US Army Corps
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VOLUME 2 of 2

MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE AL 36602

ARTC (B640) RENOVATION, CDP, FEMA

ANNISTON, ALABAMA

MOBILE DISTRICT PROJECT CODE : SEH22002

SOLICITATION NUMBER : W9127822R0048

JUNE 2022

PROJECT C - ARTC (B640) RENOVATION
ADVANCED RESPONDER TRAINING COMPLEX
CENTER FOR DOMESTIC PREPAREDNESS

ANNISTON, ALABAMA

VOLUME - 2

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PAUL L ZANGLIN
7135
06/29/2021
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

COVER SHEET - VOLUME 2

SHEET
IDENTIFICATION
G-201
SHEET 242 of 442

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6/29/2021 1:06:57 PM

INDEX OF DRAWINGS - VOLUME 1

SEQUENCE NO.			SHEET NO.	SHEET DESCRIPTION
01 - GENERAL				
1	OF	442	G-101	COVER SHEET - VOLUME 1
2	OF	442	G-102	INDEX OF DRAWINGS - VOLUME 1
3	OF	442	G-103	INDEX OF DRAWINGS - VOLUME 2
4	OF	442	G-110	LIFE SAFETY NOTES
5	OF	442	G-111	LIFE SAFETY PLAN
02 - HAZARDOUS MATERIALS				
6	OF	442	H-101	ABATEMENT NOTES
7	OF	442	H-151	EXISTING ROOF PLAN
8	OF	442	H-152	EXISTING FIRST FLOOR PLAN
9	OF	442	H-153	EXISTING FIRST FLOOR PLAN
03 - CIVIL				
10	OF	442	C-001	PROJECT VICINITY MAP
11	OF	442	C-002	GENERAL NOTES
12	OF	442	C-003	GENERAL NOTES, LEGEND, & ABBREVIATIONS
13	OF	442	VF101	EXISTING CONDITIONS SURVEY
14	OF	442	CD101	SITE DEMOLITION PLAN
15	OF	442	CS101	SITE PLAN
16	OF	442	CS102	SITE PLAN OF MAIN ENTRANCE
17	OF	442	CS501	MISCELLANEOUS DETAILS
18	OF	442	CS502	MISCELLANEOUS DETAILS
19	OF	442	CS503	EQUIPMENT PAD DETAILS
20	OF	442	CS504	MISCELLANEOUS DETAILS
21	OF	442	CS505	HANDICAP PARKING DETAILS
22	OF	442	CU101	SITE UTILITY PLAN
23	OF	442	CU501	MISCELLANEOUS UTILITY DETAILS
24	OF	442	CU502	WATER DETAILS
25	OF	442	CU503	MISCELLANEOUS DETAILS
26	OF	442	CE101	SEDIMENT AND EROSION CONTROL PLAN
05 - STRUCTURAL				
27	OF	442	S-001	GENERAL STRUCTURAL NOTES
28	OF	442	S-002	ABBREVIATIONS & LEGEND
29	OF	442	S-003	TYPICAL DETAILS
30	OF	442	S-004	TYPICAL DETAILS
31	OF	442	S-005	TYPICAL DETAILS
32	OF	442	S-006	WIND UPLIFT PRESSURES AT ROOF
33	OF	442	S-111	FOUNDATION AND SLAB ON GROUND PLAN - COMPOSITE
34	OF	442	S-112	FOUNDATION AND SLAB ON GROUND PLAN - BLOCK A AND BLOCK B
35	OF	442	S-121	ROOF FRAMING PLAN - COMPOSITE
36	OF	442	S-122	ROOF FRAMING PLAN - BLOCK A AND BLOCK B
37	OF	442	S-131	OVERALL ROOF PLAN
38	OF	442	S-132	NEW CONCRETE FILL SLAB ON GROUND PLAN
39	OF	442	S-401	EXISTING CONNECTING COORIDOR ROOF DEMOLITION PLAN
40	OF	442	S-402	ENLARGED RAMP PLAN & DETAILS
41	OF	442	S-403	FOUNDATION AND SLAB ON GROUND PLAN - MECH. ROOM 321
42	OF	442	S-404	FOUNDATION AND SLAB ON GROUND PLAN - ROOM 122
43	OF	442	S-405	FOUNDATION AND SLAB ON GROUND PLAN - ROOM 315
44	OF	442	S-406	MECHANICAL YARD - SCREEN WALLS
45	OF	442	S-407	ENLARGED MEZZANINE FRAMING PLAN
46	OF	442	S-501	DETAILS
47	OF	442	S-502	DETAILS
48	OF	442	S-503	DETAILS
49	OF	442	S-504	DETAILS
50	OF	442	S-505	DETAILS

SEQUENCE NO.			SHEET NO.	SHEET DESCRIPTION
06 - ARCHITECTURAL				
51	OF	442	A-001	ABBREVIATIONS AND SYMBOLS
52	OF	442	A-002	COMPOSITE BID OPTIONS PLAN
53	OF	442	AD111	FIRST FLOOR DEMO PLAN - COMPOSITE
54	OF	442	AD112	DEMO PLAN - BLOCK 1A
55	OF	442	AD113	DEMO PLAN - BLOCK 1B
56	OF	442	AD114	DEMO PLAN - BLOCK 1C
57	OF	442	AD115	DEMO PLAN - BLOCK 1D
58	OF	442	AD116	DEMO PLAN - BLOCK 1F
59	OF	442	AD117	DEMO PLAN - BLOCK 1G
60	OF	442	AD118	DEMO PLAN - BLOCK 1H
61	OF	442	AD119	DEMO PLAN - BLOCK 1J
62	OF	442	AD120	DEMO PLAN - BLOCK 1K
63	OF	442	AD121	DEMO PLAN - BLOCK 1L
64	OF	442	AD122	DEMO PLAN - BLOCK 1M
65	OF	442	AD123	DEMO PLAN - BLOCK 1N
66	OF	442	AD201	DEMO - EXTERIOR ELEVATIONS
67	OF	442	AD202	DEMO - EXTERIOR ELEVATIONS
68	OF	442	A-111	FIRST FLOOR PLAN - COMPOSITE
69	OF	442	A-112	FLOOR PLAN - BLOCK 1A
70	OF	442	A-113	FLOOR PLAN - BLOCK 1B
71	OF	442	A-114	FLOOR PLAN - BLOCK 1C
72	OF	442	A-115	FLOOR PLAN - BLOCK 1D
73	OF	442	A-116	FLOOR PLAN - BLOCK 1F
74	OF	442	A-117	FLOOR PLAN - BLOCK 1G
75	OF	442	A-118	FLOOR PLAN - BLOCK 1H
76	OF	442	A-119	FLOOR PLAN - BLOCK 1J
77	OF	442	A-120	FLOOR PLAN - BLOCK 1K
78	OF	442	A-121	FLOOR PLAN - BLOCK 1L
79	OF	442	A-122	FLOOR PLAN - BLOCK 1M
80	OF	442	A-123	FLOOR PLAN - BLOCK 1N
81	OF	442	A-131	MEZZANINE PLAN
82	OF	442	A-132	CLERESTORY PLAN
83	OF	442	A-151	ROOF PLAN - COMPOSITE
84	OF	442	A-152	ROOF DETAILS
85	OF	442	A-153	ROOF DETAILS
86	OF	442	A-155	COVERED SIDEWALK / EXTERIOR BREAK AREA PLANS
87	OF	442	A-156	EXTERIOR BREAK AREA ELEVATIONS
88	OF	442	A-201	EXTERIOR ELEVATIONS
89	OF	442	A-202	EXTERIOR ELEVATIONS
90	OF	442	A-251	INTERIOR ELEVATIONS
91	OF	442	A-252	INTERIOR ELEVATIONS
92	OF	442	A-253	INTERIOR ELEVATIONS
93	OF	442	A-254	INTERIOR ELEVATIONS
94	OF	442	A-255	INTERIOR ELEVATIONS
95	OF	442	A-256	INTERIOR ELEVATIONS
96	OF	442	A-257	INTERIOR ELEVATIONS
97	OF	442	A-301	BUILDING SECTIONS
98	OF	442	A-310	WALL SECTIONS
99	OF	442	A-311	WALL SECTIONS
100	OF	442	A-312	WALL SECTIONS
101	OF	442	A-313	WALL SECTIONS
102	OF	442	A-314	WALL SECTIONS
103	OF	442	A-315	WALL SECTIONS
104	OF	442	A-316	WALL SECTIONS
105	OF	442	A-317	WALL SECTIONS
106	OF	442	A-400	TYPICAL MOUNTING HEIGHTS
107	OF	442	A-401	ENLARGED FLOOR PLANS ELEVATIONS & SECTIONS
108	OF	442	A-411	ENLARGED WET AREA PLANS & ELEVATIONS
109	OF	442	A-412	ENLARGED WET AREA ELEVATIONS
110	OF	442	A-413	ENLARGED WET AREA PLANS & ELEVATIONS
111	OF	442	A-414	ENLARGED WET AREA PLANS & ELEVATIONS
112	OF	442	A-430	CASEWORK ELEVATIONS
113	OF	442	A-501	EXTERIOR DETAILS
114	OF	442	A-502	EXTERIOR DETAILS
115	OF	442	A-503	EXTERIOR DETAILS
116	OF	442	A-504	MECHANICAL YARD GATE ELEVATION AND DETAILS

SEQUENCE NO.			SHEET NO.	SHEET DESCRIPTION
117	OF	442	A-540	TYPICAL INTERIOR FRAMING DETAILS
118	OF	442	A-541	TYPICAL INTERIOR FRAMING DETAILS
119	OF	442	A-542	INTERIOR DETAILS
120	OF	442	A-543	INTERIOR DETAILS
121	OF	442	A-544	INTERIOR DETAILS
122	OF	442	A-546	INTERIOR DETAILS
123	OF	442	A-550	INTERIOR WALL TYPES
124	OF	442	A-551	INTERIOR WALL TYPES
125	OF	442	A-561	INTERIOR COLUMN DETAILS
126	OF	442	A-562	INTERIOR COLUMN DETAILS
127	OF	442	A-563	INTERIOR COLUMN DETAILS
128	OF	442	A-564	INTERIOR COLUMN DETAILS
129	OF	442	A-565	INTERIOR COLUMN DETAILS
130	OF	442	A-566	INTERIOR COLUMN DETAILS
131	OF	442	A-601	DOOR SCHEDULE
132	OF	442	A-605	DOOR AND FRAME TYPES
133	OF	442	A-610	DOOR DETAILS
134	OF	442	A-611	DOOR DETAILS
135	OF	442	A-621	WINDOW TYPES
136	OF	442	A-622	WINDOW TYPES
137	OF	442	A-630	WINDOW DETAILS
138	OF	442	A-631	WINDOW DETAILS
139	OF	442	A-660	FINISH SCHEDULE
140	OF	442	A-665	FINISH LEGEND
141	OF	442	A-680	EQUIPMENT SCHEDULE
142	OF	442	A-701	ENLARGED STAIR PLANS & SECTIONS
143	OF	442	A-702	ENLARGED STAIR PLANS & SECTIONS
144	OF	442	A-703	EXTERIOR RAMP & STAIR SECTIONS
145	OF	442	A-811	REFLECTED CEILING PLAN - COMPOSITE
146	OF	442	A-812	REFLECTED CEILING PLAN - BLOCK 1A
147	OF	442	A-813	REFLECTED CEILING PLAN - BLOCK 1B
148	OF	442	A-814	REFLECTED CEILING PLAN - BLOCK 1C
149	OF	442	A-815	REFLECTED CEILING PLAN - BLOCK 1D
150	OF	442	A-816	REFLECTED CEILING PLAN - BLOCK 1F
151	OF	442	A-817	REFLECTED CEILING PLAN - BLOCK 1G
152	OF	442	A-818	REFLECTED CEILING PLAN - BLOCK 1H
153	OF	442	A-819	REFLECTED CEILING PLAN - BLOCK 1J
154	OF	442	A-820	REFLECTED CEILING PLAN - BLOCK 1K
155	OF	442	A-821	REFLECTED CEILING PLAN - BLOCK 1L
156	OF	442	A-822	REFLECTED CEILING PLAN - BLOCK 1M
157	OF	442	A-823	REFLECTED CEILING PLAN - BLOCK 1N
158	OF	442	A-831	REFLECTED CEILING PLAN - MEZZANINE COMPOSITE
159	OF	442	A-832	ARTC HALL VERIFICATION
160	OF	442	A-850	CEILING DETAILS
161	OF	442	AF112	FINISH PATTERN PLAN - BLOCK 1A
162	OF	442	AF113	FINISH PATTERN PLAN - BLOCK 1B
163	OF	442	AF114	FINISH PATTERN PLAN - BLOCK 1C
164	OF	442	AF115	FINISH PATTERN PLAN - BLOCK 1D
165	OF	442	AF116	FINISH PATTERN PLAN - BLOCK 1F
166	OF	442	AF117	FINISH PATTERN PLAN - BLOCK 1G
167	OF	442	AF118	FINISH PATTERN PLAN - BLOCK 1H
168	OF	442	AF119	FINISH PATTERN PLAN - BLOCK 1J
169	OF	442	AF120	FINISH PATTERN PLAN - BLOCK 1K
170	OF	442	AF121	FINISH PATTERN PLAN - BLOCK 1L
171	OF	442	AF122	FINISH PATTERN PLAN - BLOCK 1M
172	OF	442	AF123	FINISH PATTERN PLAN - BLOCK 1N
173	OF	442	AG111	FIRST FLOOR SIGNAGE PLAN
174	OF	442	AG601	SIGN MESSAGE SCHEDULE / SIGN TYPES
175	OF	442	AG602	SIGN TYPES

SEQUENCE NO.			SHEET NO.	SHEET DESCRIPTION
07 - PLUMBING				
176	OF	442	P-001	PLUMBING ABBREVIATIONS
177	OF	442	PD111	FIRST FLOOR COMPOSITE DEMO PLAN
178	OF	442	PD112	FIRST FLOOR DEMO PLAN BLOCK 1A
179	OF	442	PD113	FIRST FLOOR DEMO PLAN BLOCK 1B
180	OF	442	PD114	FIRST FLOOR DEMO PLAN BLOCK 1C
181	OF	442	PD115	FIRST FLOOR DEMO PLAN BLOCK 1D
182	OF	442	PD116	FIRST FLOOR DEMO PLAN BLOCK 1F
183	OF	442	PD117	FIRST FLOOR DEMO PLAN BLOCK 1G
184	OF	442	PD118	FIRST FLOOR DEMO PLAN BLOCK 1H
185	OF	442	PD119	FIRST FLOOR DEMO PLAN BLOCK 1J
186	OF	442	PD120	FIRST FLOOR DEMO PLAN BLOCK 1K
187	OF	442	PD121	FIRST FLOOR DEMO PLAN BLOCK 1L
188	OF	442	PD122	FIRST FLOOR DEMO PLAN BLOCK 1M
189	OF	442	PD123	FIRST FLOOR DEMO PLAN BLOCK 1N
190	OF	442	PW011	BELOW SLAB COMPOSITE WASTE PLAN
191	OF	442	PW012	BELOW SLAB WASTE PLAN BLOCK 1A
192	OF	442	PW013	BELOW SLAB WASTE PLAN BLOCK 1B
193	OF	442	PW014	BELOW SLAB WASTE PLAN BLOCK 1C
194	OF	442	PW015	BELOW SLAB WASTE PLAN BLOCK 1D
195	OF	442	PW016	BELOW SLAB WASTE PLAN BLOCK 1F
196	OF	442	PW017	BELOW SLAB WASTE PLAN BLOCK 1G
197	OF	442	PW018	BELOW SLAB WASTE PLAN BLOCK 1H
198	OF	442	PW019	BELOW SLAB WASTE PLAN BLOCK 1J
199	OF	442	PW020	BELOW SLAB WASTE PLAN BLOCK 1K
200	OF	442	PW021	BELOW SLAB WASTE PLAN BLOCK 1L
201	OF	442	PW022	BELOW SLAB WASTE PLAN BLOCK 1M
202	OF	442	PW023	BELOW SLAB WASTE PLAN BLOCK 1N
203	OF	442	PW111	FIRST FLOOR COMPOSITE WASTE PLAN
204	OF	442	PW112	FIRST FLOOR WASTE PLAN BLOCK 1A
205	OF	442	PW113	FIRST FLOOR WASTE PLAN BLOCK 1B
206	OF	442	PW114	FIRST FLOOR WASTE PLAN BLOCK 1C
207	OF	442	PW115	FIRST FLOOR WASTE PLAN BLOCK 1D
208	OF	442	PW116	FIRST FLOOR WASTE PLAN BLOCK 1F
209	OF	442	PW117	FIRST FLOOR WASTE PLAN BLOCK 1G
210	OF	442	PW118	FIRST FLOOR WASTE PLAN BLOCK 1H
211	OF	442	PW119	FIRST FLOOR WASTE PLAN BLOCK 1J
212	OF	442	PW120	FIRST FLOOR WASTE PLAN BLOCK 1K
213	OF	442	PW121	FIRST FLOOR WASTE PLAN BLOCK 1L
214	OF	442	PW122	FIRST FLOOR WASTE PLAN BLOCK 1M
215	OF	442	PW123	FIRST FLOOR WASTE PLAN BLOCK 1N
216	OF	442	PW131	MEZZANINE WASTE PLAN
217	OF	442	PW141	LOW ROOF PLUMBING PLAN
218	OF	442	PW151	HIGH ROOF PLUMBING PLAN
219	OF	442	PP111	FIRST FLOOR COMPOSITE WATER PLAN
220	OF	442	PP112	FIRST FLOOR WATER PLAN BLOCK 1A
221	OF	442	PP113	FIRST FLOOR WATER PLAN BLOCK 1B
222	OF	442	PP114	FIRST FLOOR WATER PLAN BLOCK 1C
223	OF	442	PP115	FIRST FLOOR WATER PLAN BLOCK 1D
224	OF	442	PP116	FIRST FLOOR WATER PLAN BLOCK 1F
225	OF	442	PP117	FIRST FLOOR WATER PLAN BLOCK 1G
226	OF	442	PP118	FIRST FLOOR WATER PLAN BLOCK 1H
227	OF	442	PP119	FIRST FLOOR WATER PLAN BLOCK 1J
228	OF	442	PP120	FIRST FLOOR WATER PLAN BLOCK 1K
229	OF	442	PP121	FIRST FLOOR WATER PLAN BLOCK 1L
230	OF	442	PP122	FIRST FLOOR WATER PLAN BLOCK 1M
231	OF	442	PP123	FIRST FLOOR WATER PLAN BLOCK 1N
232	OF	442	P-501	PLUMBING DETAILS
233	OF	442	P-502	PLUMBING DETAILS
234	OF	442	P-701	WASTE RISER DIAGRAM A
235	OF	442	P-702	WASTE RISER DIAGRAM B
236	OF	442	P-703	WASTE RISER DIAGRAM C
237	OF	442	P-704	WATER RISER DIAGRAM A
238	OF	442	P-705	WATER RISER DIAGRAM A (CONTINUED)
239	OF	442	P-706	WATER RISER DIAGRAM B
240	OF	442	P-801	PLUMBING SCHEDULES
241	OF	442	P-802	PLUMBING SCHEDULES

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STATE OF ALABAMA
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

INDEX OF DRAWINGS - VOLUME 1

SHEET IDENTIFICATION
G-202
SHEET 243 of 442

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6/29/2021 1:07:01 PM

INDEX OF DRAWINGS - VOLUME 2

SEQUENCE NO.		SHEET NO.	SHEET DESCRIPTION
01 - GENERAL			
242	OF	G-201	COVER SHEET - VOLUME 2
243	OF	G-202	INDEX OF DRAWINGS - VOLUME 1
244	OF	G-203	INDEX OF DRAWINGS - VOLUME 2
08-MECHANICAL			
245	OF 442	M-001	LEGEND AND NOTES
246	OF 442	MD111	DEMO MECHANICAL COMPOSITE PLAN
247	OF 442	MH111	DUCTWORK PLAN FIRST FLOOR - COMPOSITE
248	OF 442	MH112	DUCTWORK PLAN - BLOCK 1A
249	OF 442	MH113	DUCTWORK PLAN - BLOCK 1B
250	OF 442	MH114	DUCTWORK PLAN - BLOCK 1C
251	OF 442	MH115	DUCTWORK PLAN - BLOCK 1D
252	OF 442	MH116	DUCTWORK PLAN - BLOCK 1F
253	OF 442	MH117	DUCTWORK PLAN - BLOCK 1G
254	OF 442	MH118	DUCTWORK PLAN - BLOCK 1H
255	OF 442	MH119	DUCTWORK PLAN - BLOCK 1J
256	OF 442	MH120	DUCTWORK PLAN - BLOCK 1K
257	OF 442	MH121	DUCTWORK PLAN - BLOCK 1L
258	OF 442	MH122	DUCTWORK PLAN - BLOCK 1M
259	OF 442	MH123	DUCTWORK PLAN - BLOCK 1N
260	OF 442	MH130	MECHANICAL ROOM PLAN
261	OF 442	MH131	MECHANICAL ROOM PLAN
262	OF 442	MH132	MECHANICAL ROOM PLAN
263	OF 442	MH151	ROOF COMPOSITE PLAN
264	OF 442	MP111	HYDRONIC PLAN FIRST FLOOR- COMPOSITE
265	OF 442	MP112	HYDRONIC PLAN - BLOCK 1A
266	OF 442	MP113	HYDRONIC PLAN - BLOCK 1B
267	OF 442	MP115	HYDRONIC PLAN - BLOCK 1D
268	OF 442	MP116	HYDRONIC PLAN - BLOCK 1F
269	OF 442	MP117	HYDRONIC PLAN - BLOCK 1G
270	OF 442	MP118	HYDRONIC PLAN - BLOCK 1H
271	OF 442	MP119	HYDRONIC PLAN - BLOCK 1J
272	OF 442	MP120	HYDRONIC PLAN - BLOCK 1K
273	OF 442	MP121	HYDRONIC PLAN - BLOCK 1L
274	OF 442	MP122	HYDRONIC PLAN - BLOCK 1M
275	OF 442	MP123	HYDRONIC PLAN- BLOCK 1N
276	OF 442	M-301	SECTIONS
277	OF 442	M-701	DETAILS
278	OF 442	M-702	DETAILS
279	OF 442	M-703	DETAILS
280	OF 442	M-704	DETAILS
281	OF 442	M-705	DETAILS
282	OF 442	M-706	DETAILS
283	OF 442	M-801	SCHEDULES
284	OF 442	M-802	SCHEDULES
285	OF 442	M-803	SCHEDULES
286	OF 442	M-901	CONTROLS
287	OF 442	M-902	CONTROLS
288	OF 442	M-903	CONTROLS
289	OF 442	M-904	CONTROLS
290	OF 442	M-905	CONTROLS
291	OF 442	M-906	CONTROLS
292	OF 442	M-907	CONTROLS
293	OF 442	M-908	CONTROLS
294	OF 442	M-909	CONTROLS
295	OF 442	M-910	AIRFLOW MAP - EAST
296	OF 442	M-911	AIRFLOW MAP - WEST
09 - ELECTRICAL			
297	OF 442	E-001	ELECTRICAL LEGEND
298	OF 442	E-002	ELECTRICAL LEGEND
299	OF 442	E-003	ELECTRICAL NOTES
300	OF 442	ED101	ELECTRICAL SITE PLAN - DEMOLITION
301	OF 442	ED111	DEMOLITION COMPOSITE PLAN - ELECTRICAL
302	OF 442	ES101	ELECTRICAL SITE PLAN - POWER
303	OF 442	ES102	ELECTRICAL SITE PLAN - LIGHTING
304	OF 442	ES103	ELECTRICAL SITE PLAN - TELECOMMUNICATIONS
305	OF 442	ES501	SITE DETAILS
306	OF 442	ES502	SITE DETAILS
307	OF 442	EL111	LIGHTING FIRST FLOOR PLAN - COMPOSITE
308	OF 442	EL112	LIGHTING FLOOR PLAN - BLOCK 1A
309	OF 442	EL113	LIGHTING FLOOR PLAN - BLOCK 1B
310	OF 442	EL114	LIGHTING FLOOR PLAN - BLOCK 1C
311	OF 442	EL115	LIGHTING FLOOR PLAN - BLOCK 1D
312	OF 442	EL116	LIGHTING FLOOR PLAN - BLOCK 1F
313	OF 442	EL117	LIGHTING FLOOR PLAN - BLOCK 1G
314	OF 442	EL118	LIGHTING FLOOR PLAN - BLOCK 1H
315	OF 442	EL119	LIGHTING FLOOR PLAN - BLOCK 1J
316	OF 442	EL120	LIGHTING FLOOR PLAN - BLOCK 1K
317	OF 442	EL121	LIGHTING FLOOR PLAN - BLOCK 1L
318	OF 442	EL122	LIGHTING FLOOR PLAN - BLOCK 1M
319	OF 442	EL123	LIGHTING FLOOR PLAN - BLOCK 1N
320	OF 442	EL131	LIGHTING FLOOR PLAN - MEZZANINE
321	OF 442	EL401	ENLARGED LIGHTING PLANS
322	OF 442	EL501	LUMINAIRE DETAILS
323	OF 442	EL502	LUMINAIRE DETAILS
324	OF 442	EL503	LUMINAIRE DETAILS
325	OF 442	EL601	LUMINAIRE SCHEDULE
326	OF 442	EL602	LIGHTING CONTROL SINGLE LINE DIAGRAM
327	OF 442	EL603	LIGHTING CONTROL PANEL SCHEDULE
328	OF 442	EL604	LIGHTING CONTROL WIRING DIAGRAM
329	OF 442	EL605	LIGHTING CONTROL WIRING DIAGRAM
330	OF 442	EL606	LIGHTING CONTROL WIRING DIAGRAM
331	OF 442	EL607	LIGHTING CONTROL WIRING DIAGRAM
332	OF 442	EL608	LIGHTING CONTROL WIRING DIAGRAM
333	OF 442	EL609	LIGHTING CONTROL WIRING DIAGRAM
334	OF 442	EL610	LIGHTING CONTROL WIRING DIAGRAM
335	OF 442	EP111	POWER FIRST FLOOR PLAN - COMPOSITE
336	OF 442	EP112	POWER FLOOR PLAN - BLOCK 1A
337	OF 442	EP113	POWER FLOOR PLAN - BLOCK 1B
338	OF 442	EP114	POWER FLOOR PLAN - BLOCK 1C
339	OF 442	EP115	POWER FLOOR PLAN - BLOCK 1D
340	OF 442	EP116	POWER FLOOR PLAN - BLOCK 1F
341	OF 442	EP117	POWER FLOOR PLAN - BLOCK 1G
342	OF 442	EP118	POWER FLOOR PLAN - BLOCK 1H
343	OF 442	EP119	POWER FLOOR PLAN - BLOCK 1J
344	OF 442	EP120	POWER FLOOR PLAN - BLOCK 1K
345	OF 442	EP121	POWER FLOOR PLAN - BLOCK 1L
346	OF 442	EP122	POWER FLOOR PLAN - BLOCK 1M
347	OF 442	EP123	POWER FLOOR PLAN - BLOCK 1N
348	OF 442	EP131	POWER FLOOR PLAN -MEZZANINE
349	OF 442	EP151	POWER ROOF PLAN - COMPOSITE
350	OF 442	EP401	ENLARGED POWER PLANS
351	OF 442	EP501	ELECTRICAL DETAILS
352	OF 442	EP601	POWER SINGLE LINE DIAGRAM
353	OF 442	EP602	POWER SINGLE LINE DIAGRAM
354	OF 442	EP603	POWER SINGLE LINE DIAGRAM
355	OF 442	EP604	FEEDER SCHEDULE
356	OF 442	EP605	PANELBOARD SCHEDULES
357	OF 442	EP606	PANELBOARD SCHEDULES
358	OF 442	EP607	PANELBOARD SCHEDULES
359	OF 442	EP608	PANELBOARD SCHEDULES
360	OF 442	EP609	PANELBOARD SCHEDULES
361	OF 442	EP610	PANELBOARD SCHEDULES
362	OF 442	EP611	PANELBOARD SCHEDULES
363	OF 442	EP801	LIGHTNING PROTECTION PLAN
364	OF 442	EP802	LIGHTNING PROTECTION DETAILS
365	OF 442	EG601	GROUNDING RISER AND DETAIL
366	OF 442	EG602	GROUNDING SYSTEM WIRING DIAGRAM
10 - TELECOMMUNICATIONS			
367	OF 442	ET001	TELECOMMUNICATIONS LEGEND
368	OF 442	ET002	TELECOMMUNICATIONS NOTES
369	OF 442	ET111	TELECOMMUNICATIONS FIRST FLOOR PLAN - COMPOSITE
370	OF 442	ET112	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1A
371	OF 442	ET113	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1B
372	OF 442	ET114	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1C
373	OF 442	ET115	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1D
374	OF 442	ET116	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1F
375	OF 442	ET117	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1G
376	OF 442	ET118	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1H
377	OF 442	ET119	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1J
378	OF 442	ET120	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1K
379	OF 442	ET121	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1L
380	OF 442	ET122	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1M
381	OF 442	ET123	TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1N
382	OF 442	ET131	TELECOMMUNICATIONS FLOOR PLAN - MEZZANINE
383	OF 442	ET501	TELECOMMUNICATIONS SINGLE LINE DIAGRAMS
384	OF 442	ET502	TELECOMMUNICATIONS SINGLE LINE DIAGRAMS
385	OF 442	ET503	TELECOMMUNICATIONS SINGLE LINE DIAGRAMS
386	OF 442	ET504	TELECOMMUNICATIONS SINGLE LINE DIAGRAMS
387	OF 442	ET505	TELECOMMUNICATIONS SINGLE LINE DIAGRAMS
388	OF 442	ET506	TELECOMMUNICATIONS SINGLE LINE DIAGRAMS
389	OF 442	ET601	TELECOMMUNICATIONS DETAILS
390	OF 442	ET602	TELECOMMUNICATIONS DETAILS
391	OF 442	ET603	TELECOMMUNICATIONS DETAILS
392	OF 442	ET604	TELECOMMUNICATIONS DETAILS
393	OF 442	ET605	TELECOMMUNICATIONS DETAILS
394	OF 442	ET606	TELECOMMUNICATIONS DETAILS
11 - FIRE PROTECTION			
395	OF 442	FA001	FIRE ALARM/MNS NOTES & SYMBOLS
396	OF 442	FA111	FIRE ALARM/MNS - COMPOSITE PLAN
397	OF 442	FA112	FIRE ALARM/MNS - BLOCK 1A
398	OF 442	FA113	FIRE ALARM/MNS - BLOCK 1B
399	OF 442	FA114	FIRE ALARM/MNS - BLOCK 1C
400	OF 442	FA115	FIRE ALARM/MNS - BLOCK 1D
401	OF 442	FA116	FIRE ALARM/MNS - BLOCK 1F
402	OF 442	FA117	FIRE ALARM/MNS - BLOCK 1G
403	OF 442	FA118	FIRE ALARM/MNS - BLOCK 1H
404	OF 442	FA119	FIRE ALARM/MNS - BLOCK 1J
405	OF 442	FA120	FIRE ALARM/MNS - BLOCK 1K
406	OF 442	FA121	FIRE ALARM/MNS - BLOCK 1L
407	OF 442	FA122	FIRE ALARM/MNS - BLOCK 1M
408	OF 442	FA123	FIRE ALARM/MNS - BLOCK 1N
409	OF 442	FA131	FIRE ALARM/MNS - MEZZANINE
410	OF 442	FA400	FIRE ALARM/MNS MATRIX
411	OF 442	FA501	FIRE ALARM/MNS DETAILS
412	OF 442	FP001	FIRE SPRINKLER NOTES
413	OF 442	FP111	FIRE SPRINKLER - COMPOSITE PLAN
414	OF 442	FP112	FIRE SPRINKLER - BLOCK 1A
415	OF 442	FP113	FIRE SPRINKLER - BLOCK 1B
416	OF 442	FP114	FIRE SPRINKLER - BLOCK 1C
417	OF 442	FP115	FIRE SPRINKLER - BLOCK 1D
418	OF 442	FP116	FIRE SPRINKLER - BLOCK 1F
419	OF 442	FP117	FIRE SPRINKLER - BLOCK 1G
420	OF 442	FP118	FIRE SPRINKLER - BLOCK 1H
421	OF 442	FP119	FIRE SPRINKLER - BLOCK 1J
422	OF 442	FP120	FIRE SPRINKLER - BLOCK 1K
423	OF 442	FP121	FIRE SPRINKLER - BLOCK 1L
424	OF 442	FP122	FIRE SPRINKLER - BLOCK 1M
425	OF 442	FP123	FIRE SPRINKLER - BLOCK 1N
426	OF 442	FP131	FIRE SPRINKLER - MEZZANINE
427	OF 442	FP400	FIRE SPRINKLER DETAILS AND RISER
428	OF 442	FP401	FIRE SPRINKLER DETAILS
12 - EQUIPMENT			
429	OF 442	EQ111	EQUIPMENT PLAN - COMPOSITE
430	OF 442	EQ112	EQUIPMENT PLAN - 1A
431	OF 442	EQ113	EQUIPMENT PLAN - 1B
432	OF 442	EQ114	EQUIPMENT PLAN - 1C
433	OF 442	EQ115	EQUIPMENT PLAN - 1D
434	OF 442	EQ116	EQUIPMENT PLAN - 1F
435	OF 442	EQ117	EQUIPMENT PLAN - 1G
436	OF 442	EQ118	EQUIPMENT PLAN - 1H
437	OF 442	EQ119	EQUIPMENT PLAN - 1J
438	OF 442	EQ120	EQUIPMENT PLAN - 1K
439	OF 442	EQ121	EQUIPMENT PLAN - 1L
440	OF 442	EQ122	EQUIPMENT PLAN - 1M
441	OF 442	EQ123	EQUIPMENT PLAN - 1N
442	OF 442	EQ601	EQUIPMENT SCHEDULE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

STATE OF ALABAMA
PAUL ZANGLIN
7135
06/29/2021
REGISTERED ARCHITECT

Designed By: Designer	Date: 06-29-2021
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Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

INDEX OF DRAWINGS - VOLUME 2

SHEET IDENTIFICATION
G-203
SHEET 244 of 442

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6/29/2021 1:07:08 PM

MECHANICAL ABBREVIATIONS (UNABRIDGED)

A	AMPS; AREA
AAV	AUTOMATIC AIR VENT
ABV	ABOVE
ABV CLG	ABOVE FINISHED CEILING
AC	AIR CONDITIONING UNIT
ACH	AIR CHANGE PER HOUR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AMS	AIRFLOW MEASURING STATION
ASC	APPLICATION SPECIFIC CONTROLLER
AO	ANALOG OUTPUT
AP	ACCESS PANEL
B	BOILER
BD	BALANCING DAMPER
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BI	BINARY INPUT
BLC	BUILDING LEVEL CONTROLLER
BMCP	BOILER MANAGEMENT CONTROL PANEL
BO	BINARY OUTPUT
BTU	BRITISH THERMAL UNITS
BTUH	BTU PER HOUR
C	COMMON
CAC	CONTROL AIR COMPRESSOR
CD	CEILING DIFFUSER
CF	CUBIC FEET
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CO	CLEANOUT
COND	CONDENSATE
CR	CONDENSATE RETURN (STEAM)
CSR	CURRENT SENSING RELAY
CT	COOLING TOWER
CU	CONDENSING UNIT; COPPER
CV	COEFFICIENT OF VALVE
CW	COLD WATER
DB	DRY BULB
DC	DUST COLLECTOR
DDC	DIRECT DIGITAL CONTROLS
DEFL	DEFLECTION
DG	DOOR GRILLE
DIA	DIAMETER
DN	DOWN
DP	DIFFERENTIAL PRESSURE SWITCH
DPS	DIFFERENTIAL PRESSURE SENSOR
DS	DUCT SILENCER
DTW	DUAL TEMPER WATER
DTWR	DUAL TEMPER WATER RETURN
DTWS	DUAL TEMPER WATER SUPPLY
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
EH	EXHAUST HOOD
ENT	ENTERING
EP	ELECTRIC-PNEUMATIC SWITCH
EPT	ELECTRIC-PNEUMATIC TRANSDUCER
ER	EXHAUST REGISTER
ES	END SWITCH
ESP	EXTERNAL STATIC PRESSURE
EV	EXHAUST VALVE
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
EXH	EXHAUST
°F	DEGREES FAHRENHEIT
F	FLOW SWITCH
FC	FAIL CLOSED
FCU	FAN COIL UNIT
FD	FIRE DAMPER; FLOOR DRAIN
FEV	FUME EXHAUST VALVE
FG	FILTER GRILLE
FH	FUME HOOD
FMI	FLOW METER (INSERTION ELECTROMAGNETIC)
FMM	FLOW METER (INLINE ELECTROMAGNETIC)
FMT	FLOW METER (INSERTION TURBINE)
FMS	FLOW MEASURING STATION
FO	FLAT OVAL; FAIL OPEN
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FR	FIRE OR HIGHT TEMPERATURE STAT
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FLOAT SWITCH
FSL2	FEDERAL SECURITY LEVEL 2 (HVAC SHUTDOWN SWITCH)
FT	FEET
FT WG	FEET OF WATER, GAUGE
FTU	FAN TERMINAL UNIT
FZ	FREEZESTAT
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GEV	GENERAL EXHAUST VALVE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	HUMIDISTAT
HI	HIGH STATIC PRESSURE SWITCH
HG	HOT GAS
HHW	HEATING HOT WATER
HHWP	HEATING HOT WATER PUMP
HHWR	HEATING HOT WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HP	HEAT PUMP; HORSEPOWER
HPS	HEAT PRESSURE SYSTEM
HR	HOUR
HS	HUMIDITY SENSOR
HX	HEAT EXCHANGER
ID	INSIDE DIAMETER
IN.	INCHES
IN. WG	INCHES OF WATER, GAUGE
KW	KILOWATTS
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LD	LINEAR DIFFUSER
LL	LOW STATIC PRESSURE SWITCH
LLS	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE STEAM
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
M	WATER METER
MAX	MAXIMUM
MBH	THOUSANDS OF BTUH
MCF	THOUSANDS OF CUBIC FEET
MD	MOTORIZED DAMPER
MERV	MINIMUM EFFICIENCY RATING VALUE
MIN	MINUTE; MINIMUM
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN; NUMBER
NTS	NOT TO SCALE
OA	OUTDOOR AIR
OAL	OUTDOOR AIR LOUVER
OC	ON CENTER
OCC	OCCUPANCY SENSOR
OD	OUTSIDE DIAMETER
P-GAUGE	PRESSURE GAUGE
P/T PORTA	PRESSURE/TEMPERATURE PORT
P	PUMP
PCF	POUNDS PER CUBIC FEET
PCW	PROCESS COOLING WATER
PCWP	PROCESS COOLING WATER PUMP
PCWR	PROCESS COOLING WATER RETURN
PCWS	PROCESS COOLING WATER SUPPLY
PH	PHASE
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
R	RADIUS; RELAY
RA	RETURN AIR
RD	ROUND DIFFUSER
RG	RETURN AIR GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RL	REFRIGERANT LIQUID
RP	REDUCED PRESSURE
RPM	REVOLUTIONS PER MINUTE
RR	RETURN AIR REGISTER
RS	REFRIGERANT SUCTION
RV	ROOF VENT
SA	SUPPLY AIR
SAV	SOLENOID AIR VALVE
SD	SMOKE DAMPER; SMOKE DETECTOR
SF	SQUARE FEET; SUPPLY FAN
SG	SOFFIT GRILLE
SIM	SIMILAR
SP	STATIC PRESSURE SENSOR
SPS	STATIC PRESSURE SWITCH
SPEC	SPECIFICATION
SR	SIDEWALL REGISTER (SUPPLY AIR) REGISTER
SS	STAINLESS STEEL
STD	STANDARD
STM	STEAM
SV	SUPPLY VALVE
T	THERMOSTAT
TC	TIME CLOCK
TDR	TIME DELAY RELAY
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TS	TEMPERATURE SENSOR
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UC	UNDERCUT DOOR - 3/4"
UG	UNDERGROUND
UH	UNIT HEATER
V	VOLTS
VA	VENTILATION AIR: CONDITIONED, DEDICATED OUTSIDE AIR
VC	VOLUME CONTROLLER
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VFM	VENTURI FLOW METER
VVU	VARIABLE VOLUME UNIT
W	WIDTH
WB	WET BULB
WC	WATER COLUMN
WP	WEATHER PROOF
WPD	WATER PRESSURE DROP

MECHANICAL LEGEND (UNABRIDGED)

- CEILING DIFFUSER (SEE SCHEDULE FOR TYPE)
- CEILING RETURN GRILLE/REGISTER (SEE SCHEDULE FOR TYPE)
- CEILING EXHAUST GRILLE/REGISTER (SEE SCHEDULE FOR TYPE)
- -240CFM — ROOM AIRFLOW CFM OFFSET (POSITIVE/NEGATIVE)
- XX-XX / XXX — DIFFUSER TAG - 1ST ROW : MARK - NECK SIZE (IN) 2ND ROW: CFM
- HARD CEILING ACCESS PANEL
- EXISTING DUCTWORK TO BE DEMOLISHED
- EXISTING DUCTWORK
- NEW DUCTWORK SEE SPECS FOR INSULATION REQUIREMENTS
- DUCT ELBOW WITH TURNING VANES
- RADIUS DUCT ELBOW
- RECTANGULAR DUCT TAKEOFF (SEE DETAILS SHEETS)
- DUCT UP
- DUCT DOWN
- Tx — THERMOSTAT, x = ZONE NUMBER
- MANUAL BALANCE DAMPER
- F — FIRE DAMPER
- FS — FIRE/SMOKE DAMPER
- S — SMOKE DAMPER
- FLEXIBLE DUCT (SEE DETAIL ON M-701)

- UNDERGROUND PIPE
- SINGLE LINE PIPE UP
- SINGLE LINE PIPE DOWN
- DOUBLE LINE PIPE UP
- DOUBLE LINE PIPE DOWN
- M — 2 WAY MOTORIZED CONTROL VALVE
- M — 3 WAY MOTORIZED CONTROL VALVE
- BALL VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- GLOBE VALVE
- GATE VALVE
- NON-SLAM CHECK VALVE
- VENTURI FLOW METER
- CALIBRATED BALANCING VALVE
- PRESSURE REDUCING VALVE (FILL VALVE)
- INLINE STRAINER
- INLINE STRAINER WITH BLOWNDOWN VALVE AND HOSE BIBB
- PRESSURE RELIEF VALVE
- PRESSURE GAUGE AND COCK
- THERMOMETER
- SENSOR WELL
- PRESSURE AND TEMPERATURE TEST PORT
- AUTOMATIC AIR VENT W/ SHUTOFF VALVE
- MANUAL AIR VENT W/ SHUTOFF VALVE
- M — METER (WATER OR GAS)
- UNION
- FLEXIBLE PIPE CONNECTION
- PIPE BREAK
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- BACKFLOW PREVENTER
- PIPE CAP

CONTROL SYMBOL LEGEND (UNABRIDGED)

- COMBINATION MOTOR STARTER WITH INTEGRAL DISCONNECT
- STARTER
- FUSED DISCONNECT
- DISCONNECT
- $M — MOTOR RATED TOGGLE SWITCH
- CONTROL CONTACTS
- M — MOTOR
- AMS — AIRFLOW MEASURING STATION
- M — 2 WAY MOTORIZED CONTROL VALVE
- M — 3 WAY MOTORIZED CONTROL VALVE
- 480V-3Φ — ELECTRICAL SERVICE
- POWER LINE (BY DIV 26)
- EQUIPMENT
- LOW VOLTAGE WIRE
- CONTROL DEVICE
- AI AO BI BO — GENERIC LOW VOLTAGE CONTROL INPUT/OUTPUT (SEE ABBREVIATIONS)
- XXX — GENERIC CONTROL DEVICE (SEE ABBREVIATIONS)

- HARDWIRED INTERLOCK
- TO FACP — SD — SMOKE DETECTOR
- COMM — BAS INTEGRATION RJ-45, RS-485, ETC
- TYPICAL PUMP/FAN
- TS — POINT SENSOR
- TS — AVERAGING SENSOR
- ES / MD — OPPOSED BLADE DAMPER
- ES / MD — PARALLEL BLADE DAMPER
- COIL
- DP — FILTER (DPS OR DP)
- UV LIGHT ARRAY
- SB — SECURITY BARS (SEE DETAIL ON M-701)

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL ENGINEER MICHAEL L. HOLLAND

Designed By: MLH	Date: 06-29-2021
Drawn By: MLH	File No.
Checked By: CLE	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

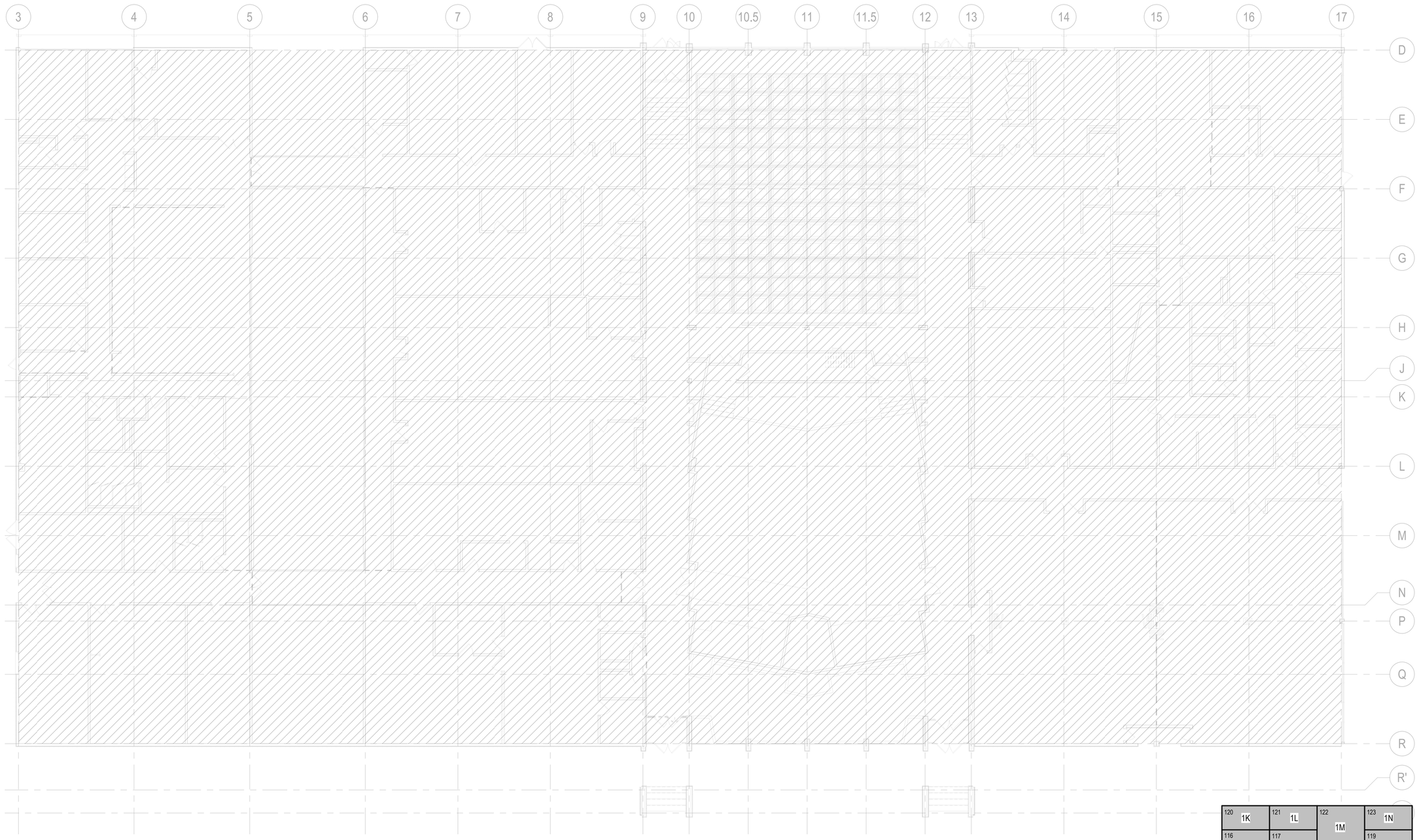
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ARTC - B640 RENOVATION
FEMA - DHS - CDP: ANNISTON, AL

LEGEND AND NOTES

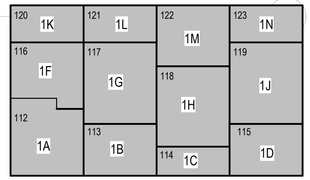
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M-001
SHEET 245 of 442

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HVAC DEMOLITION NOTES

1. DEMOLISH ALL EXISTING HVAC THROUGHOUT THE BUILDING.
2. EXISTING CHILLED WATER PIPING STUB UPS IN MECHANICAL ROOM TO BE DEMOLISHED BACK TO FLOOR LEVEL AND CAPPED LEVEL TO FLOOR TO PREVENT INTERFERENCE WITH RENOVATED FINISHED FLOOR. COORDINATE ANY STRUCTURAL INTEGERITY REQUIREMENTS SUCH AS CONCRETE FILL WITH STRUCTURAL.
3. EXISTING ROOF PENETRATIONS NOT USED IN RENOVATION SHALL BE FILLED, PATCHED AND FINISHED AS SPECIFIED BY STRUCTURAL AND ARCHITECTURAL.



PLAN NORTH

FIRST FLOOR KEY PLAN

DEMO MECHANICAL COMPOSITE PLAN

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

0 6' 12' 24'

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

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NO. 27219
PROFESSIONAL
ENGINEER
MICHAEL L. HOLLAND

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FEMA - DHS - CDP, ANNISTON, AL

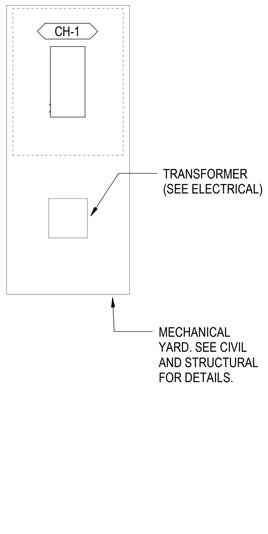
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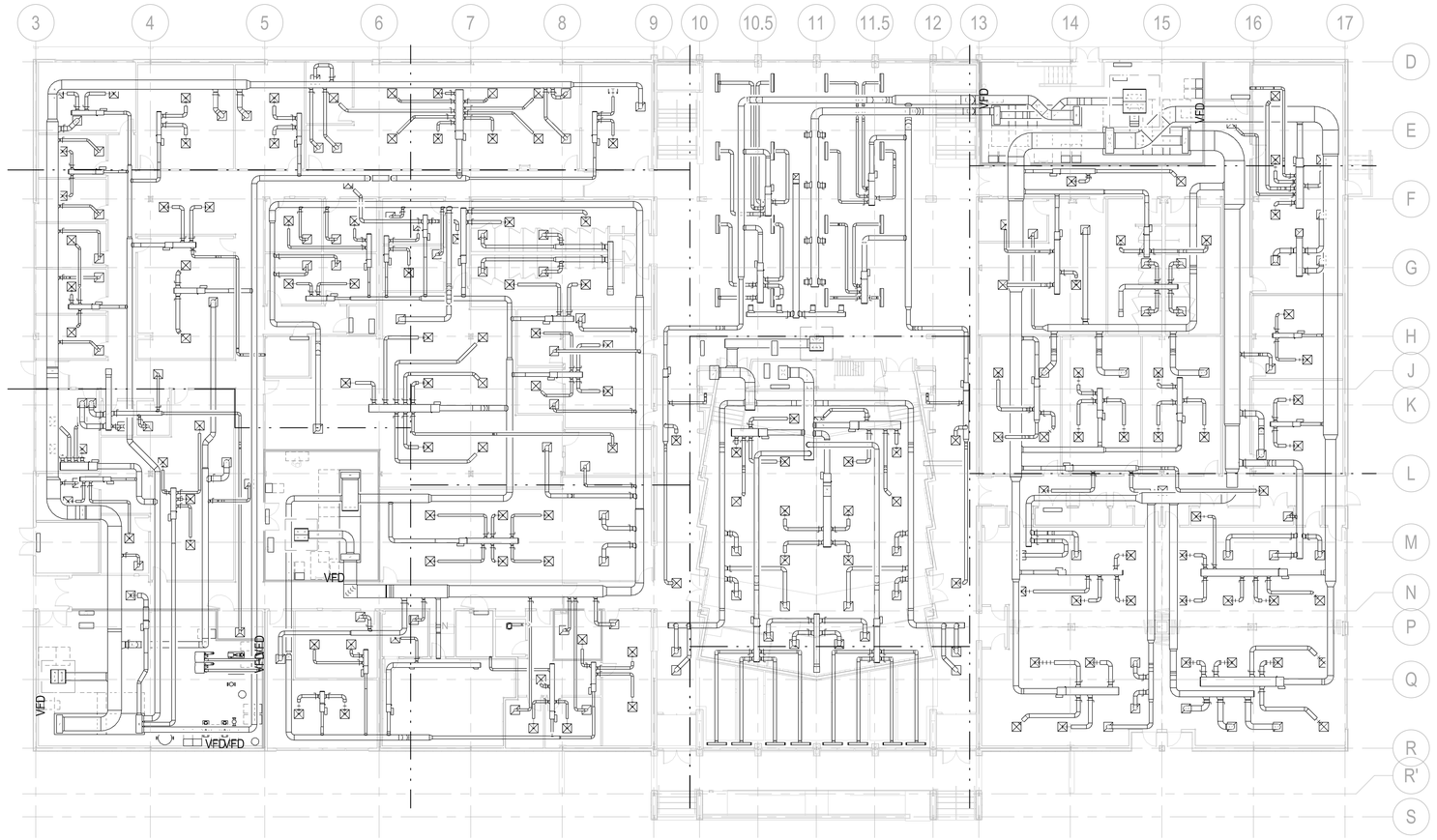
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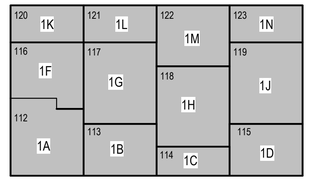
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SHEET 246 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

DUCTWORK PLAN FIRST FLOOR - COMPOSITE

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

SCALE: 1/16"=1'-0"

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ARTC - B640 RENOVATION
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DUCTWORK PLAN FIRST FLOOR - COMPOSITE

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MH111
SHEET 247 of 442

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BLOCK 1F
BLOCK 1A

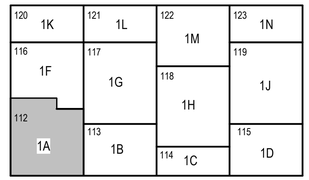
E1-12Ø 390 | E1-12Ø 390
S1-8Ø 200
S1-8Ø 200
S1-8Ø 200
S1-8Ø 200
14x14
TLT - F 138
10ø
TLT - M 139
E1-6Ø 50
E1-6Ø 50
S1-6Ø 125
LOUNGE 137
VAV4-04
30x14
20x17
14ø
S1-6Ø 100
R1-14Ø 475
R1-6Ø 130
R1-6Ø 100
12x8
VAV4-02
OFFICE 140A
S1-6Ø 100
S1-6Ø 125
14x13
VAV4-03
STUDENT SPT SERVICES (NON-RES) 140
AC-3
ELEC 141
S1-6Ø 100
OFFICE 140B
R1-6Ø 100
36x14
16ø
14ø
S1-12Ø 375
AC-9
PLUMBING AREA
FIRE RISER AREA
FIRE RISER SERVICE CLEARANCE
MECH. 100
DOWN FROM OUTSIDE AIR INTAKE HOOD IH-4
20x16
AMS
MD
ES
VFD
CC-4
AHU-4
VAV4-01
14x14
36x20
DDC-HW1
JAN. 101
E1-6Ø 75
16ø
HHWP-1
HHWP-2
B-1
B-2
VFD
VFD
AS-2
ET-2
COMBUSTION AIR VENT UP THROUGH ROOF (TYP. 2)
DDC-4A
DDC-4B
CHWP-1
CHWP-2
AS-1
DDC-CH1
DDC-M1
14ø
14ø
BT-1
ET-1
VFD
VFD
A6
M-301

R1-12Ø 375
BLOCK 1F
BLOCK 1A
20x18
DDC WORKSTATION (COORDINATE LOCATION WITH OWNER)
MECH 111
DDC-EF1
DOWN FROM OUTSIDE AIR INTAKE HOOD IH-3
42x32
14ø
22ø
BLOCK 1A
BLOCK 1G
BLOCK 1A
BLOCK 1B
CC-5
AC-10
ES
MD
20x20
AMS
AHU-5
DDC-5A
DDC-5B
VFD
34x16
ROOF LADDER CLEARANCE
14ø
R1-8Ø 150
12ø
12ø
R1-6Ø 100
S1-6Ø 100
CTHERM 104A
S1-6Ø 75
S1-6Ø 75
TRNG PARTNERS (REP) 103
R1-10Ø 280
12x8
VAV5-02
EXHAUST AIR DUCT UP THROUGH ROOF (TYP. 2)
S2-10X6 150
TRNG PARTNERS (OBP / OTHERS) 102
12x10
12x10
VAV5-01
VAV5-03
S1-8Ø 150
S1-8Ø 150
14ø
PLAN NORTH

DUCTWORK PLAN - BLOCK 1A

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"



FIRST FLOOR KEY PLAN

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
REGISTERED
06/29/21
NO. 27219
PROFESSIONAL
ENGINEER
MICHAEL L. HOLLAND

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:
Designed By: MLH
Drawn By: MLH
Checked By: CLE
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

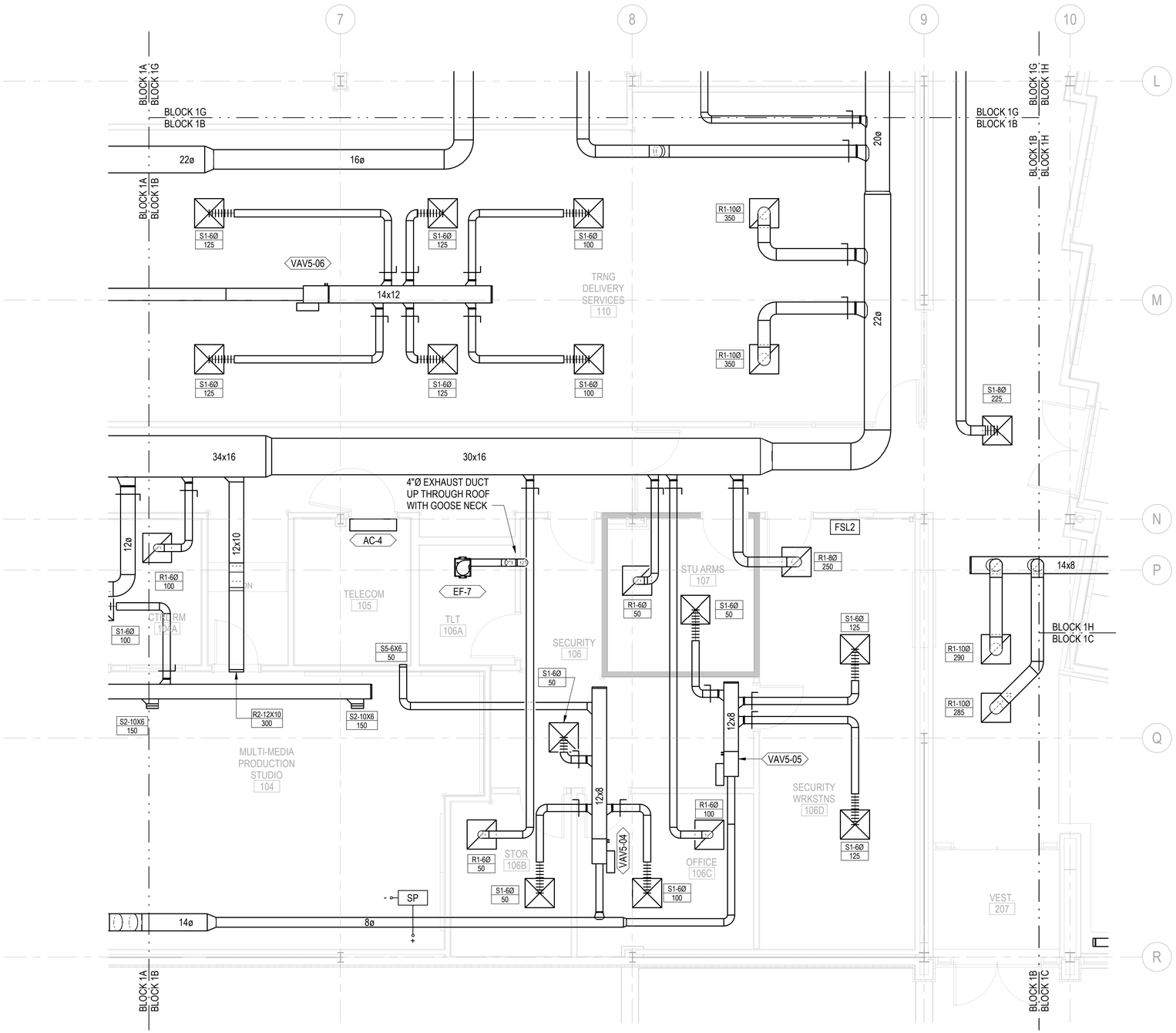
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1A

SHEET IDENTIFICATION
MH112
SHEET 248 of 442

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ENGINEER
MICHAEL L. HOLLAND

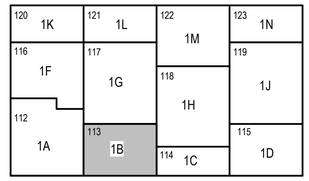
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Drawn By: MLH	File No:
Checked By: CJE	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1B



FIRST FLOOR KEY PLAN

PLAN NORTH

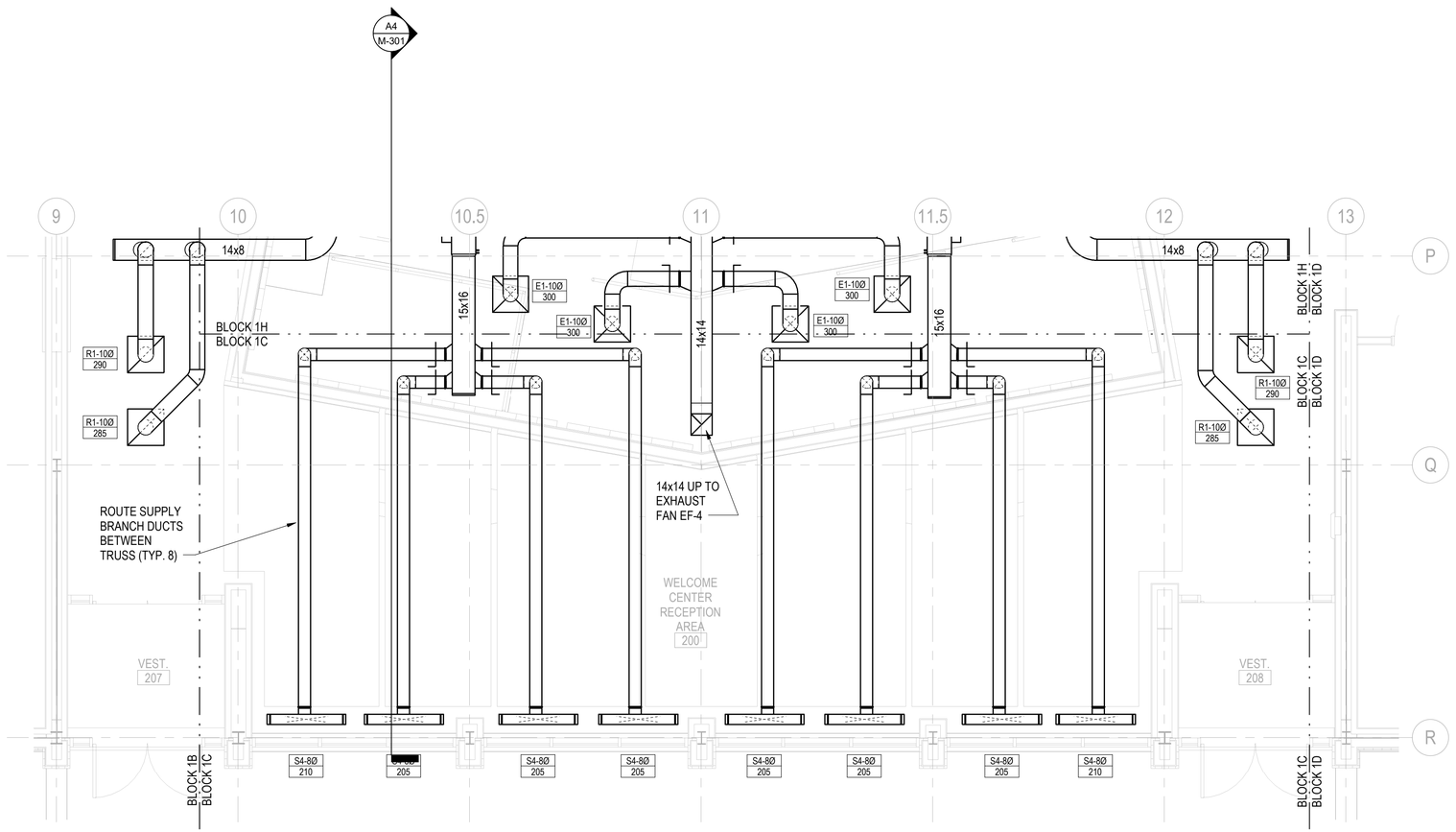
DUCTWORK PLAN - BLOCK 1B

SCALE: 1/4" = 1'-0"

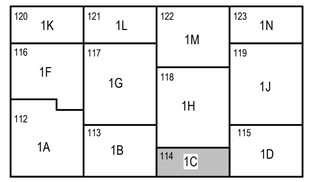
0 2' 4' 8'
SCALE: 1/4"=1'-0"

SHEET
IDENTIFICATION
MH113
SHEET 249 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1C

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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ALABAMA
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MICHAEL L. HOLLAND

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Checked By: CJE	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

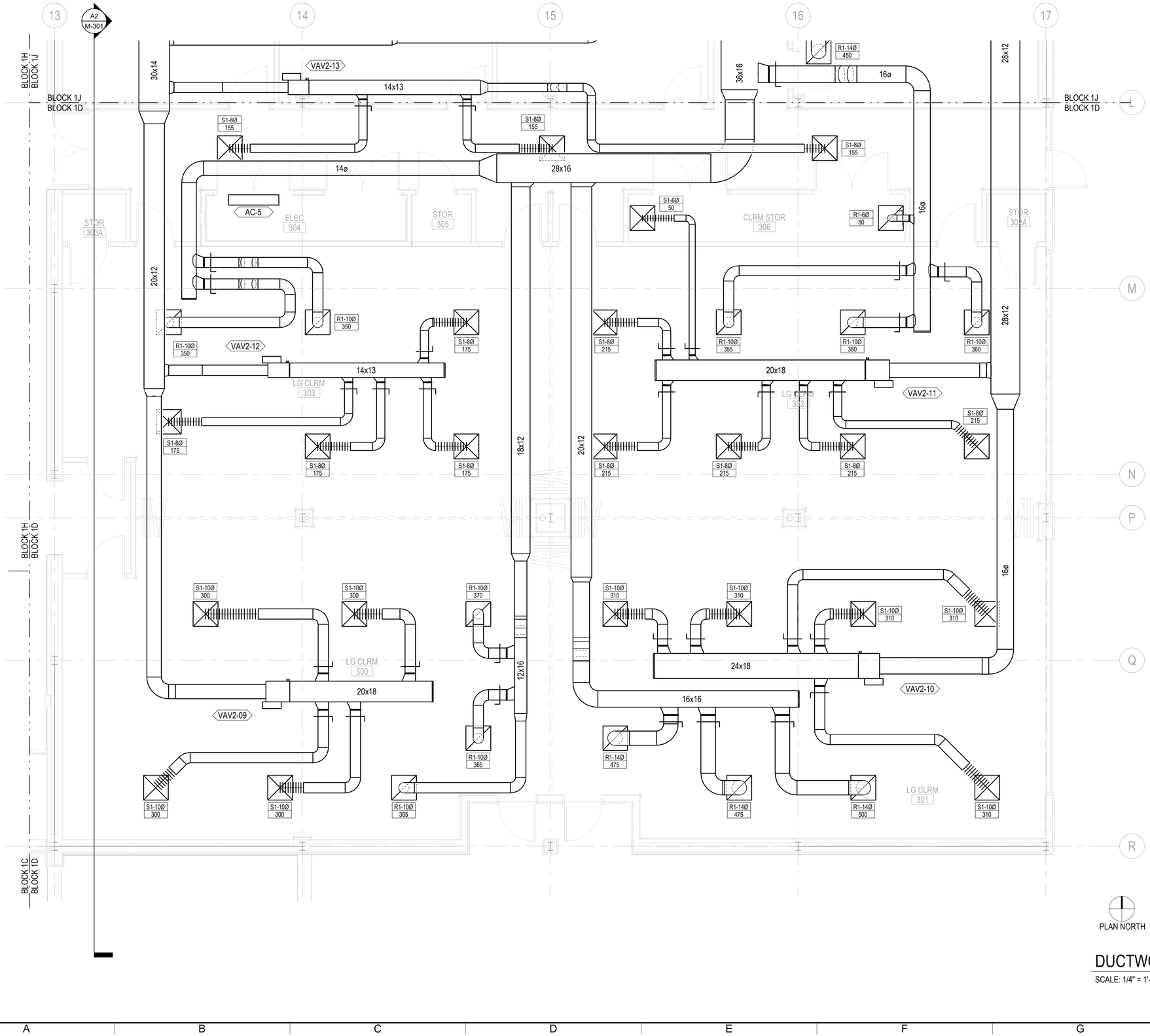
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

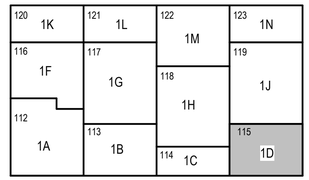
DUCTWORK PLAN - BLOCK 1C

SHEET IDENTIFICATION
MH114
SHEET 250 of 442

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6/29/2021 12:11:11 AM



PLAN NORTH



FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1D

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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Symbol	No.	Description	Date	Approved
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ALABAMA
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MICHAEL L. HOLLAND

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CORPS OF ENGINEERS
MOBILE, ALABAMA

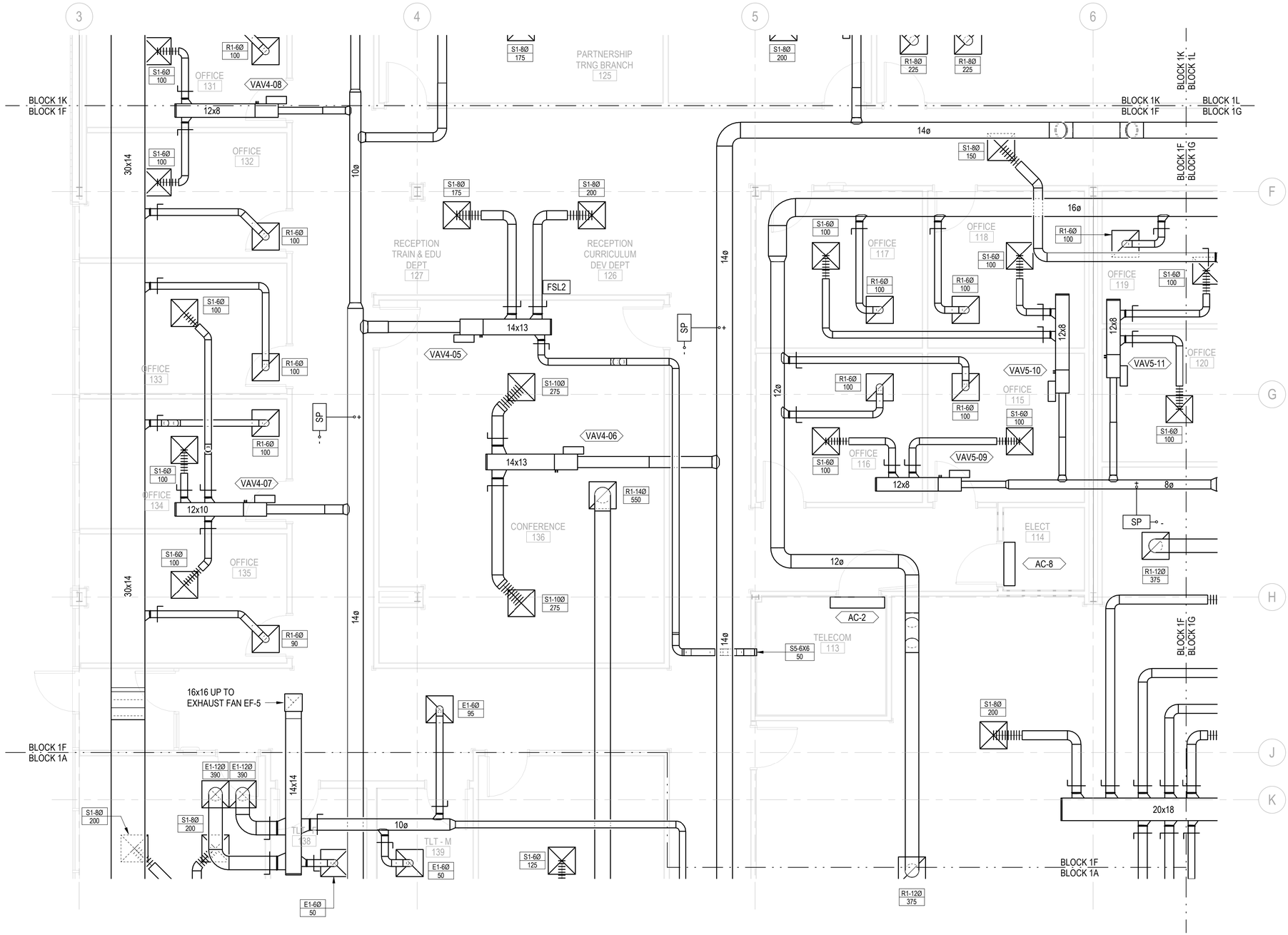
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

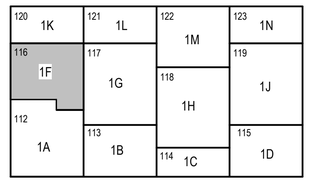
DUCTWORK PLAN - BLOCK 1D

SHEET IDENTIFICATION
MH115
SHEET 251 of 442

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6/29/2021 12:12:16 AM



PLAN NORTH



FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1F

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL MECHANICAL ENGINEER MICHAEL L. HOLLAND

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Drawn By: MLH
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Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

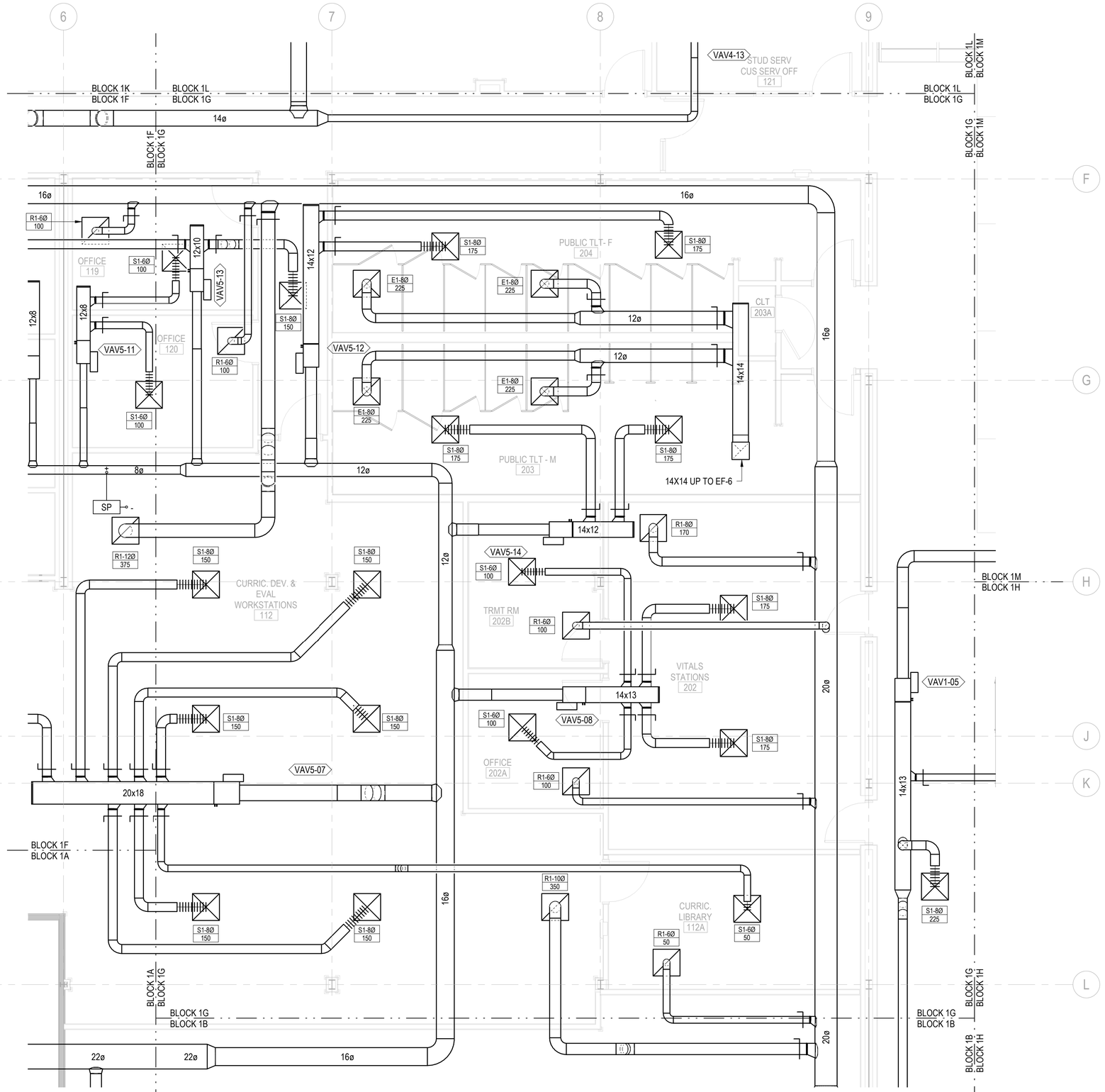
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1F

SHEET IDENTIFICATION
MH116
SHEET 252 of 442

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ALABAMA
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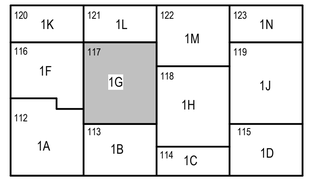
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Checked By: CLE
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Solicitation Number:

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ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1G



FIRST FLOOR KEY PLAN

PLAN NORTH

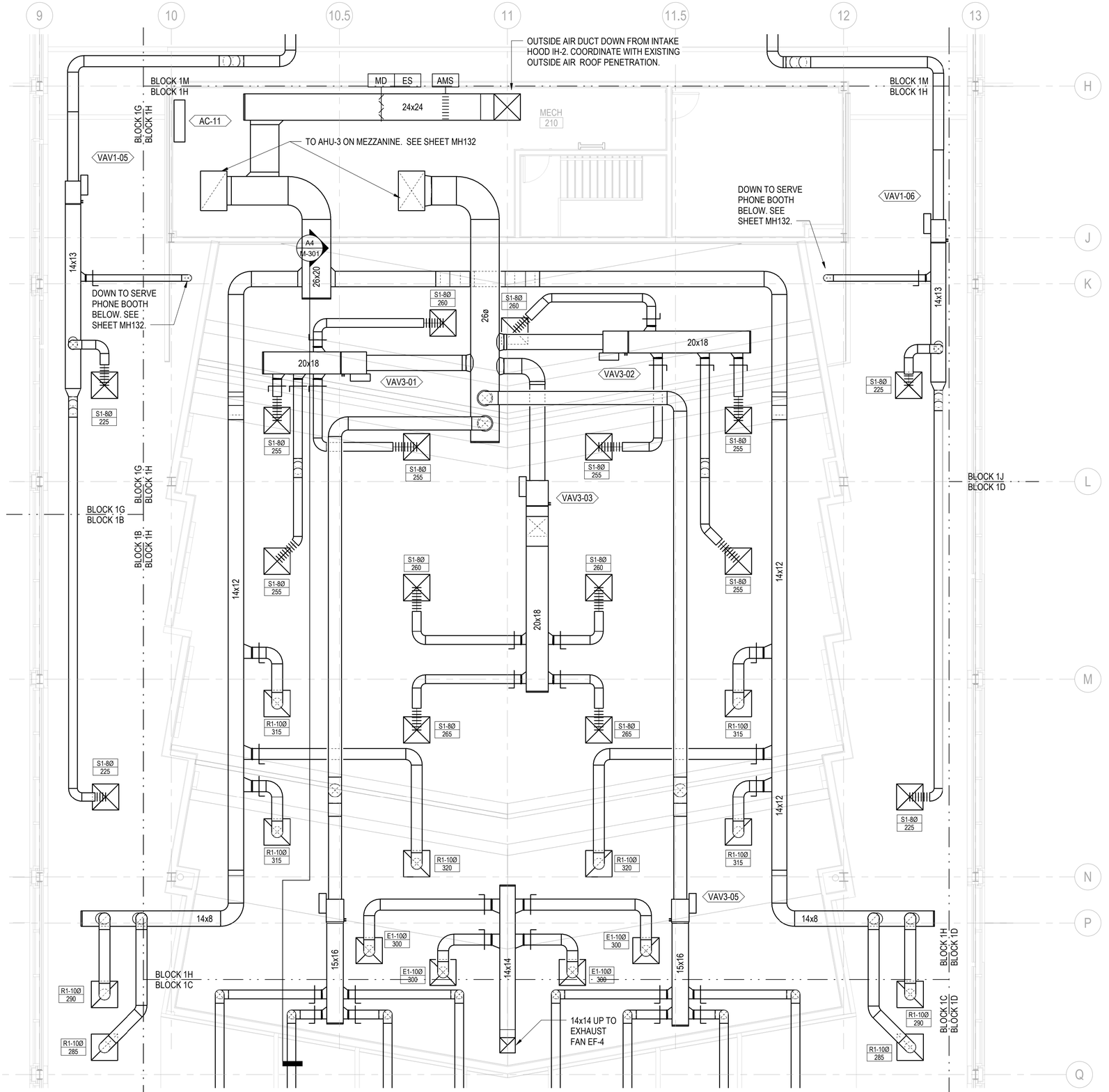
DUCTWORK PLAN - BLOCK 1G

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

SHEET IDENTIFICATION
MH117
SHEET 253 of 442

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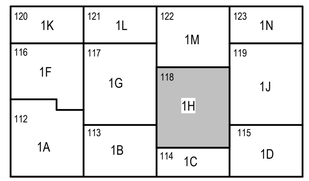
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Drawn By: MLH	File No:
Checked By: CLE	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
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ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1H



FIRST FLOOR KEY PLAN

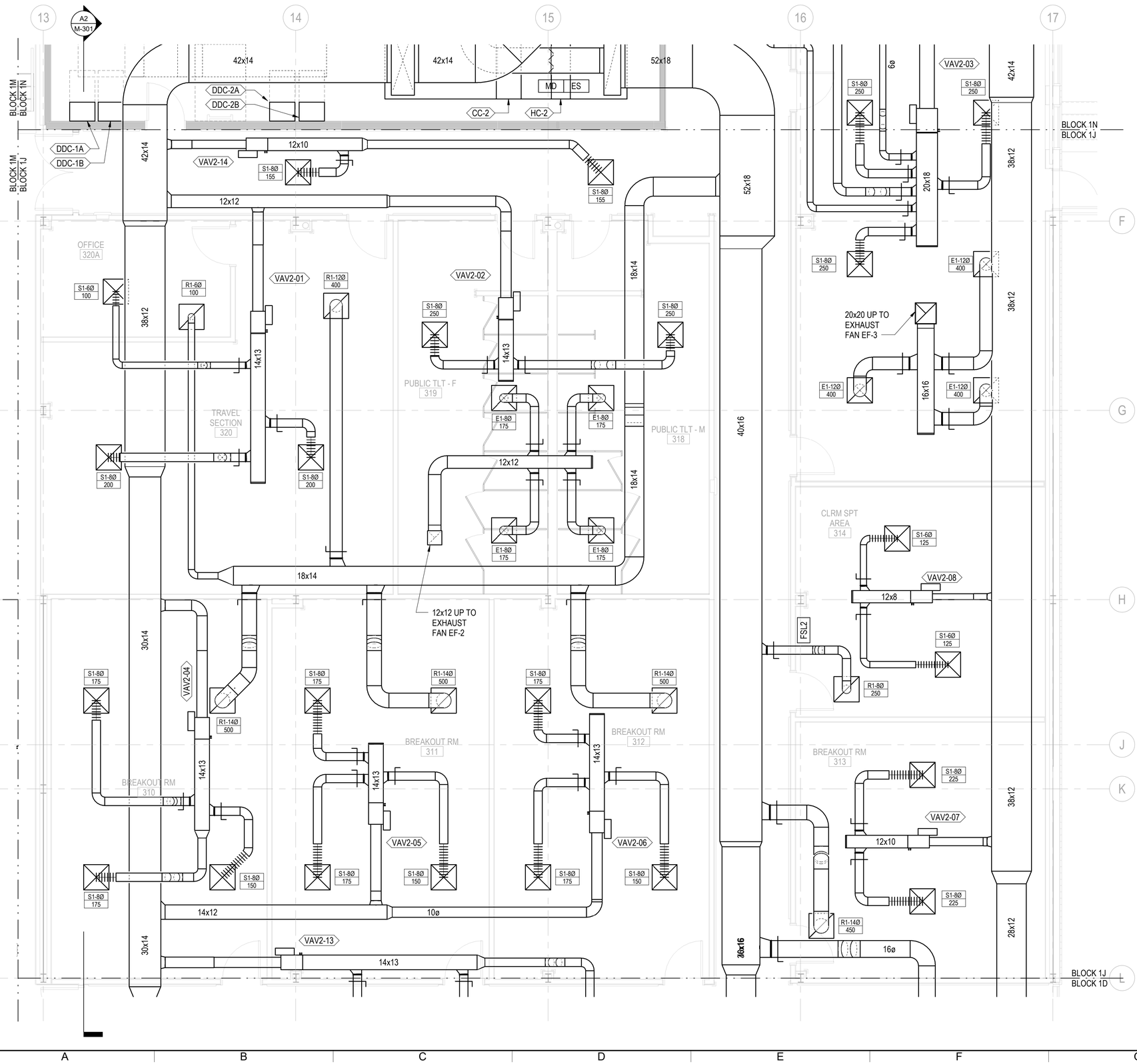
PLAN NORTH

DUCTWORK PLAN - BLOCK 1H

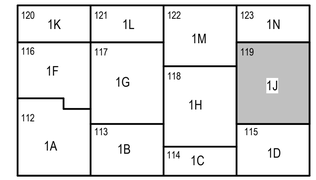
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

SHEET IDENTIFICATION
MH118
SHEET 254 of 442



PLAN NORTH



FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1J

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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ALABAMA
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MOBILE, ALABAMA

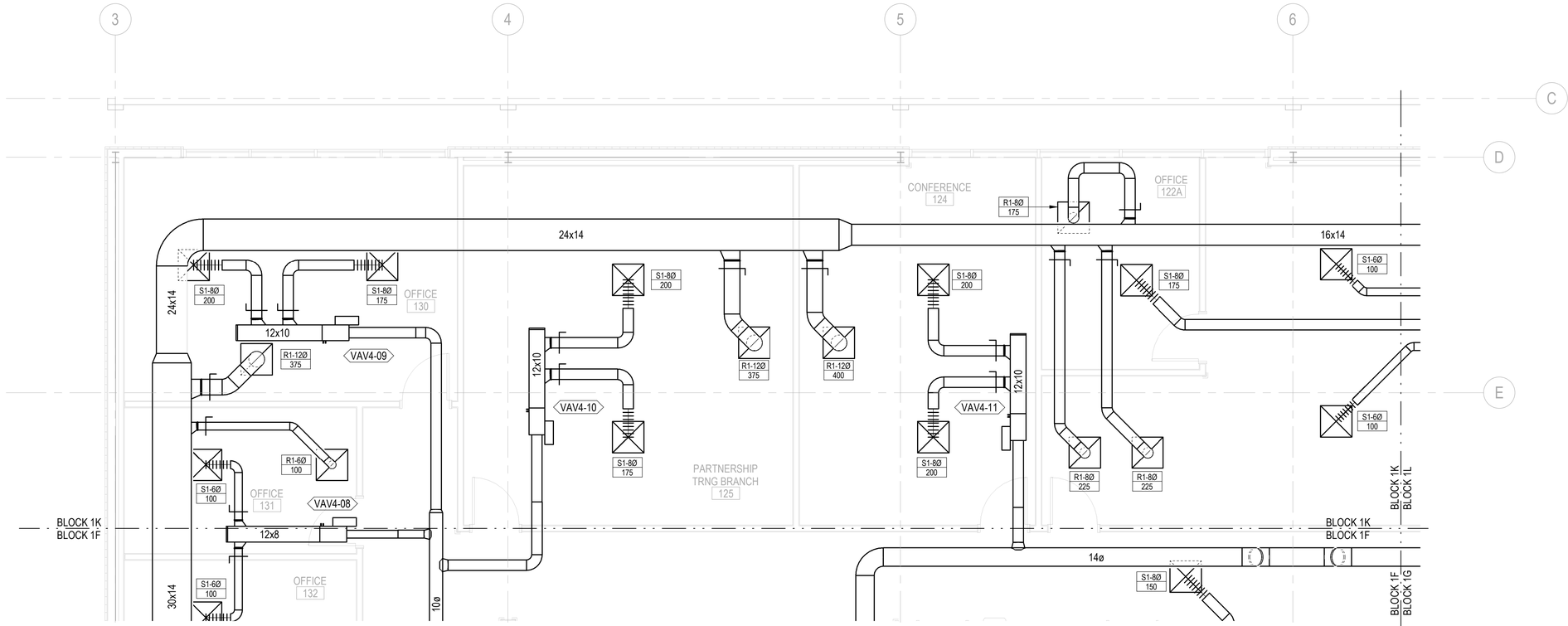
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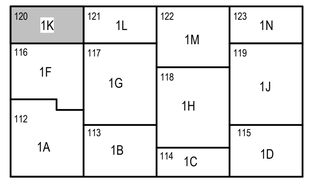
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FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1J

SHEET IDENTIFICATION
MH119
SHEET 255 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1K

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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Symbol	No.	Description	Date	Approved
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MOBILE, ALABAMA

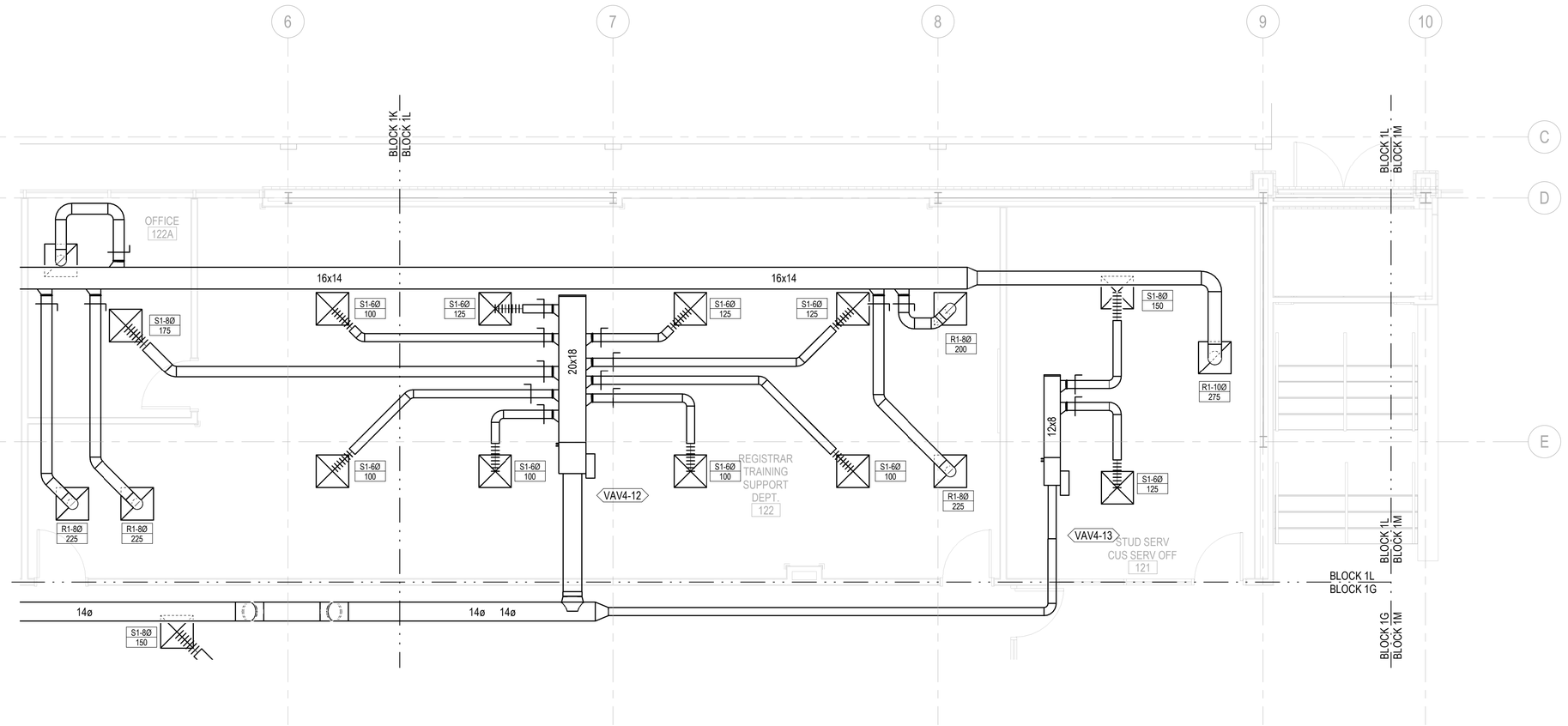
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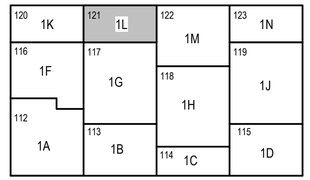
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1K

SHEET IDENTIFICATION
MH120
SHEET 256 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1L

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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ALABAMA
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CORPS OF ENGINEERS
MOBILE, ALABAMA

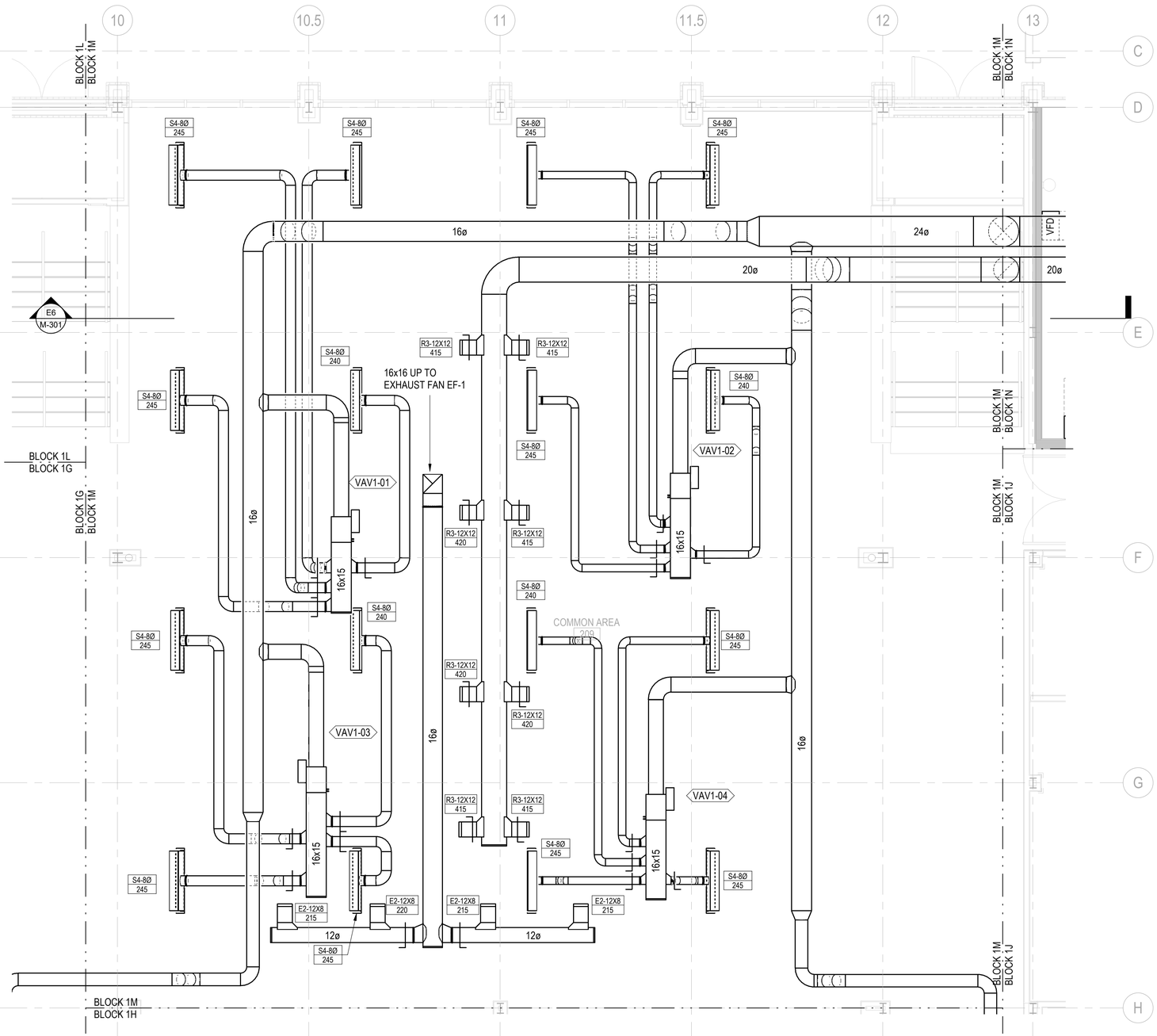
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

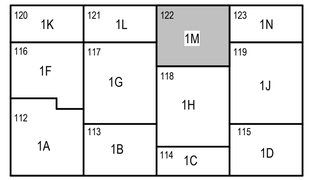
DUCTWORK PLAN - BLOCK 1L

SHEET IDENTIFICATION
MH121
SHEET 257 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1M

SCALE: 1/4" = 1'-0"

US Army Corps of Engineers
Mobile District

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ENGINEER
MICHAEL L. HOLLAND

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:
Designed By: MLH
Drawn By: JMH
Checked By: CJE
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

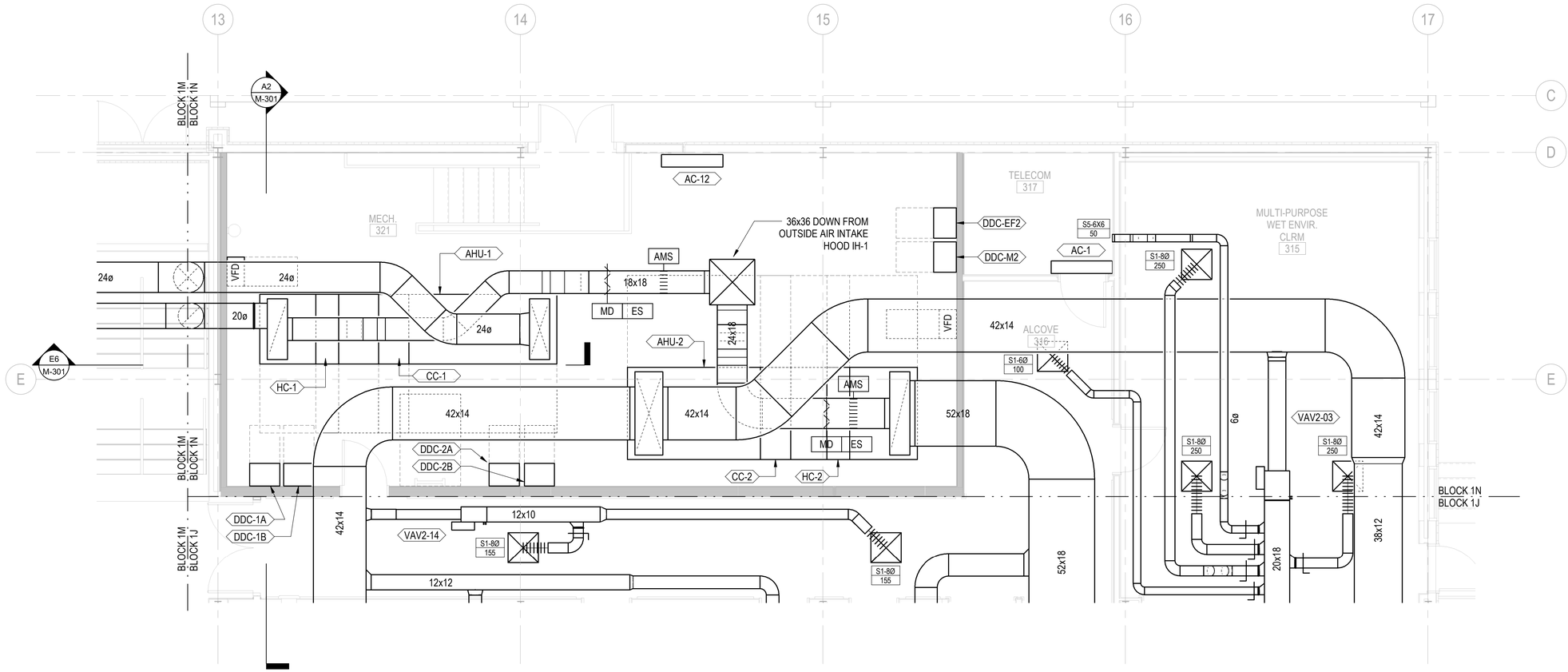
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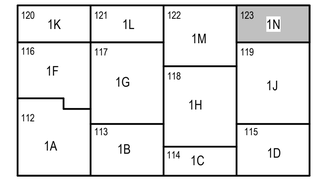
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1M

SHEET IDENTIFICATION
MH122
SHEET 258 of 442

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6/29/2021 12:12:45 AM





PLAN NORTH

FIRST FLOOR KEY PLAN

DUCTWORK PLAN - BLOCK 1N

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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MICHAEL L. HOLLAND

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Drawn By: MLH
Checked By: CLE
Reviewed By:

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CORPS OF ENGINEERS
MOBILE, ALABAMA

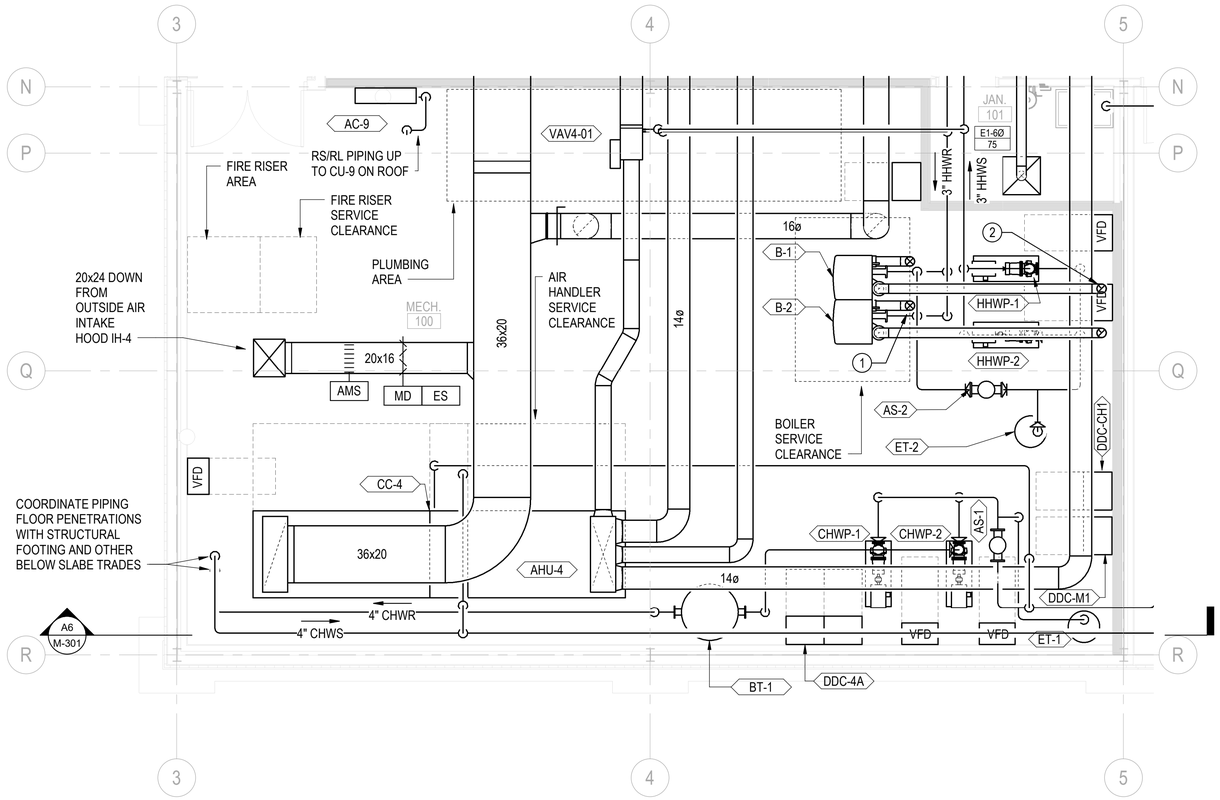
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DUCTWORK PLAN - BLOCK 1N

SHEET IDENTIFICATION
MH123
SHEET 259 of 442

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6/29/2021 12:12:48 AM



KEYNOTES:

1. COMBUSTION AIR VENT UP THROUGH ROOF (TYP. 2)
2. EXHAUST AIR DUCT UP THROUGH ROOF (TYP. 2)

A6 FIRST FLOOR-MECHANICAL ROOM-100

SCALE: 1/4" = 1'-0"

US Army Corps of Engineers
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ALABAMA REGISTERED NO. 27219 PROFESSIONAL MECHANICAL MICHAEL L. HOLLAND
06/29/21

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MOBILE, ALABAMA

ss&a CLARKNEXSEN

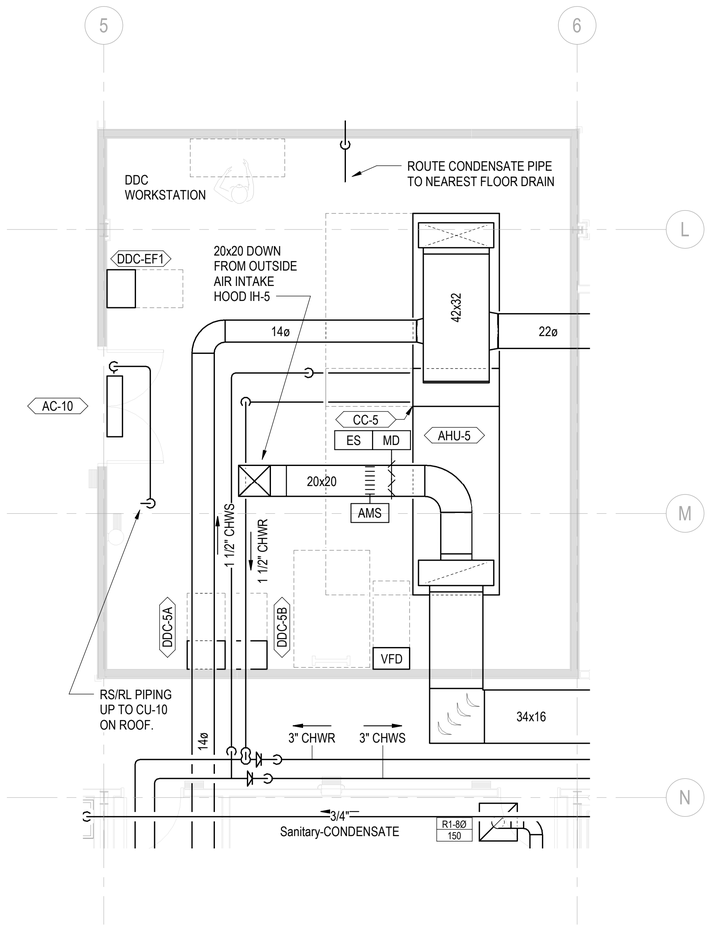
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

MECHANICAL ROOM PLAN

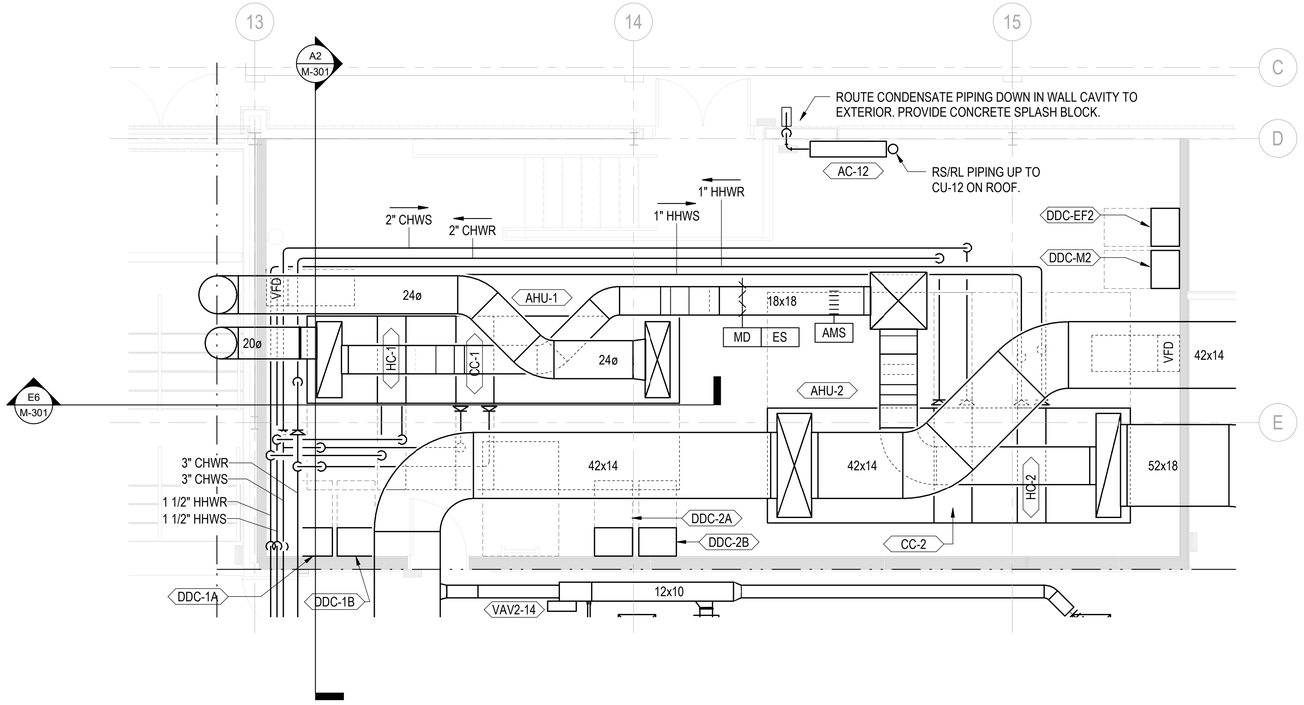
SHEET IDENTIFICATION
MH130
SHEET 260 of 442

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A6 FIRST FLOOR-MECHANICAL ROOM-111

SCALE: 1/4" = 1'-0"



D6 FIRST FLOOR-MECHANICAL ROOM-321

SCALE: 1/4" = 1'-0"

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MICHAEL L. HOLLAND

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Drawn By: JMH
Checked By: CLE
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

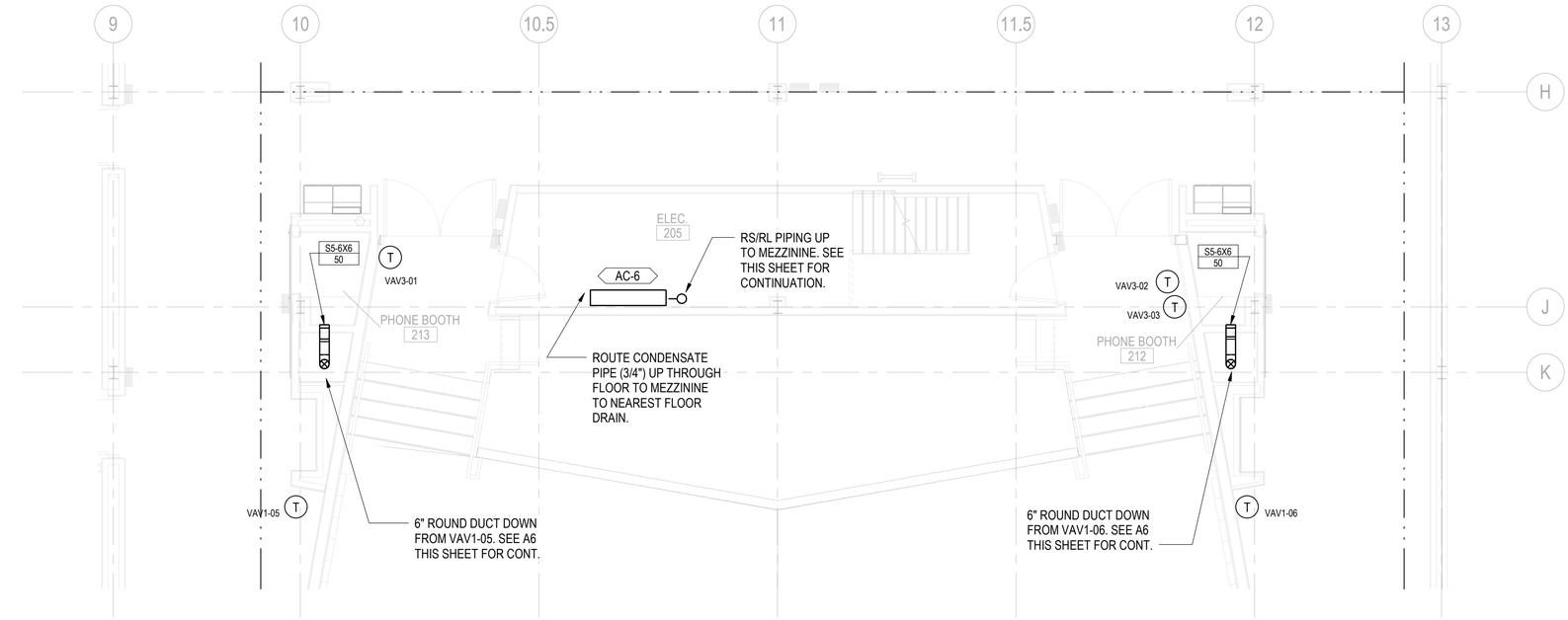
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

MECHANICAL ROOM PLAN

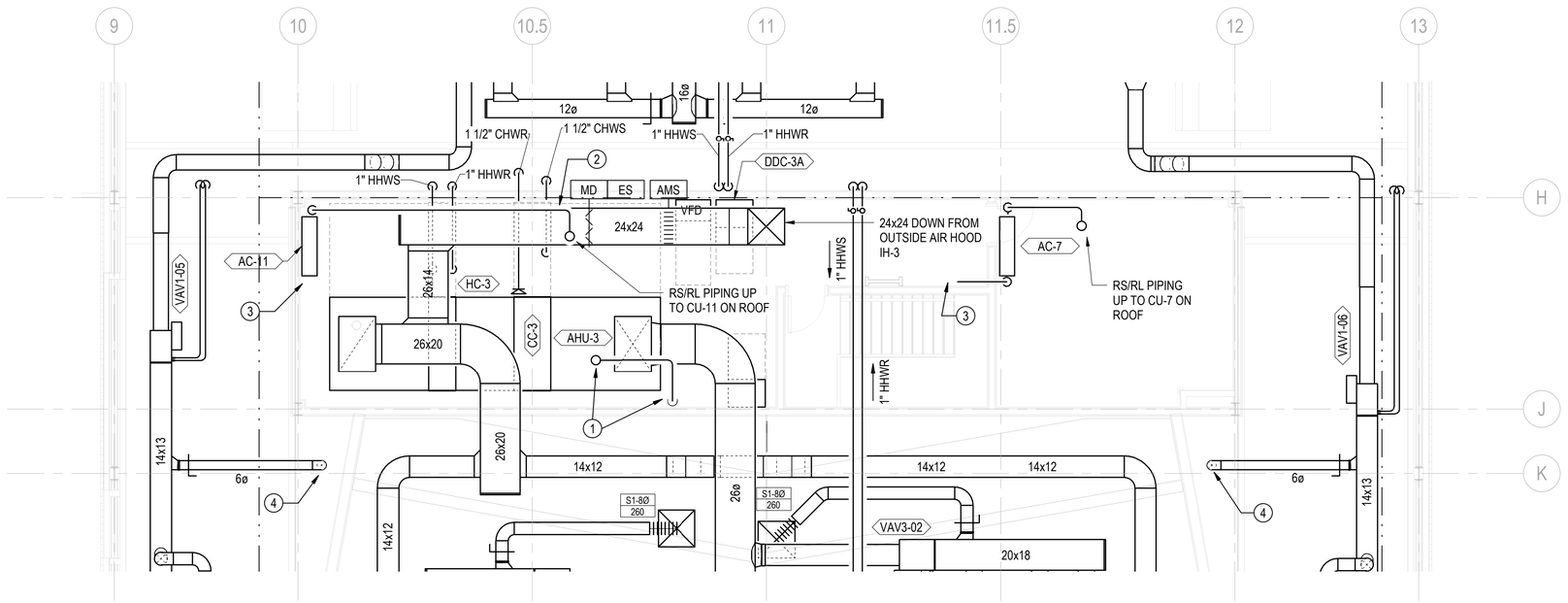
SHEET IDENTIFICATION
MH131
SHEET 261 of 442

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A3 FIRST FLOOR MECHANICAL - ELEC 205

NOT TO SCALE



A6 MEZZANINE-MECHANICAL ROOM - 210

SCALE: 1/4" = 1'-0"

KEYNOTES:

1. RS/RL PIPING UP TO CU-6 ON ROOF AND DOWN TO AC-6 IN ELECTRICAL ROOM 205 BELOW MEZZANINE
2. RS/RL PIPNG UP TO CU-11 ON ROOF.
3. ROUTE CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN MEZZANINE.
4. 6" ROUND DUCT DOWN IN CAVITY TO SERVE PHONE BOOTH BELOW. SEE A3 THIS SHEET FOR CONT.

US Army Corps of Engineers
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Checked By: CJE
Reviewed By:

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MOBILE, ALABAMA

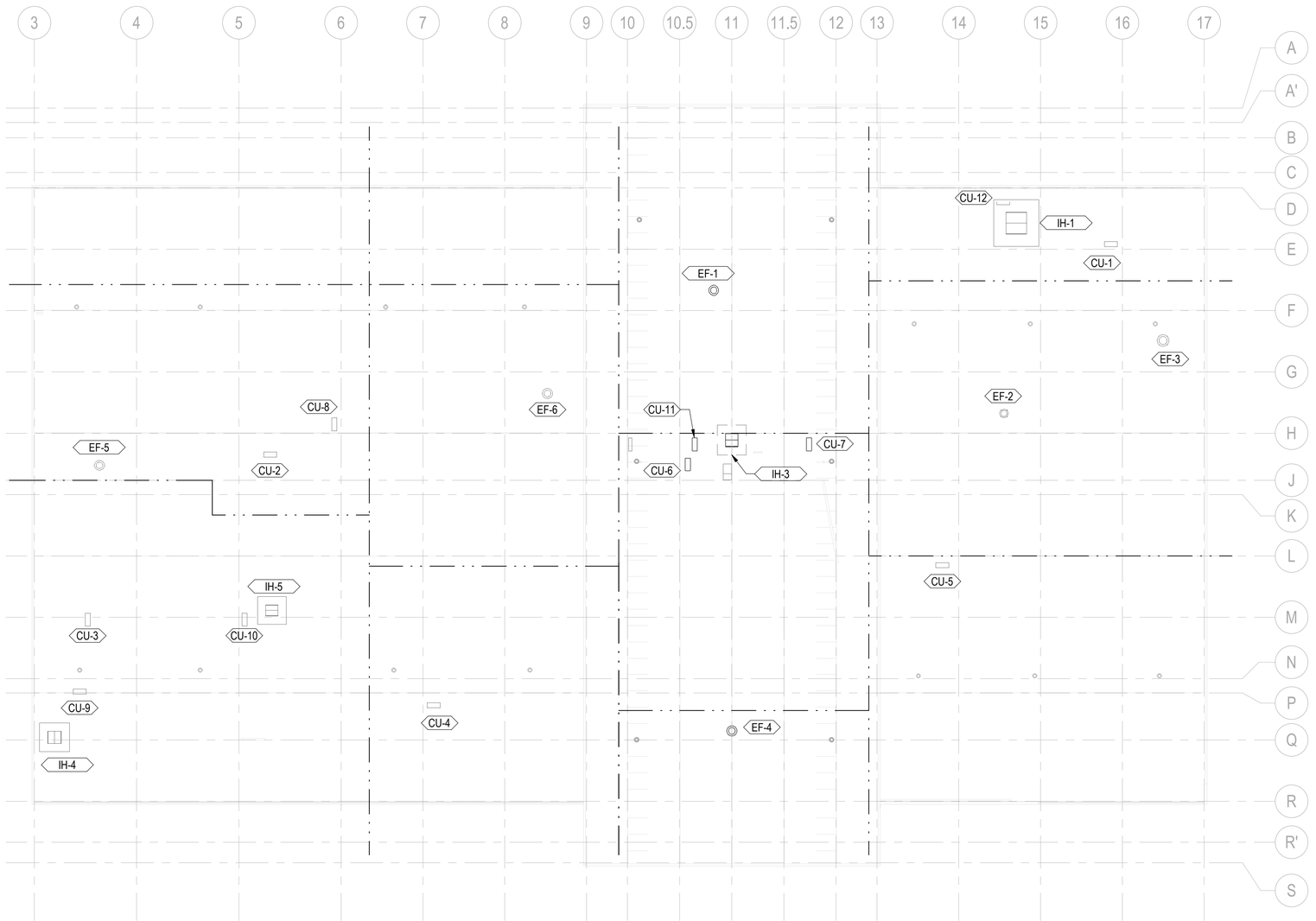
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

MECHANICAL ROOM PLAN

SHEET IDENTIFICATION
MH132
SHEET 262 of 442

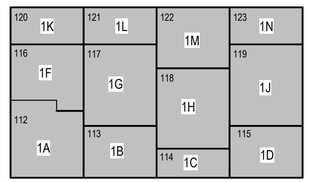
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NOTES:

1. CENTER EXHAUST FANS BETWEEN JOISTS TO FACILITATE ROOF PENETRATION. SEE STRUCTURAL FOR FRAMING DETAILS AT ROOF OPENING. COORDINATE ALL ROOF PENETRATIONS WITH STRUCTURAL SUCH AS OUTSIDE AIR DUCTS, SPLIT SYSTEM PIPING, ETC.

