P-100J UNDERGROUND - AREA J - PLUMBING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN AREA J

DISCIPLINE: PLUMBING

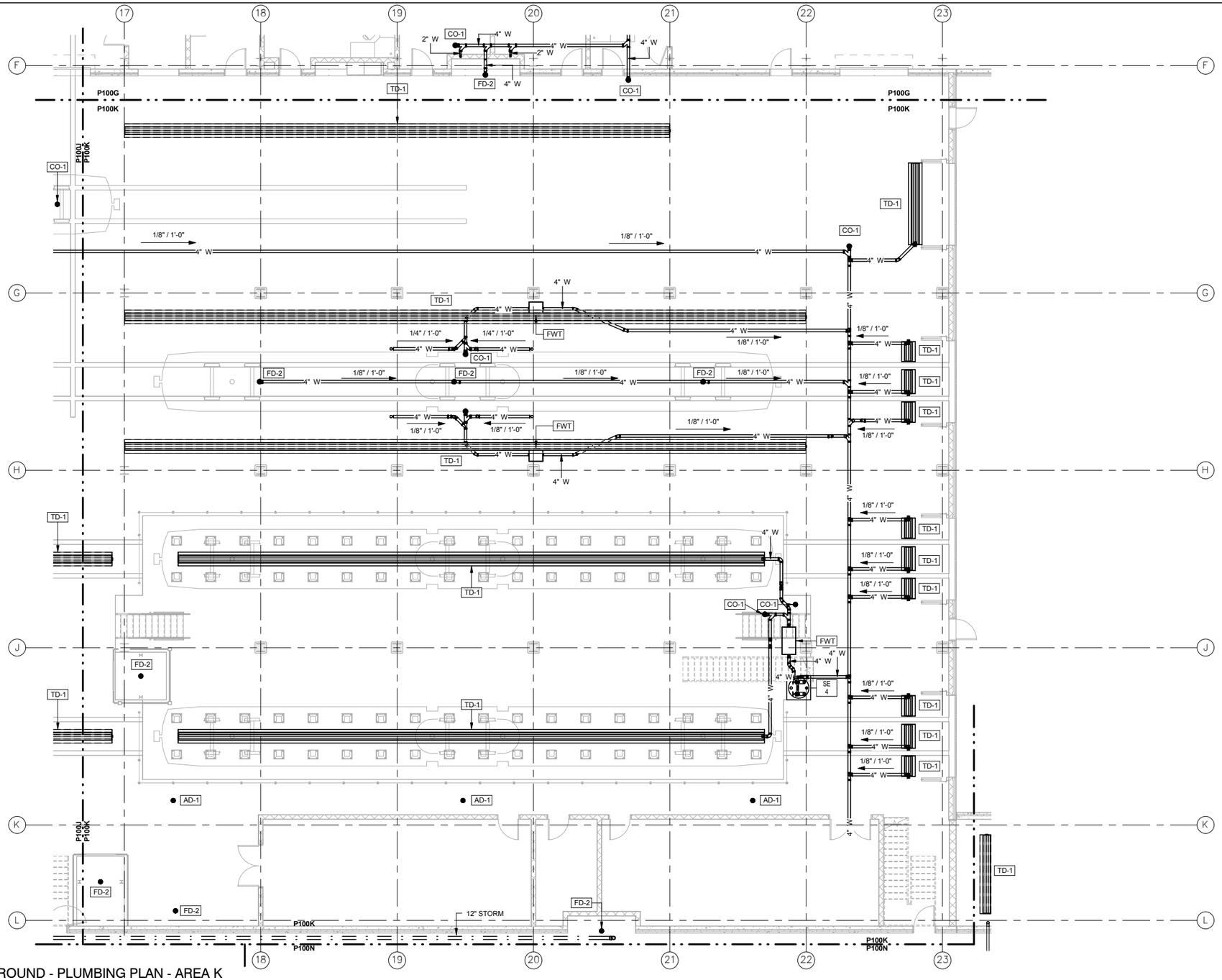
SHEET NAME: OMF-PLM-PLN

P-100J

SHEET 96 OF 263

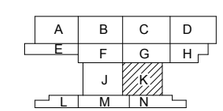
9/21/2015 12:05:19 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES

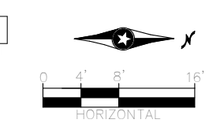


1 P-100K UNDERGROUND - PLUMBING PLAN - AREA K

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING UNDERGROUND - PARTIAL PLUMBING PLAN AREA K

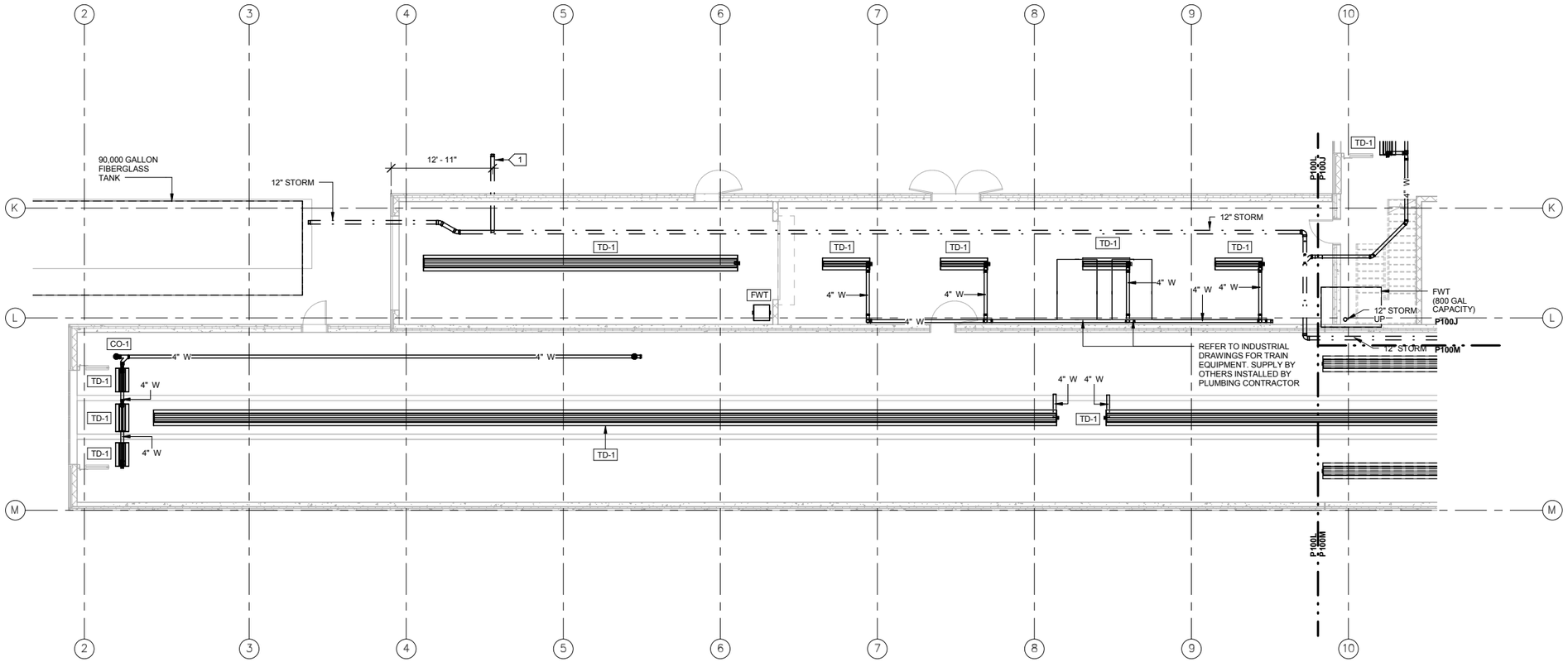
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-100K

SHEET 97 OF 263

9/21/2015 12:05:22 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

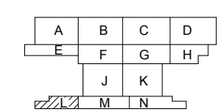


1 P-100L UNDERGROUND - PLUMBING PLAN - AREA L

SCALE: 1/8" = 1'-0"

KEYED NOTES

1 TERMINATE STORM 5'-0" OUTSIDE OF BUILDING. 12" STORM INV 96.0' (CIVIL-902.64), REFER TO CIVIL FOR CONTINUATION & COORDINATION.



KEY PLAN - SCALE: N.T.S.

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METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING UNDERGROUND - PARTIAL PLUMBING PLAN AREA L

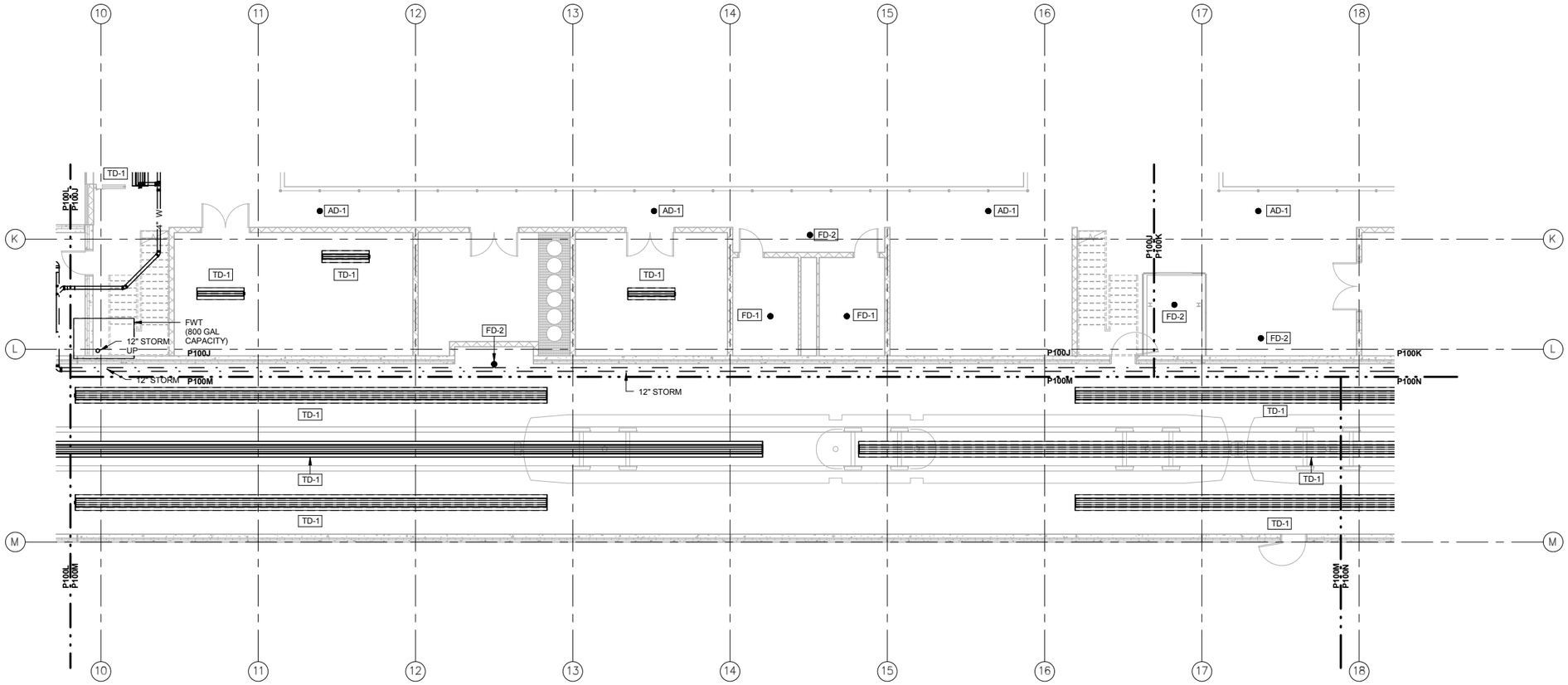
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-100L

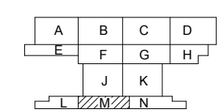
SHEET 98 OF 263

9/21/2015 12:05:24 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-100M UNDERGROUND - PLUMBING PLAN - AREA M
SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.

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CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN
AREA M

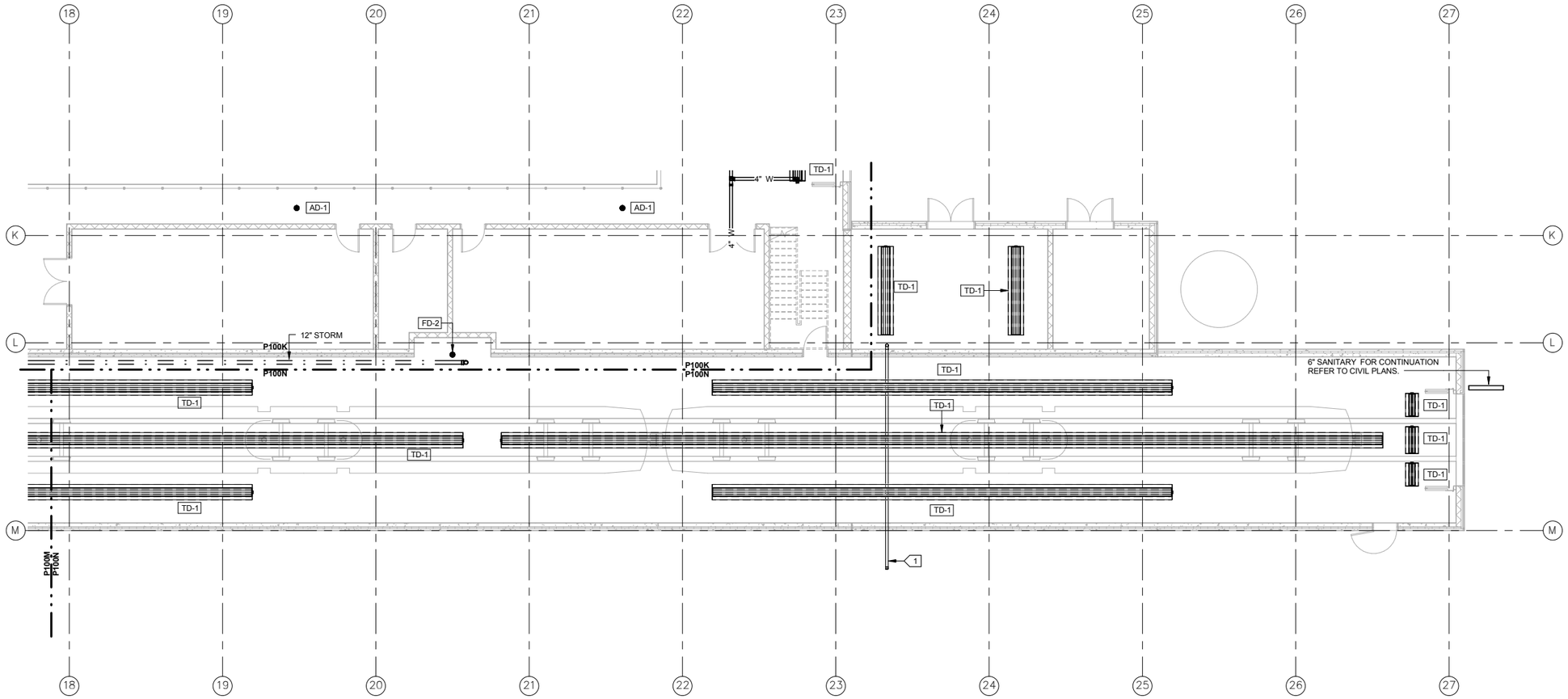
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-100M

SHEET 99 OF 263

9/21/2015 12:05:26 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

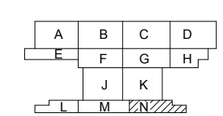


1 P-100N UNDERGROUND - PLUMBING PLAN - AREA N

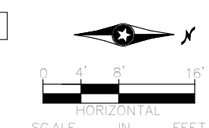
SCALE: 1/8" = 1'-0"

KEYED NOTES

1 TERMINATE WATER SERVICE 5'-0" OUTSIDE OF BUILDING. 8" COMBINED DOMESTIC AND FIRE PROTECTION SERVICE INV. 92.5' (CIVIL 898.40). SEE CIVIL FOR CONTINUATION & COORDINATION.



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
UNDERGROUND - PARTIAL PLUMBING PLAN
AREA N

DISCIPLINE: PLUMBING

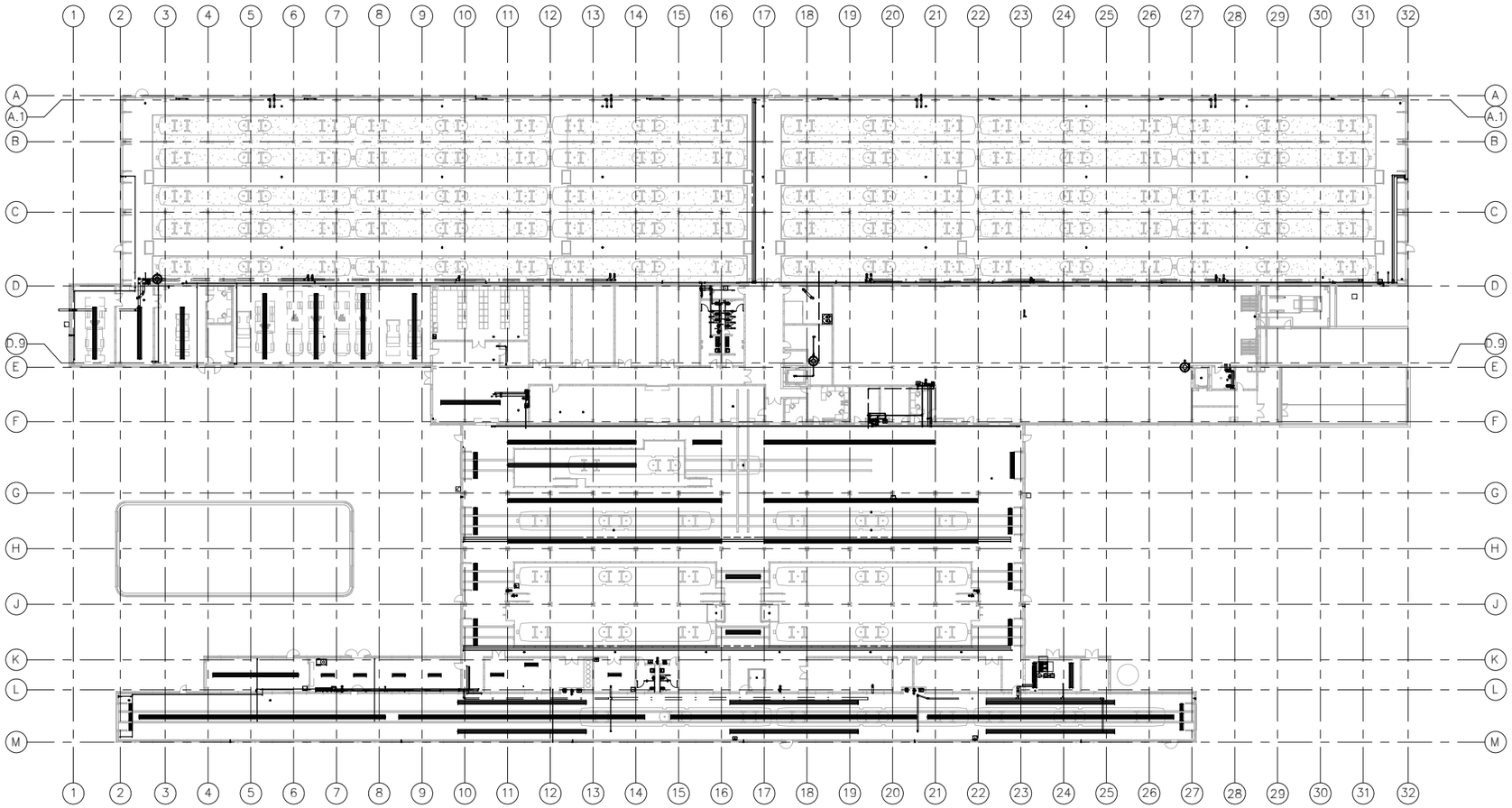
SHEET NAME: OMF-PLM-PLN

P-100N

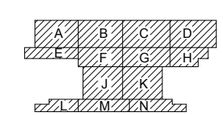
SHEET 100 OF 263

9/21/2015 12:05:27 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

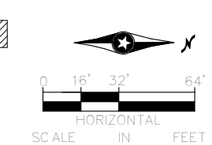
KEYED NOTES



1 P-110 OVERALL LEVEL ONE PLUMBING PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE OVERALL PLUMBING FLOOR PLAN

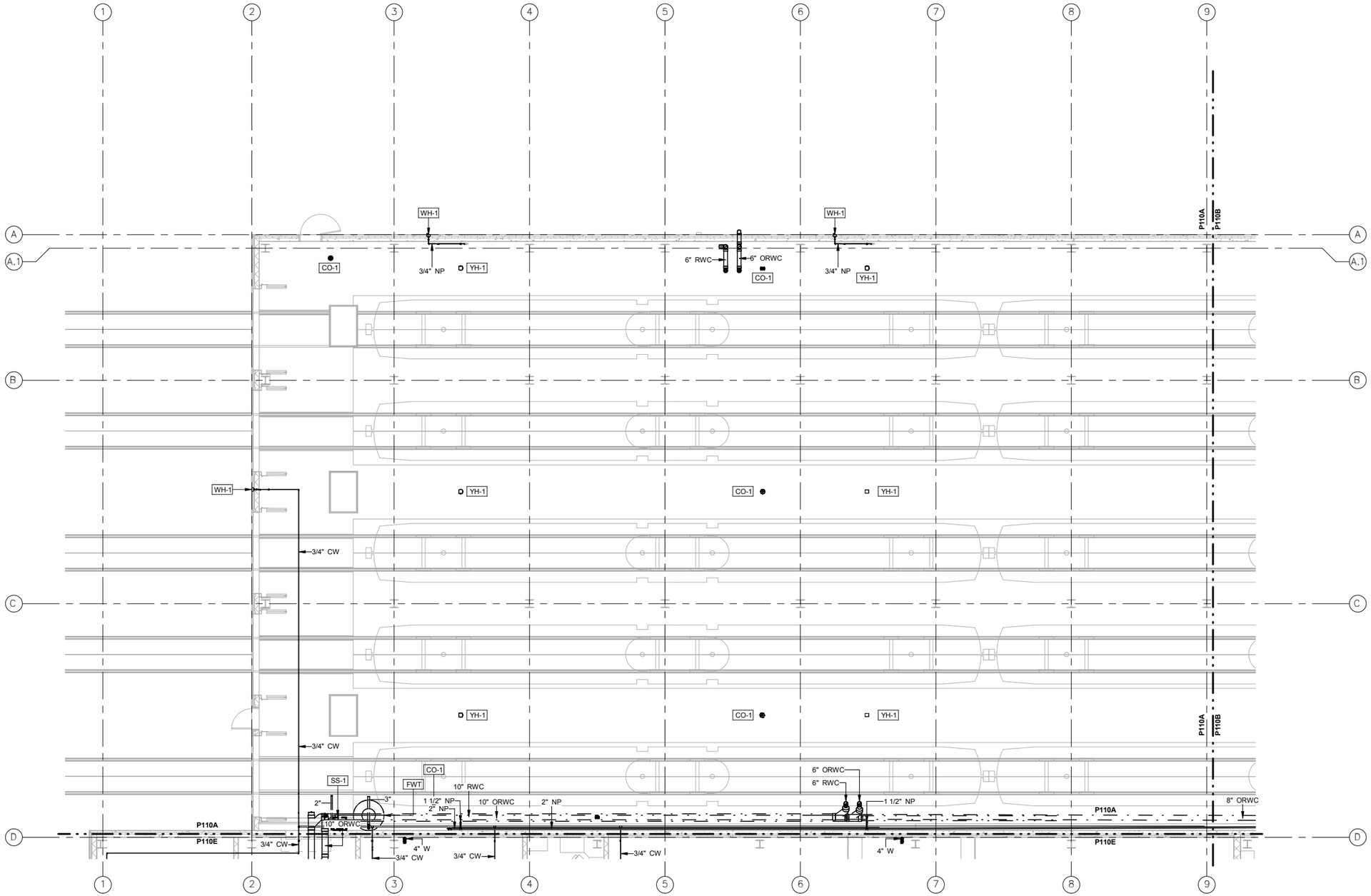
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110

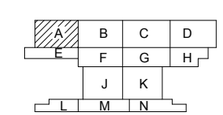
SHEET 101 OF 263

9/21/2015 12:05:33 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



KEYED NOTES

1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



KEY PLAN - SCALE: N.T.S.

1 P-110A LEVEL ONE - PLUMBING PLAN - AREA A

SCALE: 1/8" = 1'-0"

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN AREA A

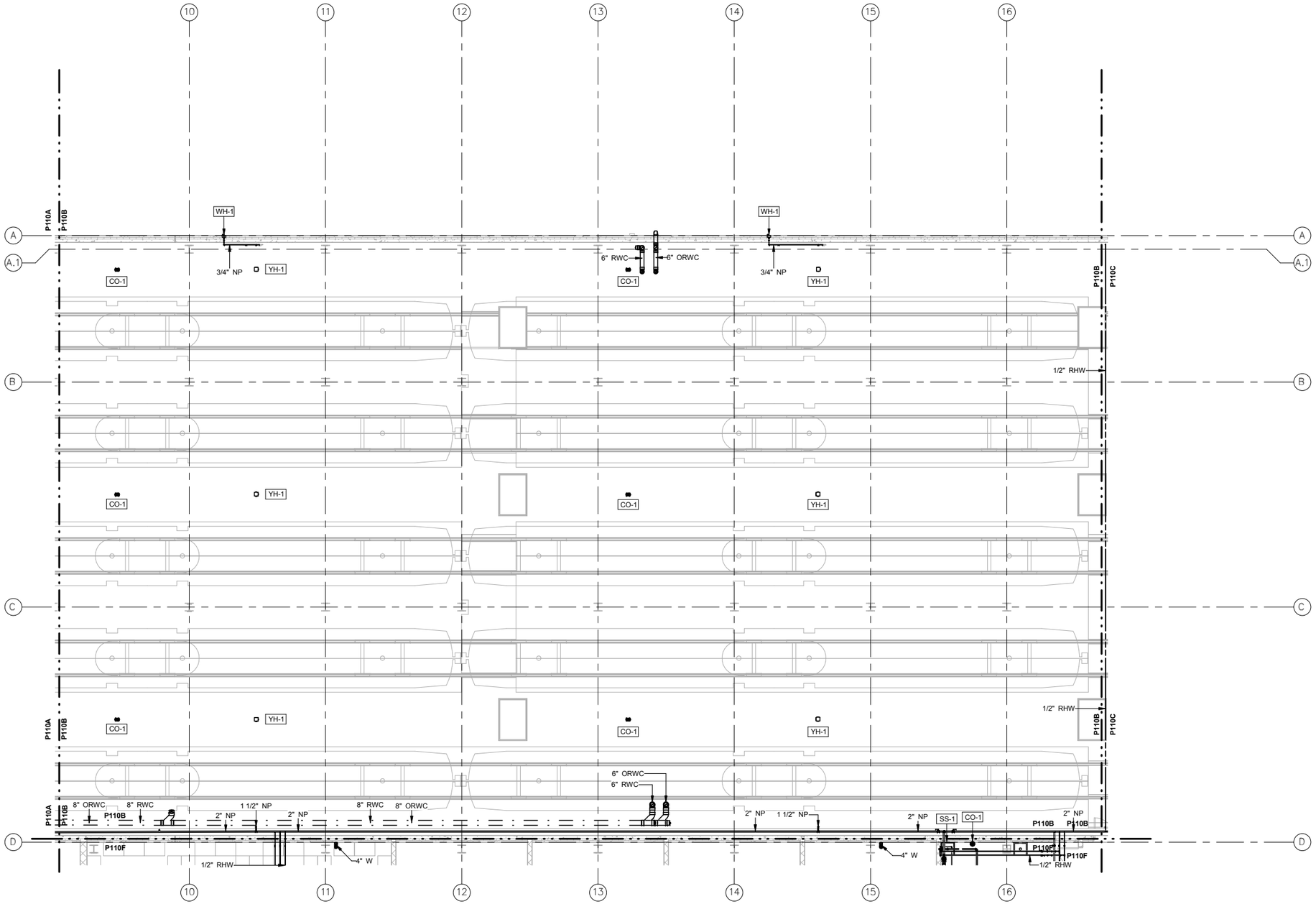
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110A

SHEET 102 OF 263

9/21/2015 12:05:37 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

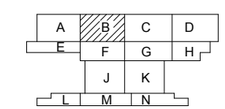


KEYED NOTES

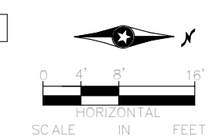
1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.

1 P-110B LEVEL ONE - PLUMBING PLAN - AREA B

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN AREA B

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110B

SHEET 103 OF 263

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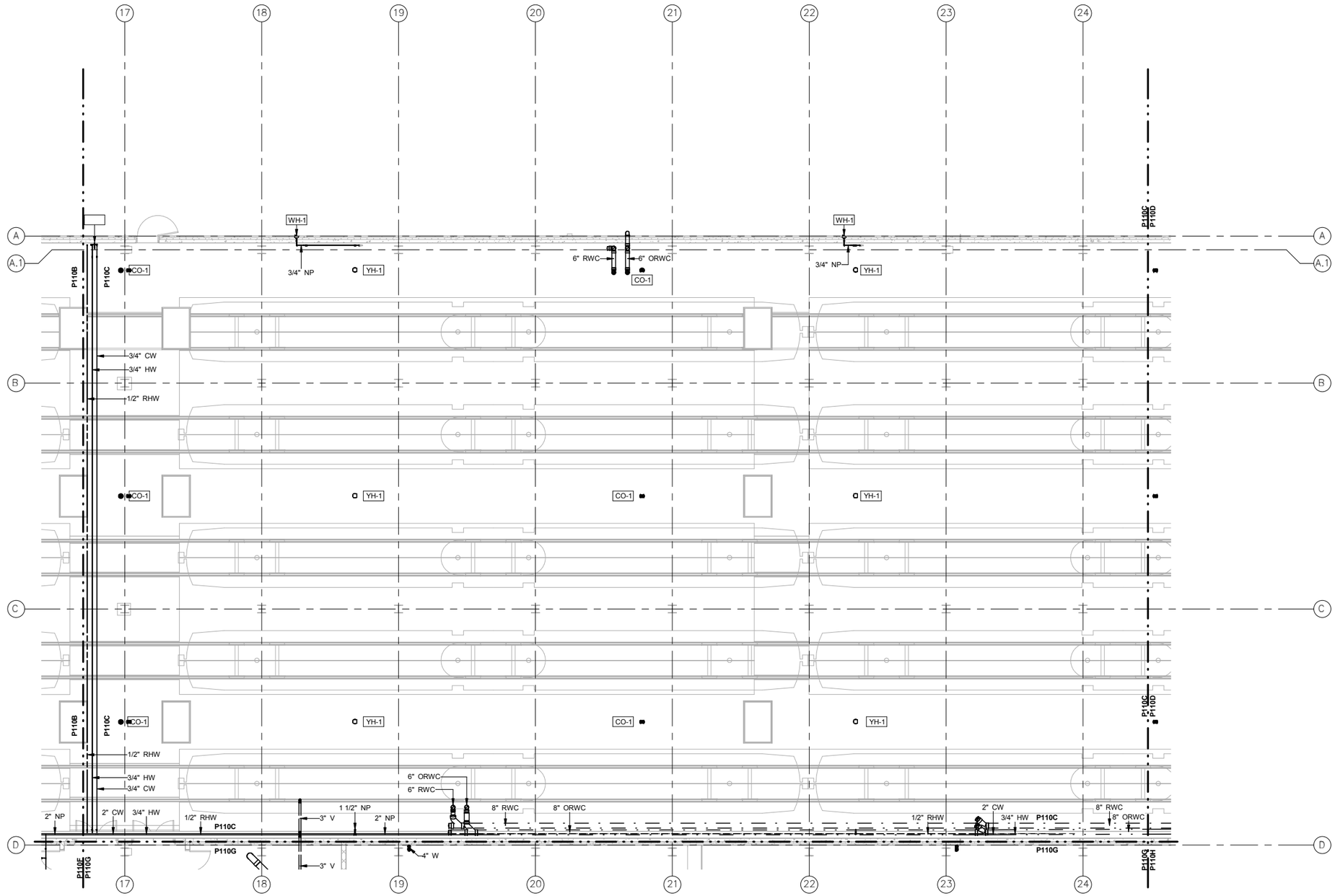
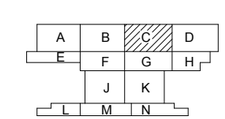
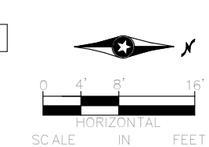


KEYED NOTES

1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



KEY PLAN - SCALE: N.T.S.



1 P-110C LEVEL ONE - PLUMBING PLAN - AREA C

SCALE: 1/8" = 1'-0"

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA C

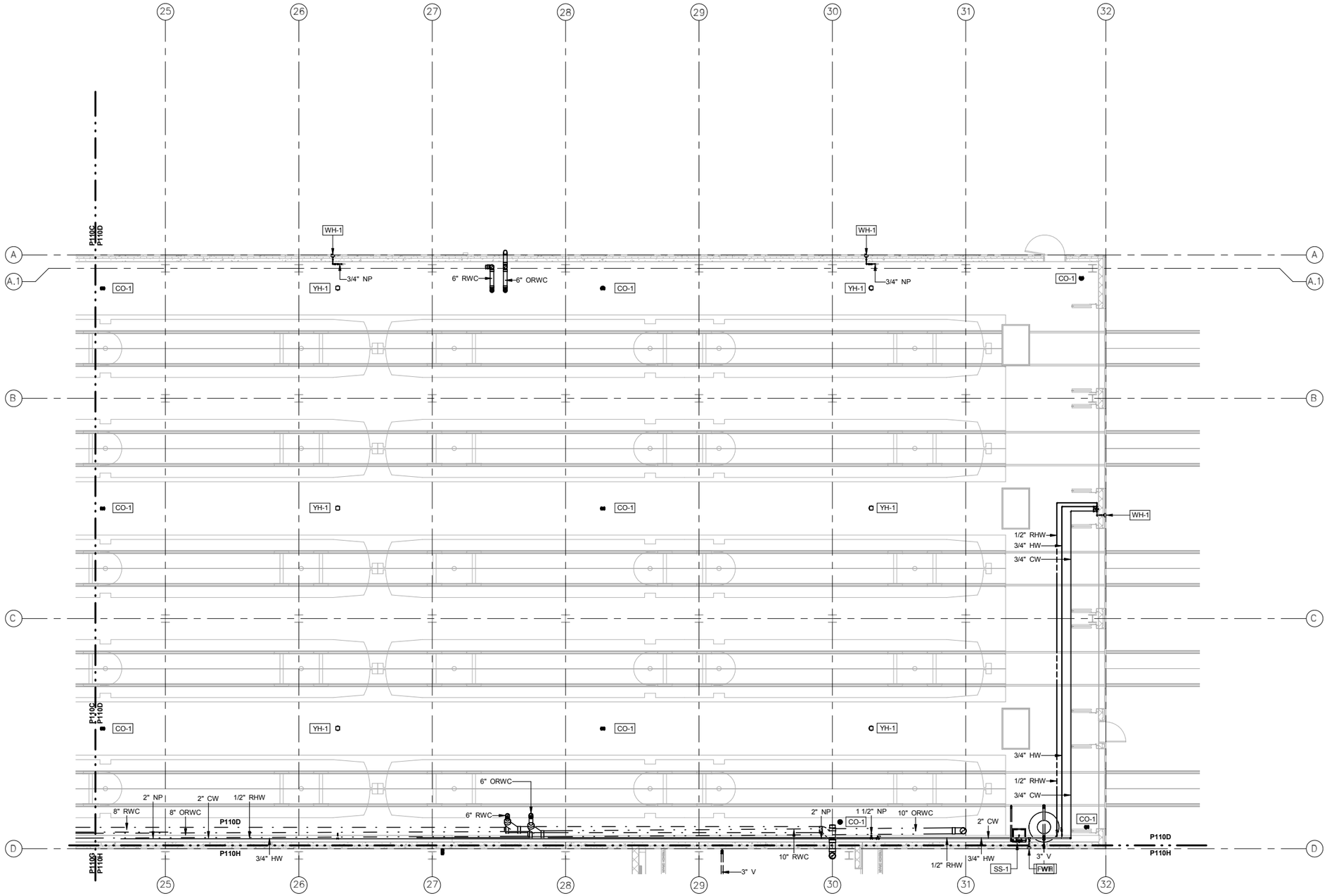
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110C

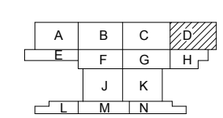
SHEET 104 OF 263

9/21/2015 12:05:45 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

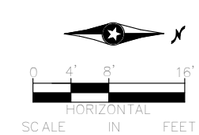


KEYED NOTES

SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (20')
2. DUE TO HIGH ROUTING (20'), PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-301
3. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN-LINE PROVIDING TOOL NEEDS
4. SEE DESIGN NARRATIVE FOR VENTING
5. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



KEY PLAN - SCALE: N.T.S.



1 / P-110D LEVEL ONE - PLUMBING PLAN - AREA D
SCALE: 1/8" = 1'-0"

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA D

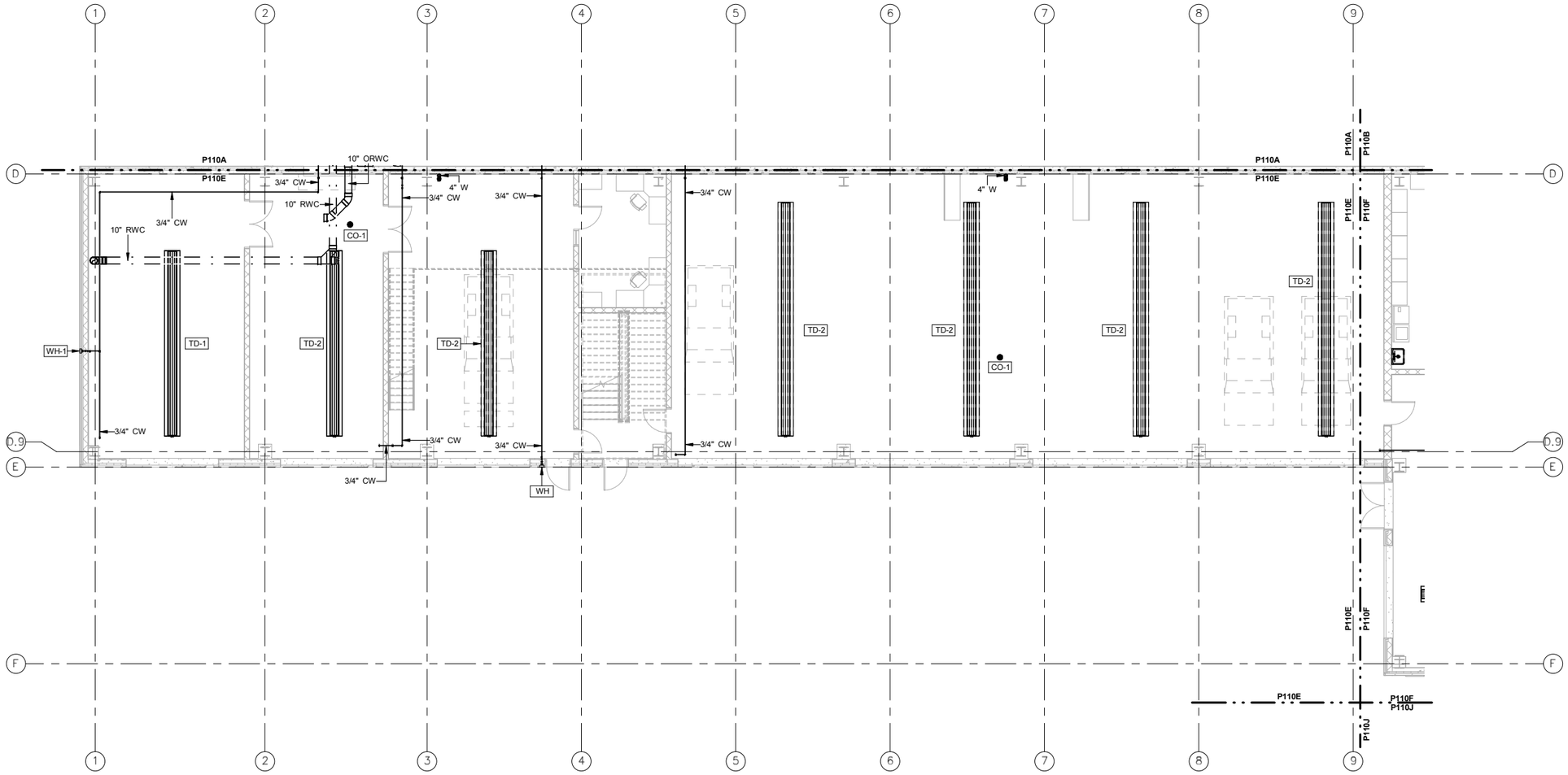
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110D

SHEET 105 OF 263

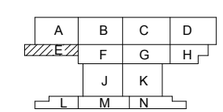
9/21/2015 12:05:49 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-110E LEVEL ONE - PLUMBING PLAN - AREA E
SCALE: 1/8" = 1'-0"

KEYED NOTES

SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (20')
2. DUE TO HIGH ROUTING (20'), PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-201 AND SHEET P-302
3. SEE DESIGN NARRATIVE FOR VENTING
4. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
5.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



KEY PLAN - SCALE: N.T.S.

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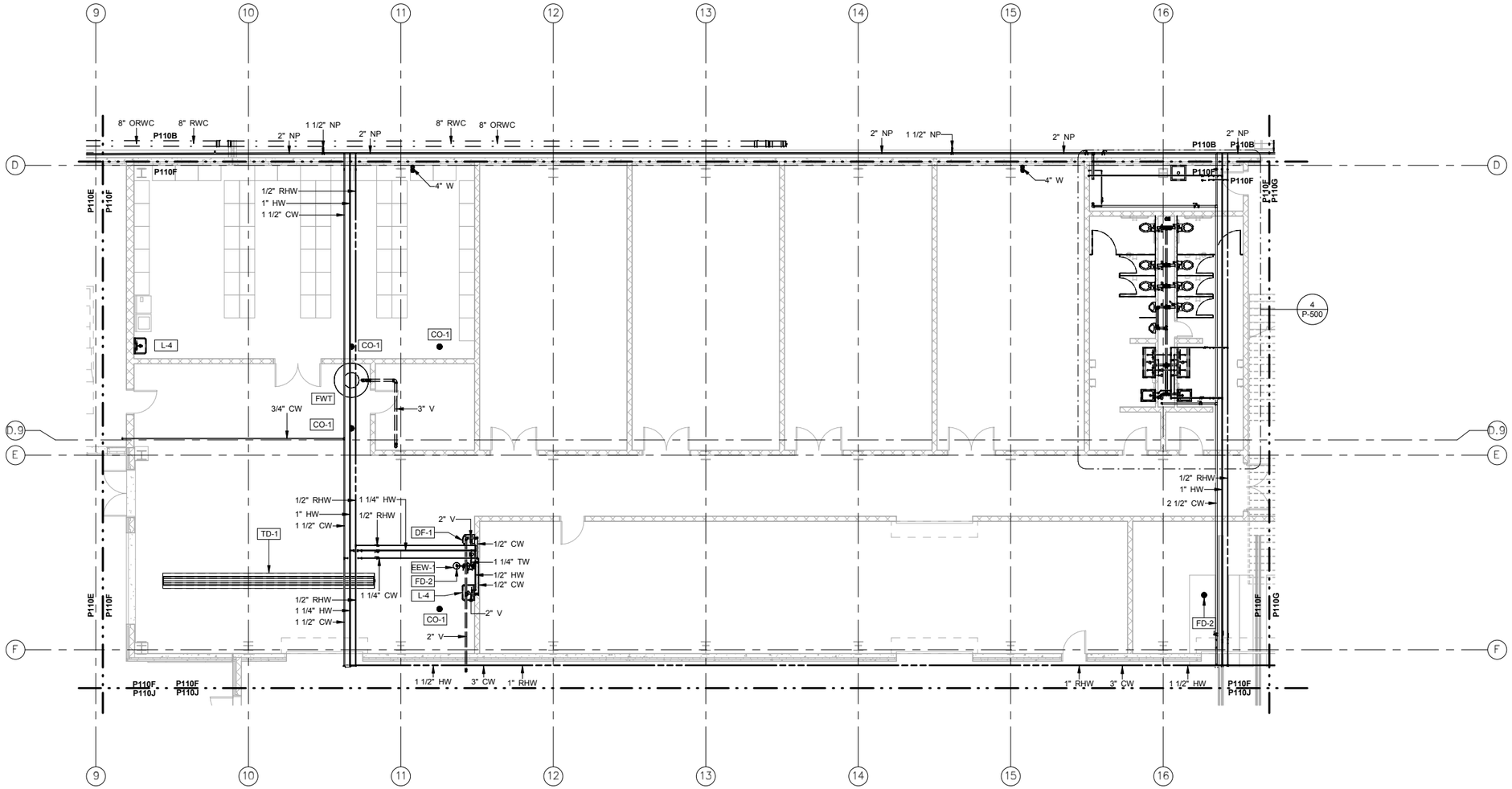
PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA E

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-110E

SHEET 106 OF 263

9/21/2015 12:05:53 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



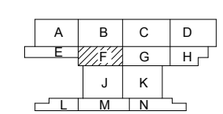
1 P-110F LEVEL ONE - PLUMBING PLAN - AREA F

SCALE: 1/8" = 1'-0"

KEYED NOTES

SHEET NOTES:

1. SEE DESIGN NARRATIVE FOR VENTING
2. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



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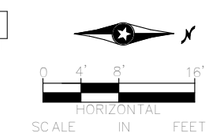

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PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA F

DISCIPLINE: PLUMBING

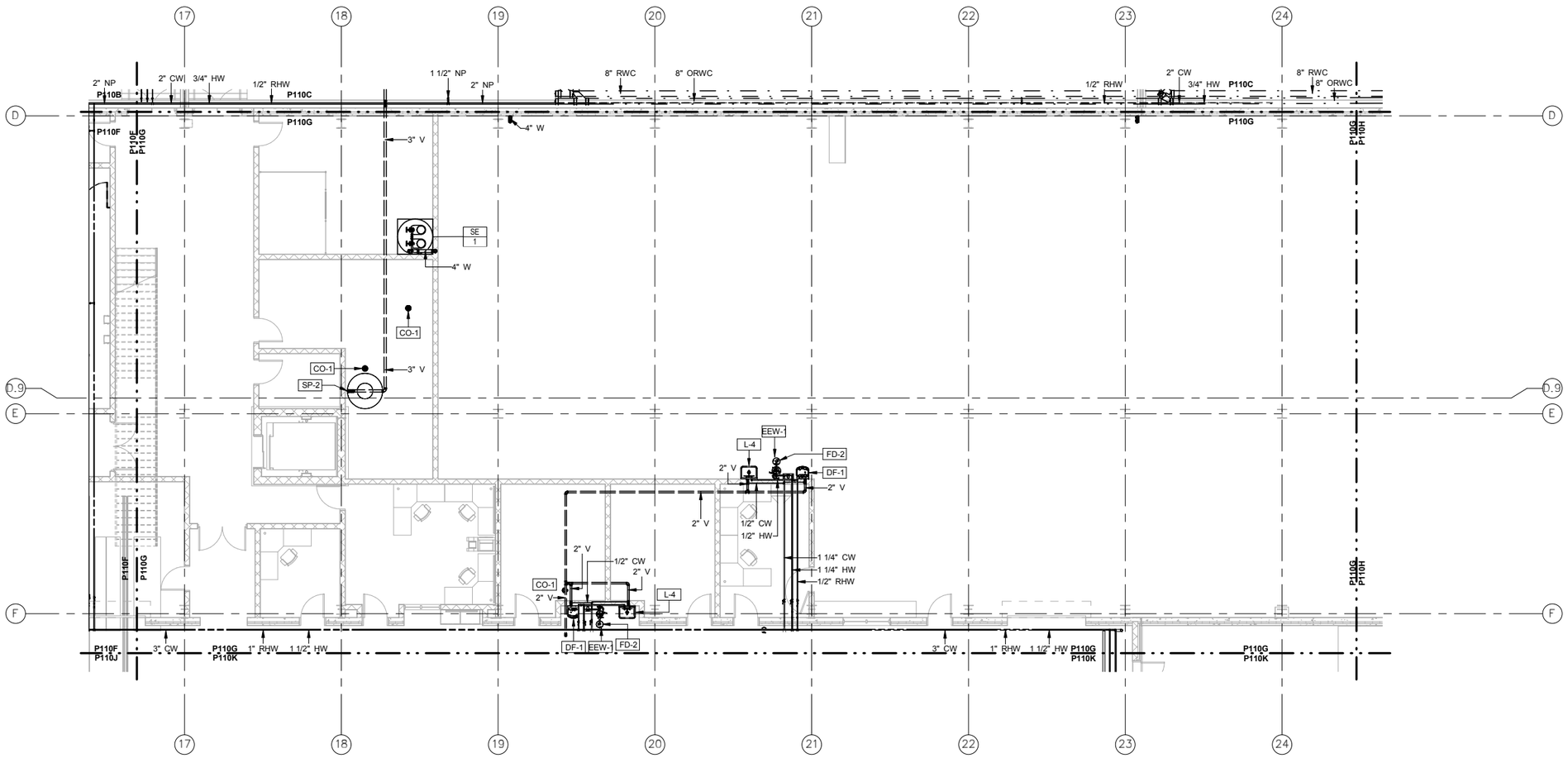
SHEET NAME: OMF-PLM-PLN

P-110F

SHEET 107 OF 263

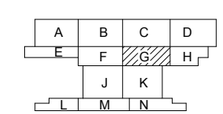
9/21/2015 12:06:00 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1 P-110G LEVEL ONE - PLUMBING PLAN - AREA G

SCALE: 1/8" = 1'-0"



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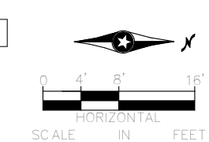

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA G

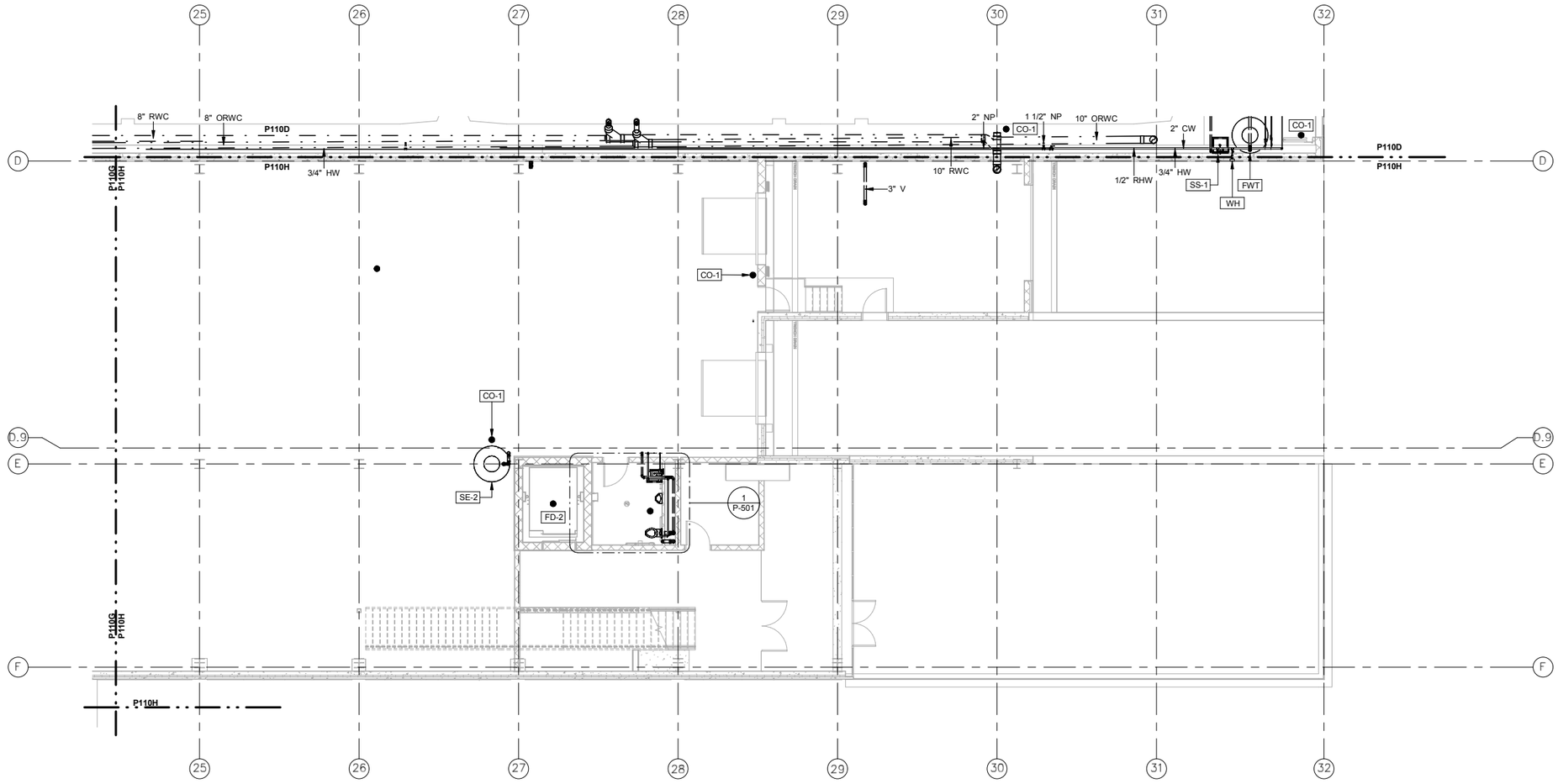
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110G

SHEET 108 OF 263

9/21/2015 12:06:07 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



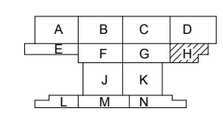
1 P-110H LEVEL ONE - PLUMBING PLAN - AREA H

SCALE: 1/8" = 1'-0"

KEYED NOTES

SHEET NOTES:

1. ALL PIPING IS ROUTED HIGH (25.5') TO AVOID CRANE PATHS AND TO SERVE MEZZANINE ELEVATIONS
2. DUE TO HIGH ROUTING, PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-203
3. SEE DESIGN NARRATIVE FOR VENTING
4. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
5. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



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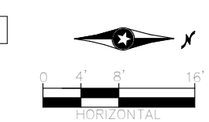

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA H

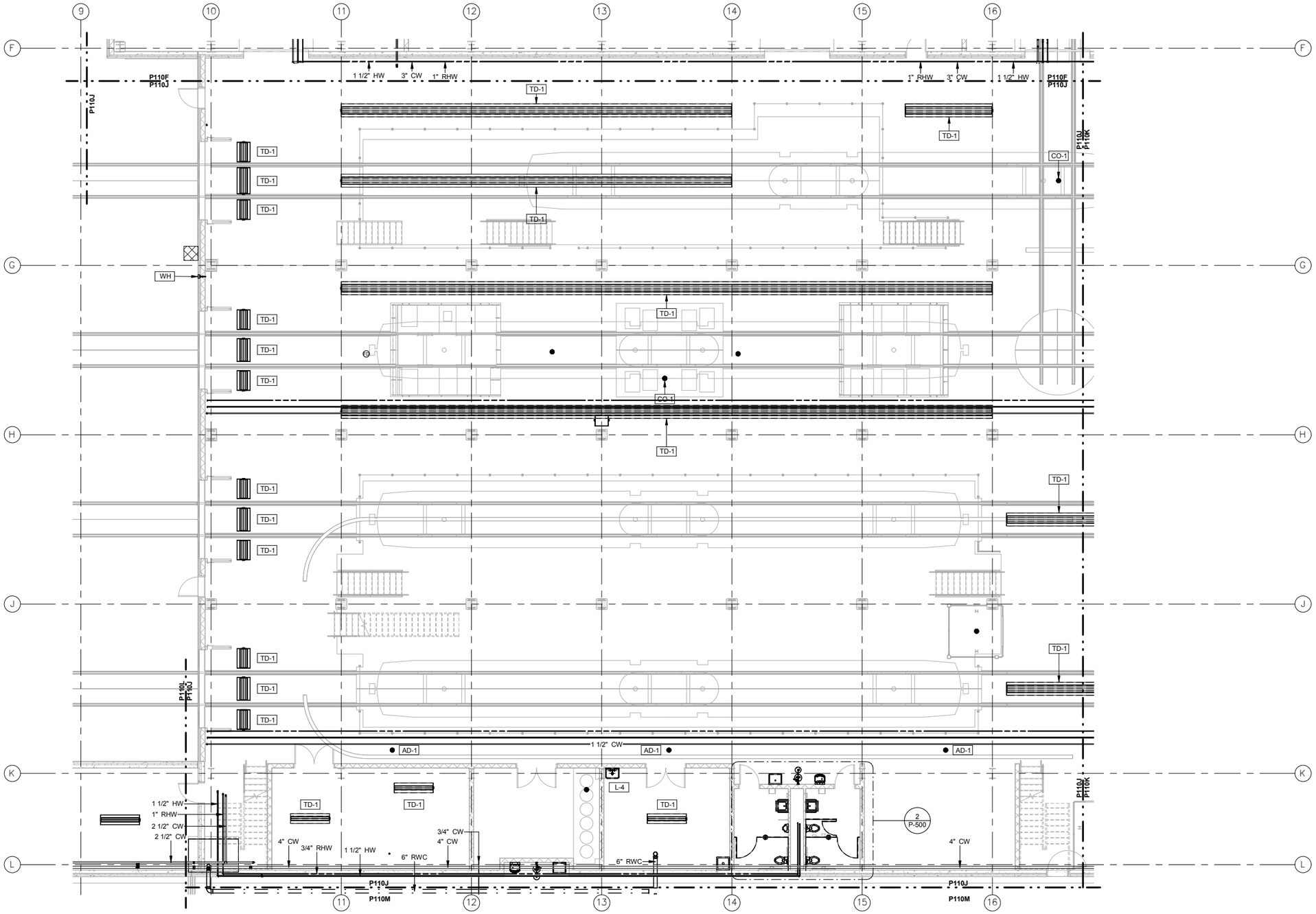
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110H

SHEET 109 OF 263

9/21/2015 12:06:13 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

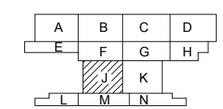


1 P-110J LEVEL ONE - PLUMBING PLAN - AREA J

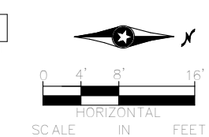
SCALE: 1/8" = 1'-0"

KEYED NOTES

1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN AREA J

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110J

SHEET 110 OF 263

9/21/2015 12:06:20 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

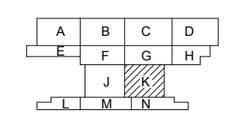
1 P-110K LEVEL ONE - PLUMBING PLAN - AREA K

SCALE: 1/8" = 1'-0"

KEYED NOTES

SHEET NOTES:

1. THE FINAL LOCATION OF THE FIRE DEPARTMENT CONNECTION IS SUBJECT TO THE APPROVAL OF THE FIRE CODE OFFICIAL
2. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
3. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



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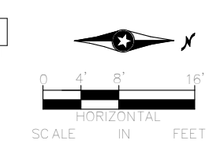

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PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA K

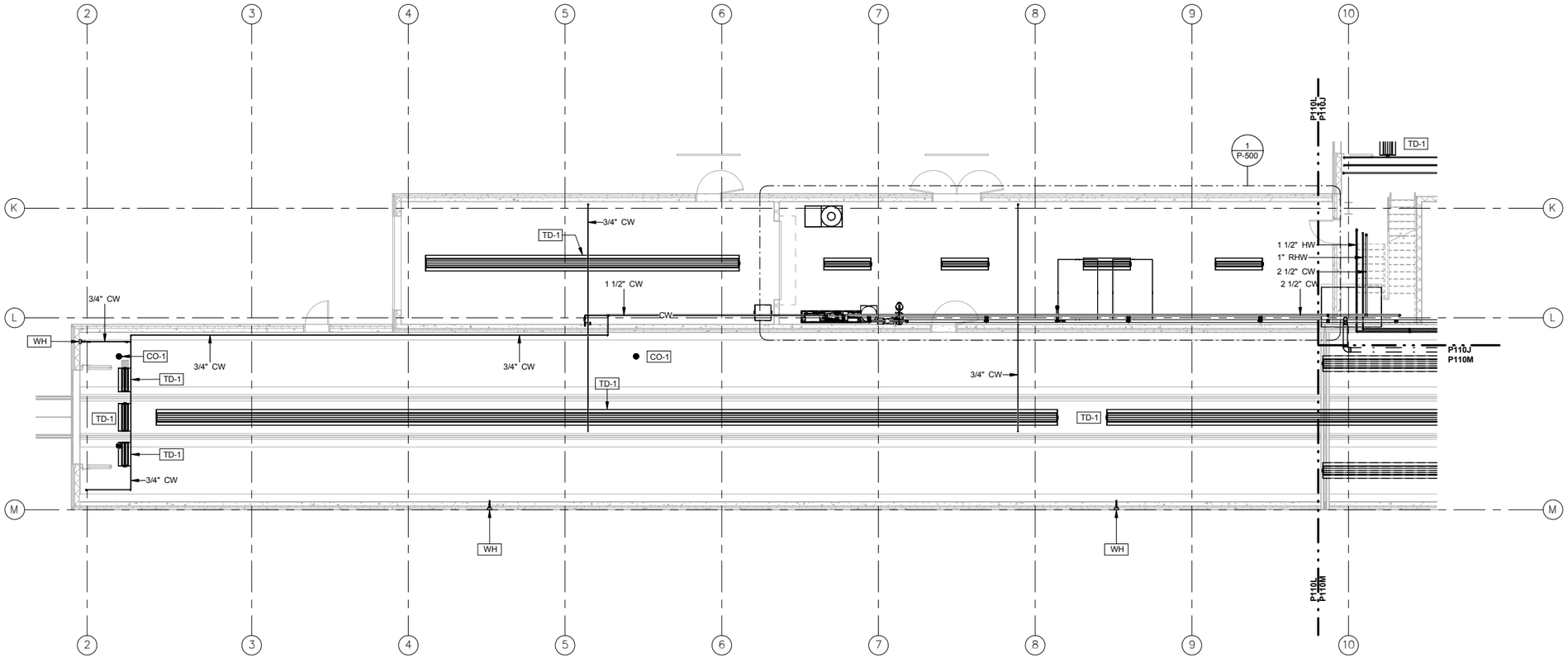
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110K

SHEET 111 OF 263

9/21/2015 12:06:27 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



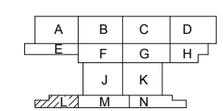
1 P-110L LEVEL ONE - PLUMBING PLAN - AREA L

SCALE: 1/8" = 1'-0"

KEYED NOTES

SHEET NOTES:

1. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
2. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



KEY PLAN - SCALE: N.T.S.

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PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA L

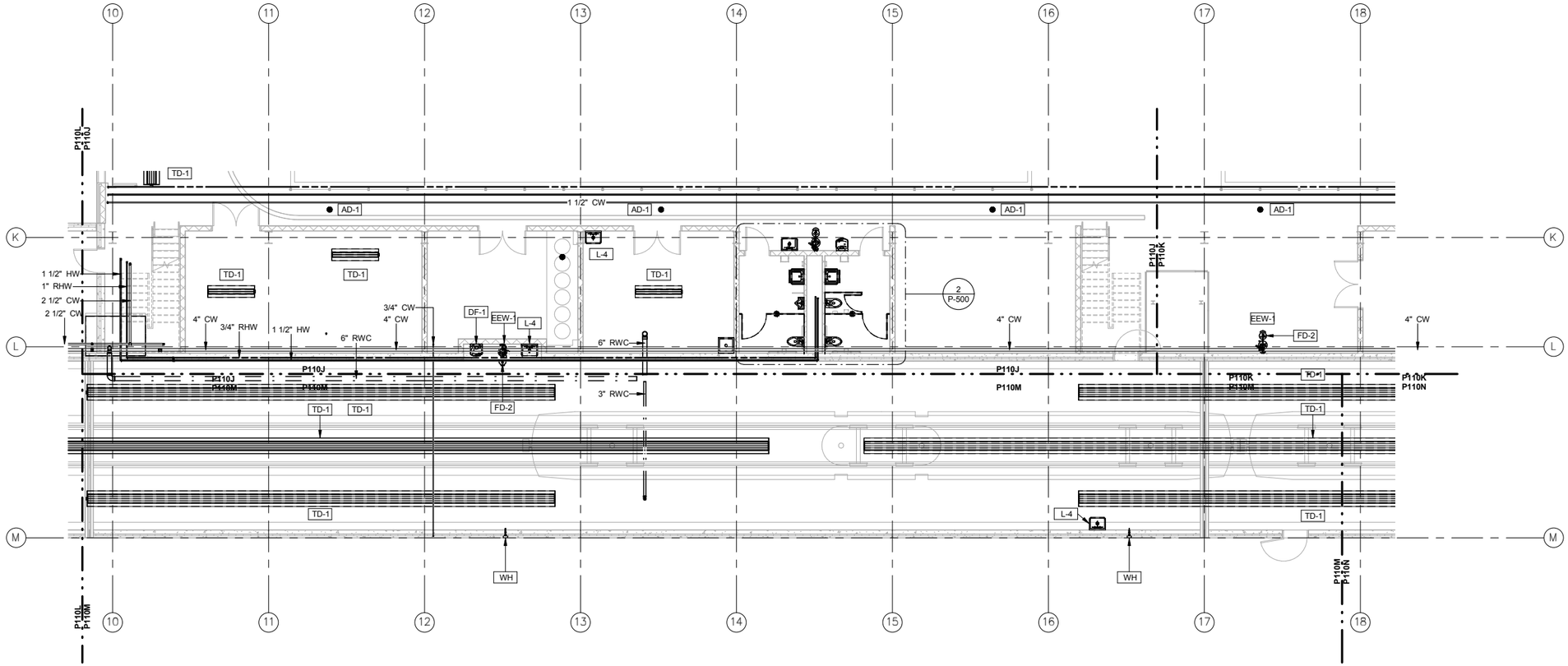
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110L

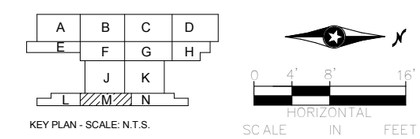
SHEET 112 OF 263

9/21/2015 12:06:31 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-110M LEVEL ONE - PLUMBING PLAN - AREA M
SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA M

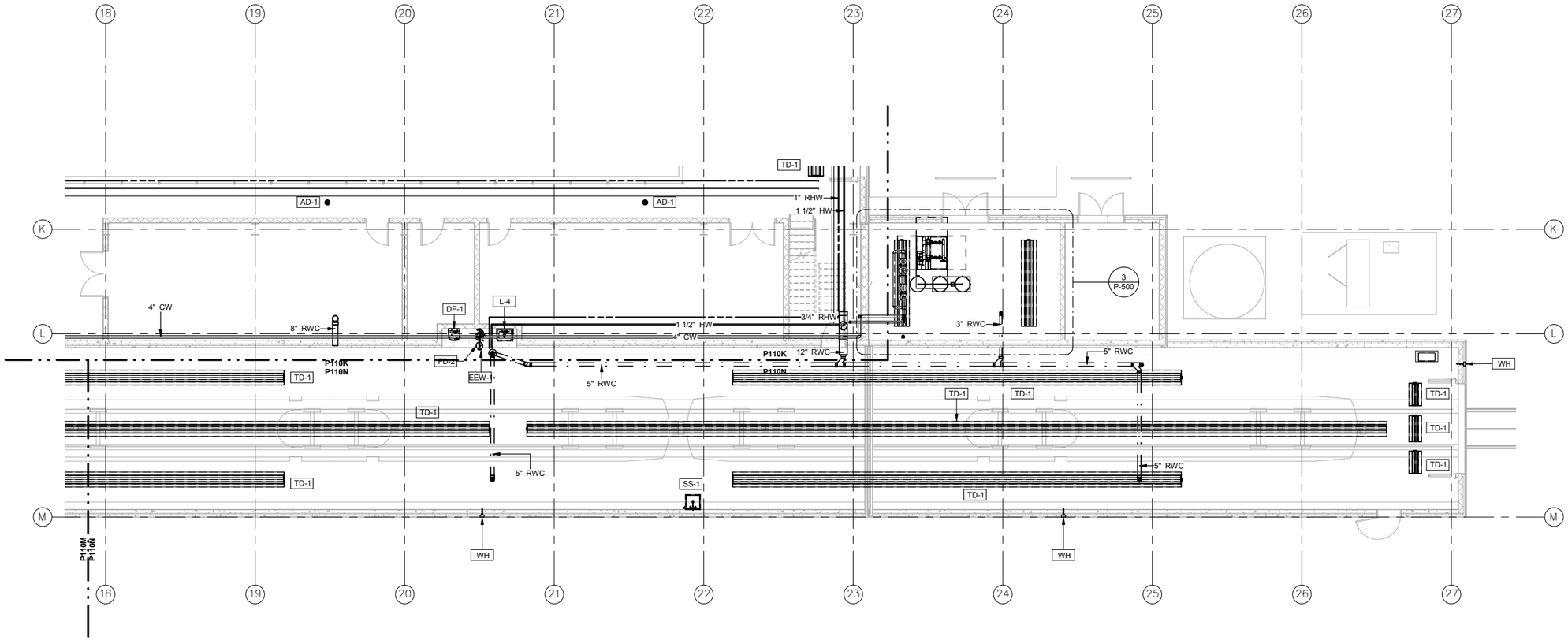
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-110M

SHEET 113 OF 263

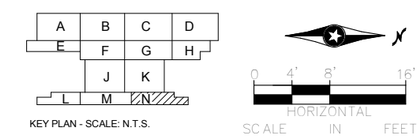
9/21/2015 12:06:37 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-110N LEVEL ONE - PLUMBING PLAN - AREA N

SCALE: 1/8" = 1'-0"

KEYED NOTES



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

METROPOLITAN COUNCIL

SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL PLUMBING PLAN
AREA N

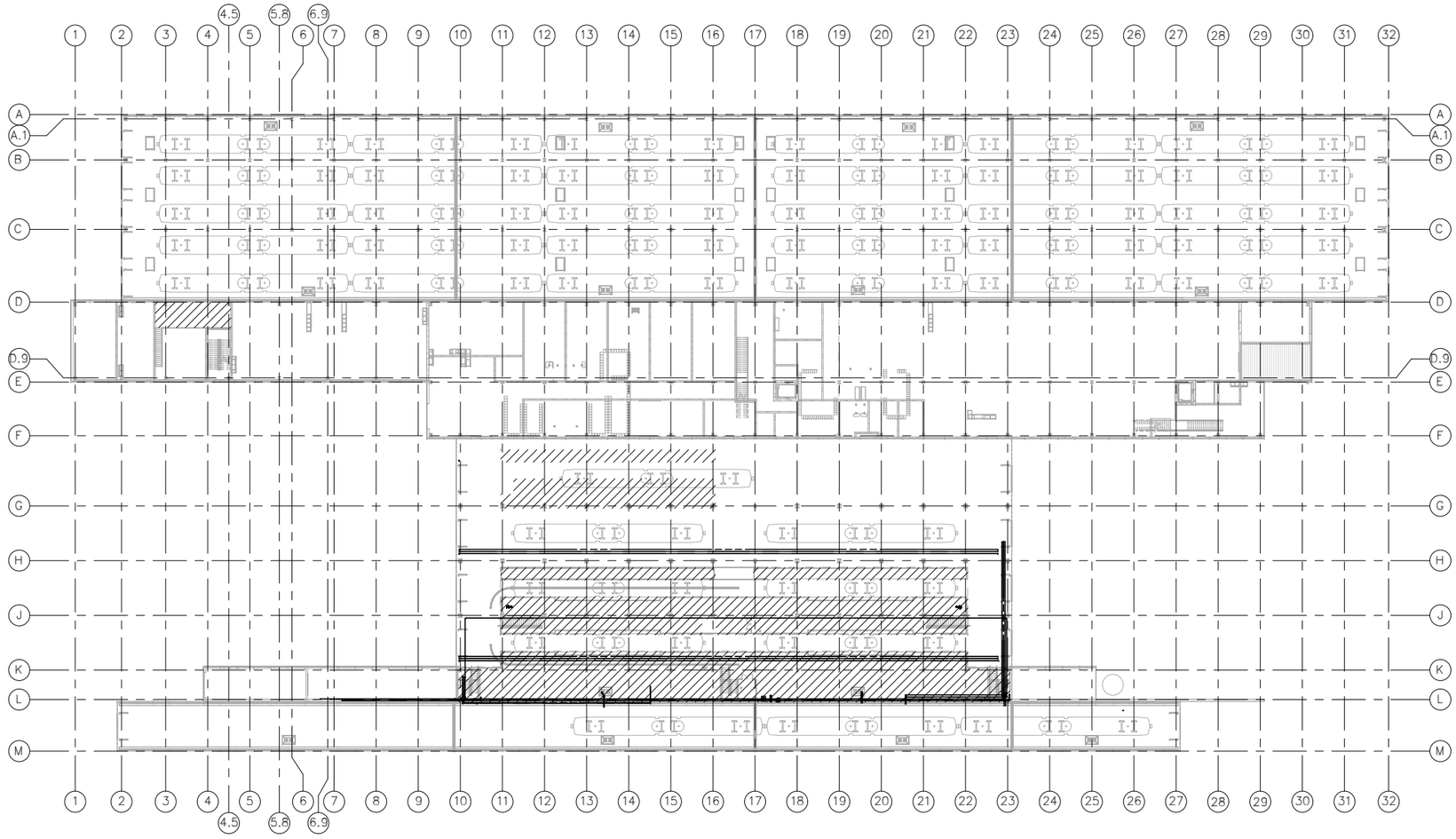
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

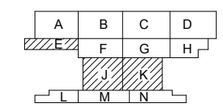
P-110N

SHEET 114 OF 263

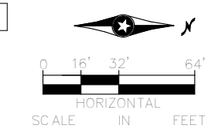
9/21/2015 12:06:42 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-115 OVERALL MEZZANINE PLUMBING PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
MEZZANINE LEVEL OVERALL PLUMBING FLOOR PLAN

DISCIPLINE: PLUMBING

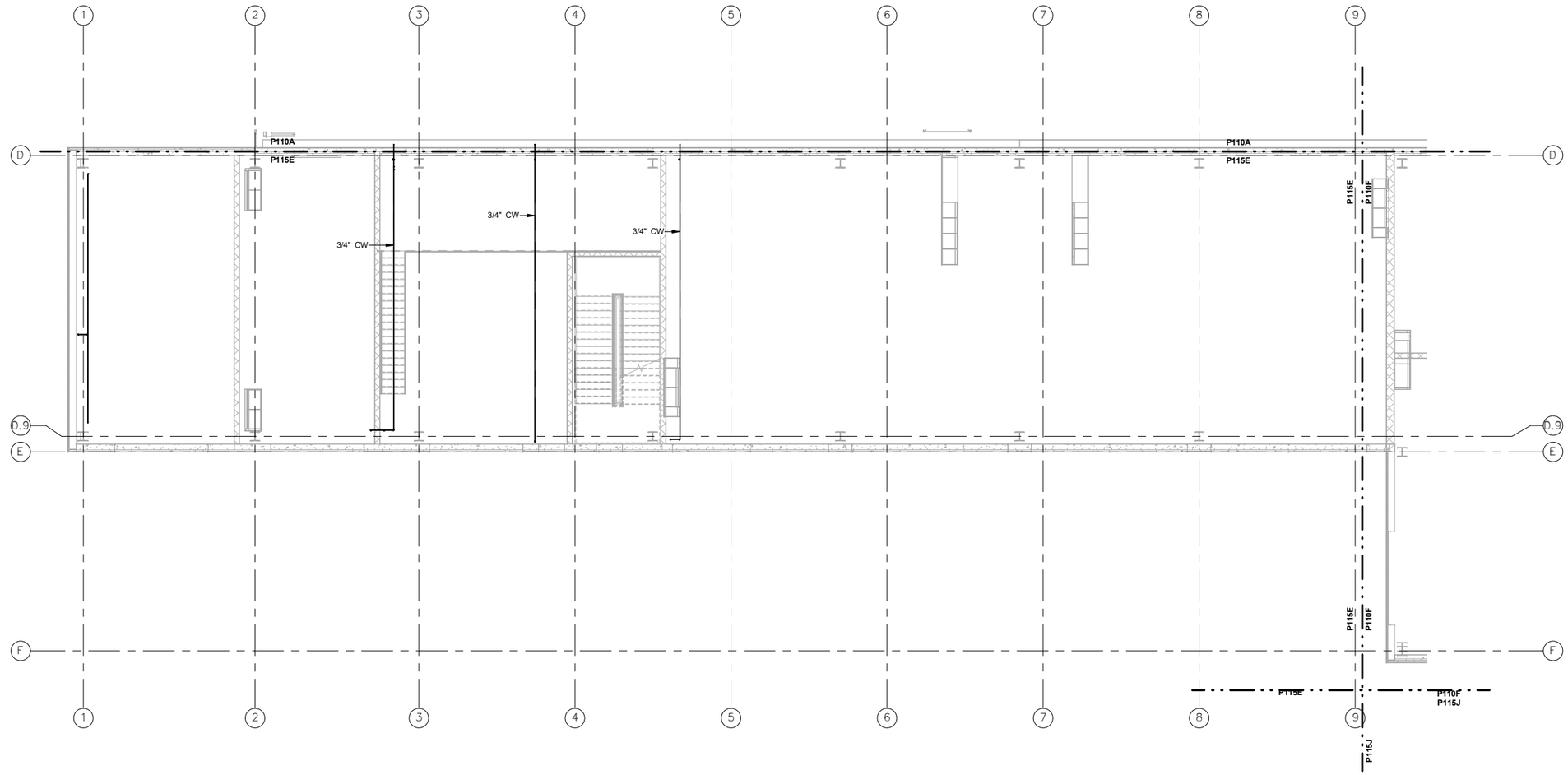
SHEET NAME: OMF-PLM-PLN

P-115

SHEET 115 OF 263

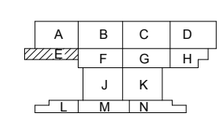
9/21/2015 12:06:48 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES

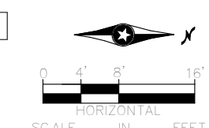


1 P-115E MEZZANINE LEVEL - PLUMBING PLAN - AREA E

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
MEZZANINE LEVEL - PARTIAL PLUMBING PLAN AREA E

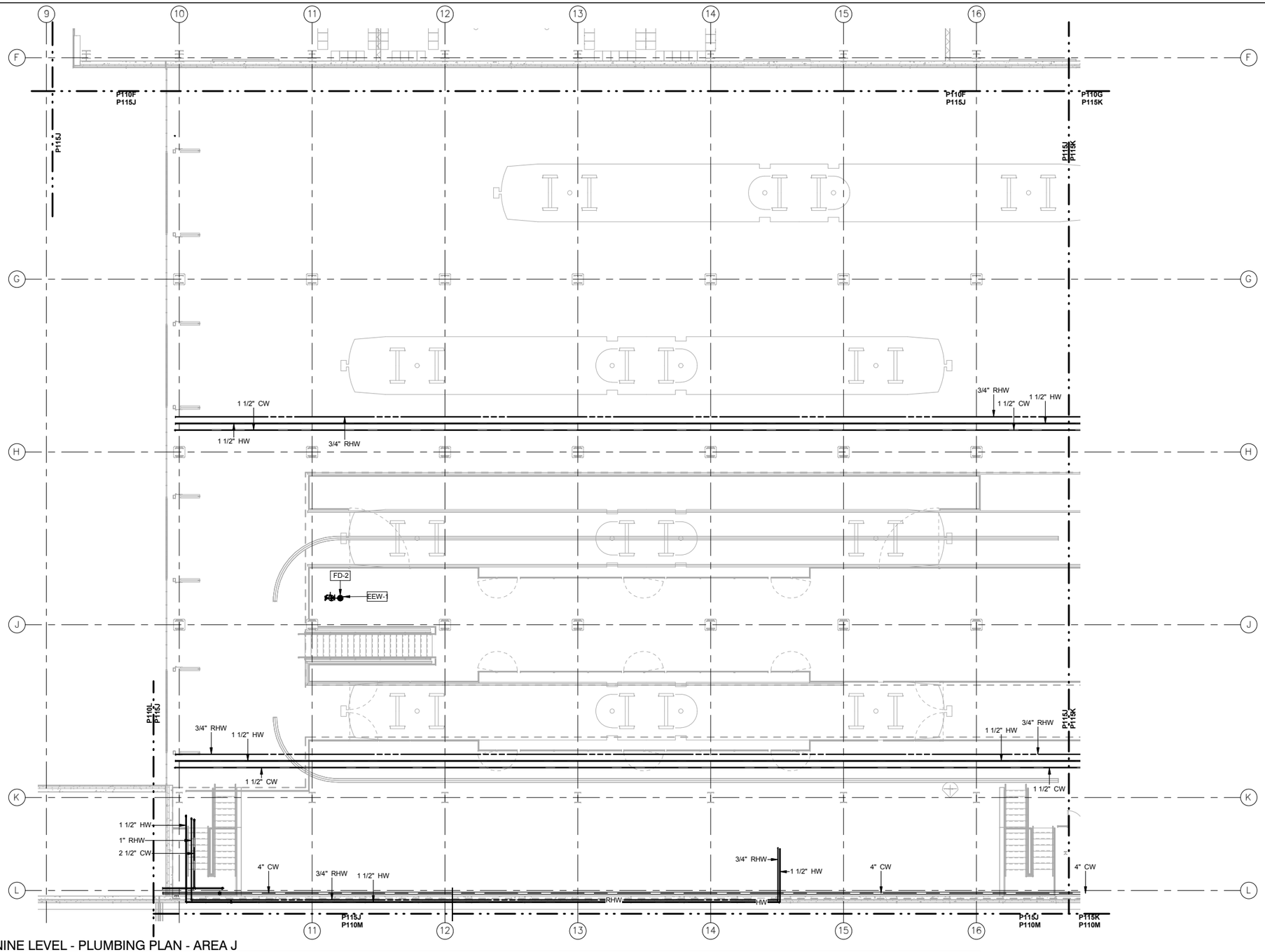
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-115E

SHEET 116 OF 263

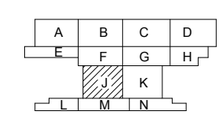
9/21/2015 12:06:51 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



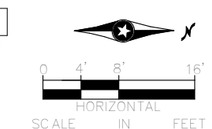
1 P-115J MEZZANINE LEVEL - PLUMBING PLAN - AREA J
SCALE: 1/8" = 1'-0"

KEYED NOTES

SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (25.5') TO AVOID CRANE PATHS AND TO SERVE MEZZANINE ELEVATIONS
2. DUE TO HIGH ROUTING, PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-107
3. COMPRESSOR PROVIDES 100 PSI WITH REGULATORS IN LINE TO PROVIDE TOOL NEED
4.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING ADVANCED DESIGN SHEETS.



KEY PLAN - SCALE: N.T.S.



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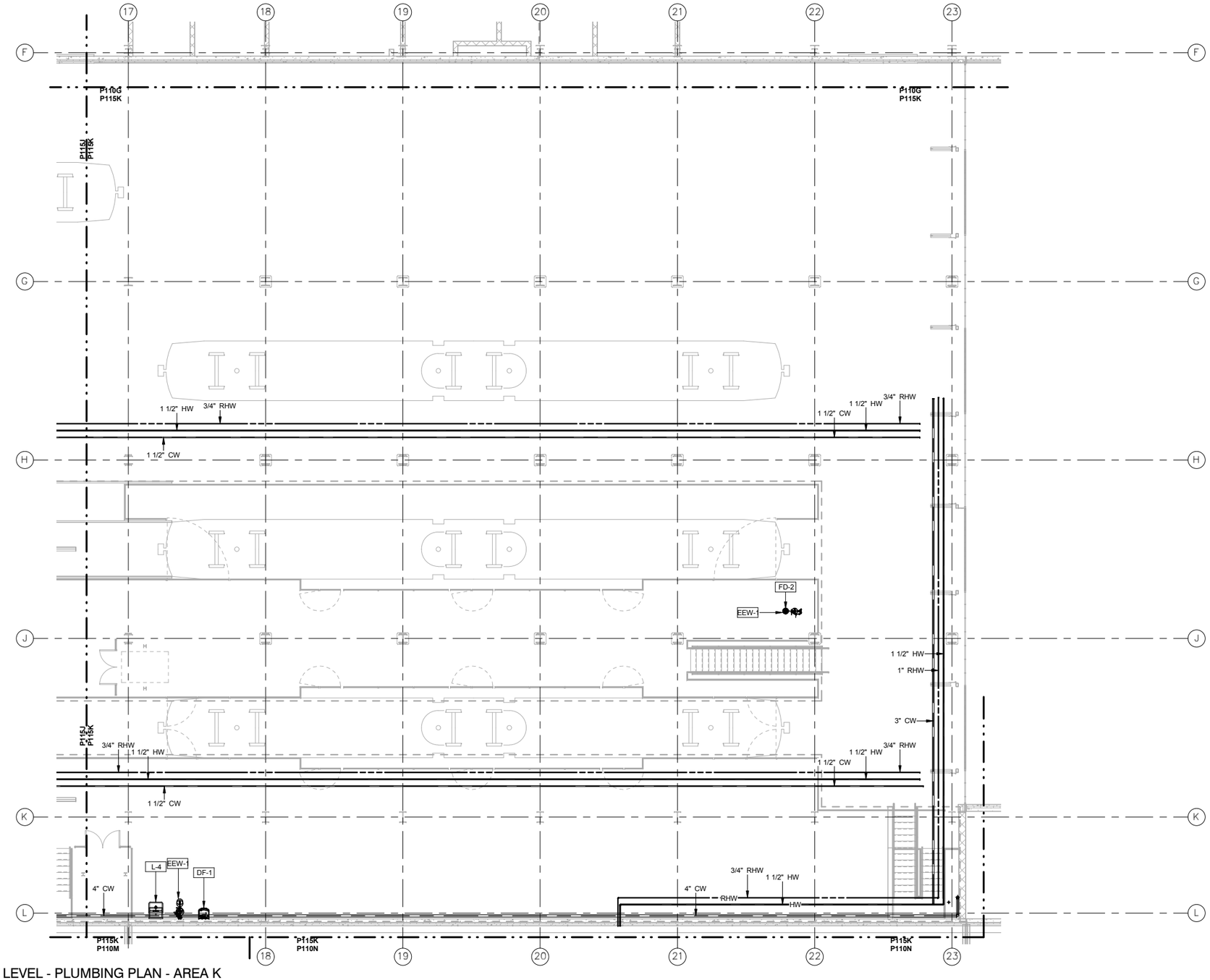
SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
MEZZANINE LEVEL - PARTIAL PLUMBING PLAN AREA J

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-115J

SHEET 117 OF 263

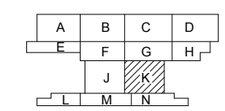
9/21/2015 12:06:54 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



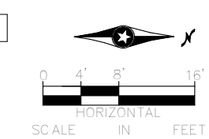
1 P-115K MEZZANINE LEVEL - PLUMBING PLAN - AREA K

SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
MEZZANINE LEVEL - PARTIAL PLUMBING PLAN AREA K

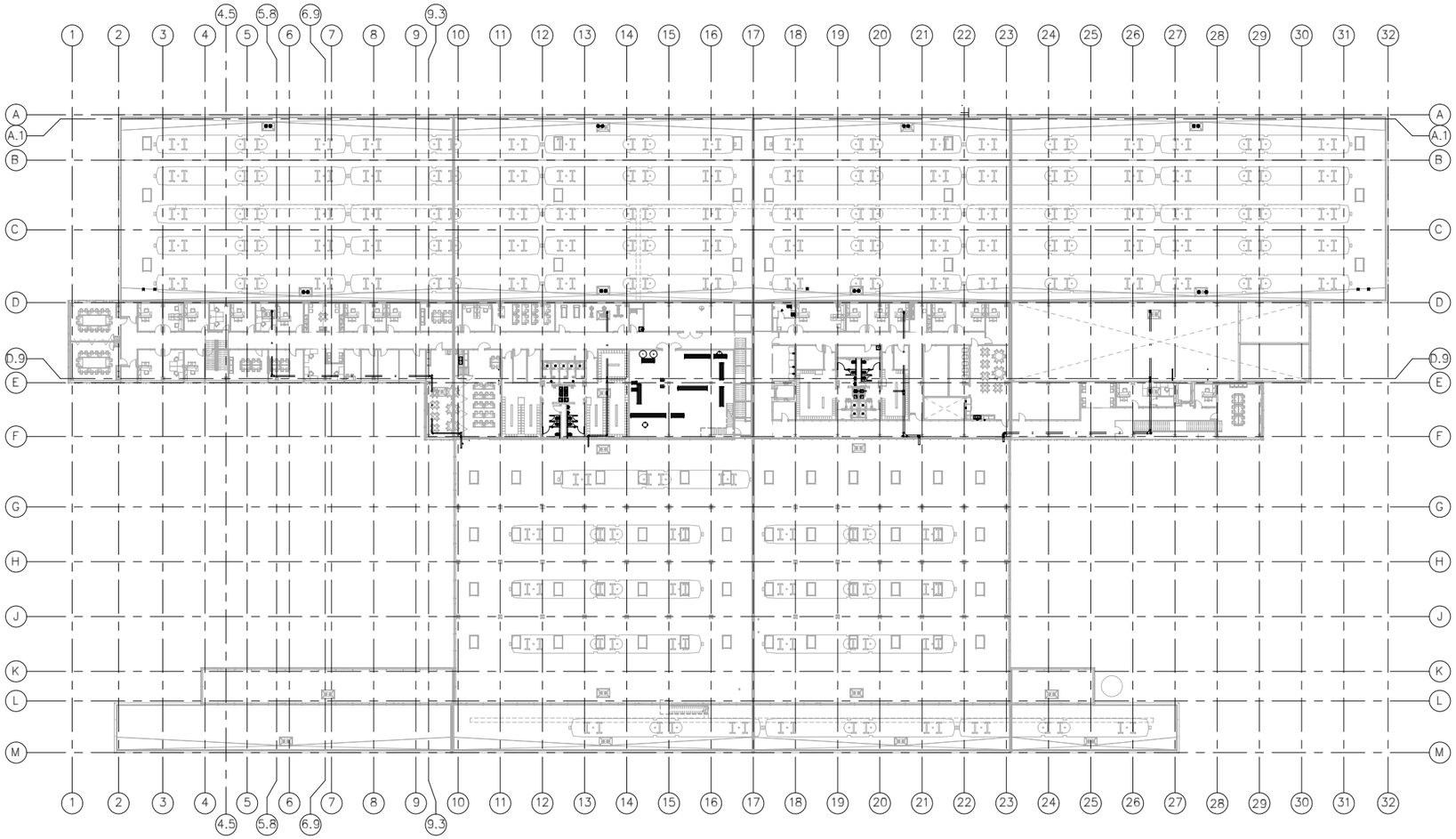
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

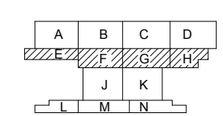
P-115K

SHEET 118 OF 263

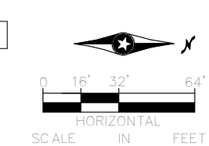
9/21/2015 12:06:57 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-120 LEVEL TWO OVERALL PLUMBING PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

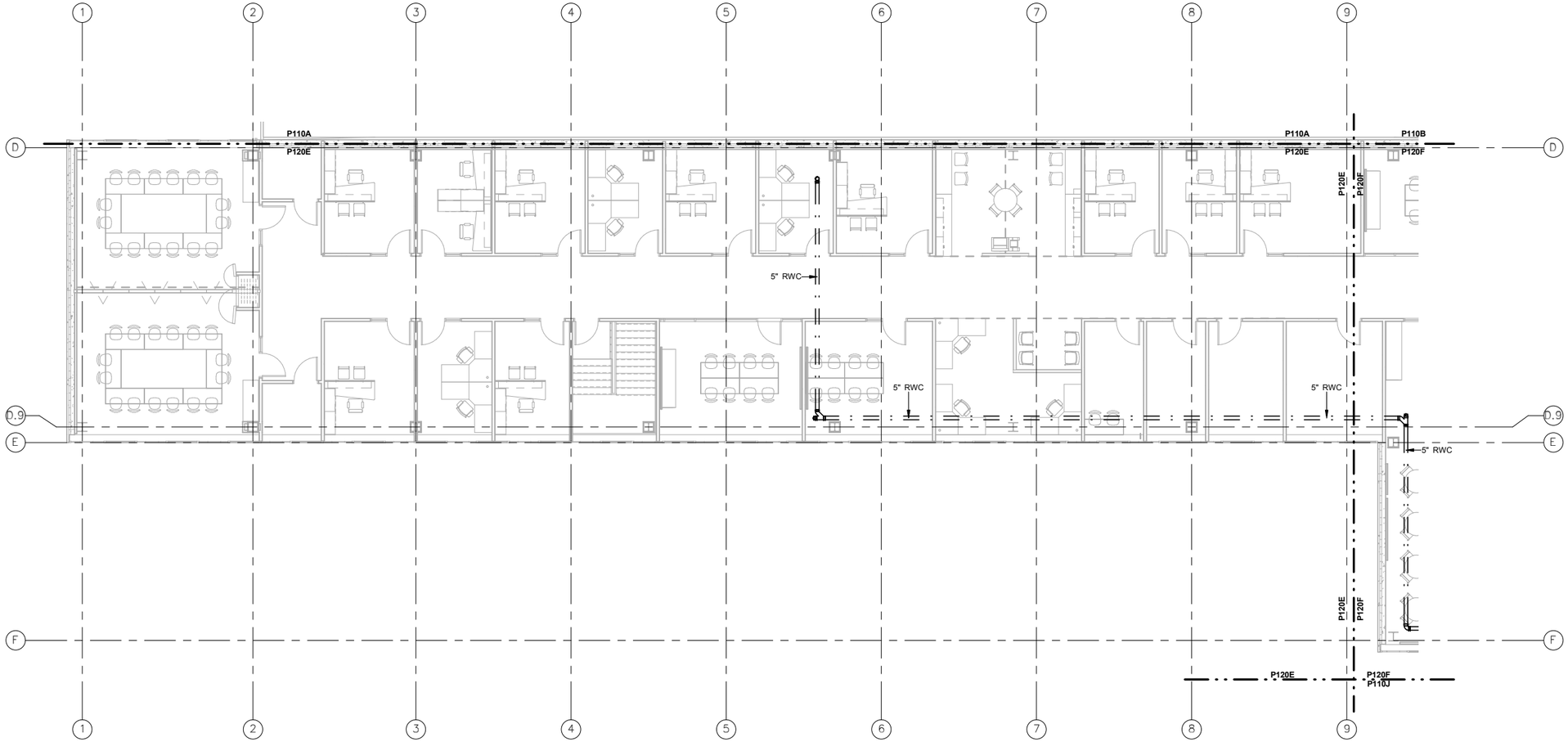
METROPOLITAN COUNCIL
SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
LEVEL TWO OVERALL PLUMBING FLOOR PLAN

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-120

SHEET 119 OF 263

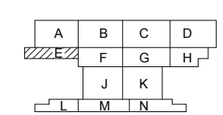
9/21/2015 12:07:03 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-120E LEVEL TWO - PLUMBING PLAN - AREA E

SCALE: 1/8" = 1'-0"

KEYED NOTES



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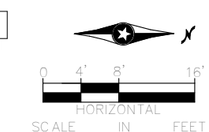

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL TWO - PARTIAL PLUMBING PLAN
AREA E

DISCIPLINE: PLUMBING

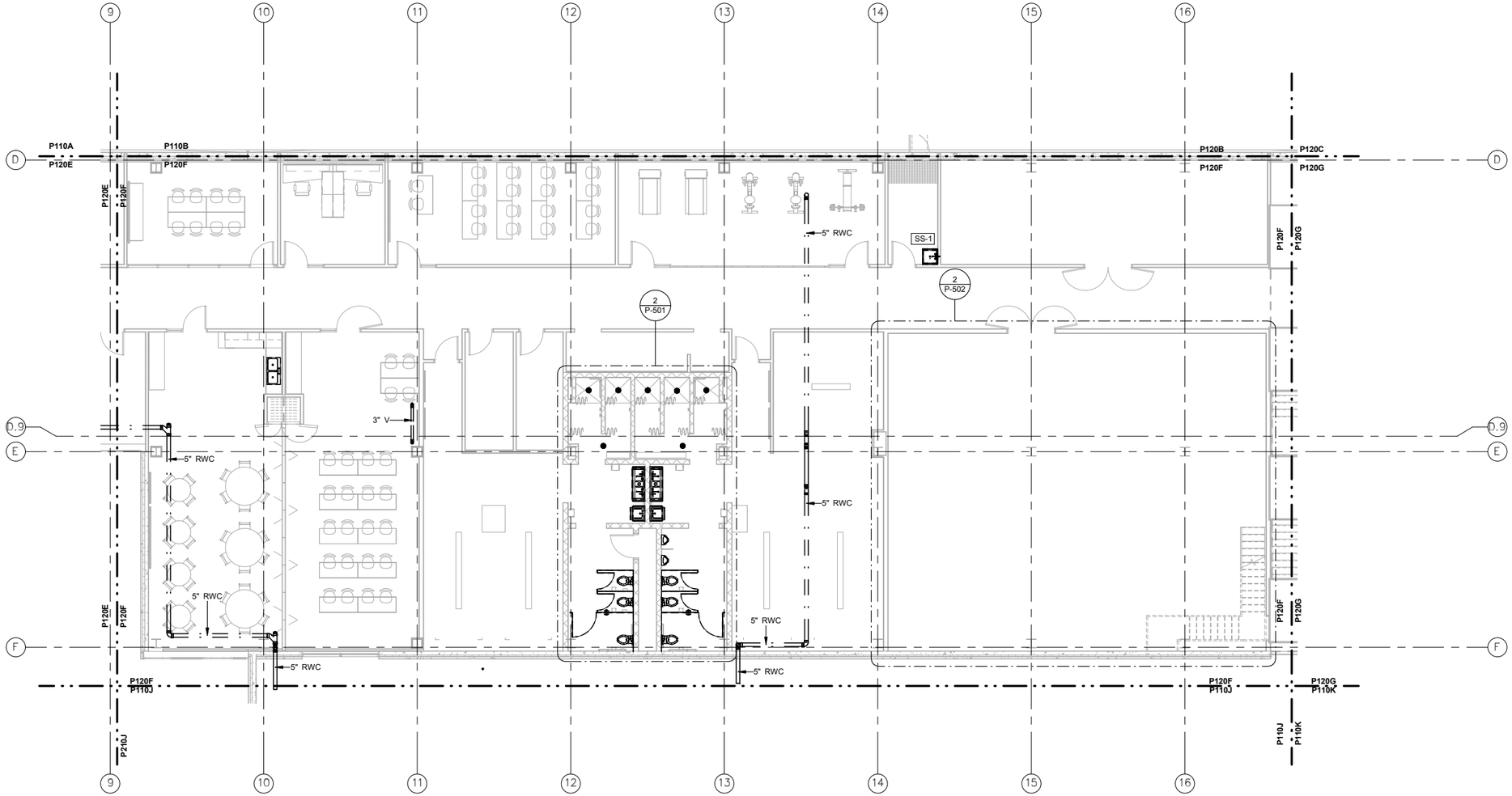
SHEET NAME: OMF-PLM-PLN

P-120E

SHEET 120 OF 263

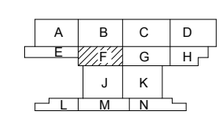
9/21/2015 12:07:05 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES

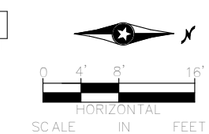


1 P-120F LEVEL TWO - PLUMBING PLAN - AREA F

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL TWO - PARTIAL PLUMBING PLAN
AREA F

DISCIPLINE: PLUMBING

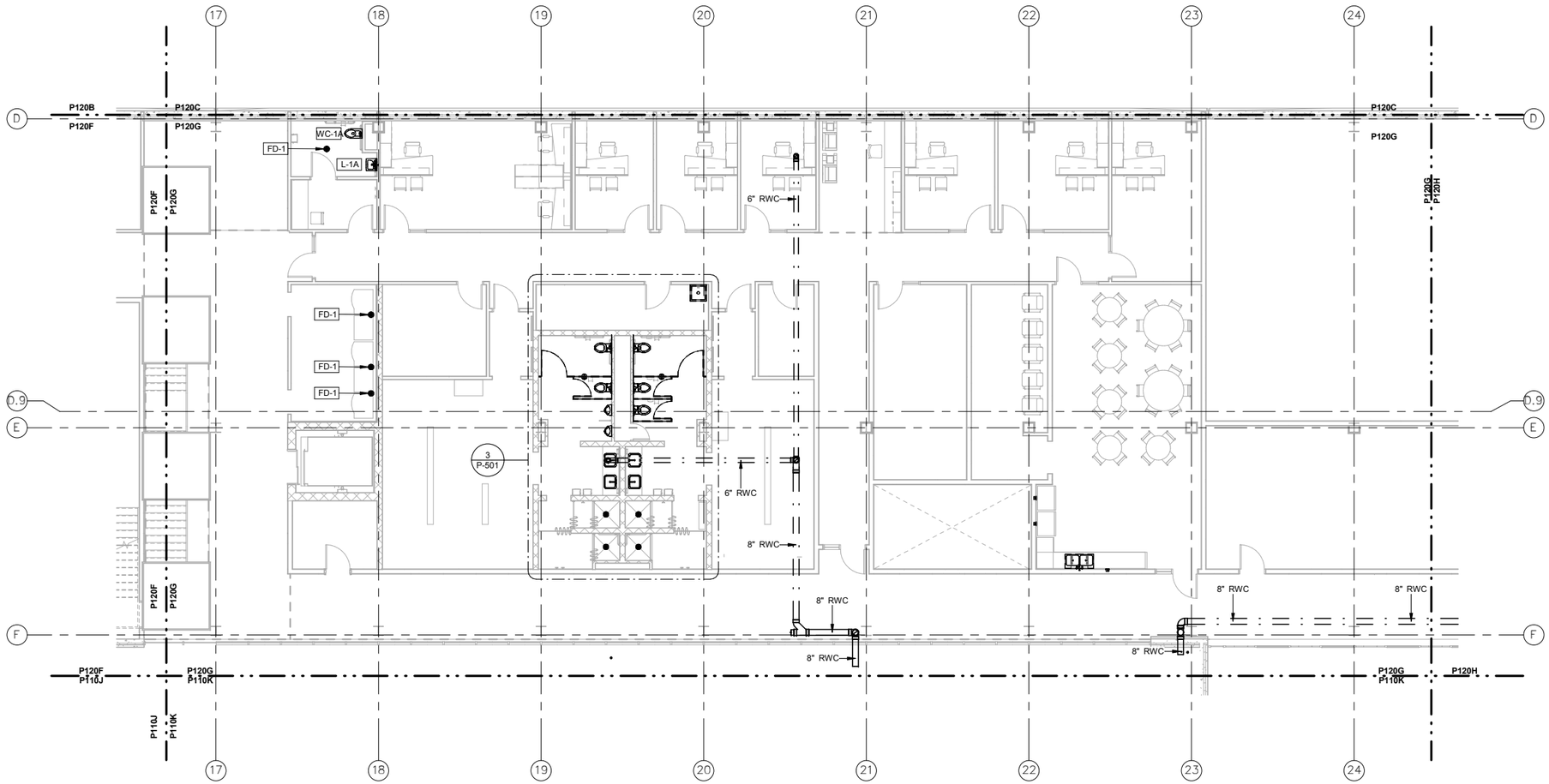
SHEET NAME: OMF-PLM-PLN

P-120F

SHEET 121 OF 263

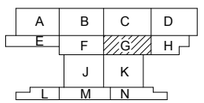
9/21/2015 12:07:09 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES

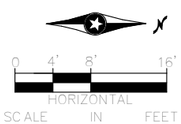


1 P-120G LEVEL TWO - PLUMBING PLAN - AREA G

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL TWO - PARTIAL PLUMBING PLAN
AREA G

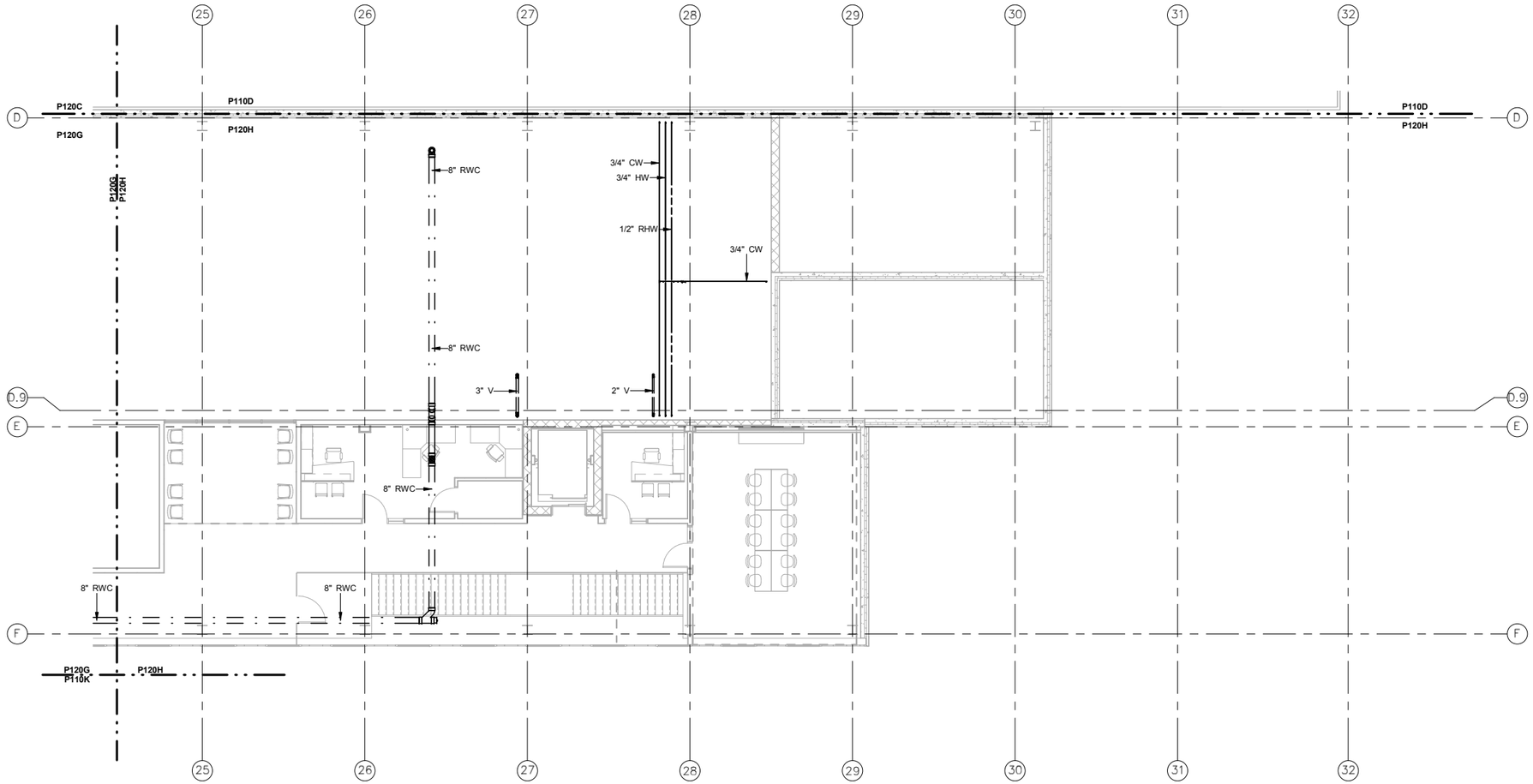
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-120G

SHEET 122 OF 263

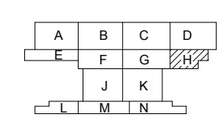
9/21/2015 12:07:13 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



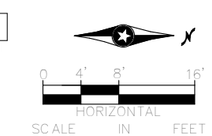
1 P-120H LEVEL TWO PLUMBING PLAN - AREA H

SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

60% SUBMISSION - 09/28/15

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
LEVEL TWO - PARTIAL PLUMBING PLAN AREA H

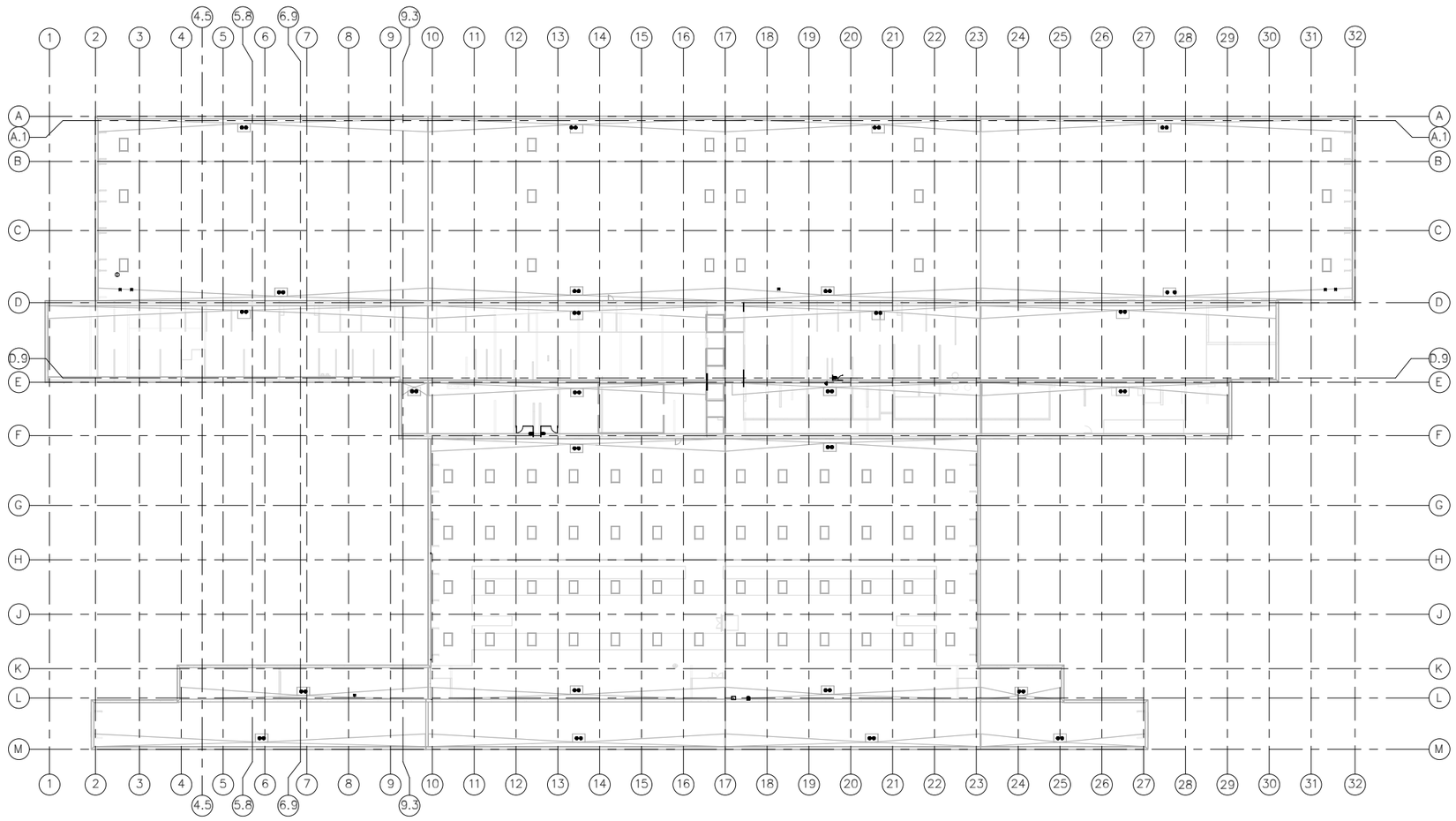
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

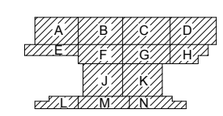
P-120H

SHEET 123 OF 263

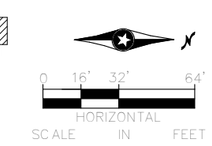
9/21/2015 12:07:14 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-130 OVERALL PLUMBING ROOF PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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METROPOLITAN COUNCIL
SOUTHWEST

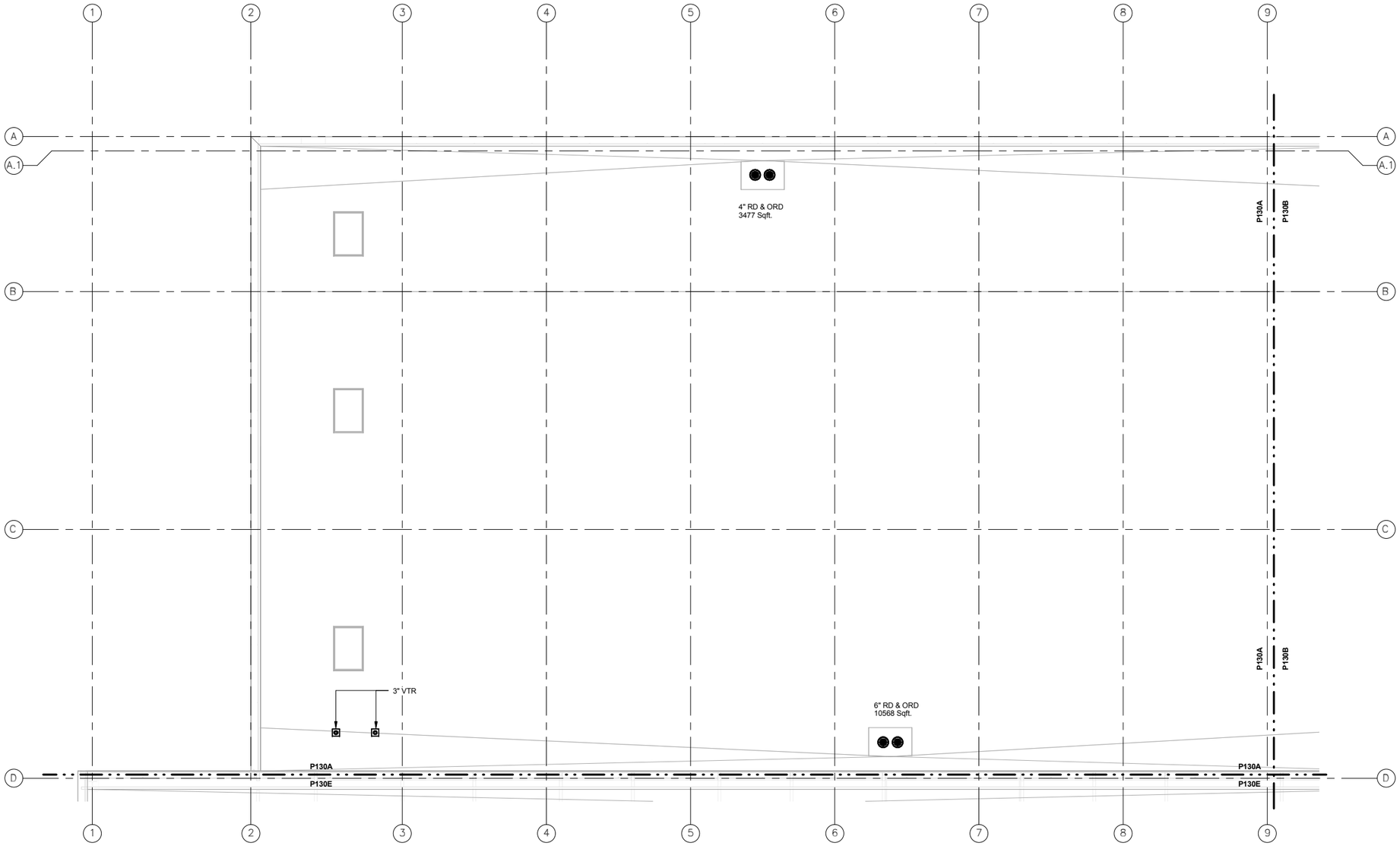
OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING

ROOF LEVEL OVERALL PLUMBING PLAN

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-130

SHEET 124 OF 263

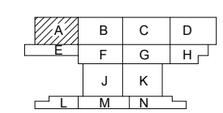
9/21/2015 12:07:23 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-130A ROOF LEVEL - PARTIAL PLUMBING PLAN - AREA A

SCALE: 1/8" = 1'-0"

KEYED NOTES



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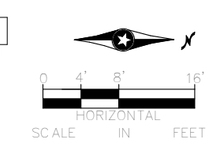

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA A

DISCIPLINE: PLUMBING

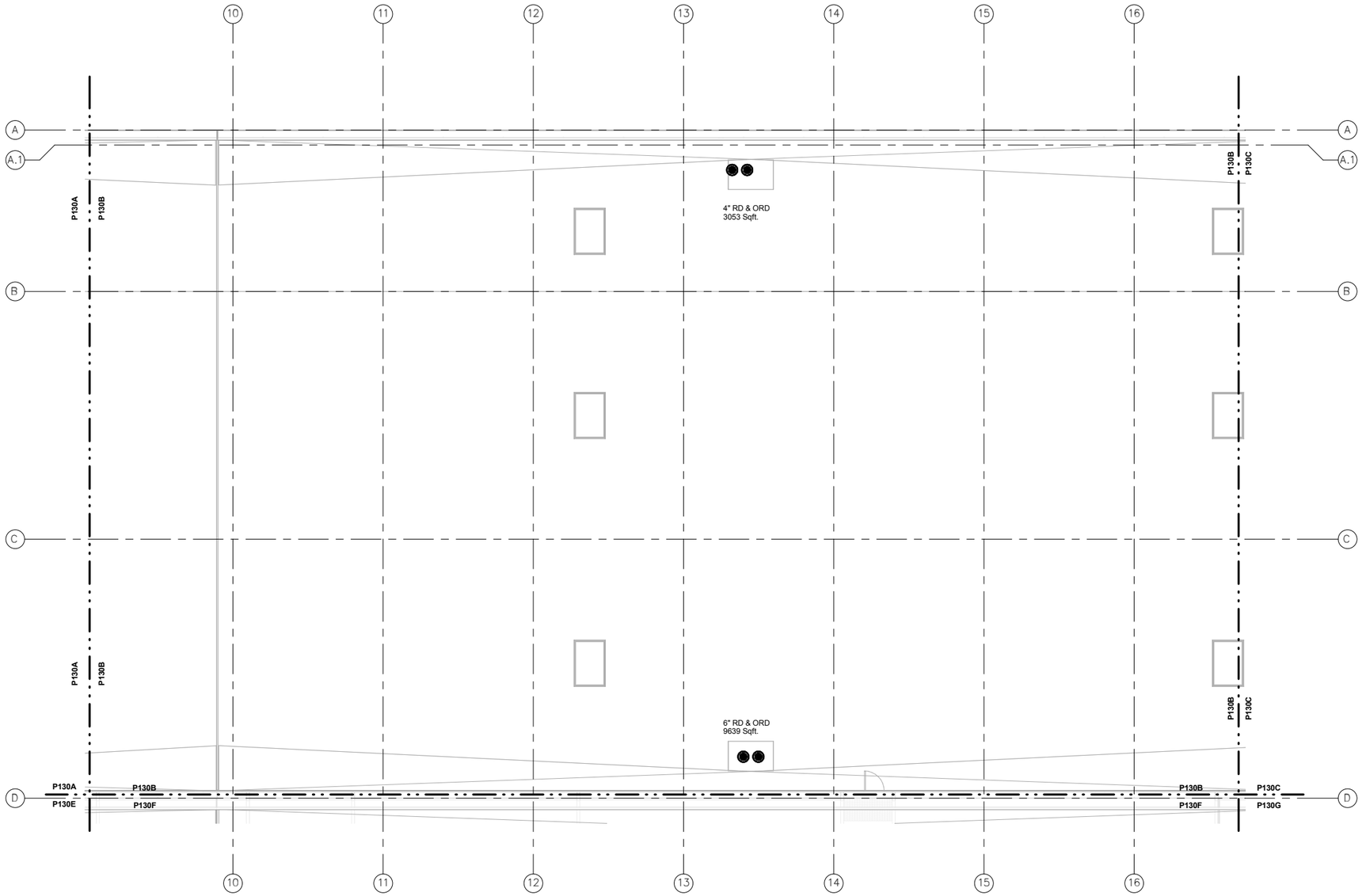
SHEET NAME: OMF-PLM-PLN

P-130A

SHEET 125 OF 263

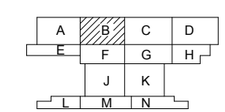
9/21/2015 12:07:25 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES

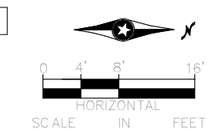


1 / P-130B ROOF LEVEL - PARTIAL PLUMBING PLAN - AREA B

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN AREA B

DISCIPLINE: PLUMBING

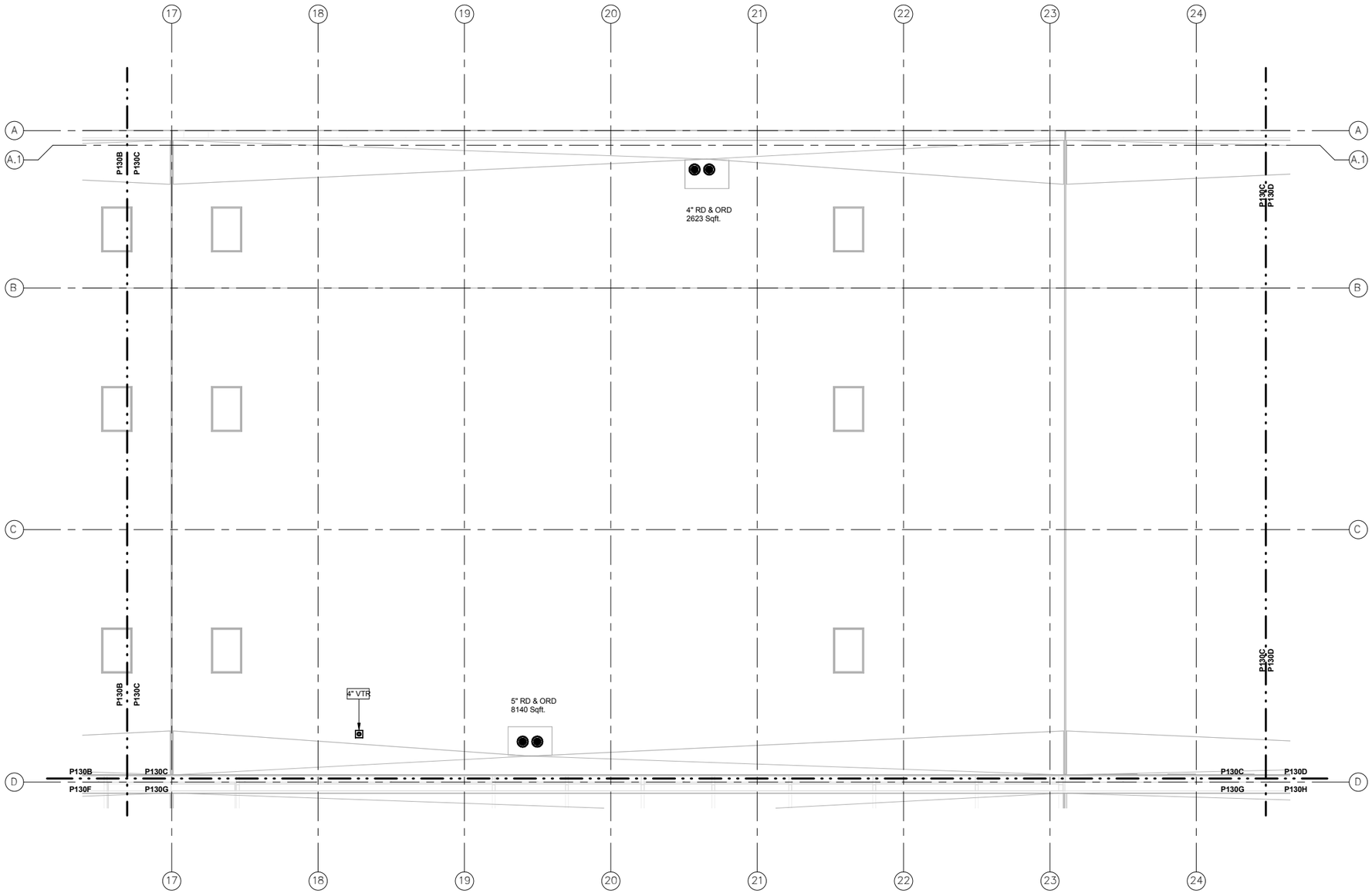
SHEET NAME: OMF-PLM-PLN

P-130B

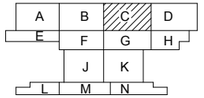
SHEET 126 OF 263

9/21/2015 12:07:27 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

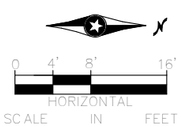
KEYED NOTES



1
P-130C
ROOF LEVEL - PARTIAL PLUMBING PLAN - AREA C
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC
CERTIFIED WOMEN'S BUSINESS ENTERPRISE

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA C

DISCIPLINE: PLUMBING

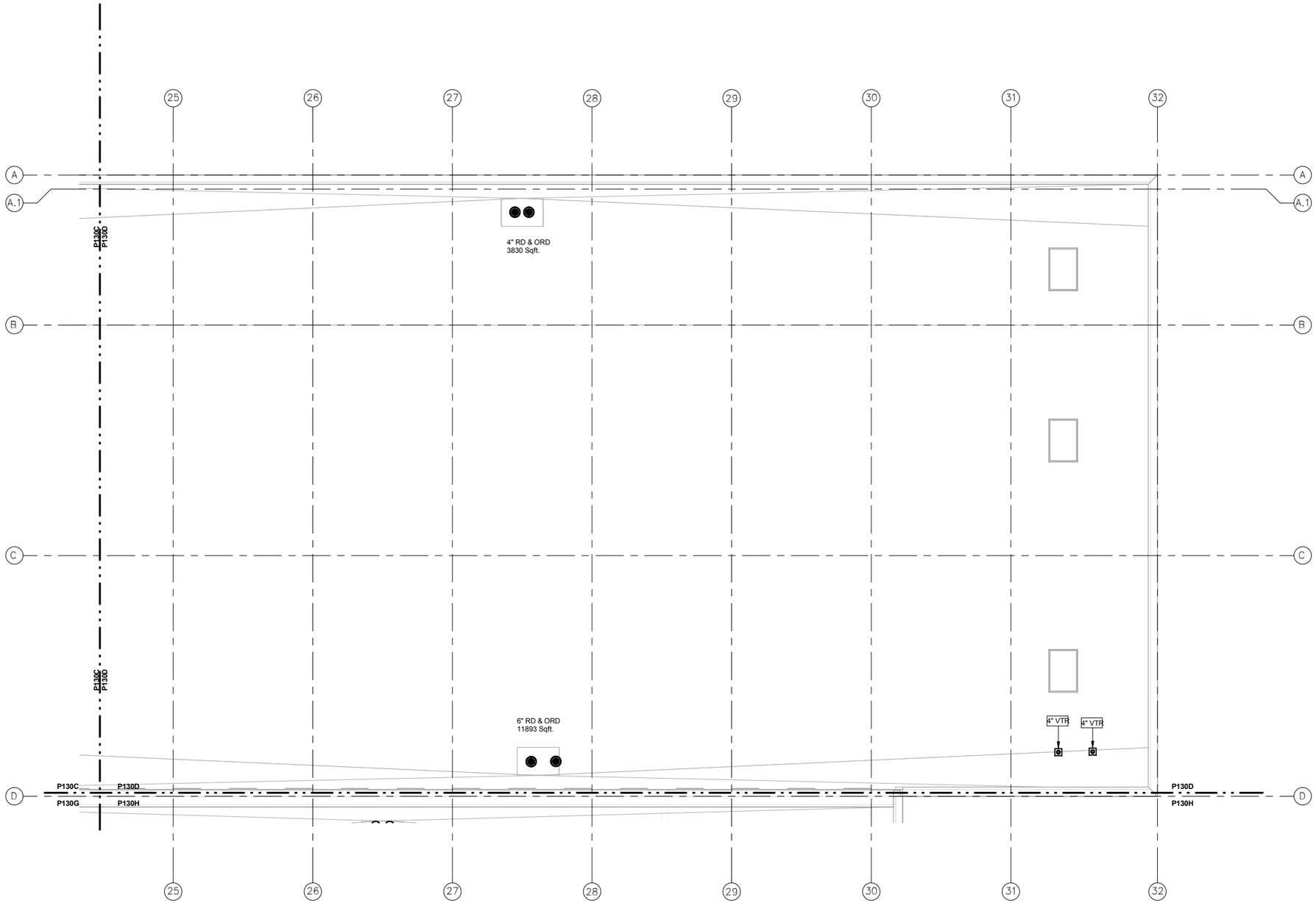
SHEET NAME: OMF-PLM-PLN

P-130C

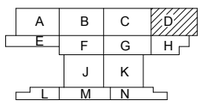
SHEET 127 OF 263

9/21/2015 12:07:29 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1
P-130D
ROOF LEVEL - PARTIAL PLUMBING PLAN - AREA D
SCALE: 1/8" = 1'-0"



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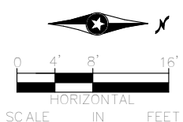

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CERTIFIED WOMEN'S BUSINESS ENTERPRISE

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA D

DISCIPLINE: PLUMBING

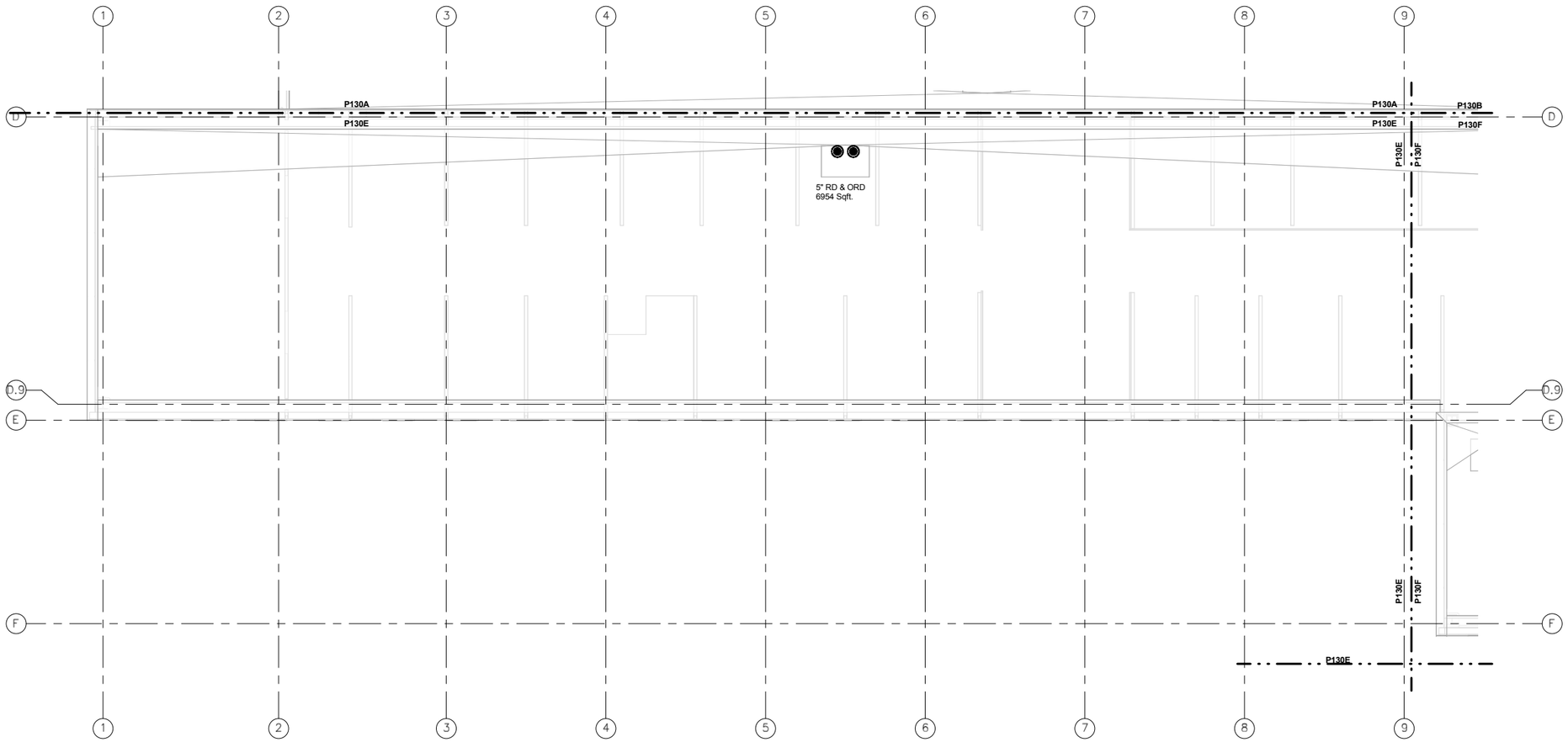
SHEET NAME: OMF-PLM-PLN

P-130D

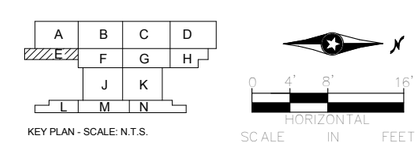
SHEET 128 OF 263

9/21/2015 12:07:31 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1 P-130E ROOF LEVEL - PLUMBING PLAN - AREA E
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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CERTIFIED WOMEN'S BUSINESS ENTERPRISE

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA E

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-130E

SHEET 129 OF 263

9/21/2015 12:07:33 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

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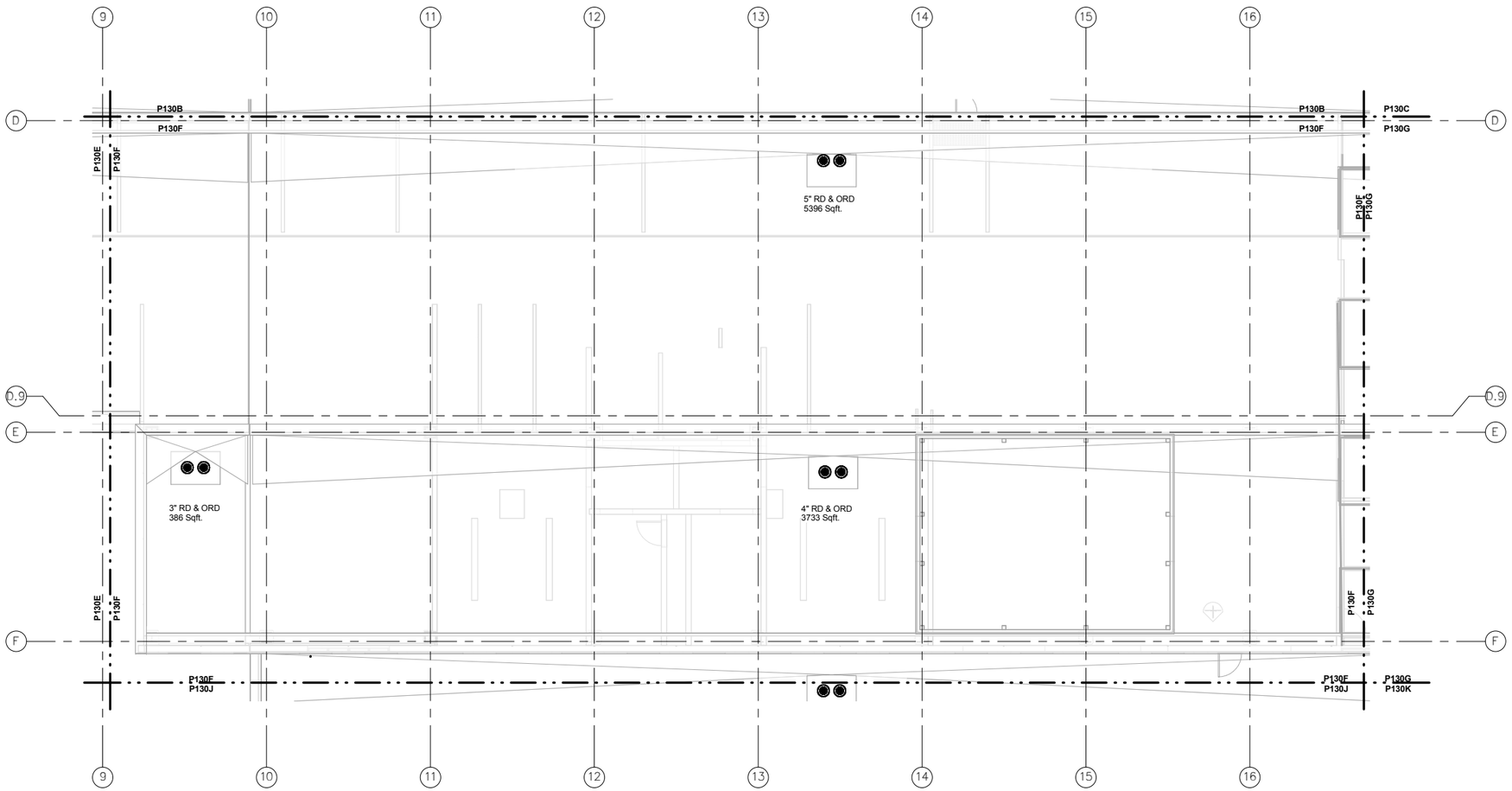
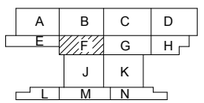
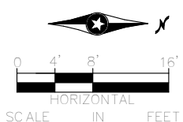


1 P-130F ROOF LEVEL - PLUMBING PLAN - AREA F

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN AREA F

DISCIPLINE: PLUMBING

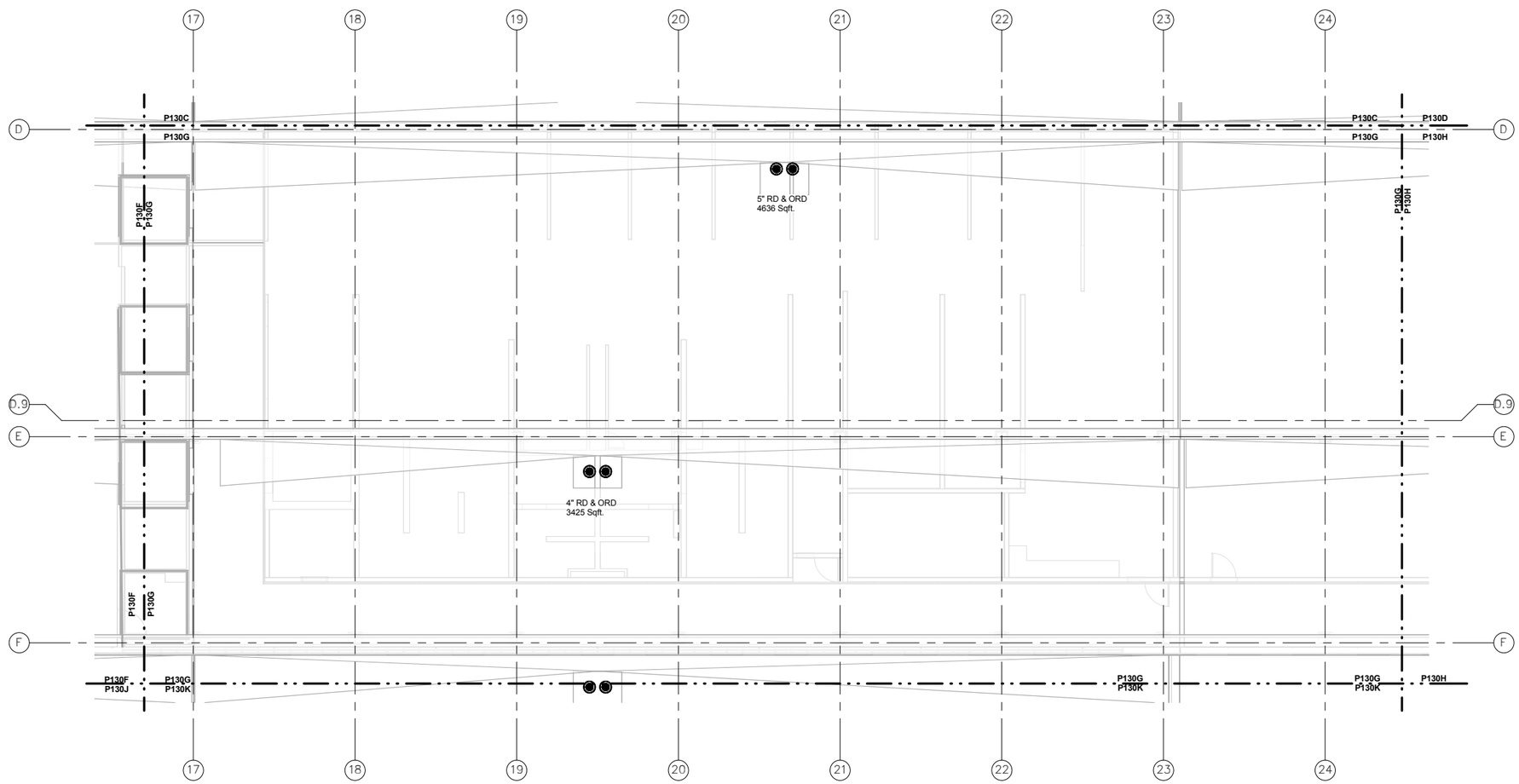
SHEET NAME: OMF-PLM-PLN

P-130F

SHEET 130 OF 263

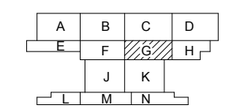
9/21/2015 12:07:36 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1 P-130G ROOF LEVEL - PLUMBING PLAN - AREA G

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA G

DISCIPLINE: PLUMBING

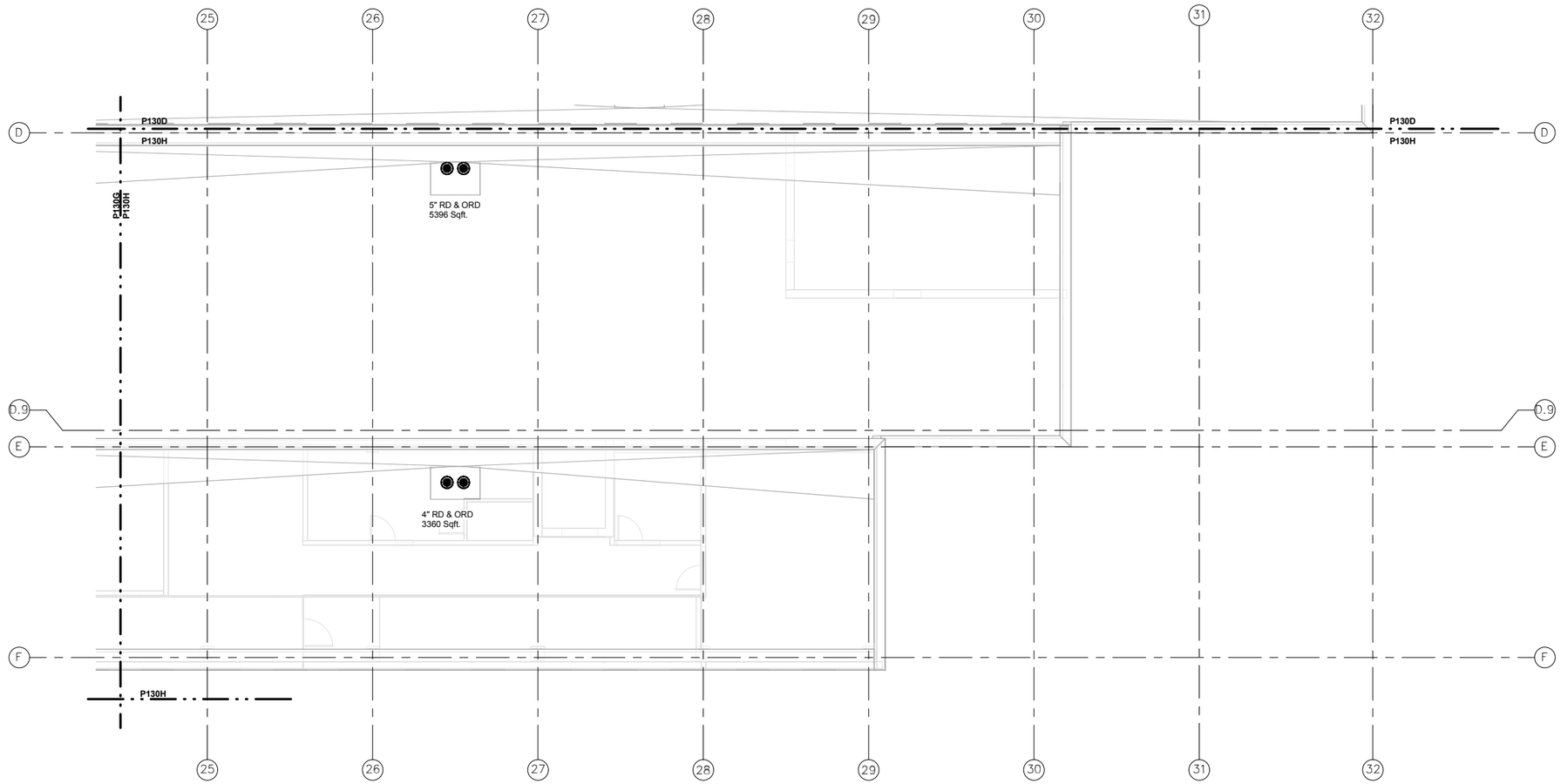
SHEET NAME: OMF-PLM-PLN

P-130G

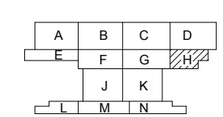
SHEET 131 OF 263

9/21/2015 12:15:05 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1 P-130H ROOF LEVEL - PLUMBING PLAN - AREA H
SCALE: 1/8" = 1'-0"



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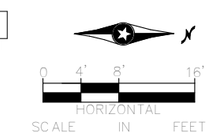

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METROPOLITAN COUNCIL

SOUTHWEST

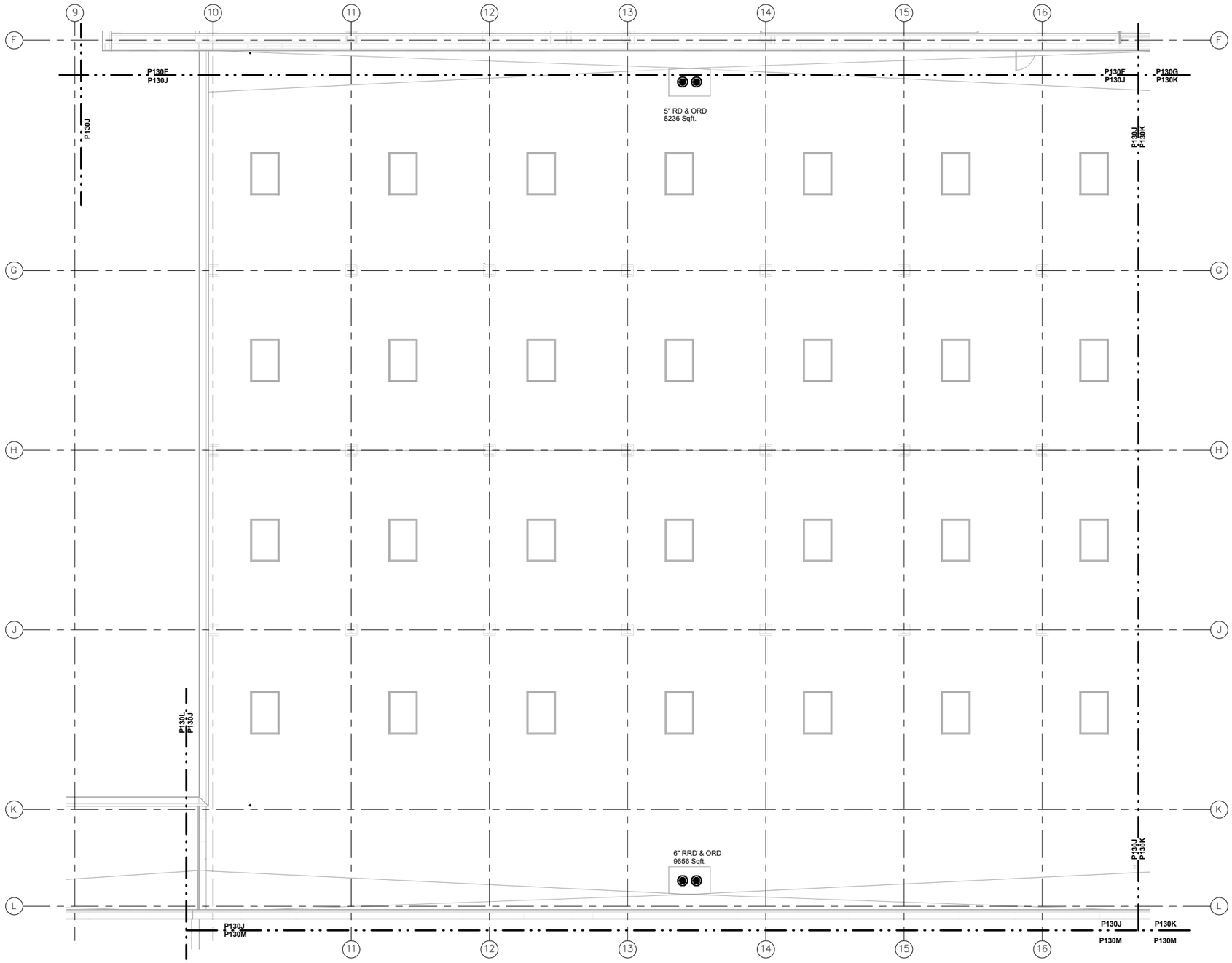
OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA H

DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-130H

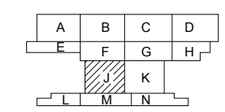
SHEET 132 OF 263



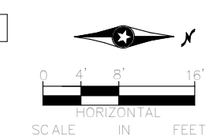
1 P-130J ROOF LEVEL - PLUMBING PLAN - AREA J

SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN AREA J

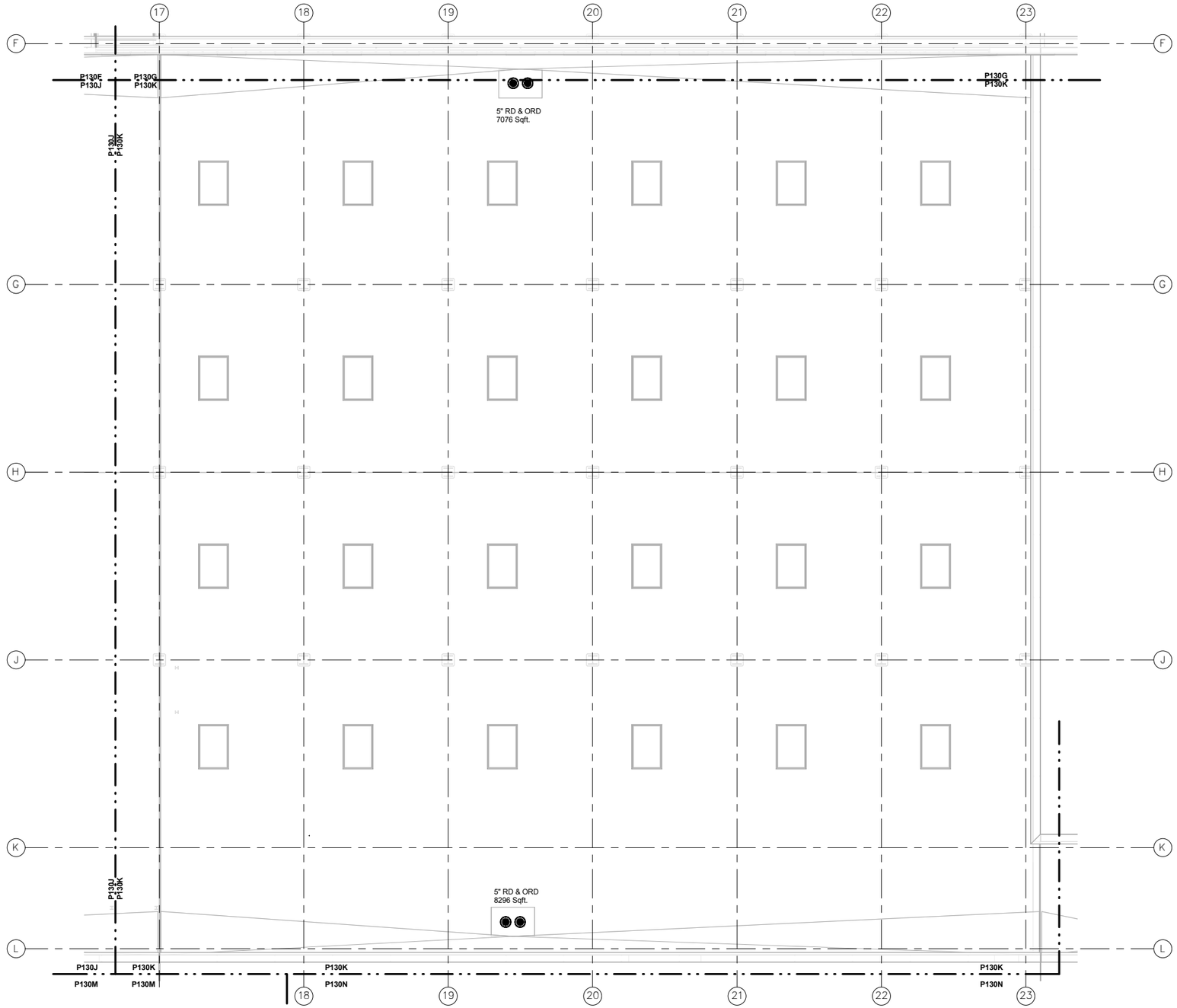
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-130J

SHEET 133 OF 263

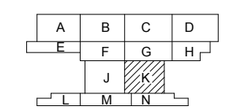
9/21/2015 12:07:42 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



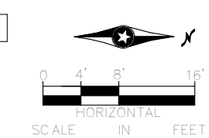
1 P-130K ROOF LEVEL - PLUMBING PLAN - AREA K

SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA K

DISCIPLINE: PLUMBING

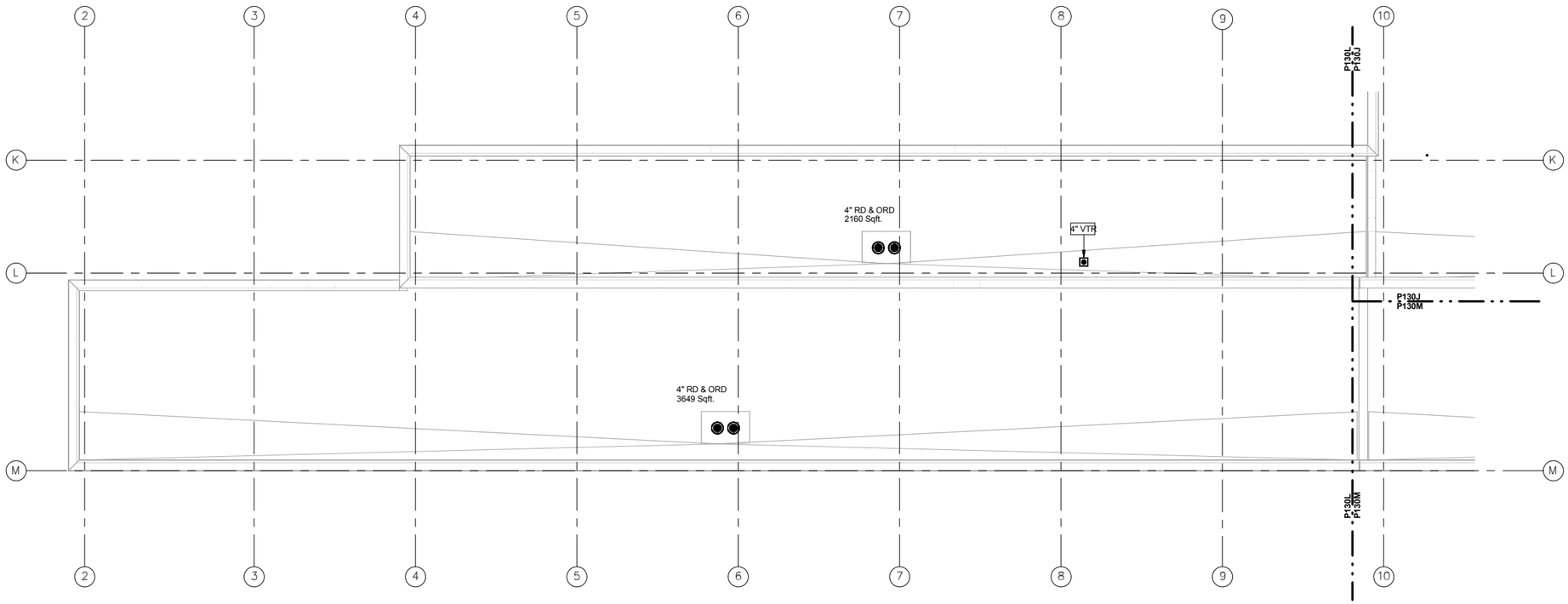
SHEET NAME: OMF-PLM-PLN

P-130K

SHEET 134 OF 263

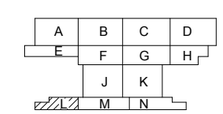
9/21/2015 12:07:44 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1 P-130L ROOF LEVEL - PARTIAL PLUMBING PLAN - AREA L

SCALE: 1/8" = 1'-0"



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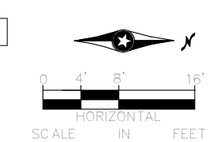

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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA L

DISCIPLINE: PLUMBING

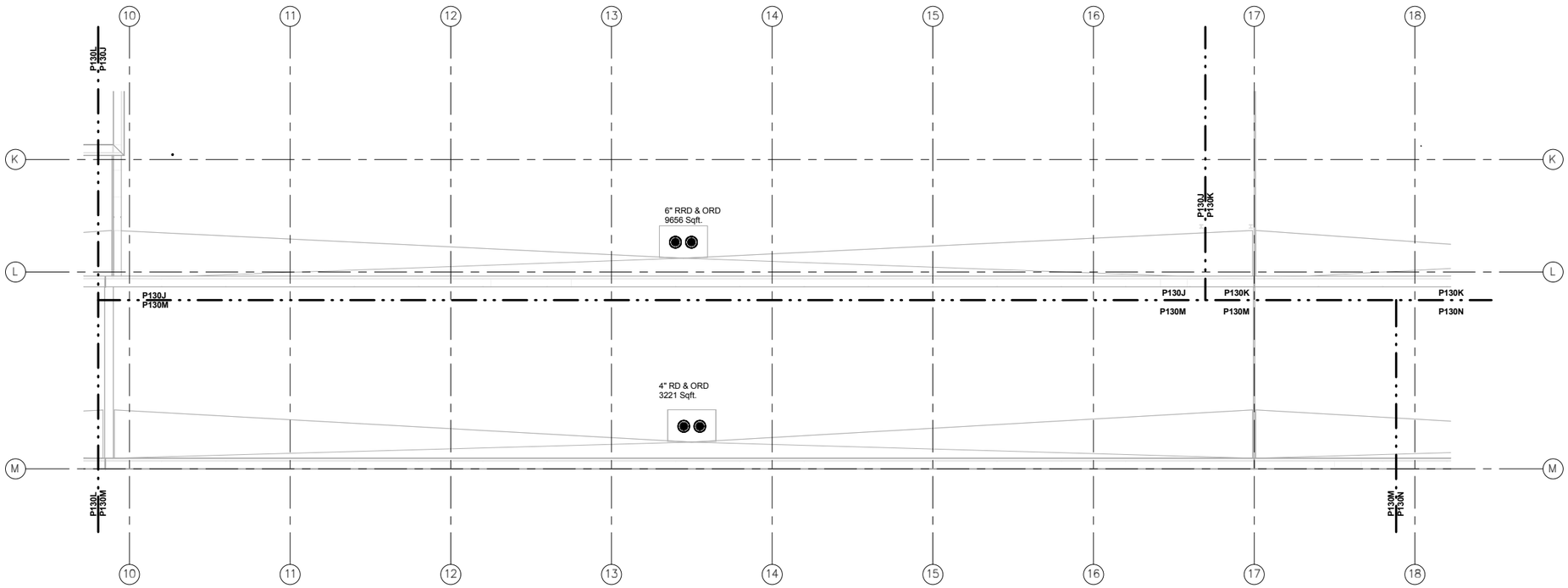
SHEET NAME: OMF-PLM-PLN

P-130L

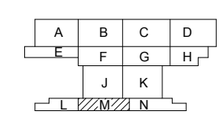
SHEET 135 OF 263

9/21/2015 12:07:46 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1
P-130M
ROOF LEVEL - PLUMBING PLAN - AREA M
SCALE: 1/8" = 1'-0"



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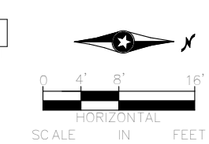

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60% SUBMISSION - 09/28/15

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA M

DISCIPLINE: PLUMBING

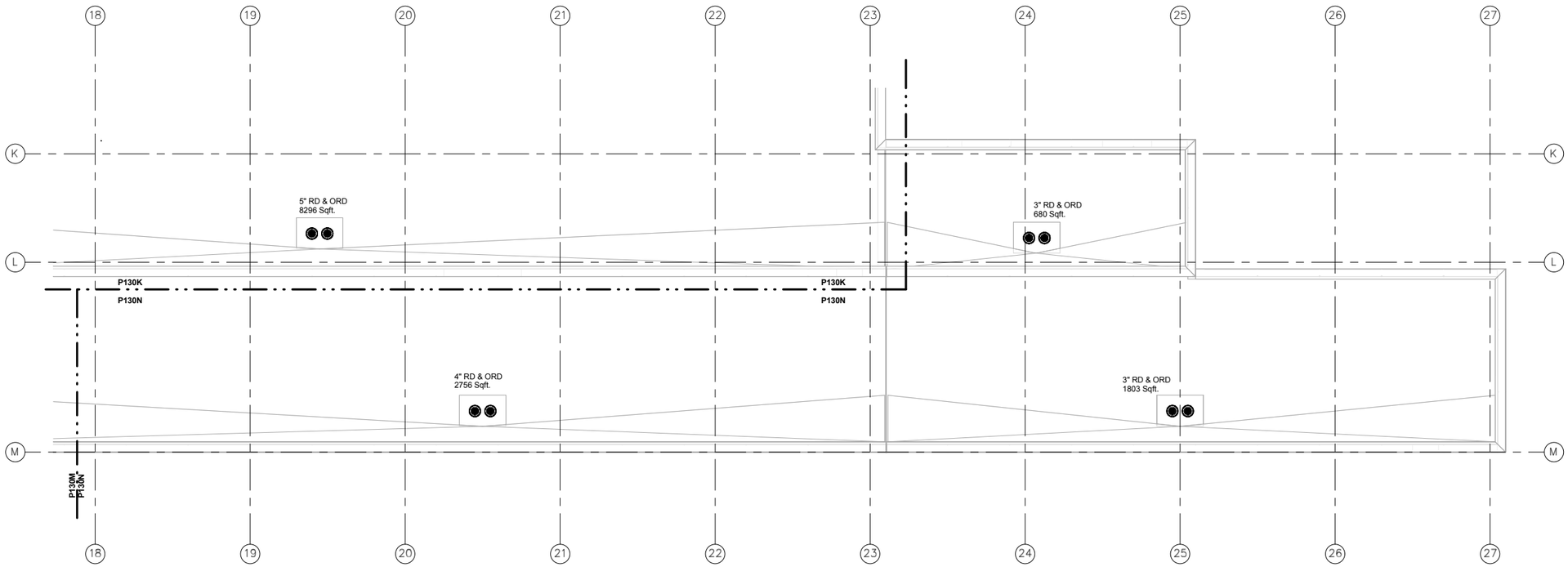
SHEET NAME: OMF-PLM-PLN

P-130M

SHEET 136 OF 263

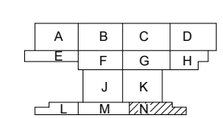
9/21/2015 12:07:47 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES



1 P-130N ROOF LEVEL - PLUMBING PLAN - AREA N

SCALE: 1/8" = 1'-0"



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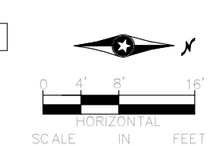

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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
ROOF LEVEL - PARTIAL PLUMBING PLAN
AREA N

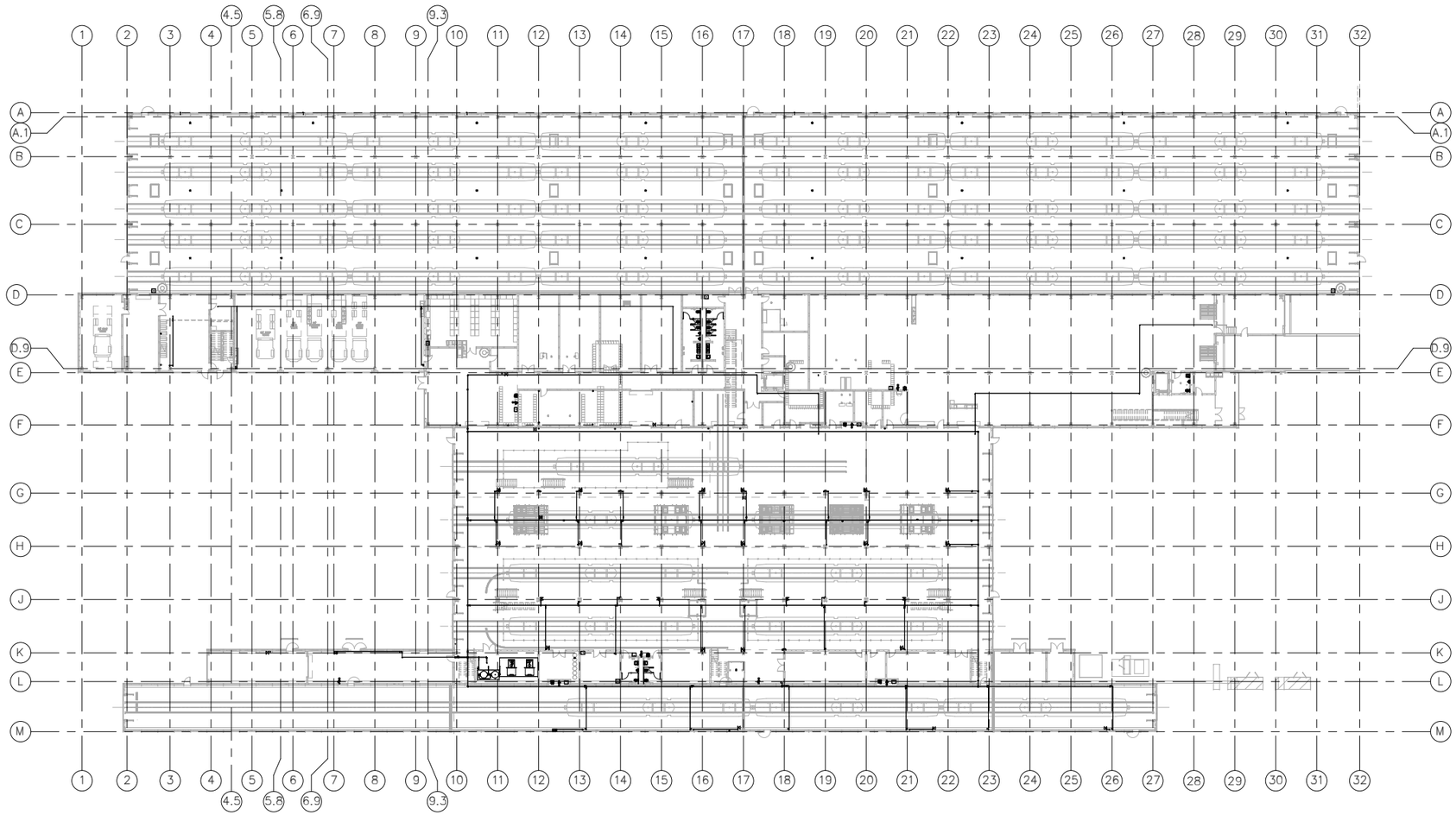
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

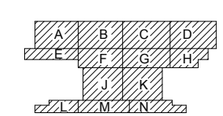
P-130N

SHEET 137 OF 263

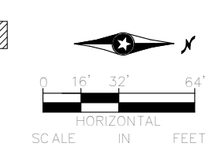
9/21/2015 12:07:49 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-210 LEVEL ONE OVERALL COMPRESSED AIR PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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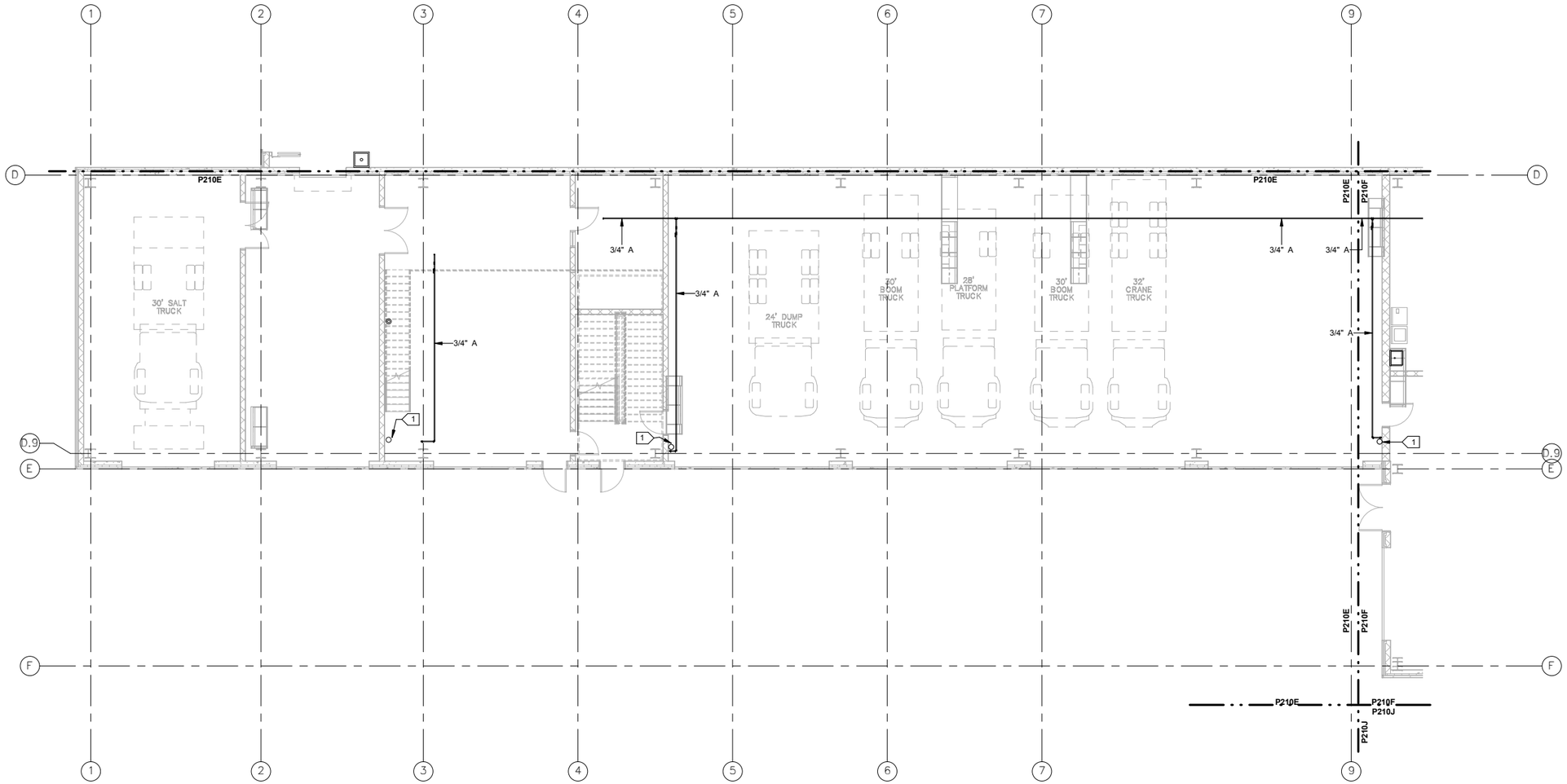
METROPOLITAN COUNCIL
SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE OVERALL COMPRESSED AIR FLOOR PLAN

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-210

SHEET 138 OF 263

9/21/2015 12:07:57 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

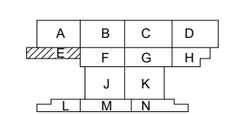


1 P-210E LEVEL ONE - AREA E - COMPRESSED AIR PLAN

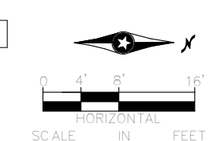
SCALE: 1/8" = 1'-0"

KEYED NOTES

1 3/4" DOWN TO PRESSURE REGULATOR AND DRYER. REFER TO INDUSTRIAL PLANS FOR OUTLET CONFIGURATIONS.