PLAN NORTH



FIRST FLOOR KEY PLAN

ROOF COMPOSITE PLAN

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

SCALE: 1/16"=1'-0"

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ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
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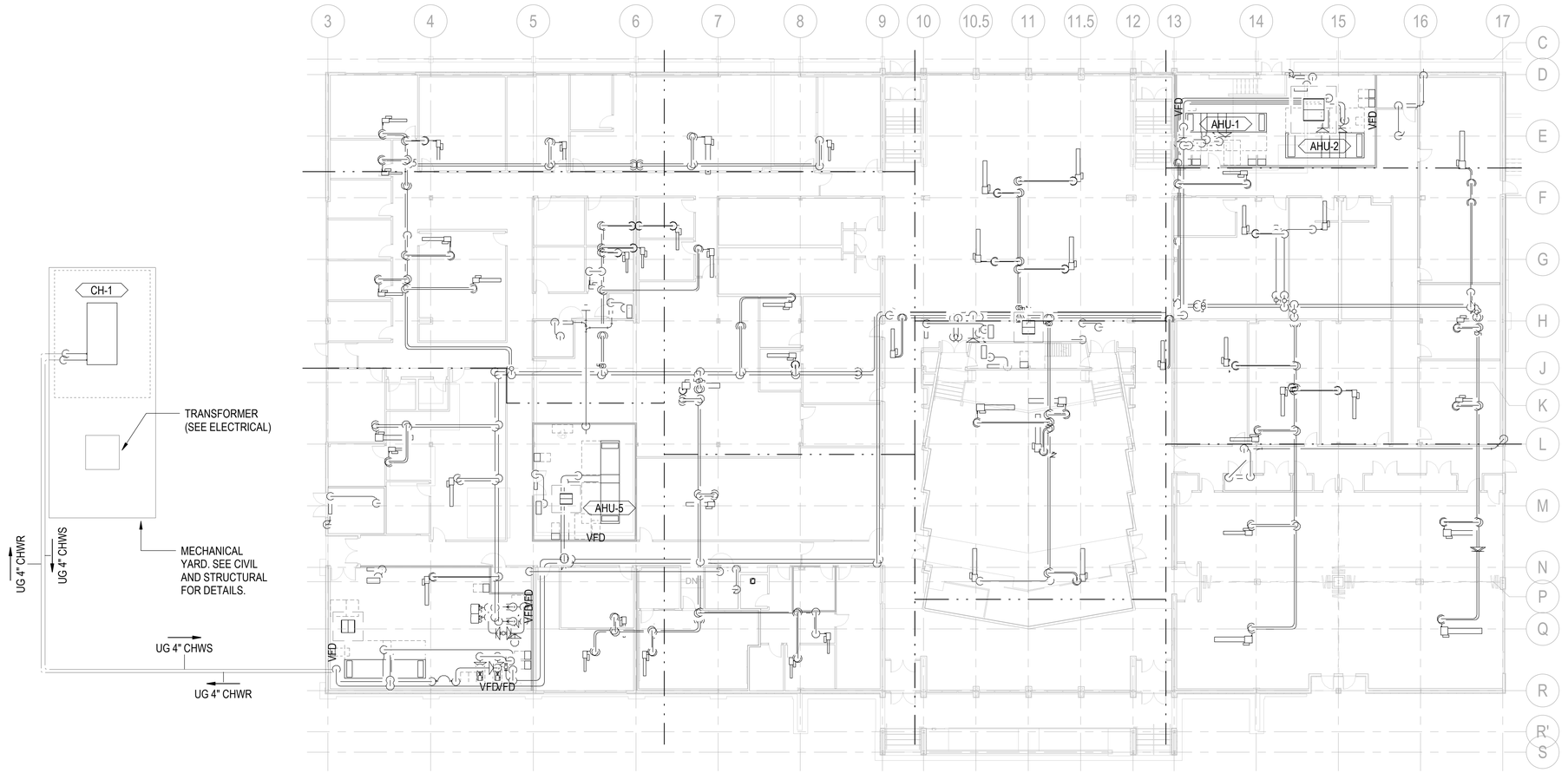
ROOF COMPOSITE PLAN

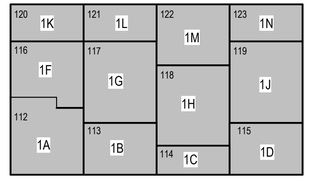
SHEET IDENTIFICATION

MH151

SHEET 263 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

HYDRONIC PLAN FIRST FLOOR-COMPOSITE

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

SCALE: 1/16"=1'-0"

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ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

HYDRONIC PLAN FIRST FLOOR-COMPOSITE

SHEET IDENTIFICATION

MP111

SHEET 264 of 442

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BLOCK 1F
BLOCK 1A

VAV4-04 (T)

VAV4-03 (T)

TLT - F
138

TLT - M
139

LOUNGE
137

3" HHWR

3" HHWS

3" HHWR

3" HHWS

BLOCK 1F
BLOCK 1G

BLOCK 1F
BLOCK 1A

CORR.
1C2

3/4" HHWS

3/4" HHWR

3" HHWS

VAV4-04

VAV4-02

OFFICE
140A

VAV4-02 (T)

STUDENT SPT
SERVICES
(NON-RES)
140

3" HHWR

VAV4-03

DDC
WORKSTATION

ROUTE CONDENSATE
PIPE TO NEAREST
FLOOR DRAIN

DDC-EF1

AHU-5

CC-5

BLOCK 1A
BLOCK 1G

BLOCK 1A
BLOCK 1B

AC-10

ROUTE
CONDENSATE
PIPE TO
NEAREST
FLOOR DRAIN

MECH
111

OFFICE
140B

2 1/2" RS/RL

AC-3

ELEC
141

3/4"
Sanitary-CONDENSATE

RS/RL PIPING
UP TO CU-3 ON
ROOF

RS/RL PIPING
UP TO CU-10
ON ROOF

DDC-5A

DDC-5B

VFD

VAV5-06 (T)

LADDER ACCESS

ROUTE CONDENSATE
PIPE TO JANITORS
SINK/MOP SINK

ROUTE
CONDENSATE
PIPE TO
NEAREST
FLOOR DRAIN

CORR.
1C1

3" HHWS

3" CHWR

3" CHWS

3" CHWR

VAV5-01 (T)

VAV4-01 (T)

AC-9

RS/RL PIPING
UP TO CU-9 ON
ROOF

VAV4-01

JAN.
101

DDC-HW1

3/4"- C

3/4"- C

VAV5-02 (T)

CTRL RM
104A

FIRE RISER
AREA

PLUMBING
AREA

TRNG
PARTNERS
(REP)
103

HHWP-1

HHWP-2

B-1

B-2

VFD

VFD

VAV5-02

VAV5-03 (T)

FIRE RISER
SERVICE
CLEARANCE

4" CHWS

AS-2

ET-2

1/2" HHWS

1" HHWS

1/2" HHWR

1" HHWR

MECH.
100

2" CHWR

AS-1

CHWP-2

CHWP-1

DDC-CH1

DDC-M1

TRNG
PARTNERS
(OBP / OTHERS)
102

VFD

CC-4

2" CHWS

AHU-4

BT-1

DDC-4A

DDC-4B

ET-1

VAV5-01

VAV5-03

4" CHWR

4" CHWS

VFD

VFD

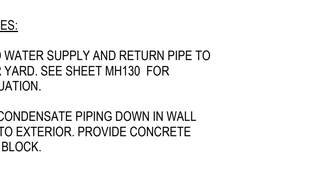
VFD

A6
M-301

PLAN NORTH

KEYNOTES:

1. CHILLED WATER SUPPLY AND RETURN PIPE TO CHILLER YARD. SEE SHEET MH130 FOR CONTINUATION.
2. ROUTE CONDENSATE PIPING DOWN IN WALL CAVITY TO EXTERIOR. PROVIDE CONCRETE SPLASH BLOCK.



FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1A

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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MOBILE, ALABAMA

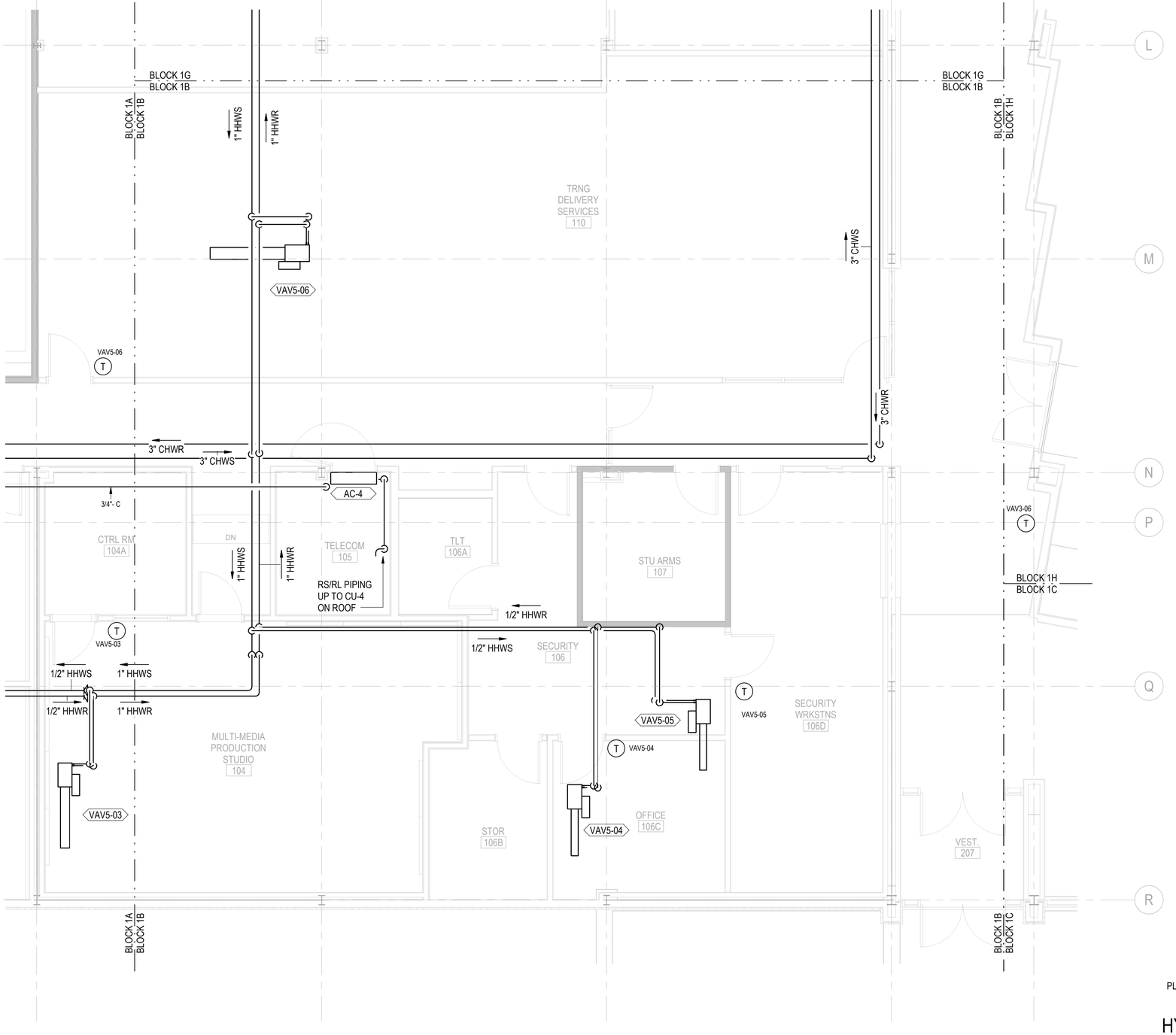
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

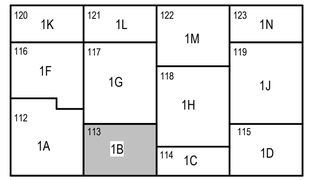
HYDRONIC PLAN - BLOCK 1A

SHEET IDENTIFICATION
MP112
SHEET 265 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1B

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

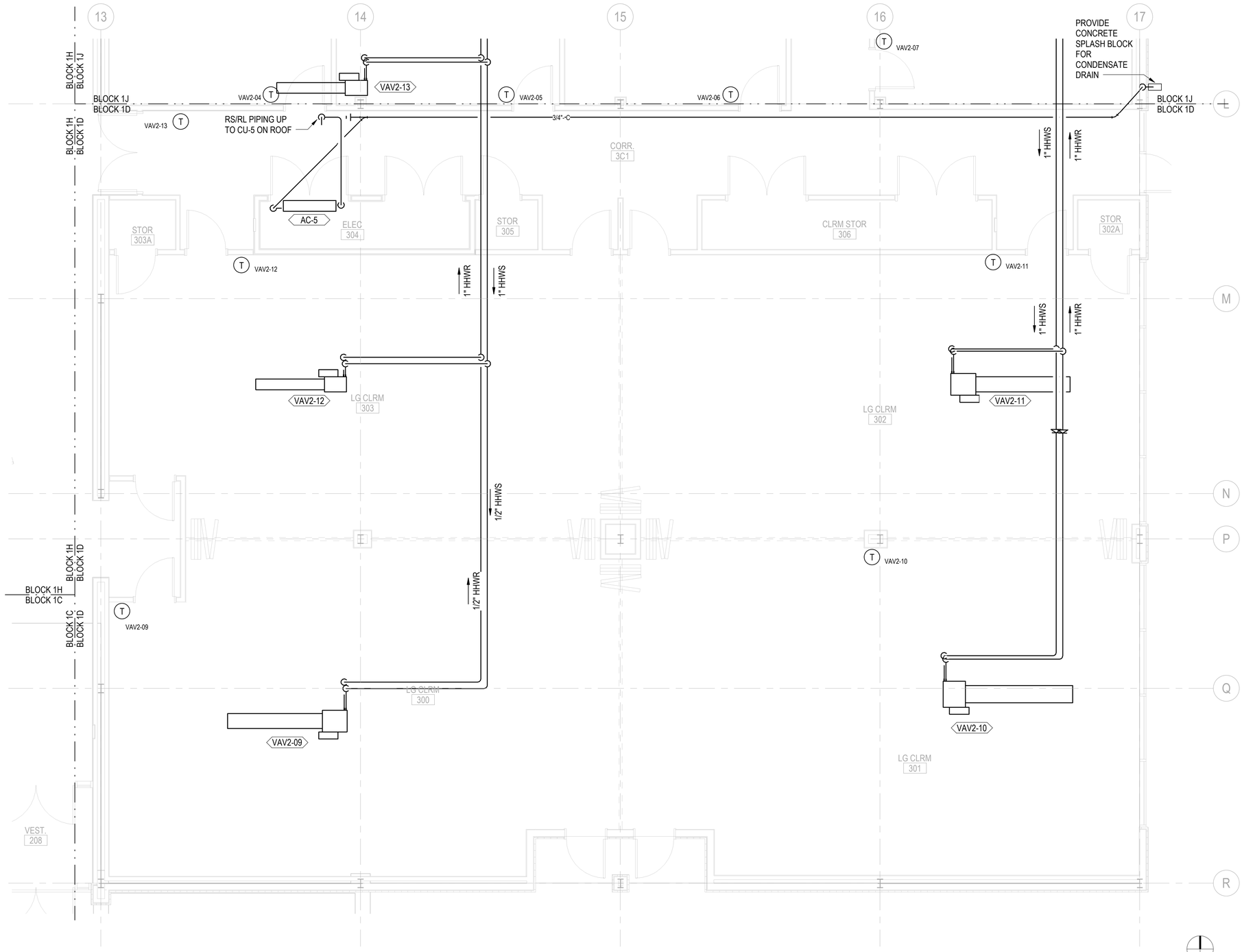
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

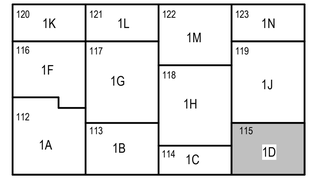
HYDRONIC PLAN - BLOCK 1B

SHEET IDENTIFICATION
MP113
SHEET 266 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1D

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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ALABAMA
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CORPS OF ENGINEERS
MOBILE, ALABAMA

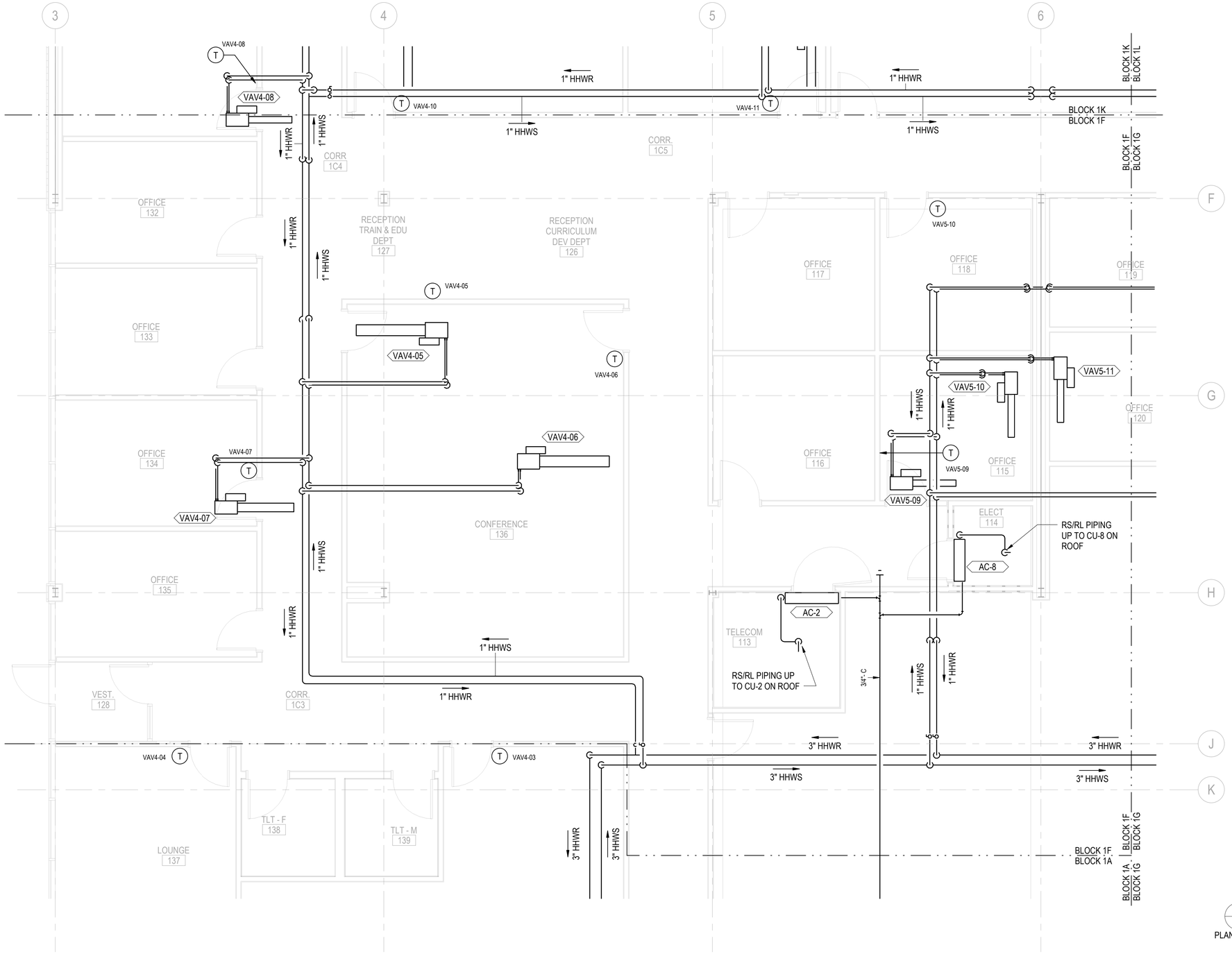
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

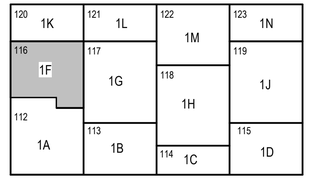
HYDRONIC PLAN - BLOCK 1D

SHEET IDENTIFICATION
MP115
SHEET 267 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1F

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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CORPS OF ENGINEERS
MOBILE, ALABAMA

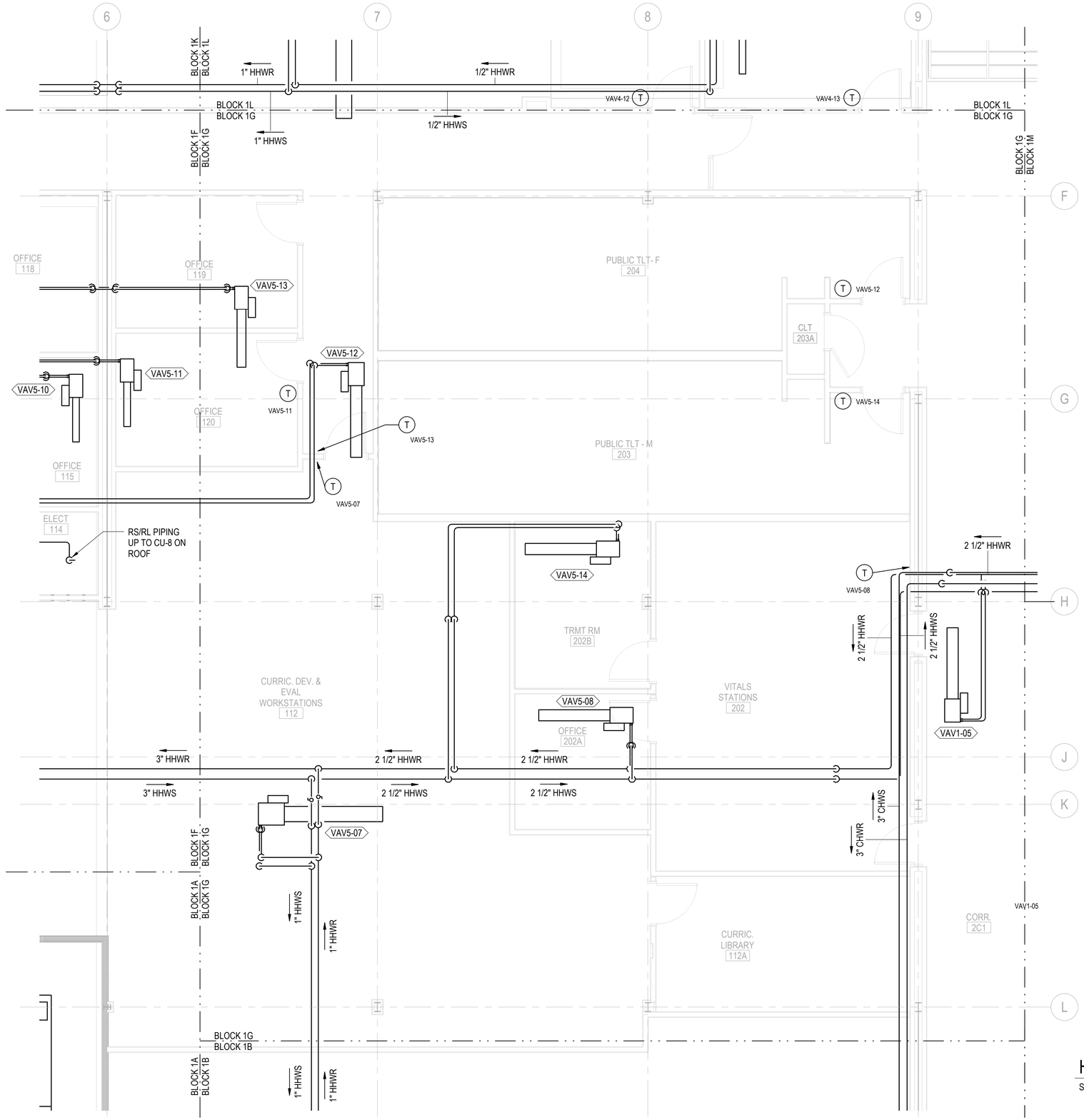
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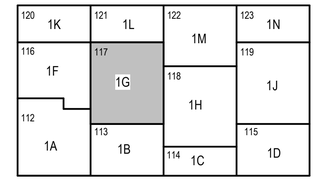
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FEMA - DHS - CDP, ANNISTON, AL

HYDRONIC PLAN - BLOCK 1F

SHEET IDENTIFICATION
MP116
SHEET 268 of 442

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FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1G

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

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Reviewed By:	Solicitation Number:

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MOBILE, ALABAMA

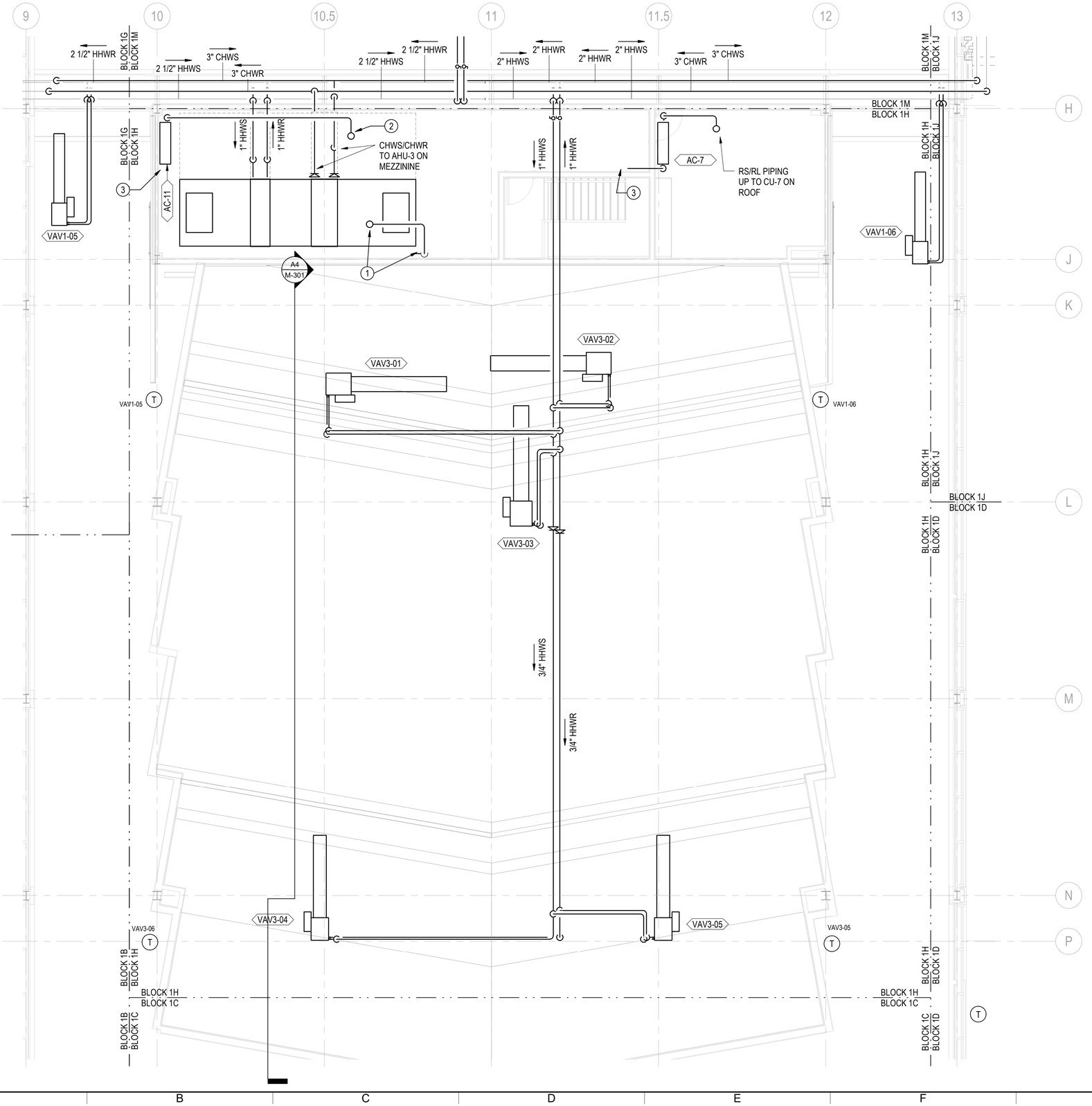
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

HYDRONIC PLAN - BLOCK 1G

SHEET IDENTIFICATION
MP117
SHEET 269 of 442

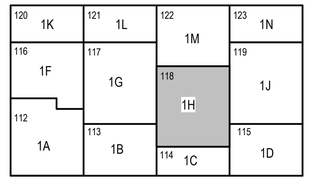
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KEYNOTES:

1. RS/RL PIPING UP TO CU-6 ON ROOF AND DOWN TO AC-6 IN ELECTRICAL ROOM 205 BELOW MEZZANINE
2. RS/RL PIPNG UP TO CU-11 ON ROOF.
3. ROUTE CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN MEZZANINE.

PLAN NORTH



FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1H

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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ARTC - B640 RENOVATION
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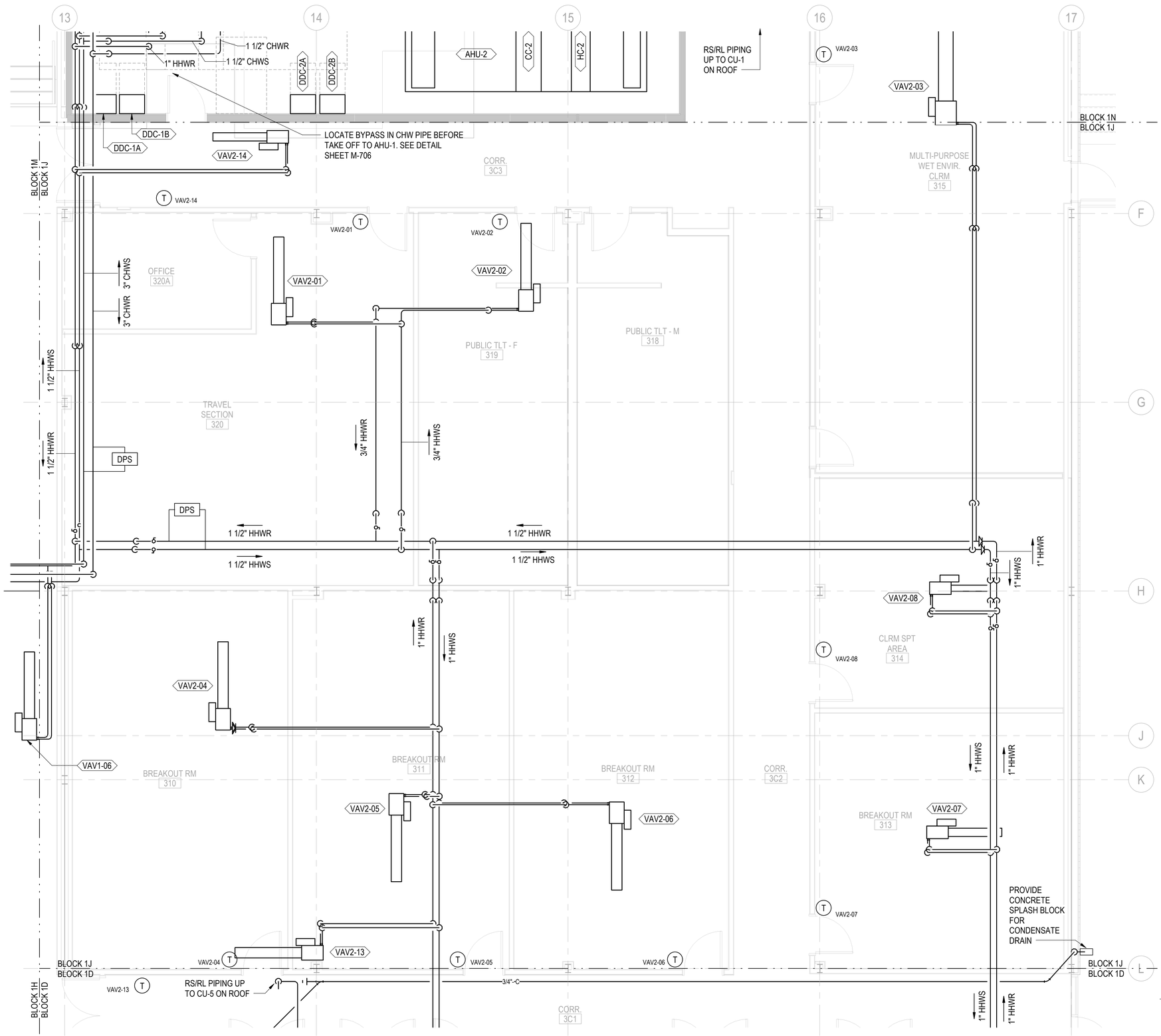
HYDRONIC PLAN - BLOCK 1H

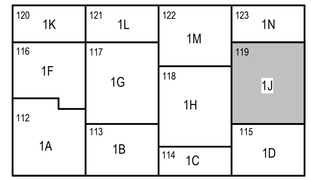
SHEET IDENTIFICATION

MP118

SHEET 270 of 442

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FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1J

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

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MOBILE, ALABAMA

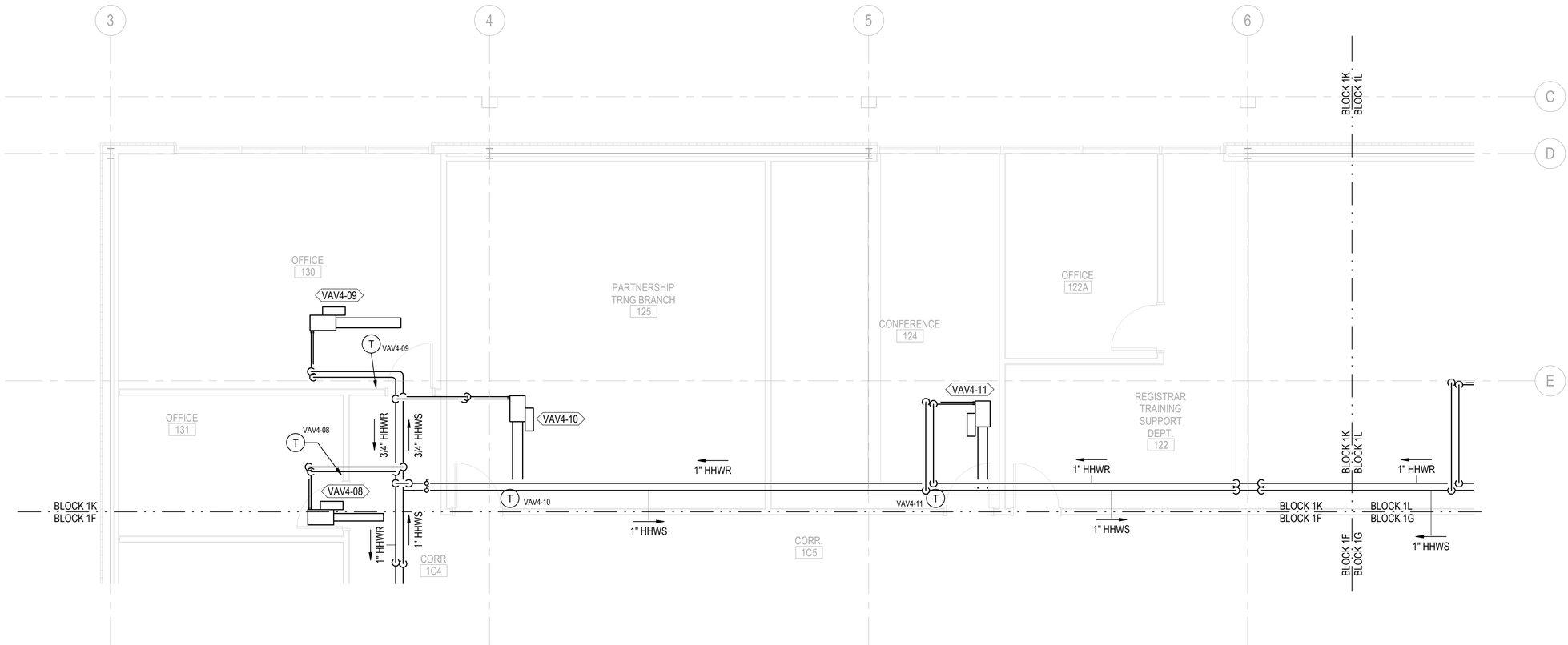
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

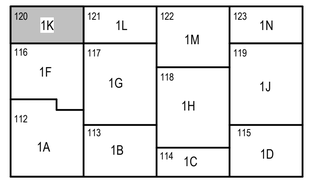
HYDRONIC PLAN - BLOCK 1J

SHEET IDENTIFICATION
MP119
SHEET 271 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1K

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

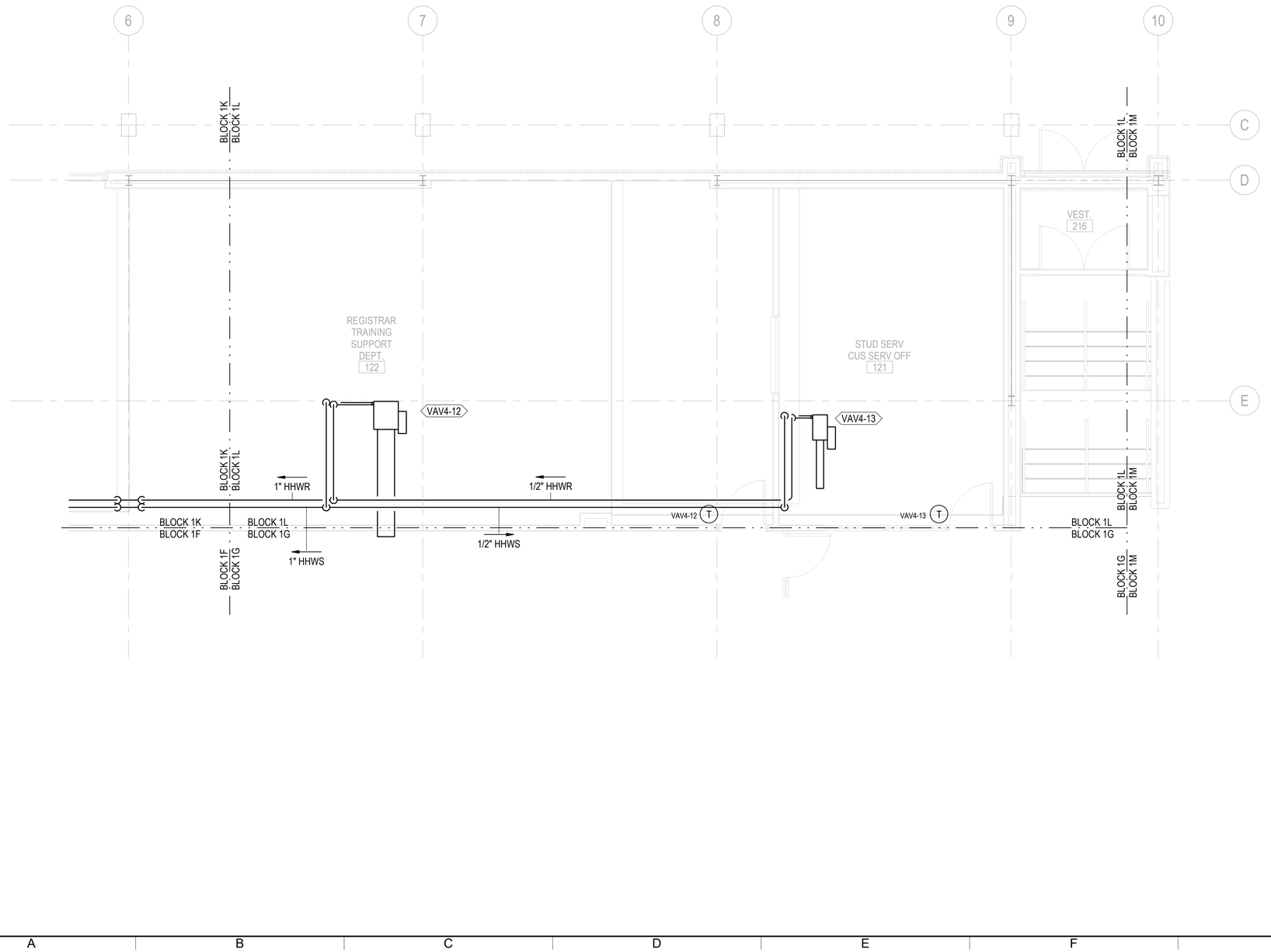
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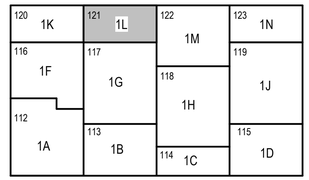
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

HYDRONIC PLAN - BLOCK 1K

SHEET IDENTIFICATION
MP120
SHEET 272 of 442

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FIRST FLOOR KEY PLAN

PLAN NORTH

HYDRONIC PLAN - BLOCK 1L

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
REGISTERED
06/29/21
NO. 27219
PROFESSIONAL
ENGINEER
MICHAEL L. HOLLAND

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: MLH
Drawn By: JMH
Checked By: CJE
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

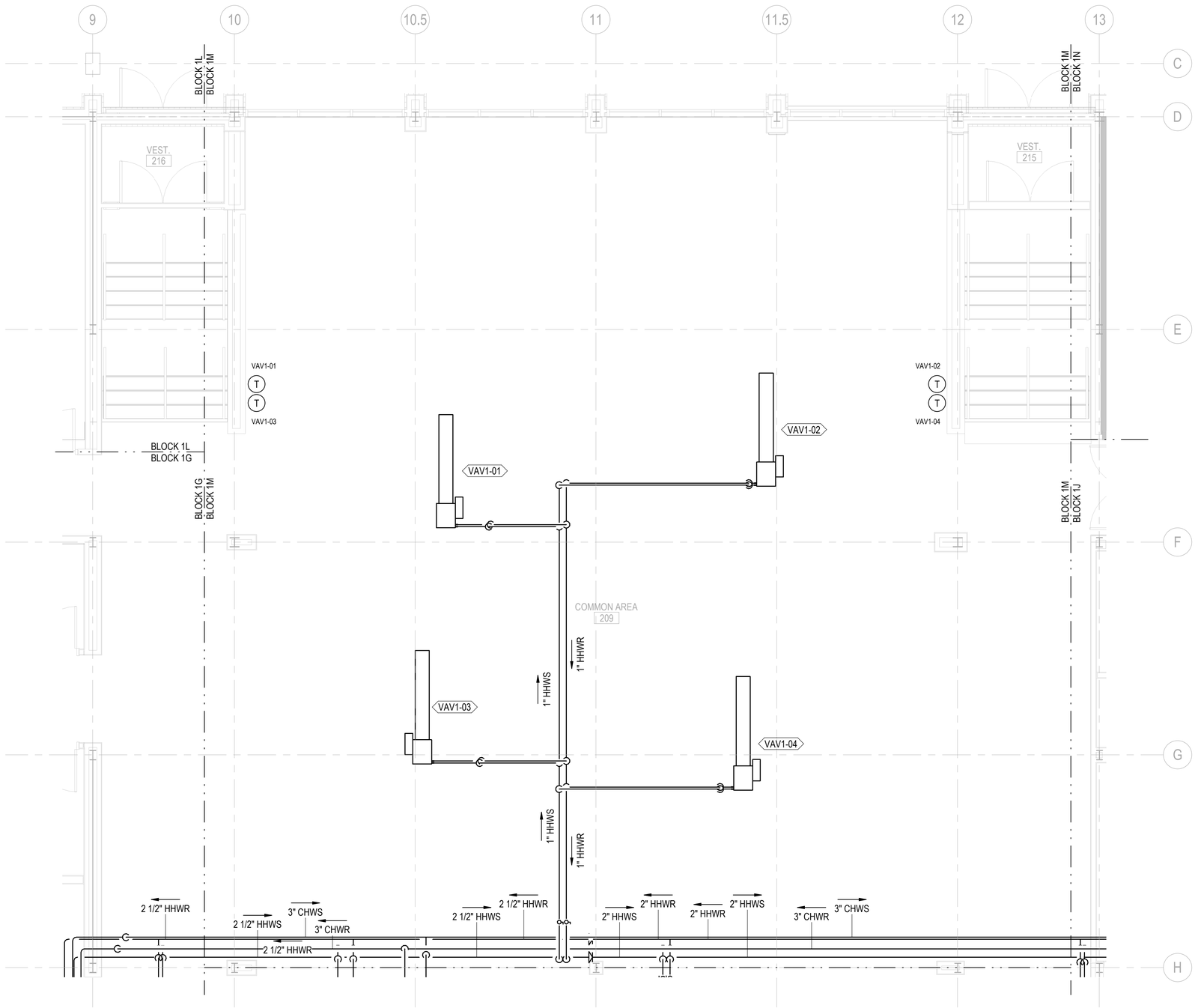
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FEMA - DHS - CDP, ANNISTON, AL

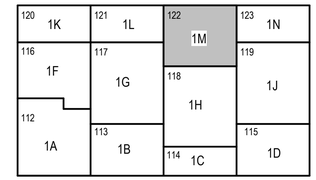
HYDRONIC PLAN - BLOCK 1L

SHEET IDENTIFICATION
MP121
SHEET 273 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

HYDRONIC PLAN - BLOCK 1M

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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ALABAMA REGISTERED NO. 27219 PROFESSIONAL ENGINEER MICHAEL L. HOLLAND 06/29/21

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Reviewed By:

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CORPS OF ENGINEERS
MOBILE, ALABAMA

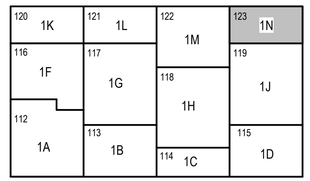
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

HYDRONIC PLAN - BLOCK 1M

SHEET IDENTIFICATION
MP122
SHEET 274 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

HYDRONIC PLAN- BLOCK 1N

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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Drawn By: MLH
Checked By: CLE
Reviewed By:

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CORPS OF ENGINEERS
MOBILE, ALABAMA

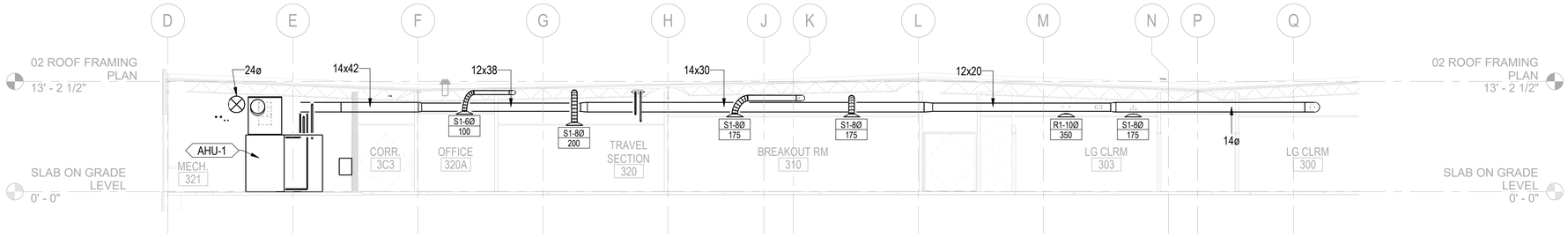
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

HYDRONIC PLAN- BLOCK 1N

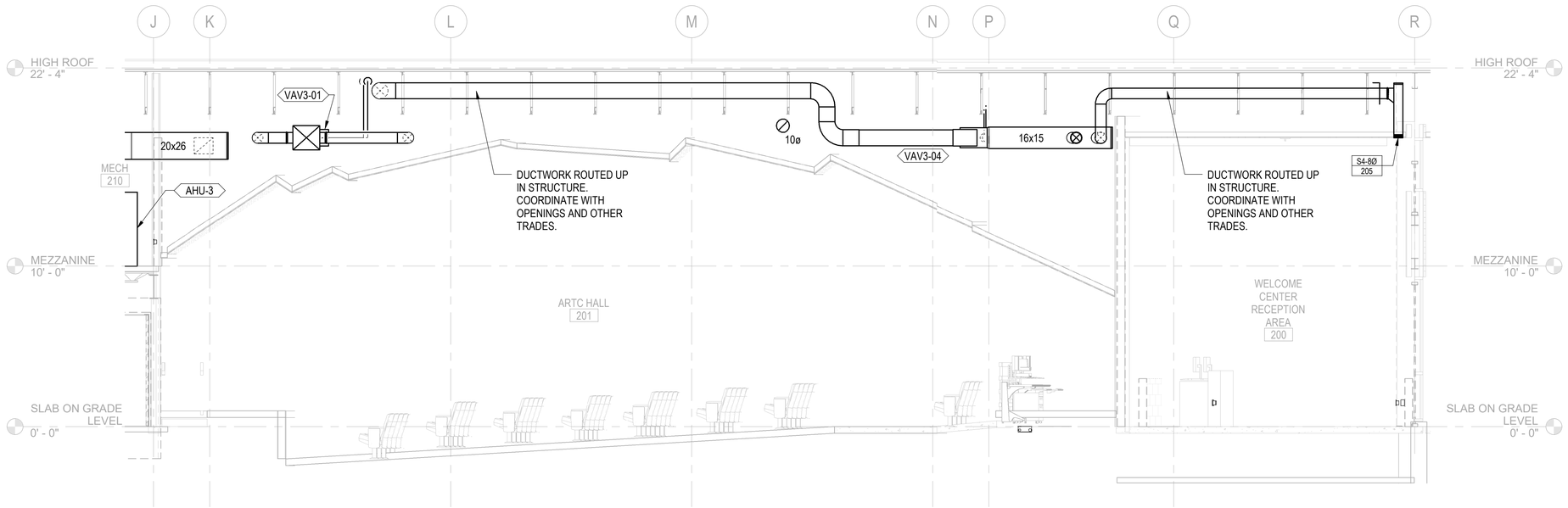
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SHEET 275 of 442

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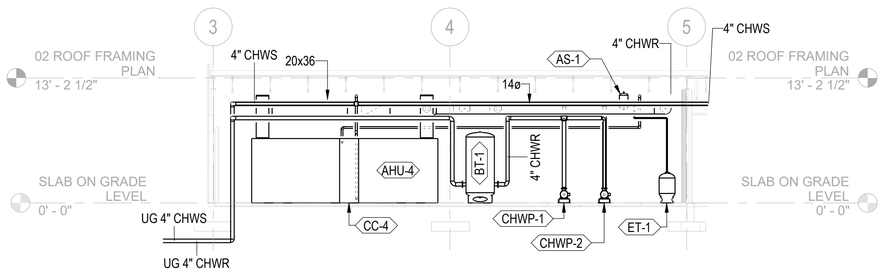
A2 N-S SECTION FACING EAST AT COLUMN LINE 13

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



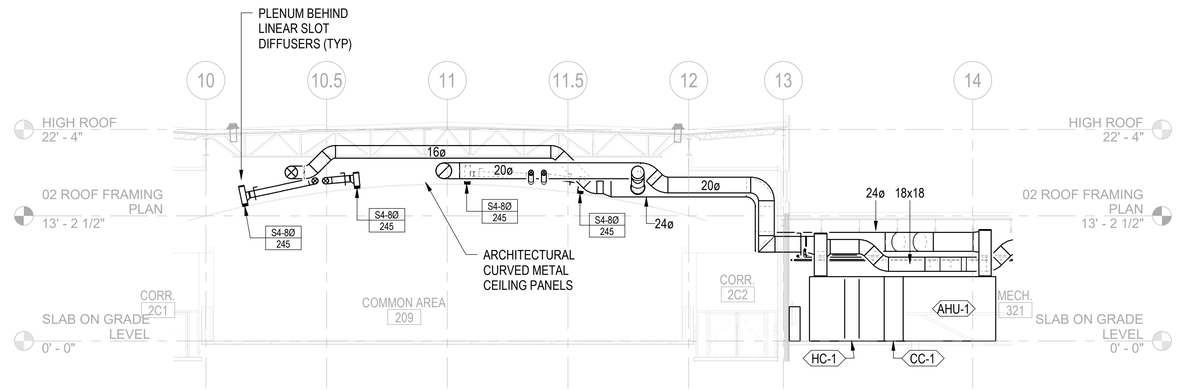
A4 N-S SECTION AT ARTIC HALL

NOT TO SCALE



A6 E-W SECTION AT AHU-4 IN MECH ROOM 100

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



E6 E-W SECTION FACING NORTH AT COLUMN LINE E

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

US Army Corps of Engineers
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Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

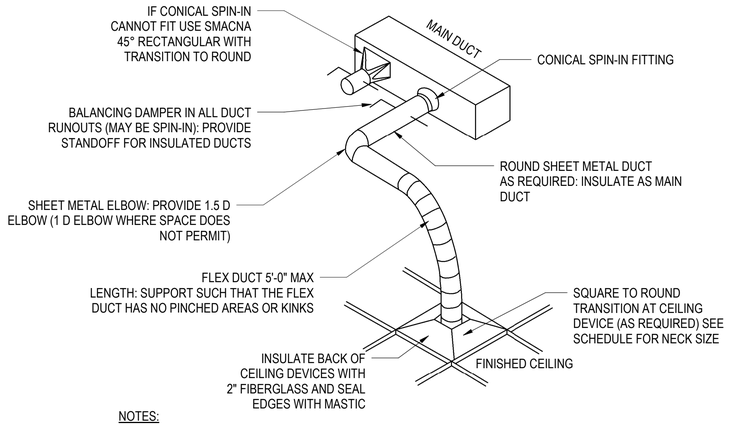
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

SECTIONS

SHEET IDENTIFICATION
M-301
SHEET 276 of 442

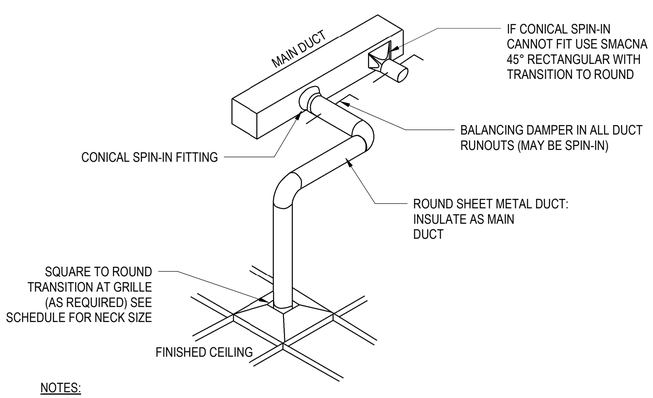
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NOTES:

1. PROVIDE ADAPTER WITH SIDE CONNECTION WHERE OBSTRUCTIONS DO NOT ALLOW CONNECTION TO TOP. IF SIDE ADAPTERS ARE NEEDED AT DIFFUSER / GRILLE, NOTIFY ENGINEER.
2. DETAIL IS FOR **CONCEALED DUCT**. WHERE EXPOSED IN FINISHED SPACES, DUCT RUNOUTS TO DIFFUSER / GRILLE SHALL BE DOUBLE WALL HARD DUCT.
3. FLEXIBLE DUCT **MUST** BE INSTALLED PER SMACNA FLEXIBLE DUCT SUPPORT DETAIL (FIG 3-9, 1995). ANY ISSUES ARISING FROM INCORRECT INSTALL AS DETERMINED BY THE ENGINEER OF RECORD OR OWNERS REPRESENTATIVE SHALL BE CORRECTED BY THE CONTRACTOR AT NO COST, SUCH ISSUES INCLUDE BUT ARE NOT LIMITED TO NOISE GENERATION, REDUCED AIRFLOW, ETC DUE TO KINKED RUNOUTS.

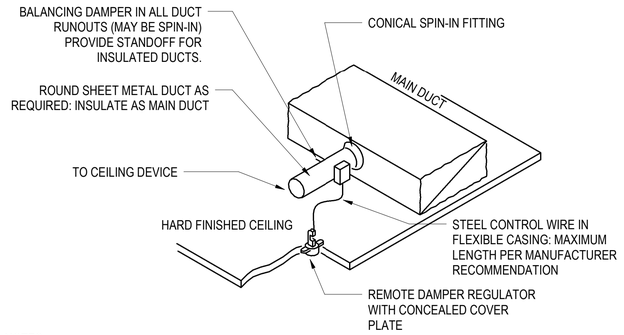
A3 SUPPLY / RETURN DUCT RUNOUT TO CEILING DEVICES DETAIL
NOT TO SCALE



NOTES:

1. PROVIDE ADAPTER WITH SIDE CONNECTION WHERE OBSTRUCTIONS DO NOT ALLOW CONNECTION TO TOP. IF SIDE ADAPTERS ARE NEEDED AT GRILLE NOTIFY ENGINEER.
2. DETAIL IS FOR **CONCEALED DUCT.** WHERE EXPOSED IN FINISHED SPACES, DUCT RUNOUTS TO GRILLE SHALL BE DOUBLE WALL HARD DUCT.

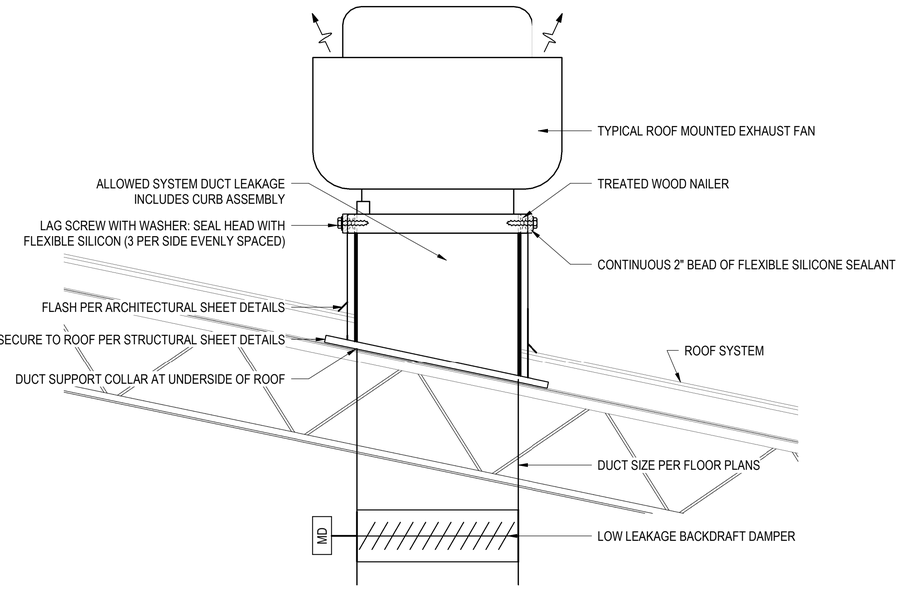
A6 DUCT RUNOUT TO EXHAUST GRILLES DETAIL
NOT TO SCALE



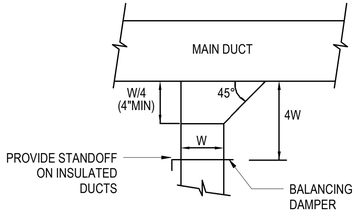
NOTES:

1. DETAIL IS INTENDED FOR HARD CEILING APPLICATION; HOWEVER, A REMOTE DAMPER REGULATOR MAY BE PROVIDED WHERE THERE IS LIMITED ACCESS TO A MANUAL VOLUME DAMPER. ANY SUCH APPLICATION SHALL BE SPECIFICALLY INDICATED IN THE SUBMITTALS AND/OR SHOP DRAWINGS.
2. MOUNT REGULATOR FLUSH WITH CEILING AND PROVIDE TRIM ESCUTCHEON.
3. COORDINATE LOCATION WITH REFLECTIVE CEILING PLAN.

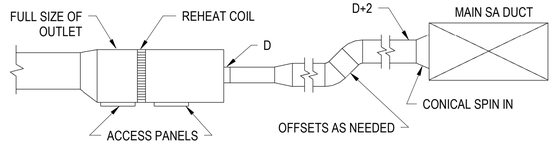
D3 DUCT REMOTE DAMPER REGULATOR DETAIL
NOT TO SCALE



D6 TYPICAL EXHAUST FAN DETAIL
NOT TO SCALE



F4 BRANCH DUCT TAKEOFF DETAIL
NOT TO SCALE



EXTERNALLY INSULATED ROUND DUCT RUNOUT 2" LARGER THAN NECK UNLESS OTHERWISE NOTED. MINIMUM STRAIGHT LENGTH TO BOX SHALL BE 6 DUCT DIAMETERS OR MANUFACTURER'S RECOMMENDATION, WHICHEVER IS LARGER.

G3 VAV BOX CONNECTION DETAIL
NOT TO SCALE

US Army Corps of Engineers
Mobile District

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ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL MECHANICAL ENGINEER MICHAEL L. HOLLAND

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MOBILE, ALABAMA

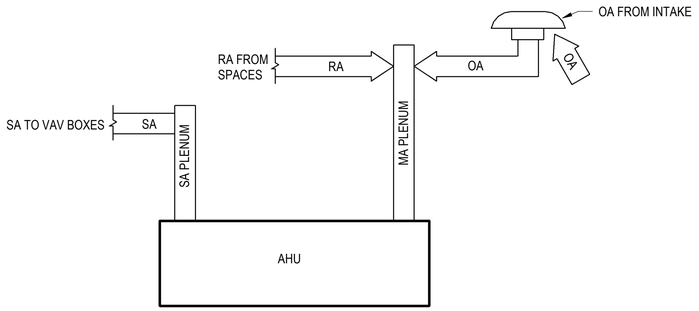
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

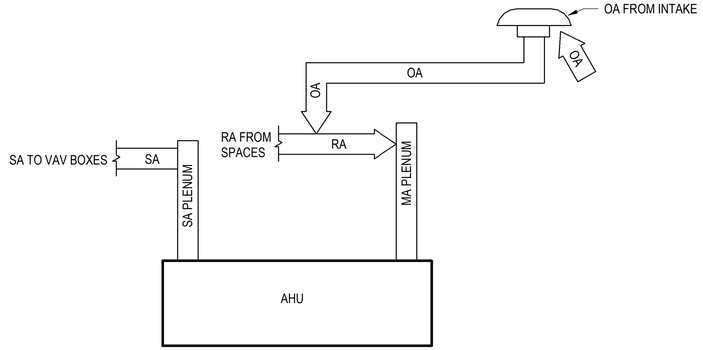
DETAILS

SHEET IDENTIFICATION
M-701
SHEET 277 of 442

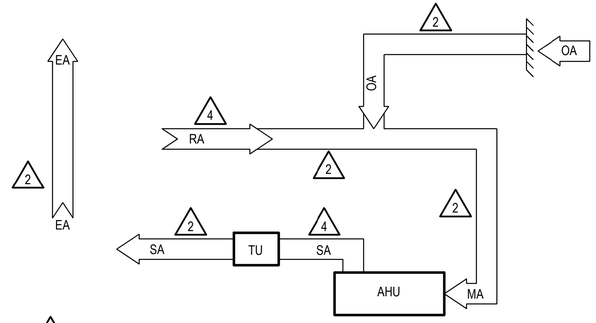
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A2 FLOW DIAGRAM - AIRSIDE (TYP AHU-1, 2 & 5)
NOT TO SCALE



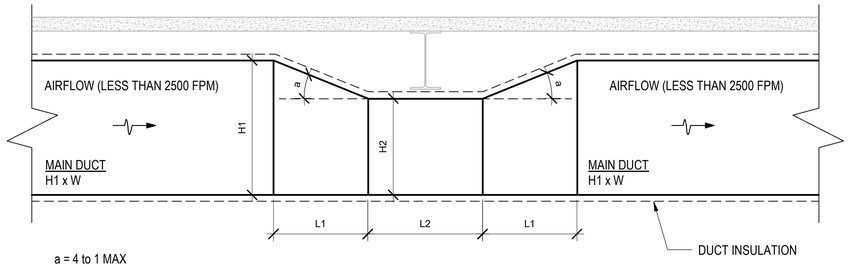
D2 FLOW DIAGRAM - AIRSIDE (TYP AHU 3 & 4)
NOT TO SCALE



X DUCT PRESSURE CLASS

NOTE: ALL DUCT SHALL BE SEAL CLASS A TO INCLUDE ALL TRANSVERSE & LONGITUDINAL SEAMS

G2 DUCT PRESSURE & SEAL CLASSES DETAIL
NOT TO SCALE



a = 4 to 1 MAX

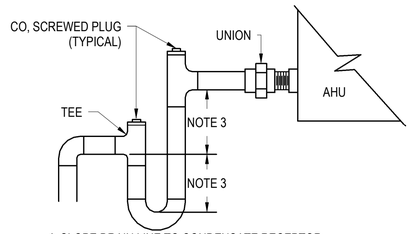
H2 = H1 x 0.8 (MAX REDUCTION)

L1 = 4 (H1-H2)

L2 = 24" MAXIMUM
= 12" MINIMUM

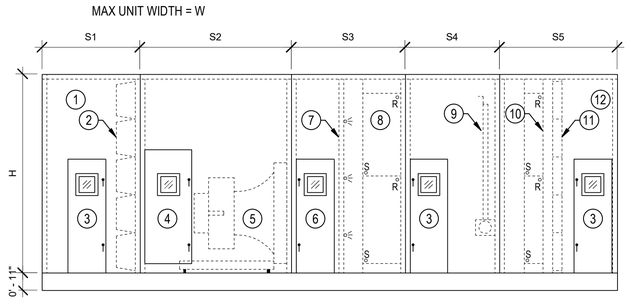
NOTES:
1. DO NOT REDUCE DUCT FREE AREA BY MORE THAN 20%
2. IF AIRFLOW EXCEEDS 2500 FPM, [a = 7 to 1]
3. COMPRESSION OF INSULATION IS ALLOWED AT OBSTRUCTION

A4 DUCT EASEMENT DETAIL
NOT TO SCALE



1. SLOPE DRAIN LINE TO CONDENSATE RECEPTOR (MIN. 1/8" PER FOOT)
2. DRAIN LINE SHALL BE INSULATED & FULL SIZE OF DRAIN CONNECTION.
3. SEE AHU SCHEDULE ON SHEET M-XXX

G4 CONDENSATE P-TRAP DETAIL
NOT TO SCALE



NOTES:
1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
2. DEMOUNTED SECTIONS ARE SHOWN WITH MAX ALLOWABLE WEIGHT
3. PROVIDE MARINE LIGHTS AT EACH AIR HANDLER SECTION

1. SUPPLY AIR PLENUM (PROVIDE PERFORATED INNER LINER WITH MYLAR COATED FIBERGLASS INSULATION)
2. MERV 14 FINAL FILTER (FRONT LOADING)
3. 24"x72" ACCESS DOOR WITH VIEW PANEL
4. 30"x72" ACCESS DOOR WITH VIEW PANEL
5. SUPPLY AIR PLENUM FAN
6. 24"x72" ACCESS DOOR WITH VIEW PANEL (PROVIDE VIEW PANEL WITH UV COATING)
7. UV LIGHT ARRAY
8. STACKED CHILLED WATER COOLING COIL
9. HUMDIFIER ARRAY
10. STACKED HOT WATER HEATING COIL
11. MERV 8 PREFILTER (FRONT LOADING)
12. RETURN / MIXED AIR PLENUM

A6 AHU SECTION DETAIL
NOT TO SCALE

AHU COMPONENT DIMENSION SCHEDULE

AHU	S1	S1	S3	S4	S5	H	W	Comments
AHU-1	35.5	65	47	41	47.5	67.5	55	
AHU-2	35.5	59	47	41	47.5	73.5	73	
AHU-3	29.5	59	47	39	41.5	41.5	61	CHILLED WATER AND HOT WATER COILS ARE NOT STACKED. SINGLE HEIGHT COILS
AHU-4	35.5	65	47	41	35.5	67.5	55	NO HOT WATER HEATING COIL
AHU-5	35.5	71	47	41	35.5	67.5	55	NO HOT WATER HEATING COIL

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MOBILE, ALABAMA

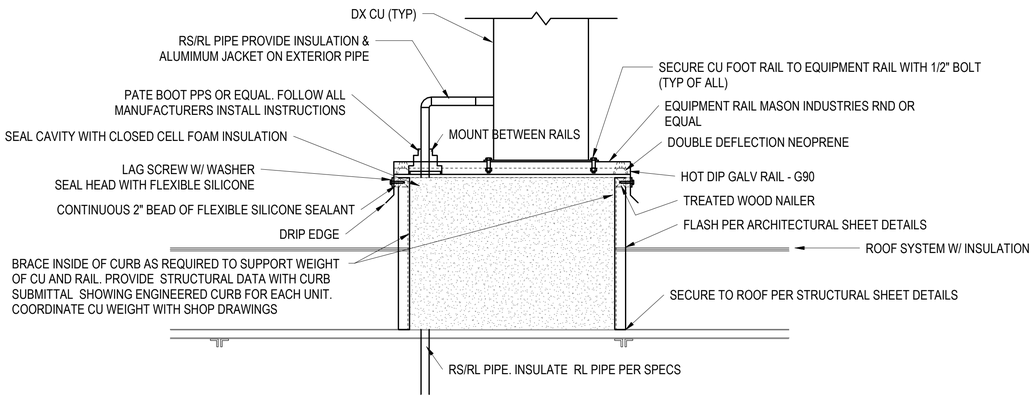
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DETAILS

SHEET IDENTIFICATION
M-702
SHEET 278 of 442

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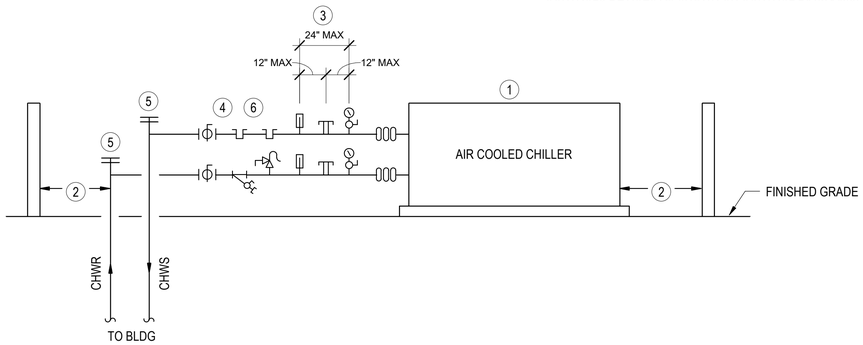


A3 MINI SPLIT CONDENSING UNIT ROOF CURB DETAIL

NOT TO SCALE

DETAIL NOTES:

1. AIR COOLED CHILLER LOCATED AS SHOWN ON SITE PLANS AND MECHANICAL YARD SHEETS. MOUNT CHILLER ON CONCRETE PAD. CONCRETE PAD SHAL EXTEND A MIN 4" LARGER THAN CHILLER ON ALL SIDES.
2. INSTALL PIPING APPURTENANCES AS SHOWN (ABOVE GROUND) INSIDE CHILLER YARD ENCLOSURE. CONTRACTOR MUST COORDINATE ACTUAL PROVIDED UNIT SERVICE CLEARANCE REQUIREMENTS WITH YARD ENCLOSURE AND PROVIDE PROOF, VIA PIPING SHOP DRAWINGS, THAT ALL ITEMS ARE PROVIDED WITH PROPER SERVICE AND/OR CODE REQUIRED CLEARANCE. SEE CIVIL SHEETS FOR CHILLER YARD ENCLOSURE DETAILS.
3. INSTALL THERMOMETERS, PRESSURE GAGES, AND P&T PORTS AS CLOSE TO CHILLER EVAPORATOR AS POSSIBLE. P&T PORT MUST BE LOCATED WITHIN 12" OF THERMOMETER AND P-GAGE.
4. PIPING SHALL BE SUPPORTED WITH PEDESTAL STYLE, GROUND MOUNTED, SUPPORTS. PROVIDE SUPPORT AT 8' MAX SPACING FOR ALL STRAIGHT SECTIONS AND A SUPPORT AT ALL 90° CHANGES IN DIRECTION.
5. PROVIDE FLANGED TEE CONNECTION AS SHOWN FOR SYSTEM FLUSHING (BYPASS OF CHILLER HEAT EXCHANGER) AND TEMPORARY CHILLER CONNECTION.
6. SENSOR WELLS ARE SHOWN FOR CHILLER FLOW SWITCH AND SUPPLY WATER TEMPERATURE SENSOR. PIPE FITTER SHALL COORDINATE WITH CONTROLS CONTRACTOR THE EXACT NUMBER AND LOCATION OF WELLS NEEDED TO INSTALL ALL CONTROLS DEVICES AS SHOWN ON CONTROL DIAGRAMS.



A6 AIR-COOLED CHILLER TO BUILDING

NOT TO SCALE

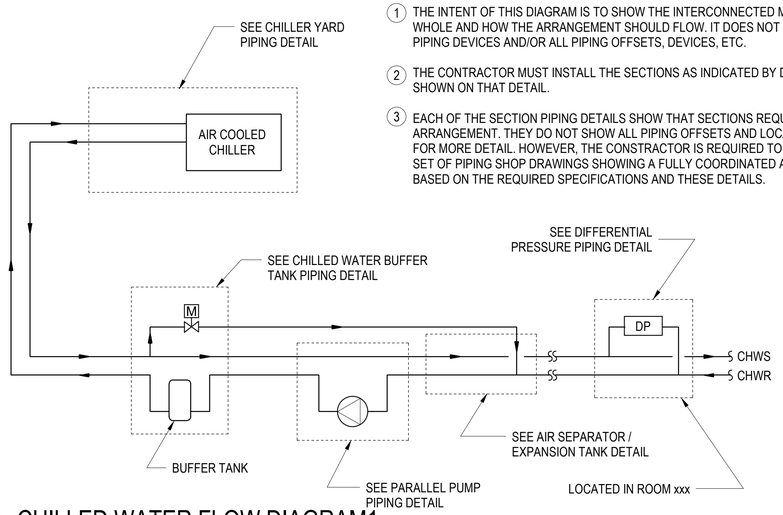


DIAGRAM NOTES:

1. THE INTENT OF THIS DIAGRAM IS TO SHOW THE INTERCONNECTED MAJOR PIECES AS A WHOLE AND HOW THE ARRANGEMENT SHOULD FLOW. IT DOES NOT SHOW THE REQUIRED PIPING DEVICES AND/OR ALL PIPING OFFSETS, DEVICES, ETC.
2. THE CONTRACTOR MUST INSTALL THE SECTIONS AS INDICATED BY DASHED OUTLINE AS SHOWN ON THAT DETAIL.
3. EACH OF THE SECTION PIPING DETAILS SHOW THAT SECTIONS REQUIRED DEVICES AND ARRANGEMENT. THEY DO NOT SHOW ALL PIPING OFFSETS AND LOCATION, SEE FLOOR PLANS FOR MORE DETAIL. HOWEVER, THE CONSTRACTOR IS REQUIRED TO DEVELOP A COMPLETED SET OF PIPING SHOP DRAWINGS SHOWING A FULLY COORDINATED AND FUNCTIONAL SYSTEM BASED ON THE REQUIRED SPECIFICATIONS AND THESE DETAILS.

E3 CHILLED WATER FLOW DIAGRAM1

NOT TO SCALE

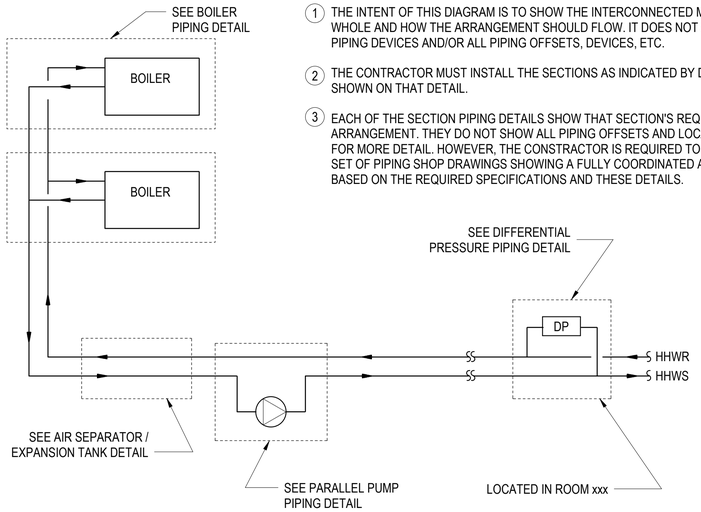


DIAGRAM NOTES:

1. THE INTENT OF THIS DIAGRAM IS TO SHOW THE INTERCONNECTED MAJOR PIECES AS A WHOLE AND HOW THE ARRANGEMENT SHOULD FLOW. IT DOES NOT SHOW THE REQUIRED PIPING DEVICES AND/OR ALL PIPING OFFSETS, DEVICES, ETC.
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E6 HEATING HOT WATER FLOW DIAGRAM1

NOT TO SCALE

US Army Corps of Engineers
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Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

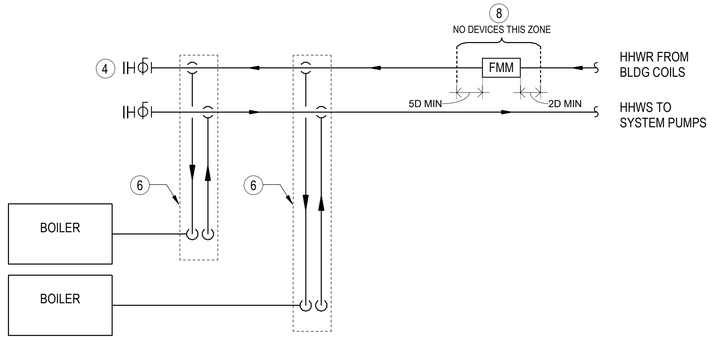
DETAILS

SHEET IDENTIFICATION
M-703
SHEET 279 of 442

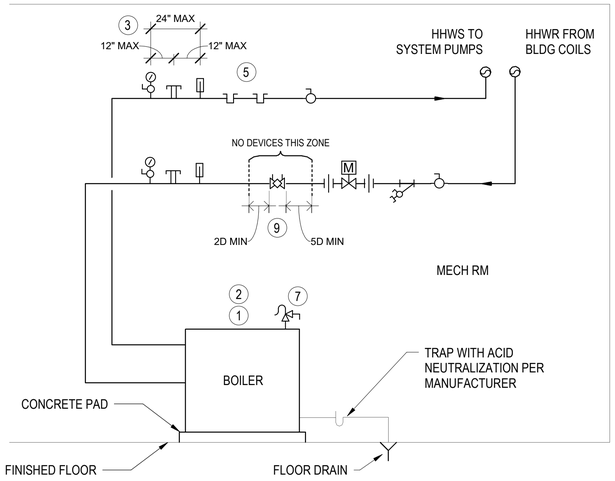
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DETAIL NOTES:

1. HIGH MASS CONDENSING BOILER (2). MOUNT ON CONCRETE PAD. CONCRETE PAD SHALL EXTEND A MIN 4" LARGER ON ALL SIDES.
2. INSTALL PIPING APPURTENANCES AS SHOWN. CONTRACTOR MUST COORDINATE ACTUAL PROVIDED UNIT SERVICE CLEARANCE REQUIREMENTS WITH MECH RM AND PROVIDE PROOF, VIA PIPING SHOP DRAWINGS, THAT ALL ITEMS ARE PROVIDED WITH PROPER SERVICE AND / OR CODE REQUIRED CLEARANCE.
3. INSTALL THERMOMETERS, PRESSURE GAGES, AND P&T PORTS AS CLOSE TO BOILER AS POSSIBLE. P&T PORT MUST BE LOCATED WITHIN 12" OF THERMOMETER AND P-GAGE.
4. PROVIDE FLANGED TEE CONNECTION AS SHOWN FOR SYSTEM FLUSHING (BYPASS OF HEAT EXCHANGER). ONLY ONE REQUIRED REGARDLESS OF NUMBER OF BOILERS.
5. SENSOR WELLS ARE SHOWN FOR BOILER FLOW SWITCH AND SUPPLY WATER TEMPERATURE SENSOR. PIPE FITTER SHALL COORDINATE WITH CONTROLS CONTRACTOR THE EXACT NUMBER AND LOCATION OF WELLS NEEDED TO INSTALL ALL CONTROLS DEVICES AS SHOWN ON CONTROL DIAGRAMS.
6. ALL DEVICES INDICATED MUST BE INSTALLED IN THIS SECTION OF PIPING FOR EACH BOILER.
7. 1" ASME RELIEF VALVE SET TO 100 PSIG.
8. ONICON F-3200 OR EQUAL (ACCURACY EQUALS LESS THAN OR EQUAL +/- 0.2% OF READING, RESOLUTION EQUALS 0.00 GPM).
9. PROVIDE CALIBRATED BALANCE VALVE. MOUNT PRESSURE/FLOW CHART ON LAMINATED SHEET AND CHAINED TO VALVE.

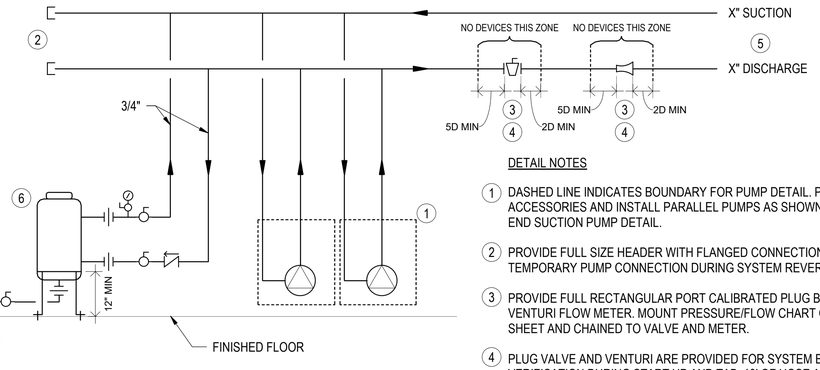


BOILER PIPING PLAN DETAIL



D4 BOILER PIPING DETAIL

NOT TO SCALE

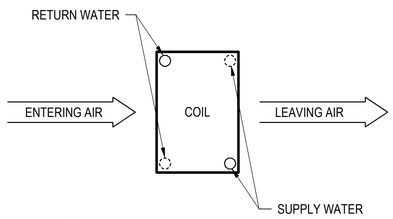


DETAIL NOTES

1. DASHED LINE INDICATES BOUNDARY FOR PUMP DETAIL. PROVIDE HYDRONIC ACCESSORIES AND INSTALL PARALLEL PUMPS AS SHOWN ON BASE MOUNTED END SUCTION PUMP DETAIL.
2. PROVIDE FULL SIZE HEADER WITH FLANGED CONNECTIONS TO ALLOW FOR TEMPORARY PUMP CONNECTION DURING SYSTEM REVERSE FLUSHING.
3. PROVIDE FULL RECTANGULAR PORT CALIBRATED PLUG BALANCE VALVE AND VENTURI FLOW METER. MOUNT PRESSURE/FLOW CHART ON LAMINATED SHEET AND CHAINED TO VALVE AND METER.
4. PLUG VALVE AND VENTURI ARE PROVIDED FOR SYSTEM BALANCE AND VERIFICATION DURING START UP AND TAB. 10' OF HOSE AND MASTER METER KIT SHALL BE PROVIDED FOR EACH VENTURI. MOUNT PORTABLE KIT ON WALL NEXT TO VENTURI.
5. LOCATION OF PUMP VARIES BY SYSTEM. ON HHW SYSTEMS, PUMP SHALL BE AFTER BOILER. ON CHW SYSTEMS, PUMP SHALL PUMP THRU CHILLER. SEE SYSTEM DIAGRAM FOR LOCATION.
6. ASME 5 GALLON CHEMICAL FEED TANK. PROVIDE WITH 12" HIGH FLOOR MOUNTED STAND AND SCREWED TAP. ANCHOR LEGS TO FLOOR. MOUNT TANK AGAINST WALL AS CLOSE TO PUMPS AS POSSIBLE WITHOUT SACRIFICING ACCESS. SHOW UNIT ON PIPING SHOP DRAWINGS. ALL VALVES//DEVICES ASSOCIATED WITH TANK SHALL BE LOCATED AS CLOSE TO TANK AS POSSIBLE.
7. FLOOR DRAIN WITH 3" AIR GAP FUNNEL.

A5 PARALLEL PUMP DETAIL

NOT TO SCALE

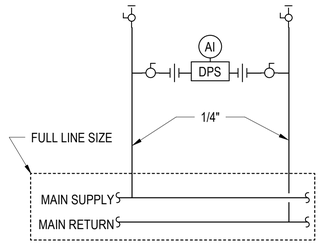


NOTES:

1. PIPE ALL COILS IN A COUNTER FLOW ARRENGEMENT.
2. THIS APPLIES TO COOLING AND HEATING COILS.
3. RETURN/SUPPLY LOCATION MAY VARY BASED ON MANUFACTURER AS INDICATED BY DASHED. THIS DOES NOT AFFECT THE REQUIREMENT TO PIPE IN A COUNTERFLOW PATTERN.

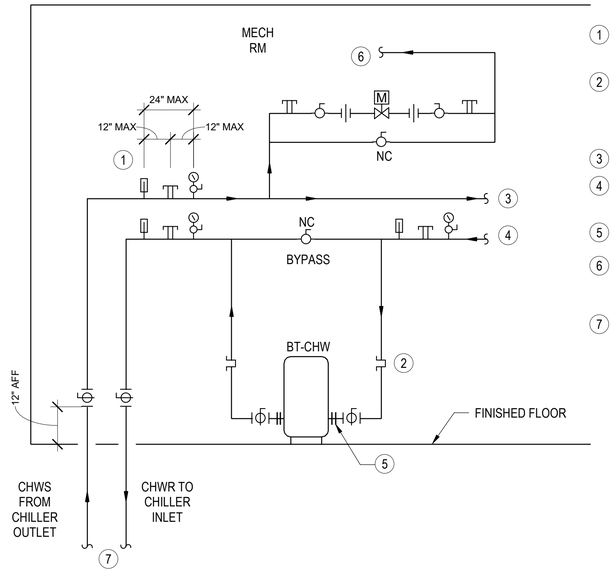
A6 FLOW DIAGRAM - AIRSIDE (TYP AHU)

NOT TO SCALE



C6 DIFFERENTIAL PRESSURE PIPING DIAGRAM

NOT TO SCALE



DETAIL NOTES:

1. P&T PORT MUST BE LOCATED WITHIN 12" OF THERMOMETER AND P-GAGE.
2. SENSOR WELLS ARE SHOWN FOR TEMPERATURE SENSORS. PIPE FITTER SHALL COORDINATE WITH CONTROLS CONTRACTOR THE EXACT NUMBER AND LOCATION OF WELLS NEEDED TO INSTALL ALL CONTROLS DEVICES AS SHOWN ON CONTROL DIAGRAMS.
3. MAIN CHWS TO BLDG COILS. SEE FLOOR PLAN FOR SIZE.
4. MAIN CHWR FROM SYSTEM PUMP DISCHARGE. SEE PARALLEL PUMP DETAIL. SEE FLOOR PLAN FOR SIZE.
5. FLANGED CONNECTION FOR BUFFER TANK.
6. MINIMUM CHILLER FLOW BYPASS AND CONTROL VALVE SECTION. CONNECT PIPING TO MAIN CHWR PIPE AS SHOWN ON AIR SEPARATOR DETAIL.
7. UNDERGROUND PIPING TO CHILLER YARD.

E6 CHILLED WATER BUFFER TANK

NOT TO SCALE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL ENGINEER MICHAEL L. HOLLAND

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: MLH
Drawn By: JALH
Checked By: CJE
Reviewed By:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

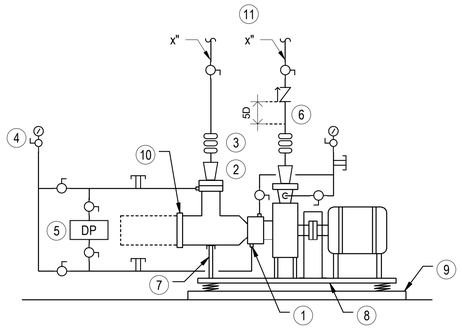
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DETAILS

SHEET IDENTIFICATION
M-704
SHEET 280 of 442

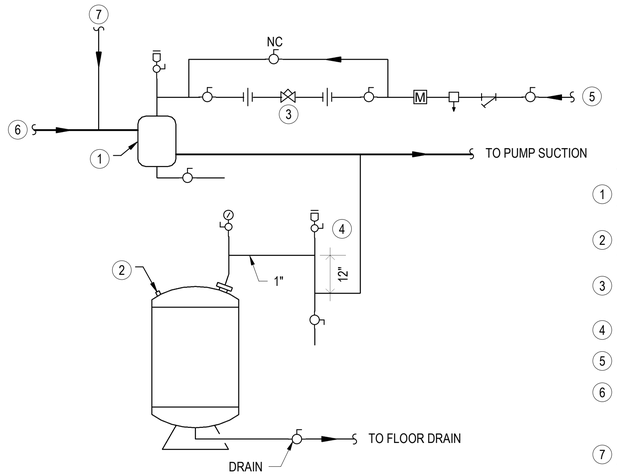
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A3 BASE MOUNTED PUMP DETAIL
NOT TO SCALE

BASE MOUNTED END SUCTION PUMP DETAIL NOTES:

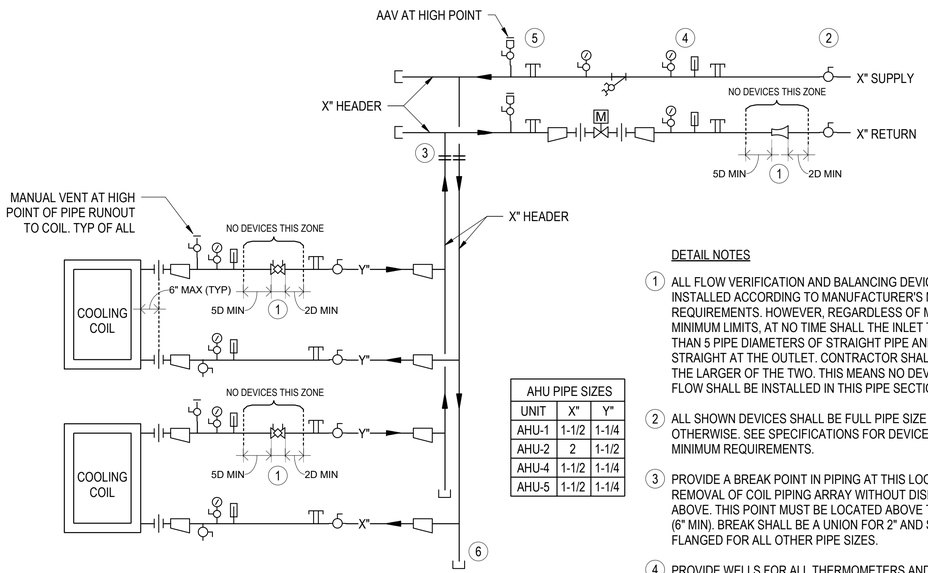
1. PROVIDE ALL PUMPS AND SUCTION DIFFUSERS WITH FACTORY TAPPED PRESSURE PORTS FOR P-GAUGE INSTALLATION.
2. INSTALL CONCENTRIC REDUCERS AT ALL VERTICAL PIPING CONNECTIONS TO PUMP/DIFFUSER TO MATCH FLANGE SIZE. PIPING SIZE SHALL BE FULL SIZE AS SHOWN ON PIPING PLANS.
3. PROVIDE FLEXIBLE PIPING CONNECTION. EACH FLEXIBLE CONNECTION SHALL BE PROVIDED WITH CONTROL RODS. (MASON INDUSTRIES #SFDEJ OR EQUAL)
4. ALL PRESSURE GAGE PIPING SHALL BE 1/4" COPPER TUBING (TYPE L). FITTINGS SHALL BE COMPRESSION STYLE. PROVIDE TEE AS NEEDED TO INSTALL P/T PORTS WHERE SHOWN. PROVIDE SNUBBERS FOR ALL P-GAUGES.
5. DP SWITCH SHALL BE WIRED INTO BUILDING AUTOMATION SYSTEM. SEE CONTROL DIAGRAMS.
6. NON-SLAM SWING CHECK VALVE. CHECK VALVE SHALL BE INSTALLED 5 PIPE DIAMETERS FROM PUMP DISCHARGE.
7. PIPE SUPPORT FOR SUCTION DIFFUSER ANCHORED TO INERTIA BASE.
8. INERTIA BASE (MASON INDUSTRIES # BMK OR EQUAL). SIZE BASE TO ACCOMMODATE PUMP AND SUCTION DIFFUSER.
9. 4" CONCRETE HOUSEKEEPING PAD. SIZE PAD 4" LARGER THAN INERTIA BASE (ALL SIDES).
10. SUCTION DIFFUSER AND STRAINER WITH FLANGED END AND SERVICE CLEARANCE. ALL PIPE AND DEVICES SHALL BE INSTALLED TO NOT INTERFERE WITH STRAINER REMOVAL.
11. TYPICAL PIPE ARRANGEMENT FOR PUMP INSTALL IS IN PARALLEL. SEE PARALLEL PUMP PIPING DETAIL FOR CONTINUATION.



E3 AIR SEPARATOR / EXPANSION TANK DETAIL
NOT TO SCALE

DETAIL NOTES:

1. IN LINE ASME AIR SEPARATOR. PROVIDE HIGH CAPACITY AUTOMATIC AIR VENT AND BOTTOM DRAIN BOTH PIPED TO NEAREST FLOOR DRAIN.
2. ASME BLADDER STYLE EXPANSION TANK (VERTICAL). PROVIDE AIR CHARGE CONNECTION.
3. PRV SET TO 25 PSIG. SELECT PRE-CHARGE ON EXPANSION TANK TO MATCH FILL PRESSURE SETPOINT.
4. PROVIDE ANTI-THERMOSYPHON LOOP AND AUTOMATIC AIR VENT.
5. 3/4" DOMESTIC POTABLE WATER MAKE-UP WATER CONNECTION.
6. FOR CHILLED WATER SYSTEMS THIS IS THE MAIN RETURN FROM BLDG. FOR HEATING HOT WATER SYSTEMS THIS IS THE MAIN SUPPLY FROM THE BOILERS. SEE PIPING FLOOR PLANS FOR MAIN PIPE SIZE.
7. MINIMUM CHILLER FLOW BYPASS CONNECTION LOCATION. SEE CHILLED WATER BUFFER TANK DETAIL. OMIT FOR HEATING HOT WATER SYSTEM.



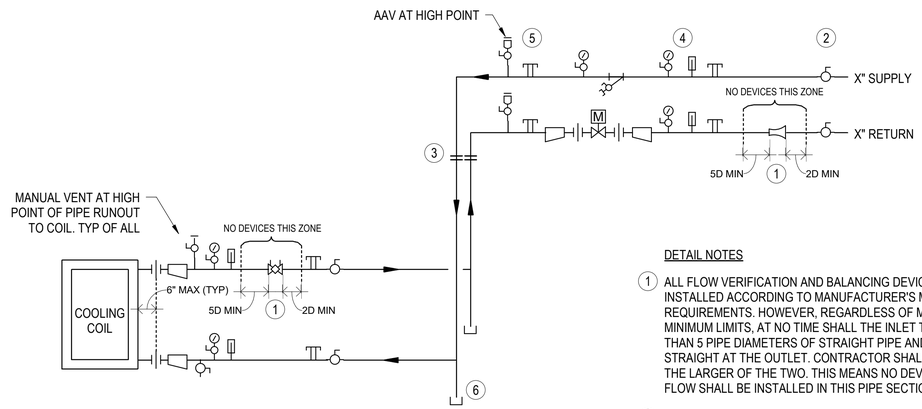
AHU PIPE SIZES		
UNIT	X"	Y"
AHU-1	1-1/2	1-1/4
AHU-2	2	1-1/2
AHU-4	1-1/2	1-1/4
AHU-5	1-1/2	1-1/4

NOTE: COIL PIPED TO FAIL OPEN TO COIL

DETAIL NOTES

1. ALL FLOW VERIFICATION AND BALANCING DEVICES MUST BE INSTALLED ACCORDING TO MANUFACTURER'S MINIMUM STRAIGHT REQUIREMENTS. HOWEVER, REGARDLESS OF MANUFACTURER MINIMUM LIMITS, AT NO TIME SHALL THE INLET TO A DEVICE BE LESS THAN 5 PIPE DIAMETERS OF STRAIGHT PIPE AND 2 PIPE DIAMETERS OF STRAIGHT AT THE OUTLET. CONTRACTOR SHALL ALWAYS PROVIDE THE LARGER OF THE TWO. THIS MEANS NO DEVICE THAT DISRUPTS FLOW SHALL BE INSTALLED IN THIS PIPE SECTION.
2. ALL SHOWN DEVICES SHALL BE FULL PIPE SIZE UNLESS STATED OTHERWISE. SEE SPECIFICATIONS FOR DEVICE SPECIFICS AND MINIMUM REQUIREMENTS.
3. PROVIDE A BREAK POINT IN PIPING AT THIS LOCATION TO ALLOW REMOVAL OF COIL PIPING ARRAY WITHOUT DISRUPTION TO PIPING ABOVE. THIS POINT MUST BE LOCATED ABOVE TOP OF HIGHEST COIL (6" MIN). BREAK SHALL BE A UNION FOR 2" AND SMALLER PIPE AND FLANGED FOR ALL OTHER PIPE SIZES.
4. PROVIDE WELLS FOR ALL THERMOMETERS AND NUMBERS FOR ALL PRESSURE GAGES.
5. TEST PORTS SHALL BE PROVIDED NEAR ALL THERMOMETERS, PRESSURE GAGES, AND ACROSS FLOW CONTROL DEVICES. EACH TEST PORT SHALL HAVE CHAINED CAP AND NEOPRENE CORE.
6. PROVIDE SUFFICIENT DIRT LEG AT EACH PIPE DROP END TO ALLOW COIL BYPASS DURING SYSTEM FLUSHING. AFTER FLUSH PROVIDE FULL SIZE PIPE CAP (< 2" THREADED, > 2" FLANGED)

A6 STACKED TWO WAY AHU COOLING COIL PIPING DIAGRAM
NOT TO SCALE



NOTE: COIL PIPED TO FAIL OPEN TO COIL

AHU PIPE SIZES	
UNIT	X"
AHU-3	1-1/2

DETAIL NOTES

1. ALL FLOW VERIFICATION AND BALANCING DEVICES MUST BE INSTALLED ACCORDING TO MANUFACTURER'S MINIMUM STRAIGHT REQUIREMENTS. HOWEVER, REGARDLESS OF MANUFACTURER MINIMUM LIMITS, AT NO TIME SHALL THE INLET TO A DEVICE BE LESS THAN 5 PIPE DIAMETERS OF STRAIGHT PIPE AND 2 PIPE DIAMETERS OF STRAIGHT AT THE OUTLET. CONTRACTOR SHALL ALWAYS PROVIDE THE LARGER OF THE TWO. THIS MEANS NO DEVICE THAT DISRUPTS FLOW SHALL BE INSTALLED IN THIS PIPE SECTION.
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6. PROVIDE SUFFICIENT DIRT LEG AT EACH PIPE DROP END TO ALLOW COIL BYPASS DURING SYSTEM FLUSHING. AFTER FLUSH PROVIDE FULL SIZE PIPE CAP (< 2" THREADED, > 2" FLANGED)

E6 TWO WAY AHU COOLING COIL PIPING DIAGRAM
NOT TO SCALE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL MECHANICAL ENGINEER MICHAEL L. HOLLAND

Designed By: MLH	Date: 06-29-2021		
Drawn By: MLH	File No.	I.S.O. Sheet File Name:	
Checked By: CLE		Solicitation Number:	
Reviewed By:			

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

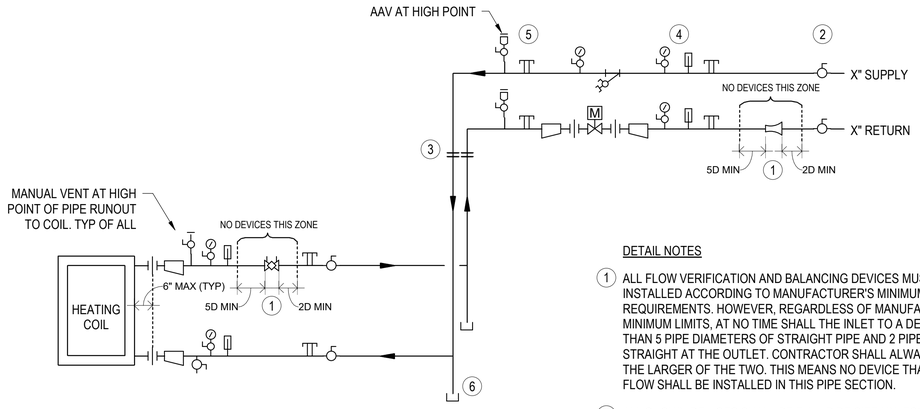
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DETAILS

SHEET IDENTIFICATION
M-705
SHEET 281 of 442

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NOTE: COIL PIPED TO FAIL CLOSED

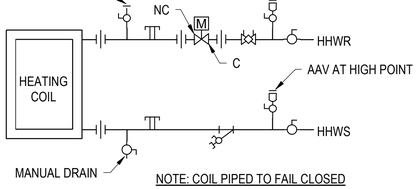
AHU PIPE SIZES	
UNIT	X"
AHU-3	1

DETAIL NOTES

1. ALL FLOW VERIFICATION AND BALANCING DEVICES MUST BE INSTALLED ACCORDING TO MANUFACTURER'S MINIMUM STRAIGHT REQUIREMENTS. HOWEVER, REGARDLESS OF MANUFACTURER MINIMUM LIMITS, AT NO TIME SHALL THE INLET TO A DEVICE BE LESS THAN 5 PIPE DIAMETERS OF STRAIGHT PIPE AND 2 PIPE DIAMETERS OF STRAIGHT AT THE OUTLET. CONTRACTOR SHALL ALWAYS PROVIDE THE LARGER OF THE TWO. THIS MEANS NO DEVICE THAT DISRUPTS FLOW SHALL BE INSTALLED IN THIS PIPE SECTION.
2. ALL SHOWN DEVICES SHALL BE FULL PIPE SIZE UNLESS STATED OTHERWISE. SEE SPECIFICATIONS FOR DEVICE SPECIFICS AND MINIMUM REQUIREMENTS.
3. PROVIDE A BREAK POINT IN PIPING AT THIS LOCATION TO ALLOW REMOVAL OF COIL PIPING ARRAY WITHOUT DISRUPTION TO PIPING ABOVE. THIS POINT MUST BE LOCATED ABOVE TOP OF HIGHEST COIL (6" MIN). BREAK SHALL BE A UNION FOR 2" AND SMALLER PIPE AND FLANGED FOR ALL OTHER PIPE SIZES.
4. PROVIDE WELLS FOR ALL THERMOMETERS AND NUMBERS FOR ALL PRESSURE GAGES.
5. TEST PORTS SHALL BE PROVIDED NEAR ALL THERMOMETERS, PRESSURE GAGES, AND ACROSS FLOW CONTROL DEVICES. EACH TEST PORT SHALL HAVE CHAINED CAP AND NEOPRENE CORE.
6. PROVIDE SUFFICIENT DIRT LEG AT EACH PIPE DROP END TO ALLOW COIL BYPASS DURING SYSTEM FLUSHING. AFTER FLUSH PROVIDE FULL SIZE PIPE CAP (< 2" THREADED, > 2" FLANGED)

A3 TWO WAY AHU HEATING COIL PIPING DIAGRAM

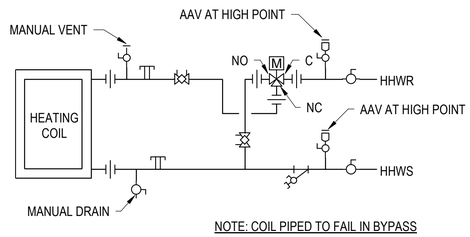
NOT TO SCALE



NOTE: COIL PIPED TO FAIL CLOSED

A5 TWO WAY TERMINAL UNIT REHEAT COIL PIPING DETAIL

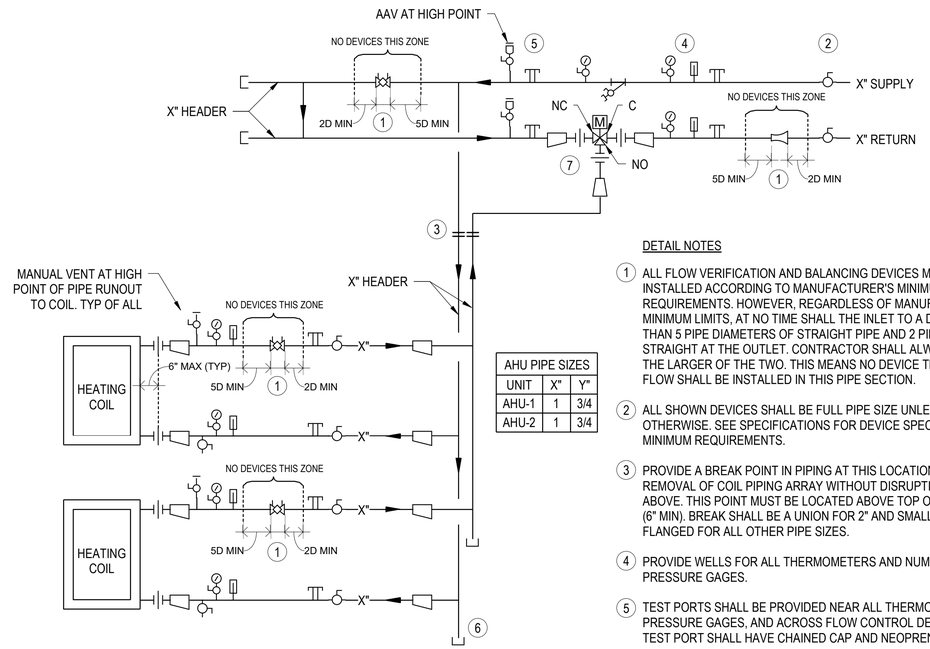
NOT TO SCALE



NOTE: COIL PIPED TO FAIL IN BYPASS

A6 THREE WAY TERMINAL UNIT REHEAT COIL PIPING DETAIL

NOT TO SCALE



NOTE: COIL PIPED TO FAIL IN BYPASS

AHU PIPE SIZES		
UNIT	X"	Y"
AHU-1	1	3/4
AHU-2	1	3/4

DETAIL NOTES

1. ALL FLOW VERIFICATION AND BALANCING DEVICES MUST BE INSTALLED ACCORDING TO MANUFACTURER'S MINIMUM STRAIGHT REQUIREMENTS. HOWEVER, REGARDLESS OF MANUFACTURER MINIMUM LIMITS, AT NO TIME SHALL THE INLET TO A DEVICE BE LESS THAN 5 PIPE DIAMETERS OF STRAIGHT PIPE AND 2 PIPE DIAMETERS OF STRAIGHT AT THE OUTLET. CONTRACTOR SHALL ALWAYS PROVIDE THE LARGER OF THE TWO. THIS MEANS NO DEVICE THAT DISRUPTS FLOW SHALL BE INSTALLED IN THIS PIPE SECTION.
2. ALL SHOWN DEVICES SHALL BE FULL PIPE SIZE UNLESS STATED OTHERWISE. SEE SPECIFICATIONS FOR DEVICE SPECIFICS AND MINIMUM REQUIREMENTS.
3. PROVIDE A BREAK POINT IN PIPING AT THIS LOCATION TO ALLOW REMOVAL OF COIL PIPING ARRAY WITHOUT DISRUPTION TO PIPING ABOVE. THIS POINT MUST BE LOCATED ABOVE TOP OF HIGHEST COIL (6" MIN). BREAK SHALL BE A UNION FOR 2" AND SMALLER PIPE AND FLANGED FOR ALL OTHER PIPE SIZES.
4. PROVIDE WELLS FOR ALL THERMOMETERS AND NUMBERS FOR ALL PRESSURE GAGES.
5. TEST PORTS SHALL BE PROVIDED NEAR ALL THERMOMETERS, PRESSURE GAGES, AND ACROSS FLOW CONTROL DEVICES. EACH TEST PORT SHALL HAVE CHAINED CAP AND NEOPRENE CORE.
6. PROVIDE SUFFICIENT DIRT LEG AT EACH PIPE DROP END TO ALLOW COIL BYPASS DURING SYSTEM FLUSHING. AFTER FLUSH PROVIDE FULL SIZE PIPE CAP (< 2" THREADED, > 2" FLANGED)
7. CONTROL VALVE MUST BE PIPED AS SHOWN WITH NORMALLY OPEN (NO) PORT AND NORMALLY CLOSED (NC) PORT TO ALLOW COIL TO FAIL OPEN TO COIL.

E3 STACKED THREE WAY AHU HEATLING COIL PIPING DIAGRAM

NOT TO SCALE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
REGISTERED
06/29/21
NO. 27219
PROFESSIONAL
ENGINEER
MICHAEL L. HOLLAND

Designed By: MLH	Drawn By: MLH	Checked By: CLE	Reviewed By:
Date: 06-29-2021	File No.	I.S.O. Sheet File Name:	Solicitation Number:

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MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
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DETAILS

SHEET IDENTIFICATION
M-706
SHEET 282 of 442

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AIR HANDLING UNIT SCHEDULE

MARK	BASIS OF DESIGN		TYPE	LOCATION	SUPPLY FAN SECTION							MOTOR SECTION					PREFILTER SECTION			AFTER FILTER SECTION			AHU EQUIPMENT		
	MANUFACTURER	MODEL			FAN TYPE	FAN QUANTITY	DRIVE TYPE	FAN CFM	DESIGN CFM (OUTLET TOTAL)	TSP (IN. WG)	ESP (IN. WG)	BHP (EA)	HP (EA)	VOLTS	PHASE	DRIVE	TYPE	MERV RATING	DIRTY PD (IN WG)	TYPE	MERV RATING	DIRTY PD (IN. WG)	PREHEAT COIL	COOLING COIL	SMOKE DAMPERS
AHU-1	VENTROL	CUSTOM	DRAW THRU	MECH 321	FAN ARRAY	2	DIRECT	5,145	4,900	6.00	3.00	3.46	8.5	480	3	VFD	2" PANEL	8	1	4" PLEATED	13	1.2	YES	YES	NO
AHU-2	VENTROL	CUSTOM	DRAW THRU	MECH 321	FAN ARRAY	4	DIRECT	10,185	9,700	6.00	3.00	3.57	5.5	480	3	VFD	2" PANEL	8	1	4" PLEATED	13	1.2	YES	YES	NO
AHU-3	VENTROL	CUSTOM	DRAW THRU	MEZZ-MECH 206	PLUG	1	DIRECT	4,990	4,750	6.00	3.00	6.99	7.5	480	3	VFD	2" PANEL	8	1	4" PLEATED	13	1.2	YES	YES	NO
AHU-4	VENTROL	CUSTOM	DRAW THRU	MECH 100	FAN ARRAY	2	DIRECT	6,090	5,800	6.00	3.00	4.2	10.5	480	3	VFD	2" PANEL	8	1	4" PLEATED	13	1.2	NO	YES	NO
AHU-5	VENTROL	CUSTOM	DRAW THRU	MECH 100	FAN ARRAY	2	DIRECT	5,670	5,400	6.00	3.00	3.89	9	480	3	VFD	2" PANEL	8	1	4" PLEATED	13	1.2	NO	YES	NO

NOTES:
1. "MIN TSP (IN. WG)" INCLUDES DIRTY FILTER PRESSURE DROP. SUPPLY FAN SHALL BE SELECTED AT OR ABOVE TH LISTED "MIN TSP (IN. WG)"
2. SEE AHU COMPONENT DETAIL ON SHEET M-702 FOR REQUIRED AHU COMPONENTS AND LAYOUT.
3. FAN MOTORS SHALL BE PREMIUM EFFICIENCY AND BE PROVIDED WITH SHAFT GROUNDING RINGS.
4. SOUND DATA LISTED IS THE MAXIMUM ALLOWABLE SOUND POWER AT THE OUTLET OF THE UNIT.

COOLING COIL SCHEDULE

MARK	LOCATION	TYPE	COOLING CONDITIONS									PART LOAD CONDITIONS								DEHUMIDIFICATION CONDITIONS									CONTROL VALVE		
			EWT (°F)	LWT (°F)	MAX WATER PD (FT)	MAX AIR PD (IN. WG)	MAX FACE VELOCITY (FPM)	MIN COIL ROWS	MAX FPI	SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	SENSIBLE CAPACITY (BTUH)	TOTAL CAPACITY (BTUH)	CHW FLOW (GPM)	SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	SENSIBLE CAPACITY (BTUH)	TOTAL CAPACITY (BTUH)	CHW FLOW (GPM)	SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	SENSIBLE CAPACITY (BTUH)	TOTAL CAPACITY (BTUH)	CHW FLOW (GPM)	TYPE	SIZE	CV
CC-1	AHU-1	CHW	44	60	11.5	1.00	450	6	12	5,145	1,565	76.9	63.4	52.0	52.0	135,300	167,600	21.0	2,680	1,565	71.2	63.5	52.0	52.0	55,500	89,300	11.2	5145	1565	73.6	64	52	52	119600	179100	22.4	2-WAY	1	9.9
CC-2	AHU-2	CHW	44	60	11.5	1.00	450	6	12	10,185	2,625	75.9	62.7	52.0	52.0	256,800	307,200	38.4	6,460	2,625	70.8	61.9	52.0	52.0	131,500	183,000	22.9	10185	2626	73	63.1	52	52	231100	326200	40.8	2-WAY	1.5	10
CC-3	AHU-3	CHW	44	60	11.5	1.00	450	6	12	4,990	1,700	77.7	64.0	52.0	52.0	135,400	172,200	21.5	2,520	1,700	71.3	64.3	52.0	52.0	52,700	906,000	11.3	4990	1700	74	64.6	52	52	118200	184700	23.1	2-WAY	1	9.9
CC-4	AHU-4	CHW	44	60	11.5	1.00	450	6	12	6,090	1,480	75.5	62.4	52.0	52.0	151,400	179,000	22.4	4,280	1,480	70.7	61.4	52.0	52.0	114,100	86,600	14.3	6090	1480	72.8	62.8	52	52	137100	189800	23.7	2-WAY	1.5	10
CC-5	AHU-5	CHW	44	60	11.5	1.00	450	6	12	5,670	1,120	74.5	61.7	52.0	52.0	135,000	153,500	19.2	4,045	1,120	70.6	60.8	52.0	52.0	81,300	100,200	12.5	5670	1120	72.3	62	52	52	124500	161600	20.2	2-WAY	1	9.9

NOTES:
1. PROVIDE COOLING COILS THAT MEET ALL THREE LISTED CONDITIONS (COOLING, DEHUMIDIFICATION & PART LOAD) WHILE MAINTAINING AHRI 410 CONDITIONS FOR MINIMUM VELOCITY. SUBMIT COOLING, DEHUMIDIFICATION & PART LOAD PERFORMANCE DATA IN MECHANICAL EQUIPMENT SUBMITTAL.

HEATING COIL SCHEDULE

MARK	LOCATION	TYPE	DESIGN CONDITIONS										CONTROL VALVE		
			EWT (°F)	LWT (°F)	SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	EAT (°F DB)	LAT (°F DB)	FACE VELOCITY (FPM)	TOTAL CAPACITY (BTUH)	HHW FLOW (GPM)	MAX WATER PD (FT)	MAX AIR PD (IN. WG)	MIN COIL ROWS	MAX FPI	TYPE	SIZE (IN.)	CV
HC-1	AHU-1	HHW	130	100.0	2,680	1,565	35.7	52	450	49,200	3.3	12	0.10	6	12	3-WAY	1/2	1.6
HC-2	AHU-2	HHW	130	100.0	6,460	2,625	46.1	52	450	42,200	2.8	12	0.10	6	12	3-WAY	1/2	1.6
HC-3	AHU-3	HHW	130	100.0	2,520	1,700	30.4	52	450	61,700	4.1	12	0.30	6	12	2-WAY	1/2	2.5

VAV TERMINAL UNIT SCHEDULE - AHU-1

MARK	SIZE	SUPPLY AIRFLOW (CFM)	MIN CLG FLOW (CFM)	MIN HTG FLOW (CFM)	MAX AIR DP (IN WG)	HOT WATER REHEAT COIL									MANUFACTURER	MODEL	VOLTS	PHASE
						EAT (°F)	LAT (°F)	TOTAL CAPACITY (BTUH)	EWT (°F)	LWT (°F)	FLOW (GPM)	MAX WATER DP (FT)	CONTROL VALVE TYPE & SIZE	CONTROL VALVE PIPE SIZE(IN)	CONTROL VALVE CV				
VAV1-01	12	975	490	490	0.35	55	94	18,450	130	101	1.40	11.53	3 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV1-02	12	975	490	490	0.35	55	94	18,450	130	101	1.40	11.53	3 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV1-03	12	975	490	490	0.35	55	94	18,450	130	101	1.40	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV1-04	12	975	490	490	0.35	55	94	18,450	130	101	1.40	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV1-05	10	500	300	300	0.35	55	93	9,460	130	100	0.80	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV1-06	10	500	300	300	0.35	55	93	9,460	130	100	0.80	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1

NOTES:
1. WHEN SELECTING REHEAT COIL THE GPM IS THE CONTROLLING PARAMETER. DO **NOT** CHANGE GPM. THE LISTED LAT IS A MINIMUM. ALLOW THE LWT TO FLOAT AND ADJUST THE NUMBER OF COIL ROWS TO ACHIEVE THE MINIMUM LAT AT THE SCHEDULED GPM.
2. COORDINATE ACTUATOR WITH CONTROLS CONTRACTOR FOR 24V TRANSFORMER SIZING AND QUANTITY.

VAV TERMINAL UNIT SCHEDULE - AHU-2

MARK	SIZE	SUPPLY AIRFLOW (CFM)	MIN CLG FLOW (CFM)	MIN HTG FLOW (CFM)	MAX AIR DP (IN WG)	HOT WATER REHEAT COIL									MANUFAC-TURER	MODEL	VOLTS	PHASE
						EAT (°F)	LAT (°F)	TOTAL CAPACITY (BTUH)	EWT (°F)	LWT (°F)	FLOW (GPM)	MAX WATER DP (FT)	CONTROL VALVE TYPE & SIZE	CONTROL VALVE PIPE SIZE(IN)	CONTROL VALVE CV				
VAV2-01	10	500	300	300	0.35	55	93	9,460	130	101	0.90	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV2-02	10	500	500	500	0.35	55	91	9,460	130	106	1.60	11.53	3 WAY - 1/2"	1/2"	1.00	TITUS	DESV	24 V	1
VAV2-03	14	1150	1150	1150	0.35	55	90	20,820	130	103	3.20	11.53	3 WAY - 1/2"	1/2"	1.60	TITUS	DESV	24 V	1
VAV2-04	10	500	250	250	0.35	55	90	9,460	130	105	0.80	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV2-05	10	500	250	250	0.35	55	91	9,460	130	106	0.80	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV2-06	10	500	250	250	0.35	55	91	9,460	130	106	0.80	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV2-07	8	450	230	230	0.35	55	91	8,520	130	101	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV2-08	6	250	130	130	0.35	55	92	4,730	130	110	0.50	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV2-09	14	1200	600	600	0.35	55	90	22,710	130	104	1.70	11.53	3 WAY - 1/2"	1/2"	1.00	TITUS	DESV	24 V	1
VAV2-10	16	1550	780	780	0.35	55	94	29,330	130	101	2.20	11.53	3 WAY - 1/2"	1/2"	1.00	TITUS	DESV	24 V	1
VAV2-11	14	1125	600	600	0.35	55	90	21,290	130	104	1.70	11.53	2 WAY - 1/2"	1/2"	1.00	TITUS	DESV	24 V	1
VAV2-12	10	700	350	350	0.35	55	91	13,250	130	100	0.90	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV2-13	10	465	470	470	0.35	55	91	8,800	130	105	1.40	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV2-14	8	310	310	310	0.35	55	90	5,870	130	105	1.00	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1

OUTSIDE AIR INTAKE

MARK	OUTDOOR AIR (CFM)	MANUFACTURER	MODEL	DIMENSIONS (IN X IN)	MAX AIR PD
IH-1	4190	GREENHECK	FGI	36x36	0.05 in-wg
IH-3	1700	GREENHECK	FGI	24x24	0.05 in-wg
IH-4	1480	GREENHECK	FGI	20x24	0.05 in-wg
IH-5	1120	GREENHECK	FGI	20x20	0.05 in-wg

SHEET NOTES:
1. THE ELECTRICAL DESIGN SHOWN ON THE DRAWINGS SUPPORTS THE MECHANICAL BASIS OF DESIGN. IF MECHANICAL EQUIPMENT IS SUBMITTED WITH DIFFERENT ELECTRICAL REQUIREMENTS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE ALL REQUIRED ELECTRICAL CHANGES (WIRE SIZE, CONDUIT SIZE, TYPE OF DISCONNECT OR OVERLOAD PROTECTION, POINTS OF CONNECTION, ETC.) AND CLEARLY SHOW THE NEW ELECTRICAL DESIGN ON THE MECHANICAL SUBMITTAL WITH A WRITTEN STATEMENT THAT THE CHANGES WILL BE PROVIDED AT NO ADDITIONAL COST. MECHANICAL SUBMITTALS WITH NO WRITTEN REFERENCE TO THE ELECTRICAL DESIGN WILL BE PRESUMED TO WORK WITH THE ELECTRICAL DESIGN AS SHOWN ON THE CONTRACT DRAWINGS. ANY CORRECTIONS REQUIRED WILL BE AT NO ADDITIONAL COST.
2. THE STRUCTURAL DESIGN SHOWN ON THE DRAWINGS SUPPORTS THE MECHANICAL BASIS OF DESIGN. IF MECHANICAL EQUIPMENT IS SUBMITTED WITH DIFFERENT STRUCTURAL REQUIREMENTS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE ALL REQUIRED STRUCTURAL CHANGES (FRAMING LAYOUT, STRUCTURAL MEMBER SIZE, ETC.) AND CLEARLY SHOW THE NEW STRUCTURAL DESIGN ON THE MECHANICAL SUBMITTAL WITH A WRITTEN STATEMENT THAT THE CHANGES WILL BE PROVIDED AT NO ADDITIONAL COST. MECHANICAL SUBMITTALS WITH NO WRITTEN REFERENCE TO THE STRUCTURAL DESIGN WILL BE PRESUMED TO WORK WITH THE STRUCTURAL DESIGN AS SHOWN ON THE CONTRACT DRAWINGS. ANY CORRECTIONS REQUIRED WILL BE AT NO ADDITIONAL COST.

US Army Corps of Engineers
Mobile District

Revisions: Symbol | No. | Description | Date | Approved

ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL ENGINEER MICHAEL L. HOLLAND

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SCHEDULES

SHEET IDENTIFICATION
M-801
SHEET 283 of 442

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VAV TERMINAL UNIT SCHEDULE - AHU-3

MARK	SIZE	SUPPLY AIRFLOW (CFM)	MIN CLG FLOW (CFM)	MIN HTG FLOW (CFM)	MAX AIR DP (IN WG)	HOT WATER REHEAT COIL										MANUFACTURER	MODEL	VOLTS	PHASE
						EAT (°F)	LAT (°F)	TOTAL CAPACITY (BTUH)	EWT (°F)	LWT (°F)	FLOW (GPM)	MAX WATER DP (FT)	CONTROL VALVE						
													TYPE & SIZE	PIPE SIZE(IN)	CV				
VAV3-01	14	1025	520	520	0.35	55	91	19,400	130	102	1.40	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV3-02	14	1025	520	520	0.35	55	91	19,400	130	102	1.40	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV3-03	14	1050	520	520	0.35	55	91	19,870	130	102	1.40	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV3-04	12	825	430	430	0.35	55	96	15,610	130	101	1.30	11.53	3 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV3-05	12	825	430	430	0.35	55	96	15,610	130	101	1.30	11.53	3 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1

VAV TERMINAL UNIT SCHEDULE - AHU-4

MARK	SIZE	SUPPLY AIRFLOW (CFM)	MIN CLG FLOW (CFM)	MIN HTG FLOW (CFM)	MAX AIR DP (IN WG)	HOT WATER REHEAT COIL										MANUFACTURER	MODEL	VOLTS	PHASE
						EAT (°F)	LAT (°F)	TOTAL CAPACITY (BTUH)	EWT (°F)	LWT (°F)	FLOW (GPM)	MAX WATER DP (FT)	CONTROL VALVE						
													TYPE & SIZE	PIPE SIZE(IN)	CV				
VAV4-01	10	375	380	380	0.35	55	90	8,040	130	100	1.00	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV4-02	6	200	200	200	0.35	55	92	3,790	130	104	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-03	10	475	250	250	0.35	55	95	8,990	130	100	0.70	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-04	14	800	800	800	0.35	55	93	15,140	130	100	2.20	11.53	3 WAY - 1/2"	1/2"	1.00	TITUS	DESV	24 V	1
VAV4-05	10	425	430	430	0.35	55	90	7,100	130	102	1.20	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV4-06	10	550	230	230	0.35	55	90	10,410	130	104	0.70	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-07	8	300	300	300	0.35	55	90	5,680	130	104	0.90	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-08	6	200	200	200	0.35	55	92	3,790	130	104	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-09	8	375	200	200	0.35	55	94	7,100	130	102	0.60	11.53	3 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-10	8	375	200	200	0.35	55	94	7,100	130	102	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-11	8	400	200	200	0.35	55	94	7,570	130	102	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV4-12	14	1050	550	550	0.35	55	90	19,870	130	102	1.50	11.53	2 WAY - 1/2"	1/2"	0.63	TITUS	DESV	24 V	1
VAV4-13	6	275	150	150	0.35	55	91	5,200	130	111	0.60	11.53	3 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1

VAV TERMINAL UNIT SCHEDULE - AHU-5

MARK	SIZE	SUPPLY AIRFLOW (CFM)	MIN CLG FLOW (CFM)	MIN HTG FLOW (CFM)	MAX AIR DP (IN WG)	HOT WATER REHEAT COIL										MANUFACTURER	MODEL	VOLTS	PHASE
						EAT (°F)	LAT (°F)	TOTAL CAPACITY (BTUH)	EWT (°F)	LWT (°F)	FLOW (GPM)	MAX WATER DP (FT)	CONTROL VALVE						
													TYPE & SIZE	PIPE SIZE(IN)	CV				
VAV5-01	6	300	150	150	0.35	55	96	5,680	130	104	0.50	11.53	3 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-02	6	150	100	100	0.35	55	90	2,840	130	115	0.50	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-03	8	400	250	250	0.35	55	91	7,570	130	102	0.70	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-04	6	250	250	250	0.35	55	90	4,730	130	105	0.80	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-05	6	300	180	180	0.35	55	92	5,680	130	102	0.50	11.53	3 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-06	10	700	350	350	0.35	55	91	13,250	130	100	0.90	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-07	14	1150	600	600	0.35	55	90	21,760	130	104	1.80	11.53	2 WAY - 1/2"	1/2"	1.00	TITUS	DESV	24 V	1
VAV5-08	10	550	380	380	0.35	55	91	10,410	130	101	1.00	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-09	6	200	200	200	0.35	55	92	3,790	130	103	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-10	6	200	200	200	0.35	55	92	3,790	130	103	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-11	6	200	200	200	0.35	55	92	3,790	130	103	0.60	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-12	10	350	350	350	0.35	55	91	6,620	130	100	0.90	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-13	8	300	300	300	0.35	55	90	5,680	130	104	0.90	11.53	3 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1
VAV5-14	10	350	350	350	0.35	55	91	6,620	130	100	0.90	11.53	2 WAY - 1/2"	1/2"	0.40	TITUS	DESV	24 V	1

NOTES:
1. WHEN SELECTING REHEAT COIL THE GPM IS THE CONTROLLING PARAMETER. DO **NOT** CHANGE GPM. THE LISTED LAT IS A MINIMUM. ALLOW THE LWT TO FLOAT AND ADJUST THE NUMBER OF COIL ROWS TO ACHIEVE THE MINIMUM LAT AT THE SCHEDULED GPM.
2. COORDINATE ACTUATOR WITH CONTROLS CONTRACTOR FOR 24V TRANSFORMER SIZING AND QUANTITY.

AIR TERMINAL SCHEDULE

MARK	BASIS OF DESIGN		SIZE (FACE)	
	MANUFACTURER	MODEL	W	L
E1	TITUS	350	24	24
E2	TITUS	350	12	8
R1	TITUS	350	24	24
R2	TITUS	350	12	10
R3	TITUS	350	12	12
S1	TITUS	TMSA	24	24
S2	TITUS	300	10	6
S4	TITUS	FL	6	48
S5	TITUS	300	6	6

NOTES:
1. S4 BASIS OF DESIGN: TITUS FL-20, WITH TITUS PLENUM, 1-SLOT, 8" INLET, 2.0" SLOT

CONDENSING BOILER SCHEDULE

MARK	BASIS OF DESIGN		FUEL	GROSS INPUT (BTUH)	NET OUTPUT (BTUH)	VOLTS	PHASE	EWT (°F)	LWT (°F)	DESIGN HHW FLOW (GPM)	MIN HHW FLOW (GPM)	MAX WATER DP (FT)	REMARKS
	MANUFACTURER	MODEL											
B-1	AERCO	BMK	NAT. GAS	750,000	720,000	120	1	100	130	72	12	3.00	
B-2	AERCO	BMK	NAT. GAS	750,000	720,000	120	1	100	130	72	12	3.00	

NOTES:
1. PROVIDE BOILER MANAGEMENT CONTROL PANEL (WITH GATEWAY IF REQUIRED) FOR INTERFACE WITH BAS.
2. PROVIDE GAS REGULATOR AS SPECIFIED.
3. PROVIDE ACID NEUTRALIZATION CONDENSATE DRAIN.
4. PROVIDE EMERGENCY SHUTDOWN PER CONTROL DIAGRAM (SEE SHEET M-906)
5. PROVIDE SEALED COMBUSTION/INTAKE UNITS.
6. PROVIDE UL LISTED CATEGORY IV VENTING.
7. PROVIDE BOILERS WITH A MINIMUM ALLOWABLE FLOW OF LESS THAT OR EQUAL TO THE "MIN FLOW (GPM)" LISTED ABOVE.

BUFFER TANK SCHEDULE

MARK	TANK VOLUME (GAL)	MAX OPERATING PRESSURE (PSI)	SERVICE
BT-1	300.0	125	CHW

NOTES:
1. PROVIDE FLANGED PIPED CONNECTIONS.
2. PROVIDE HIGH INLET AND OUTLET CONNECTIONS

AIR SEPARATOR SCHEDULE

MARK	BASIS OF DESIGN		DESIGN WATER FLOW (GPM)	SERVICE
	MANUFACTURER	MODEL		
AS-1	TACO	AC04	129	CHW
AS-2	TACO	AC03	72	HHW

AIR COOLED CHILLER SCHEDULE

MARK	BASIS OF DESIGN		VOLTAGE	PHASE	OUTDOOR AIR TEMPERATURE	MINIMUM REQUIRED CAPACITY (TONS)	MINIMUM OPERATING LOAD (%)	MIN STAGES	EWT (°F)	LWT (°F)	DESIGN CHW FLOW (GPM)	MIN CHW FLOW (GPM)	MAX WATER DP (FT)
	MANUFACTURER	MODEL											
CH-1	MULTISTACK	ASC090	480	3	95	86	25	4	60.0	44	129	33	5.00

NOTES:
1. PROVIDE SINGLE POINT POWER CONNECTION WITH FUSED DISCONNECT SIZED PER MANUFACTURER SPECIFICATIONS.
2. PROVIDE CHILLER WITH A MIMIMUM OPERATING WATER FLOW OF LESS THAN OR EQUAL TO LISTED "MIN CHW FLOW (GPM)".
3. PROVIDE CHILLER WITH A MINIMUM OPERATING CAPACITY LESS THAN OR EQUAL TO LISTED "MINIMUM OPERATING LOAD (%)".
4. USE 0.001 FOULING FACTOR FOR SELECTION.
5. PROVIDE LOW AMBIENT OPERATION DOWN TO 21°F.
6. THE LISTED DESIGN CHW FLOW (GPM) IS THE MAXIMUM ALLOWED. IF SUBMITTED UNIT DIFFERS FROM THIS VALUE CONTRACTOR MUST SUBMIT COORDINATION PROVING THIS FLOW DEVIATION HAS BEEN FILTERED THROUGH AFFECTED DEVICES (AHU COILD, PUMPS, ETC.)

PUMP SCHEDULE

MARK	DUTY	MANUFACTURER	MODEL	TYPE	SIZE	IMPELLER DIAMETER (IN)	SPEED (RPM)	MOTOR (HP)	EFFICIENCY (%)	CAPACITY (GPM)	TOTAL HEAD (FT)	VOLTS	PHASE	DRIVE TYPE
CHWP-1	CHW	TACO	2009D	BASE MOUNTED END SUCTION	2.5X2	8.65	1760	7.5	70	129	75	480	3	VFD
CHWP-2	CHW	TACO	2009D	BASE MOUNTED END SUCTION	2.5X2	8.65	1760	7.5	70	129	75	480	3	VFD
HHWP-1	HHW	TACO	1509D	BASE MOUNTED END SUCTION	2.5X1.5	8.45	1760	5	58	72	75	480	3	VFD
HHWP-2	HHW	TACO	1509D	BASE MOUNTED END SUCTION	2.5X1.5	8.45	1760	5	58	72	75	480	3	VFD

NOTES:
1. ALL PUMP MOTORS SHALL BE PREMIUM EFFICIENDY, RATED FOR INVERTER DUTY & BE PROVIDED WITH SHAFT GROUNDING RINGS.
2. PROVIDE COMBINATION SUBTION DIFFUSER / STRAINER WITH REMOVABLE COVER. IMPELLER & STRAINER HOUSING SHALL HAVE FACTORY TAPS.
3. PROVIDE INERTIA BASE FOR ALL PUMPS.
4. IMPELLER INSULATION SHALL BE REMOVABLE.

EXPANSION TANK SCHEDULE

MARK	BASIS OF DESIGN		SYSTEM VOLUME (GAL)	MIN SYSTEM TEMPERATURE (°F)	MAX SYSTEM TEMPERATURE (°F)	MAX OPERATING PRESSURE (PSI)	FILL PRESSURE (PSI)	SERVICE
	MANUFACTURER	MODEL						
ET-1	TACO	CA-90	450.0	40	90	190.00	25.00	CHW
ET-2	TACO	CA-90	270.0	65	200	190.00	25.00	HHW

SHEET NOTES:
1. THE ELECTRICAL DESIGN SHOWN ON THE DRAWINGS SUPPORTS THE MECHANICAL BASIS OF DESIGN. IF MECHANICAL EQUIPMENT IS SUBMITTED WITH DIFFERENT ELECTRICAL REQUIREMENTS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE ALL REQUIRED ELECTRICAL CHANGES (WIRE SIZE, CONDUIT SIZE, TYPE OF DISCONNECT OR OVERLOAD PROTECTION, POINTS OF CONNECTION, ETC.) AND CLEARLY SHOW THE NEW ELECTRICAL DESIGN ON THE MECHANICAL SUBMITTAL WITH A WRITTEN STATEMENT THAT THE CHANGES WILL BE PROVIDED AT NO ADDITIONAL COST. MECHANICAL SUBMITTALS WITH NO WRITTEN REFERENCE TO THE ELECTRICAL DESIGN WILL BE PRESUMED TO WORK WITH THE ELECTRICAL DESIGN AS SHOWN ON THE CONTRACT DRAWINGS. ANY CORRECTIONS REQUIRED WILL BE AT NO ADDITIONAL COST.
2. THE STRUCTURAL DESIGN SHOWN ON THE DRAWINGS SUPPORTS THE MECHANICAL BASIS OF DESIGN. IF MECHANICAL EQUIPMENT IS SUBMITTED WITH DIFFERENT STRUCTURAL REQUIREMENTS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE ALL REQUIRED STRUCTURAL CHANGES (FRAMING LAYOUT, STRUCTURAL MEMBER SIZE, ETC.) AND CLEARLY SHOW THE NEW STRUCTURAL DESIGN ON THE MECHANICAL SUBMITTAL WITH A WRITTEN STATEMENT THAT THE CHANGES WILL BE PROVIDED AT NO ADDITIONAL COST. MECHANICAL SUBMITTALS WITH NO WRITTEN REFERENCE TO THE STRUCTURAL DESIGN WILL BE PRESUMED TO WORK WITH THE STRUCTURAL DESIGN AS SHOWN ON THE CONTRACT DRAWINGS. ANY CORRECTIONS REQUIRED WILL BE AT NO ADDITIONAL COST.

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Revisions

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ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL ENGINEER MICHAEL L. HOLLAND

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Drawn By:	JMLH
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Reviewed By:	
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M-802
SHEET 284 of 442

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EXHAUST FAN SCHEDULE

MARK	BASIS OF DESIGN		TYPE	TOTAL AIRFLOW (CFM)	DESIGN CFM (DUCT TOTAL)	STATIC PRESSURE (IN. WG)	ELECTRICAL DESIGN			SOUND DESIGN								REMARKS
	MANUFACTURER	MODEL					MOTOR HP	VOLTS	PHASE	63HZ	125HZ	250HZ	500HZ	1000HZ	2000HZ	4000HZ	8000HZ	
EF-1	GREENHECK	GB	DIRECT DRIVE CENTRIFUGAL ROOF MOUNTED	910	865	0.35	0.25	120	1	65	71	68	61	55	52	47	45	
EF-2	GREENHECK	GB	DIRECT DRIVE CENTRIFUGAL ROOF MOUNTED	735	700	0.50	0.25	120	1	70	72	67	61	53	51	45	38	
EF-3	GREENHECK	GB	DIRECT DRIVE CENTRIFUGAL ROOF MOUNTED	1260	1200	0.50	0.5	120	1	72	75	70	63	57	53	49	42	
EF-4	GREENHECK	GB	DIRECT DRIVE CENTRIFUGAL ROOF MOUNTED	1260	1200	0.50	0.5	120	1	72	75	70	63	57	53	49	42	
EF-5	GREENHECK	GB	DIRECT DRIVE CENTRIFUGAL ROOF MOUNTED	1105	1050	0.50	0.25	120	1	68	74	73	67	60	58	53	51	
EF-6	GREENHECK	GB	DIRECT DRIVE CENTRIFUGAL ROOF MOUNTED	945	900	0.50	0.25	120	1	71	74	72	66	58	56	51	44	
EF-7	GREENHECK	SP-B50	CEILING MOUNTED	50		0.20	0.05	120	1	0	0	0	0	0	0	0	0	SOUND DATA FOR THIS FAN TYPE IN SONES: 1.2 SONES

NOTES:
1. SOUND DATA LISTED IS INLET SOUND POWER MAXIMUM ALLOWED VALUES.
2. PROVIDE BIRD SCREEN FOR ALL UNITS.
3. PROVIDE INSULATED ROOF CURB FOR ALL UNITS EXCEPT EF-7.
4. PROVIDE INTEGRAL THERMAL OVERLOAD ON ALL MOTORS.
5. PROVIDE INTEGRAL DISCONNECT ON ALL UNITS.
6. PROVIDE LOW LEAKAGE MECHANICAL SHUTOFF DAMPER FOR ALL UNITS EXCEPT EF-7.

DDC PANEL SCHEDULE

MARK	SERVES	LOCATION	NUMBER OF CIRCUITS, MINIMUM (NOTE 1)
DDC-1A	AHU-1	MECH 321	2
DDC-1B	AHU-1 (VAV)	MECH 321	1
DDC-2A	AHU-2	MECH 321	2
DDC-2B	AHU-2 (VAV)	MECH 321	1
DDC-3A	AHU-3	MECH-MEZZ 206	2
DDC-3B	AHU-3 (VAV)	MECH-MEZZ 206	2
DDC-4A	AHU-4	MECH 100	2
DDC-4B	AHU-4 (VAV)	MECH 100	1
DDC-5A	AHU-5	MECH 111	2
DDC-5B	AHU-5 (VAV)	MECH 111	1
DDC-CH1	CHILLED WATER SYSTEM	MECH 100	1
DDC-EF1	EXHAUST FANS	MECH 111	1
DDC-EF2	EXHAUST FANS	MECH 321	1
DDC-HW1	HEATING HOT WATER SYSTEM	MECH 100	1
DDC-M1	MISC (DUCTLESS, ETC.)	MECH 100	1
DDC-M2	MISC (DUCTLESS, ETC.)	MECH 321	1

NOTES:
1. NUMBER OF 20A CIRCUITS PER DDC CONTROL PANEL. SEE ELECTRICAL FOR DETAILS.

DUCTLESS MINI-SPLIT AC SCHEDULE

MARK	TYPE	TOTAL CAPACITY (BTUH)	AIRFLOW (CFM)	VOLTAGE	PHASE	OUTDOOR UNIT MARK
AC-1	WALL MOUNTED	12,000	335	208	1	CU-1
AC-2	WALL MOUNTED	12,000	335	208	1	CU-2
AC-3	WALL MOUNTED	18,000	335	208	1	CU-3
AC-4	WALL MOUNTED	12,000	335	208	1	CU-4
AC-5	WALL MOUNTED	18,000	335	208	1	CU-5
AC-6	WALL MOUNTED	18,000	335	208	1	CU-6
AC-7	WALL MOUNTED	12,000	335	208	1	CU-7
AC-8	WALL MOUNTED	18,000	335	208	1	CU-8
AC-9	WALL MOUNTED	18,000	335	208	1	CU-9
AC-10	WALL MOUNTED	12,000	335	208	1	CU-10
AC-11	WALL MOUNTED	12,000	335	208	1	CU-11
AC-12	WALL MOUNTED	18,000	335	208	1	CU-12

NOTES:
1. PROVIDE INTEGRAL CONDENSATE PUMP FOR ALL INDOOR AIR HANDLERS. POWER SHALL BE PROVIDED BY WALL OUTLET, COORDINATE WITH ELECTRICAL.
2. ALL CONDENSATE PIPING SHALL BE PVC AND A MINIMUM SIZE OF 3/4 INCH.
3. ALL CONDENSATE PIPING SHALL HAVE A MINIMUM SLOPE OF 1/8 INCH PER FOOT.
4. BASIS OF DESIGN DUCTLESS SPLIT AC ELECTRICAL IS PROVIDED FROM CORRESPONDING CONDENSING UNIT.

DX MINI SPLIT CONDENSING UNIT SCHEDULE

MARK	TYPE	TOTAL CAPACITY (BTUH)	SEER	REFRIGERANT TYPE	VOLTAGE	PHASE	REMARKS
CU-1	COOLING ONLY	12,000	15.2	R410A	208 V	1	
CU-2	COOLING ONLY	12,000	15.2	R410A	208 V	1	
CU-3	COOLING ONLY	18,000	15.3	R410A	208 V	1	
CU-4	COOLING ONLY	12,000	15.2	R410A	208 V	1	
CU-5	COOLING ONLY	18,000	15.3	R410A	208 V	1	
CU-6	COOLING ONLY	18,000	15.3	R410A	208 V	1	
CU-7	COOLING ONLY	12,000	15.2	R410A	208 V	1	
CU-8	COOLING ONLY	18,000	15.3	R410A	208 V	1	
CU-9	HEAT PUMP	18,000	15.3	R410A	208 V	1	
CU-10	HEAT PUMP	12,000	15.3	R410A	208 V	1	
CU-11	HEAT PUMP	12,000	15.3	R410A	208 V	1	
CU-12	HEAT PUMP	18,000	15.3	R410A	208 V	1	

NOTES:
1. SIZE REFRIGERANT PIPING PER MANUFACTURER REQUIREMENTS.
2. DISCONNECT SHALL BE PROVIDED BY DIVISION 26.
3. ALL CONDENSING/OUTDOOR UNITS SHALL BE INSTALLED ON ROOF CURBS.
4. ALL REFRIGERANT PIPING INSTALLED OUTDOORS SHALL BE COATED WITH A SUITABLE UV PROTECTIVE COATING (IN ACCORDANCE WITH THE MANUFACTURER'S INSULATION RECOMMENDATIONS, IN ORDER TO PREVENT DETERIORATION DUE TO UV RADIATION.

SHEET NOTES:
1. THE ELECTRICAL DESIGN SHOWN ON THE DRAWINGS SUPPORTS THE MECHANICAL BASIS OF DESIGN. IF MECHANICAL EQUIPMENT IS SUBMITTED WITH DIFFERENT ELECTRICAL REQUIREMENTS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE ALL REQUIRED ELECTRICAL CHANGES (WIRE SIZE, CONDUIT SIZE, TYPE OF DISCONNECT OR OVERLOAD PROTECTION, POINTS OF CONNECTION, ETC.) AND CLEARLY SHOW THE NEW ELECTRICAL DESIGN ON THE MECHANICAL SUBMITTAL WITH A WRITTEN STATEMENT THAT THE CHANGES WILL BE PROVIDED AT NO ADDITIONAL COST. MECHANICAL SUBMITTALS WITH NO WRITTEN REFERENCE TO THE ELECTRICAL DESIGN WILL BE PRESUMED TO WORK WITH THE ELECTRICAL DESIGN AS SHOWN ON THE CONTRACT DRAWINGS. ANY CORRECTIONS REQUIRED WILL BE AT NO ADDITIONAL COST.
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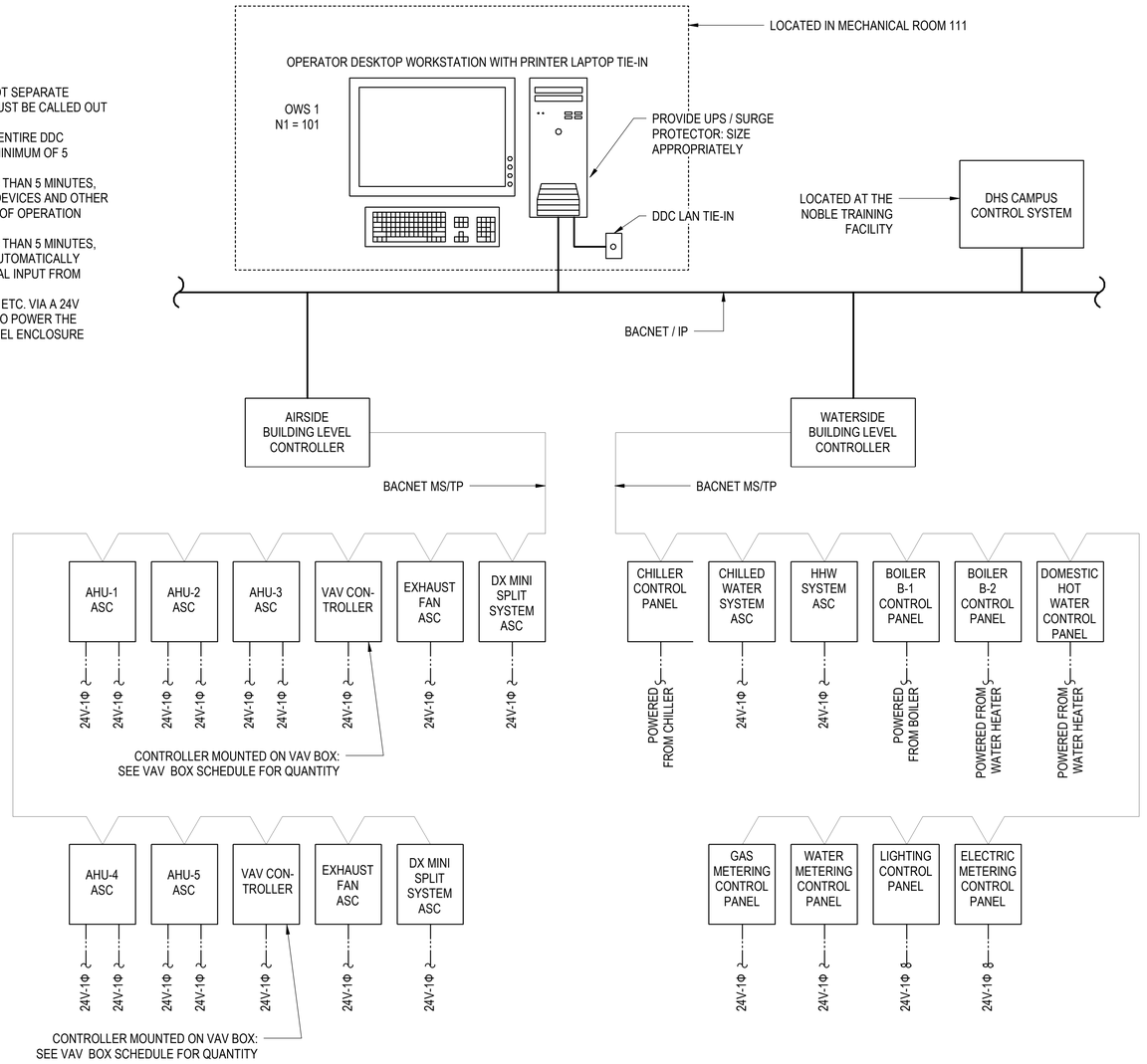
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SHEET IDENTIFICATION
M-803
SHEET 285 of 442

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GENERAL NOTES:

1. SYSTEM MUST BE SUBMITTED WITH ARRANGEMENT SHOWN ABOVE. DO NOT SEPARATE DEVICES INTO DIFFERENT BRANCHES TO SAVE PANELS. ANY DEVIATION MUST BE CALLED OUT CLEARLY IN THE DDC SUBMITTAL.
2. UNINTERRUPTIBLE POWER SUPPLIES (UPS) SHALL BE PROVIDED FOR THE ENTIRE DDC SYSTEM SUCH THAT THE ENTIRE SYSTEM REMAINS OPERATIONAL FOR A MINIMUM OF 5 MINUTES DURING AN ELECTRICAL OUTAGE.
3. IF THE SYSTEM SHUTS DOWN DUE TO A POWER OUTAGE LASTING LONGER THAN 5 MINUTES, THE SYSTEM SHALL BE PROGRAMMED TO AUTOMATICALLY RESTART ALL DEVICES AND OTHER SYSTEM COMPONENTS AND CONTINUE THEIR PROGRAMMED SEQUENCES OF OPERATION ONCE THE POWER IS RESTORED.
4. IF THE SYSTEM SHUTS DOWN DUE TO A POWER OUTAGE LASTING LONGER THAN 5 MINUTES, THE OPERATOR WORKSTATION COMPUTER SHALL BE PROGRAMMED TO AUTOMATICALLY RESTART AND RESTORE NORMAL SOFTWARE OPERATION WITHOUT MANUAL INPUT FROM USERS.
5. THE DESIGN INTENT IS TO POWER ALL CONTROLLERS, CONTROL DEVICES, ETC. VIA A 24V SYSTEM. THE DESIGN HAS PROVIDED DEDICATED 120V, 20 AMP CIRCUITS TO POWER THE REQUIRED 120V TO 24V TRANSFORMERS FOR THIS SYSTEM. SEE "DDC PANEL ENCLOSURE DETAIL" ON SHEET M-902.



B6 DDC SYSTEM ARCHITECTURE
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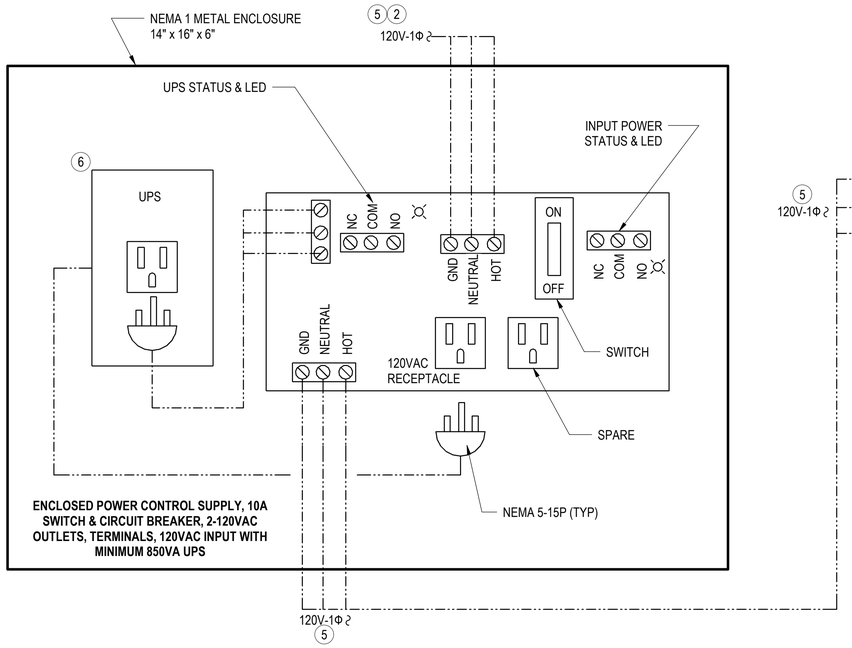
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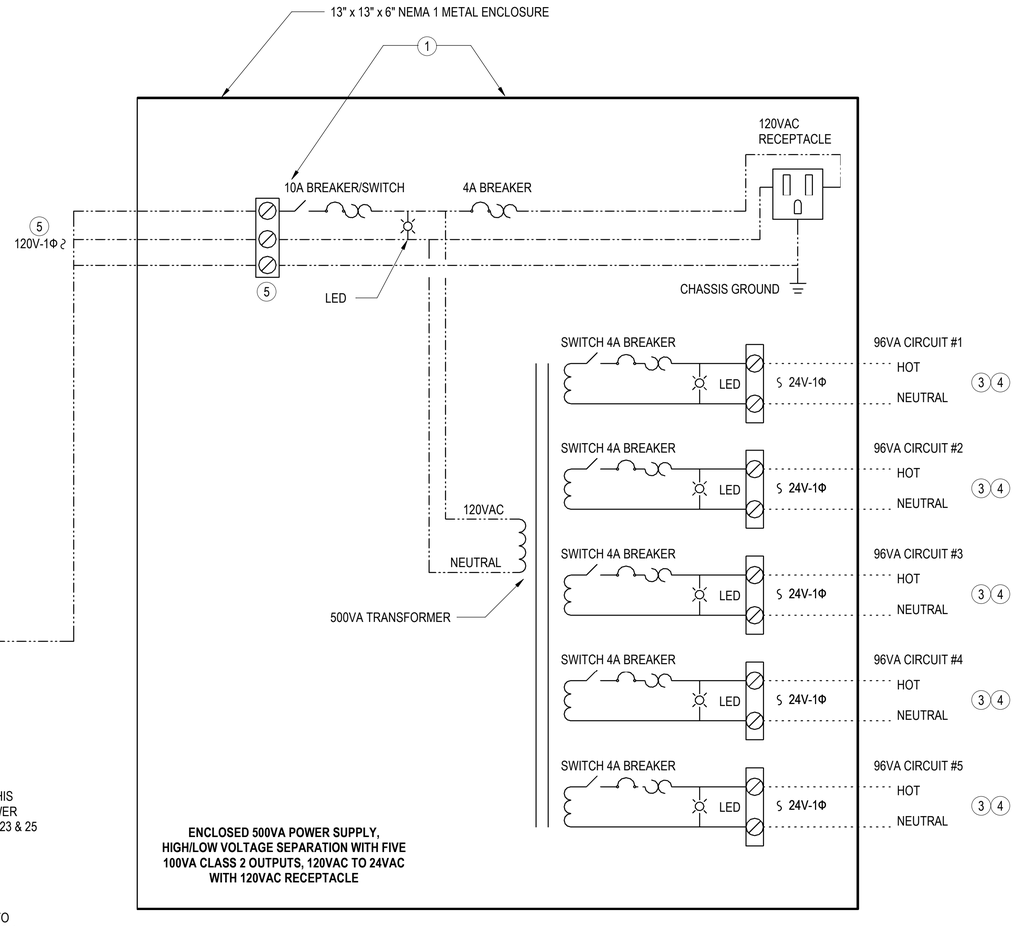
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M-901
SHEET 286 of 442

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DETAIL NOTES:

THE BASIS OF DESIGN FOR THE MAJORITY OF THE DIV 23 DDC SYSTEM AND ASSOCIATED DEVICES IS A LOW-VOLTAGE 24VAC SYSTEM. THIS INCLUDES (BUT IS NOT LIMITED TO) WIRE, TRANSFORMERS, ENCLOSURES, TERMINAL BLOCKS, CONDUIT/RACEWAYS, LOW VOLTAGE POWER WIRE TO VAV's, AND **ANY OTHER DEVICE REQUIRED TO PROVIDE A FULLY FUNCTIONAL AND OPERATIONAL SYSTEM**. SEE RELEVANT DIV 23 & 25 SPECIFICATION SECTIONS & DRAWINGS FOR MORE DETAILS. HOWEVER, IT IS THE CONTROLS CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE ENTIRE SYSTEM AND ITS DIFFERENT VOLTAGES FOR ALL REQUIRED DEVICES. ***THE CONTROLS CONTRACTOR IS RESPONSIBLE FOR ALL ITEMS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM***.

1. ENCLOSED 500VA POWER SUPPLY, HIGH/LOW VOLTAGE SEPARATION NEMA 1 ENCLOSURE WITH FIVE 100VA CLASS 2 OUTPUTS, 120VAC TO 24VAC WITH 120VAC RECEPTACLE. ENCLOSURE SHALL BE PROVIDED WITH 10A CIRCUIT BREAKER, TERMINAL BLOCK, DISCONNECT SWITCH AND LED STATUS LIGHT.

2. DIV 26 HAS PROVIDED NUMEROUS DEDICATED 120V CIRCUITS FOR THE CONTROLS CONTRACTOR TO POWER THE ENTIRE DDC SYSTEM. SEE MECHANICAL SCHEDULES AND POWER SHEETS FOR NUMBER OF CIRCUITS. DDC ENCLOSURES ARE SHOWN ON FLOOR PLANS. HOWEVER, IF CONTRACTOR'S CHOSEN SOLUTION REQUIRES ADDITIONAL CIRCUITS THIS MUST BE SHOWN ON THE SHOP DRAWINGS WITH DETAIL OF NUMBER AND SIZE TO INCLUDE FLA, MCA, AND MOCP REQUIRED.

3. EACH ENCLOSURE SHALL PROVIDE A MINIMUM OF (5) 24VAC, MAX 96 VA, CIRCUITS. CONTRACTOR SHALL SIZE ALL CIRCUITS FOR THE VOLTAGE DROP OF THEIR INTENDED SOLUTION (MAX 2%). HOWEVER, THE MINIMUM WIRE TYPE AND SIZE SHALL NOT BE LESS THAN THAT SPECIFIED IN SECTIONS 23 09 00 & 23 09 13.

4. EACH 24VAC CIRCUIT SHALL BE PROVIDED WITH DISCONNECT SWITCH, TERMINAL BLOCK, 4A CIRCUIT BREAKER AND LED STATUS LIGHT. UNLESS OTHERWISE ALLOWED, ALL CONTROL WIRE SHALL BE INSTALLED IN RACEWAY OR CONDUIT.

5. DIV 26 CONTRACTOR IS RESPONSIBLE FOR 120V WIRE AND CONDUIT UP TO AND INCLUDING MAKING THE FINAL CONNECTION AT THE LUGS

6. UNINTERRUPTIBLE POWER SUPPLY (UPS). CONTRACTOR SHALL SIZE UNIT TO PROVIDE 5 MINUTES OF OPERATION DURING A POWER OUTAGE. HOWEVER, MINIMUM SIZE SHALL BE 850 VA.

B6 DDC PANEL ENCLOSURE DETAIL

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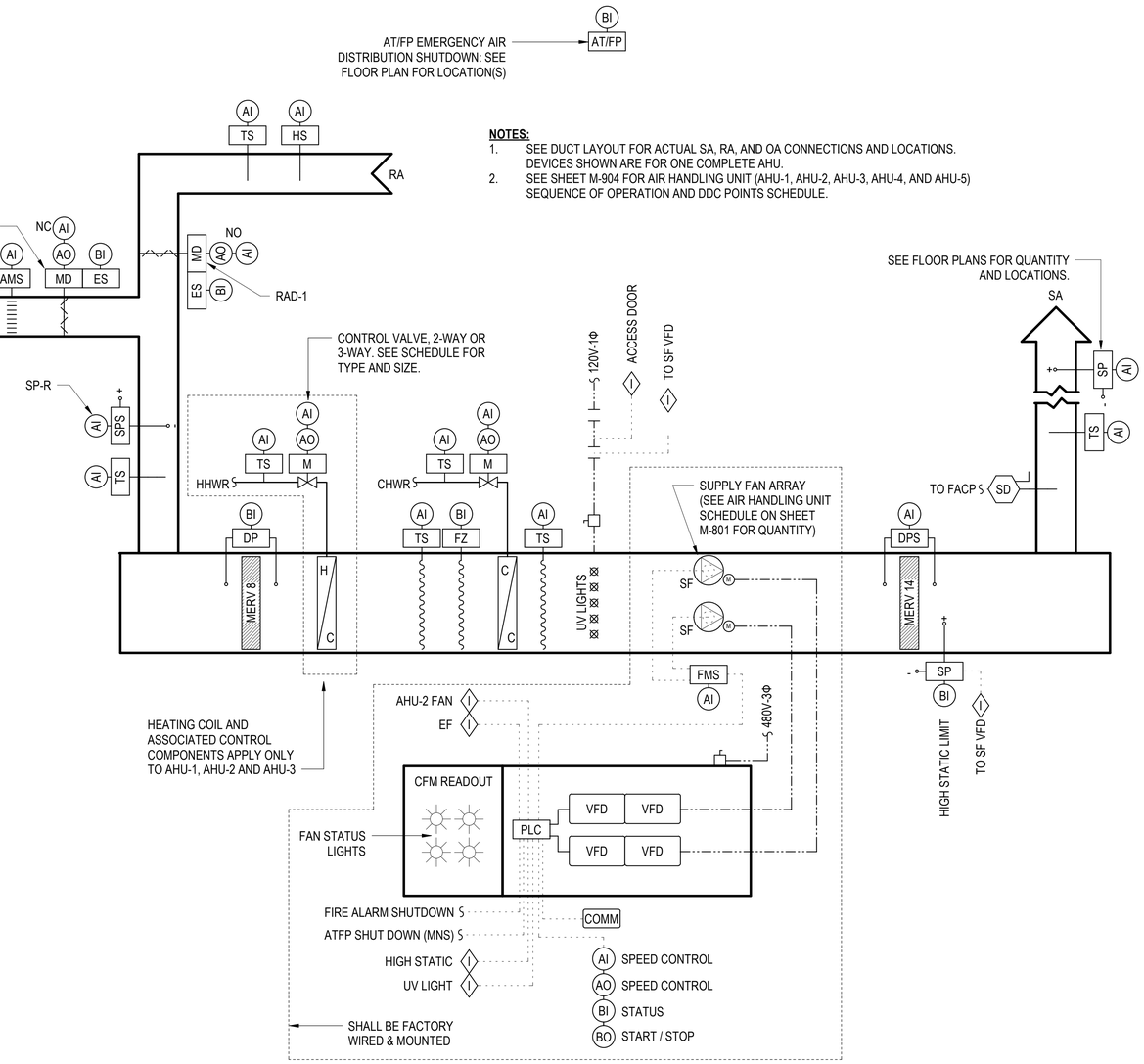
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SHEET 287 of 442

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NOTES:

1. SEE DUCT LAYOUT FOR ACTUAL SA, RA, AND OA CONNECTIONS AND LOCATIONS. DEVICES SHOWN ARE FOR ONE COMPLETE AHU.
2. SEE SHEET M-904 FOR AIR HANDLING UNIT (AHU-1, AHU-2, AHU-3, AHU-4, AND AHU-5) SEQUENCE OF OPERATION AND DDC POINTS SCHEDULE.

C6 AIR HANDLING UNIT (AHU-1, AHU-2, AHU-3, AHU-4, AND AHU-5) CONTROL DIAGRAM (NO HEATING COIL ON AHU-4 AND AHU-5)

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SHEET 288 of 442

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AIR HANDLING UNIT (AHU-1, AHU-2, AHU-3, AHU-4, AND AHU-5) DDC POINTS SCHEDULE

DEVICE	HARDWARE				SOFTWARE	
	ANALOG		BINARY			
	INPUT (AI)	OUTPUT (AO)	INPUT (BI)	OUTPUT (BO)	ALARM	ALARM DESCRIPTION
AT/FP EMERGENCY AIR DISTRIBUTION SHUTDOWN			X		X	MANUAL ACTIVATION OF AT/FP EMERGENCY DISTRIBUTION SHUTDOWN
CHWR MODULATING CONTROL VALVE POSITION COMMAND (% OPEN)		X				
CHWR MODULATING CONTROL VALVE POSITION STATUS (% OPEN)	X				X	+/- 10% AWAY FROM SETPOINT FOR > 5 MINUTES
COOLING COIL EAT (°F)	X				X	< 38°F FOR 15 MINUTES OR < 35°F FOR 5 MINUTES
COOLING COIL FREEZE-STAT			X		X	ADJUSTABLE SWITCH AT 34°F
COOLING COIL LAT (°F)	X				X	+/- 2°F AWAY FROM SETPOINT
COOLING COIL LWT (°F)	X					
HEATING COIL LWT (°F)	X					
HHWR MODULATING CONTROL VALVE POSITION COMMAND (% OPEN)		X				
HHWR MODULATING CONTROL VALVE POSITION STATUS (% OPEN)	X				X	+/- 10% AWAY FROM SETPOINT FOR > 5 MINUTES
MERV 8 FILTER PRESSURE DROP (IN. WC)			X		X	> 1.0 IN. WC
MERV 14 PRESSURE DROP (IN. WC)	X				X	> 1.2 IN. WC
MIXED AIR STATIC PRESSURE (SP-R)	X					
MIXED AIR TEMPERATURE (°F)	X					
OAD-1 ENDSWITCH (OPEN / CLOSED)			X		X	STATUS / COMMAND MISMATCH
OAD-1 POSITION COMMAND (% OPEN)		X				
OAD-1 POSITION STATUS (% OPEN)	X				X	+/- 10% AWAY FROM SETPOINT FOR > 5 MINUTES
OUTDOOR AIR TEMPERATURE (°F)	X					
OUTDOOR AIRFLOW (CFM)	X				X	+/- 500 CFM AWAY FROM SETPOINT FOR > 5 MINUTES
RAD-1 ENDSWITCH (OPEN / CLOSED)			X		X	STATUS / COMMAND MISMATCH
RAD-1 POSITION COMMAND (% OPEN)		X				
RAD-1 POSITION STATUS (% OPEN)	X				X	+/- 10% AWAY FROM SETPOINT FOR > 5 MINUTES
RETURN AIR HUMIDITY (% RH)	X				X	> 60% RH
RETURN AIR TEMPERATURE (°F)	X					
SUPPLY AIR DUCT STATIC PRESSURE (IN. WC)	X				X	+/- 0.25 IN. WC AWAY FROM SETPOINT FOR > 5 MINUTES
SUPPLY AIR FAN AIRFLOW (CFM)	X					
SUPPLY AIR FAN HIGH STATIC PRESSURE LIMIT SWITCH (IN. WC)			X		X	> 3.75 IN. WC
SUPPLY AIR FAN VFD COMMAND (ON / OFF)				X		
SUPPLY AIR FAN VFD SPEED CONTROL COMMAND (RPM)		X				
SUPPLY AIR FAN VFD SPEED CONTROL STATUS (RPM)	X				X	STATUS / COMMAND MISMATCH
SUPPLY AIR FAN VFD STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
SUPPLY AIR TEMPERATURE (°F)	X				X	> 60°F

OPTIMIZATION OF VARIABLE VOLUME SUPPLY SYSTEMS: MEASURE STATIC PRESSURE AT ALL MAJOR BRANCHES. ADJUST FAN CONTROLLERS FOR MINIMUM REQUIRED STATIC PRESSURE AT THE END OF EACH BRANCH. BALANCE OUTLETS. CHECK AT BOTH MODULATED AND FULL FLOW CONDITIONS. TRAVERSE MAIN SUPPLY DUCTS. ALL BRANCHES MUST BE ABOVE THE MINIMUM REQUIRED STATIC PRESSURE. ONCE BALANCED AT 100% LOAD, RESET STATIC PRESSURE SET-POINT DOWN UNTIL THE MOST REMOTE TERMINAL IS SATISFIED WITH 0.10 IN WC STATIC ABOVE THE MINIMUM (TYPICALLY 0.35 IN WC) REQUIRED. SET STATIC PRESSURE CONTROLLER TO MAINTAIN THIS STATIC PRESSURE. THE SUPPLY FAN MUST TRACK AND DELIVER THE PROPER AIR QUANTITY WITH NO OBJECTIONABLE NOISE. THE SYSTEM MUST BE STABLE AND OPERATE PROPERLY AT 50% AIRFLOW LOAD. SIMULATE MAXIMUM FILTER LOADING DURING TESTING. THE INTENT IS FOR THE VARIABLE FREQUENCY DRIVE TO OPERATE AT 55-60 HZ AT MAXIMUM FILTER LOADING AND 100% AIRFLOW. REPORT THE VALUE OF THE MINIMUM STATIC PRESSURE THAT WILL PROVIDE PROPER AIRFLOW IN THE TAB REPORT AND SET THE STATIC PRESSURE CONTROLLER FOR THIS VALUE. REPORT SPEED OF VARIABLE FREQUENCY DRIVES WITH TAB.

AIR HANDLING UNITS (AHU-1, AHU-2, AHU-3, AHU-4, AND AHU-5)

SAFETY CONTROL SEQUENCES: PROVIDE THE FOLLOWING SAFETY FUNCTIONS.

1. SMOKE DETECTORS: SMOKE DETECTORS SHALL BE INSTALLED IN THE SUPPLY AIR AND RETURN AIR DUCTS WHERE SHOWN ON THE DIAGRAM TO SIGNAL THE FIRE ALARM SYSTEM AND STOP THE AHU SUPPLY AIR FAN. THE AHU SUPPLY AIR FAN SHALL SHUTDOWN UPON SIGNAL FROM ANY DUCT SMOKE DETECTOR.
2. SUPPLY AIR FAN HIGH STATIC PRESSURE LIMIT: PROVIDE SEPARATE ADJUSTABLE STATIC PRESSURE SWITCH (ADJ) WHERE SHOWN TO STOP THE ASSOCIATED SUPPLY AIR FAN WHEN STATIC PRESSURE RISES TO 3.75 IN. WC. MANUAL RESET SHALL BE REQUIRED UPON ACTIVATION OF THIS PRESSURE SWITCH.
3. FREEZE PROTECTION: PROVIDE ADJUSTABLE FREEZE-STAT (WITH A MANUAL RESET SWITCH) SET TO 34°F WHERE SHOWN TO PROTECT THE COOLING COIL. UPON SIGNAL FROM THE FREEZE-STAT OR IF COOLING COIL ENTERING AIR DROPS BELOW 38°F FOR 15 MINUTES OR BELOW 35°F FOR 5 MINUTES: SHUTDOWN AHU SUPPLY AIR FAN, FULLY CLOSE (0% OPEN) OUTDOOR AIR DAMPER (OAD-1), FULLY OPEN (100% OPEN) CHILLED WATER CONTROL VALVE, COMMAND ASSOCIATED CHILLED WATER PUMP(S) TO START (IF NOT ALREADY RUNNING), AND SIGNAL ALARM.
4. UV LIGHT OPERATION: INTERLOCK UV LIGHT WITH ACCESS DOOR AS SHOWN. UV LIGHT SHALL NOT BE ENERGIZED WHEN ACCESS DOOR IS OPEN.

OCCUPIED CYCLE: WHEN THE BUILDING IS SCHEDULED TO BE OCCUPIED OR A MANUAL OVERRIDE PUTS THE UNIT IN THE OCCUPIED MODE OF OPERATION, SOFT START THE SUPPLY FAN (VIA VFD LOGIC) AND PROVIDE THE FOLLOWING SEQUENCES OF OPERATION.

1. OUTDOOR AIRFLOW CONTROL: PROVIDE AN AIRFLOW MEASURING STATION (THERMAL DISPERSION TYPE) AND OPPOSED BLADE MODULATING CONTROL DAMPER (OAD-1) IN THE OUTDOOR AIR DUCT.
   A. OPEN OUTDOOR AIR DAMPER (OAD-1) AND ENABLE OUTDOOR AIR DAMPER (OAD-1) CONTROL ON SUPPLY FAN START. IF FAN FAILS TO START WITHIN 60 SECONDS AFTER DAMPER HAS BEEN PROVEN OPEN, FULLY CLOSE (0% OPEN) OUTDOOR AIR DAMPER (OAD-1) AND SIGNAL FAN FAILURE ALARM. FULLY CLOSE (0% OPEN) ON SUPPLY FAN STOP.
   B. MODULATE OUTDOOR AIR DAMPER (OAD-1) AND RETURN AIR DAMPER (RAD-1) AS DESCRIBED BELOW TO MAINTAIN A CONSTANT OUTDOOR AIRFLOW AT SETPOINT (SEE SCHEDULES FOR OUTDOOR AIRFLOW SETPOINT VALUE).
      a. MODULATE OUTDOOR AIR DAMPER (OAD-1) OPEN UP TO FULLY OPEN (100% OPEN) IN ATTEMPT TO ACHIEVE MEASURED OUTSIDE AIRFLOW AT SETPOINT.
      b. IF MINIMUM OUTDOOR AIRFLOW SETPOINT CANNOT BE ACHIEVED WITH OUTDOOR AIR DAMPER (OAD-1) FULLY OPEN (100% OPEN), AS STATED ABOVE, MODULATE RETURN AIR DAMPER (RAD-1) CLOSED UNTIL MEASURED OUTDOOR AIRFLOW EQUALS OUTDOOR AIRFLOW SETPOINT.
2. SUPPLY FAN CONTROL: PROVIDE DUCT MOUNTED STATIC PRESSURE SENSORS, WHERE SHOWN (SEE FLOOR PLANS) MOUNTED IN THE SUPPLY DUCT. PROVIDE ADJUSTABLE HIGH LIMIT PRESSURE SWITCH MOUNTED IN THE AHU WHERE SHOWN ON THE DIAGRAM.
   A. THE SUPPLY FANS FOR AHU-1 AND AHU-2 SHALL BE HARDWIRE INTERLOCKED SUCH THAT THEY START AND STOP TOGETHER.
   B. SHUT DOWN THE SUPPLY FAN AND GENERATE AN ALARM ANY TIME THE ADJUSTABLE HIGH LIMIT PRESSURE SWITCH READS GREATER THAN 4.25 IN. WC (ADJUSTABLE).
   C. MODULATE THE SUPPLY FAN VARIABLE FREQUENCY DRIVE TO MAINTAIN A SETPOINT OF xx IN. WC (ADJUSTABLE).
      a. STATIC PRESSURE SETPOINT SHALL BE DETERMINED VIA "OPTIMIZATION OF VARIABLE VOLUME SUPPLY SYSTEMS" (SEE DIRECTION THIS SHEET). THE LEAD SENSOR SHALL BE THE ONE FURTHEST FROM SETPOINT UNLESS ONE IS BELOW SETPOINT AND THE OTHER IS ABOVE. IF THIS IS THE CASE THE SENSOR BELOW SETPOINT SHALL BE LEAD.
      b. POLL ALL VAV BOX'S DAMPER POSITION EVERY FIFTEEN MINUTES. IF ANY VAV BOX DAMPER IS AT 95% OR MORE OPEN, INCREASE STATIC PRESSURE SETPOINT BY 0.1 IN. WC TILL ALL BOXES ARE 90% OPEN OR LESS. IF ALL VAV BOX DAMPERS ARE AT 80% OR LESS OPEN, DECREASE STATIC PRESSURE SETPOINT BY 0.1 IN. WC TILL ANY BOX REACHES 90% OPEN. DO NOT CHANGE SETPOINT FASTER THAN ONCE EVERY FIVE MINUTES.
   D. PROVIDE FAN MOUNTED PIEZOMETRIC AIRFLOW RING TO DISPLAY (UNIT MOUNTED) AND REPORT SUPPLY AIRFLOW (CFM) TO THE BAS (THIS VALUE IS SUPPLY AIRFLOW ACTUAL).
   E. THE SUPPLY FANS FOR AHU-4 AND AHU-5 SHALL BE HARDWIRE INTERLOCKED SUCH THAT THEY START AND STOP TOGETHER.
3. HEATING COIL LEAVING AIR TEMPERATURE CONTROL (APPLIES ONLY TO AHU-1, AHU-2 AND AHU-3): PROVIDE AVERAGING AIR TEMPERATURE SENSOR AT THE DISCHARGE OF THE HEATING COIL AS SHOWN TO MEASURE THE HEATING COIL LEAVING AIR TEMPERATURE. PROVIDE MODULATING CONTROL VALVE IN THE HEATING HOT WATER RETURN FROM HEATING COIL AS SHOWN.
   A. ENABLE HEATING HOT WATER VALVE CONTROL ON SUPPLY FAN START. FULLY CLOSE (0% OPEN) HEATING HOT WATER VALVE ON SUPPLY FAN SHUTDOWN.
   B. MODULATE THE HEATING HOT WATER VALVE AS REQUIRED TO MAINTAIN THE MEASURED HEATING COIL LEAVING AIR TEMPERATURE AT SETPOINT (SEE SCHEDULES FOR LEAVING AIR TEMPERATURE SETPOINT VALUE).
4. COOLING COIL LEAVING AIR TEMPERATURE CONTROL: PROVIDE AVERAGING AIR TEMPERATURE SENSOR AT THE DISCHARGE OF THE COOLING COIL AS SHOWN TO MEASURE THE COOLING COIL LEAVING AIR TEMPERATURE. PROVIDE MODULATING CONTROL VALVE IN THE CHILLED WATER RETURN FROM COOLING COIL AS SHOWN.
   A. ENABLE CHILLED WATER VALVE CONTROL ON SUPPLY FAN START. FULLY CLOSE (0% OPEN) CHILLED WATER VALVE ON SUPPLY FAN SHUTDOWN.
   B. MODULATE THE CHILLED WATER VALVE AS REQUIRED TO MAINTAIN THE MEASURED COOLING COIL LEAVING AIR TEMPERATURE AT SETPOINT (SEE SCHEDULES FOR LEAVING AIR TEMPERATURE SETPOINT VALUE).
5. EXHAUST FAN INTERLOCKS: PROVIDE HARDWIRED INTERLOCK TO START/STOP ASSOCIATED EXHAUST FAN(S) WHEN AHU SUPPLY FAN IS STARTED AND STOPPED. THE EXHAUST FAN/AHU ASSOCIATIONS ARE LISTED BELOW.
   A. AHU-1: EF-1
   B. AHU-2: EF-2 AND EF-3
   C. AHU-3: EF-4
   D. AHU-4: EF-5
   E. AHU-5: EF-6 AND EF-7
6. OPTIMUM START: PROVIDE SEQUENCE TO START AHU 2 HOURS (ADJ) BEFORE OCCUPIED SCHEDULED START FOR BUILDING WARMUP/COOLDOWN. LOGIC SHALL INCLUDE ZONE TEMPERATURE TRENDING AND ALGORITHM LOGIC TO ADJUST START TIME (UP OR DOWN) TO THE MINIMUM NEEDED TO ACHIEVE OCCUPIED TEMPERATURE SETPOINTS AT THE SCHEDULED START TIME.

UNOCCUPIED CYCLE: WHEN THE BUILDING IS SCHEDULED TO BE UNOCCUPIED OR A MANUAL OVERRIDE PUTS THE UNIT IN THE UNOCCUPIED MODE OF OPERATION PROVED THE FOLLOWING SEQUENCES OF OPERATION.

1. OUTDOOR AIRFLOW CONTROL: SAME AS OCCUPIED MODE.
2. SUPPLY FAN CONTROL: SAME AS OCCUPIED MODE.
3. HEATING COIL LEAVING AIR TEMPERATURE CONTROL: SAME AS OCCUPIED MODE.
4. COOLING COIL LEAVING AIR TEMPERATURE CONTROL: SAME AS OCCUPIED MODE.
5. EXHAUST FAN INTERLOCKS: SAME AS OCCUPIED MODE.
6. SETBACK: SET ALL ZONE VAV BOXES TO MINIMUM FLOW. SET ALL SPACE COOLING TEMPERATURE SPACE SETPOINTS TO 80°F. SET ALL SPACE HEATING TEMPERATURE SETPOINTS TO 65°F. IF SPACE TEMPERATURE SETPOINT CANNOT BE MAINTAINED AT THE MINIMUM AIRFLOW THE BAS SHALL INCREMENTALLY INCREASE AIRFLOW UP TO THE VAV BOX MAXIMUM AIRFLOW SCHEDULED.
7. AHU CYCLING ON / OFF: IF ALL ZONES FOR THE AHU ARE WITHIN SETBACK TEMPERATURE SETPOINTS, THE AHU SHALL SHUT DOWN. THE AHU SHALL START BACK UP UPON ANY ZONE BEING OUTSIDE OF THE SETBACK TEMPERATURE SETPOINTS. THE SUPPLY FANS FOR AHU-4 AND AHU-5 SHALL BE HARDWIRE INTERLOCKED SUCH THAT THEY START AND STOP TOGETHER.

AIR HANDLING UNIT (AHU-1, AHU-2, AHU-3, AHU-4, AND AHU-5) SEQUENCE OF OPERATION AND DDC POINTS SCHEDULE (NO HEATING COIL ON AHU-4 AND AHU-5)

A6 NOT TO SCALE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL ENGINEER MICHAEL L. HOLLAND

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

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Drawn By: MLH
Checked By: CLE
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

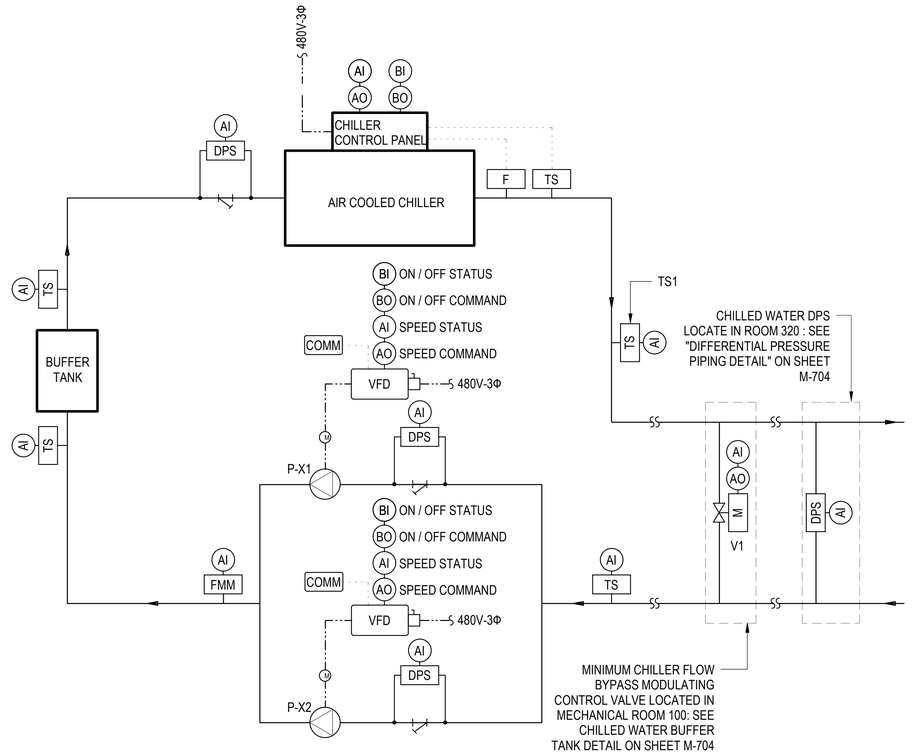
CONTROLS

SHEET IDENTIFICATION
M-904
SHEET 289 of 442

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AIR-COOLED CHILLED WATER SYSTEM DDC POINTS LIST

DEVICE	HARDWARE				SOFTWARE	
	ANALOG		BINARY			
	INPUT (AI)	OUTPUT (AO)	INPUT (BI)	OUTPUT (BO)	ALARM	ALARM DESCRIPTION
BUFFER TANK EWT (°F)	X					
BUFFER TANK LWT (°F)	X					
CHILLED WATER BYPASS CONTROL VALVE (V1) POSITION STATUS (% OPEN)	X				X	+/- 10% AWAY FROM SETPOINT FOR > 5 MINUTES
CHILLED WATER BYPASS CONTROL VALVE (V1) POSITION COMMAND (% OPEN)		X				
CHILLED WATER DPS (PSI)	X					
CHILLED WATER RETURN TEMPERATURE (°F)	X					
CHILLED WATER SUPPLY TEMPERATURE (°F)	X					
CHILLER COMMAND (ON / OFF)				X		
CHILLER FLOW SWITCH	X					
CHILLER LWT COMMAND / SETPOINT (°F)		X				
CHILLER LWT READING (°F)	X				X	+/- 2°F AWAY FROM SETPOINT FOR > 5 MINUTES
CHILLER STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
CHILLER STRAINER PRESSURE DROP (FT H2o)	X				X	> 5 FT H2o
CHWP-1 COMMAND (ON / OFF)				X		
CHWP-1 SPEED COMMAND (RPM)		X				
CHWP-1 SPEED STATUS (RPM)	X					
CHWP-1 STANDBY STATUS (LEAD / STANDBY)			X		X	STANDBY PUMP IS RUNNING
CHWP-1 STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
CHWP-1 STRAINER PRESSURE DROP (FT OF HEAD)	X				X	> 5 FT OF H2o
CHWP-2 COMMAND (ON / OFF)				X		
CHWP-2 SPEED COMMAND (RPM)		X				
CHWP-2 SPEED STATUS (RPM)	X					
CHWP-2 STANDBY STATUS (LEAD / STANDBY)			X		X	STANDBY PUMP IS RUNNING
CHWP-2 STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
CHWP-2 STRAINER PRESSURE DROP (FT OF HEAD)	X				X	> 5 FT OF H2o
INLINE ELECTROMAGNIC FLOW METER (GPM)	X					



CHILLED WATER PUMPS CONTROL SEQUENCES

INTERLOCKS: INTERLOCK CHILLED WATER PUMPS WITH CHILLER.

BAS: PROVIDE FOR REMOTE START / STOP CONTROL FUNCTION.

STANDBY PUMP OPERATION: STANDBY PUMP OPERATION IS REQUIRED. THE STANDBY PUMP SHALL START ON LOSS OF A RUNNING PUMP. THE STANDBY PUMP SHALL START AS DESCRIBED IN THE PUMP START SEQUENCE. THE FAILED PUMP SHALL BE STOPPED AS DESCRIBED IN THE PUMP STOP SEQUENCE.

ROTATION OF PUMPS: BAS SHALL EQUALIZE PUMP RUN-TIME BY ROTATING OR ALTERNATING PUMPS ON A MONTHLY BASIS. CHANGEOVER SHALL BE ACCOMPLISHED BY STARTING THE STANDBY PUMP, AND THEN STOPPING THE RUNNING PUMP. START AND STOP PUMPS AS DESCRIBED IN THE START-STOP SEQUENCE.

START-STOP SEQUENCE: WHENEVER THE BAS HAS THE CHILLED WATER PUMPS SCHEDULED FOR OPERATION (ADJ) THE BAS SHALL REMOTELY START THE LEAD PUMP. IF CHILLED WATER FLOW IS NOT PROVEN WITHIN 60 SEC THEN SHUTDOWN PUMP AND SIGNAL ALARM. IF FLOW IS PROVEN THE BAS SHALL ENABLE CHILLER CONTROL. THE CHILLER SHALL BE OFF AND NOT BE ENABLED TO START UNLESS THE LEAD CHILLED WATER PUMP IS RUNNING AND FLOW HAS BEEN PROVEN. WHENEVER THE BAS HAS THE CHILLED WATER PUMPS SCHEDULED FOR OFF (ADJ) THE BAS SHALL INITIATE THE CHILLER STOP SEQUENCE. ONCE THE CHILLER HAS BEEN PROVEN SHUTDOWN THE BAS SHALL REMOTELY STOP THE LEAD CHILLED WATER PUMP. CHILLED WATER LEAD PUMP SHALL OPERATE CONTINUOUSLY DURING THE TIME PROGRAMMED TO BE ON BY THE BAS REGARDLESS OF WHETHER THE CHILLER IS RUNNING OR NOT.

DIFFERENTIAL PRESSURE CONTROL: PROVIDE DIFFERENTIAL PRESSURE TRANSMITTER TO CONTROL THE PUMP'S VARIABLE SPEED DRIVES AS REQUIRED TO MAINTAIN THE REQUIRED PRESSURE SETPOINT AT 10 PSI (ADJUSTABLE). DETERMINE SETPOINT VIA TAB. POLL ALL CHILLED WATER CONTROL VALVES EVERY 15 MINUTES. IF ANY CHILLED WATER CONTROL VALVE IS 95% OR MORE OPEN, INCREASE PRESSURE SETPOINT BY 0.5 PSI UNTIL ALL CHILLED WATER CONTROL VALVES ARE 90% OPEN OR LESS. IF ALL CHILLED WATER CONTROL VALVES ARE AT 80% OR LESS OPEN, DECREASE PRESSURE SETPOINT BY 0.5 PSI UNTIL ANY CONTROL VALVE REACHES 90% OPEN. DO NOT CHANGE PRESSURE SETPOINT FASTER THAN ONCE EVERY 5 MINUTES.

BYPASS VALVE CONTROL: COORDINATE VALVE V1 SETTING WITH MINIMUM CHILLER FLOW REQUIREMENT. DERIVE CONTROL SIGNAL FROM CHW FLOW METER (FMM).

CHILLER CONTROL SEQUENCES

SAFETY CONTROLS FOR CHILLERS:

INTERLOCKS: PROVIDE INTERLOCK TO PREVENT CHILLER OPERATION UNLESS CHILLED WATER PUMP IS RUNNING AND FLOW IS PROVEN.

FACTORY CONTROLS: PROVIDE OPERATIONAL CONTROLS THAT DO NOT INTERFERE WITH FACTORY-WIRED SAFETY CONTROLS. REFER TO THE SECTION SPECIFYING CHILLERS FOR A DESCRIPTION OF FACTORY-WIRED CONTROLS. FACTORY-WIRED CONTROLS SHALL NOT AFFECT CHILLED WATER PUMP OPERATION.

CHILLER OPERATIONAL CONTROLS:

START-STOP SEQUENCE: PROVIDE FACTORY-SUPPLIED CONTROLS TO OPERATE CHILLER TEMPERATURE CONTROLS WHENEVER THE CHILLER IS ENABLED BY THE BAS. THE BAS SHALL NOT ENABLE A CHILLER UNTIL FLOW IS PROVEN THROUGH THE CHILLER FLOW SWITCH (SEE CHILLED WATER PUMPS "START-STOP SEQUENCE" THIS SHEET). CHILLED WATER LEAD PUMP SHALL OPERATE CONTINUOUSLY DURING THE TIME PROGRAMMED TO BE ON BY THE BAS REGARDLESS OF WHETHER THE CHILLER IS RUNNING OR NOT.

CHILLED WATER TEMPERATURE CONTROL: THE CHILLER SHALL CYCLE/STAGE/OPERATE AS REQUIRED TO MAINTAIN A CONSTANT CHILLED WATER SUPPLY TEMPERATURE AT THE SETPOINT OF 44°F (ADJ) AS MEASURED AT TS1.

MINIMUM CHILLER RUNTIME CONTROL: ANY TIME THE CHILLER STARTS IT SHALL OPERATE FOR ITS MINIMUM RUN TIME (AS SPECIFIED BY THE MANUFACTURER) REGARDLESS OF STAGING CONTROLS.

MINIMUM FLOW CONTROL: THE BAS SHALL MEASURE CHILLED WATER RETURN FLOW VIA FMM AND CONTROL BYPASS VALVE V1 TO ENSURE CHILLER MINIMUM FLOW IS MAINTAINED AT ALL TIMES.

CHILLED WATER SYSTEM CONTROL DIAGRAM, SEQUENCY OF OPERATION, AND DDC POINTS SCHEDULE

A6 NOT TO SCALE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL MECHANICAL ENGINEER MICHAEL L. HOLLAND

Date: 06-29-2021
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U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

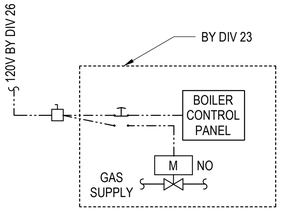
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

CONTROLS

SHEET IDENTIFICATION
M-905
SHEET 290 of 442

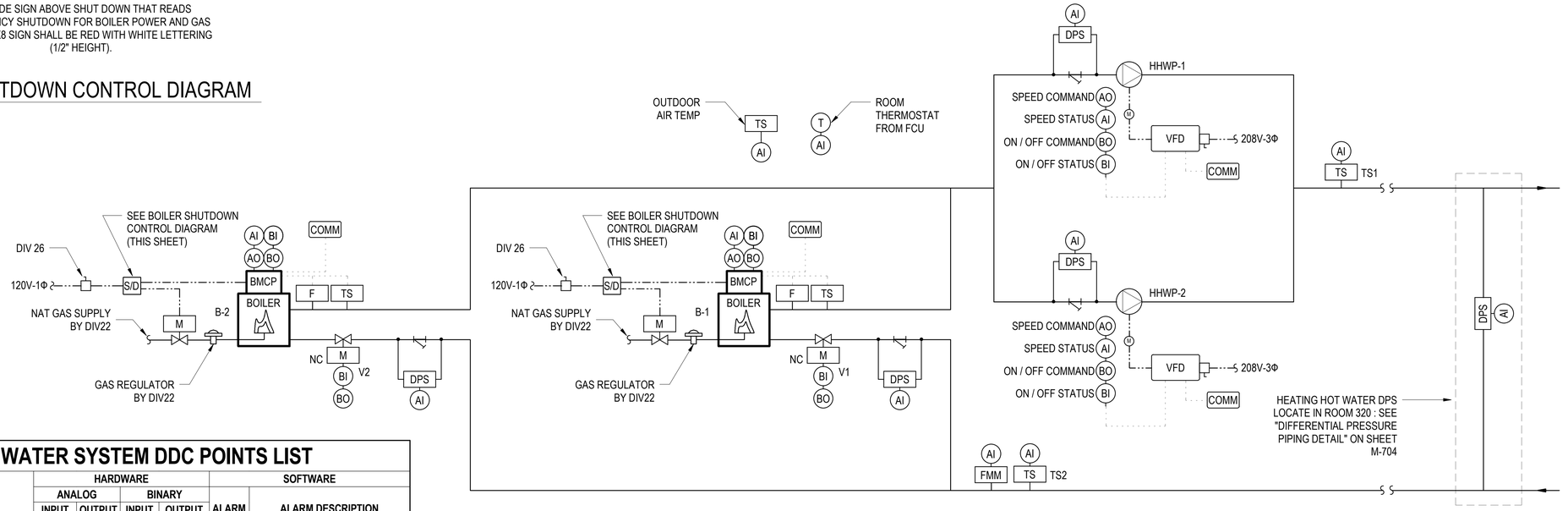
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PROVIDE SIGN ABOVE SHUT DOWN THAT READS "EMERGENCY SHUTDOWN FOR BOILER POWER AND GAS FLOW." 12X8 SIGN SHALL BE RED WITH WHITE LETTERING (1/2" HEIGHT).

A2 BOILER SHUTDOWN CONTROL DIAGRAM

NOT TO SCALE



HEATING HOT WATER SYSTEM DDC POINTS LIST

DEVICE	HARDWARE ANALOG INPUT (AI)	HARDWARE ANALOG OUTPUT (AO)	HARDWARE BINARY INPUT (BI)	HARDWARE BINARY OUTPUT (BO)	SOFTWARE ALARM	SOFTWARE ALARM DESCRIPTION
B-1 COMMAND (ON / OFF)				X		
B-1 FLOW SWITCH			X			
B-1 LWT COMMAND (°F)		X				
B-1 LWT STATUS (°F)	X				X	+/- 2°F FROM SETPOINT (> 5 MIN)
B-1 STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
B-1 STRAINER PD (FT OF H2o	X				X	> 5 FT OF H2o
B-1 VALVE (V1) POSITION COMMAND (OPEN / CLOSED)				X		
B-1 VALVE (V1) POSITION STATUS (OPEN / CLOSED)			X		X	STATUS / COMMAND MISMATCH
B-2 COMMAND (ON / OFF)				X		
B-2 FLOW SWITCH			X			
B-2 LWT COMMAND (°F)		X				
B-2 LWT STATUS (°F)	X				X	+/- 2°F FROM SETPOINT (> 5 MIN)
B-2 STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
B-2 STRAINER PD (FT OF H2o	X				X	> 5 FT OF H2o
B-2 VALVE (V2) POSITION COMMAND (OPEN / CLOSED)				X		
B-2 VALVE (V2) POSITION STATUS (OPEN / CLOSED)			X		X	STATUS / COMMAND MISMATCH
HHW DIFFENRENTIAL PRESSURE (PSI)	X					
HHWP-1 COMMAND (ON / OFF)				X		
HHWP-1 SPEED COMMAND (RPM)		X				
HHWP-1 SPEED STATUS (RPM)	X					
HHWP-1 STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
HHWP-1 STRAINER PD (FT OF H2o)	X				X	> 5 FT OF H2o
HHWP-2 COMMAND (ON / OFF)				X		
HHWP-2 SPEED COMMAND (RPM)		X				
HHWP-2 SPEED STATUS (RPM)	X					
HHWP-2 STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
HHWP-2 STRAINER PD (FT OF H2o)	X				X	> 5 FT OF H2o
HHWR TEMPERATURE (°F)	X					
HHWS TEMPERATURE (°F)	X					
INLINE ELECTROMAGNIC FLOW METER (GPM)	X					
OA TEMPERATURE (°F)	X					
ROOM TEMPERATURE (°F)	X					

A6 HEATING HOT WATER CONTROL DIAGRAM, SEQUENCE OF OPERATION, AND DDC POINTS LIST

NOT TO SCALE

BOILER CONTROL SEQUENCE OF OPERATION

SAFETY CONTROL FOR BOILERS:

INTERLOCK: PROVIDE INTERLOCK TO PREVENT BOILER OPERATION UNLESS HEATING HOT WATER PUMP IS RUNNING AND FLOW IS PROVEN THROUGH BOILER.

FACTORY CONTROLS: PROVIDE OPERATIONAL CONTROLS THAT DO NOT INTERFERE WITH FACTORY-WIRED SAFETY CONTROLS. REFER TO THE DIVISION -23 SECTION SPECIFYING BOILERS FOR A DESCRIPTION OF FACTORY-WIRED CONTROLS. FACTORY-WIRED SAFETY CONTROLS SHALL NOT AFFECT HEATING HOT WATER PUMP OPERATION. LOW TEMPERATURE SHUTDOWN: STOP BOILER(S) AND HEATING HOT WATER PUMP WHEN HEATING HOT WATER SUPPLY TEMPERATURE FALLS TO 90°F (ADJ).

EMERGENCY BURNER CONTROL: EMERGENCY BURNER OFF SWITCHES ARE PROVIDED BY DIVISION-23 TO INTERRUPT POWER AND FUEL TO BOILER(S). SEE BOILER SHUTDOWN CONTROL DIAGRAM (THIS SHEET).

BOILER VALVE OPERATION: ANYTIME B-1 IS COMMANDED ON, VALVE V1 SHALL FIRST BE OPENED (100% OPEN). ANYTIME B-2 IS COMMANDED ON, VALVE V2 SHALL FIRST BE OPENED (100% OPEN). EACH BOILER SHALL NOT BE OPERATIONAL UNTIL FLOW IS PROVEN (VIA BOILER FLOW SWITCH).

BOILER OPERATIONAL CONTROLS:

START-STOP SEQUENCES AND MODULAR BOILER CONTROL PANEL INTERFACE: REFER TO DIVISION -23 SECTION SPECIFYING BOILERS FOR A DESCRIPTION OF THE FACTORY-SUPPLIED BOILER MANAGEMENT CONTROL PANEL (BMCP). THE BMCP SHALL START, STOP, SEQUENCE BOILERS AS REQUIRED TO MAINTAIN THE HEATING HOT WATER SUPPLY TEMPERATURE AT SETPOINT OF 130°F (ADJ). THE HEATING HOT WATER SUPPLY TEMPERATURE SENSOR IS FURNISHED WITH THE BMCP. THE HEATING HOT WATER PUMP(S) OPERATE CONTINUOUSLY AS REQUIRED BY BAS AND SHALL NOT BE AFFECTED BY THE BMCP.

STAGING ON LOAD DECREASE: THE BAS SHALL CALCULATE THE BUILDING'S HEATING DEMAND (BTUH) USING THE HEATING HOT WATER RETURN FLOW METER (FMM), HEATING HOT WATER SUPPLY TEMPERATURE (TS1), AND HEATING HOT WATER RETURN TEMPERATURE (TS2). IF CALCULATED DEMAND DROPS TO LESS THAN THE CAPACITY OF THE LEAD BOILER, THE BAS SHALL STOP THE LAG BOILER (B-2) AND CLOSE THE LAG BOILER'S VALVE (V-2). THE LEAD BOILER SHALL RAMP UP / OPERATE AS REQUIRED TO MAINTAIN A CONSTANT HEATING HOT WATER SUPPLY TEMPERATURE AT SETPOINT (AS MEASURED AT TS1).

STAGING ON LOAD INCREASE: THE BAS SHALL CALCULATE THE BUILDING'S HEATING DEMAND (BTUH) USING THE HEATING HOT WATER RETURN FLOW METER (FMM), HEATING HOT WATER SUPPLY TEMPERATURE (TS1), AND HEATING HOT WATER RETURN TEMPERATURE (TS2). IF CALCULATED DEMAND RISES TO GREATER THAN THE CAPACITY OF THE LEAD BOILER, THE BAS SHALL OPEN THE LAG BOILER'S VALVE (V-2) AND START THE LAG BOILER (B-2). BOTH BOILERS (LEAD AND LAG) SHALL RAMP UP & DOWN / OPERATE AS REQUIRED TO MAINTAIN A CONSTANT HEATING HOT WATER SUPPLY TEMPERATURE AT SETPOINT (AS MEASURED AT TS1).

HEATING HOT WATER PUMPS (HHWP-1 & HHWP-2) SEQUENCE OF OPERATION

START-STOP SEQUENCE: PROVIDE START AND STOP FROM BAS. UPON RECEIVING START SIGNAL FROM BAS, PUMP SHALL SOFT START VIA VFD LOGIC.

INTERLOCKS: PROVIDE INTERLOCK TO PERMIT BOILER TO START WHEN PUMP IS RUNNING.

STANDBY PUMP OPERATION: STANDBY PUMP OPERATION IS REQUIRED. THE STANDBY PUMP SHALL START ON LOSS OF A RUNNING PUMP. THE STANDBY PUMP SHALL START AS DESCRIBED IN THE PUMP START SEQUENCE. THE FAILED PUMP SHALL BE STOPPED AS DESCRIBED IN THE PUMP STOP SEQUENCE.

ROTATION OF PUMPS: BAS SHALL EQUALIZE PUMP RUN-TIME BY ROTATING OR ALTERNATING PUMPS ON A MONTHLY BASIS. CHANGEOVER SHALL BE ACCOMPLISHED BY STARTING THE STANDBY PUMP, AND THEN STOPPING THE RUNNING PUMP. START AND STOP PUMPS AS DESCRIBED IN THE START-STOP SEQUENCE.

DIFFERENTIAL PRESSURE CONTROL: PROVIDE DIFFERENTIAL PRESSURE SENSR TO STAGE AND CONTROL THE PUMP VARIABLE SPEED DRIVE AS REQUIRED TO MAINTAIN THE REQUIRED SETPOINT AT 10 PSI (ADJUSTABLE). SETPOINT SHALL BE DETERMINED VIA TAB. IF ANY HHW CONTROL VALVE IS AT 95% OR MORE OPEN, INCREASE PRESSURE SETPOINT BY 0.5 PSI UNTIL ALL HHW CONTROL VALVES ARE AT 90% OPEN OR LESS. IF ALL HHW CONTROL VALVES ARE AT 80% OPEN OR LESS, DECREASE PRESSURE SETPOINT BY 0.5 PSI UNTIL ANY HHW VALVE REACHES 90% OPEN. DO NOT CHANGE PRESSURE SETPOINT FASTER THAN ONCE EVERY FIVE MINUTES.

US Army Corps of Engineers
Mobile District

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		Revisions		

ALABAMA REGISTERED 06/29/21 NO. 27219 PROFESSIONAL ENGINEER MICHAEL L. HOLLAND

Designed By: MLH
Drawn By: MLH
Checked By: CLE
Reviewed By:
Date: 06-29-2021
File No.:
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U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

ss&a CLARKNEXSEN

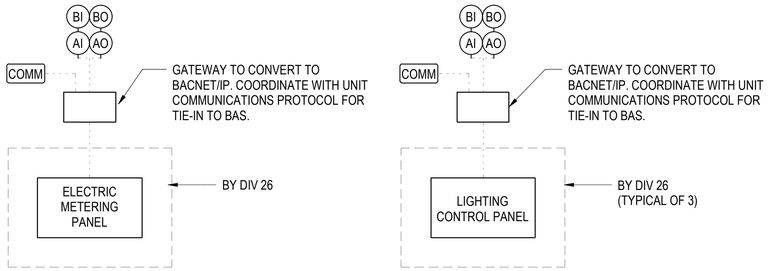
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

CONTROLS

SHEET IDENTIFICATION
M-906
SHEET 291 of 442

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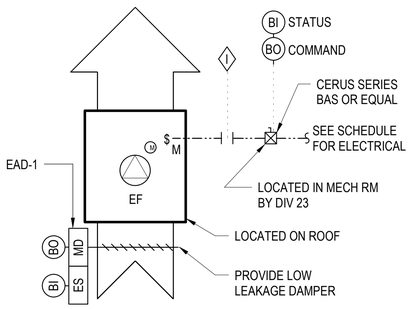
NOTE:
ALL LOW VOLTAGE WIRING SHALL BE BY THE CONTROLS CONTRACTOR. SEE DIVISION 26 SPECIFICATIONS REGARDING CONDUIT AND WIRE.



A3 OTHER DIVISIONS BAS TIE INS
NOT TO SCALE

GENERAL EXHAUST FAN DDC POINTS SCHEDULE

DEVICE	HARDWARE ANALOG INPUT (AI)	HARDWARE ANALOG OUTPUT (AO)	HARDWARE BINARY INPUT (BI)	HARDWARE BINARY OUTPUT (BO)	SOFTWARE ALARM	SOFTWARE ALARM DESCRIPTION
EAD-1 COMMAND (OPEN / CLOSE)				X		
EAD-1 ENDSWITCH STATUS (OPEN / CLOSED)			X		X	STATUS / COMMAND MISMATCH
EXHAUST FAN COMMAND (ON / OFF)				X		
EXHAUST FAN STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH



GENERAL EXHAUST FAN CONTROL SEQUENCES

BAS: PROVIDE FOR REMOTE START-STOP CONTROL FUNCTION.

OPERATION: EXHAUST FAN SHALL BE HARDWIRE INTERLOCKED TO ASSOCIATED AHU. EXHAUST FAN SHALL BE ENERGIZED AND OPERATE CONTINUOUSLY ANYTIME THE ASSOCIATED AHU IS OPERATING. SEE SHEET M-902 FOR A LIST OF EXHAUST FANS AND THEIR ASSOCIATED AHUS.

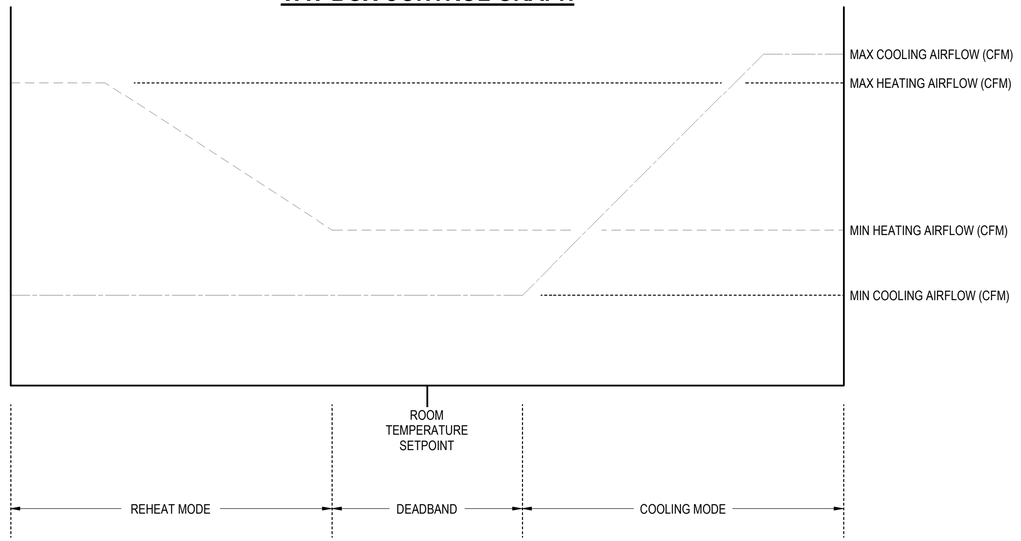
SAFETY CONTROLS: PROVIDE AT / FP EMERGENCY AIR DISTRIBUTION SHUTDOWN SWITCH(ES) AS SHOWN ON FLOOR PLANS. UPON ACTIVATION OF ANY AT / FP SHUTDOWN SWITCH, SHUTDOWN EXHAUST FAN AND FULLY CLOSE (0% OPEN) LOW LEAKAGE EXHAUST AIR DAMPER (EAD-1).

A6 GENERAL EXHAUST FAN CONTROL DIAGRAM, SEQUENCE OF OPERATION, AND DDC POINTS SCHEDULE
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VAV BOX DDC POINTS SCHEDULE

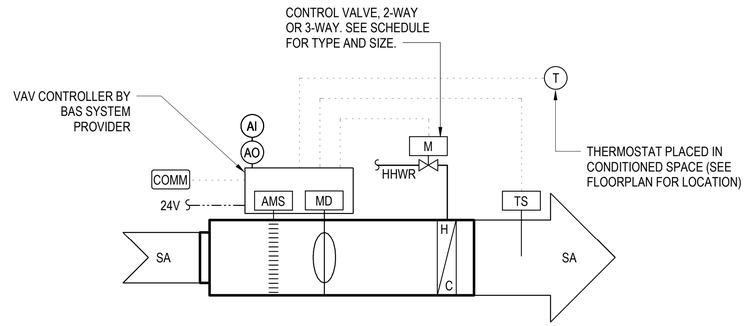
DEVICE	HARDWARE ANALOG INPUT (AI)	HARDWARE ANALOG OUTPUT (AO)	HARDWARE BINARY INPUT (BI)	HARDWARE BINARY OUTPUT (BO)	SOFTWARE ALARM	SOFTWARE ALARM DESCRIPTION
AIR DAMPER POSITION COMMAND (% OPEN)		X				
AIR DAMPER POSITION STATUS (% OPEN)	X				X	+/- 10% AWAY FROM SETPOINT FOR > 5 MINUTES
AIRFLOW (CFM)	X					
DISCHARGE AIR TEMPERATURE (°F)	X					
HHWR MODULATING CONTROL VALVE POSITION COMMAND (% OPEN)		X				
HHWR MODULATING CONTROL VALVE POSITION STATUS (% OPEN)	X				X	+/- 10% AWAY FROM SETPOINT FOR > 5 MINUTES
ZONE TEMPERATURE (°F)	X					

VAV BOX CONTROL GRAPH



PROVIDE THE FOLLOWING FOR ALL VAV BOXES:

1. ROOM TEMPERATURE THERMOSTAT
2. PRESSURE INDEPENDENT VOLUME CONTROLLERS WITH ADJUSTABLE MAXIMUM AND MINIMUM SETTINGS
3. ON RESPECTIVE AHU SHUTDOWN FOR ANY REASON: CLOSE HEATING HOT WATER VALVE TO COIL AND RETURN AIR DAMPER TO 25% POSITION
4. PROVIDE TEMPERATURE SENSOR IN DUCT DOWNSTREAM OF THE HEATING COIL FOR USE IN MONITORING VAV BOX PERFORMANCE



VAV BOX CONTROL SEQUENCE OF OPERATION

VAV BOX WITH REHEAT: SEE "VAV BOX CONTROL GRAPH" THIS SHEET. ON A RISE IN ROOM TEMPERATURE ABOVE SETPOINT CLOSE THE HEATING HOT WATER VALVE. IF HEATING HOT WATER VALVE IS FULLY CLOSED (0% OPEN) AND ROOM TEMPERATURE IS STILL GREATER THAN SETPOINT, MODULATE THE AIR DAMPER OPEN TO ALLOW AN INCREASE IN AIRFLOW UP TO THE MAXIMUM SCHEDULED AIRFLOW. ON A FALL IN ROOM TEMPERATURE BELOW SETPOINT MODULATE THE AIR DAMPER TO ACHIEVE THE SCHEDULED MINIMUM AIRFLOW. IF MINIMUM FLOW HAS BEEN ACHIEVED AND ROOM TEMPERATURE IS STILL BELOW SETPOINT, MODULATE THE HEATING HOT WATER VALVE OPEN. THIS FUNCTION MUST BE CODED FOR PID CONTROL. DO NOT USE A LINEAR LOGIC LOOP.

NOTE: WHEN HHW VALVE IS OPEN, MINIMUM AND MAXIMUM AIRFLOWS SHALL CORRESPOND TO THE MINIMUM AND MAXIMUM SCHEDULED HEATING AIRFLOWS. WHEN HHW VALVE IS CLOSED, MINIMUM AND MAXIMUM AIRFLOWS SHALL CORRESPOND TO THE MINIMUM AND MAXIMUM SCHEDULED COOLING AIRFLOWS.

CONSTANT VOLUME BOX WITH REHEAT: THE AIR DAMPER SHALL MODULATE AS REQUIRED TO MAINTAIN CONSTANT SCHEDULED AIRFLOW. ON A RISE IN ROOM TEMPERATURE ABOVE SETPOINT MODULATE THE HEATING HOT WATER VALVE CLOSED. ON A FALL IN ROOM TEMPERATURE BELOW SETPOINT MODULATE THE HEATING HOT WATER VALVE OPEN. THIS FUNCTION MUST BE CODED FOR PID CONTROL. DO NOT USE A LINEAR LOGIC LOOP.

COOLING ONLY VAV BOX: ON A RISE IN ROOM TEMPERATURE, MODULATE THE AIR DAMPER OPEN TO ALLOW MORE AIRFLOW UP TO THE MAXIMUM SCHEDULED AIRFLOW. ON A FALL IN ROOM TEMPERATURE, MODULATE THE AIR DAMPER CLOSED TO DECREASE AIRFLOW DOWN TO THE MINIMUM SCHEDULED AIRFLOW.

DEADBAND: SET FOR 2°F (ADJ)

ROOM TEMPERATURE SETPOINT: SET FOR 74°F (ADJ)

D6 VAV CONTROL DIAGRAM, SEQUENCE OF OPERATION, AND DDC POINTS SCHEDULE
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MOBILE, ALABAMA

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

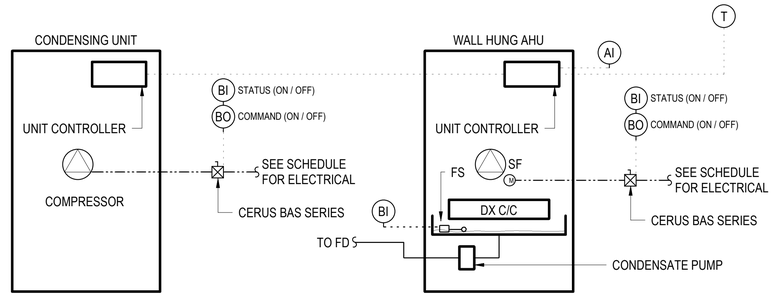
CONTROLS

SHEET IDENTIFICATION
M-907
SHEET 292 of 442

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DIRECT EXPANSION MINI-SPLIT DDC POINTS SCHEDULE

DEVICE	HARDWARE				SOFTWARE	
	ANALOG		BINARY			
	INPUT (AI)	OUTPUT (AO)	INPUT (BI)	OUTPUT (BO)	ALARM	ALARM DESCRIPTION
COMPRESSOR COMMAND (ON / OFF)				X		
COMPRESSOR STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
CONDENSATE PAN FLOAT SWITCH			X		X	SWITCH ACTIVATED
SUPPLY FAN COMMAND (ON / OFF)				X		
SUPPLY FAN STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
ZONE TEMPERATURE (°F)	X					



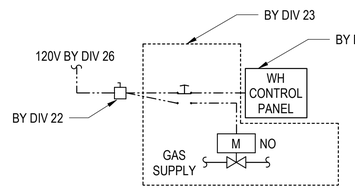
DX MINI SPLIT AC UNIT CONTROL SEQUENCE

START-STOP SEQUENCE: UNIT SHALL BE PROVIDED WITH 7 DAY PROGRAMMABLE THERMOSTAT WHICH CONTROLS SPACE TEMPERATURE TO SETPOINT. ALL UNITS SHALL HAVE COOLING SETPOINTS AND 2°F DEADBAND. INDOOR AHU SHALL CYCLE WITH LOAD. HEAT PUMP MODELS SHALL ALSO HAVE HEATING SETPOINTS. CONDENSATE PUMP SHALL BE INTERLOCK WITH UNIT. UNIT SHALL SHUT-DOWN AND ALARM UPON CONDENSATE PUMP FAILURE. UNIT SHALL SHUT-DOWN UPON ACTIVATION OF CONDENSATE PAN FLOAT SWITCH.

75°F: COOLING SETPOINT (ADJUSTABLE)
70°F: HEATING SETPOINT (ADJUSTABLE)

A3 DIRECT EXPANSION MINI-SPLIT CONTROL DIAGRAM, SEQUENCY OF OPERATION, AND DDC POINTS SCHEDULE

NOT TO SCALE



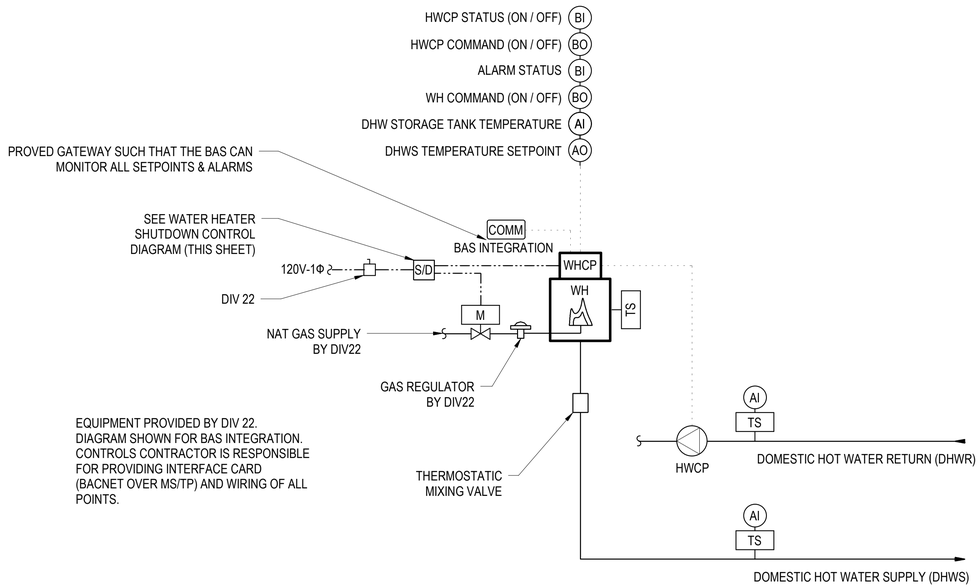
DISCONNECT, WATER HEATER, AND ALL NATURAL GAS SUPPLY PIPING BY DIV 22.

ALL POWER WIRING BY DIV 26.

PROVIDE SIGN ABOVE SHUT DOWN THAT READS "EMERGENCY SHUTDOWN FOR WATER HEATER POWER AND GAS FLOW." 12X8 SIGN SHALL BE RED WITH WHITE LETTERING (1/2" HEIGHT).

F3 DOMESTIC WATER HEATER SHUTDOWN CONTROL DIAGRAM

NOT TO SCALE



DOMESTIC HOT WATER DDC POINTS SCHEDULE

DEVICE	HARDWARE				SOFTWARE	
	ANALOG		BINARY			
	INPUT (AI)	OUTPUT (AO)	INPUT (BI)	OUTPUT (BO)	ALARM	ALARM DESCRIPTION
DHW STORAGE TANK TEMPERATURE (°F)	X				X	READING > 5°F ABOVE SETPOINT
DHWR TEMPERATURE (°F)	X					
DHWS TEMPERATURE (°F)	X				X	TEMBERATURE > 150°F OR < 100°F
HWCP COMMAND (ON / OFF)				X		
HWCP STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
LOW DHWS TEMPERATURE SHUTDOWN (°F)	X				X	TEMPERATURE < 90°F
START / STOP				X		
WATER HEATER STATUS (ON / OFF)			X		X	STATUS / COMMAND MISMATCH
WATER HEATER SUPPLY WATER SET POINT (°F)		X				

DOMESTIC WATER HEATER SEQUENCE OF OPERATION

SAFETY CONTROL FOR WATER HEATERS:

FACTORY CONTROLS: PROVIDE OPERATIONAL CONTROLS THAT DO NOT INTERFERE WITH FACTORY-WIRED SAFETY CONTROLS. FACTORY-WIRED SAFETY CONTROLS SHALL NOT AFFECT DOMESTIC HOT WATER OPERATION.

HOT WATER SUPPLY HIGH TEMPERATURE SHUTDOWN: GENERATE AN ALARM WHEN THE HOT WATER SUPPLY TEMPERATURE EXCEEDS 150°F. INITIATE WATER HEATER SHUTDOWN AND GENERATE A SECOND ALARM WHEN HOT WATER SUPPLY TEMPERATURE EXCEEDS 200°F (ADJUSTABLE).

HOT WATER STORAGE HIGH TEMPERATURE SHUTDOWN: GENERATE AN ALARM WHEN THE HOT WATER STORAGE TEMPERATURE EXCEEDS 150°F. INITIATE WATER HEATER SHUTDOWN AND GENERATE A SECOND ALARM WHEN HOT WATER STORAGE TEMPERATURE EXCEEDS 200°F (ADJUSTABLE).

DOMESTIC WATER HEATER OPERATIONAL CONTROLS:

DOMESTIC WATER HEATER CONTROL PANEL INTERFACE: REFER TO PLUMBING SCHEDULE FOR A DESCRIPTION OF THE FACTORY-SUPPLIED WATER HEATER CONTROL PANEL (WHCP). THE WHCP SHALL START, STOP, SEQUENCE WATER HEATERS AS REQUIRED TO MAINTAIN THE DESIRED DOMESTIC HOT WATER STORAGE TANK TEMPERATURE OF 140° F. MONITOR DOMESTIC HOT WATER HEADER TEMPERATURE (SETPOINT 124-126° F) AND ALARM ABOVE 130° F. THE DOMESTIC HOT WATER SUPPLY TEMPERATURE SENSOR IS FURNISHED WITH THE WHCP. THE DOMESTIC WATER RECIRCULATING PUMP SHALL CYCLE ON / OFF BETWEEN A DOMESTIC HOT WATER RETURN TEMPERATURE OF 122-126°F.

THERMAL ERADICATION: PROVIDE SOFTWARE INTERFACE AND CAPABILITY TO ALLOW STORAGE TANK HEATING UP TO A HOT WATER STORAGE TEMPERATURE OF 180°F FOR THE THERMAL ERADICATION PROCESS. DURING THIS THERMAL ERADICATION PROCEDURE ALL ALARMS SHALL BE DISABLED HOWEVER SHUTDOWN FUNCTIONS/SWITCHES SHALL STILL OPERATE TO INITIATE WATER HEATER SHUTDOWN WHEN HOT WATER STORAGE TEMPERATURE AND/OR HOT WATER SUPPLY TEMPERATURE REACHES 200°F.

EMERGENCY BURNER CONTROL: EMERGENCY BURNER OFF SWITCHES ARE PROVIDED BY DIVISION-23 TO INTERRUPT POWER AND FUEL TO WATER HEATER(S). SEE WATER HEATER SHUTDOWN CONTROL DIAGRAM (THIS SHEET).

A6 DOMESTIC HOT WATER CONTROL DIAGRAM, SEQUENCE OF OPERATION, AND DDC POINTS SCHEDULE

NOT TO SCALE

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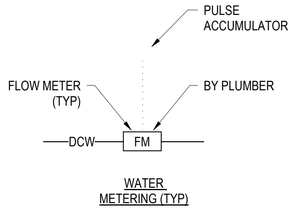
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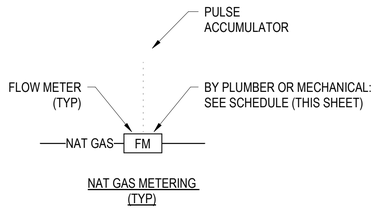
CONTROLS

SHEET IDENTIFICATION
M-908
SHEET 293 of 442

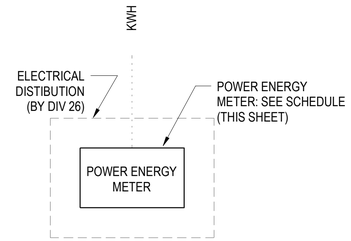
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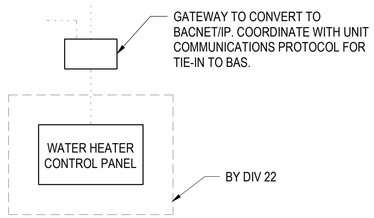


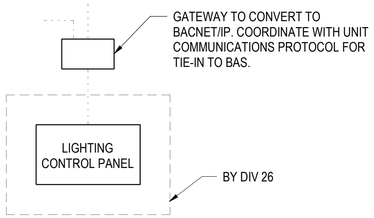
WATER METERING (TYP)



NAT GAS METERING (TYP)







NOTE:
ALL LOW VOLTAGE WIRING SHALL BE BY THE CONTROLS CONTRACTOR. SEE DIVISION 26 SPECIFICATIONS REGARDING CONDUIT AND WIRE.

ENERGY MANAGEMENT SCHEDULE

EQUIPMENT	USE	UNITS	DEVICE	LOCATION	RESPONSIBILITY
MAIN PANEL	ELECTRICITY	KWH	POWER ENERGY METER	141	ELECTRICAL
SUB-METERING PANEL - N41A	ELECTRICITY	KWH	POWER ENERGY METER	141	ELECTRICAL
SUB-METERING PANEL - DP-480-1C	ELECTRICITY	KWH	POWER ENERGY METER	205	ELECTRICAL
SUB-METERING PANEL - DP-480-1D	ELECTRICITY	KWH	POWER ENERGY METER	304	ELECTRICAL
SUB-METERING PANEL - 4HVAC1	ELECTRICITY	KWH	POWER ENERGY METER	100	ELECTRICAL
SUB-METERING PANEL - 4HVAC2	ELECTRICITY	KWH	POWER ENERGY METER	111	ELECTRICAL
SUB-METERING PANEL - 4HVAC3	ELECTRICITY	KWH	POWER ENERGY METER	321	ELECTRICAL
LIGHTING CONTROLS PANEL	ALL POINTS		LIGHTING CONTROLS PANEL	141	ELECTRICAL
LIGHTING CONTROLS PANEL	ALL POINTS		LIGHTING CONTROLS PANEL	205	ELECTRICAL
LIGHTING CONTROLS PANEL	ALL POINTS		LIGHTING CONTROLS PANEL	304	ELECTRICAL
BUILDING LEVEL GAS METER	NAT GAS	MBTUH	FLOW METER	EXTERIOR	MECHANICAL
BOILER (B-1)	NAT GAS	MBTUH	FLOW METER	100	MECHANICAL
BOILER (B-2)	NAT GAS	MBTUH	FLOW METER	100	MECHANICAL
WATER HEATER (GWH-1)	NAT GAS	MBTUH	FLOW METER	100	PLUMBER
WATER HEATER (GWH-2)	NAT GAS	MBTUH	FLOW METER	321	PLUMBER
BUILDING LEVEL WATER METER	WATER	GALLONS	FLOW METER	EXTERIOR	PLUMBER
CHW MAKE UP	WATER	GALLONS	FLOW METER	100	PLUMBER
HHW MAKE UP	WATER	GALLONS	FLOW METER	100	PLUMBER
DHW MAKE UP	WATER	GALLONS	FLOW METER	100	PLUMBER

A3 ENERGY MANAGEMENT
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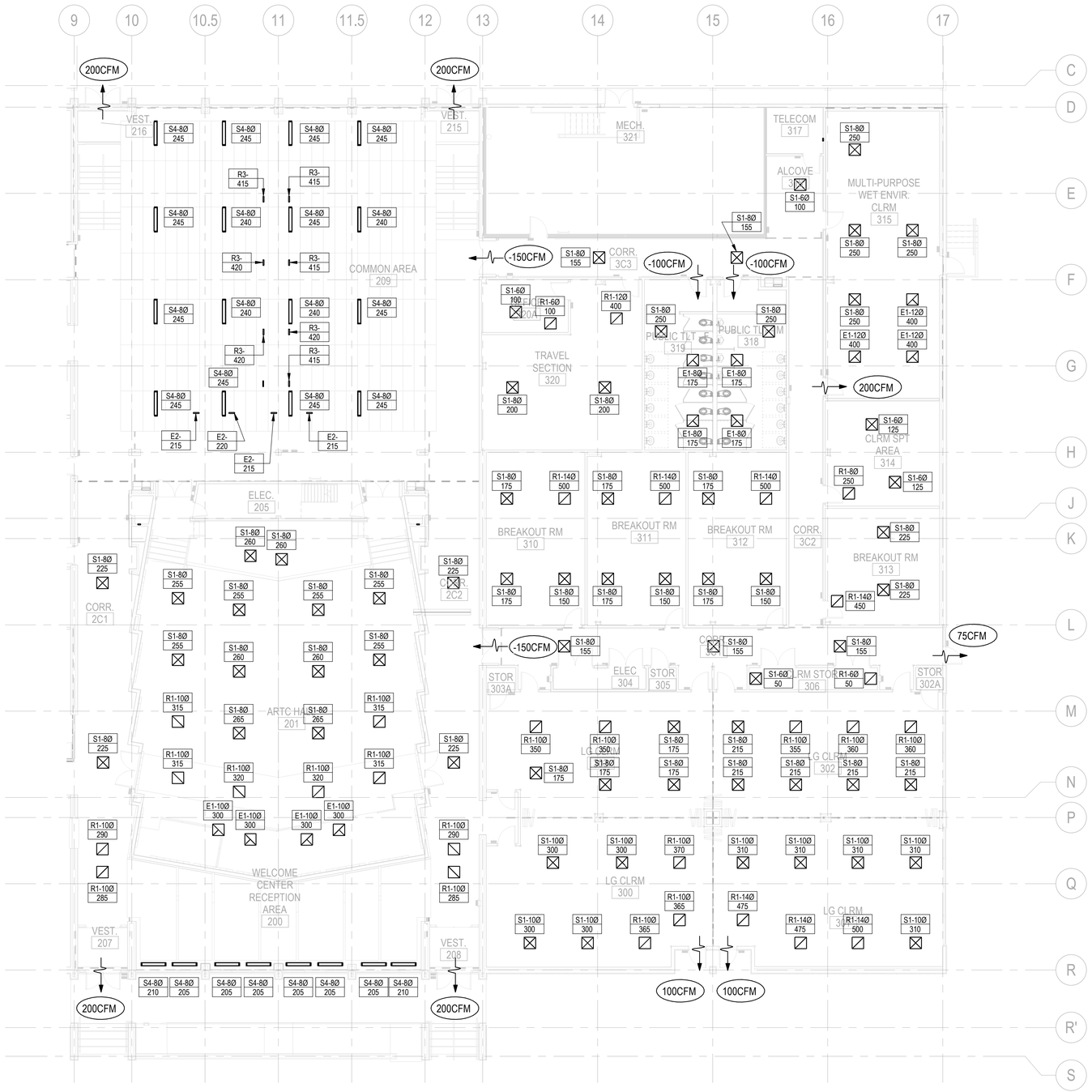
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

CONTROLS

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M-909
SHEET 294 of 442

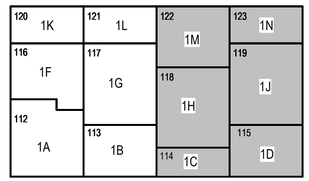
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AIRFLOW MAP - East

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

PLAN NORTH



FIRST FLOOR KEY PLAN

AIRFLOW MAP - EAST

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

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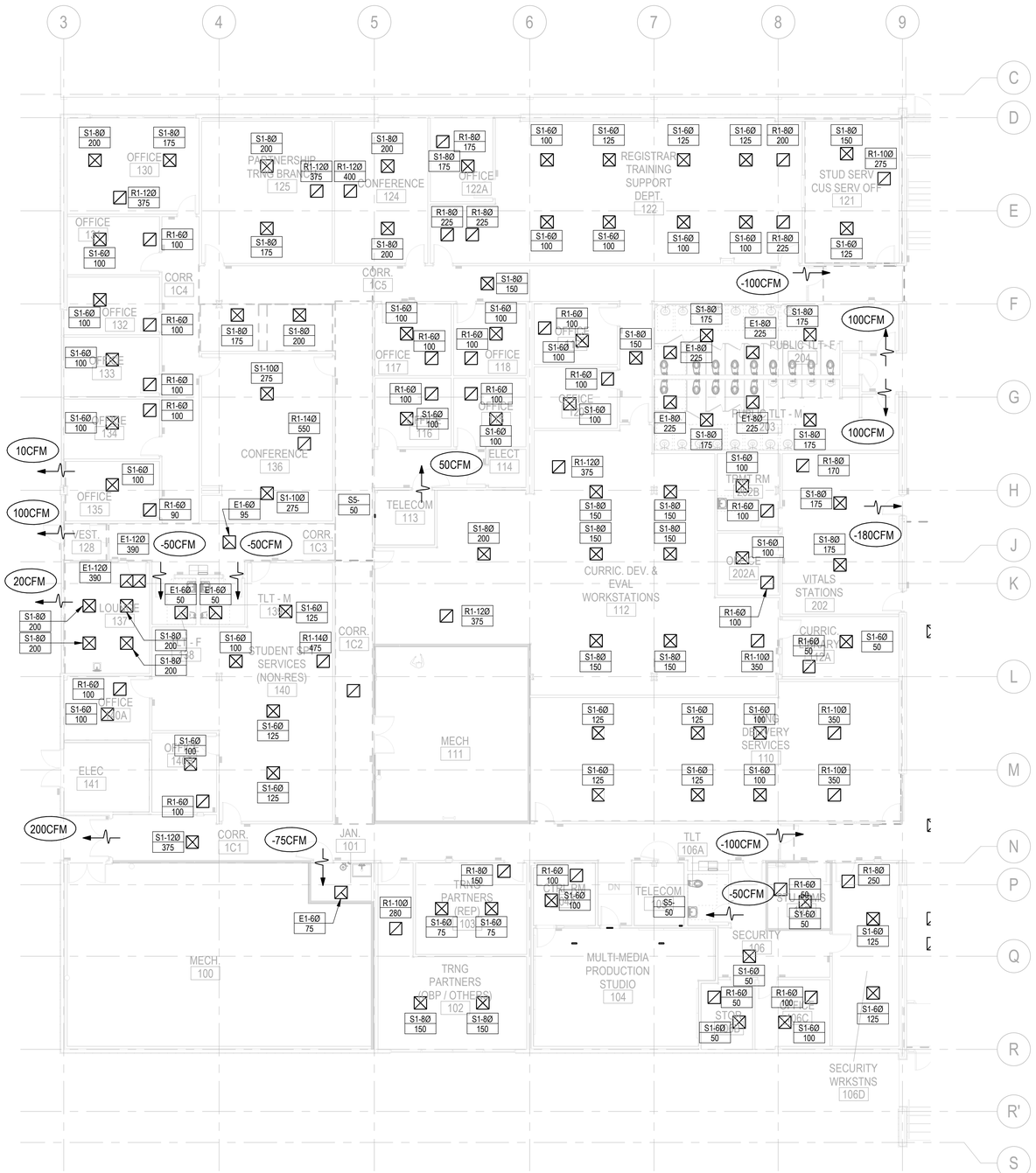
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AIRFLOW MAP - EAST

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M-910
SHEET 295 of 442

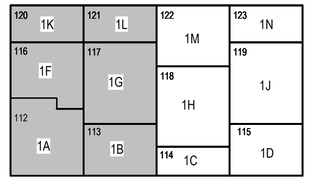
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AIRFLOW MAP - West

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

PLAN NORTH



FIRST FLOOR KEY PLAN

AIRFLOW MAP - WEST

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

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AIRFLOW MAP - WEST

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M-911
SHEET 296 of 442

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SWITCHES & LIGHTING CONTROLS

WALL SWITCHES

$ 1-POLE, 20A, 120/277V AC ONLY, QUIET TYPE.

$2 2-POLE, SINGLE THROW, 20A, 120/277V AC ONLY, MOTOR RATED, QUIET TYPE.

$3 3-WAY, 20A, 120/277V AC ONLY, QUIET TYPE.

$a CONTROLS LIGHT FIXTURE OR OUTLET WITH SUBSCRIPT "a" ETC.

$D SOLID STATE DIMMER, FULL RANGE, LINE VOLTAGE, CONTROLS LED LIGHTS INDICATED.

$1a LOW VOLTAGE OVERRIDE SWITCH FOR AUTOMATIC LIGHTING CONTROLS. (AS SHOWN: ZONE 1, SWITCH a)

$1A1 LOW VOLTAGE OVERRIDE SWITCH FOR AUTOMATIC LIGHTING CONTROLS. ZONE '1A', SWITCH '1' INDICATED.

$a 3 b MULTIZONE SWITCHING. ANNOTATIONS INDICATE WHICH SECTION OF FIXTURE TO BE CONTROLLED, OR WHICH SET OF LIGHTS CONTROLLED. SHOWN - ZONE "b" IS CONTROLLED BY 3 WAY SWITCHING FROM A DISTAL LOCATION.

OCCUPANCY AND LIGHT LEVEL SENSORS

$DT WALL SWITCH TYPE DUAL TECHNOLOGY OCCUPANCY SENSOR.

DT CEILING MOUNTED, DUAL TECHNOLOGY, 360 DEGREE COVERAGE, OCCUPANCY SENSOR.

WALL MOUNTED, DUAL TECHNOLOGY, 360 DEGREE COVERAGE, OCCPANCY SENSOR. MOUNTED 10'-0 AFF UON.

WD1 WIRING DIAGRAM WD1. REFER TO SHEETS EL604-EL608.

DS BUILDING MOUNTED PHOTOCELL.

DAYLIGHT PHOTO SENSORS

DT a DIGITAL, CEILING MOUNTED, INTERIOR DAYLIGHT SENSOR. SUBSCRIPT INDICATES SWITCH LEG(S) BEING CONTROLLED (WHEN PRESENT).

DIGITAL LOCAL AREA CONTROLLERS

LAC 1 L SUPERSCRIPT "1" (SHOWN) INDICATES SINGLE-CONTACT RELAY. SUPERSCRIPT "2" INDICATES TWO-CONTACT RELAY. SUPERSCRIPT "3" INDICATES THREE-CONTACT RELAY. SUBSCRIPT "L" INDICATES CONTROLLER FOR LIGHTING SYSTEM, AND SUBSCRIPT "R" INDICATES CONTROLLER FOR RECEPTACLE CIRCUITS. MOUNT IN JUNCTION BOX ABOVE ACCESSIBLE CEILING, OR MOUNT DIN RAIL IN ENCLOSURE AS INDICATED ON LIGHTING CONTROL WIRING DIAGRAMS ON SHEETS EL604-EL608. WHEN LOCATED ABOVE ACCESSIBLE CEILING, PROVIDE LAMINATED LABEL STATING "DEVICE ROOM CONTROLLER" ON CEILING GRID DIRECTLY BELOW DEVICE LOCATION. PROVIDE SEPARATE ROOM CONTROLLER FOR EACH LOAD, AND PROVIDE SEPARATE ROOM CONTROLLER FOR EACH CIRCUIT.

- TYPICAL AUTOMATIC LIGHTING CONTROL PANELBOARD NAMING SCHEME -

LCP-1B

FIRST POSITION	LCP	-	LIGHTING CONTROL PANEL
SECOND POSITION (1 CHARACTER)	1	-	FIRST FLOOR
	2	-	SECOND FLOOR
THIRD POSITION (1 CHARACTER)	A	-	ELECTRICAL ROOM 'A'
	B	-	ELECTRICAL ROOM 'B'

LUMINAIRES

SURFACE MOUNTED OR CHAIN/PENDANT HUNG 4'-0" LUMINAIRE.

2' X 4' LUMINAIRE - MOUNTING AND TYPE SHOWN IN LIGHT FIXTURE SCHEDULE

2' X 2' LUMINAIRE - MOUNTING AND TYPE SHOWN IN LIGHT FIXTURE SCHEDULE

1' X 4' STRIP OR INDUSTRIAL LUMINAIRE - MOUNTING AND TYPE SHOWN IN LIGHT FIXTURE SCHEDULE

WALL MOUNTED LUMINAIRE

RECESSED DOWN LIGHT LUMINAIRE

WALL SCONCE.

EXIT SIGN, WALL MOUNTED WITH 90 MINUTE BATTERY PACK UNIT. SHADED PORTION DENOTES FACE(S). DIRECTIONAL ARROWS AS INDICATED ON LIFE SAFETY PLAN.

EXIT SIGN, CEILING MOUNTED WITH 90 MINUTE BATTERY PACK UNIT. SHADED PORTION DENOTES FACE(S). DIRECTIONAL ARROWS AS INDICATED ON LIFE SAFETY PLAN.

LUMINAIRE WITH 90 MINUTE BATTERY PACK.

BRANCH CIRCUITS

INDICATES CONCEALED OVERHEAD OR IN WALLS.

INDICATES CONCEALED IN OR BELOW FLOOR SLAB OR BELOW ROOF IN ATTIC OR ABOVE CEILING SPACE. SEE SPECIFICATIONS FOR RESTRICTIONS. CONDUIT BELOW SLAB ON GRADE OR IN SLAB (ALL FLOORS INCLUDED) SHALL BE PVC COATED RIGID CONDUIT.

INDICATES EXPOSED CONDUIT.

CONDUIT TERMINATION, (C) CAPPED, (B) BUSHED, (G) GROUND BUSHING.

BRANCH CIRCUIT WIRING IN CONDUIT. TICK MARKS INDICATE THE NUMBER OF #12 AWG PHASE & NEUTRAL CONDUCTORS IN 19mm (3/4") CONDUIT, UNLESS OTHERWISE NOTED. ALSO ALL CONDUITS SHALL HAVE A #12 AWG GROUND CONDUCTOR, UON. ARROWHEADS INDICATES NUMBER OF CIRCUITS UP TO THAT POINT (DEVICE, FIXTURE, ETC.). EXAMPLE SHOWN, ONE ARROWHEAD/CIRCUIT TO RECEPTACLE.

N21A:1,3,5 HOMERUN TO PANELBOARD. PANELBOARD AND CIRCUIT DESIGNATIONS AS INDICATED.

1" INDICATES SIZE OF CONDUIT OTHER THAN 19mm (3/4"). SHOWN, 1" CONDUIT.

10'S INDICATES SIZE OF ALL CIRCUIT CONDUCTORS INCLUDING GROUND IF OTHER THAN #12 AWG. SHOWN, #10 AWG CONDUCTORS.

JUNCTION BOXES

J JUNCTION BOX IN OR ABOVE CEILING.

WP J WEATHERPROOF DIE CAST BOX WITH WEATHERPROOF COVER.

J JUNCTION BOX IN WALL - MOUNT AT 18")AFF UNLESS OTHERWISE NOTED.

J SAME AS ABOVE EXCEPT WITH FLEXIBLE CONNECTION TO EQUIPMENT.

J GFCI BLANK (NON-RECEPTACLE TYPE) GFCI MODULE, 125V, 20A, HEAVY DUTY FOR PROVIDING GFCI PROTECTION FOR A RECEPTACLE WHICH IS NOT READILY ACCESSIBLE. ROUTE FEED THROUGH THE GFCI DEVICE. MOUNT 18" AFF UNLESS OTHERWISE NOTED. PROVIDE MICARTA LABEL WITH 1/4" HIGH BLACK LETTERS ON WHITE BACKGROUND MOUNTED ABOVE THE FACEPLATE AND READYING "GFCI PROTECTION FOR (EQUIPMENT NAME)". EXAMPLE - "GFCI PROTECTION FOR ELECTRICAL WATER COOLER". BASIS OF DESIGN IS HUBBELL #813R516.

J MF DOUBLE GANG FLUSH FLOOR MOUNTED CONCRETE TIGHT CAST IRON POWER AND/OR COMM FLOOR BOX WITH FLEXIBLE POWER CONNECTION TO PRE-WIRED MODULAR FURNITURE (MF) OR CASEWORK WITH EMPTY CONDUIT SYSTEMS. FOR EMPTY CONDUIT SYSTEMS CONTRACTOR SHALL PROVIDE DEVICES SHOWN ON PLANS WITH WIRING, ETC. AS REQUIRED. FOR MODULAR FURNITURE 36" OF STEEL FLEX WITH 6" OF SLACK WIRE & 90 DEGREE CONNECTOR ON EACH END. CAP CIRCUITS FOR FUTURE CONNECTION BY OTHERS. 2MF OR 3MF SUBSCRIPTS INDICATES 2-GANG OR 3-GANG BOXES RESPECTIVELY WITH DIVIDERS BETWEEN EACH GANG SECTION.

J FLUSH FLOOR MOUNTED POWER OR COMMUNICATIONS JUNCTION BOX WITH BRASS COVER PLATE.

GENERAL RECEPTACLES

SIMPLEX RECEPTACLE, 20A, 125V, 2P-3 WIRE, NEMA 5-20R.

DUPLEX RECEPTACLE, 20A, 125V, 2P-3 WIRE, NEMA 5-20R.

DUPLEX RECEPTACLE, 20A, 125V, 2P-3 WIRE, NEMA 5-20R, SWITCHED BY AUTOMATIC MEANS. RECEPTACLE MUST BE MARKED PER NFPA 70. SEE DETAIL ??/EP???.

STUB-UP THRU FLOOR WITH DIE CAST FSD BOX MOUNTED 6" ABOVE FLOOR WITH DUPLEX RECEPTACLE, 20A, 125V, 2P-3 WIRE, NEMA 5-20R.

DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 2P-3 WIRE, NEMA 5-20R.

EMERGENCY DUPLEX RECEPTACLE, 20A, 125V, 2P-3 WIRE, NEMA 5-20R (RED COLOR). SEE DETAIL F4/EP401.

EMERGENCY DOUBLE DUPLEX RECEPT, 20A, 125V, 2P-3 WIRE, NEMA 5-20R (RED COLOR).

DUPLEX RECEPTACLE, MOUNTED ABOVE CEILING, RECESSED, SUPPORT FROM CEILING SUSPENSION SYSTEM, 20A, 125V, 2P-3 WIRE, NEMA 5-20R.

SURFACE MOUNTED, DUAL CHANNEL RACEWAY. TOP CHANNEL FOR VOICE/DATA OUTLETS, AND BOTTOM CHANNEL FOR POWER RECEPTACLES. MOUNT 4" ABOVE COUNTERTOP OR BACKSPLASH, UNLESS OTHERWISE NOTED. LOCATE RECEPTACLES AT 18" ON CENTER.

SUBSCRIPT MODIFIER LEGEND FOR BASIC RECEPTACLE TYPES:

NOTE: VERIFY WITH CONTRACTING OFFICER THE HEIGHT OF ALL COUNTER TOPS, BACKSPLASHES, TABLE TOPS OR SINKS WHICH AFFECT THE MOUNTING HEIGHT OF RECEPTACLES.

- CRG - TAMPER RESISTANT GFI RECEPTACLE MOUNTED 4" ABOVE COUNTER TOP, BACKSPLASH OR SINK TO CENTER OF RECEPTACLE.
- CT - RECEPTACLE MOUNTED 4" ABOVE COUNTER TOP, BACKSPLASH OR TABLE TOP TO CENTER OF RECEPTACLE.
- CTG - GFI RECEPTACLE MOUNTED 4" ABOVE COUNTER TOP, BACKSPLASH OR SINK TO CENTER OF RECEPTACLE.
- CTR - SAFETY TYPE, TAMPER RESISTANCE RECEPTACLE MOUNTED 4") ABOVE COUNTER TOP OR BACKSPLASH TO CENTER OF RECEPTACLE.
- CW - RECEPTACLE MOUNTED IN CASEWORK 4" ABOVE COUNTER TOP.
- EWC - GFI RECEPTACLE FOR ELECTRIC WATER COOLER. COORDINATE LOCATION AND HEIGHT WITH PLUMBING. LOCATE RECEPTACLE ADJACENT TO WATER COOLER HOUSING.
- EWG - MECHANICAL EQUIPMENT SERVICE RECEPTACLE, WEATHER RESISTANCE GFI TYPE WITH WEATHERPROOF IN USE COVER.
- GFI - GROUND FAULT INTERRUPTER TYPE RECEPTACLE.
- GM - GROUND FAULT INTERRUPTER TYPE RECEPTACLE FOR AN ABOVE COUNTER MICROWAVE.
- HG - HOSPITAL GRADE RECEPTACLE.
- HGG - GFI TYPE, HOSPITAL GRADE RECEPTACLE.
- MF - PREWIRED RECEPTACLE PROVIDED WITH MODULAR FURNITURE. RECEPTACLE MUST BE MARKED PER NFPA 70, 406.3(E). MODULAR FURNITURE MUST BE PROVIDED WITH WIRED "FLEX WHIP" FOR CONNECTION TO POWER BY ELECTRICAL.
- SCW - SAFETY TYPE, TAMPER RESISTANT RECEPTACLE MOUNTED IN CASEWORK.
- SR - SAFETY TYPE, TAMPER RESISTANT RECEPTACLE.
- SRG - SAFETY TYPE, TAMPER RESISTANT GFI.
- SW - RECEPTACLE SWITCHED BY AUTOMATIC MEANS. RECEPTACLE SHALL BE MARKED PER NFPA 70, 406.3(E).
- SW1 - QUAD RECEPTACLE SAME AS ABOVE WITH ONE DUPLEX RECEPTACLE SWITCHED BY AUTOMATIC MEANS.
- SW2 - SAME AS ABOVE WITH BOTH DUPLEX RECEPTACLES SWITCHED BY AUTOMATIC MEANS.
- TS - SURFACE MOUNT TOMBSTONE TYPE RECEPTACLE.
- TVF - RECEPTACLE FOR FLAT SCREEN TV. MOUNT RECEPTACLE 72" AFF TO CENTER OF BOX AND ADJACENT TO TV ANTENNA OUTLET UNLESS NOTED OTHERWISE.
- TVH - TELEVISION RECEPTACLE MOUNTED 84" AFF AND ADJACENT TO TV ANTENNA OUTLET UNLESS NOTED OTHERWISE.
- TVL - TELEVISION RECEPTACLE MOUNTED 18" AFF UNLESS NOTED OTHERWISE.
- WP - WATER AND/OR WEATHER RESISTANT.
- WPG - WEATHER RESISTANT GFI RECEPTACLE WITH WEATHERPROOF IN USE COVER.
- WTG - WEATHER RESISTANT & TAMPER RESISTANT GFI RECEPTACLE WITH WEATHERPROOF IN USE COVER.