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA E

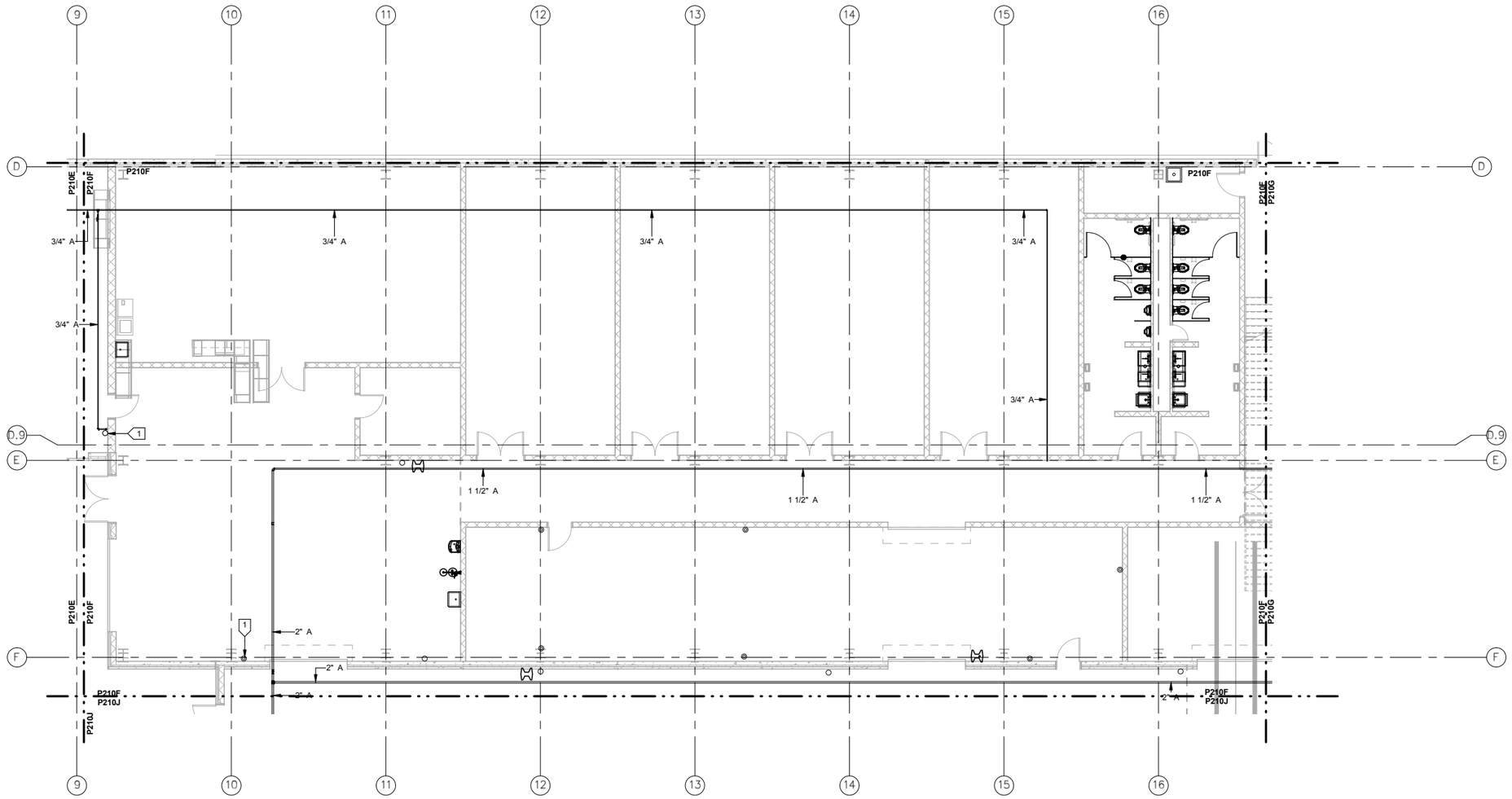
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-210E

SHEET 139 OF 263

9/21/2015 12:07:59 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

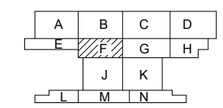


KEYED NOTES

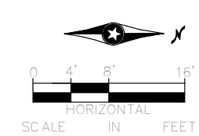
1 3/4" DOWN TO PRESSURE REGULATOR AND DRYER. REFER TO INDUSTRIAL PLANS FOR OUTLET CONFIGURATIONS.

1 / P-210F LEVEL ONE - AREA F - COMPRESSED AIR PLAN

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA F

DISCIPLINE: PLUMBING

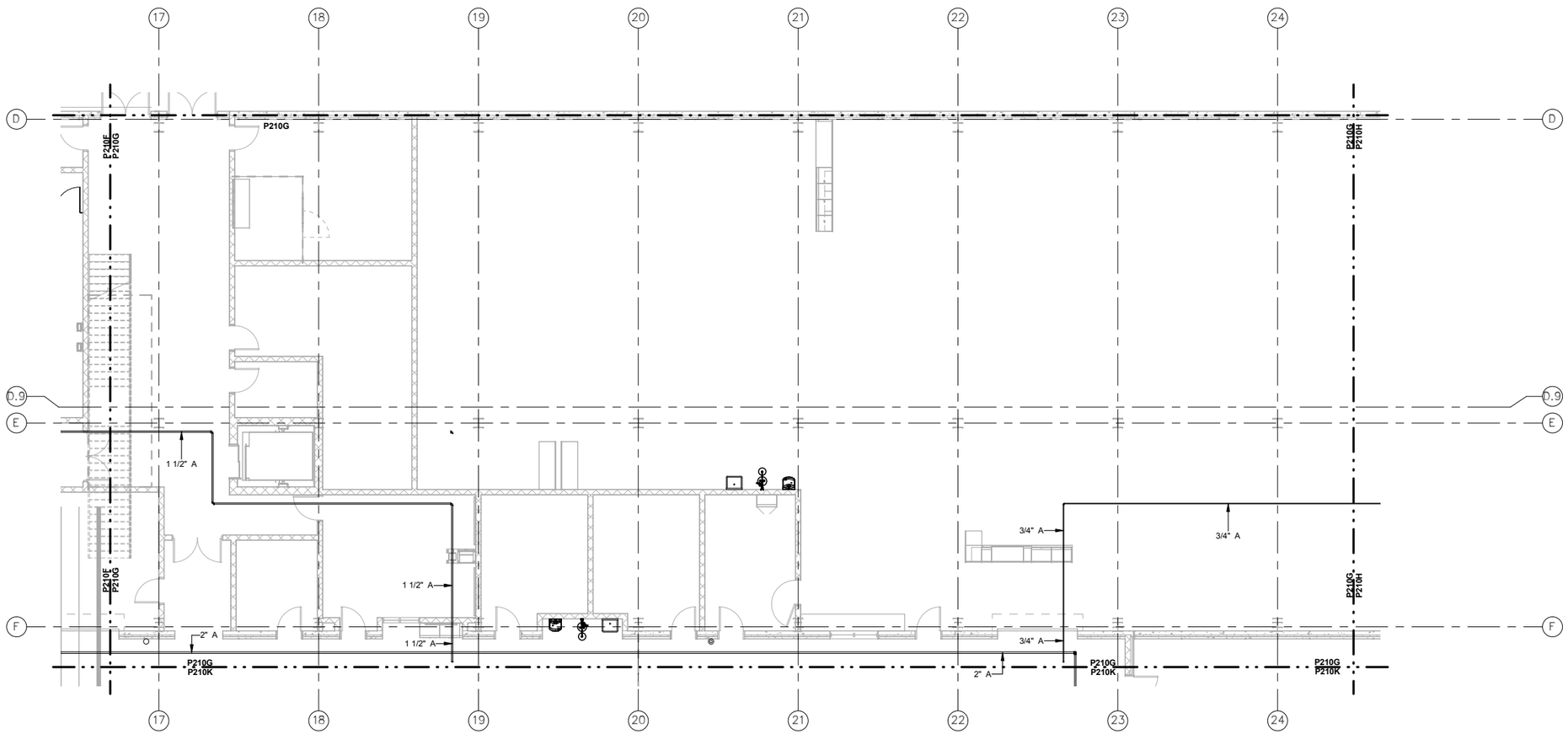
SHEET NAME: OMF-PLM-PLN

P-210F

SHEET 140 OF 263

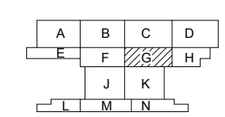
9/21/2015 12:08:02 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

KEYED NOTES

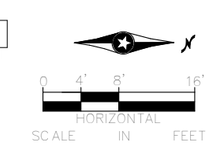


1 P-210G LEVEL ONE - AREA G - COMPRESSED AIR PLAN

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA G

DISCIPLINE: PLUMBING

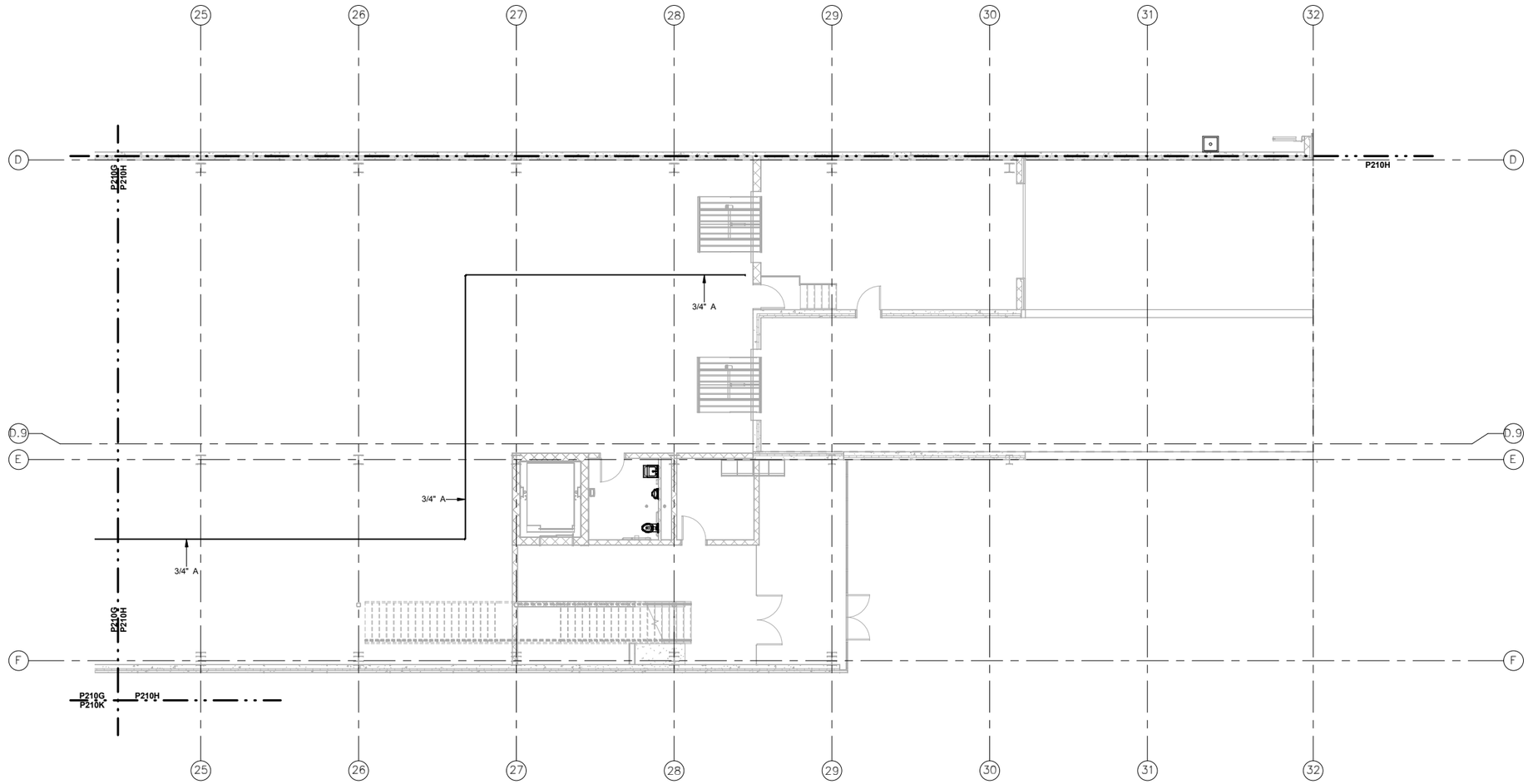
SHEET NAME: OMF-PLM-PLN

P-210G

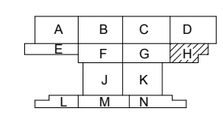
SHEET 141 OF 263

9/21/2015 12:08:05 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

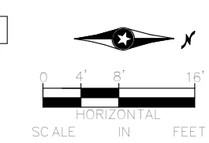
KEYED NOTES



1 P-210H LEVEL ONE - AREA H - COMPRESSED AIR PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA H

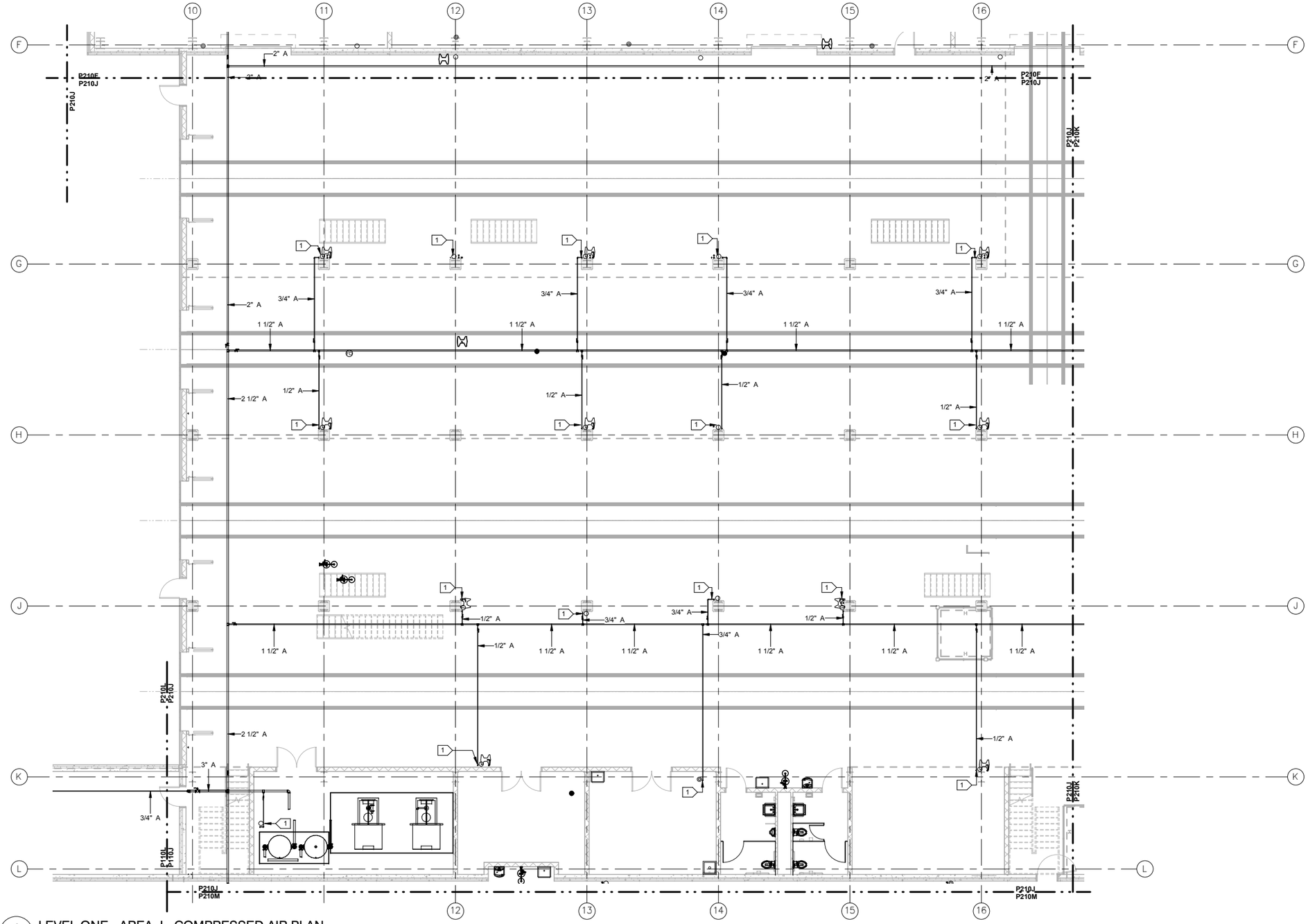
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-210H

SHEET 142 OF 263

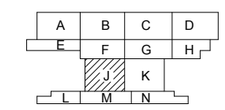
9/21/2015 12:08:08 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



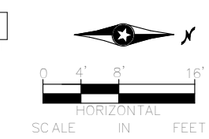
1 LEVEL ONE - AREA J - COMPRESSED AIR PLAN
P-210J SCALE: 1/8" = 1'-0"

KEYED NOTES

1 3/4" DOWN TO PRESSURE REGULATOR AND DRYER. REFER TO INDUSTRIAL PLANS FOR OUTLET CONFIGURATIONS.



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

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OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA J

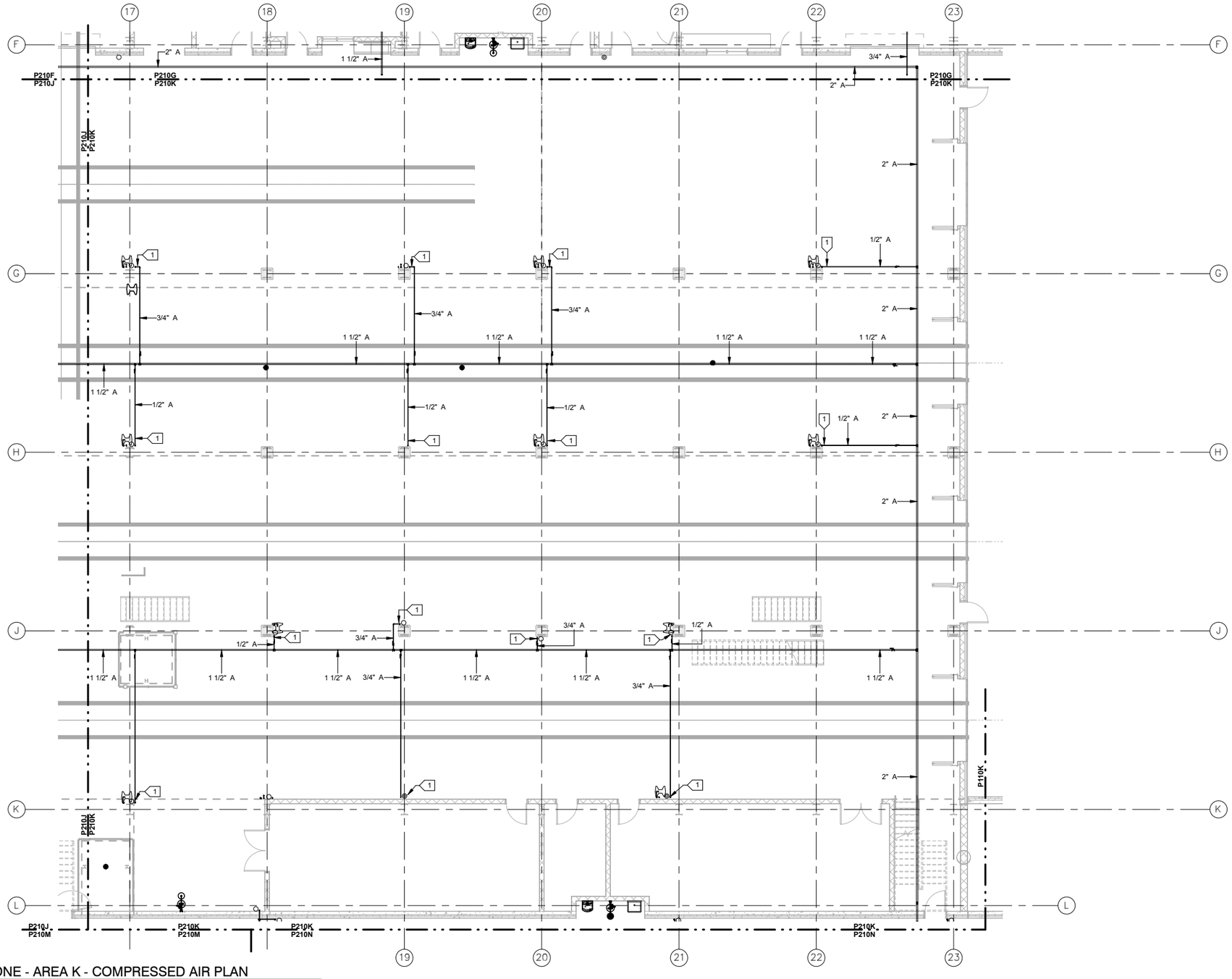
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-210J

SHEET 143 OF 263

9/21/2015 12:08:11 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

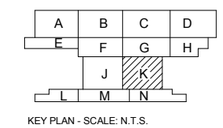


1 P-210K LEVEL ONE - AREA K - COMPRESSED AIR PLAN

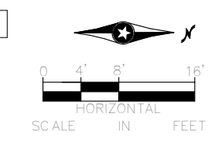
SCALE: 1/8" = 1'-0"

KEYED NOTES

1 3/4" DOWN TO PRESSURE REGULATOR AND DRYER. REFER TO INDUSTRIAL PLANS FOR OUTLET CONFIGURATIONS.



KEY PLAN - SCALE: N.T.S.



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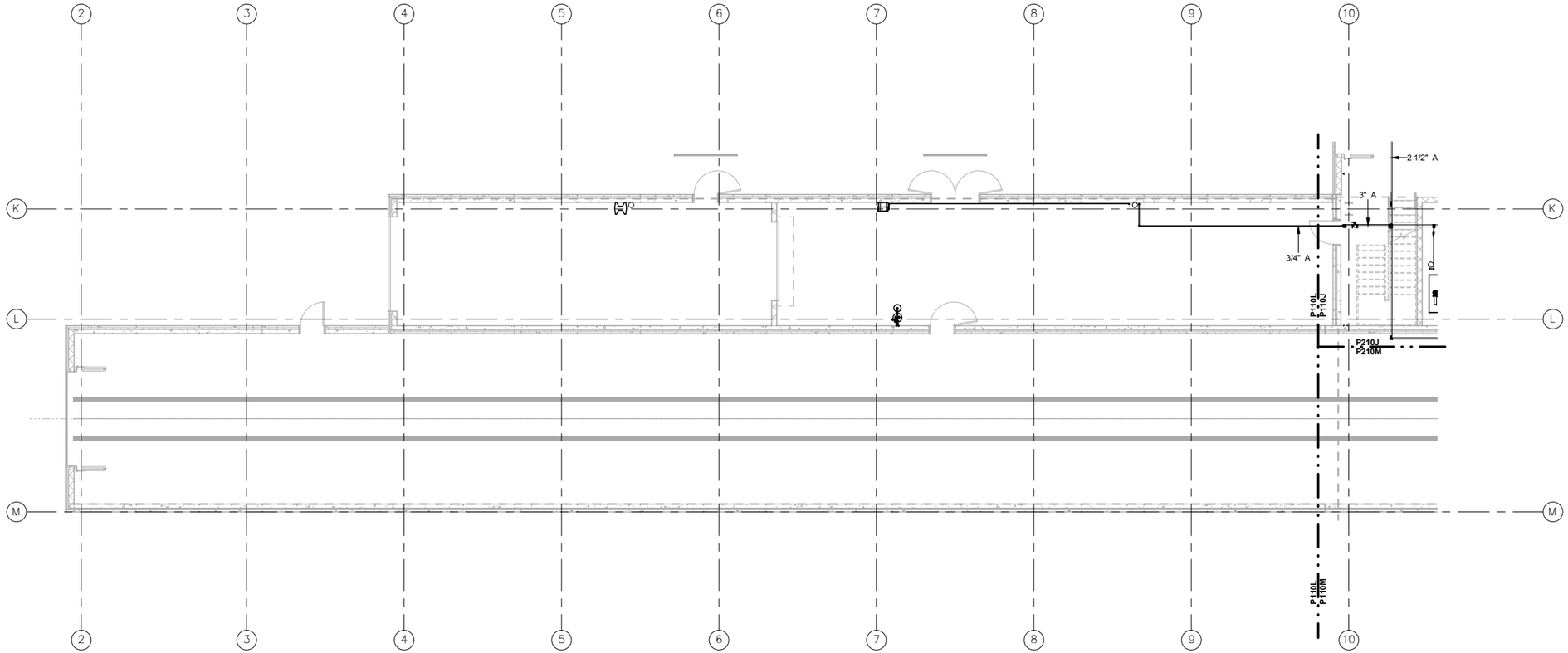
OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA K

DISCIPLINE: PLUMBING

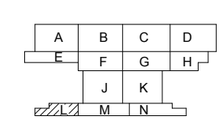
SHEET NAME: OMF-PLM-PLN

P-210K

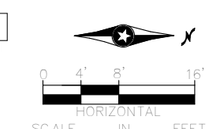


1 P-210L LEVEL ONE - AREA L - COMPRESSED AIR PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA L

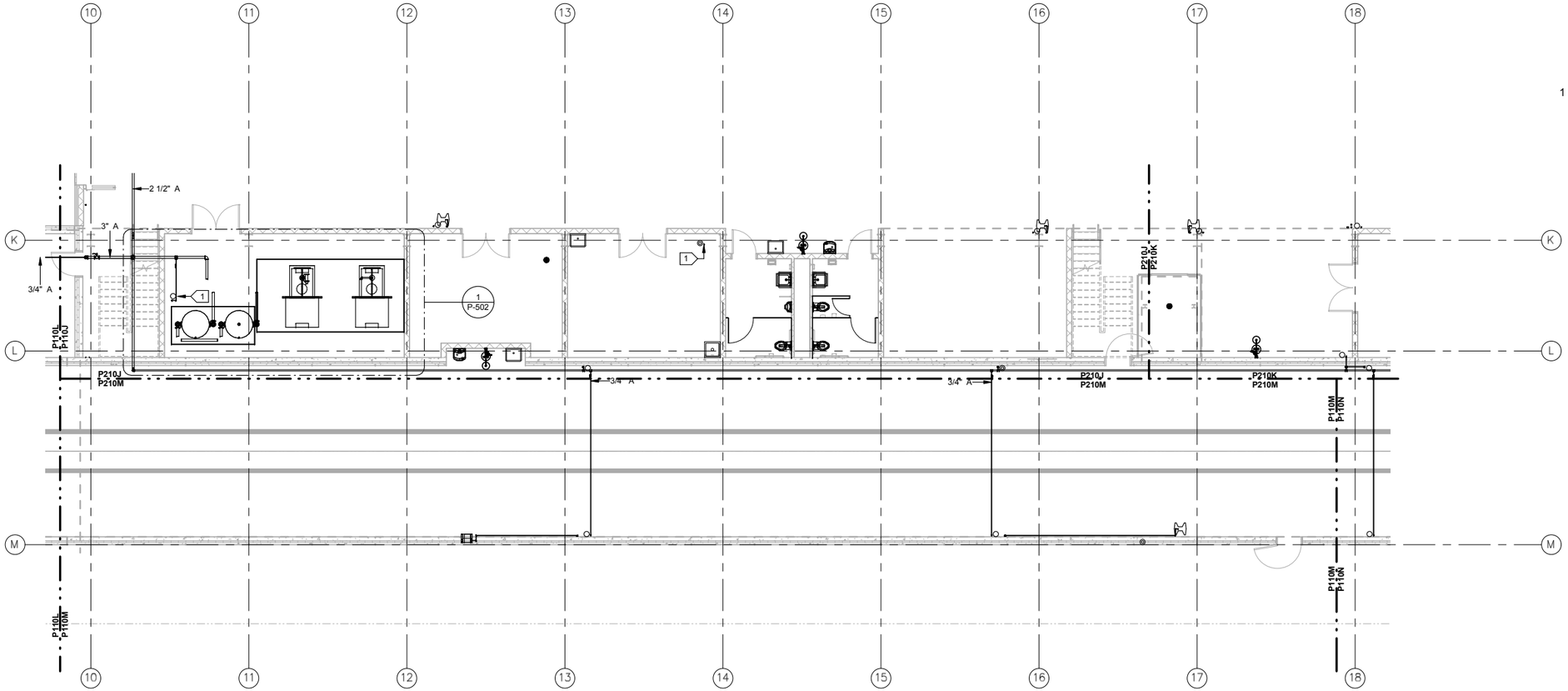
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-210L

SHEET 145 OF 263

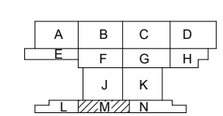
9/21/2015 12:08:17 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



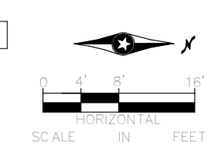
1 P-210M LEVEL ONE - AREA M - COMPRESSED AIR PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

1 3/4" DOWN TO PRESSURE REGULATOR AND DRYER. REFER TO INDUSTRIAL PLANS FOR OUTLET CONFIGURATIONS.



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA M

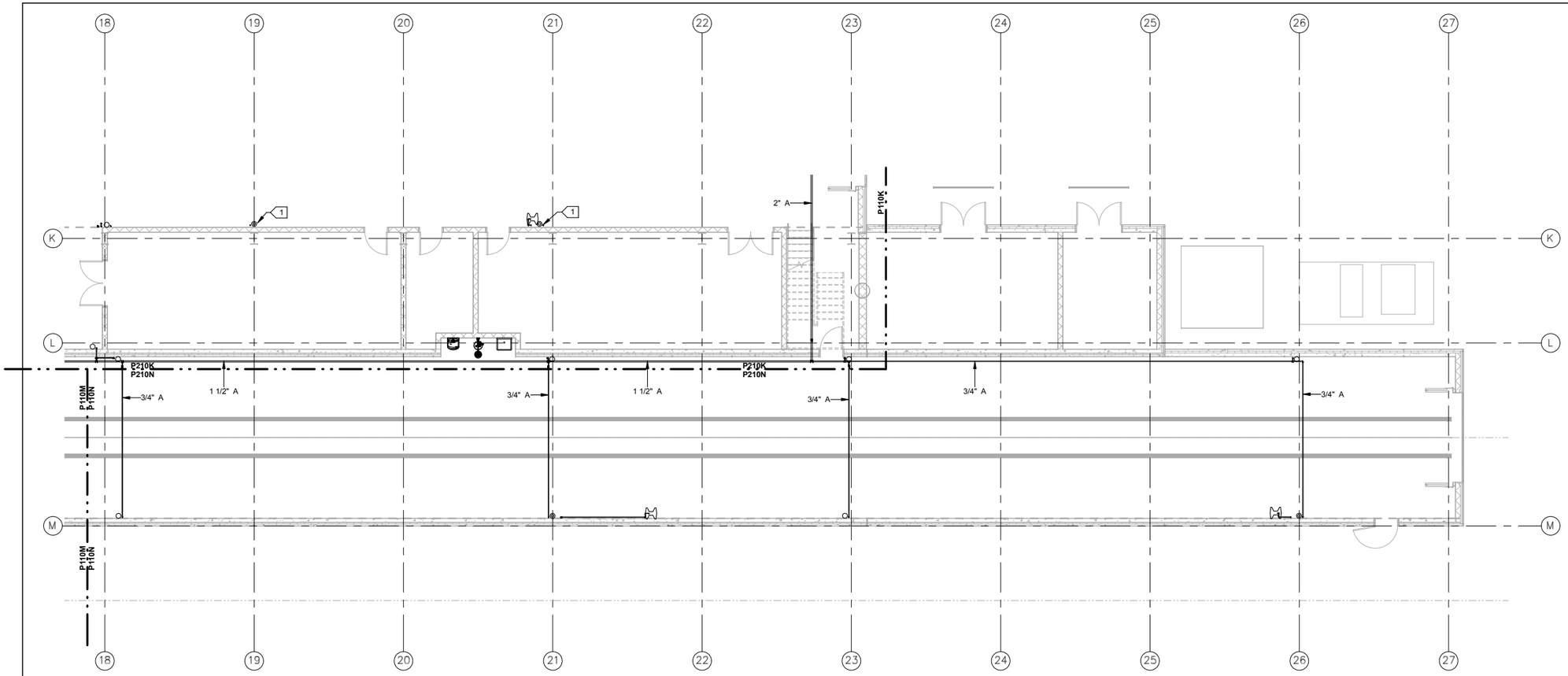
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-210M

SHEET 146 OF 263

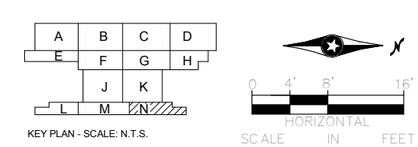
9/21/2015 12:08:20 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-210N LEVEL ONE - AREA N - COMPRESSED AIR PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

1 3/4" DOWN TO PRESSURE REGULATOR AND DRYER. REFER TO INDUSTRIAL PLANS FOR OUTLET CONFIGURATIONS.



KEY PLAN - SCALE: N.T.S.

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OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
LEVEL ONE - PARTIAL COMPRESSED AIR PLAN AREA N

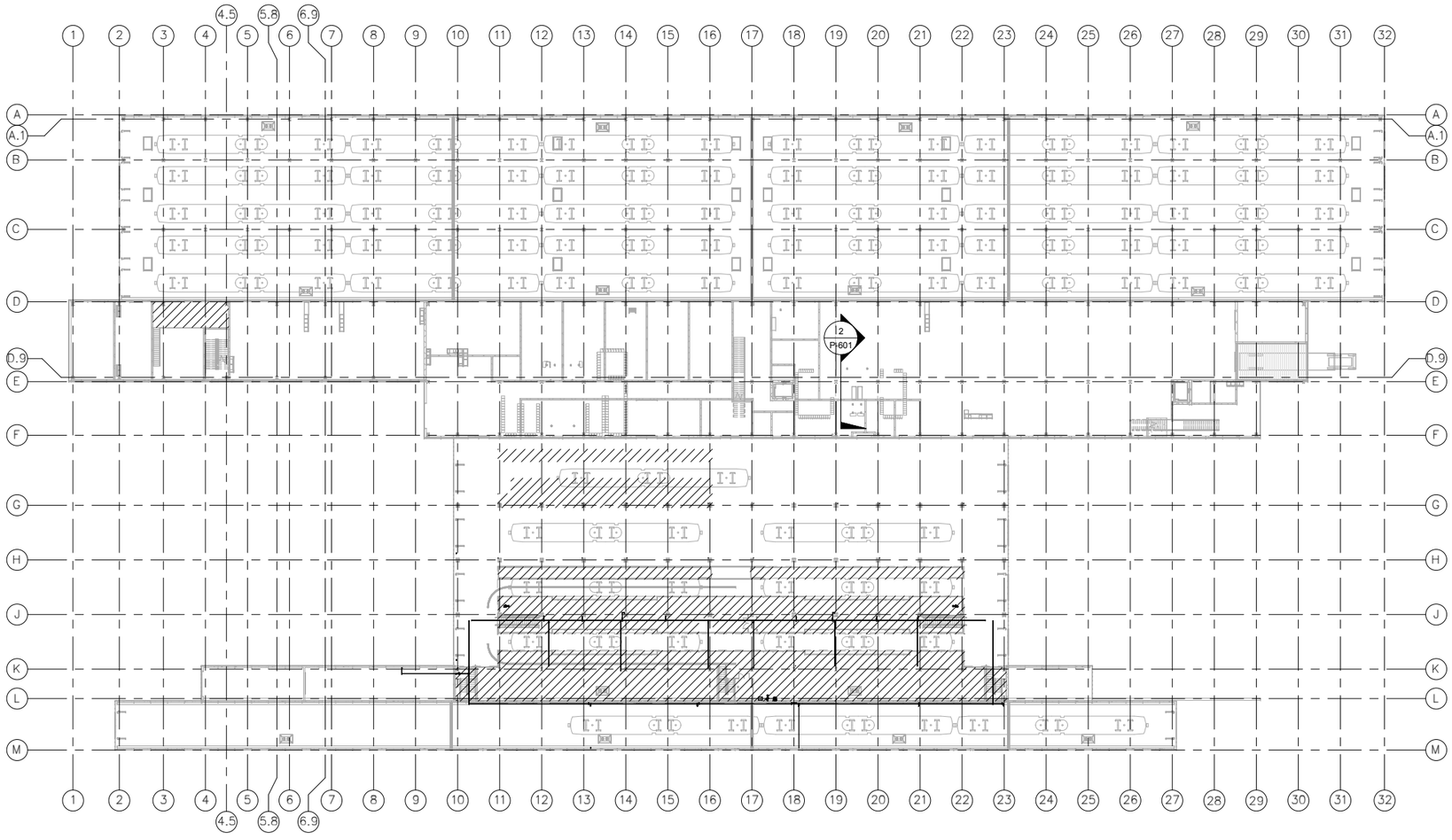
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-210N

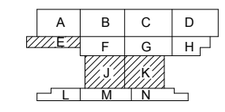
SHEET 147 OF 263

9/21/2015 12:08:22 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

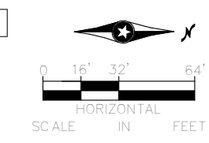


1 / P-215 OVERALL MEZZANINE COMPRESSED AIR PLAN

SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING
MEZZANINE LEVEL OVERALL COMPRESSED AIR FLOOR PLAN

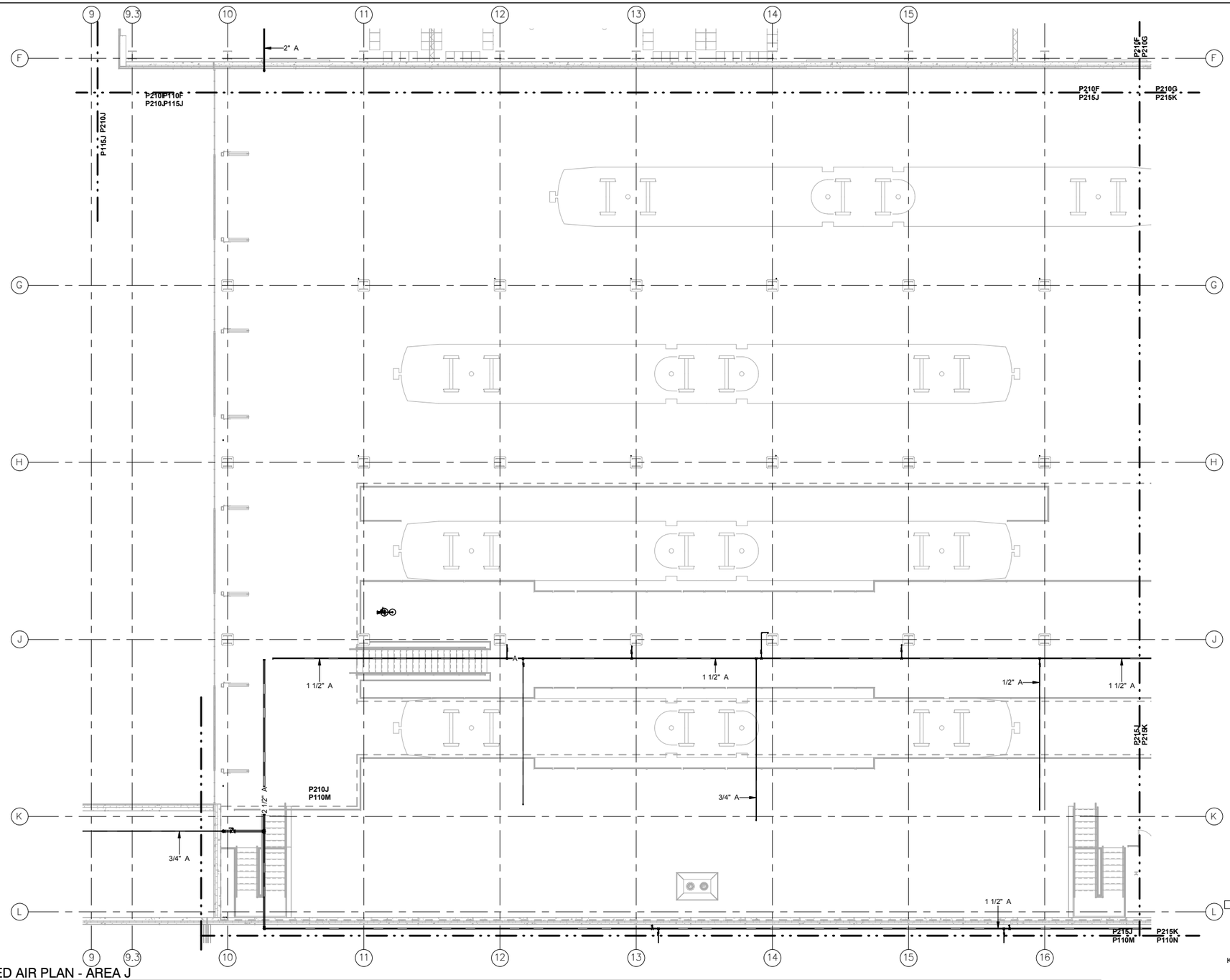
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-215

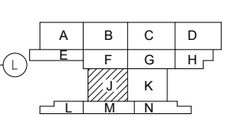
SHEET 148 OF 263

9/21/2015 12:08:29 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

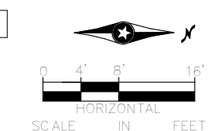


1
P-215J
MEZZANINE COMPRESSED AIR PLAN - AREA J
SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING
MEZZANINE LEVEL - PARTIAL COMPRESSED AIR PLAN AREA J

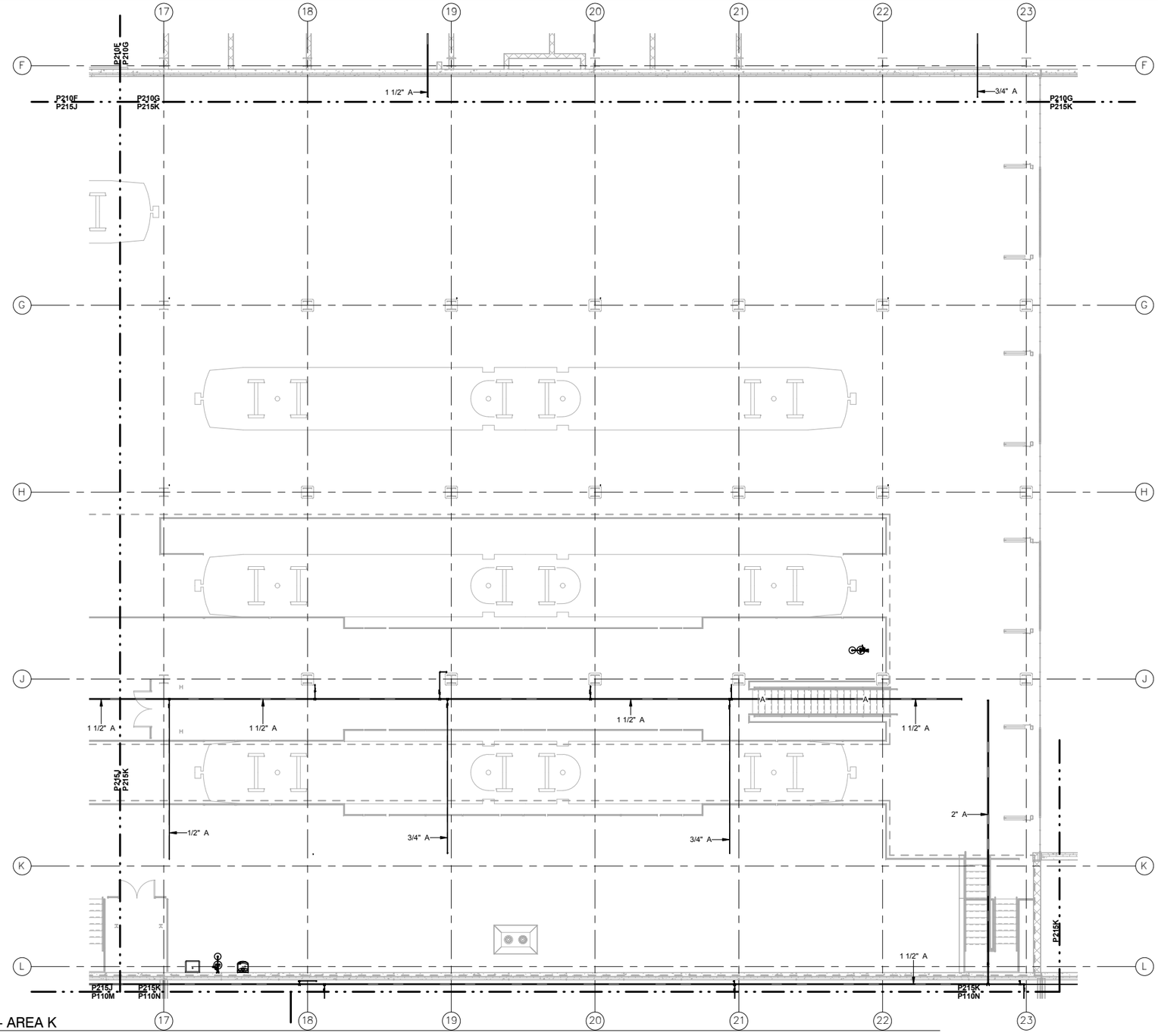
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

P-215J

SHEET 149 OF 263

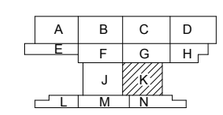
9/21/2015 12:08:32 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



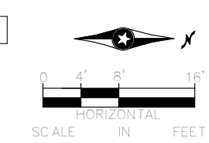
1 P-215K MEZZANINE COMPRESSED AIR PLAN - AREA K

SCALE: 1/8" = 1'-0"

KEYED NOTES



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING MEZZANINE LEVEL - PARTIAL COMPRESSED AIR PLAN AREA K

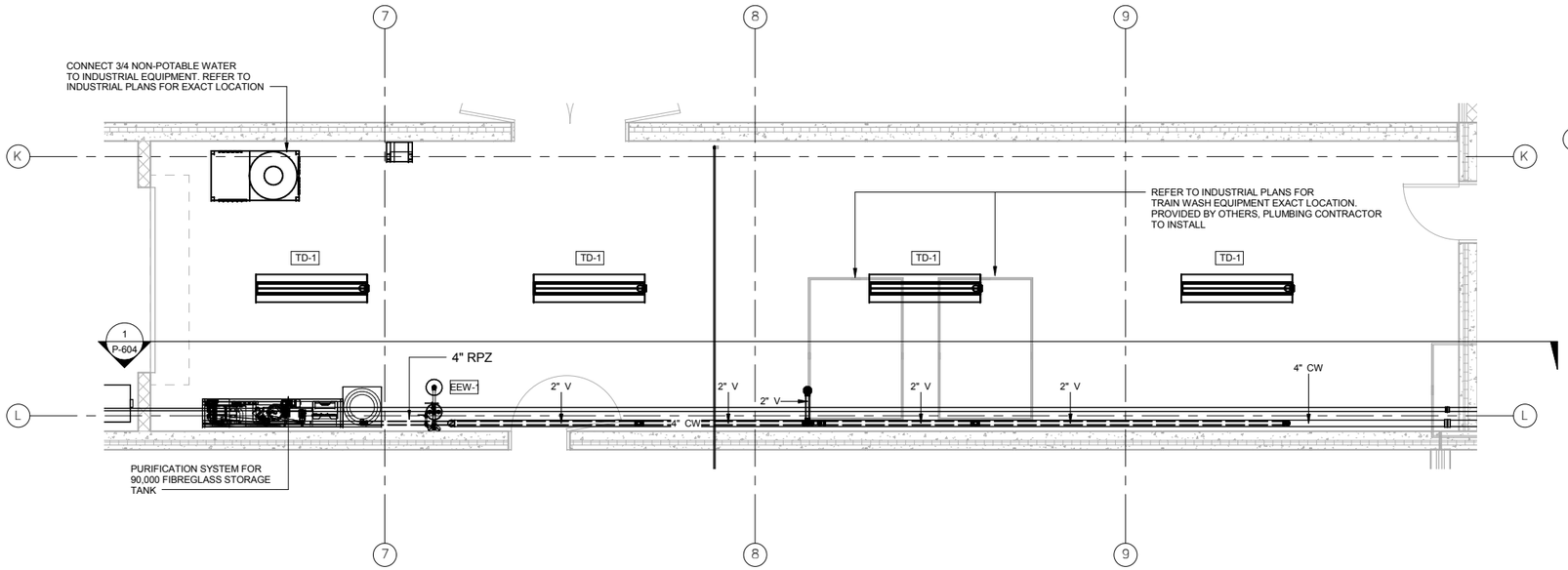
DISCIPLINE: PLUMBING

SHEET NAME: OMF-PLM-PLN

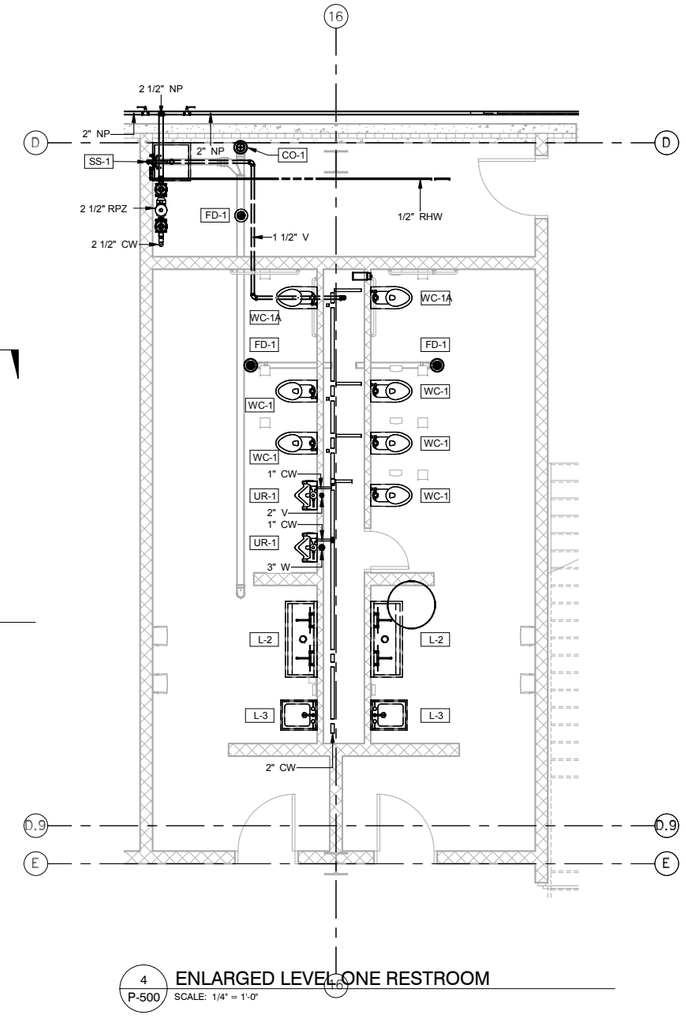
P-215K

SHEET 150 OF 263

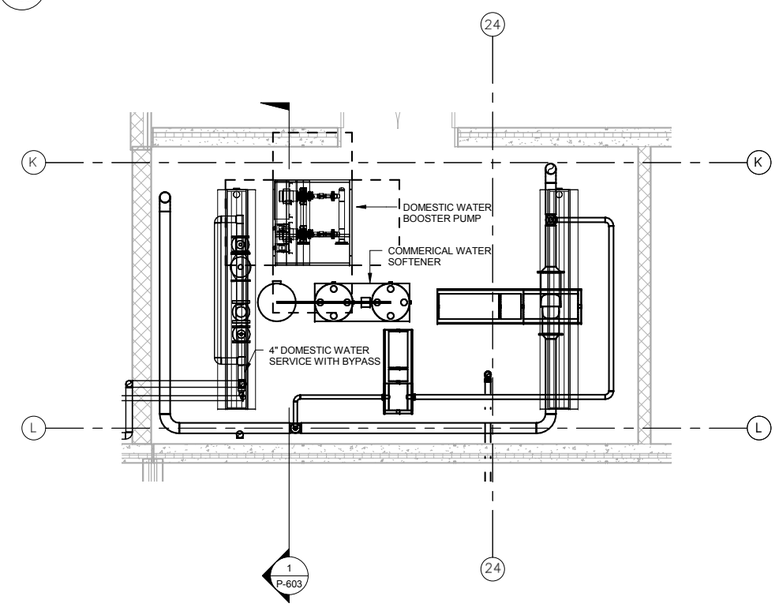
9/21/2015 12:08:35 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



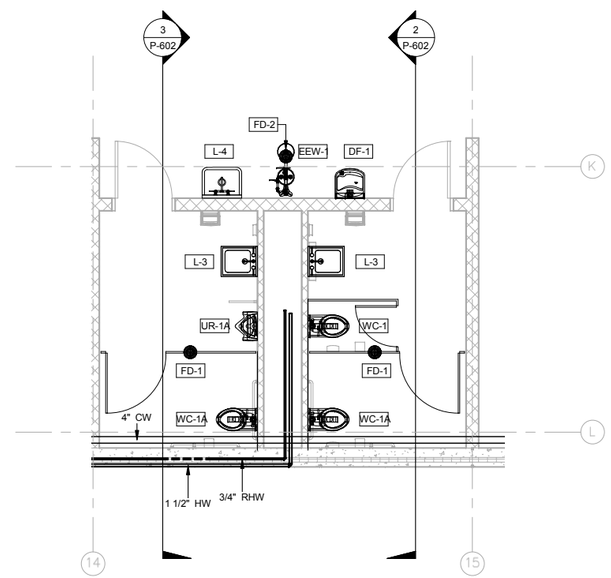
1 P-500 ENLARGED TRAINWASH EQUIPMENT ROOM
SCALE: 1/4" = 1'-0"



4 P-500 ENLARGED LEVEL ONE RESTROOM
SCALE: 1/4" = 1'-0"



3 P-500 ENLARGED WATER SERVICE
SCALE: 1/4" = 1'-0"



2 P-500 ENLARGED MAINTENACE AREA RESTROOM
SCALE: 1/4" = 1'-0"

0 4' 8' 16'
HORIZONTAL SCALE IN FEET

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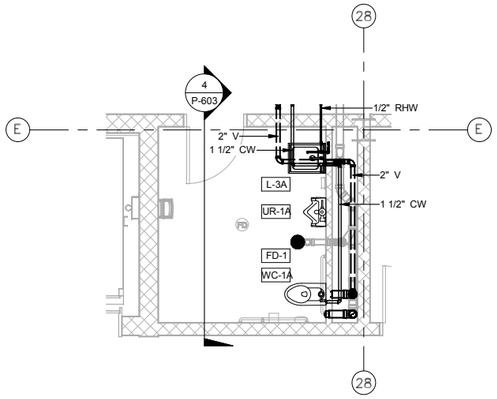
OPERATIONS & MAINTENANCE FACILITY -V2B PLUMBING

ENLARGED PLUMBING PLANS 1

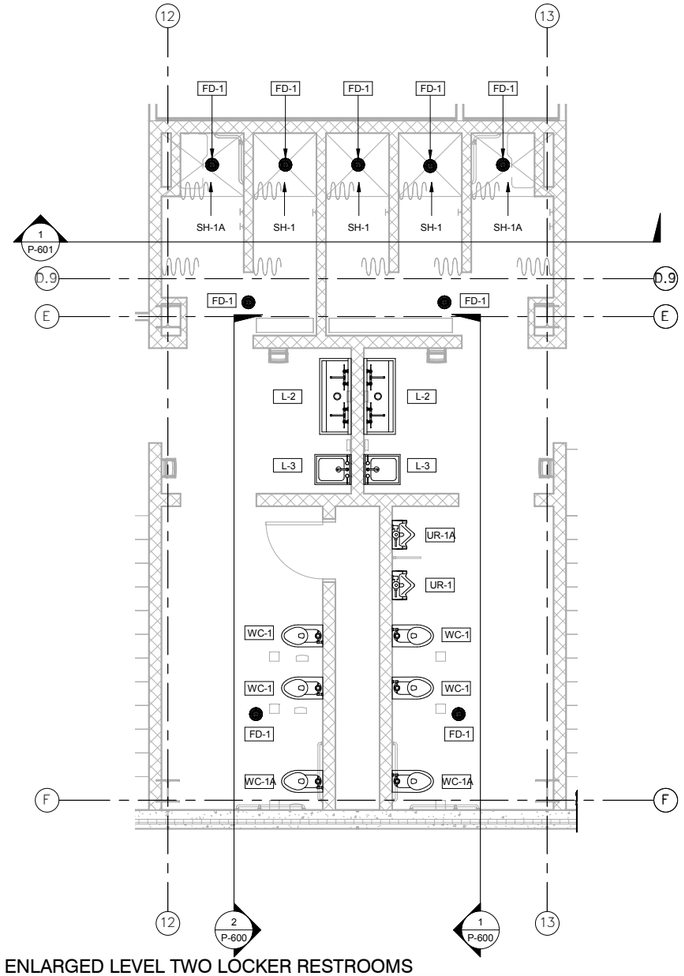
DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-500

SHEET 151 OF 263

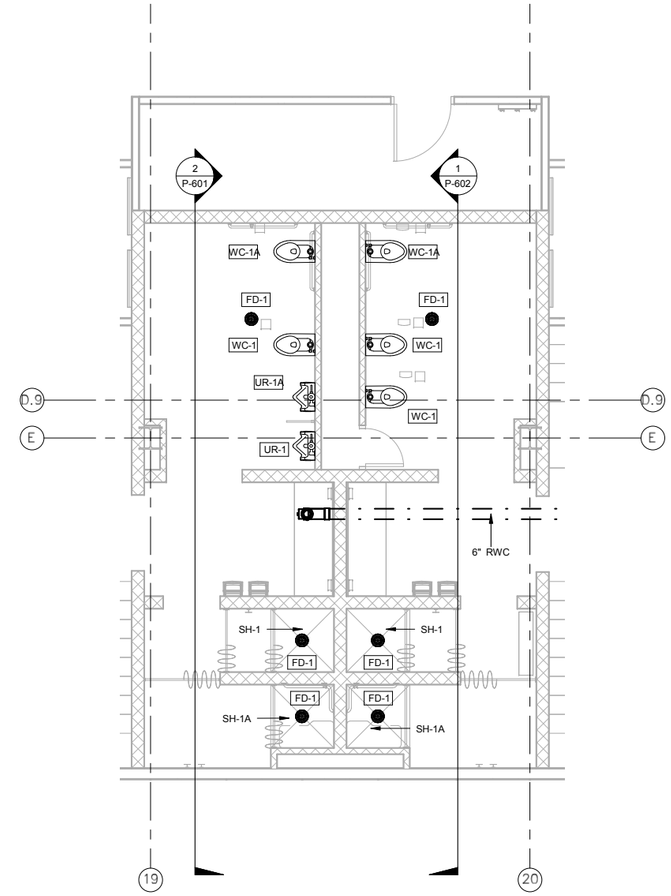
9/21/2015 12:08:43 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



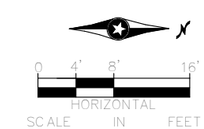
1 P-501 ENLARGED DOCK RESTROOM
SCALE: 1/4" = 1'-0"



2 P-501 ENLARGED LEVEL TWO LOCKER RESTROOMS
SCALE: 1/4" = 1'-0"



3 P-501 ENLARGED LEVEL TWO DRIVERS RESTROOM
SCALE: 1/4" = 1'-0"



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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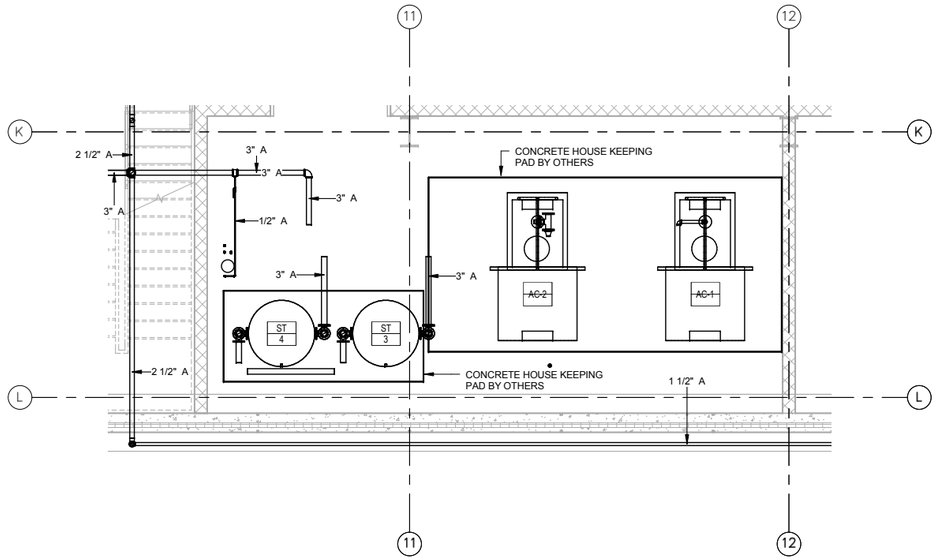
OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING

ENLARGED PLUMBING PLANS 2

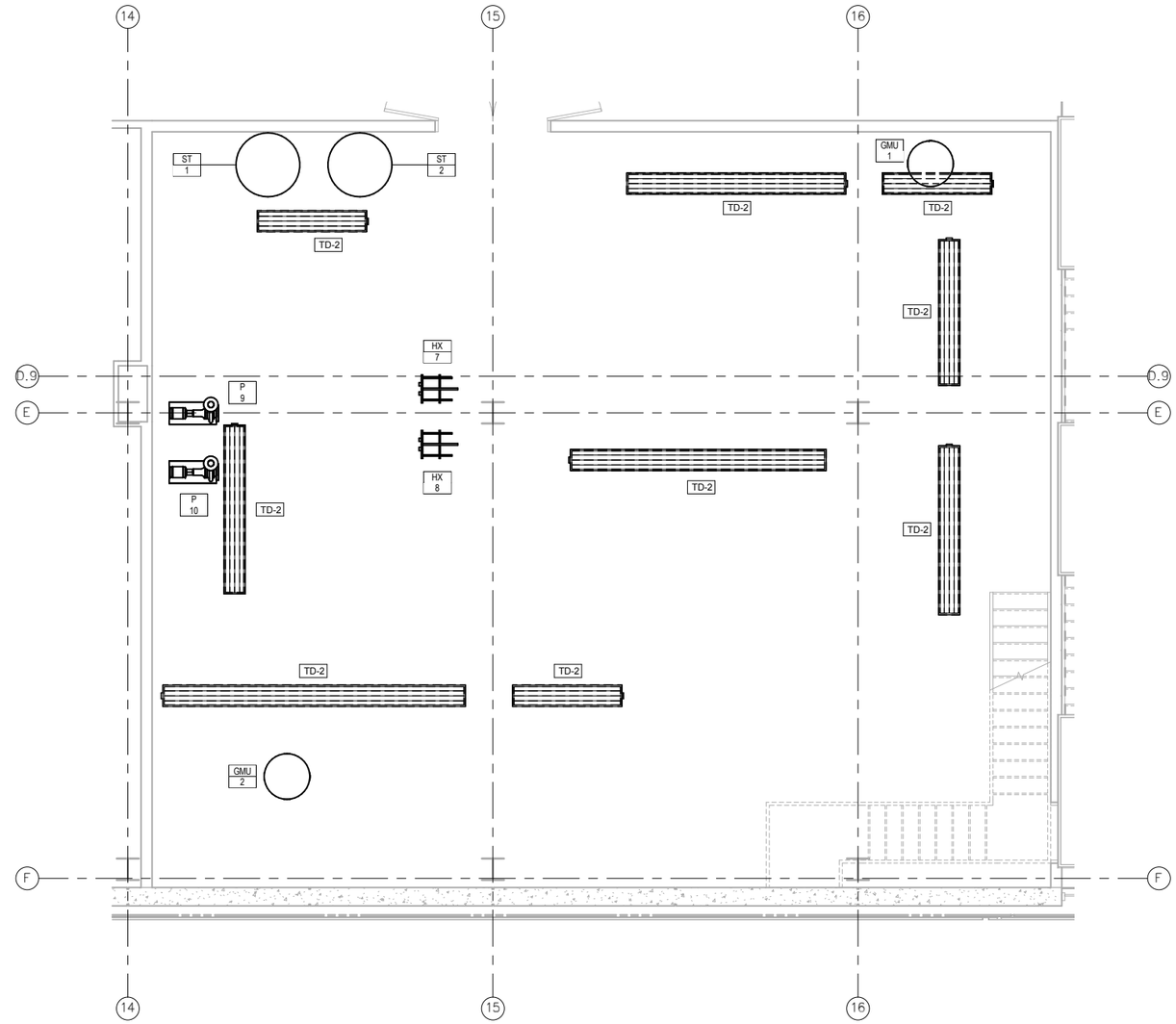
DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-501

SHEET 152 OF 263

9/21/2015 12:08:47 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt



1 P-502 ENLARGED AIR COMPRESSOR ROOM
SCALE: 1/4" = 1'-0"



2 P-502 ENLARGED LEVEL TWO MECHANICAL ROOM
SCALE: 1/4" = 1'-0"

0 4' 8' 16'
HORIZONTAL SCALE IN FEET

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SOUTHWEST

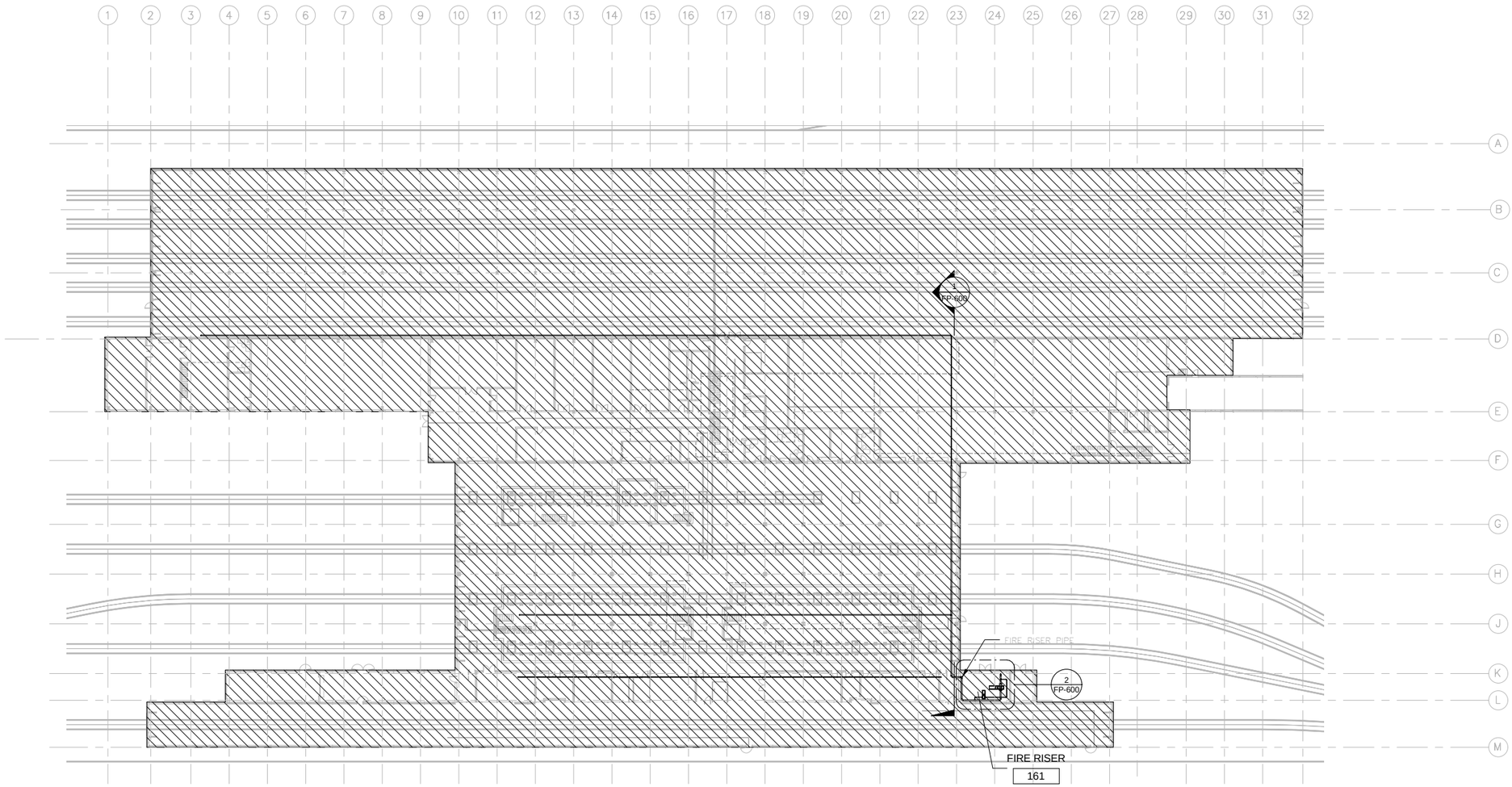
OPERATIONS & MAINTENANCE FACILITY -V2B
PLUMBING

ENLARGED PLUMBING PLANS 3

DISCIPLINE: PLUMBING
SHEET NAME: OMF-PLM-PLN
P-502

SHEET 153 OF 263

9/21/2015 12:08:50 PM C:\Users\lisa\Documents\OMF_Plumb_lisa.rvt

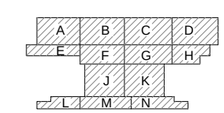


MEDIUM HAZARD STORAGE

GENERAL NOTES

1. CONTRACTOR SHALL DESIGN/BUILD A COMPLETE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 AND MINNESOTA BUILDING CODE 2015 WITH ALL REQUIRED FIRE ALARM SYSTEM SUPERVISORY SWITCHES, SENSORS AND FIRE DEPARTMENT CONNECTIONS. THE SYSTEM SHALL PROVIDE COVERAGE FOR THE ENTIRE BUILDING, INCLUDING THE CEILING SPACE AREA, ALL MATERIAL, HANGER COMPONENTS AND INSTALLATION METHODS SHALL BE IN COMPLIANCE WITH NFPA 13. TESTING STATIONS SHALL BE INSTALLED AT THE END OF EACH SPRINKLER RISER, WITH DISCHARGE PIPING INSTALLED THROUGH THE WALLS. THE TEST VALVES SHALL BE INSTALLED AT THE END OF EACH RISER IN THE SUSPENDED CEILING.
2. CONTRACTOR SHALL DETERMINE VOLUME AND PRESSURE OF INCOMING WATER SUPPLY FROM WATER FLOW TEST DATA AND THEN DESIGN THE SYSTEM TO NFPA 13 AND MINNESOTA BUILDING CODE 2015 LIGHT HAZARD AND MODERATE HAZARD REQUIREMENTS.

1 / FP-110 OVERALL LEVEL ONE FIRE PROTECTION PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

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SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY-V2B FIRE PROTECTION

LEVEL ONE OVERALL PLAN

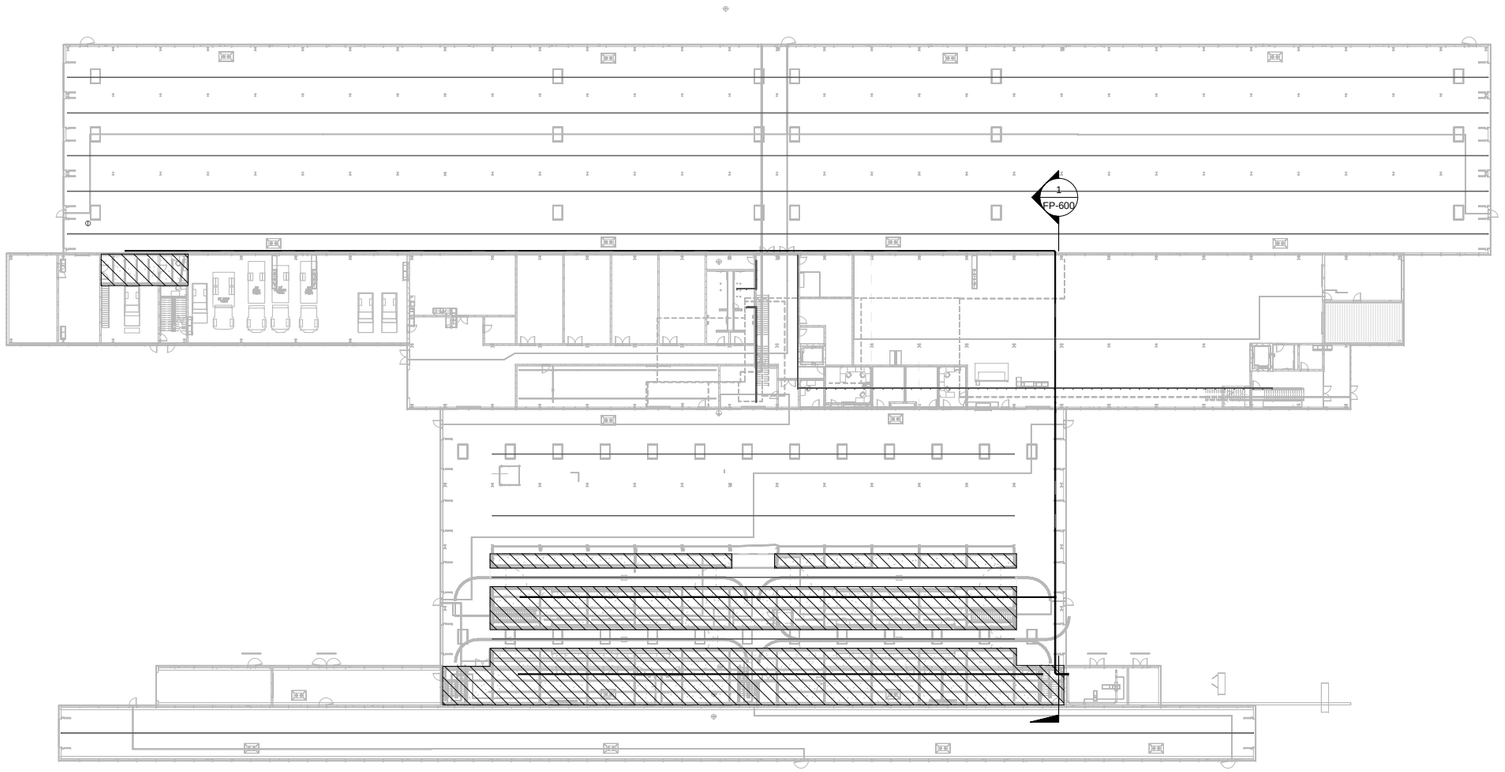
DISCIPLINE: FIRE PROTECTION

SHEET NAME: OMF-FP-PLN

FP-110

SHEET 154 OF 263

9/22/2015 11:24:00 AM C:\Users\stevensj\Documents\OMF_FIREPROTECTION_stevensj.rvt



MEDIUM HAZARD STORAGE

GENERAL NOTES

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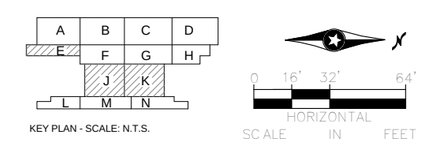
1 / FP-115 OVERALL MEZZANINE FIRE PROTECTION PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

60% SUBMISSION - 09/28/15

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SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY-V2B FIRE PROTECTION

MEZZANINE LEVEL OVERALL PLAN

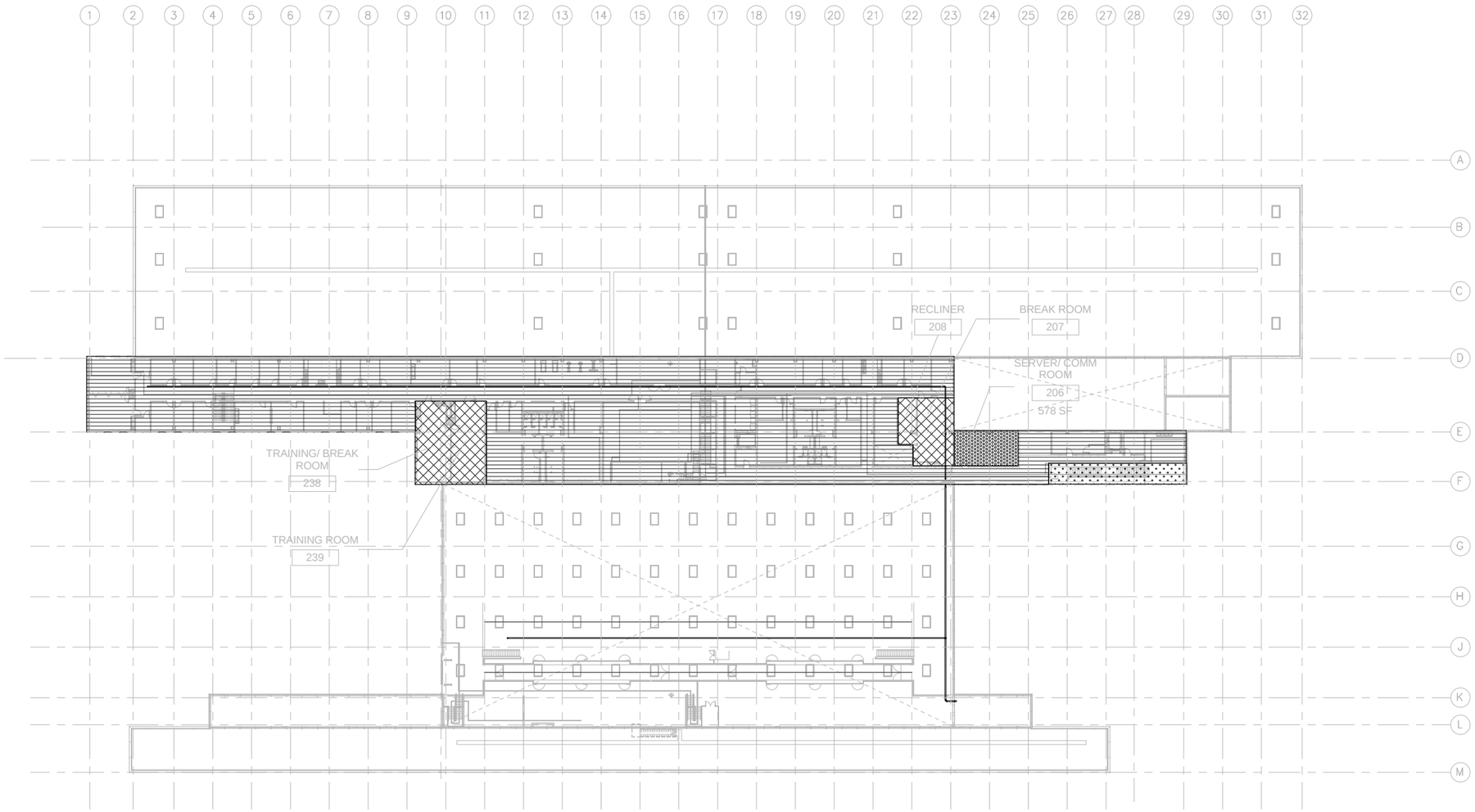
DISCIPLINE: FIRE PROTECTION

SHEET NAME: OMF-FP-PLN

FP-115

SHEET 155 OF 263

9/22/2015 11:24:05 AM C:\Users\stevensj\Documents\OMF_FIREPROTECTION_stevensj.rvt



GENERAL NOTES

1. CONTRACTOR SHALL DESIGN/BUILD A COMPLETE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 AND MINNESOTA BUILDING CODE 2015 WITH ALL REQUIRED FIRE ALARM SYSTEM SUPERVISORY SWITCHES, SENSORS AND FIRE DEPARTMENT CONNECTIONS. THE SYSTEM SHALL PROVIDE COVERAGE FOR THE ENTIRE BUILDING, INCLUDING THE CEILING SPACE AREA, ALL MATERIAL, HANGER COMPONENTS AND INSTALLATION METHODS SHALL BE IN COMPLIANCE WITH NFPA 13. TESTING STATIONS SHALL BE INSTALLED AT THE END OF EACH SPRINKLER RISER, WITH DISCHARGE PIPING INSTALLED THROUGH THE WALLS. THE TEST VALVES SHALL BE INSTALLED AT THE END OF EACH RISER IN THE SUSPENDED CEILING.
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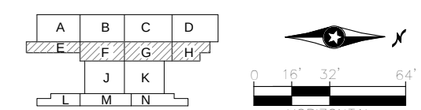
LIGHT HAZARD

MODERATE HAZARD STORAGE

LIGHT HAZARD DATA CENTER, HYBRID SYSTEM

SPECIAL SPACE LIGHT HAZARD

1 / FP-120 LEVEL TWO OVERALL FIRE PROTECTION PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY-V2B FIRE PROTECTION

LEVEL TWO OVERALL PLAN

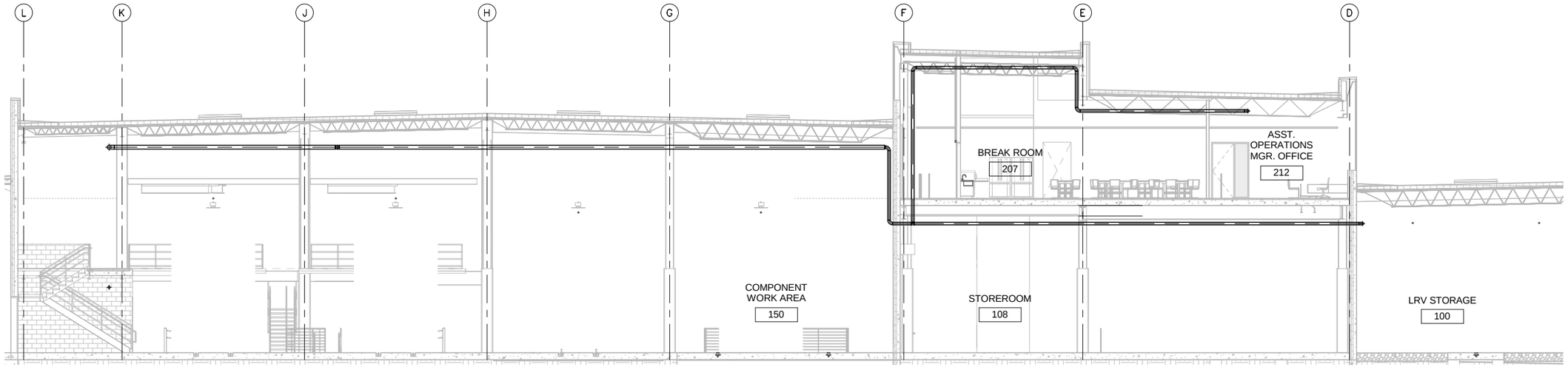
DISCIPLINE: FIRE PROTECTION

SHEET NAME: OMF-FP-PLN

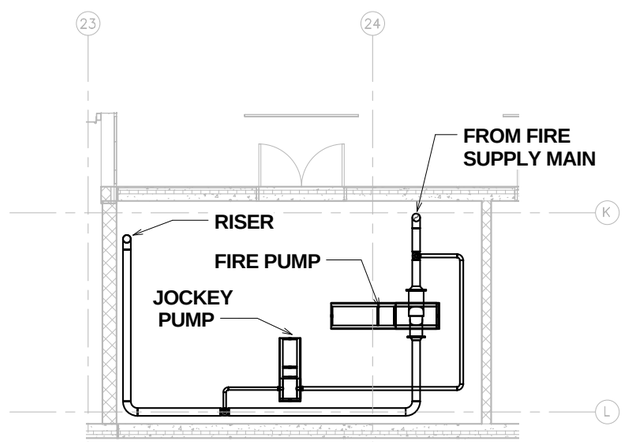
FP-120

SHEET 156 OF 263

9/22/2015 11:24:07 AM C:\Users\stevensj\Documents\OMF_FIREPROTECTION_stevensj.rvt



1 FP-600 FIRE MAIN SECTION
SCALE: 1/8" = 1'-0"
REF. SHEET: FP-110 / REF. DETAIL: 1



2 FP-600 FIRE PROTECTION ENLARGED PLAN
SCALE: 3/16" = 1'-0"
REF. SHEET: FP-110 / REF. DETAIL: 1

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SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY-V2B
FIRE PROTECTION

SECTIONS AND DETAILS

DISCIPLINE: FIRE PROTECTION

SHEET NAME: OMF-FP-SCT

FP-600

SHEET 157 OF 263

9/22/2015 11:24:09 AM C:\Users\stevensj\Documents\OMF_FIREPROTECTION_stevensj.rvt

ELECTRICAL SHEET INDEX

ELECTRICAL SHEET INDEX

ELECTRICAL SHEET INDEX

Sheet Number	Sheet Name

ELECTRICAL ABBREVIATIONS

AC	ALTERNATING CURRENT
ACC	ACCESS CONTROLLER
ACS	ACCESS CONTROL SYSTEM READER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
A,AMP	AMPERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CAM	CAMERA
CAR	COUNCIL AUTHORIZED REPRESENTATIVE
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CON	CONSOLE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DI	DOOR INTERLOCK
DIST	DISTRIBUTION
DN	DOWN
DP	DISTRIBUTION PANEL
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMERGENCY
FBO	FURNISHED BY OTHERS
FO	FIBER OPTIC
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
G,GRD	GROUND
GF	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HPB	HEATER PUSH BUTTON
HT	HEIGHT
HTR	HEATER
HZ	HERTZ
INST	INSTANTANEOUS
JBX	JUNCTION BOX
LA	LIGHTNING ARRESTER
LCP	LOCAL CONTROL PANEL
LGT	LIGHT
LP	LIGHTING PANEL
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MH	MANHOLE
MS	MOTION SENSOR
MTG	MOUNTING
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OCS	OVERHEAD CANTENARY SYSTEM
OL	OVERLOAD
PH	PHASE
P,POL	POLE
PP	POWER PANEL

ELECTRICAL ABBREVIATIONS

PR	PAIR
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
REC	RECEPTACLE
RRE	REMOTE READER ELECTRONICS
RM	ROOM
SC	SURGE CAPACITOR
SEC	SECONDS OR SECONDARY
SH	SHIELDED OR SHEET
SN	SOLID NEUTRAL
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
TC	TIME DELAY ON CLOSING
TEL	TELEPHONE
TO	TIME DELAY ON OPENING
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TW	TWISTED
TYP	TYPICAL
UG	UNDERGROUND
V	VOLTS
W	WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

NOTES

1. HOMERUNS SHOWN CONCEALED SHALL BE INDICATIVE OF ENTIRE CIRCUIT INSTALLATION. THE SAME SHALL APPLY FOR HOME- RUNS SHOWN EXPOSED. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.

2. CONDUIT AND WIRE (NOT SHOWN) FOR FIXTURES, SWITCHES AND/OR RECEPTACLES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AND SHALL BE:

   2.1. 3/4" (MIN.) CONDUIT RUN
   2.2. EXPOSED IN UNFINISHED AREAS.
   2.3. CONCEALED ABOVE HUNG CEILINGS AND IN WALLS IN FINISHED AREAS.
   2.4. NO. 12 COPPER (MIN.) TYPE "THWN/THHN" NO. OF WIRES REQUIRED.

3. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE CAR MAY BE MADE BY THE CONTRACTOR TO ACCOMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

4. SWITCHES SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED, EXCEPT RECEPTACLES IN OFFICES OR AREAS WITH HUNG CEILINGS, WHICH SHALL BE MOUNTED 1'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

ABBREVIATIONS & INDEX

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-GEN

E001

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
FRAME TRIP	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.
*	*	COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: * FVR - FULL VOLTAGE REVERSING RVNR - REDUCED VOLTAGE NON-REVERSING 2S1W - TWO SPEED, ONE WINDING 2S2W - TWO SPEED, TWO WINDING SS - SOLID STATE STARTER
*	*	NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE AMPERE RATING NOTED IF OTHER THAN 30A
*	* F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, AMPERE RATING AND FUSE SIZE AS NOTED AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING EXAMPLE 15
	P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE
480V TO 120/208Y 30 KVA K-*	T	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED. UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 13. ALL OTHER DRY TYPE TRANSFORMERS SHALL HAVE A K-4 RATING. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING
A TO 5 *	—	CURRENT TRANSFORMER * QUANTITY A = PRIMARY AMPERES
V TO 120 *	—	POTENTIAL TRANSFORMER * QUANTITY V = PRIMARY VOLTAGE
	VFD	VARIABLE FREQUENCY DRIVE
100A MTS N S	—	MANUAL TRANSFER SWITCH NO.1 (MTS-1) "N" INDICATES NORMAL SOURCE "S" INDICATES STANDBY SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
5KW	E	UNIT HEATER - ELECTRIC HEATING COIL AND FAN
—	U	UNIT HEATER - STEAM OR WATER HEATING COIL AND FAN
5	M	MOTOR, NUMERAL INDICATES HORSEPOWER
*	—	SPECIAL CAPACITOR * SC - SURGE CAPACITOR PF - POWER FACTOR CORRECTION CAPACITOR
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
	—	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	—	CONDUCTORS ELECTRICALLY CONNECTED
DM	—	DAMPER MOTOR
*	—	PILOT LIGHT, COLOR AS NOTED R - RED G - GREEN B - BLUE W - WHITE A - AMBER
PTT * OR *	—	PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
LA	—	LIGHTNING ARRESTER
		GROUND OR GROUND ROD
30A	—	FUSE, AMPERE RATING AS NOTED
	—	CONTACT, NORMALLY OPEN (NO)
	—	CONTACT, NORMALLY CLOSED (NC)
CR #	—	CONTROL RELAY COIL, NUMBER AS INDICATED
TD	—	TIME DELAY RELAY RANGE AS NOTED, SETPOINT AS NOTED TDE-TIME DELAY AFTER ENERGIZATION-ON DELAY TDD-TIME DELAY AFTER DE-ENERGIZATION-OFF DELAY NOTC-NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED NCTO-NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED NOTO-NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED NCTO-NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
	TS OR T OR ■	TEMPERATURE SWITCH OR THERMOSTAT NORMALLY OPEN, CLOSES ON RISING TEMPERATURE NORMALLY OPEN, CLOSES ON DROPPING TEMPERATURE NORMALLY CLOSED, OPENS ON RISING TEMPERATURE NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE
	—	INDICATES LIMITS OF EQUIPMENT OR WIRING ENCLOSURE
—	*	FIELD INSTRUMENT, TAG NO. AS INDICATED LS - LEVEL SWITCH ZS - LIMIT SWITCH SV - SOLENOID VALVE MS - MOTION SENSOR
—	PB	PUSHBUTTON STATION

ONE LINE OR CONTROL DIAGRAM	DESCRIPTION
DAMP	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A DAMP LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
WET	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CORROSIVE	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR CORROSION RESISTANT CONSTRUCTION SUITABLE FOR USE IN A CORROSIVE LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

SYMBOLS 1 OF 2

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-GEN

E002

SHEET 159 OF 263

9/22/2015 10:08:27 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

SYMBOL	DESCRIPTION
A 3 *	LED, COMPACT FLUORESCENT OR H.I.D. TYPE LUMINAIRE "A" - LUMINAIRE TYPE "*" - CONTROL ZONE "3" - CIRCUIT NUMBER
A 3	LED OR FLUORESCENT TYPE LUMINAIRE, NOTATIONS SAME AS ABOVE
A 3 *	EMERGENCY LED OR FLUORESCENT TYPE LUMINAIRE, NOTATIONS SAME AS ABOVE
A 3 *	WALL OUTLET AND LED, COMPACT FLUORESCENT OR H.I.D. TYPE LUMINAIRE, NOTATIONS SAME AS ABOVE
A	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS "A" - LUMINAIRE TYPE
	CEILING MOUNTED EXIT SIGN
	WALL OUTLET EXIT SIGN. ARROW INDICATES DIRECTION OF EGRESS
E	REMOTE EMERGENCY CEILING LUMINAIRE
E	REMOTE EMERGENCY WALL LUMINAIRE
A 1	POLE MOUNTED LUMINAIRE "A" - LUMINAIRE TYPE "1" - CIRCUIT NUMBER
	BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR INSTALLED EXPOSED. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS
	BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR INSTALLED CONCEALED. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS
	BRANCH CIRCUIT CONDUIT INSTALLED EXPOSED TURNING UP. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	BRANCH CIRCUIT CONDUIT INSTALLED EXPOSED TURNING DOWN. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	BRANCH CIRCUIT CONDUIT INSTALLED CONCEALED TURNING UP. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	BRANCH CIRCUIT CONDUIT INSTALLED CONCEALED TURNING DOWN. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	CONDUIT STUBBED OUT AND CAPPED
2(3"C., 3#3/0 & 1#2 GRD.)	DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR.
	FLEXIBLE METAL CONDUIT "WHIP" FOR RECESSED LIGHTING FIXTURES AND LIQUID TIGHT MOTOR CONNECTIONS

SYMBOL	DESCRIPTION
1,3 LP-1	HOMERUN, CIRCUITS 1 AND 3 RUN TO PANEL LP-1
BU-1	HOMERUN TO EMERGENCY BATTERY UNIT BU-1
TM	HOMERUN TO TELEPHONE BACKBOARD
2-2/C#16TS	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CABLE TO CONSIST OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
2-3/C#16TS	SAME AS ABOVE EXCEPT CABLE TO CONSIST OF THREE NO. 16 AWG CONDUCTORS TWISTED, SHIELDED AND COVERED WITH AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
3(4"C)	THREE 4-INCH CONDUITS
	"T" FITTING IN CONDUIT
S b	SINGLE POLE SWITCH "b" INDICATES SWITCHLEG SHALL CONTROL LIGHT FIXTURES WITH "b" DESIGNATION
S M	SINGLE POLE, DOUBLE THROW MOMENTARY CONTACT SWITCH, CENTER OFF
S P	SINGLE POLE SWITCH AND PILOT LIGHT
D	DIMMER LIGHTING CONTROL SWITCH
C	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED
TM	TIME SWITCH
LP-** OR LP-**	LIGHTING PANELBOARD
DP-** OR DP-**	DISTRIBUTION PANELBOARD
* 4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W * C - MOUNTED ABOVE COUNTER-TOP GF - GROUND FAULT INTERRUPTER TYPE WP - WEATHERPROOF T - TRANSIENT VOLTAGE SURGE SUPPRESSOR 4 - CIRCUIT NUMBER
*	SINGLE RECEPTACLE, 480V, 3P, 4W A - 30A B - 60A
	SINGLE RECEPTACLE, 20A, 120V, 2P, 3W
	DOUBLE GANG DUPLEX 120V RECEPTACLE
	MULTI-OUTLET ASSEMBLY
	DOUBLE GANG DUPLEX RECEPTACLE AND FLOOR BOX

SYMBOL	DESCRIPTION
J J	JUNCTION BOX
P	PULL BOX
# OS *	OCCUPANCY SENSOR, CEILING MOUNTED # - SEQUENTIAL NUMBER, * - CONTROL ZONE
OS	OCCUPANCY SENSOR, WALL MOUNTED
PC	PHOTOCELL
HH	HANDHOLE
FIRE ALARM SYSTEMS	
R/C 200	FIRE ALARM HEAT DETECTOR 135°F FIXED TEMPERATURE UNLESS OTHERWISE NOTED. "200" DENOTES 200°F TYPE, "R" DENOTES FIXED TEMPERATURE RATE-OF-RISE TYPE.
S I	FIRE ALARM SMOKE DETECTOR PHOTOCELL TYPE UNLESS OTHERWISE NOTED. "I" DENOTES IONIZATION TYPE.
S	FIRE ALARM DUCT SMOKE DETECTOR
FACP	FIRE ALARM CONTROL PANEL
FA	REMOTE FIRE ALARM ANNUNCIATOR PANEL
F	FIRE ALARM MASTER BOX
F	FIRE ALARM SPEAKER, MOUNT UP 7'-6".
* F	FIRE ALARM STROBE, MOUNT UP 6'-8". * CANDELA
* F	FIRE ALARM SPEAKER AND STROBE LIGHT COMBINATION, MOUNT UP 6'-8". * CANDELA
* F	FIRE ALARM SPEAKER AND STROBE LIGHT COMBINATION, CEILING MOUNTED. * CANDELA
	FIRE ALARM MANUAL PULL STATION, MOUNT UP 4'-0".
F	FIRE ALARM BELL
S FB	WEATHERPROOF HI-INTENSITY FIRE ALARM STROBE LIGHT
FS	FLOW SWITCH
PS	PRESSURE SWITCH
VSS	VALVE SUPERVISORY SWITCH

SYMBOL	DESCRIPTION
COMMUNICATIONS SYSTEMS	
K	TELEPHONE HANDSET, DESK TYPE K = KEY SYSTEM
K	TELEPHONE HANDSET, WALL TYPE K = KEY SYSTEM
	PAGE/PARTY TELEPHONE HANDSET, DESK TYPE
	PAGE/PARTY TELEPHONE HANDSET, WALL TYPE (MOUNT UP 4'-6")
S	PAGING SPEAKER, WALL MOUNTED HORN TYPE
S	PAGING SPEAKER, WALL MOUNTED, BI-DIRECTIONAL HORN TYPE
S	PAGING SPEAKER, FLUSH MOUNTED CEILING TYPE
S	PAGING SPEAKER, SURFACE MOUNTED CEILING TYPE
S	PAGING SPEAKER, SURFACE MOUNTED WALL TYPE
VC	REMOTE WALL MOUNTED VOLUME CONTROL FOR CEILING SPEAKER (MOUNT UP 5'-0")
A	PAGING SPEAKER AMPLIFIER ASSEMBLY
TM	TELEPHONE CABINET OR BACKBOARD AS NOTED
P	DATA INPUT/OUTPUT CABLE OUTLET. "P" - DENOTES PROCESS COMPUTER SYSTEM
4	QUAD DATA INPUT/OUTPUT RECEPTACLE
	VOICE/DATA RECEPTACLE AND FLOOR BOX
SECURITY SYSTEMS	
SA	SECURITY ALARM PANEL
DS	SECURITY ALARM DOOR SWITCH
K	SECURITY ALARM KEY PAD
R	SECURITY SYSTEM CARD ACCESS READER
	SECURITY ALARM MOTION DETECTOR
CCTV	CLOSED CIRCUIT TV CAMERA
PTZ	PAN, TILT, ZOOM CAMERA

-
PANEL DIVISION LINES

- DESIGNATES PANEL SERVING DEVICES IN AREA

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

SYMBOLS 2 OF 2

DISCIPLINE: ELECTRICAL

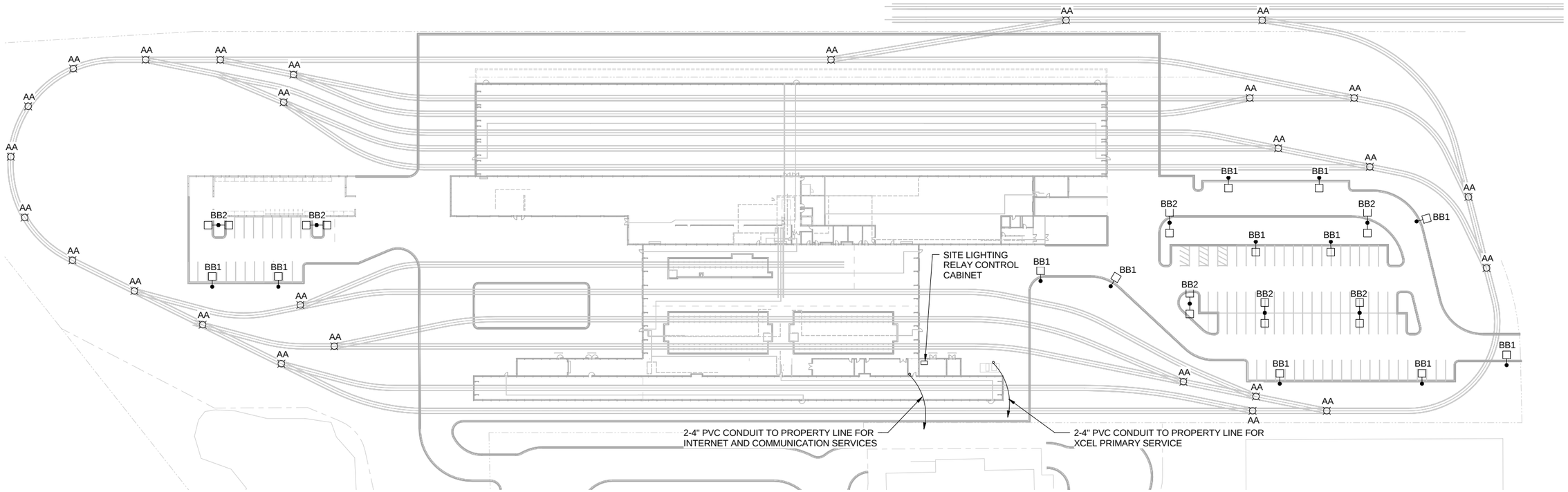
SHEET NAME: OMF-ELE-GEN

E003

SHEET 160 OF 263

GENERAL NOTES:

1. BRANCH CIRCUIT WIRING FOR PARKING LOT LUMINAIRES SHALL BE #8. WIRING SHALL BE RUN IN 1-1/2" PVC CONDUIT.
2. BRANCH CIRCUIT WIRING FOR OCS POLE TOP LUMINAIRES SHALL BE BE #6, 1/C 2.4KV MV-90 CABLE. WIRING SHALL BE RUN IN 2" PVC CONDUIT.
3. ALL SITE LIGHTING BRANCH CIRCUITS SHALL BE ROUTED TO THE LIGHTING CONTROL RELAY CABINET IN ROOM 148.



1 E051 SITE LIGHTING
SCALE: 1" = 50'-0"

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SITE LIGHTING PLAN

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-SIT

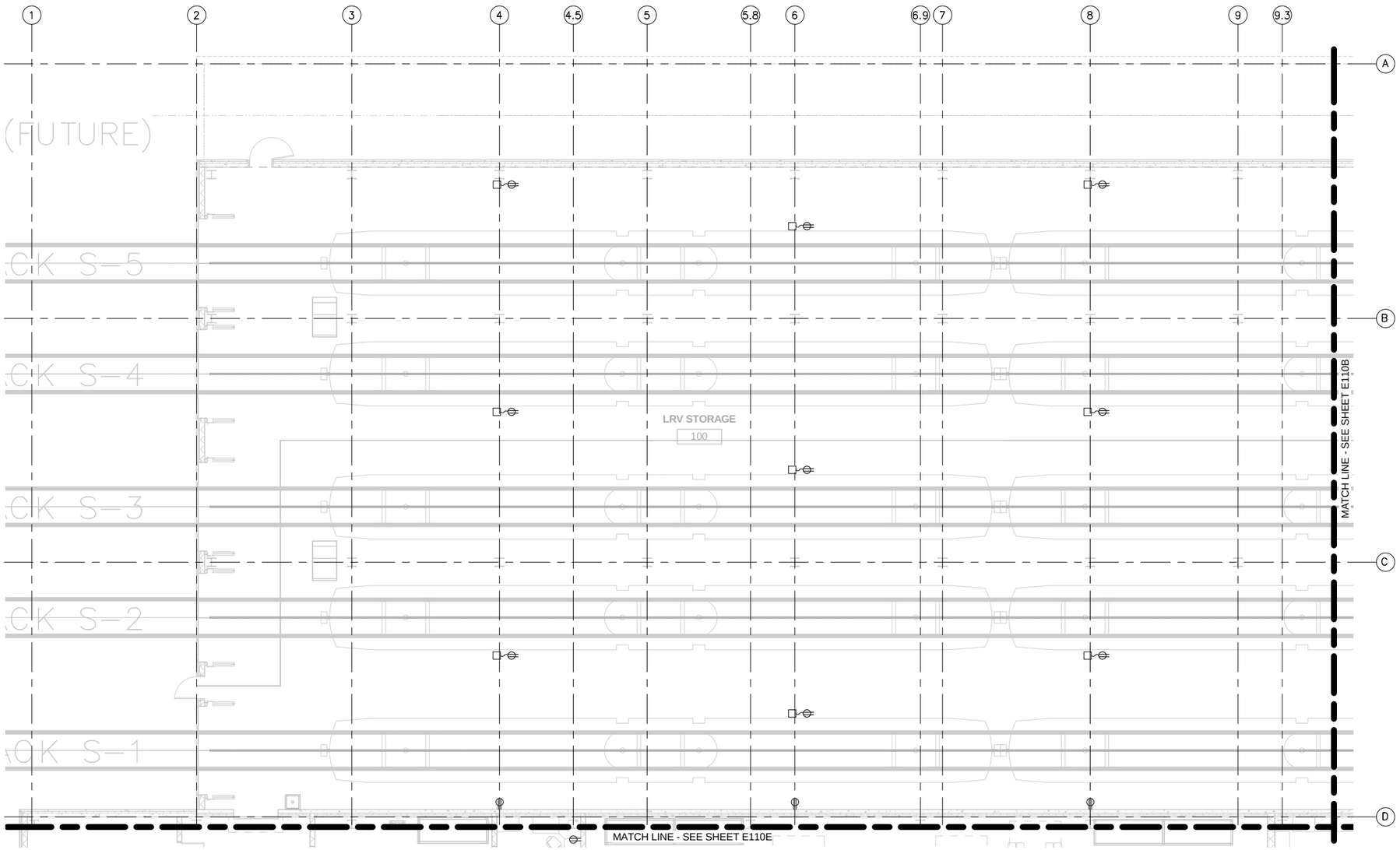
E051

SHEET 161 OF 263

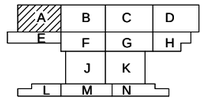
9/22/2015 10:08:34 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-117 UNLESS NOTED OTHERWISE.
2. SEE INDUSTRIAL EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR.



1 E110A POWER PLAN - AREA A
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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POWER - LEVEL ONE - AREA A

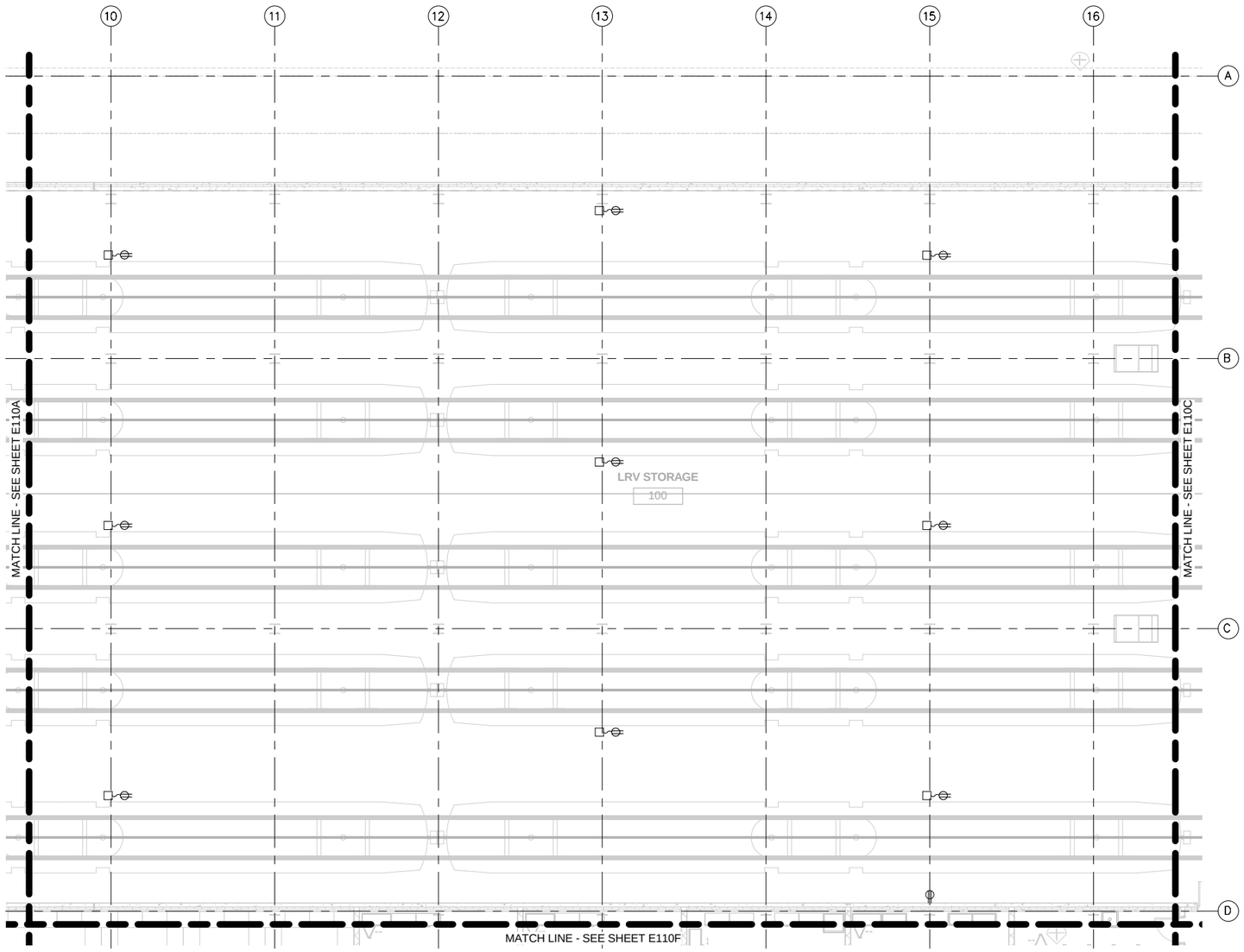
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E110A

SHEET 162 OF 263

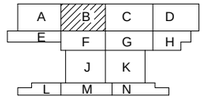
9/22/2015 10:08:35 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-117 UNLESS NOTED OTHERWISE.
2. SEE INDUSTRIAL EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR.



1 E110B POWER PLAN - AREA B
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - LEVEL ONE - AREA B

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

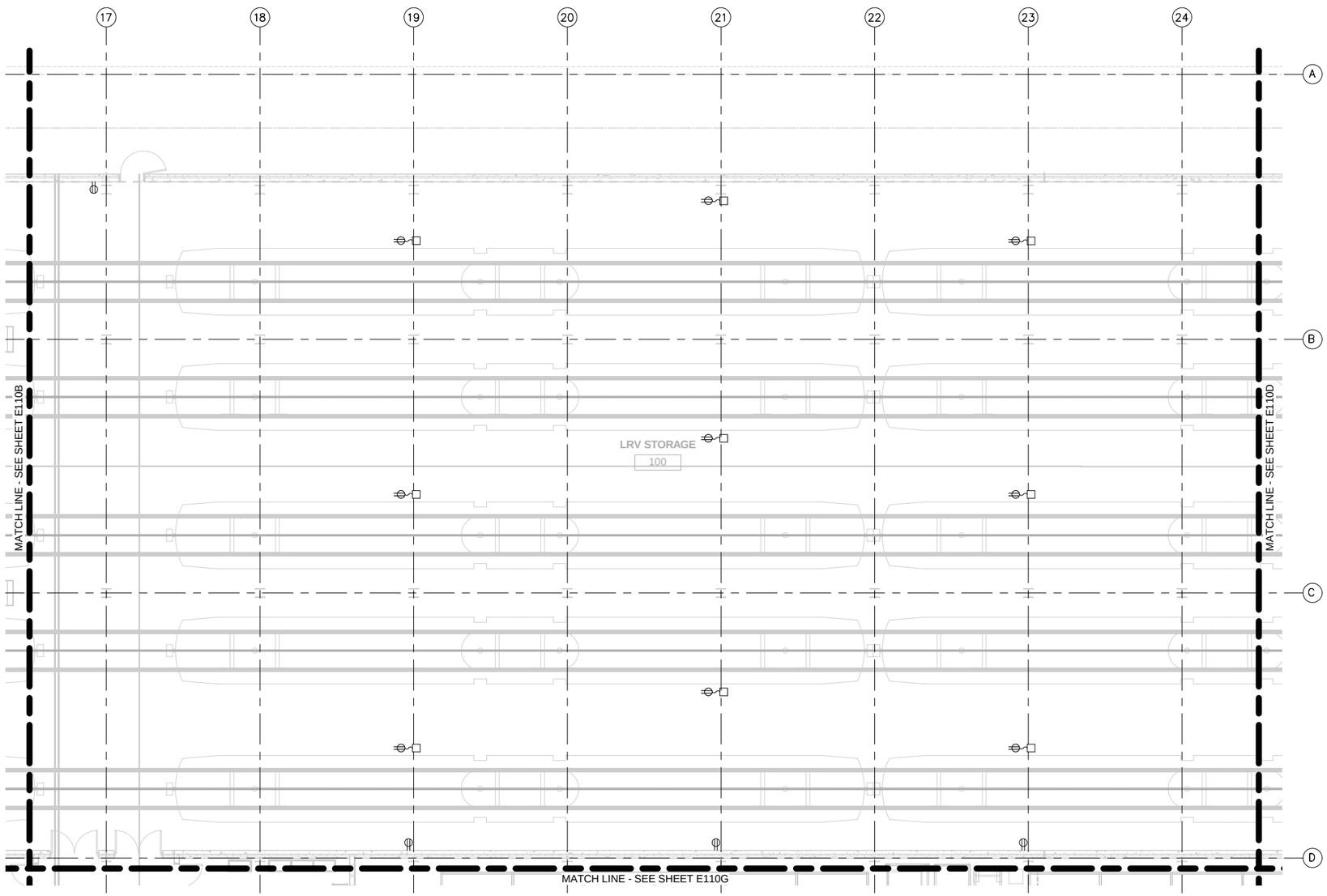
E110B

SHEET 163 OF 263

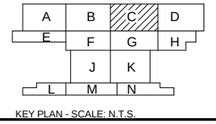
9/22/2015 10:08:37 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

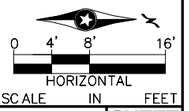
1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-126 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR



1 E110C POWER PLAN - AREA C
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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POWER - LEVEL ONE - AREA C

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

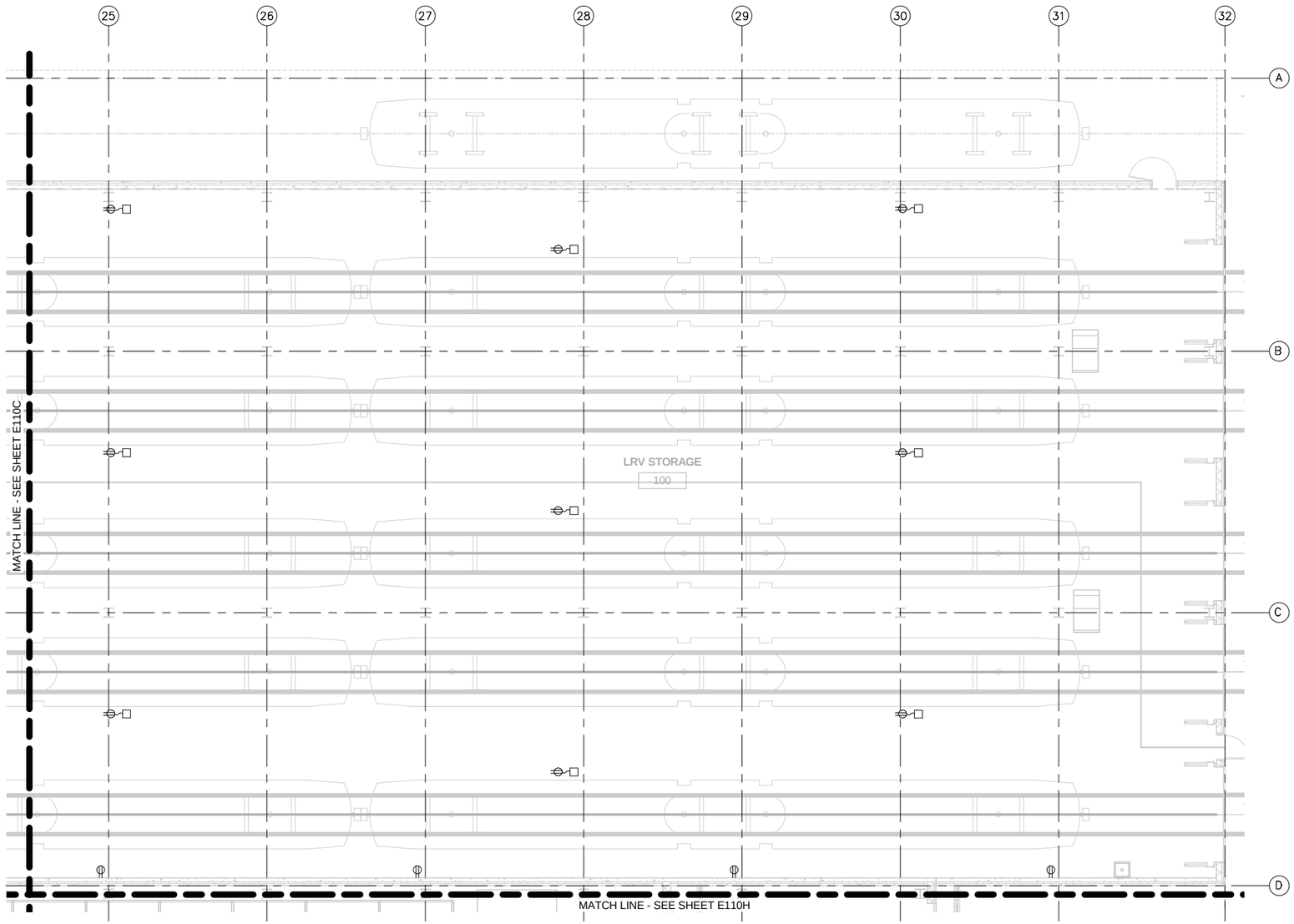
E110C

SHEET 164 OF 263

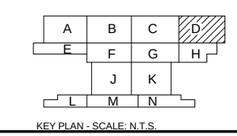
9/22/2015 10:08:39 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

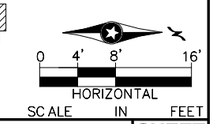
1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-126 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR



1 E110D POWER PLAN - AREA D
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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ELECTRICAL

POWER - LEVEL ONE - AREA D

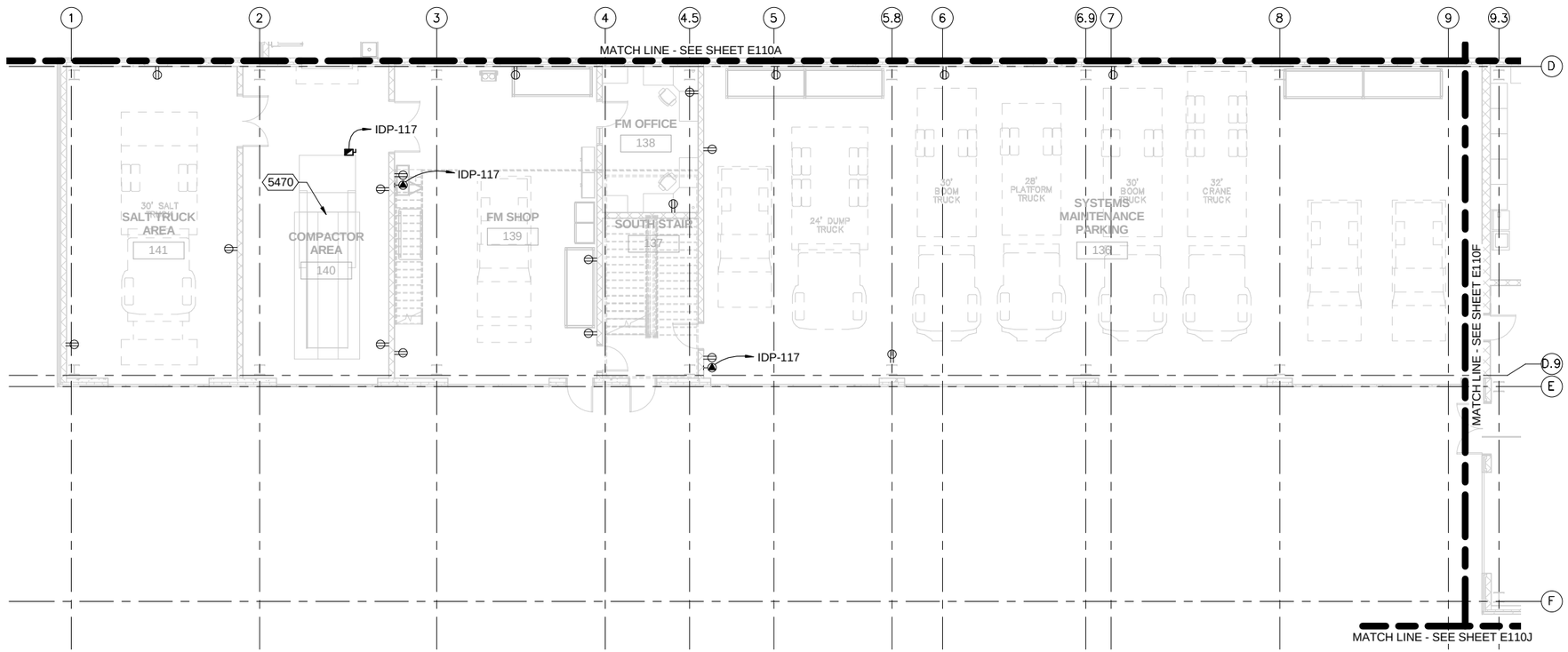
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E110D

SHEET 165 OF 263

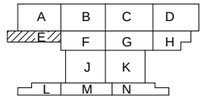
9/22/2015 10:08:42 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-117 UNLESS NOTED OTHERWISE.
2. SEE INDUSTRIAL EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR.



1 E110E POWER PLAN - AREA E
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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POWER - LEVEL ONE - AREA E

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E110E

SHEET 166 OF 263

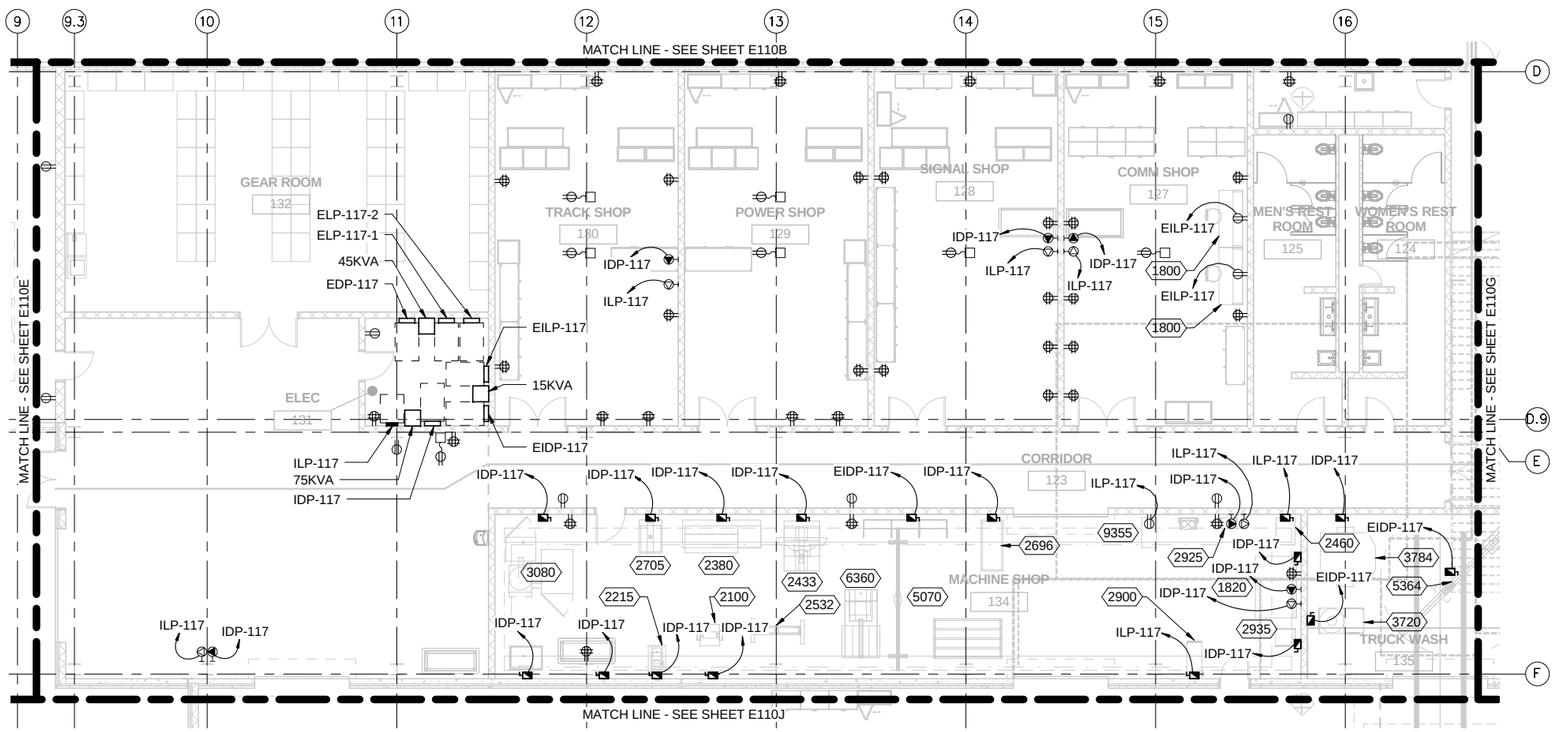
9/22/2015 10:08:45 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

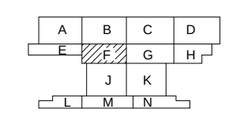
1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-117 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR

KEYNOTES:

1. SEE FLOOR MOUNTED DISCONNECT DETAIL ON SHEET E-XXX.



1 E110F POWER PLAN - AREA F
SCALE: 1/8" = 1'-0"



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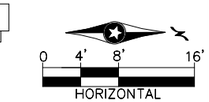

SCALE IN FEET

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - LEVEL ONE - AREA F

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

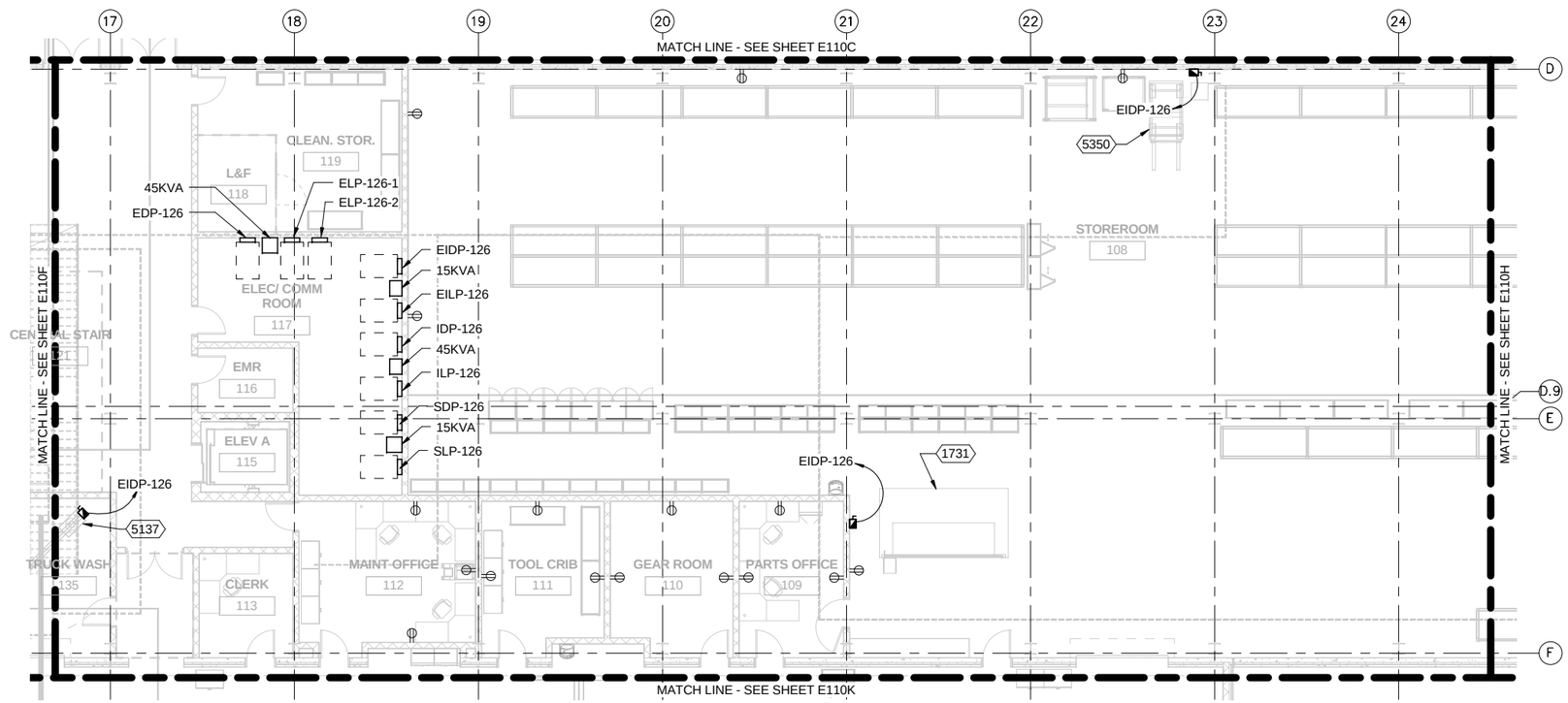
E110F

SHEET 167 OF 263

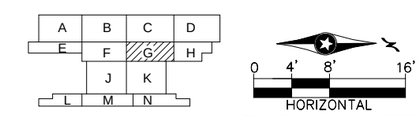
9/22/2015 10:08:51 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-126 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR



1 E110G POWER PLAN - AREA G
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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ELECTRICAL

POWER - LEVEL ONE - AREA G

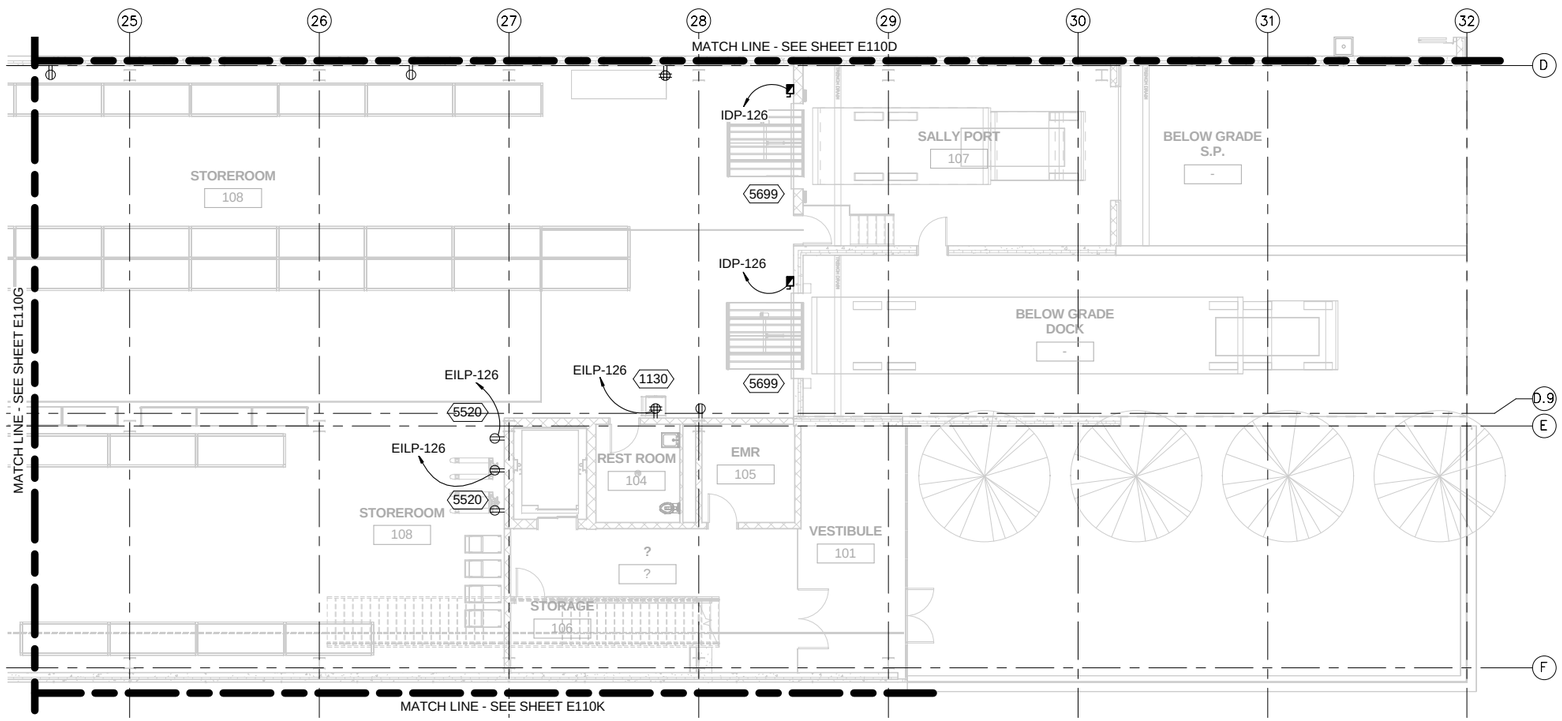
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E110G

SHEET 168 OF 263

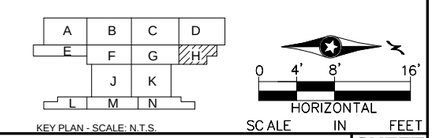
9/22/2015 10:08:56 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-126 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR



1 POWER PLAN - AREA H
E110H SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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POWER - LEVEL ONE - AREA H

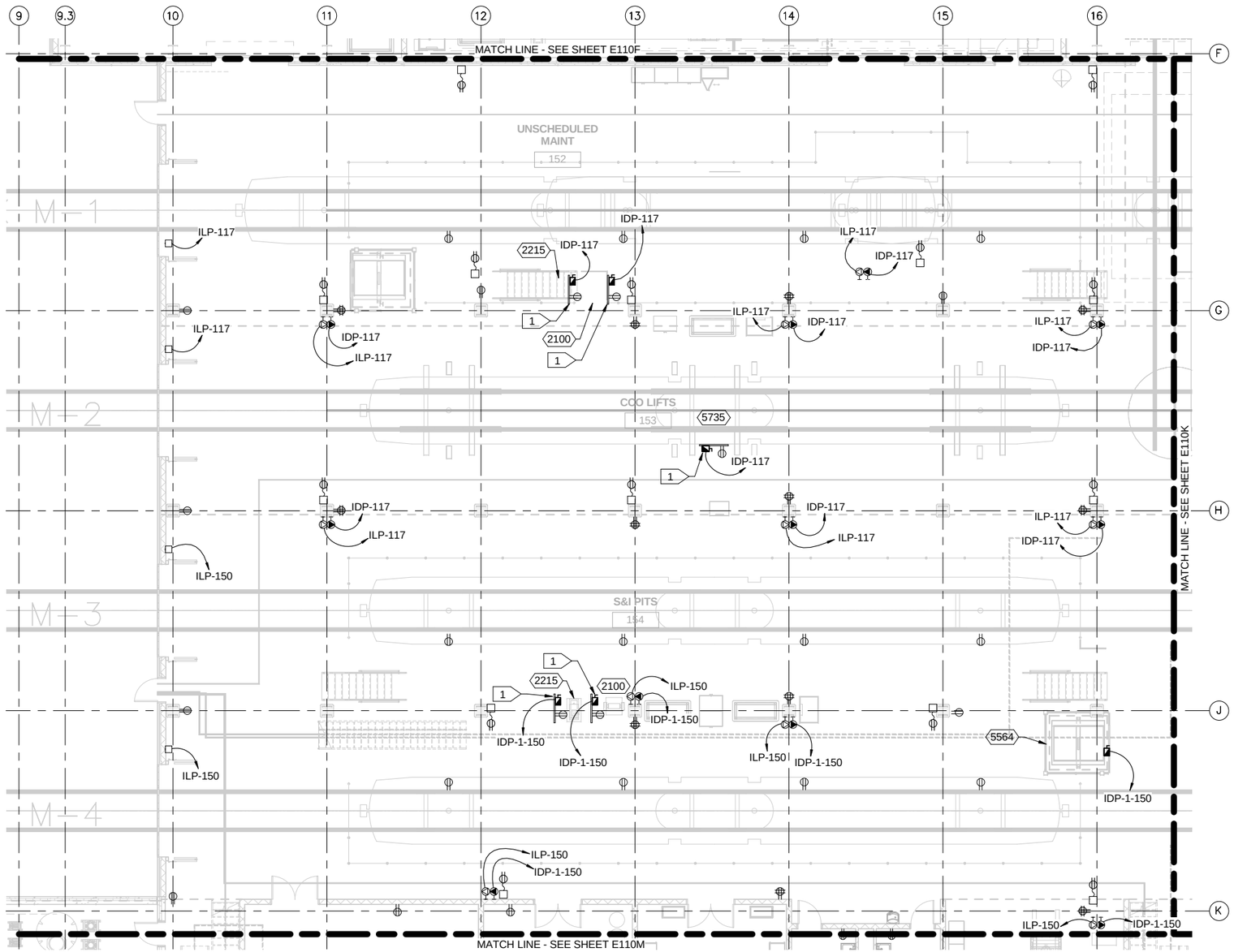
DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

E110H

SHEET 169 OF 263

9/22/2015 10:09:00 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



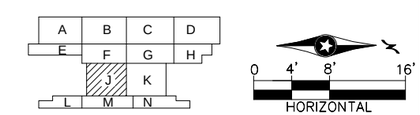
GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS FROM GRID F-H WILL BE FED FROM PANEL ELP-117 AND FROM GRID H-K WILL BE FED FROM ELP-1-150 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR

KEYNOTES:

1. SEE FLOOR MOUNTED DISCONNECT DETAIL ON SHEET E-XXX.

1 / E110J POWER PLAN - AREA J
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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METROPOLITAN COUNCIL SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - LEVEL ONE - AREA J

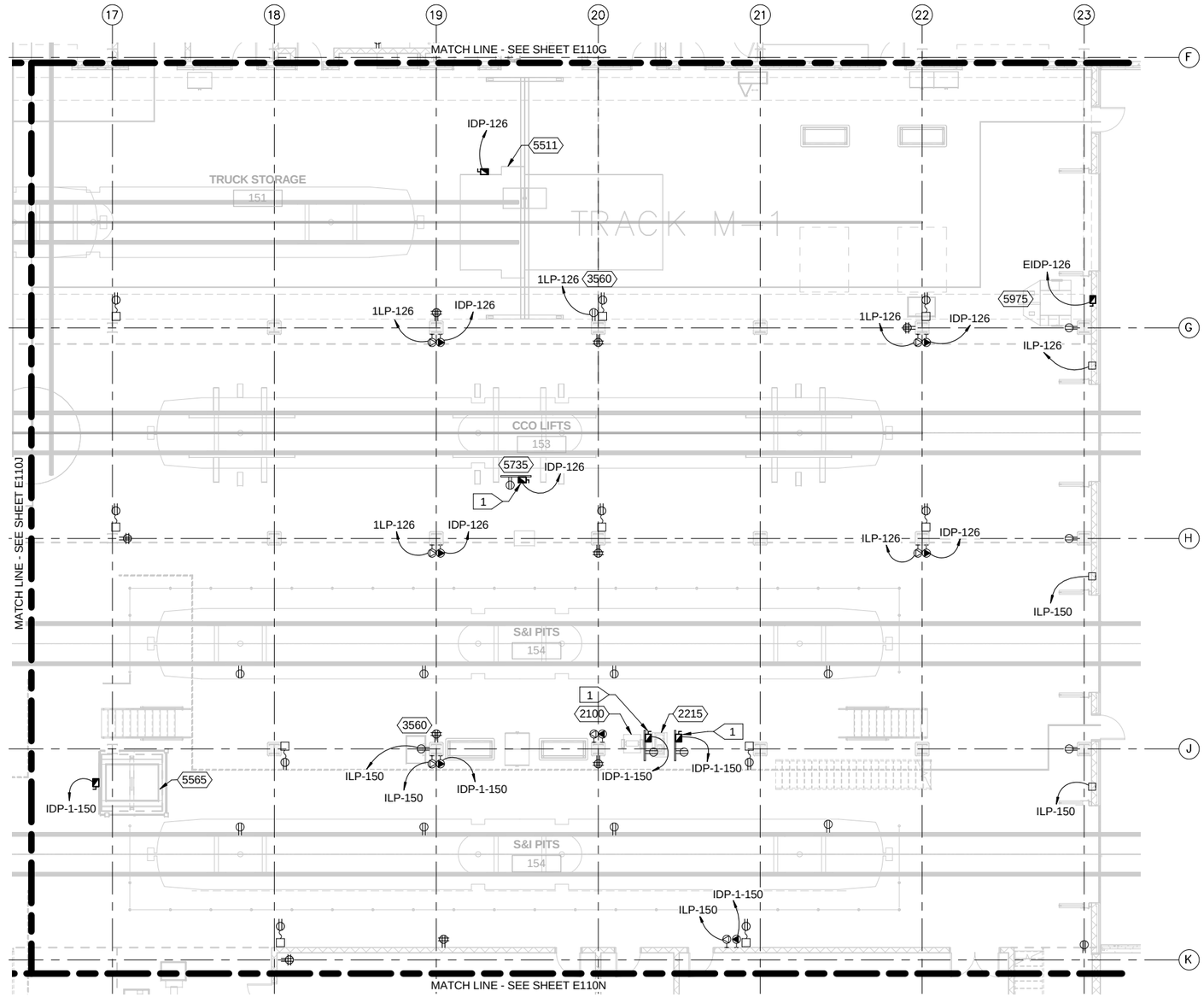
DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

E110J

SHEET 170 OF 263

9/22/2015 10:09:04 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



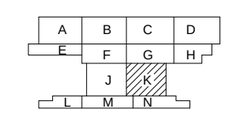
1 E110K POWER PLAN - AREA K
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

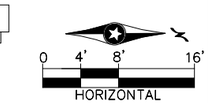
1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS FROM GRID F-H WILL BE FED FROM PANEL ELP-126 AND FROM GRID H-K WILL BE FED FROM ELP-1-150 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR

KEYNOTES:

1. SEE FLOOR MOUNTED DISCONNECT DETAIL ON SHEET E-XXX.



KEY PLAN - SCALE: N.T.S.



SCALE IN FEET

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - LEVEL ONE - AREA K

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E110K

SHEET 171 OF 263

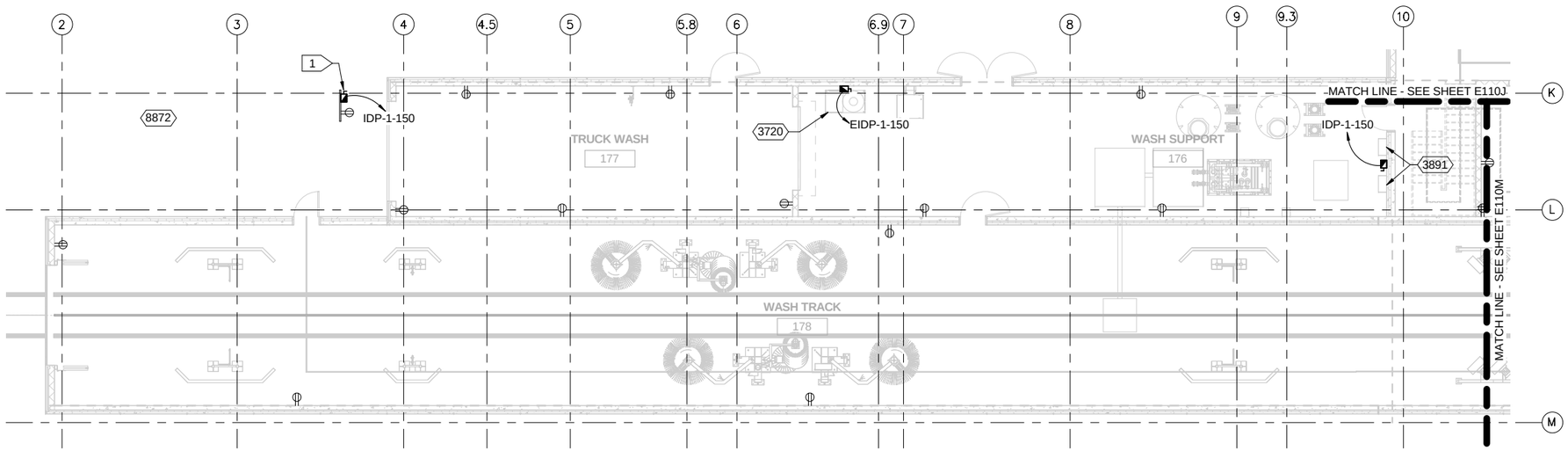
9/22/2015 10:09:07 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

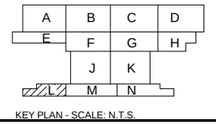
1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-150 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR

KEYNOTES:

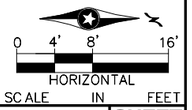
1. SEE FLOOR MOUNTED DISCONNECT DETAIL ON SHEET E-XXX.



1 E110L POWER PLAN - AREA L
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

POWER - LEVEL ONE - AREA L

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E110L

SHEET 172 OF 263

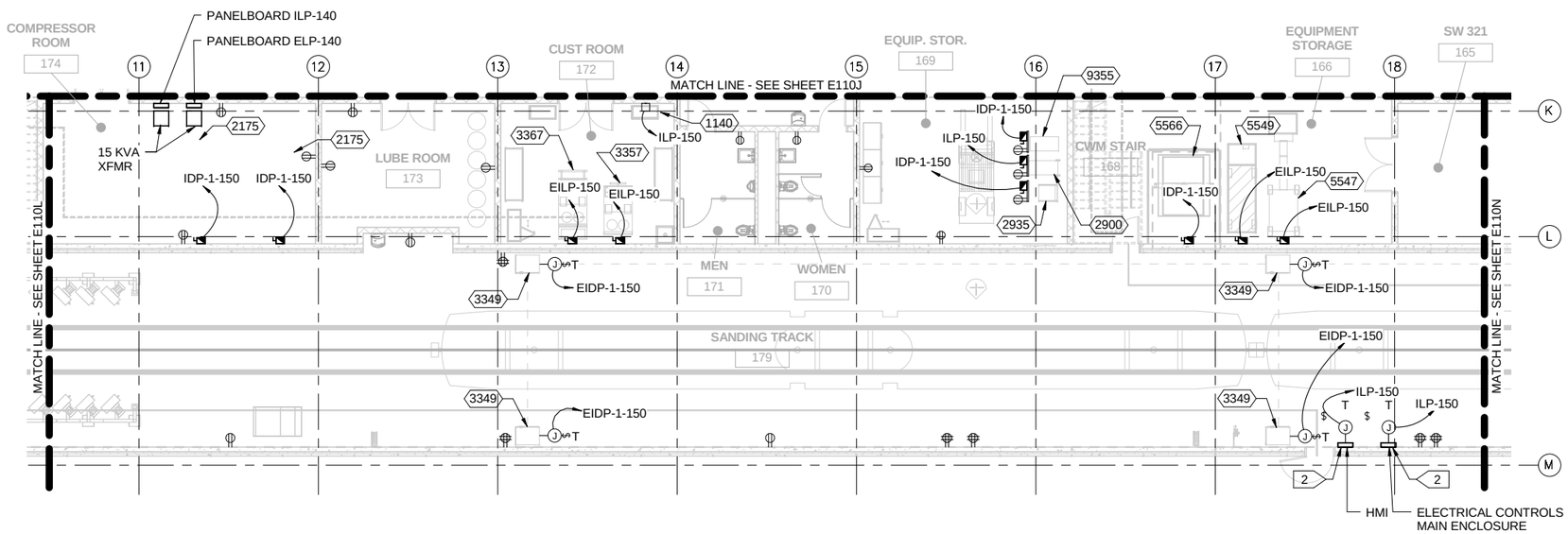
9/22/2015 10:09:10 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

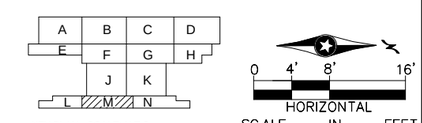
1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-150 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR

KEYNOTES:

1. SEE FLOOR MOUNTED DISCONNECT DETAIL ON SHEET E-XXX.
2. SEE SANDING SYSTEM CONTROL WIRING BLOCK DIAGRAM ON SHEET E-XXX FOR WIRING REQUIREMENTS.



1 E110M POWER PLAN - AREA M
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - LEVEL ONE - AREA M

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

E110M

SHEET 173 OF 263

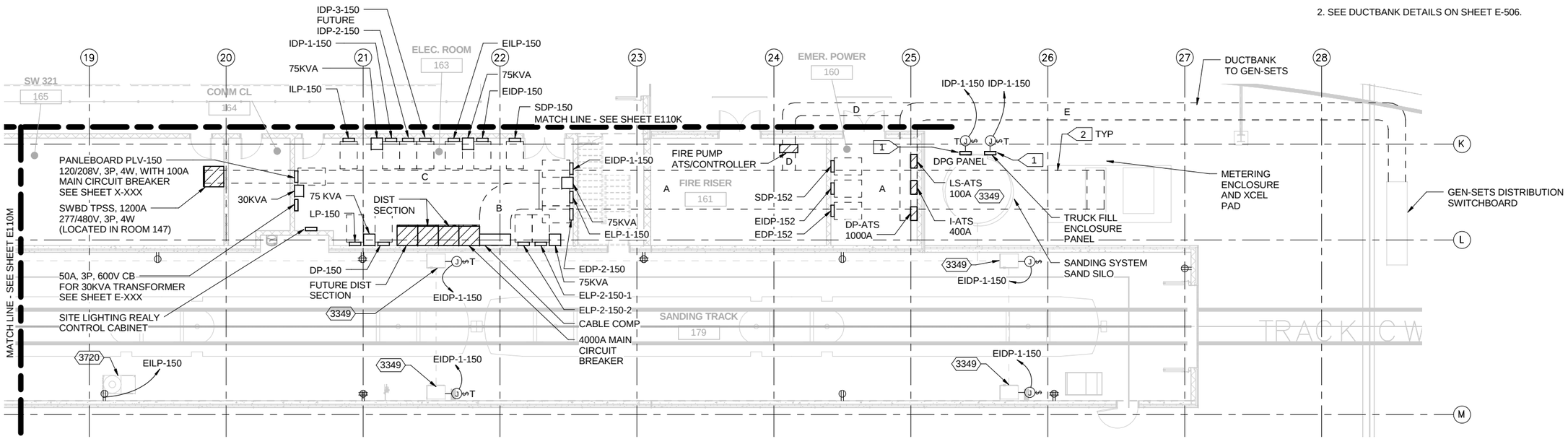
9/22/2015 10:09:13 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

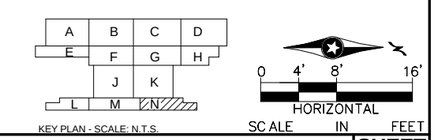
1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-150 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR

KEYNOTES:

1. SEE FLOOR MOUNTED DISCONNECT DETAIL ON SHEET E-XXX.
2. SEE DUCTBANK DETAILS ON SHEET E-506.



1 E110N POWER PLAN - AREA N
SCALE: 1/8" = 1'-0"



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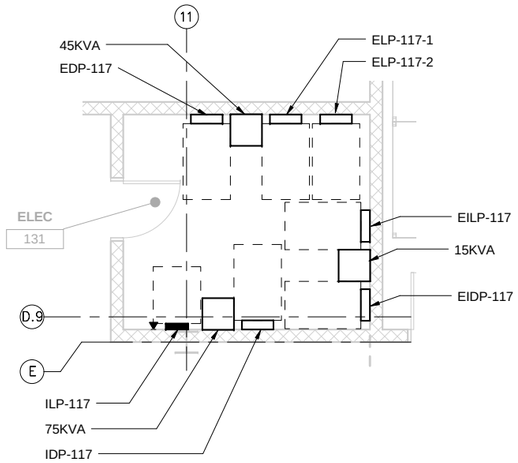
ELECTRICAL

POWER - LEVEL ONE - AREA N

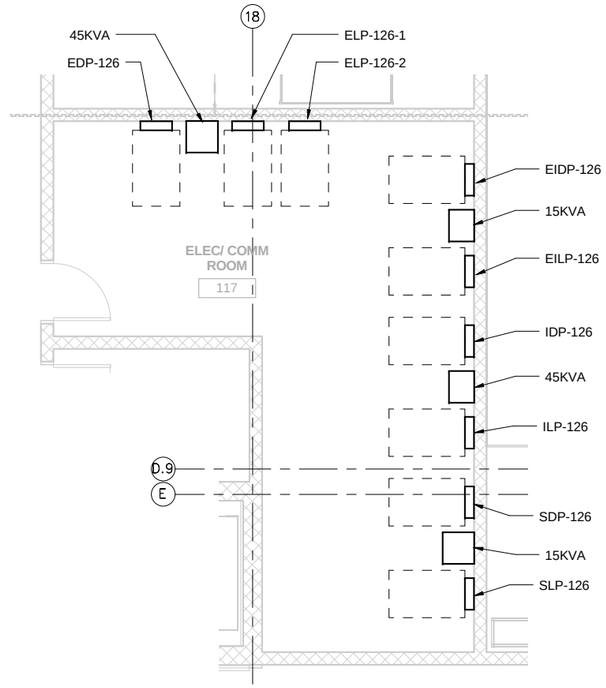
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E110N

SHEET 174 OF 263

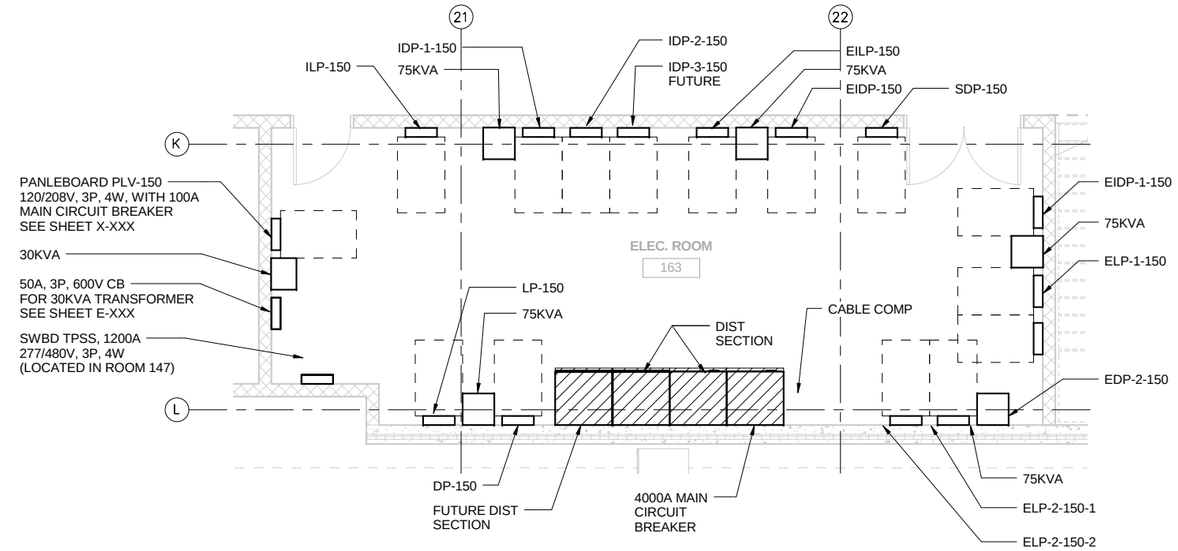
9/22/2015 10:09:16 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



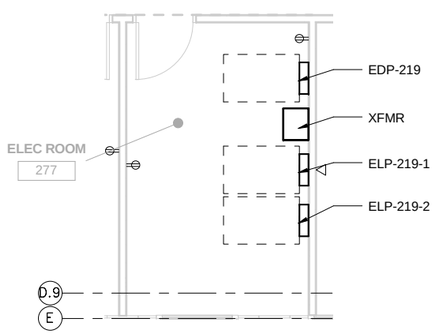
1 E111A RM 117 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



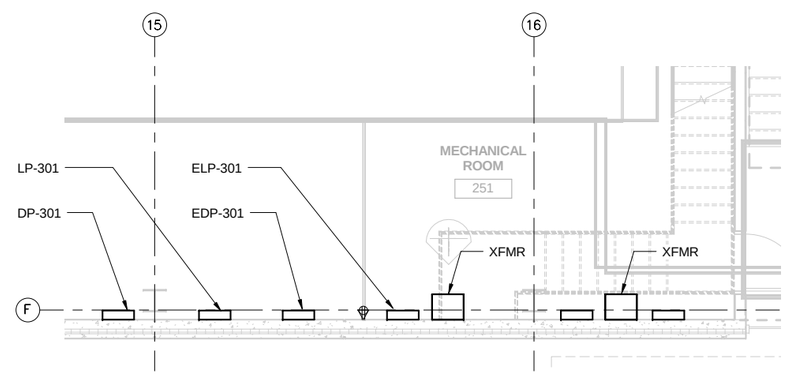
2 E111A RM 126 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



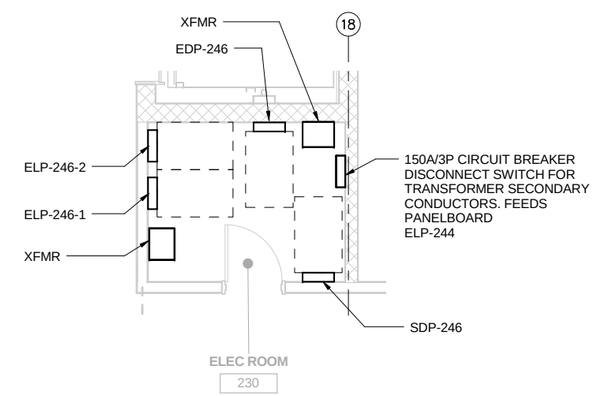
3 E111A RM 148 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



4 E111A RM 219 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



5 E111A RM 2240 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



6 E111A RM 246 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

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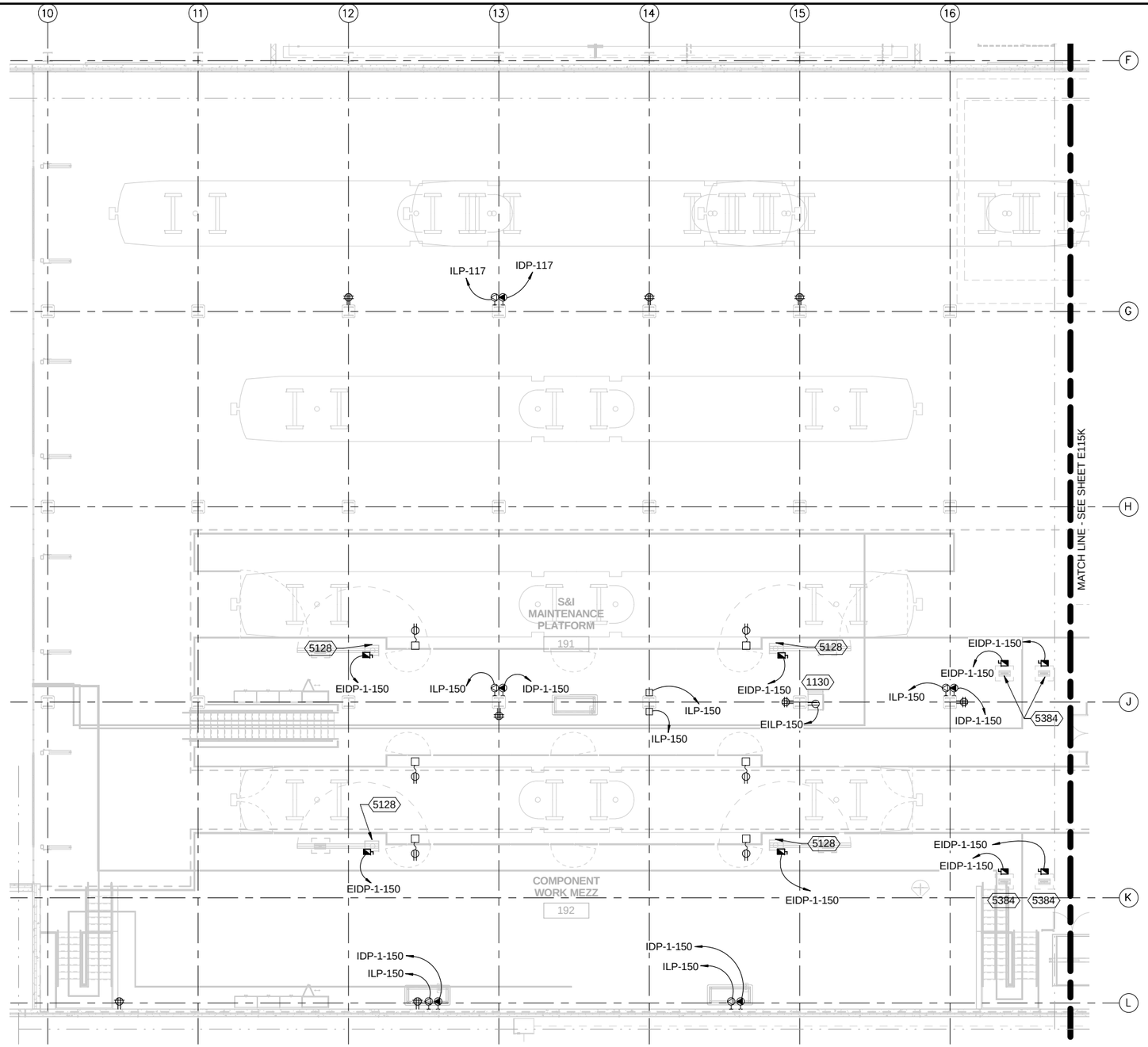
OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL
POWER - ENLARGED PLANS - ELECTRICAL ROOMS

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E111A

SHEET 175 OF 263

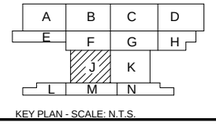
9/22/2015 10:09:22 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS FROM GRID F-H WILL BE FED FROM PANEL ELP-117 AND FROM GRID H-K WILL BE FED FROM ELP-1-150 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR.

1 / E115J POWER PLAN - AREA J
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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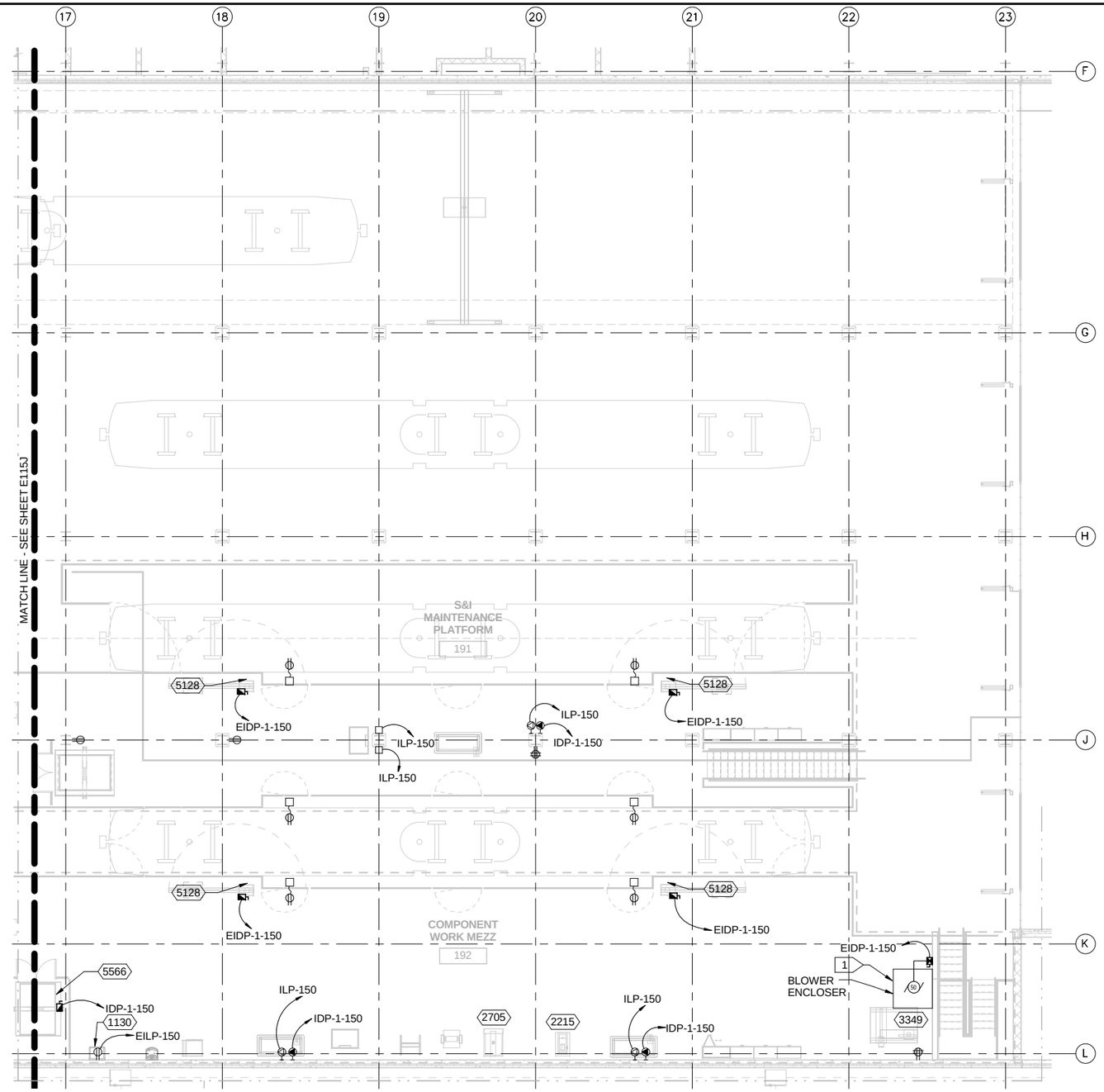
OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - MEZZANINE LEVEL - AREA J

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E115J

SHEET 176 OF 263

9/22/2015 10:09:25 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



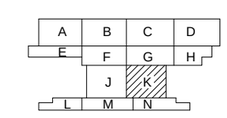
GENERAL NOTES:

1. ALL GENERAL PURPOSE RECEPTACLES AND RECEPTACLE REELS WILL BE FED FROM PANEL ELP-150 UNLESS NOTED OTHERWISE.
2. SEE EQUIPMENT SCHEDULE ON SHEET E-805 FOR DISCONNECT SWITCHES, SIZES AND WIRING REQUIREMENTS.
3. SEE MECHANICAL PLAN FOR MOTORS AND LOCATIONS. PROVIDE FEEDERS AND DISCONNECT SWITCH TO EACH MOTOR.

KEYNOTES:

1. SEE SANDING SYSTEM CONTROL WIRING BLOCK DIAGRAM ON SHEET E-XXX FOR WIRING REQUIREMENTS.

1 E115K POWER PLAN - AREA K
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

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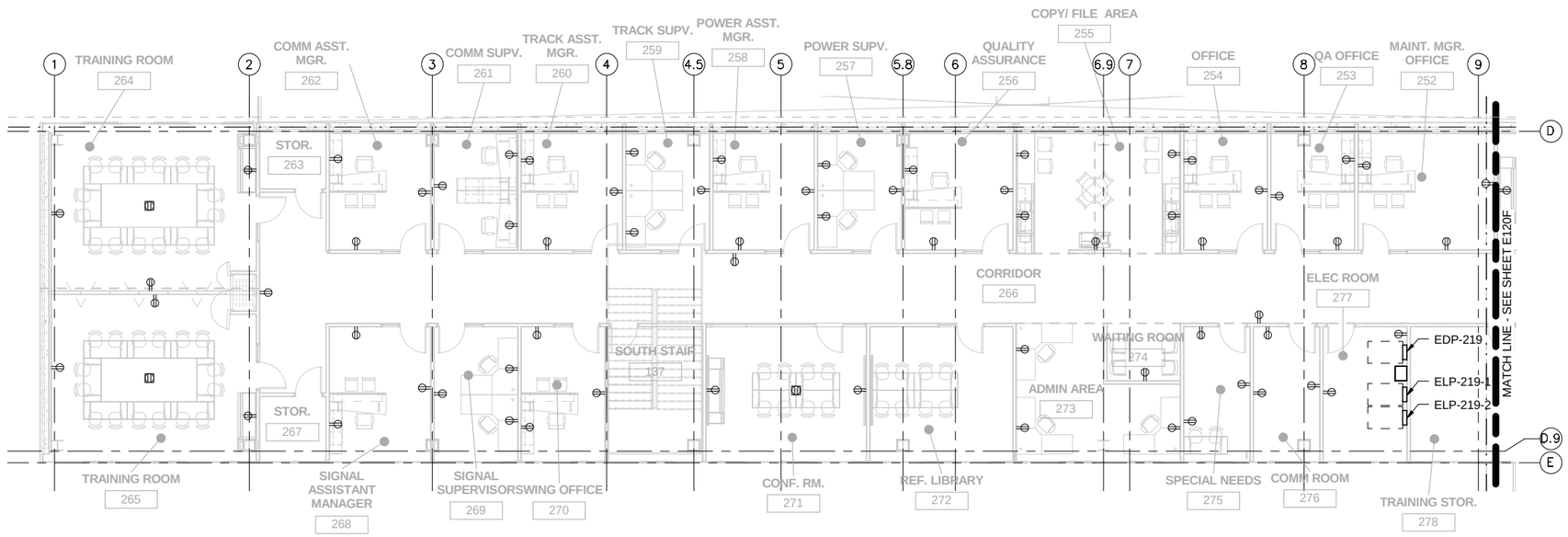
OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

POWER - MEZZANINE LEVEL - AREA K

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E115K

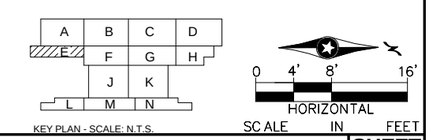
SHEET 177 OF 263

9/22/2015 10:09:29 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



1 E120E POWER PLAN - AREA E

SCALE: 1/8" = 1'-0"



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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - LEVEL TWO - AREA E

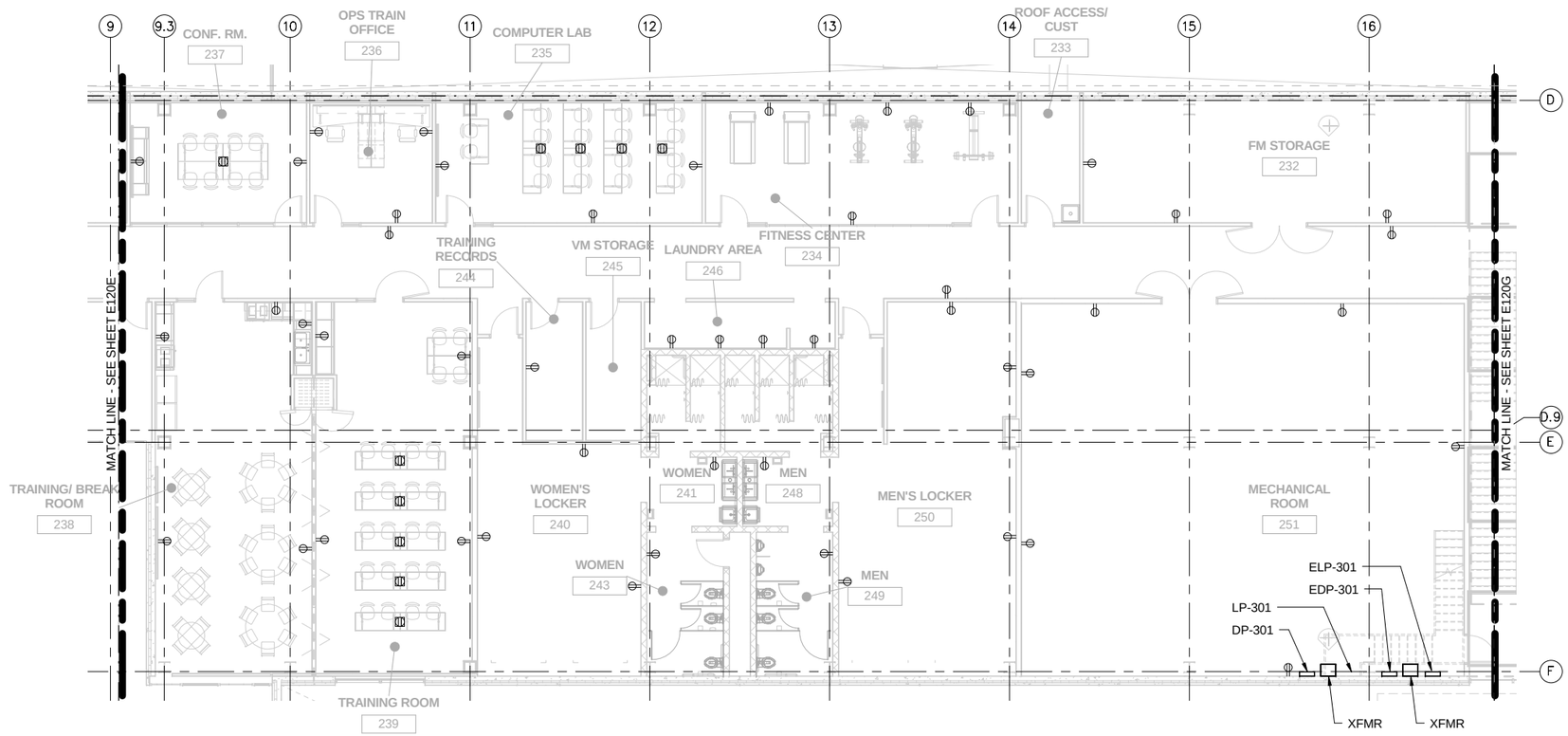
DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

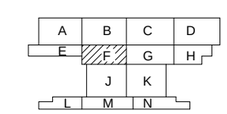
E120E

SHEET 178 OF 263

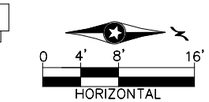
9/22/2015 10:09:32 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



1 E120F POWER PLAN - AREA F
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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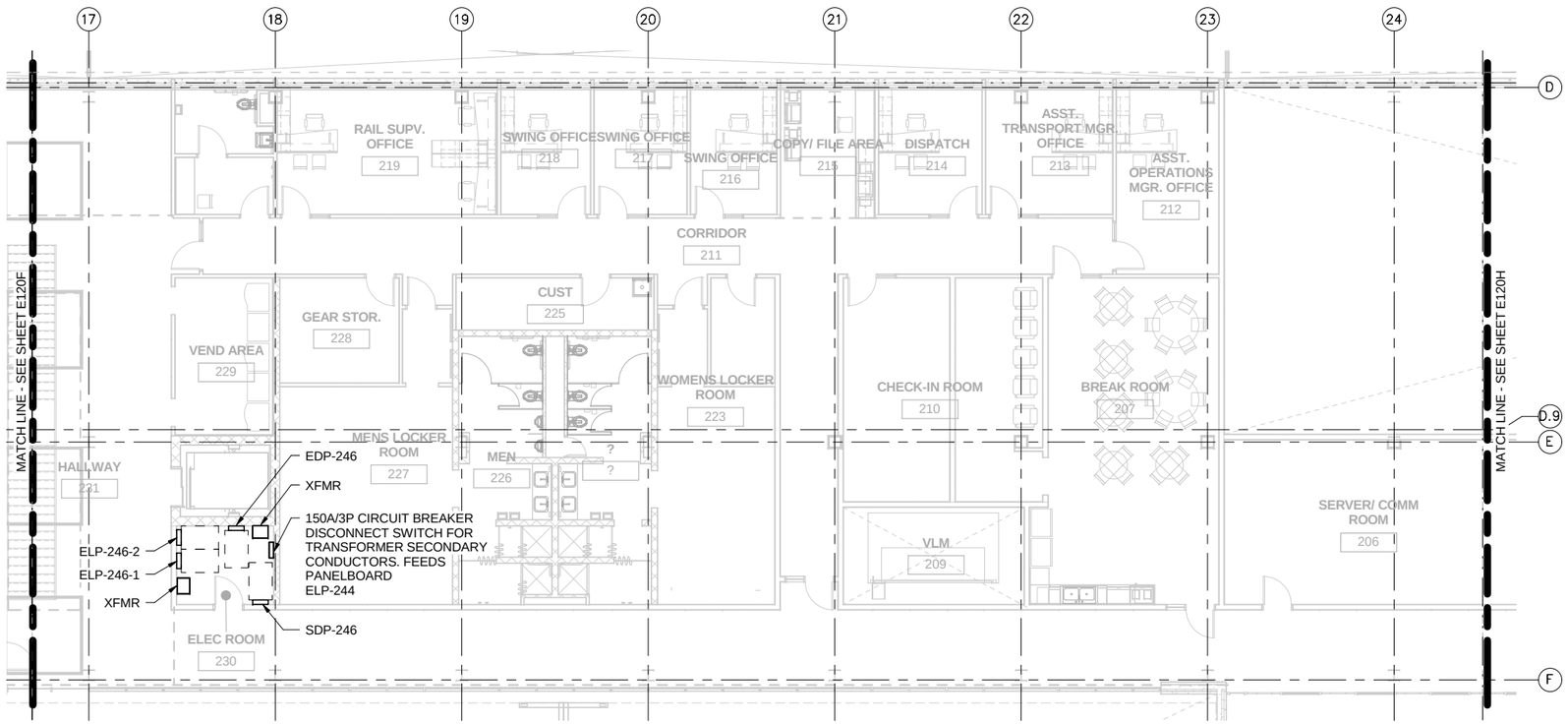
SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
POWER - LEVEL TWO - AREA F

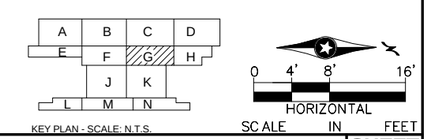
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E120F

SHEET 179 OF 263

9/22/2015 10:09:35 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



1 E120G POWER PLAN - AREA G
SCALE: 1/8" = 1'-0"



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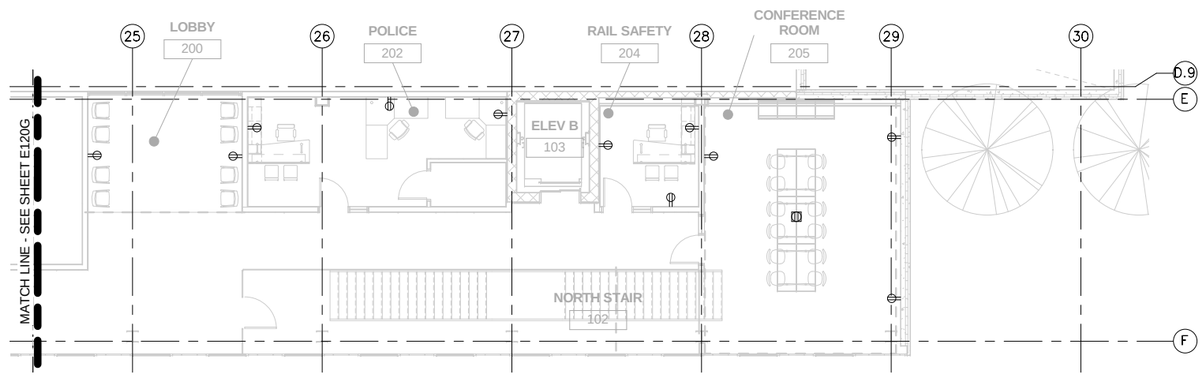
OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER - LEVEL TWO - AREA G

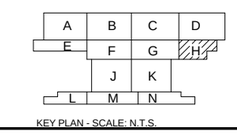
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E120G

SHEET 180 OF 263

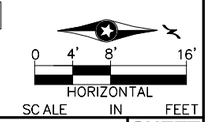
9/22/2015 10:09:38 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



1 E120H POWER PLAN - AREA H
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

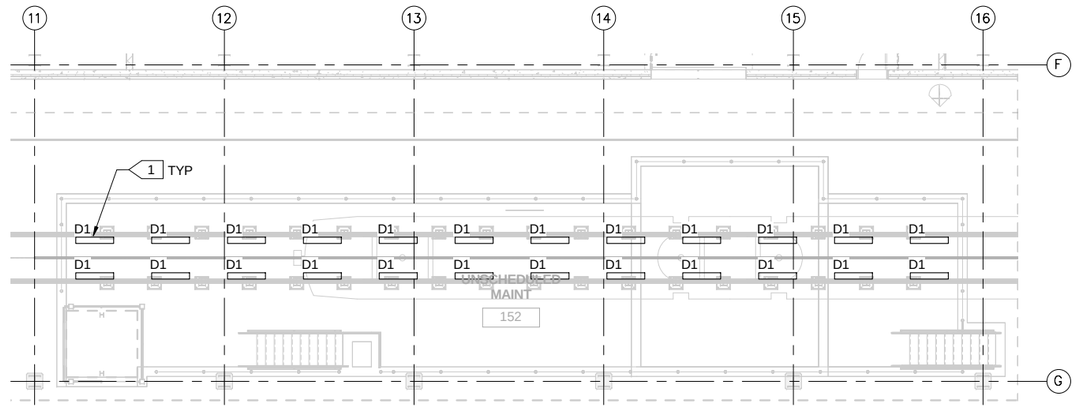
OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

POWER - LEVEL TWO - AREA H

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E120H

SHEET 181 OF 263

9/22/2015 10:09:40 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt



1 E200A PIT LIGHTING
SCALE: 1/8" = 1'-0"

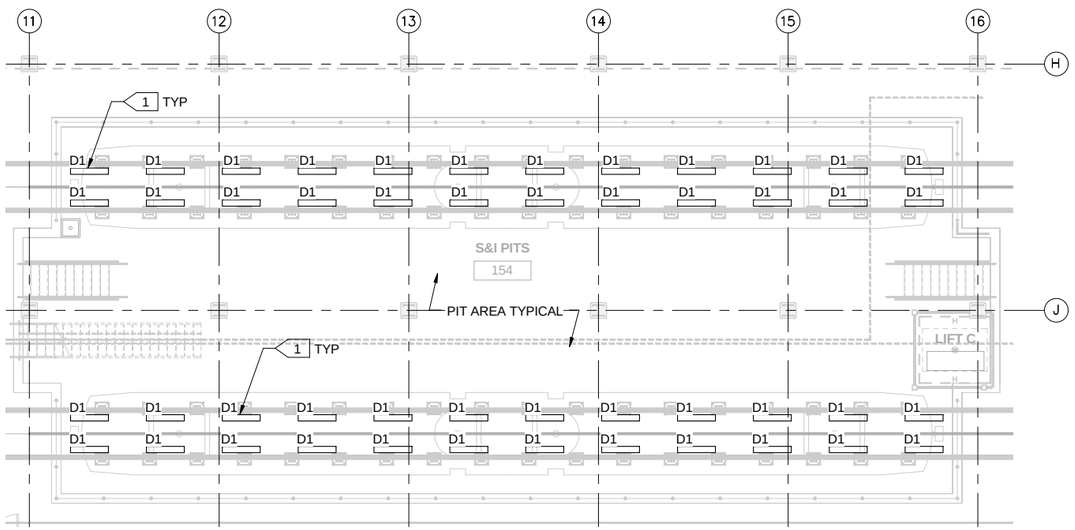
GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP-117. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP-126.