FLOOR RECEPTACLES & OTHERS

MULTI SERVICE, HAND ACCESS, REACH-IN TYPE, FLUSH, FLOOR BOX WITH ACTIVATION COVER PLATE. PROVIDE WITH ONE (DUPLEX OR DOUBLE DUPLEX RESPECTIVELY) RECEPTACLE, 20A, 125V, 2P-3 WIRE, NEMA 5-20R. SEE SUBSCRIPT MODIFIER LEGEND UNDER GENERAL RECEPTACLES. SEE TELECOMMUNICATIONS PLANS FOR VOICE/DATA REQUIREMENTS AND NOTES.

FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE , 20A, 125V, 2P-3 WIRE, NEMA 5-20R, UNLESS OTHERWISE NOTED.
MULTI CHANNEL POWER AND COMMUNICATIONS POLE. PROVIDE POWER AS SHOWN, SEE GENERAL RECEPTACLES FOR OUTLETS SHOWN. SEE COMMUNICATION PLANS FOR REQUIREMENTS AND NOTES.

SPECIAL RECEPTACLES

X SPECIAL SIMPLEX RECEPTACLE - NEMA CONFIGURATION AS SHOWN BELOW WHERE 'X' EQUALS ONE OF THE SINGLE SUBSCRIPT LETTERS BELOW. NEMA CONFIGURATION SHOWN ON PLANS ARE FOR BID PURPOSES ONLY. ACTUAL NEMA CONFIGURATION REQUIRED IN EACH CASE MAY VARY DEPENDING UPON SPECIFIC MANUFACTURER OF EQUIPMENT BEING SUPPLIED. VERIFY NEMA CONFIGURATION WITH CONTRACTION OFFICER AND/OR MANUFACTURER.

X SPECIAL RECEPTACLE (EMERGENCY POWER).

SUBSCRIPT MODIFIER LEGEND FOR BASIC RECEPTACLE TYPES:

NOTE: VERIFY WITH CONTRACTING OFFICER THE HEIGHT OF ALL COUNTER TOPS, BACKSPLASHES, TABLE TOPS OR SINKS WHICH AFFECT THE MOUNTING HEIGHT OF RECEPTACLES.

- A - 125V, 30A, 1Ø (NEMA 5-30R)
- B - 125V, 30A, 1Ø (NEMA L5-30R) LOCKING RECEPTACLE
- C - 208V, 15A, 1Ø (NEMA 6-15R)
- D - 208V, 20A, 3Ø (NEMA 11-30R)
- E - 208V, 20A, 1Ø (NEMA 6-20R)
- F - 208V, 20A, 1Ø (NEMA L6-20R) LOCKING RECEPTACLE
- G - 208V, 20A, 1Ø (NEMA 14-20R)
- H - 208V, 20A, 3Ø (NEMA L21-20R) LOCKING RECEPTACLE
- J - 208V, 30A, 1Ø (NEMA 6-30R)
- K - 208V, 30A, 1Ø (NEMA L6-30R) LOCKING RECEPTACLE
- L - 208V, 40A, 1Ø (NEMA 6-50R) ON 40A/2P CIRCUIT BREAKER
- M - 208V, 50A, 1Ø (NEMA 14-50R)
- N - 208V, 50A, 1Ø (NEMA L14-50R) LOCKING RECEPTACLE
- P - 208V, 50A, 3Ø (NEMA 15-50R)
- Q - 208V, 60A, 1Ø (NEMA L14-60R) LOCKING RECEPTACLE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

ELECTRICAL LEGEND

SHEET IDENTIFICATION
E-001
SHEET 297 of 442

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POWER PANELBOARDS & EQUIPMENT

PANELBOARD, SURFACE MOUNTED AT 72" AFF TO TOP. SEE PANELBOARD SCHEDULE.

PANELBOARD, FLUSH MOUNTED AT 72" AFF TO TOP. SEE PANELBOARD SCHEDULE.

DISTRIBUTION PANELBOARD, SURFACE MOUNTED AT 72" AFF TO TOP. SEE PANELBOARD SCHEDULE.

- TYPICAL LIGHTING APPLIANCE PANELBOARD NAMING SCHEME -

N21C1

FIRST POSITION (1-2 CHARACTERS)	E -	EMERGENCY POWER SYSTEM
	N -	NORMAL POWER SYSTEM
	OS -	OPTIONAL STANDBY POWER SYSTEM
SECOND POSITION (1 CHARACTER)	4 -	480Y/277 VOLT
	2 -	208Y/120 VOLT
THIRD POSITION (1 CHARACTER)	1 -	FIRST FLOOR
	2 -	SECOND FLOOR
FOURTH POSITION (1 CHARACTER)	A -	ELECTRICAL ROOM 'A'
	B -	ELECTRICAL ROOM 'B'
FIFTH POSITION (1 CHARACTER)	1 -	PANEL #1
	2 -	PANEL #2
	3 -	PANEL #3

- TYPICAL DISTRIBUTION PANELBOARD NAMING SCHEME -

DPE4

FIRST POSITION (1-2 CHARACTERS)	DP -	DISTRIBUTION PANELBOARD
SECOND POSITION (1-2 CHARACTERS)	N -	NORMAL POWER SYSTEM
	E -	EMERGENCY POWER SYSTEM
	S -	LEGALLY REQUIRED STANDBY POWER SYSTEM
	OS -	OPTIONAL STANDBY POWER SYSTEM
THIRD POSITION (1 CHARACTER)	4 -	480Y/277 VOLT
	2 -	208Y/120 VOLT

DISCONNECT SWITCH, FUSIBLE, IF DISCONNECT SIZE AND FUSING IS NOT SHOWN ON PLAN, REFER TO POWER SINGLE LINE DIAGRAM ON SHEET EP2XX SERIES.

3 5 30

FUSE SIZE (FM - FUSE PER MANUFACTURER'S RECOMMENDATION; NF - NON FUSED)
DISCONNECT AMP RATING
OF POLES

SAME AS ABOVE EXCEPT MOUNTED ON UNISTRUT STAND.

SD

INTEGRAL SAFETY DISCONNECT SWITCH FURNISHED WITH EQUIPMENT. IF EQUIPMENT IS SHOWN WITH DISCONNECT BUT MANUFACTURER DOES NOT PROVIDE ONE, CONTRACTOR IS RESPONSIBLE FOR PROVIDING DISCONNECT OF REQUIRED SIZE AND TYPE. COORDINATE WITH APPROPRIATE TRADE INVOLVED.

T

DRY TYPE TRANSFORMER; ELEC. PARAMETERS AS SHOWN ON SINGLE LINE DIAGRAM.

T-XXX

DRY TYPE TRANSFORMER; ELEC. PARAMETERS AS SHOWN ON PLANS. NAMING SCHEME FOLLOWS PANELBOARD TYPICAL NAMING SCHEMES.

ATS-xx

AUTOMATIC TRANSFER SWITCH (ATS). NON-AUTOMATIC TRANSFER SWITCH (NTS).

MOLDED CASE CIRCUIT BREAKER WITH ADJUSTABLE SOLID STATE ELECTRONIC TRIP (LSI FUNCTIONS).

GFP

MOLDED CASE CIRCUIT BREAKER WITH ADJUSTABLE SOLID STATE ELECTRONIC TRIP AND GROUND FAULT (LSIG).

MOLDED CASE CIRCUIT BREAKER (THERMAL MAGNETIC).

B 22KAIC

CIRCUIT BREAKER IN NEMA 1 ENCLOSURE - SURFACE MOUNTED, 22,000AIC SHOWN. (LEGEND: 'F' = FLUSH MOUNTED; 'SS' SOLID STATE ELECTRONIC TRIP WITH LSI FUNCTIONS; 'GFS' GROUND FAULT SENSING)

CONTROLS & MECHANICAL EQUIPMENT

VFD

DISCONNECT & MOTOR CONTROLLER (STARTER) - MAGNETIC WITH THERMAL OVERLOAD PROTECTION - MAY BE COMBINATION TYPE IN COMMON ENCLOSURE OR SEPARATE DISCONNECT & STARTER. "VFD" SUBSCRIPT WHEN SHOWN (AS HERE) INDICATES VARIBLE FREQUENCY DRIVE MOTOR CONTROLLER WITH INTEGRAL DISCONNECT. COORDINATE EXACT LOCATION WITH MECHANICAL. STAND ALONE STARTERS SHALL BE FURNISHED BY MECHANICAL, CONNECTED BY ELECTRICAL. FOR ALL HVAC EQUIPMENT COMBINATION DISCONNECT & STARTERS & VFD'S SHALL BE FURNISHED & INSTALLED BY MECHANICAL, CONNECTED BY ELECTRICAL. FOR ALL OTHER EQUIPMENT SAID ITEMS SHALL BE FURNISHED, INSTALLED & CONNECTED BY ELECTRICAL.

$M

MOTOR RATED TOGGLE SWITCH, MAXIMUM 20 AMP RATING, 120/277V, 1-POLE. 'M2' OR 'M3' SUBSCRIPT INDICATES 2-POLE OR 3-POLE MANUAL MOTOR CONTROLLER/SWITCH, RESPECTIVELY WITH 30A RATING MAXIMUM.

MOTOR - ELECTRICAL CHARACTERISTICS AS NOTED.

DCP

DIGITAL CONTROL PANEL. (FURNISHED & INSTALLED BY MECHANICAL, POWER CONNECTION BY ELECTRICAL)

SITE LEGEND

EXD

WALL MOUNTED FLOOD LIGHT. EXISTING TO BE DEMOLISHED.

Wx

WALL MOUNTED FLOOD LIGHT (SEE LUMINAIRE SCHEDULE).

POLE MOUNTED WALKWAY LIGHT (SEE LUMINAIRE SCHEDULE).

EX HH

HANDHOLE. EXISTING TO REMAIN.

T

EXISTING PAD MOUNT TRANSFORMER.

T

NEW PAD MOUNT TRANSFORMER (HEAVY LINE INDICATES FRONT OF EQUIPMENT).

P

EXISTING POWER MANHOLE.

PP

UTILITY POWER POLE.

EUS

EUS (EXISTING UNDERGROUND SECONDARY) TO BE DEMOLISHED.

EUS

EUS (EXISTING UNDERGROUND SECONDARY) TO REMAIN.

NUS

NUS (NEW UNDERGROUND SECONDARY) DUCTBANK

US Army Corps of Engineers
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ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Date: 06-29-2021
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Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP; ANNISTON, AL

ELECTRICAL LEGEND

SHEET IDENTIFICATION
E-002
SHEET 298 of 442

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DEMOLITION NOTES

1. IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE PRIOR TO BIDDING TO ASCERTAIN EXITING CONDITIONS AS HE WILL BE RESPONSIBLE FOR EXISTING CONDITIONS AS REQUIRED IN OTHER NOTES.
2. ALL ITEMS SHOWN ON DEMOLITION DRAWINGS ARE TO BE REMOVED UNLESS NOTED OTHERWISE. REMOVE ALL ELECTRICAL ITEMS ASSOCIATED WITH ITEMS SHOWN TO BE REMOVED ON THE DEMOLITION DRAWINGS. THIS MUST INCLUDE, BUT NOT BE LIMITED TO CONDUIT, WIRE, DEVICES, BOXES AND CONDUIT SUPPORTS.
3. THE FOLLOWING REMOVED ELECTRICAL EQUIPMENT MUST REMAIN THE PROPERTY OF THE OWNER AND BE TURNED OVER TO THE OWNER AT A LOCATION DESIGNATED BY THE OWNER ON THE SITE OF THE PROJECT: INDOOR DRY-TYPE TRANSFORMERS, OUTDOOR SILICONE FILLED UNIT SUBSTATIONS WITH PRIMARY SELECTOR SWITCHES, AND 15KV CABLE SWITCHING STATIONS. CARE MUST BE TAKEN NOT TO DAMAGE THE REMOVED EQUIPMENT. THE REMOVED EQUIPMENT MUST BE STACKED NEATLY INSIDE OR OUTSIDE THE DESIGNATED STORAGE AREA AS DIRECTED BY THE OWNER. EQUIPMENT NOT DESIRED BY THE OWNER MUST BE DISPOSED OF OFF SITE BY THE CONTRACTOR AT NO ADDITIONAL COST. WIRE AND CONDUIT WILL BECOME PROPERTY OF THE CONTRACTOR AND MUST BE DISPOSED OF OFF SITE.
4. ABANDONED CONDUIT MUST BE REMOVED TO THE EXTENT POSSIBLE. ABANDONED CONDUIT THAT CANNOT BE REMOVED MUST HAVE ALL WIRING REMOVED FROM THEM.
5. WHERE EXISTING CONDUITS ARE TO BE REUSED, THE OLD WIRES MUST BE REMOVED, THE CONDUIT SWABBED OUT, AND NEW WIRES PULLED IN.
6. IF ANY EXISTING ELECTRICAL EQUIPMENT THAT IS TO REMAIN IN OPERATION BECOMES ISOLATED BECAUSE OF "CONSTRUCTION PHASING" OR BY REMOVAL OF WALLS, CEILINGS, ELECTRICAL EQUIPMENT, ETC., IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REROUTE AND/OR RECONNECT THE EQUIPMENT SO THAT THE SYSTEM BECOMES OPERABLE AS SOON AS POSSIBLE. THIS ALSO APPLIES TO SWITCHING OF LIGHTS AS NEEDED TO KEEP THE FACILITY FUNCTIONAL.
7. ANY MOTORS, HVAC EQUIPMENT OR OTHER EQUIPMENT WHICH IS TO BE REMOVED MUST ALSO HAVE ITS ELECTRICAL CONNECTION REMOVED.
8. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO RELOCATE AND RECONNECT EXISTING ELECTRICAL CIRCUITS AS REQUIRED TO AVOID NEW CONSTRUCTION.
9. WHERE CUTTING OR PATCHING OF WALLS AND CEILINGS IS REQUIRED, THIS CONTRACTOR IS RESPONSIBLE FOR THE SAME, HOWEVER WORK MUST BE PERFORMED BY CRAFTSMEN SKILLED IN THAT TRADE.
10. ANY ELECTRICAL ITEMS ABOVE EXISTING CEILINGS WHICH NEEDS TO BE RELOCATED OR SUPPORTED TO REMAIN IN SERVICE DUE TO DEMOLITION OF EXISTING CEILING MUST BE RELOCATED AND RECONNECTED AS REQUIRED. ELECTRICAL ITEMS SUCH AS EXISTING COMMUNICATIONS CABLES LYING ON EXISTING CEILINGS MUST BE INDEPENDENTLY SUPPORTED WHILE THE EXISTING CEILINGS ARE DEMOLISHED AND REPLACED. SUPPORT MUST KEEP COMMUNICATIONS CABLES AND OTHER ITEMS 12" ABOVE CEILING TO ALLOW FOR PROPER SPACE FOR INSTALLATION OF NEW CEILINGS. THIS INCLUDES, BUT IS NOT LIMITED TO, CONDUIT AND WIRE FOR LIGHTING. POWER, NURSE CALL, FIRE ALARM, PAGING, COMPUTER SYSTEMS, SECURITY, AND HVAC CONTROLS.
11. BEFORE DEMOLISHING AND CONDUIT AND WIRE, THE CONTRACTOR MUST VERIFY WHAT IT SERVES TO ENSURE THAT SERVICE IS NOT LOST TO EQUIPMENT OUTSIDE THE CONSTRUCTION AREA.
12. WHERE EXISTING PANELBOARDS AND ELECTRICAL DEVICES SUCH AS RECEPTACLES, LIGHT SWITCHES AND JUNCTION BOXES ARE NOT REUSED, THEY MUST BE REMOVED AND THE WALL AND/OR CEILING PATCHED. BLANK PLATES ARE NOT ACCEPTABLE.
13. EXISTING CONDUITS WHICH PENETRATE EXTERIOR WALLS MUST EITHER BE REMOVED AND THE EXTERIOR WALL PATCHED OR BE SEALED ON INTERIOR SIDE OF THE BUILDING TO PREVENT WATER FROM ENTERING THE BUILDING.
14. FOR DEMOLITION PLANS, SEE SHEETS ED101 AND ED111.
15. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF PCB BALLASTS AND FLUORESCENT LAMPS FROM ALL DEMOLISHED LIGHT FIXTURES. BALLAST MUST BE DELIVERED TO DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO) ON BASE FOR DISPOSAL BY THE GOVERNMENT.
16. REMOVE ALL ELECTRICAL ITEMS AS INDICATED ON SHEET ED111. RECONNECT CIRCUITS TO MAINTAIN INTEGRITY OF EXISTING CIRCUIT.
17. WHERE ELECTRICAL EQUIPMENT IS NOT SHOWN ON WALLS THAT ARE TO BE REMOVED, CONTRACTOR MUST FIELD VERIFY LOCATIONS OF EQUIPMENT AND BE RESPONSIBLE FOR REMOVAL OF SAME AS WELL AS RECONNECTION OF EXISTING CIRCUITS.

ABBREVIATIONS

A	AMPERES
AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AVAILABLE INTERRUPTING CURRENT RATING
ARF	ABOVE RAISED FLOOR
ATS	AUTOMATIC TRNSFER SWITCH
BATT	BATTERY
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CF	COMPACT FLUORESCENT
CIRC	CIRCUIT
CL	CEILING MOUNTED
COMM	COMMUNICATIONS
CT	COUNTER TOP
CW	CASEWORK
DETD	DUAL ELEMENT TIME DELAY
EC	EMPTY CONDUIT
ECB	EMERGENCY CENTRAL BATTERY SYSTEM
EM	EMERGENCY
ENC	ENCLOSED
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING TO REMAIN
EXD	EXISTING TO BE RELOCATED DURING CONSTRUCTION
EXR	EXISTING EQUIPMENT SHOWN IN NEW LOCATION
FIO	FOR INFORMATION ONLY
FUT	FUTURE
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
GFRI	GROUND FAULT INDICATION ONLY
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER RATING
LCP	LIGHTING CONTROL PANEL
LSI	LONG, SHORT, INSTANTANEOUS (TRIPPING)
LSIG	LONG, SHORT, INSTANTANEOUS, GROUND (TRIPPING)
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MT	MOUNT
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT (DO NOT SWITCH)
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
PDS	PREMISES DISTRIBUTION SYSTEM
PNL	PANEL
PNLBD	PANELBOARD
PR	PAIR
PSMH	PULSE START METAL HALIDE
RCPT	RECEPTACLE
REF	REFRIGERATOR
REQ'D	REQUIRED
RS	INDICATES FOR ROLL-UP SHUTTER
SLD	SINGLE LINE DIAGRAM
SM	SURFACE MOUNTED
SS	SOLID STATE ADJUSTABLE (LSI) TRIP
ST	SHUNT TRIP
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
WG	WIREGUARD
WP	RAINTIGHT (NEMA 3R CLASSIFICATION)
WPG	INDICATES WEATHERPROOF EQUIPMENT WITH GROUND FAULT CAPABILITY
XFMR	TRANSFORMER

GENERAL NOTES

1. ELECTRIC WATER COOLER RECEPTACLES INDICATED BY "EWC" SHALL BE LOCATED AS REQUIRED TO CONCEAL THE RECEPTACLE BEHIND THE WATER COOLER ASSEMBLY. COORDINATE WITH PLUMBING TRADE.

2. MOTOR CONTROL DEVICES FURNISHED IN PLACE BY MECHANICAL TRADE, BUT ELECTRICALLY CONNECTED BY ELECTRICAL TRADE.

3. FLEXIBLE CONDUIT INSTALLED OUT-OF-DOORS, IN ANY MECHANICAL EQUIPMENT ROOM, OR IN NORMALLY WET AREAS, SHALL BE LIQUID TIGHT FLEX WITH SUITABLE FITTINGS.

4. COORDINATE WITH ALL MECHANICAL TRADES FOR SPACE REQUIREMENTS IN MECHANICAL ROOMS, CORRIDORS, SHAFTS, ABOVE CEILING, ETC. THIS INCLUDES SPACE ABOVE PANELS WHERE DUCTS AND PIPING ARE PROHIBITED.

5. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT, SEE MECHANICAL PLANS.

6. WHERE WALL SWITCHES AND CONTROL DEVICES SUCH AS THERMOSTATS ARE SHOWN AT THE SAME LOCATION IN PLAN VIEW (CONTROL DEVICES SUCH AS THERMOSTATS ARE SHOWN ON THE MECHANICAL DRAWINGS) THEY SHALL BE MOUNTED WITH THE CONTROL DEVICE DIRECTLY IN LINE ABOVE THE SWITCH.

7. THE LOCATION OF FIXTURES IN MECHANICAL ROOMS, ELECTRICAL ROOMS, MACHINE ROOMS, ETC. ARE SHOWN FOR BID PURPOSES ONLY. FIXTURES SHALL BE INSTALLED SO AS TO COORDINATE WITH ALL TRADES AND SHALL BE ARRANGED FOR MAXIMUM LIGHTING DISTRIBUTION OF THE AREA.

8. PROVIDE FLEXIBLE CONDUIT FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS. SEE ARCHITECTURAL DRAWINGS FOR EXPANSION JOINT LOCATIONS.

9. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED EQUIPMENT.

10. CONTRACTOR SHALL VERIFY AND COORDINATE ALL MOUNTING HEIGHTS OF ALL DEVICES MOUNTED IN CASEWORK OR IN OR ABOVE COUNTERS WITH SPECIFIC EQUIPMENT FURNISHED.

11. OUTLET BOXES (RECEPTACLES, LIGHT SWITCHES, TELEPHONE, ETC.) 16 SQUARE INCHES IN SMOKE AND FIRE WALLS MUST BE FIVE SIDED WITH SAME CONSTRUCTION AS WALL SYSTEM. WHERE OUTLET BOXES ARE ON OPPOSITE SIDES OF A FIRE WALL THERE MUST BE A 24" HORIZONTAL SEPARATION BETWEEN THEM OR BOXES SHALL BE PROTECTED WITH UL LISTED FIRE RESISTANT MATERIAL ON 5 SIDES.

12. BRANCH CIRCUITS AND HOMERUNS SHALL BE #12 WIRE AND 1/2" CONDUIT MINIMUM. EVERY CONDUIT SHALL HAVE A GROUND WIRE (#12 MINIMUM).

13. NO MORE THAN THREE PHASE CONDUCTORS MAY BE INSTALLED IN ONE CONDUIT UNLESS NOTED OTHERWISE.

14. ALL NORMAL RECEPTACLES, SWITCHES, ETC. TO BE GRAY WITH STAINLESS STEEL PLATES UNLESS NOTED OTHERWISE. ALL RECEPTACLES AND LIGHT SWITCHES ON EMERGENCY POWER SHALL BE RED. ENGRAVE EMERGENCY RECEPTACLE PLATES WITH "EMERGENCY" IN 1/4" HIGH RED LETTERS.

15. PROVIDE BARRIERS BETWEEN ALL 277V SWITCHES MOUNTED UNDER THE SAME COVER PLATE WITH OTHER 277V SWITCHES ON DIFFERENT PHASES OR 120V SWITCHES.

16. MOUNTING HEIGHTS OF WALL OUTLETS ABOVE FINISHED FLOOR SHALL BE AS INDICATED IN THE LEGEND AND IN THE FOLLOWING TABLE UNLESS NOTED OTHERWISE ON THE PLANS (MOUNTING HEIGHTS ARE TO CENTERLINE OF DEVICE):

SWITCHES (GENERAL) ---------- 48"
RECEPTACLES (GENERAL) ---------- 18"

17. MAINTAIN N.E.C. MINIMUM CLEARANCE IN FRONT OF ALL SAFETY SWITCHES, PANELBOARDS, SWITCHBOARDS, SWITCHGEAR, TRANSFER SWITCHES, TRANSFORMERS, AND OTHER ELECTRICAL EQUIPMENT. DETERMINE PROPER CLEARANCE BEFORE INSTALLATION. DIMENSIONS OF EQUIPMENT SHOWN ARE BASED ON A PARTICULAR MANUFACTURER. IF DIMENSIONS OF EQUIPMENT FURNISHED DIFFER FROM THOSE ON THE DRAWINGS CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL EQUIPMENT FITS IN THE ROOM OR SPACE ALLOCATED WITH PROPER CLEARANCE.

18. PRIOR TO ROUGH-IN CONTRACTOR TO PROVIDE SCALED WALL ELEVATIONS WHERE ALL ALARM CABINETS, SIGNAL CABINETS, ETC. ARE INSTALLED IN OTHER THAN MECHANICAL AND ELECTRICAL CLOSETS FOR APPROVAL.

19. ALL UNDERGROUND CONDUIT RUNS ENTERING THE BUILDING SHALL BE SEALED TO PREVENT THE ENTRANCE OF MOISTURE AND GASES.

20. PROVIDE A COMPLETELY CONCEALED U.L. MASTER LABEL LIGHTNING PROTECTION SYSTEM.

21. CONDUIT FOR RECEPTACLE CIRCUITS AND OTHER POWER BRANCH CIRCUIT WIRING AS WELL AS COMMUNICATION SYSTEMS CONDUITS SHALL BE RUN OVERHEAD UNLESS NOTED OTHERWISE.

22. PROVIDE CONDUIT FOR OUTLET BOXES AS REQUIRED FOR THERMOSTATS. THERMOSTATS ARE SHOWN ON MECHANICAL DRAWINGS.25. CONTRACTOR SHALL VERIFY AND COORDINATE ALL CONNECTIONS TO EQUIPMENT WITH SPECIFIC EQUIPMENT FURNISHED.

23. ALL ITEMS ON PLANS ARE NEW UNLESS NOTED OTHERWISE.

24. ALL RECEPTACLES BESIDE SINKS SHALL BE LOCATED AT LEAST 6" HORIZONTALLY FROM THE TOWEL DISPENSER. UNDER NO CONDITION SHALL A RECEPTACLE BE LOCATED UNDER A TOWEL DISPENSER.

25. IN MANY CASES THROUGHOUT THE PLANS EQUIPMENT CONNECTIONS ARE IDENTIFIED ON THE PLANS WITH A LETTER AND A FOUR DIGIT NUMBER. EXAMPLE: R7000 IS A REFRIGERATOR. THE EQUIPMENT SCHEDULE AND ANY SPECIAL CONNECTION INFORMATION FOR THESE ITEMS IS SHOWN ON THE ARCHITECTURAL A600 SERIES OF SHEETS.

26. THE VERBIAGE "SEE TYPICAL" USED IN NOTES SHALL MEAN TO PROVIDE ALL ELECTRICAL ITEMS AS SHOWN IN THE REFERENCED TYPICAL ROOM.

27. IN ALL ROOMS WITHOUT FINISHED CEILINGS INSTALL ALL ELECTRICAL CONDUITS AS CLOSE TO THE STRUCTURAL CEILING AS POSSIBLE.

28. CONNECTIONS TO MECHANICAL EQUIPMENT ARE BASED ON A PARTICULAR MANUFACTURER. IF CONNECTIONS TO EQUIPMENT DIFFER FROM THAT SHOWN ON THE DRAWINGS, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CONNECTIONS AS REQUIRED.

29. UNLESS NOTED OTHERWISE, THE CONDUIT SIZES SHOWN ON THE DRAWINGS FOR POWER AND LIGHTING ARE BASED ON THHN CONDUCTORS AND APPLY TO ALL TYPES OF CONDUIT EXCEPT FOR SCHEDULE 80 PVC. FOR SCHEDULE 80 PVC INCREASE CONDUIT SIZE BY ONE TRADE SIZE OVER THAT WHICH IS SHOWN ON THE DRAWINGS OR CALCULATE THE SIZE PER NATIONAL ELECTRICAL CODE. IF A DIFFERENT TYPE OF CONDUCTOR INSULATION IS USED RATHER THAN TYPE THHN THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING CONDUIT PER NEC BEFORE INSTALLATION. ANY INCREASE IN CONDUIT SIZES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

30. SEE MECHANICAL SCHEDULE ON MECHANICAL DRAWINGS FOR ELECTRICAL REQUIREMENTS OF MECHANICAL EQUIPMENT. COORDINATE WITH MANUFACTURER'S DATA IN OWNER APPROVED MECHANICAL SUBMITTAL SO TO ENSURE THAT THE BRANCH CIRCUIT AND OVERCURRENT PROTECTION ARE PROPERLY SIZED FOR THE MECHANICAL EQUIPMENT BEING INSTALLED. THE CONTRACTOR SHALL PROVIDE (AT NO ADDITIONAL COST TO OWNER) PROPERLY SIZED ELECTRICAL EQUIPMENT BASED ON THE MANUFACTURER'S DATA IN THE APPROVED MECHANICAL EQUIPMENT SUBMITTAL. THE CONTRACTING OFFICER MUST APPROVE ANY PROPOSED CHANGES IN THE BRANCH CIRCUIT AND OVERCURRENT PROTECTION..

31. CONTRACTOR SHALL PROVIDE 1500 FEET OF 2#12AWG, 1#12GND AND 3/4" CONDUIT OR THE EQUIVALENT THEREOF FOR MISCELLANEOUS CIRCUITS AS DIRECTED BY THE GOVERNMENT. CONTRACTOR SHALL MAINTAIN A LOG OF MATERIAL USED.

32. PROVIDE AN ARC FLASH STUDY AND COORDINATION STUDY ONCE THE ELECTRICAL SYSTEM (AS-BUILT SYSTEM) IS IN PLACE THAT WILL YIELD THE REQUIRED ARC FLASH WARNING LABELS IN ACCORDANCE WITH NEC 110.16(A) AND NFPA 72E AS WELL AS THE FINAL ADJUSTABLE TRIP ELECTRONIC CIRCUIT BREAKER SETTINGS.

33. ALL PANELBOARDS MUST HAVE A PERMANENT SIGN TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARD AND THAT PERSONAL PROTECTIVE EQUIPMENT (PPE) IS REQUIRED. THE MARKING MUST BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE SERVICING THE EQUIPMENT. PROVIDE LABEL IN ACCORDANCE WITH NEC 110.16.

34. THE SERVICE PANELBOARD MUST INCLUDE A LAMINATED PLASTIC LABEL TO INDICATE THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SERVICE AND THE DATE THE FAULT CALCULATION WAS PERFORMED IN ACCORDANCE WITH NECE 110.24. SEE SINGLE LINE DIAGRAMS FOR DATA. PROVIDE SIGNAGE AT THE SERVICE PANELBOARD INDICATED THE LOCATION OF THE GENERATOR SET.

35. CONTRACTOR MUST COORDINATE WITH THE PANELBOARD MANUFACTURER AND PROVIDE CIRCUIT BREAKERS IN THE PANELBOARD SUBMITTAL THAT WILL COORDINATE TO 0.1 SECONDS FROM THE SERVICE PANELBOARD TO ALL DOWNSTREAM CIRCUIT BREAKERS (INCLUDING BRANCH PANEL CIRCUIT BREAKERS).

36. CONTRACTOR MUST PROVIDE JUNCTION BOXES AND PULL BOXES AS REQUIRED IN LONG CONDUIT RUNS TO AVOID EXCEEDING THE MAXIMUM NUMBER OF BENDS IN A SINGLE RUN. SIZE OF JUNCTION BOXES WILL BE GOVERNED BY NEC REQUIREMENTS FOR ELECTRICAL CONDUITS, AND TIA REQUIREMENTS FOR TELECOMMUNICATIONS CONDUITS.

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Mobile District

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ALABAMA
LICENSED
NO. 22478
PROFESSIONAL
06/29/21
ENGINEER
MORGAN LEE BARNES

Date: 06-29-2021
File No:
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Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

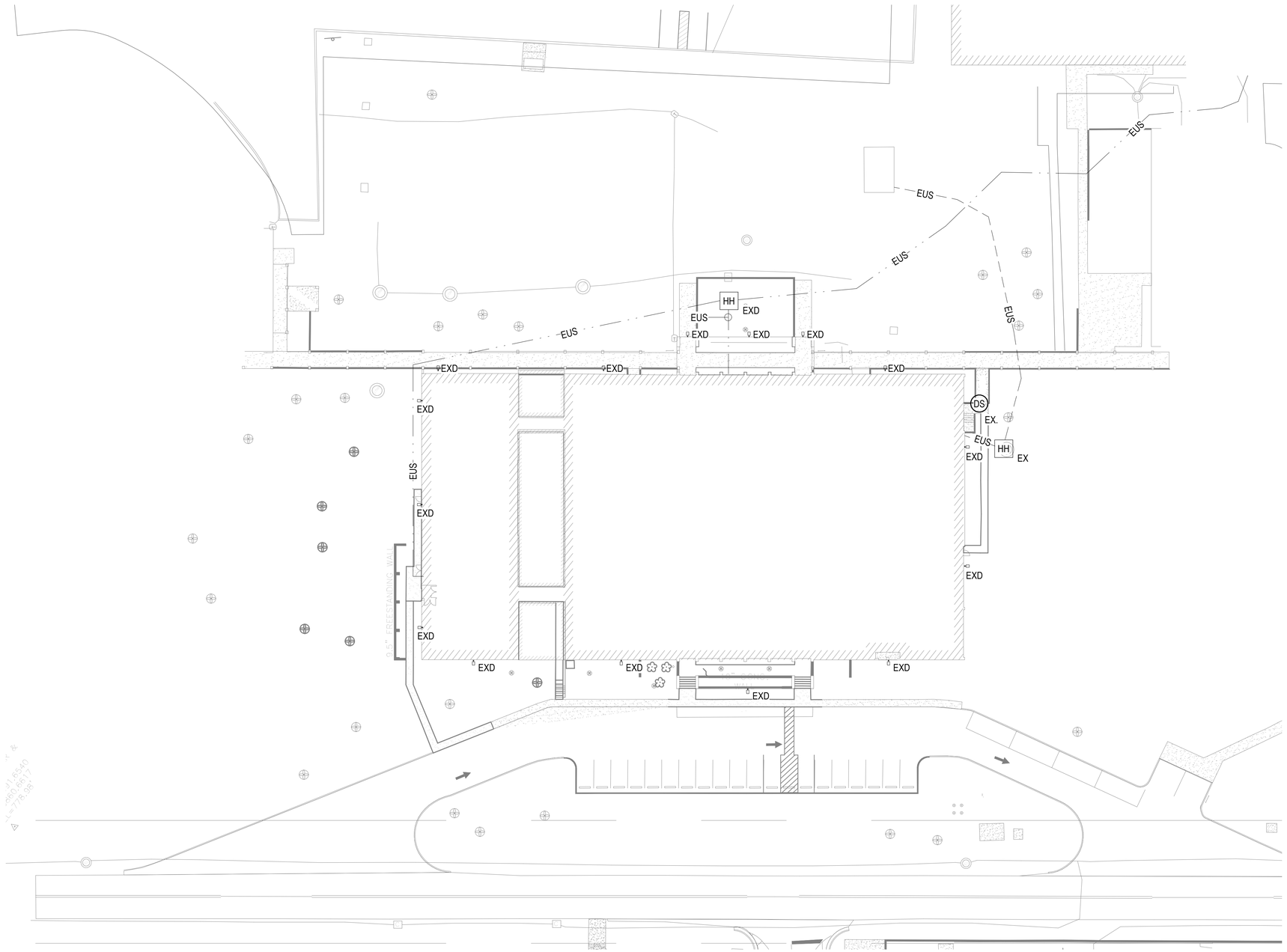
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

ELECTRICAL NOTES

SHEET IDENTIFICATION
E-003
SHEET 299 of 442

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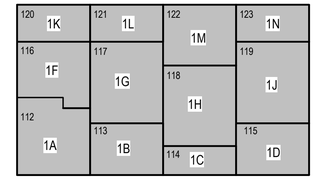


NOTES:

1. EXISTING PANELBOARD, TRANSFORMER, DISCONNECT, AND AUTOMATIC TRANSFER SWITCH TO BE DISCONNECTED AND PLACED IN STORAGE FOR RE-USE DURING CONSTRUCTION. SEE DETAIL D6/EP401 FOR NEW LOCATION OF EQUIPMENT.
2. EXISTING SECURITY TELECOMM ROOM 'LR-B' TO BE REMOVED. EXISTING NETWORK SWITCHES AND DVR MUST BE TURNED OVER TO THE GOVERNMENT, AS THEY WILL BE REPLACED DURING THE RENOVATION.
3. EXISTING SECURITY TELECOMM ROOM 'LR-A' TO BE REMOVED. EXISTING NETWORK SWITCHES AND DVR MUST BE TURNED OVER TO THE GOVERNMENT, AS THEY WILL BE REPLACED DURING THE RENOVATION.
4. APPROXIMATE LOCATION OF EXISTING FIXED ANALOG CAMERA 'B640-4' IS AT END OF COVERED WALKWAY NEAR BUILDING 160B. FIELD VERIFY. EXISTING CAMERA IS TO BE REPLACED WITH IP-BASED CAMERA AND CONNECTED TO VSS IN BUILDING 640.
5. APPROXIMATE LOCATION OF EXISTING FIXED ANALOG CAMERA 'B640-6'. FIELD VERIFY. EXISTING CAMERA IS TO BE REPLACED WITH IP-BASED CAMERA AND CONNECTED TO VSS IN BUILDING 640.

NOTES (CONT'D):

6. APPROXIMATE LOCATION OF EXISTING FIXED ANALOG CAMERA 'B640-1'. FIELD VERIFY. EXISTING CAMERA IS TO BE REPLACED WITH IP-BASED CAMERA AND BE CONNECTED TO VSS IN BUILDING 640.
7. APPROXIMATE LOCATION OF EXISTING FIXED ANALOG CAMERA 'B640-2' IS LOCATED AT END OF CANOPY BY BUILDING 333. FIELD VERIFY. EXISTING CAMERA IS TO BE REPLACED WITH IP-BASED CAMERA AND CONNECTED TO VSS IN BUILDING 640.
8. APPROXIMATE LOCATION OF EXISTING FIXED ANALOG CAMERA 'B640-5'. FIELD VERIFY. REMOVE AND TURN OVER TO GOVERNMENT, AS THIS CAMERA WILL BE REPLACED AS PART OF THE VSS WITHIN BUILDING 640.
9. APPROXIMATE LOCATON OF EXISTING FIXED ANALOG CAMERA 'B640-3'. FIELD VERIFY. REMOVE AND TURN OVER TO GOVERNMENT, AS THIS CAMERA WILL BE REPLACED AS PART OF THE VSS WITHIN BUILDING 640.



PLAN NORTH

FIRST FLOOR KEY PLAN

DEMOLITION COMPOSITE PLAN - ELECTRICAL

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

0 6' 12' 24'

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

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ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

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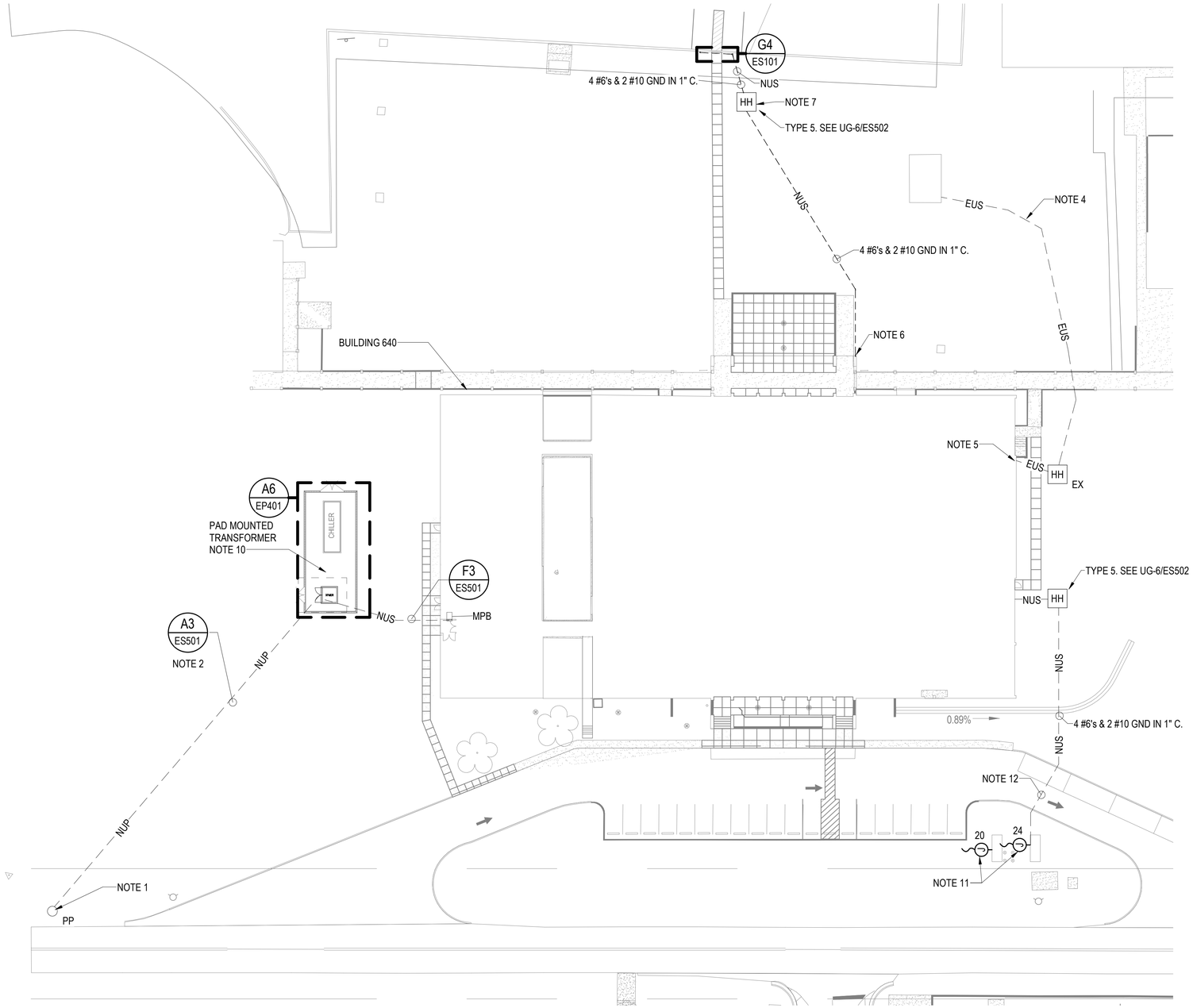
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

DEMOLITION COMPOSITE PLAN - ELECTRICAL

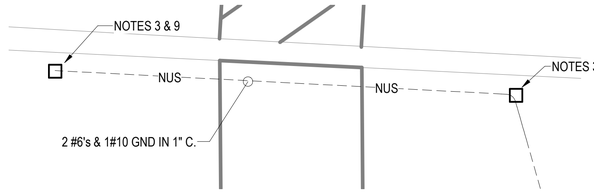
SHEET IDENTIFICATION
ED111
SHEET 301 of 442

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C6 ELECTRICAL SITE PLAN - POWER
SCALE: 1" = 30'-0"

NOTES:
1. ESTIMATED LOCATION OF UTILITY POWER POLE TO BE PROVIDED BY ALABAMA POWER. COORDINATE WITH ALABAMA POWER FOR EXACT LOCATION.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A CONCRETE ENCASED DUCTBANK WITH A PULLSTRING. PRIMARY CABLE WILL BE RUN THROUGH THE DUCTBANK BY THE POWER COMPANY.
3. PROVIDE POWER PEDASTAL WITH LOCKABLE IN USE COVER FOR AMBULANCE PLUG IN RECEPTACLES. PROVIDE (2) 120V, 1 PHASE, 20A DUPLEX RECEPTACLES - WEATHERPROOF GFCI TYPE. PROVIDE JUNCTION BOX INSIDE POWER PEDASTAL TO REDUCE TO #10 WIRE BEFORE CONNECTING TO RECEPTACLES. POWER PEDASTAL BASIS OF DESIGN IS PEDOC POWER SOLUTIONS PART NUMBER 542HT-1.
4. CONTRACTOR SHALL PULL NEW WIRES THROUGH EXISTING UNDERGROUND SECONDARY CONDUIT TO NEW SERVICE LOCATION INSIDE THE BUILDING. SEE SINGLE LINE DIAGRAM FOR WIRE SIZES.
5. EXISTING ENTRY POINT OF GENERATOR SERVICE. DEMOLISH EXISTING PULL BOX AND EXTEND CONDUIT TO 10'-6" AFF. SEE SHEET EP111 FOR CONTINUATION.
6. STUB UP CONDUIT BENEAT COLUMN AND RISE OVERHEAD. ROUTE TO PANELBOARD 2HVAC3 IN MECHANICAL ROOM 321. SEE GENERAL NOTE 36 ON SHEET E-003.
7. MINIMUM BURIAL DEPTH OF 28" BELOW FINISHED GRADE.
8. DUPLEX RECEPTACLES IN THIS POWER PEDASTAL ARE POWERED FROM PANELBOARD 2HVAC3 CIRCUIT 6.
9. DUPLEX RECEPTACLES IN THIS POWER PEDASTAL ARE POWERED FROM PANELBOARD 2HVAC3 CIRCUIT 8.
10. 300KVA PAD-MOUNTED TRANSFORMER TO BE PROVIDED BY THE POWER COMPANY.
11. POWER CONNECTION FOR BACKFLOW PREVENTER AIR HEATER. COORDINATE CONNECTION DURING BACKFLOW PREVENTER INSTALLATION. CIRCUIT TO PANEL N21D1 IN ELECTRICAL ROOM 304. SEE GENERAL NOTE 36 ON SHEET E-003.
12. OPEN CUT ACROSS PAVED DRIVEWAY AND BURY CONDUIT A MINIMUM 24" TRENCH BACKFILL AND PAVEMENT REPAIR REQUIREMENTS ARE INDICATED ON THE CIVIL DRAWINGS.



G4 ENLARGE PLAN - AMBULANCE POWER
SCALE: 3/8" = 1'-0"

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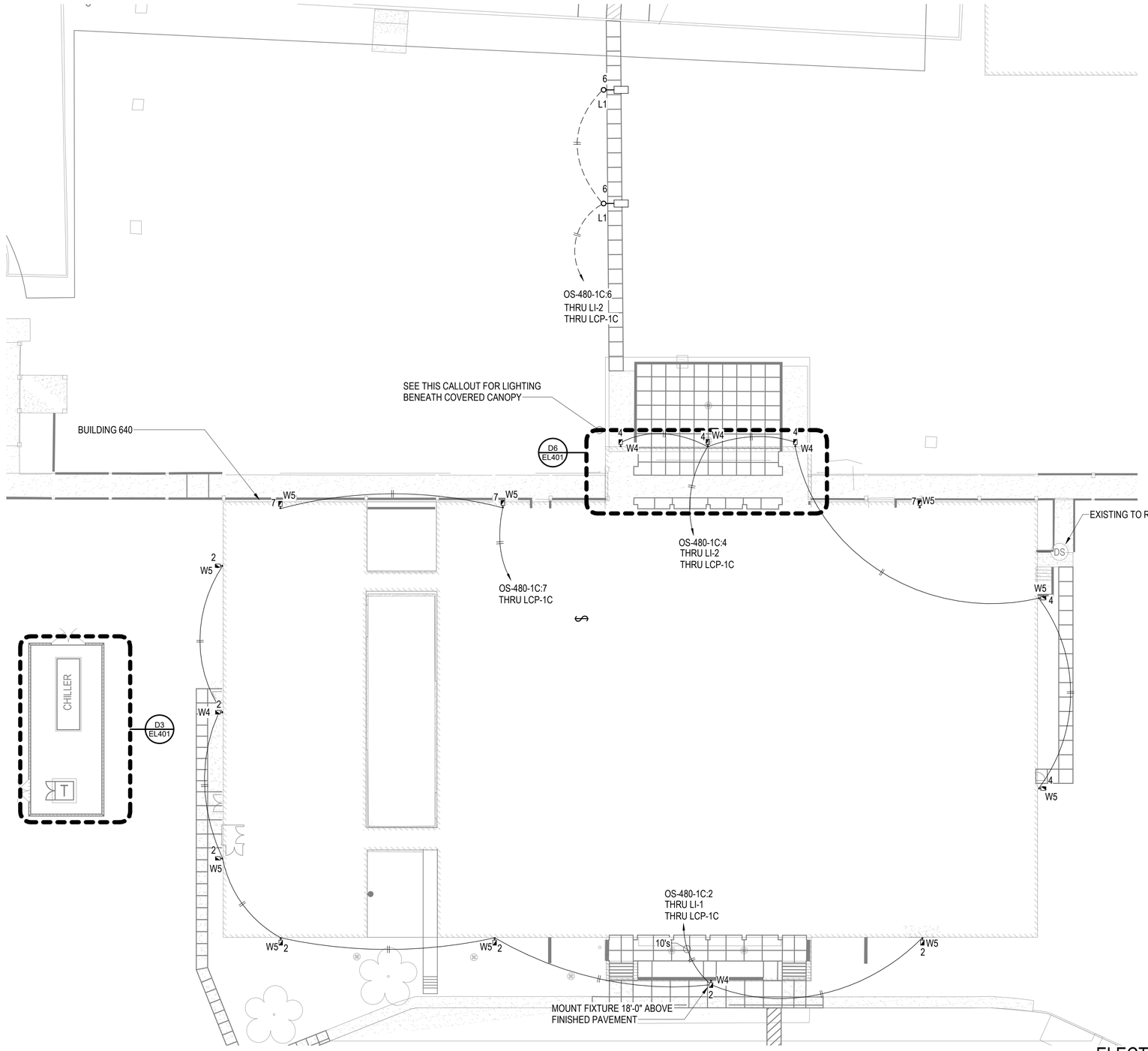
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

ELECTRICAL SITE PLAN - POWER

SHEET IDENTIFICATION
ES101
SHEET 302 of 442

ELECTRICAL SITE PLAN - POWER
SCALE:As indicated
0 2' 4' 6'
SCALE: 3/8"=1'-0"
0 20' 40' 60'
SCALE: 1"=30'-0"

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ELECTRICAL SITE PLAN - LIGHTING

SCALE: 1" = 20'-0"

0 10' 20' 40'

SCALE: 1"=20'-0"

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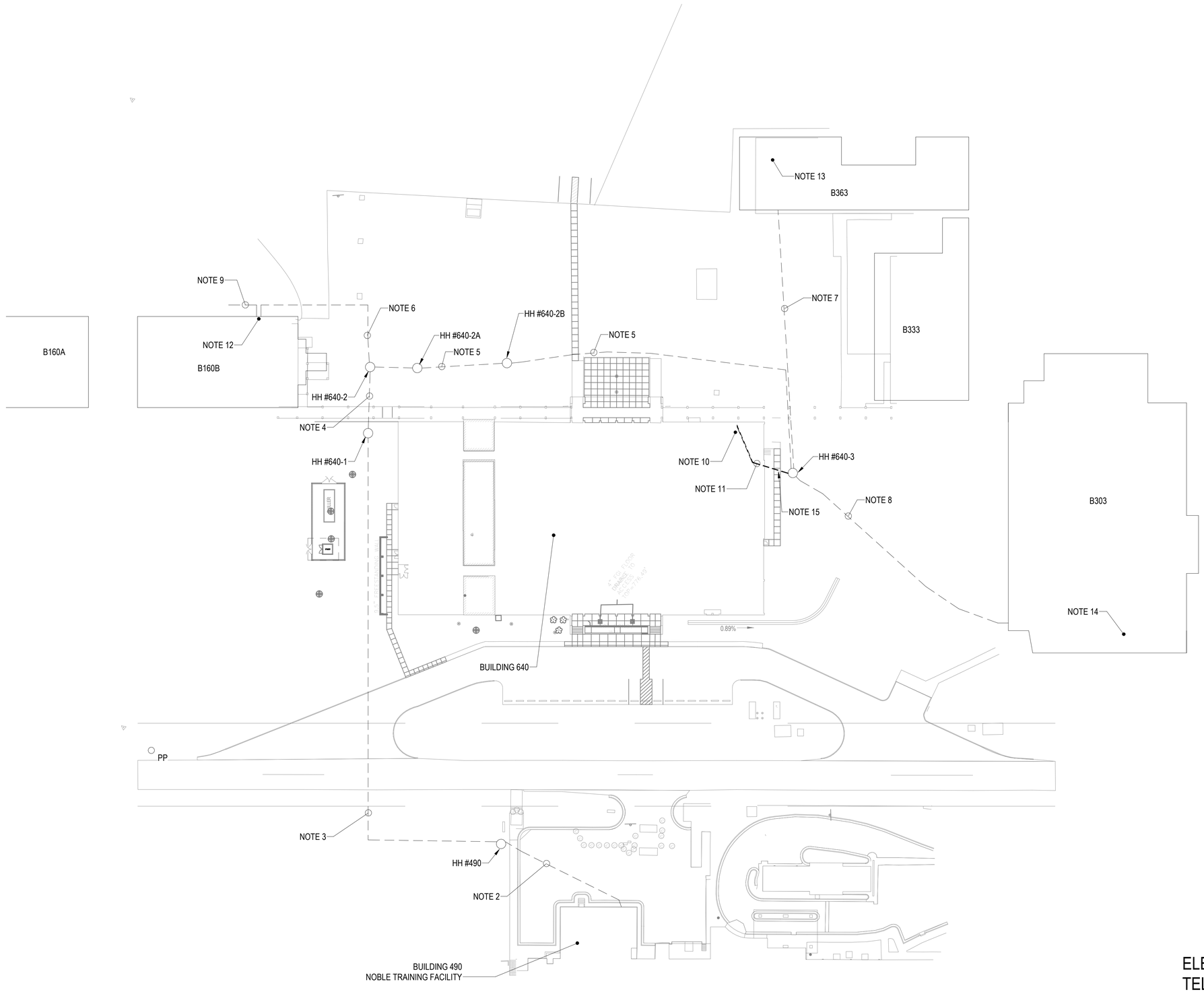
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ELECTRICAL SITE PLAN - LIGHTING

SHEET IDENTIFICATION

ES102

SHEET 303 of 442



NOTES:

1. ALL NEW FIBER INSTALLED UNDER THIS PROJECT WILL BE 24-STRAND SINGLE MODE TYPE OS2. ALL EXISTING FIBER IS 24-STRAND MULTIMODE TYPE OM1. FIBER IS IN EXISTING 2" PVC CONDUIT.
2. NEW FIBER FROM ROOM 1147 IN BUILDING 490 TO MAIN TELECOMM ROOM IN B640. FIBER WILL BE INSTALLED IN EXISTING DUCT.
3. NEW FIBER FROM BUILDING 490 TO MAIN TELECOMM ROOM IN B640. FIBER WILL BE INSTALLED IN EXISTING DUCT.
4. NEW FIBER FROM BUILDING 490 TO MAIN TELECOMM ROOM IN B640. FIBER INSTALLED IN EXISTING DUCT.
5. NEW FIBER FROM BUILDING 490 TO MAIN TELECOMM ROOM IN B640. 24-STRAND OM1 FIBER FROM MAIN TELECOMM ROOM IN B640 TO TELECOMM ROOM IN B160B. FIBER INSTALLED IN EXISTING DUCT.
6. NEW FIBER FROM MAIN TELECOMM ROOM IN B640 TO TELECOMM ROOM IN B160B. FIBER INSTALLED IN EXISTING DUCT.
7. NEW FIBER FROM MAIN TELECOMM ROOM IN B640 TO TELECOMM ROOM IN B363. FIBER INSTALLED IN EXISTING DUCT.
8. NEW FIBER FROM MAIN TELECOMM ROOM IN B640 TO TELECOMM ROOM IN B303. FIBER INSTALLED IN EXISTING DUCT.
9. EXISTING FIBER IN EXISTING DUCT FROM TELECOMM ROOM "LR-E" IN B160B TO TELECOMM ROOM "LR-F" IN B160A.
10. APPROXIMATE LOCATION OF MAIN TELECOMM ROOM IN B640. REFER TO FLOOR PLAN SHEETS AND SINGLE LINE DIAGRAM FOR FURTHER INFORMATION.
11. PROVIDE UNDERGROUND AND UNDERFLOOR RACEWAY FOR INCOMING TELECOMM SERVICE. PROVIDE 2 EACH 2" PVC CONDUITS WITH FABRIC INNERDUCT. CONNECT TO EXISTING HH #640-3, AND STUB-UP IN MAIN TELECOMM ROOM AS INDICATED IN FLOOR PLANS.
12. APPROXIMATE LOCATION OF TELECOMM ROOM "LR-E" IN BUILDING 160B. FIBER MUST BE TERMINATED AND CONNECTED TO FIBER PATCH PANEL IN EXISTING RACK. COORDINATE WITH CDP IT DEPARTMENT.
13. APPROXIMATE LOCATION OF TELECOMM ROOM "LR-D" IN BUILDING 363. FIBER MUST BE TERMINATED AND CONNECTED TO FIBER PATCH PANEL IN EXISTING RACK. COORDINATE WITH CDP IT DEPARTMENT.
14. APPROXIMATE LOCATION OF TELECOMMUNICATION ROOM "LR-C" IN BUILDING 303. FIBER MUST BE TERMINATED AND CONNECTED TO FIBER PATCH PANEL IN EXISTING RACK. COORDINATE WITH CDP IT DEPARTMENT.
15. CUT AND PATCH EXISTING SIDEWALK AS REQUIRED FOR INSTALLATION OF NEW SERVICE CONDUITS. SEE CIVIL DRAWINGS FOR FURTHER INFORMATION.

ELECTRICAL SITE PLAN - TELECOMMUNICATIONS

SCALE: 1" = 40'-0"

0 20' 40' 80'

SCALE: 1"=40'-0"

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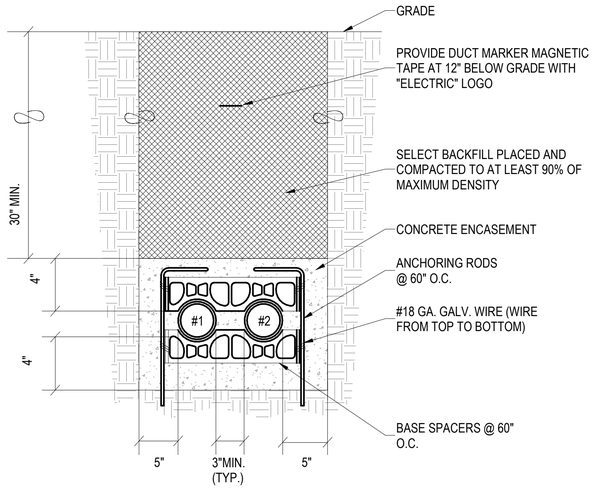
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

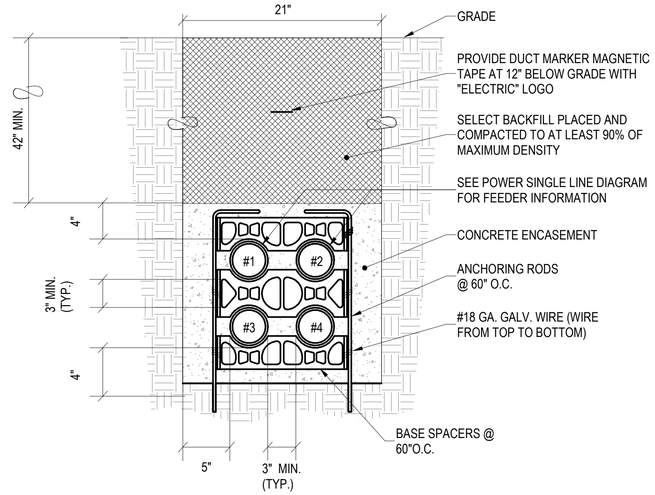
ELECTRICAL SITE PLAN - TELECOMMUNICATIONS

SHEET IDENTIFICATION
ES103
SHEET 304 of 442

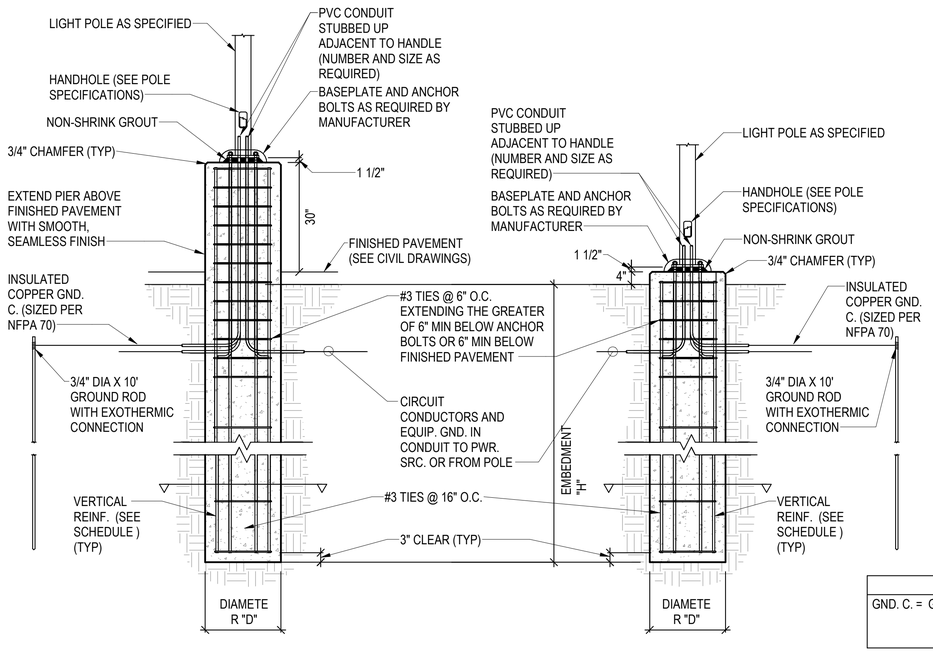
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A3 ._2-WAY(1X2) DUCT BANK
SCALE: NOT TO SCALE



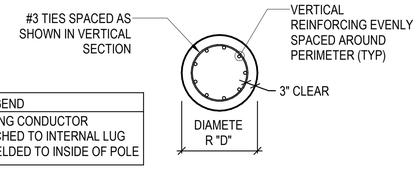
F3 ._4-WAY(2X2) DUCT BANK
SCALE: NOT TO SCALE



DRILLED PIER FOUNDATION FOR LIGHT POLE				
POLE HEIGHT	DIAMETER "D"	EMBEDMENT "H"	VERTICAL REINFORCING	TIE REINFORCING
UP TO 16'	20"	6'-0"	(7) #5	#3

NOTES:

1. SCHEDULE BASED ON A LUMINAIRE MAXIMUM EFFECTIVE PROJECTED AREA (EPA) OF 10 SF AT THE TOP OF THE POLE.
2. EVENLY DISTRIBUTE THE VERTICAL REINFORCING AROUND THE PERIMETER OF THE PIER AS SHOWN IN SECTION A-A BELOW.
3. SPACE THE TIE REINFORCING AS INDICATED IN THE VERTICAL SECTIONS TO THE LEFT.
4. CONTRACTOR SHALL FIELD VERIFY BASEPLATE AND ANCHOR BOLT PLACEMENT WITH SCHEDULED FOOTING AND INCREASE PIER DIAMETER AS NECESSARY FOR CLEARANCE.



SECTION A-A

LEGEND
GND. C. = GROUNDING CONDUCTOR ATTACHED TO INTERNAL LUG WELDED TO INSIDE OF POLE

F3 / A3 **DUCTBANK SCHEDULE**

4" CONDUITS		
	#1	4 - 350 KCMIL
	#2	4 - 350 KCMIL
	#3	4 - 350 KCMIL
	#4	SPARE
4" CONDUITS		
	#1	PULL STRING
	#2	PULL STRING

B6 POLE FOUNDATION DETAILS
SCALE: NTS

US Army Corps of Engineers
Mobile District

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		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER 06/29/21 MORGAN LEE BARNES

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Drawn By: AL
Checked By: GMY
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

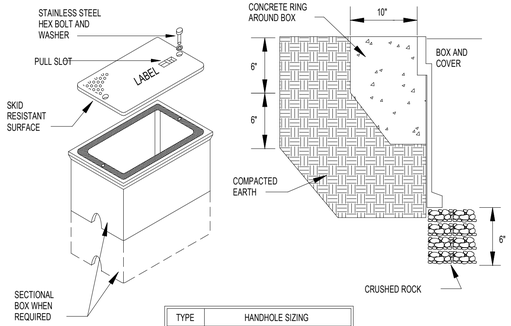
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

SITE DETAILS

SHEET IDENTIFICATION
ES501
SHEET 305 of 442

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TYPE	HANDHOLE SIZING
5	12" X 12" X 24" DEEP
6	12" X 18" X 24" DEEP
7	12" X 24" X 24" DEEP
8	24" X 36" X 24" DEEP
9	30" X 48" X 24" DEEP

HANDHOLE REQUIREMENTS

1. HOUSING SHALL BE A POLYMER CONCRETE REINFORCED WITH A HEAVY WEAVE FIBERGLASS REINFORCING WITH COMPRESSIVE STRENGTH OF NO LESS THAN 10,000 PSI.
2. COVER AND BOX SHALL WITHSTAND A SERVICE LOAD OF NO LESS THAN 15,000 LBS OVER A 10" x 10" AREA.
3. PROVIDE STAINLESS STEEL BOLTS AND INSERTS.
4. PROVIDE WITH (2) 2 1/2" MOUSEHOLES.
5. PROVIDE LABEL "ELECTRICAL" FOR POWER HANDHOLES OR "TELEPHONE" FOR TELEPHONE HANDHOLES, OR AS INDICATED.

STANDARD ELECTRICAL HANDHOLE (NONTRAFFIC)
(COMPOSITE/FIBERGLASS) TYPES 5, 6, 7, 8 & 9

SKETCH DATE JUNE 2002 | STYLE UG-6

US Army Corps of Engineers
Mobile District

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		Revisions		

ALABAMA
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NO. 22474
PROFESSIONAL
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MORGAN LEE BARNES
06/29/21

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CORPS OF ENGINEERS
MOBILE, ALABAMA

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ARTC - B640 RENOVATION
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SITE DETAILS

SHEET IDENTIFICATION
ES502
SHEET 306 of 442

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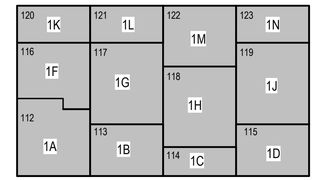
LIGHTING CIRCUITS IN THIS BOUNDARY CONTROLLED BY LCP-1A.

LIGHTING CIRCUITS IN THIS BOUNDARY CONTROLLED BY LCP-1C.

LIGHTING CIRCUITS IN THIS BOUNDARY CONTROLLED BY LCP-1D.

1A1 1A2 1A3 1A4 1C1 1C2 1C3 1C4 1C5 1D1 1D2 1D3 1D4

DN



FIRST FLOOR KEY PLAN

PLAN NORTH

LIGHTING FIRST FLOOR PLAN - COMPOSITE

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

0 6' 12' 24'

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

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ARTC - B640 RENOVATION
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LIGHTING FIRST FLOOR PLAN - COMPOSITE

SHEET IDENTIFICATION
EL111
SHEET 307 of 442

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6/29/2021 10:44:46 AM

LOUNGE 137
TLT - F 138
TLT - M 139
STUDENT SPT SERVICES (NON-RES) 140
OFFICE 140A
OFFICE 140B
ELEC 141
MECH. 100
JAN. 101
TRNG PARTNERS (OBP / OTHERS) 102
TRNG PARTNERS (REP) 103
MECH 111
N41A1:11 THRU LCP-1A
N41A1:12
N41A1:18
N41A1:8
PLAN NORTH

LIGHTING FLOOR PLAN - BLOCK 1A

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

FIRST FLOOR KEY PLAN

1K 120 | 1L 121 | 1M 122 | 1N 123
1F 116 | 1G 117 | 1H 118 | 1J 119
1A 112 | 1B 113 | 1C 114 | 1D 115

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CORPS OF ENGINEERS
MOBILE, ALABAMA

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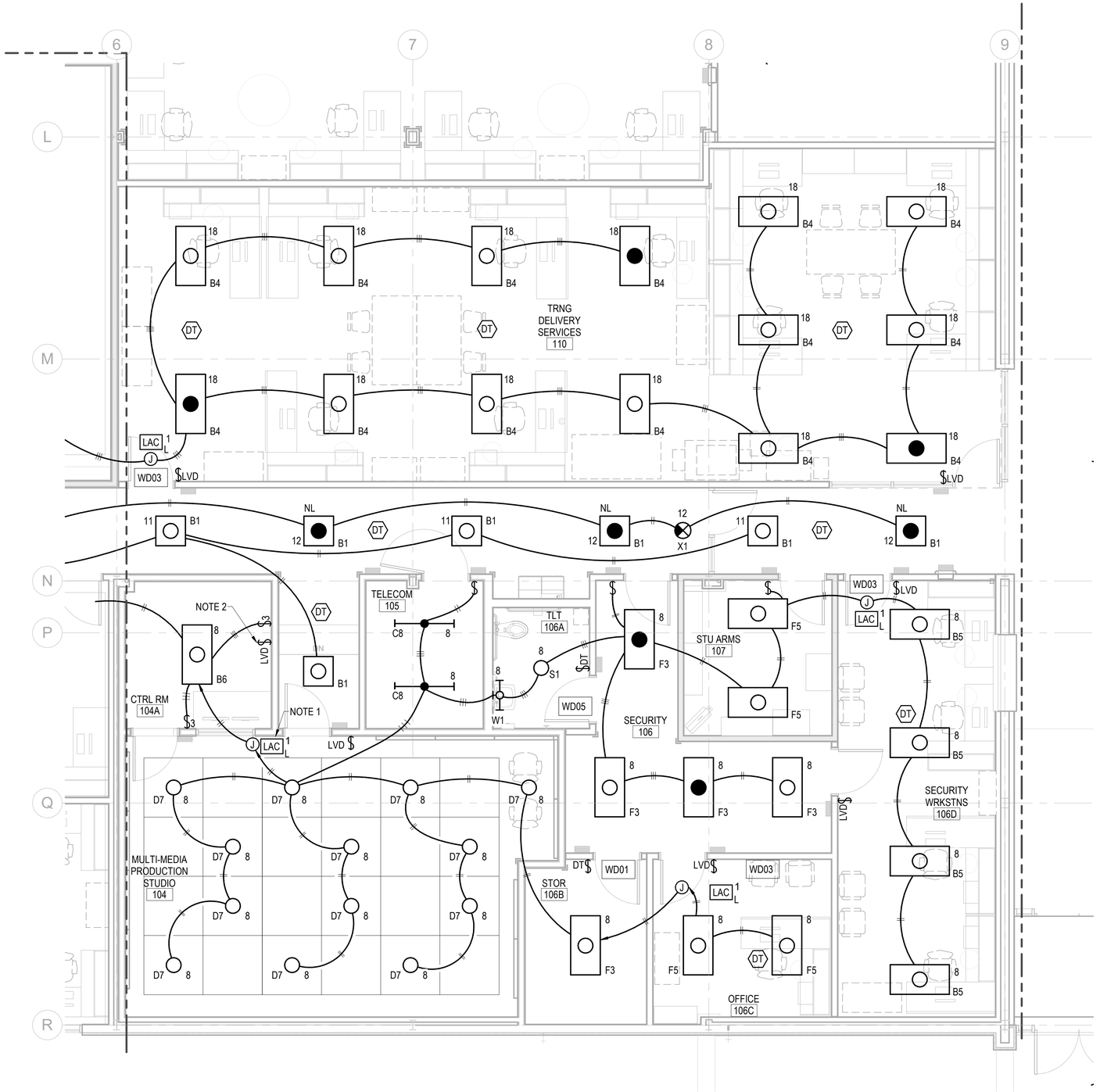
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

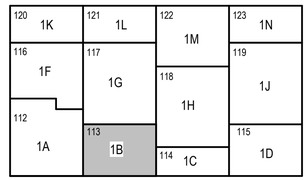
LIGHTING FLOOR PLAN - BLOCK 1A

SHEET IDENTIFICATION
EL112
SHEET 308 of 442

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NOTES:
1. MOUNT ROOM CONTROLLER 10'-0" AFF.
2. SWITCH CONTROLS LIGHTS IN ROOM 104.





PLAN NORTH

FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1B

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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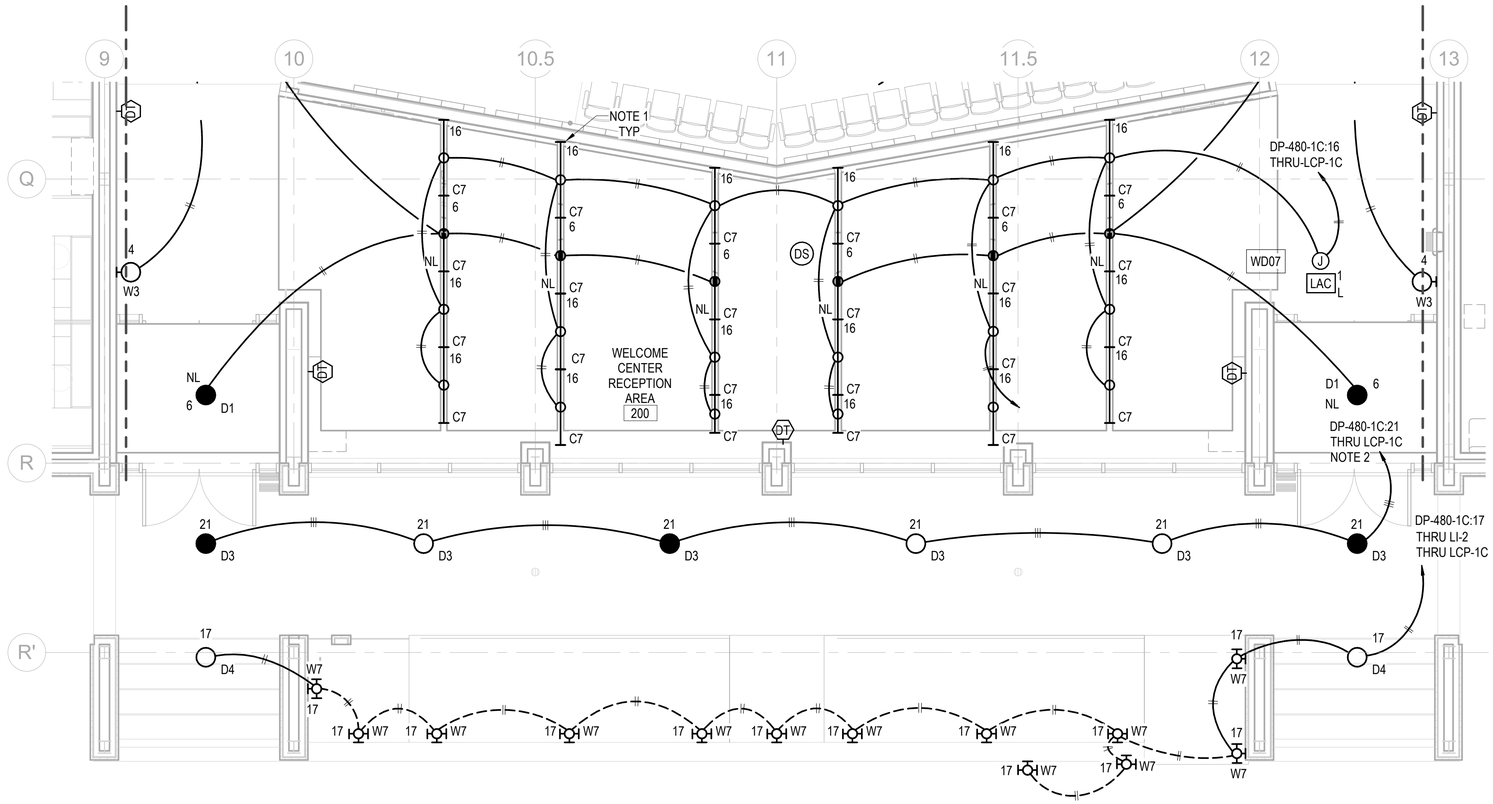
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

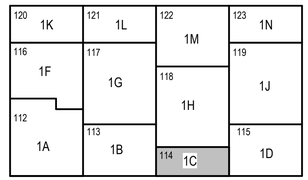
LIGHTING FLOOR PLAN - BLOCK 1B

SHEET IDENTIFICATION
EL113
SHEET 309 of 442

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6/29/2021 10:44:59 AM

NOTES:
1. CONTINUE RUN OF LUMINAIRES VERTICALLY DOWN THE RECESSED PANELS TO A HEIGHT OF 1'-0" AFF.
2. CONDUCTOR CONNECTED TO EMERGENCY BATTERY/DRIVER SHALL NOT BE RUN THROUGH THE LIGHTING CONTROL PANEL.





PLAN NORTH

FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1C

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

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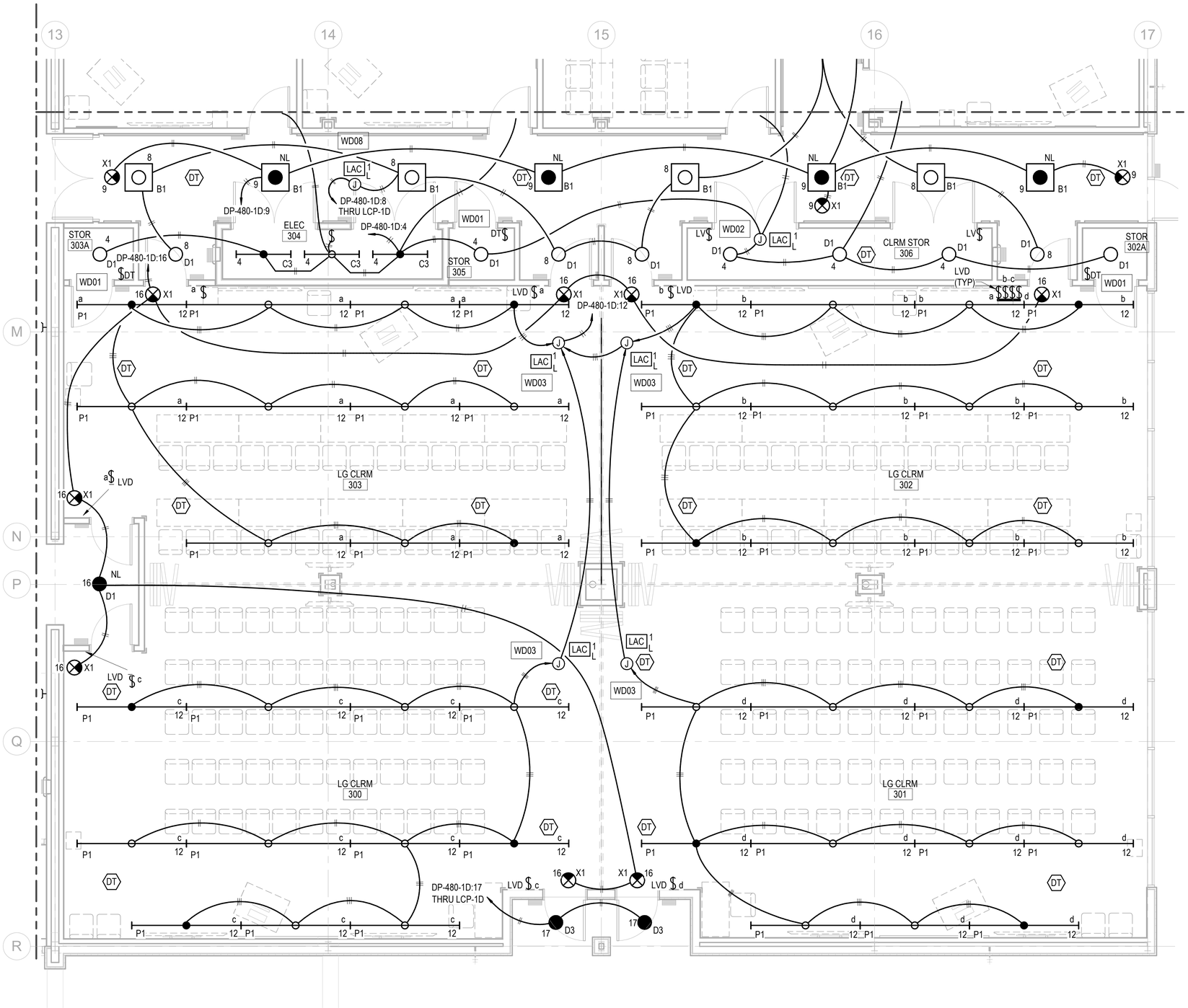
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

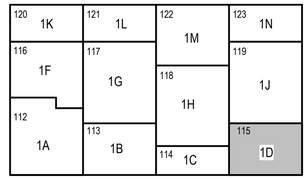
LIGHTING FLOOR PLAN - BLOCK 1C

SHEET IDENTIFICATION
EL114
SHEET 310 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1D

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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Date: 06-29-2021
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CORPS OF ENGINEERS
MOBILE, ALABAMA

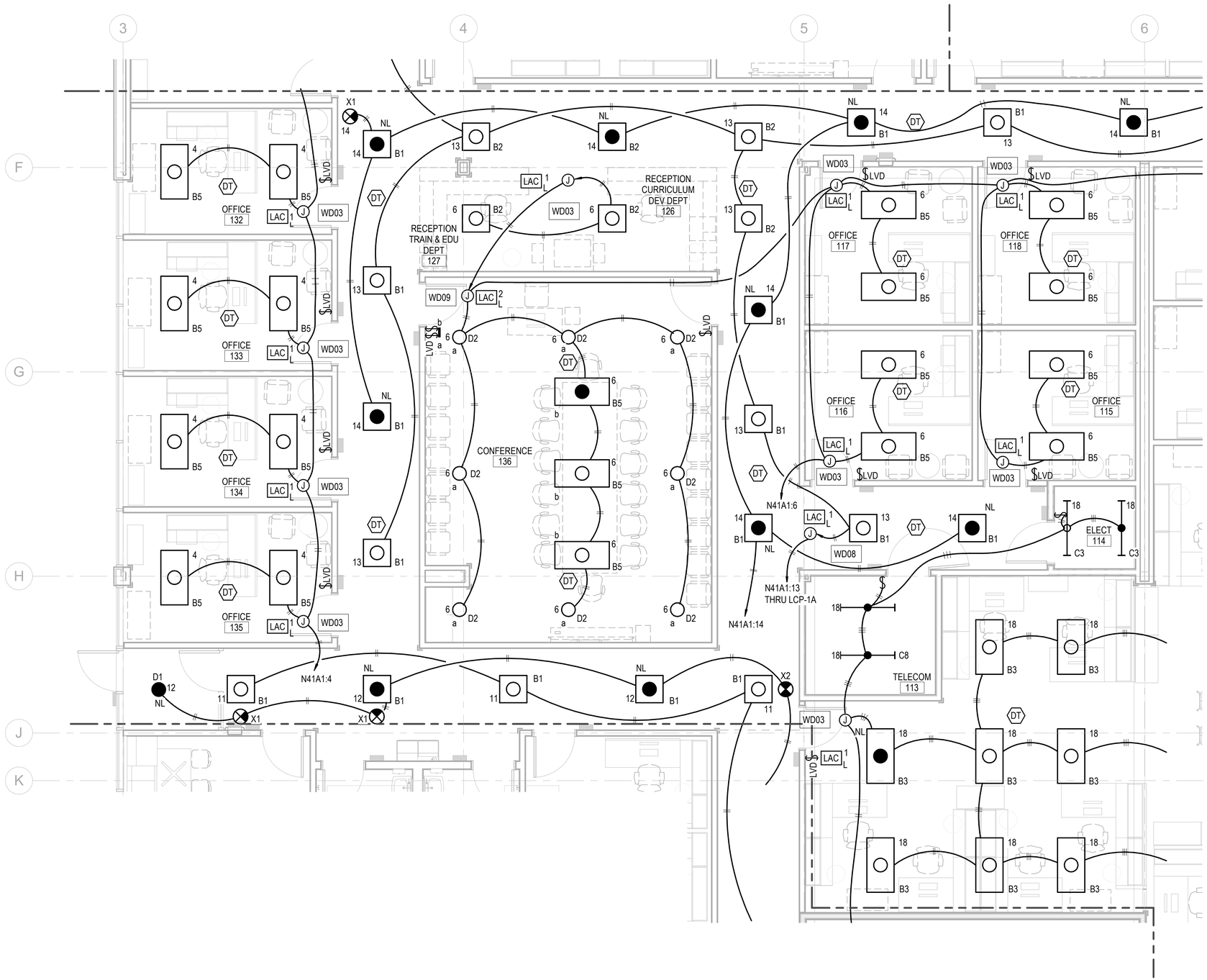
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

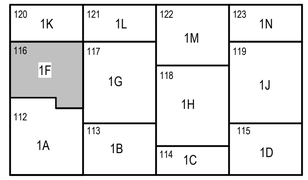
LIGHTING FLOOR PLAN - BLOCK 1D

SHEET IDENTIFICATION
EL115
SHEET 311 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1F

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

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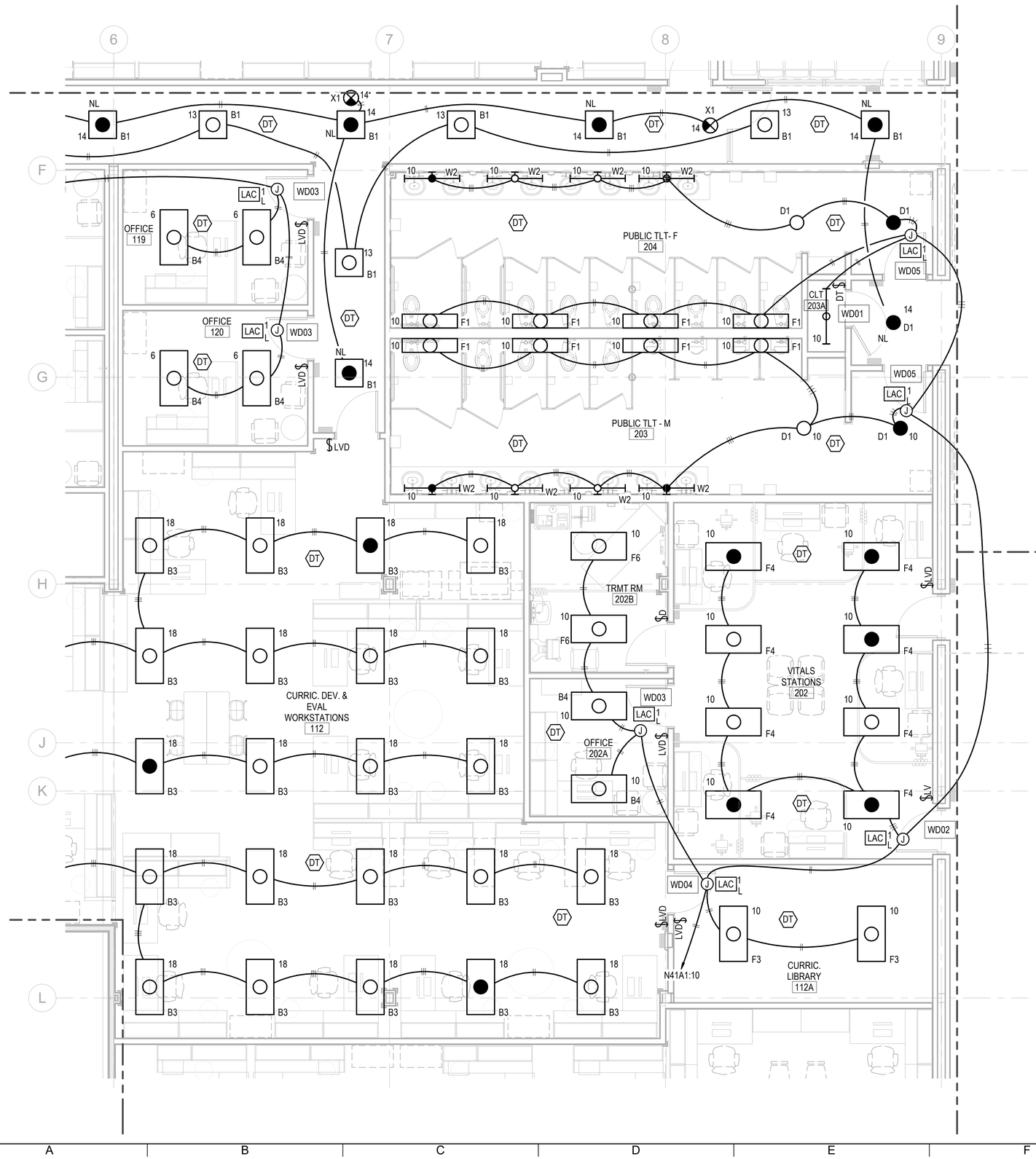
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

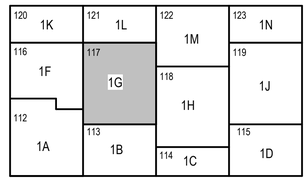
LIGHTING FLOOR PLAN - BLOCK 1F

SHEET IDENTIFICATION
EL116
SHEET 312 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1G

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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CORPS OF ENGINEERS
MOBILE, ALABAMA

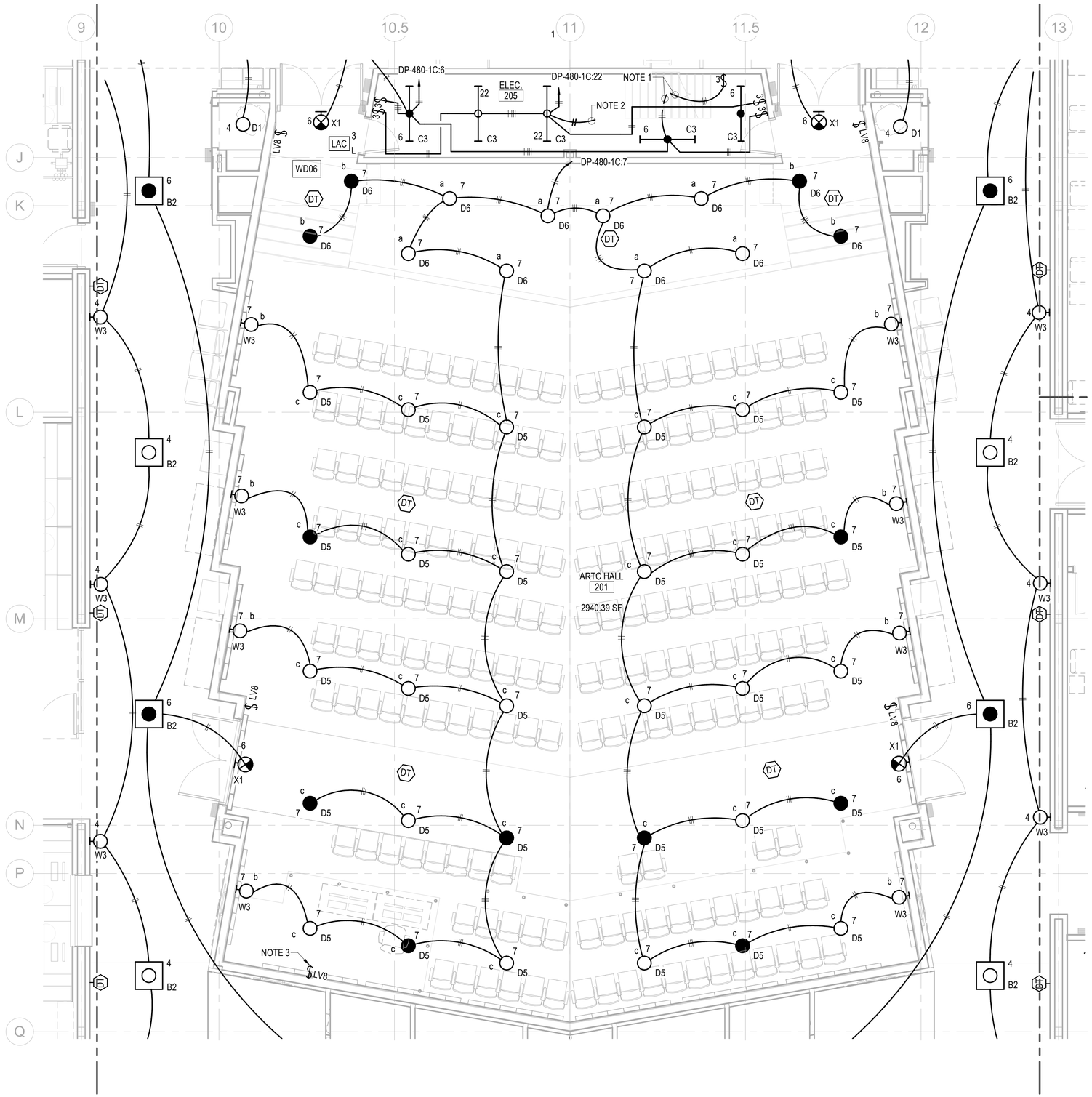
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ARTC - B640 RENOVATION
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LIGHTING FLOOR PLAN - BLOCK 1G

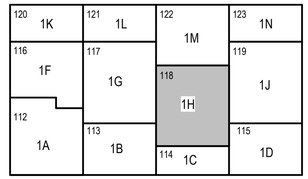
SHEET IDENTIFICATION
EL117
SHEET 313 of 442

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6/29/2021 10:45:24 AM



NOTES:
1. TO LUMINAIRE ABOVE STAIRWELL. SEE SHEET EL131 FOR CONTINUATION.
2. TO LUMINAIRE IN MECHANICAL ROOM 210. SEE SHEET EL131 FOR CONTINUATION.
3. MOUNT SWITCH FLUSH WITH ACOUSTIC PANELING.

PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1H

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

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ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

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MOBILE, ALABAMA

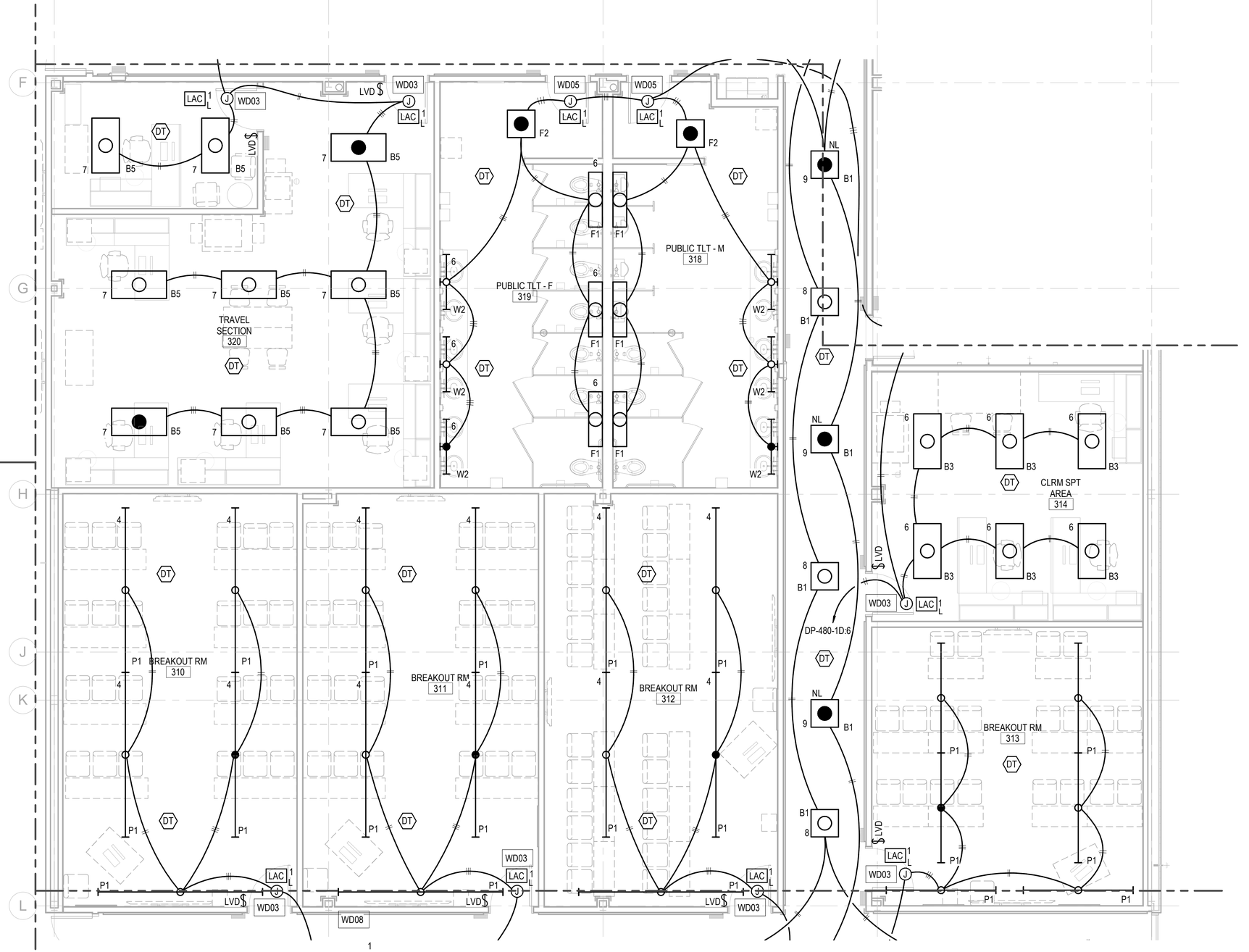
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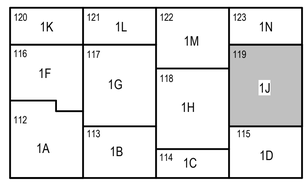
LIGHTING FLOOR PLAN - BLOCK 1H

SHEET IDENTIFICATION
EL118
SHEET 314 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1J

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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ALABAMA LICENSED NO. 22471 PROFESSIONAL ENGINEER 06/29/21 MORGAN LEE BARNES

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CORPS OF ENGINEERS
MOBILE, ALABAMA

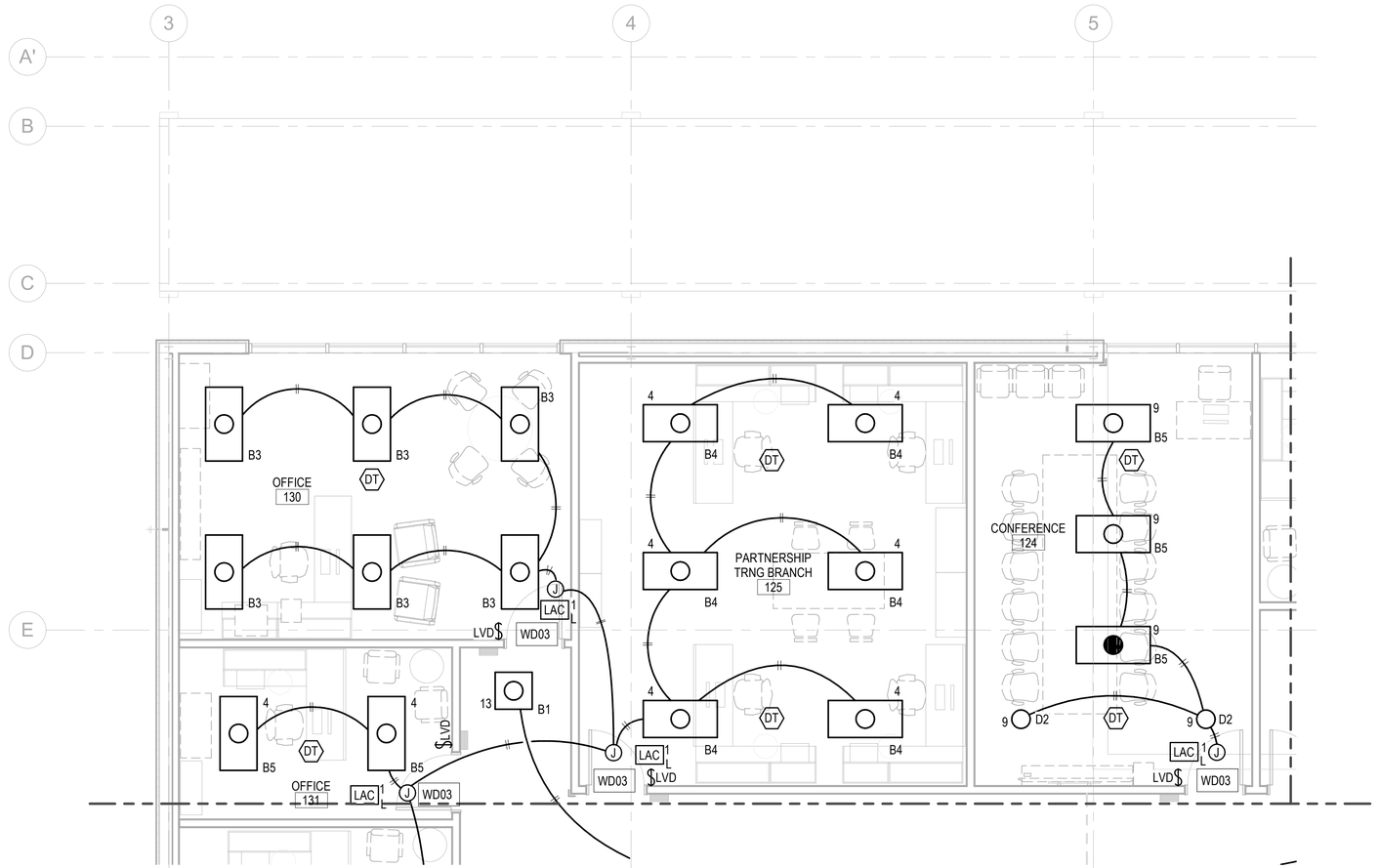
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

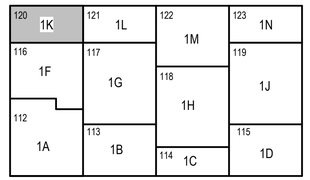
LIGHTING FLOOR PLAN - BLOCK 1J

SHEET IDENTIFICATION
EL119
SHEET 315 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1K

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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PROFESSIONAL
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CORPS OF ENGINEERS
MOBILE, ALABAMA

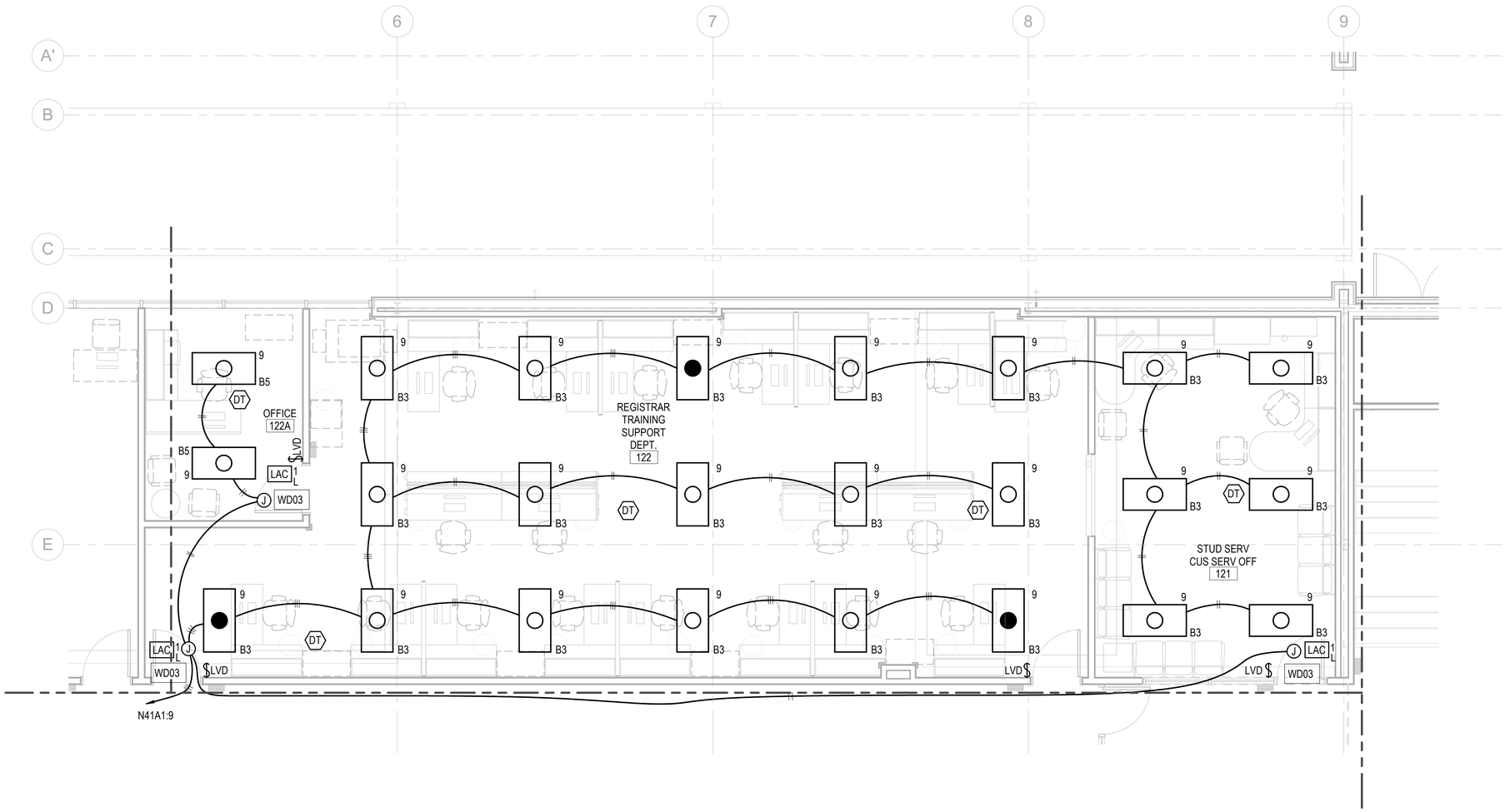
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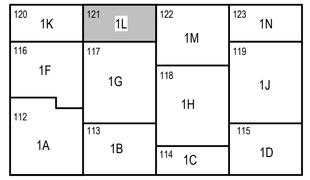
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LIGHTING FLOOR PLAN - BLOCK 1K

SHEET IDENTIFICATION
EL120
SHEET 316 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1L

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

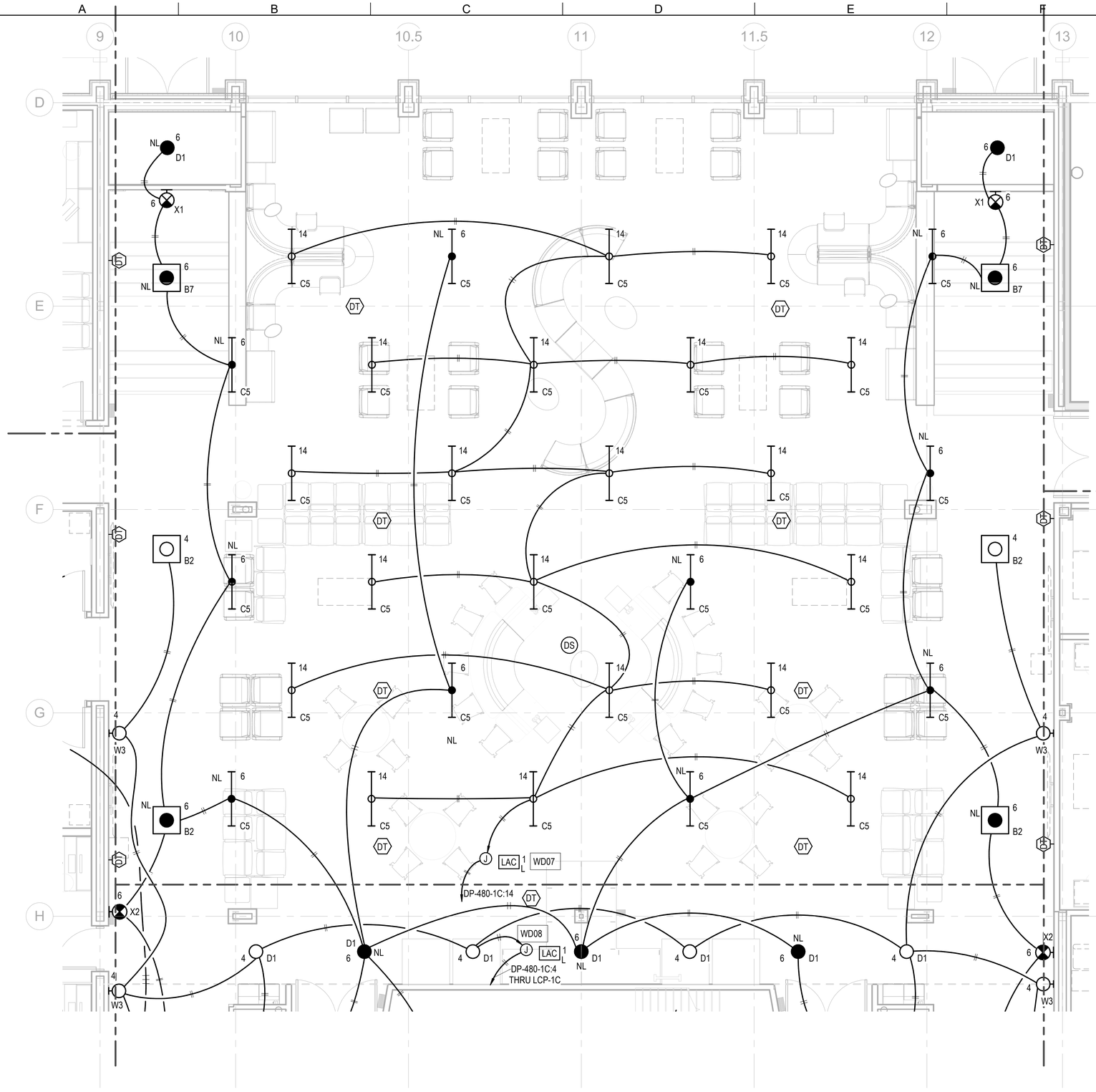
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

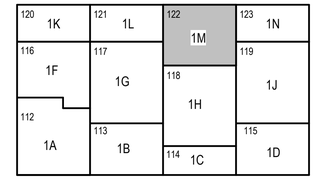
LIGHTING FLOOR PLAN - BLOCK 1L

SHEET IDENTIFICATION
EL121
SHEET 317 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1M

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

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Checked By: GMY
Reviewed By:

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CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

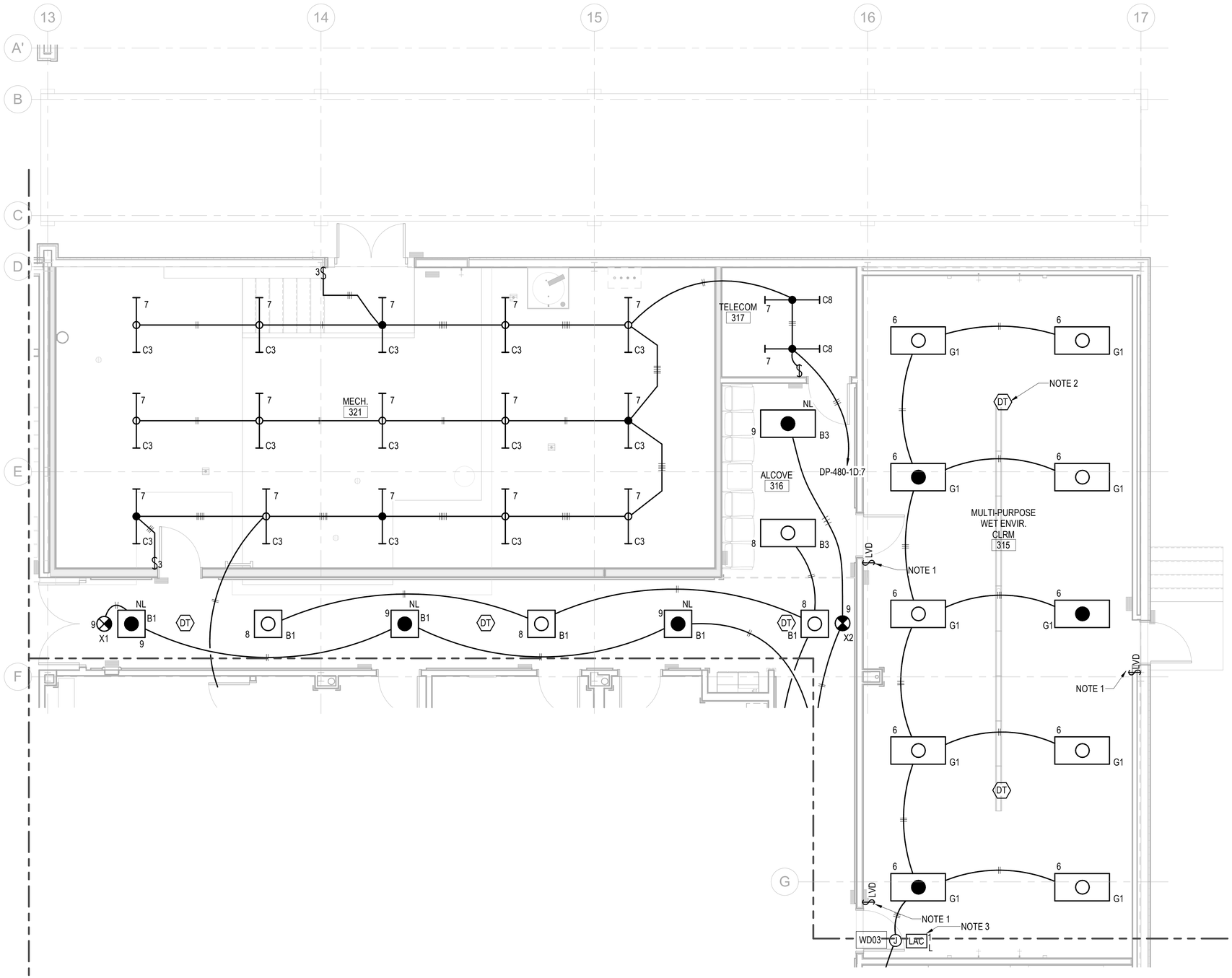
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LIGHTING FLOOR PLAN - BLOCK 1M

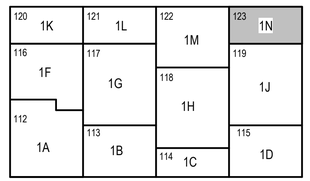
SHEET IDENTIFICATION
EL122
SHEET 318 of 442

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NOTES:
1. SWITCH SHALL BE SURFACE MOUNTED IN WEATHERPROOF ENCLOSURE IN ACCORDANCE WITH NEC ARTICLE 404.4(A).
2. DUAL TECHNOLOGY SENSOR SHALL BE RATED FOR WET LOCATIONS.
3. MOUNT LOCAL AREA CONTROLLER ABOVE CEILING ADJACENT TO ACCESS PANEL. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR ACCESS PANEL LOCATION.



PLAN NORTH



FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - BLOCK 1N

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22471 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

ss&a CLARKNEXSEN

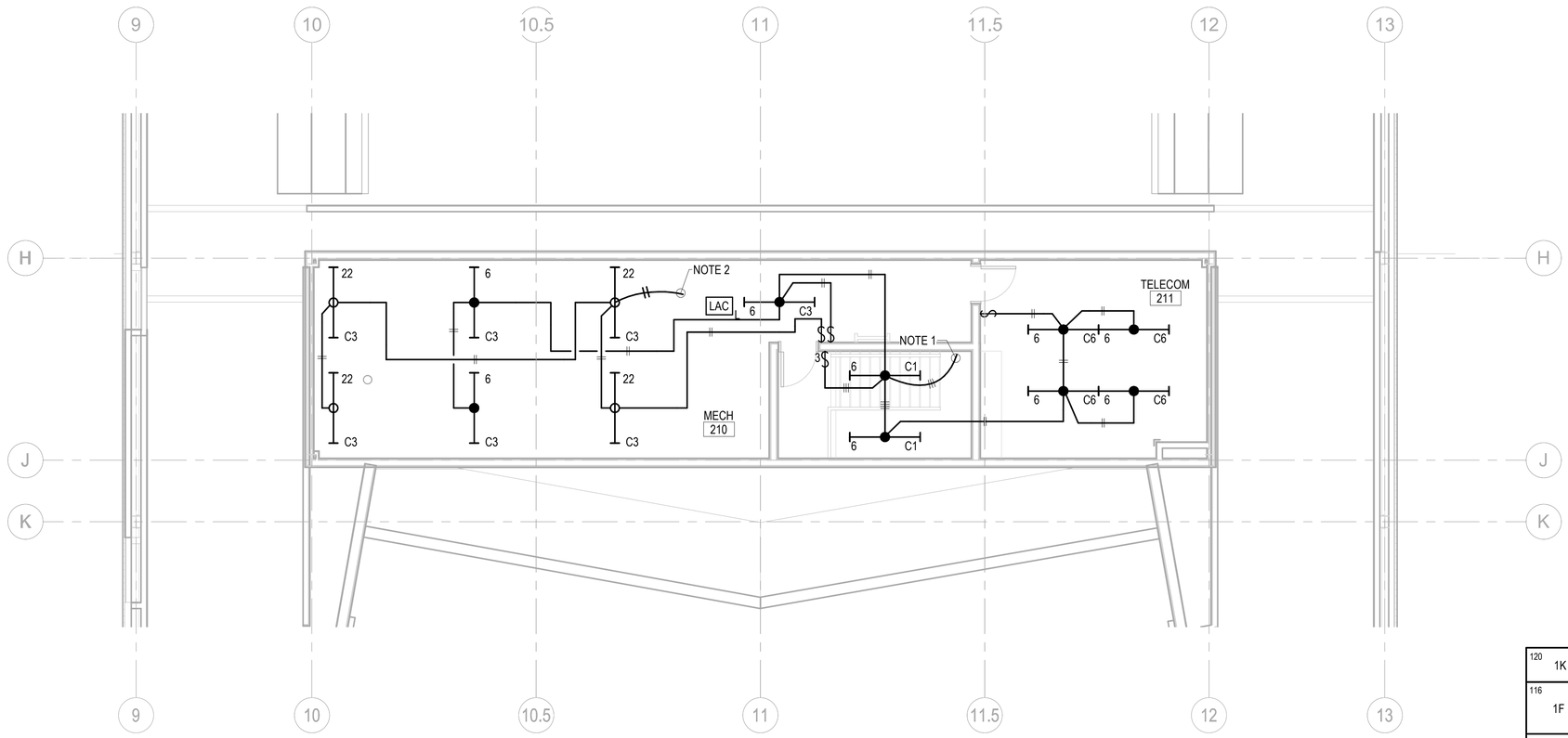
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

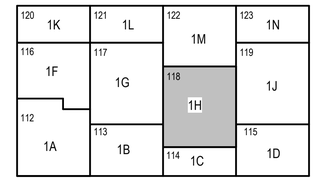
LIGHTING FLOOR PLAN - BLOCK 1N

SHEET IDENTIFICATION
EL123
SHEET 319 of 442

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6/29/2021 10:45:57 AM

NOTES:
1. TO 3-WAY SWITCH AT BOTTOM OF STAIRS. SEE SHEET EL118 FOR CONTINUATION.
2. TO LUMINAIRE IN ELECTRICAL ROOM 205. SEE SHEET EL118 FOR CONTINUATION.





PLAN NORTH

FIRST FLOOR KEY PLAN

LIGHTING FLOOR PLAN - MEZZANINE

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER 06/29/21 MORGAN LEE BARNES

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

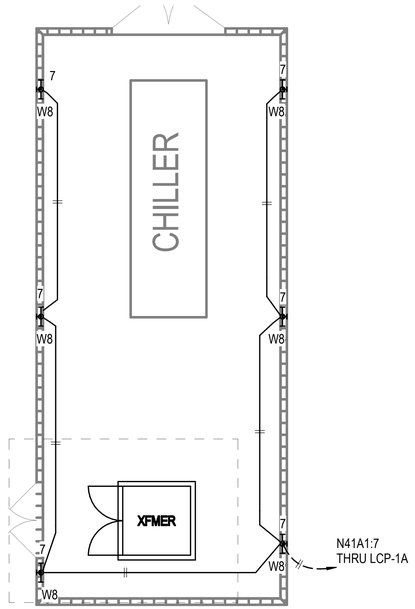
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LIGHTING FLOOR PLAN - MEZZANINE

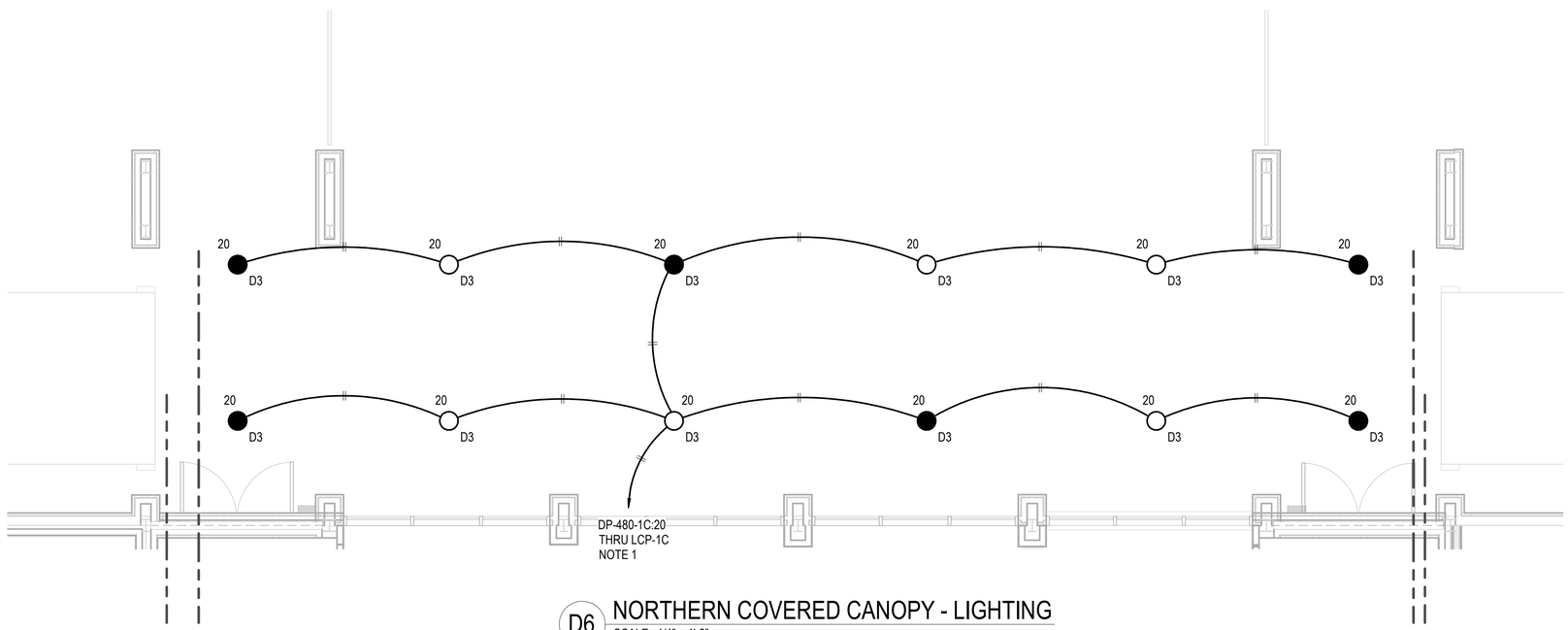
SHEET IDENTIFICATION
EL131
SHEET 320 of 442

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NOTES:
1. CONDUCTOR CONNECTED TO EMERGENCY BATTERY/DRIVER SHALL NOT BE RUN THROUGH THE LIGHTING CONTROL PANEL.



D3 MECHANICAL EQUIPMENT YARD - LIGHTING
SCALE: 1/8" = 1'-0"



D6 NORTHERN COVERED CANOPY - LIGHTING
SCALE: 1/4" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

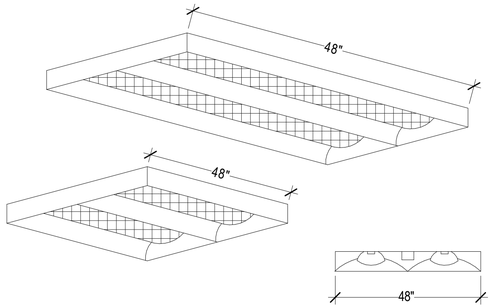
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

ENLARGED LIGHTING PLANS

SHEET IDENTIFICATION
EL401
SHEET 321 of 442

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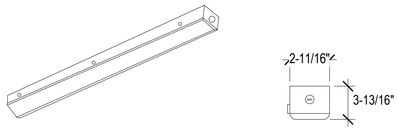


LUMINAIRE REQUIREMENTS:

1. HOUSING: DIE FORMED OF CODE GAUGE PRIME COLD ROLLED STEEL WITH FULL LENGTH DIE-FORMED STIFFENERS.
2. SHIELDING: RIBBED FROSTED ACRYLIC LENS.
3. FINISH: MULTISTAGE IRON PHOSPHATE PRE-TREATMENT.90% REFLECTIVE MATTE WHITE ENAMEL FINISH. PAINTED AFTER FABRICATION
4. DRIVER: 0-10V DIMMING DRIVER.
5. FEATURES: RATED L94 AT 60,000 HOURS.
6. CERTIFICATION: UL LISTED AND LABELED.