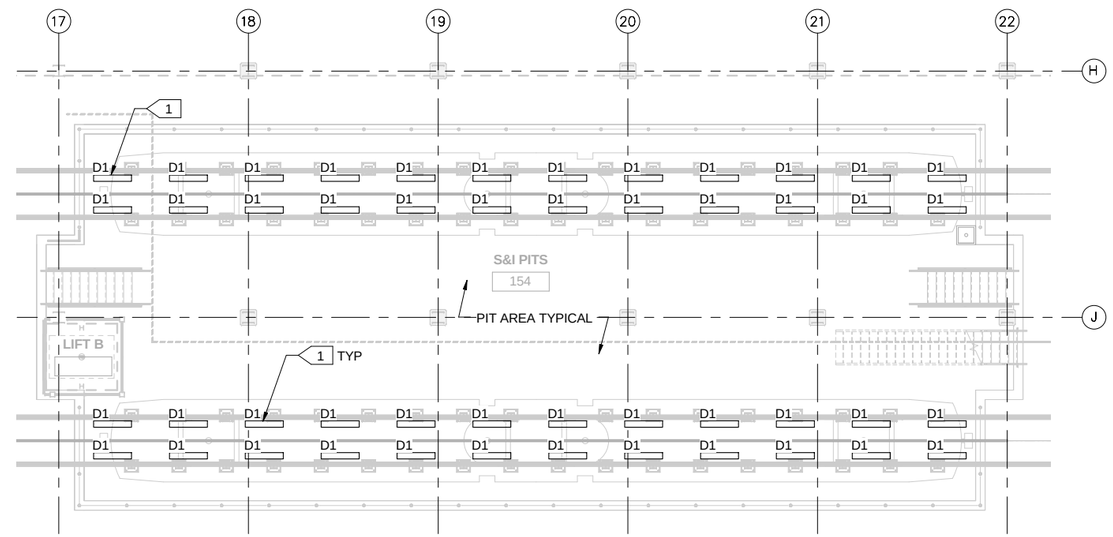
2. FOR LUMINAIRE SCHEDULE SEE SHEET E801.

KEYNOTES:

1. SEE MOUNTING DETAIL ON SHEET XXX.



2 E200A PIT LIGHTING
SCALE: 1/8" = 1'-0"



3 E200A PIT LIGHTING
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

LIGHTING - PIT LEVEL

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

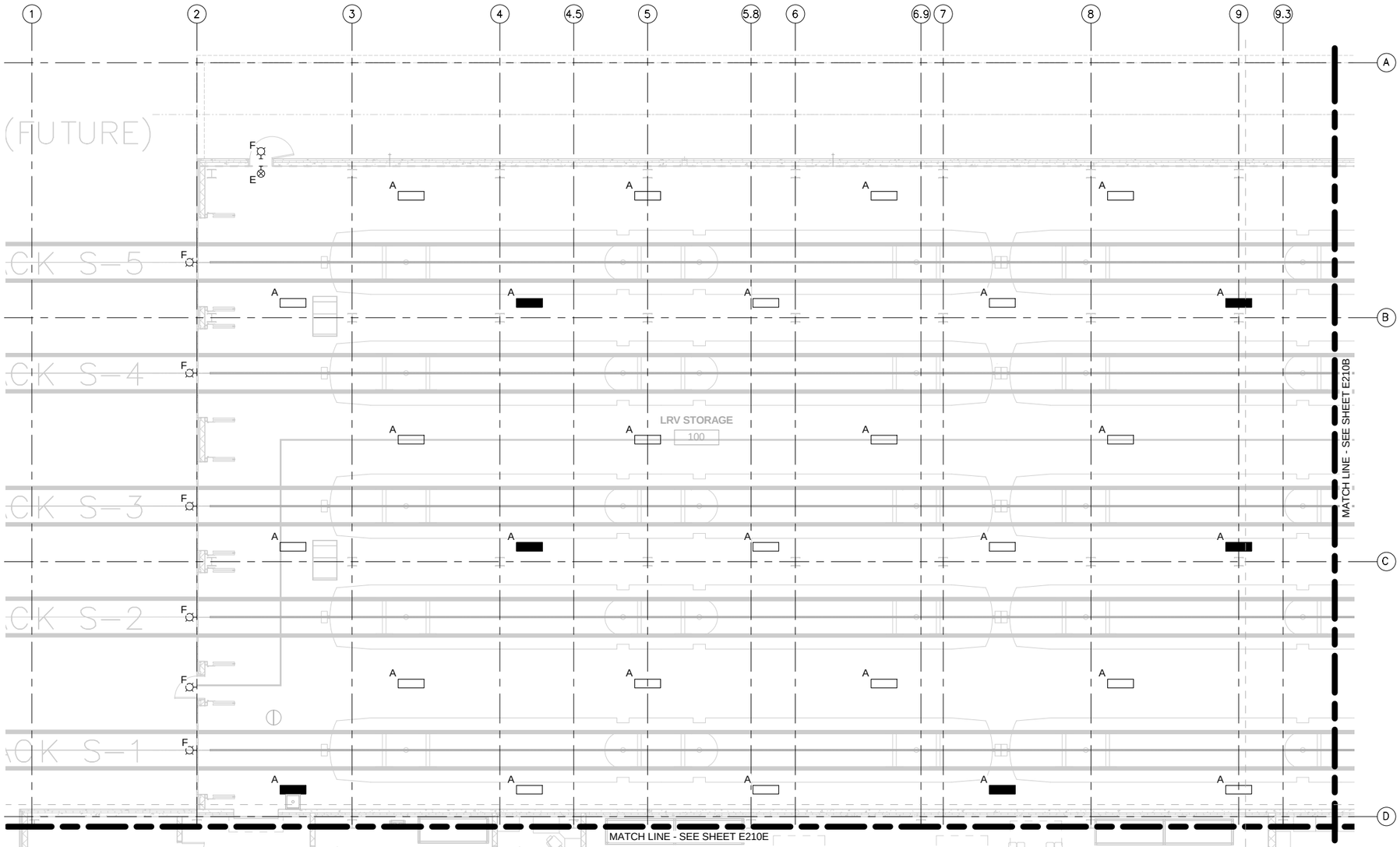
E200A

SHEET 182 OF 263

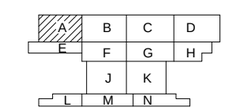
9/22/2015 10:09:47 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

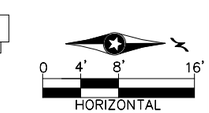
1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210A LIGHTING PLAN - AREA A
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

LIGHTING - LEVEL ONE - AREA A

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

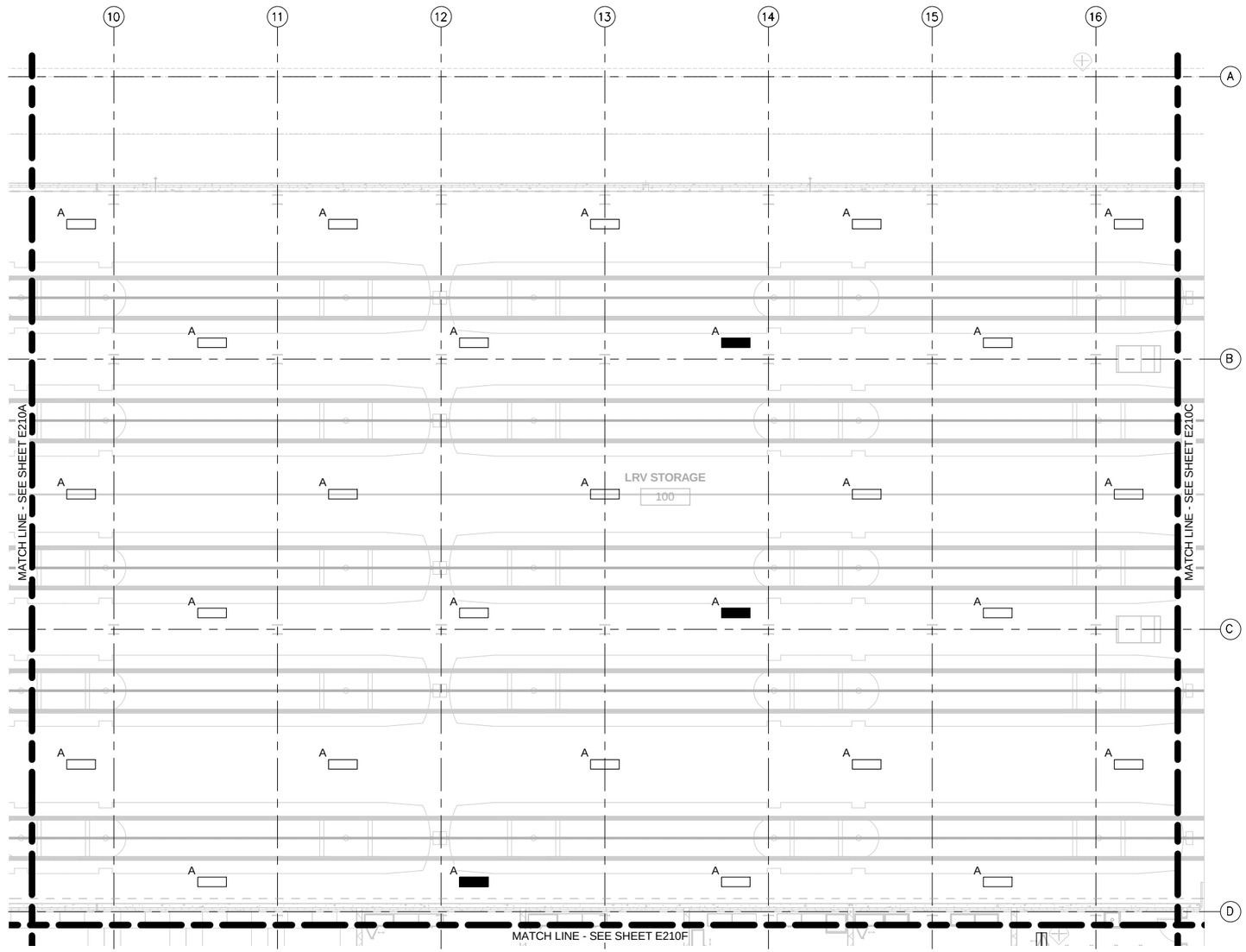
E210A

SHEET 183 OF 263

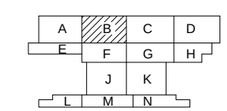
9/22/2015 10:09:52 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

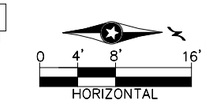
1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210B LIGHTING PLAN - AREA B
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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METROPOLITAN COUNCIL
SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

LIGHTING - LEVEL ONE - AREA B

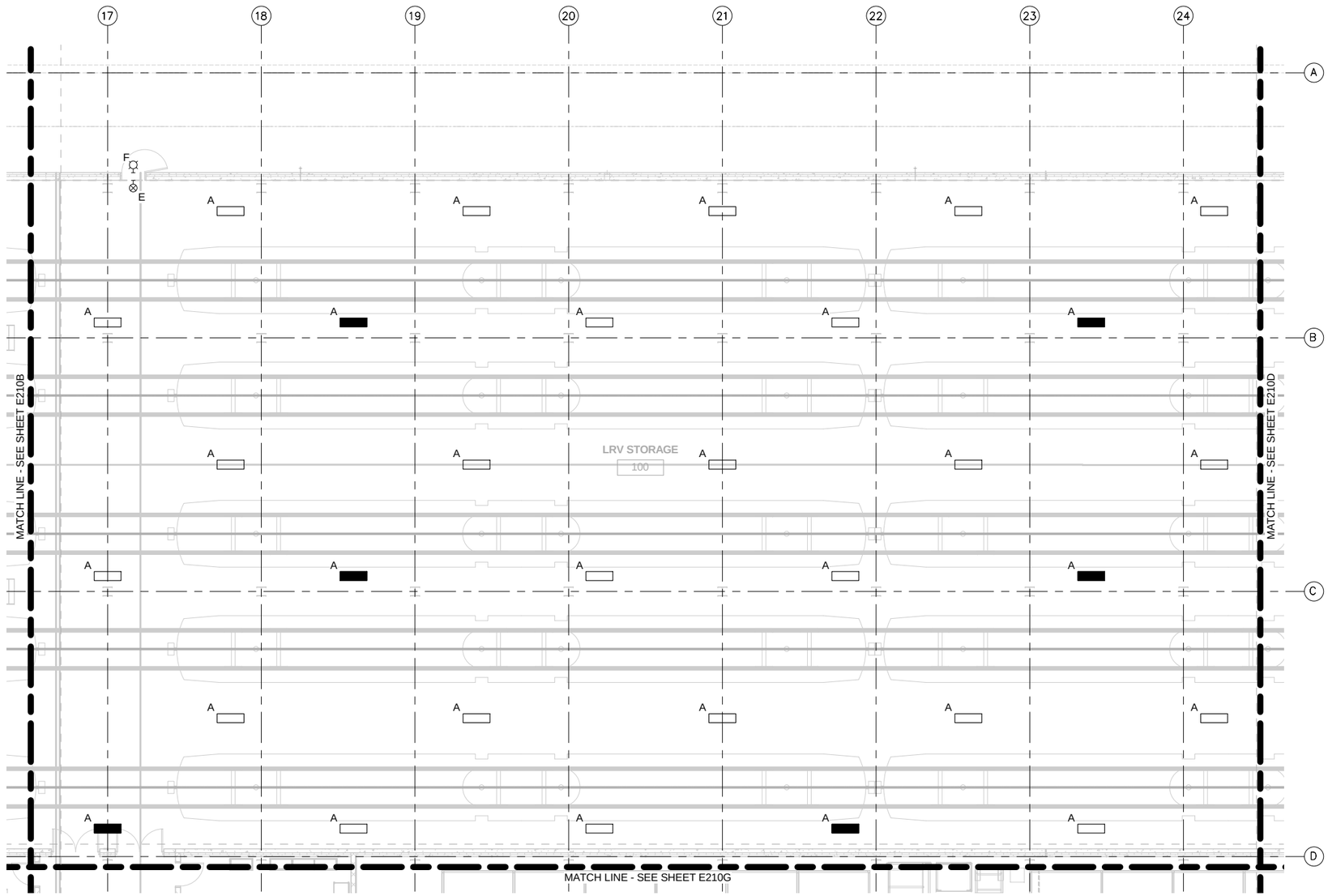
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E210B

SHEET 184 OF 263

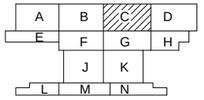
9/22/2015 10:09:55 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210C LIGHTING PLAN - AREA C
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA C

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

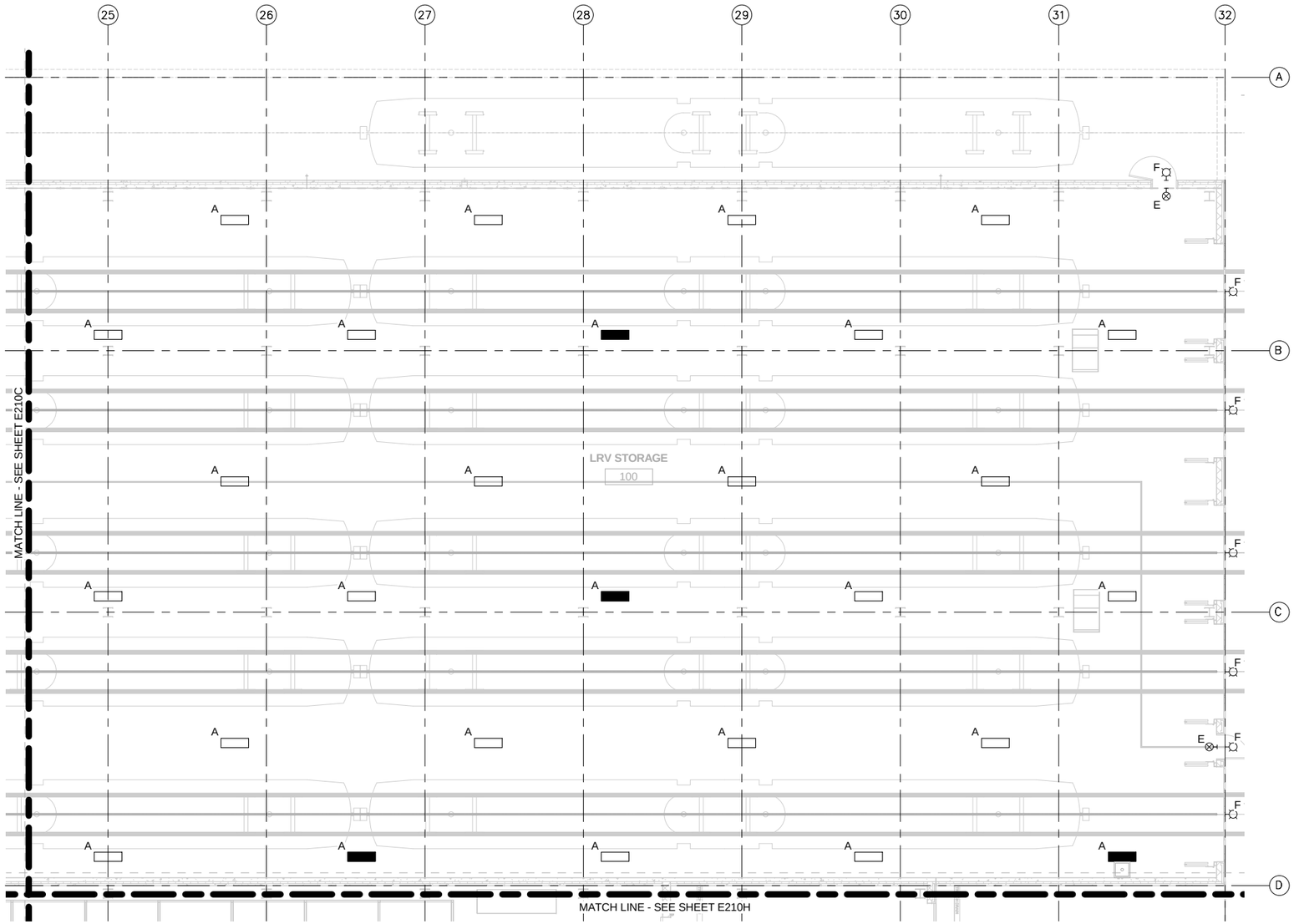
E210C

SHEET 185 OF 263

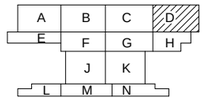
9/22/2015 10:09:57 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210D LIGHTING PLAN - AREA D
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA D

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

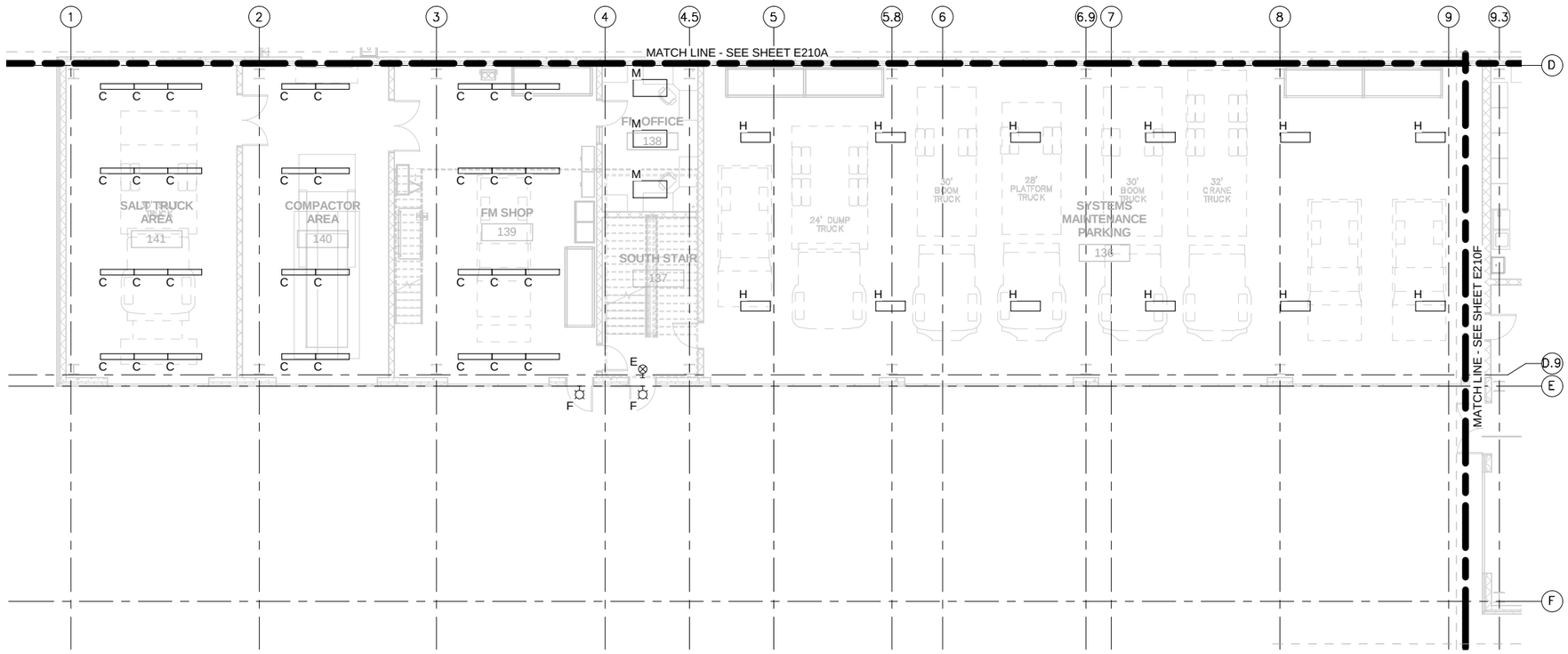
E210D

SHEET 186 OF 263

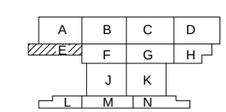
9/22/2015 10:09:59 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

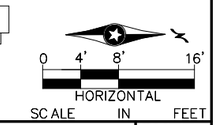
1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210E LIGHTING PLAN - AREA E
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA E

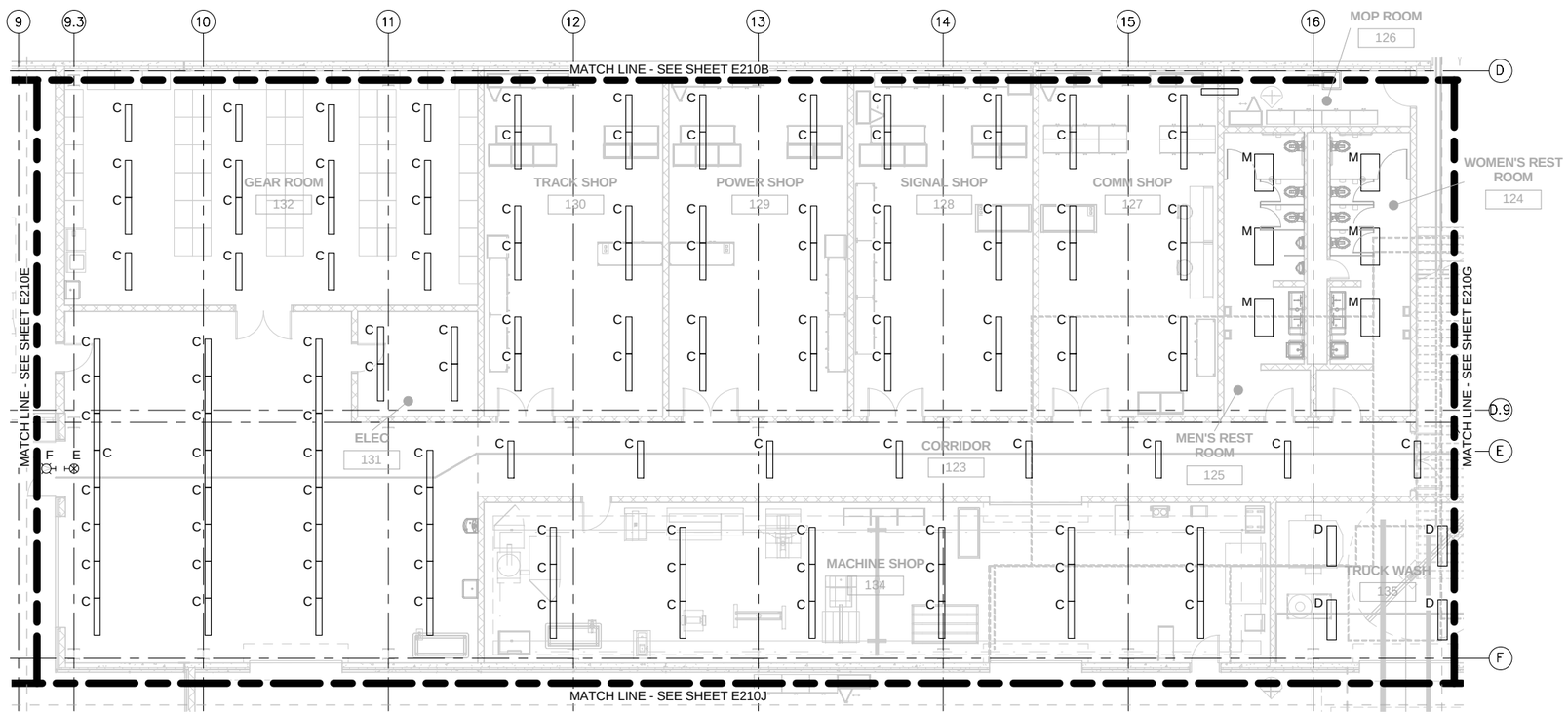
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E210E

SHEET 187 OF 263

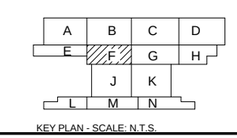
9/22/2015 10:10:01 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

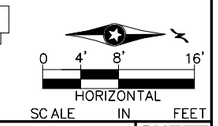
1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210F LIGHTING PLAN - AREA F
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
LIGHTING - LEVEL ONE - AREA F

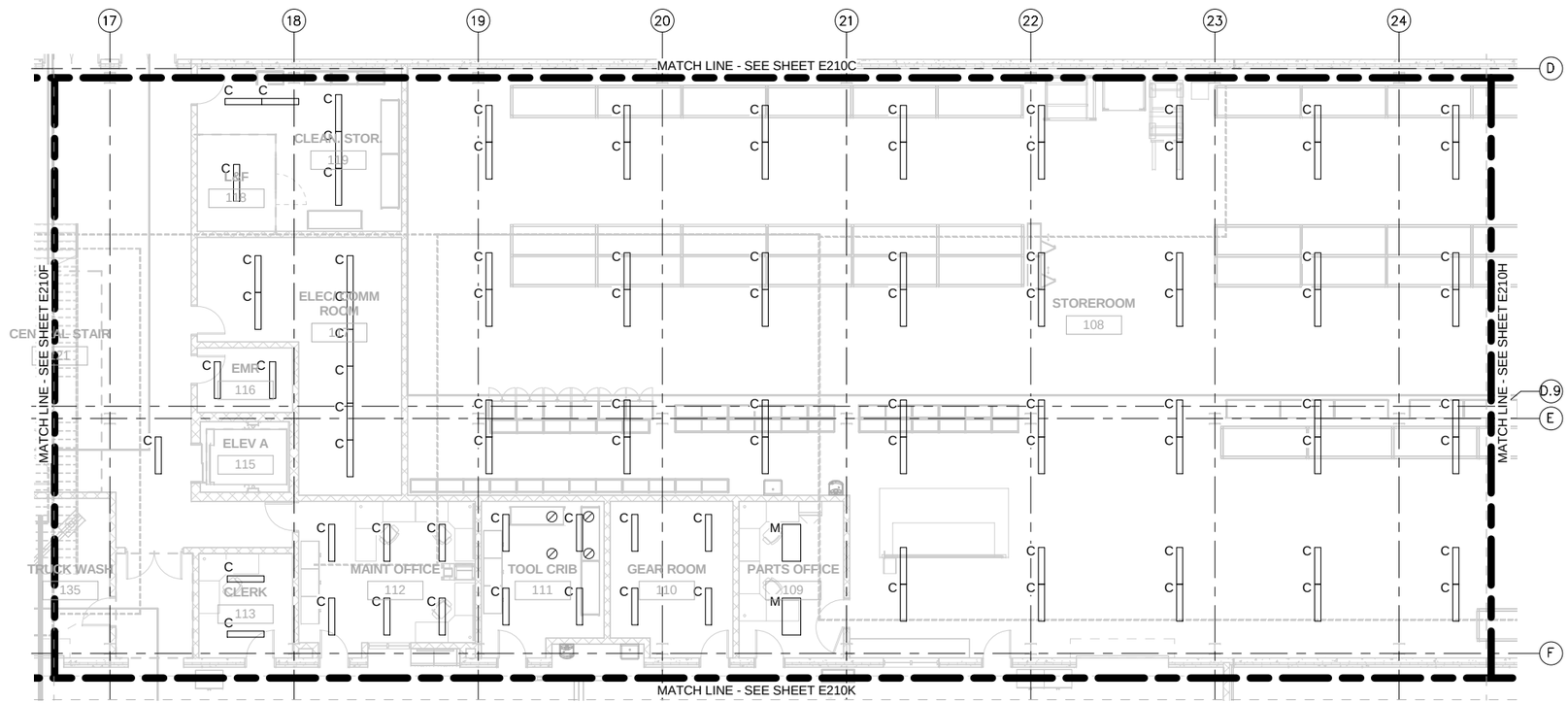
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E210F

SHEET 188 OF 263

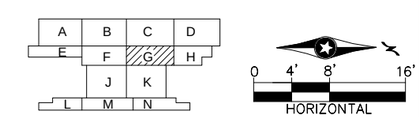
9/22/2015 10:10:06 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210G LIGHTING PLAN - AREA G
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

LIGHTING - LEVEL ONE - AREA G

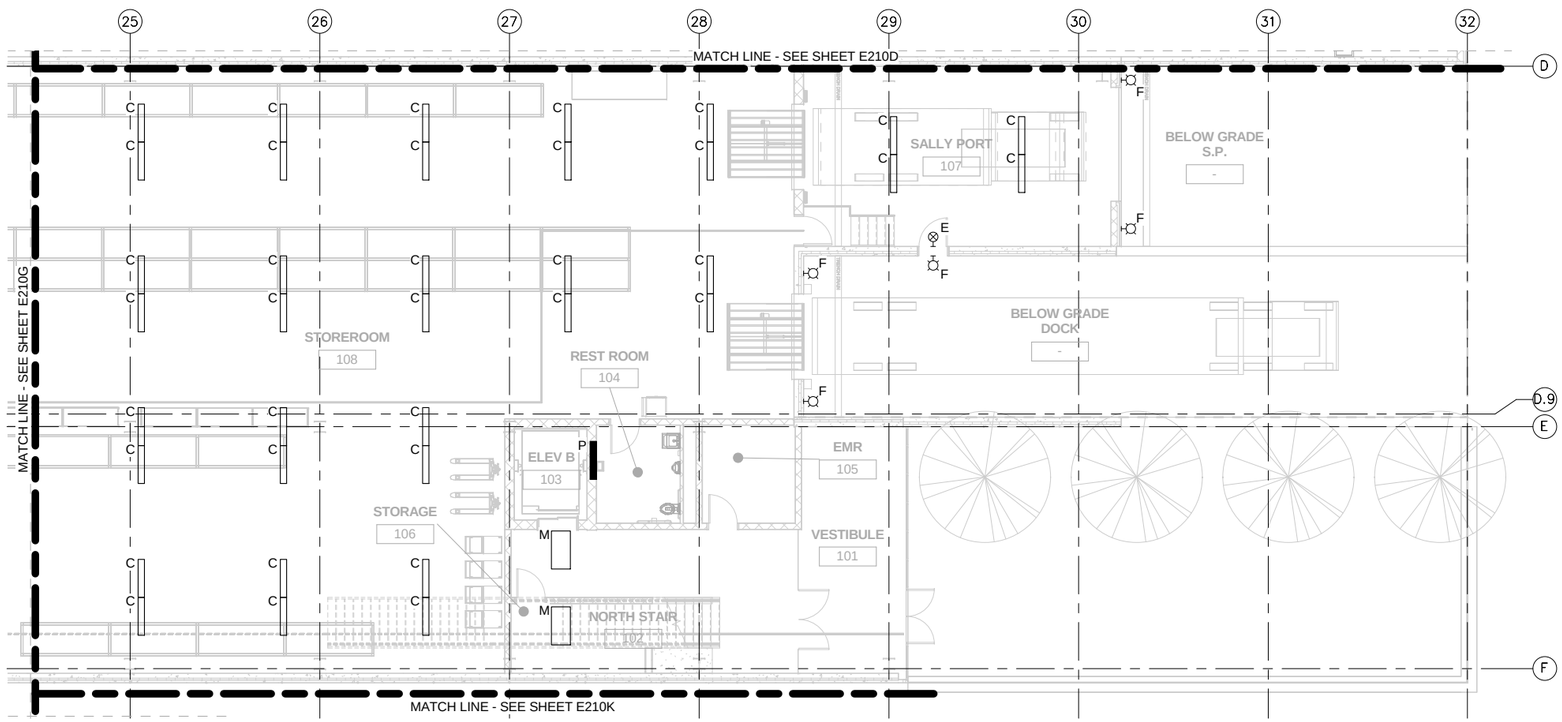
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E210G

SHEET 189 OF 263

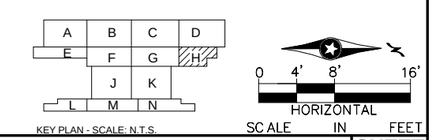
9/22/2015 10:10:11 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210H LIGHTING PLAN - AREA H
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA H

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

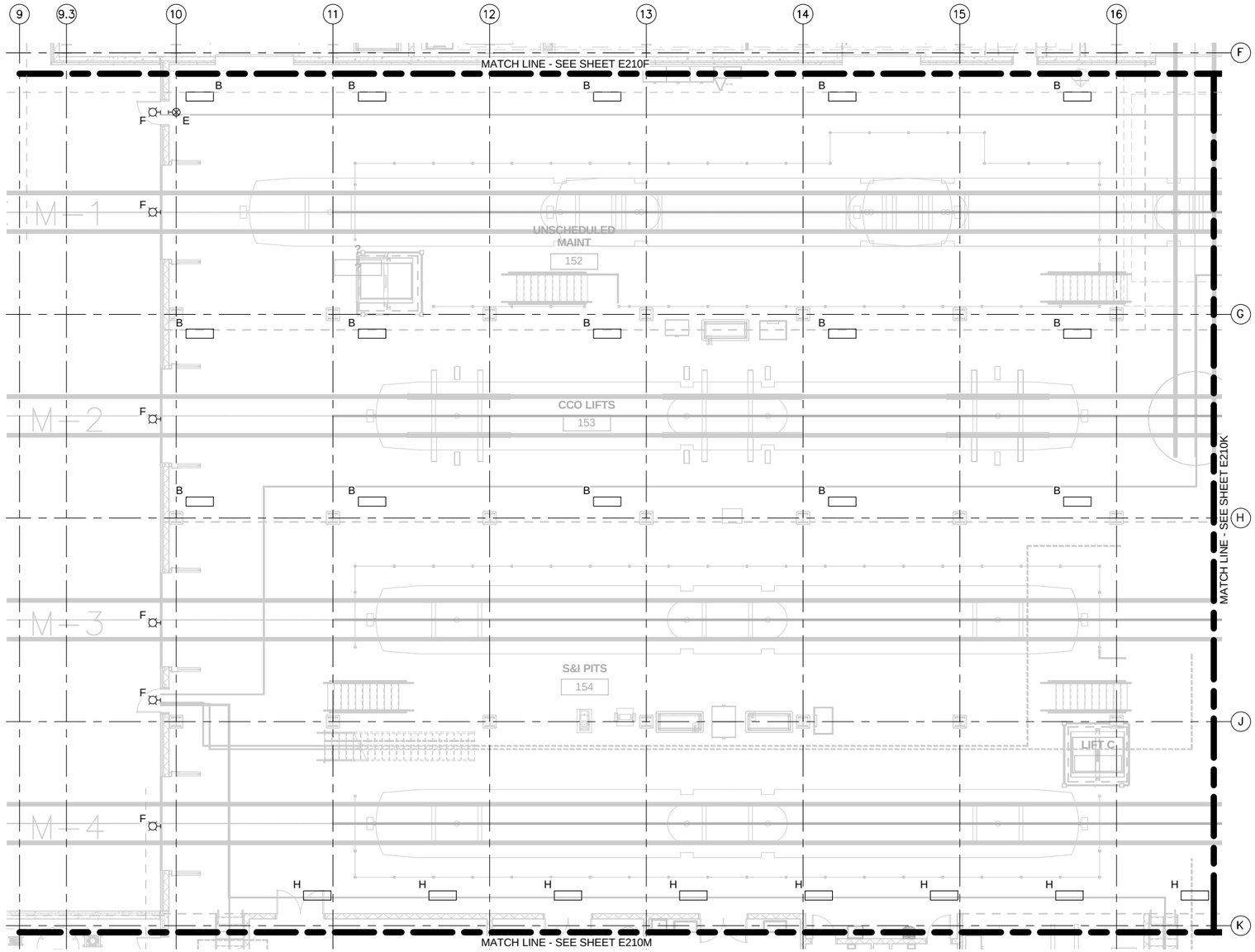
E210H

SHEET 190 OF 263

9/22/2015 10:10:15 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

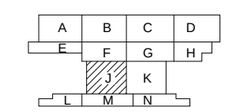
GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.

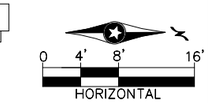


1 E210J LIGHTING PLAN - AREA J

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA J

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

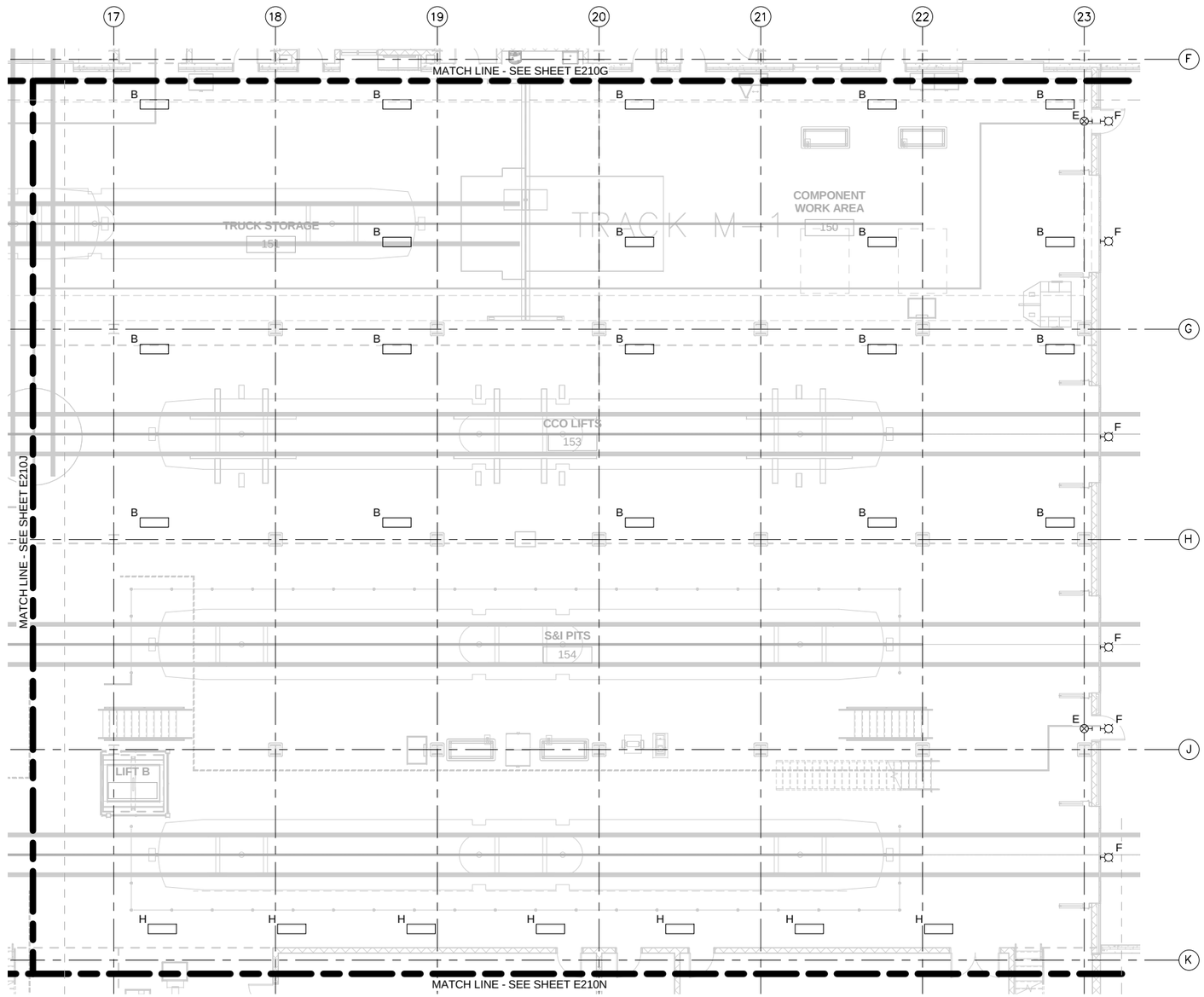
E210J

SHEET 191 OF 263

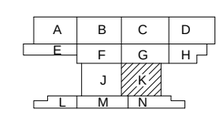
9/22/2015 10:10:19 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

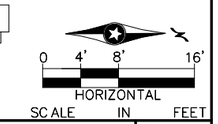
1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210K LIGHTING PLAN - AREA K
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA K

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

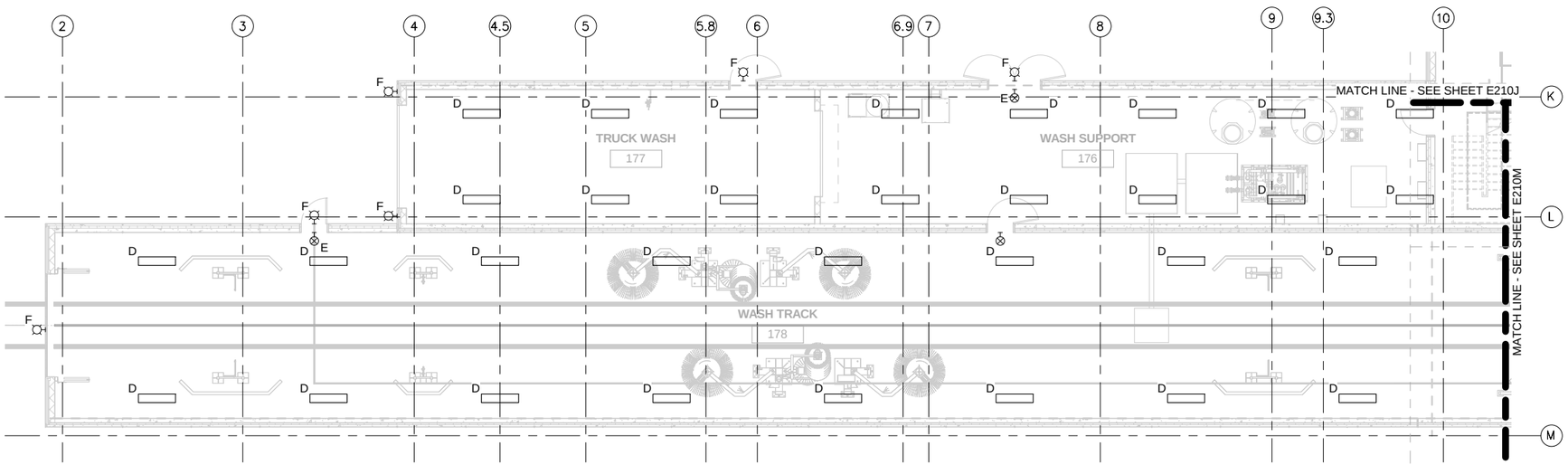
E210K

SHEET 192 OF 263

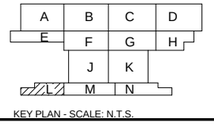
9/22/2015 10:10:22 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

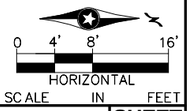
1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210L LIGHTING PLAN - AREA L
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
LIGHTING - LEVEL ONE - AREA L

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

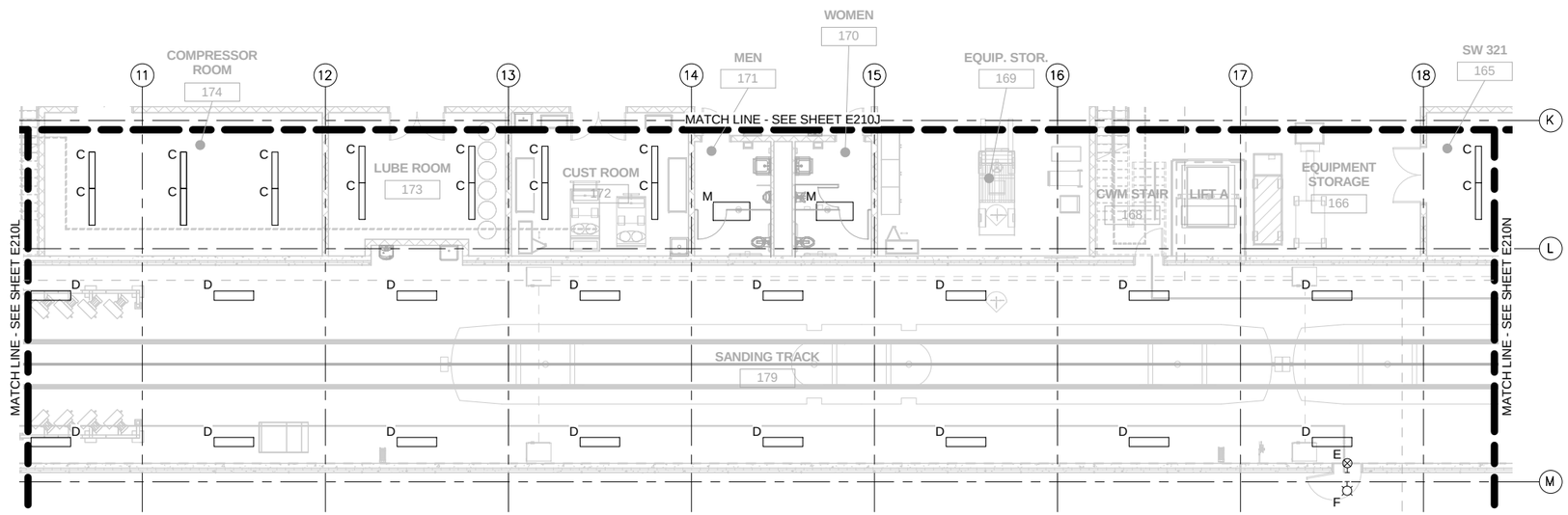
E210L

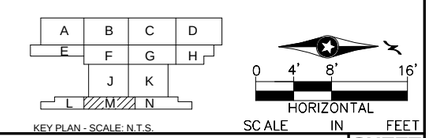
SHEET 193 OF 263

9/22/2015 10:10:25 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.





1 E210M LIGHTING PLAN - AREA M
SCALE: 1/8" = 1'-0"

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METROPOLITAN COUNCIL

SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA M

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

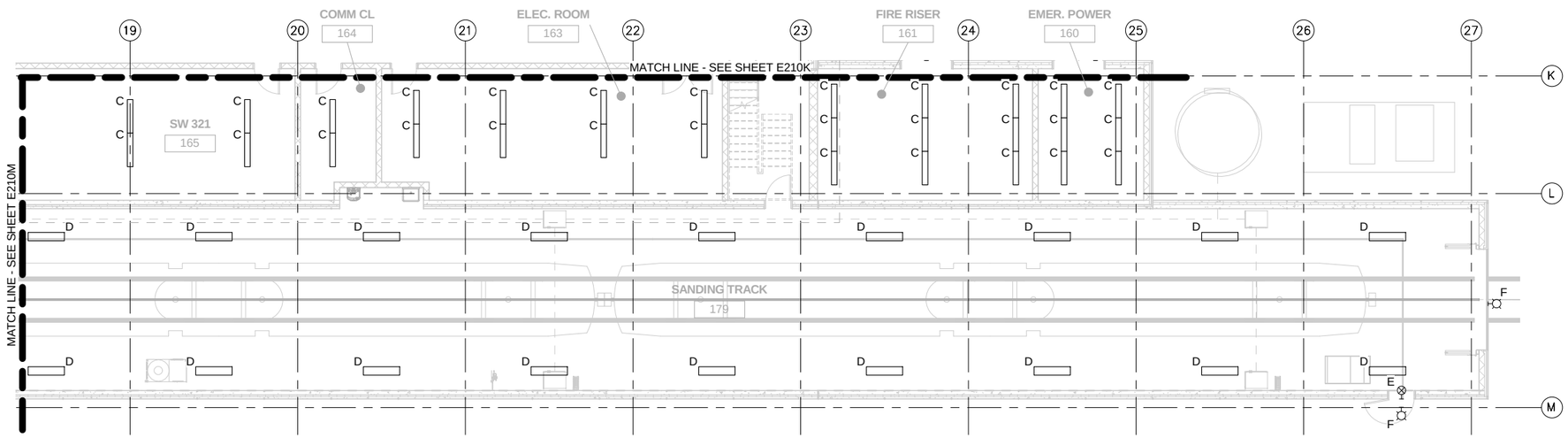
E210M

SHEET 194 OF 263

9/22/2015 10:10:28 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

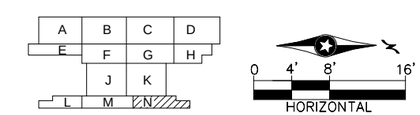
GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E210N LIGHTING PLAN - AREA N

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL ONE - AREA N

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

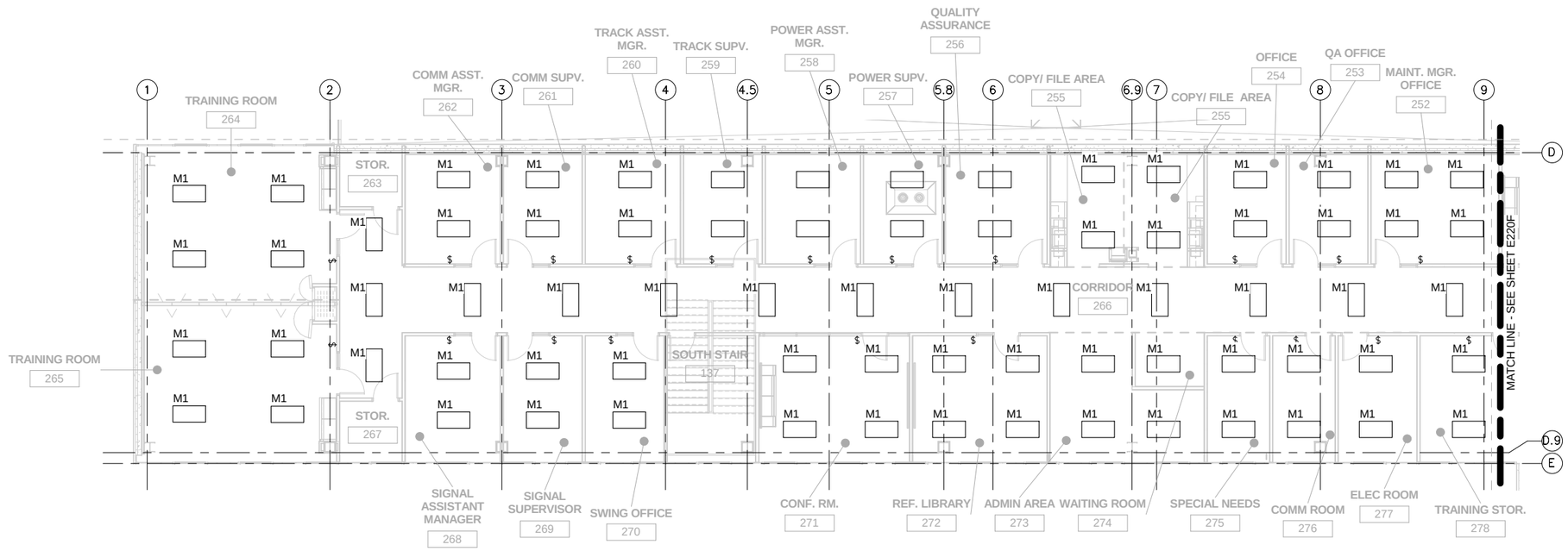
E210N

SHEET 195 OF 263

9/22/2015 10:10:30 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E220E LIGHTING PLAN - AREA E
SCALE: 1/8" = 1'-0"

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

LIGHTING - LEVEL TWO - AREA E

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

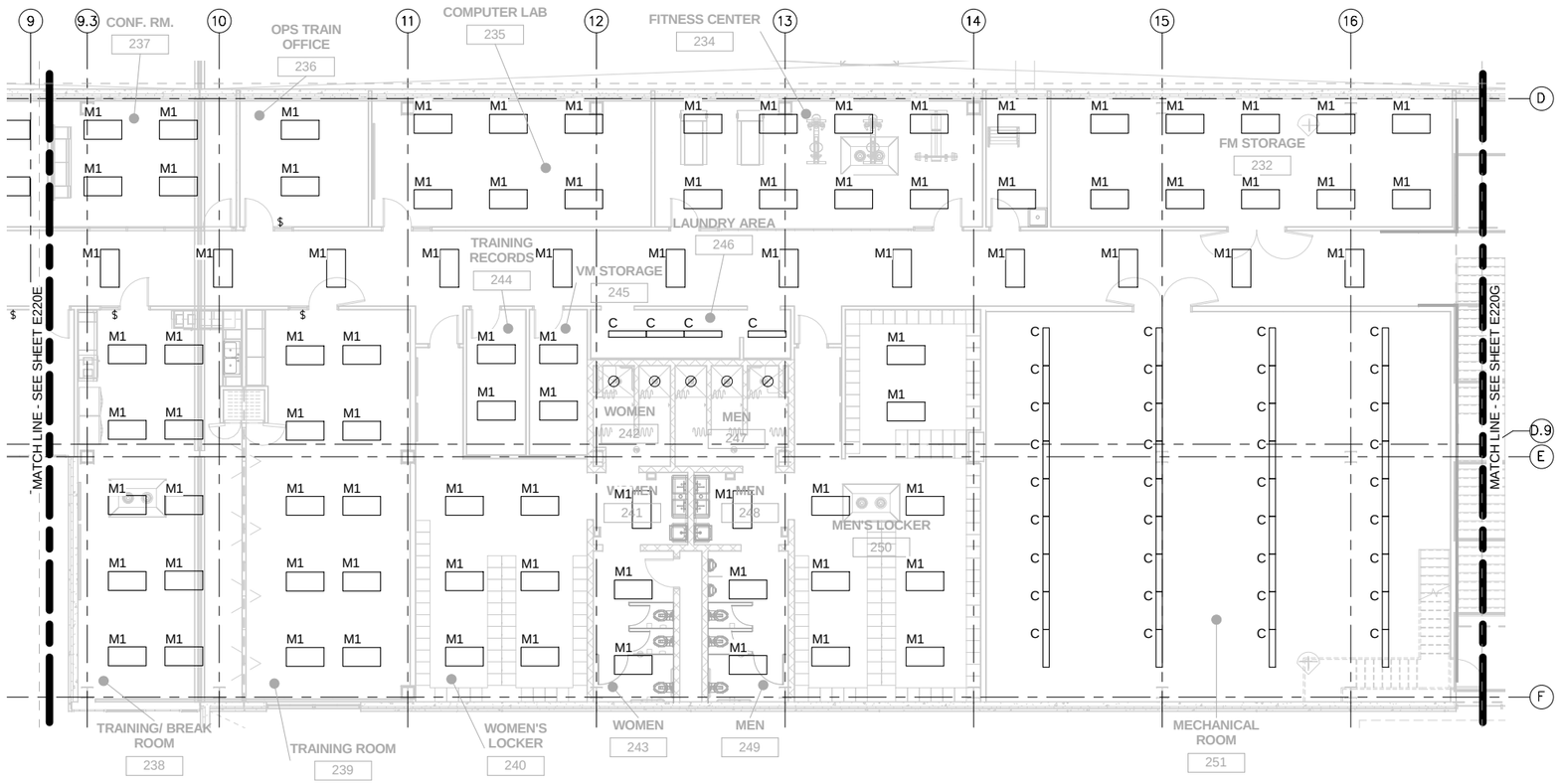
E220E

SHEET 196 OF 263

9/22/2015 10:10:33 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

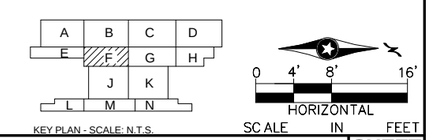
GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E220F LIGHTING PLAN - AREA F

SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

LIGHTING - LEVEL TWO - AREA F

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

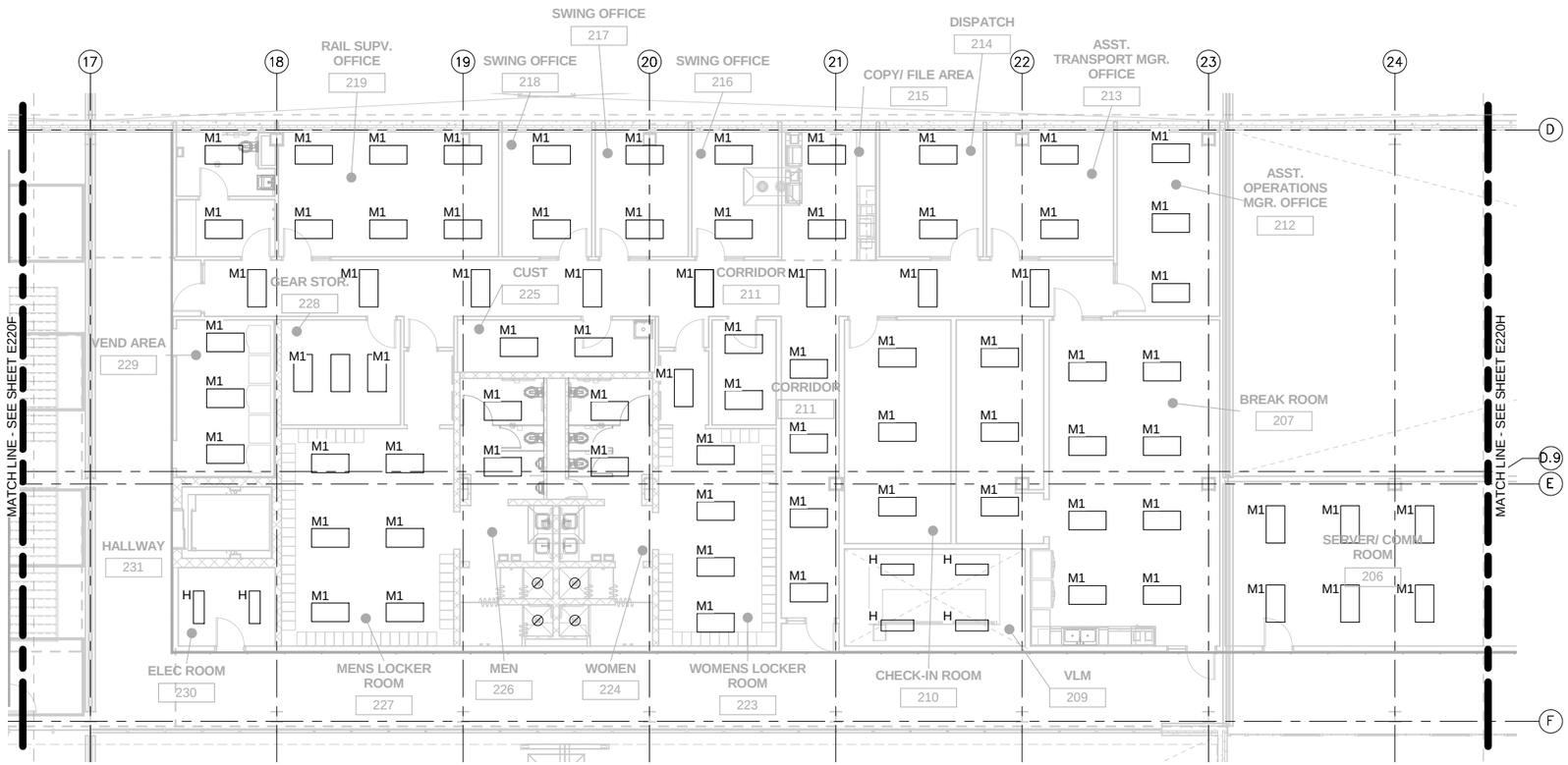
E220F

SHEET 197 OF 263

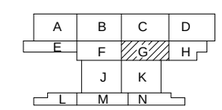
9/22/2015 10:10:36 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

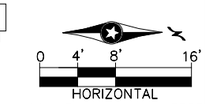
1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E220G LIGHTING PLAN - AREA G
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
LIGHTING - LEVEL TWO - AREA G

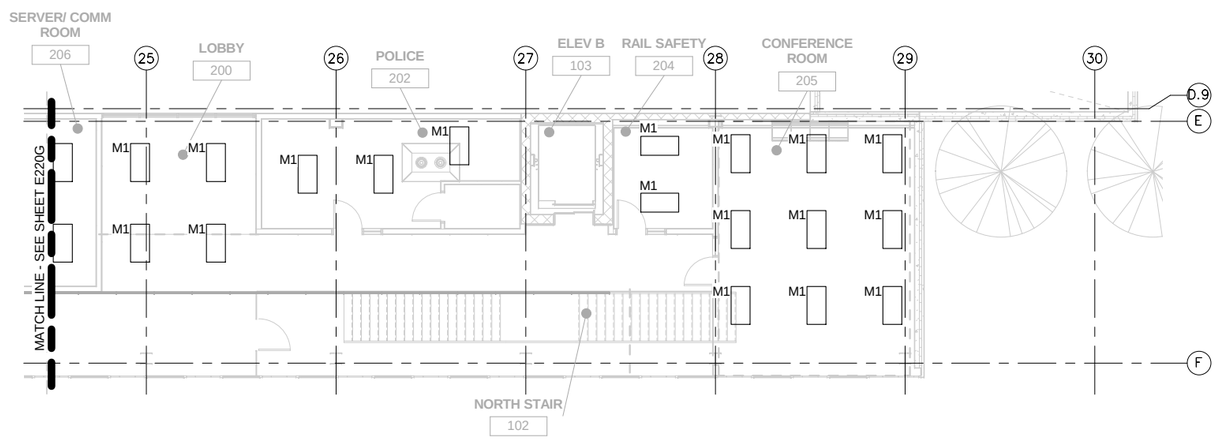
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E220G

SHEET 198 OF 263

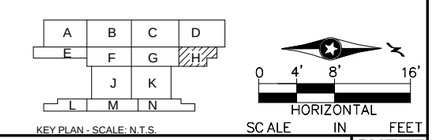
9/22/2015 10:10:40 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTE:

1. ALL EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM EDP-117.



1 E220H LIGHTING PLAN - AREA H
SCALE: 1/8" = 1'-0"



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ELECTRICAL

LIGHTING - LEVEL TWO - AREA H

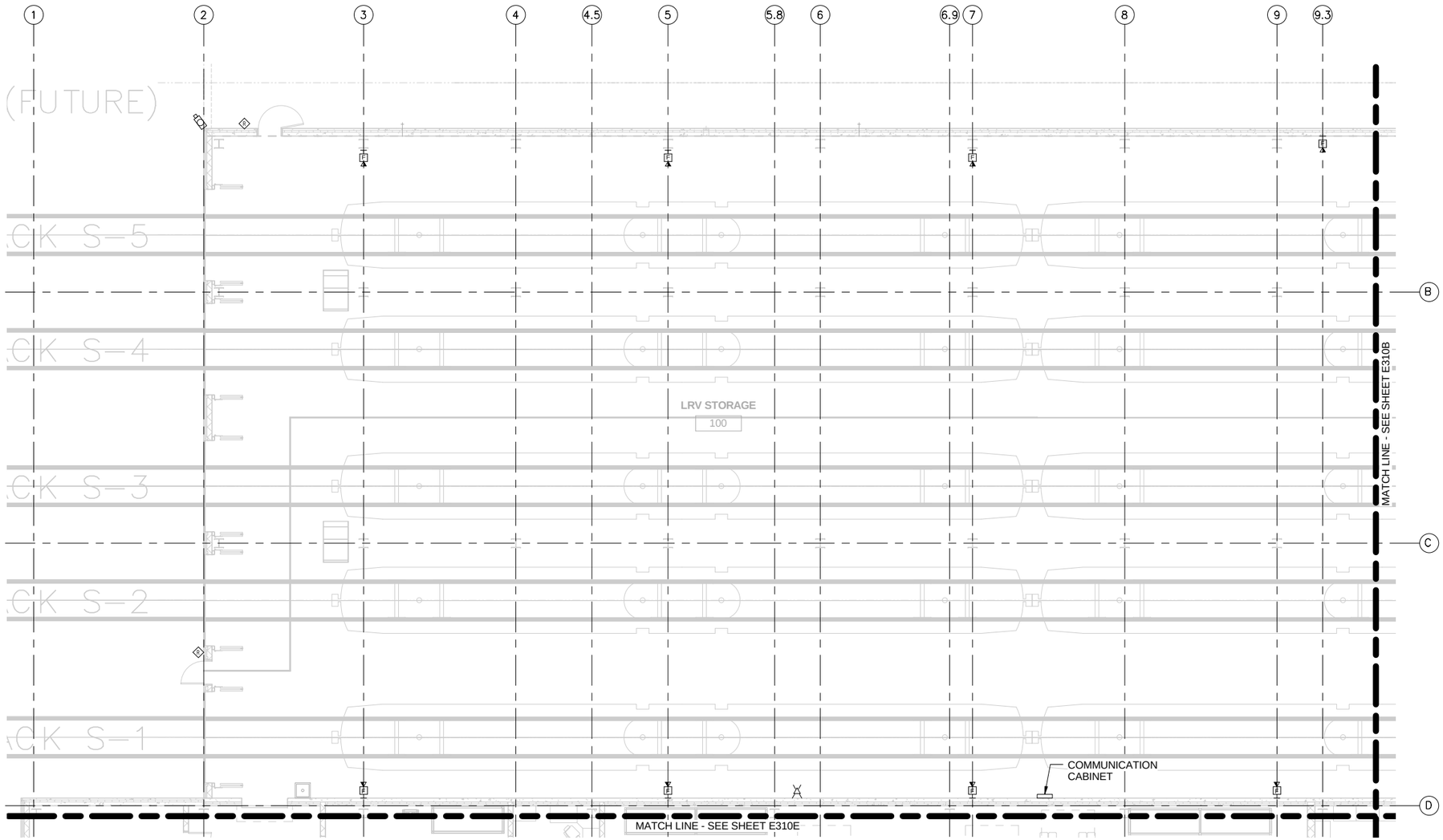
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E220H

SHEET 199 OF 263

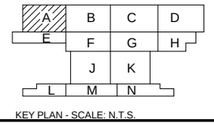
9/22/2015 10:10:42 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

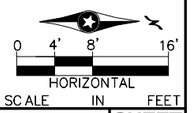
1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310A SYSTEMS PLAN - AREA A
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



SCALE IN FEET

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SYSTEMS - LEVEL ONE - AREA A

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

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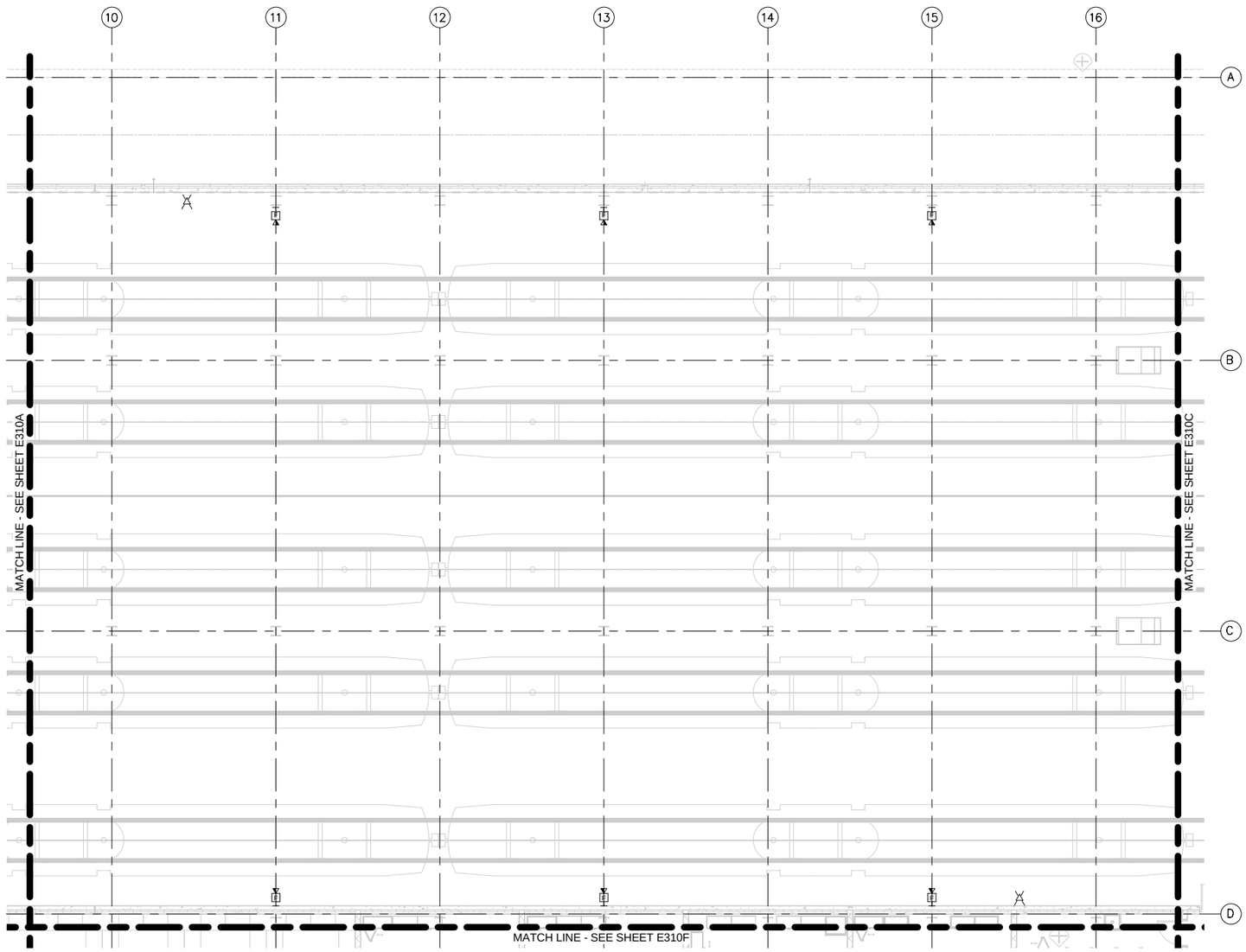
SHEET 200 OF 263

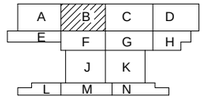
9/22/2015 10:10:45 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310B SYSTEMS PLAN - AREA B
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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SYSTEMS - LEVEL ONE - AREA B

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

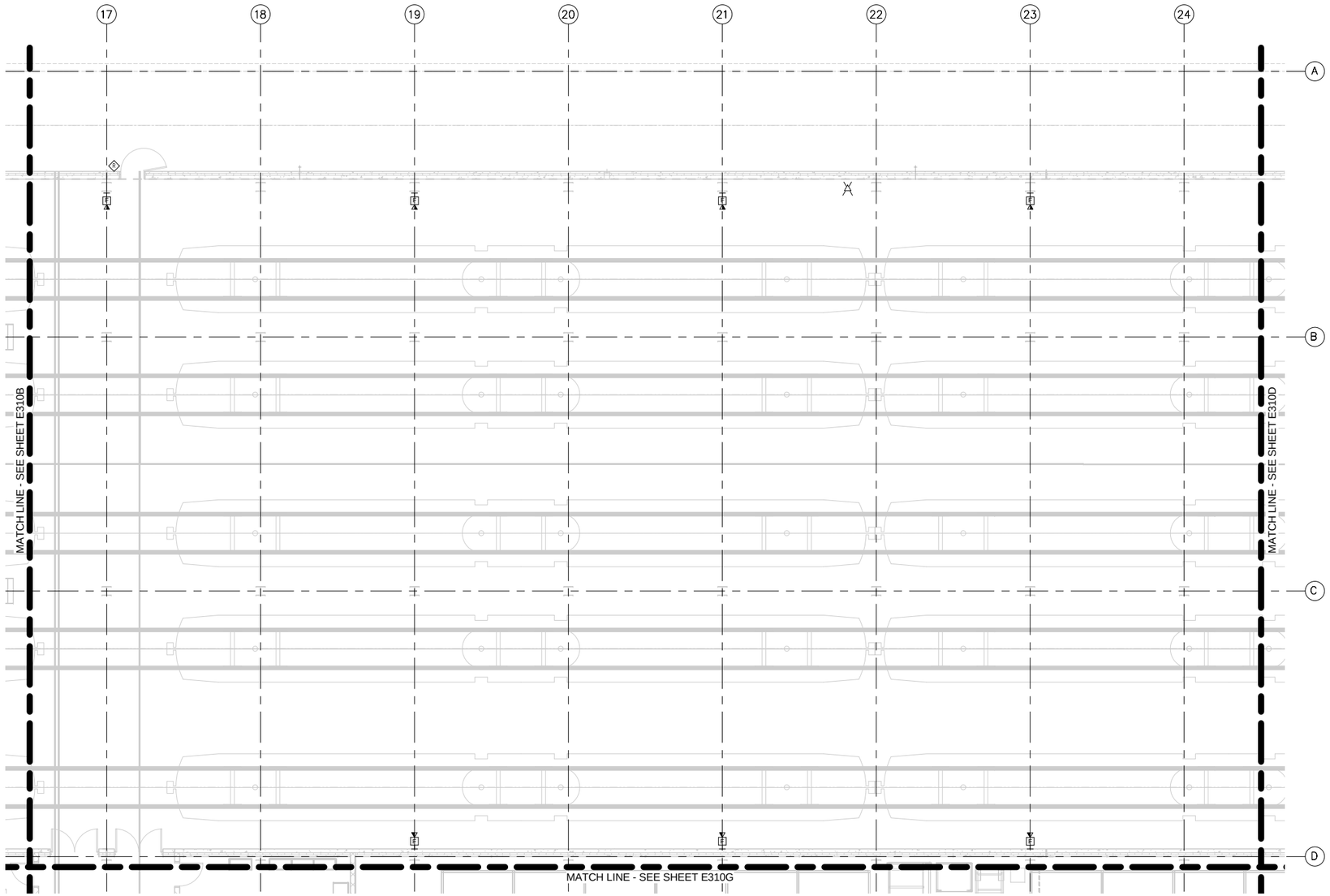
E310B

SHEET 201 OF 263

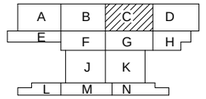
9/22/2015 10:10:47 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

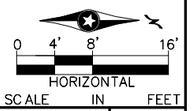
1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310C SYSTEMS PLAN - AREA C
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SYSTEMS - LEVEL ONE - AREA C

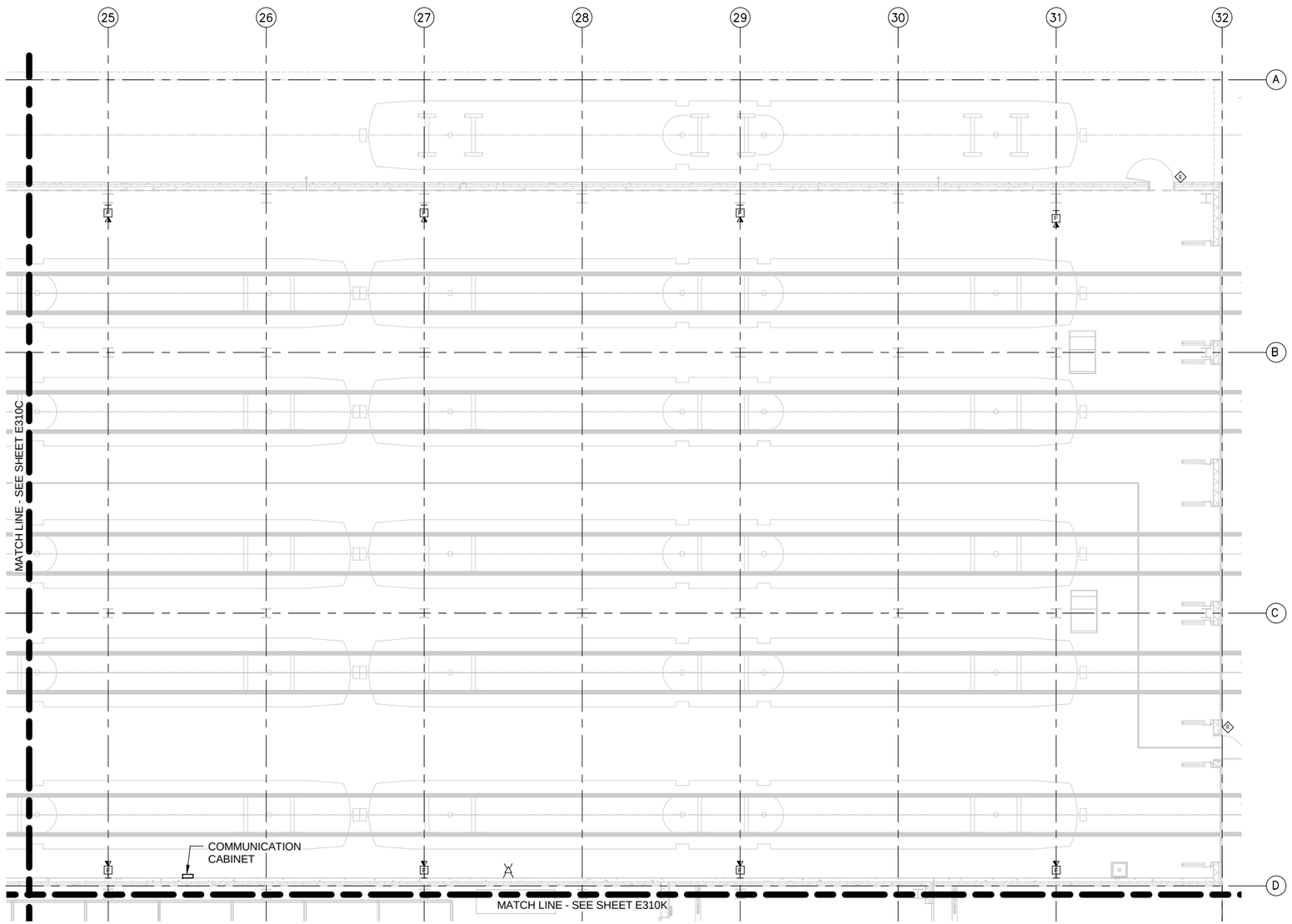
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E310C

SHEET 202 OF 263

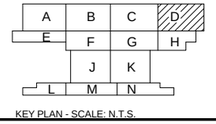
9/22/2015 10:10:49 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