FIXTURE MARK
B1, B2, B3, B5, B6, B7

RECESSED VOLUMETRIC LED LIGHT FIXTURE

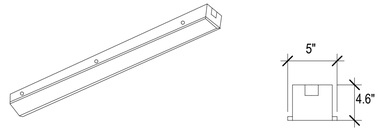


LUMINAIRE REQUIREMENTS:

1. HOUSING AND ENDS - FORMED, CODE GAUGE COLD-ROLLED STEEL.
2. FINISH - MULTI-STAGE, IRON PHOSPHATE PRETREATMENT, STANDARD BAKED WHITE ENAMEL FINISH, PAINTED AFTER FABRICATION.
3. OPTICS - FULL FROSTED LENS, WIDE DISTRIBUTION.
4. DRIVER- 0-10V DIMMING DRIVER.
5. FEATURES L87 AT 60,000 HOURS.
6. CERTIFICATION - UL LISTED AND LABELED.
7. ACCESSORIES - CHAIN HANGER AS REQUIRED TO MOUNT FIXTURES TO 9'-0" ABOVE FINISHED FLOOR.

FIXTURE MARK
C1, C2, C3, C4, C6, C8

LED STRIP LIGHT FIXTURE

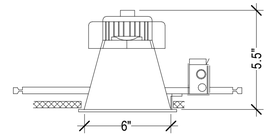


LUMINAIRE REQUIREMENTS:

1. HOUSING AND ENDS - FORMED HOUSING WITH PRECISION CUT HOUSING TRIM, EXTRUDED ALUMINUM
2. FINISH - ELECTROSTATICALLY APPLIED POLYESTER POWDER COAT PAINT.
3. OPTICS - HIGH DIFFUSION FROSTED LENS.
4. DRIVER- 0-10V DIMMING DRIVER.
5. FEATURES L87 AT 60,000 HOURS.
6. CERTIFICATION - UL LISTED AND LABELED.

FIXTURE MARK
C5,C7

RECESSED LED STRIP LIGHT FIXTURE

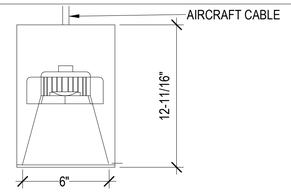


LUMINAIRE REQUIREMENTS:

1. OPTICAL SYSTEM:
   ONE-PIECE DIE-CAST HOUSING WITH INTEROR DOME REFLECTOR. REFLECTOR SHALL BE MATTE WHITE.. LED LIGHT SOURCE IS SHIELDED FROM DIRECT VIEW, PROVIDING SUPERIOR AESTHETIC APPEAL. LIGHT ENGINE MAINTAINS 70% LUMEN OUTPUT AT MORE THAN 60,000 HOURS.
2. MECHANICAL SYSTEM:
   VERTICALLY ADJUSTABLE MOUNTING BRACKETS USING BAR HANGERS, CONDUIT, OR C-CHANNEL T BAR FASTENERS. POST INSTALLATION ADJUSTMENT POSSIBLE FROM ABOVE OR BELOW CEILING.
3. ELECTRICAL SYSTEM:
   GALVANIZED STEEL JUNCTION BOX WITH BOTTOM-HINGED ACCESS COVERS AND SPRING LATCHES. HIGH-BRIGHTNESS LEDS MOUNTED TO A METAL CORE CIRCUIT BOARD. DIMMING OPTION WORKS WITH 0-10V DIMMING CONTROLS FROM 277V, 60HZ POWER SUPPLY.
4. LISTING:
   FIXTURE LISTED AND LABELED TO COMPLY WITH UL STANDARDS FOR DAMP LOCATIONS.

FIXTURE MARK
D1, D2, D3, D4, D5, D6

RECESSED LED DOWNLIGHT

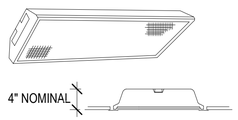


LUMINAIRE REQUIREMENTS:

1. HOUSING - ROUND SEAMLESS SPUN ALUMINUM IN MATTE BLACK FINISH.
2. REFLECTOR - SELF-FLANGED ALUMINUM SPECULAR TRIM, WIDE DISTRIBUTION.
3. FEATURES L70 AT 60,000 HOURS.
4. DRIVER - INTEGRAL 0-10V DIMMING DRIVER.
5. UL LISTED AND LABELED.

FIXTURE MARK
D7

PENDANT MOUNTED LED CYLINDER

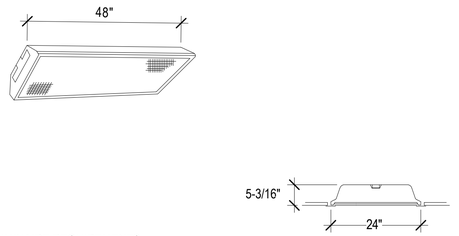


LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS, OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER. DEPTH AS INDICATED. LENGTH AND WIDTH AS SPECIFIED IN LUMINAIRE SCHEDULE.
2. FINISH - WHITE ENAMEL FINISH, PAINTED AFTER FABRICATION.
3. LENS - FROSTED GLAZED ACRYLIC LENS, #12 PATTERN.
4. FEATURES L89 AT 60,000 HOURS
5. DRIVER - INTEGRAL 0-10V DIMMING DRIVER.
6. CERTIFICATION - UL LISTED AND LABELED.

FIXTURE MARK
F1, F2, F4, F5, F6

RECESSED PRISMATIC LED LIGHT FIXTURE

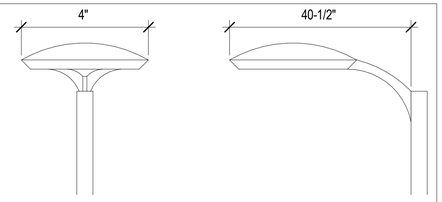


LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-FORMED, STAINLESS STEEL. SEAM-WELDED CONSTRUCTION, ABSENT OF HOLES
2. FINISH - HIGH GLOSS, ELECTROSTATICALLY APPLIED, WHITE POWDER COAT FINISH, MINIMUM REFLECTANCE 92#.
3. LENS - 100% ACRYLIC, CLEAR PRISMATIC, PATTERN #12 WITH MINIMUM 0.125" THICKNESS.
4. FEATURES ONE PIECE CONTINUOUS CLOSED-CELL SILICONE GASKET THAT SEALS LENS TO DOOR FRAME. L70 AT 50,000 HOURS.
5. DRIVER - 0-10V DIMMING DRIVER.
6. CERTIFICATION - UL LISTED AND LABELED FOR WET LOCATIONS.

FIXTURE MARK
G1

RECESSED GASKETED PRISMATIC LED LIGHT FIXTURE



LUMINAIRE REQUIREMENTS:

1. HOUSING - CAST FROM LOW COPPER, CORROSION RESISTANT ALUMINUM. 3G RATED CONSTRUCTION
2. FINISH - TGIC BASED POLYESTER COATING, BLACK.
3. MOUNTING - POLE MOUNTED WITH ARM MOUNT. HEIGHT INDICATED IN LUMINAIRE SCHEDULE.
4. DISTRIBUTION - ASYMMETRIC, WIDE DISTRIBUTION.
5. LAMPS - LONG LIFE LED
6. CERTIFICATION - UL LISTED AND LABELED SUITABLE FOR WET LOCATIONS.
7. DRIVER - 0-10V DIMMING WITH INTEGRAL SURGE SUPPRESSION.

FIXTURE MARK
L1

POLE-MOUNTED LED FIXTURE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
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ALABAMA LICENSED PROFESSIONAL ENGINEER
NO. 22474
06/29/21
MORGAN LEE BARNES

Designed By: AL
Drawn By: AL
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

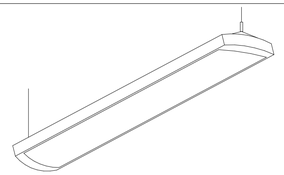
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LUMINAIRE DETAILS

SHEET IDENTIFICATION
EL501
SHEET 322 of 442

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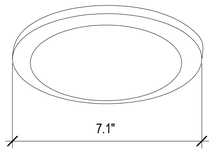


LUMINAIRE REQUIREMENTS:

1. HOUSING - NOMINAL 2.4" X 7" HOUSING CONSTRUCTED FROM EXTRUDED ALUMINUM WITH COLD ROLLED STEEL GEAR TRAY. DIE CAST ALUMINUM ENDCAPS.
2. LENS - CONTINUOUS FROSTED ACRYLIC LENS.
3. FINISH - ELECTROSTATTICALLY APPLIED POLYESTER POWDER COAT PAINT, WHITE.
4. DRIVER - INTEGRAL 0-10V DIMMING DRIVER.
5. CERTIFICATION - UL LISTED AND LABELED.

FIXTURE MARK
P1

LED LINEAR PENDANT - CONTINUOUS RUN

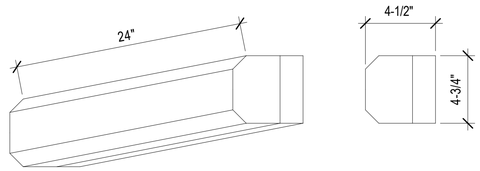


LUMINAIRE REQUIREMENTS:

1. HOUSING: INJECTION MOLDED PC HOUSING, WHITE THIN PROFILE AND LIGHTWEIGHT DESIGN, MATTE WHITE.
2. LENS: GLARE CONTROLLING LIGHTS.
3. DRIVER: STANDARD 0-10V DIMMING DRIVER
4. UL LISTED AND LABELED FOR DAMP LOCATIONS.

FIXTURE MARK
S1

LED EDGE LIT SURFACE MOUNTED DOWNLIGHT

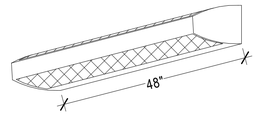


LUMINAIRE REQUIREMENTS:

1. HOUSING - 16 GAUGE FORMED ALUMINUM, SEAM WELDED AND GROUND SMOOTH.
2. FINISH - WHITE ANTI-MICROBIAL POWDERCOAT ON IRON PHOSPHATE PRE-TREATMENT.
3. LENS - 100% ACRYLIC, CLEAR PRISMATIC, PATTERN #12 WITH MINIMUM 0.125" THICKNESS.
4. DRIVER - INTEGRAL 0-10V DIMMING DRIVER
5. UL LISTED AND LABELED..

FIXTURE MARK
W1

WALL-MOUNTED LED FIXTURE

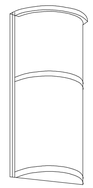


LUMINAIRE REQUIREMENTS:

1. HOUSING - 2-3/4" X 10" HOUSING CONSTRUCTED FROM EXTRUDED ALUMINUM AND DIE-FORMED 20 GAUGE COLD ROLLED STEEL.
2. FINISH - ELECTROSTATICALLY APPLIED POLYESTER POWDER COAT PAINT, WHITE.
3. LENS - OPTICAL GRADE ACRYLIC, ASYMMETRIC, LOW GLARE DISTRIBUTION.
4. INTEGRAL HIGH EFFICIENCY LED DRIVER.
5. CERTIFICATION - UL LISTED AND LABELED.

FIXTURE MARK
W2

WALL-MOUNTED LED FIXTURE



LUMINAIRE REQUIREMENTS:

1. HOUSING - SOLID METAL ACCENT BARS.
2. FINISH - BLACK
3. LENS - EXTRUDED 1/8" THICK WHITE ACRYLIC DIFFUSER.
4. DRIVER - INTEGRAL 0-10V DIMMING DRIVER.
5. UL LISTED AND LABELED

FIXTURE MARK
W4

WALL-MOUNTED LED FIXTURE

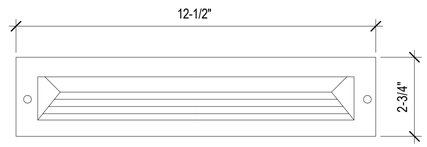


LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE CAST ALUMINUM WITH SILICONE GASKET TO SEAL THE HOUSING AND DOOR FRAME AND PREVENT THE INTRUSION OF INSECTS.
2. FINISH - EPOXY PRIMER WITH A DURABLE SILVER POWDER TOPCOAT, BLACK FINISH.
3. REFLECTOR - TYPE 4 FORWARD THROW DISTRIBUTION.
4. LAMPS - LONG LIFE LED
5. CERTIFICATION - UL LISTED AND LABELED SUITABLE FOR WET LOCATIONS.
6. 1000mA DRIVER.
7. INTEGRAL SURGE SUPPRESSION.

FIXTURE MARK
W4,W5

WALL-MOUNTED LED FIXTURE

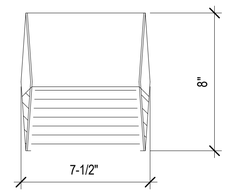


LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST ALUMINUM MARINE GRADE, COPPER FREE A360.0 ALUMINUM ALLOY, WEATHERPROOF, WITH HIGH TEMPERATURE SILICONE GASKET.
2. FINISH - BLACK MATTE, TEXTURED POLYESTER POWDER COAST WITH MINIMUM 3 MIL THICKNESS..
3. LENS - CLEAR SAFETY GLASS.
4. INTEGRAL HIGH EFFICIENCY LED DRIVER.
5. CERTIFICATION - UL LISTED AND LABELED FOR WET LOCATIONS.

FIXTURE MARK
W7

WALL-MOUNTED RECESSED LED STEP LIGHT



LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST ALUMINUM.
2. FINISH - TGIC POLYESTER POWDER COAT PAINT.
3. LENS - ACRYLIC REFRACTIVE LENS WITH SILICONE-SEALED LED CHAMBER.
4. LAMPS - LED, 4000K. SEE LIGHT FIXTURE SCHEDULE FOR LUMENS REQUIRED PER FIXTURE TYPE.
5. INTEGRAL HIGH EFFICIENCY LED DRIVER.
6. CERTIFICATION - UL LISTED AND LABELED FOR WET LOCATIONS.

FIXTURE MARK
W8

WALL-MOUNTED LED FIXTURE

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ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
06/29/21
MORGAN LEE BARNES

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

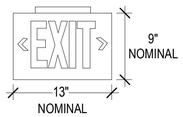
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LUMINAIRE DETAILS

SHEET IDENTIFICATION
EL502
SHEET 323 of 442

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LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE CAST ALUMINUM OR HIGH-IMPACT, UV-STABILIZED, INJECTION-MOLDED THERMOPLASTIC. SINGLE OR DOUBLE-FACED AS INDICATED.

2. FINISH (ON CAST ALUMINUM HOUSING ONLY - TEXTURED POWDER COAT FINISH OPTIONS INCLUDE WHITE, WHITE WITH BRUSHED ALUMINUM FACE, BLACK, OR BLACK WITH BRUSHED ALUMINUM FACE.

3. LETTERS/CHEVRONS - MINIMUM 6" HIGH WITH 3/4" STROKE. RED OR GREEN LETTERS AS INDICATED. PROVIDE CHEVRONS AS INDICATED EITHER LEFT, RIGHT, OR BOTH DIRECTIONS AS INDICATED. CHEVRONS PUNCHED OUT THROUGH HOUSING AS REQUIRED.

4. EMERGENCY PACK - SOLID-STATE, CONSTANT-CURRENT TYPE BATTERY CHARGER WITH MAINTENANCE-FREE, NICK-CADMIUM BATTERY, AC-ON INDICATOR LAMP AND TEST SWITCH.

5. MOUNTING - UNIVERSAL MOUNTING KIT FOR CEILING, WALL OR END-OF-FIXTURE MOUNTING.

6. ILLUMINATION - PROVIDED BY RED, GREEN, OR WHITE HIGH-OUTPUT LEDS INSIDE OF FIXTURE HOUSING. PROVIDE POLYSTYRENE DIFFUSER IN COLOR INDICATED WITH FREQUENCY-MATCHED SILKSCREEN COATING FOR MAXIMUM LED LIGHT OUTPUT.

FIXTURE MARK
X1, X2

7. CERTIFICATION - UL LISTED AND CERTIFIED FOR DAMP LOCATIONS.

LED EXIT SIGN

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LUMINAIRE DETAILS

SHEET IDENTIFICATION
EL503
SHEET 324 of 442

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LUMINAIRE SCHEDULE

LUMINAIRE ID	DETAIL	LIGHT SOURCE	VOLTAGE	MOUNTING	NOTES
B1	SEE SHEET EL501	LED 17.9W 2000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x2' VOLUMETRIC LUMINAIRE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER AND INTEGRAL DRIVER.
B2	SEE SHEET EL501	LED 26.7W 3200 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x2' VOLUMETRIC LUMINAIRE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER AND INTEGRAL DRIVER.
B3	SEE SHEET EL501	LED 24.2W 3000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' VOLUMETRIC LUMINAIRE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER AND INTEGRAL HIGH-EFFICIENCY, 0-10V FULL RANGE DIMMING DRIVER.
B4	SEE SHEET EL501	LED 30.1W 3500 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' VOLUMETRIC LUMINAIRE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER AND INTEGRAL HIGH-EFFICIENCY, 0-10V FULL RANGE DIMMING DRIVER.
B5	SEE SHEET EL501	LED 36.2W 4000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' VOLUMETRIC LUMINAIRE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER AND INTEGRAL HIGH-EFFICIENCY, 0-10V FULL RANGE DIMMING DRIVER.
B6	SEE SHEET EL501	LED 50.5W 5500 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' VOLUMETRIC LUMINAIRE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER AND INTEGRAL HIGH-EFFICIENCY, 0-10V FULL RANGE DIMMING DRIVER.
B2	SEE SHEET EL501	LED 39.4W 5500 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x2' VOLUMETRIC LUMINAIRE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER AND INTEGRAL DRIVER.
C1	SEE SHEET EL501	LED 13.0W 1500 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	9'-0" AFF UON	48" LONG STRIP LUMINAIRE WITH FLAT FULL FROST LENS, INTEGRAL HIGH-EFFICIENCY DRIVER AND CHAIN HANGERS.
C2	SEE SHEET EL501	LED 16.0W 1900 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	9'-0" AFF UON	48" LONG STRIP LUMINAIRE WITH FLAT FULL FROST LENS, INTEGRAL HIGH-EFFICIENCY DRIVER AND CHAIN HANGERS.
C3	SEE SHEET EL501	LED 21.0W 2500 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	9'-0" AFF UON	48" LONG STRIP LUMINAIRE WITH FLAT FULL FROST LENS, INTEGRAL HIGH-EFFICIENCY DRIVER AND CHAIN HANGERS.
C4	SEE SHEET EL501	LED 28.0W 3200 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	9'-0" AFF UON	48" LONG STRIP LUMINAIRE WITH FLAT FULL FROST LENS, INTEGRAL HIGH-EFFICIENCY DRIVER AND CHAIN HANGERS.
C5	SEE SHEET EL501	LED 11.6W 1600 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	48" LONG RECESSED SLOT STRIP FIXTURE, FROSTED FLUSH DIFFUSER, WITH INTEGRAL 0-10V DIMMING DRIVER.
C6	SEE SHEET EL501	LED 46.0W 5000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	9'-0" AFF UON	48" LONG STRIP LUMINAIRE WITH FLAT FULL FROST LENS, INTEGRAL HIGH-EFFICIENCY DRIVER AND CHAIN HANGERS.
C7	SEE SHEET EL501	LED 3.3W/FT 400 LUMENS/FT 4000K CCT MINIMUM 80 CRI	MVOLT 120-277V	RECESSED WALL/CEILING	RECESSED CONTINOUS RUN LED STRIP LUMINAIRE, SPOTLESS ACRYLIC LENS.
C8	SEE SHEET EL501	LED 79.0W 8100 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	9'-0" AFF UON	48" LONG STRIP LUMINAIRE WITH FLAT FULL FROST LENS, INTEGRAL HIGH-EFFICIENCY DRIVER AND CHAIN HANGERS.
D1	SEE SHEET EL501	LED 11.0W 1000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	RETROFIT FOR 6" DIAMETER NOMINAL DOWN LIGHT WIDE DISTRIBUTION INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
D2	SEE SHEET EL501	LED 15.5W 1500 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	RETROFIT FOR 6" DIAMETER NOMINAL DOWN LIGHT WIDE DISTRIBUTION INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
D3	SEE SHEET EL501	LED 10.0W 1000 LUMENS NOMINAL 4000K CCT MINIMUM 80 CRI	MVOLT 120-277V	RECESSED CEILING	RETROFIT FOR 6" DIAMETER NOMINAL DOWN LIGHT WIDE DISTRIBUTION, LISTED FOR WET LOCATIONS, BLACK BAFFLE, INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
D4	SEE SHEET EL501	LED 40.0W 4000 LUMENS NOMINAL 4000K CCT MINIMUM 80 CRI	MVOLT 120-277V	RECESSED CEILING	RETROFIT FOR 6" DIAMETER NOMINAL DOWN LIGHT WIDE DISTRIBUTION, LISTED FOR WET LOCATIONS, SPECULAR TRIM, INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
D5	SEE SHEET EL501	LED 10.0W 1000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	RETROFIT FOR 6" DIAMETER NOMINAL DOWN LIGHT WIDE DISTRIBUTION, ANGLE ADAPTER, LISTED FOR WET LOCATIONS, WHITE BAFFLE, INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
D6	SEE SHEET EL501	LED 26.0W 3000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	RETROFIT FOR 6" DIAMETER NOMINAL DOWN LIGHT WIDE DISTRIBUTION, ANGLE ADAPTER,LISTED FOR WET LOCATIONS, WHITE BAFFLE, INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
D7	SEE SHEET EL501	LED 10.0W 1000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	PENDANT MOUNTED 9'-10" AFF	CYLINDRICAL PENDANT 6" DIAMETER NOMINAL DOWN LIGHT WIDE DISTRIBUTION, MATTE BLACK SPECULAR TRIM, INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
F1	SEE SHEET EL501	LED 17.2W 2000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	1'x4' LUMINAIRE WITH 0.080" FROSTED GLAZED LENS AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
F2	SEE SHEET EL501	LED 16.1W 2000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x2' LUMINAIRE WITH 0.080" FROSTED GLAZED LENS AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
F3	SEE SHEET EL501	LED 23.4W 3000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' LUMINAIRE WITH 0.080" FROSTED GLAZED LENS AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
F4	SEE SHEET EL501	LED 37.4W 4800 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' LUMINAIRE WITH 0.080" FROSTED GLAZED LENS AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
F5	SEE SHEET EL501	LED 45.1W 5600 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' LUMINAIRE WITH 0.080" FROSTED GLAZED LENS AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
F6	SEE SHEET EL501	LED 48.1W 6400 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	RECESSED CEILING	2'x4' LUMINAIRE WITH 0.080" FROSTED GLAZED LENS AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
G1	SEE SHEET EL501	LED 52.4W 5500 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	SURFACE MOUNTED	2'x4' LUMINAIRE 0.125" ACRYLIC LENS, INTEGRAL NON-DIMMING DRIVER, UL LISTED FOR WET LOCATIONS, IP66 RATED, CLASS 100 ISO 5-8, NSF RATED.
L1	SEE SHEET EL501	LED 24.0W 2300 LUMENS NOMINAL 4000K CCT MINIMUM 70 CRI	MVOLT 120-277V	TOP MOUNTED 16'-0" AFG	AREA SITE LIGHT , POLE MOUNTED SINGLE HEAD, ASYMMETRIC WIDE DISTRIBUTION, BLACK ALUMINUM FINISH. PROVIDE TAPERED ALUMINUM POLE.
P1	SEE SHEET EL501	LED 4.7W/FT 550 LUMENS/FT NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	7'-6" AFF UON	UP/DOWN LUMINAIRE, 50% UP/ 50% DOWN, DIFFUSE OPTIC, FROSTED TOP COVER, LONG LIFE LEDS, INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
S1	SEE SHEET EL502	LED 12.0W 1000 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	CEILING MOUNT	7" DIAMETER LED EDGE LIT DOWNLIGHT WITH WHITE ACRYLIC DIFFUSER INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
W1	SEE SHEET EL502	LED 19.0W 1600 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	WALL MOUNT	24" WALL MOUNTED ARCHITECTURAL UP/DOWN LUMINAIRE WITH FROSTED ACRYLIC DIFFUSER, INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
W2	SEE SHEET EL502	LED 11.5W 1400 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	WALL MOUNT 7'-0" AFF TO BOTTOM	48" WALL MOUNTED ARCHITECTURAL UP/DOWN LUMINAIRE WITH FROSTED ACRYLIC DIFFUSER AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER.
W3	SEE SHEET EL502	LED 12.0W 1100 LUMENS NOMINAL 4000K CCT MINIMUM 90 CRI	MVOLT 120-277V	WALL MOUNT 7'-0" AFF TO CENTER UON	WALL MOUNTED ARCHITECTURAL LUMINAIRE WITH .0125" EXTRUDED TRANSLUCENT ACRYLIC DIFFUSER AND INTEGRAL 0-10V FULL RANGE DIMMING DRIVER, LISTED FOR DAMP LOCATIONS.
W4	SEE SHEET EL502	LED 119.0W 14200 LUMENS NOMINAL 4000K CCT MINIMUM 70 CRI	277V	WALL MOUNT 22'-0" AFG UON	LED FLOODLIGHT, TYPE IV WIDE DISTRIBUTION, HIGH AMBIENT TEMPERATURE, EXTRUDED ALUMINUM DRIVER ENCLOSURE WITH HEAVY-WALL, DIE-CAST ALUMINUM END CAPS.
W5	SEE SHEET EL502	LED 333.0W 41500 LUMENS NOMINAL 4000K CCT MINIMUM 70 CRI	277V	WALL MOUNT 1'-0" BELOW ROOFTOP	LED FLOODLIGHT, TYPE IV WIDE DISTRIBUTION, HIGH AMBIENT TEMPERATURE, EXTRUDED ALUMINUM DRIVER ENCLOSURE WITH HEAVY-WALL, DIE-CAST ALUMINUM END CAPS.
W7	SEE SHEET EL502	LED 8.0W 480 LUMENS NOMINAL 4000K CCT MINIMUM 70 CRI	MVOLT 120-277V	WALL MOUNT 1'-6" AFF TO BOTTOM	12-1/2" WALL MOUNTED RECESSED STEP LIGHT WITH CLEAR SAFETY GLASS LENS.
W8	SEE SHEET EL502	LED 14.0W 1900LUMENS NOMINAL 4000K CCT MINIMUM 70 CRI	MVOLT 120-277V	WALL MOUNT 7'-0" AFG TO BOTTOM	LED AREA LIGHT, DIE-CAST ALUMINUM HOUSING WITH REFRACTIVE LENS.
X1	SEE SHEET EL502	LED	MVOLT 120-277V	WALL/CEILING	SINGLE FACE EXIT SIGN WITH: WHITE THERMOPLASTIC HOUSING; GREEN LETTERS; INTEGRAL BATTERY CHARGER AND BATTERY; AND SELF-TESTING, SELF-DIAGNOSTICS.
X2	SEE SHEET EL502	LED	MVOLT 120-277V	WALL/CEILING	DOUBLE FACE EXIT SIGN WITH: WHITE THERMOPLASTIC HOUSING; GREEN LETTERS; INTEGRAL BATTERY CHARGER AND BATTERY; AND SELF-TESTING, SELF-DIAGNOSTICS.

GENERAL NOTES:
1. SELECT LUMINAIRES SHOWN WITH BATTERY BACKUP ON FLOOR PLANS WILL REQUIRE AN EMERGENCY DRIVER.

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LUMINAIRE SCHEDULE

SHEET IDENTIFICATION
EL601
SHEET 325 of 442

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LIGHTING CONTROL STRATEGIES

1. CENTRAL LIGHTING CONTROLS: CORRIDORS AND COMMON AREAS, SUCH AS LOBBIES, THAT CLOSE AT THE END OF THE TYPICAL WORKDAY SHALL HAVE THEIR LIGHTS AUTOMATICALLY SHUT OFF VIA THE CENTRAL LIGHTING CONTROL PANELS. THE BASIC OPERATION OF THE LIGHTING CONTROL SYSTEM WILL BE TO ENABLE THE LIGHTS TO BE TURNED ON/OFF IN CERTAIN AREAS THROUGHOUT THE BUILDING AND ON THE SITE AT A PRE-SET TIME EACH DAY DEFINED IN THE LIGHTING CONTROL PRGRAMMING SCHEDULE ON SHEET EL603 , BY ENERGIZING OR DE-ENERGIZING THE CIRCUIT AT THE CONTROL PANEL. AT THE END OF THE WORKDAY, THE PROGRAMMING OF THE SYSTEM WILL DISABLE OR SHUT DOWN MOST LIGHTS IN THE BUILDING, BUT WILL STILL ALLOW ENOUGH LIGHT FOR MOVING ABOUT IN OFFICE AREAS THAT HAVE CLOSED FOR THE WORKDAY. THERE WILL BE OVERRIDE SWITCHES LOCATED IN THE SPACES TO RE-ENABLE ANY OF THE LIGHTING ZONES IF DESIRED DURING "SCHEDULED OFF" TIMES. SEE SHEET EL111 FOR THE LOCATION OF OVERRIDE SWITCHES. THESE OVERRIDE SWITCHES WILL TEMPORARILY OVERRIDE THE PROGRAMMED SCHEDULE. THE LIGHTING CONTROL SYSTEM WILL PROVIDE A "BLINK" WARNING TO BUILDING OCCUPANTS THAT THE SYSTEM IS GOING TO TURN THE LIGHTS OFF, GIVING THEM THE OPPORTUNITY TO OVERRIDE THE SCHEDULE. THE LIGHTING CONTROL PANEL WILL HAVE AN ASTRONOMICAL TIME CLOCK THAT WILL ALSO PROVIDE WEEKEND AND HOLIDAY PROGRAMMING. THE LIGHTING CONTROL PANEL IS REQUIRED TO BE EQUIPPED WITH RELAYS WHICH CONTROL CIRCUITS FED FROM A POWER PANEL. NOTE THAT IN ORDER TO GUARANTEE THAT PROPER EGRESS ILLUMINATION IS ALWAYS PRESENT, THE LUMINAIRES DESIGNATED AS EGRESS/EMERGENCY MUST OPERATE CONTINUOUSLY AS NIGHT LIGHT LUMINAIRES.

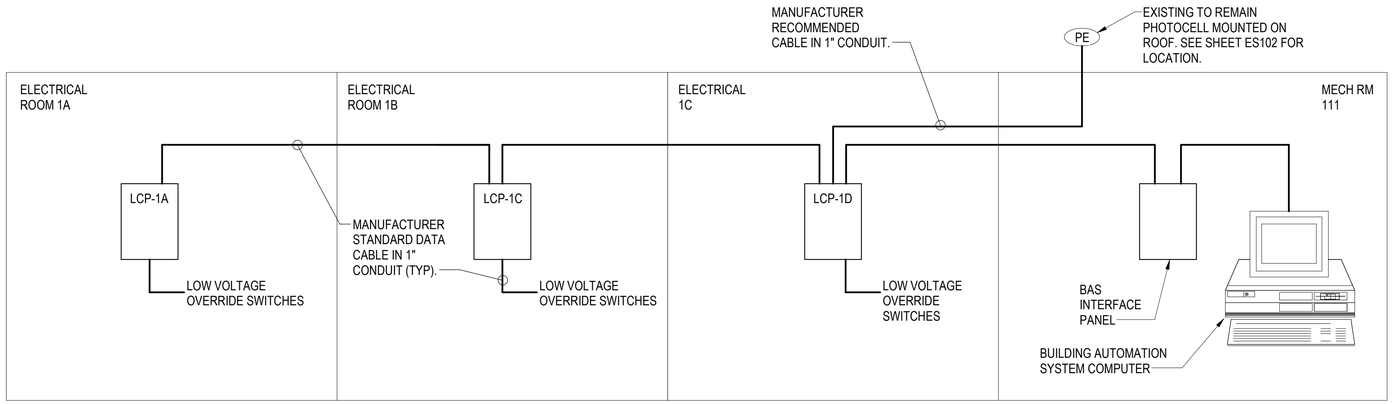
2. MANUAL SWITCHING: WHERE APPLICABLE, MANUAL ON-OFF SWITCHING WILL BE PROVIDED IN EACH SPACE AS REQUIRED BY CODES AND DESIGN CRITERIA. ONE EXAMPLE OF SUCH A SPACE IS ELECTRICAL ROOMS, WHICH ARE NOT ALLOWED TO HAVE AUTOMATIC LIGHTING CONTROL FOR SAFETY REASONS.

3. LOCAL AUTOMATIC CONTROLS: IN SMALLER SPACES SUCH AS JANITOR CLOSETS AND STORAGE ROOMS, THE SENSOR WILL BE WALL-MOUNT TYPE WITH AN INTEGRAL MANUAL OVERRIDE SWITCH. IN SELECT SPACES, THE LIGHTING CONTROL WILL BE INTEGRATED WITH REQUIRED AUTOMATIC RECEPTACLE CONTROL, BY USE OF A LOW-VOLTAGE OCCUPANCY SENSOR IN CONJUNCTION WITH A LOCAL AREA CONTROLLER. THE OCCUPANCY SENSOR TYPE IS REQUIRED TO BE DUAL-TECHNOLOGY, INCLUDING BOTH PASSIVE INFRARED AND ULTRASONIC SENSORS. IN COMPLIANCE WITH ASHRAE 90.1 REQUIREMENTS, THE SEQUENCE OF OPERATION IS MANUAL-ON/AUTO-OFF, UNLESS NOTED OTHERWISE IN THE WIRING DIAGRAM. THIS MEANS THAT THE LIGHTS WILL BE TURNED ON MANUALLY. THEN AT A PRESET AMOUNT OF TIME AFTER THE SENSOR NO LONGER DETECTS AN OCCUPANT IS PRESENT, THE LIGHTS WILL BE SHUT OFF AUTOMATICALLY.

4. DAYLIGHT HARVESTING: IN AREAS WITH SIGNIFICANT GLAZING, LIGHTING CONTROL WILL BE DESIGNED TO PROVIDE A LEVEL OF DAYLIGHT HARVESTING BY AUTOMATICALLY REDUCING ARTIFICIAL LIGHT OUTPUT FROM LUMINAIRES DURING TIMES WHEN LIGHT SENSORS INDICATE THAT THE REQUIRED LIGHTING LEVELS ARE BEING MET WITH NATURAL DAYLIGHT.

GENERAL NOTES

1. FOR APPLICATIONS REQUIRING MOTION SENSORS WITH COVERAGE AREA GREATER THAN 1000SF, USE AN ANALOG SENSOR IN CONJUNCTION WITH ANALOG INPUT MODULE .



C6 SINGLE LINE DIAGRAM - LIGHTING CONTROLS
SCALE: NOT TO SCALE

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ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER 06/29/21 MORGAN LEE BARNES

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U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

ss&a CLARKNEXSEN

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LIGHTING CONTROL SINGLE LINE DIAGRAM

SHEET IDENTIFICATION
EL602
SHEET 326 of 442

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LIGHTING CONTROL PANEL SCHEDULE

PANEL NAME: **LCP-1A** | LOCATION: ELECTRICAL ROOM 1A | MOUNTING: ☑ SURFACE ☐ FLUSH | PANEL TYPE: ☑ MAIN ☐ EXPANSION

LCP VOLTAGE: ☐ 120V ☑ 277V | REMARKS: FED FROM PANEL N41A:15

RELAY/CIRC NO.	ZONE	CYCLE	RELAY CONTROLS	ZONE DESCRIPTION	LOAD VOLTS	LOAD AMPS	LOAD VOLTS	ZONE DESCRIPTION	RELAY CONTROLS	CYCLE	ZONE	RELAY/CIRC NO.
1 / N41A1:11	EAST	AFTER -	TIME CLOCK ON/OFF SWITCH OVERRIDE	WESTERN CORRIDOR	277	SEE PANELBOARD SCHEDULE FOR LOADS	277	WESTERN CORRIDOR	TIME CLOCK ON/OFF SWITCH OVERRIDE	AFTER BUSINESS	EAST	2 / N41A:14
3 / N41A:7	MECH YARD	SITE LIGHTS CYCLE B	TIME CLOCK ON/OFF	SITE - MECH YARD	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	1B	4 / SPARE
5 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	-	6 / SPARE
7 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	-	8 / SPARE

NOTE: LIGHTING CONTROL PANEL SCHEDULE SUPPLEMENTS THE PANEL SCHEDULE CIRCUIT DESIGNATIONS ONLY

LIGHTING CONTROL PANEL SCHEDULE

PANEL NAME: **LCP-1C** | LOCATION: ELECTRICAL ROOM 1C | MOUNTING: ☑ SURFACE ☐ FLUSH | PANEL TYPE: ☐ MAIN ☑ EXPANSION

LCP VOLTAGE: ☐ 120V ☑ 277V | REMARKS: FED FROM PANEL DP-480-1C:15

RELAY/CIRC NO.	ZONE	CYCLE	RELAY CONTROLS	ZONE DESCRIPTION	LOAD VOLTS	LOAD AMPS	LOAD VOLTS	ZONE DESCRIPTION	RELAY CONTROLS	CYCLE	ZONE	RELAY/CIRC NO.
1 / OS-480-1C:2	SITE - BLDG	SITE LIGHTS CYCLE A	TIME CLOCK ON/OFF	BUILDING MOUNTED SECURITY LIGHTS	277	SEE PANELBOARD SCHEDULE FOR LOADS	277	BUILDING MOUNTED SECURITY LIGHTS	TIME CLOCK ON/OFF	SITE LIGHTS CYCLE A	SITE - BLDG	2 / OS-480-1C: 4
3 / OS-480-1C: 6	SITE - PATH	SITE LIGHTS CYCLE A	TIME CLOCK ON/OFF	NORTHERN WALKWAY LIGHTS	277		277	BUILDING MOUNTED SECURITY LIGHTS	TIME CLOCK ON/OFF	SITE LIGHTS CYCLE A	SITE - BLDG	4 / OS-480-1C: 7
5 / DP-480-1C: 4	CENTER	AFTER BUSINESS	TIME CLOCK ON/OFF SWITCH OVERRIDE	CENTRAL LOBBY & CORRIDORS	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	-	6 / SPARE
7 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	NORTHERN CANOPY	TIME CLOCK ON/OFF	SITE LIGHT CYCLE B	SITE	8 / DP-480-1C: 20
9 / DP-480-1C: 21	SITE	SITE LIGHTS CYCLE A	TIME CLOCK ON/OFF	SOUTHERN CANOPY	277	SEE PANELBOARD SCHEDULE FOR LOADS	277	FRONT RECEPTION	TIME CLOCK ON/OFF SWITCH OVERRIDE	AFTER BUSINESS	CENTER	10/ DP-480-1C: 16
11 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	1B	12 / SPARE
13 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	-	14 / SPARE
15 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	-	16 / SPARE

NOTE: LIGHTING CONTROL PANEL SCHEDULE SUPPLEMENTS THE PANEL SCHEDULE CIRCUIT DESIGNATIONS ONLY

LIGHTING CONTROL PANEL SCHEDULE

PANEL NAME: **LCP-1D** | LOCATION: ELECTRICAL ROOM 1C | MOUNTING: ☑ SURFACE ☐ FLUSH | PANEL TYPE: ☐ MAIN ☑ EXPANSION

LCP VOLTAGE: ☐ 120V ☑ 277V | REMARKS: FED FROM PANEL DP-480-1D: 10

RELAY/CIRC NO.	ZONE	CYCLE	RELAY CONTROLS	ZONE DESCRIPTION	LOAD VOLTS	LOAD AMPS	LOAD VOLTS	ZONE DESCRIPTION	RELAY CONTROLS	CYCLE	ZONE	RELAY/CIRC NO.
1 / DP-480-1D: 8	WEST	AFTER BUSINESS	TIME CLOCK ON/OFF SWITCH OVERRIDE	WESTERN CORRIDORS	277	SEE PANELBOARD SCHEDULE FOR LOADS	277	CLASSROOM ENTRANCE LIGHTS	TIME CLOCK ON/OFF	SITE LIGHTS CYCLE A	SITE	2 / DP-480-1D: 17
3 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	1B	4 / SPARE
5 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	-	6 / SPARE
7 / SPARE	-	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	277		277	-	TIME CLOCK ON/OFF SWITCH OVERRIDE	-	-	8 / SPARE

NOTE: LIGHTING CONTROL PANEL SCHEDULE SUPPLEMENTS THE PANEL SCHEDULE CIRCUIT DESIGNATIONS ONLY

LIGHTING CONTROL PROGRAMMING SCHEDULE

SCHEDULED EVENT	TIME CLOCK ON	TIME CLOCK OFF	DAY OF THE WEEK ZONE IS ACTIVE	DAY OF THE WEEK ZONE IS INACTIVE	REMARKS
BUSINESS CYCLE	6:30AM	7:00PM	MONDAY - FRIDAY	SATURDAY - SUNDAY	OVERRIDE SWITCHES FOR ZONES INDICATED
AFTER BUSINESS CYCLE	6:30AM	10:00PM	MONDAY - FRIDAY	SATURDAY - SUNDAY	OVERRIDE SWITCHES FOR ZONES INDICATED
ENERGY CYCLE	6:30AM	12:00AM	MONDAY - FRIDAY	SATURDAY - SUNDAY	OVERRIDE SWITCHES FOR ZONES INDICATED
SITE LIGHTS CYCLE A	DUSK	DAWN	MONDAY - SUNDAY	NOT APPLICABLE	OVERNIGHT SECURITY SITE LIGHTING
SITE LIGHTS CYCLE B	DUSK	1:00AM	MONDAY - FRIDAY	SATURDAY - SUNDAY	BUILDING TO CAR SECURITY SITE LIGHTING
ALWAYS ON	--	--	--	--	--

NOTE: REFER TO THE 'CYCLE' COLUMN ON EACH LIGHTING CONTROL PANEL FOR SCHEDULE

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Revisions: No. | Description | Date | Approved

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

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Drawn By: AL | File No.
Checked By: GMY | I.S.O. Sheet File Name:
Reviewed By: | Solicitation Number:

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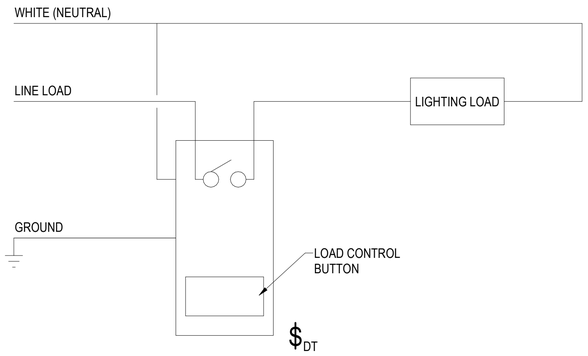
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LIGHTING CONTROL PANEL SCHEDULE

SHEET IDENTIFICATION
EL603
SHEET 327 of 442

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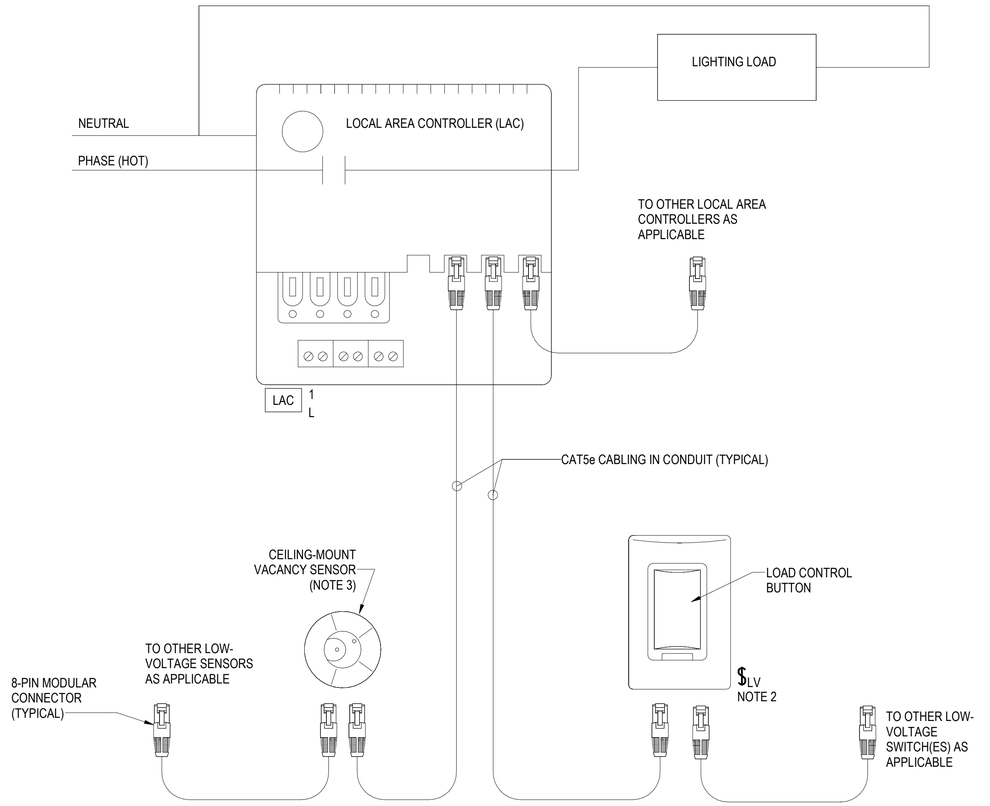


CONTROLS WIRING DIAGRAM

WD01

DESCRIPTION:
SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROL, RESTRICTED TO MANUAL ON, FULL AUTO OFF
NO RECEPTACLE CONTROL
WALL BOX OCCUPANCY SENSOR WITH INTEGRAL OVERRIDE SWITCH

LIGHTING CONTROL STRATEGY:
1. REFER TO LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.



CONTROLS WIRING DIAGRAM

WD02

DESCRIPTION:
SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROL, RESTRICTED TO MANUAL ON, FULL AUTO OFF
NO RECEPTACLE CONTROL
CEILING OCCUPANCY SENSOR(S), LOW-VOLTAGE SWITCH

NOTES:
1. PROVIDE ONE LOCAL AREA CONTROLLER FOR EACH SET OF LUMINARIES IN THE ROOM DESIGNED TO BE CONTROLLED SEPARATELY, OR FOR EACH CIRCUIT TO BE CONTROLLED. PROVIDE OCCUPANCY SENSORS AS INDICATED ON PLANS. PROVIDE ONE OR MORE LOW-VOLTAGE SWITCHES FOR EACH SPACE TO BE CONTROLLED. SEE PROGRAMMING NOTES BELOW.
2. PROGRAM BUTTON SO ALTERNATE PRESSES TURN ALL LOADS "ON" AND "OFF".

LIGHTING CONTROL STRATEGY:
1. REFER TO LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.

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		Revisions		

ALABAMA
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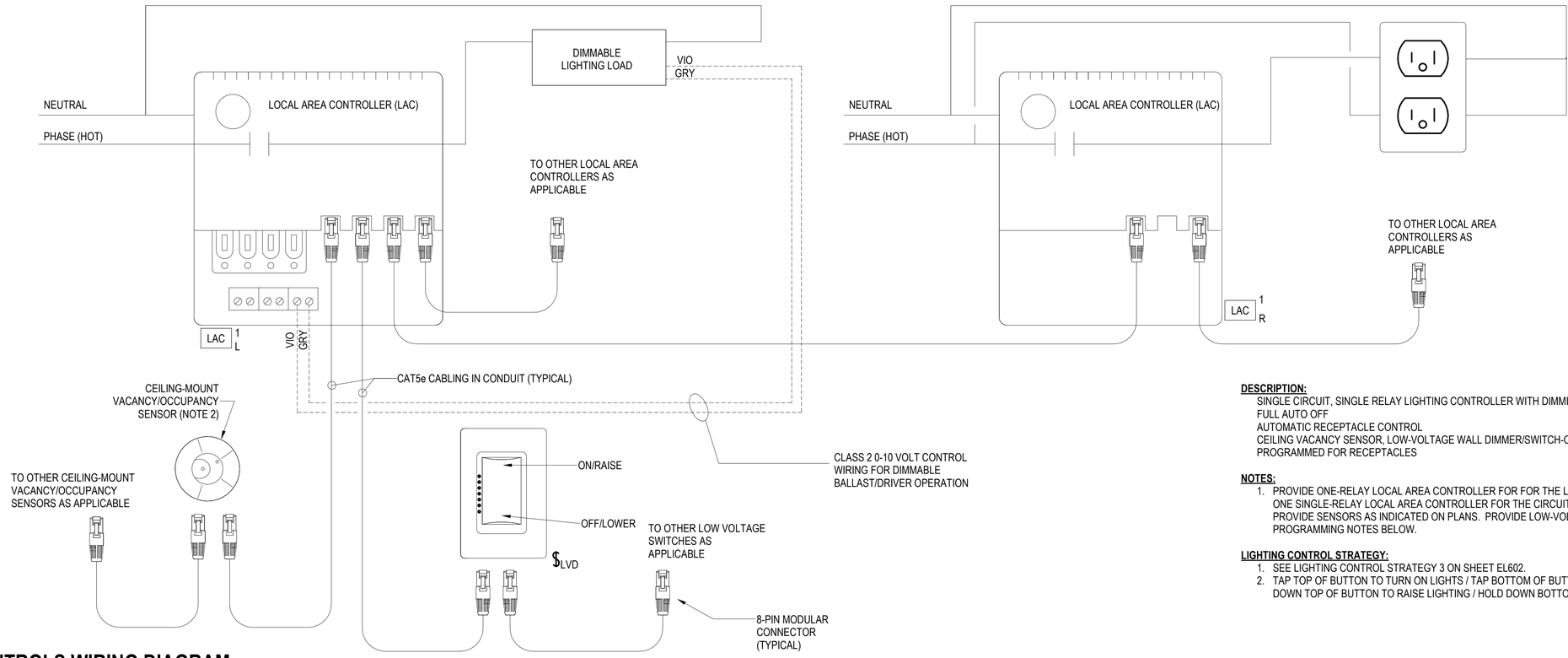
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LIGHTING CONTROL WIRING DIAGRAM

SHEET IDENTIFICATION
EL604
SHEET 328 of 442

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CONTROLS WIRING DIAGRAM

WD03

DESCRIPTION:

SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROLLER WITH DIMMING, RESTRICTED TO MANUAL ON, FULL AUTO OFF
AUTOMATIC RECEPTACLE CONTROL
CEILING VACANCY SENSOR, LOW-VOLTAGE WALL DIMMER/SWITCH-OCCUPANCY SENSOR PROGRAMMED FOR RECEPTACLES

NOTES:

1. PROVIDE ONE-RELAY LOCAL AREA CONTROLLER FOR FOR THE LUMINAIRES IN THE ROOM AND ONE SINGLE-RELAY LOCAL AREA CONTROLLER FOR THE CIRCUIT FOR RECEPTACLE CONTROL. PROVIDE SENSORS AS INDICATED ON PLANS. PROVIDE LOW-VOLTAGE DIMMER/SWITCH. SEE PROGRAMMING NOTES BELOW.

LIGHTING CONTROL STRATEGY:

1. SEE LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.
2. TAP TOP OF BUTTON TO TURN ON LIGHTS / TAP BOTTOM OF BUTTON TO TURN OFF LIGHTS. HOLD DOWN TOP OF BUTTON TO RAISE LIGHTING / HOLD DOWN BOTTOM OF BUTTON TO DIM LIGHTING.

US Army Corps of Engineers
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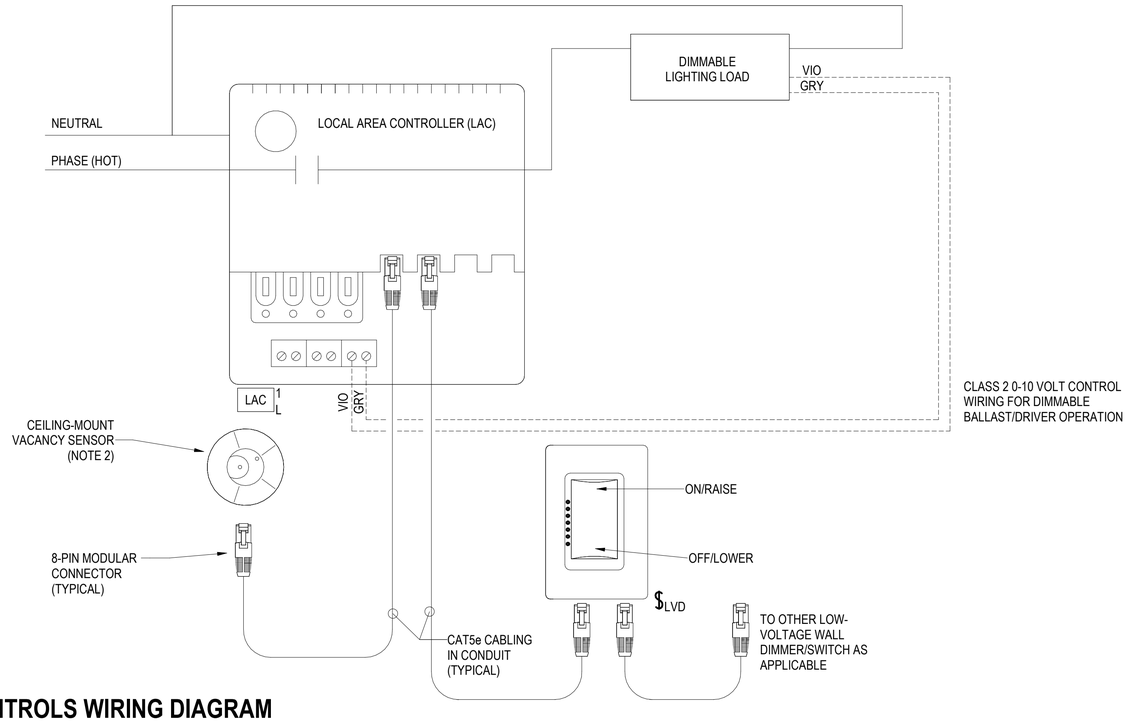
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LIGHTING CONTROL WIRING DIAGRAM

SHEET IDENTIFICATION
EL605
SHEET 329 of 442

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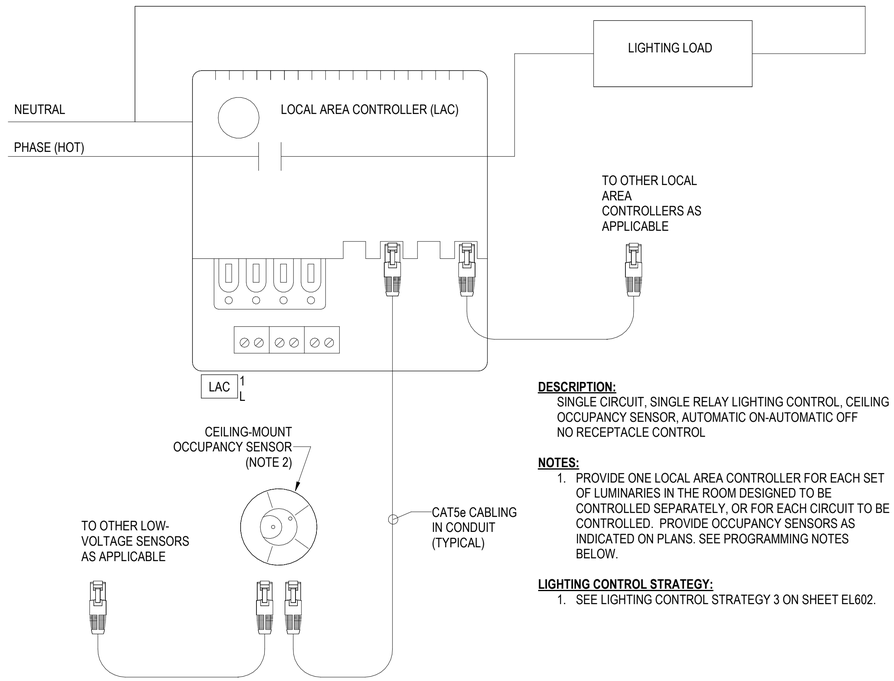
CONTROLS WIRING DIAGRAM

WD04

DESCRIPTION:
SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROLLER WITH DIMMING, RESTRICTED TO MANUAL ON, FULL AUTO OFF
NO RECEPTACLE CONTROL
CEILING VACANCY SENSOR, LOW-VOLTAGE WALL DIMMER/SWITCH

NOTES:
1. PROVIDE ONE-RELAY LOCAL AREA CONTROLLER FOR THE LUMINAIRES IN THE ROOM. PROVIDE SENSORS AS INDICATED ON PLANS. PROVIDE LOW-VOLTAGE DIMMER/SWITCH. SEE PROGRAMMING NOTES BELOW.

LIGHTING CONTROL STRATEGY:
1. SEE LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.
2. TAP TOP OF BUTTON TO TURN ON LIGHTS / TAP BOTTOM OF BUTTON TO TURN OFF LIGHTS. HOLD DOWN TOP OF BUTTON TO RAISE LIGHTING / HOLD DOWN BOTTOM OF BUTTON TO DIM LIGHTING.



DESCRIPTION:
SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROL, CEILING OCCUPANCY SENSOR, AUTOMATIC ON-AUTOMATIC OFF
NO RECEPTACLE CONTROL

NOTES:
1. PROVIDE ONE LOCAL AREA CONTROLLER FOR EACH SET OF LUMINARIES IN THE ROOM DESIGNED TO BE CONTROLLED SEPARATELY, OR FOR EACH CIRCUIT TO BE CONTROLLED. PROVIDE OCCUPANCY SENSORS AS INDICATED ON PLANS. SEE PROGRAMMING NOTES BELOW.

LIGHTING CONTROL STRATEGY:
1. SEE LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.

CONTROLS WIRING DIAGRAM

WD05

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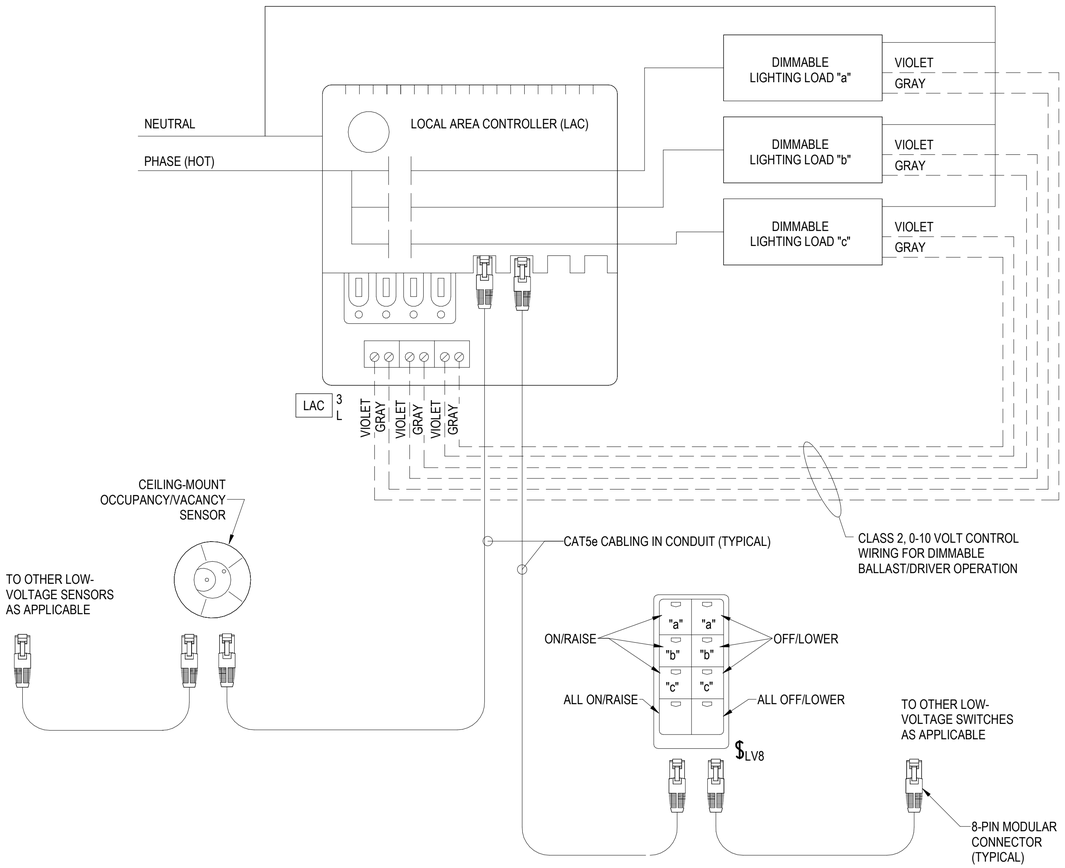
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FEMA - DHS - CDP, ANNISTON, AL

LIGHTING CONTROL WIRING DIAGRAM

SHEET IDENTIFICATION
EL606
SHEET 330 of 442

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CONTROLS WIRING DIAGRAM

WD06

DESCRIPTION:

MULTI-CIRCUIT, THREE RELAY LIGHTING CONTROLLERS WITH DIMMING, RESTRICTED TO MANUAL ON, AUTOMATIC OFF
NO AUTOMATIC RECEPTACLE CONTROL
LOW-VOLTAGE SWITCH(ES)

NOTES:

1. PROVIDE ONE LOCAL AREA CONTROLLER FOR EACH CIRCUIT TO BE CONTROLLED. PROVIDE ONE OR MORE LOW-VOLTAGE SWITCHES FOR EACH SPACE TO BE CONTROLLED. SEE PROGRAMMING NOTES BELOW.
2. PROGRAMMING OF EIGHT BUTTON LOAD CONTROL SWITCH: PROGRAM LEFT BUTTON "a" AS ON/RAISE, AND PROGRAM RIGHT BUTTON "a" AS OFF/LOWER. REPEAT THE SAME FOR BUTTONS "b" AND "c". PROGRAM BOTTOM LEFT BUTTON TO TURN ON/RAISE ALL LOADS, AND PROGRAM BOTTOM RIGHT BUTTON TO TURN OFF/LOWER ALL LOADS.

LIGHTING CONTROL STRATEGY:

1. SEE LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.

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MOBILE, ALABAMA

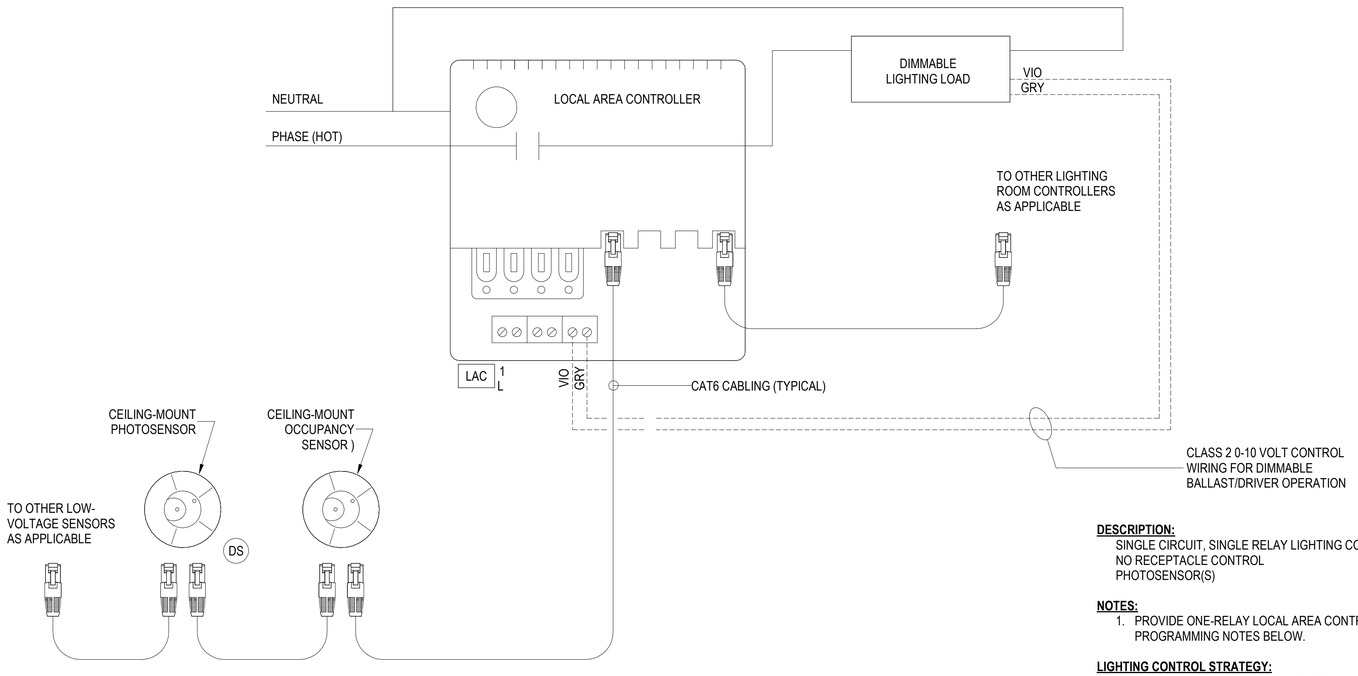
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LIGHTING CONTROL WIRING DIAGRAM

SHEET IDENTIFICATION
EL607
SHEET 331 of 442

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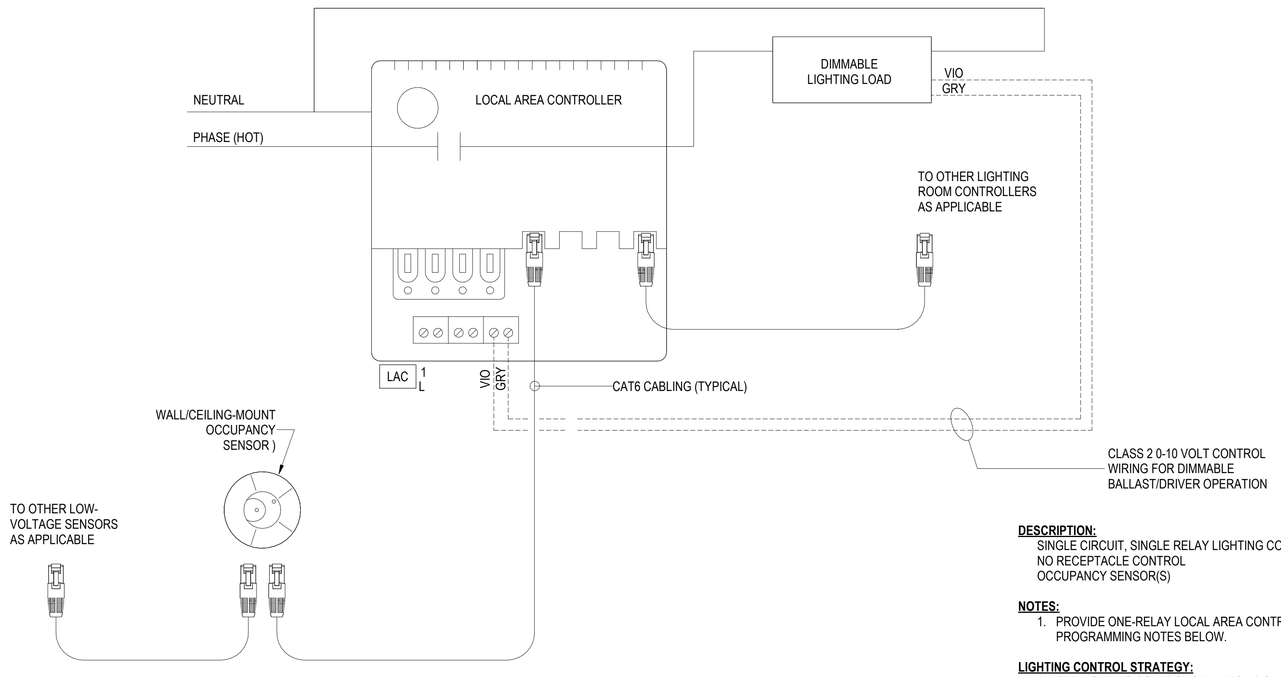
CONTROLS WIRING DIAGRAM

WD07

DESCRIPTION:
SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROL, DAYLIGHT SENSOR CONTROL
NO RECEPTACLE CONTROL
PHOTOSENSOR(S)

NOTES:
1. PROVIDE ONE-RELAY LOCAL AREA CONTROLLER FOR THE LUMINAIRES IN THE ROOM. PROVIDE SENSORS AS INDICATED ON PLANS. SEE PROGRAMMING NOTES BELOW.

LIGHTING CONTROL STRATEGY:
1. SEE LIGHTING CONTROL STRATEGY 4 ON SHEET EL602.



CONTROLS WIRING DIAGRAM

WD08

DESCRIPTION:
SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROL, OCCUPANCY SENSOR CONTROL.
NO RECEPTACLE CONTROL
OCCUPANCY SENSOR(S)

NOTES:
1. PROVIDE ONE-RELAY LOCAL AREA CONTROLLER FOR THE LUMINAIRES IN THE ROOM. PROVIDE SENSORS AS INDICATED ON PLANS. SEE PROGRAMMING NOTES BELOW.

LIGHTING CONTROL STRATEGY:
1. SEE LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.

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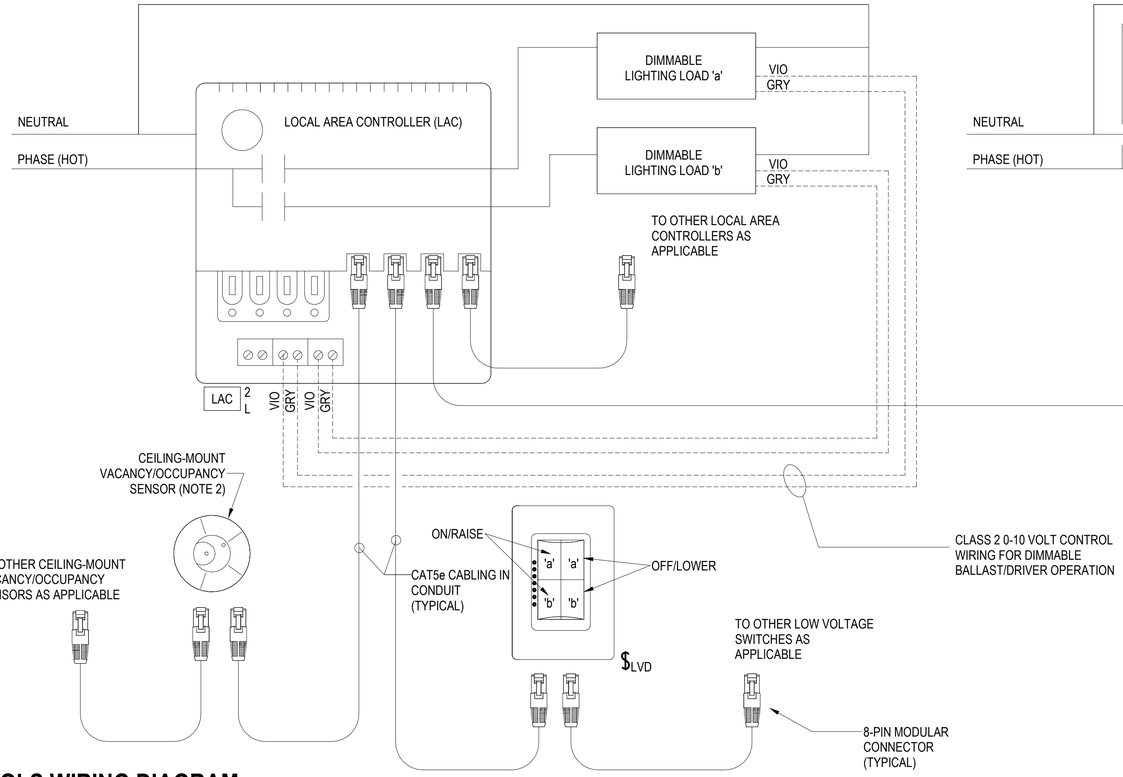
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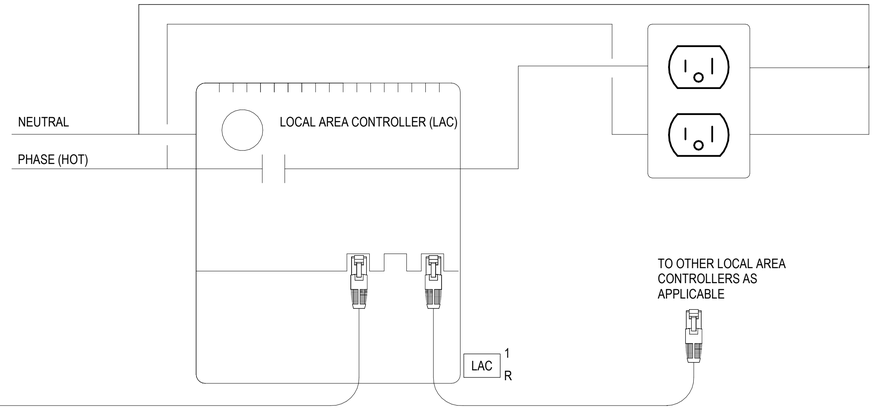
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FEMA - DHS - CDP, ANNISTON, AL

LIGHTING CONTROL WIRING DIAGRAM

SHEET IDENTIFICATION
EL608
SHEET 332 of 442

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CONTROLS WIRING DIAGRAM

WD09

DESCRIPTION:

SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROLLER WITH DIMMING, RESTRICTED TO MANUAL ON, FULL AUTO OFF
AUTOMATIC RECEPTACLE CONTROL
CEILING VACANCY SENSOR, LOW-VOLTAGE WALL DIMMER/SWITCH-OCCUPANCY SENSOR PROGRAMMED FOR RECEPTACLES

NOTES:

1. PROVIDE ONE-RELAY LOCAL AREA CONTROLLER FOR FOR THE LUMINAIRES IN THE ROOM AND ONE SINGLE-RELAY LOCAL AREA CONTROLLER FOR THE CIRCUIT FOR RECEPTACLE CONTROL. PROVIDE SENSORS AS INDICATED ON PLANS. PROVIDE LOW-VOLTAGE DIMMER/SWITCH. SEE PROGRAMMING NOTES BELOW.

LIGHTING CONTROL STRATEGY:

1. SEE LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.
2. TAP TOP OF BUTTON TO TURN ON LIGHTS / TAP BOTTOM OF BUTTON TO TURN OFF LIGHTS. HOLD DOWN TOP OF BUTTON TO RAISE LIGHTING / HOLD DOWN BOTTOM OF BUTTON TO DIM LIGHTING.

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		Revisions		

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06/29/21

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Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

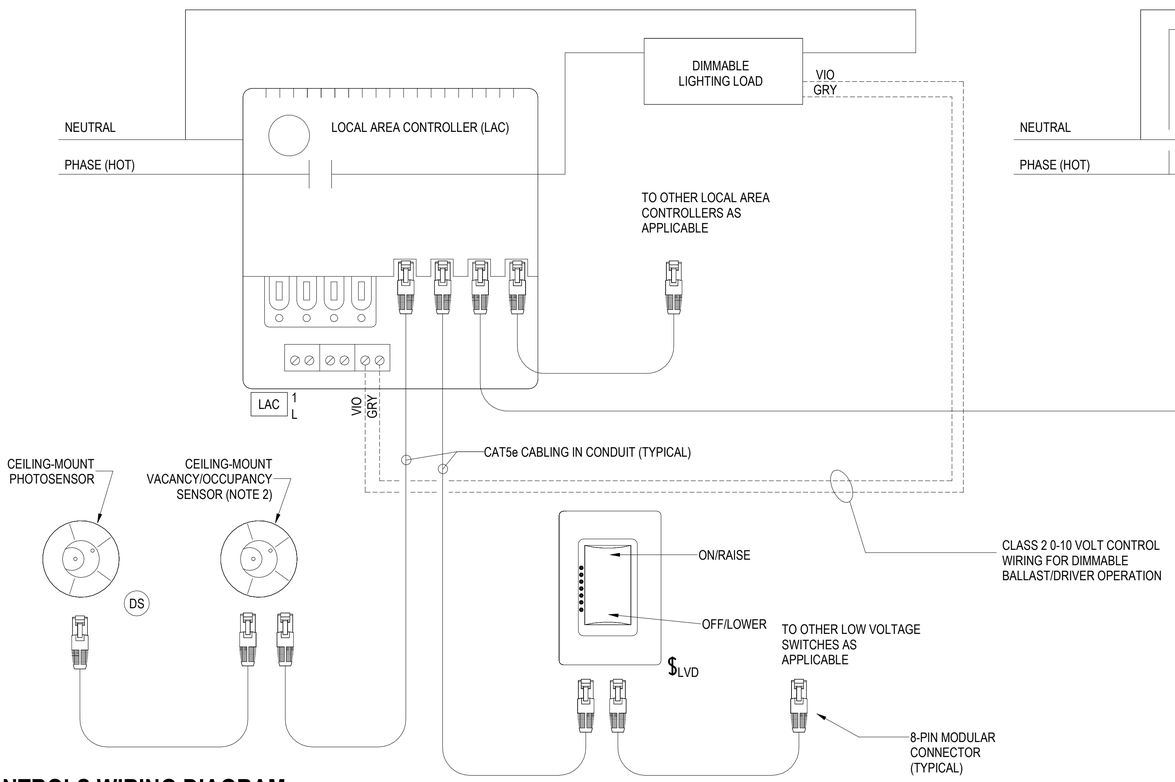
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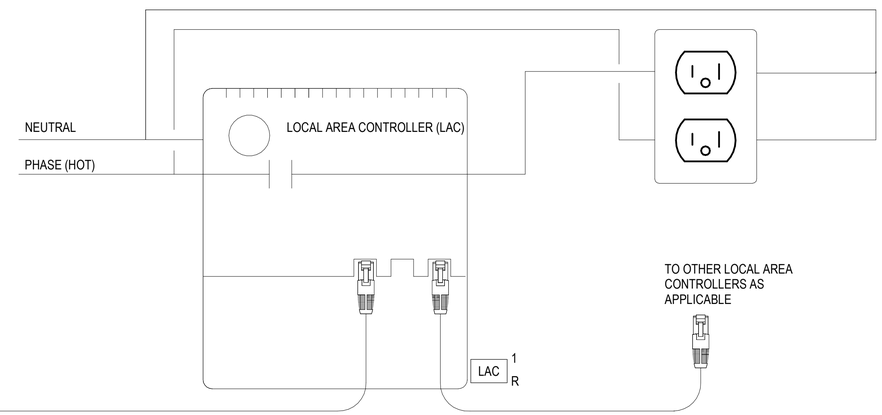
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FEMA - DHS - CDP, ANNISTON, AL

LIGHTING CONTROL WIRING DIAGRAM

SHEET IDENTIFICATION
EL609
SHEET 333 of 442

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CONTROLS WIRING DIAGRAM

WD10

DESCRIPTION:

SINGLE CIRCUIT, SINGLE RELAY LIGHTING CONTROLLER WITH DIMMING, RESTRICTED TO MANUAL ON, FULL AUTO OFF, DAYLIGHT SENSOR CONTROL.
AUTOMATIC RECEPTACLE CONTROL
CEILING VACANCY SENSOR, PHOTOSENSOR(S), LOW-VOLTAGE WALL DIMMER/SWITCH-OCCUPANCY SENSOR PROGRAMMED FOR RECEPTACLES

NOTES:

1. PROVIDE ONE-RELAY LOCAL AREA CONTROLLER FOR FOR THE LUMINAIRES IN THE ROOM AND ONE SINGLE-RELAY LOCAL AREA CONTROLLER FOR THE CIRCUIT FOR RECEPTACLE CONTROL. PROVIDE SENSORS AS INDICATED ON PLANS. PROVIDE LOW-VOLTAGE DIMMER/SWITCH. SEE PROGRAMMING NOTES BELOW.

LIGHTING CONTROL STRATEGY:

1. SEE LIGHTING CONTROL STRATEGY 3 ON SHEET EL602.
2. TAP TOP OF BUTTON TO TURN ON LIGHTS / TAP BOTTOM OF BUTTON TO TURN OFF LIGHTS. HOLD DOWN TOP OF BUTTON TO RAISE LIGHTING / HOLD DOWN BOTTOM OF BUTTON TO DIM LIGHTING.

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LIGHTING CONTROL WIRING DIAGRAM

SHEET IDENTIFICATION
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ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM ELECTRICAL ROOM 114.

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM ELECTRICAL ROOM 205.

4HVAC3

2HVAC3

THVAC3

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM MECHANICAL ROOM 321.

COMM1D

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM RECESSED PANEL N21D3.

N21D2

NOTE 2

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM ELECTRICAL ROOM 141.

G3
EP116

COMM1B

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM MECHANICAL ROOM 111.

G4
EP118

POWER FEEDER CONDUIT ROUTED ABOVE CEILING TYP

G4
EP112

2HVAC2

THVAC2

4HVAC2

N21A2

4HVAC1

2HVAC1

THVAC1

COMM1A

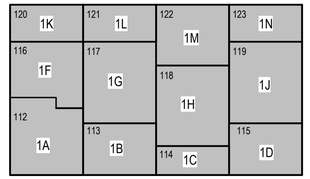
DN

G4
EP115

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM MECHANICAL ROOM 100.

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM RECESSED PANEL N21A2.

ALL POWER BRANCH CIRCUITS IN THIS AREA SERVED FROM ELECTRICAL ROOM 205.



FIRST FLOOR KEY PLAN

PLAN NORTH

NOTES:
1. REFER TO GENERAL NOTE 36 FOR LONG CONDUIT RUNS.
2. PROVIDE CABLE PULL BOX AT 11'-0" AFF.

POWER FIRST FLOOR PLAN - COMPOSITE

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

0 6' 12' 24'

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

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

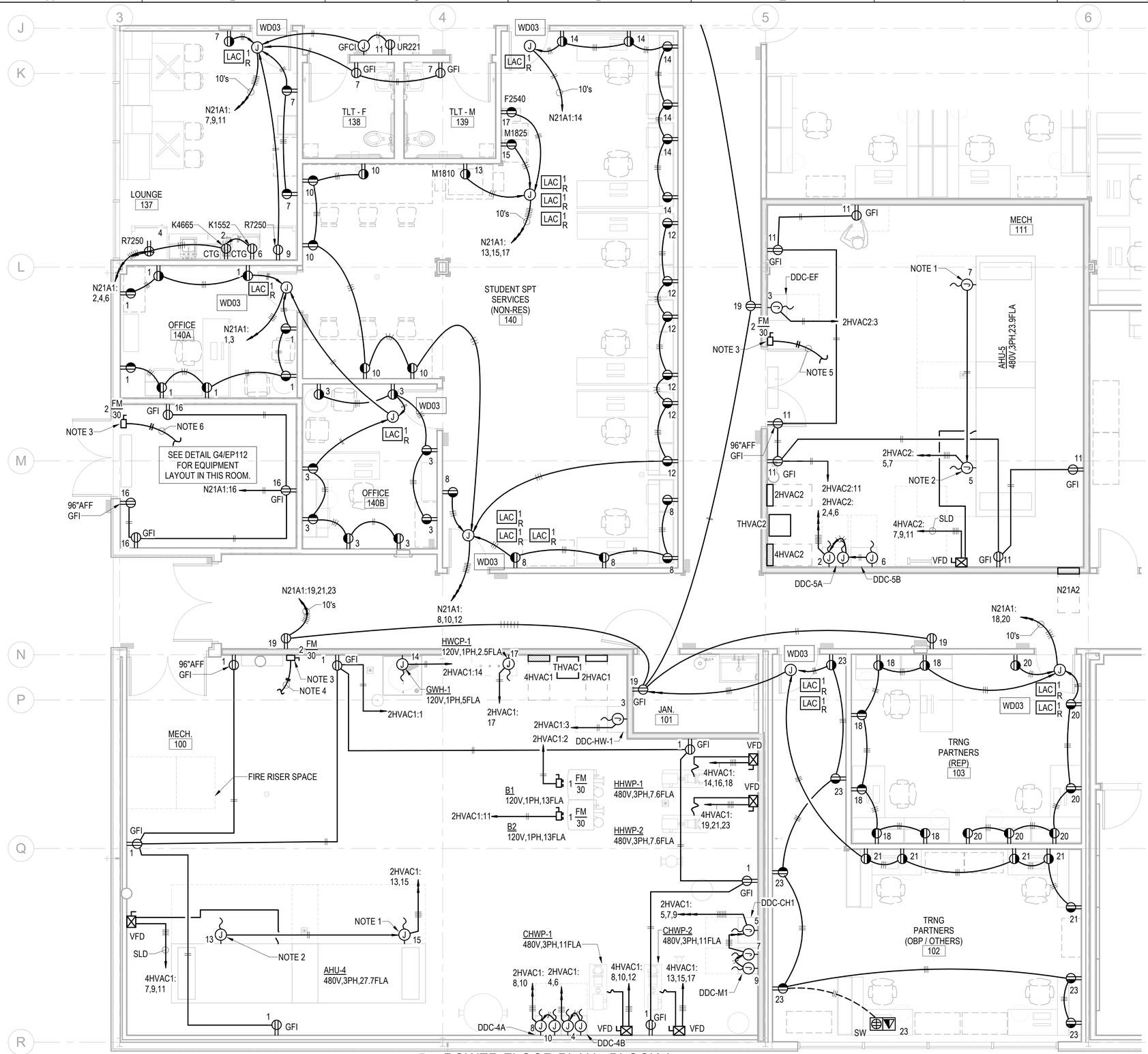
ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FIRST FLOOR PLAN - COMPOSITE

SHEET IDENTIFICATION
EP111
SHEET 335 of 442

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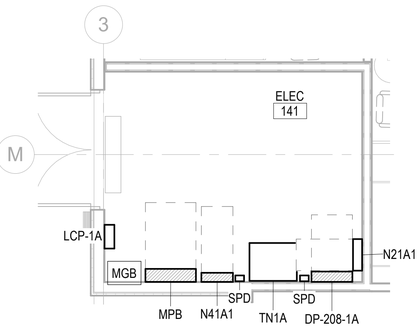


C6 POWER FLOOR PLAN - BLOCK A

SCALE: 1/4" = 1'-0"

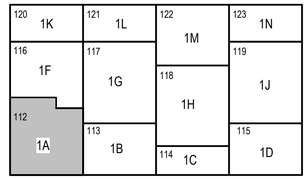
NOTES:

1. MAINTENANCE GFCI RECEPTACLE AND LIGHTS (EQUIPMENT IS PROVIDED WITH THE PACKAGED AHU) POWER CONNECTION.
2. UV LIGHTS POWER CONNECTION.
3. MOUNT DISCONNECT UP HIGH DIRECTLY ADJACENT TO AC UNIT.
4. POWER WIRING AND CONDUIT TO CU-9. SEE SHEET EP151 FOR CONTINUATION.
5. POWER WIRING AND CONDUIT TO CU-10. SEE SHEET EP151 FOR CONTINUATION.
6. POWER WIRING AND CONDUIT TO CU-3. SEE SHEET EP151 FOR CONTINUATION.



G4 MAIN ELECTRICAL ROOM - 1A

SCALE: 1/4" = 1'-0"



PLAN NORTH

FIRST FLOOR KEY PLAN

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FLOOR PLAN - BLOCK 1A

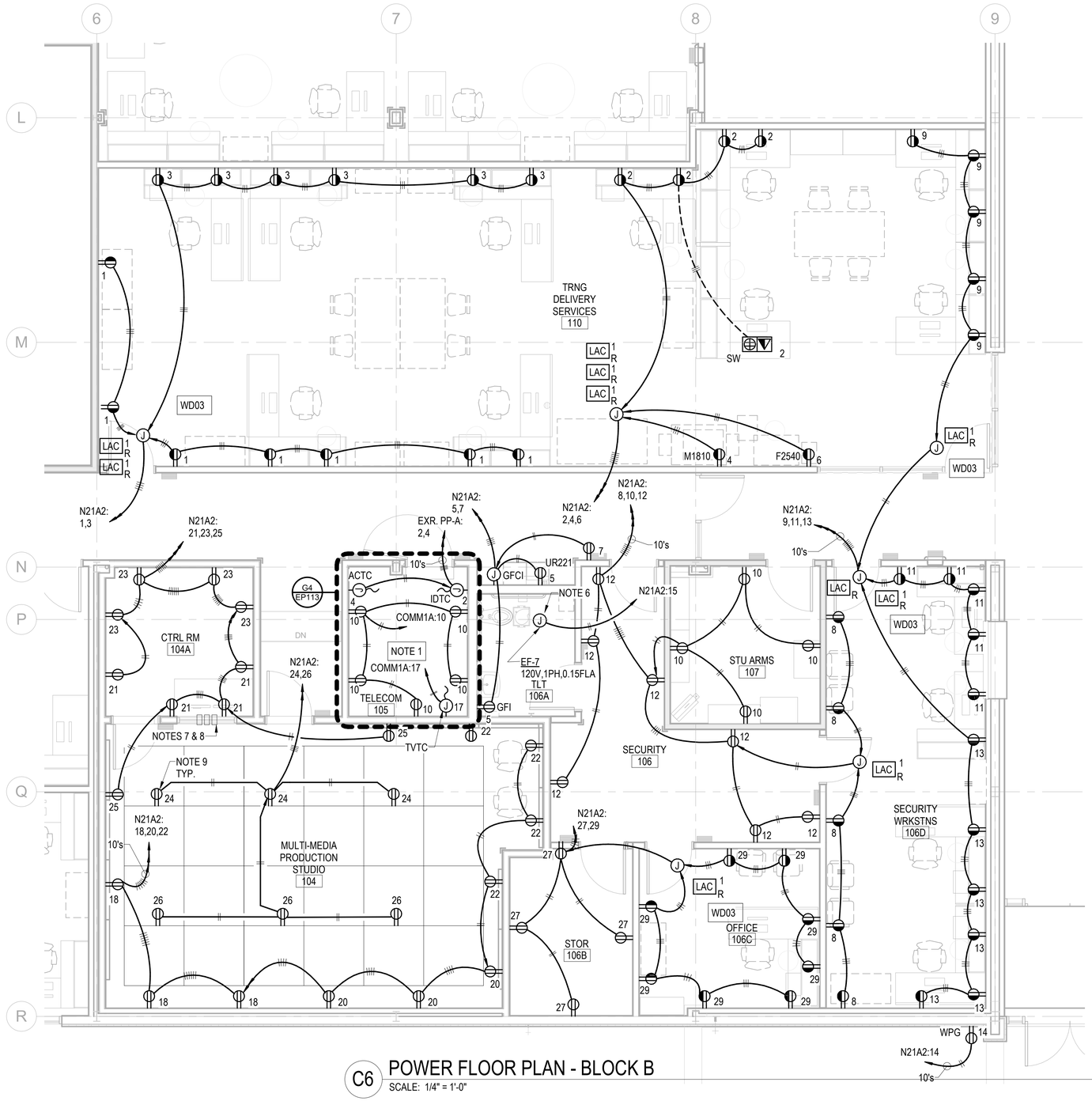
SHEET IDENTIFICATION

EP112

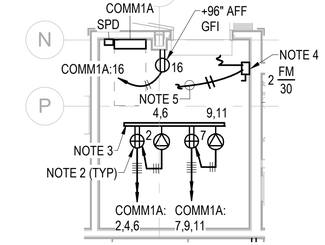
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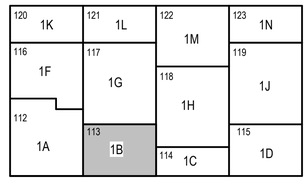
NOTES:
1. SEE DETAIL G4/EP113 FOR ADDITIONAL EQUIPMENT CIRCUITS IN THIS ROOM.
2. MOUNT RECEPTACLE TO SIDE OF UNISTRUT.
3. 6' SECTION OF UNISTRUT, SUPPORTED FROM STRUCTURE ABOVE, MOUNTED HORIZONTALLY 8'-6" AFF AND PARALLEL TO CABLE TRAY.
4. MOUNT DISCONNECT UP HIGH DIRECTLY ADJACENT TO AC UNIT.
5. POWER WIRING AND CONDUIT TO CONDENSING UNIT CU-4. SEE SHEET EP151 FOR CONTINUATION.
6. POWER CONNECTION ABOVE CEILING FOR EF-7. PROVIDE CIRCUIT BREAKER AT PANEL THAT IS LOCKABLE IN THE OPEN POSITION.
7. PROVIDE (3) 4" CONDUIT SLEVES 4" AFF FOR CONNECTIONS BETWEEN MISC STUDIO EQUIPMENT IN THE STUDIO AND CONTROL EQUIPMENT IN THE CONTROL ROOM.
8. PROVIDE (3) 4" CONDUIT SLEVES 8'-6" AFF FOR CONNECTIONS BETWEEN MISC STUDIO EQUIPMENT MOUNTED TO LIGHTING GRID IN THE STUDIO AND CONTROL EQUIPMENT IN THE CONTROL ROOM
9. MOUNT TO TOP OF LIGHTING GRID.



C6 POWER FLOOR PLAN - BLOCK B
SCALE: 1/4" = 1'-0"



G4 COMM ROOM 105 - POWER
SCALE: 1/4" = 1'-0"



PLAN NORTH

FIRST FLOOR KEY PLAN

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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		Revisions		

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CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

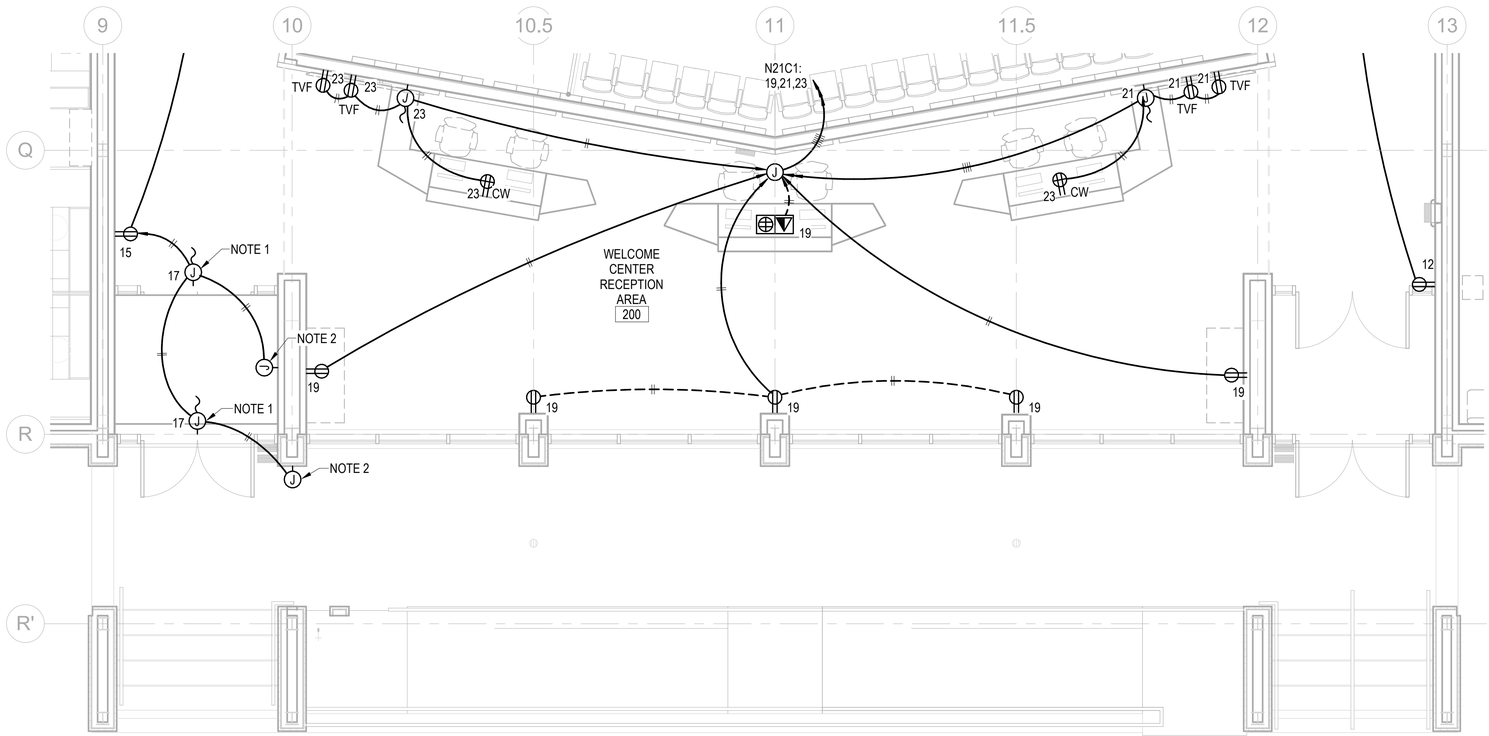
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

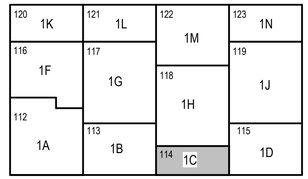
POWER FLOOR PLAN - BLOCK 1B

SHEET IDENTIFICATION
EP113
SHEET 337 of 442

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6/29/2021 10:46:50 AM

NOTES:
1. POWER CONNECTION FOR DOOR OPERATOR. COORDINATE MOUNTING HEIGHT WITH INSTALLATION OF DOOR HARDWARE.
2. POWER CONNECTION FOR HANDICAPP DOOR BUTTON. COORDINATE WITH DOOR HARDWARE INSTALLATION.
3. MOUNT JUNCTION BOX ABOVE ACCESSIBLE CEILING.





PLAN NORTH

FIRST FLOOR KEY PLAN

POWER FLOOR PLAN - BLOCK 1C

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

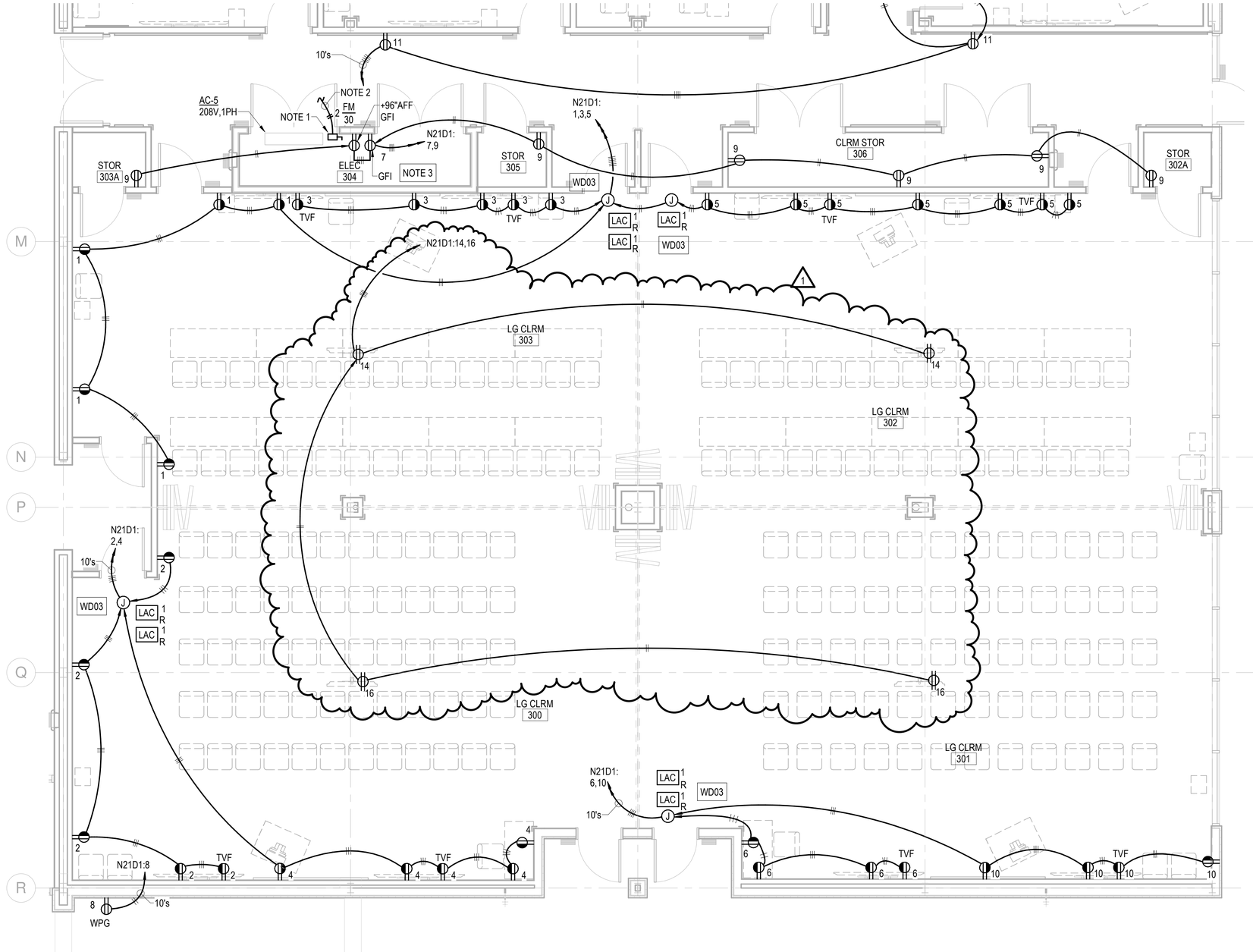
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FLOOR PLAN - BLOCK 1C

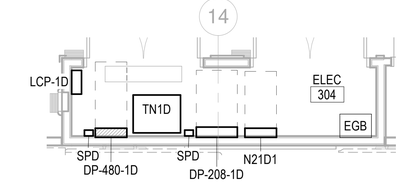
SHEET IDENTIFICATION
EP114
SHEET 338 of 442

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NOTES:
1. MOUNT DISCONNECT UP HIGH DIRECTLY ADJACENT TO AC UNIT.
2. POWER CONDUIT AND WIRING TO CU-5. SEE EP151 FOR CONTINUATION.
3. SEE G4/EP115 FOR EQUIPMENT LAYOUT IN THIS ROOM.

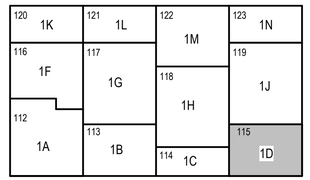


C6 POWER FLOOR PLAN - BLOCK D
SCALE: 1/4" = 1'-0"



G4 ELECTRICAL ROOM - 1D
SCALE: 1/4" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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Revisions

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MOBILE, ALABAMA

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

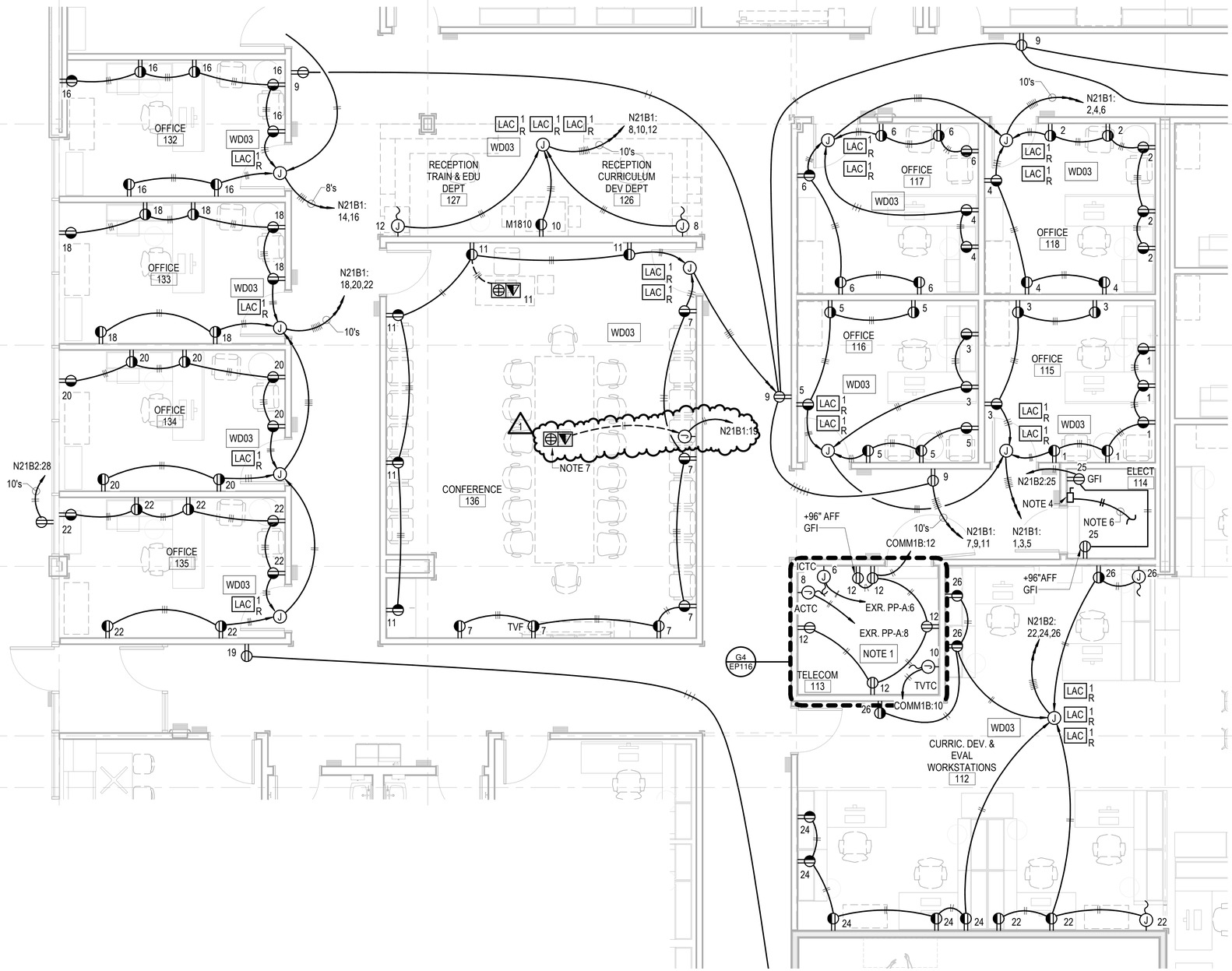
POWER FLOOR PLAN - BLOCK 1D

SHEET IDENTIFICATION
EP115
SHEET 339 of 442

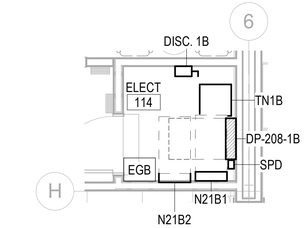
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NOTES:
1. SEE DETAIL G4/EP116 FOR ADDITIONAL EQUIPMENT CIRCUITS IN THIS ROOM.
2. MOUNT RECEPTACLE TO SIDE OF UNISTRUT.
3. 6' SECTION OF UNISTRUT, SUPPORTED FROM STRUCTURE ABOVE, MOUNTED HORIZONTALLY 8'-6" AFF AND PARALLEL TO CABLE TRAY.
4. MOUNT DISCONNECT UP HIGH DIRECTLY ADJACENT TO AC UNIT.
5. POWER CONNECTION TO CONDENSING UNIT CU-2. SEE SHEET EP151 FOR CONTINUATION.
6. POWER CONNECTION TO CONDENSING UNIT CU-8. SEE SHEET EP151 FOR CONTINUATION.
7. INSTALL POWER AND COMMUNICATION IN SEPARATE FLOOR BOXES. RECEPTACLE IN POWER FLOOR BOX MUST BE FLUSH WITH THE FINISHED FLOOR.

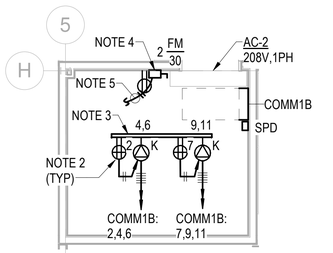
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C6 POWER FLOOR PLAN - BLOCK F
SCALE: 1/4" = 1'-0"

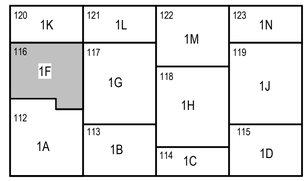


G3 ELECTRICAL ROOM -1B
SCALE: 1/4" = 1'-0"



G4 COMM ROOM 113 - POWER
SCALE: 1/4" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

0 2' 4' 8'
SCALE: 1/4"=1'-0"

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MOBILE, ALABAMA

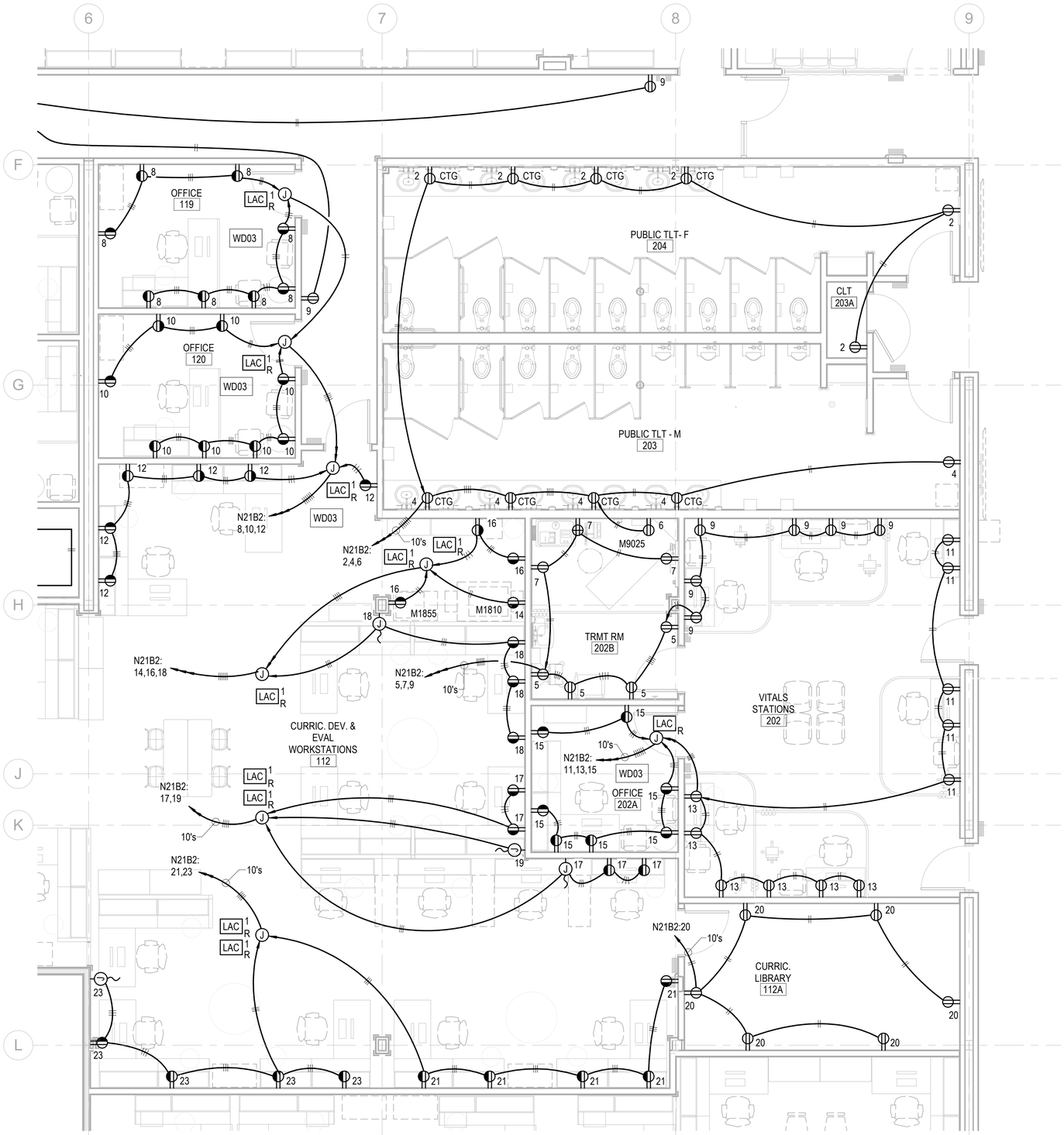
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

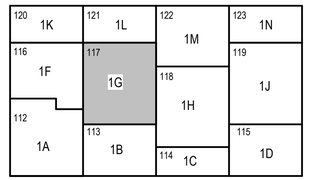
POWER FLOOR PLAN - BLOCK 1F

SHEET IDENTIFICATION
EP116
SHEET 340 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

POWER FLOOR PLAN - BLOCK 1G

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

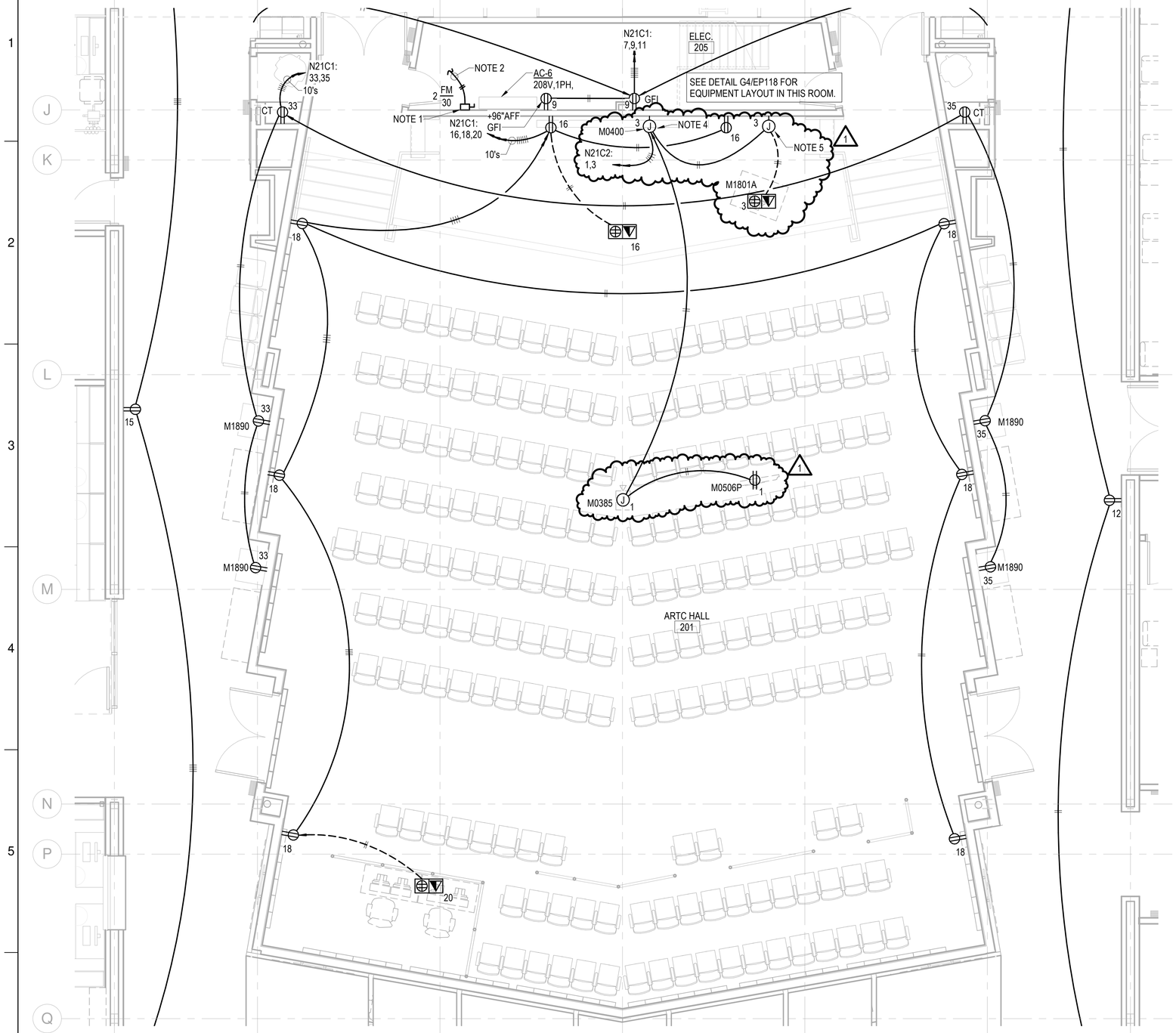
POWER FLOOR PLAN - BLOCK 1G

SHEET IDENTIFICATION

EP117

SHEET 341 of 442

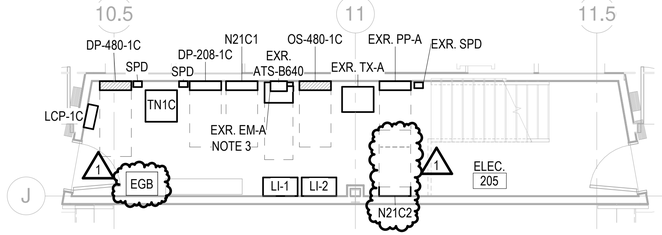
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C6 POWER FLOOR PLAN - BLOCK H

SCALE: 1/4" = 1'-0"

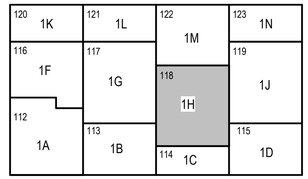
NOTES:
1. MOUNT DISCONNECT UP HIGH ADJACENT TO AC UNIT.
2. POWER CONDUIT AND WIRING TO CU-6. SEE EP151 FOR CONTINUATION.
3. MOUNT DISCONNECT ABOVE ATS. TOP OF DISCONNECT SHALL BE 6'-6" AFF OR LOWER.
4. PROJECTOR SCREEN POWER CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH EQUIPMENT MANUFACTURER.
5. PROJECTOR SCREEN CONTROL SWITCH CONNECTION 4'-0" AFF.



G4 ELECTRICAL ROOM - 1C

SCALE: 1/4" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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MOBILE, ALABAMA

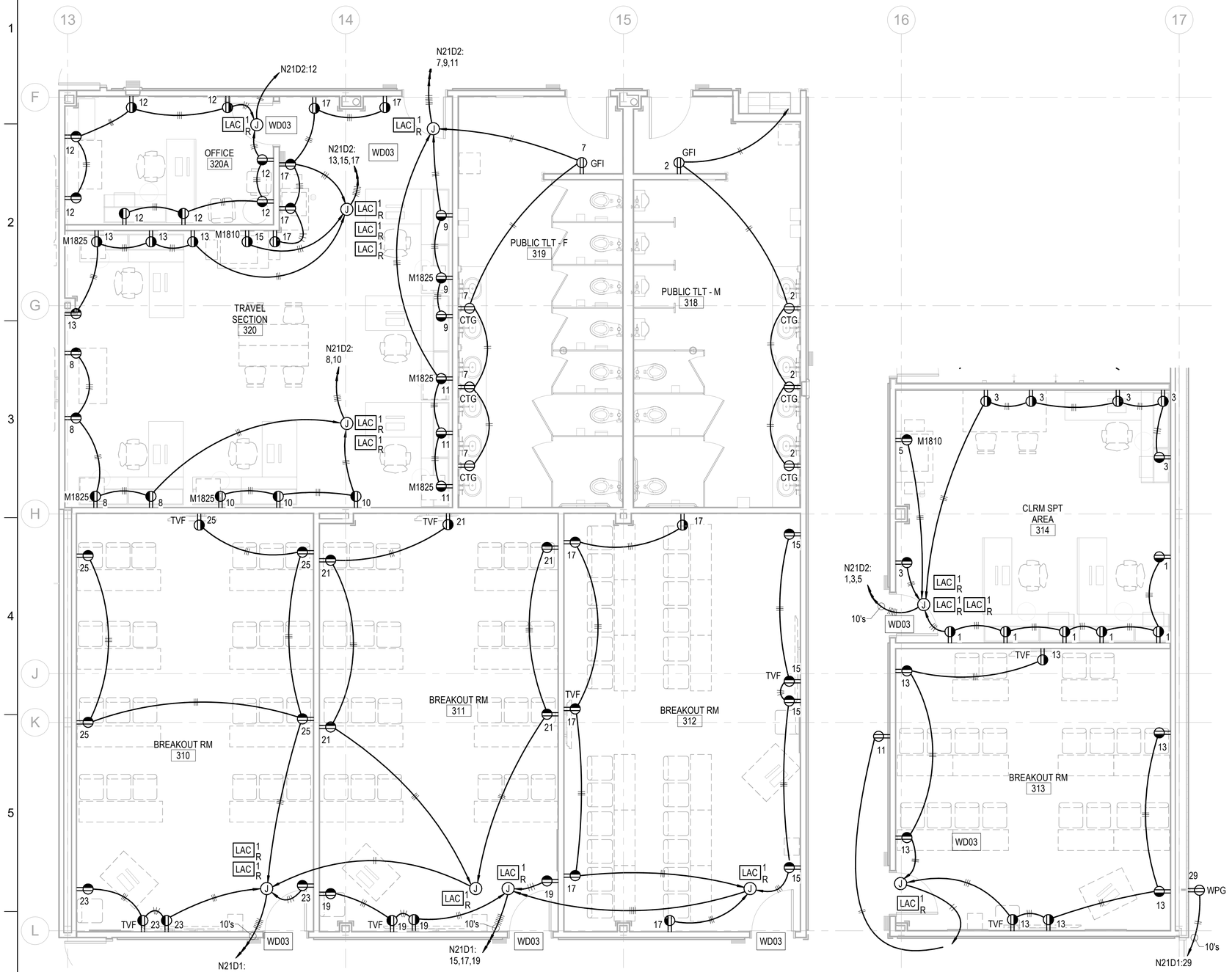
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

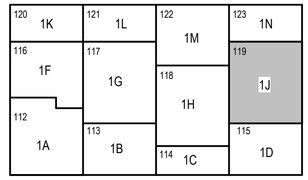
POWER FLOOR PLAN - BLOCK 1H

SHEET IDENTIFICATION
EP118
SHEET 342 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

POWER FLOOR PLAN - BLOCK 1J

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

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CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

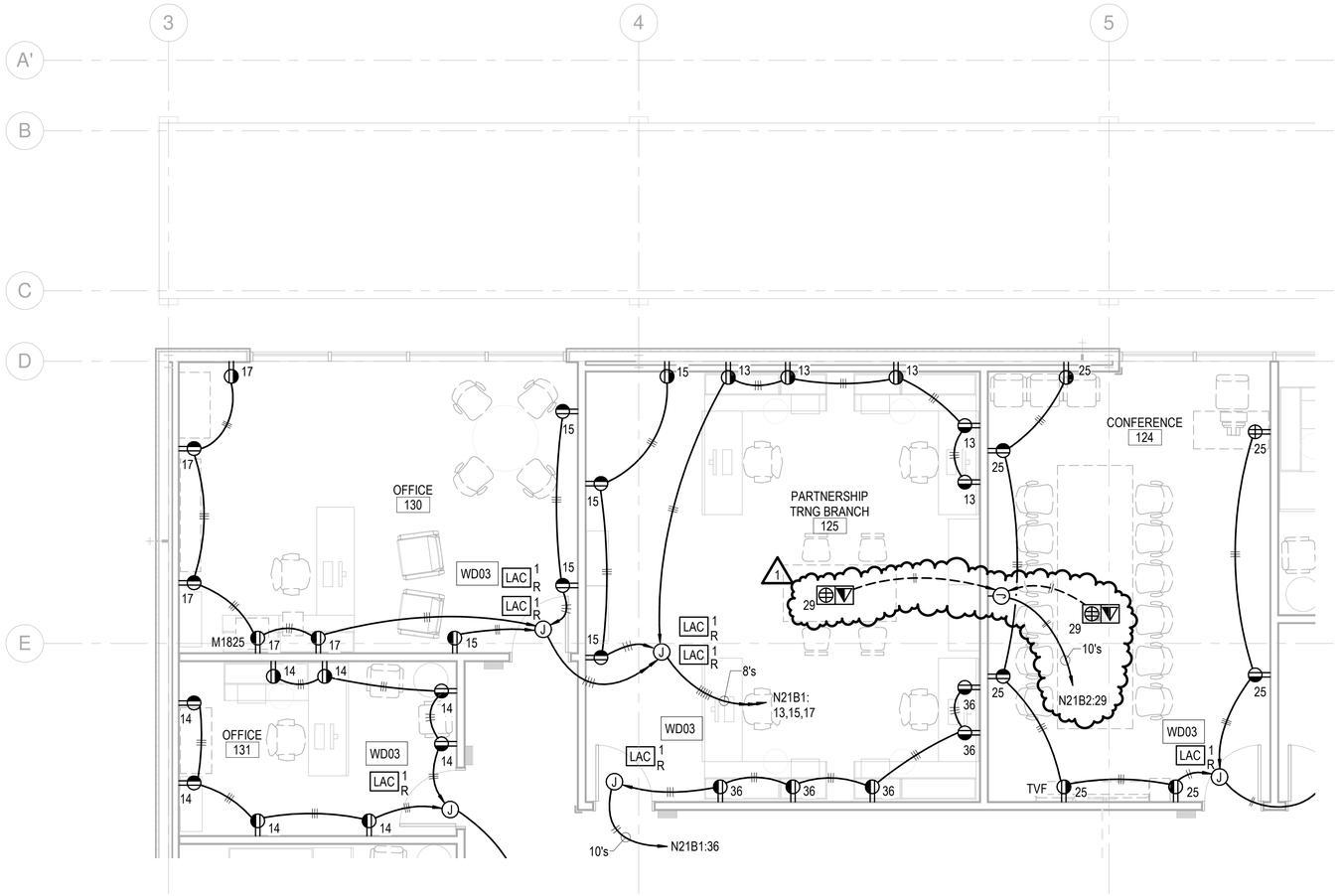
ARTC - B640 RENOVATION
FEMA - DHS - CDP: ANNISTON, AL

POWER FLOOR PLAN - BLOCK 1J

SHEET IDENTIFICATION
EP119
SHEET 343 of 442

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6/29/2021 10:47:06 AM

NOTES:
1. INSTALL POWER AND COMMUNICATION IN SEPARATE FLOOR BOXES. RECEPTACLE IN POWER FLOOR BOX MUST BE FLUSH WITH THE FINISHED FLOOR.