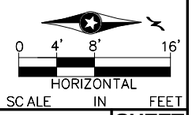
1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310D SYSTEMS PLAN - AREA D
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SYSTEMS - LEVEL ONE - AREA D

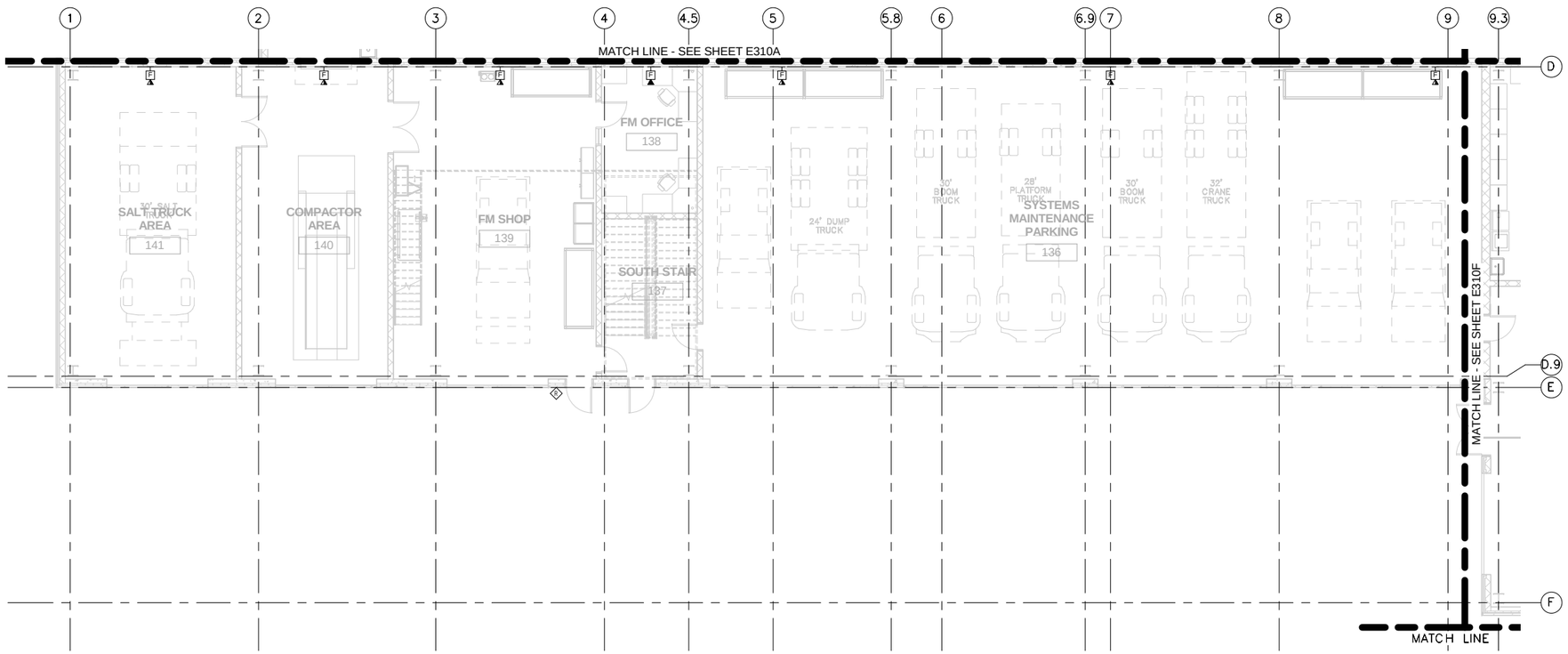
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E310D

SHEET 203 OF 263

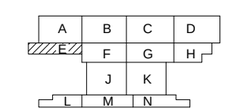
9/22/2015 10:10:51 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

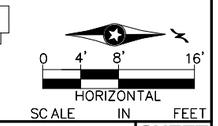
1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310E SYSTEMS PLAN - AREA E
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

SYSTEMS - LEVEL ONE - AREA E

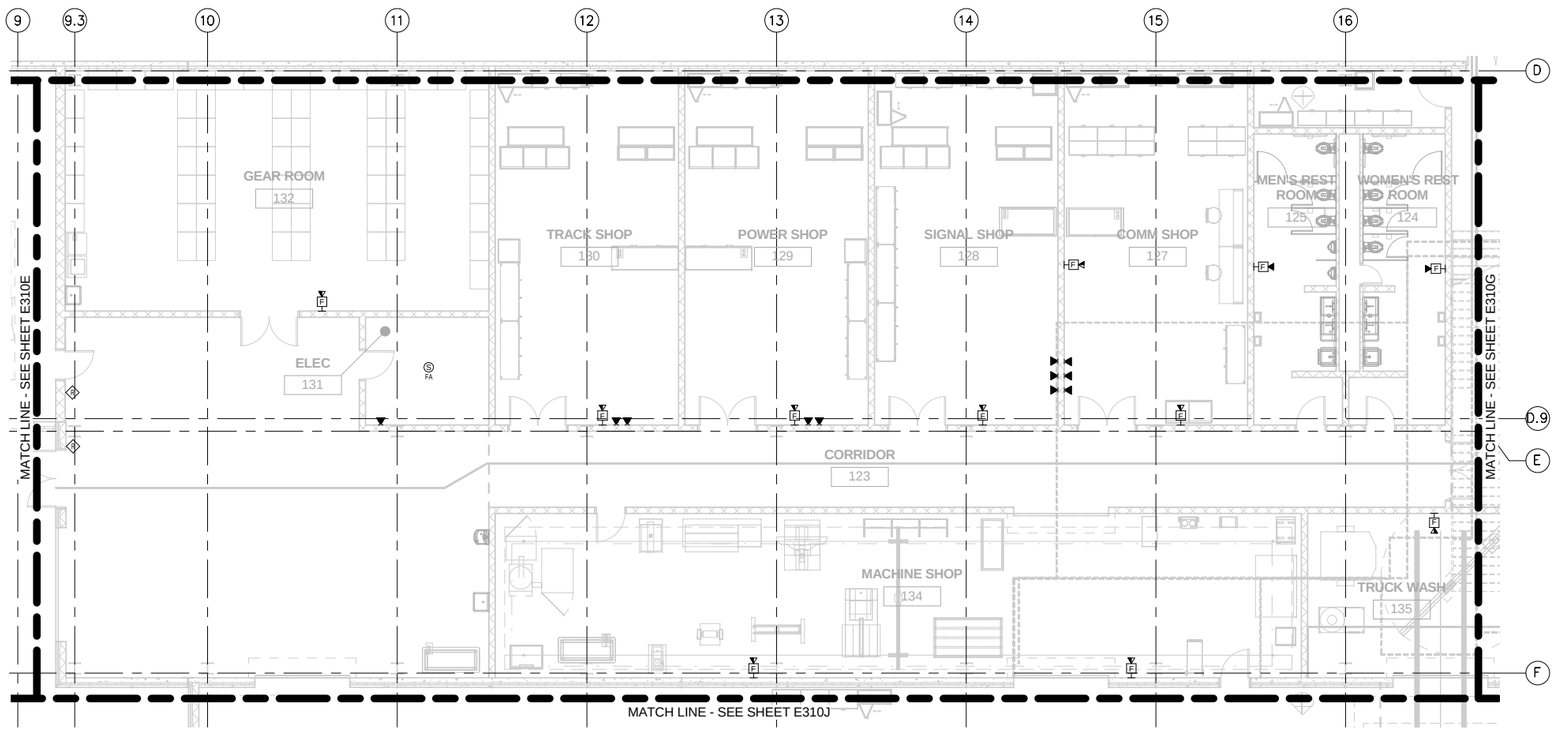
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E310E

SHEET 204 OF 263

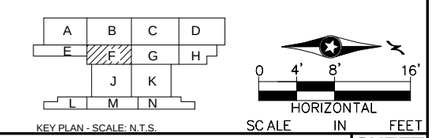
9/22/2015 10:10:54 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310F SYSTEMS PLAN - AREA F
SCALE: 1/8" = 1'-0"



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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

SYSTEMS - LEVEL ONE - AREA F

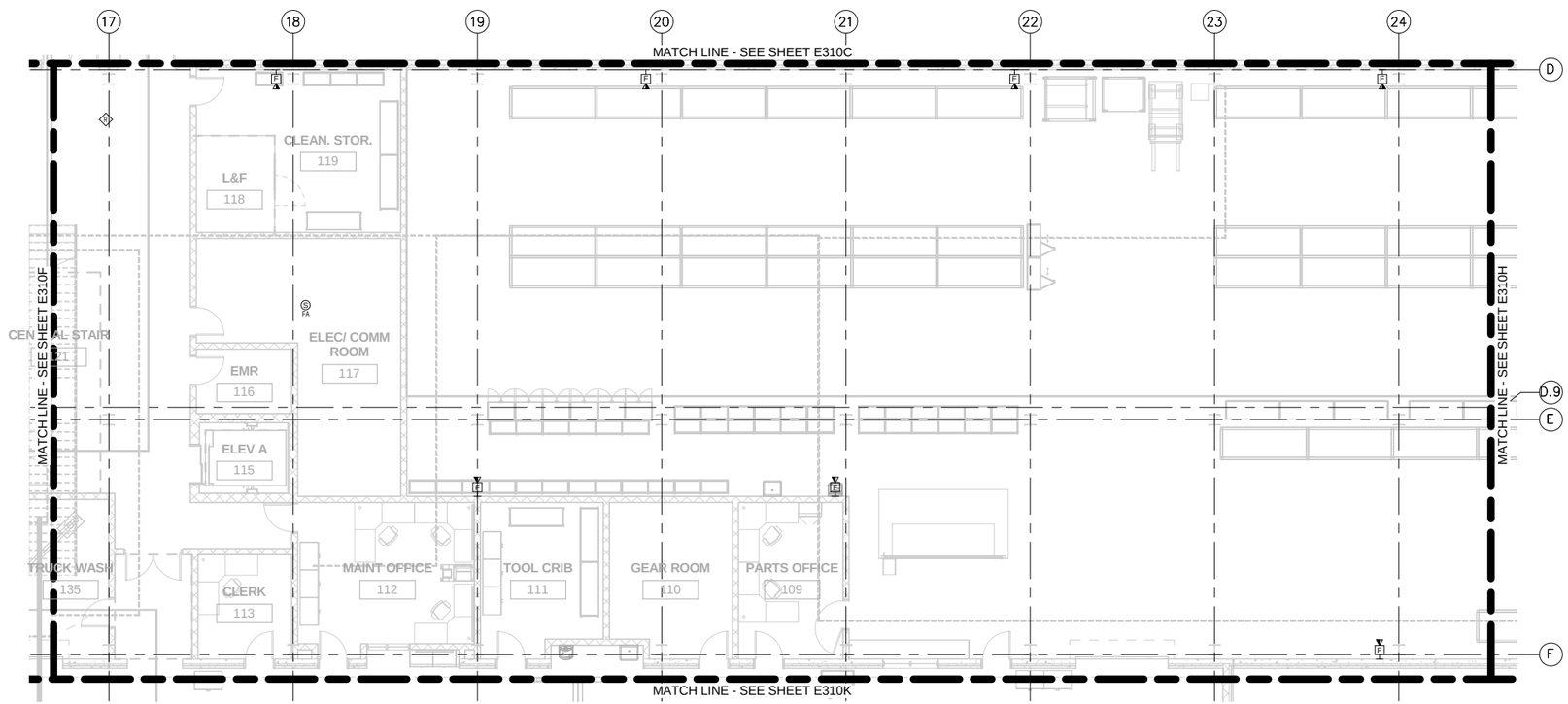
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E310F

SHEET 205 OF 263

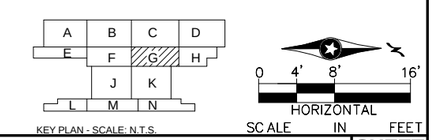
9/22/2015 10:11:00 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310G SYSTEMS PLAN - AREA G
SCALE: 1/8" = 1'-0"



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SYSTEMS - LEVEL ONE - AREA G

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E310G

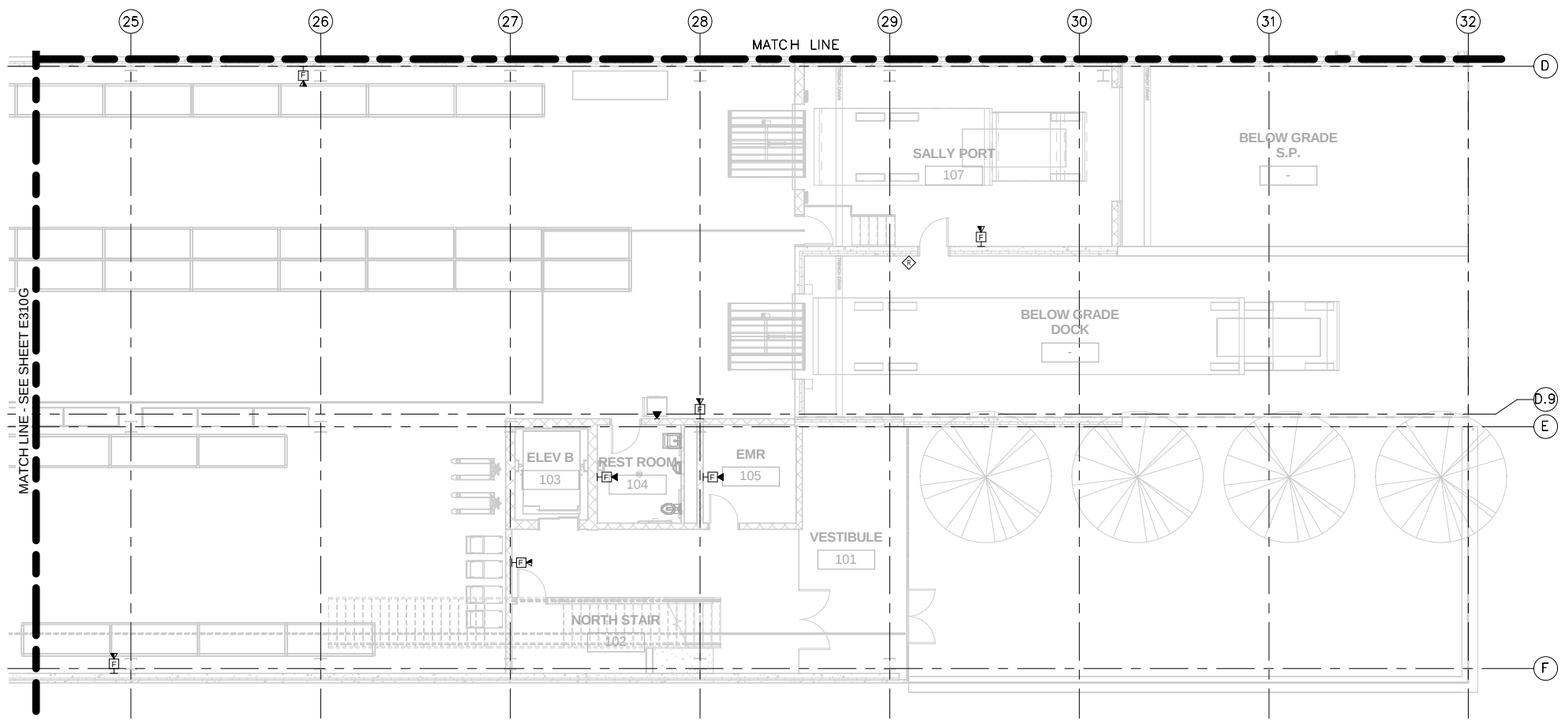
SHEET 206 OF 263

9/22/2015 10:11:04 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

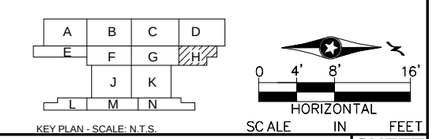
GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.

2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310H SYSTEMS PLAN - AREA H
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

SYSTEMS - LEVEL ONE - AREA H

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

E310H

SHEET 207 OF 263

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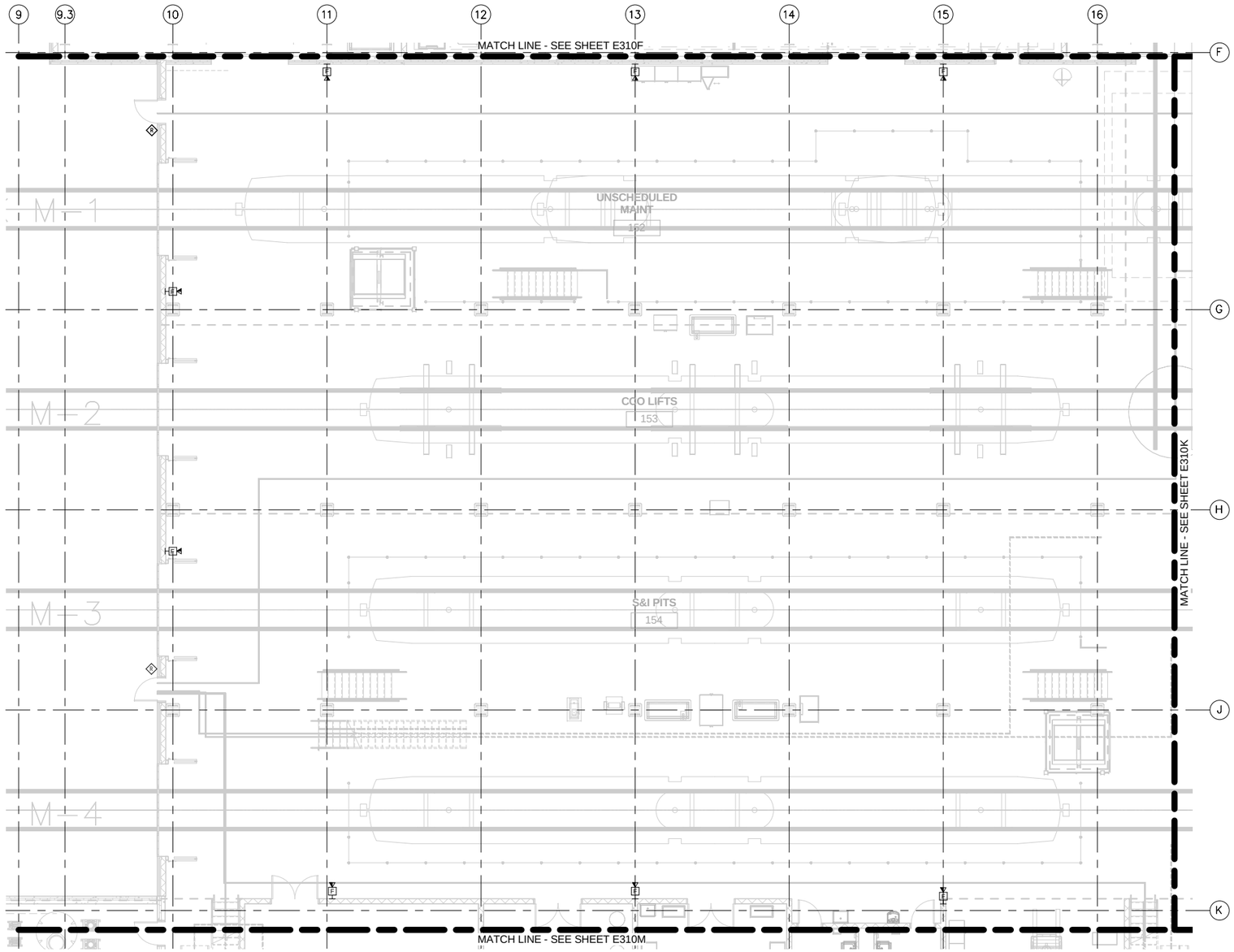
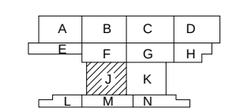
GENERAL NOTES:

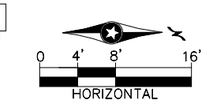
1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.



1 E310J SYSTEMS PLAN - AREA J
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



SCALE IN FEET

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

SYSTEMS - LEVEL ONE - AREA J

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

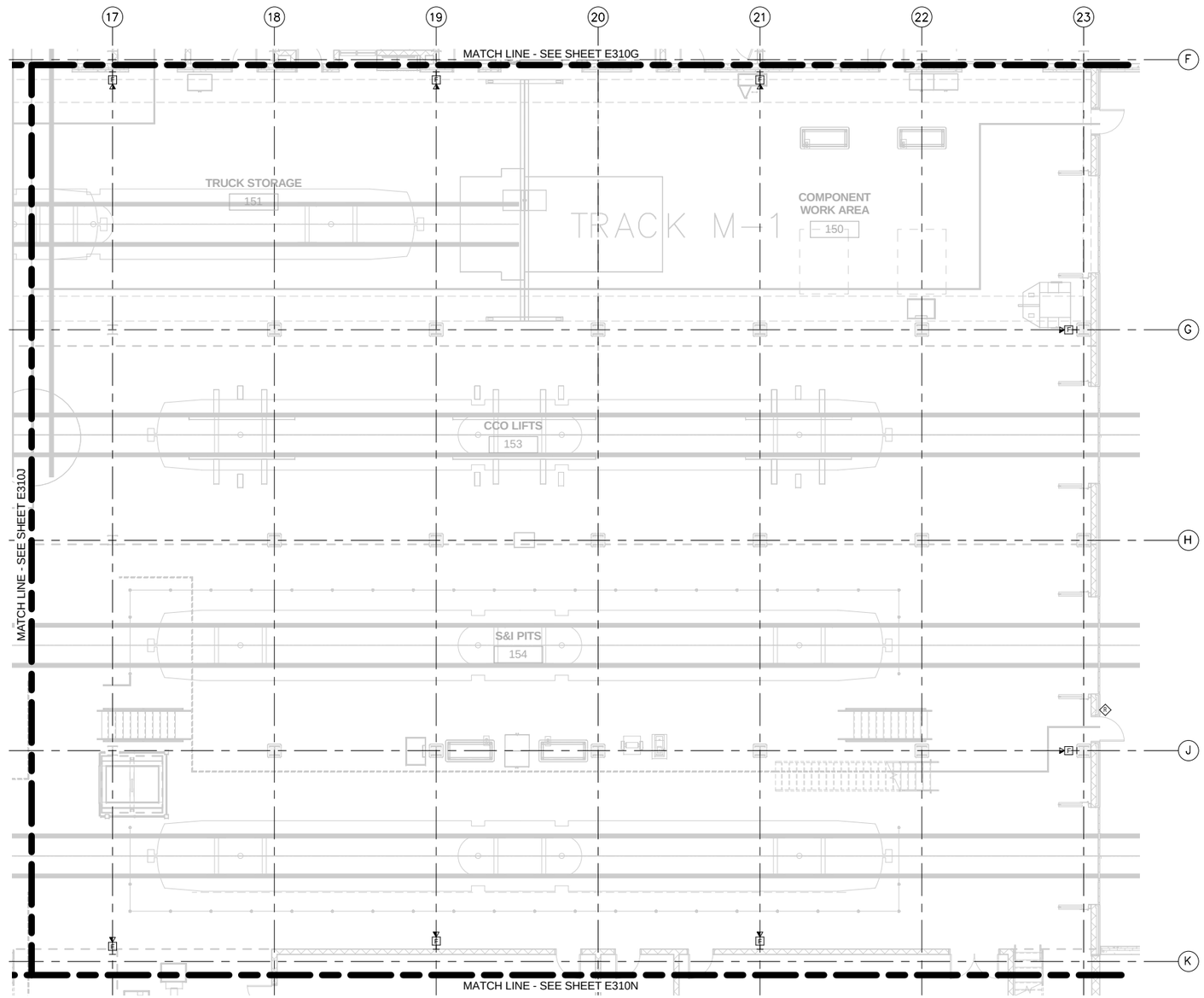
E310J

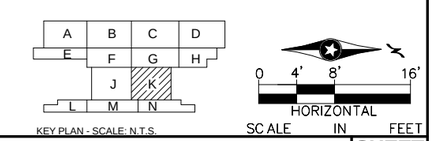
SHEET 208 OF 263

9/22/2015 10:11:10 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.
2. RUN AND TERMINATE TWO CAT-6 CABLES TO ALL NETWORK OUTLETS EXCEPT WHERE OTHERWISE NOTED.





KEY PLAN - SCALE: N.T.S.

1 / E310K SYSTEMS PLAN - AREA K
SCALE: 1/8" = 1'-0"

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

SYSTEMS - LEVEL ONE - AREA K

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

E310K

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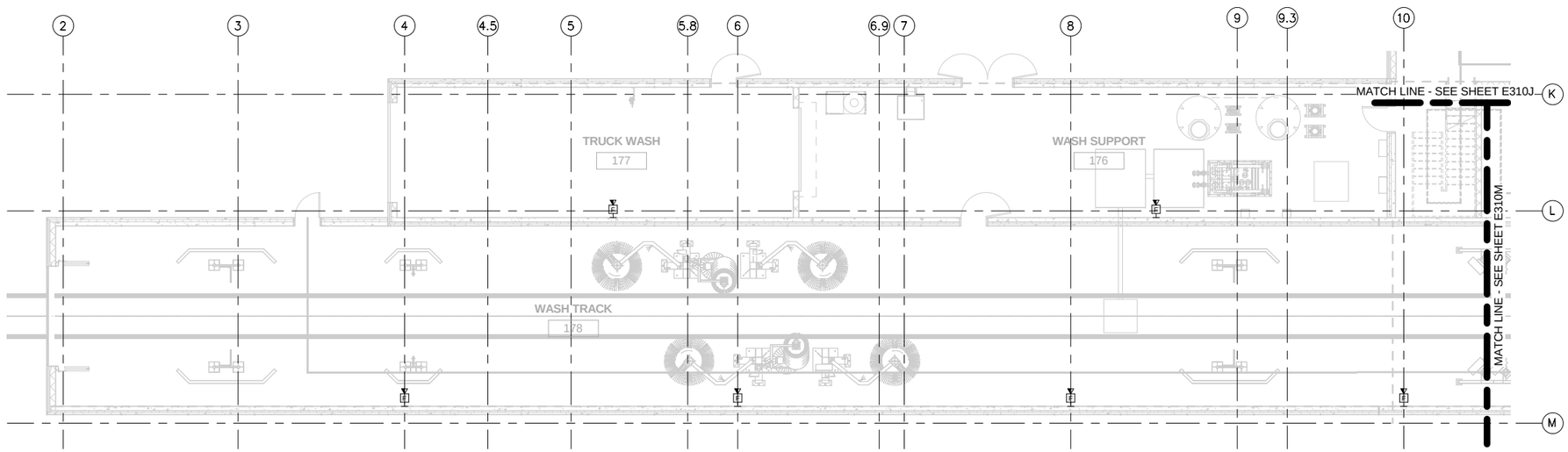

1 E310L SYSTEMS PLAN - AREA L
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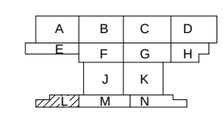

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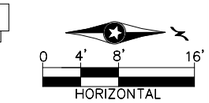

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SYSTEMS - LEVEL ONE - AREA L

DISCIPLINE: ELECTRICAL
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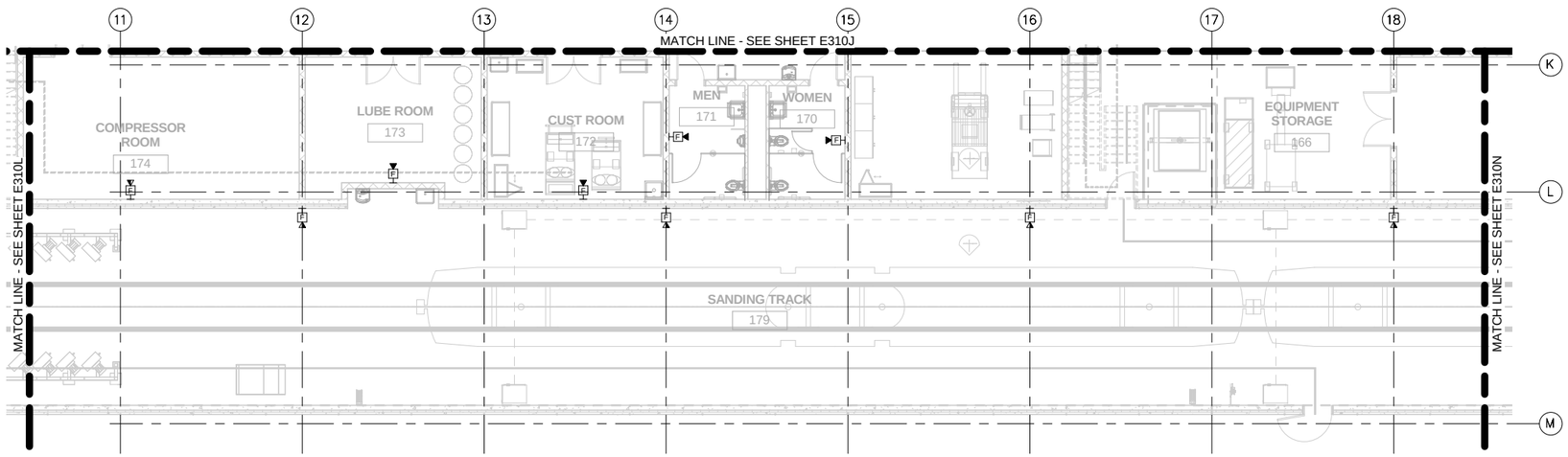
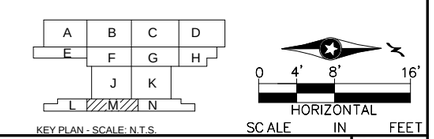


1 E310M SYSTEMS PLAN - AREA M
SCALE: 1/8" = 1'-0"



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ELECTRICAL

SYSTEMS - LEVEL ONE - AREA M

DISCIPLINE: ELECTRICAL
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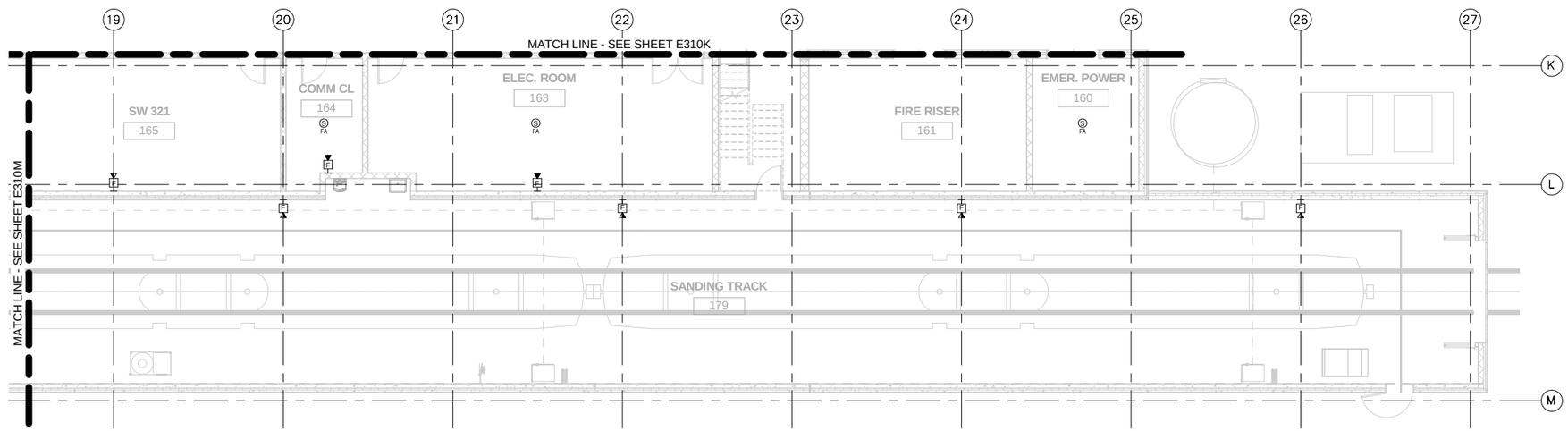
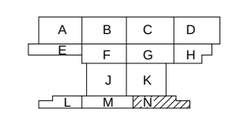
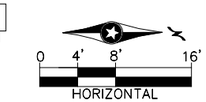


1 E310N SYSTEMS PLAN - AREA N
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SYSTEMS - LEVEL ONE - AREA N

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E310N

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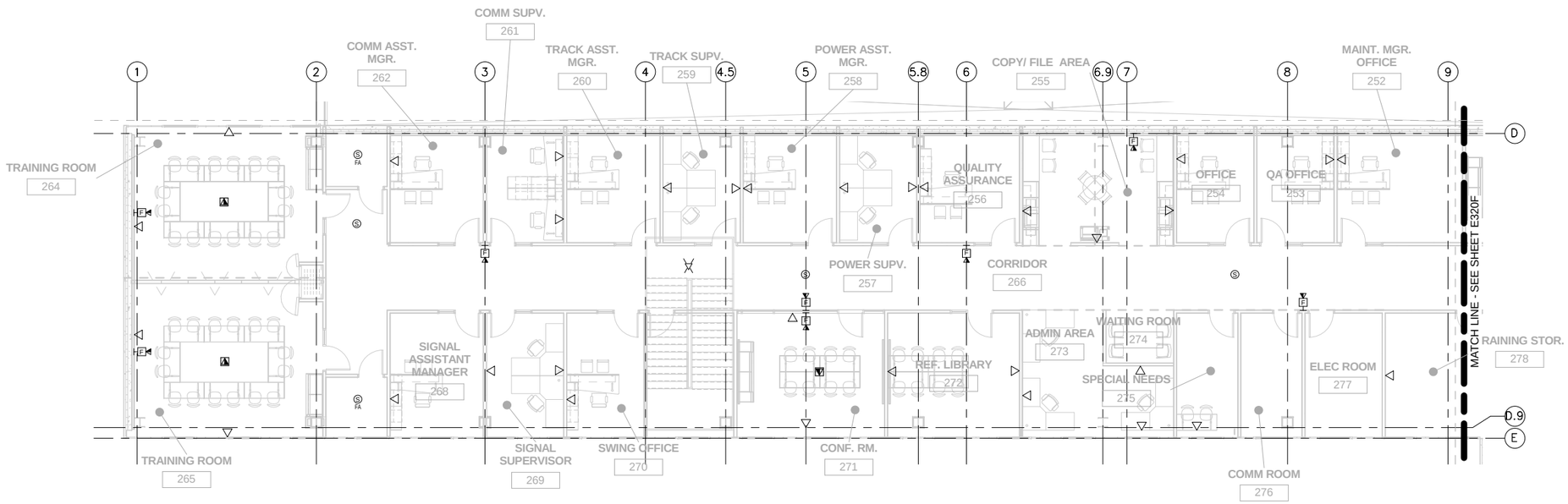
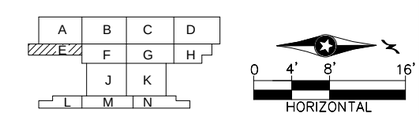


1 E320E SYSTEMS PLAN - AREA E
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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SYSTEMS - LEVEL TWO - AREA E

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

E320E

SHEET 213 OF 263

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GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.
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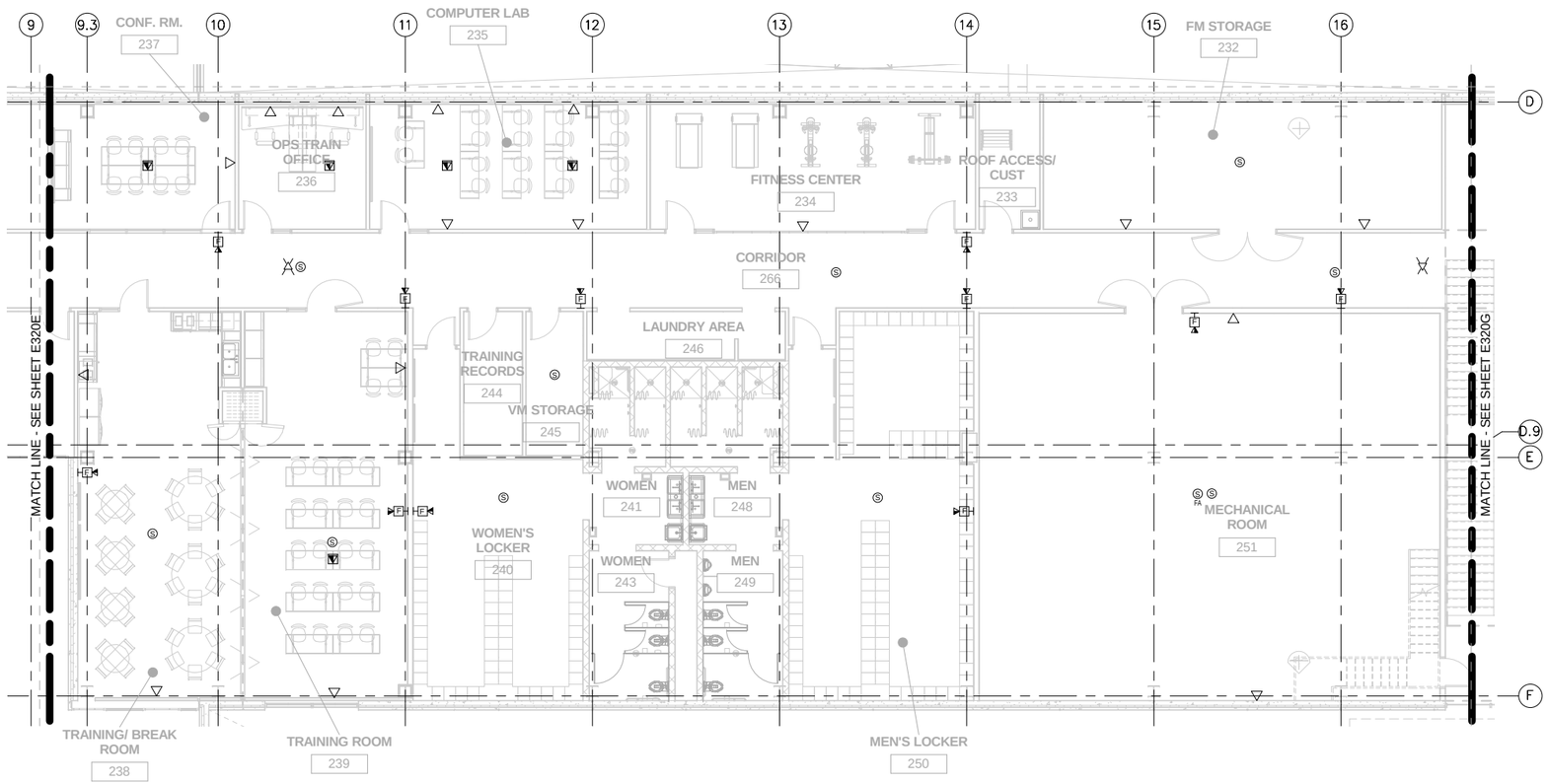
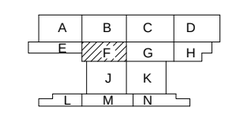
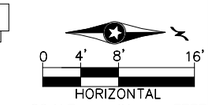


1 E320F SYSTEMS PLAN - AREA F
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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SYSTEMS - LEVEL TWO - AREA F

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E320F

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GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.
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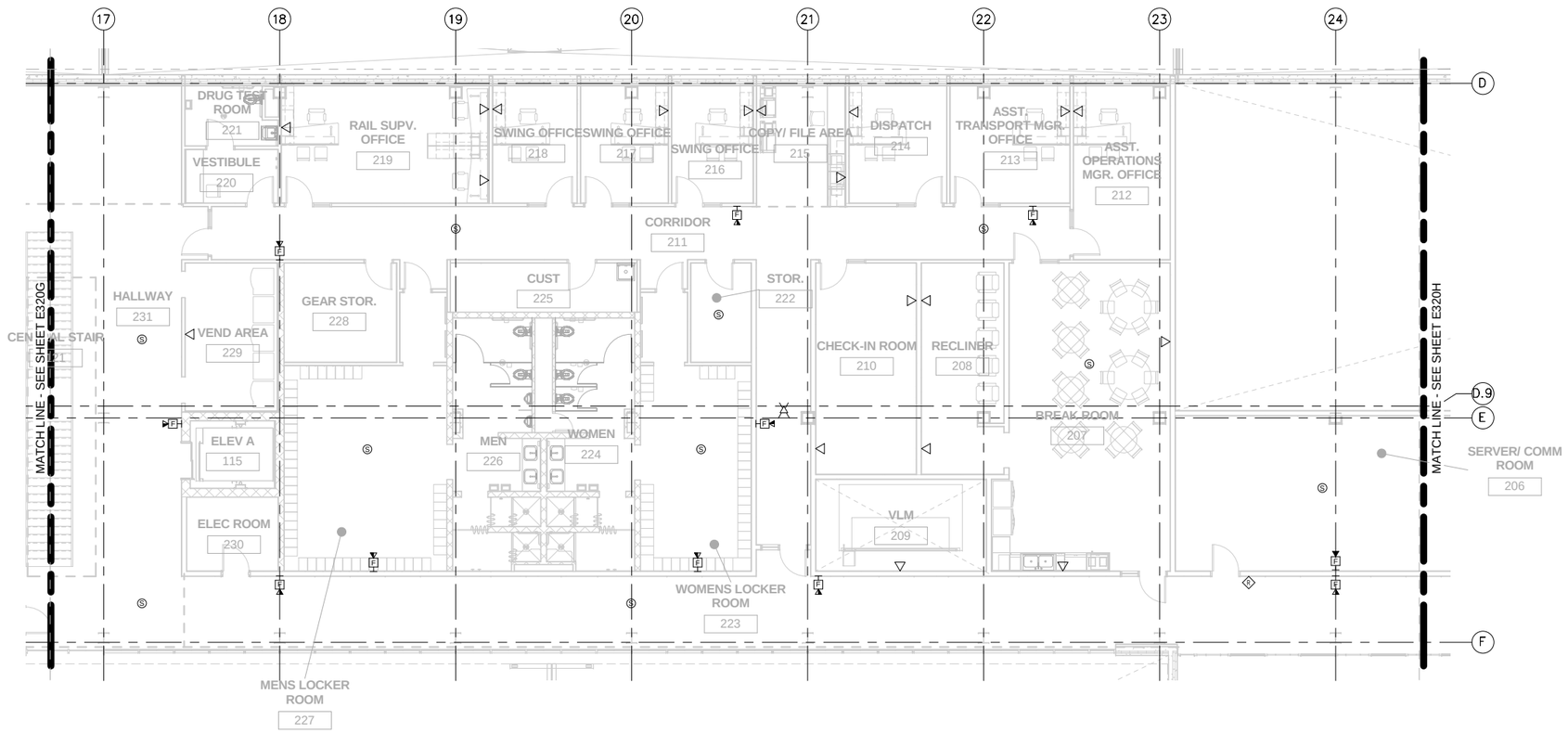
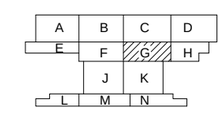


1 E320G SYSTEMS PLAN - AREA G
SCALE: 1/8" = 1'-0"



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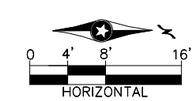

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SYSTEMS - LEVEL TWO - AREA G

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E320G

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GENERAL NOTES:

1. CONDUITS NOT SHOWN ON THIS SHEET.
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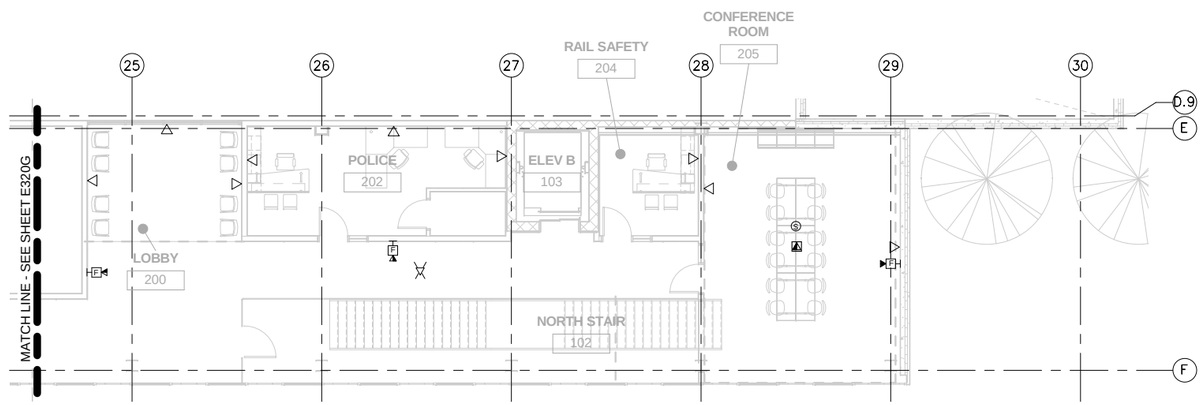
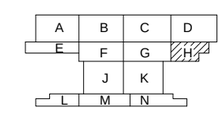


1 E320H SYSTEMS PLAN - AREA H
SCALE: 1/8" = 1'-0"



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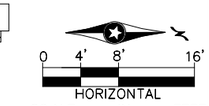

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ELECTRICAL

SYSTEMS - LEVEL TWO - AREA H

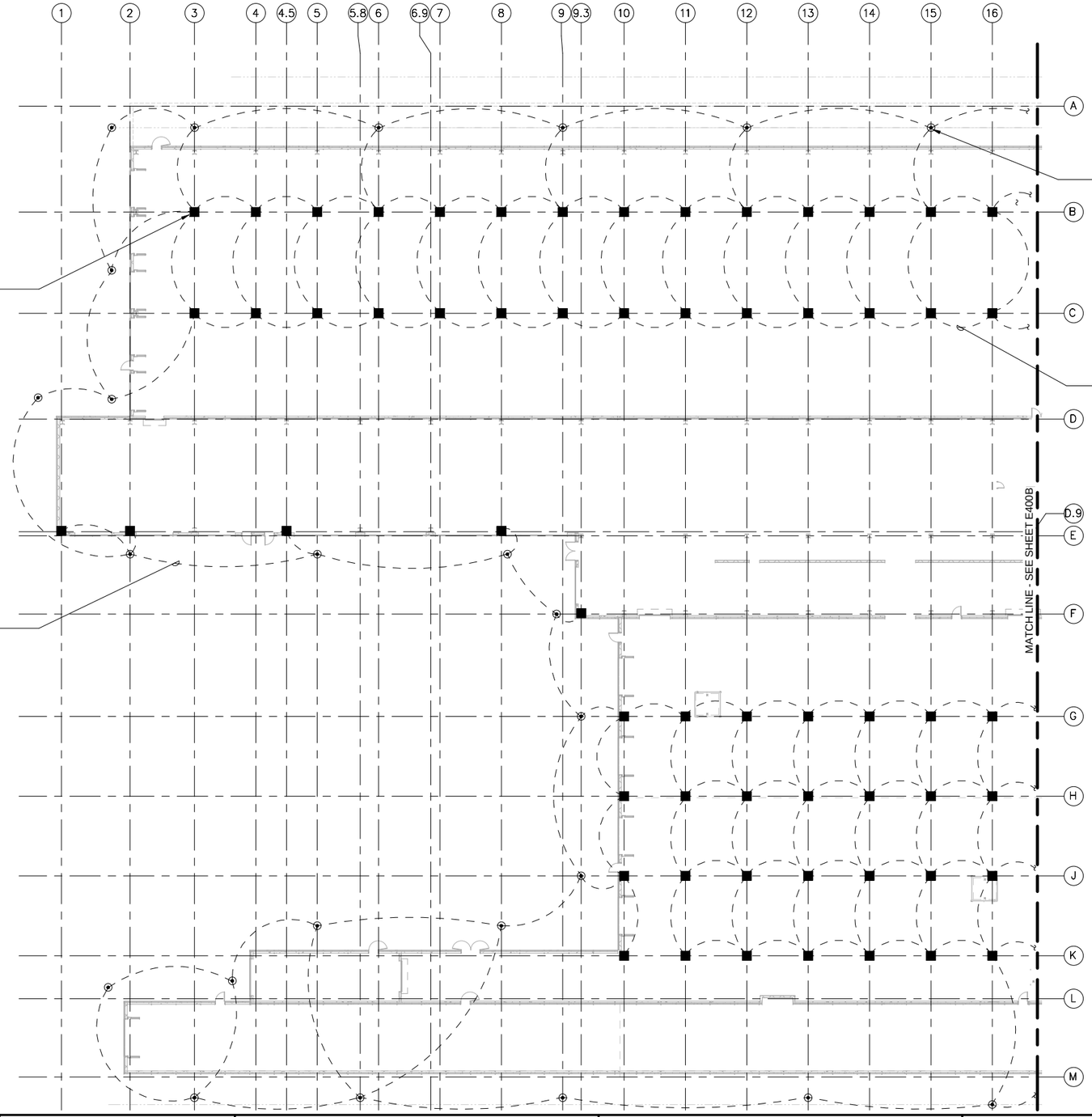
DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E320H

SHEET 216 OF 263

9/22/2015 10:11:32 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:

1. ALL GROUND RODS, RING CONDUCTORS, UFER GROUND AND GEC STUB-UPS TO COLUMNS AND GROUND BUSSES SHALL BE INSTALLED DURING SITE EXCAVATION. INSTALLATION OF GEO-PIERS AND FORMING OF FOOTINGS GECS SHALL BE PROTECTED FROM DAMAGE.



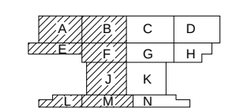
40', 3/4" DIAMETER, PRE-MANUFACTURED GROUND ROD WITH COPPER COATING OVER GALVANIZED STEEL. GROUND ROD SHALL BE AUGERED IN WITH MINIMUM DIAMETER HOLE FOR ROD INSTALLATION. FILL VOID WITH GROUND ENHANCING MATERIAL FOR TESTING OF GROUND ROD. ALL EXOTHERMIC WELDS SHALL BE COATED WITH INHERT SILICON COATING TO PREVENT CORROSION OF WELD. TYPICAL FOR ALL GROUND RODS

PROVIDE FLUSH HANDHOLE AT LOCATION WHERE GROUND RING GEC CONNECTS TO STEEL COLUMN FOR TESTING OF GROUNDING SYSTEM. TYPICAL FOR ALL CONNECTIONS

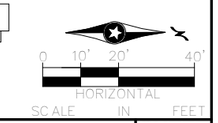
#3/O BARE COPPER GROUNDING ELECTRODE CONDUCTORS SHALL BE INSTALLED IN THE BOTTOM OF THE FORM FOR THE STRUCTURAL FLOOR. GROUNDING ELECTRODE CONDUCTORS SHALL BE EXOTHERMIC WELDED TO THE STEEL COLUMN ABOVE GRADE SO WELD IS VISIBLE. TYPICAL FOR ALL GROUNDING ELECTRODE CONDUCTORS WITHIN BUILDING PARAMETER

GROUNDING ELECTRODE RING #3/O BARE COPPER CONDUCTORS SHALL BE INSTALLED AT THE LEVEL OF THE BOTTOM OF THE FOUNDATION FOOTING AND OUT ONE GROUND ROD LENGTH FROM THE FOOTING. TYPICAL FOR ALL GROUNDING ELECTRODE RING CONDUCTORS

1 / E400A GROUNDING ELECTRODE PLAN - LEVEL ONE
SCALE: 1" = 20'-0"



KEY PLAN - SCALE: N.T.S.



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GROUNDING ELECTRODE PLAN - LEVEL ONE

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E400A

SHEET 217 OF 263

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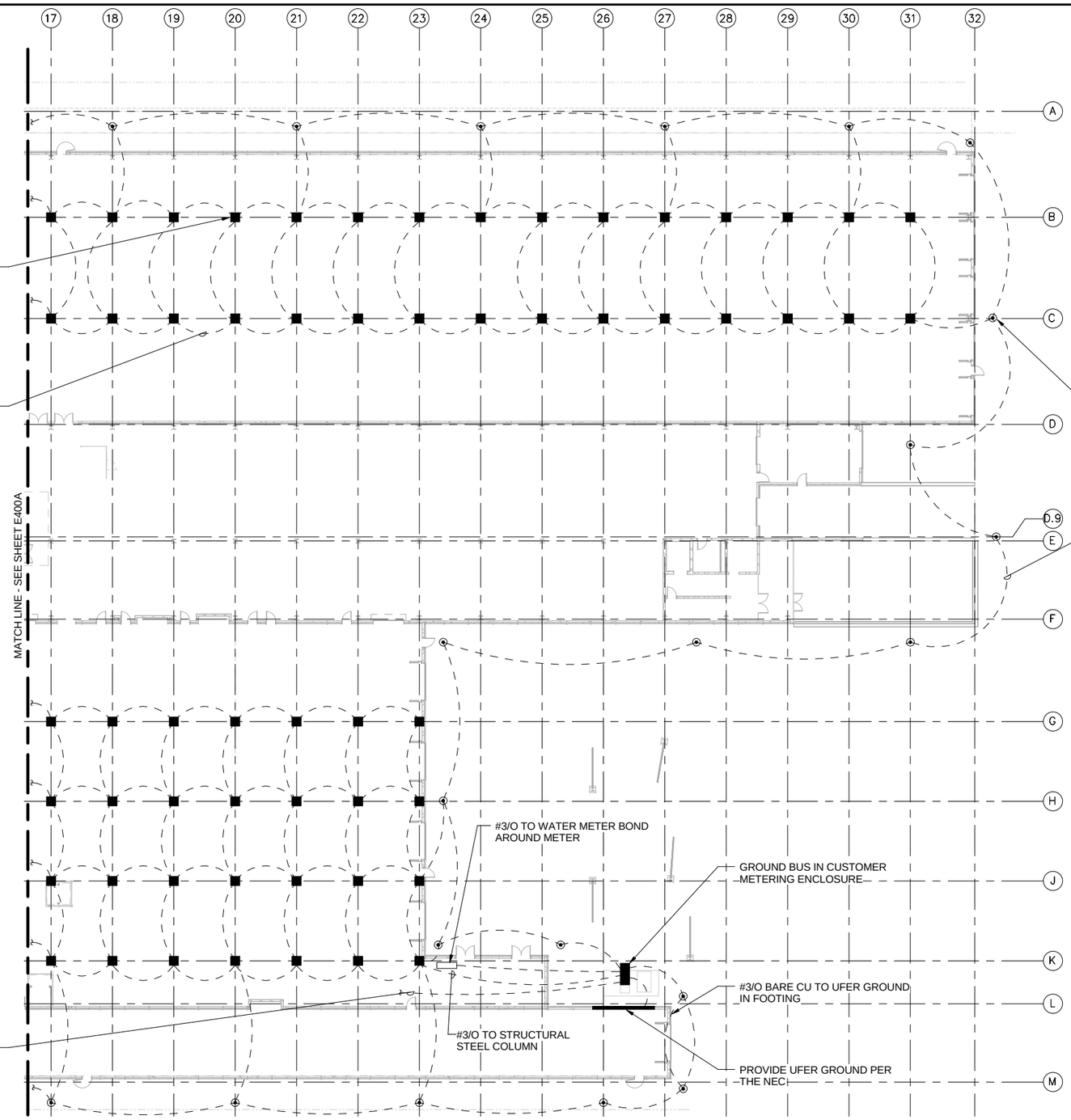
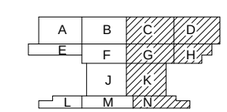


1 E400B GROUNDING ELECTRODE PLAN - LEVEL ONE
SCALE: 1" = 20'-0"

GENERAL NOTES:

1. ALL GROUND RODS, RING CONDUCTORS, UFER GROUND AND GEC STUB-UPS TO COLUMNS AND GROUND BUSSES SHALL BE INSTALLED DURING SITE EXCAVATION. INSTALLATION OF GEO-PIERS AND FORMING OF FOOTINGS GECS SHALL BE PROTECTED FROM DAMAGE.



KEY PLAN - SCALE: N.T.S.

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GROUNDING ELECTRODE PLAN - LEVEL ONE

DISCIPLINE: ELECTRICAL | SHEET NAME: OMF-ELE-PLN | E400B

SHEET 218 OF 263

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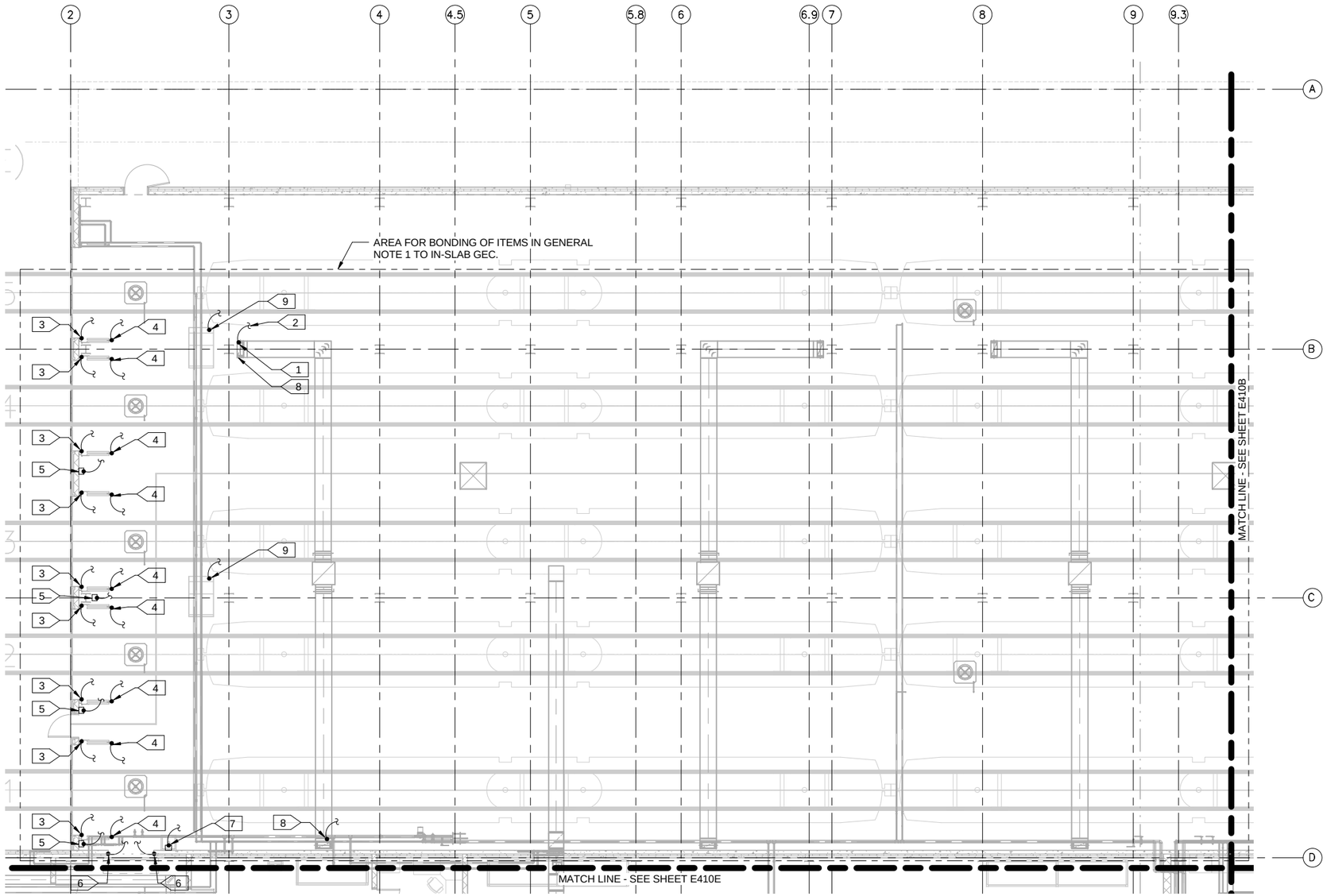


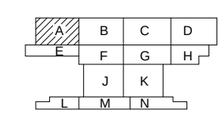
GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
2. GEC CONNECTIONS BETWEEN ABOVE MENTIONED ITEMS AND IN-SLAB GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE #2/O CU.
3. SEE GEC CONNECTION DETAILS ON SHEETS XXX.
4. VERIFY LOCATIONS OF ALL ITEMS PRIOR TO ROUGHING IN.
5. ALL GEC'S SHALL BE BELOW GRADE UNTIL READY FOR CONNECTIONS TO METAL OBJECTS.
6. GEC STUB UPS IN CONCRETE SHALL BE IN POCKETS IN CONCRETE UNTIL READY FOR CONNECTION TO METAL OBJECTS. POCKET SHALL BE COVERED TO PROTECT GEC.
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

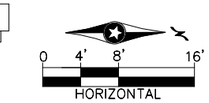
KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. BI-FOLD DOOR FRAME.
4. PHOTOCELL SENSOR FOR BI-FOLD DOOR.
5. CONTROLLLER(S) FOR BI-FOLD DOORS.
6. DOOR FRAME.
7. COPPER WATER LINE.
8. RETURN AIR DUCT AT FLOOR.
9. HOPPER

1 / E410A SAFETY GROUNDING SYSTEM - AREA A
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA A

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410A

SHEET 219 OF 263

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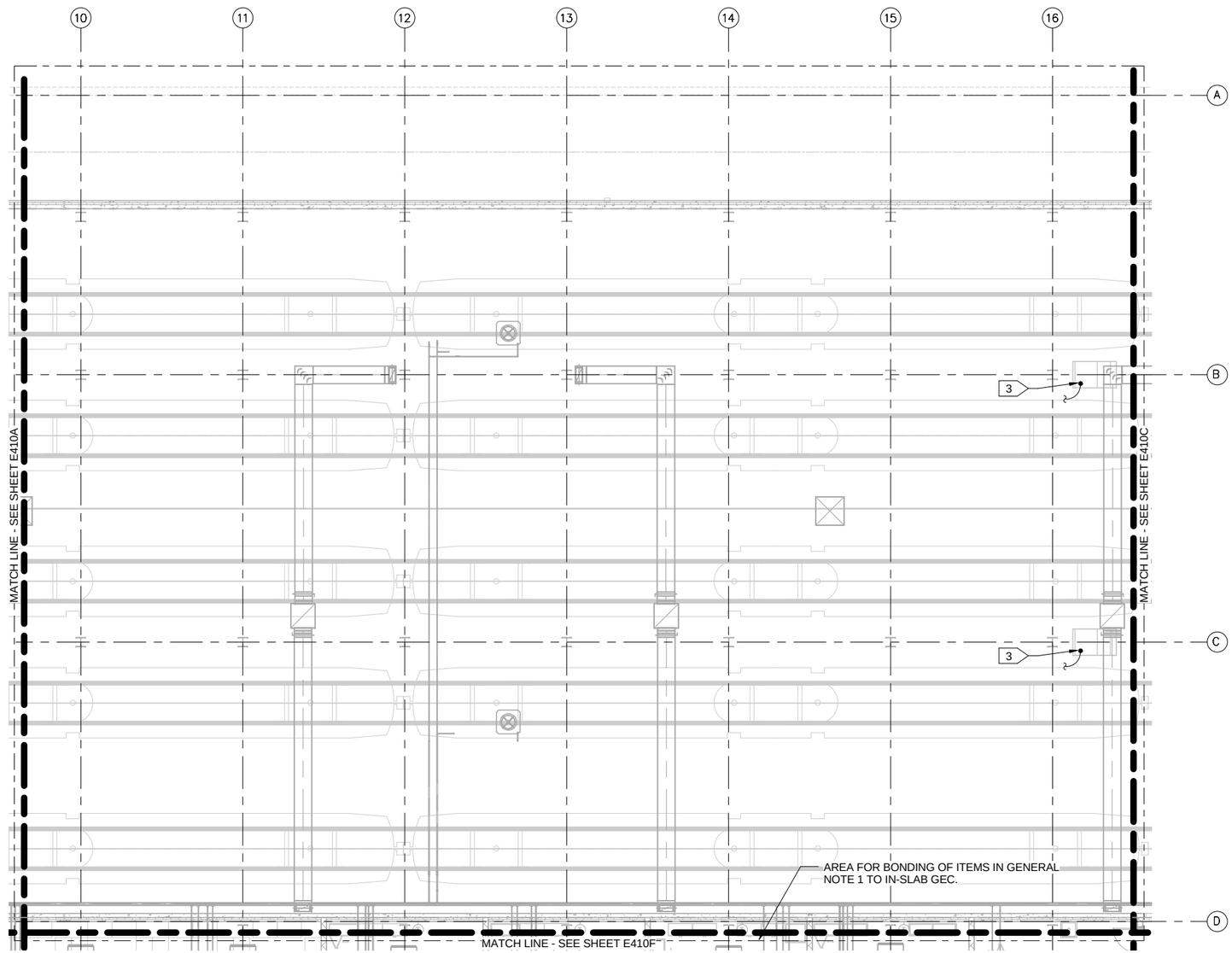


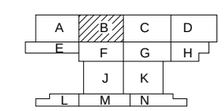
GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
2. GEC CONNECTIONS BETWEEN ABOVE MENTIONED ITEMS AND IN-SLAB GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE #2/O CU.
3. SEE GEC CONNECTION DETAILS ON SHEETS XXX.
4. VERIFY LOCATIONS OF ALL ITEMS PRIOR TO ROUGHING IN.
5. ALL GEC'S SHALL BE BELOW GRADE UNTIL READY FOR CONNECTIONS TO METAL OBJECTS.
6. GEC STUB UPS IN CONCRETE SHALL BE IN POCKETS IN CONCRETE UNTIL READY FOR CONNECTION TO METAL OBJECTS. POCKET SHALL BE COVERED TO PROTECT GEC.
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

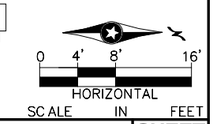
KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. HOPPER.

1 E410B SAFETY GROUNDING SYSTEM - AREA B
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA B

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410B

SHEET 220 OF 263

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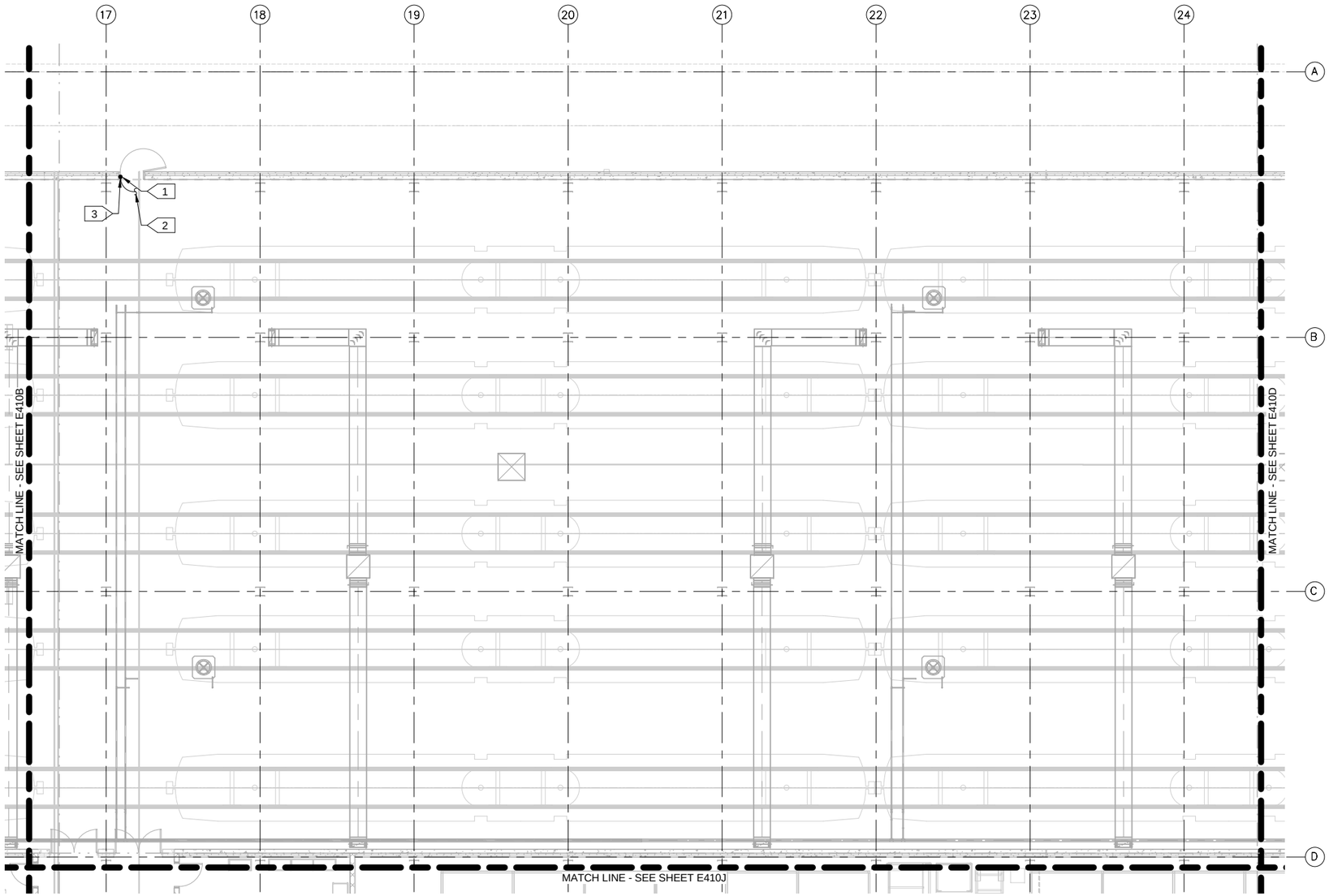


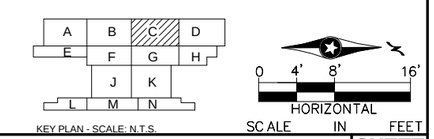
1 E410C SAFETY GROUNDING SYSTEM - AREA C
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
2. GEC CONNECTIONS BETWEEN ABOVE MENTIONED ITEMS AND IN-SLAB GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE #2/O CU.
3. SEE GEC CONNECTION DETAILS ON SHEETS XXX.
4. VERIFY LOCATIONS OF ALL ITEMS PRIOR TO ROUGHING IN.
5. ALL GEC'S SHALL BE BELOW GRADE UNTIL READY FOR CONNECTIONS TO METAL OBJECTS.
6. GEC STUB UPS IN CONCRETE SHALL BE IN POCKETS IN CONCRETE UNTIL READY FOR CONNECTION TO METAL OBJECTS. POCKET SHALL BE COVERED TO PROTECT GEC.
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. DOOR FRAME.



KEY PLAN - SCALE: N.T.S.

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ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA C

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410C

SHEET 221 OF 263

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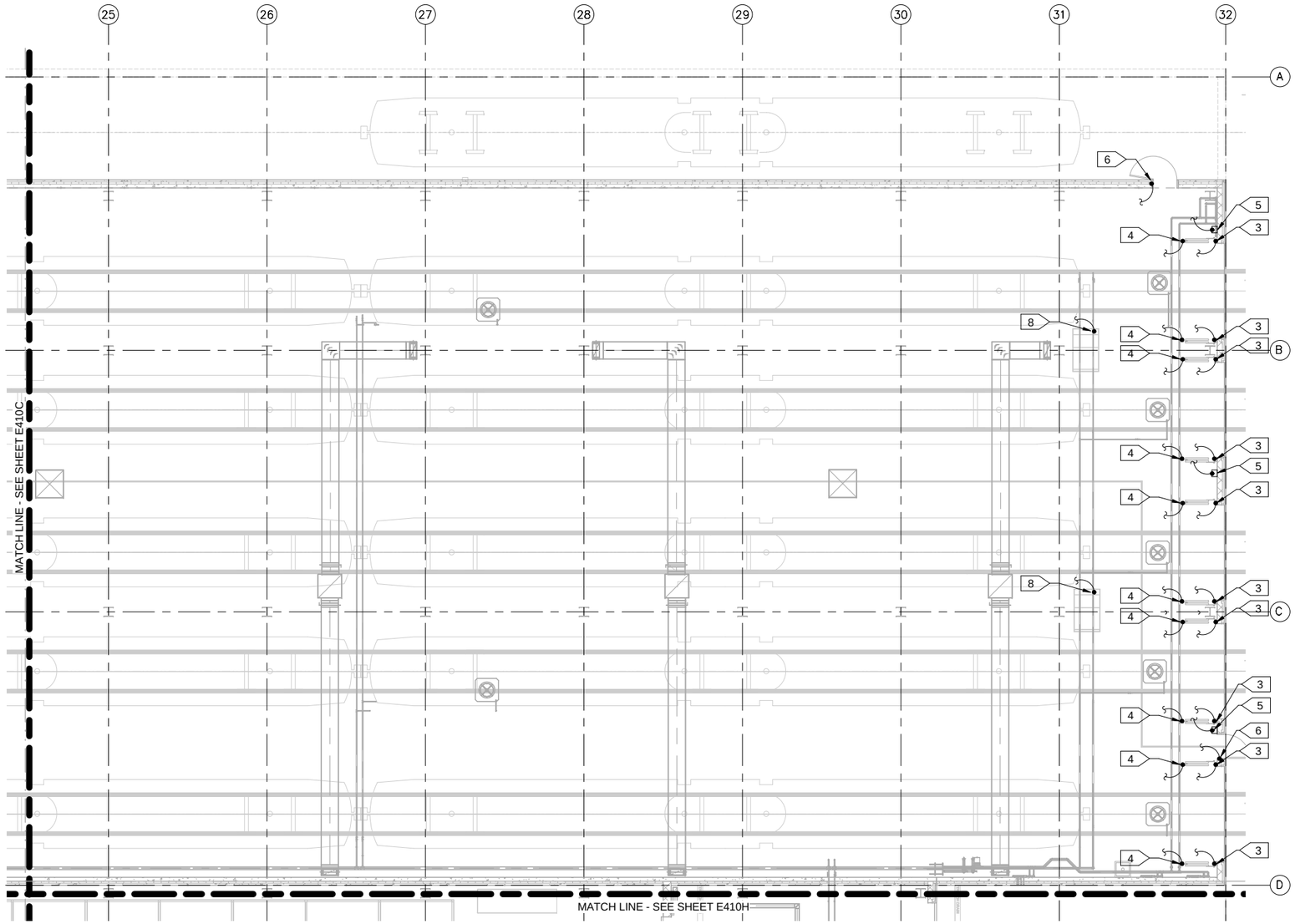

1 E410D SAFETY GROUNDING SYSTEM - AREA D
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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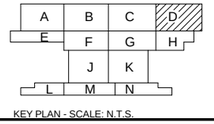
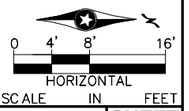
KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. BI-FOLD DOOR FRAME.
4. PHOTOCELL SENSOR FOR BI-FOLD DOOR.
5. CONTROLLER(S) FOR BI-FOLD DOORS.
6. DOOR FRAME.
7. HOPPER



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA D

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410D

SHEET 222 OF 263

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GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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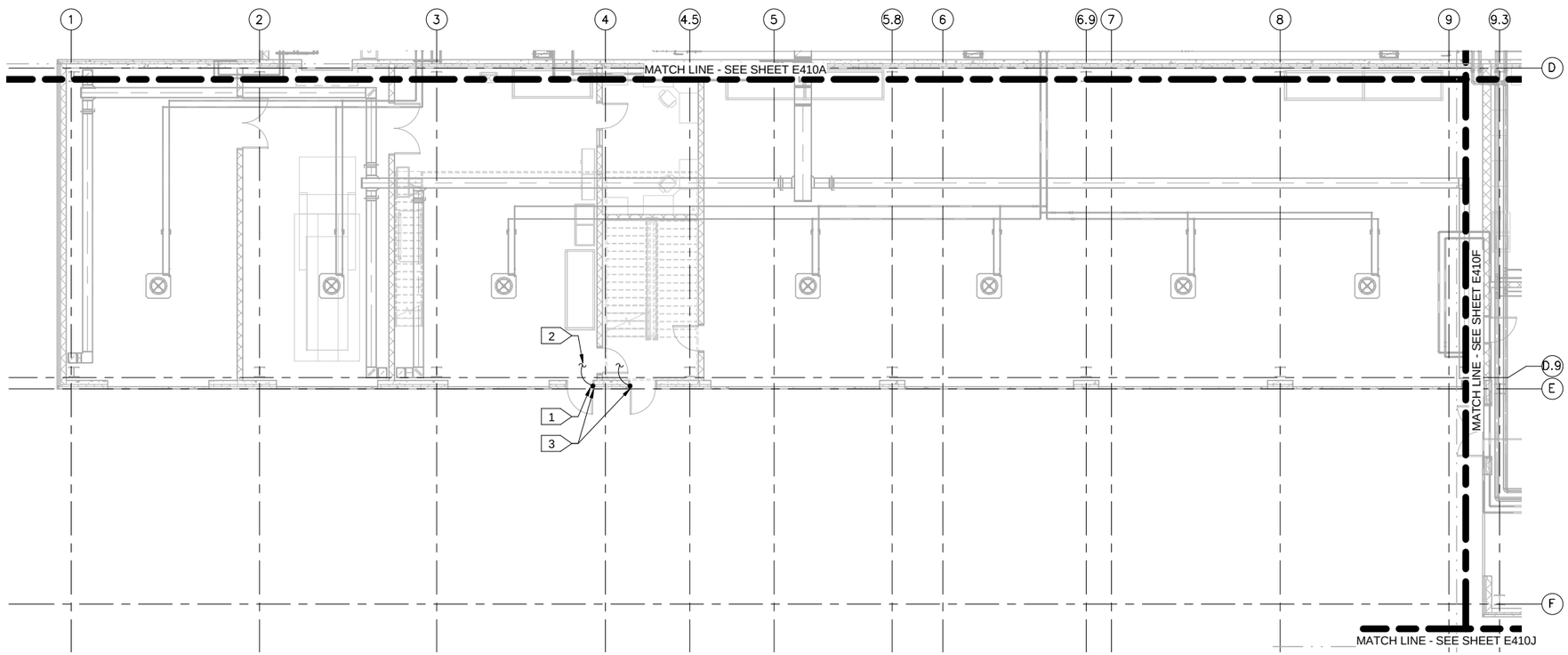
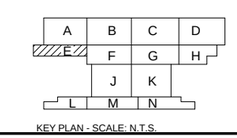
KEYNOTES:

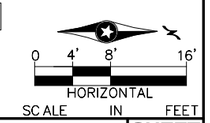
1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. DOOR FRAME.



1 E410E SAFETY GROUNDING SYSTEM - AREA E
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA E

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410E

SHEET 223 OF 263

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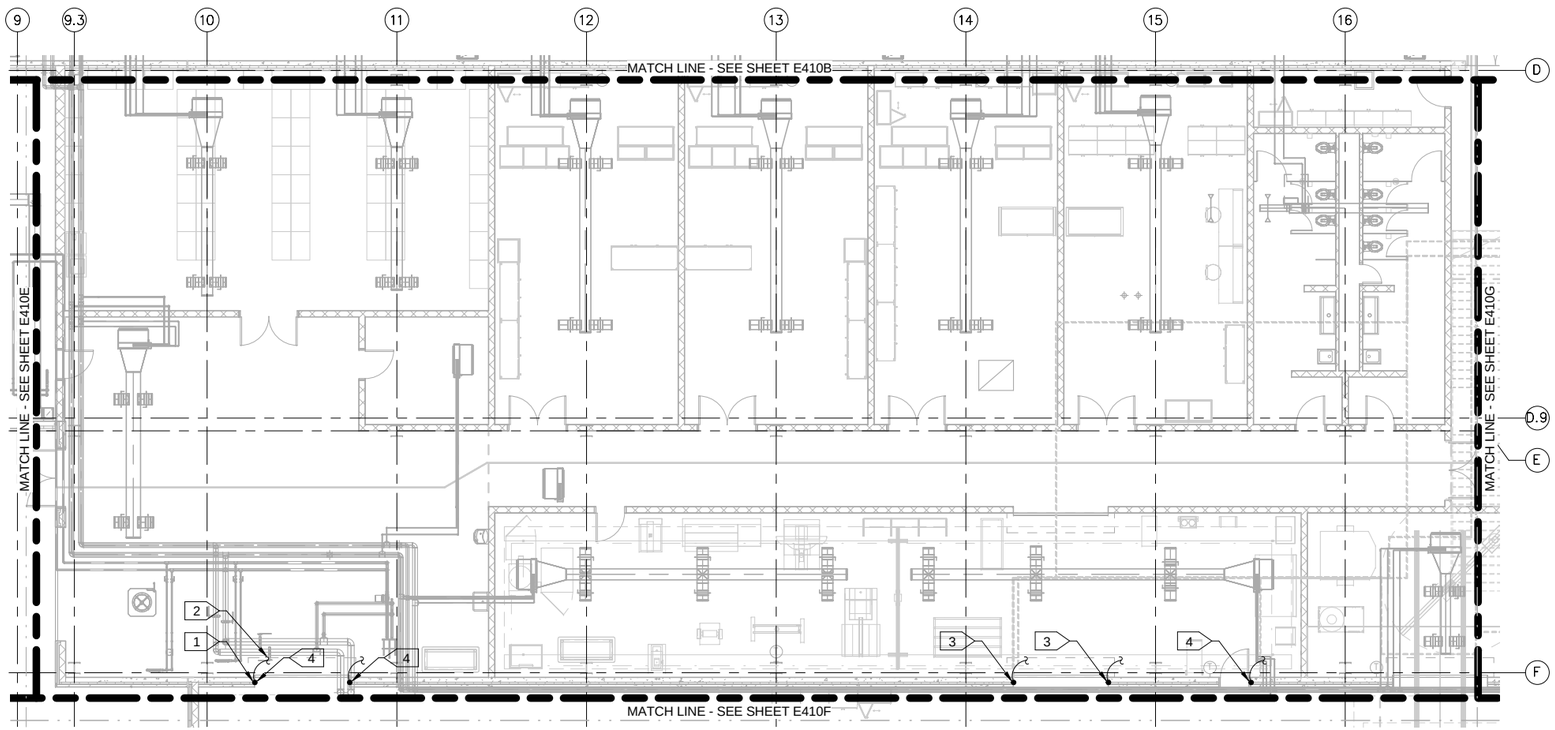

1 E410F SAFETY GROUNDING SYSTEM - AREA F
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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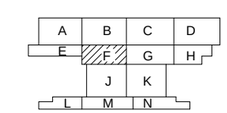
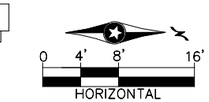
KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. OVERHEAD DOOR FRAME.
4. DOOR FRAME.



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA F

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410F

SHEET 224 OF 263

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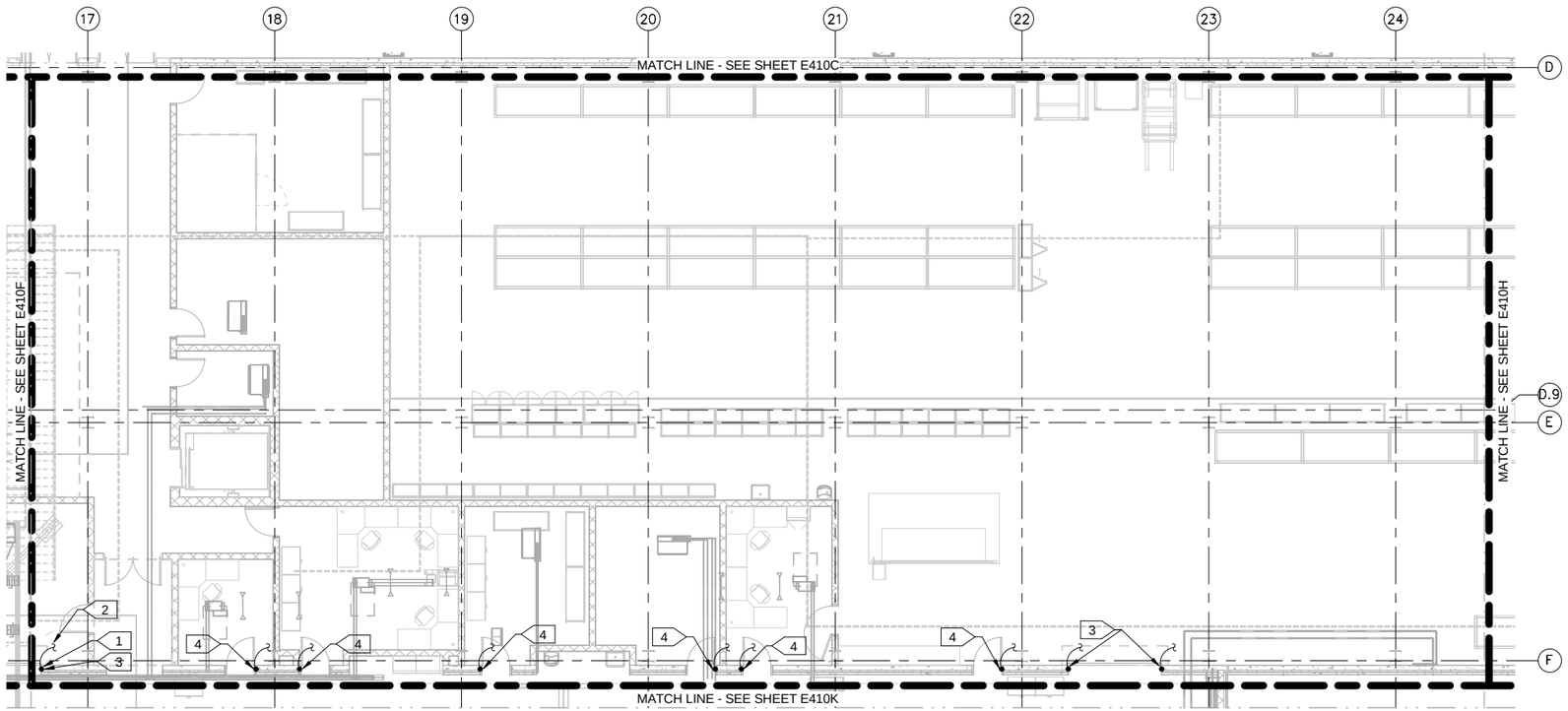

1 E410G SAFETY GROUNDING SYSTEM - AREA G
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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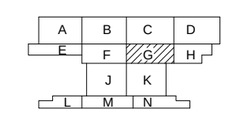
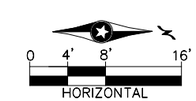
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. OVERHEAD DOOR FRAME.
4. DOOR FRAME.



KEY PLAN - SCALE: N.T.S.



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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA G

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410G

SHEET 225 OF 263

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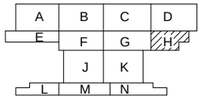

KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA H

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-PLN

E410H

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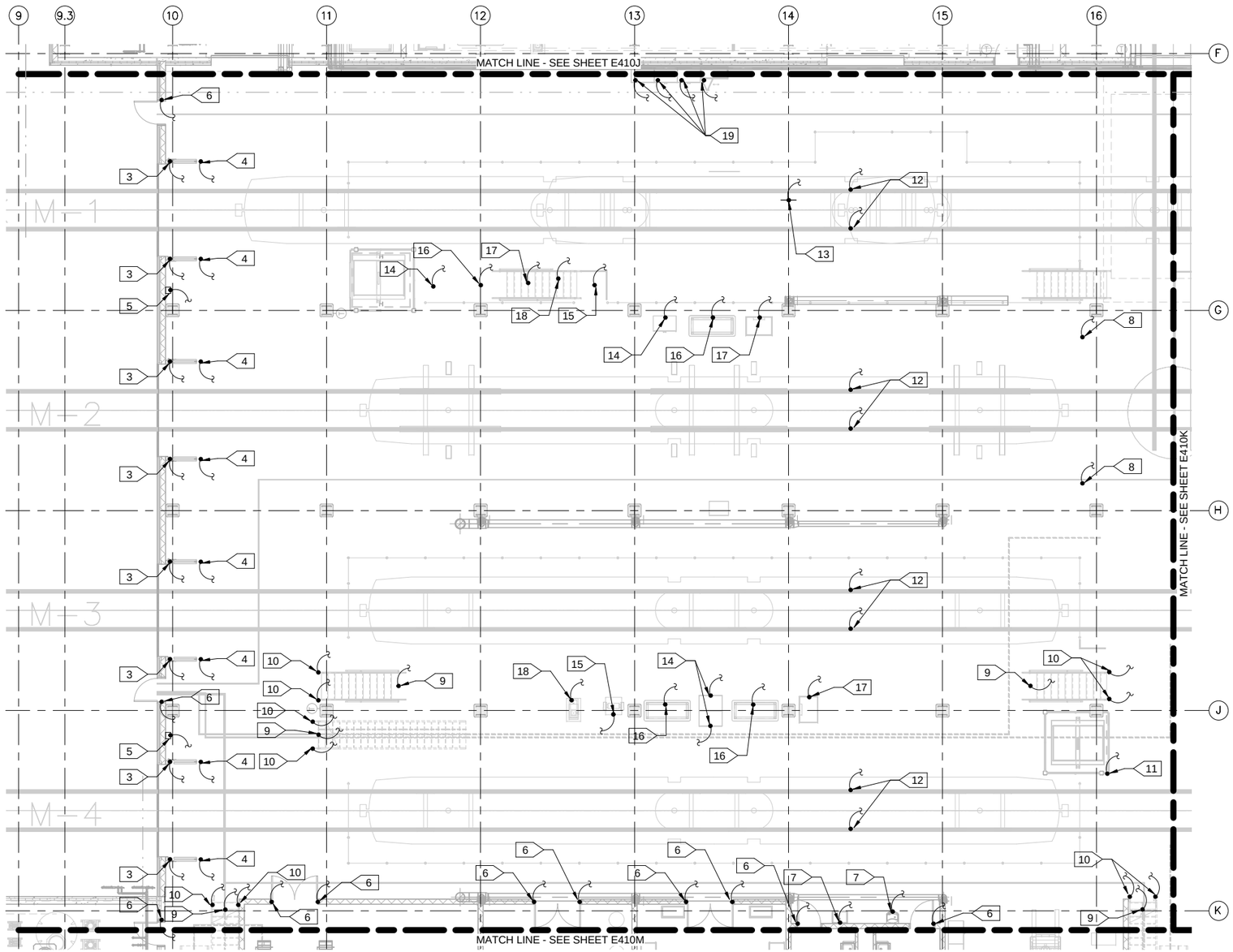

1 E410J SAFETY GROUNDING SYSTEM - AREA J
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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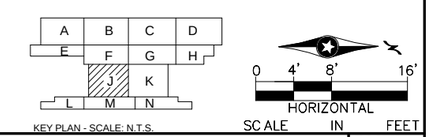
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. BI-FOLD DOOR FRAME.
4. PHOTOCELL SENSOR FOR BI-FOLD DOOR.
5. CONTROLLLER(S) FOR BI-FOLD DOORS.
6. DOOR FRAME.
7. COPPER WATER LINE.
8. TRENCH DRAIN COVER.
9. STAIR.
10. RAILING.
11. MATERIALS LIFT.
12. TRACK.
13. PROVIDE 24" X 1/4" PRE-DRILLED COPPER GROUND BUS MOUNTED WITH INSULATED STAND-OFF BRACKETS IN PIT FOR FUTURE WHEEL TRUING MACHINE. GEC SHALL BE #3/O AWG BARE CU.
14. CABINET.
15. BUFFER/GRINDER.
16. WORK BENCH.
17. PARTS WASHER.
18. DRILL PRESS.
19. FIXED METAL CABINETS



KEY PLAN - SCALE: N.T.S.

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA J

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410J

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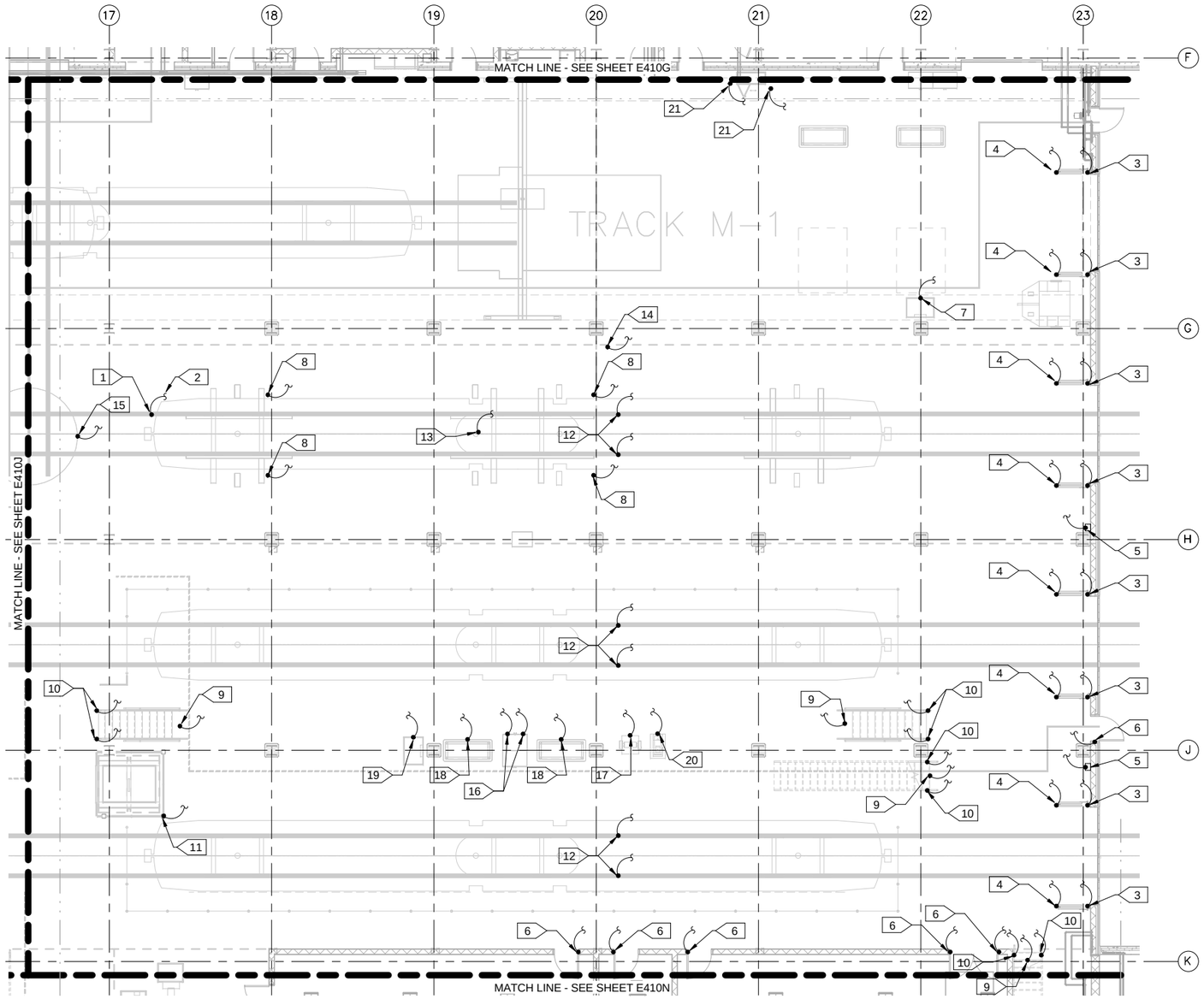

1 E410K SAFETY GROUNDING SYSTEM - AREA K
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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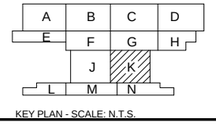
4. VERIFY LOCATIONS OF ALL ITEMS PRIOR TO ROUGHING IN.
5. ALL GEC'S SHALL BE BELOW GRADE UNTIL READY FOR CONNECTIONS TO METAL OBJECTS.
6. GEC STUB UPS IN CONCRETE SHALL BE IN POCKETS IN CONCRETE UNTIL READY FOR CONNECTION TO METAL OBJECTS. POCKET SHALL BE COVERED TO PROTECT GEC.
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. BI-FOLD DOOR FRAME.
4. PHOTOCELL SENSOR FOR BI-FOLD DOOR.
5. CONTROLLLER(S) FOR BI-FOLD DOORS.
6. DOOR FRAME.
7. WORK TABLE.
8. TRENCH DRAIN COVER.
9. STAIR.
10. RAILING.
11. MATERIALS LIFT.
12. TRACK.
13. CAR LIFT.
14. CAR LIFT CONTROLLER.
15. TURN TABLE.
16. CABINET.
17. BUFFER/GRINDER.
18. WORK BENCH.
19. PARTS WASHER.
20. DRILL PRESS.
21. FIXED METAL CABINETS.



KEY PLAN - SCALE: N.T.S.

SCALE IN FEET

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SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA K

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410K

SHEET 228 OF 263

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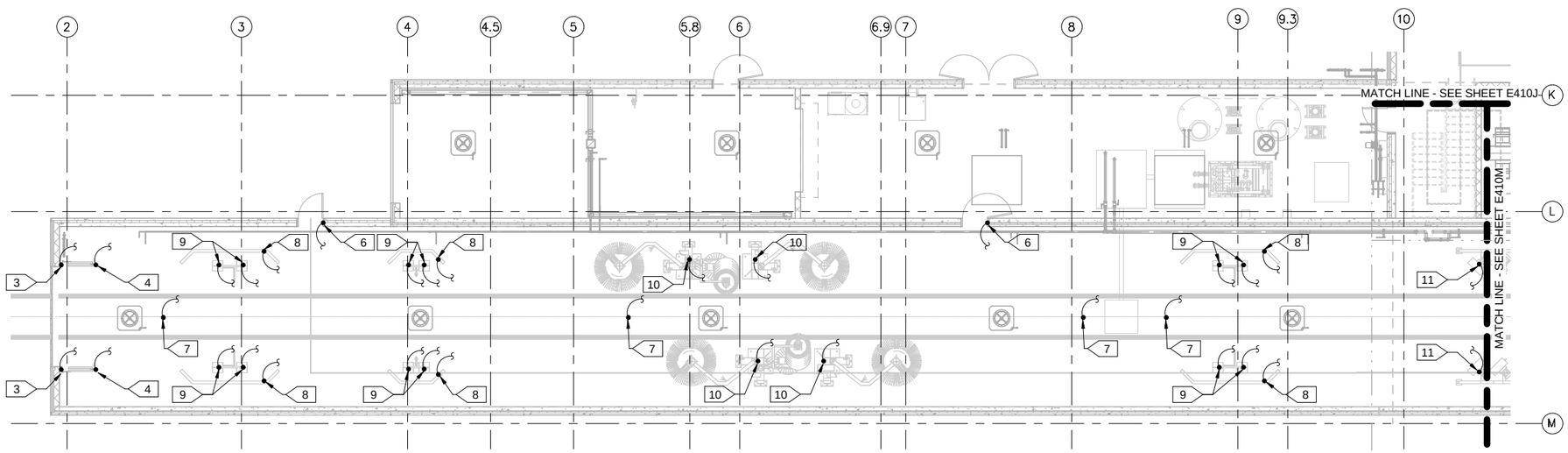

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
2. GEC CONNECTIONS BETWEEN ABOVE MENTIONED ITEMS AND IN-SLAB GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE #2/O CU.
3. SEE GEC CONNECTION DETAILS ON SHEETS XXX.
4. VERIFY LOCATIONS OF ALL ITEMS PRIOR TO ROUGHING IN.
5. ALL GEC'S SHALL BE BELOW GRADE UNTIL READY FOR CONNECTIONS TO METAL OBJECTS.
6. GEC STUB UPS IN CONCRETE SHALL BE IN POCKETS IN CONCRETE UNTIL READY FOR CONNECTION TO METAL OBJECTS. POCKET SHALL BE COVERED TO PROTECT GEC.
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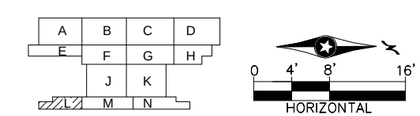
KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. BI-FOLD DOOR FRAME.
4. PHOTOCELL SENSOR FOR BI-FOLD DOOR.
5. CONTROLLER(S) FOR BI-FOLD DOORS.
6. DOOR FRAME.
7. TRENCH DRAIN COVER.
8. CAR WASH WATER SHIELD.
9. CAR WASH BRUSHES.
10. CAR WASH DRYERS.

1 / E410L SAFETY GROUNDING SYSTEM - AREA L
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA L

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410L

SHEET 229 OF 263

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GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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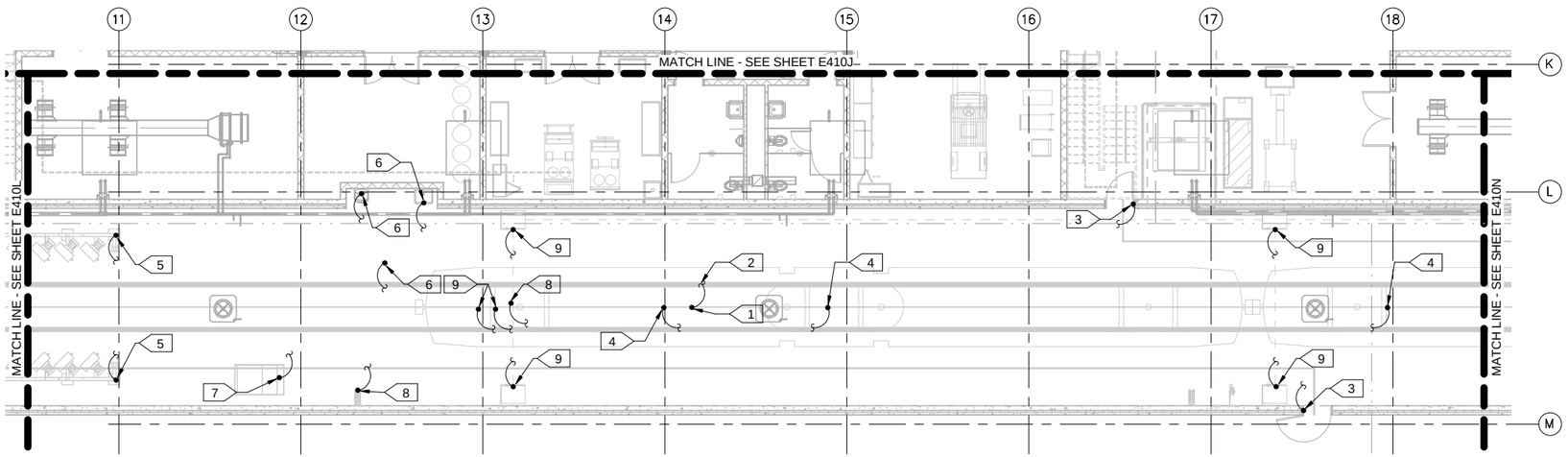
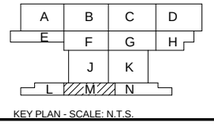
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

KEYNOTES:

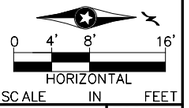
1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. BI-FOLD DOOR FRAME.
4. TRENCH DRAIN COVER.
5. CAR WASH DRYERS.
6. COPPER PIPING.
7. HOPPER.
8. REEL.
9. SAND DISPENSER.



1 E410M SAFETY GROUNDING SYSTEM - AREA M
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA M

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410M

SHEET 230 OF 263

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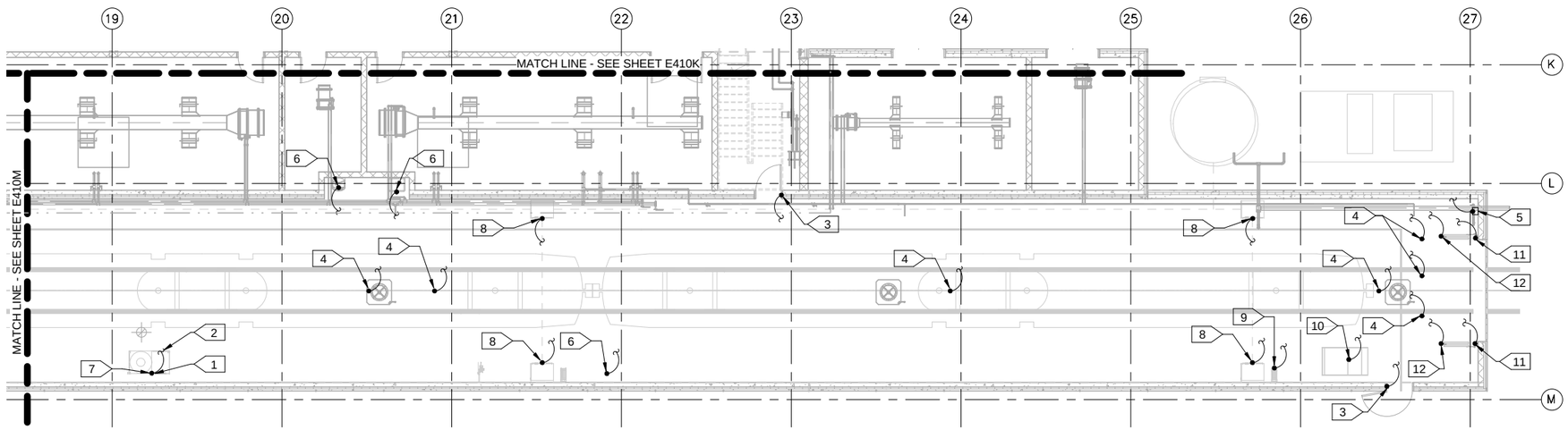

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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KEYNOTES:

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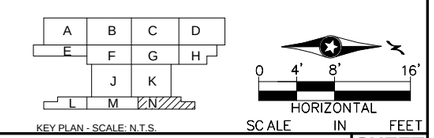
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. BI-FOLD DOOR FRAME.
4. TRENCH DRAIN COVER.
5. BI-FOLD DOOR CONTROLLER.
6. COPPER PIPING.
7. PRESSURE WASHER.
8. SAND DISPENSER.
9. REEL.
10. HOPPER.
11. BI-FOLD CAR WASH BRUSHES.
12. BI-FOLD DOOR PHOTOCELL.

1 / E410N SAFETY GROUNDING SYSTEM - AREA N
SCALE: 1/8" = 1'-0"



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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
SAFETY GROUNDING SYSTEM - LEVEL ONE - AREA N

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E410N

SHEET 231 OF 263

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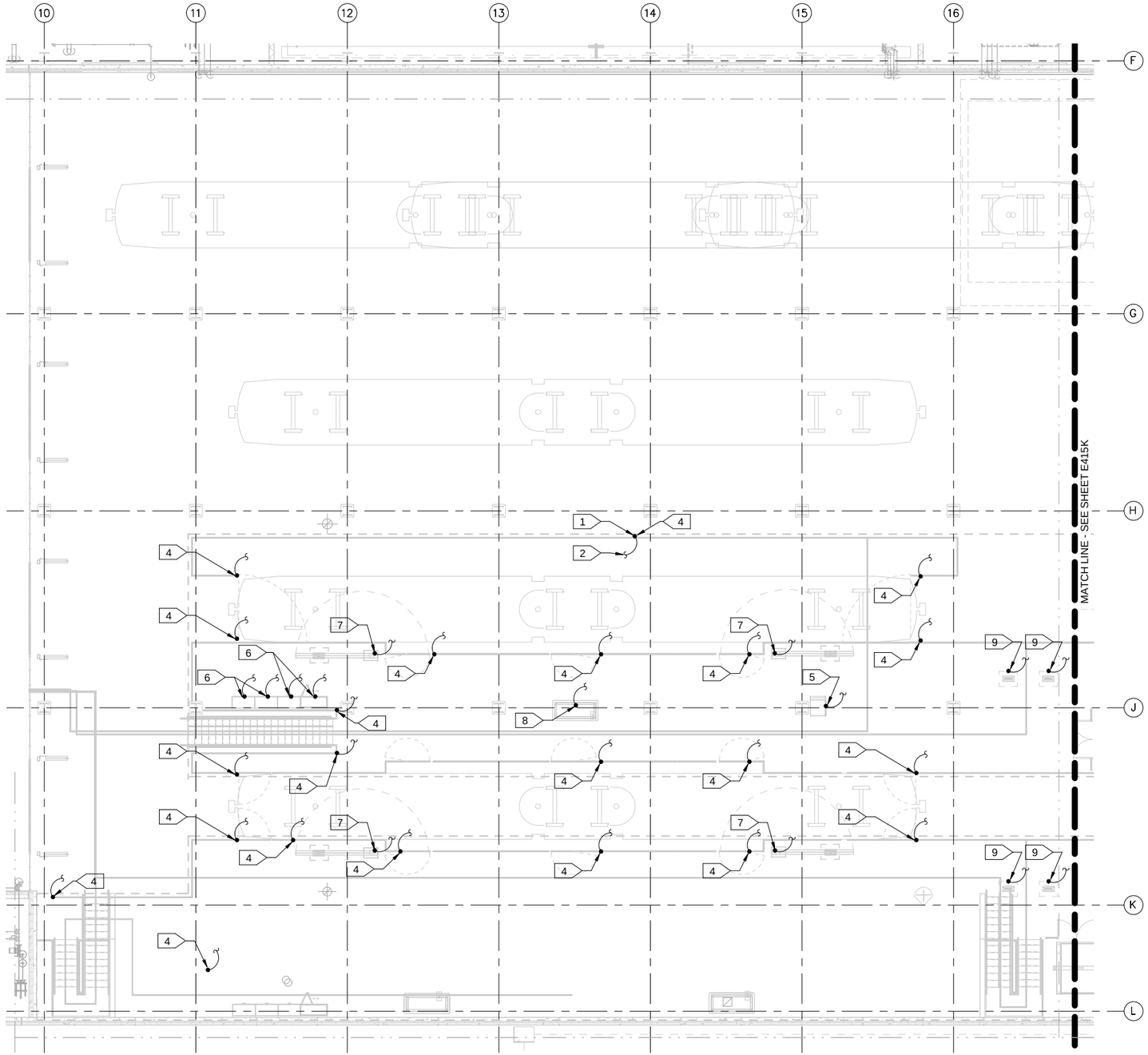

1 E415J SAFETY GROUNDING SYSTEM - AREA J
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL METALLIC ENCLOSURES, PANELS PANELBOARDS, CONTROLLERS, PIPING, FIN TUBE RADIATOR COVERS, DUCT WORK, DOOR FRAMES, DOOR SENSORS, RAILINGS, BOLLARDS, WINDOW FRAMES, MECHANICAL AND INDUSTRIAL EQUIPMENT IN AREA INDICATED UP TO 9'-0" ABOVE FINISHED FLOOR SHALL BE BONDED TO NEAREST IN-SLAB GROUNDING ELECTRODE CONDUCTORS (GEC).
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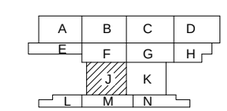
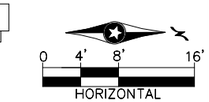
7. ALL GEC'S SHALL BE BURIED AT THE END OF THE WORKING DAY SO THAT NO GEC'S SHALL BE LEFT EXPOSED AND SUBJECT TO VANDALISM OR THEFT.

KEYNOTES:

1. GEC CONNECTION TO ITEM NOTED (TYP).
2. GEC CONNECTION TO IN-SLAB GEC (TYP).
3. FLEXIBLE #2/O COPPER BRAID. USE AS JUMPER BETWEEN RAILING SECTIONS AND GATES. (TYP)
4. RAILING.
5. COPPER PIPING.
6. CABINET.
7. CRANE.
8. WORK BENCH.
9. MONORAIL CRANE. BOND TO NEAREST STRUCTURAL COLUMN.



KEY PLAN - SCALE: N.T.S.



SCALE IN FEET

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OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
SAFETY GROUNDING SYSTEM - MEZZANINE LEVEL - AREA J

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E415J

SHEET 232 OF 263

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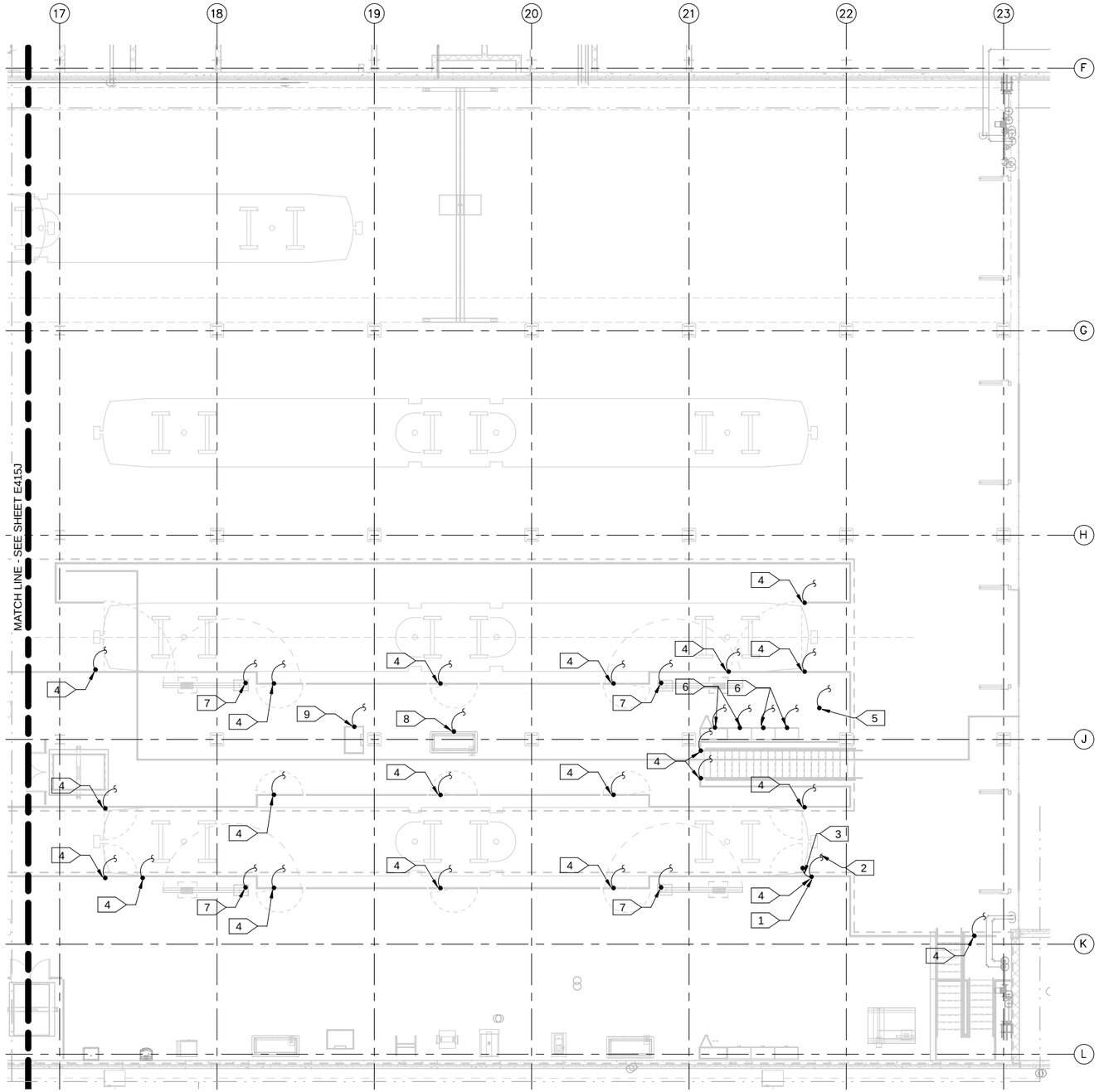

GENERAL NOTES:

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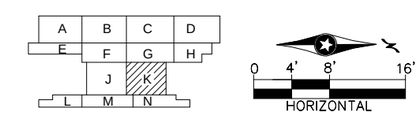
4. RAILING.
5. COPPER PIPING.
6. CABINET.
7. CRANE.
8. WORK BENCH.
9. PARTS WASHER.

1 / E415K SAFETY GROUNDING SYSTEM - AREA K
SCALE: 1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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SOUTHWEST

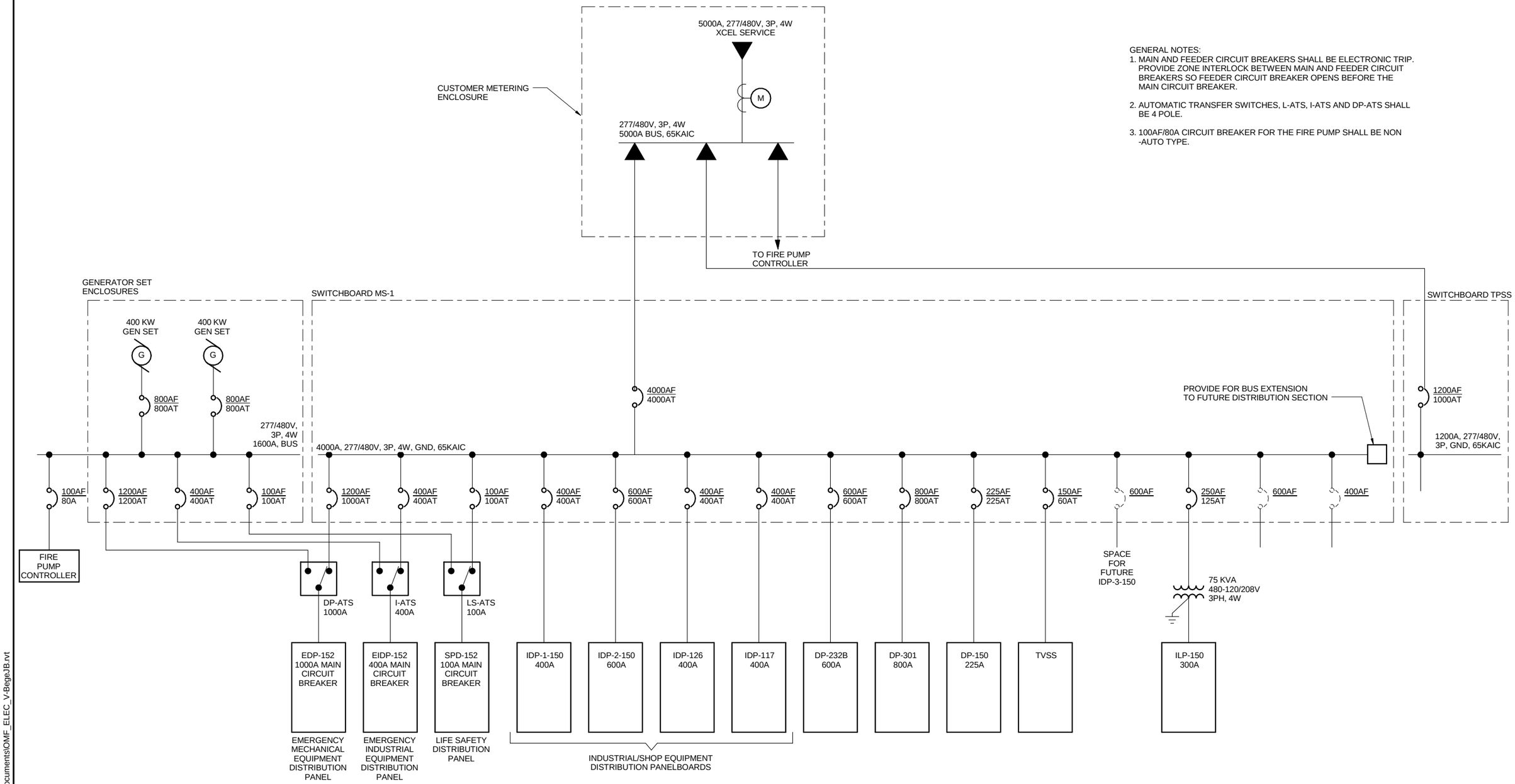
OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL
SAFETY GROUNDING SYSTEM - MEZZANINE LEVEL - AREA K

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-PLN
E415K

SHEET 233 OF 263

9/22/2015 10:12:44 AM C:\Users\V-BegeJB\Documents\OMF_ELEC_V-BegeJB.rvt

GENERAL NOTES:
1. MAIN AND FEEDER CIRCUIT BREAKERS SHALL BE ELECTRONIC TRIP. PROVIDE ZONE INTERLOCK BETWEEN MAIN AND FEEDER CIRCUIT BREAKERS SO FEEDER CIRCUIT BREAKER OPENS BEFORE THE MAIN CIRCUIT BREAKER.
2. AUTOMATIC TRANSFER SWITCHES, L-ATS, I-ATS AND DP-ATS SHALL BE 4 POLE.
3. 100AF/80A CIRCUIT BREAKER FOR THE FIRE PUMP SHALL BE NON -AUTO TYPE.



1 / E501 E-501 ONE LINE DIAGRAM
SCALE: 1" = 1'-0"

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OPERATIONS & MAINTENANCE FACILITY - V2B ELECTRICAL

POWER ONE-LINE DIAGRAMS

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-OLD
E501

SHEET 234 OF 263

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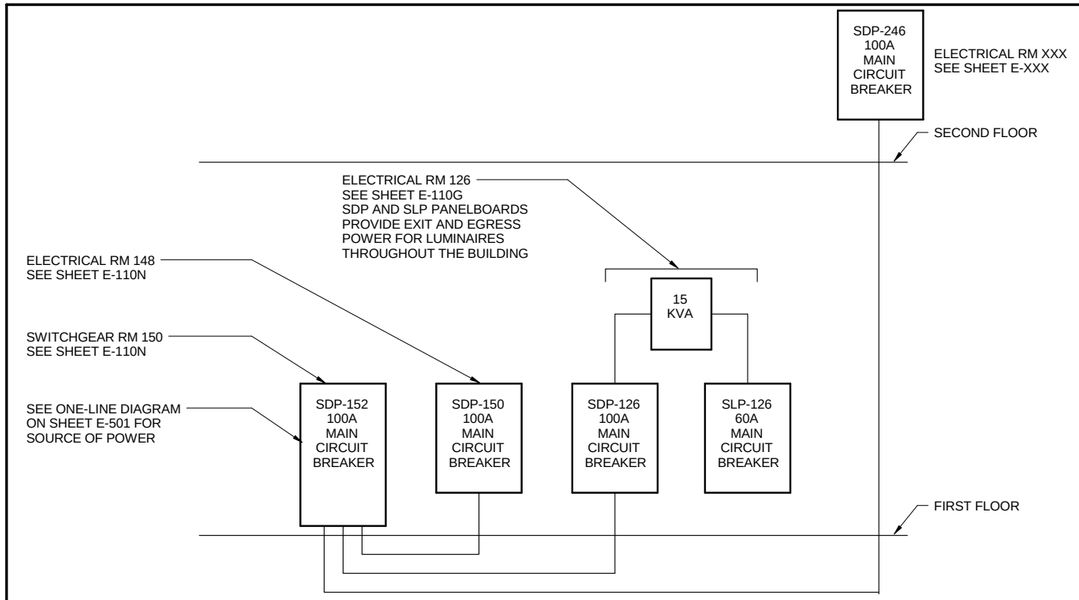
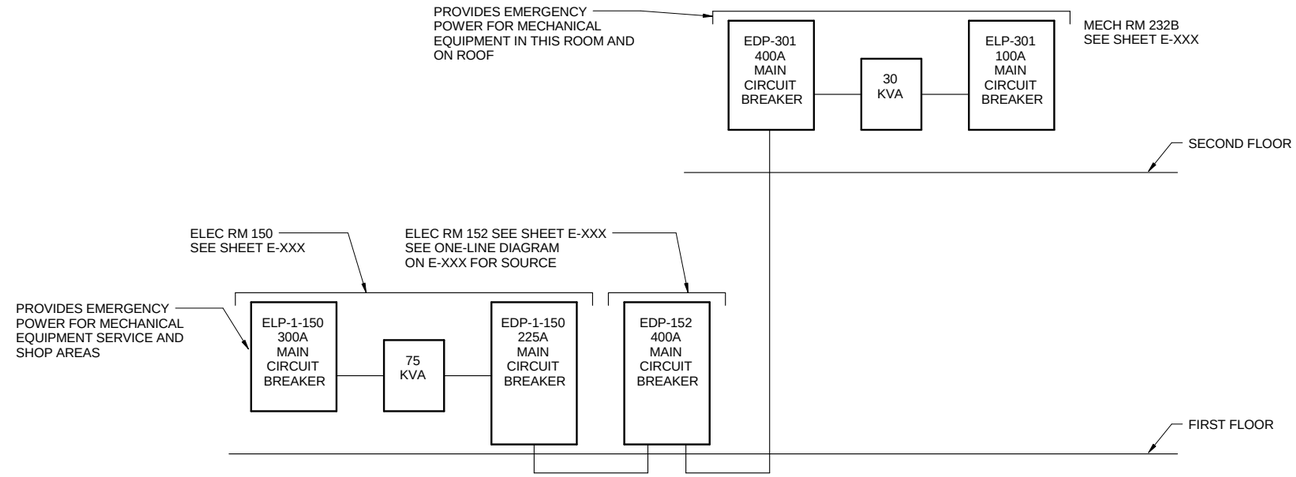
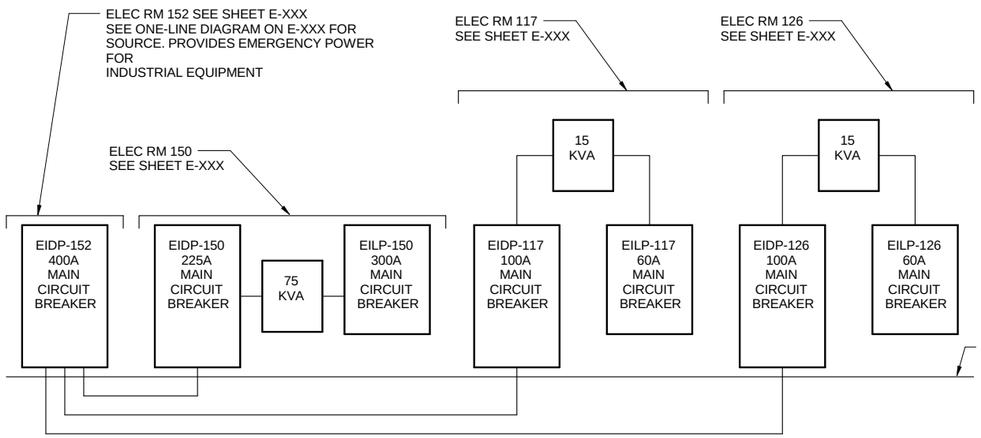


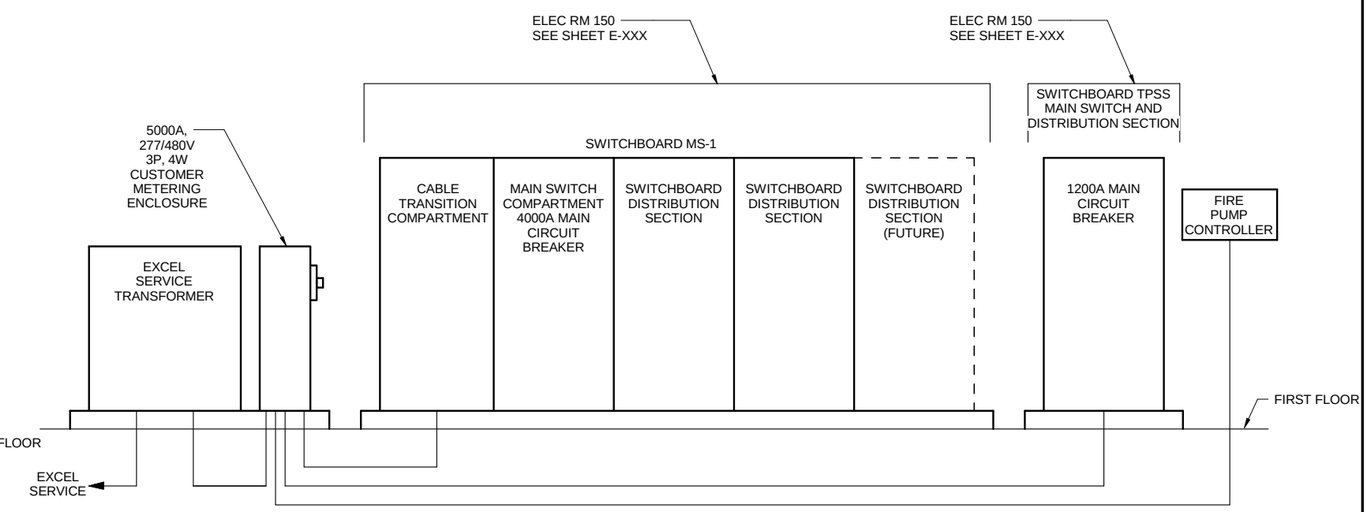
1 E502 LIFE SAFETY SYSTEM POWER RISER
SCALE: 1" = 1'-0"



2 E502 EDP MECHANICAL ROOMS RISER
SCALE: 1" = 1'-0"



3 E502 TIER 2 INDUSTRIAL EQUIPMENT POWR RISER
SCALE: 1" = 1'-0"



4 E502 POWER SYSTEM RISER DIAGRAM
SCALE: 1" = 1'-0"

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POWER ONE-LINE DIAGRAMS

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-RSD
E502

SHEET 235 OF 263

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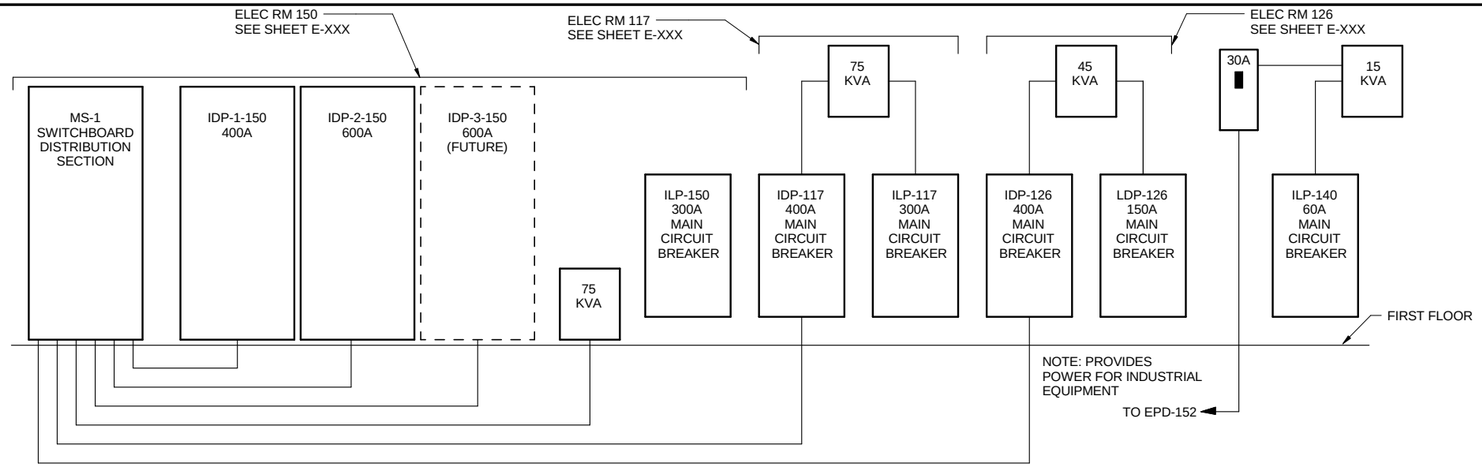
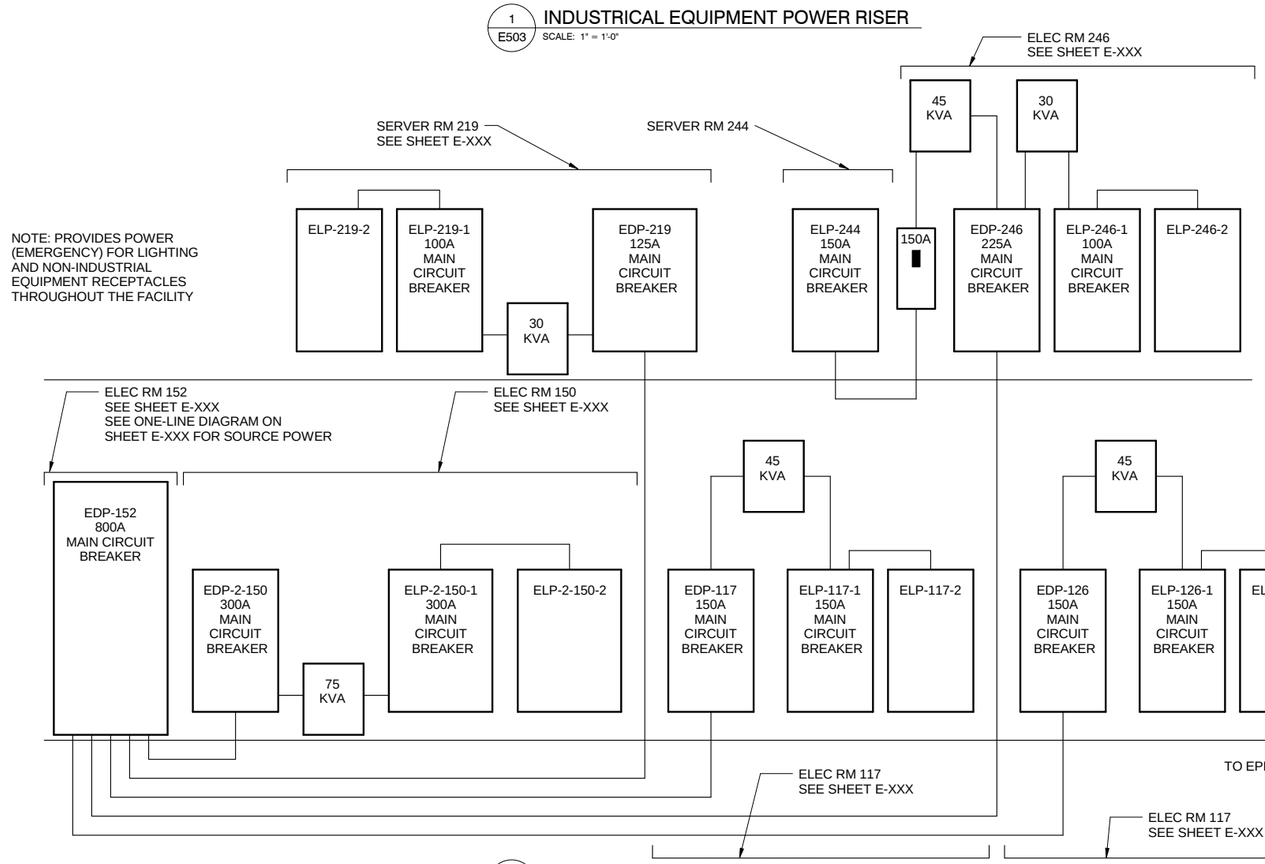
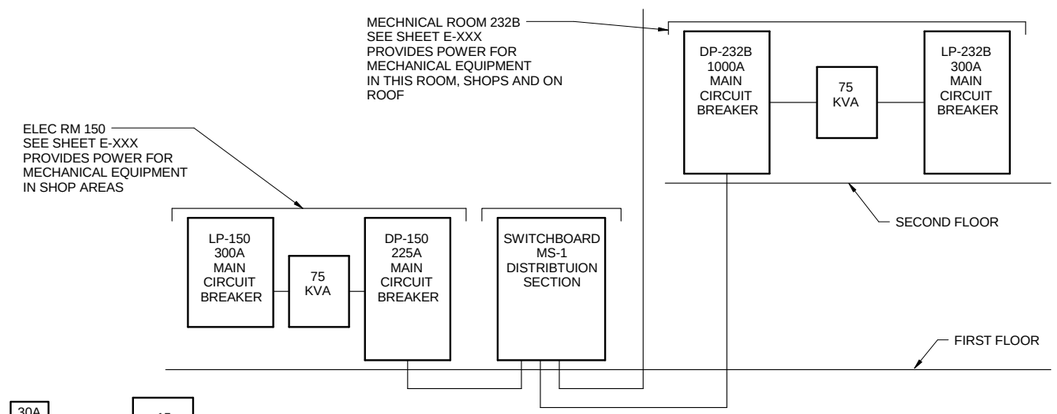


1 E503 INDUSTRICAL EQUIPMENT POWER RISER
SCALE: 1" = 1'-0"



2 E503 EDP ELECTRICAL ROOMS RISER
SCALE: 1" = 1'-0"



3 E503 DP MECHANICAL EQUIPMENT POWER RISER
SCALE: 1" = 1'-0"

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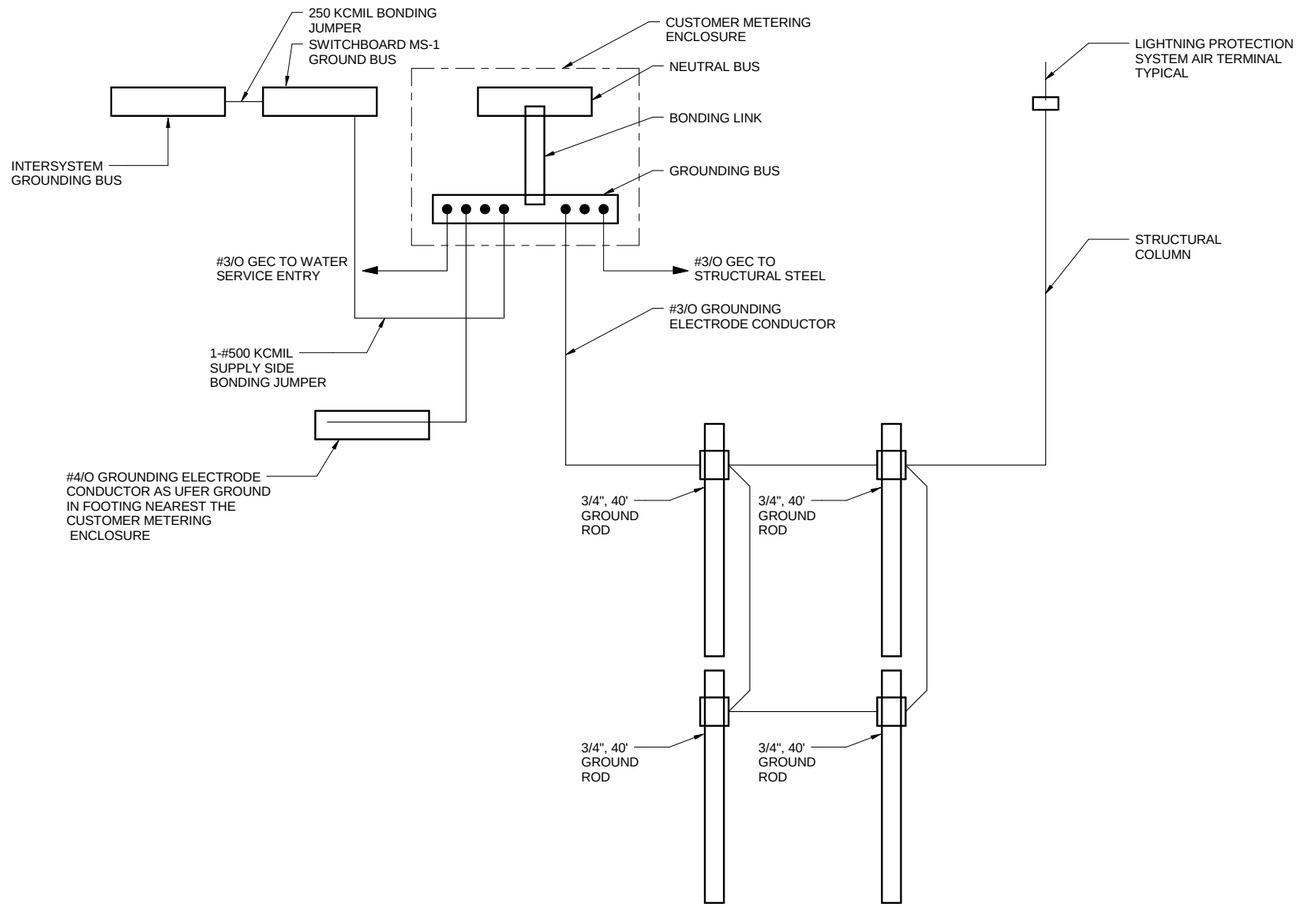
OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

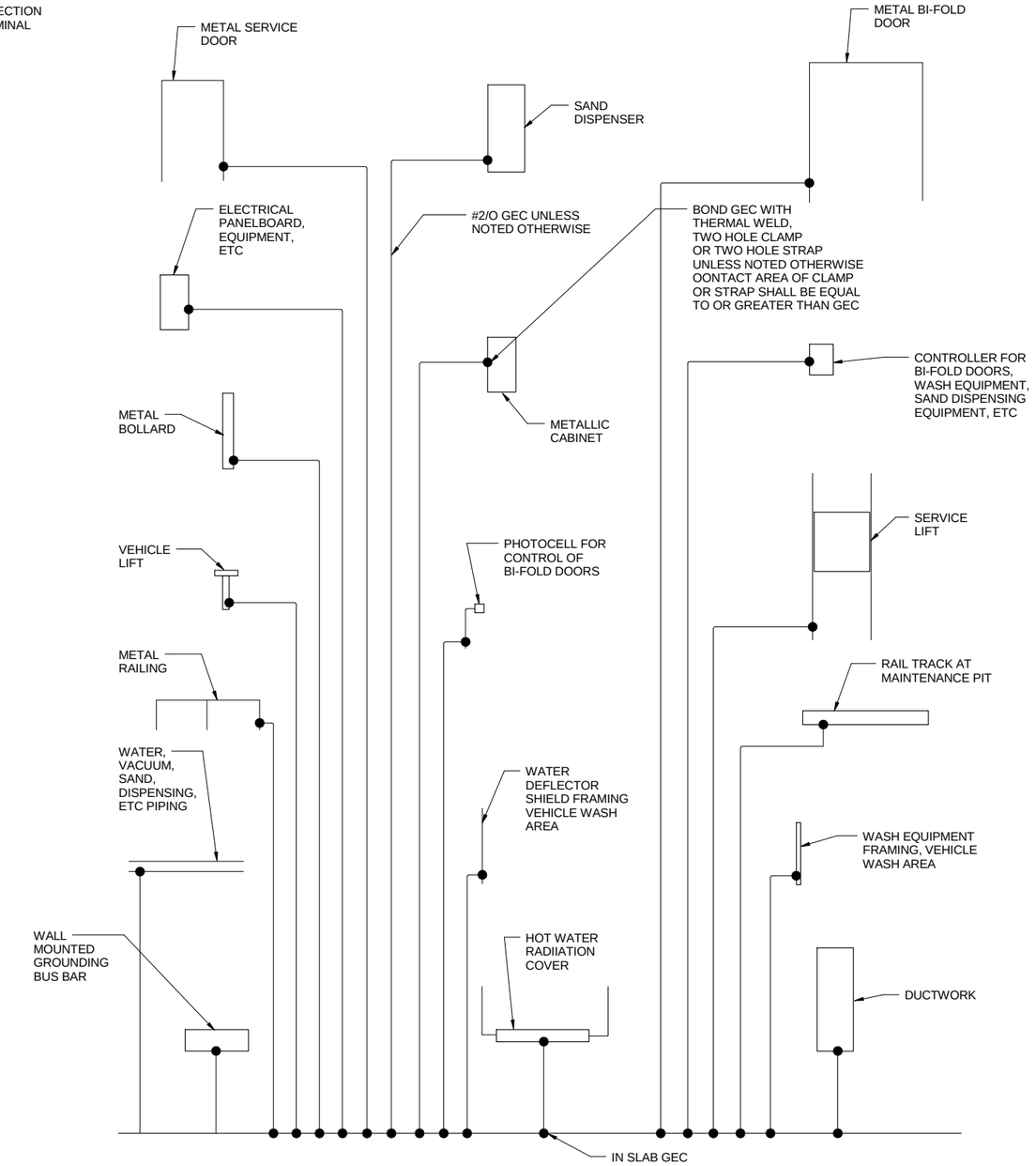
POWER ONE-LINE DIAGRAMS

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-RSD
E503

SHEET 236 OF 263



1 E504 GROUNDING ELECTRODE SYSTEM ONE-LINE
SCALE: 1" = 1'-0"



3 E504 SAFETY GROUNDING SYSTEM ONE-LINE DIAGRAM
SCALE: 1" = 1'-0"

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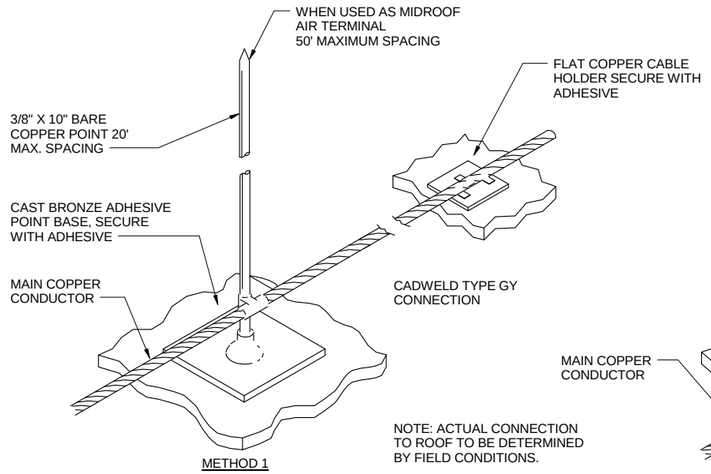
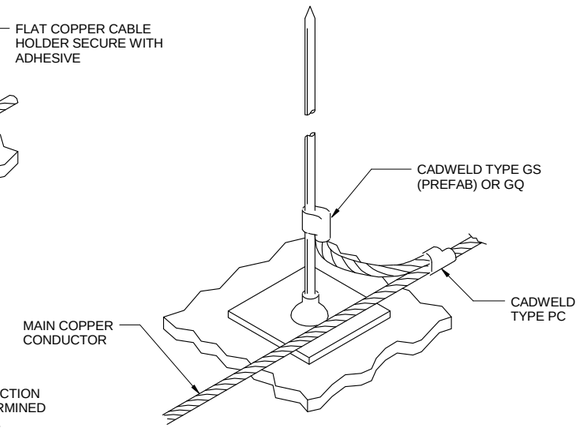
POWER ONE-LINE DIAGRAMS

DISCIPLINE: ELECTRICAL | SHEET NAME: OMF-ELE-RSD | E504

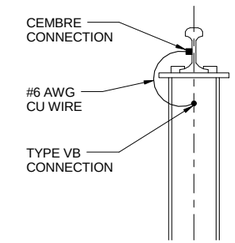
SHEET 237 OF 263



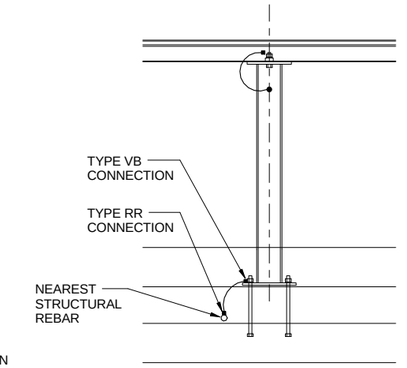
NOTE: ACTUAL CONNECTION
TO ROOF TO BE DETERMINED
BY FIELD CONDITIONS.



1 / E505 AIR TERMINAL DETAILS
SCALE: 12" = 1'-0"

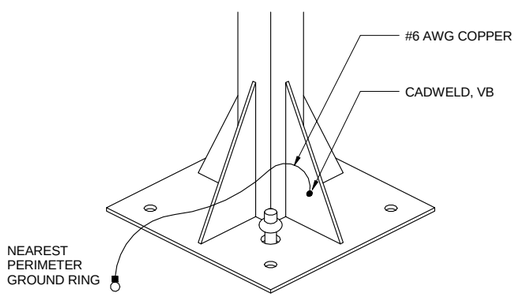


BOND ONE END OF EACH
RAIL AND BEAM TO COLUMN



TYPICAL BONDING AT ALL RAIL SUPPORT
COLUMNS IN MAINENANCE PITS

3 / E505 AIR TERMINAL DETAILS
SCALE: 12" = 1'-0"



4 / E505 E-505.4 GROUNDING OF WASHBAY PEDESTALS
SCALE: 12" = 1'-0"

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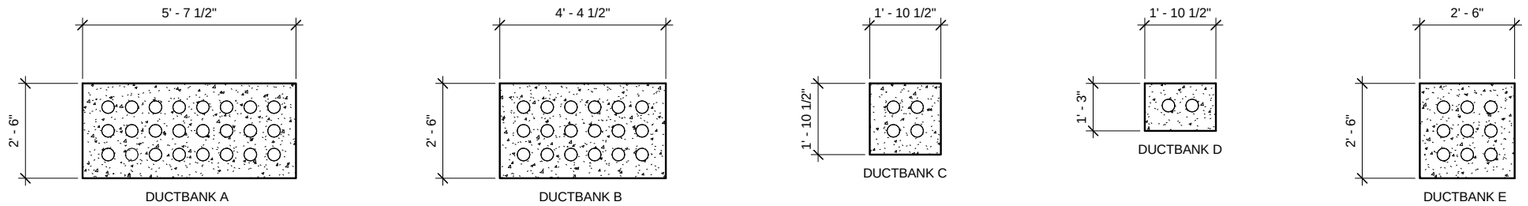
ELECTRICAL EQUIPMENT DETAILS

DISCIPLINE: ELECTRICAL
SHEET NAME: OMF-ELE-DTL
E505

SHEET 238 OF 263



1 / E506 E-506 DUCTBANK DETAILS

SCALE: 1/2" = 1'-0"

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DUCTBANK DETAILS

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-DTL

E506

SHEET 239 OF 263

LUMINAIRE SCHEDULE

TYPE	AREA	LAMPS	MOUNTING	DESCRIPTION	ACCEPTABLE MANUFACTURERS	REMARKS
A	FIRST FLOOR STORAGE BARN	LED	CABLE	I-BEAM 16"x45" WITH 12,000 NOMINAL LUMENS, NARROW DISTRIBUTION AND 4000K 70 CRI LEDS, DCL CERTIFIED	LITHONIA IBL 12L ND LP740 DLC GLR CS11W OR EQUAL	MVOLT, 277V TWIST-LOC CORD SET
B	FIRST FOOR MAINTENANCE AREA	LED	CABLE	I-BEAM 16"x45" WITH 24,000 NOMINAL LUMENS, NARROW DISTRIBUTION AND 4000K 70 CRI LEDS, DCL CERTIFIED	LITHONIA IBL 24L ND LP740 DLC GLR CS11W OR EQUAL	MVOLT, 277V TWIST-LOC CORD SET
C	FIRST FLOOR , SHOP AREAS, CORRIDORS, EQUIPMENT ROOMS, ELECTRICAL ROOMS, ETC	LED	PENDANT	LED LOW BAY INDUSTRIAL, 4 FT LONG, MIRO 5 REFLECTOR AND DIFFUSED ACRYLIC LENS, 4000 NOMINAL LUMENS	LITHONIA MSL 4000LM SBL 40K 80 CRI GLR CS11W WH OR EQUAL	MVOLT, 277V TWIST-LOC CORD SET
D	FIRST FLOOR TRAIN WASH	LED	SURFACE	FIBERGLASS ENCLOSED LUMINAIRE WITH CLEAR ACRYLIC LENS, 4100K, 15000 LUMENS	LITHONIA FHE LED 15L OR EQUAL	MVOLT
D1	MAINTENANCE PIT	LED	WALL	FIBERGLASS ENCLOSED AND GASKETED SPECULAR, LUMINAIRE WITH OPTICALLY CLEAR, DEEP ACRYLIC LENS, 4700 LUMENS, 4100 K	LITHONIA FEM4 LED 4L IMACD OR EQUAL	MVOLT
E	EGRESS	LED	WALL	DIE-CAST ALUMINUM, BRUSHED ALUMINUM FACEPLATE AND MATTE BLACK TRIM, SINGLE OR DUAL FACE, RED LETTERS, LED EXIT SIGN	LITHONIA LQC (1 OR 2)R OR EQUAL	120/277
F	EXTERIOR WALL	LED	WALL, MOUNTED ABOVE DOORS	DESX2 LED WITH 3 LIGHT ENGINES, 30 LEDS, 700 mA DRIVER, 4000k LED, TYPE 4 MEDIUM OPTIC, 6449 LUMENS	LITHONIA DSXW2 LED 30F 700 40K T4M OR EQUAL	MVOLT
G	TOILETS	LED	RECESSED	RECESSED 4" SQUARE DOWN LIGHT WITH FIXED EXPANDED APERATURE, 95 CRI LEDs, 1600 NOMINAL LUMENS, 3500K	LUCIFER F4S-WH-W-95X-16B-35-2-N-U OR EQUAL	MVOLT
G1	EXTERIOR SOFFIT	LED	RECESSED	RECESSED 4" SQUARE DOWN LIGHT WITH FIXED EXPANDED APERATURE, 95 CRI LEDs, 3000 NOMINAL LUMENS, 3500K, CLEAR GLASS LENS, IP64 RATED	LUCIFER F4S-FE-2-WH-W-95X-30B-35-2-N-U-CGL-FS OR EQUAL	MVOLT
H	FIRST FLOOR SYSTEMS MAINTENANCE PARKING, COMPACTOR ROOM, SECOND FLOOR	LED	CABLE	I-BEAM 16"X45" WITH 12,000 NOMINAL LUMENS, WIDE DISTRIBUTION AND 4000K 70 CRI LEDS, DCL CERTIFIED	LITHONIA IBL 12L WD LP740 DLC GLR CS11W OR EQUAL	MVOLT, 277V TWIST-LOC CORD SET
M	FIRST FLOOR, TOILETS, CONFERENCE ROOMS, OFFICES, ETC	LED	LAY-IN	LED VOLUMETRIC TROFFER, 2' X4', 4000 NOMINAL LUMENS, ACRYLIC LINEAR PRISMATIC DIFFUSER, 40W AND 3500K LEDS	LITHONIA 2VTL4 40L ADP LP835 OR EQUAL	MVOLT
M1	SECOND FLOOR OFFICES, CONFERENCE ROOMS, ETC	LED	LAY-IN	LED VOLUMETRIC TROFFER, 2' X4', 4800 NOMINAL LUMENS, ACRYLIC LINEAR PRISMATIC DIFFUSER, 40W AND 3500K LEDS	LITHONIA 2VTL4 48L ADP LP835 OR EQUAL	MVOLT
M2	SECOND FLOOR CORRIDORS AND TOILETS	LED	ARCHITECTURAL COVE	LINEAR LED GRAZING LUMINAIRE, 60LPW, 560 LUMENS 9.25 WATTS, 82 CRI, 3500K, 60X30 BEAM ANGLE, EXTRUDED ALUMINUM ANODIZED HOUSING AND CLEAR POLYCARBONATE LENS	NEO-RAY S22-D-R-2-L35-XX-U OR EQUAL	INSTALL AS CONTINUOUS LENGTH IN COVE.
P	STAIRWAYS	LED	WALL	ROLLED FORM STEEL HOUSING WITH MODIFIED LINEAR-FACETED REFLECTOR, AND HIGH IMPACT ACRYLIC DIFFUSER, 3000 LUMENS, 4000K WITH INTEGRAL OCCUPANCY SENSOR, DIMS TO 50% WHEN SPACE IS UNOCCUPIED	LITHONIA WL4 30L LP840 NES7 DIM50 OR EQUAL	MVOLT
AA	SITE	LED	OCS POLE MOUNTED	LED FLOOD LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING AND CORROSION RESISTANT HARDWARE. DIE-CAST ALUMINUM HEAT SINK., IP66 LED LIGHT ENGINE WITH 32 LED BOARD AND ARRAY,SYSTEM EFFICACY UP TO 118 LPW AT SYSTEM WATTAGE OF 109 WATTS, HIGH EFFICENCY MULTI-VOLT DRIVER, HIGH POWER FACTOR, SPOT LED OPTICAL SYSTEM WITH INTERNAL GLARE LOUVER.	GARDCO CSFS 32L 700 NW G1 SF SP UNV ICL BZ OR EQUAL	MOUNT ON OCS POLE WITH 2 3/8" TENON FOR FLOOD LUMINAIRE
BB1	SITE	LED	POLE MOUNTED	SINGLE HEAD LED AREA LUMINAIRE WITH ONE PIECE DIE CAST ALUMINUM HOUSING WITH INTEGRAL ARM AND SEPARATE, SELF RETAINED HINGED, ONE PIECE DIE CAST DOOR FRAME. TGIC POLYESTER POWDERCOAT BRONZE FINISH, IP 66 LED LIGHT ENGINE, 48 LED BOARD AND ARRAY, TYPE 5 DISTRIBUTION, 4000K, 70 CRI	GARDCO ECF-MR50-1-5 - 160LA-481A-NW-UNV-BRONZE FINISH-PTF2 OR EQUAL	MOUNT ON 20 FOOT SQUARE STEEL POLE WITH TGIC POLYESTER POWDERCOAT BRONZE FINISH AND 2 3/8" TENON. SIMILAR TO GARDCO SSS SERIES STRAIGHT STEEL POLES.
BB2	SITE	LED	POLE MOUNTED	DUAL HEAD (180 DEGREES) LED AREA LUMINAIRE WITH ONE PIECE DIE CAST ALUMINUM HOUSING WITH INTEGRAL ARM AND SEPARATE, SELF RETAINED HINGED, ONE PIECE DIE CAST DOOR FRAME. TGIC POLYESTER POWDERCOAT BRONZE FINISH, IP 66 LED LIGHT ENGINE, 48 LED BOARD AND ARRAY, TYPE 5 DISTRIBUTION, 4000K, 70 CRI	GARDCO ECF-MR50-2-5 - 160LA-481A-NW-UNV-BRONZE FINISH-PTF2 OR EQUAL	MOUNT ON 20 FOOT SQUARE STEEL POLE WITH TGIC POLYESTER POWDERCOAT BRONZE FINISH AND 2 3/8" TENON. SIMILAR TO GARDCO SSS SERIES STRAIGHT STEEL POLES.

LUMINAIRE MOUNTING HEIGHT SCHEDULE

LOCATION	CEILING TYPE	CEILING HEIGHT	MOUNTING HEIGHT	TYPE OF MOUNTING	NOTES
PIT	NONE	NA	NA	MOUNT ON SIDE WALL AT 4' ABOVE BOTTOM OF PIT AND ANGLE LUMINAIRE UP.	
COMMUNICATION ROOM, BACK-OF-HOUSE, FM SHOP	LAY-IN/HARD/ NONE	8'	8'	SURFACE	
RESTROOMS, OFFICES, TOOL CRIB, GEAR ROOM, STORAGE ROOM, CUSTODIAL CLOSET	LAY-IN/HARD/ NONE	9'	9'	SURFACE	
COMPRESSOR AND LUBE ROOM	NONE	9'-8"	9'-8"	SURFACE	
RESTROOMS, PARTS OFFICE, CUSTODIAL ROOM	LAY-IN/HARD/ NONE	10'	10'	SURFACE	
UNDER MEZZANINE AND PIT	NONE	13'	13'	SURFACE	PIT 5' BELOW FIRST FLOOR LEVEL
MEZZANINE	NONE	15'	15'	SURFACE	
TRUCK WASH	HARD	18'	18'	SURFACE	
SHOPS, ELEVATOR MACHINE ROOM, LOBBY, MEZZANINE, ELECTRICAL ROOMS, MECHANICAL ROOMS	NONE	18'	12'	PENDENT OR CHAIN	
STORAGE ROOMS	NONE	18'	12'	PENDENT OR CHAIN	COORDINATE MOUNTING HEIGHTS WITH SHELVING
SALLY PORT	NONE	19'	12'	PENDENT OR CHAIN	
LRV STORAGE (BARN)	NONE	20'	18'	CHAIN MOUNT FLUSH WITH BOTTOM OF STRUCTURAL STEEL	
TRUCK WASH AND WASH SUPPORT	HARD	22'-3"	22'-3"	SURFACE	
LIFTS AREA, COMPONENT WORK AREA, UNSCHEDULED MAINTENANCE,	NONE	28'	15'-8"	CHAIN MOUNT FLUSH WITH BOTTOM OF STRUCTURAL STEEL	
EXTERIOR WALL MOUNTED LUMINAIRES	NA	NA	MOUNT LUMINAIRES 2' ABOVE HEIGHT OF DOOR	WALL	

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LUMINAIRE SCHEDULE

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-SCH

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SHEET 240 OF 263

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INDUSTRIAL EQUIPMENT SCHEDULE

MARK	DESCRIPTION	VOLTS	PHASE	AMPS	HP	KW	DISCONNECT TYPE	RECEPTACLE /PLUG	MOTOR STARTER TYPE	CONDUIT TYPE	FEEDER	NOTES
1130	CABINET, COMPUTERM SHOP	120	1	15				5-20		PVC40	3/4"C, 2#12, 1#12G	
	STORAGE SYSTEM, VERTICAL LIFT MODULE	480	3	20						PVC40	3/4"C, 3#10, 1#10G	
1800	WORKBENCH, ELECTRONICS, ANTI-STATIC TOP, 2 CABINET	120	1	15				5-20		PVC40	3/4"C, 2#12, 1#12G	1.
1812	WORKBENCH, FUME COLLECTION, DOWNDRAFT	480	3	7.6			30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	4
2100	BUFFER/GRINDER, 10", W/DUST COLLECTOR	480	3		1		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	5.
2175	COMMPRESSOR, AIR, REC, MTD, DRYER, ROTARY SCREW	480	3	57.2			100 A FUSED DS			PVC40	1 1/4"C, 3#4, 1#8G	2
2215	DRILL PRESS, VARIABLE SPEED, 20"	480	3		1 1/2		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
2380	LATHE, ENGINE, 15"	480	3		10		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
2433	MACHINE, MILLING, VERTICAL	480	3		3		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
2460	OVEN, DRY ROD	120	1			1		5-20		PVC40	3/4"C, 2#12, 1#12G	
2532	PRESS, ELECTRIC/HYDRAULIC, 50 TON	480	3		7 1/2		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
2696	SAW, BAND, HORIZONTAL	480	3		2		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
2705	SAW, BAND, VERTICAL, 20"	480	3		3		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
2900	WELDER, MIG, PORTABLE, W/WIRE FEED	208	1	48				L6-50R		PVC40	1"C, 2#6, 1#10G	6
2925	WELDER, PLASMA CUTTER, PORTABLE	208	1	48				L6-50R		PVC40	1"C, 2#6, 1#10G	6
2935	WELDER, TIG/STICK, PORTABLE	480	1	48				50A, 600V, 2 POLE + GROUND, TWIST-LOC		PVC40	1"C, 2#6, 1#10G	7
3080	CABINET, ABRASIVE BLAST, MEDIUM, W/DUST COLLECTOR	480	3		1		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
3349	SANDING SYSTEM, LRV BLOWER	480	3		50		100 A FUSED DS		NEMA 3 FVNR	RGS	1 1/4"C, 3#4, 1#8G	16
3357	SCRUBBER, FLOOR, WALK BEHIND, ELECTRIC	120	1	20				5-30		PVC40	3/4"C, 2#10, 1#10G	
3367	SWEEPER, FLOOR, WALK BEHIND, ELECTRIC	120	1	11				5-20		PVC40	3/4"C, 2#12, 1#12G	
3560	WASHER, PARTS, SMALL	120	1		1/3			5-20		PVC40	3/4"C, 2#12, 1#12G	
3720	WASHER, PRESSURE, HOT WATER, NG	480	3		20			5-20		PVC40	3/4"C, 2#8, 1#10G	8
3784	WASHER, PARTS, JET SPRAY, MEDIUM	480	3	33			60 A FUSED DS			PVC40	3/4"C, 3#8, 1#10G	
3891	WASHER, TRAIN, W/WATER RECLAMATION SYSTEM	480	3	200			400 A FUSED DS			PVC40	2 1/2", 3 #250 KCMIL, 1#6G	
5055	CRANE, BRIDGE, TOP RUNNING, 7-1/2 TON	480	3		10		30 A FUSED DS			RGS	3/4"C, 3#12, 1#12G	9
5070	CRANE, BRIDGE, SUSPENDED, 1/2 TON	480	3		1		30 A FUSED DS			RGS	3/4"C, 3#12, 1#12G	9
5078	CRANE, BRIDGE, SUSPENDED, 2 TON	480	3		3		30 A FUSED DS			RGS	3/4"C, 3#12, 1#12G	9
5128	CRANE, JIB, FOUND. MTD, 10', 1/4 TON, W/HOIST	480	3		1/2		30 A FUSED DS			RGS	3/4"C, 3#12, 1#12G	10
5137	CRANE, JIB, FOUND. MTD, 12', 2 TON	480	3		1/2		30 A FUSED DS			RGS	3/4"C, 3#12, 1#12G	10
5350	FORKLIFT, ELECTRIC, SIT DOWN, 4000LB	480	3	10			30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	11
5364	HOIST, CHAIN, ELECTRIC, 2 TON	480	3		2					RGS	3/4"C, 3#12, 1#12G	10
5384	MONORAIL SYSTEM, WIRE ROPE HOIST, 2 TON	480	3		2					RGS	3/4"C, 3#12, 1#12G	12
5470	COMPACTOR, SELF CONTAINED	480	3		10		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	13
5511	TRUCK COMPRESSION STAND	480	3		20		60 A FUSED DS			PVC40	3/4"C, 3#8, 1#10G	
5520	JACK, PALLET, ELECTRIC	120	1	15				5-20		PVC40	3/4"C, 2#12, 1#12G	
5547	LIFT, PERSONNEL, MOBILE, BOOM TYPE	120	1	15				5-20		PVC40	3/4"C, 2#12, 1#12G	
5549	LIFT, PERSONNEL, MOBILE, SCISSOR TYPE	120	1	15				5-20		PVC40	3/4"C, 2#12, 1#12G	
5564	LIFT, MATERIAL, PLATFORM, 3 STOPS	480	3		5		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	
5565	LIFT, MATERIAL, PLATFORM, 2 STOPS	480	3		5		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	
5566	LIFT, MATERIAL, PLATFORM, 2 STOPS	480	3		5		30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	
5699	LIFT, DOCK LEVELER W/TRUCK RESTSTRAINT	120	1	20			30 A FUSED DS			PVC40	3/4"C, 3#10, 1#10G	14
5735	LIFT, RAIL CAR, IN GROUND	480	3	200			400 A FUSED DS			PVC40	2 1/2", 3 #250 KCMIL, 1#6G	15.
5975	CAR MOVER, LRV, ELECTRIC	480	3	15			30 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	
6360	FABRICATOR, METAL, COMBINATION	480	3		7 1/2		60 A FUSED DS			PVC40	3/4"C, 3#12, 1#12G	3
8872	RAINWATER COLLECTION/TREATMENT SYSTEM, 30,000 GALLON	480	3		20		30 A FUSED DS			PVC40	3/4"C, 3#8, 1#10G	
9365	FILTER, MECHANICAL, PORTABLE	120	1		1 1/2			5-30		PVC40	3/4"C, 2#10, 1#10G	

INDUSTRIAL EQUIPMENT NOTES:

1. STUB UP RECEPTACLE UNDER TABLE.

2. MAKE SINGLE POINT CONNECTION TO UNIT. FUSE PER NAMEPLATE DATA.

3. FUSE BASED ON NAMEPLATE DATA AND MANUFACTURER'S RECOMMENDATIONS.

4. INSTALL CONTROL PANEL AND OTHER COMPONENTS FURNISHED WITH UNIT. PROVIDE MOTOR STARTER AND OTHER ACCESSORIES BASED ON MANUFACTURER'S INSTRUCTIONS. WIRE THE BENCH FUME COLLECTOR FOR A COMPLETE AND OPERATINAL UNIT. FUSE BASED ON NAMEPLATE DATA OF UNIT AND AS RECOMMENDED BY THE MANUFACTURER.

5. INSTALL MOTOR STARTER AND PUSH BUTTON CONTROL STATION FURNISHED WITH UNIT. PROVIDE FUSES BASED ON NAMEPLATE DATA OF UNIT AND AS RECOMMENDED BY MANUFACTURER.

6. PROVIDE RECEPTACLE THAT MATCHES CORD AND PLUG ON WELDER.

7. PROVIDE CORD AND PLUG ON WELDER PER MANUFACTURER'S INSTRUCTION S. RECEPTACLE SHALL BE SIMILAR TO HUBBELL HBL3763C.

8. FUSE BASED ON NAMEPLATE DATA OF UNIT AND AS RECOMMEDNED BY THE MANUFACTURER. INSTALL AND WIRE REMOTE STATION FOR SOAP OPERATION FURNISHED WITH UNIT.

9. PROVIDE DISCONNECT SWITCH WITHIN 1'-0" OF THE END OF THE ELECTRIC RUNWAY. FUSE BASED ON MANUFACTURER'S RECOMMENDATIONS.

10. COORDINATE INSTALLATION WITH CRANE. FUSE BASED ON MANUFACTURER'S RECOMMENDATIONS.

11. FLOOR MOUNTED BATTERY CHARGER.

12. PROVIDE DISCONNECT SWITCH WITHIN 1-'0" OF THE END OF THE ELECTRIC RUNWAY. INTERLOCK WITH OCS. FUSE BASED ON MANUFACTURER'S RECOMMENDATIONS.

13. FUSE BASED ON NAMEPLATE OF UNIT AND AS RECOMMENDED BY THE MANUFACTURER. PROVIDE 120V CONTROL CIRCUIT TO UNIT, USE HORSE POWER RATED TOGGLE SWITCH AS THE DISCONNECT SWITCH.

14. PROVIDE FUSES BASED ON NAMEPLATE DATA OF UNIT AND AS RECOMMENDED BY MANUFACTURER. PROVIDE 120V, 1P CONTROL CIRCUIT TO UNIT, USE HORSE POWER RATED TOGGLE SITCH AS THE DISCONNECTION MEANS. INSTALL AND WIRE ALL SAFETY DEVICES FURNISHED WITH UNIT. INSTALL AND WIRE INTERIOR AND EXTERIOR LIGHTS FURNISHED WITH THE UNIT. THE CONTRACTOR SHALL WIRE THE UNIT AS A COMPLETE AND OPERATIONAL UNIT.

15. PROVIDE FUSES BASED ON NAMEPLATE DATA OF UNIT AND AS RECOMMENDED BY MANUFACTURER. PROVIDE 120V, 1P CONTROL CIRCUIT TO UNIT, USE HORSE POWER RATED TOGGLE SITCH AS THE DISCONNECTION MEANS. INTERLOCK LIFT WITH THE OCS SYSTEM.

16. COMBINATION STARTER AND DISCONNECT SWITCH.

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METROPOLITAN COUNCIL SOUTHWEST

OPERATIONS & MAINTENANCE FACILITY - V2B
ELECTRICAL

INDUSTRIAL EQUIPMENT SCHEDULE

DISCIPLINE: ELECTRICAL

SHEET NAME: OMF-ELE-SCH

E805

Specialty Equipment Schedule

Mark	Description	Spec Section	Procurement	Submittals
1113	Cabinet, 9 drawer, 59"	10 56 00	CF/CI	PD, OM
1130	Cabinet, computer, shop	10 56 00	CF/CI	PD, OM
1140	Cabinet, flammable materials, large	10 56 00	CF/CI	PD, OM
1150	Cabinet, gas, cylinder, horizontal, large	10 56 00	CF/CI	PD, OM
1154	Cabinet, gas cylinder, vertical, large	10 56 00	CF/CI	PD,OM
1185	Cabinet, storage, shop, 18"	10 56 00	CF/CI	PD, OM
1186	Cabinet, storage, shop, 18", heavy duty	10 56 00	CF/CI	PD, OM
1190	Cabinet, storage, shop, 24"	10 56 00	CF/CI	PD, OM
1321	Locker, tool, 2-tier, 6-compartment	10 56 00	CF/CI	PD
1420	Rack, arm, single face, 7' high	10 56 00	CF/CI	PD
1426	Rack, arm, single face, cantilever	10 56 00	CF/CI	PD
1456	Rack, bulk storage, w/ deck	10 56 00	CFCI	PD
1503	Rack, glass, harp type, twin level, dolly	10 56 00	CF/CI	PD
1504	Rack, glass, hard type, twin level	10 56 00	CF/CI	PD
1530	Rack, pallet, 42" deep 10' high, 6000lb, w/ deck	10 56 00	CF/CI	PD
1531	Rack, pallet, 42" deep 12' high, 6000lb, w/ deck	10 56 00	CFCI	PD
1533	Rack, pallet, 42" deep 16' high, 6,000lb, w/ deck	10 56 00	CF/CI	PD
1615	Rack, sheet metal, vertical	10 56 00	CF/CI	PD
1680	Shelving unit, 18"	10 56 00	CF/CI	PD
1731	Storage system, vertical lift module	10 56 00	CF/CI	PD
1750	Stool, electronic station, anti-static	11 96 00	CF/CI	PD
1758	Table, shop, small	10 56 00	CF/CI	PD
1776	Table, layout, wood top, 120"x36"	10 56 00	CF/CI	PD
1800	Workbench, electronics, anti-static, top, 2 cabinet	11 96 00	CF/CI	PD
1820	Workbench, fume collection, downdraft	11 96 00	CF/CI	PD
1860	Workbench, severe use	13 60 00	CF/CI	SD
1862	Workbench, severe use,w/ cabinets	11 96 00	CF/CI	PD
1864	Workbench, severe use, wood top	11 96 00	CF/CI	PD
1865	Workbench, severe use, wood top	13 60 00	CF/CI	SD
2100	Buffer/grinder. 10", w/dust collector	11 96 00	CF/CI	PD, OM
2215	Drill press, variable speed, 20"	11 96 00	CF/CI	PD, OM
2380	Lathe, engine, 15"	11 96 00	CF/CI	PD, OM
2433	Machine, milling, vertical	11 96 00	CF/CI	PD, OM
2460	Oven, dry rod	11 96 00	CF/CI	PD, OM
2532	Press, electric/hydraulic, 50 ton	11 96 00	CF/CI	PD, OM
2539	Press, manual hydraulic, 25 ton	11 96 00	CF/CI	PD, OM
2696	Saw, band, horizontal	11 96 00	CFCI	PD, OM
2705	Saw, band, vertical, 20"	11 96 00	CF/CI	PD, OM
2832	Vise, combination, swivel base, 5"	11 96 00	CF/CI	PD
2835	Vise, comination, swivel base, 6"	11 96 00	CF/CI	PD
2900	Welder, MIG, portable, w/ wire feed	11 96 00	CF/CI	PD, OM
2920	Welder, oxyacetylene, portable, w/ cart	11 96 00	CF/CI	PD, OM
2925	Welder, plasma cutter, portable	11 96 00	CFCI	PD, OM
2935	Welder, TIG/ stick, portable	11 96 00	CF/CI	PD, OM
3080	Cabinet, abrasive blast, medium, w/ dust collector	11 96 00	CF/CI	PD, OM, SD, T
3349	Sanding system, LRV	40 34 14	CF/CI	PD, OM, SD, T
3349 (Blower)	Sanding system, LRV	40 34 14	CF/CI	PD, OM, SD, T
3357	Scrubber, floor, walk-behind, electric	11 96 00	CF/CI	PD, OM
3367	Sweeper, floor, walk-behind, electric	11 96 00	CF/CI	PD, OM
3720A	Washer, pressure, hot water, NG	11 11 26	CF/CI	PD, OM, SD, T
3720B	Washer, pressure, hot water, NG	11 11 26	CF/CI	PD, OM, SD, T
3720C	Washer, pressure, hot water, NG	11 11 26	CF/CI	PD, OM, SD, T
3784	Washer, parts, jet spray, medium	11 96 00	CFCI	PD, OM, SD, T
3891	Washer, train, w/water reclamation system	11 11 26	CFCI	PD, OM, SD, T
5030	Cart, parts	10 56 00	CF/CI	PD, OM
5055	Crane, bridge, top-running, 7-1/2 ton	41 22 00	CF/CI	PD, OM, SD, T
5070	Crane, bridge, suspended, 1/2 ton	41 22 00	CF/CI	PD, OM, SD, T

Specialty Equipment Schedule

Mark	Description	Spec Section	Procurement	Submittals
5128	Crane, jib, found mtd., 10', 1/4 ton	41 22 00	CF/CI	PD, OM, SD, T
5137	Crane, jib, found mtd., 12', 2 ton	41 22 00	CF/CI	PD, OM, SD, T
5345	Forklift, gas, riding, 8000 lb	41 24 08	CF/CI	PD, OM, T
5350	Forklift, electric, sit-down, 4000 lb	41 24 08	CF/CI	PD, OM, T
5358	Hoist, chain, elect, 1/4 ton	41 22 00	CF/CI	PD, OM, SD, T
5364	Hoist, chain, elect, 2 ton	41 22 00	CF/CI	PD, OM, T
5462	Hopper, self-dumping, 1 yard	11 96 00	CF/CI	PD, OM
5470	Compactor, self contained	11 96 00	CF/CI	PD, OM
5520	Jack, pallet, electric	11 96 00	CF/CI	PD, OM
5547	Lift, personnel, mobile, boom type	14 15 00	CF/CI	PD, OM
5549	Lift, personnel, mobile, scissor type	14 15 00	CF/CI	PD, OM
5564	Lift, material, platform, 3 stops	14 15 00	CF/CI	PD, OM, T
5565	Lift, material, platform, 2 stops	14 15 00	CF/CI	PD, OM, T
5566	Lift, material, platform, 2 stops	14 15 00	CF/CI	PD, OM, T
5699	Lift, dock leveler, w/ truck restraint	11 13 00	CF/CI	PD, OM, SD, T
5735	Lift, rail car, in-ground	14 45 00	CF/CI	PD, OM, SD, T
5970	Turntable, rail truck, manual	14 70 00	CF/CI	PD, OM, SD, T
5975	Car mover, LRV, electric	41 24 39	CF/CI	PD, OM, SD, T
6360	Fabricator, metal, combination	11 96 00	CFCI	PD, OM
8596	Pump, diaphragm (WWF)	11 11 19	CF/CI	PD, OM, SD, T
8711	Reel Bank (WWF)	11 11 19	CF/CI	PD, OM, SD, T
8940	Tank, storage, cube, 120 gallon (WWF)	43 41 16	CF/CI	PD, OM, SD
9355	Filter, mechanical, portable	44 11 00	CF/CI	PD, OM
35601 (NIC)	Washer, parts, small	NONE	OF/OI	NONE
55111 (NIC)	Truck compression stand	NONE	OF/OI	NONE
55441 (NIC)	Truck Stand	NONE	CF/CI	NONE

LEGEND

- AUXILIARY POWER ELECTRICAL CONTROL STATION.
- TRACTION POWER ELECTRICAL CONTROL STATION.
- OCS INDICATION LIGHT

GENERAL NOTES:

1. 4 DIGIT MARK NUMBERS WITH OR WITHOUT ALPHA EXTENSION REPRESENT NEW EQUIPMENT TO BE FURNISHED AND INSTALLED AS GRAPHICALLY INDICATED AND SHOWN IN THE SPECIALTY EQUIPMENT SCHEDULE.