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Solicitation Number:

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

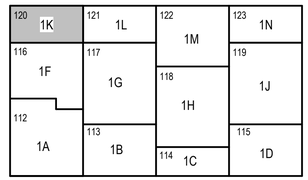
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FLOOR PLAN - BLOCK 1K

PLAN NORTH



FIRST FLOOR KEY PLAN

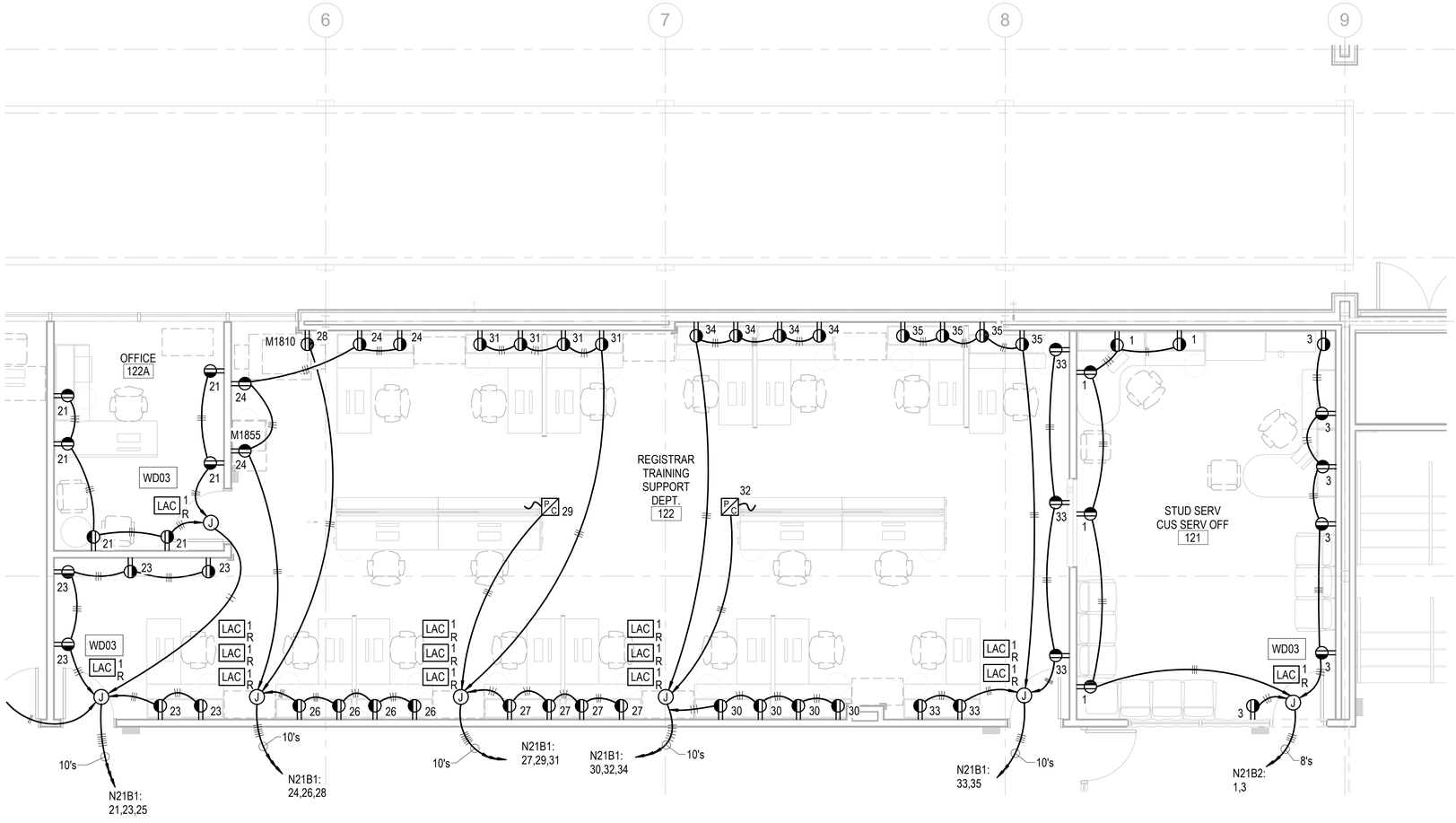
POWER FLOOR PLAN - BLOCK 1K

SCALE: 1/4" = 1'-0"

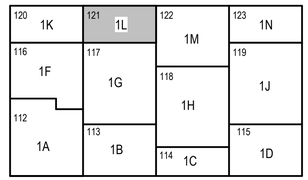
0 2' 4' 8'
SCALE: 1/4"=1'-0"

SHEET IDENTIFICATION
EP120
SHEET 344 of 442

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PLAN NORTH



FIRST FLOOR KEY PLAN

POWER FLOOR PLAN - BLOCK 1L

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22471 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FLOOR PLAN - BLOCK 1L

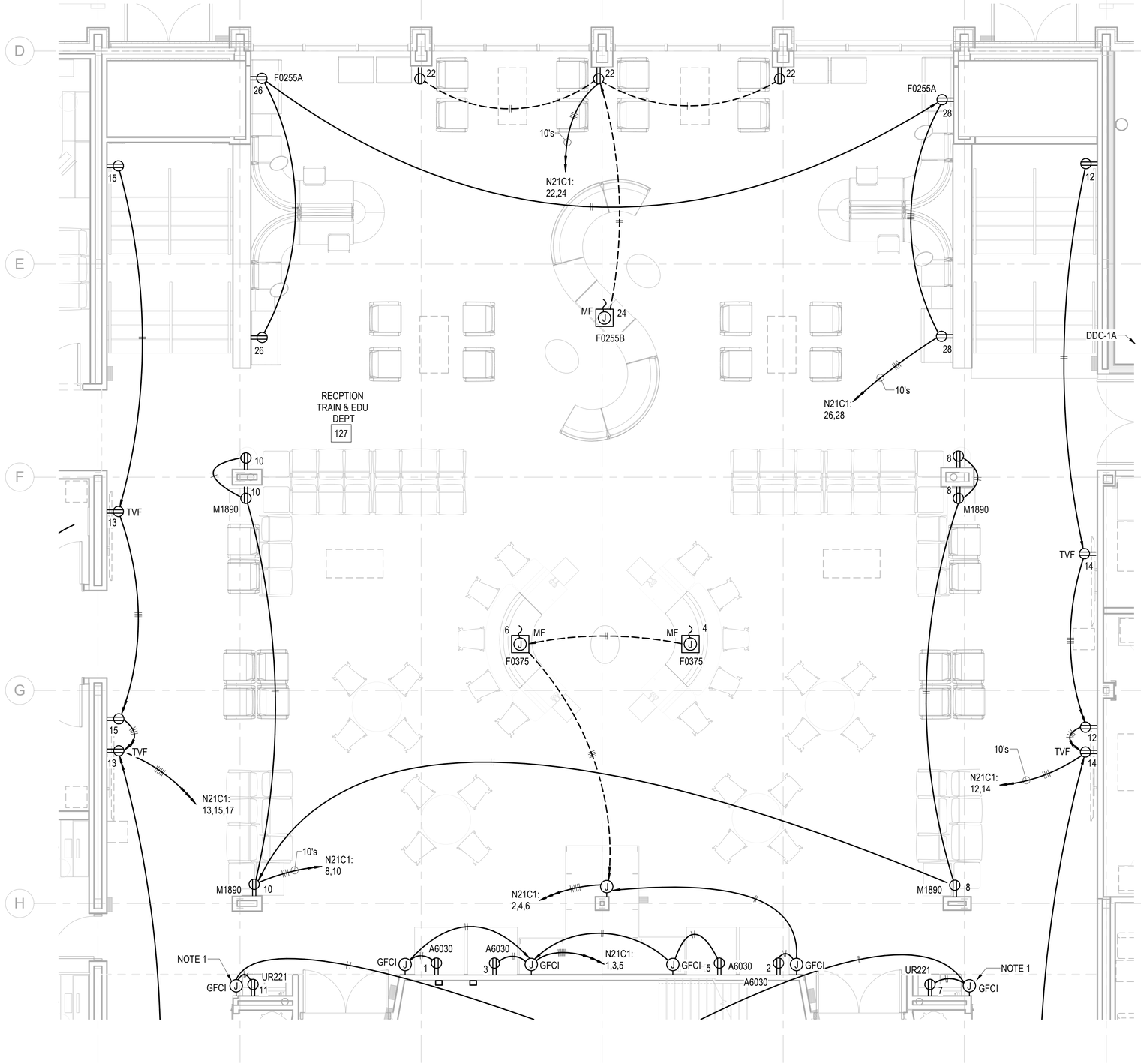
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EP121

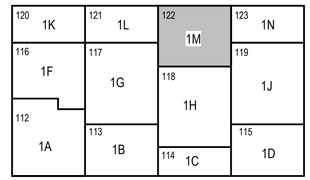
SHEET 345 of 442

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NOTES:
1. MOUNT GFCI BLANK MODULE BESIDE WATER COOLER.



PLAN NORTH



FIRST FLOOR KEY PLAN

POWER FLOOR PLAN - BLOCK 1M

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:
Designed By: AL
Drawn By: AL
Checked By: GMY
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

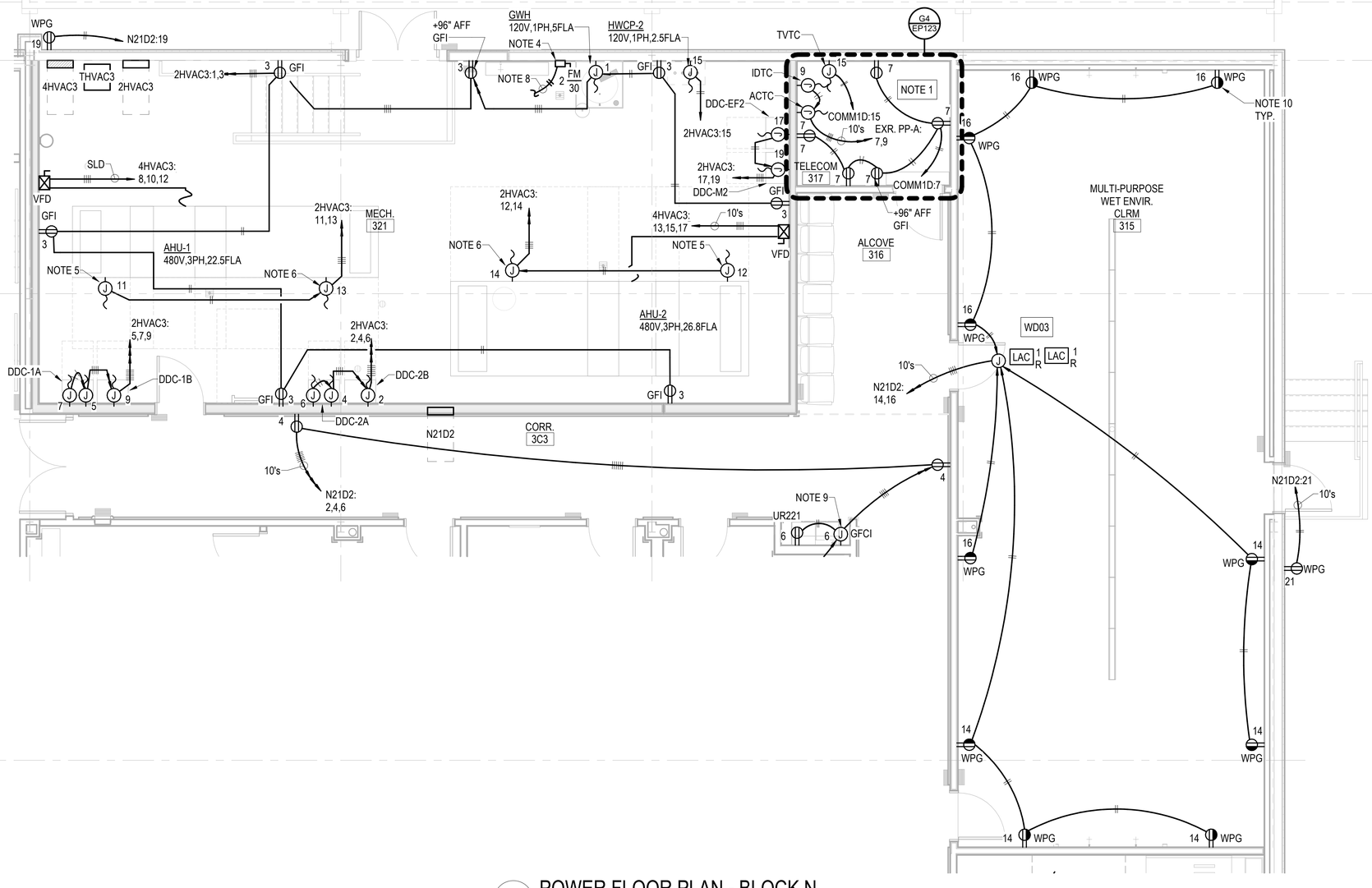
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FLOOR PLAN - BLOCK 1M

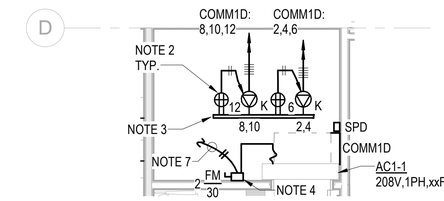
SHEET IDENTIFICATION
EP122
SHEET 346 of 442

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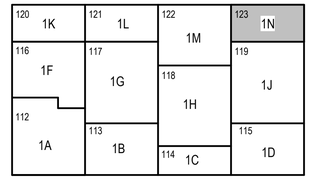
NOTES:
1. SEE DETAIL G4/EP123 FOR ADDITIONAL EQUIPMENT CIRCUITS IN THIS ROOM.
2. MOUNT RECEPTACLE TO SIDE OF UNISTRUT.
3. 6' SECTION OF UNISTRUT, SUPPORTED FROM STRUCTURE ABOVE, MOUNTED HORIZONTALLY 8'-6" AFF AND PARALLEL TO CABLE TRAY.
4. MOUNT DISCONNECT UP HIGH DIRECTLY ADJACENT TO AC UNIT.
5. MAINTENANCE GFCI RECEPTACLE AND COMPACT FLUORESCENT LIGHTS POWER CONNECTION.
6. UV LIGHTS POWER CONNECTION.
7. POWER CONDUIT AND WIRING TO CONDENSING UNIT CU-1. SEE EP151 FOR CONTINUATION.
8. POWER CONDUIT AND WIRING TO CONDENSING UNIT CU-12. SEE EP151 FOR CONTINUATION.
9. MOUNT GFCI BLANK MODULE BESIDE WATER COOLER.
10. PROVIDE RECEPTACLES WITH A LOW PROFILE IN USE COVER. BASIS OF DESIGN IS INTERMATIC LOW PROFILE EXPANDABLE IN-USE EXTRA DUTY COVER WP7000W.



C6 POWER FLOOR PLAN - BLOCK N
SCALE: 1/4" = 1'-0"



G4 COMM ROOM 317 - POWER
SCALE: 1/4" = 1'-0"



PLAN NORTH

FIRST FLOOR KEY PLAN

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL 06/29/21 ENGINEER MORGAN LEE BARNES

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

ss&a CLARKNEXSEN

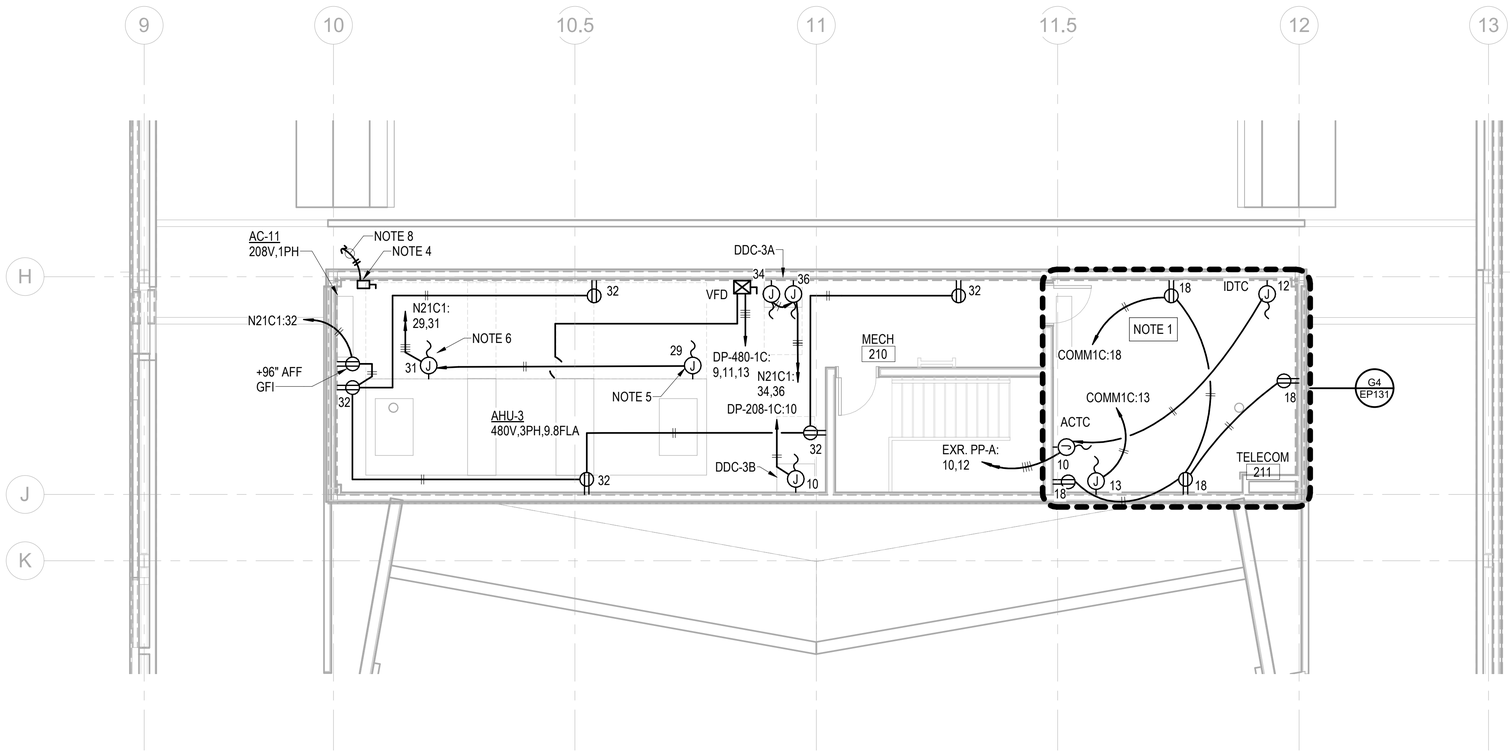
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FLOOR PLAN - BLOCK 1N

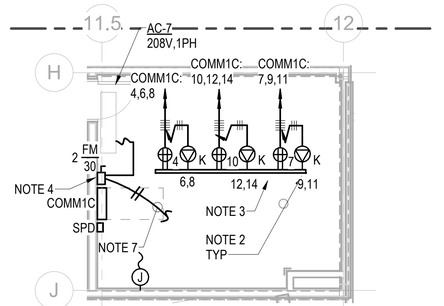
SHEET IDENTIFICATION
EP123
SHEET 347 of 442

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6/29/2021 10:47:27 AM

NOTES:
1. SEE DETAIL G4/EP131 FOR ADDITIONAL EQUIPMENT CIRCUITS IN THIS ROOM.
2. MOUNT RECEPTACLE TO SIDE OF UNISTRUT.
3. 6' SECTION OF UNISTRUT, SUPPORTED FROM STRUCTURE ABOVE, MOUNTED HORIZONTALLY 8'-6" AFF AND PARALLEL TO CABLE TRAY.
4. MOUNT DISCONNECT UP HIGH DIRECTLY ADJACENT TO AC UNIT.
5. MAINTENANCE GFCI RECEPTACLE AND COMPACT FLUORESCENT LIGHTS POWER CONNECTION.
6. UV LIGHTS POWER CONNECTION.
7. POWER CONDUIT AND WIRING TO CU-7. SEE SHEET EP151 FOR CONTINUATION.
8. POWER CONDUIT AND WIRING TO CU-11. SEE SHEET EP151 FOR CONTINUATION.

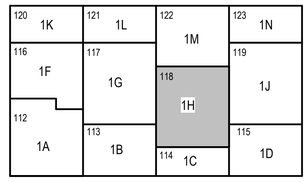


C5 MEZZANINE - POWER PLAN
SCALE: 1/4" = 1'-0"



G4 COMM ROOM 207 - POWER
SCALE: 1/4" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Designed By: AL	Date: 06-29-2021
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Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

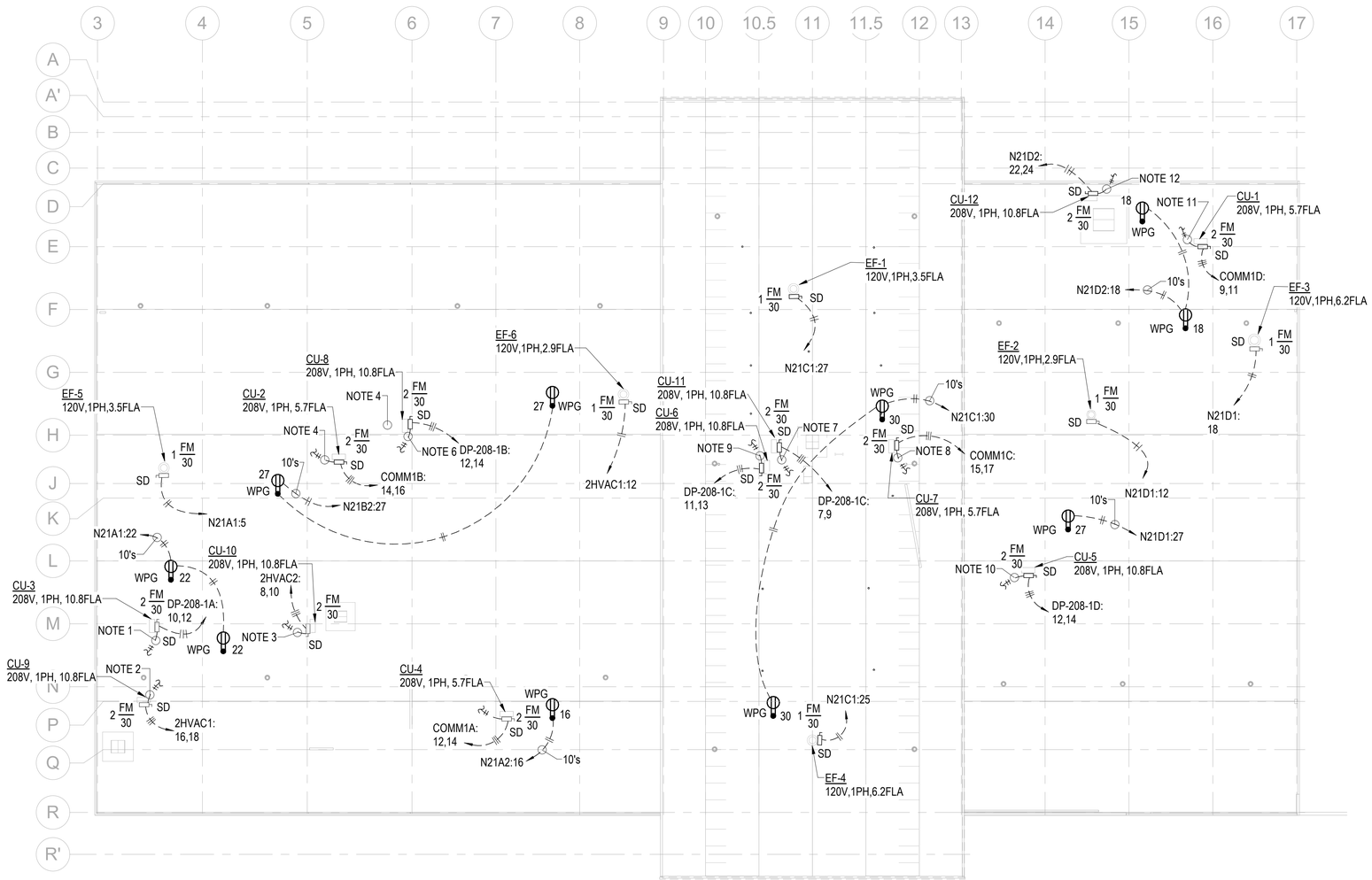
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER FLOOR PLAN -MEZZANINE

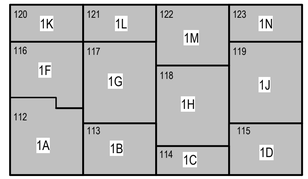
SHEET IDENTIFICATION
EP131
SHEET 348 of 442

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6/29/2021 10:47:30 AM

NOTES:
1. POWER CONDUIT AND WIRING TO AC-3. SEE A6/EP401 FOR CONTINUATION.
2. POWER CONDUIT AND WIRING TO AC-9. SEE EP112 FOR CONTINUATION.
3. POWER CONDUIT AND WIRING TO AC-10. SEE EP112 FOR CONTINUATION.
4. POWER CONDUIT AND WIRING TO AC-2. SEE G4/EP116 FOR CONTINUATION.
5. POWER CONDUIT AND WIRING TO AC-4. SEE G4/EP113 FOR CONTINUATION.
6. POWER CONDUIT AND WIRING TO AC-8. SEE C6/EP116 FOR CONTINUATION.
7. POWER CONDUIT AND WIRING TO AC-11. SEE C5/EP131 FOR CONTINUATION
8. POWER CONDUIT AND WIRING TO AC-7. SEE G4/EP131 FOR CONTINUATION
9. POWER CONDUIT AND WIRING TO AC-6. SEE EP118 FOR CONTINUATION.
10. POWER CONDUIT AND WIRING TO AC-5. SEE EP115 FOR CONTINUATION.
11. POWER CONDUIT AND WIRING TO AC-1. SEE G4/EP123 FOR CONTINUATION.
12. POWER CONDUIT AND WIRING TO AC-12. SEE C6/EP123 FOR CONTINUATION.



PLAN NORTH



FIRST FLOOR KEY PLAN

POWER ROOF PLAN - COMPOSITE

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

SCALE: 1/16"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
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ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER 06/29/21 MORGAN LEE BARNES

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
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Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

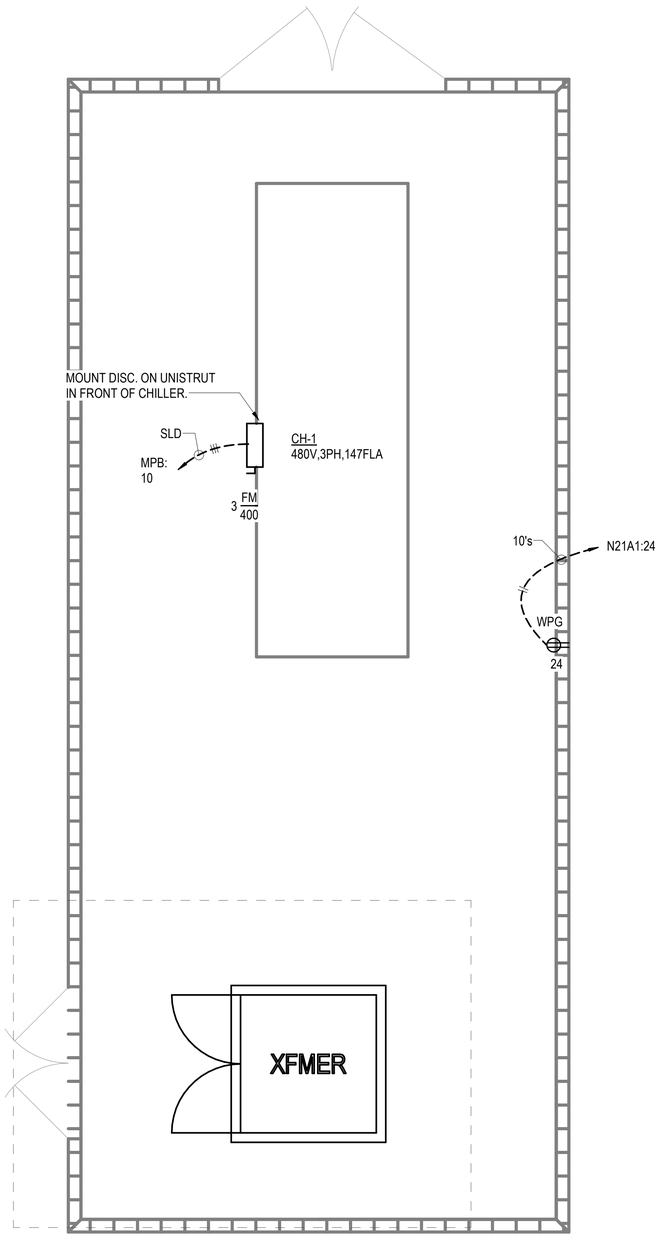
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER ROOF PLAN - COMPOSITE

SHEET IDENTIFICATION
EP151
SHEET 349 of 442

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6/29/2021 10:47:35 AM



A6 MECHANICAL EQUIPMENT YARD - POWER
SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

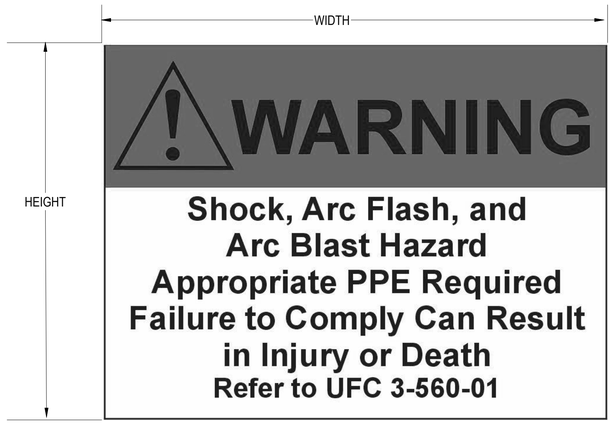
ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

ENLARGED POWER PLANS

SHEET IDENTIFICATION
EP401
SHEET 350 of 442

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6/29/2021 10:47:35 AM



NOTES:

1. PROVIDE SELF-ADHESIVE VINYL LABEL TO AFFIX TO ELECTRICAL EQUIPMENT TO WARN OF ARC FLASH HAZARDS.
2. THE LABEL FORMAT AND TEXT SHALL BE IN ACCORDANCE WITH THE FIGURE.
3. THE LABEL SHALL BE LOCATED ON THE EQUIPMENT TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.
4. THE SIZE OF THE LABEL SHALL BE A MINIMUM:

EQUIPMENT TYPE	HEIGHT	WIDTH
INDOOR	2"	3"
OUTDOOR	3"	4.5"

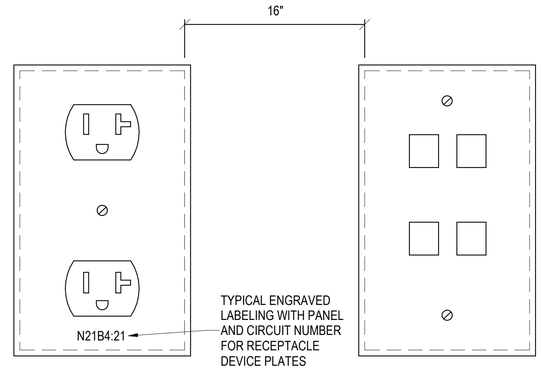
5. A DOWNLOADABLE WINDOWS METAFILE IS AVAILABLE ON THE WHOLE BUILDING DESIGN GUIDE WEBSITE (WWW.WDBG.ORG) FOR USE IN A LABEL MAKING MACHINE.

A. THE FILE IS LOCATED ON THE "NAVFAC CADD DETAILS" PAGE. TO NAVIGATE TO THIS LOCATION, FOLLOW: HOME > DOCUMENTS & REFERENCES > CCB > CADD LIBRARY > NAVFAC CADD RESOURCES > NAVFACC CADD DETAILS

B. ALTERNATIVELY, TYPE IN THE FOLLOWING ADDRESS IN INTERNET EXPLORER: HTTP://WWW.WDBG.ORG/CCB/BROWSE_CAT.PHP?C=232

F4 ARC FLASH LABEL

SCALE: NOT TO SCALE

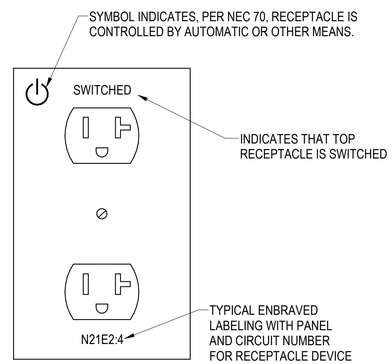


TYP RECEPTACLE OUTLET **TYP VOICE/DATA OUTLET**

NOTES:
1. DO NOT ALLOW RECEPTACLE AND VOICE/DATA OUTLET TO DRIFT APART ON THE WALL (MAX TOLERANCE OF 2" RIGHT OR LEFT. MOUNT RELATIVE TO EACH OTHER AS INDICATED ABOVE.

C6 POWER AND DATA OUTLET MOUNTING DETAILS

SCALE: NOT TO SCALE



F6 SWITCHED RECEPTACLE DETAIL

SCALE: NOT TO SCALE

US Army Corps of Engineers
Mobile District

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		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER 06/29/21 MORGAN LEE BARNES

Date: 06-29-2021
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Drawn By: AL
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Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

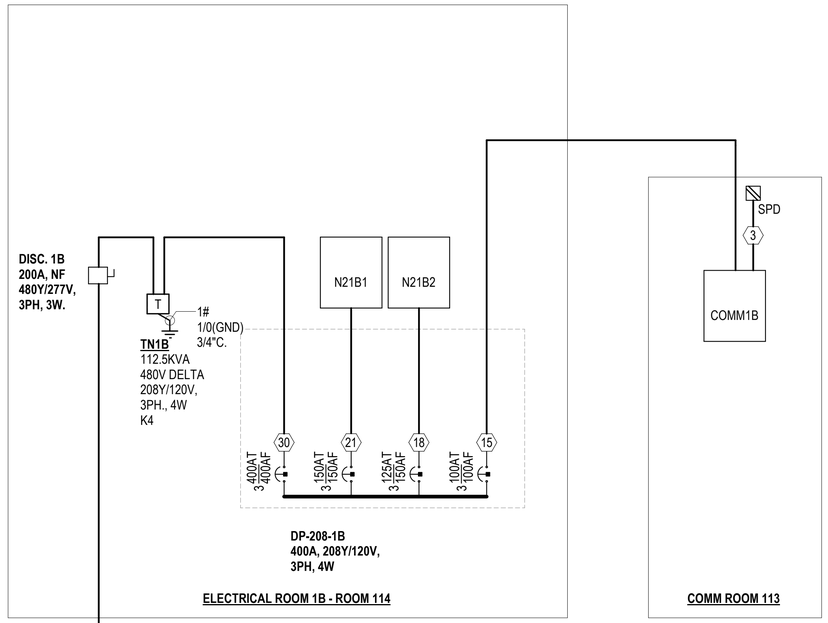
ss&a CLARKNEXSEN

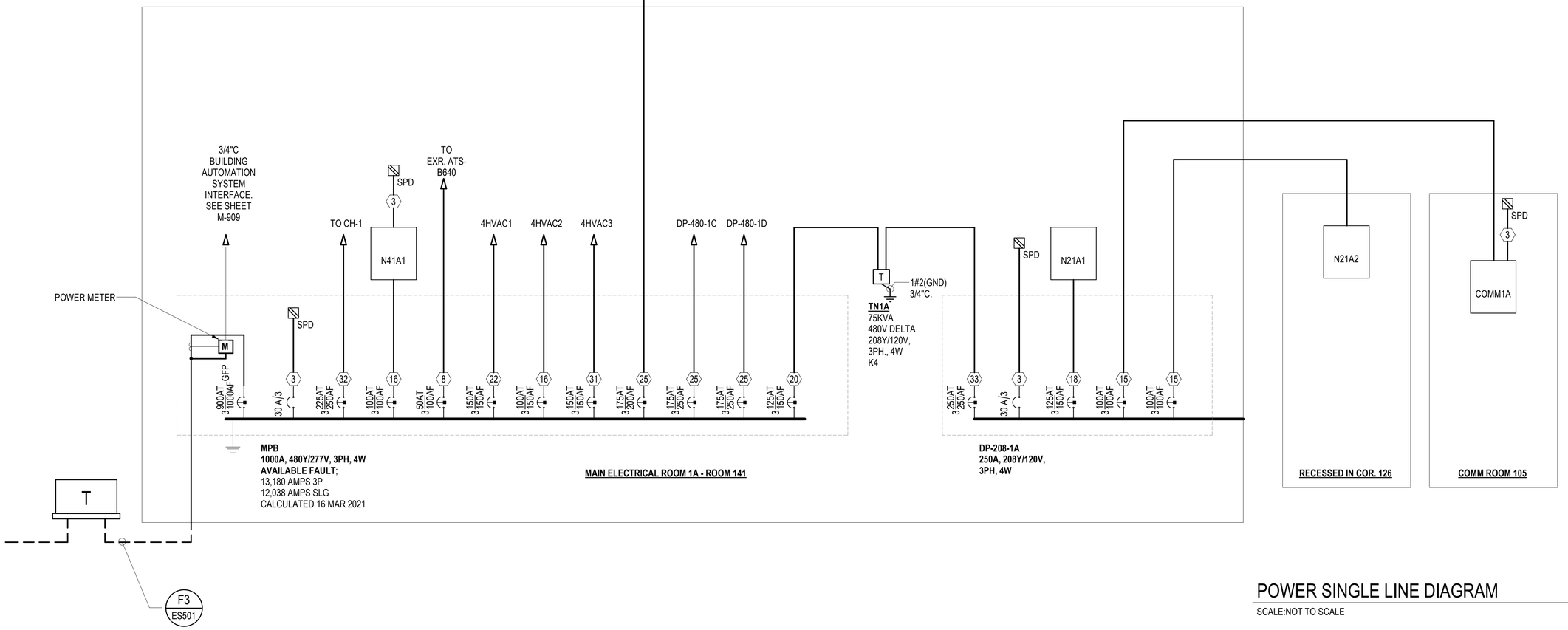
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

ELECTRICAL DETAILS

SHEET IDENTIFICATION
EP501
SHEET 351 of 442

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POWER SINGLE LINE DIAGRAM

SCALE:NOT TO SCALE

US Army Corps of Engineers
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Symbol	No.	Description	Date	Approved
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ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Date: 06-29-2021
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Drawn By: AL
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

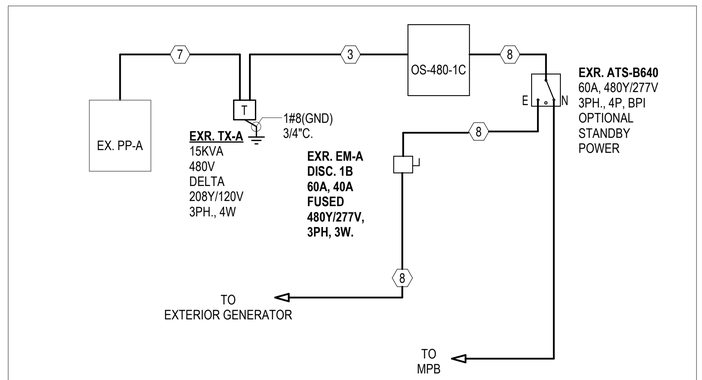
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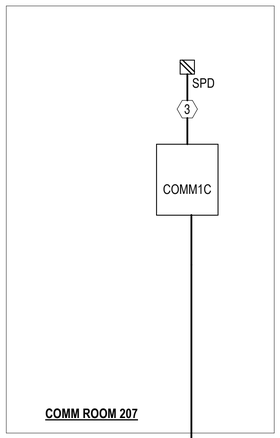
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

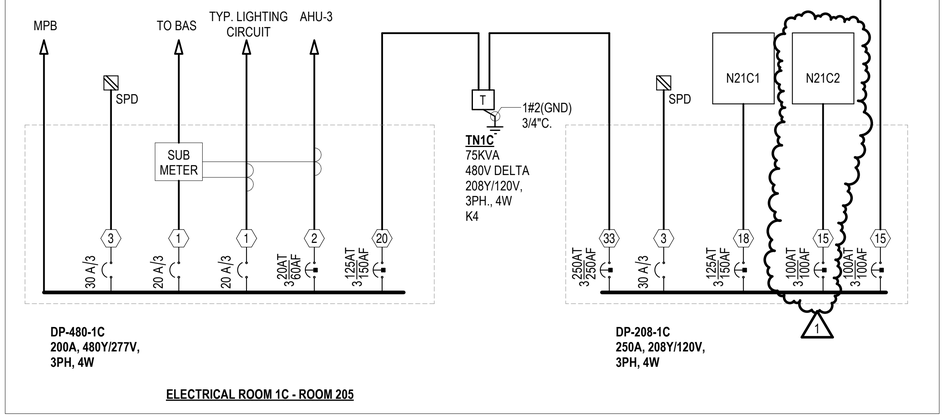
POWER SINGLE LINE DIAGRAM

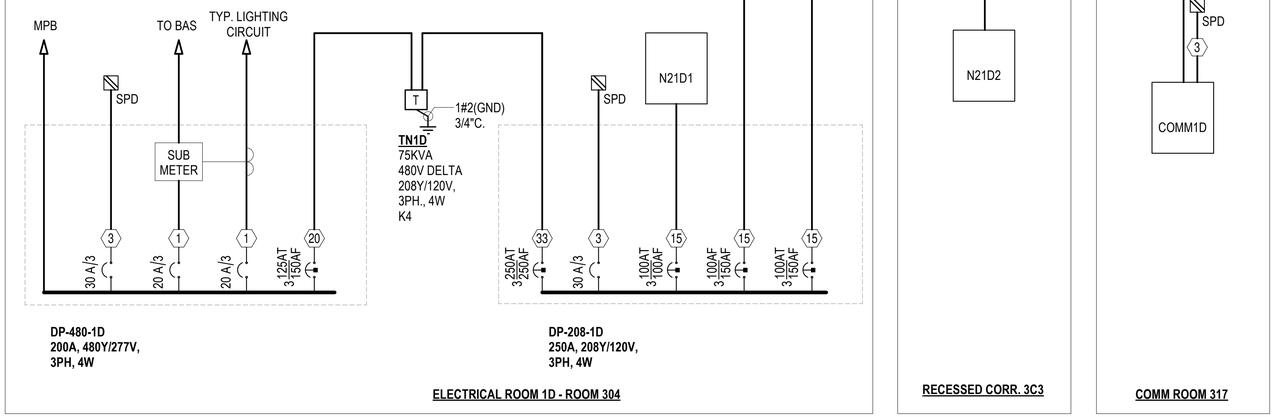
SHEET IDENTIFICATION
EP601
SHEET 352 of 442

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POWER SINGLE LINE DIAGRAM

SCALE:NOT TO SCALE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 01	08/27/2021	

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:
Date: 06-29-2021
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I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

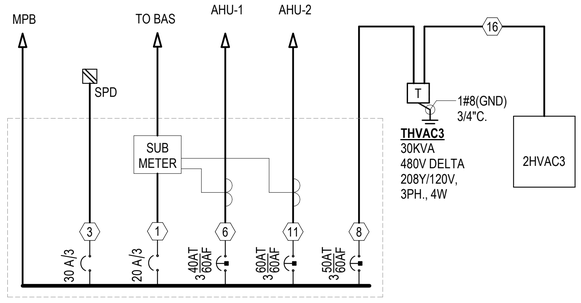
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER SINGLE LINE DIAGRAM

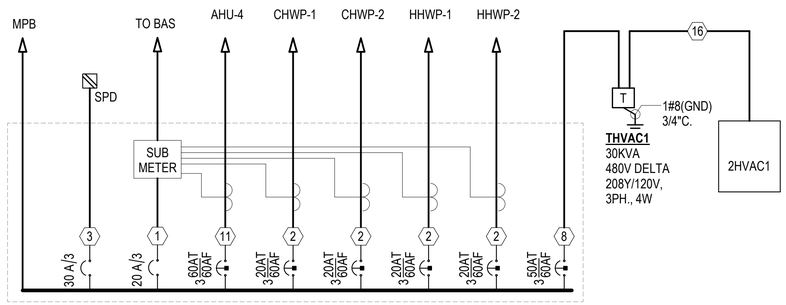
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EP602
SHEET 353 of 442

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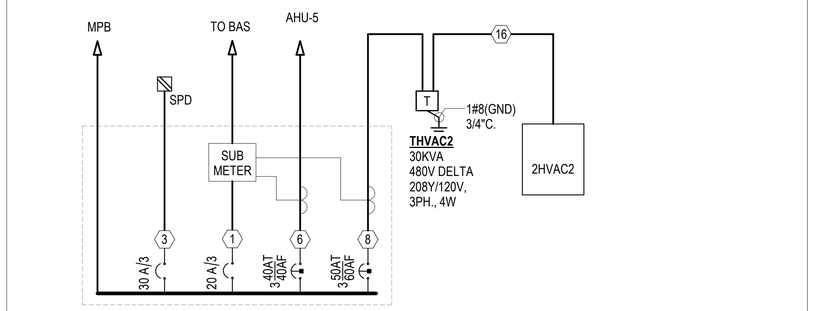
4HVAC3
200A, 480Y/277V,
3PH, 4W

MECHANICAL ROOM 321



4HVAC1
200A, 480Y/277V,
3PH, 4W

MECHANICAL ROOM 100



4HVAC2
200A, 480Y/277V,
3PH, 4W

MECHANICAL ROOM 111

POWER SINGLE LINE DIAGRAM

SCALE:NOT TO SCALE

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

POWER SINGLE LINE DIAGRAM

SHEET IDENTIFICATION
EP603
SHEET 354 of 442

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6/29/2021 10:47:47 AM

FEEDER SCHEDULE						
FEEDER SIZE INDICATOR	SYMBOL ⬡					
	CONDUCTORS		CONDUIT			
			EMT	PVC-40	IMC	PVC-80
⑴	4 #12 & 1 #12 (GND.)	-	1/2"	1/2"	-	-
⑵	3 #12 & 1 #12 (GND.)	NN	1/2"	1/2"	-	-
⑶	4 #10 & 1 #10 (GND.)	-	3/4"	3/4"	-	-
⑷	3 #10 & 1 #10 (GND.)	NN	1/2"	1/2"	-	-
⑸	4 #8 & 1 #10 (GND.)	-	1"	1"	-	-
⑹	3 #8 & 1 #10 (GND.)	NN	3/4"	3/4"	-	-
⑺	4 #6 & 1 #10 (GND.)	-	1"	1"	-	-
⑻	3 #6 & 1 #10 (GND.)	NN	1"	1"	-	-
⑼	3 #6 & 1 #1/0 (NTR.) & 1 #10 (GND.)	OSN	1 1/4"	1 1/4"	-	-
⑽	4 #6 & 1 #10 (GND.)	-	1"	1"	-	-
⑾	3 #6 & 1 #10 (GND.)	NN	1"	1"	-	-
⑿	3 #2 & 1 #1/0 (NTR.) & 1 #8(GND.)	OSN	1 1/2"	2"	-	-
⒀	4 #4 & 1 #8 (GND.)	-	1 1/4"	1 1/4"	-	-
⒁	3 #4 & 1 #8 (GND.)	NN	1 1/4"	1 1/4"	-	-
⒂	3 #2 & 1 #2/0 (NTR.) & 1 #8(GND.)	OSN	2"	2"	-	-
⒃	4 #2 & 1 #8 (GND.)	-	2"	1 1/2"	-	-
⒄	3 #2 & 1 #8 (GND.)	NN	2"	1 1/2"	-	-
⒅	3 #1/0 & 2 #1/0 (NTR.) & 1 #6(GND.)	OSN	2"	2"	-	-
⒆	4 #1/0 & 1 #6 (GND.)	-	2"	2"	-	-
⒇	3 #1/0 & 1 #6 (GND.)	NN	1 1/2"	1 1/2"	-	-
㉑	3 #2/0 & 1 #1/0 (NTR.) & 1#6(GND.)	OSN	2 1/2"	2 1/2"	-	-
㉒	4 #1/0 & 1 #6 (GND.)	-	2"	2"	-	-
㉓	3 #1/0 & 1 #6 (GND.)	NN	1 1/2"	1 1/2"	-	-
㉔	3 #3/0 & 2 #3/0 (NTR.) & 1#6(GND.)	OSN	2 1/2"	2 1/2"	-	-
㉕	4 #2/0 & 1 #6 (GND.)	-	2 1/2"	2 1/2"	-	-
㉖	3 #2/0 & 1 #6 (GND.)	NN	2"	2"	-	-
㉗	3 #4/0 & 2 #4/0 (NTR.) & 1 #6(GND.)	OSN	2 1/2"	3"	2 1/2"	3"
㉘	4 #3/0 & 1 #6 (GND.)	-	2 1/2"	2 1/2"	2 1/2"	2 1/2"
㉙	3 #3/0 & 1 #6 (GND.)	NN	2"	2"	2"	2"
㉚	3 #250 & 2 #250 (NTR.) & 1 #4(GND.)	OSN	3"	3"	3"	3"
㉛	4 #4/0 & 1 #4 (GND.)	-	2 1/2"	2 1/2"	2 1/2"	3"
㉜	3 #4/0 & 1 #4 (GND.)	NN	2 1/2"	3"	2 1/2"	2 1/2"
㉝	3 #350 & 2 #300 (NTR.) & 1 #4(GND.)	OSN	3"	3 1/2"	3 1/2"	3 1/2"
㉞	4 #250 & 1 #4 (GND.)	-	2 1/2"	3"	2 1/2"	3"
㉟	3 #250 & 1 #4 (GND.)	NN	2 1/2"	2 1/2"	2 1/2"	2 1/2"
㊱	3 #500 & 2 #400 (NTR.) & 1 #4 (GND.)	OSN	3 1/2"	4"	3 1/2"	4"
㊲	4 #300 & 1 #4 (GND.)	-	3"	3"	3"	3"
㊳	3 #300 & 1 #4 (GND.)	NN	2 1/2"	2 1/2"	2 1/2"	3"
㊴	2 SETS EACH 3 #3/0 & 1 #500 (NTR.) &1 #3 (GND.)	OSN	2-2 1/2"	2-3"	2-2 1/2"	2-3
㊵	4 #400 & 1 #3 (GND.)	-	3"	3 1/2"	3"	3 1/2"
㊶	3 #400 & 1 #3 (GND.)	NN	3"	3"	3"	3"
㊷	2 SETS EACH 3 #4/0 & 2 #4/0 (NTR.) &1 #3 (GND.)	OSN	2-2 1/2"	2-3"	2-3"	2-3"
㊸	4 #500 & 1 #3 (GND.)	-	3 1/2"	3 1/2"	3 1/2"	4"
㊹	3 #500 & 1 #3 (GND.)	NN	3 1/2"	3"	3 1/2"	4"
㊺	2 SETS EACH 3 #350 & 2 #300 (NTR.) &1 #2 (GND.)	OSN	2-3"	2-3 1/2"	2-3 1/2"	2-3 1/2"
㊻	2 SETS EACH 4 #4/0 &1 #2 (GND.)	-	2-2 1/2"	2-2 1/2"	2-2 1/2"	2-3"
㊼	2 SETS EACH 3 #4/0 &1 #2 (GND.)	NN	2-2 1/2"	2-2 1/2"	2-2 1/2"	2-2 1/2"

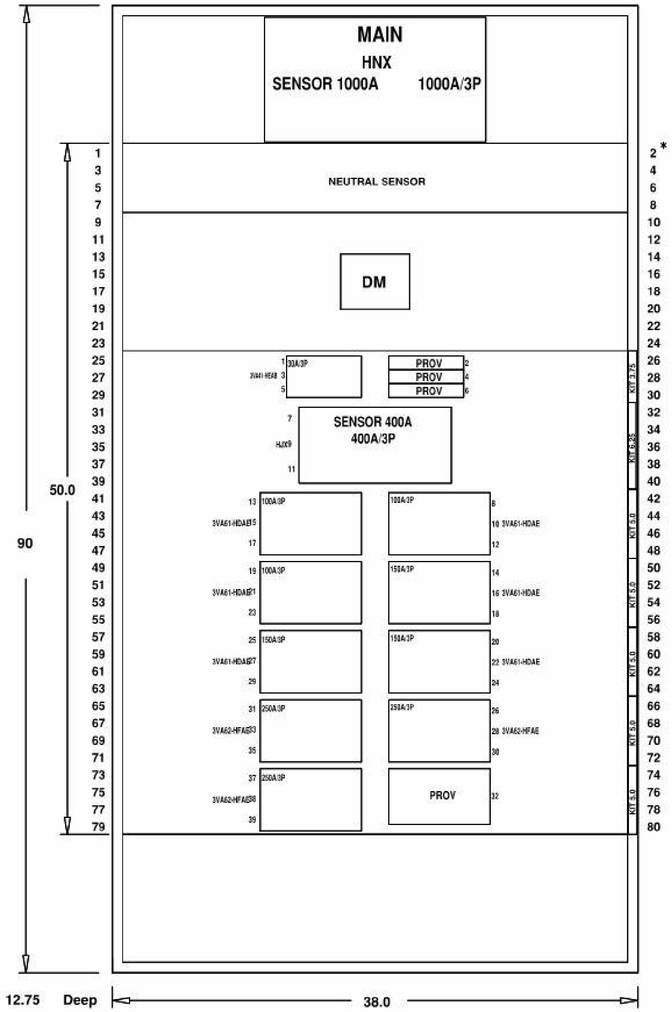
FEEDER SCHEDULE						
FEEDER SIZE INDICATOR	SYMBOL ⬡					
	CONDUCTORS		CONDUIT			
			EMT	PVC-40	IMC	PVC-80
㊽	2 SETS EACH 3 #500 & 2 #400 (NTR.) &1 #1 (GND.)	OSN	2-3 1/2"	2-4"	2-4"	2-4"
㊾	2 SETS EACH 4 #300 &1 #1 (GND.)	-	2-3"	2-3"	2-3"	2-3"
㊿	2 SETS EACH 3 #300 &1 #1 (GND.)	NN	2-2 1/2"	2-3"	2-2 1/2"	2-3"
(51)	3 SETS EACH 3 #400 & 2 #350 (NTR.) &1 #1/0 (GND.)	OSN	3-3 1/2"	3-3 1/2"	3-3 1/2"	3-3 1/2"
(52)	2 SETS EACH 4 #500 &1 #1/0 (GND.)	-	2-3 1/2"	2-3 1/2"	2-3 1/2"	2-4"
(53)	2 SETS EACH 3 #500 &1 #1/0 (GND.)	NN	2-3"	2-3"	2-3"	2-3"
(54)	3 SETS EACH 4 #400 &1 #2/0 (GND.)	-	3-3"	3-3 1/2"	3-3"	3-3 1/2"
(55)	3 SETS EACH 3 #400 &1 #2/0 (GND.)	NN	3-3"	3-3 1/2"	3-3"	3-3 1/2"
(56)	4 SETS EACH 4 #350 &1 #3/0 (GND.)	-	4-3"	4-3 1/2"	4-3"	4-3 1/2"
(57)	4 SETS EACH 3 #350 &1 #3/0 (GND.)	NN	4-3"	4-3 1/2"	4-3"	4-3 1/2"
(58)	5 SETS EACH 3 #400 &1 #4/0 (GND.)	-	5-3 1/2"	5-3 1/2"	5-3 1/2"	5-3 1/2"
(59)	3 SETS EACH 3 #400 2 # 400 (NTR) &1 #4/0 (GND.)	-	4"	4"	4"	4"
(60)	2 SETS EACH 3 #4/0 & 2 #4/0 (NTR.) &1 #2 (GND.)	OSG	2-2 1/2"	2-3"	2-3"	2-3"
(61)	5 #350 & 1 #4 (GND.)	OSN	4"	4"	4"	4"
(62)	3 #4 & 1 #6 (GND.)	OSG	1 1/4"	1 1/4"	-	-
(63)	3 #3 & 1 #1/0 (NTR.) & 1 #8 (GND.)	-	1 1/2"	1 1/2"	-	-
(64)	4 #1/0 & 1 #6 (GND.)	OSG	2"	2"	-	-

"OSN" = OVERSIZED NEUTRAL
"NN" = NO NEUTRAL
"OSG" = OVERSIZED GROUND

N21A1 → PANEL NAME
208Y/120V → OPERATING VOLTAGE
3 PH., 4W
FED FROM PP-208 → WHERE FED FROM

DETAIL
PANELBOARD IDENTIFICATION
NOT TO SCALE

NOTE: SEE SPECS FOR ADDITIONAL REQUIREMENTS



MAIN PANELBOARD ELEVATION - MPB
NOT TO SCALE

BASIS OF DESIGN SHOWN: SIEMENS

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FEEDER SCHEDULE

SHEET IDENTIFICATION
EP604
SHEET 355 of 442

C:\Users\joseph.lovvorn\Documents\20002-E_Austin.lovvorn.rvt
6/29/2021 10:47:51 AM

DIST PANEL: MPB
LOCATION: ELEC 141
SUPPLY FROM: TN1A
MOUNTING: SURFACE
VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 18K
MAINS TYPE: MCB
MIN. BUS RATING: 1000 A

*** SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS**

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	FRAME	A	B	C	REMARKS
*N41A1	1	0 A	3	0 A	16 A	17 A	16 A	
*TN1A	2	0 A	3	0 A	70 A	72 A	75 A	
*DP-480-1C	3	0 A	3	0 A	71 A	66 A	72 A	
*TN1B	4	0 A	3	0 A	104 A	99 A	101 A	
*DP-480-1D	5	0 A	3	0 A	65 A	75 A	80 A	
*4HVAC1	6	0 A	3	0 A	85 A	87 A	84 A	
*4HVAC2	7	0 A	3	0 A	32 A	36 A	32 A	
*4HVAC3	8	0 A	3	0 A	69 A	65 A	64 A	
*OS-480-1C	9	0 A	3	0 A	16 A	10 A	4 A	
*CH-1	10	0 A	3	0 A	147 A	147 A	147 A	
	11							
SPARE(ELECTRONIC LSI BREAKER)	12	225 A	3	--	0 A	0 A	0 A	
SPARE(ELECTRONIC LSI BREAKER)	13	175 A	3	--	0 A	0 A	0 A	
SPARE(ELECTRONIC LSI BREAKER)	14	150 A	3	--	0 A	0 A	0 A	
	15							
	16							
	17							
	18							
	19							
	20							
TOTAL AMPS:					660 A	657 A	658 A	

PANEL: N41A1
LOCATION: ELEC 141
SUPPLY FROM: MPB
MOUNTING: SURFACE
VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 22K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE INTEGRAL SUBMETER TO METER ALL LIGHTING CIRCUITS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD	1	30 A	3		0.0 A							
					7.8 A				1	20 A	2	LTG OFFICE 140B
--	3	--	--	--		0.0 A						
						7.0 A			1	20 A	4	LTG OFFICE 130
--	5	--	--	--			0.0 A					
							7.0 A		1	20 A	6	LTG CONFERENCE 136
MECH YARD LIGHTING	7	20 A	1		0.3 A							
					6.0 A				1	20 A	8	LTG JAN. 101
LTG CONFERENCE 124	9	20 A	1			5.3 A						
						4.8 A			1	20 A	10	LTG Room 204, 203
LTG RECEPTION TRAIN & EDU DEPT-1 127-1	11	20 A	1				0.8 A					
							0.9 A		1	20 A	12	LTG RECEPTION TRAIN & EDU DEPT-1 127-1
LTG RECEPTION TRAIN & EDU DEPT-1 127-1	13	20 A	1		0.9 A							
					0.9 A				1	20 A	14	LTG RECEPTION TRAIN & EDU DEPT-1 127-1
LCP-1A	15	20 A	1			0.0 A						
						0.0 A		--	--	--	16	SPACE ONLY
SUBMETER(NOTE1)	17	20 A	3				0.0 A					
							7.1 A		1	20 A	18	LTG CURRIC. DEV. & EVAL WORKSTATIONS 112
--	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
--	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					16.0 A	17.1 A	15.8 A					

PANEL: DP-208-1A
LOCATION: ELEC 141
SUPPLY FROM: TN1A
MOUNTING: SURFACE
VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 10K
MAINS TYPE: MCB
MAINS RATING: 250 A
MCB RATING: 250 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.
2. SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD (NOTE 2)	1	0 A	3		0.0 A							
					25.1 A				3	0 A	2	COMM1A (NOTE 2)
--	3	--	--	--		0.0 A						
					24.3 A			--	--	--	4	--
--	5	--	--	--			0.0 A					
							25.9 A	--	--	--	6	--
N21A1 (NOTE 2)	7	0 A	3		77.5 A							
					0.0 A			--	--	--	8	SPACE ONLY
--	9	--	--	--		73.5 A						
						10.8 A			2	20 A	10	CU-3/AC-3
--	11	--	--	--			74.0 A					
							10.8 A	--	--	--	12	--
*N21A2	13	0 A	3		60.3 A							
					0.0 A			--	--	--	14	SPACE ONLY
--	15	--	--	--		58.2 A						
						0.0 A		--	--	--	16	SPACE ONLY
--	17	--	--	--			64.3 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	37	125 A	3		0.0 A							
					0.0 A			--	--	--	38	SPACE ONLY
--	39	--	--	--		0.0 A						
						0.0 A			2	20 A	40	SPARE
--	41	--	--	--			0.0 A					
							0.0 A	--	--	--	42	--
TOTAL AMPS:					162.4 A	165.8 A	173.5 A					

PANEL: N21A1
LOCATION: ELEC 141
SUPPLY FROM: DP-208-1A
MOUNTING: SURFACE
VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 150 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
OFFICE 140A	1	20 A	1		13.5 A							
					10.4 A				1	20 A	2	EQUIP LOUNGE 137
RECPT Room 140A, 140B	3	20 A	1			13.5 A						
						15.0 A			1	20 A	4	EQUIP LOUNGE 137
EF-5	5	20 A	1				3.5 A					
							13.9 A		1	20 A	6	EQUIP LOUNGE 137
RECPT Room 137, 139, 138	7	20 A	1		7.5 A							
					9.0 A				1	20 A	8	STUDENT SPT SERVICES (NON-RES) 140
EQUIP LOUNGE 137	9	20 A	1			15.0 A						
						7.5 A			1	20 A	10	RECPT STUDENT SPT SERVICES (NON-RES) 140
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	11	20 A	1				6.0 A					
							13.5 A		1	20 A	12	STUDENT SPT SERVICES (NON-RES) 140
EQUIP STUDENT SPT SERVICES (NON-RES) 140	13	20 A	1		8.5 A							
					10.5 A				1	20 A	14	STUDENT SPT SERVICES (NON-RES) 140
EQUIP STUDENT SPT SERVICES (NON-RES) 140	15	20 A	1			4.4 A						
						4.6 A			1	20 A	16	RECPT ELEC 141
EQUIP STUDENT SPT SERVICES (NON-RES) 140	17	20 A	1				10.0 A					
							12.0 A		1	20 A	18	TRNG PARTNERS (REP) 103
RECPT Room 127-1, 101	19	20 A	1		7.5 A							
					10.5 A				1	20 A	20	TRNG PARTNERS (REP) 103
Space 396	21	20 A	1			10.5 A						
						3.0 A			1	20 A	22	RECPT
Space 396	23	20 A	1				13.5 A					
							1.5 A		1	20 A	24	RECPT
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					77.5 A	73.5 A	74.0 A					

PANEL SCHEDULES ON THIS SHEET	
MPB	N41A1
DP-208-1A	N21A1

US Army Corps of Engineers
Mobile District

No.	Description	Date	Approved
	Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

PANELBOARD SCHEDULES

SHEET IDENTIFICATION
EP605
SHEET 356 of 442

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6/29/2021 10:47:54 AM

PANEL: N21A2

LOCATION: RECEPTION TRAIN & EDU...
SUPPLY FROM: DP-208-1A
MOUNTING: RECESSED

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
TRNG DELIVERY SERVICES 110	1	20 A	1		13.5 A							
					12.0 A				1	20 A	2	TRNG DELIVERY SERVICES 110
TRNG DELIVERY SERVICES 110	3	20 A	1			13.5 A						
						8.5 A			1	20 A	4	EQUIP TRNG DELIVERY SERVICES 110
RECEPTION TRAIN & EDU DEPT-1 127-1	5	20 A	1				7.5 A					
							7.0 A		1	20 A	6	EQUIP TRNG DELIVERY SERVICES 110
RECPT RECEPTION TRAIN & EDU DEPT-1 127-1	7	20 A	1		1.5 A							
					7.5 A				1	20 A	8	RECPT SECURITY WORKSTATIONS 106D
TRNG DELIVERY SERVICES 110	9	20 A	1			10.5 A						
						6.0 A			1	20 A	10	RECPT Room 107, 106C
SECURITY WORKSTATIONS 106D	11	20 A	1				10.5 A					
							10.5 A		1	20 A	12	RECPT SECURITY 106
SECURITY WORKSTATIONS 106D	13	20 A	1		12.0 A							
					1.5 A				1	20 A	14	RECPT
EQUIP	15	20 A	1			0.2 A						
						1.5 A			1	20 A	16	RECPT
SPACE ONLY	17	--	--	--			0.0 A					
							4.5 A		1	20 A	18	EQUIP MULTI-MEDIA PRODUCTION STUDIO 104
SPACE ONLY	19	--	--	--	0.0 A							
					4.5 A				1	20 A	20	EQUIP MULTI-MEDIA PRODUCTION STUDIO 104
EQUIP CONTROL ROOM 104A	21	20 A	1			6.0 A						
						6.0 A			1	20 A	22	EQUIP MULTI-MEDIA PRODUCTION STUDIO 104
EQUIP CONTROL ROOM 104A	23	20 A	1				6.0 A					
							4.5 A		1	20 A	24	EQUIP
EQUIP MULTI-MEDIA PRODUCTION STUDIO 104	25	20 A	1		3.0 A							
					4.5 A				1	20 A	26	EQUIP
RECPT STOR 106B	27	20 A	1			6.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
OFFICE 106C	29	20 A	1				13.5 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**60.3 A**	**58.2 A**	**64.3 A**					

PANEL: N21B1

LOCATION: ELECT 114
SUPPLY FROM: DP-208-1B
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 150 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
OFFICE 115	1	20 A	1		9.0 A							
					9.0 A				1	20 A	2	OFFICE 118
Room 115, 116	3	20 A	1			9.0 A						
						9.0 A			1	20 A	4	Room 117, 118
RECPT OFFICE 116	5	20 A	1				9.0 A					
							9.0 A		1	20 A	6	RECPT OFFICE 117
RECPT CONFERENCE 136	7	20 A	1		9.5 A							
					8.0 A				1	20 A	8	EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1
RECPT RECEPTION TRAIN & EDU DEPT-1 127-1	9	20 A	1			9.0 A						
						8.5 A			1	20 A	10	EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1
RECPT CONFERENCE 136	11	20 A	1				10.5 A					
							8.0 A		1	20 A	12	EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1
PARTNERSHIP TRNG BRANCH 125	13	20 A	1		10.5 A							
					13.5 A				1	20 A	14	OFFICE 131
RECPT Room 130, 125	15	20 A	1			9.0 A						
						12.0 A			1	20 A	16	OFFICE 132
RECPT OFFICE 130	17	20 A	1				9.0 A					
							12.0 A		1	20 A	18	OFFICE 133
EQUIP CONFERENCE 136	19	20 A	1		2.0 A							
					13.0 A				1	20 A	20	OFFICE 134
RECPT OFFICE 122A	21	20 A	1			10.5 A						
						12.0 A			1	20 A	22	OFFICE 135
REGISTRAR TRAINING SUPPORT DEPT.-1 122-1	23	20 A	1				10.5 A					
							11.0 A		1	20 A	24	REGISTRAR TRAINING SUPPORT DEPT.-1 122-1
CONFERENCE 124	25	20 A	1		12.5 A							
					9.0 A				1	20 A	26	REGISTRAR TRAINING SUPPORT DEPT.-1 122-1
REGISTRAR TRAINING SUPPORT DEPT.-1 122-1	27	20 A	1			9.0 A						
						8.5 A			1	20 A	28	EQUIP REGISTRAR TRAINING SUPPORT DEPT.-1 122-1
REGISTRAR TRAINING SUPPORT DEPT.-1 122-1	29	20 A	1				9.0 A					
							9.0 A		1	20 A	30	REGISTRAR TRAINING SUPPORT DEPT.-1 122-1
REGISTRAR TRAINING SUPPORT DEPT.-1 122-1	31	20 A	1		9.0 A							
					9.0 A				1	20 A	32	REGISTRAR TRAINING SUPPORT DEPT.-1 122-1
REGISTRAR TRAINING SUPPORT DEPT.-1 122-1	33	20 A	1			9.0 A						
						9.0 A			1	20 A	34	REGISTRAR TRAINING SUPPORT DEPT.-1 122-1
REGISTRAR TRAINING SUPPORT DEPT.-1 122-1	35	20 A	1				9.0 A					
							10.5 A		1	20 A	36	PARTNERSHIP TRNG BRANCH 125
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**113.0 A**	**114.7 A**	**116.7 A**					

1 EQUIP CONFERENCE 136

PANEL: DP-208-1B

LOCATION: ELECT 114
SUPPLY FROM: TN1B
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MCB
MAINS RATING: 400 A
MCB RATING: 400 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.
2. SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD (NOTE 2)	1	0 A	3		0.0 A							
					94.6 A				3	0 A	2	N21B2 (NOTE 2)
--	3	--	--	--		0.0 A						
						87.5 A		--	--	--	4	--
--	5	--	--	--			0.0 A					
							88.7 A	--	--	--	6	--
COMM1B (NOTE 2)	7	0 A	3		25.3 A							
											8	
--	9	--	--	--		26.1 A						
											10	
--	11	--	--	--			22.8 A					
							10.8 A		2	20 A	12	CU-9/AC-8
N21B1 (NOTE 2)	13	0 A	3		113.0 A							
					10.8 A			--	--	--	14	--
--	15	--	--	--		114.7 A						
											16	
--	17	--	--	--			116.7 A					
											18	
	19											
											20	
	21											
											22	
	23											
											24	
	25											
											26	
	27											
											28	
	29											
											30	
	31											
											32	
	33											
											34	
	35											
											36	
SPARE(ELECTRONIC LSI BREAKER)	37	150 A	3		0.0 A							
											38	
--	39	--	--	--		0.0 A						
						0.0 A			2	20 A	40	SPARE
--	41	--	--	--			0.0 A					
							0.0 A	--	--	--	42	--
TOTAL AMPS:					**243.2 A**	**227.8 A**	**238.6 A**					

PANEL: N21B2

LOCATION: ELECT 114
SUPPLY FROM: DP-208-1B
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 150 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
STUD SERV CUS SERV OFF 121	1	20 A	1		9.0 A							
					9.0 A				1	20 A	2	RECPT PUBLIC TLT- F 204
STUD SERV CUS SERV OFF 121	3	20 A	1			10.5 A						
						7.5 A			1	20 A	4	RECPT PUBLIC TLT - M 203
TREATMENT ROOM 202B	5	20 A	1				7.5 A					
							6.5 A		1	20 A	6	EQUIP TREATMENT ROOM 202B
TREATMENT ROOM 202B	7	20 A	1		6.3 A							
					13.5 A				1	20 A	8	OFFICE 119
VITALS STATIONS 202	9	20 A	1			12.0 A						
						13.5 A			1	20 A	10	OFFICE 120
VITALS STATIONS 202	11	20 A	1				10.5 A					
							12.0 A		1	20 A	12	Room 120, 112
VITALS STATIONS 202	13	20 A	1		12.0 A							
					8.5 A				1	20 A	14	EQUIP CURRIC. DEV. & EVAL WORKSTATIONS 112
OFFICE 202A	15	20 A	1			12.0 A						
						8.0 A			1	20 A	16	CURRIC. DEV. & EVAL WORKSTATIONS 112
CURRIC. DEV. & EVAL WORKSTATIONS 112	17	20 A	1				13.5 A					
							10.5 A		1	20 A	18	CURRIC. DEV. & EVAL WORKSTATIONS 112
CURRIC. DEV. & EVAL WORKSTATIONS 112	19	20 A	1		13.5 A							
					9.0 A				1	20 A	20	RECPT CURRIC. LIBRARY 112A
CURRIC. DEV. & EVAL WORKSTATIONS 112	21	20 A	1			10.5 A						
						9.0 A			1	20 A	22	Room 111, 112
CURRIC. DEV. & EVAL WORKSTATIONS 112	23	20 A	1				13.5 A					
							10.5 A		1	20 A	24	Room 112, 111
RECPT ELECT 114	25	20 A	1		1.6 A							
					12.0 A				1	20 A	26	CURRIC. DEV. & EVAL WORKSTATIONS 112
RECPT	27	20 A	1			3.0 A						
						1.5 A			1	20 A	28	RECPT
EQUIP Room 124, 125	29	20 A	1				4.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**94.6 A**	**87.5 A**	**88.7 A**					

1 EQUIP Room 124, 125

PANEL SCHEDULES ON THIS SHEET	
N21A2	N21B1
DP-208-1B	N21B2

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 01	08/27/2021	

Revisions

ALABAMA LICENSED NO. 22474 PROFESSIONAL 06/29/21 ENGINEER MORGAN LEE BARNES

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

PANELBOARD SCHEDULES

SHEET IDENTIFICATION
EP606
SHEET 357 of 442

C:\Users\austin.lovvorn\Documents\20002-E_austin.lovvorn.rvt
8/27/2021 12:23:52 PM

PANEL: OS-480-1C
LOCATION: ELEC. 205
SUPPLY FROM: MPB
MOUNTING: SURFACE

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 14K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE INTEGRAL SUBMETER TO INDIVIDUALL METER ALL LIGHTING CIRCUITS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
EXR. TX-A	1	30 A	3		5.7 A							
					6.8 A				1	20 A	2	SITE SECURITY LIGHTING SOUTH/WEST VIA LI-1
--	3	--	--	--		5.7 A						
						3.6 A			1	20 A	4	SITE SECURITY LIGHTING NORTH/EAST VIA LI-2
--	5	--	--	--			3.6 A					
							0.2 A		1	20 A	6	SITE NORTHERN WALKWAY LIGHTING VIA LI-2
SITE NORTHERN SECURITY LIGHTING	7	20 A	1		3.6 A							
					0.0 A				3	20 A	8	SUBMTER (NOTE 1)
SPARE	9	20 A	1			0.0 A						
						0.0 A			--	--	--	10 --
SPARE	11	20 A	1				0.0 A					
							0.0 A		--	--	--	12 --
SPARE	13	20 A	1		0.0 A							
					0.0 A				--	--	--	14 SPACE ONLY
SPACE ONLY	15	--	--	--		0.0 A						
						0.0 A			--	--	--	16 SPACE ONLY
SPACE ONLY	17	--	--	--			0.0 A					
							0.0 A		--	--	--	18 SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A				--	--	--	20 SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A			--	--	--	22 SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A		--	--	--	24 SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A				--	--	--	26 SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A			--	--	--	28 SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A		--	--	--	30 SPACE ONLY
TOTAL AMPS:					**16.2 A**	**9.6 A**	**3.8 A**					

PANEL: EXR. PP-A
LOCATION: ELEC. 205
SUPPLY FROM: EXR. TX-A
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MCB
MIN. BUS RATING: 100 A
MCB RATING: 50 A

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD	1	30 A	3		0.0 A							
					4.2 A				1	20 A	2	EQUIP TELECOM 105
--	3	--	--	--		0.0 A						
						4.2 A			1	20 A	4	EQUIP TELECOM 105
--	5	--	--	--			0.0 A					
							4.2 A		1	20 A	6	EQUIP TELECOM 113
EQUIP TELECOM 317	7	20 A	1		4.2 A							
					4.2 A				1	20 A	8	EQUIP TELECOM 113
EQUIP TELECOM 317	9	20 A	1			4.2 A						
						4.2 A			1	20 A	10	EQUIP Space 145
SPARE	11	20 A	1				0.0 A					
							4.2 A		1	20 A	12	EQUIP Space 145
SPARE	13	20 A	1		0.0 A							
					0.0 A				1	20 A	14	SPARE
SPACE ONLY	15	--	--	--		0.0 A						
						0.0 A		--	--	--	16	SPACE ONLY
SPACE ONLY	17	--	--	--			0.0 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A				--	--	--	20 SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A			--	--	--	22 SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A				--	--	--	26 SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
TOTAL AMPS:					**13.1 A**	**13.1 A**	**8.3 A**					

PANEL: DP-480-1C
LOCATION: ELEC. 205
SUPPLY FROM: MPB
MOUNTING: SURFACE

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 14K
MAINS TYPE: MLO
MAINS RATING: 200 A

*SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
*SPD	1	0 A	3		0.0 A							
					0.0 A				1	20 A	2	LI-1
--	3	--	--	--		0.0 A						
						1.3 A			1	20 A	4	LTG
--	5	--	--	--			0.0 A					
							3.1 A		1	20 A	6	LTG
Room 205, 201	7	20 A	1		2.6 A							
					0.0 A				--	--	--	8 SPACE ONLY
AHU-3	9	20 A	3			9.8 A						
						0.0 A			--	--	--	10 SPACE ONLY
--	11	--	--	--			9.8 A					
							0.0 A	--	--	--	12	SPACE ONLY
--	13	--	--	--	9.8 A							
					0.8 A				1	20 A	14	LTG
LCP-1C	15	20 A	1			0.0 A						
						0.8 A			1	20 A	16	LTG
LTG	17	20 A	1				0.7 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.4 A				1	20 A	20	COVERED CANOPY LIGHTING - NORTH
COVERED CANOPY LIGHTING - SOUTH	21	20 A	1			0.2 A						
						0.5 A			1	20 A	22	LTG Room 205, 063
*TN1C	23	0 A	3				59.1 A					
							0.0 A	--	--	--	24	SPACE ONLY
--	25	--	--	--	61.9 A							
					0.0 A				--	--	--	26 SPACE ONLY
--	27	--	--	--		57.5 A						
						0.0 A			--	--	--	28 SPACE ONLY
*SUBMETER	29	0 A	3				0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
--	31	--	--	--	0.0 A							
					0.0 A				--	--	--	32 SPACE ONLY
--	33	--	--	--		0.0 A						
						0.0 A			--	--	--	34 SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	37	125 A	3		0.0 A							
					0.0 A				--	--	--	38 SPACE ONLY
--	39	--	--	--		0.0 A						
						0.0 A			--	--	--	40 SPACE ONLY
--	41	--	--	--			0.0 A					
							0.0 A		1	20 A	42	SPARE(ELECTRONIC LSI BREAKER)
TOTAL AMPS:					**74.0 A**	**68.4 A**	**71.2 A**					

PANEL: DP-208-1C
LOCATION: ELEC. 205
SUPPLY FROM: TN1C
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MB
MAINS RATING: 250 A
MCB RATING: 250 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.
2. SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD (NOTE 2)	1	0 A	3		0.0 A							
					30.8 A				3	0 A	2	COMM1C (NOTE 2)
--	3	--	--	--		0.0 A						
						33.7 A		--	--	--	4	--
--	5	--	--	--			0.0 A					
							36.3 A	--	--	--	6	--
CU-11/AC-11	7	20 A	2		10.8 A							
					0.0 A			--	--	--	8	SPACE ONLY
--	9	--	--	--		10.8 A						
						12.0 A			1	20 A	10	DDC-3B
CU-6/AC-6	11	20 A	2				10.8 A					
							0.0 A	--	--	--	12	SPACE ONLY
--	13	--	--	--	10.8 A							
					0.0 A			--	--	--	14	SPACE ONLY
N21C1 (NOTE 2)	15	0 A	3			81.2 A						
						0.0 A		--	--	--	16	SPACE ONLY
--	17	--	--	--			82.3 A					
							0.0 A	--	--	--	18	SPACE ONLY
--	19	--	--	--	86.6 A							
					0.0 A			--	--	--	20	SPACE ONLY
*TN21C2	21	0 A	3			7.5 A						
						0.0 A		--	--	--	22	SPACE ONLY
--	23	--	--	--			6.2 A					
							0.0 A	--	--	--	24	SPACE ONLY
--	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A				--	--	--	32 SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A			--	--	--	34 SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	37	125 A	3		0.0 A							
					0.0 A				--	--	--	38 SPACE ONLY
--	39	--	--	--		0.0 A						
						0.0 A			2	20 A	40	SPARE
--	41	--	--	--			0.0 A					
							0.0 A	--	--	--	42	--
TOTAL AMPS:					**136.4 A**	**142.9 A**	**132.8 A**					

1

PANEL SCHEDULES ON THIS SHEET	
OS-480-1C	DP-480-1C
EXR. PP-A	DP-208-1C

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 01	08/27/2021	

Revisions

ALABAMA LICENSED NO. 22474 PROFESSIONAL 06/29/21 ENGINEER MORGAN LEE BARNES

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

PANELBOARD SCHEDULES

SHEET IDENTIFICATION
EP607
SHEET 358 of 442

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8/27/2021 12:23:56 PM

PANEL: N21C1
LOCATION: ELEC. 205
SUPPLY FROM: DP-208-1C
MOUNTING: SURFACE
VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 150 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	1	20 A	1		7.0 A							
					7.0 A				1	20 A	2	EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	3	20 A	1			7.0 A						
						7.5 A			1	20 A	4	RECPT RECEPTION TRAIN & EDU DEPT-1 127-1
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	5	20 A	1				7.0 A					
							7.5 A		1	20 A	6	RECPT RECEPTION TRAIN & EDU DEPT-1 127-1
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	7	20 A	1		6.0 A							
					7.5 A				1	20 A	8	EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1
RECPT ELEC. 205	9	20 A	1			1.6 A						
						7.5 A			1	20 A	10	EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	11	20 A	1				6.0 A					
							6.0 A		1	20 A	12	RECPT RECEPTION TRAIN & EDU DEPT-1 127-1
EQUIP WELCOME CENTER RECEPTION AREA 200	13	20 A	1		5.0 A							
					5.0 A				1	20 A	14	EQUIP WELCOME CENTER RECEPTION AREA 200
RECPT RECEPTION TRAIN & EDU DEPT-1 127-1	15	20 A	1			6.0 A						
						6.0 A			1	20 A	16	RECPT
DOOR 207A OPERATOR	17	20 A	1				10.0 A					
							9.0 A		1	20 A	18	RECPT ARTC HALL 201
WELCOME CENTER RECEPTION AREA 200	19	20 A	1		13.5 A							
					6.0 A				1	20 A	20	EQUIP ARTC HALL 201
EQUIP WELCOME CENTER RECEPTION AREA 200	21	20 A	1			10.0 A						
						4.5 A			1	20 A	22	RECPT RECEPTION TRAIN & EDU DEPT-1 127-1
EQUIP WELCOME CENTER RECEPTION AREA 200	23	20 A	1				10.0 A					
							7.5 A		1	20 A	24	RECPT RECEPTION TRAIN & EDU DEPT-1 127-1
EF-4	25	20 A	1		6.2 A							
					9.0 A				1	20 A	26	RECPT RECEPTION TRAIN & EDU DEPT-1 127-1
EF-1	27	20 A	1			3.5 A						
						9.0 A			1	20 A	28	RECPT WELCOME CENTER RECEPTION AREA 200
AHU-3 MAINTENANCE LIGHTS/RECEPTACLE	29	20 A	1				1.0 A					
							3.0 A		1	20 A	30	RECPT
AHU-3 UV LIGHTS	31	20 A	1		1.3 A							
					7.6 A				1	20 A	32	RECPT Space 063
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	33	20 A	1			7.5 A						
						12.0 A			1	20 A	34	DDC-3A CIRCUIT 1
EQUIP RECEPTION TRAIN & EDU DEPT-1 127-1	35	20 A	1				7.5 A					
							12.0 A		1	20 A	36	DDC-3A CIRCUIT 2
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**81.2 A**	**82.3 A**	**86.6 A**					

PANEL: DP-208-1D
LOCATION: ELEC 304
SUPPLY FROM: TN1D
MOUNTING: SURFACE
VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 10K
MAINS TYPE: MB
MAINS RATING: 250 A
MCB RATING: 250 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.
2. SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD (NOTE 2)	1	0 A	3		0.0 A							
					22.8 A				3	0 A	2	COMM1D (NOTE 2)
--	3	--	--	--		0.0 A						
						26.1 A		--	--	--	4	--
--	5	--	--	--			0.0 A					
							25.3 A	--	--	--	6	--
N21D1 (NOTE 2)	7	0 A	3		67.3 A							
					0.0 A			--	--	--	8	SPACE ONLY
--	9	--	--	--		61.3 A						
						0.0 A		--	--	--	10	SPACE ONLY
--	11	--	--	--			61.6 A					
							10.8 A		2	20 A	12	CU-5/AC-5
N21D2 (NOTE 2)	13	0 A	3		53.8 A							
					10.8 A			--	--	--	14	--
--	15	--	--	--		60.6 A						
						0.0 A		--	--	--	16	SPACE ONLY
--	17	--	--	--			60.6 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	25	20 A	3		0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
--	27	--	--	--		0.0 A						
						0.0 A		2	20 A	28	SPARE	
--	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	--
TOTAL AMPS:					**154.2 A**	**146.8 A**	**156.5 A**					

PANEL: DP-480-1D
LOCATION: ELEC 304
SUPPLY FROM: MPB
MOUNTING: SURFACE
VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 14K
MAINS TYPE: MLO
MAINS RATING: 200 A

*SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
*SPD	1	0 A	3		0.0 A							
					0.0 A			--	--	--	2	SPACE ONLY
--	3	--	--	--		0.0 A						
						5.3 A		1	20 A	4	LTG Room 303A, 305, 306, 302A, 304	
--	5	--	--	--			0.0 A					
							5.9 A	1	20 A	6	LTG CLRM SPT AREA 314	
LTG TRAVEL SECTION 320	7	20 A	1		4.2 A							
					0.9 A			1	20 A	8	LTG Space 387	
LTG Room 316, 387, 408	9	20 A	1			0.8 A						
						0.0 A		1	20 A	10	LCP-1D	
*TN1D	11	0 A	3				66.8 A					
							6.4 A	1	20 A	12	LTG LG - CLRM 303	
--	13	--	--	--	63.6 A							
					0.0 A			--	--	--	14	SPACE ONLY
--	15	--	--	--		67.8 A						
						0.2 A		1	20 A	16	LTG Room 303, 302, 127-1, 300, 301	
EXTERIOR SOUTHEAST DOWNLIGHTS	17	20 A	1				0.1 A					
							0.0 A	--	--	--	18	SPACE ONLY
*SUBMETER	19	0 A	3		0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
--	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
--	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	37	125 A	3		0.0 A							
					0.0 A			--	--	--	38	SPACE ONLY
--	39	--	--	--		0.0 A						
						0.0 A		--	--	--	40	SPACE ONLY
--	41	--	--	--			0.0 A					
							0.0 A		1	20 A	42	SPARE(ELECTRONIC LSI BREAKER)
TOTAL AMPS:					**68.7 A**	**74.5 A**	**79.5 A**					

PANEL: N21D1
LOCATION: ELEC 304
SUPPLY FROM: DP-208-1D
MOUNTING: SURFACE
VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1
A.I.C. RATING: 10K
MAINS TYPE: MLO
MIN. BUS RATING: 100 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
RECPT LG - CLRM 303	1	20 A	1		7.5 A							
					7.5 A				1	20 A	2	RECPT LG - CLRM 300
LG - CLRM 303	3	20 A	1			10.0 A						
						11.0 A			1	20 A	4	LG - CLRM 300
LG - CLRM 302	5	20 A	1				11.5 A					
							8.0 A		1	20 A	6	LG - CLRM 301
RECPT ELEC 304	7	20 A	1		1.6 A							
					1.5 A				1	20 A	8	RECPT
RECPT Room 305, 303A, 306, 302A	9	20 A	1			9.0 A						
						8.0 A			1	20 A	10	LG - CLRM 301
RECPT Space 387	11	20 A	1				4.5 A					
							2.9 A		1	20 A	12	EF-2
RECPT BREAKOUT ROOM 313	13	20 A	1		11.5 A							
					7.3 A				1	20 A	14	EQUIP
BREAKOUT ROOM 312	15	20 A	1			6.5 A						
						7.3 A			1	20 A	16	EQUIP
RECPT BREAKOUT ROOM 312	17	20 A	1				8.0 A					
							6.2 A		1	20 A	18	EF-3
BREAKOUT ROOM 311	19	20 A	1		6.5 A							
					15.8 A				1	20 A	20	BACKFLOW PREVENTER AIR HEATER
RECPT BREAKOUT ROOM 311	21	20 A	1			8.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
BREAKOUT ROOM 310	23	20 A	1				6.5 A					
							12.5 A		1	20 A	24	BACKFLOW PREVENTER AIR HEATER
RECPT BREAKOUT ROOM 310	25	20 A	1		8.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
RECPT	27	20 A	1			1.5 A						
						0.0 A		--	--	--	28	SPACE ONLY
RECPT	29	20 A	1				1.5 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**67.3 A**	**61.3 A**	**61.6 A**					

1

PANEL SCHEDULES ON THIS SHEET	
N21C1	DP-208-1D
DP-480-1D	N21D1

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 01	08/27/2021	

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

PANELBOARD SCHEDULES

SHEET IDENTIFICATION
EP608
SHEET 359 of 442

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PANEL: N21D2
LOCATION: SEATING ALCOVE 316
SUPPLY FROM: DP-208-1D
MOUNTING: RECESSED

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
CLRM SPT AREA 314	1	20 A	1		12.0 A							
					6.0 A				1	20 A	2	RECPT PUBLIC TLT - M 318
CLRM SPT AREA 314	3	20 A	1			10.5 A						
						3.0 A			1	20 A	4	RECPT Space 387
EQUIP CLRM SPT AREA 314	5	20 A	1				8.5 A					
							6.0 A		1	20 A	6	EQUIP Space 387
RECPT PUBLIC TLT - F 319	7	20 A	1		6.0 A							
					10.4 A				1	20 A	8	TRAVEL SECTION 320
EQUIP TRAVEL SECTION 320	9	20 A	1			10.4 A						
						8.9 A			1	20 A	10	TRAVEL SECTION 320
EQUIP TRAVEL SECTION 320	11	20 A	1				11.8 A					
							13.5 A		1	20 A	12	TRAVEL SECTION 320
TRAVEL SECTION 320	13	20 A	1		10.4 A							
					7.5 A				1	20 A	14	RECPT MULTI-PURPOSE WET ENVIROMENT...
RECPT TRAVEL SECTION 320	15	20 A	1			8.5 A						
						7.5 A			1	20 A	16	RECPT MULTI-PURPOSE WET ENVIROMENT...
RECPT TRAVEL SECTION 320	17	20 A	1				7.5 A					
							3.0 A		1	20 A	18	RECPT
RECPT	19	20 A	1		1.5 A							
					0.0 A			--	--	--	20	SPACE ONLY
RECPT	21	20 A	1			1.5 A						
						10.8 A			2	20 A	22	CU-12/AC-12
SPACE ONLY	23	--	--	--			0.0 A					
							10.8 A	--	--	--	24	--
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**53.8 A**	**60.6 A**	**60.6 A**					

PANEL: COMM1B
LOCATION: TELECOM 113
SUPPLY FROM: DP-208-1B
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD	1	30 A	3		0.0 A							
					10.0 A				1	20 A	2	EQUIP TELECOM 113
--	3	--	--	--		0.0 A						
						9.6 A			2	20 A	4	EQUIP TELECOM 113
--	5	--	--	--			0.0 A					
							9.6 A	--	--	--	6	--
EQUIP TELECOM 113	7	20 A	1		10.0 A							
					0.0 A			--	--	--	8	SPACE ONLY
EQUIP TELECOM 113	9	20 A	2			9.6 A						
						4.2 A			1	20 A	10	EQUIP TELECOM 113
--	11	--	--	--			9.6 A					
							6.1 A		1	20 A	12	RECPT TELECOM 113
SPACE ONLY	13	--	--	--	0.0 A							
					5.7 A				2	15 A	14	CU-2/AC-2
SPACE ONLY	15	--	--	--		0.0 A						
						5.7 A		--	--	--	16	--
SPACE ONLY	17	--	--	--			0.0 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPARE	25	20 A	2		0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
--	27	--	--	--		0.0 A						
						0.0 A			1	20 A	28	SPARE
SPARE	29	20 A	1				0.0 A					
							0.0 A		1	20 A	30	SPARE
TOTAL AMPS:					**25.3 A**	**26.1 A**	**22.8 A**					

PANEL: COMM1A
LOCATION: TELECOM 105
SUPPLY FROM: DP-208-1A
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD	1	30 A	3		0.0 A							
					10.0 A				1	20 A	2	EQUIP TELECOM 105
--	3	--	--	--		0.0 A						
						9.6 A			2	20 A	4	EQUIP TELECOM 105
--	5	--	--	--			0.0 A					
							9.6 A	--	--	--	6	--
EQUIP TELECOM 105	7	20 A	1		10.0 A							
					0.0 A			--	--	--	8	SPACE ONLY
EQUIP TELECOM 105	9	20 A	2			9.6 A						
						7.5 A			1	20 A	10	RECPT TELECOM 105
--	11	--	--	--			9.6 A					
							5.7 A		2	15 A	12	CU-4/AC-4
SPACE ONLY	13	--	--	--	0.0 A							
					5.7 A			--	--	--	14	--
SPACE ONLY	15	--	--	--		0.0 A						
						0.1 A			1	20 A	16	EQUIP TELECOM 105
EQUIP TELECOM 105	17	20 A	1				4.2 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPARE	25	20 A	2		0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
--	27	--	--	--		0.0 A						
						0.0 A			1	20 A	28	SPARE
SPARE	29	20 A	1				0.0 A					
							0.0 A		1	20 A	30	SPARE
TOTAL AMPS:					**25.1 A**	**24.3 A**	**25.9 A**					

PANEL: COMM1C
LOCATION: Space 145
SUPPLY FROM: DP-208-1C
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD	1	30 A	3		0.0 A							
					0.0 A			--	--	--	2	SPACE ONLY
--	3	--	--	--		0.0 A						
						10.0 A			1	20 A	4	EQUIP Space 145
--	5	--	--	--			0.0 A					
							9.6 A		2	20 A	6	EQUIP Space 145
EQUIP Space 145	7	20 A	1		10.0 A							
					9.6 A			--	--	--	8	--
EQUIP Space 145	9	20 A	2			9.6 A						
						10.0 A			1	20 A	10	EQUIP Space 145
--	11	--	--	--			9.6 A					
							9.6 A		2	20 A	12	EQUIP Space 145
EQUIP Space 145	13	20 A	1		4.2 A							
					9.6 A			--	--	--	14	--
CU-7/AC-7	15	15 A	2		5.7 A							
						0.0 A		--	--	--	16	SPACE ONLY
--	17	--	--	--			5.7 A					
							6.0 A		1	20 A	18	RECPT Space 145
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPARE	25	20 A	2		0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
--	27	--	--	--		0.0 A						
						0.0 A			1	20 A	28	SPARE
SPARE	29	20 A	1				0.0 A					
							0.0 A		1	20 A	30	SPARE
TOTAL AMPS:					**30.8 A**	**33.7 A**	**36.3 A**					

PANEL SCHEDULES ON THIS SHEET	
N21D2	COMM1B
COMM1A	COMM1C

US Army Corps of Engineers
Mobile District

No.	Symbol	Description	Date	Approved
		Revisions		

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

PANELBOARD SCHEDULES

SHEET IDENTIFICATION
EP609
SHEET 360 of 442

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6/29/2021 10:48:08 AM

PANEL: COMM1D

LOCATION: TELECOM 317
SUPPLY FROM: DP-208-1D
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
1. PROVIDE 200% RATED NEUTRAL BUS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPD	1	30 A	3		0.0 A							
					9.6 A				2	20 A	2	EQUIP TELECOM 317
--	3	--	--	--		0.0 A						
						9.6 A		--	--	--	4	--
--	5	--	--	--			0.0 A					
							10.0 A		1	20 A	6	EQUIP TELECOM 317
RECPT TELECOM 317	7	20 A	1		6.1 A							
					9.6 A				2	20 A	8	EQUIP TELECOM 317
CU-1/AC-1	9	15 A	2			5.7 A						
						9.6 A		--	--	--	10	--
--	11	--	--	--			5.7 A					
							10.0 A		1	20 A	12	EQUIP TELECOM 317
SPACE ONLY	13	--	--	--	0.0 A							
					0.0 A			--	--	--	14	SPACE ONLY
EQUIP TELECOM 317	15	20 A	1			4.2 A						
						0.0 A		--	--	--	16	SPACE ONLY
SPACE ONLY	17	--	--	--			0.0 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPARE	25	20 A	2		0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
--	27	--	--	--		0.0 A						
						0.0 A			1	20 A	28	SPARE
SPARE	29	20 A	1				0.0 A					
							0.0 A		1	20 A	30	SPARE
			TOTAL AMPS:		22.8 A	26.1 A	25.3 A					

PANEL: 2HVAC1

LOCATION: MECHANICAL 100
SUPPLY FROM: THVAC1
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:
1. MAIN CIRCUIT BREAKER SHALL BE ELECTRONIC LSI TYPE.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
RECPT MECHANICAL 100	1	20 A	1		9.1 A							
					13.0 A				1	20 A	2	B-1
DDC-HW-1	3	20 A	1			12.0 A						
						12.0 A			1	20 A	4	DDC-4B CIRCUIT 1
DDC-CH1	5	20 A	1				12.0 A					
							12.0 A		1	20 A	6	DDC-4B CIRCUIT 2
DDC-M1 CIRCUIT 1	7	20 A	1		12.0 A							
					12.0 A				1	20 A	8	DDC-4A CIRCUIT 1
DDC-M1 CIRCUIT 2	9	20 A	1			12.0 A						
						12.0 A			1	20 A	10	DDC-4A CIRCUIT 2
B-2	11	20 A	1				13.0 A					
							2.9 A		1	20 A	12	EF-6
AHU-4 UV LIGHTS	13	20 A	1		2.7 A							
					5.0 A				1	20 A	14	GWH-1
AHU-4 MAINTENANCE LIGHTS/RECEPTACLE	15	20 A	1			1.0 A						
						10.8 A			2	20 A	16	CU-9/AC-9
HWCP-1	17	20 A	1				2.5 A					
							10.8 A	--	--	--	18	--
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
			TOTAL AMPS:		54.1 A	58.6 A	51.7 A					

PANEL: 4HVAC1

LOCATION: MECHANICAL 100
SUPPLY FROM: MPB
MOUNTING: SURFACE

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 14K
MAINS TYPE: MLO
MAINS RATING: 200 A

*SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
*THVAC1	1	0 A	3		23.4 A							
					0.0 A			--	--	--	2	SPACE ONLY
--	3	--	--	--		25.4 A						
						0.0 A		--	--	--	4	SPACE ONLY
--	5	--	--	--			22.4 A					
							0.0 A	--	--	--	6	SPACE ONLY
*AHU-4	7	0 A	3		27.7 A							
					11.0 A				3	20 A	8	CHWP-1
--	9	--	--	--		27.7 A						
						11.0 A		--	--	--	10	--
--	11	--	--	--			27.7 A					
							11.0 A	--	--	--	12	--
CHWP-2	13	20 A	3		11.0 A							
					7.6 A				3	20 A	14	HHWP-1
--	15	--	--	--		11.0 A						
						7.6 A		--	--	--	16	--
--	17	--	--	--			11.0 A					
							7.6 A	--	--	--	18	--
HHWP-2	19	20 A	3		7.6 A							
					0.0 A				3	0 A	20	*SUBMETER
--	21	--	--	--		7.6 A						
						0.0 A		--	--	--	22	--
--	23	--	--	--			7.6 A					
							0.0 A	--	--	--	24	--
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	37	60 A	3		0.0 A							
					0.0 A				3	40 A	38	SPARE(ELECTRONIC LSI BREAKER)
--	39	--	--	--		0.0 A						
						0.0 A		--	--	--	40	--
--	41	--	--	--			0.0 A					
							0.0 A	--	--	--	42	--
			TOTAL AMPS:		84.8 A	86.6 A	83.9 A					

PANEL: 4HVAC2

LOCATION: MECHANICAL 111
SUPPLY FROM: MPB
MOUNTING: SURFACE

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 14K
MAINS TYPE: MLO
MAINS RATING: 200 A

*SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
*THVAC2	1	20 A	3		9.7 A							
					0.0 A			--	--	--	2	SPACE ONLY
--	3	--	--	--		14.4 A						
						0.0 A		--	--	--	4	SPACE ONLY
--	5	--	--	--			9.7 A					
							0.0 A	--	--	--	6	SPACE ONLY
*AHU-5	7	0 A	3		23.9 A							
					0.0 A				3	0 A	8	*SUBMETER
--	9	--	--	--		23.9 A						
						0.0 A		--	--	--	10	--
--	11	--	--	--			23.9 A					
							0.0 A	--	--	--	12	--
SPACE ONLY	13	--	--	--	0.0 A							
					0.0 A			--	--	--	14	SPACE ONLY
SPACE ONLY	15	--	--	--		0.0 A						
						0.0 A		--	--	--	16	SPACE ONLY
SPACE ONLY	17	--	--	--			0.0 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	37	50 A	3		0.0 A							
					0.0 A				3	40 A	38	SPARE(ELECTRONIC LSI BREAKER)
--	39	--	--	--		0.0 A						
						0.0 A		--	--	--	40	--
--	41	--	--	--			0.0 A					
							0.0 A	--	--	--	42	--
			TOTAL AMPS:		32.1 A	36.5 A	32.1 A					

PANEL SCHEDULES ON THIS SHEET	
COMM1D	2HVAC1
4HVAC1	4HVAC2

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL
Drawn By: AL
Checked By: GMY
Reviewed By:

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

PANELBOARD SCHEDULES

SHEET IDENTIFICATION
EP610
SHEET 361 of 442

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6/29/2021 10:48:11 AM

PANEL: 2HVAC2
LOCATION: MECHANICAL 111
SUPPLY FROM: THVAC2
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:
1. MAIN CIRCUIT BREAKER SHALL BE ELECTRONIC LSI TYPE.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
SPACE ONLY	1	--	--	--	0.0 A							
					12.0 A				1	20 A	2	DDC-5A CIRCUIT 1
DDC-EF	3	20 A	1			12.0 A						
						12.0 A			1	20 A	4	DDC-5A CIRCUIT 2
AHU-5 UV LIGHTS	5	20 A	1				2.7 A					
							12.0 A		1	20 A	6	DDC-5B
AHU-5 MAINTENANCE LIGHTS/RECEPTACLE	7	20 A	1		1.0 A							
					10.8 A				2	20 A	8	CU-10/AC-10
SPACE ONLY	9	--	--	--		0.0 A						
						10.8 A		--	--	--	10	--
RECPT MECHANICAL 111	11	20 A	1				7.6 A					
							0.0 A	--	--	--	12	SPACE ONLY
SPACE ONLY	13	--	--	--	0.0 A							
					0.0 A			--	--	--	14	SPACE ONLY
SPACE ONLY	15	--	--	--		0.0 A						
						0.0 A		--	--	--	16	SPACE ONLY
SPACE ONLY	17	--	--	--			0.0 A					
							0.0 A	--	--	--	18	SPACE ONLY
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**22.3 A**	**33.3 A**	**22.3 A**					

PANEL: 2HVAC3
LOCATION: MECH. 321
SUPPLY FROM: THVAC3
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:
1. MAIN CIRCUIT BREAKER SHALL BE ELECTRONIC LSI TYPE.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
GWH	1	20 A	1		5.0 A							
					12.0 A				1	20 A	2	DDC-2B
RECPT MECH. 321	3	20 A	1			9.1 A						
						12.0 A			1	20 A	4	DDC-2A CIRCUIT 1
DDC-1A CIRCUIT 1	5	20 A	1				12.0 A					
							12.0 A		1	20 A	6	DDC-2A CIRCUIT 2
DDC-1A CIRCUIT 2	7	20 A	1		12.0 A							
					3.0 A				1	20 A	8	AMBULANCE PLUGS
DDC-1B	9	20 A	1			12.0 A						
						3.0 A			1	20 A	10	AMBULANCE PLUGS
AHU -1 MAINTENANCE LIGHTS/RECEPTACLE	11	20 A	1				1.0 A					
							1.0 A		1	20 A	12	AHU-2 MAINTENANCE LIGHTS/RECEPTACLE
AHU -1 UV LIGHTS	13	20 A	1		2.7 A							
					2.7 A				1	20 A	14	AHU-2 UV LIGHTS
HWCP-3	15	20 A	1			2.5 A						
						0.0 A		--	--	--	16	SPACE ONLY
DDC-EF2	17	20 A	1				12.0 A					
							0.0 A	--	--	--	18	SPACE ONLY
DDC-M2	19	20 A	1		12.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE	37	20 A	1		0.0 A							
					0.0 A				1	20 A	38	SPARE
SPARE	39	20 A	1			0.0 A						
						0.0 A			1	20 A	40	SPARE
SPARE	41	20 A	1				0.0 A					
							0.0 A		1	20 A	42	SPARE
TOTAL AMPS:					**49.4 A**	**38.7 A**	**37.9 A**					

PANEL: 4HVAC3
LOCATION: MECH. 321
SUPPLY FROM: MPB
MOUNTING: SURFACE

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 14K
MAINS TYPE: MLO
MAINS RATING: 200 A

*SEE SINGLE LINE DIAGRAM FOR OVERCURRENT PROTECTION REQUIREMENTS.

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
*THVAC3	1	0 A	3		21.4 A							
					0.0 A				--	--	2	SPACE ONLY
--	3	--	--	--		16.8 A						
						0.0 A		--	--	--	4	SPACE ONLY
--	5	--	--	--			16.4 A					
							0.0 A	--	--	--	6	SPACE ONLY
SPACE ONLY	7	--	--	--	0.0 A							
					22.5 A				3	0 A	8	*AHU-1
SPACE ONLY	9	--	--	--		0.0 A						
						22.5 A		--	--	--	10	--
SPACE ONLY	11	--	--	--			0.0 A					
							22.5 A	--	--	--	12	--
*AHU-2	13	0 A	3		28.0 A							
					0.0 A				3	0 A	14	*SUBMETER
--	15	--	--	--		28.0 A						
						0.0 A		--	--	--	16	--
--	17	--	--	--			28.0 A					
							0.0 A	--	--	--	18	--
SPACE ONLY	19	--	--	--	0.0 A							
					0.0 A			--	--	--	20	SPACE ONLY
SPACE ONLY	21	--	--	--		0.0 A						
						0.0 A		--	--	--	22	SPACE ONLY
SPACE ONLY	23	--	--	--			0.0 A					
							0.0 A	--	--	--	24	SPACE ONLY
SPACE ONLY	25	--	--	--	0.0 A							
					0.0 A			--	--	--	26	SPACE ONLY
SPACE ONLY	27	--	--	--		0.0 A						
						0.0 A		--	--	--	28	SPACE ONLY
SPACE ONLY	29	--	--	--			0.0 A					
							0.0 A	--	--	--	30	SPACE ONLY
SPACE ONLY	31	--	--	--	0.0 A							
					0.0 A			--	--	--	32	SPACE ONLY
SPACE ONLY	33	--	--	--		0.0 A						
						0.0 A		--	--	--	34	SPACE ONLY
SPACE ONLY	35	--	--	--			0.0 A					
							0.0 A	--	--	--	36	SPACE ONLY
SPARE(ELECTRONIC LSI BREAKER)	37	60 A	3		0.0 A							
					0.0 A				3	40 A	38	SPARE(ELECTRONIC LSI BREAKER)
--	39	--	--	--		0.0 A						
						0.0 A		--	--	--	40	--
--	41	--	--	--			0.0 A					
							0.0 A	--	--	--	42	--
TOTAL AMPS:					**68.8 A**	**64.7 A**	**64.4 A**					

PANEL: N21C2
LOCATION: ELEC. 205
SUPPLY FROM: DP-208-1C
MOUNTING: SURFACE

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
ENCLOSURE: TYPE 1

A.I.C. RATING: 10K
MAINS TYPE: MLO
MIN. BUS RATING: 150 A

CIRCUIT DESCRIPTION	CKT	TRIP	POLES	NOTES	A	B	C	NOTES	POLES	TRIP	CKT	CIRCUIT DESCRIPTION
EQUIP	1	20 A	1		6.7 A							
					0.0 A				1	20 A	2	SPARE
EQUIP	3	20 A	1			5.4 A						
						0.0 A			1	20 A	4	SPARE
	5											
							0.0 A		1	20 A	6	SPARE
	7											
											8	
	9											
											10	
	11											
											12	
	13											
											14	
	15											
											16	
	17											
											18	
	19											
											20	
	21											
											22	
	23											
											24	
	25											
											26	
	27											
											28	
	29											
											30	
TOTAL AMPS:					**7.5 A**	**6.2 A**	**0.0 A**					

1

PANEL SCHEDULES ON THIS SHEET

2HVAC2	2HVAC3
4HVAC3	N21C2

1

US Army Corps of Engineers
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Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 01	08/27/2021	

ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
06/29/21
ENGINEER
MORGAN LEE BARNES

Designed By: AL	Date: 06-29-2021
Drawn By: AL	File No.
Checked By: GMY	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

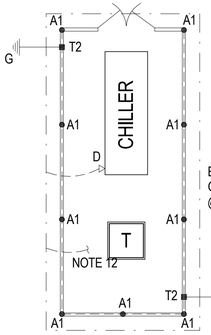
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

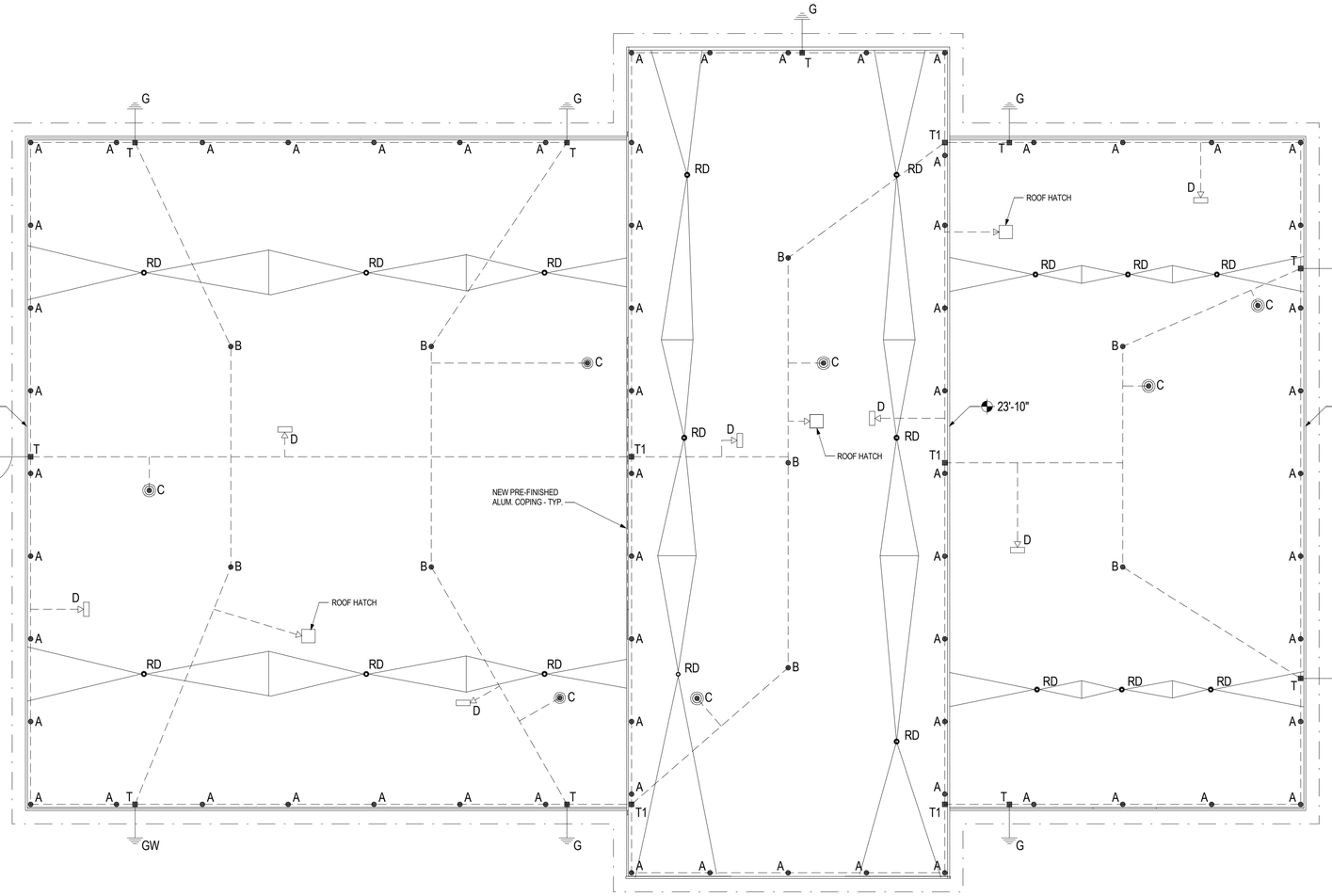
PANELBOARD SCHEDULES

SHEET IDENTIFICATION
EP611
SHEET 362 of 442

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BOND TO ELECTRIC, GAS, WATER SERVICE @ CLOSEST LOCATION



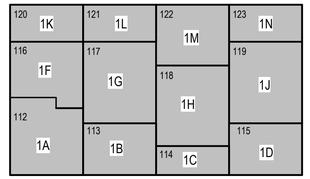
GENERAL AND INSTALLATION NOTES

1. LOCATE AIR TERMINALS AS SHOWN. TAKE CARE TO ENSURE THAT ALL POINTS ARE WITHIN 2'-0" OF OUTSIDE BUILDING EDGE, OUTSIDE CORNERS, AND RIDGE ENDS, AND THAT MAXIMUM SPACING DOES NOT EXCEED 20'-0", AND THAT MINIMUM PROJECTION ABOVE OBJECT PROTECTED IS 10". (POINTS PROJECTING 24" MAY BE SPACED @ 25' MAX).
2. MAINTAIN HORIZONTAL OR DOWNWARD COURSING OF MAIN CONDUCTOR AND ENSURE THAT ALL BENDS HAVE AT LEAST AN 8" RADIUS AND DO NOT EXCEED 90°.
3. ATTACH ALL EXPOSED ROOF, DOWN LEAD AND BONDING CABLES AT 3'-0" ON CENTER MAXIMUM. VERIFY COMPATIBILITY OF ADHESIVE ON MEMBRANE ROOF APPLICATIONS PRIOR TO INSTALLATION
4. GROUND ELECTRODES MUST BE INSTALLED AS SHOWN BUT IN NO INSTANCE MUST THEY BE LESS THAN 1'-0" BELOW GRADE AND 2'-0" FROM FOUNDATION WALL DRIVEN RODS MUST PENETRATE EARTH AT LEAST 10'-0".
5. BOND TO WATER SERVICE AND OTHER PIPING SYSTEMS AS SHOWN AND AS REQUIRED BY CODES.
6. INTERCONNECT LIGHTNING PROTECTION GROUND TO ELECTRIC, TELEPHONE, AND OTHER BUILDING GROUND SYSTEMS AS SHOWN OR AS REQUIRED BY CODE.
7. SYSTEM MUST BE INSTALLED AS SHOWN TO ENSURE PROPER CODE COMPLIANCE AND SYSTEM CERTIFICATION. ANY MAJOR VARIANCE MUST ENTAIL RESUBMITTAL AND NEW APPROVAL
8. "AS-BUILT" DRAWINGS MUST BE SUBMITTED IN ACCORDANCE WITH CERTIFICATION PROCEDURES.
9. ALL MATERIALS ARE UNDERWRITERS LABORATORIES APPROVED WITH LABELS ON CONDUCTORS @ 10'-0" INTERVALS AND LABELS ON ALL AIR TERMINALS.
10. SHOP DWG. MUST BE PREPARED AND STAMPED BY AN LPI- MASTER INSTALLER DESIGNER.
11. INSTALLATION MUST BE DONE BY LPI CERTIFIED INSTALLERS.
12. CONNECT TO TRANSFORMER GROUND RODS.
13. UL MASTER LABEL CERTIFICATION SHALL BE FURNISHED UPON COMPLETION.

TYPICAL SYMBOL LEGEND

- ● : AIR TERMINAL: LETTER DENOTES DETAIL TYPE
- – – – : MAIN CONDUCTOR
- — · — : COUNTERPOISE/GROUND CABLE AS/IF APPLICABLE
- ■ : THRU ROOF PENETRATION: LETTER DENOTES DETAIL TYPE
- —▷ : BONDING POINT
- ■—||| : FULL DOWNLEAD TO GROUND

NOTE : ALL CONDUIT/EXPOSED CABLE MUST BE SUPPORTED @ MAX. 36" O.C. AND CANNOT BE SECURED IN MORTAR JOINTS - MUST MAINTAIN 8" MIN. RADIUS BENDS. CONDUIT "LB'S" AND PRE-MADE 1" CONDUIT 90° BENDS ARE NOT PERMITTED.



FIRST FLOOR KEY PLAN

PLAN NORTH

LIGHTNING PROTECTION PLAN

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

SCALE: 1/16"=1'-0"

US Army Corps of Engineers
Mobile District

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ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

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Designed By:	AL
Drawn By:	RMA
Checked By:	GMY
Reviewed By:	

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

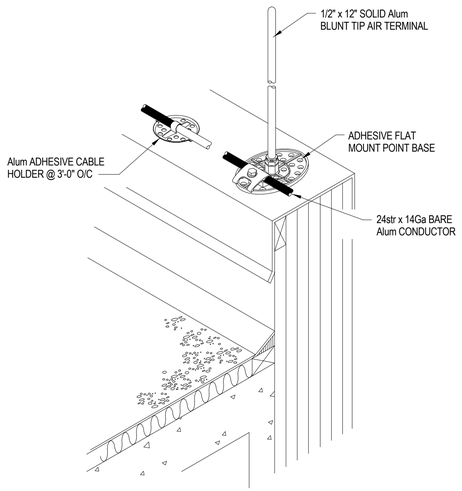
LIGHTNING PROTECTION PLAN

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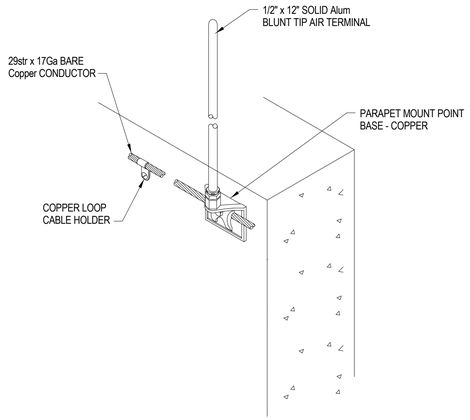
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SHEET 363 of 442

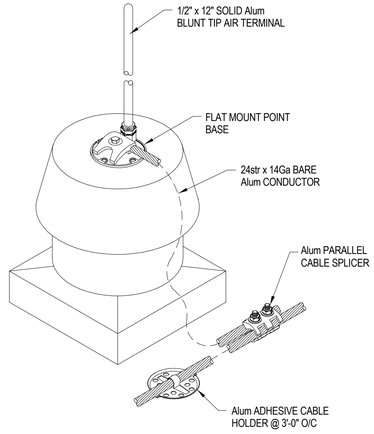
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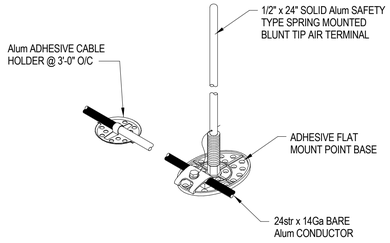
DETAIL "A"



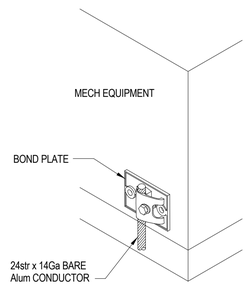
DETAIL "A1"



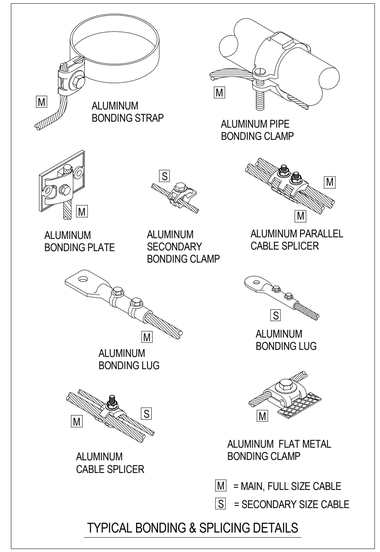
DETAIL "C"



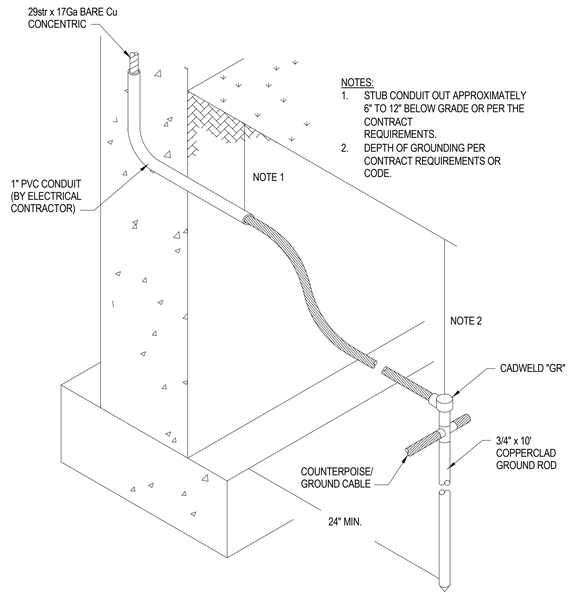
DETAIL "B"



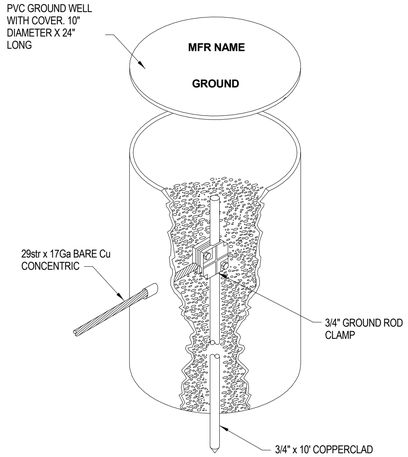
DETAIL "D"



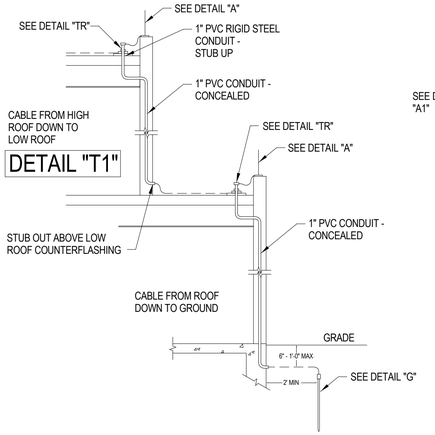
TYPICAL BONDING & SPLICING DETAILS



DETAIL "G"



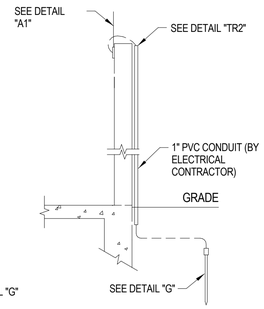
DETAIL "GW"



DETAIL "T1"

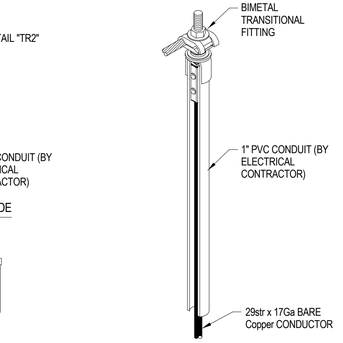
TYPICAL DOWNLEAD ROUTING

DETAIL "T"

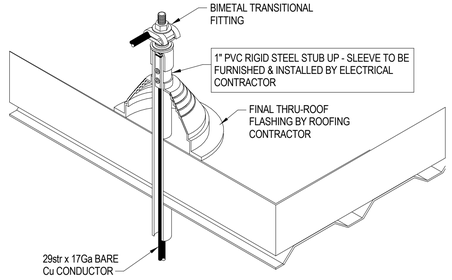


CABLE DROP FROM TOP OF WALL TO GROUND

DETAIL "T2"



DETAIL "TR2"



DETAIL "TR"

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Mobile District

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ALABAMA LICENSED NO. 22474 PROFESSIONAL ENGINEER MORGAN LEE BARNES 06/29/21

Designed By: AL	Drawn By: RMA	Checked By: GMY	Reviewed By:
Date: 06-29-2021	File No.	I.S.O. Sheet File Name:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

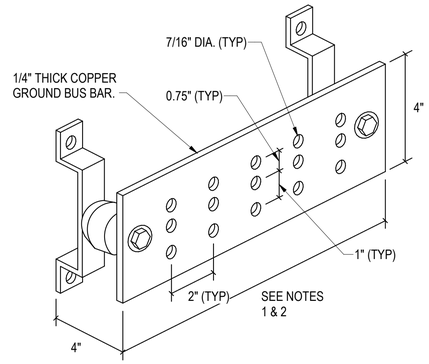
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

LIGHTNING PROTECTION DETAILS

SHEET IDENTIFICATION
EP802
SHEET 364 of 442

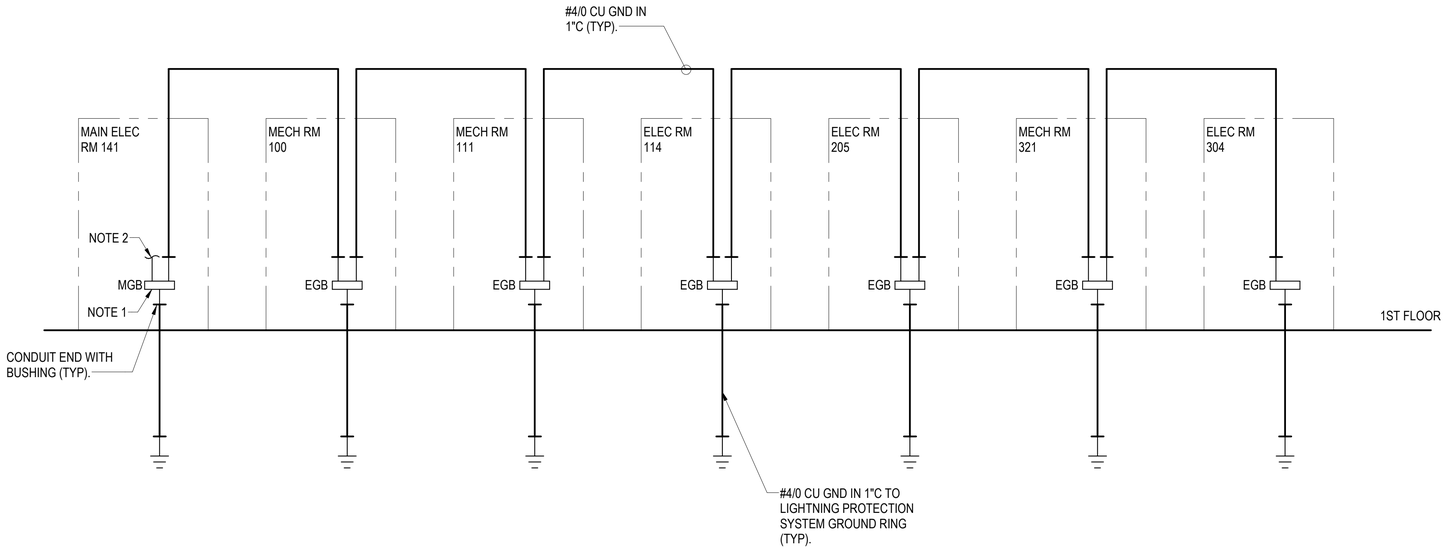
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NOTES:
1. FOR MASTER GROUND BAR (MGB), PROVIDE LENGTH AND NUMBER OF HOLES AS REQUIRED.
2. FOR EQUIPMENT GROUND BARS (EGB), PROVIDE 12" MINIMUM LENGTH AND NUMBER OF HOLES AS SHOWN.