2. ALL EQUIPMENT SHOWN ON THESE DRAWINGS IS BASED ON SPECIFIED MANUFACTURER. ANY MODIFICATIONS AND / OR SUBSTITUTIONS OF SAID EQUIPMENT MUST BE COORDINATED BY THE CONTRACTOR INCLUDING ALL CONNECTIONS, SERVICES, OPENING SIZES, AND ANY OTHER CONSTRUCTION RELATED REQUIREMENTS.

3. VERIFY AND COORDINATE ALL STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING REQUIREMENTS OF EQUIPMENT WITH MANUFACTURER PRIOR TO INSTALLATION.

4. 5 DIGIT MARK NUMBERS REPRESENT EQUIPMENT TO BE OWNER FURNISHED AND INSTALLED BY OWNER.

NUMBERED NOTES:

1. VEHICLE LIFT (#5735) REFER TO APPROVED MANUFACTURER'S SHOP DRAWINGS FOR INSTALLATION. RE: PLUMBING, ELECTRICAL AND STRUCTURAL.
2. DOCK LEVELER (#5699) IN RECESS WITH WALL MOUNTED CONTROLS. RE: PLUMBING, ELECTRICAL AND STRUCTURAL.
3. BRIDGE CRANE (#5055) WITH WALL MOUNTED DISCONNECT. RE: ELECTRICAL AND STRUCTURAL.
4. MONORAIL SYSTEM W/ HOIST (#5364) WITH WALL MOUNTED DISCONNECT. RE: ELECTRICAL AND STRUCTURAL.
5. SUSPENDED BRIDGE CRANE (#5070) WITH WALL MOUNTED DISCONNECT. RE: ELECTRICAL AND STRUCTURAL.
6. CONTAIMENT SUMP WITH REMOVABLE GRADING FLUSH WITH SURROUNDING FLOOR. RE: STRUCTURAL.
7. WALL MOUNTED HOSE AND WAND HOLDER PLUMBED TO HIGH PRESSURE WASHER (#3720). RE: APPROVED MANUFACTURER'S SHOP DRAWINGS FOR INSTALLATION.
8. WALL MOUNTED REMOTE CONTROL FOR HIGH PRESSURE WASHER (#3720). RE: APPROVED MANUFACTURER'S SHOP DRAWINGS FOR INSTALLATION.
9. WASH COLLECTION SUMP WITH REMOVABLE GRADING FLUSH WITH SURROUNDING FLOOR. RE: PLUMBING AND STRUCTURAL.
10. OVERHEAD CATENARY SYSTEM (OCS) DISCONNECT SWITCH. TO BE COORDINATED WITH TRACTION POWER DESIGN
11. AUXILIARY POWER STATION (APS). COORDINATE WITH TRACTION POWER DESIGN.
12. OCS INDICATION LIGHT MOUNTED ABOVE DISCONNECT AT 10'-0" AFF.
13. OCS INDICATION LIGHT MOUNTED AT 22'-0" AFF.
14. OCS INDICATION LIGHT MOUNTED AT 11'-0" AFF.
15. CRANE SHOWN IN HOME POSITION. CONTACT TO RELAY INFORMATION TO INTERLOCK / LIFE SAFETY. RE: TRACTION POWER.
16. MONORAIL TROLLEY SHOWN IN HOME POSITION. CONTACT TO RELAY INFORMATION TO INTERLOCK / LIFE SAFETY. RE: TRACTION POWER.

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AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

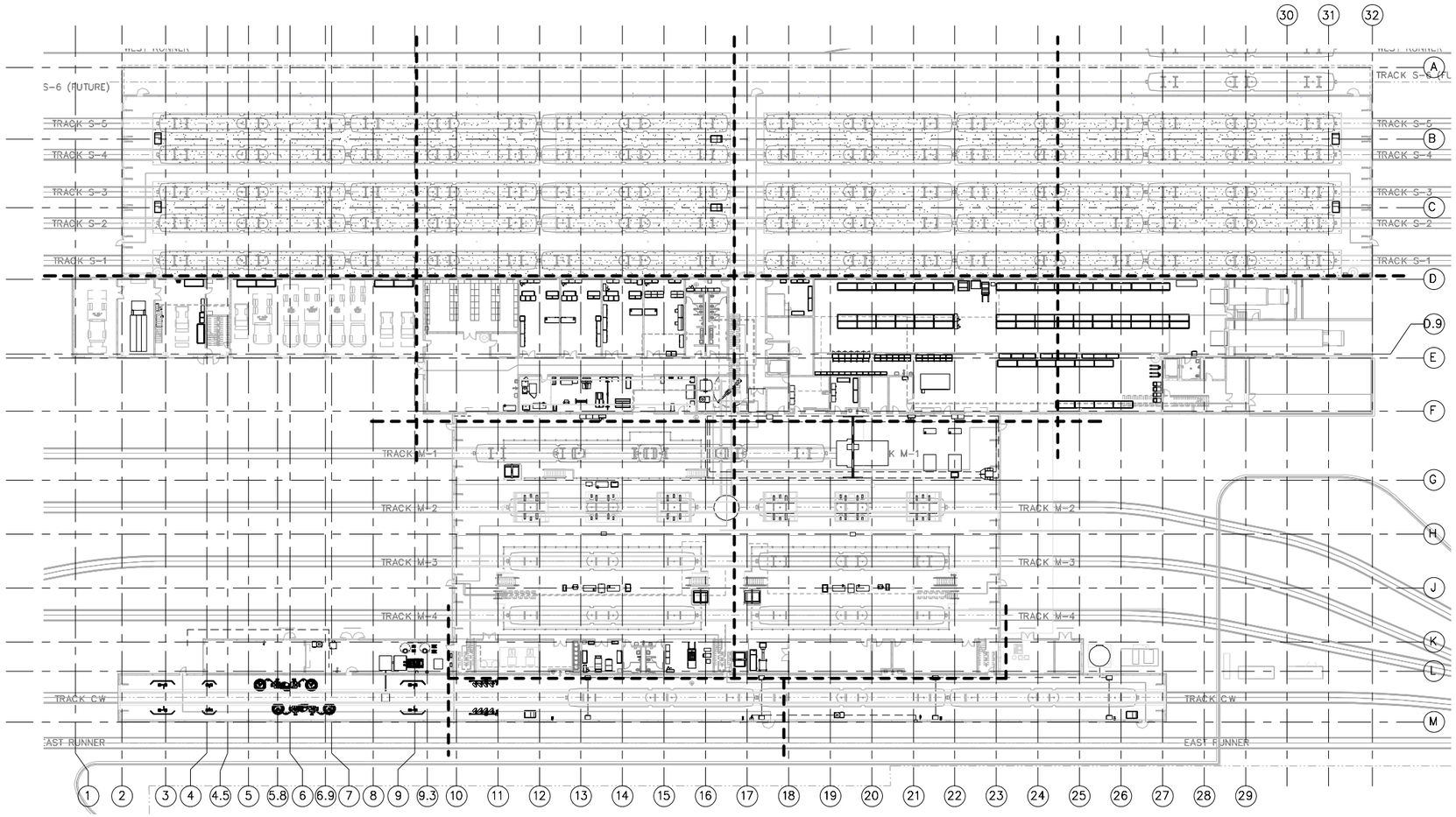
INDUSTRIAL GENERAL INFORMATION

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-TYP

I009

SHEET 242 OF 263



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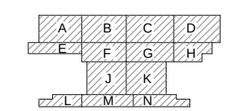
1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.

N

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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SOUTHWEST Green Line LRT Extension

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LEVEL ONE OVERALL FLOOR PLAN

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I110

SHEET 243 OF 263

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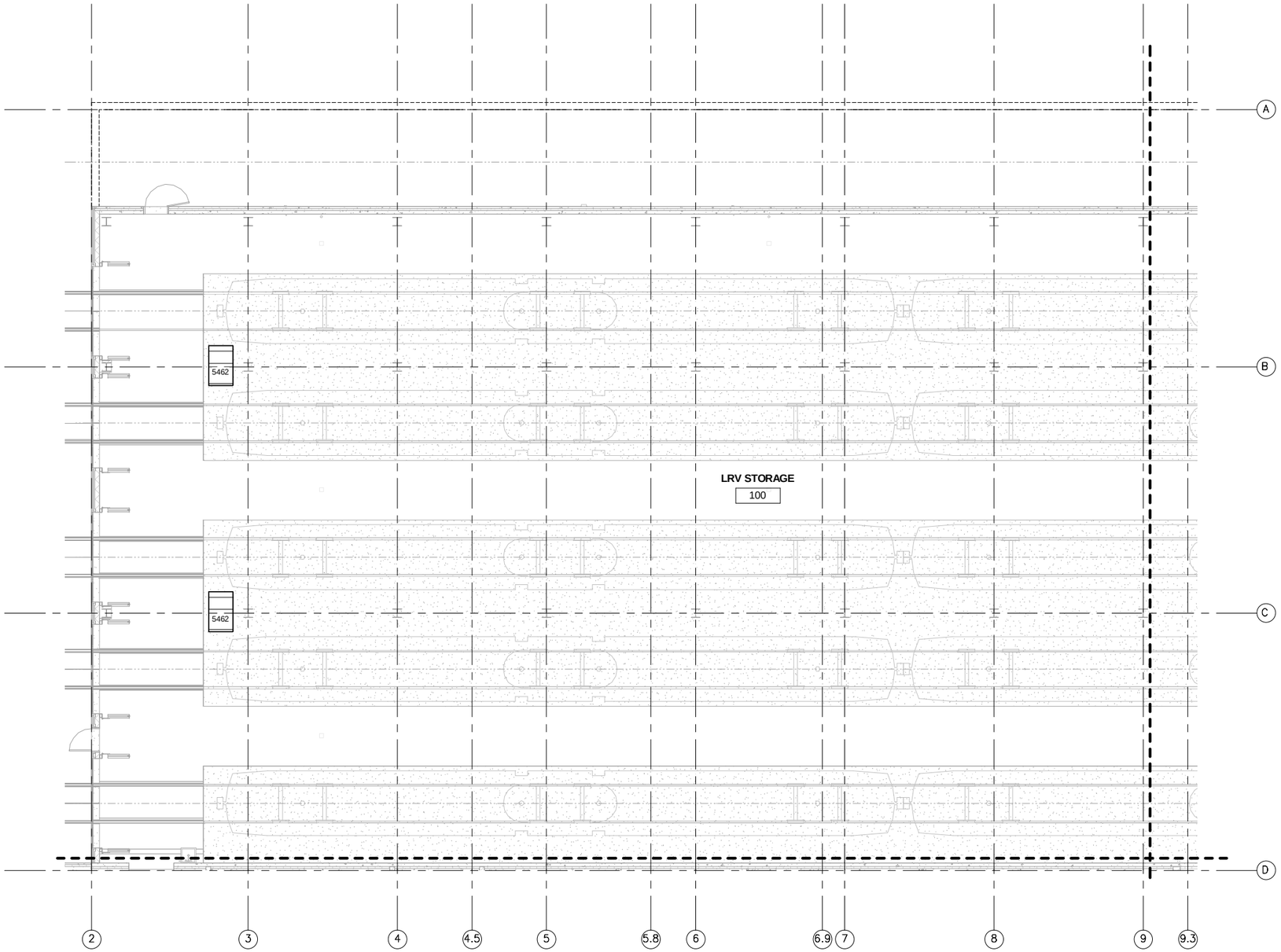

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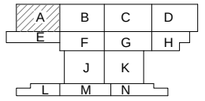

KEY PLAN - SCALE: N.T.S.

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0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

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LEVEL ONE ENLARGED PLANS AREA A

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

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SHEET 244 OF 263

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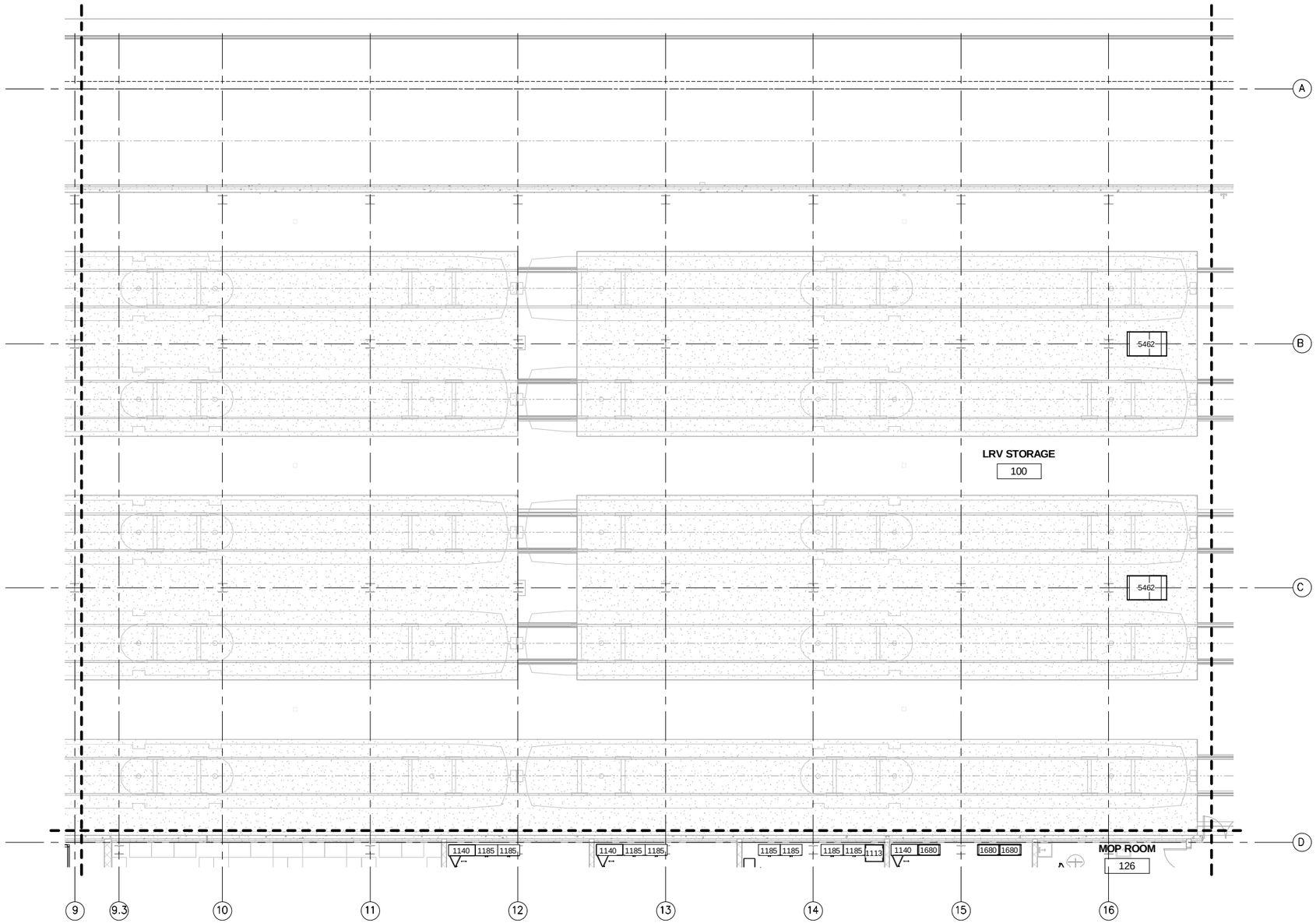
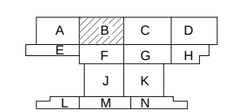


1 LEVEL ONE - AREA B
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

N

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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LEVEL ONE ENLARGED PLANS AREA B

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I110B

SHEET 245 OF 263

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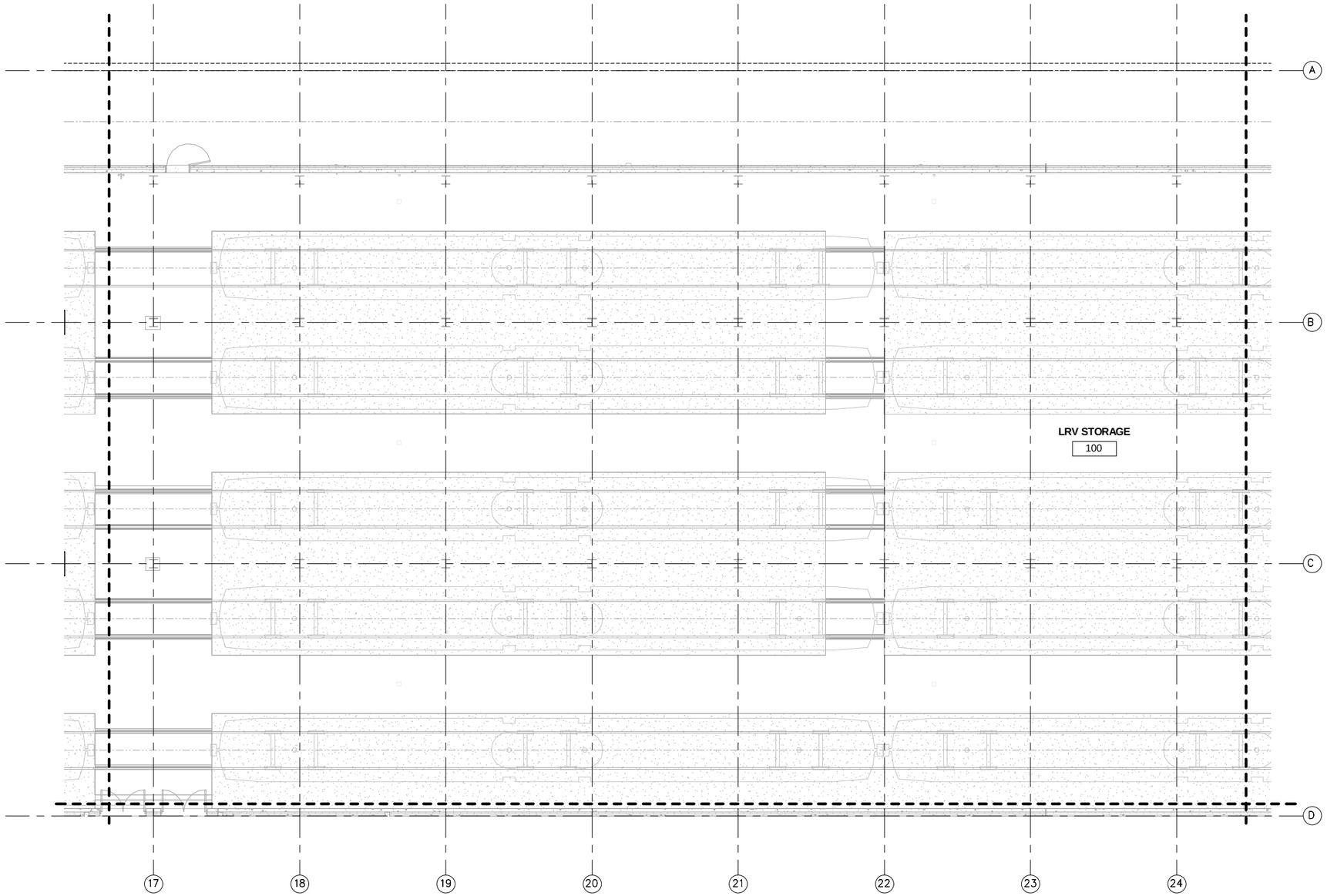
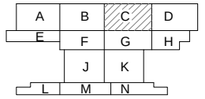


1 LEVEL ONE - AREA C
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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HORIZONTAL
SCALE IN FEET

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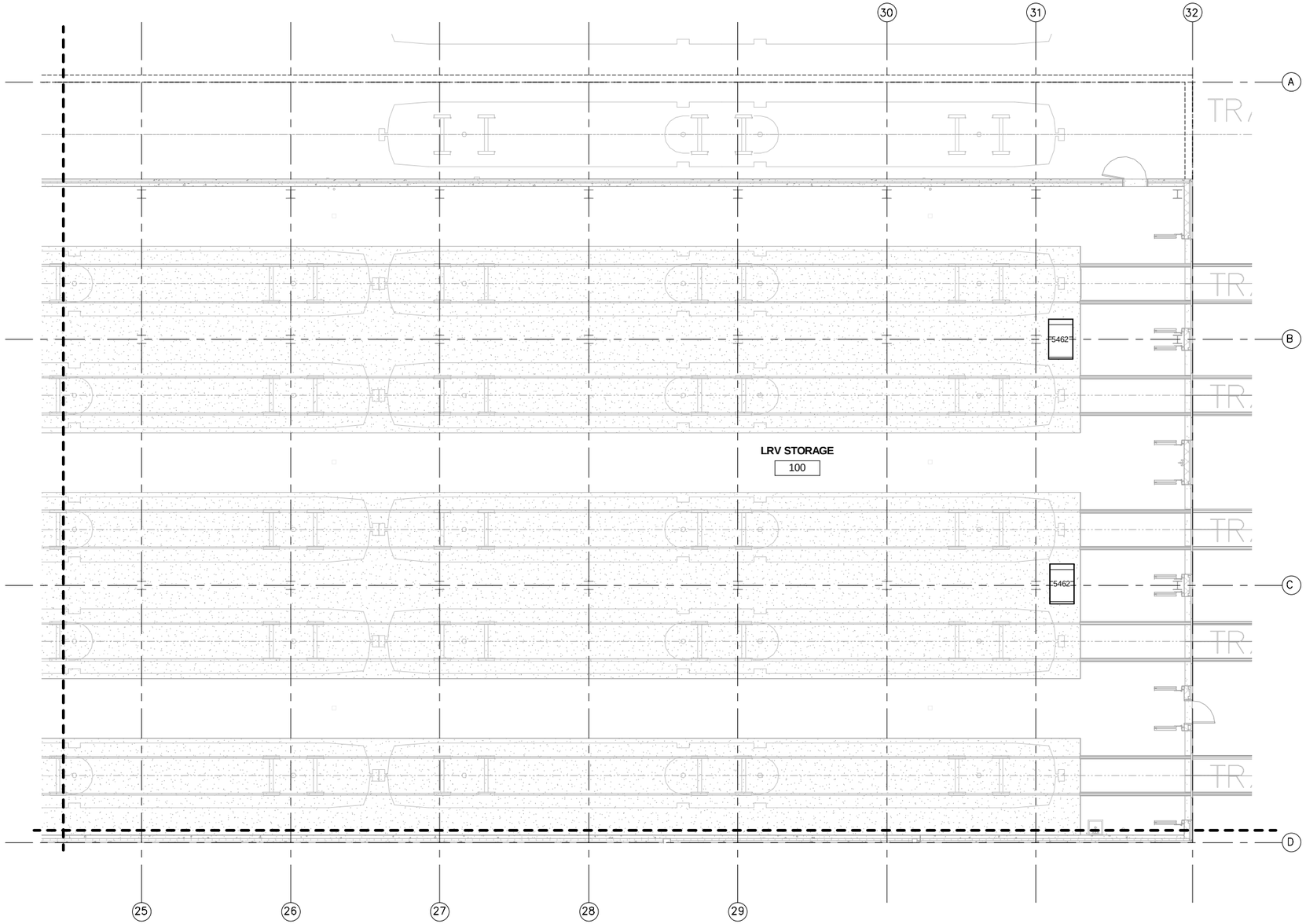
LEVEL ONE ENLARGED PLANS AREA C

DISCIPLINE: INDUSTRIAL

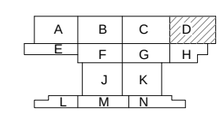
SHEET NAME: OMF-IND-PLN

I110C

SHEET 246 OF 263



1 LEVEL ONE - AREA D
1/8" = 1'-0"



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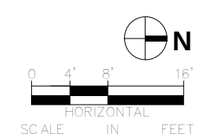

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LEVEL ONE ENLARGED PLANS AREA D

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

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SHEET 247 OF 263

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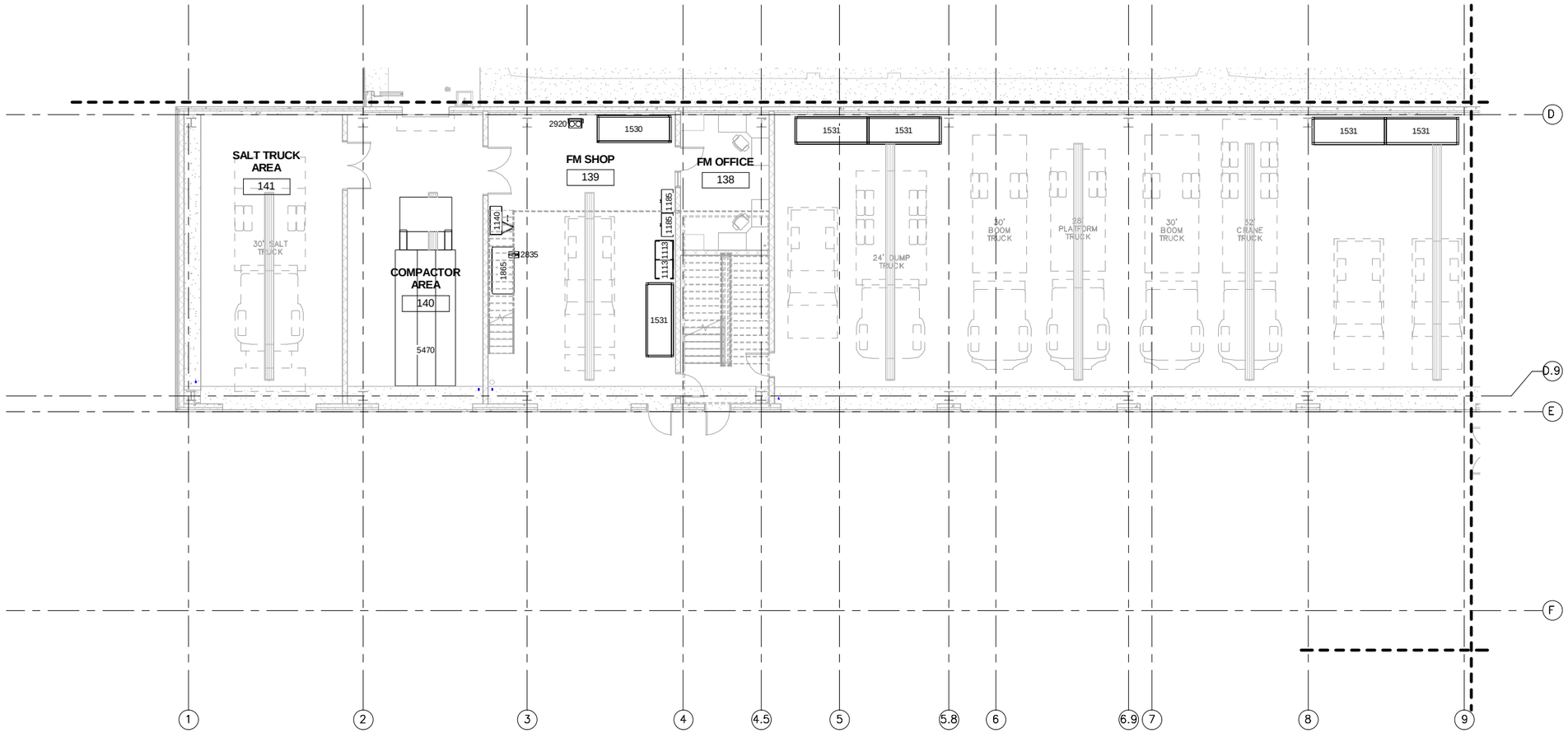
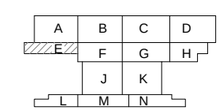


1 LEVEL ONE - AREA E
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

N

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

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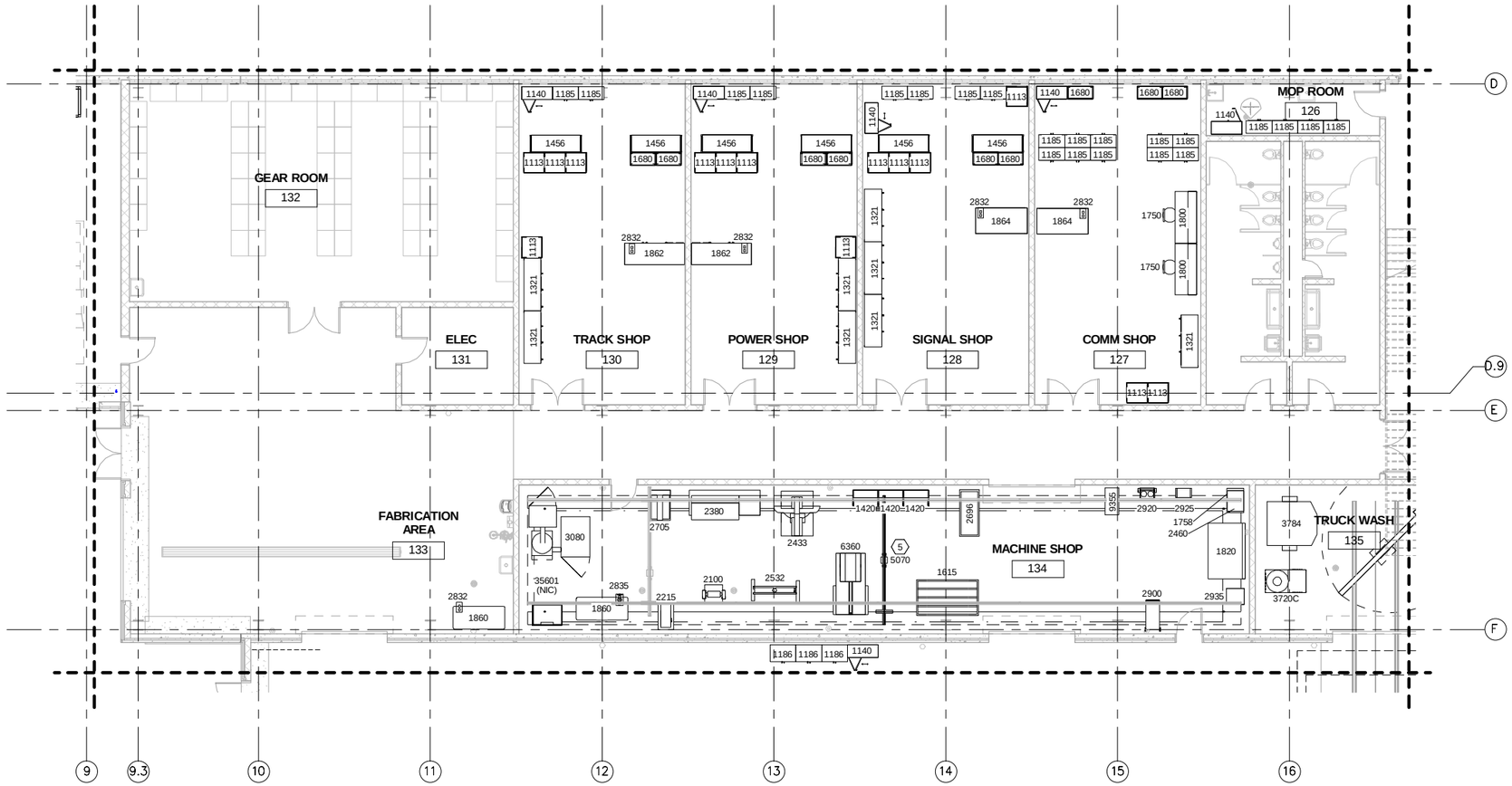
LEVEL ONE ENLARGED PLANS AREA E

DISCIPLINE: INDUSTRIAL

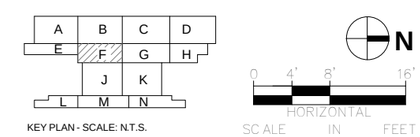
SHEET NAME: OMF-IND-PLN

I110E

SHEET 248 OF 263



1 LEVEL ONE - AREA F
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

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LEVEL ONE ENLARGED PLANS AREA F

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I110F

SHEET 249 OF 263

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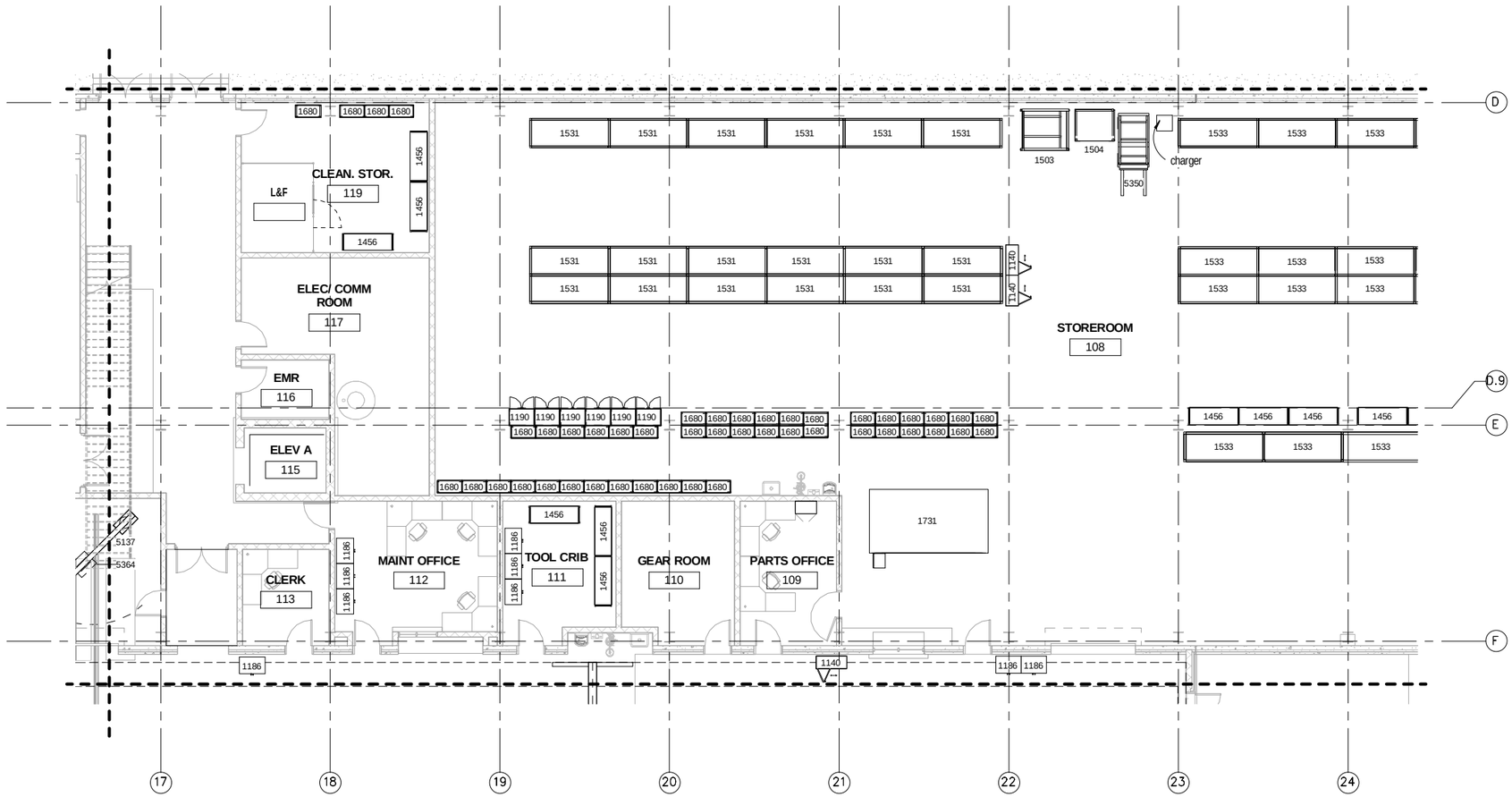

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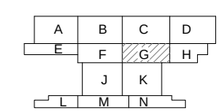

KEY PLAN - SCALE: N.T.S.

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0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

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SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA G

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I110G

SHEET 250 OF 263

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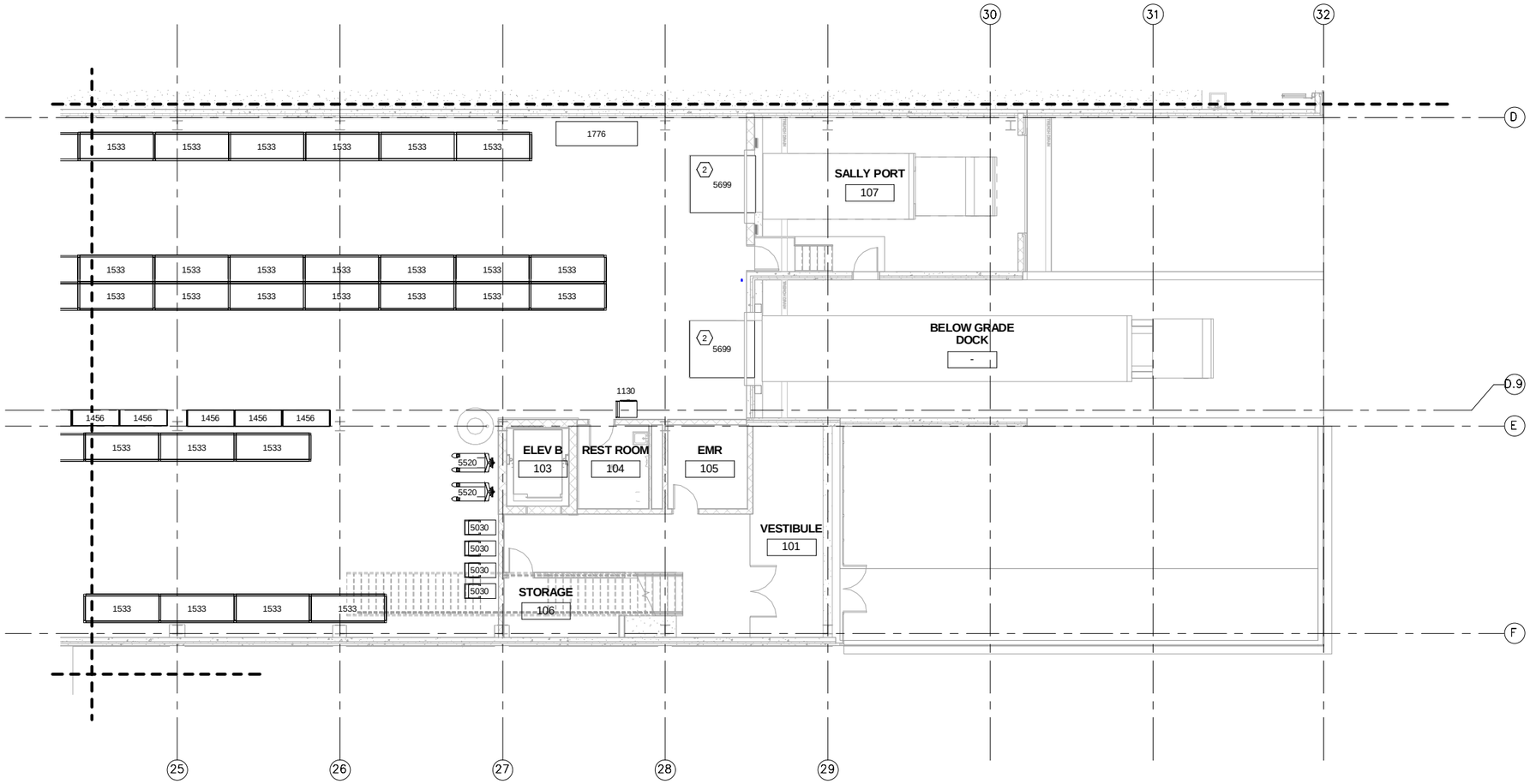
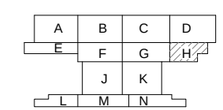


1 LEVEL ONE - AREA H
1/8" = 1'-0"



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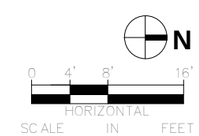

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

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OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA H

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I110H

SHEET 251 OF 263

9/22/2015 8:51:40 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_IND\ST.RVT (INDUSTRIAL).rvt

NOT USED

N

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA I

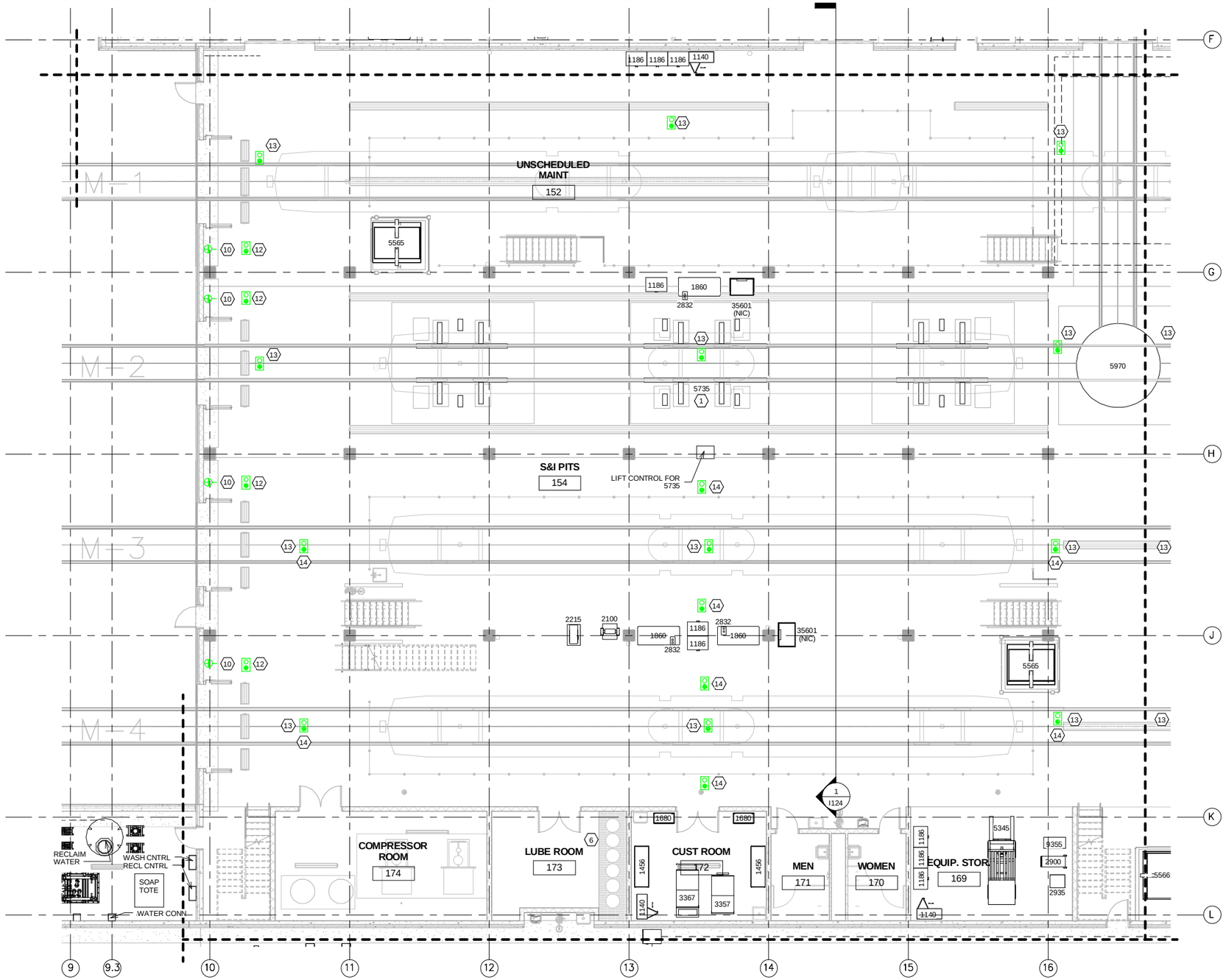
DISCIPLINE: **INDUSTRIAL**

SHEET NAME: **OMF-IND-PLN**

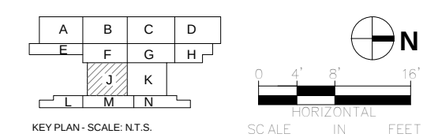
I110I

SHEET 252 OF 263

9/22/2015 8:51:41 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_INDST.RVT (INDUSTRIAL).rvt



1 LEVEL ONE - AREA J
1/8" = 1'-0"



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA J

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I110J

SHEET 253 OF 263

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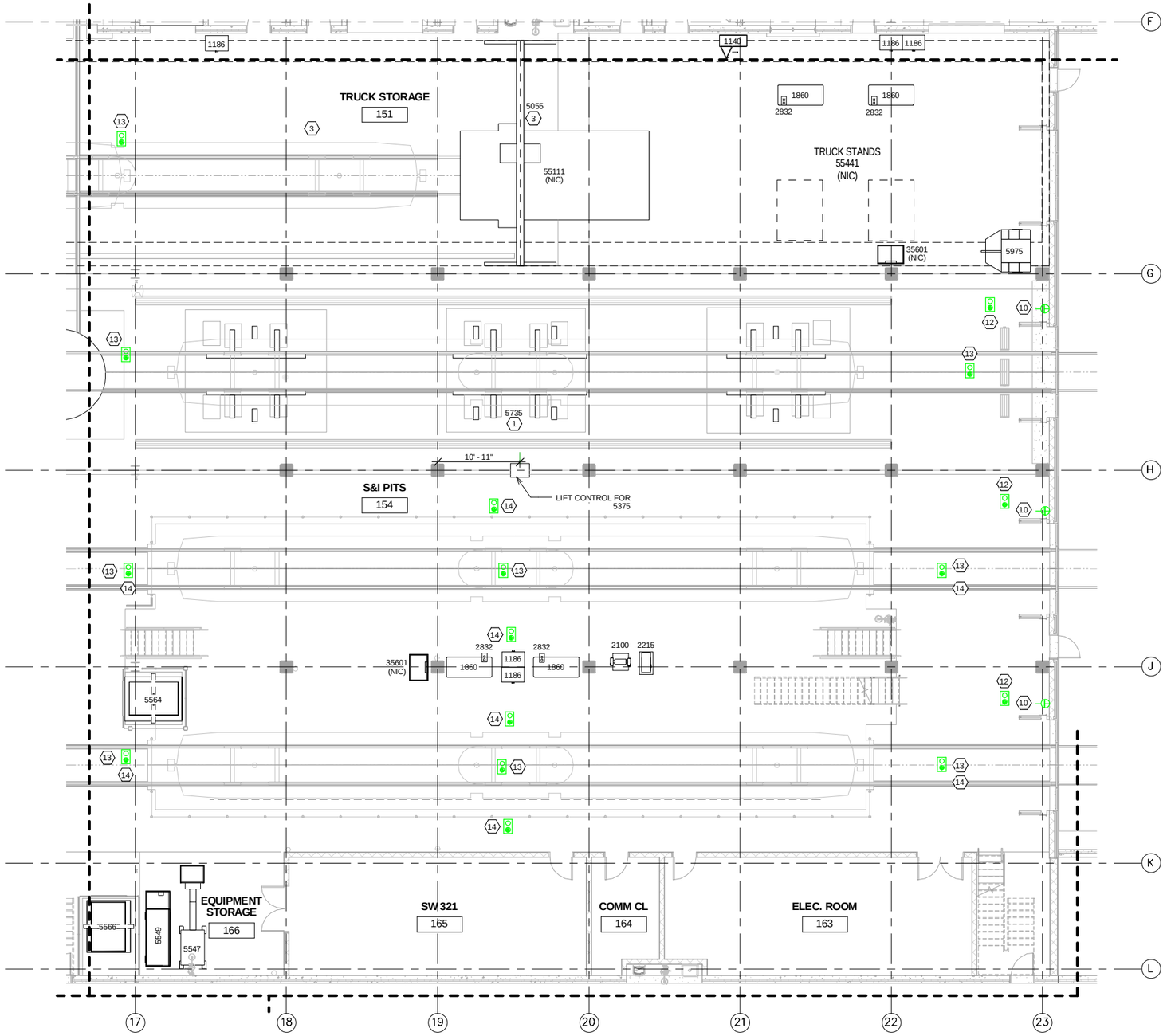
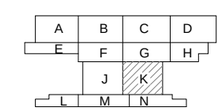


1 LEVEL ONE - AREA K
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

N

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA K

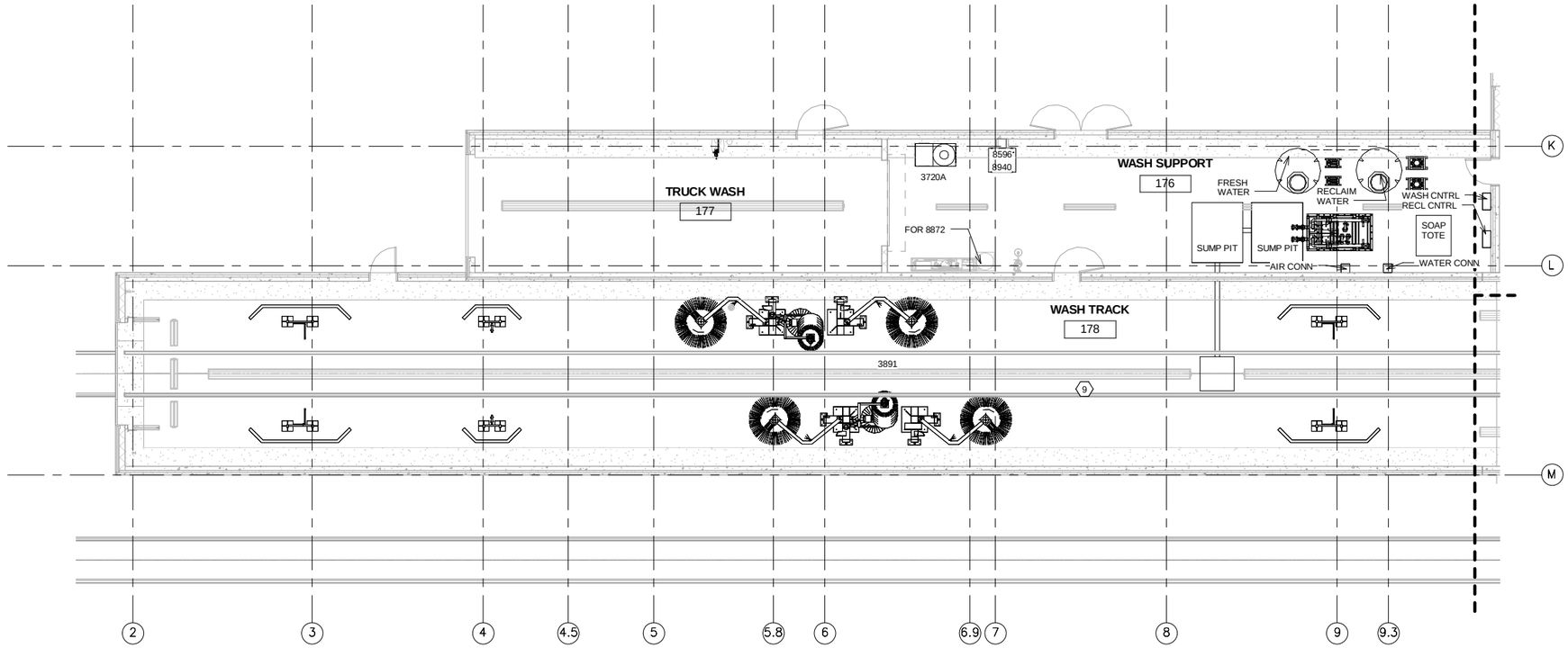
DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

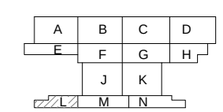
I110K

SHEET 254 OF 263

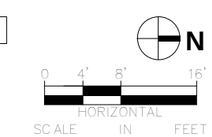
9/22/2015 8:51:46 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_INDST.RVT (INDUSTRIAL).rvt



1 LEVEL ONE - AREA L
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA L

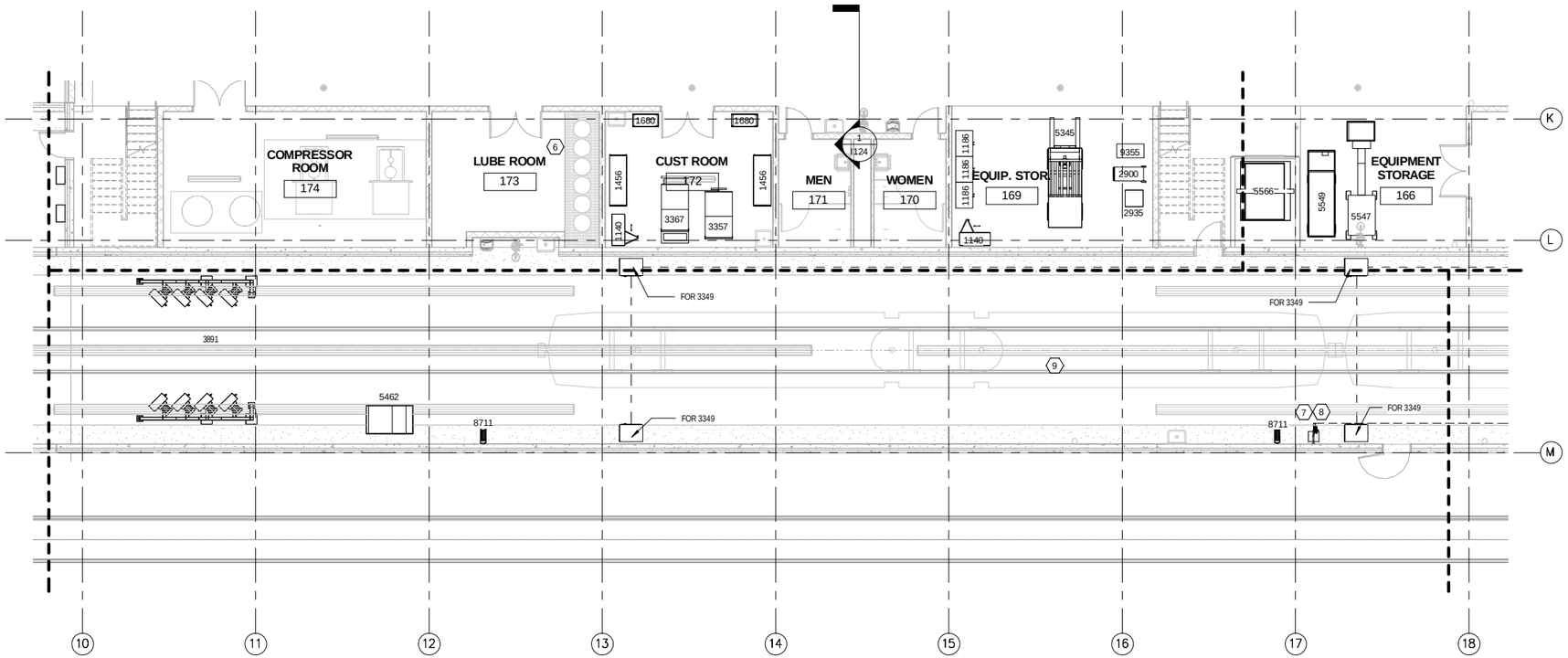
DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

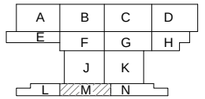
I110L

SHEET 255 OF 263

9/22/2015 8:51:49 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_IND\ST.RVT (INDUSTRIAL).rvt



1 LEVEL ONE - AREA M
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.

N

0 4' 8' 16'
HORIZONTAL SCALE IN FEET

NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA M

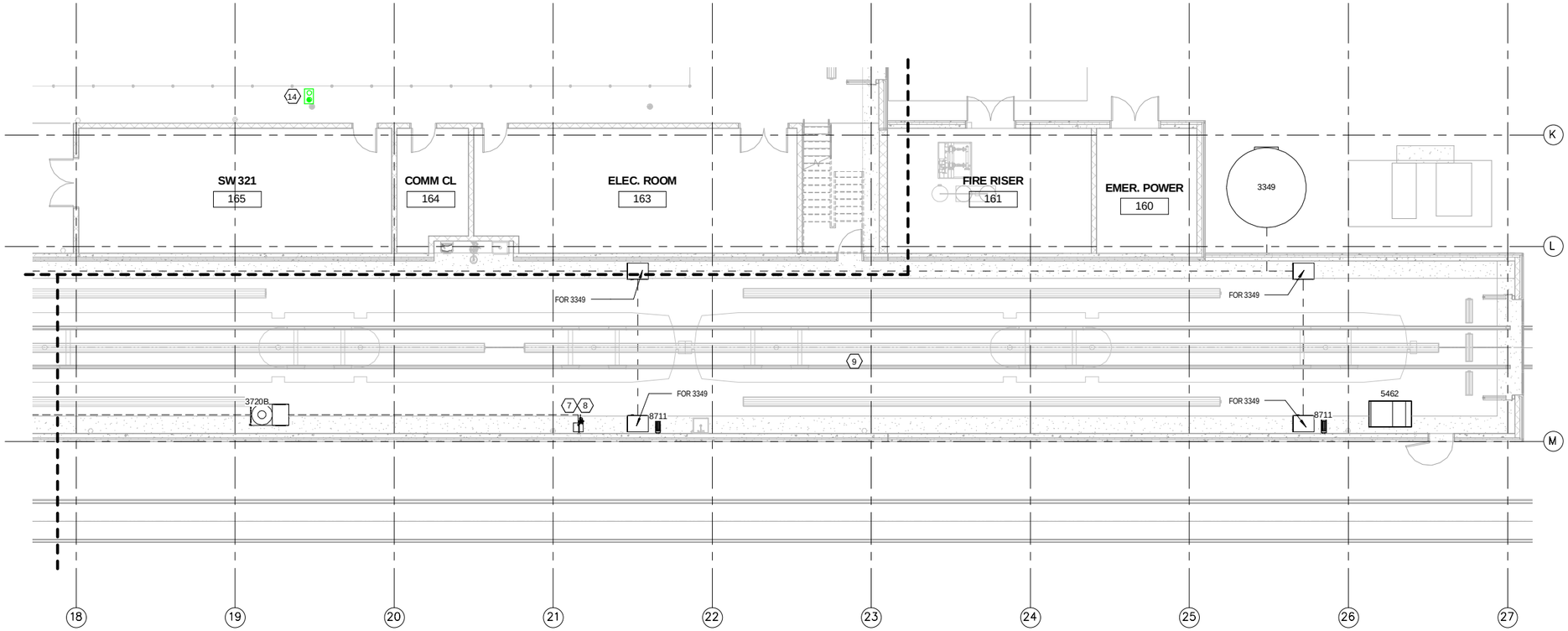
DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

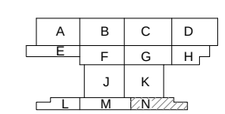
I110M

SHEET 256 OF 263

9/22/2015 8:51:52 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_IND\ST.RVT (INDUSTRIAL).rvt



1 LEVEL ONE - AREA N
1/8" = 1'-0"



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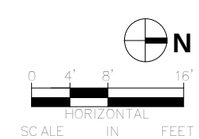


NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

LEVEL ONE ENLARGED PLANS AREA N

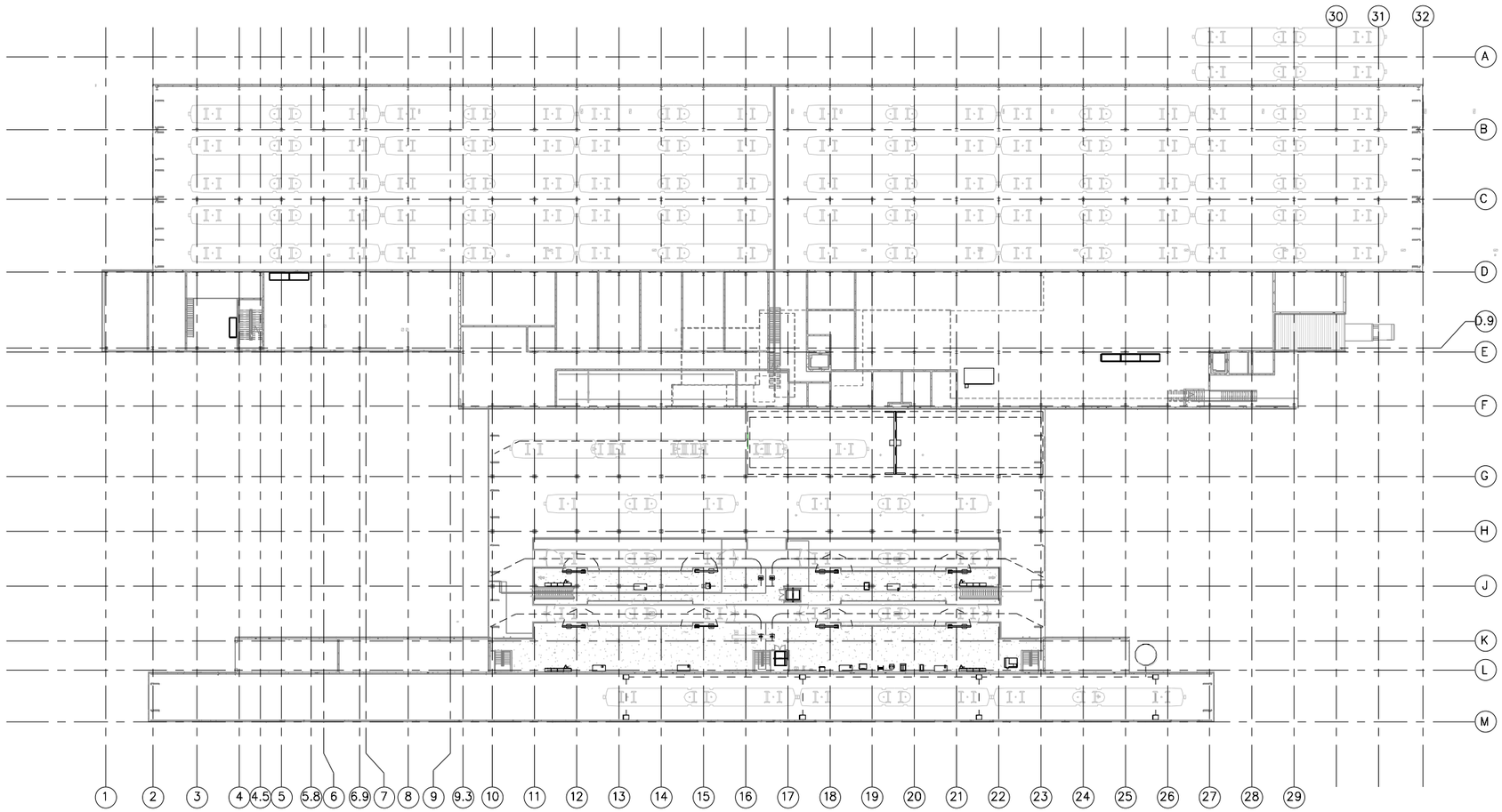
DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

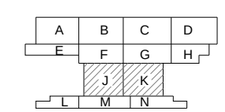
I110N

SHEET 257 OF 263

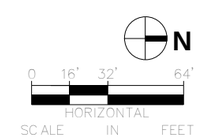
9/22/2015 8:51:55 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_IND\ST.RVT (INDUSTRIAL).rvt



1 MEZZANINE LEVEL - OVERALL PLAN
1/32" = 1'-0"



KEY PLAN - SCALE: N.T.S.



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60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

MEZZANINE LEVEL OVERALL FLOOR PLAN

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I115

SHEET 258 OF 263

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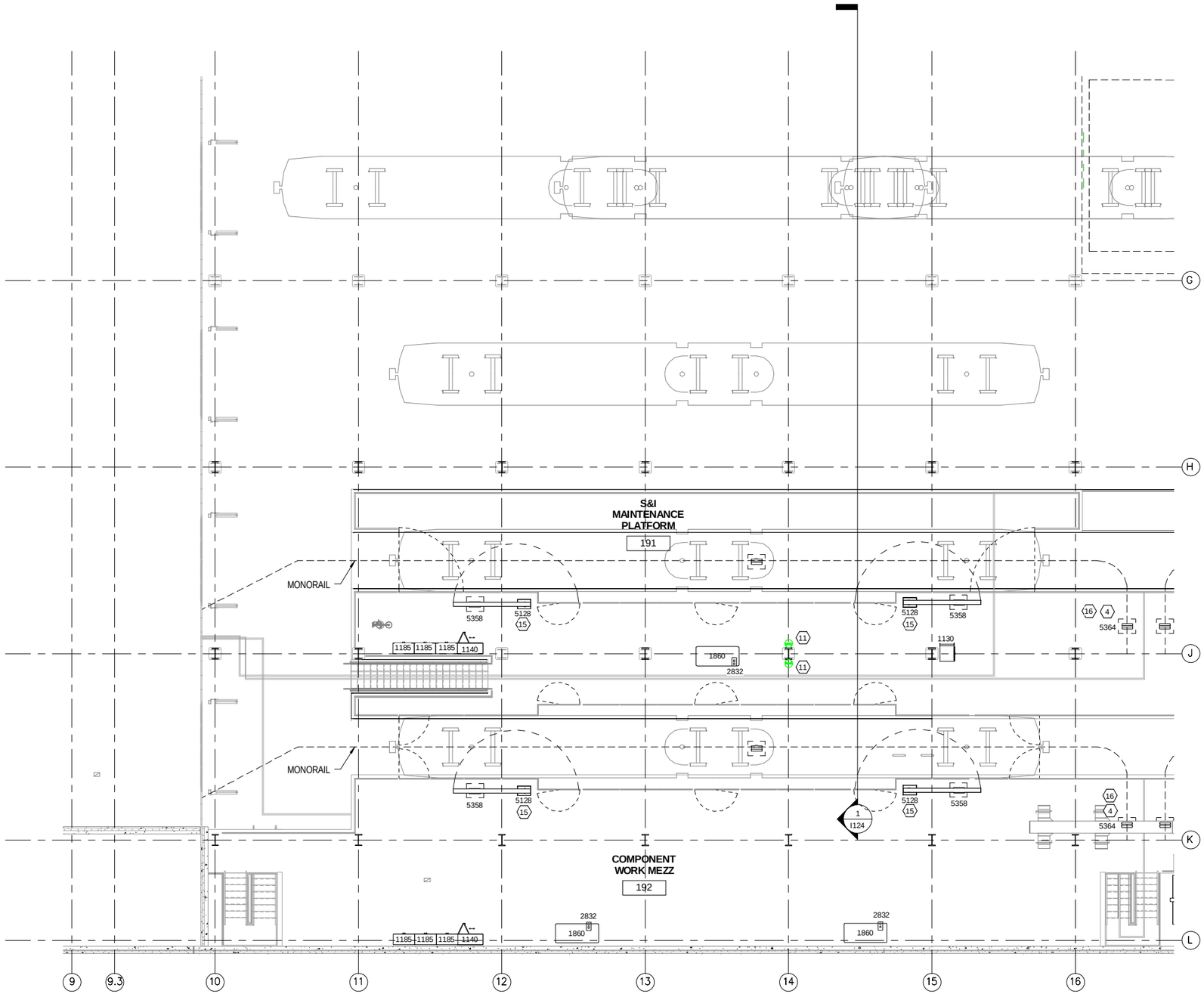
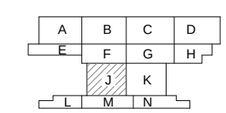


1 MEZZANINE LEVEL - AREA J
1/8" = 1'-0"



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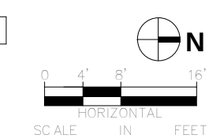

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AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

MEZZANINE LEVEL ENLARGED PLANS J

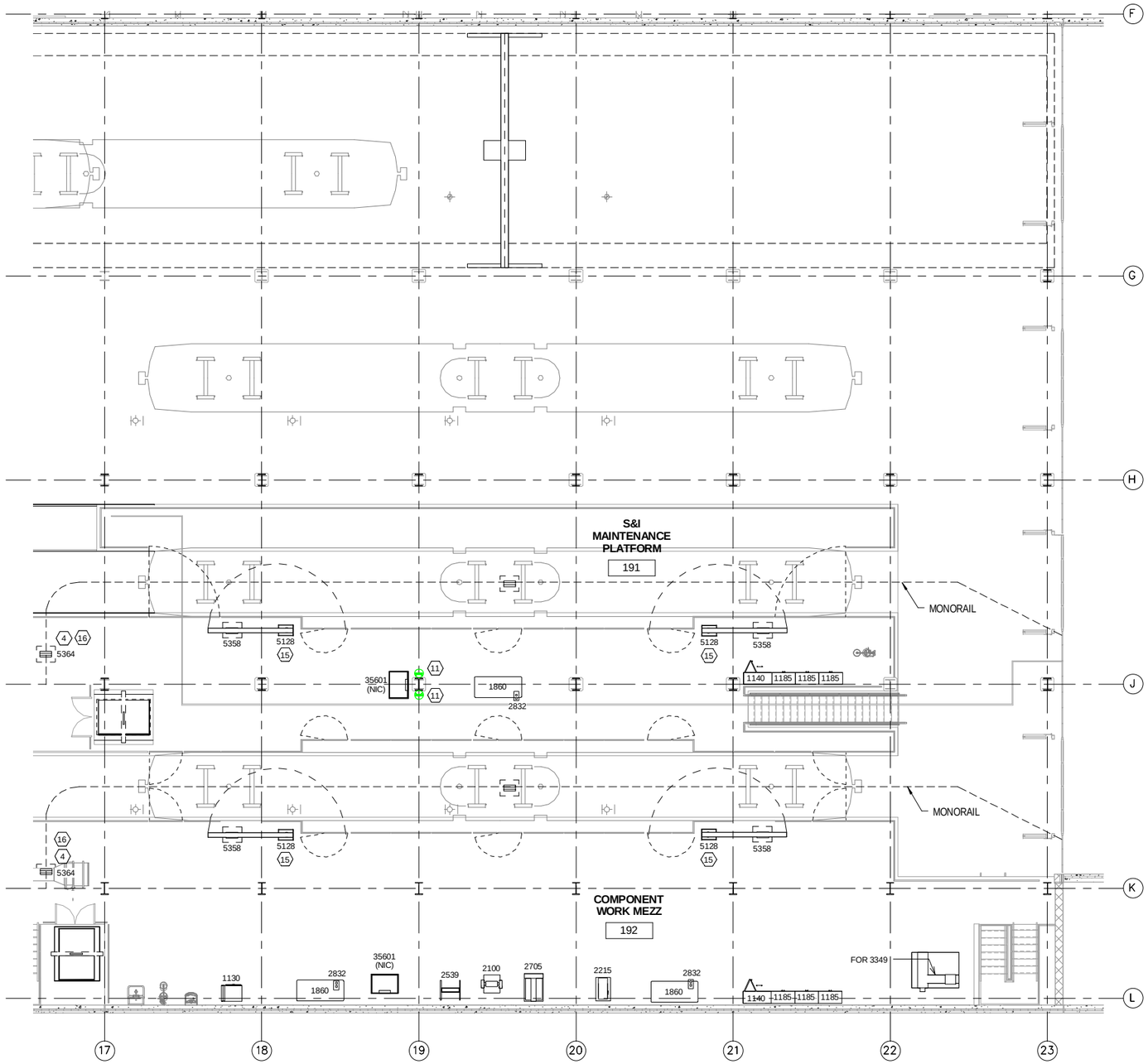
DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

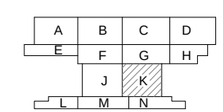
I120

SHEET 259 OF 263

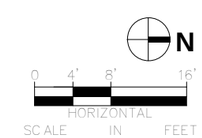
9/22/2015 8:52:03 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_INDST.RVT (INDUSTRIAL).rvt



1 MEZZANINE LEVEL - AREA K
1/8" = 1'-0"



KEY PLAN - SCALE: N.T.S.



NO	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM PARSONS BRINCKERHOFF

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

MEZZANNINE LEVEL ENLARGED PLANS K

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I121

SHEET 260 OF 263

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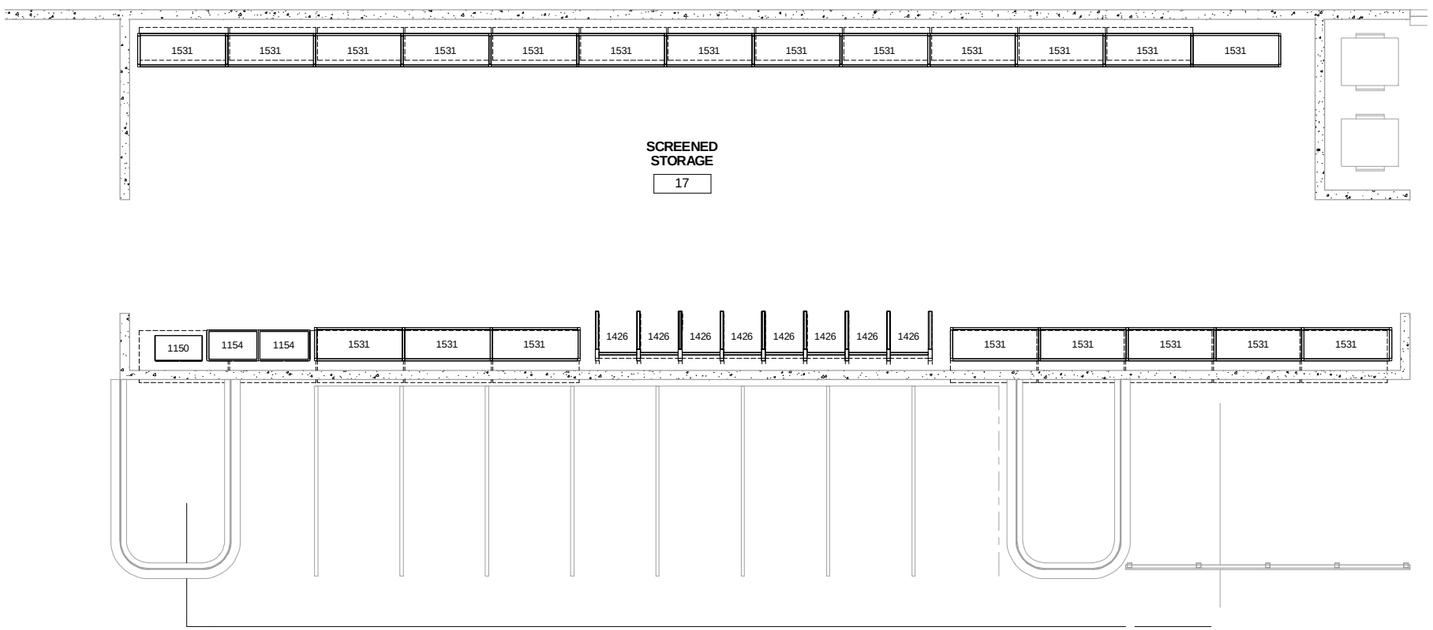
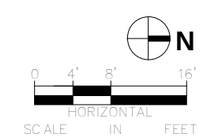


1 LEVEL ONE-SCREENED STORAGE
1/8" = 1'-0"



9/22/2015 8:52:05 AM R:\PROJECTS\19140A - SWLRT FD\Drawings\OMF_IND\ST.RVT (INDUSTRIAL).rvt

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AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B
INDUSTRIAL

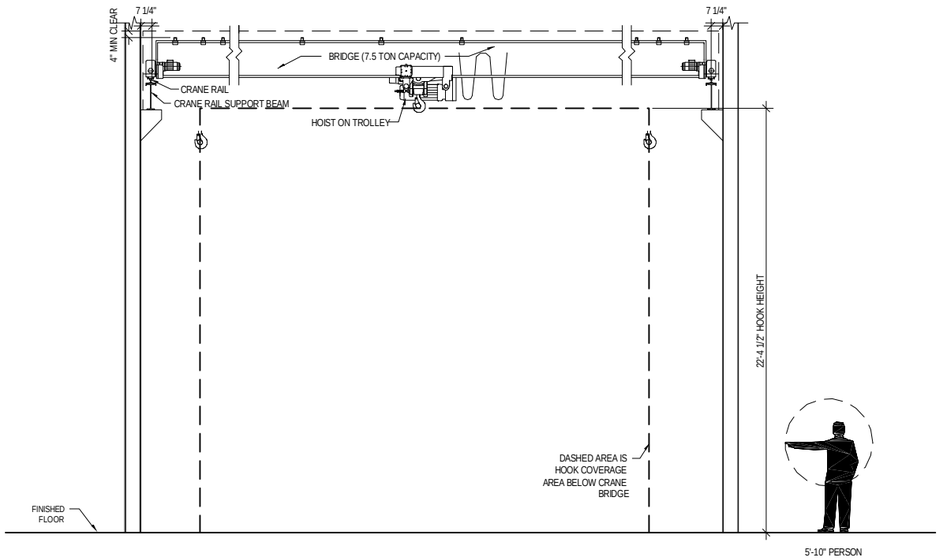
SCREENED STORAGE

DISCIPLINE: INDUSTRIAL

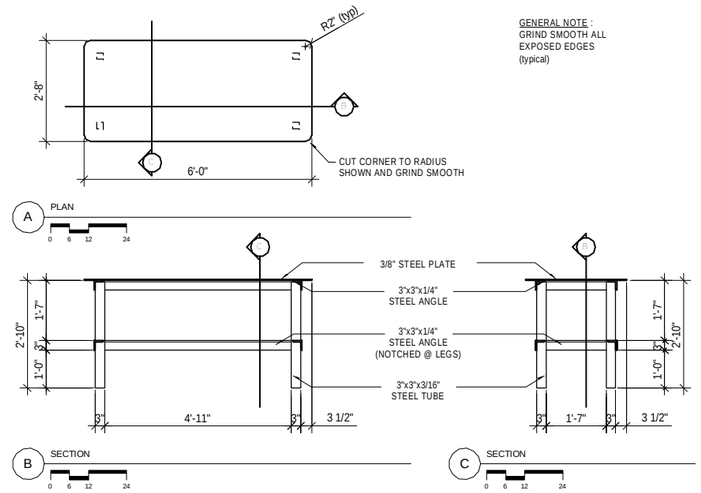
SHEET NAME: OMF-IND-PLN

I122

SHEET 261 OF 263

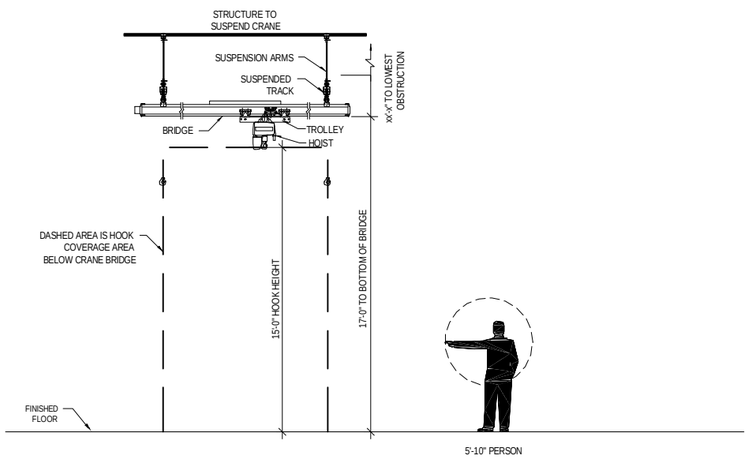


1 7.5 Ton Capacity Top Running Bridge Crane
1/4" = 1'-0"



GENERAL NOTE :
GRIND SMOOTH ALL EXPOSED EDGES (typical)

3 Workbench
1/2" = 1'-0"



2 .5 Ton Capacity Suspended Bridge Crane
1/4" = 1'-0"

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AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B
INDUSTRIAL

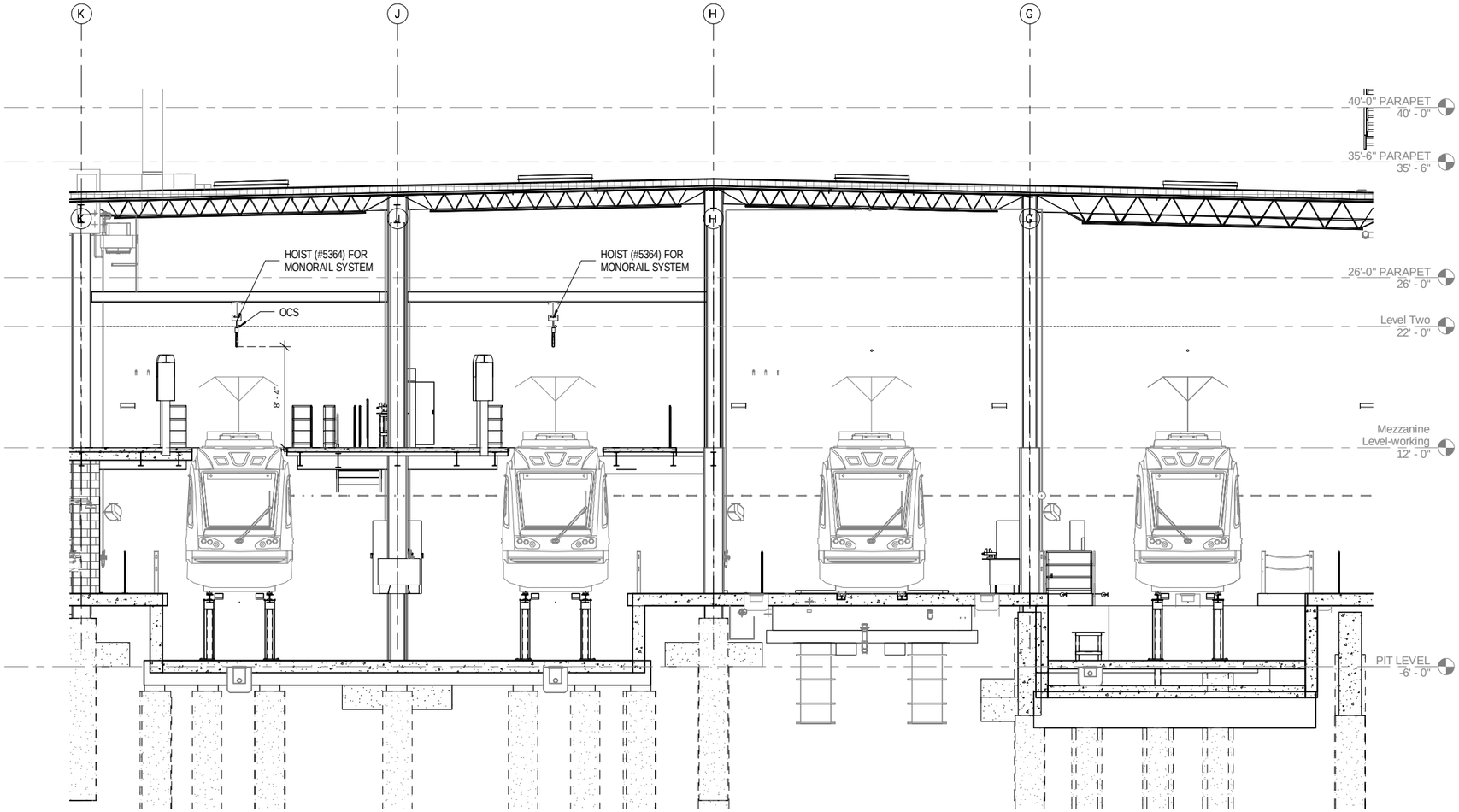
EQUIPMENT DETAILS

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I123

SHEET 262 OF 263



1 SECTION MONORAIL ON TRACKS
3/16" = 1'-0"

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AECOM PARSONS BRINCKERHOFF

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

OPERATIONS & MAINTENANCE FACILITY -V2B INDUSTRIAL

EQUIPMENT DETAILS

DISCIPLINE: INDUSTRIAL

SHEET NAME: OMF-IND-PLN

I124

SHEET 263 OF 263