G2 GROUND BAR DETAIL

SCALE: NOT TO SCALE



NOTES:
1. REFER TO GROUND BAR DETAIL THIS SHEET FOR BOTH THE MAIN GROUND BAR (MGB) AND EQUIPMENT GROUND BAR (EGB) REQUIREMENTS.
2. CONNECTION TO TELECOMMUNICATIONS GROUNDING AND BONDING SYSTEM. REFER TO SHEET ET506 FOR FURTHER DETAIL.

B6 GROUNDING SYSTEM RISER DIAGRAM

SCALE: NOT TO SCALE

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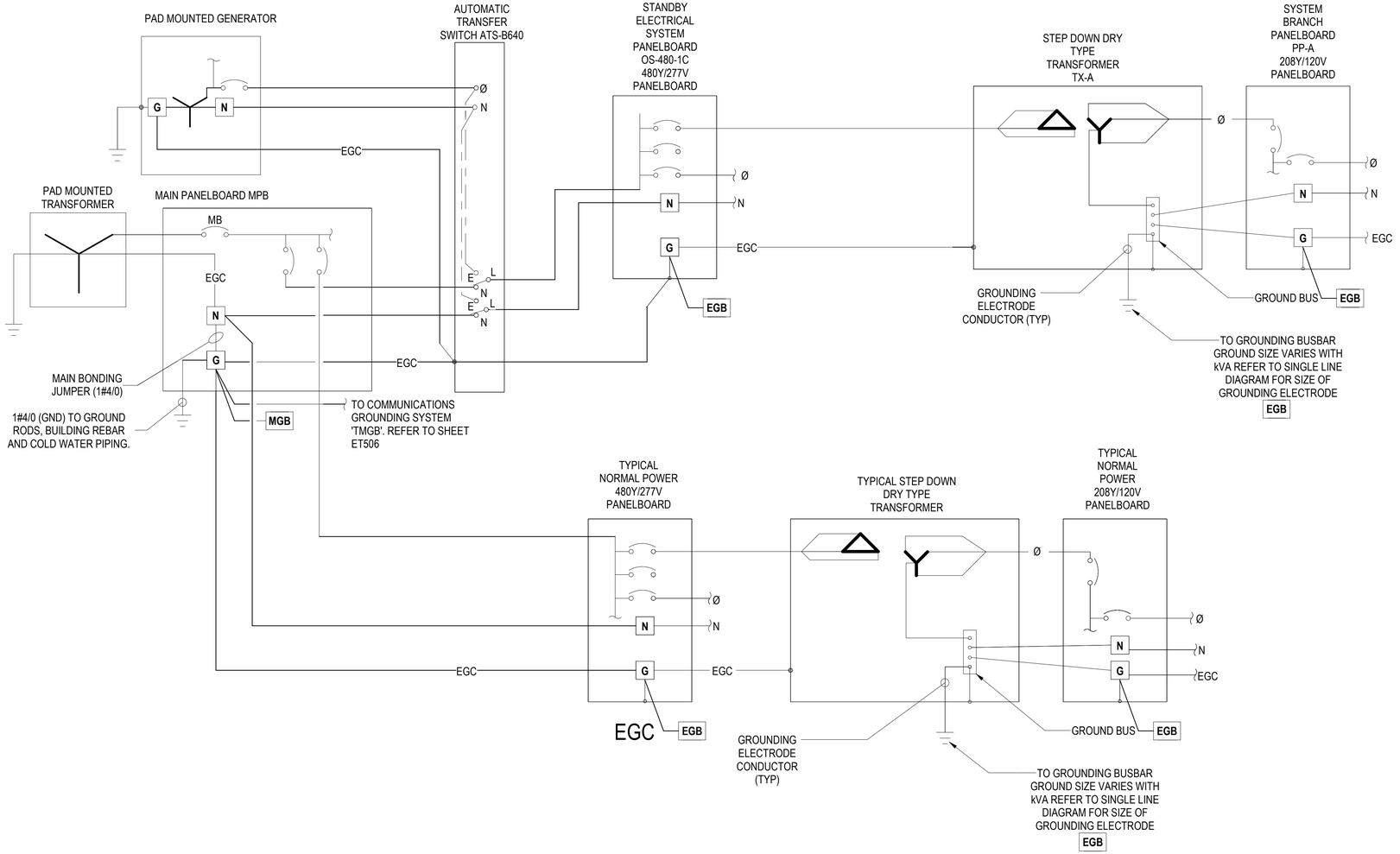
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GROUNDING RISER AND DETAIL

SHEET IDENTIFICATION
EG601
SHEET 365 of 442

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GROUNDING SYSTEM WIRING DIAGRAM

NOT TO SCALE

N = NEUTRAL
G = GROUND
Ø = PHASE
N = NEUTRAL
L = LOAD
E = EMERGENCY
EGC = EQUIPMENT GROUND CONDUCTOR
EGB = EQUIPMENT GROUND BAR
MGB = MASTER GROUND BAR

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CORPS OF ENGINEERS
MOBILE, ALABAMA

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GROUNDING SYSTEM WIRING DIAGRAM

SHEET IDENTIFICATION
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SHEET 366 of 442

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TELECOMMUNICATIONS LEGEND

TELECOMMUNICATIONS INFRASTRUCTURE SYSTEM (TIS)

BASIC VOICE/DATA OUTLET TYPES WITH SUBSCRIPT MODIFIERS SHOWN BELOW

VOIP/DATA OUTLET, FLUSH WALL MOUNTED, NOTATION ADJACENT TO OUTLET INDICATES NUMBER OF VOICE AND DATA CABLES FROM EACH NETWORK. LEGEND: V=VOIP ON CDP NETWORK, C=DATA ON CDP NETWORK, F=DATA ON FEMA NETWORK, T=DATA ON TRAINING NETWORK, B=BOTH (CDP AND FEMA). AS SHOWN, (1V2B) = 1 VOIP ON CDP,1 DATA ON CDP AND ONE DATA ON FEMA. IF NO NOTATION IS SHOWN, THEN PROVIDE 2 CDP AND 1 FEMA CABLES. PROVIDE PULLSTRING FOR SPARE, TYPICAL ALL DEVICES. OUTLET MUST HAVE A MINIMUM OF ONE SPARE PORT.

VOICE OUTLET, FLUSH WALL MOUNTED. NOTE THAT VOICE IS ONLY PROVIDED AT FACP FOR ALARM SIGNAL TRANSMISSION. ALL OTHER VOICE SERVICE IN THE BUILDING IS PROVIDED VIA A VOIP SYSTEM OVER THE CDP NETWORK.

DATA OUTLET, FLUSH WALL MOUNTED. PROVIDE 2 DATA CABLES MINIMUM (2 CDP), UNLESS OTHERWISE NOTED BELOW.

SUBSCRIPT MODIFIER LEGEND FOR VOICE/DATA OUTLET TYPES:

*** NOTE: COORDINATE WITH ARCHITECTURAL, THE HEIGHT OF ALL COUNTER TOPS, BACKSPLASHES, TABLE TOPS OR SINKS WHICH AFFECT THE MOUNTING HEIGHT OF OUTLETS.

- CL - CEILING MOUNTED
- CT - COUNTER TOP
- CW- MOUNTED IN CASEWORK
- DACT- DIGITAL ALARM COMMUNICATION TRANSMITTER. PROVIDE (2) CAT6 DATA CABLES.
- MF - MOUNTED IN MODULAR FURNITURE. CONTRACTOR MUST PROVIDE CABLING, OUTLETS AND JACKS. ALL CABLING MUST BE PROVIDED & INSTALLED BY THE TELECOM CONTRACTOR PER FURNITURE MANUFACTURER'S RECOMMENDATIONS.
- W - WALL MOUNTED, FOR TELEPHONE.
- WAP - DATA OUTLET FOR WIRELESS ACCESS POINT, CEILING MOUNTED, WAP BY OTHERS. PROVIDE 2 DATA PORTS AT OUTLET LOCATION, UON. WAPS CONNECTED TO INDEPENDENT NETWORK FROM OTHER NETWORKS IN BUILDING.

CONDUIT STUB-UP.

MULTI SERVICE, HAND ACCESS, REACH-IN TYPE, FLUSH FLOOR BOX WITH ACTIVATION COVER PLATE. PROVIDE VOICE/DATA OUTLET. PROVIDE (2) 1" CONDUITS TO EACH LOCATION; (1) FOR VOICE/DATA SERVICE AND (1) SPARE WITH PULLSTRING. FOR POWER REQUIREMENTS SEE ELECTRICAL LEGEND E-001.

T/# TELECOM JUNCTION BOX, FLUSH WALL MOUNTED, MOUNTED AT 18" AFF UNLESS OTHERWISE NOTED. PROVIDE FLEXIBLE CONNECTION TO EQUIPMENT. NUMERAL DENOTES QUANTITY OF OUTLETS SERVED.

T TELECOM JUNCTION BOX, FLUSH WALL MOUNTED, MOUNTED AT 18" AFF UNLESS OTHERWISE NOTED.

T TELECOM JUNCTION BOX, MOUNTED ABOVE CEILING. (1)

—V— VOICE CABLE IN CONDUIT CONCEALED OVERHEAD OR IN WALLS, SEE TIS OUTLET WIRING DETAIL FOR NUMBER AND TYPE OF CABLES.

—D— DATA CABLE IN CONDUIT CONCEALED OVERHEAD OR IN WALLS, SEE TIS OUTLET WIRING DETAIL FOR NUMBER AND TYPE OF CABLES.

—VB— VOICE SYSTEM BACKBONE.

—DB— DATA SYSTEM BACKBONE.

TB TELECOMMUNICATIONS BACKBOARD, 96"H WITH LENGTH/WIDTH AS SHOWN ON PLAN, FIRE RETARDANT, AC GRADE PLYWOOD WITH LABEL AND FIRE RATING STAMP VISIBLE.

PET CROSS CONNECT BLOCK. 'PET' DENOTES PROTECTED ENTRANCE TERMINALS.

12"x4"CT TELECOMMUNICATIONS CABLE TRAY. BASKET WIRE-TYPE IN CORRIDORS AND LADDER TYPE CABLE TRAY IN TELECOMMUNICATIONS ROOMS. SIZE AS INDICATED ON PLANS, MINIMUM 12"W x4"D.

TEQR TELECOMMUNICATIONS EQUIPMENT RACK, 2-POST TYPE, 24"W x 36"D x 84"H UNLESS OTHERWISE NOTED.

OFDP-24 OPTICAL FIBER DISTRIBUTION PANEL, RACK MOUNTED, 24-PORT.

FOPP-24 FIBER OPTIC PATCH PANEL, RACK MOUNTED, 24 PORT.

UTPP-48 PATCH PANEL, UNSHIELDED TWISTED PAIR CABLES, RACK MOUNTED, 48 PORT.

WM RACK MOUNTED WIRE MANAGER.

TMGB TELECOMMUNICATIONS MAIN GROUNDING BUSBAR PER TIA 607 REQUIREMENTS, WALL MOUNTED.

TGB TELECOMMUNICATIONS GROUNDING BUSBAR PER TIA 607 REQUIREMENTS, WALL MOUNTED.

—BCT— BONDING CONDUCTOR FOR TELECOMMUNICATIONS

—TEBC— TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR

—TBB— TELECOMMUNICATIONS BONDING BACKBONE

VIDEO SURVEILLANCE SYSTEM (VSS)

THIS SYSTEM IS PART OF THE ESS. FINAL LOCATIONS ARE TO BE COORDINATED WITH SECURITY PERSONNEL.

CAMERA, CEILING MOUNTED. CONTRACTOR MUST PROVIDE CAMERA, CABLING, OUTLETS AND JACKS TO EACH LOCATION. 'WP' DENOTES WEATHERPROOF.

CAMERA, WALL MOUNTED AT 8'-0" AFF UNLESS OTHERWISE NOTED. CONTRACTOR MUST PROVIDE CAMERA, CABLING, OUTLETS AND JACKS TO EACH LOCATION. 'WP' DENOTES WEATHERPROOF.

VSWR WALL RACK LOCATION, SIZE AS PER MANUFACTURERS RECOMMENDATIONS.

CCTV MONITOR, DESK MOUNTED.

—CC— CCTV CABLING IN CONDUIT, CONCEALED OVERHEAD OR IN WALLS. PROVIDE CAT 6 CABLING. [CABLING TYPE AS REQUIRED BY MANUFACTURER.]

DURESS ALARM SYSTEM

THIS SYSTEM IS PART OF THE ESS. FINAL LOCATIONS ARE TO BE COORDINATED WITH SECURITY PERSONNEL.

DA DURESS ALARM WIRELESS SYSTEM TRANSMITTER

DAA DURESS ALARM SYSTEM ANNUNCIATOR (WALL MOUNTED, FLUSH). MOUNT AT 44" AFF

DAR DURESS ALARM WIRELESS SYSTEM REPEATER

ACCESS CONTROL SYSTEM

THIS SYSTEM IS PART OF THE ESS. FINAL LOCATIONS ARE TO BE COORDINATED WITH SECURITY PERSONNEL.

CR CREDENTIAL READER AND CONNECTION TO INTERFACE DEVICE, PROVIDE SINGLE GANG JUNCTION BOX WITH 1"C. WHERE CREDENTIAL READER AND EXIT BUTTON ARE SHOWN BACK TO BACK, PROVIDE ONE 1"C FOR THE PAIR OF DEVICES. ROUTE CONDUIT AND CABLING BACK TO SERVING TELECOMMUNICATIONS ROOM.

PC PORTAL CONTROL, PROVIDE 1"C FROM THE WALL/JAMB STUDS. ROUTE CONDUIT BACK TO SERVING TELECOMMUNICATIONS ROOM. COORDINATE WITH DOOR HARDWARE.

ACTC TERMINAL CABINET, SIZE AS NOTED OR 6" x 6" x 4" MINIMUM, WITH WOOD BACKBOARD, HINGED DOOR AND TERMINAL STRIPS.

—AC— ACS CABLING IN CONDUIT. PROVIDE CAT 6 CABLING OR AS RECOMMENDED BY SYSTEM MANUFACTURER.

INTRUSION DETECTION SYSTEM (IDS)

THIS SYSTEM IS PART OF THE ESS. FINAL LOCATIONS ARE TO BE COORDINATED WITH SECURITY PERSONNEL.

IDCU PREMISE CONTROL UNIT FOR INTRUSION DETECTION SYSTEM

IDTC INTRUSION DETECTION TERMINATION CABINET.

PI PASSIVE INFRARED MOTION DETECTOR, CEILING MOUNTED.

GB GLASS BREAK SENSOR, CEILING MOUNTED.

DC BALANCED MAGNETIC DOOR CONTACTS. COORDINATE WITH DOOR HARDWARE.

—ID— IDS CIRCUIT IN CONDUIT, CONCEALED OVERHEAD OR IN WALLS. 1" MINIMUM CONDUIT WITH PULL STRING. CABLING, BY OTHERS.

TELEVISION DISTRIBUTION SYSTEM (TVDS)

—TV— TELEVISION OUTLET, FLUSH WALL MOUNTED.
F - MOUNTED BEHIND FLAT PANEL, BUT NOT OBSTRUCTED BY MOUNT.
C - COMBINATION OUTLET WITH TELEVISION COAX CONNECTOR, WITH (2) CDP DATA PORTS ON SHARED FACEPLATE.

(1) TV TELEVISION OUTLET, FLUSH CEILING MOUNTED.

TVTC TERMINAL CABINET, WALL MOUNTED.

GROUNDING BLOCK, CONNECT TO TGB OR TMGB.

—TV— TV CIRCUIT IN CONDUIT, CONCEALED OVERHEAD OR IN WALLS.

DOOR INTERCOM SYSTEM

IC INTERCOM DOOR STATION, FLUSH WALL MOUNTED, WEATHERPROOF.

IC/M INTERCOM MASTER STATION, DESKTOP TYPE.

—IC— INTERCOM CABLING IN CONDUIT, CONCEALED OVERHEAD OR IN WALLS. (CABLING PER MANUFACTURER)

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REG. NO. 211453R
EXPIRES 12-31-21
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ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
06/29/21
MORGAN LEE BARNES

Designed By: MLB	Date: 06-29-2021
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U.S. ARMY ENGINEER DISTRICT
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

TELECOMMUNICATIONS LEGEND

SHEET IDENTIFICATION
ET001
SHEET 367 of 442

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TELECOMMUNICATIONS NOTES

1. ALL TELECOMMUNICATIONS WORK AND MATERIAL IS NEW, AND PROVIDED BY THE CONTRACTOR UNLESS INDICATED OTHERWISE.
2. SEE ELECTRICAL DRAWINGS, SPECIFICATIONS AND NOTES FOR MATERIAL AND METHOD REQUIREMENTS FOR OUTLET BOXES, CONDUITS, FITTINGS, MOUNTING, ETC. THAT APPLY TO TELECOMMUNICATIONS SYSTEMS.
3. COORDINATE WITH ALL TRADES FOR SPACE REQUIREMENTS IN MECHANICAL ROOMS, CORRIDORS, SHAFTS, ABOVE CEILINGS, ETC. SPACES ABOVE TELECOMMUNICATIONS RACKS AND/OR CABINETS MUST NOT HAVE PIPES AND/OR CONDUITS IN THEM.
4. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT, SEE MECHANICAL PLANS. FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT, SEE ELECTRICAL PLANS.
5. THE LOCATION OF DEVICES IN MECHANICAL ROOMS, ELECTRICAL ROOMS, MACHINE ROOMS, ETC. ARE SHOWN DIAGRAMMATICALLY ONLY. DEVICES MUST BE INSTALLED SO AS TO COORDINATE WITH ALL TRADES.
6. CONTRACTOR MUST VERIFY AND COORDINATE ALL CONNECTIONS TO EQUIPMENT WITH SPECIFIC EQUIPMENT FURNISHED.
7. PROVIDE FLEXIBLE CONDUIT FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS. SEE ARCHITECTURAL DRAWINGS FOR EXPANSION JOINT LOCATIONS. 'MC' CABLE IS NOT ALLOWED WITH THE EXCEPTION OF USE IN FURNITURE WHIPS.
8. ALL TELECOMMUNICATION CONDUITS MUST BE 1" MINIMUM, UNLESS OTHERWISE NOTED.
9. PATHWAYS SHOWN ON TELECOMMUNICATIONS SHEETS ARE ILLUSTRATIVE BY NATURE, CONTRACTOR MUST FIELD VERIFY CABLE TRAY, CONDUIT AND SLEEVE SIZING TO ENSURE 40% FILL RATIO AND 25% GROWTH ARE PROVIDED.
10. ALL CONDUIT FOR TELECOMMUNICATIONS SYSTEMS MUST ROUTE CONCEALED OVERHEAD OR IN FINISHED WALLS, UNLESS NOTED OTHERWISE.
11. ALL EMPTY AND SPARE CONDUITS AND INNERDUCT MUST CONTAIN A PULL STRING.
12. ALL UNDERGROUND TELECOMMUNICATIONS CONDUIT PATHWAYS INSTALLED UNDER THIS PROJECT MUST BE PLUGGED IMMEDIATELY UPON INSTALLATION WITH UNIVERSAL PLUGS TO PREVENT DEBRIS FROM ENTERING.
13. CABLE TRAY SYSTEMS SHALL STOP AT ALL WALLS. CABLE TO EGRESS FROM TRAY INTO CONDUIT SLEEVE OR FIRE STOP ASSEMBLY WHICH PASSES THROUGH WALL. CONTRACTOR TO FIELD VERIFY SIZE OF SLEEVE OR FIRE STOP ASSEMBLY ENSURING 40% FILL RATIO AND 25% GROWTH REQUIREMENTS ARE MET.
14. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED EQUIPMENT AND DEVICES.
15. CONTRACTOR MUST VERIFY AND COORDINATE ALL MOUNTING HEIGHTS OF ALL DEVICES MOUNTED IN CASEWORK OR IN OR ABOVE COUNTERS WITH SPECIFIC EQUIPMENT FURNISHED.
16. OUTLET BOXES (VOICE, DATA, TELEPHONE, ETC.) OVER 16 SQUARE INCHES IN SMOKE AND FIRE WALLS MUST BE ENCLOSED WITH A FIVE-SIDED ENCLOSURE WITH SAME CONSTRUCTION AS WALL SYSTEM. WHERE OUTLET BOXES ARE ON OPPOSITE SIDES OF A FIRE WALL THERE MUST BE A 24" HORIZONTAL SEPARATION BETWEEN THEM OR BOXES MUST BE PROTECTED WITH UL LISTED FIRE RESISTANT MATERIAL ON 5 SIDES. IF OUTLET BOXES ON PLANS ARE SHOWN AT EXISTING LOCATIONS IN FIRE WALLS BUT THERE IS LESS THAN 24" OF SEPARATION, THE CONTRACTOR MUST RELOCATE ONE OR BOTH OUTLETS TO ACHIEVE THE MINIMUM 24" OF SEPARATION REQUIRED.
17. MOUNT WALL PHONE BOXES AND PUBLIC ADDRESS VOLUME CONTROL BOXES 6" FROM LIGHT SWITCHES TO PROVIDE SPACE FOR TELEPHONE INSTRUMENT.
18. DO NOT MOUNT DEVICES BACK TO BACK IN WALL.
19. MAINTAIN N.E.C. MINIMUM CLEARANCE IN FRONT OF ALL DEVICES AND OTHER COMMUNICATIONS EQUIPMENT. DETERMINE PROPER CLEARANCE BEFORE INSTALLATION. DIMENSIONS OF EQUIPMENT SHOWN ARE BASED ON A PARTICULAR MANUFACTURER. IF DIMENSIONS OF EQUIPMENT FURNISHED DIFFER FROM THOSE ON THE DRAWINGS, CONTRACTOR MUST BE RESPONSIBLE TO ENSURE THAT ALL EQUIPMENT FITS IN THE ROOM OR SPACE ALLOCATED WITH PROPER CLEARANCE.
20. ALL RECESSED MOUNTED TELECOMMUNICATIONS CABINETS MUST HAVE FOUR 1" CONDUITS WITH PULL STRINGS STUBBED ABOVE THE ACCESSIBLE CEILINGS.
21. ALL ITEMS SHOWN ON PLANS ARE CONTRACTOR PROVIDED, UNLESS NOTED OTHERWISE.
22. THE VERBIAGE "SEE TYPICAL" USED IN NOTES MEANS TO PROVIDE ALL TELECOMMUNICATIONS ITEMS AS SHOWN IN THE REFERENCED TYPICAL ROOM.
23. PUBLIC ADDRESS SYSTEM VOLUME CONTROLS WITH SUBSCRIPT, CONTROL SPEAKER(S) IN SAME AREA WITH SAME SUBSCRIPT.
24. CONTRACTOR MUST SECURE ALL SPEAKER / BACKBOXES TO CEILING GRID AND STRUCTURE, AS REQUIRED. CEILING TILE MUST NOT SUPPORT BACKBOX OR SPEAKER.
25. CONTRACTOR MUST COORDINATE WITH ALL OTHER TRADES WHEN INSTALLING CABLE TRAY SYSTEMS. MAINTAIN ALL CLEARANCES IN ACCORDANCE WITH TIA/EIA 569 AND UFC 4-510-01.
26. ALL BONDING AND GROUNDING OF TELECOMMUNICATIONS SYSTEMS MUST BE PER TIA-607. PROVIDE BONDING BUSHINGS ON BOTH ENDS OF ALL CONDUIT.
27. IF THERE IS ANY WORK THAT REQUIRES PHASING, COORDINATE WITH ALL PHASING AND NOTES ON ARCHITECTURAL 'G' SERIES DRAWINGS.
28. MOUNTING HEIGHTS OF WALL OUTLETS ABOVE FINISHED FLOOR MUST BE AS INDICATED IN THE FOLLOWING TABLE UNLESS NOTED OTHERWISE ON THE PLANS (MOUNTING HEIGHTS ARE TO CENTERLINE OF DEVICE):

ACCESS CONTROL SYSTEM:	
CONTROL PANEL (TO TOP OF DISPLAY)	66"
CREDENTIAL READERS	56"
DURESS SWITCH OUTLET BOX	18"
TELECOMMUNICATIONS INFRASTRUCTURE SYSTEM:	
DESK OUTLETS	18"
WALL OUTLETS	54"
COUNTER TOP OUTLET (ABOVE COUNTER TOP OR BACKSPLASH)	6"
GROUND BUS	80"
LADDER TRAY	96"
CABLE TRAY (ABOVE FINISHED CEILING)	4"
TELEVISION DISTRIBUTION SYSTEM:	
TELEVISION OUTLET (LOW)	18"
TELEVISION OUTLET (FLAT PANEL) (LOCATE OUTLET BEHIND TELEVISION AND ADJACENT TO POWER)	72"
WALL MOUNTED EQUIPMENT (AMPLIFIER, DISTRIBUTION EQUIPMENT, ETC)	48"
INTRUSION DETECTION SYSTEM NOTES:	
CONTROL PANEL (TO TOP OF DISPLAY)	66"
KEYBOARD	56"

ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AMP	AMPLIFIER
BSG	BUILDING SERVICE GROUND
C	CONDUIT
CATV	COMMUNITY ANTENNA TELEVISION (CABLE)
CIRC	CIRCUIT
CL	CEILING MOUNTED
COMM	COMMUNICATIONS
CT	COUNTER TOP
CW	CASEWORK
DB	DIRECT BURIED
DDC	HVAC DIGITAL CONTROLLER
EC	EMPTY CONDUIT WITH PULL STRING
EM	EMERGENCY
EX	EXISTING TO REMAIN
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FUT	FUTURE
GND	GROUND
MH	MANHOLE
MTG HT	MOUNTING HEIGHT
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFH	OPTICAL FIBER HORIZONTAL
OFOP	OPTICAL FIBER OUTSIDE PLANT
OFR	OPTICAL FIBER RISER
OSP	OUTSIDE PLANT
PDS	PREMISES DISTRIBUTION SYSTEM
PET	PROTECTED ENTRANCE TERMINAL
PR	PAIR
REQ'D	REQUIRED
SIM	SIMILAR
SMD	SURFACE MOUNTED
SMF	SINGLE-MODE FIBER
TB	TELECOMMUNICATIONS BACKBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TELECOM	TELECOMMUNICATIONS
TEQR	TELECOMMUNICATIONS EQUIPMENT RACK
TPH	TWISTED PAIR HORIZONTAL
TPR	TWISTED PAIR RISER
TPOP	TWISTED PAIR OUTSIDE PLANT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UTP	UNSHIELDED TWISTED PAIR
VD	VOICE/DATA
WG	WIREGUARD
WP	INDICATES WEATHERPROOF EQUIPMENT

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MORGAN LEE BARNES

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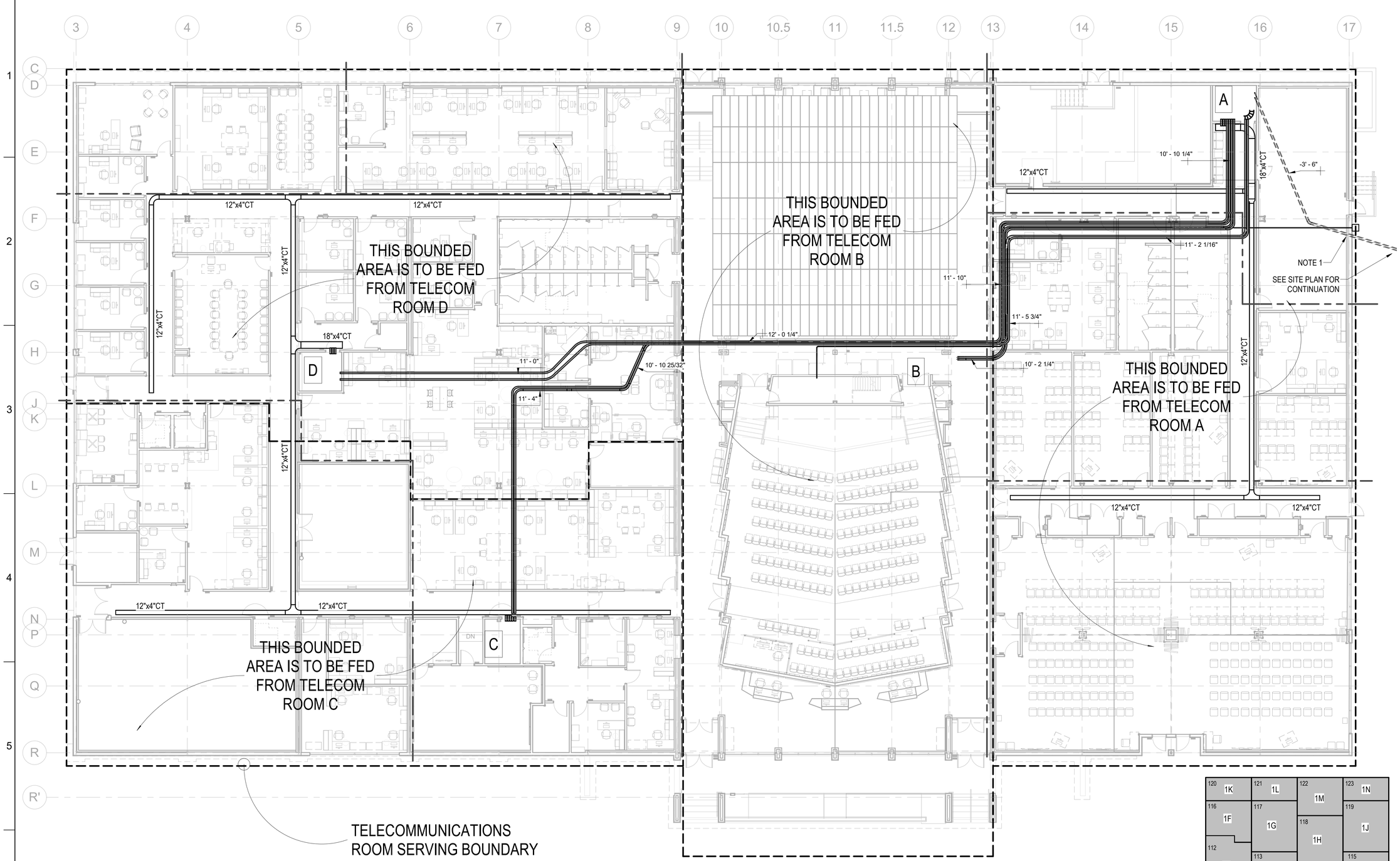
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TELECOMMUNICATIONS NOTES

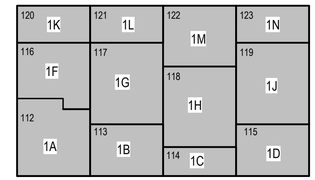
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SHEET 368 of 442

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NOTES:

1. COORDINATE WITH EXISTING STRUCTURAL FOUNDATIONS WHEN INSTALLING CONDUITS. KEEP CONDUITS A MINIMUM OF 2'-6" FROM COLUMN F-17, AND KEEP CONDUITS A MINIMUM OF 4" APART WHERE THEY PENETRATE THE STEM WALL. ENSURE THAT PENETRATION IS MADE IN STEM WALL ABOVE THE FOOTER.
2. REFER TO GENERAL NOTE 36 ON SHEET E-003 FOR LONG CONDUIT RUNS, AND PROVIDE JUNCTION BOXES AS NEEDED TO ADJUST BETWEEN DIFFERENT CONDUIT ELEVATIONS WHERE THERE IS NOT SUFFICIENT SPACE FOR A CONDUIT ELBOW.
3. BOTTOM OF CABLE TRAY AT 8'-4" UNLESS NOTED OTHERWISE.



PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FIRST FLOOR PLAN - COMPOSITE

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

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

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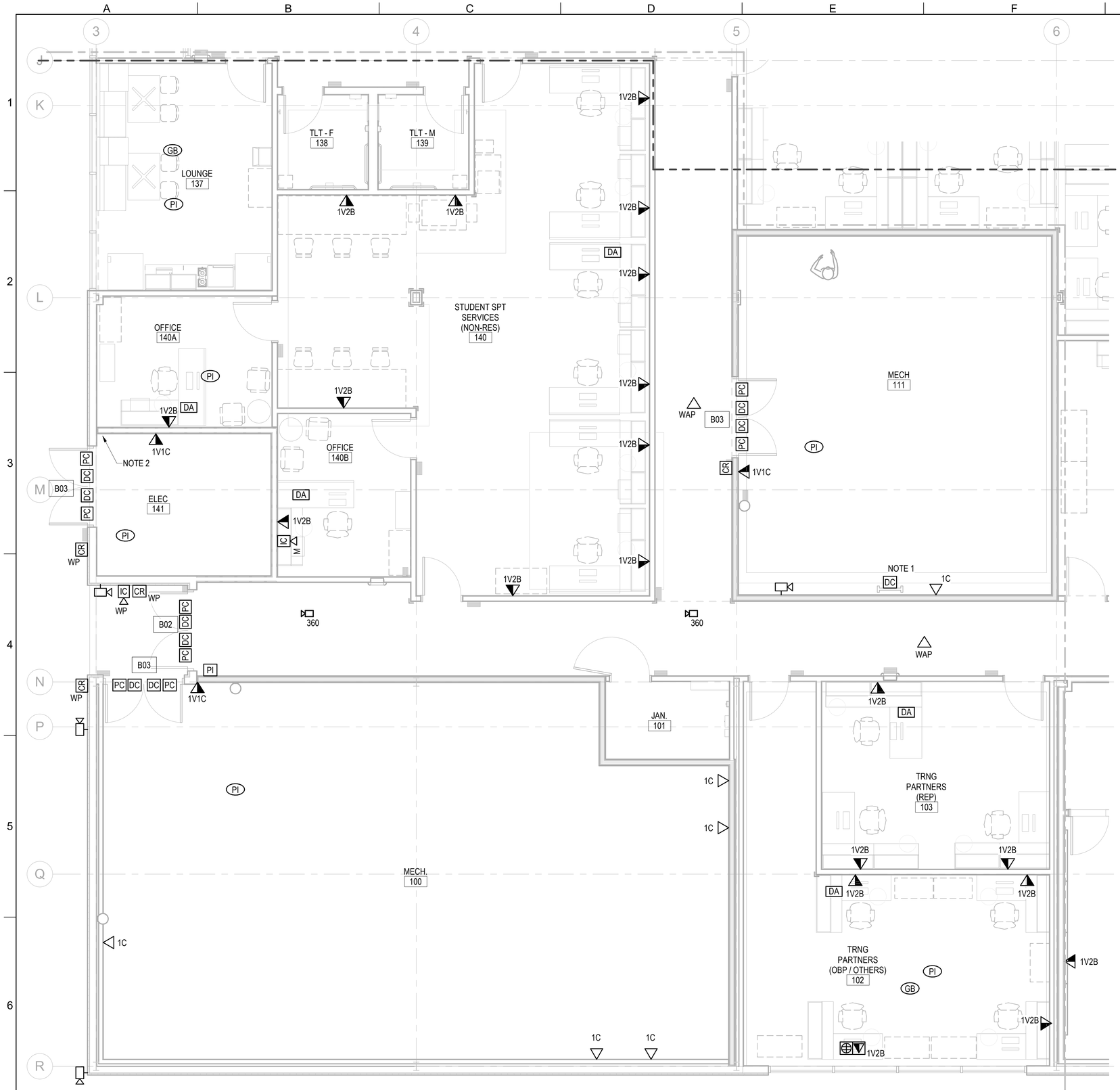
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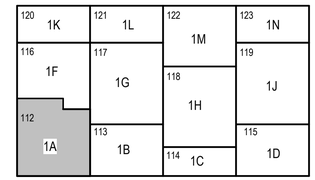
TELECOMMUNICATIONS FIRST FLOOR PLAN - COMPOSITE

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NOTES:
1. PROVIDE BALANCED MAGNETIC SWITCH ON ROOF HATCH, AND CONNECT INTO IDS.
2. PROVIDE TWO VOICE LINES FROM DEMARK AND CROSS-CONNECT IN TELECOMM ROOM D (113) TO FMCP IN ELECTRICAL ROOM (141).





PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1A

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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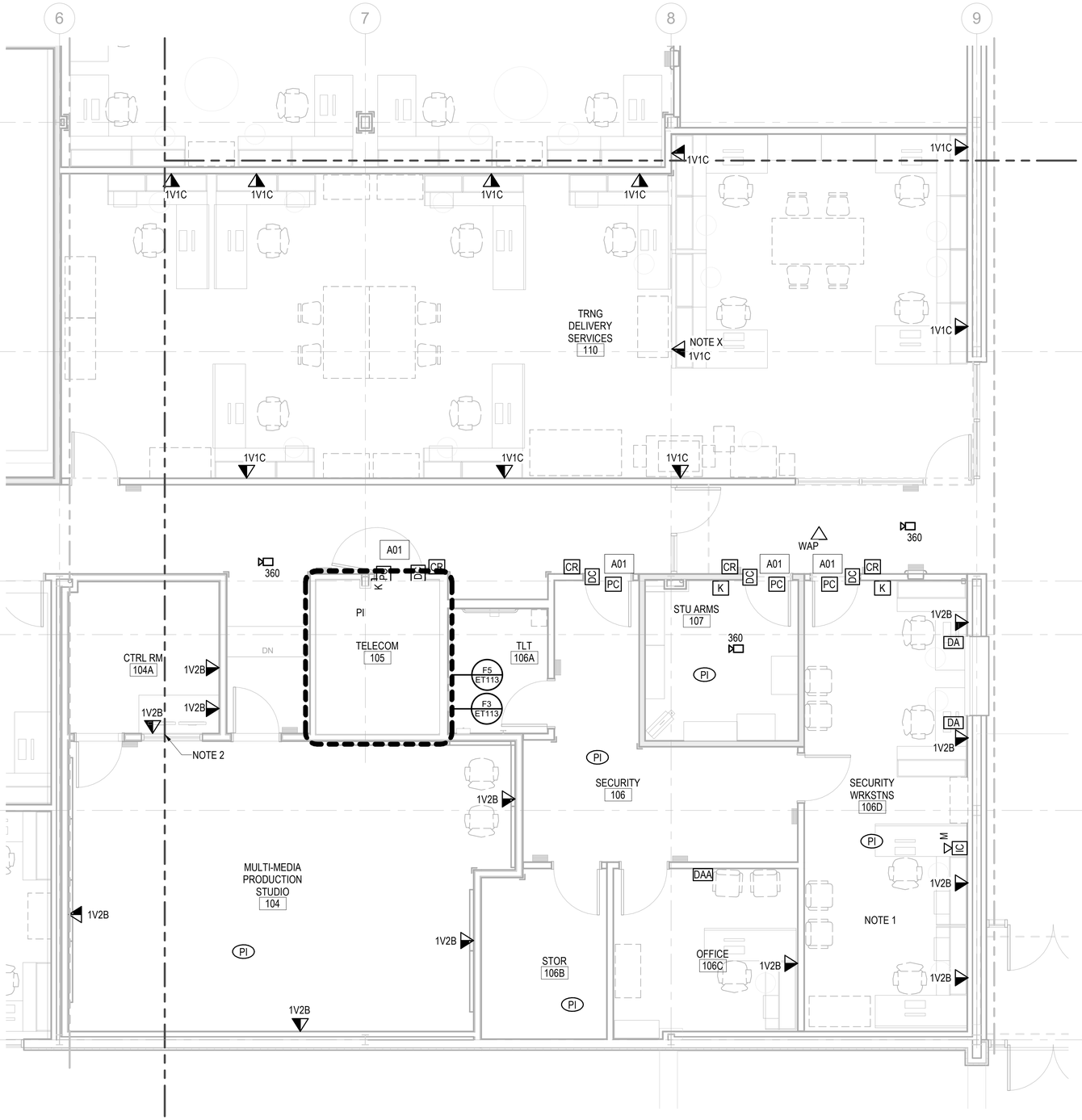
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TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1A

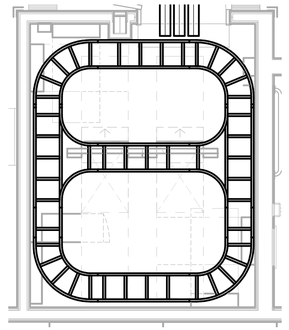
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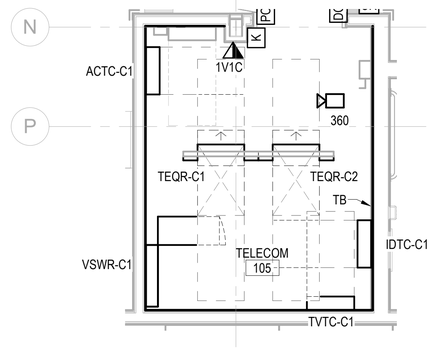
NOTES:
1. LOCATE SECURITY COMMAND CENTER (SCC) WORKSTATION AND MONITORS FOR ELECTRONIC SECURITY SYSTEMS IN ROOM 106D. COORDINATE WITH CDP SECURITY PERSONNEL FOR EXACT LOCATION.
2. PATHWAY FOR CONTROL AND SIGNAL CONNECTIONS BETWEEN CONTROL ROOM AND PRODUCTION STUDIO IS INDICATED ON POWER PLAN.



A6 TELECOMMUNICATIONS FLOOR PLAN - BLOCK B
SCALE: 1/4" = 1'-0"

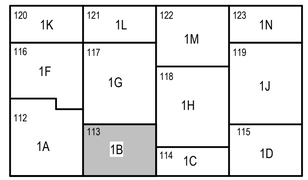


F3 TELECOMM ROOM C - CABLE TRAY LAYOUT
SCALE: 3/8" = 1'-0"



F5 TELECOMM ROOM C - EQUIPMENT LAYOUT
SCALE: 3/8" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

SCALE: 3/8"=1'-0"
SCALE: 1/4"=1'-0"

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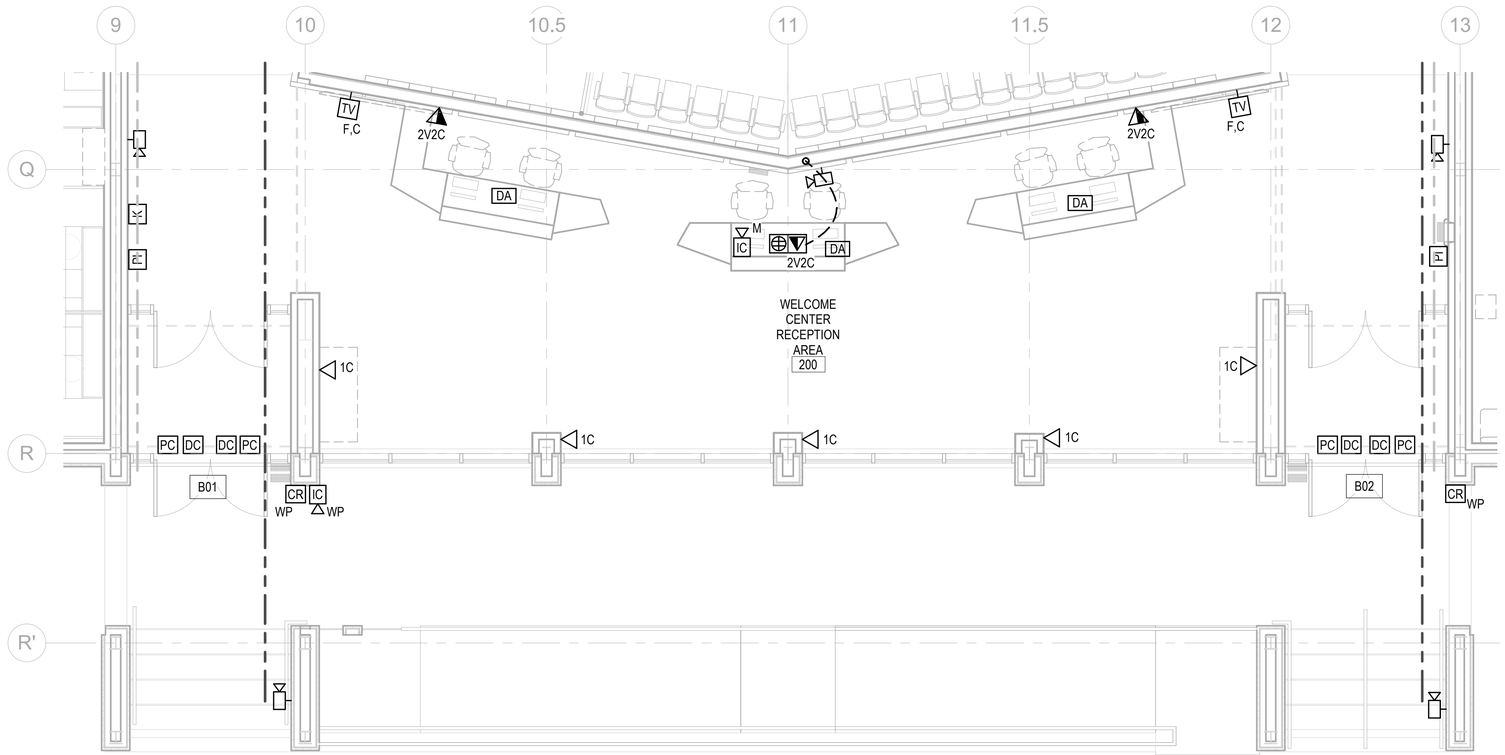
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TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1B

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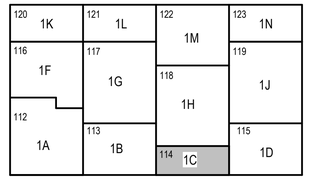
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TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1C



PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1C

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

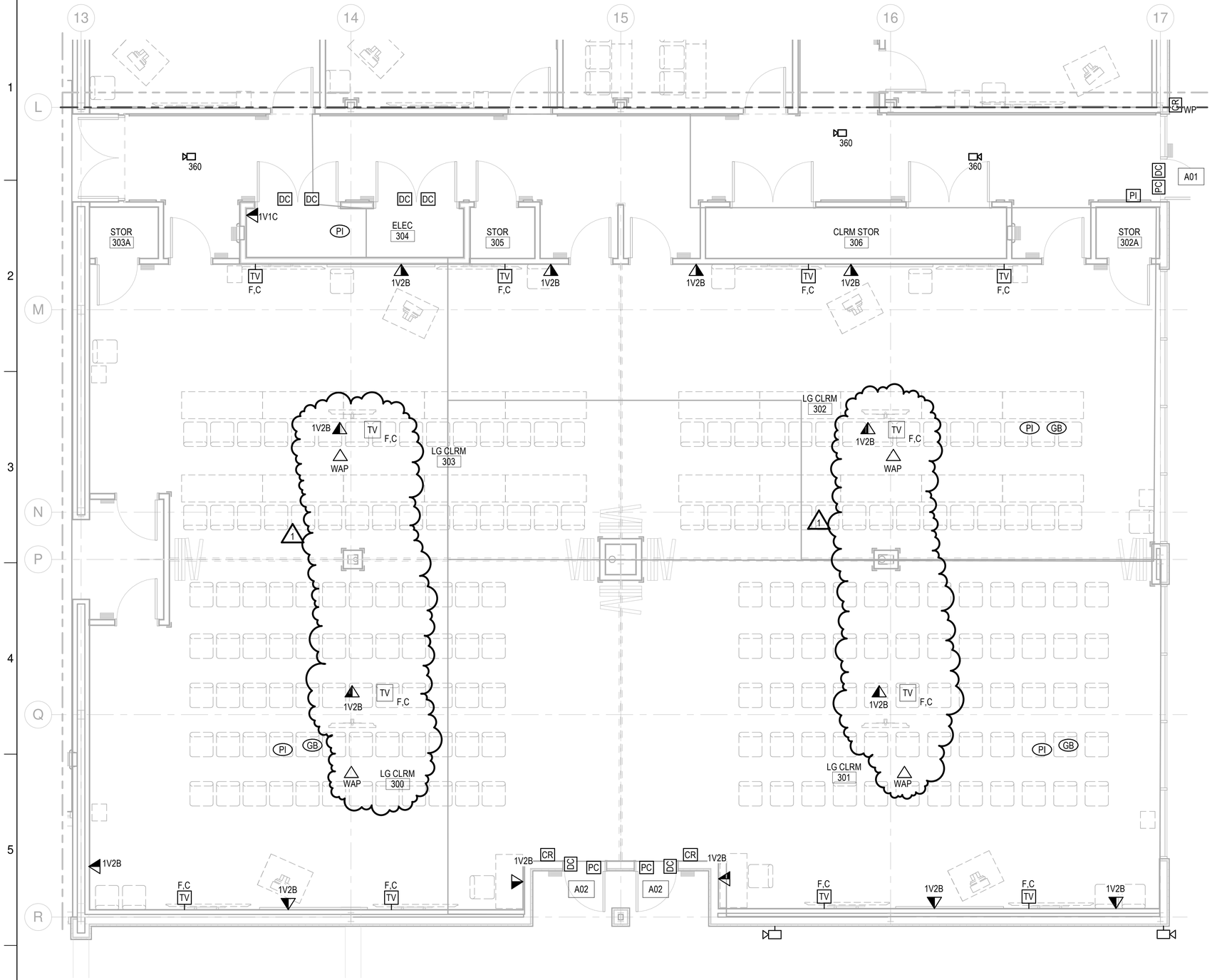
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PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1D

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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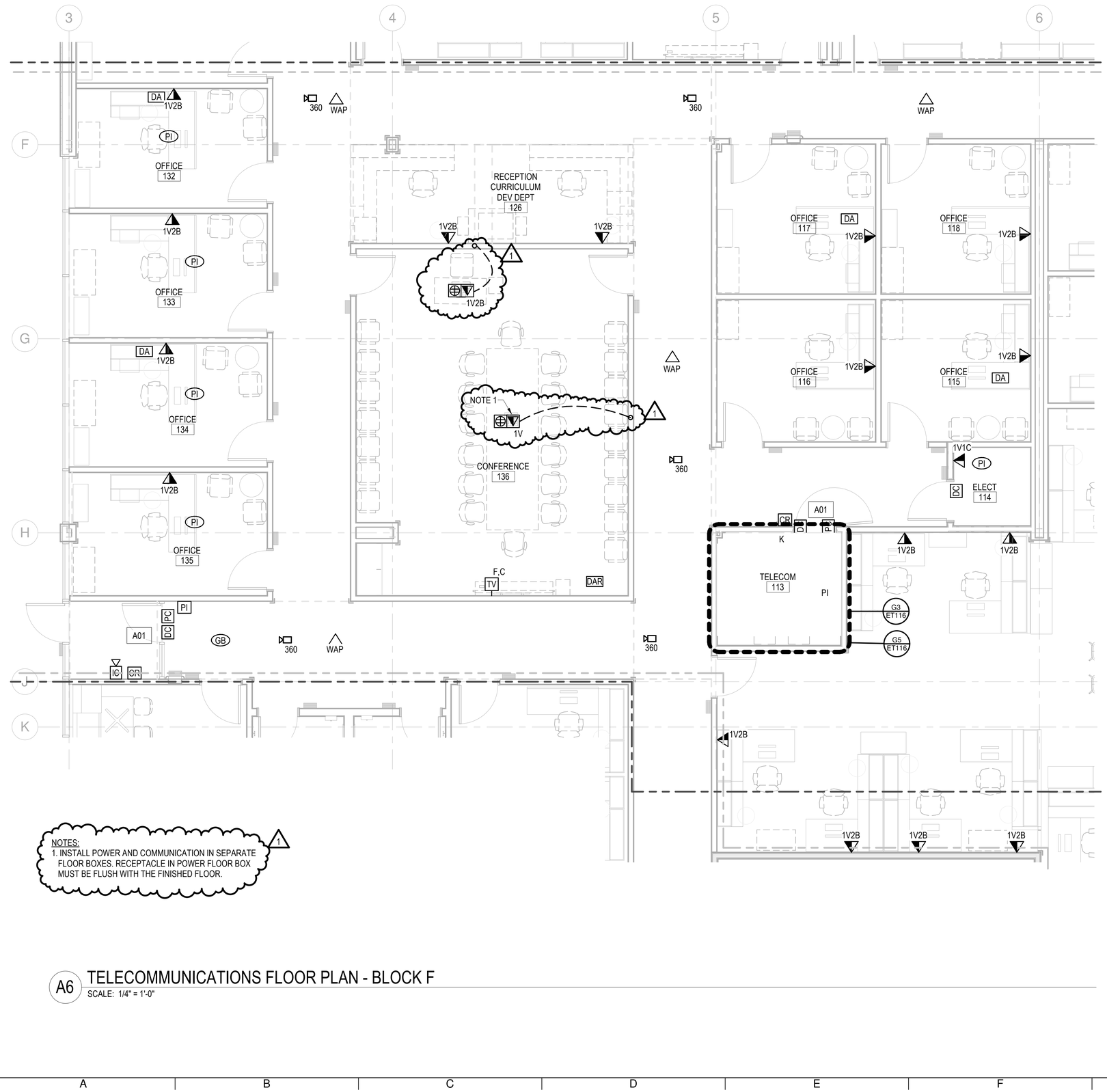
TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1D

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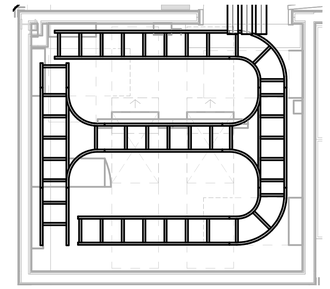
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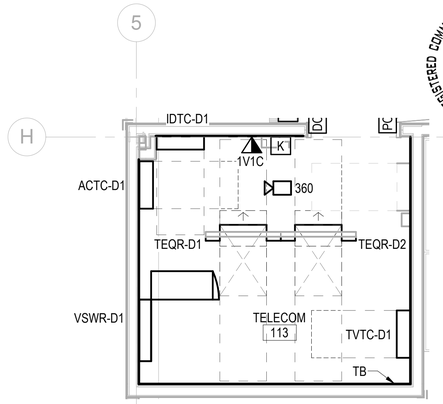


NOTES:
1. INSTALL POWER AND COMMUNICATION IN SEPARATE FLOOR BOXES. RECEPTACLE IN POWER FLOOR BOX MUST BE FLUSH WITH THE FINISHED FLOOR.

A6 TELECOMMUNICATIONS FLOOR PLAN - BLOCK F
SCALE: 1/4" = 1'-0"

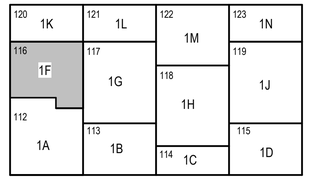


G3 TELECOMM ROOM D - CABLE TRAY LAYOUT
SCALE: 3/8" = 1'-0"



G5 TELECOMM ROOM D - EQUIPMENT LAYOUT
SCALE: 3/8" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

SCALE: 3/8"=1'-0"

SCALE: 1/4"=1'-0"

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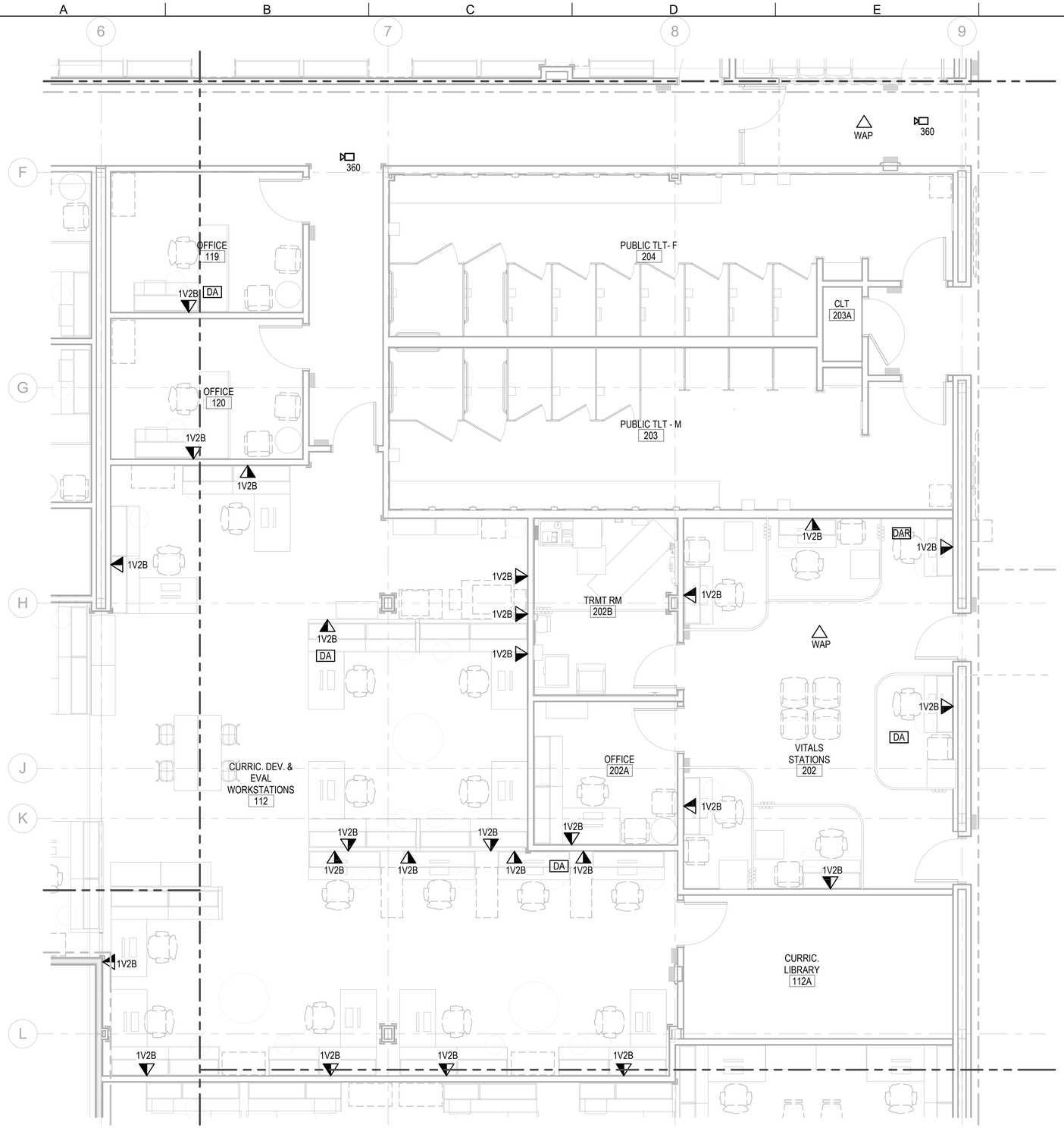
ss&a CLARKNEXSEN

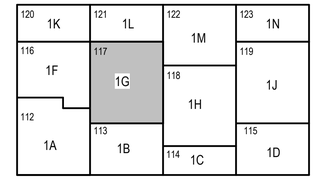
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1F

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ET116
SHEET 374 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1G

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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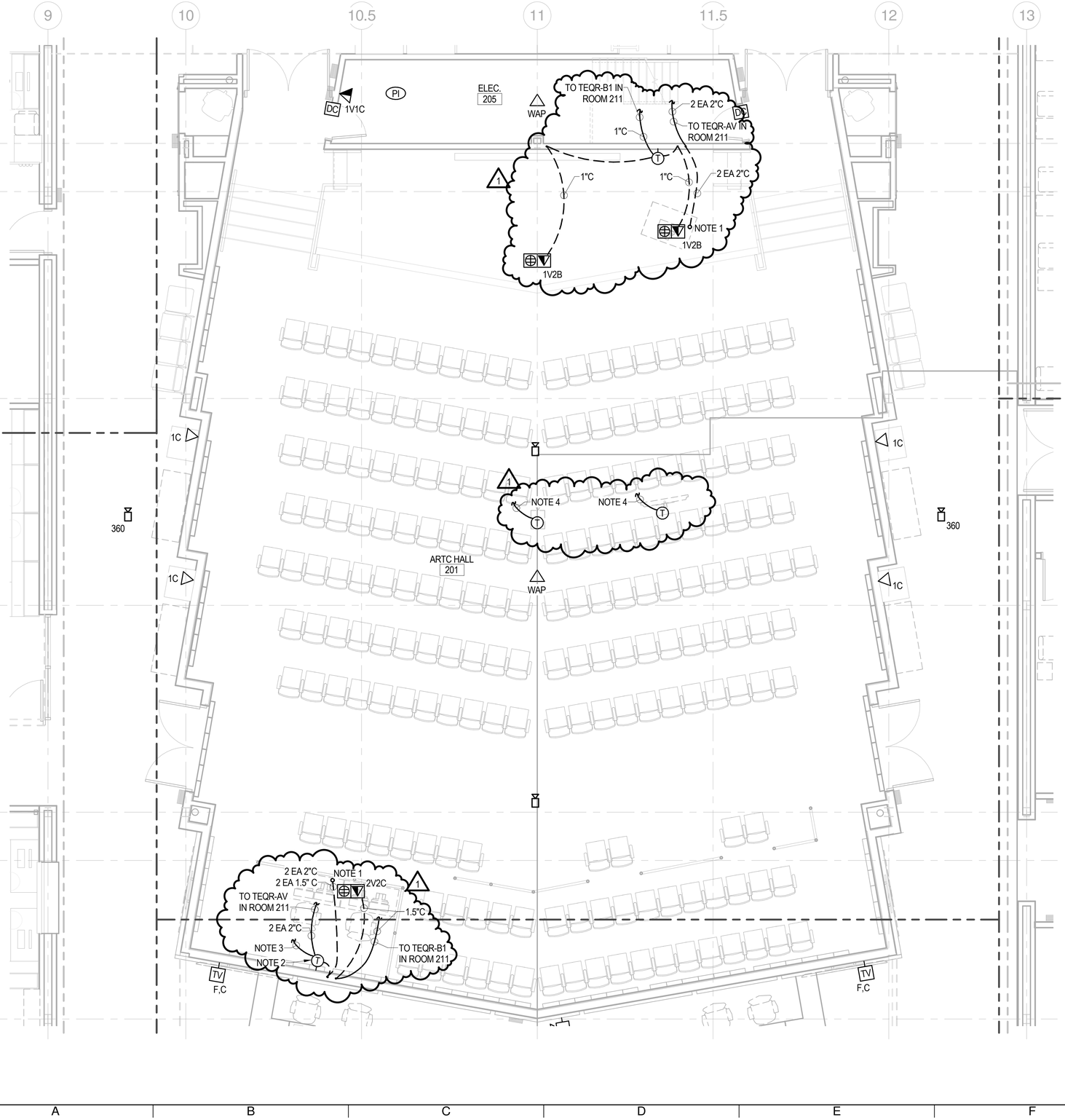
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CLARKNEXSEN

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TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1G

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SHEET 375 of 442

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NOTES:

1. STUB CONDUITS UP UNDER WORKSTATION DESK OR LECTERN, APPROXIMATELY 3 INCHES ABOVE FINISHED FLOOR. PROVIDE PULL STRING IN ALL CONDUITS.
2. INSTALL JUNCTION BOX FOR A/V CABLING IN WALL BELOW ACOUSTIC PANELS. COORDINATE WITH PANEL INSTALLER FOR EXACT LOCATION.
3. PROVIDE 2 EACH 1.5" CONDUITS FROM JUNCTION BOX TO ABOVE CEILING FOR WIRING TO SPEAKERS, CAMERAS, ETC.
4. PROVIDE 1 EACH 1.5" CONDUIT FROM VIDEO DEVICE (MONITOR OR PROJECTOR) TOTEQR-AV IN ROOM 211.

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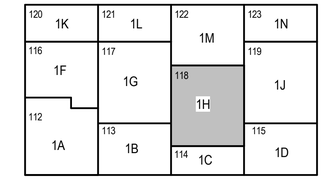
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ARTC - B640 RENOVATION
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TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1H



PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1H

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

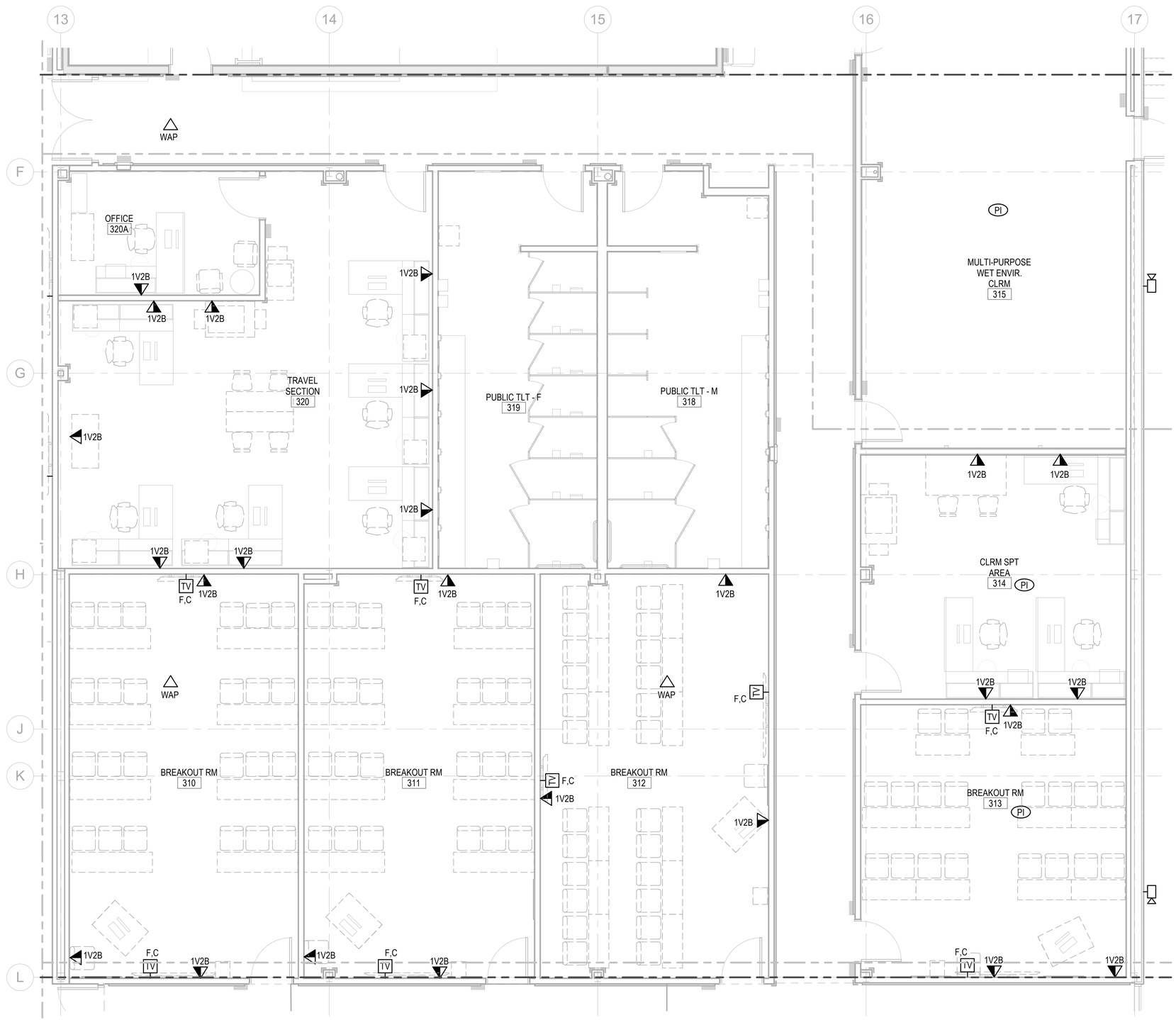
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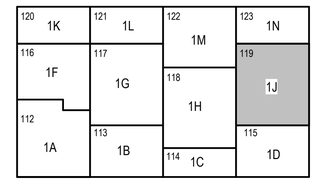
SHEET IDENTIFICATION

ET118

SHEET 376 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1J

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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MORGAN LEE BARNES
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MOBILE, ALABAMA

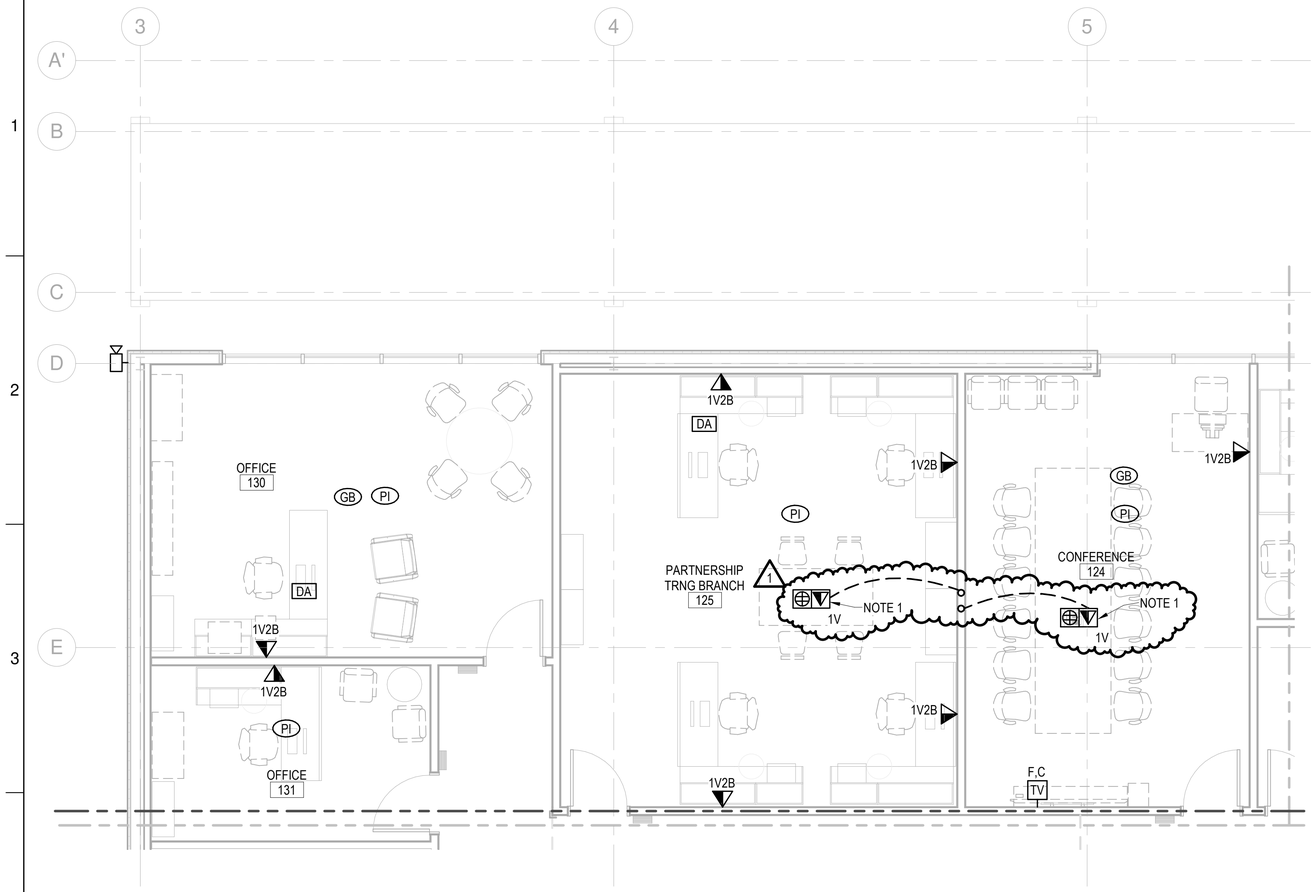
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FEMA - DHS - CDP, ANNISTON, AL

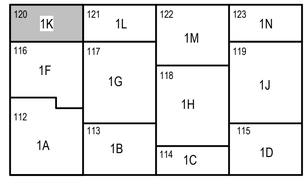
TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1J

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SHEET 377 of 442

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NOTES:
1. INSTALL POWER AND COMMUNICATION IN SEPARATE FLOOR BOXES. RECEPTACLE IN POWER FLOOR BOX MUST BE FLUSH WITH THE FINISHED FLOOR.



PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1K

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
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MORGAN LEE BARNES

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

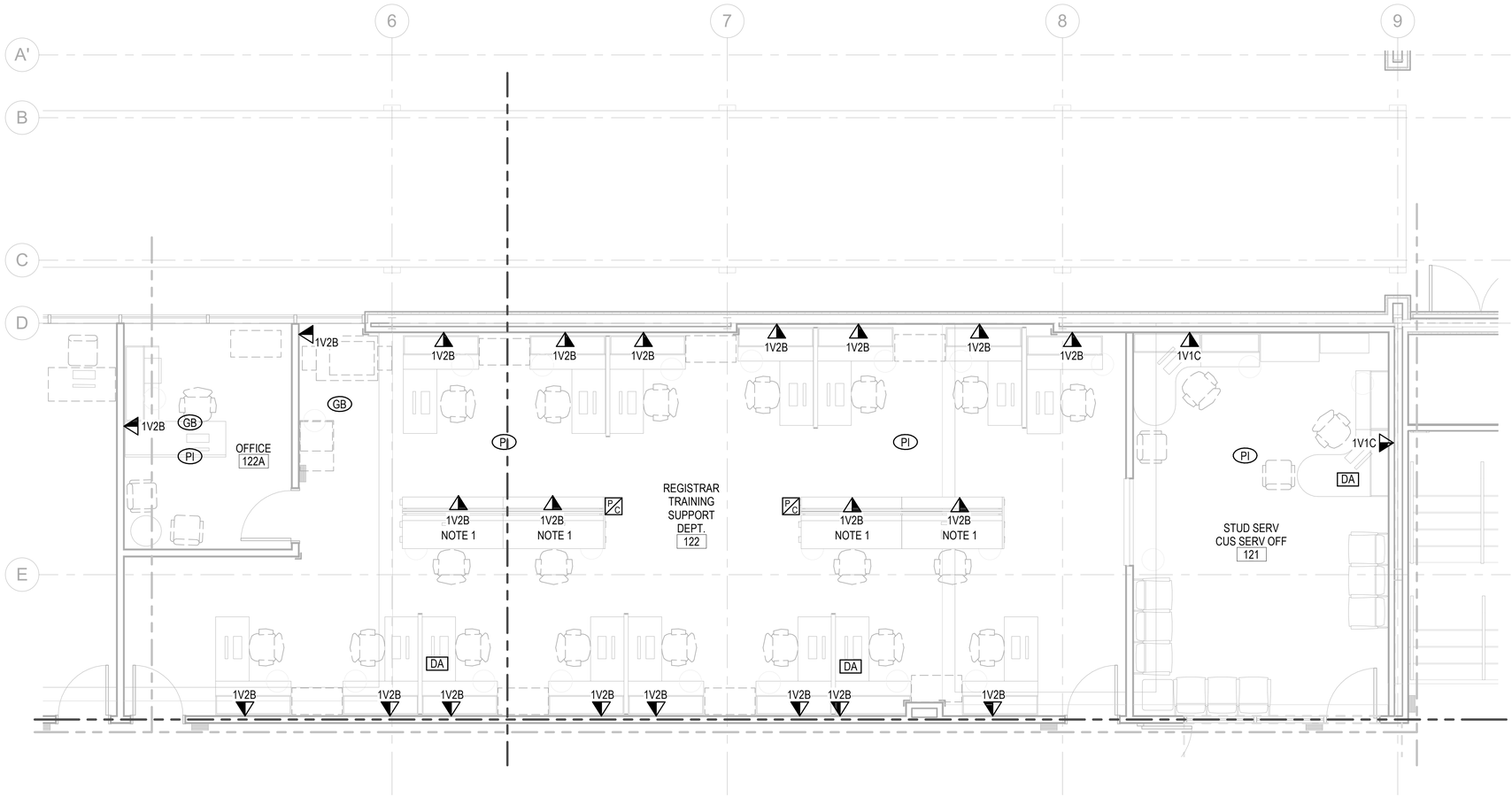
TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1K

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ET120

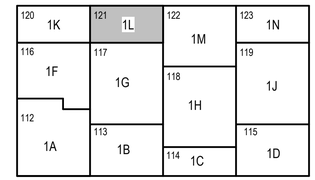
SHEET 378 of 442

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NOTES:

1. PROVIDE VOICE/DATA OUTLET IN FURNITURE AS INDICATED, AND ROUTE HORZONTAL CABLING THROUGH POWER/COMMUNICATIONS POLE AT END OF RUN.



PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1L

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

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MORGAN LEE BARNES

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

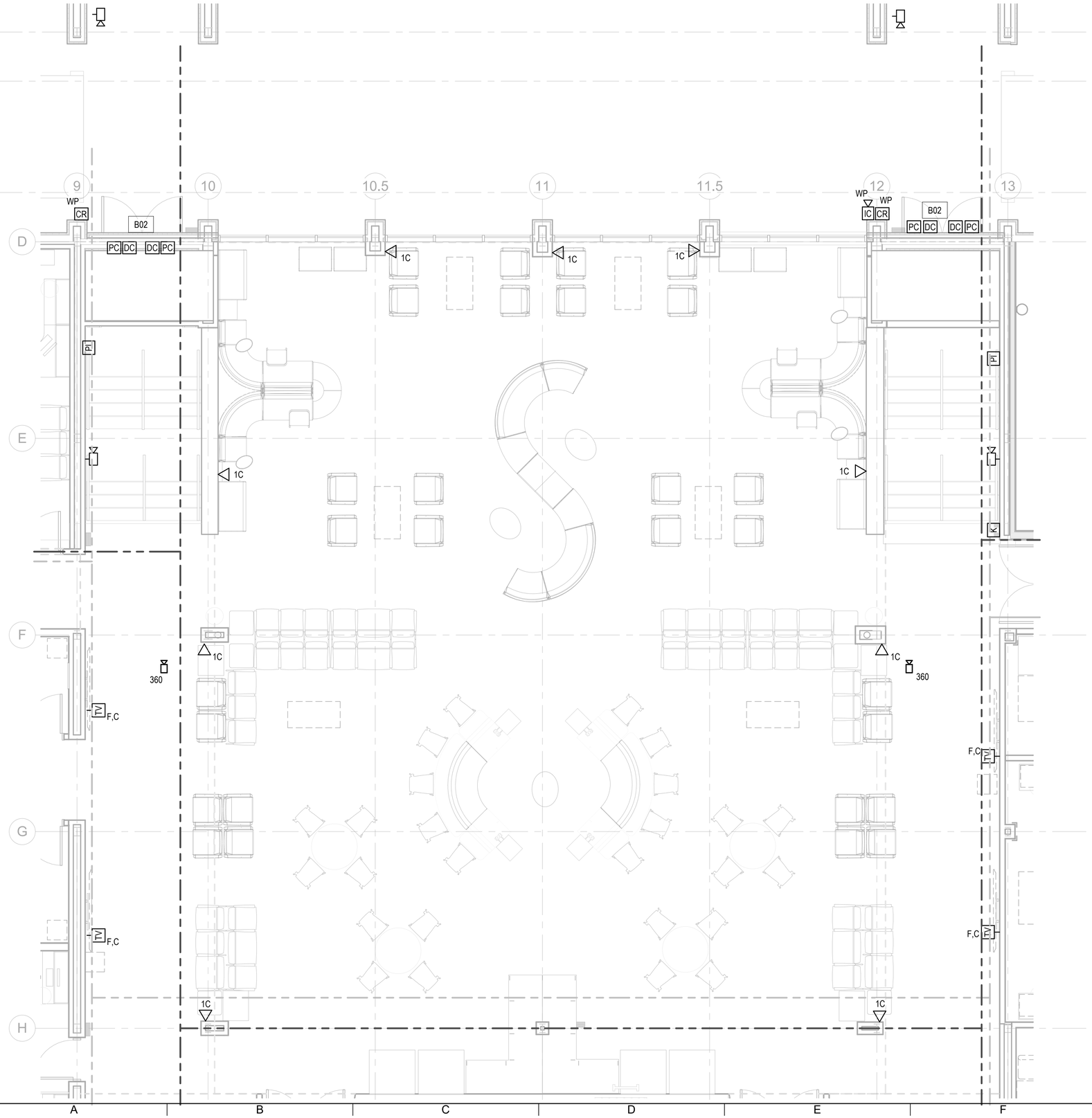
TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1L

SHEET IDENTIFICATION

ET121

SHEET 379 of 442

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MORGAN LEE BARNES

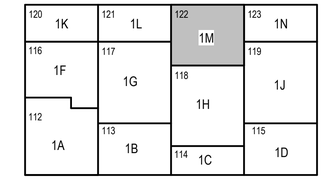
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1M



PLAN NORTH

FIRST FLOOR KEY PLAN

TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1M

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

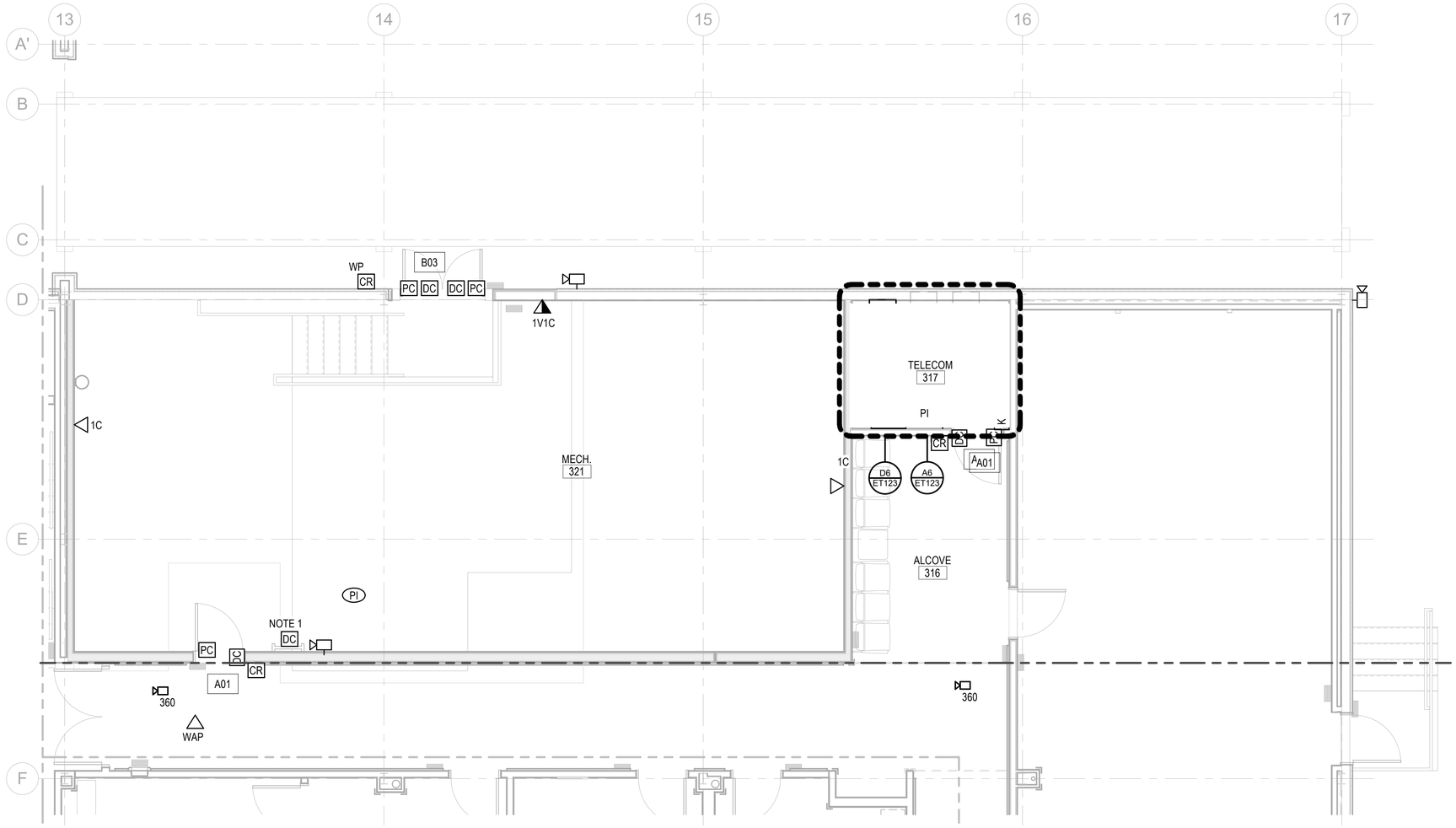
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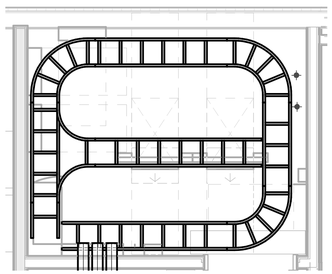
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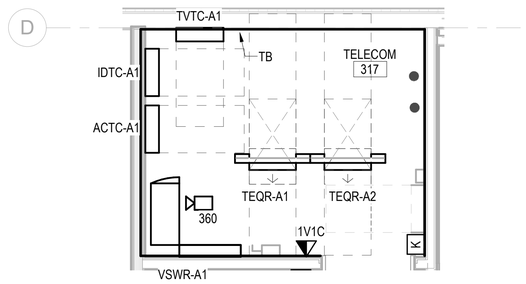
NOTES:
1. PROVIDE BALANCED MAGNETIC SWITCH ON ROOF HATCH, AND CONNECT INTO IDS.



A4 TELECOMMUNICATIONS FLOOR PLAN - BLOCK N
SCALE: 1/4" = 1'-0"

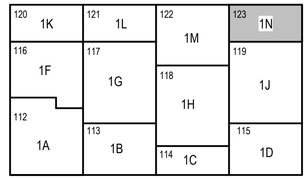


A6 TELECOMM ROOM A - CABLE TRAY LAYOUT
SCALE: 3/8" = 1'-0"



D6 TELECOMM ROOM A -EQUIPMENT LAYOUT
SCALE: 3/8" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

0 2' 4' 6'
SCALE: 3/8"=1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

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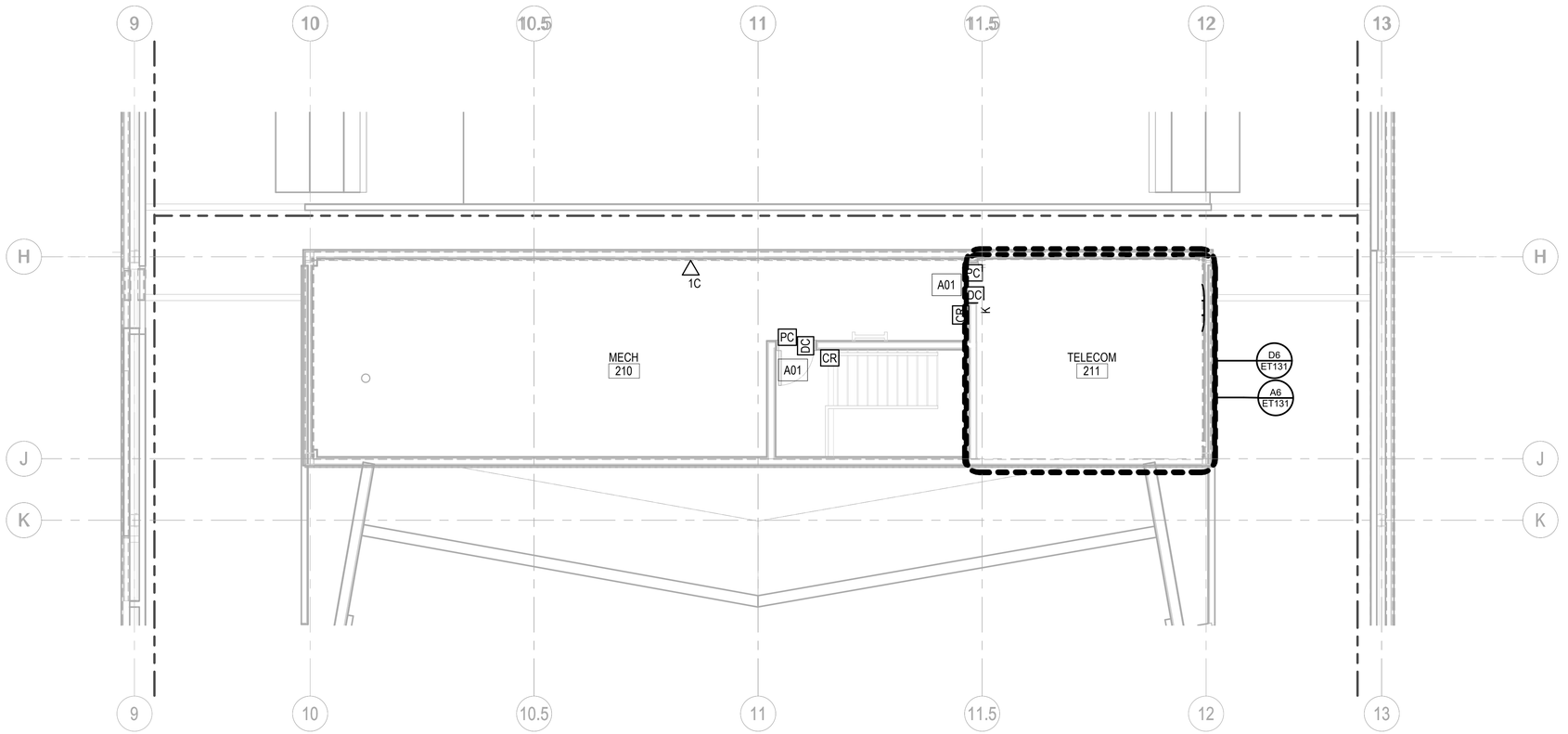
ss&a CLARKNEXSEN

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TELECOMMUNICATIONS FLOOR PLAN - BLOCK 1N

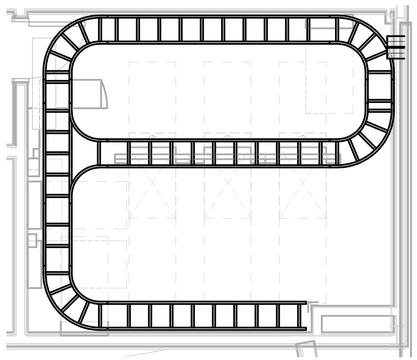
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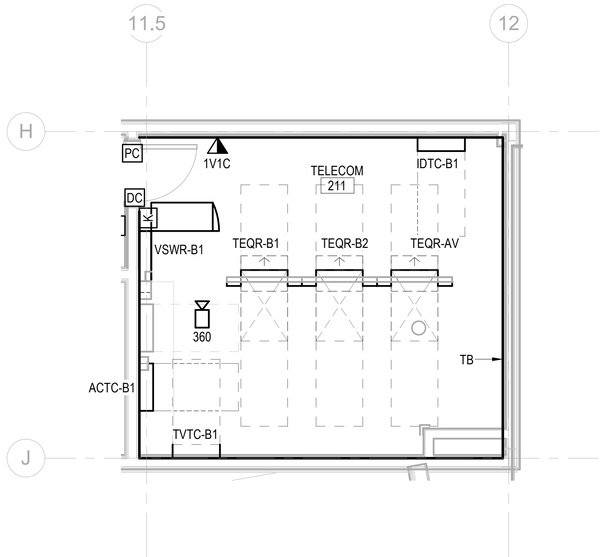
A4 MEZZANINE - TELECOMMUNICATIONS PLAN

SCALE: 1/4" = 1'-0"



A6 TELECOMM ROOM B - CABLE TRAY LAYOUT

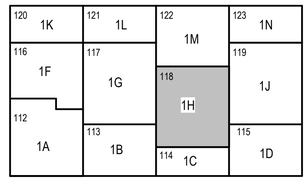
SCALE: 3/8" = 1'-0"



D6 TELECOMM ROOM B - EQUIPMENT LAYOUT

SCALE: 3/8" = 1'-0"

PLAN NORTH



FIRST FLOOR KEY PLAN

0 2' 4' 6'
SCALE: 3/8"=1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

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MORGAN LEE BARNES

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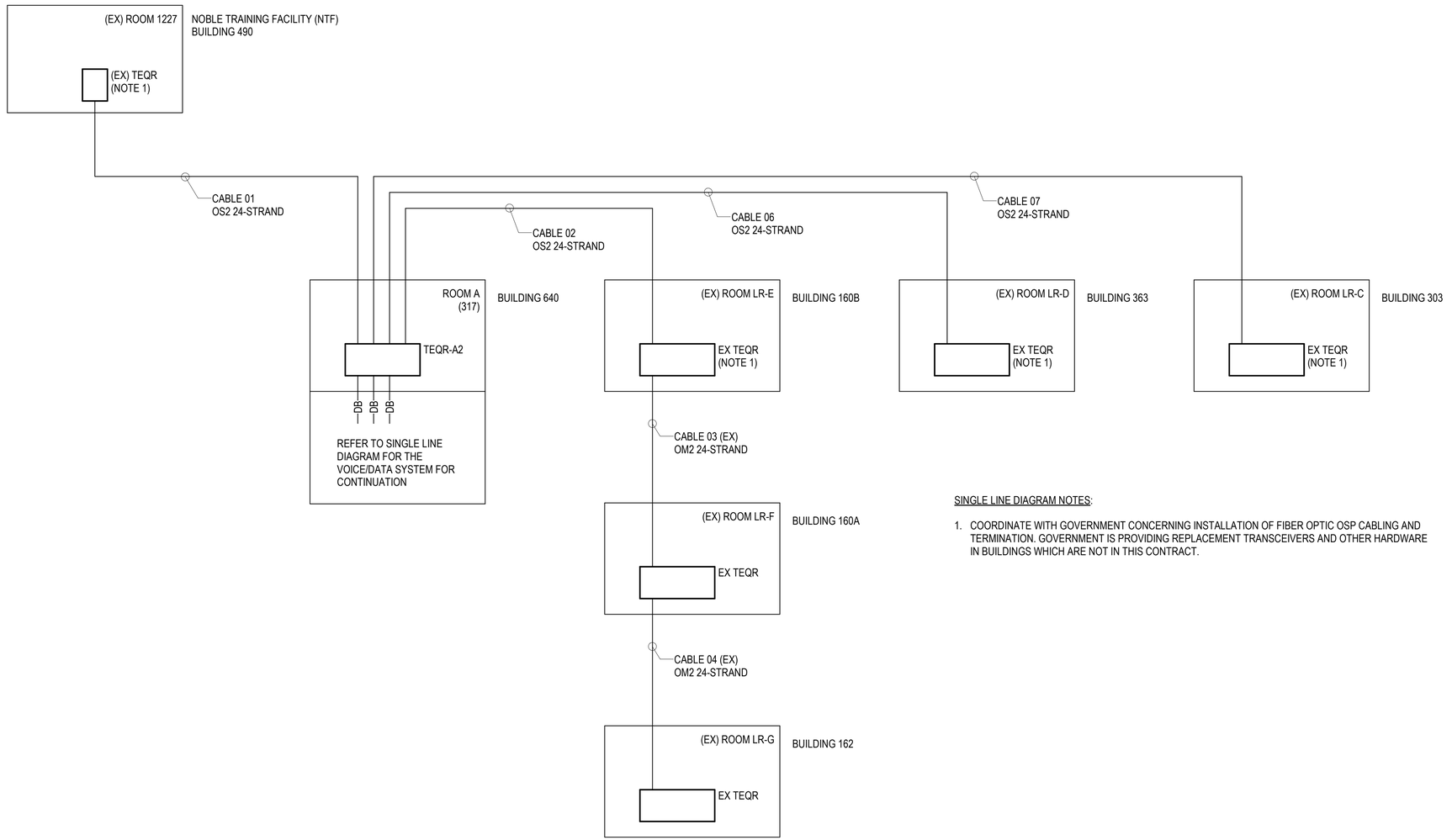
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ARTC - B640 RENOVATION
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TELECOMMUNICATIONS FLOOR PLAN - MEZZANINE

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SHEET 382 of 442

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SINGLE LINE DIAGRAM - OUTSIDE PLANT CABLING

SINGLE LINE DIAGRAM NOTES:

1. COORDINATE WITH GOVERNMENT CONCERNING INSTALLATION OF FIBER OPTIC OSP CABLING AND TERMINATION. GOVERNMENT IS PROVIDING REPLACEMENT TRANSCEIVERS AND OTHER HARDWARE IN BUILDINGS WHICH ARE NOT IN THIS CONTRACT.

TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

SCALE:NOT TO SCALE

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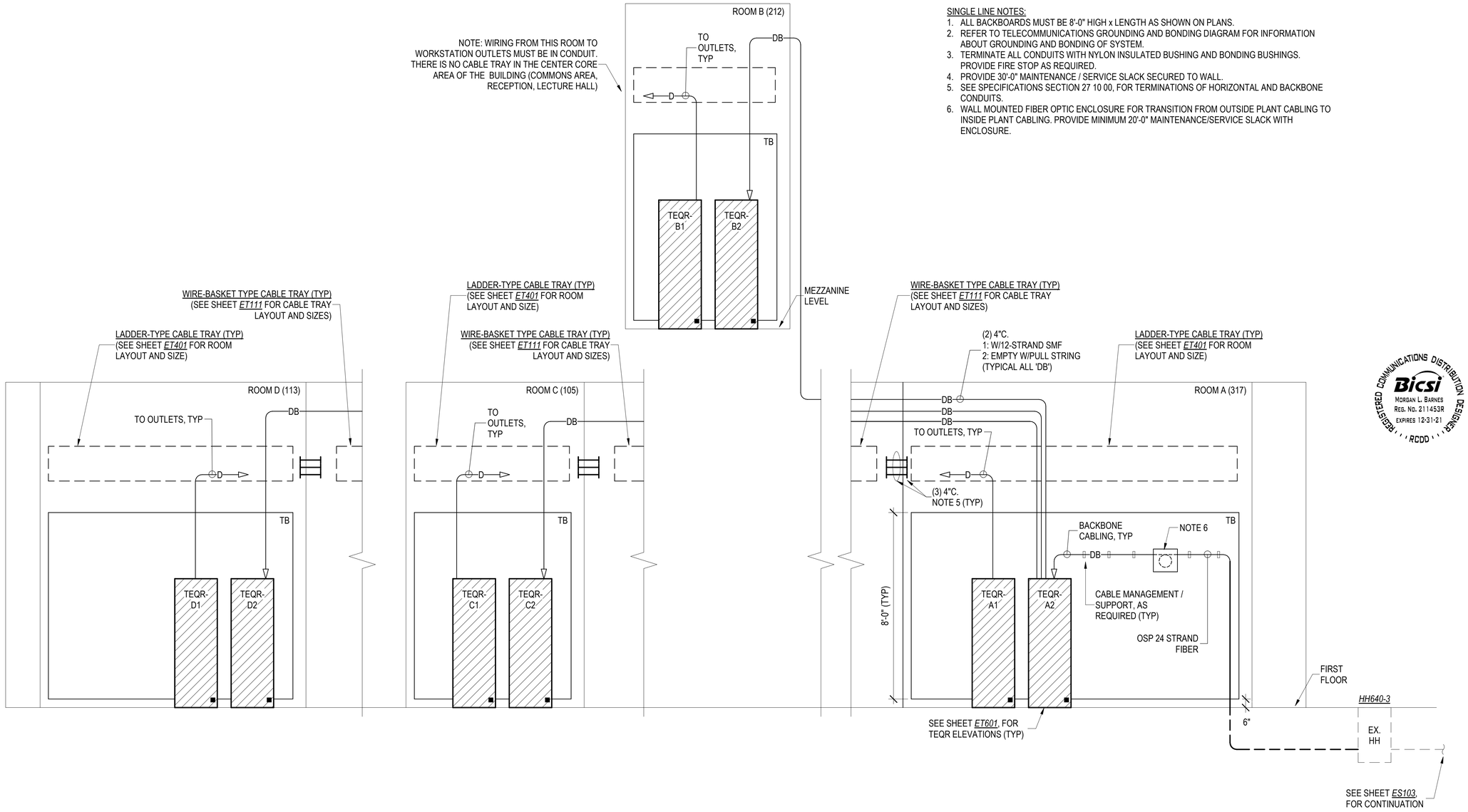
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TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

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ET501
SHEET 383 of 442

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SINGLE LINE NOTES:

1. ALL BACKBOARDS MUST BE 8'-0" HIGH x LENGTH AS SHOWN ON PLANS.
2. REFER TO TELECOMMUNICATIONS GROUNDING AND BONDING DIAGRAM FOR INFORMATION ABOUT GROUNDING AND BONDING OF SYSTEM.
3. TERMINATE ALL CONDUITS WITH NYLON INSULATED BUSHING AND BONDING BUSHINGS. PROVIDE FIRE STOP AS REQUIRED.
4. PROVIDE 30'-0" MAINTENANCE / SERVICE SLACK SECURED TO WALL.
5. SEE SPECIFICATIONS SECTION 27 10 00, FOR TERMINATIONS OF HORIZONTAL AND BACKBONE CONDUITS.
6. WALL MOUNTED FIBER OPTIC ENCLOSURE FOR TRANSITION FROM OUTSIDE PLANT CABLING TO INSIDE PLANT CABLING. PROVIDE MINIMUM 20'-0" MAINTENANCE/SERVICE SLACK WITH ENCLOSURE.

SINGLE LINE DIAGRAM - VOICE / DATA SYSTEM

TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

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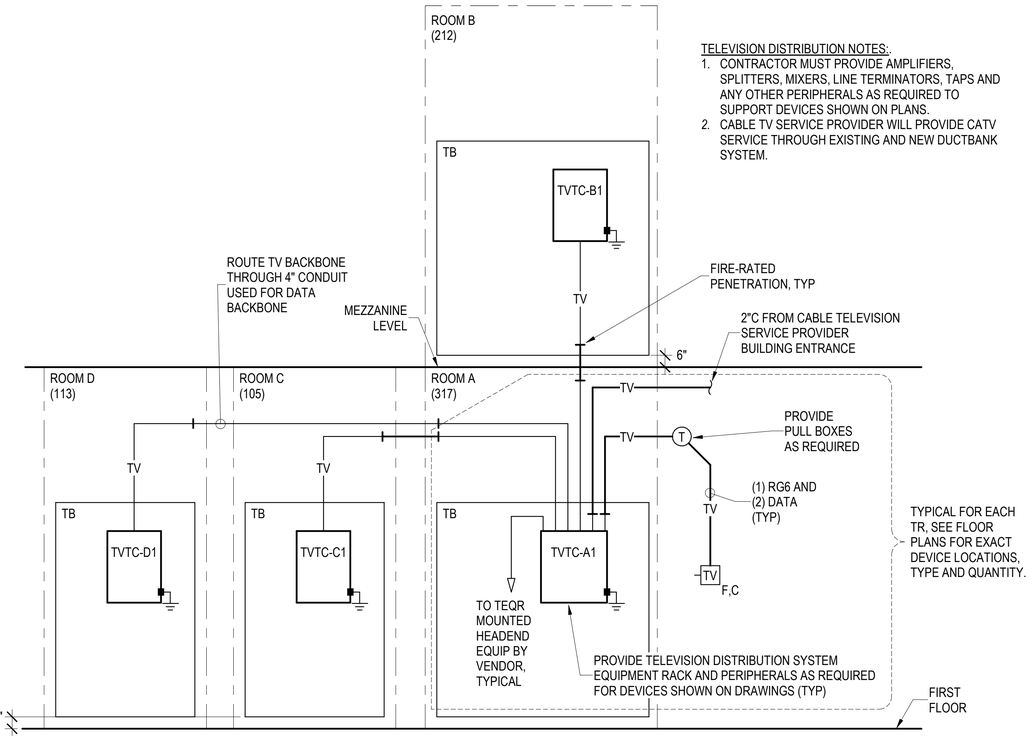
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ARTC - B640 RENOVATION
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TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

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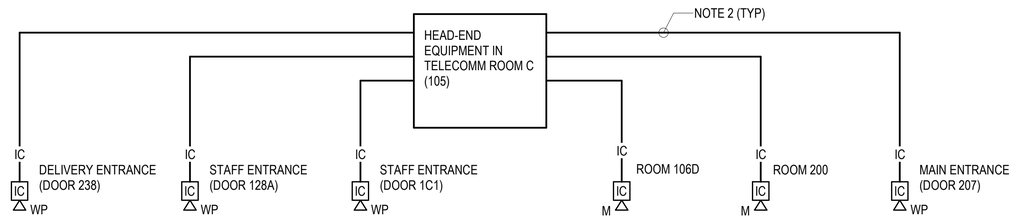
TELEVISION DISTRIBUTION NOTES:.

1. CONTRACTOR MUST PROVIDE AMPLIFIERS, SPLITTERS, MIXERS, LINE TERMINATORS, TAPS AND ANY OTHER PERIPHERALS AS REQUIRED TO SUPPORT DEVICES SHOWN ON PLANS.
2. CABLE TV SERVICE PROVIDER WILL PROVIDE CATV SERVICE THROUGH EXISTING AND NEW DUCTBANK SYSTEM.

SINGLE LINE DIAGRAM - TELEVISION DISTRIBUTION SYSTEM

DOOR INTERCOM SYSTEM NOTES:

1. BASIS OF DESIGN DOOR INTERCOM SYSTEM IS AIPHONE "IS" SERIES.
2. PROVIDE INTERCONNECTION VIA CAT 6 CABLING OVER THE CDP NETWORK.



SINGLE LINE DIAGRAM - DOOR INTERCOM SYSTEM

TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

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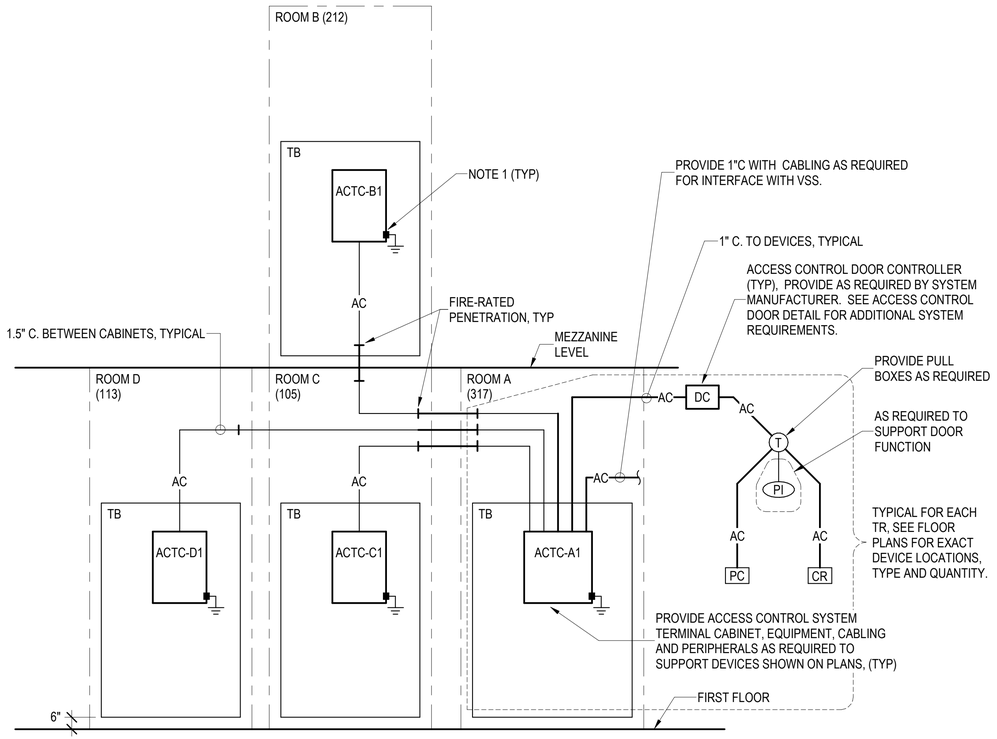
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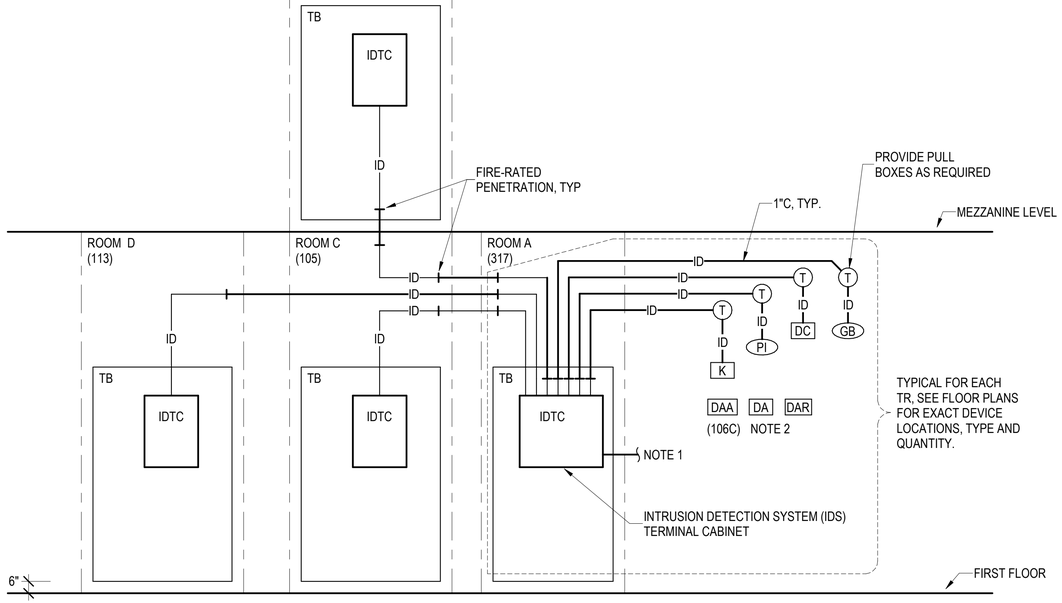
ACCESS CONTROL NOTES:
1. PROVIDE BONDING CONNECTION BETWEEN ACS CABINETS, EQUIPMENT, ETC, AND TGB OR TMGB IN TELECOMMUNICATIONS ROOM.



SINGLE LINE DIAGRAM - ACCESS CONTROL SYSTEM

INTRUSION DETECTION NOTES:
1. STUB OUT FOR NETWORK CONNECTION WITH FEMA/CDP SECURITY OFFICE FOR SYSTEM ALARM. COORDINATE WITH FEMA/CDP SECURITY PERSONNEL.
2. THE INTRUSION DETECTION SYSTEM WILL BE COMPOSED OF A NUMBER OF ZONES, AS FOLLOWS:
   A. ZONE 1 - BUILDING PERIMETER / ENTRANCES
   B. ZONE 2 - TELECOMM ROOM A (317)
   C. ZONE 3 - TELECOMM ROOM B (212)
   D. ZONE 4 - TELECOMM ROOM C (105)
   E. ZONE 5 - TELECOMM ROOM D (113)
   F. ZONE 7 - SECURITY WORKSTATIONS (106D)
   G. ZONE 8 - STUDENT ARMS ROOM (107)

DURESS ALARM SYSTEM NOTES:
1. **FOR ALARM REPORTING:** ALARMS THAT REQUIRE IMMEDIATE SECURITY FORCES RESPONSE WILL COMMUNICATE TO THE SECURITY OFFICE. SELECTION OF ALARMS THAT ARE REQUIRED TO REPORT TO SECURITY OFFICE WILL BE CONTROLLED BY SOFTWARE PROGRAMMING AND CAN CHANGE AT ANY TIME. COORDINATE WITH COR FOR INITIAL LIST OF ALARMS.
2. DURESS ALARM SYSTEM IS WIRELESS, WITH DURESS BUTTONS AND REPEATERS AS SHOWN ON PLANS. RECEIVER WILL BE LOCATED IN ROOM C (105).



SINGLE LINE DIAGRAM - INTRUSION DETECTION SYSTEM

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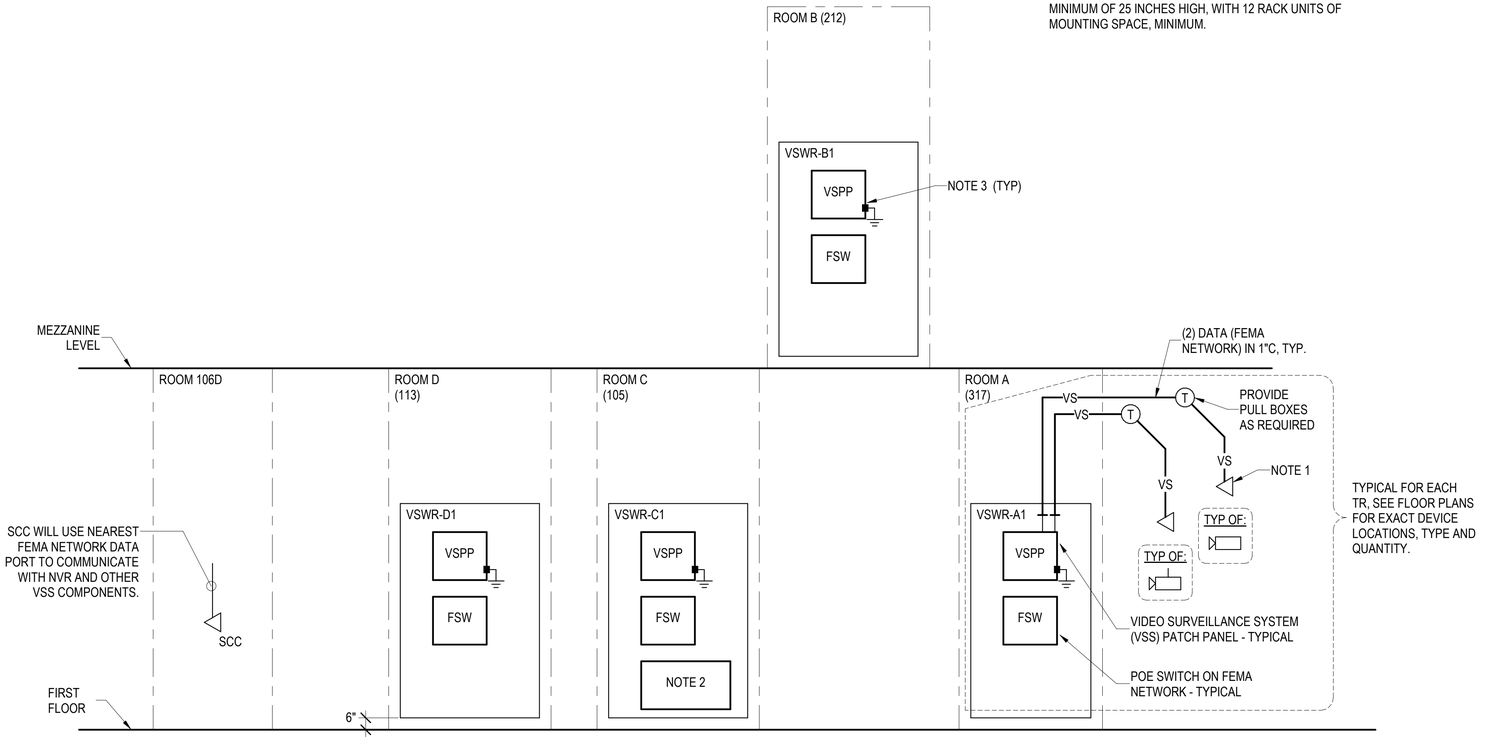
TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

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SHEET 386 of 442

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VIDEO SURVEILLANCE NOTES:

1. LOCATE DATA OUTLET FOR CEILING MOUNTED IP CAMERAS ABOVE ACCESSIBLE CEILING NEAR CAMERA LOCATION. JUNCTION BOX MUST BE SECURED TO THE BUILDING STRUCTURE. TWO CAT 6 CABLES MUST BE PROVIDED TO EACH LOCATION WITH A MINIMUM 10'-0" SLACK, NEATLY COILED, STRAPPED AND SUPPORTED.
2. VSS HEAD-END EQUIPMENT (NVR, ETC) TO BE INSTALLED IN VSWR-C1.
3. PROVIDE BONDING CONNECTION BETWEEN ALL VSS CABINETS, EQUIPMENT, ETC. AND TGB OR TMGB.
4. UNLESS OTHERWISE NOTED, ALL VSWR'S WILL BE A MINIMUM OF 25 INCHES HIGH, WITH 12 RACK UNITS OF MOUNTING SPACE, MINIMUM.



SINGLE LINE DIAGRAM - VIDEO SURVEILLANCE SYSTEM

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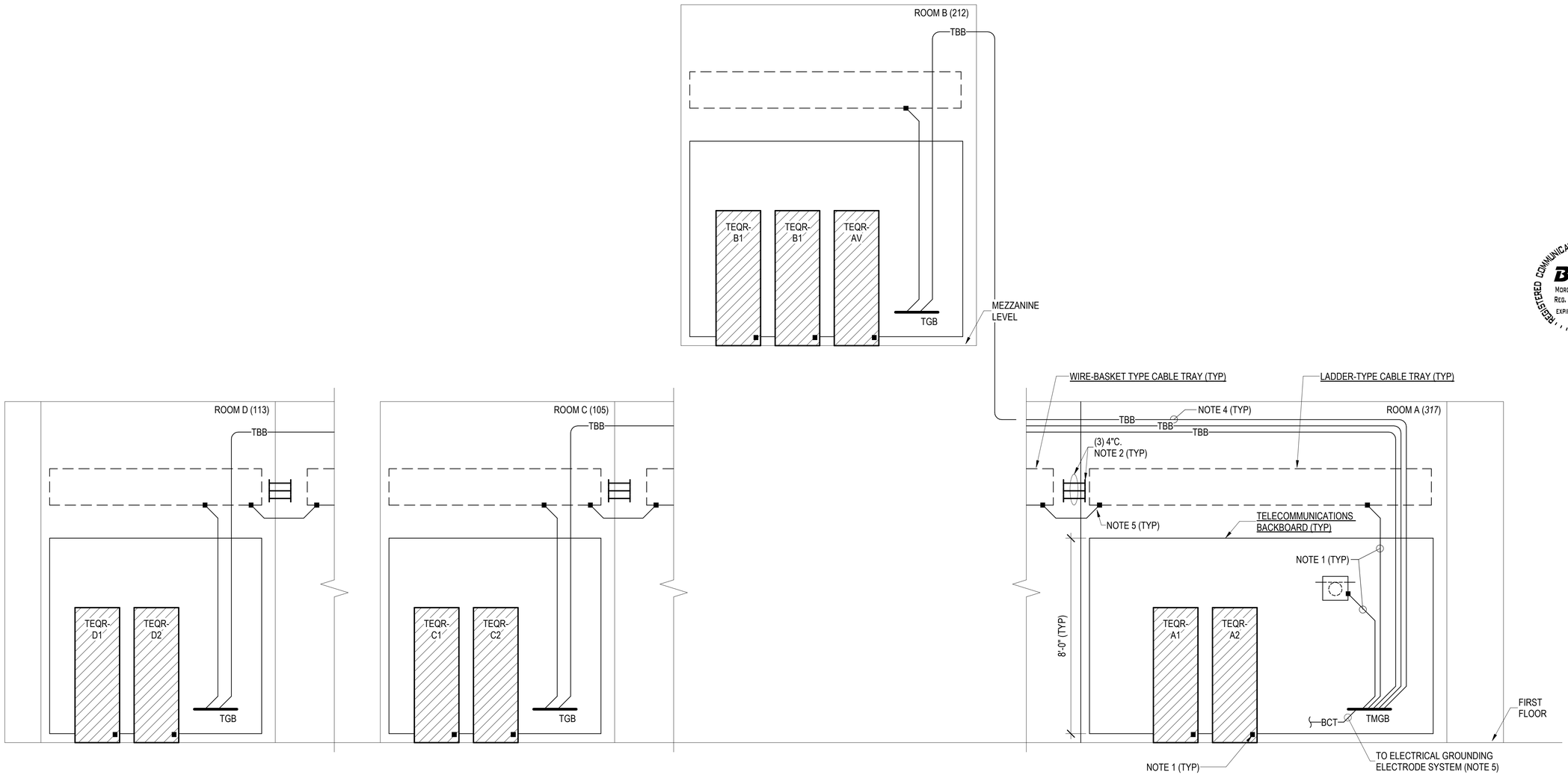
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TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

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TELECOMMUNICATIONS GROUNDING AND BONDING DIAGRAM

SINGLE LINE NOTES:

1. CONNECT METAL PARTS OF ALL CABINETS, CABLE TRAY, RACKS, ETC. TO GROUND BUS WITH TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR (TEBC).
2. BOND ALL CONDUITS TO THE CABLE TRAY SYSTEM.
3. BOND CABLE TRAY SYSTEMS TOGETHER IN ACCORDANCE WITH NFPA 70 REQUIREMENTS.
4. BOND TGB TO TMGB WITH TELECOMMUNICATIONS BONDING BACKBONE (TBB).
5. ROUTE BCT IN CONDUIT CONCEALED OVERHEAD OR IN WALLS, AS REQUIRED. CONDUCTOR MUST BE SIZED PER TIA-607; TABLE 1 - TBB CONDUCTOR SIZE VS LENGTH, WITH A MINIMUM #6 AWG. SIZE CONDUIT PER NFPA-70. REFER TO SHEET EG601 FOR FURTHER INFORMATION CONCERNING GES.

TELECOMMUNICATIONS SINGLE LINE DIAGRAMS

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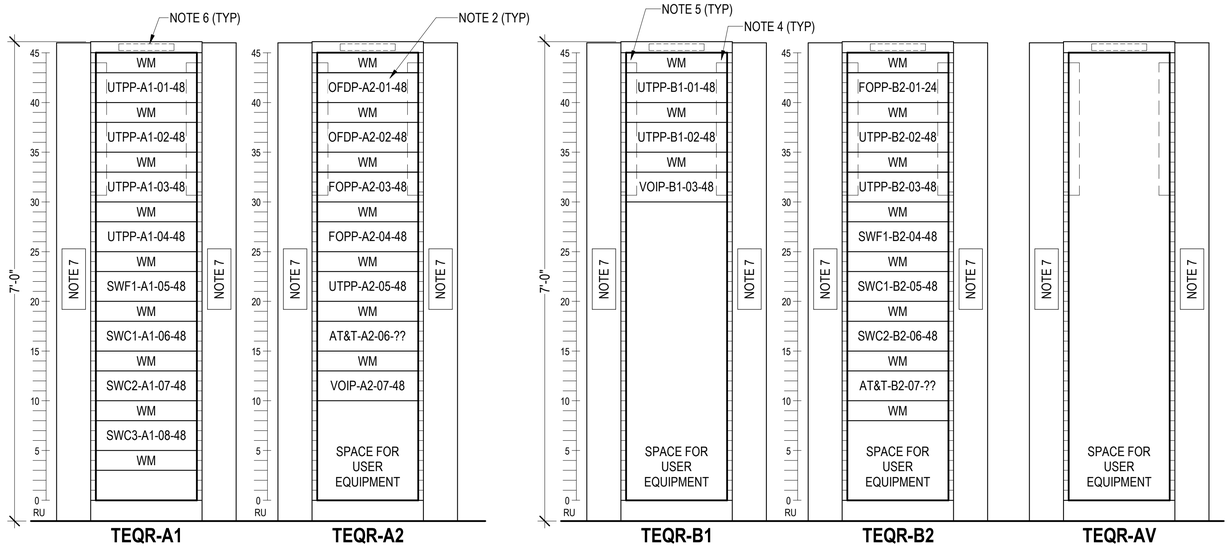
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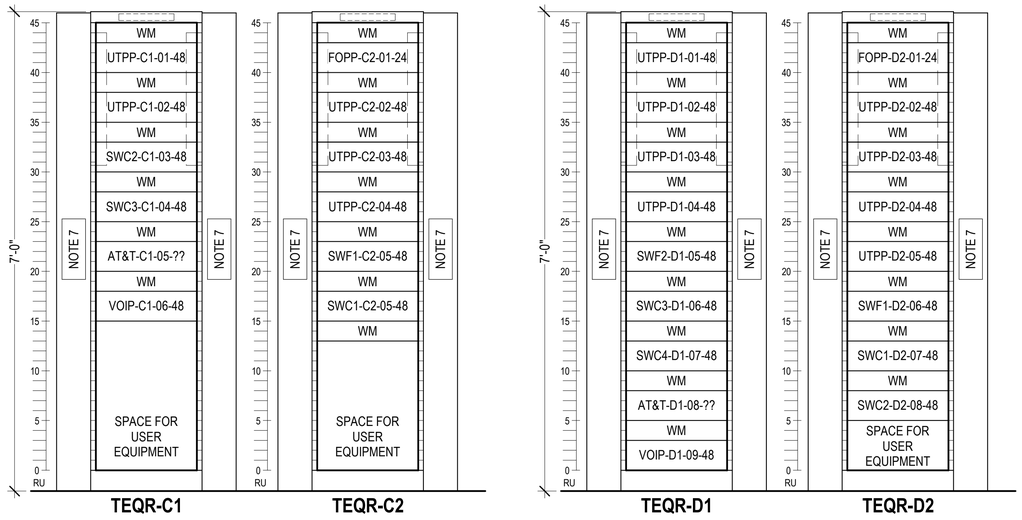
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A6 TELECOMMUNICATIONS EQUIPMENT RACK (TEQR) ELEVATIONS

SCALE: NOT TO SCALE

TEQR NOTES:

1. PROVIDE UTPP AND FOPP QUANTITIES AS REQUIRED TO SUPPORT TERMINATIONS OF ALL VOICE/DATA CABLES SHOWN PLUS 25% FUTURE. UTPP MUST BE RACK MOUNTED 45 DEGREE IDC CROSS CONNECTS FOR TERMINATION OF VOICE CABLES.
2. PROVIDE RACK MOUNTED FIBER OPTIC DISTRIBUTION ENCLOSURE. PROVIDE QUANTITY AND SIZE AS REQUIRED.
3. 1 RACK UNIT(RU) EQUALS 1.75" HIGH.
4. MULTI-OUTLET POWER STRIP, 208V 1Ø, MOUNTED IN RACK, COORDINATE LOCATION WITH CDP TELECOMMUNICATIONS.
5. MULTI-OUTLET POWER STRIP, 120V 1Ø, MOUNTED IN RACK, COORDINATE LOCATION WITH CDP TELECOMMUNICATIONS.
6. RACKS MUST BE CLEARLY LABELED WITH LABEL SECURELY FASTENED TO TOP OF RACK, TYPICAL.
7. VERTICAL WIRE MANAGEMENT CHANNEL WITH COVER, (TYPICAL).
8. SWITCH FOR WIRELESS ACCESS POINTS, BY AT&T. NUMBER OF PORTS WILL BE DETERMINED BY AT&T.
9. VOICE OVER INTERNET PROTOCOL (VOIP) EQUIPMENT CONSISTS OF ONE 48-LINE GATEWAY PLUS TWO 24-PORT PATCH PANELS, AS DESCRIBED IN THE SPECIFICATIONS. EACH COMPONENT IS ONE RU HIGH, SO THAT THE ASSEMBLY TAKES 3 RU.

IDENTIFICATION LEGEND:

???? - ??-## - ##

REGION 1 (????):

OFDP - OPTICAL FIBER DISTRIBUTION PANEL/ENCLOSURE
FOPP - FIBER OPTIC PATCH PANEL
UTPP - UNSHIELDED TWISTED PAIR PATCH PANEL
SWF# - FEMA SWITCH
SWC# - CDP SWITCH
AT&T - AT&T SWITCH (NOTE 8)
VOIP - VOICE OVER INTERNET PROTOCOL EQUIPMENT (NOTE 9)

REGION 2 (??) - RACK NUMBER (A1, A2, B1, ETC)

REGION 3 (##) - POSITION OF EQUIPMENT OR PATCH PANEL IN RACK, FROM TOP DOWN (01, 02, ETC)

REGION 4 (##) - NUMBER OF PORTS PROVIDED

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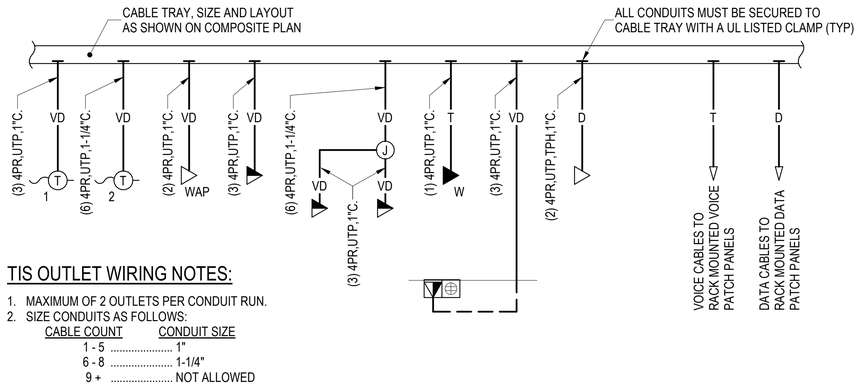
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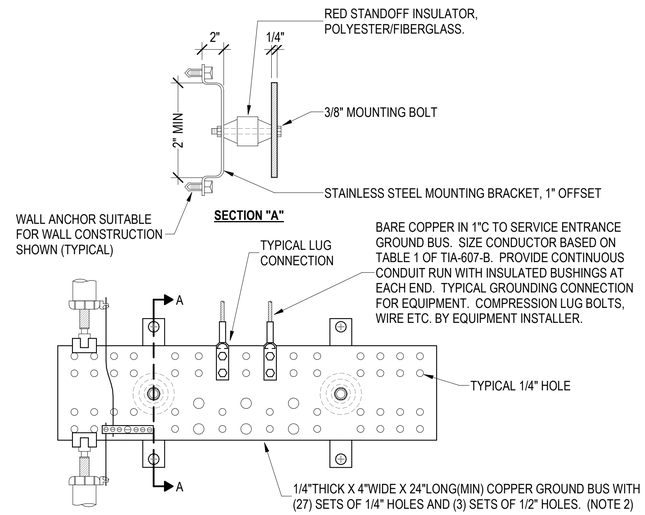
TIS OUTLET WIRING NOTES:

1. MAXIMUM OF 2 OUTLETS PER CONDUIT RUN.
2. SIZE CONDUITS AS FOLLOWS:

CABLE COUNT	CONDUIT SIZE
1 - 5	1"
6 - 8	1-1/4"
9 +	NOT ALLOWED

A3 WIRING DETAIL TIS OUTLET WIRING (TYPICAL)

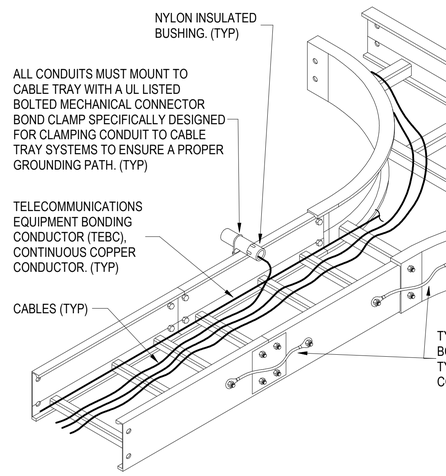
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NOTES:
1. ADDITIONAL GROUND CONNECTIONS MUST BE BY TELECOMMUNICATIONS EQUIPMENT INSTALLER.
2. TMGB & TGB LENGTHS ARE AS REQUIRED TO SUPPORT GROUNDING CONNECTIONS WITH A MINIMUM LENGTH OF 2'-0". THE WIDTH SHOWN (4") APPLIES TO THE TMGB; WIDTHS FOR TGB(S) MUST BE MIN 2".

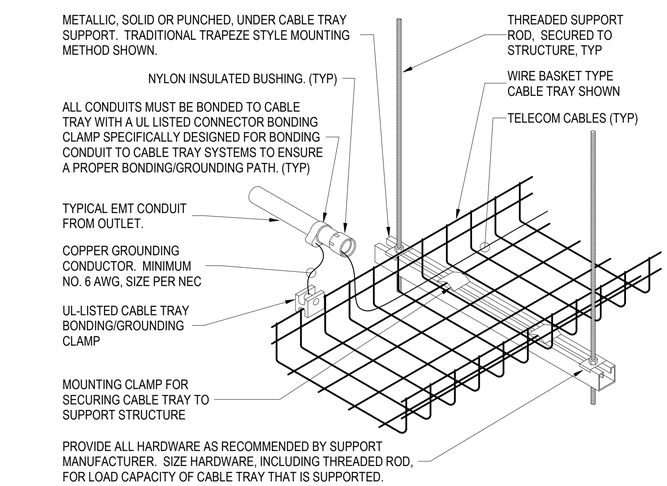
E3 TMGB / TGB DETAIL

SCALE: NOT TO SCALE



A6 DETAIL - LADDER TYPE CABLE TRAY

SCALE: NOT TO SCALE



E6 DETAIL - WIRE BASKET CABLE TRAY

SCALE: NOT TO SCALE

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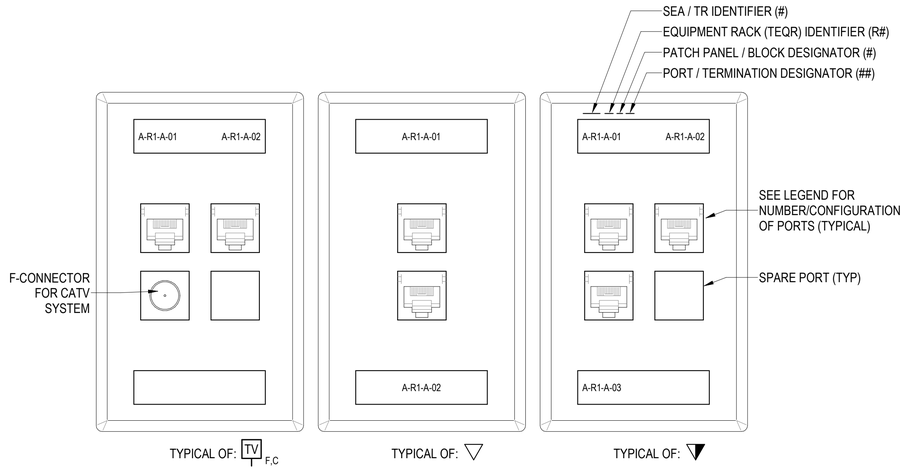
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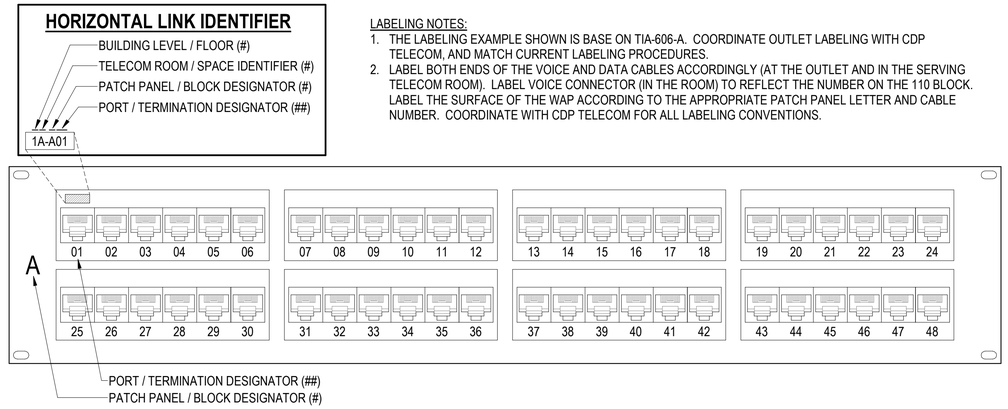
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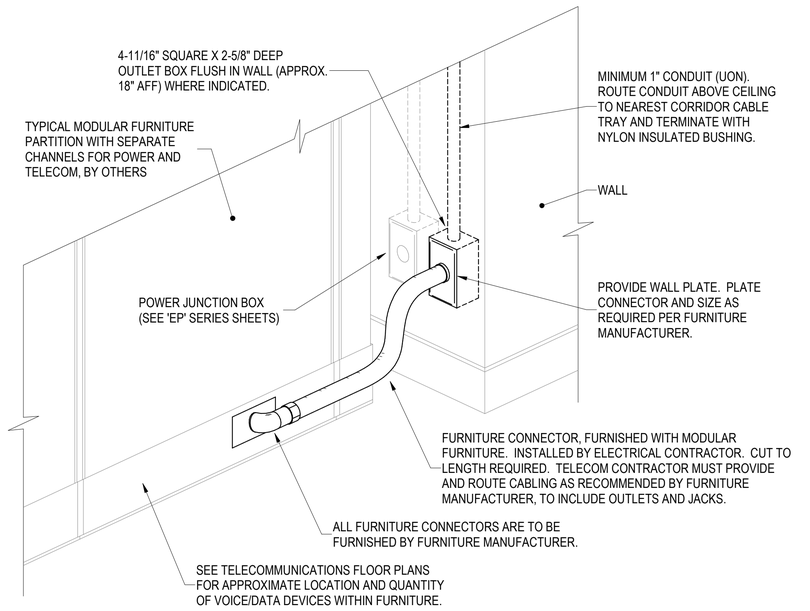
LABELING NOTES:
1. THE LABELING EXAMPLE SHOWN ABOVE IS BASE ON TIA-606-A. COORDINATE OUTLET LABELING WITH OWNER, AND MATCH CURRENT LABELING PROCEDURES.
2. LABEL BOTH ENDS OF THE VOICE AND DATA CABLES ACCORDINGLY (AT THE OUTLET AND IN THE SERVING TELECOM ROOM). LABEL VOICE CONNECTOR (IN THE ROOM) TO REFLECT THE NUMBER ON THE 110 BLOCK. LABEL THE SURFACE OF THE WAP ACCORDING TO THE APPROPRIATE PATCH PANEL LETTER AND CABLE NUMBER. COORDINATE WITH OWNER FOR ALL LABELING CONVENTIONS.

A3 DETAIL - OUTLET LABELING
SCALE: NOT TO SCALE

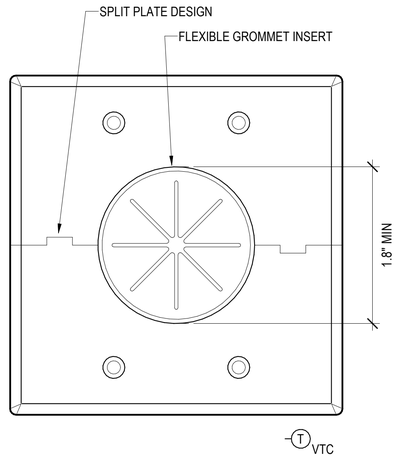


LABELING NOTES:
1. THE LABELING EXAMPLE SHOWN IS BASE ON TIA-606-A. COORDINATE OUTLET LABELING WITH CDP TELECOM, AND MATCH CURRENT LABELING PROCEDURES.
2. LABEL BOTH ENDS OF THE VOICE AND DATA CABLES ACCORDINGLY (AT THE OUTLET AND IN THE SERVING TELECOM ROOM). LABEL VOICE CONNECTOR (IN THE ROOM) TO REFLECT THE NUMBER ON THE 110 BLOCK. LABEL THE SURFACE OF THE WAP ACCORDING TO THE APPROPRIATE PATCH PANEL LETTER AND CABLE NUMBER. COORDINATE WITH CDP TELECOM FOR ALL LABELING CONVENTIONS.

E3 PATCH PANEL LABELING PLAN
SCALE: NOT TO SCALE



A6 MODULAR FURNITURE CONNECTION DETAIL
SCALE: NOT TO SCALE



NOTES:
1. PROVIDE TELECOM JUNCTION BOX AND GROMMET PLATE WHERE NOTED ON PLANS.
2. BASIS OF DESIGN: MIDLITE 2GSWH-GR2.

E6 2-GANG DATA BOX DETAIL - COVER PLATE WITH GROMMET
SCALE: NOT TO SCALE

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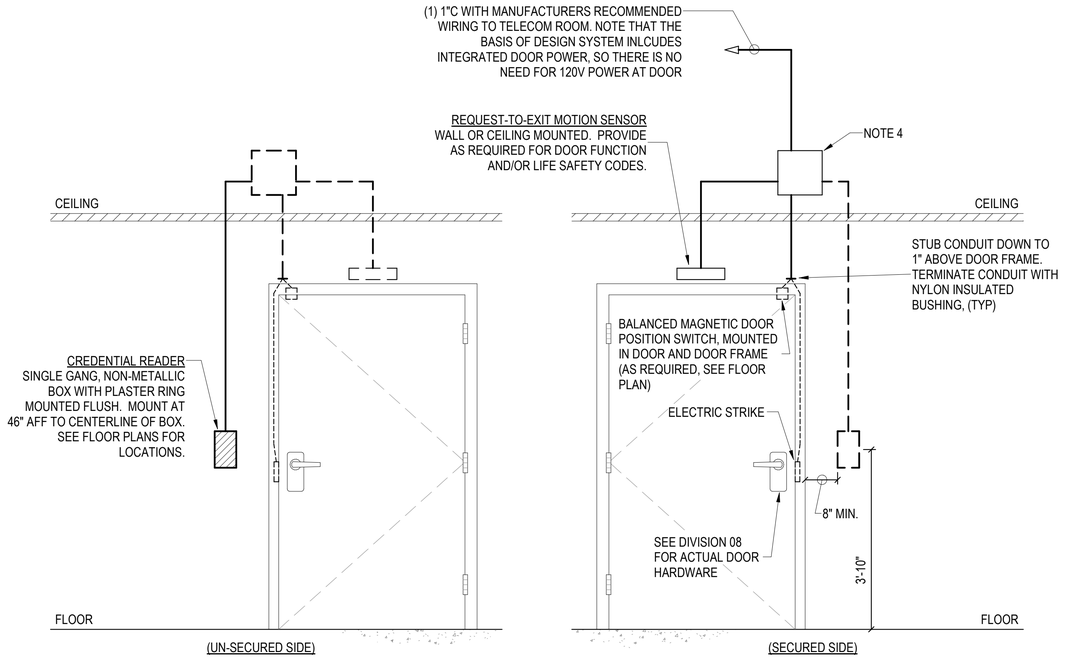
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NOTES:
1. DOOR IS MONITORED FOR STRIKE POSITION (LOCKED/UNLOCKED) AND DOOR CONTACT POSITION (OPEN/CLOSED).
2. COORDINATE ELECTRIC STRIKE LOCATIONS WITH DOOR HARDWARE, DIVISION 08.
3. COORDINATE HARDWARE REQUIREMENTS, DOOR ROUGH-IN AND WIRING REQUIREMENTS WITH THE DIVISION 08 HARDWARE SCHEDULE AND DOOR HARDWARE SPECIFICATIONS.
4. PROVIDE A 6" MIN SQUARE JUNCTION BOX (SIZE AS REQUIRED), WITH BLANK COVER, LOCATED ABOVE ACCESSIBLE CEILING. INSTALL CONCEALED CONDUITS AND WIRING AS INDICATED. ALL CONDUITS MUST BE 1" UON. ALSO INCLUDES READER MODULE TO ALLOW CONNECTION BETWEEN CENTAL ACCESS CONTROL PANEL AND GOVERNMENT PROVIDED CARD READER

APPLICABLE DOORS:

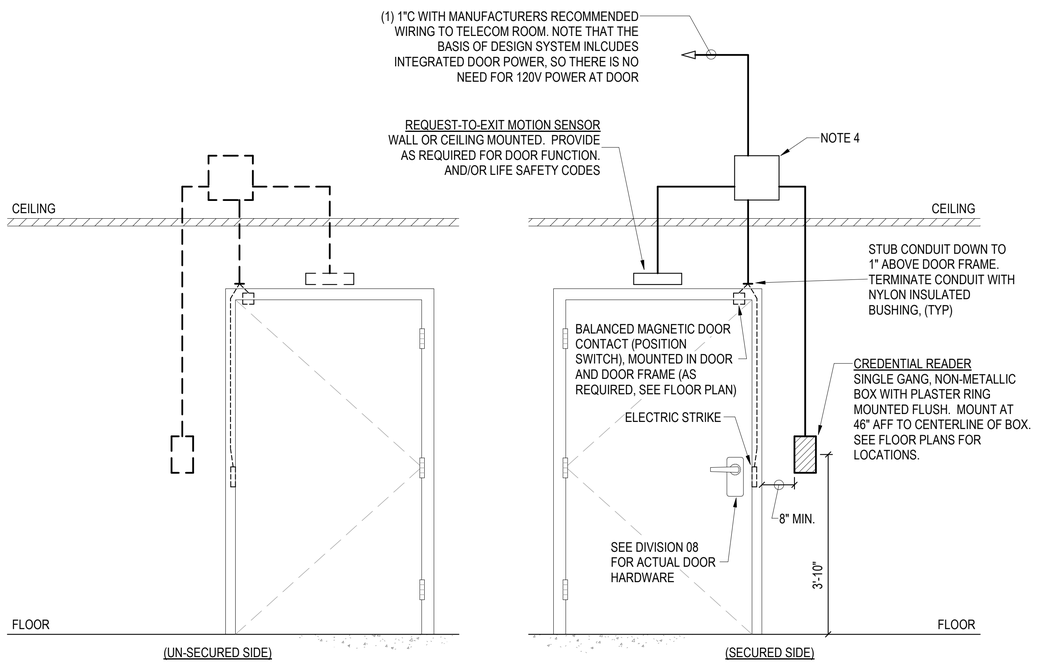
105, 106, 106D, 107, 113, 128A, 210, 211, 317, 321, 3C1A

SYSTEM COMPONENTS:

PORTAL CONTROL DEVICE: ELECTRIC STRIKE
CREDENTIAL READER: (GFGI) CONTACTLESS CARD READER

A3 DETAIL - ACCESS CONTROL DOOR A01

SCALE: NOT TO SCALE



NOTES:
1. DOOR IS MONITORED FOR STRIKE POSITION (LOCKED/UNLOCKED) AND DOOR CONTACT POSITION (OPEN/CLOSED).
2. COORDINATE ELECTRIC STRIKE LOCATIONS WITH DOOR HARDWARE, DIVISION 08.
3. COORDINATE HARDWARE REQUIREMENTS, DOOR ROUGH-IN AND WIRING REQUIREMENTS WITH THE DIVISION 08 HARDWARE SCHEDULE AND DOOR HARDWARE SPECIFICATIONS.
4. PROVIDE A 6" MIN SQUARE JUNCTION BOX (SIZE AS REQUIRED), WITH BLANK COVER, LOCATED ABOVE ACCESSIBLE CEILING. INSTALL CONCEALED CONDUITS AND WIRING AS INDICATED. ALL CONDUITS MUST BE 1" UON. ALSO INCLUDES READER MODULE TO ALLOW CONNECTION BETWEEN CENTAL ACCESS CONTROL PANEL AND GOVERNMENT PROVIDED CARD READER
5. CREDENTIAL READER IS USED IN THSI SCENARIO TO DISABLE THE ALARM FOR A GUARD WALK.

APPLICABLE DOORS:

300, 301

SYSTEM COMPONENTS:

PORTAL CONTROL DEVICE: ELECTRIC STRIKE
CREDENTIAL READER: (GFGI) CONTACTLESS CARD READER

A6 DETAIL - ACCESS CONTROL DOOR A1

SCALE: NOT TO SCALE

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ENGINEER
06/29/21
MORGAN LEE BARNES

Date: 06-29-2021
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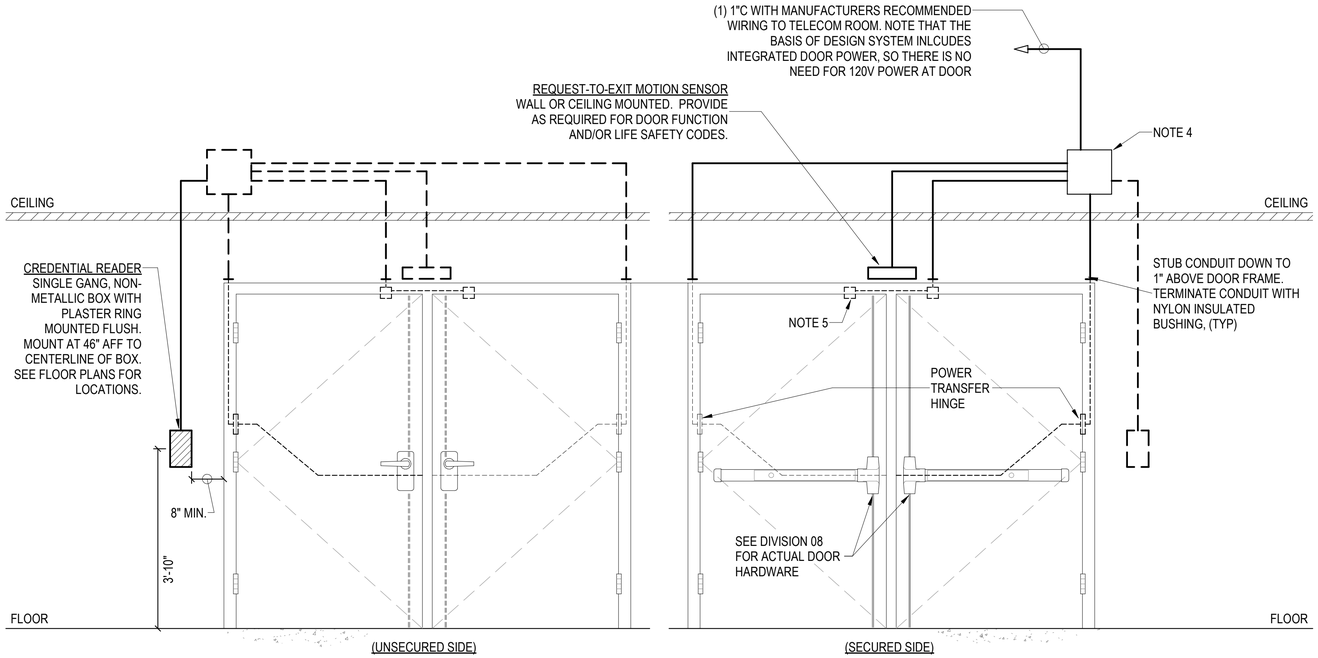
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

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A3 DETAIL - ACCESS CONTROL DOOR B01

SCALE: NOT TO SCALE

NOTES:
1. DOOR IS MONITORED FOR STRIKE POSITION (LOCKED/UNLOCKED) AND DOOR CONTACT POSITION (OPEN/CLOSED).
2. COORDINATE ELECTRIC STRIKE LOCATIONS WITH DOOR HARDWARE, DIVISION 08.
3. COORDINATE HARDWARE REQUIREMENTS, DOOR ROUGH-IN AND WIRING REQUIREMENTS WITH THE DIVISION 08 HARDWARE SCHEDULE AND DOOR HARDWARE SPECIFICATIONS.
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5. BALANCED MAGNETIC DOOR POSITION SWITCH, MOUNTED IN DOOR AND DOOR FRAME (AS REQUIRED, SEE FLOOR PLAN)
6. ACCESS CONTROL SYSTEM MUST BE INTERFACED WITH THE POWER-ASSIST DOOR OPERATOR SO THAT THE OPERATOR IS DISABLED UNTIL ACCESS HAS BEEN AUTHORIZED.

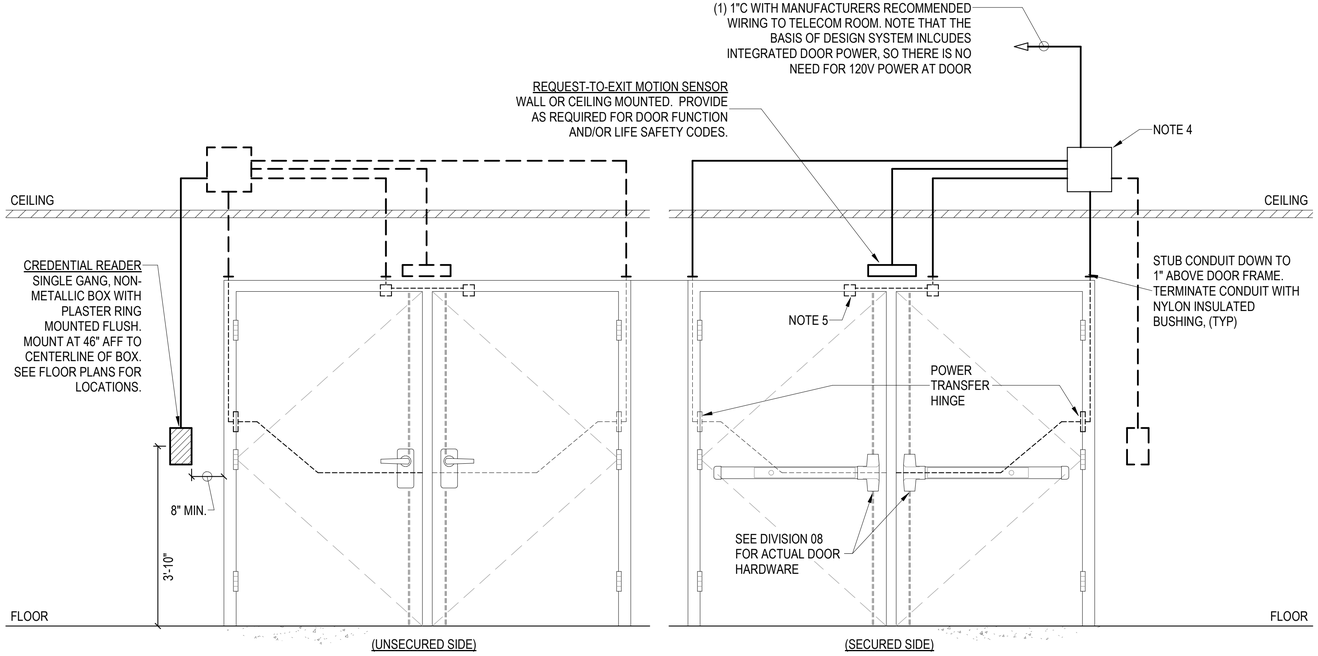
APPLICABLE DOORS:

207

SYSTEM COMPONENTS:

PORTAL CONTROL DEVICE:
VERTICAL ROD AND EXIT DEVICE WITH ELECTRIC LATCH RETRACTION ON BOTH PANELS

CREDENTIAL READER: (GFGI) CONTACTLESS CARD READER



A6 DETAIL - ACCESS CONTROL DOOR B02

SCALE: NOT TO SCALE

NOTES:
1. DOOR IS MONITORED FOR STRIKE POSITION (LOCKED/UNLOCKED) AND DOOR CONTACT POSITION (OPEN/CLOSED).
2. COORDINATE ELECTRIC STRIKE LOCATIONS WITH DOOR HARDWARE, DIVISION 08.
3. COORDINATE HARDWARE REQUIREMENTS, DOOR ROUGH-IN AND WIRING REQUIREMENTS WITH THE DIVISION 08 HARDWARE SCHEDULE AND DOOR HARDWARE SPECIFICATIONS.
4. PROVIDE A 6" MIN SQUARE JUNCTION BOX (SIZE AS REQUIRED), WITH BLANK COVER, LOCATED ABOVE ACCESSIBLE CEILING. INSTALL CONCEALED CONDUITS AND WIRING AS INDICATED. ALL CONDUITS MUST BE 1" UON. ALSO INCLUDES READER MODULE TO ALLOW CONNECTION BETWEEN CENTAL ACCESS CONTROL PANEL AND GOVERNMENT PROVIDED CARD READER
5. BALANCED MAGNETIC DOOR POSITION SWITCH, MOUNTED IN DOOR AND DOOR FRAME (AS REQUIRED, SEE FLOOR PLAN)

APPLICABLE DOORS:

1C1, 208, 233, 238

SYSTEM COMPONENTS:

PORTAL CONTROL DEVICE:
VERTICAL ROD AND EXIT DEVICE WITH ELECTRIC LATCH RETRACTION ON BOTH PANELS

CREDENTIAL READER: (GFGI) CONTACTLESS CARD READER

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ALABAMA
LICENSED
NO. 22471
PROFESSIONAL
ENGINEER
MORGAN LEE BARNES
06/29/21

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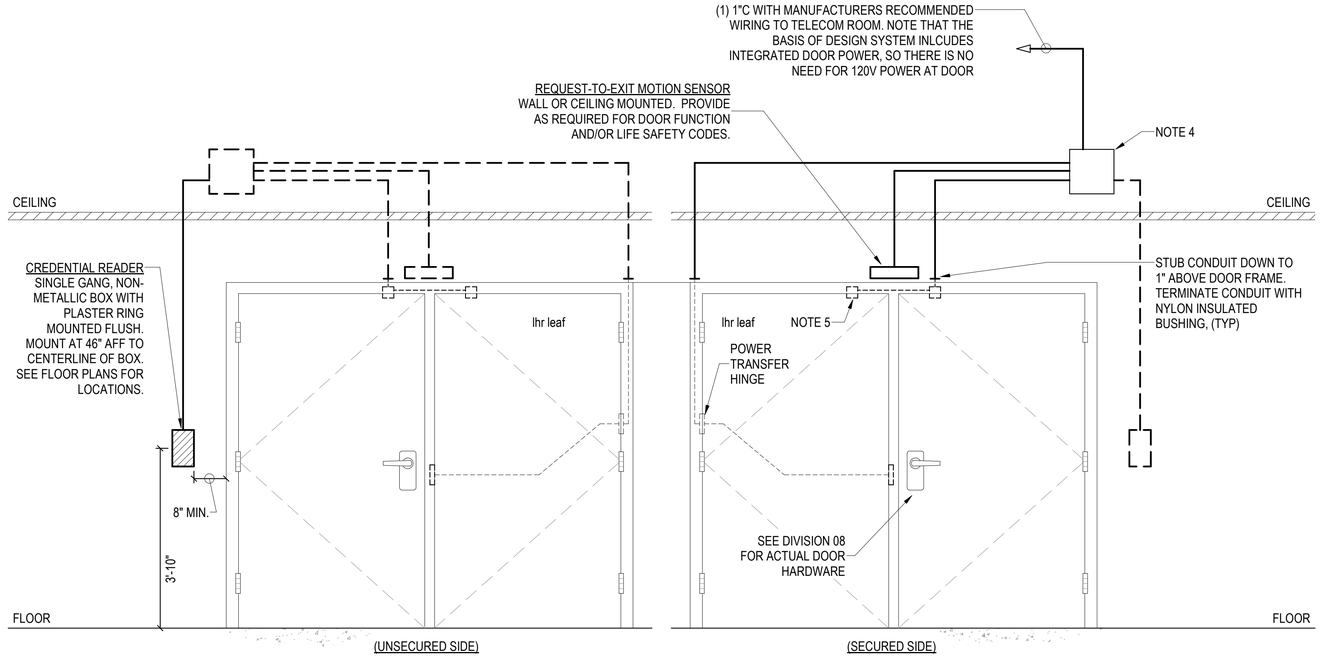
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NOTES:

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5. BALANCED MAGNETIC DOOR POSITION SWITCH, MOUNTED IN DOOR AND DOOR FRAME (AS REQUIRED, SEE FLOOR PLAN).

APPLICABLE DOORS:

100, 141, 321A

SYSTEM COMPONENTS:

PORTAL CONTROL DEVICE:
FLUSH BOLT WITH ELECTRIC STRIKE IN LHR LEAF

CREDENTIAL READER: (GFGI) CONTACTLESS CARD READER

A3 DETAIL - ACCESS CONTROL DOOR B03

SCALE: NOT TO SCALE

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REG. NO. 211453R
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ALABAMA
LICENSED
NO. 22474
PROFESSIONAL
ENGINEER
06/29/21
MORGAN LEE BARNES

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FIRE ALARM/MNS NOTES

1 THE SCOPE OF THIS PROJECT INCLUDES COMPLETELY DEMOLISHING THE EXISTING FIRE ALARM/MASS NOTIFICATION SYSTEM AND ALL ACCESSORIES, WIRING, RACEWAYS AND PROVIDING A NEW, COMPLETE, ADDRESSABLE COMBINED BUILDING FIRE ALARM/DETECTION SYSTEM AND MASS NOTIFICATION SYSTEM (MNS) AS DESCRIBED HEREIN AND ON THESE CONTRACT DRAWINGS. THE SYSTEM MUST INCLUDE ALL WIRING, RACEWAYS, PULL BOXES, TERMINAL CABINETS, OUTLET AND MOUNTING BOXES, CONTROL EQUIPMENT, ALARM AND SUPERVISORY SIGNALS, INITIATING DEVICES, ALARM NOTIFICATION APPLIANCES, LED-TYPE TEXT SIGNS, NOTIFICATION APPLIANCE BOOSTER PANELS, INTERFACE EQUIPMENT, AND ALL OTHER ACCESSORIES AND MISCELLANEOUS ITEMS INCLUDING SOFTWARE, SYSTEM PROGRAMMING, APPROVALS, TESTING AND CONSTRUCTION PERMITS REQUIRED FOR A COMPLETE OPERATING SYSTEM EVEN THOUGH EACH ITEM IS NOT SPECIFICALLY MENTIONED OR DESCRIBED. THE SYSTEM SHALL COMPLY WITH THE UFC 3-600-01 (8 AUGUST 2016, CHANGE 5, 24 SEPTEMBER 2020), AND UFC 4-021-01 (9 APRIL 2008, CHANGE 1, JANUARY 2010). IN ADDITION, THE FOLLOWING CODES ARE APPLICABLE AS ADOPTED BY THE UFC: NFPA 70 (2020 EDITION), NFPA 72 (2019 EDITION), NFPA 90 A (2021 EDITION), NFPA 101 (2021 EDITION), AND THE INTERNATIONAL BUILDING CODE (2018 EDITION). THE EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED OR APPROVED FOR THE INTENDED PURPOSE BY A NATIONAL RECOGNIZED TESTING LABORATORY.

2 SECURE CONSTRUCTION PERMITS, APPROVALS, INSPECTIONS AND FINAL SYSTEM ACCEPTANCE FROM BUILDING OFFICIALS OR OTHER APPROPRIATE AUTHORITIES HAVING JURISDICTION (AHJ).

3 CONTRACT DRAWINGS, SPECIFICATIONS, AND BASIS OF DESIGN ARE COMPLEMENTARY AND MUST BE USED IN CONJUNCTION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION. QUESTIONS REGARDING DESIGN INTENT OR SYSTEM OPERATION MUST BE PROMPTLY BROUGHT TO THE CONTRACTING OFFICER'S ATTENTION.

4 "PROVIDE" MEANS FURNISH AND INSTALL COMPLETE AND READY FOR INTENDED USE.

5 "WEATHERPROOF" MEANS SUITABLE FOR INSTALLATION OUTDOORS AND IN WET LOCATIONS. PROVIDE WEATHERPROOF DEVICES ON FACILITY EXTERIOR WALLS, LOCKER ROOMS, AND OTHER AREAS SUBJECT TO EXCESSIVE MOISTURE.

6 AVOID CONFLICTS WITH LIGHT FIXTURES, HVAC DIFFUSERS, GRILLS, DUCTS, CONDUIT AND OTHER PIPING OR OTHER OBSTRUCTIONS ENCOUNTERED. COORDINATE WORK WITH FIELD CONDITIONS. PROMPTLY NOTIFY THE CONTRACTING OFFICER PRIOR TO INITIATING WORK IF ANY MOUNTING LOCATIONS ARE OBSTRUCTED AND/OR IF ANY MOUNTING CONFLICTS OR PROBLEMS ARE DISCOVERED, AS A RESULT OF ANY FIELD MODIFICATIONS.

7 CONFLICTS BETWEEN SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE CONTRACTING OFFICER'S ATTENTION IMMEDIATELY. THE CONTRACTOR(S) SHALL NOT PROCEED WITH ANY WORK EXCEPT AT THEIR OWN RISK, UNTIL CLARIFICATIONS OF CONFLICTS ARE ISSUED TO THE CONTRACTORS BY THE CONTRACTING OFFICER OR AUTHORIZED REPRESENTATIVE.

8 FIRE ALARM/MNS PATHWAY DESIGNATIONS SHALL BE IN ACCORDANCE WITH NFPA 72.
- A. INITIATING - CLASS B
- B. NOTIFICATION APPLIANCES - CLASS B, SYNCHRONIZED
- C. CONTROL - CLASS B
- D. SIGNALING LINE CIRCUITS - CLASS B
- E. NETWORK, PANEL TO PANEL (INCLUDES REMOTE AMPLIFIERS AND LOCAL OPERATING CONSOLE) - CLASS X
- F. SPEAKER CIRCUIT - 16/2 AWG, TWISTED SHIELDED - CLASS B

9 DUCTWORK, PIPING, MECHANICAL EQUIPMENT, CEILINGS, FURNISHINGS AND FIXTURES MUST NOT BE UTILIZED AS LADDERS, SCAFFOLDING OR WORK PLATFORMS.

10 FIRE ALARM AND MASS NOTIFICATION DEVICE LOCATIONS, SIZE, TYPE, ORIENTATION AND PLACEMENT ARE THE RESPONSIBILITY OF THE CONTRACTOR TO MEET AUDIBILITY, INTELLIGIBILITY, AND VISIBLE NOTIFICATION COVERAGE REQUIREMENTS AND COMPLIANCE.

11 SPEAKERS TAP SETTINGS SHALL BE FIELD ADJUSTED BY CONTRACTORS SO THAT REQUIRED AUDIBILITY LEVELS AND INTELLIGIBILITY LEVEL (CIS 0.80) PER UFC 4-021-01 AND NFPA 72 ARE MET IN AREAS THAT ARE DEFINED AS ACOUSTICALLY DISTINGUISHABLE PER UFC 4-021-01 AND NFPA 72. PROVIDE FINAL ADJUSTMENTS TO INTERIOR SPEAKERS INCLUDING CHANGING SPEAKER TAP CONNECTION WHERE NECESSARY TO BALANCE SYSTEM IN ORDER TO PROVIDE AN INTELLIGIBLE MESSAGE THROUGHOUT (WHERE PRACTICAL).

12 INDIVIDUAL SPEAKER CIRCUITS SHALL NOT BE LOADED MORE THAN 75 PERCENT OF RATED AMPLIFIER POWER OUTPUT. SPEAKERS MUST PROVIDE A MINIMUM SOUND LEVEL 15dBA ABOVE AMBIENT SOUND LEVEL OR 5dBA ABOVE MAXIMUM SOUND LEVEL LASTING 60 SECONDS OR LONGER IN ALL SPACES, WHICHEVER IS GREATER.

13 AUDIBLE APPLIANCE INSTALLATION
- A. SPACE AND INSTALL SPEAKERS TO PROVIDE A MINIMUM SOUND LEVEL 15dBA ABOVE AMBIENT SOUND LEVEL OR 5dBA ABOVE MAXIMUM SOUND LEVEL LASTING 60-SECONDS OR LONGER IN ALL SPACES, WHICHEVER IS GREATER IN ACCORDANCE WITH NFPA 72 (AUDIBILITY).
- B. THE PERFORMANCE REQUIREMENTS FOR AUDIBLE NOTIFICATION MUST BE MET WITH ALL DOORS, FIRE SHUTTERS, MOVABLE PARTITIONS, AND OTHER SIMILAR DEVICES CLOSED.
- C. SPEAKERS MUST NOT BE INSTALLED WITHIN 16 FT OF THE FMCP MICROPHONE OR LOCAL OPERATING CONSOLE (LOC) MICROPHONE TO PREVENT AUDIO FEEDBACK.
- D. MOUNT SPEAKERS ON THE EXTERIOR OF THE BUILDING TO PROVIDE NOTIFICATION IN AREAS COMMONLY USED BY BUILDING OCCUPANTS, INCLUDING COURTYARDS, BREAK AREAS, EXIT DOORS TO PUBLIC AREAS, ETC. FOR EXTERIOR NOTIFICATION WITHIN 16 FT FROM THE BUILDING.
- E. PROVIDE AN INTELLIGIBILITY CIS VALUE GREATER THAN THE REQUIRED MINIMUM VALUE IN EACH OCCUPIED AREA (0.8 MINIMUM).
- F. AREAS OF THE BUILDING WHERE OCCUPANTS ARE NOT EXPECTED TO BE NORMALLY PRESENT ARE PERMITTED TO HAVE A CIS SCORE LESS THAN THE MINIMUM REQUIRED VALUE IF PERSONNEL CAN DETERMINE THAT A VOICE SIGNAL IS BEING BROADCAST AND THEY MUST WALK NO MORE THAN 50 FT TO A LOCATION WITH AT LEAST THE MINIMUM REQUIRED CIS VALUE WITHIN THE SAME AREA.
- G. ACOUSTICALLY DISTINGUISHABLE SPACES NOT REQUIRING INTELLIGIBILITY (BUT REQUIRED TO COMPLY WITH THE MINIMUM AUDIBILITY REQUIREMENTS):
  - (1) BATHROOMS, LOCKER/SHOWER ROOMS, AND SIMILAR ROOMS/AREAS
  - (2) MECHANICAL, ELECTRICAL, STORAGE ROOMS, AND SIMILAR ROOMS/AREAS
  - (3) INDIVIDUAL OFFICES WITH LESS THAN 4-PERSONS
  - (4) CLOSETS

14 VISUAL APPLIANCE INSTALLATION
- A. VISUAL NOTIFICATION SHALL BE PROVIDED THROUGHOUT NORMALLY OCCUPIED, PUBLIC AND COMMON USE AREAS (E.G., BREAK ROOMS, CLASSROOMS, AUDITORIUMS, CORRIDORS, TEAM ROOMS, AND CONFERENCE ROOMS).
- B. VISUAL NOTIFICATION SHALL BE PROVIDED THROUGHOUT OFFICES THAT ARE DESIGNED FOR, OR MAY CONTAIN, MORE THAN FOUR PERSONS AT ANY ONE TIME.
- C. VISUAL NOTIFICATION SHALL NOT BE REQUIRED IN SINGLE-PERSON OFFICES, UNLESS OFFICE IS ASSIGNED TO PERSON WITH HEARING IMPAIRMENT THAT WOULD REQUIRE VISIBLE NOTIFICATION.
- D. VISUAL NOTIFICATION SHALL BE PROVIDED THROUGHOUT NORMALLY UNOCCUPIED AREAS (SUCH AS MECHANICAL ROOMS, ELECTRICAL ROOMS, JANITOR ROOMS, STORAGE AREAS, COMMUNICATION CLOSETS, AND OTHER SIMILAR SPACES) GREATER THAN 900 SQ.FT
- E. VISUAL NOTIFICATION SHALL BE PROVIDED THROUGHOUT NORMALLY UNOCCUPIED AREA WHERE THE AMBIENT NOISE IS LOUD ENOUGH TO REQUIRE HEARING PROTECTION (E.G., EMERGENCY GENERATOR ROOM)
- F. VISUAL NOTIFICATION DEVICE SPACING SHALL BE IN ACCORDANCE WITH NFPA 72 TABLE 18.5.5.5.1(A) AND FIGURE 18.5.5.5.1 FOR WALL-MOUNTED VISIBLE APPLIANCES AND NFPA 72 TABLE 18.5.5.5.1(B) FOR CEILING-MOUNTED VISIBLE APPLIANCES.
- G. VISUAL NOTIFICATION DEVICE SPACING IN CORRIDORS 20 FT OR LESS IN WIDTH SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 72 PARAGRAPH 18.5.5.5 OR 18.5.5.6.
- H. WALL-MOUNTED VISUAL APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80 IN. AND NOT GREATER THAN 96 IN. ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA 72.
- I. IN SPACES WHERE MORE THAN TWO VISUAL NOTIFICATION APPLIANCES ARE IN FIELD OF VIEW, THEY SHALL FLASH IN SYNCHRONIZATION.

15 MOUNT VISUAL WARNING STROBE/AUDIBLE NOTIFICATION APPLIANCES TO ACHIEVE MAXIMUM AUDIBILITY AND VISIBILITY IN ACCORDANCE WITH NFPA 72. PROVIDE CARE IN LOCATING VISUAL WARNING STROBE APPLIANCES TO ENSURE VISIBILITY AND AVOID OBSTRUCTIONS.

16 UNLESS OTHERWISE NOTED, PROJECT ELECTRICAL CONDUIT STANDARD IS ELECTRICAL METALLIC TUBING (EMT) AND MUST BE PROVIDED THROUGHOUT PROJECT WHERE PERMITTED (NOT WET LOCATION OR PLACES SUBJECT TO DAMAGE).

17 IN AREAS WITHOUT CEILINGS, CONDUIT MUST BE INSTALLED AS UNOBTRUSIVELY AS POSSIBLE, AS CLOSE AS POSSIBLE TO FLOOR/ CEILING SLAB ABOVE AND PARALLEL AND AT RIGHT ANGLES TO STRUCTURAL STEEL OR CONCRETE ELEMENTS. THESE DRAWINGS ARE DIAGRAMMATIC TO SHOW DESIGN INTENT ONLY.

18 CONTRACTOR MUST CONCEAL ELECTRICAL CONDUITS ABOVE SUSPENDED CEILINGS AND BEHIND WALLS, EXCEPT IN UNFINISHED AREAS WHERE CONDUIT MAY BE SURFACE MOUNTED, UNLESS OTHERWISE SPECIFIED. PAINT EXPOSED CONDUIT TO MATCH ADJACENT FINISH.

19 PENETRATIONS IN MASONRY FLOOR/CEILING SLABS MUST BE CORE DRILLED WITH MASONRY TYPE CORE BIT AND FIRESTOPPED AS SPECIFIED.

20 AFTER CONDUIT INSTALLATION, PENETRATIONS IN FIRE RESISTIVE WALLS AND FLOOR/CEILING MUST BE PROPERLY CLEANED AND SEALED TO THE FULL THICKNESS OF THE PENETRATION WITH A LISTED AND APPROVED FIRESTOPPING MATERIAL OF EQUAL OR GREATER FIRE RESISTANCE.

21 BOTH EXPOSED AND CONCEALED CONDUIT MUST UTILIZE COMPRESSION TYPE STEEL FITTINGS AND CONNECTORS. UNLESS OTHERWISE NOTED ALL CONDUIT PROVIDED SHALL BE 3/4-INC MINIMUM EMT TRADE SIZE. VERTICAL RISERS SHALL BE 1-INCH DIAMETER EMT MINIMUM. LIMITED USE OF 1/2-INC CONDUIT IS PERMITTED ON HORIZONTAL RUNS WHEN A REDUCED DIAMETER IS REQUIRED FOR BETTER CONCEALMENT. WHERE NECESSARY, 1/2-INCH DIAMETER FLEXIBLE CONDUIT MAY BE FISHED OR USED FOR CONCEALED WORK. PLENUM RATED WIRING CONDUCTORS (TYPE FPLP) SHALL BE PROVIDED WHEN FLEX CONDUIT IS UTILIZED.

22 WIRING CONDUCTORS SHALL BE PROVIDED AND INSTALLED IN AN EMT RACEWAY. CONDUCTORS CIRCUITS SHALL BE THE FOLLOWING EXCEPT AS OTHERWISE REQUIRED BY THE FIRE ALARM EQUIPMENT MANUFACTURER.
- A. INITIATING - 16/2 AWG,
- B. NOTIFICATION APPLIANCES - 14/2 AWG,
- C. CONTROL - 16/2 AWG,
- D. SIGNALING LINE CIRCUITS - 16/2 AWG, TWISTED PAIR
- E. 120VAC - 12 AWG WITH 12 AWG EQUIPMENT GROUND
- F. SPEAKER CIRCUIT - 16/2 AWG, TWISTED SHIELDED

23 PROVIDE ELECTRICAL BOXES AS FOLLOWS: UNLESS NOTED OTHERWISE, PROVIDE CAST METAL BELL TYPE BOXES WITH THREADED HUBS ON EXPOSED WORK, EXCEPT WHERE FACTORY BOXES ARE PROVIDED. CONCEALED BOXES MAY BE STAMPED STEEL BOXES. TERMINAL CABINETS MUST BE OF SOLID WALL CONSTRUCTION WITH NO FACTORY KNOCK OUTS.

24 VISUAL DEVICE CIRCUITS SHALL NOT EXCEED A 10% VOLTAGE DROP. SPEAKER CIRCUITS @ 70.7 VRMS, SHALL NOT HAVE MORE THAN A CALCULATED 2dBA LOSS. 70.7 VRMS SPEAKER CIRCUITS AND SIZES PROVIDED MUST NOT ALLOW MORE THAN 0.5dBA (12.5%) LOSS.

25 COORDINATE LOCATION OF AUTOMATIC SPRINKLER FLOW AND TAMPER SWITCHES PRIOR TO CONDUIT ROUGH-IN TO ENSURE ACCESSIBILITY AND MINIMIZE LENGTH OF FLEXIBLE CONDUIT RUNS NECESSARY TO MAKE CONNECTIONS.

26 WHERE REQUIRED, PROVIDE SMOKE DETECTORS A MINIMUM OF 3 FEET FROM AIR DIFFUSERS.

27 FIRE ALARM AND MASS NOTIFICATION DEVICES PROVIDED IN LAY-IN ACOUSTICAL TILES OR SUSPENDED CEILINGS MUST BE IN CENTER OF TILE. PROVIDE STEEL TILE BRIDGE TO SUPPORT DEVICE.

28 PROVIDE MANUAL PULL STATIONS AS DICTATED BY NFPA 72. ALL MANUAL PULL STATIONS SHALL BE DOUBLE-ACTION, NON-GLASS ROD, WITH MECHANICAL RESET FEATURE. IF PULL STATION REQUIRES KEY, IT SHALL BE THE SAME KEY AS REQUIRED FOR THE FMCP. CONVENTIONAL SINGLE-ACTION MANUAL PULL STATIONS ARE PERMITTED IN HAZARDOUS AREAS, WET AND DAMP LOCATIONS, AND OTHER AREAS WHERE SPECIALTY LISTINGS ARE REQUIRED. CONVENTIONAL PULL STATIONS, IF USED, SHALL BE PROVIDED WITH A SPEPARATE ADDRESS.

29 COORDINATE FIRE ALARM AND MASS NOTIFICATION DEVICE LOCATIONS WITH CEILING GRID, LIGHTS AND DIFFUSERS.

30 PROVIDE REQUIRED FIRE ALARM SYSTEM AND MASS NOTIFICATION INTERFACES WITH THE BUILDING MECHANICAL AND ELECTRICAL SYSTEMS, ACCESS CONTROL SYSTEM, AND BUILDING PAGING SYSTEM. COORDINATE LOCATIONS AND QUANTITIES OF DUCT SMOKE DETECTORS, ADDRESSABLE INPUT MODULES AND ADDRESSABLE OUTPUT MODULES WITH MECHANICAL AND ELECTRICAL DRAWINGS.

31 MASS NOTIFICATION AUTONONOUS CONTROL UNIT (ACU) SHALL BE INTEGRATED WITH THE BUILDING FIRE ALARM CONTROL PANEL TO FORM ONE COMBINED SYSTEM THAT PERFORMS BOTH FUNCTIONS. MASS NOTIFICATION AND FIRE ALARM SYSTEM MUST UTILIZE THE SAME SPEAKERS AND STROBE DEVICES. THE BUILDING FIRE ALARM/MNS SHALL BE INTEGRATED WITH THE BUILDING PAGING ADDRESS SYSTEM.

32 ALL CONDUIT, JUNCTION/BACK BOXES, COVERS AND COUPLINGS SHALL BE FACTORY PAINTED RED.

33 PROVIDE DUCT SMOKE DETECTORS WHERE REQUIRED BY NFPA 90A. DUCT SMOKE DETECTORS SHALL BE PROVIDED DOWNSTREAM OF AIR FILTERS AND AHEAD OF BRANCH CONNECTIONS IN AIR SUPPLY SYSTEMS HAVING A CAPACITY GREATER THAN 2,000 CFM.

34 CONTRACTOR SHALL PROVIDE ALL COMPONENTS, CONNECTIONS, AND PROGRAMMING OF THE CENTRAL STATION AND ARTC FACILITY FOR COMPLETE COMMUNICATION BETWEEN SYSTEMS. ALL SIGNALS SHALL TRANSMIT TO THE HONEYWELL VISOR ALARM PLUS SERIES IP RECEIVER LOCATED IN THE NOBLE TRAINING FACILITY CENTRAL ALARM MONITORING STATION (CAMS) VIA FIBER.PROGRAM THE ONYXWORKS WORKSTATION (VERSION 4.50.126) AND ALL EQUIPMENT IN CAMS TO INCLUDE FLOOR PLAN REPRESENTATION OF ALARMS AND ALERTS. PROVIDE A SECONDARY MEANS OF COMMUNICATION WITH CAMS. THE FIRE ALARM/MASS NOTIFICATION SYSTEM SUBCONTRACTOR SHALL EVALUATE THE EXISTING MX8000 RECEIVER CONFIGURATION TO DETERMINE IF CONNECTION TO THE MX8000 IS FEASIBLE VIA CELLULAR COMMUNICATION AND HONEYWELL ALARMNET. THE MX8000 IS DISCONTINUED SO EVALUATE AVAILABILITY OF ALL PARTS REQUIRED FOR COMPLETE INTEGRATION. ALL PARTS SHALL BE NEW. PROVIDE AN ADDITIONAL LINE ALTERNATE PRICE FOR PROVIDING ALL PARTS AND COMPLETE CONFIGURATION OF THE MX8000 RECEIVER, CENTRAL STATION, AND ARTC BUILDING 640 TO COMMUNICATE VIA CELLULAR COMMUNICATION AND ALARMNET.

SYMBOLS

- AIM — ADDRESSABLE INPUT MONITOR MODULE
- AOM — ADDRESSABLE OUTPUT MODULE - CONTROL
- AOM/R — ADDRESSABLE OUTPUT MODULE - RELAY
- B — ELECTRONIC BELL (FOR FIRE SPRINKLER WATERFLOW)
- DUCT DETECTOR (SUPPLY SIDE)
- FMCP — HONEYWELL FIRE ALARM/MNS CONTROL PANEL
- LOC — LOCAL OPERATING CONSOLE AND ANNUNCIATOR PANEL
- ET — MNS LED-TYPE TEXT SIGN
- F — MANUAL PULL STATION
- C S — FIRE ALARM/MNS SPEAKER - CEILING MOUNTED
- C M — FIRE ALARM/MNS SPEAKER STROBE - CEILING MOUNTED
- M — FIRE ALARM/MNS SPEAKER STROBE - WALL MOUNTED
- M — FIRE ALARM/MNS STROBE - CEILING MOUNTED
- M — FIRE ALARM/MNS STROBE - WALL MOUNTED
- NAP — FIRE ALARM/MNS NOTIFICATION ALARM PANEL
- S — PHOTOELECTRIC SMOKE DETECTOR
- RTS — REMOTE TEST STATION
- VS — TAMPER SWITCH
- WF — WATERFLOW SWITCH
- CO — CARBON MONOXIDE DETECTOR

US Army Corps of Engineers
Mobile District

No.	Symbol	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE014314 — JOHN M. TAMBURELLO — 21 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

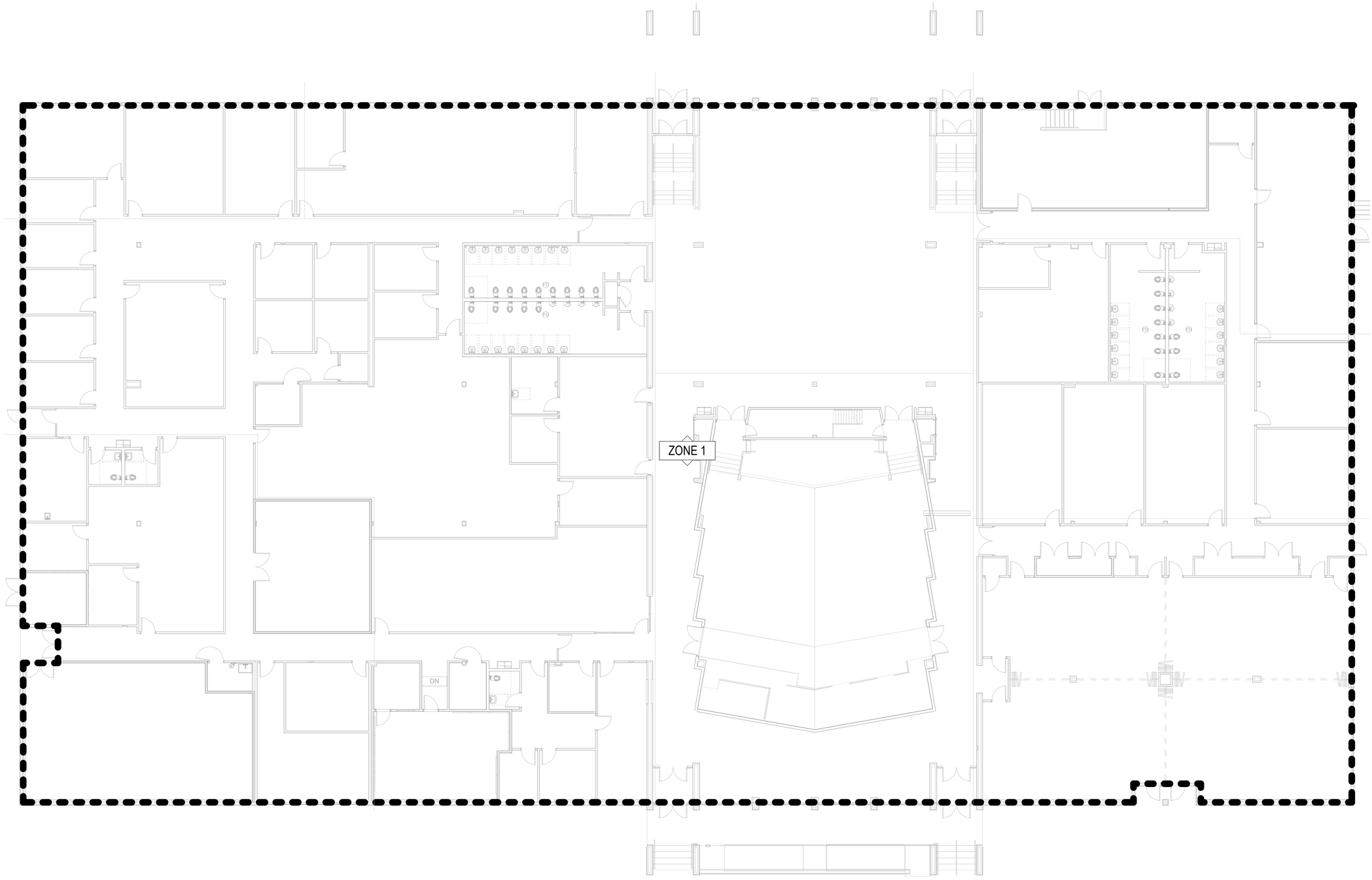
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS NOTES & SYMBOLS

SHEET IDENTIFICATION
FA001
SHEET 395 of 442

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FIRE ALARM/MNS - COMPOSITE PLAN

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

0 6' 12' 24'

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

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved

Revisions

GEORGIA REGISTERED PROFESSIONAL ENGINEER KHEM M. TAMBURELLO
29 JUN 2021

Date:	06-29-2021
File No.	
I.S.O. Sheet File Name:	
Solicitation Number:	
Designed By:	JD
Drawn By:	DW
Checked By:	PDR
Reviewed By:	

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ssa CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

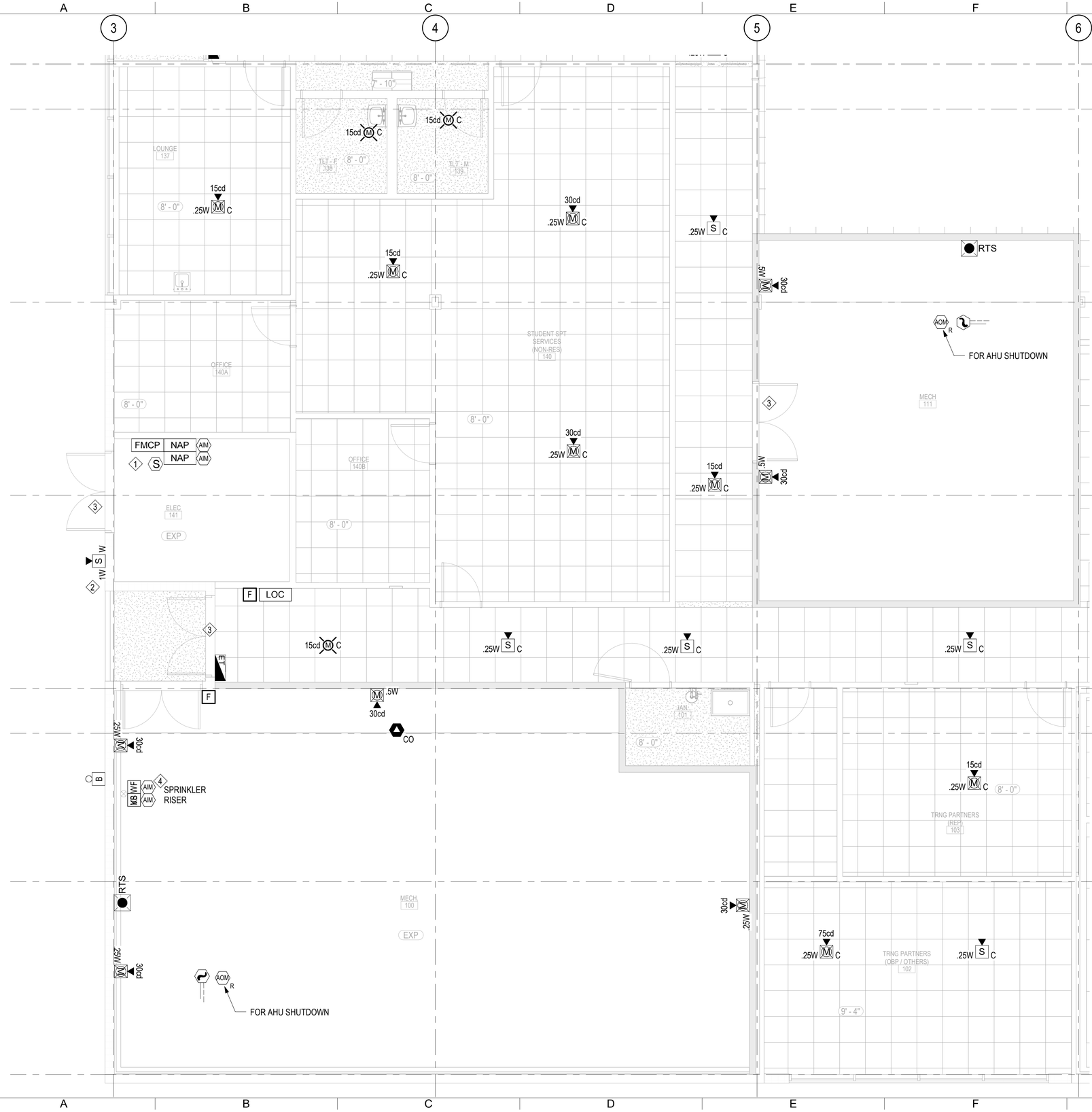
FIRE ALARM/MNS - COMPOSITE PLAN

SHEET IDENTIFICATION

FA111

SHEET 396 of 442

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6/28/2021 12:37:01 PM



SHEET NOTES

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4) CLOSETS

KEYNOTES

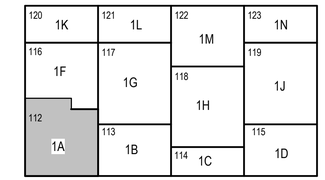
(#)

(1) PROVIDE LATEST VERSION OF HONEYWELL PANEL TO INTERACT WITH THE HONEYWELL BRAND VISOR ALARMPLUS SERIES IP RECEIVER LOCATED IN THE CAMS. IT SHALL BE NOTED ON CONSTRUCTION DRAWINGS THAT PROGRAMMING OF SYSTEM SHALL INCLUDE FLOOR PLAN REPRESENTATION OF ALARMS/ALERTS.

(2) PROVIDE WEATHERPROOF SPEAKER AND WEATHERPROOF BACKBOX ON EXTERIOR OF BUILDING IN ACCORDANCE WITH UFC 4-021-01 SECTION 4-6.1.

(3) INTERFACE WITH ACCESS CONTROL SYSTEM, PROVIDE MODULES, ALL NECESSARY EQUIPMENT, INSTALLATION AND PROGRAMMING TO RELEASE MAGNETIC LOCKS UPON SIGNAL FROM THE FIRE ALARM MASS NOTIFICATION SYSTEM.

(4) INTERCONNECT, PROVIDE MODULES, OTHER EQUIPMENT, INSTALLATION AND PROGRAMMING TO MONITOR SPRINKLER SYSTEM WATERFLOW SWITCHES AND TAMPER SWITCHES.



FIRST FLOOR KEY PLAN

PLAN NORTH

FIRE ALARM/MNS - BLOCK 1A

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE013014 KEITH M. TAMBURELLO

29 JUN 2021

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:
Date: 06-29-2021
File No:
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

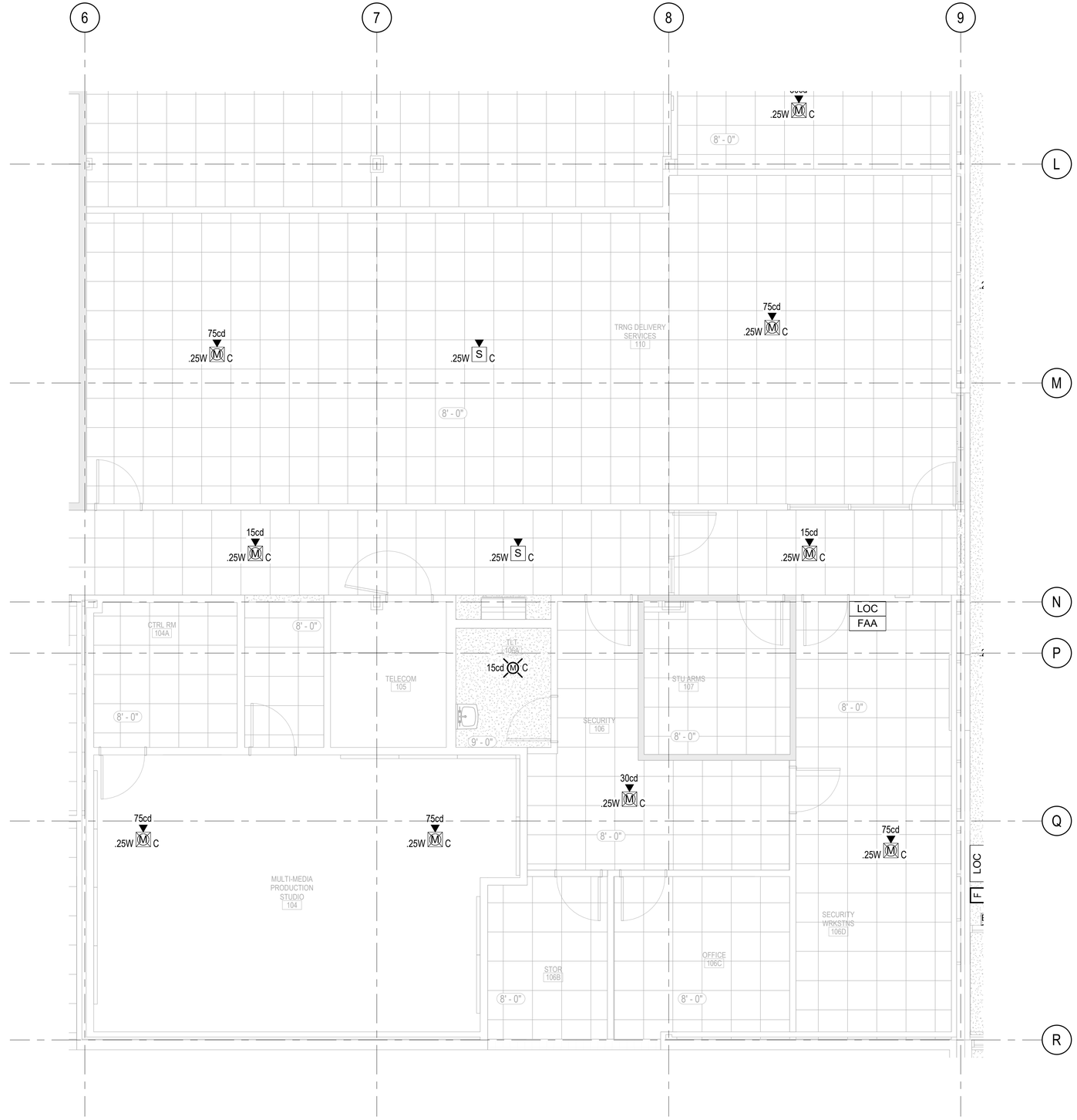
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1A

SHEET IDENTIFICATION
FA112
SHEET 397 of 442

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SHEET NOTES

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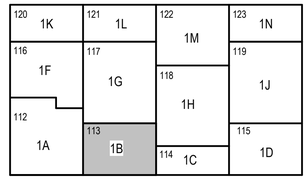
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3) INDIVIDUAL OFFICES WITH LESS THAN 4-PERSONS
4) CLOSETS

KEYNOTES

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1B

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE013014 MICHAEL N. TAMBURELLO
29 JUN 2021

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

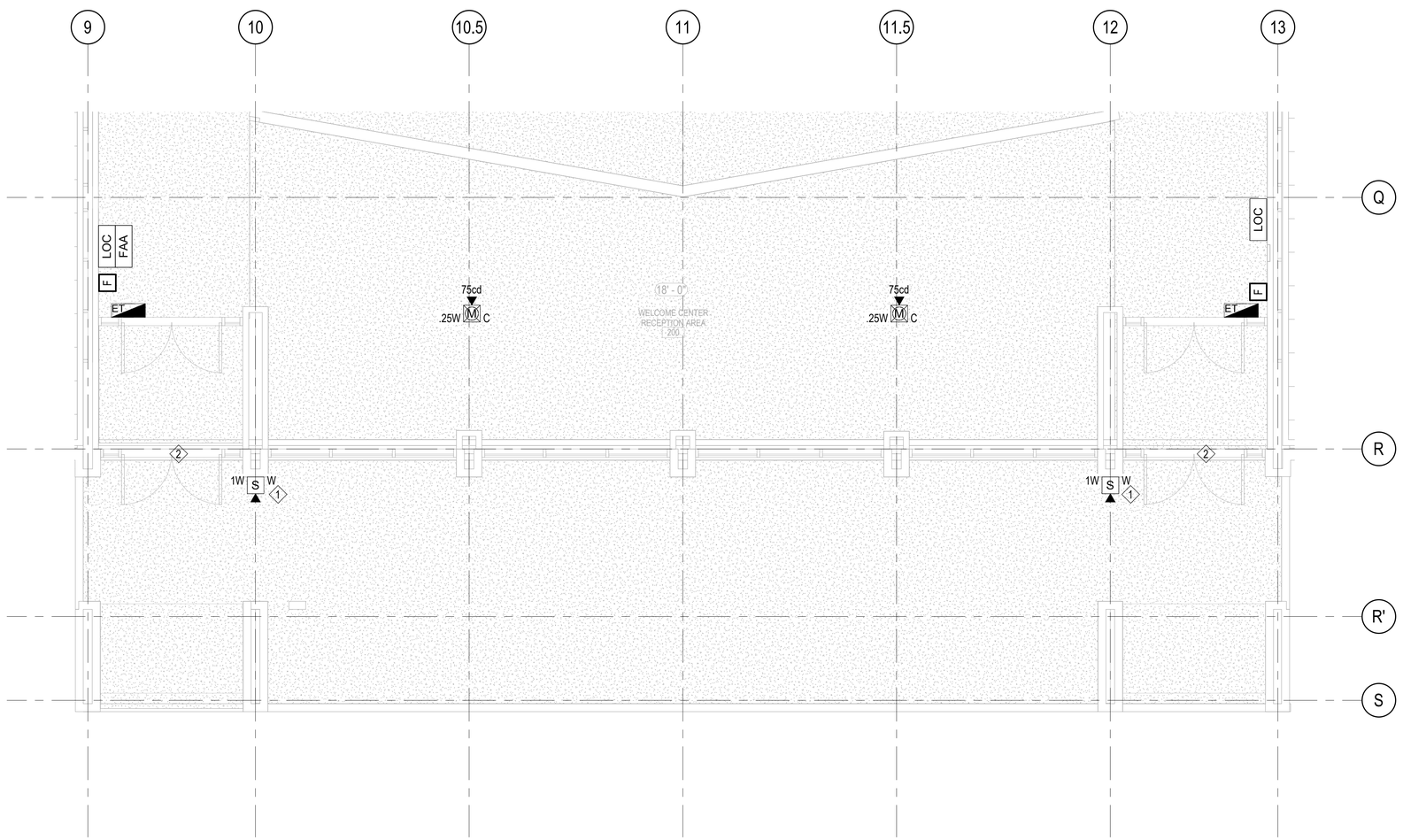
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1B

SHEET IDENTIFICATION
FA113
SHEET 398 of 442

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SHEET NOTES

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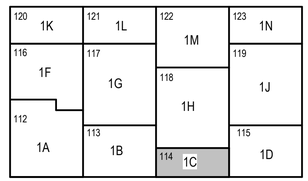
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2 INTERCONNECT WITH ACCESS CONTROL SYSTEM, PROVIDE MODULES, OTHER EQUIPMENT, INSTALLATION AND PROGRAMMING TO RELEASE MAGNETIC LOCKS UPON SIGNAL FROM THE FIRE ALARM MASS NOTIFICATION SYSTEM.



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1C

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE031014 MICHAEL N. TAMBURELLO
21 JUN 2021

Designed By: JD	Date: 06-29-2021
Drawn By: DW	File No:
Checked By: PDR	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

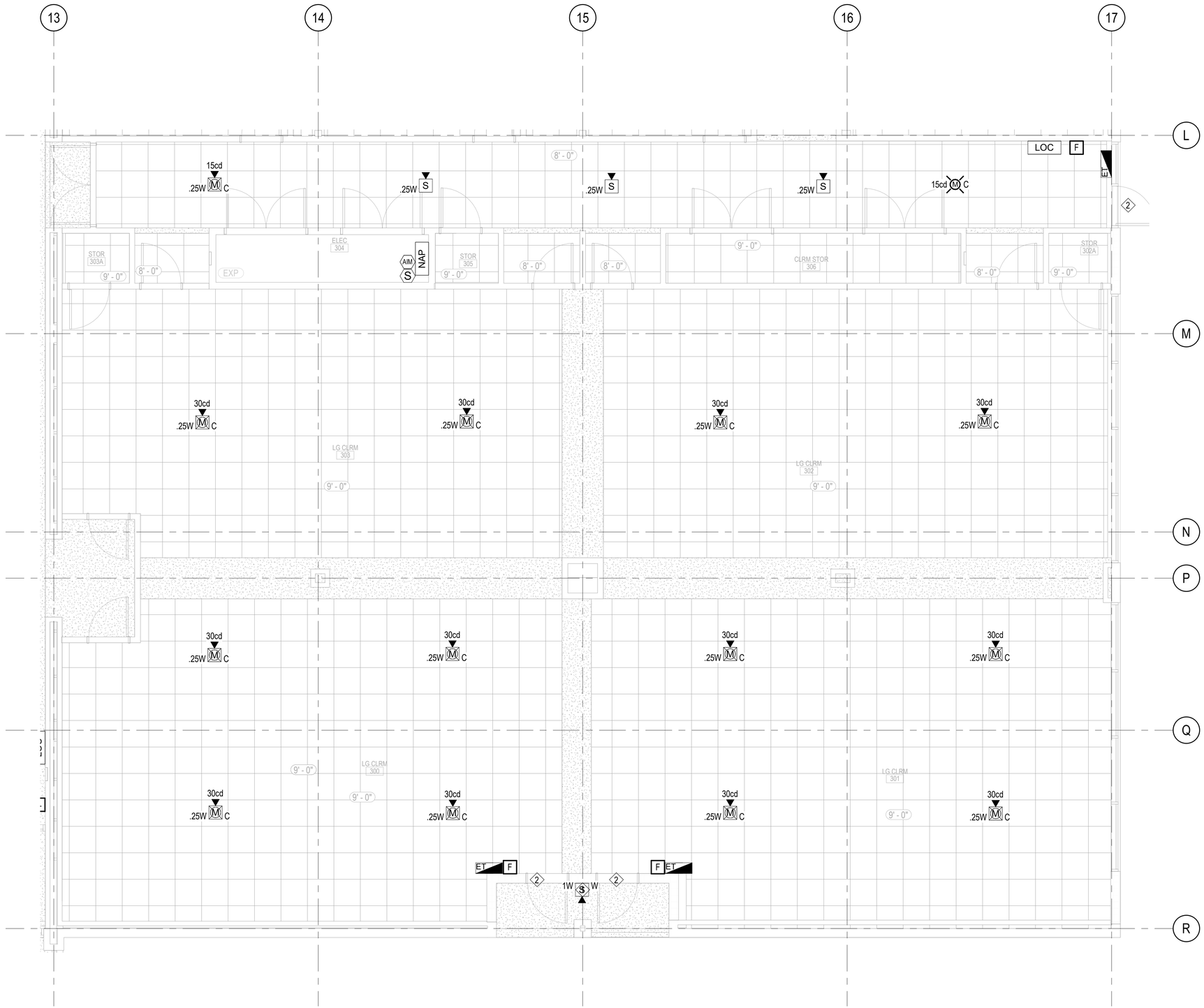
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1C

SHEET IDENTIFICATION
FA114
SHEET 399 of 442

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SHEET NOTES

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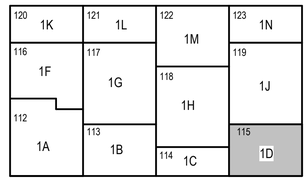
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PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1D

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED NO. 25014 PROFESSIONAL ENGINEER NICHOLAS M. TAMBURELLO
21 JUN 2021

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

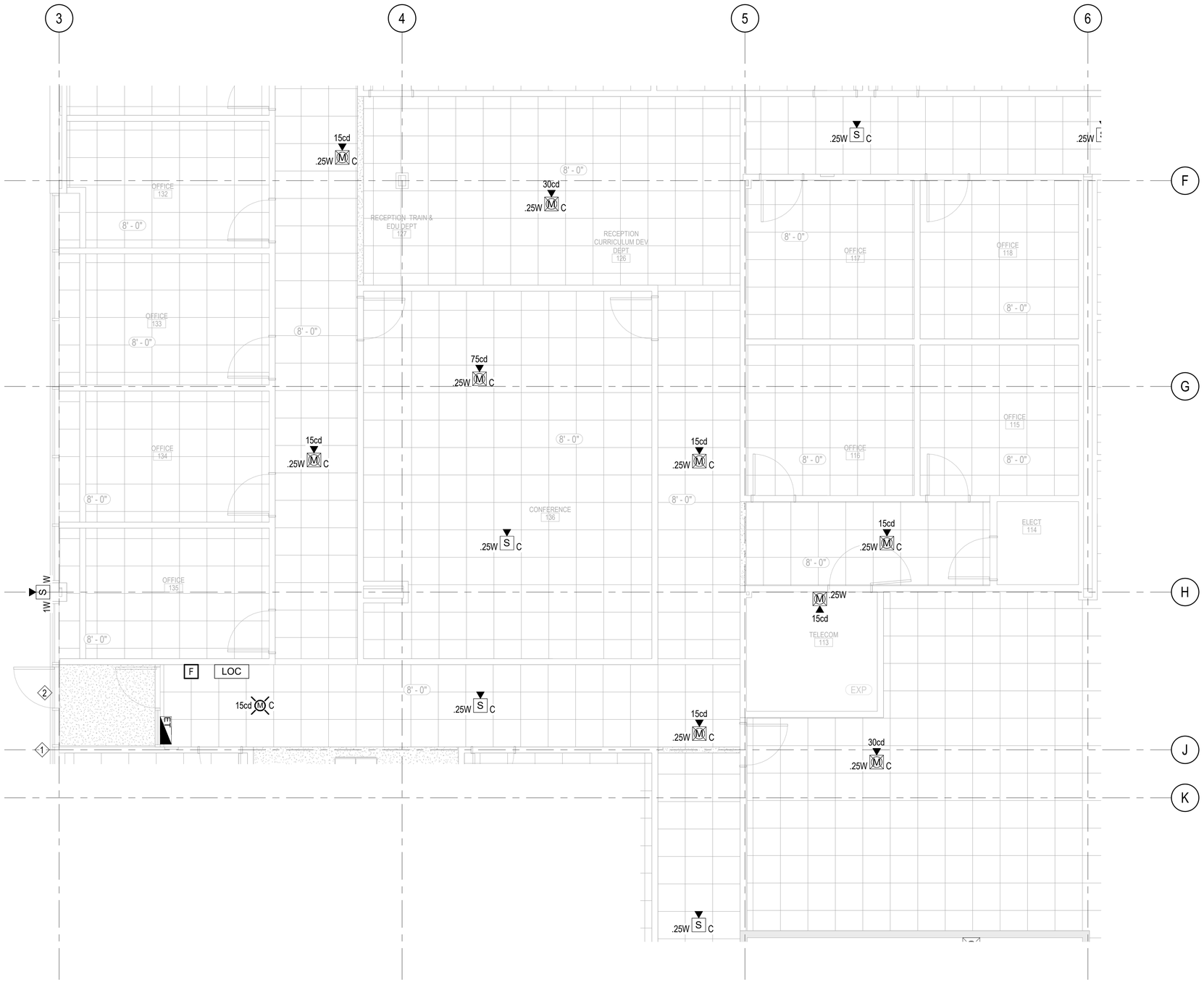
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1D

SHEET IDENTIFICATION
FA115
SHEET 400 of 442

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SHEET NOTES

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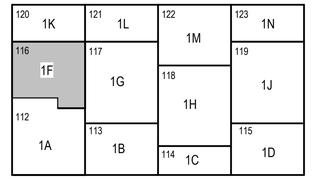
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PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1F

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. 26814
MICHAEL N. TAMBURELLO
21 JUN 2021

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

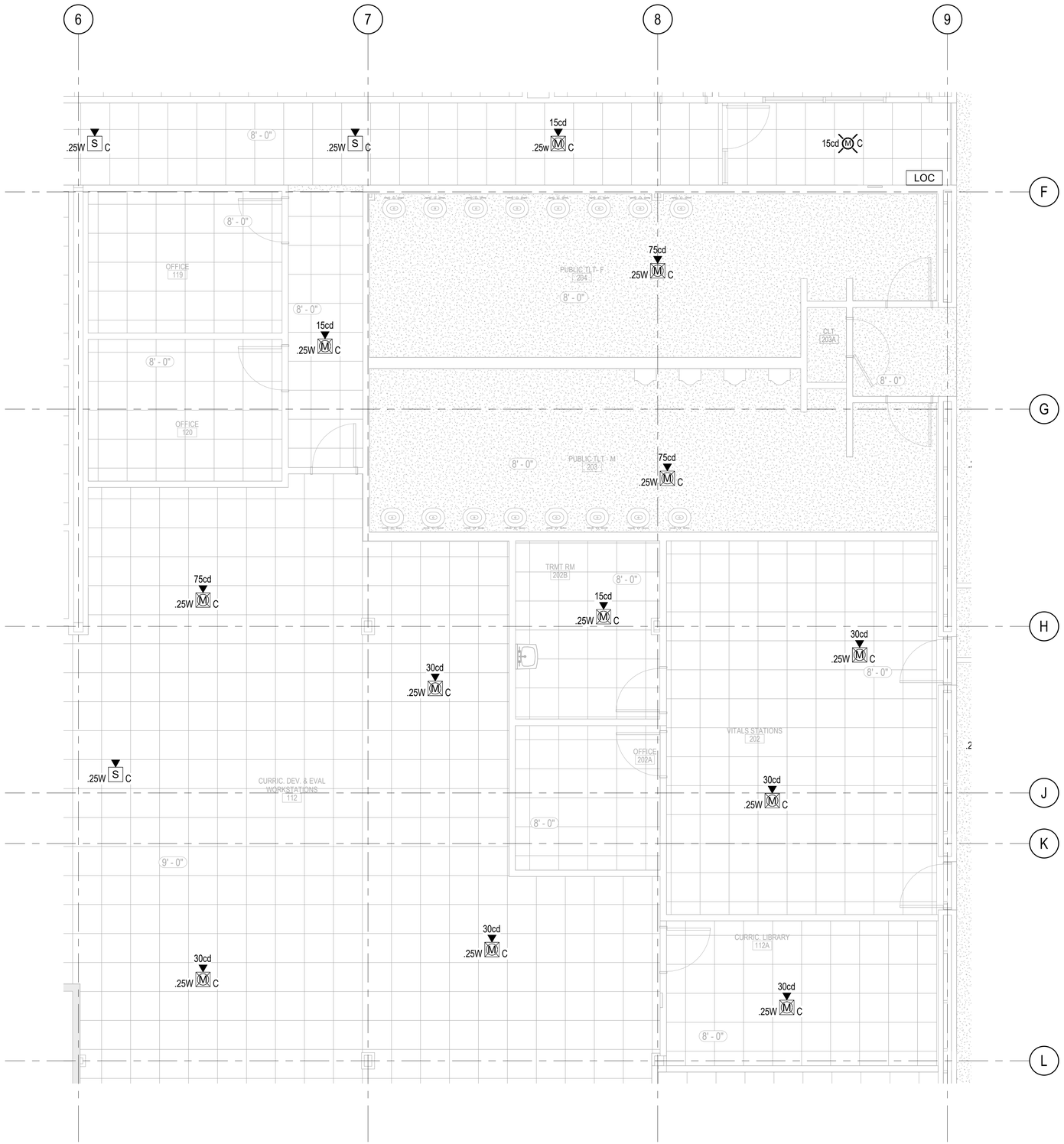
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1F

SHEET IDENTIFICATION
FA116
SHEET 401 of 442

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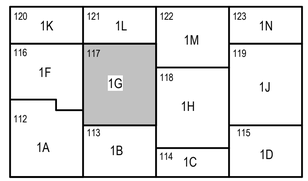
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3) INDIVIDUAL OFFICES WITH LESS THAN 4-PERSONS
4) CLOSETS

KEYNOTES

#1 -

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1G

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER
NO. PE031014
ANTHONY M. TAMBURELLO
29 JUN 2021

Designed By: JD	Date: 06-29-2021		
Drawn By: DW	File No.		
Checked By: PDR	I.S.O. Sheet File Name:		
Reviewed By:	Solicitation Number:		

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

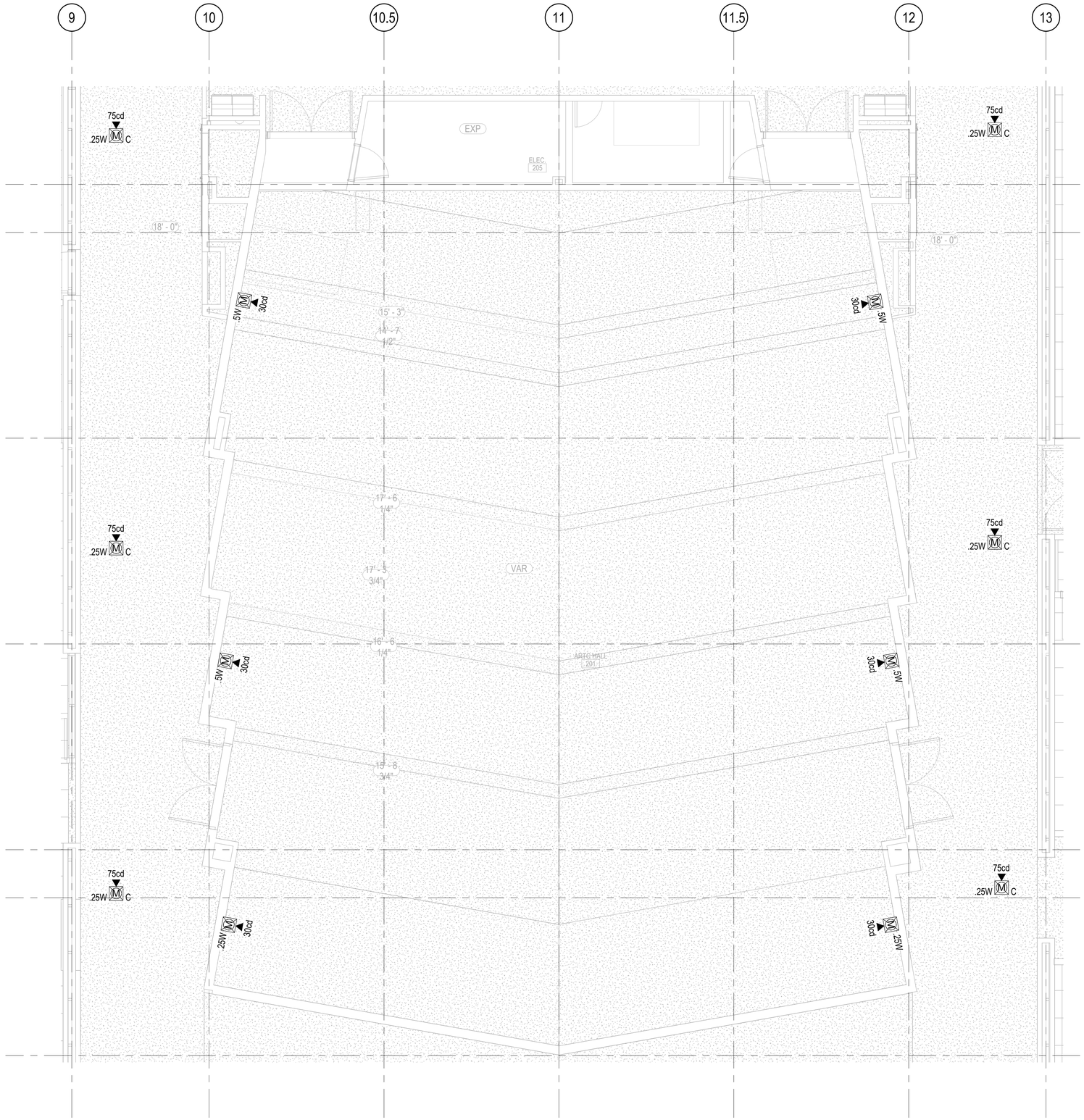
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1G

SHEET IDENTIFICATION
FA117
SHEET 402 of 442

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SHEET NOTES

1 SPEAKERS TAP SETTINGS SHALL BE FIELD ADJUSTED BY CONTRACTORS SO THAT MINIMUM REQUIRED INTELLIGIBILITY LEVELS (CIS 0.80) PER UFC 4-021-01 ARE MET IN AREAS THAT ARE DEFINED AS ACOUSTICALLY DISTINGUISHABLE SPACES PER UFC 4-021-01 AND NFPA 72.

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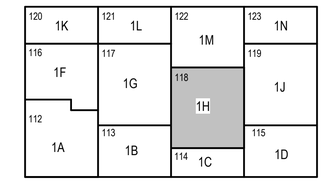
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4) CLOSETS

KEYNOTES

(#)

(1) -



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1H

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE013014 ANTHONY M. TAMBURELLO

29 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

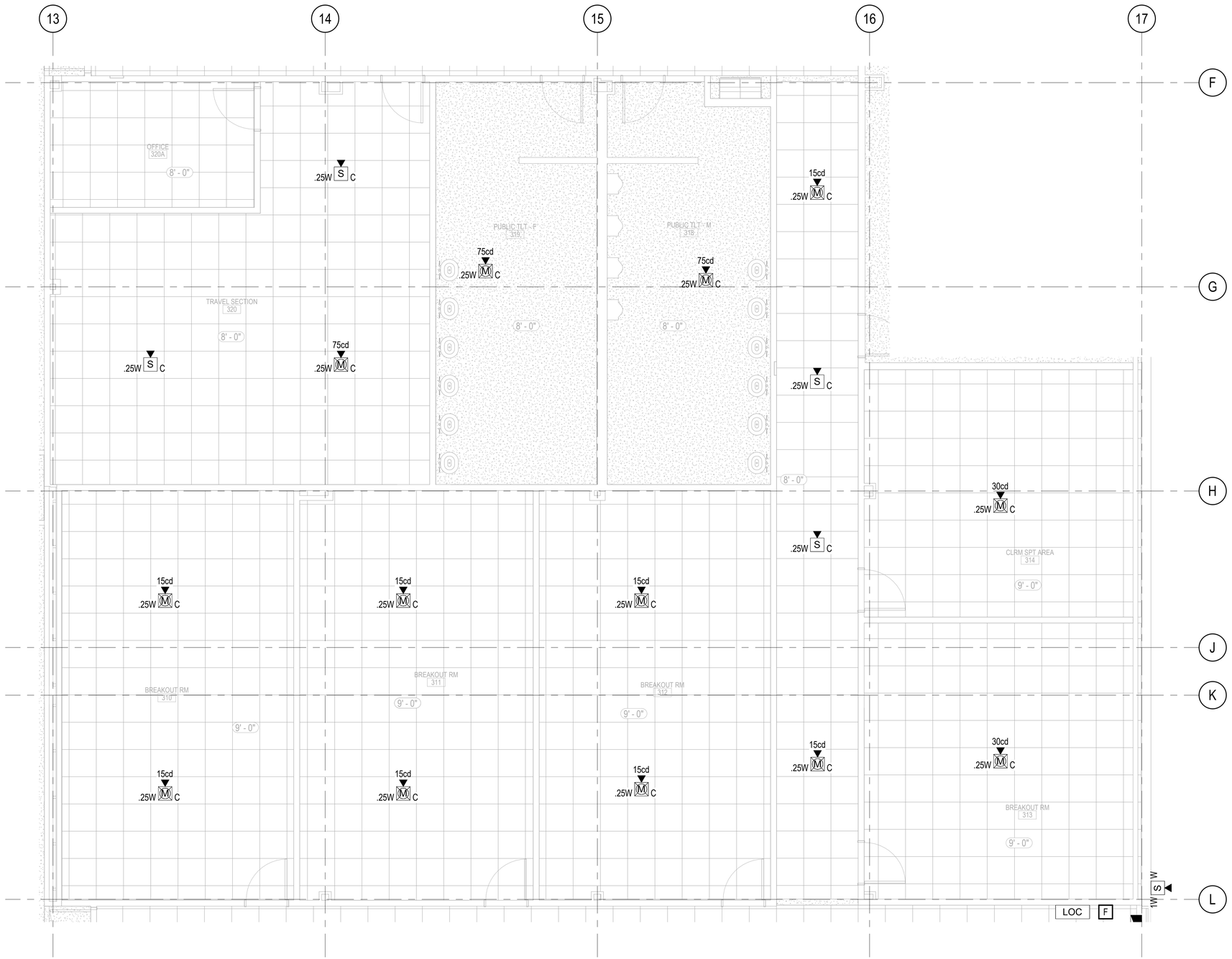
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1H

SHEET IDENTIFICATION
FA118
SHEET 403 of 442

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6/28/2021 12:37:18 PM



SHEET NOTES

1 SPEAKERS TAP SETTINGS SHALL BE FIELD ADJUSTED BY CONTRACTORS SO THAT MINIMUM REQUIRED INTELLIGIBILITY LEVELS (CIS 0.80) PER UFC 4-021-01 ARE MET IN AREAS THAT ARE DEFINED AS ACOUSTICALLY DISTINGUISHABLE SPACES PER UFC 4-021-01 AND NFPA 72.

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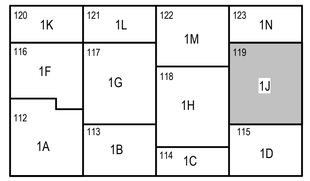
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KEYNOTES

(#) (1) -

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1J

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. 26031014
MICHAEL N. TAMBURELLO
29 JUN 2021

Designed By: JD	Date: 06-29-2021		
Drawn By: DW	File No.	I.S.O. Sheet File Name:	
Checked By: PDR			Solicitation Number:
Reviewed By:			

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

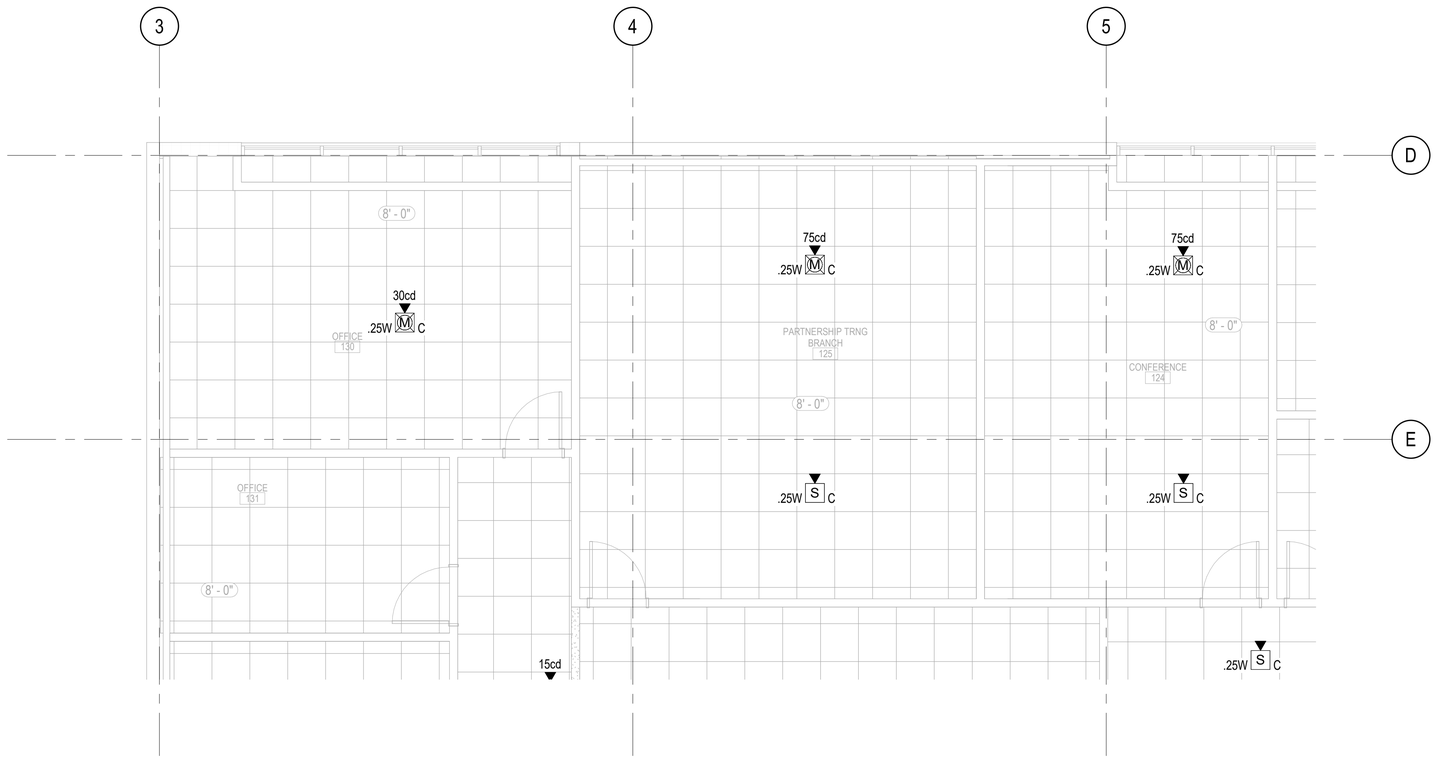
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1J

SHEET IDENTIFICATION
FA119
SHEET 404 of 442

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SHEET NOTES

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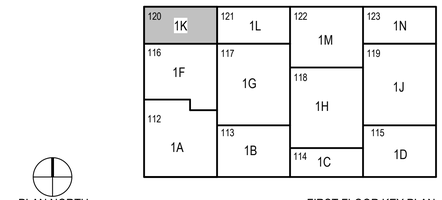
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KEYNOTES

◇ #

◇ 1 -



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1K

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE0019014 MICHAEL N. TAMBURELLO

21 JUN 2021

Designed By: JD	Date: 06-29-2021
Drawn By: DW	File No.
Checked By: PDR	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

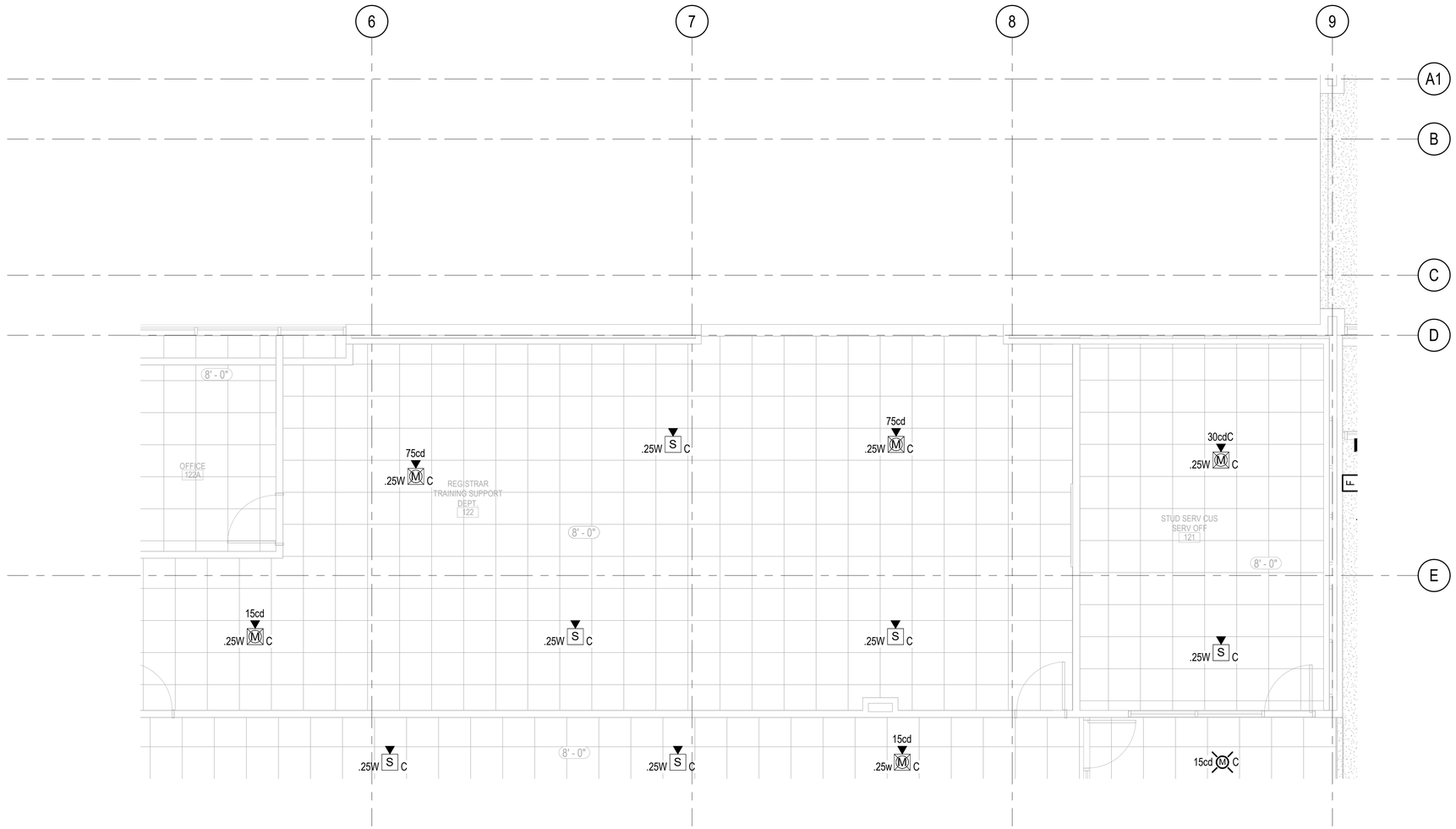
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1K

SHEET IDENTIFICATION
FA120
SHEET 405 of 442

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SHEET NOTES

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4) CLOSETS

KEYNOTES



FIRST FLOOR KEY PLAN

PLAN NORTH

FIRE ALARM/MNS - BLOCK 1L

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved

Revisions

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE013014 KHEIR N. TAMBURELLO

29 JUN 2021

Designed By: JD	Date: 06-29-2021
Drawn By: DW	File No.
Checked By: PDR	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

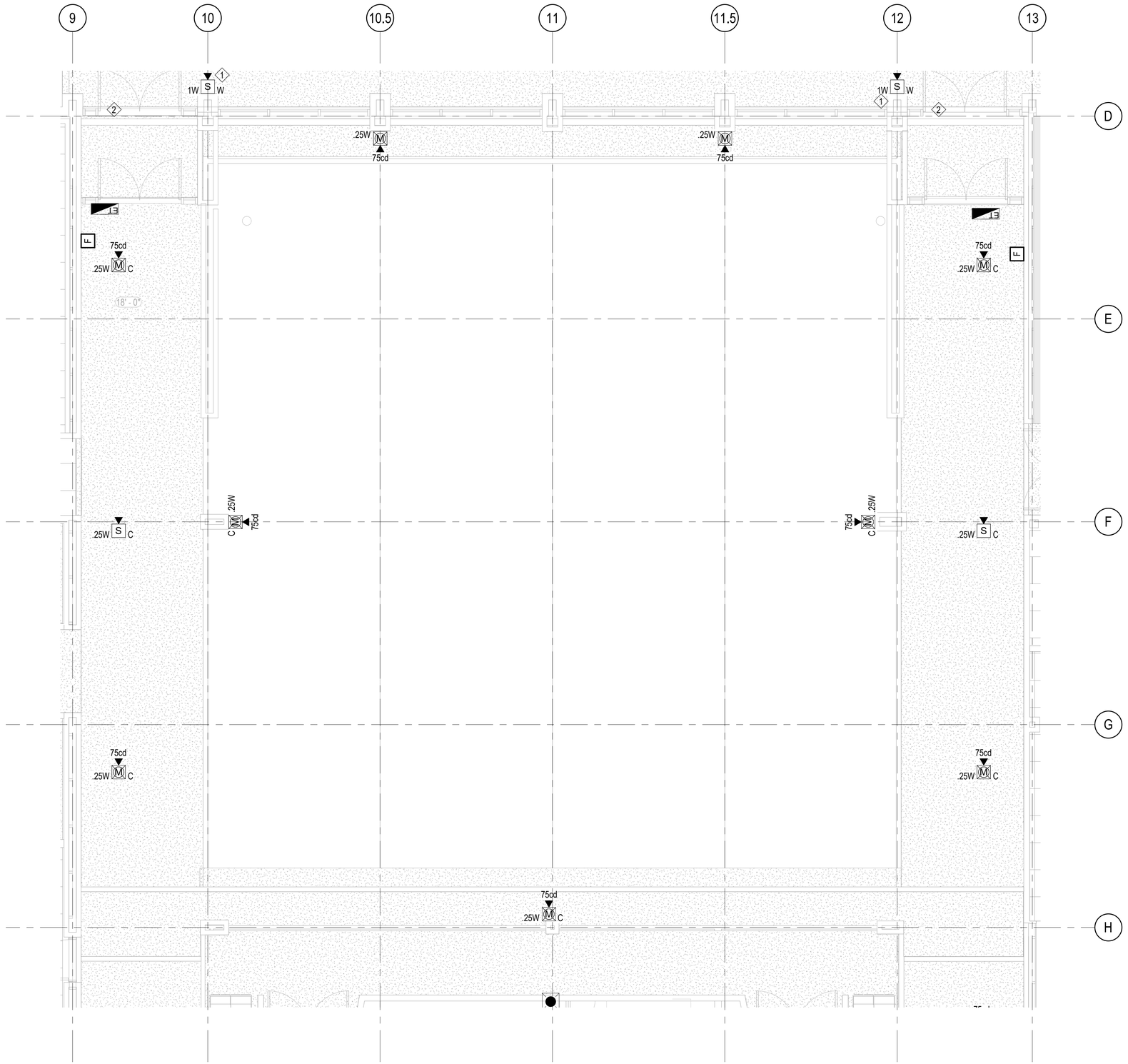
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1L

SHEET IDENTIFICATION
FA121
SHEET 406 of 442

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SHEET NOTES

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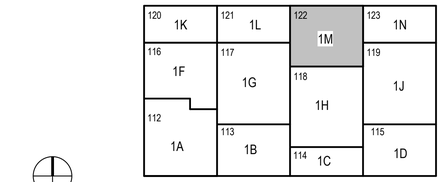
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4) CLOSETS

KEYNOTES

◇1 PROVIDE WEATHERPROOF SPEAKER AND WEATHERPROOF BACKBOX ON EXTERIOR OF BUILDING IN ACCORDANCE WITH UFC 4-021-01 SECTION 4-6.1.

◇2 INTERFACE WITH ACCESS CONTROL SYSTEM, PROVIDE MODULES, ALL NECESSARY EQUIPMENT, INSTALLATION AND PROGRAMMING TO RELEASE MAGNETIC LOCKS UPON SIGNAL FROM THE FIRE ALARM MASS NOTIFICATION SYSTEM.



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1M

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER
29 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:
Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

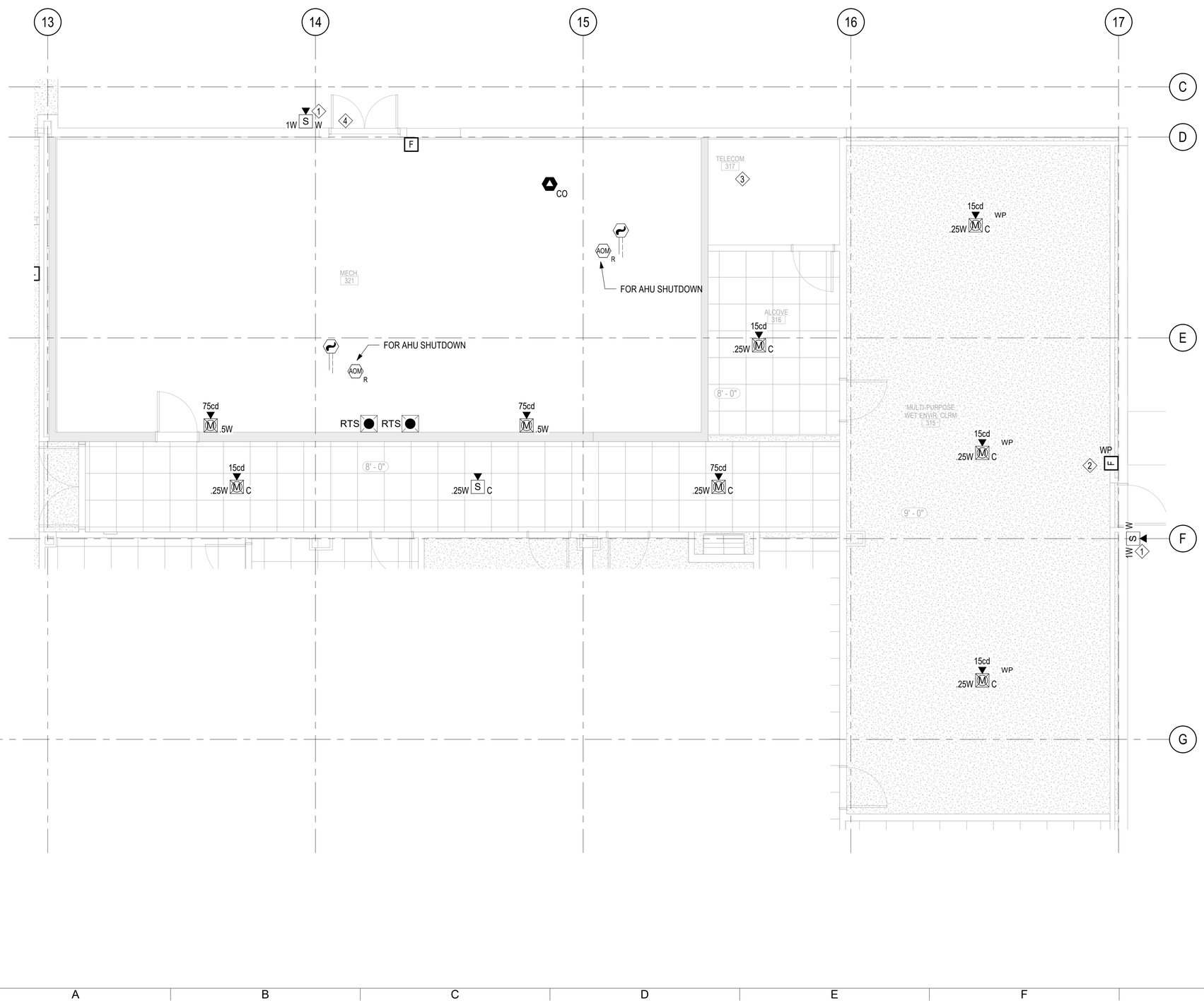
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1M

SHEET IDENTIFICATION
FA122
SHEET 407 of 442

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SHEET NOTES

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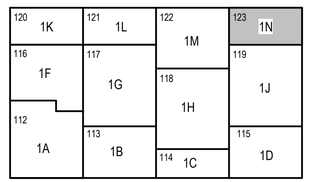
KEYNOTES

<1> PROVIDE WEATHERPROOF SPEAKER AND WEATHERPROOF BACKBOX ON EXTERIOR OF BUILDING IN ACCORDANCE WITH UFC 4-021-01 SECTION 4-6.1.

<2> PROVIDE WEATHERPROOF SINGLE-ACTION MANUAL PULL BOX AND WEATHERPROOF BACKBOX, RACEWAY, AND CONNECTORS IN MULTI-PURPOSE WET ENVIRONMENT CLASSROOM. PROVIDE WEATHERPROOF PROTECTIVE ENCLOSURE FOR MANUAL PULL STATION.

<3> INTERFACE WITH ACCESS CONTROL SYSTEM.

<4> PROVIDE MODULES, ALL NECESSARY EQUIPMENT, INSTALLATION AND PROGRAMMING TO RELEASE MAGNETIC LOCKS UPON SIGNAL FROM THE FIRE ALARM MASS NOTIFICATION SYSTEM.



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - BLOCK 1N

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE031014 KEITH N. TAMBURELLO

21 JUN 2021

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

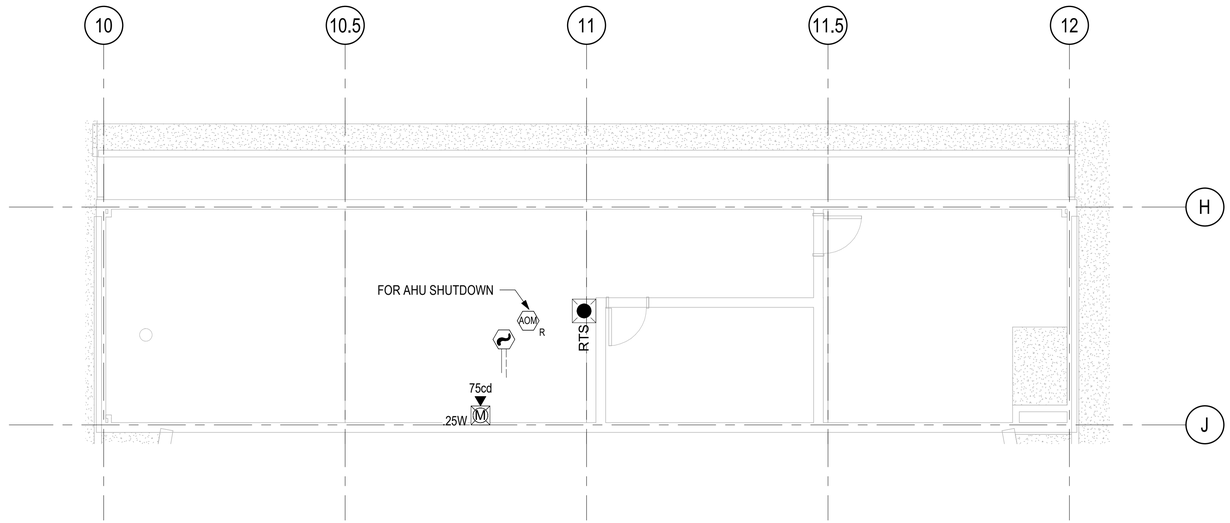
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - BLOCK 1N

SHEET IDENTIFICATION
FA123
SHEET 408 of 442

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SHEET NOTES

1 SPEAKERS TAP SETTINGS SHALL BE FIELD ADJUSTED BY CONTRACTORS SO THAT MINIMUM REQUIRED INTELLIGIBILITY LEVELS (CIS 0.80) PER UFC 4-021-01 ARE MET IN AREAS THAT ARE DEFINED AS ACOUSTICALLY DISTINGUISHABLE SPACES PER UFC 4-021-01 AND NFPA 72.

2 SPEAKERS SHALL BE SPACED AND INSTALLED TO PROVIDE A MINIMUM SOUND LEVEL 15DB ABOVE AMBIENT SOUND LEVEL OR 5DB ABOVE MAXIMUM SOUND LEVEL LASTING 60-SECONDS OR LONGER IN ALL SPACES, WHICHEVER IS GREATER FOR REQUIRED AUDIBILITY LEVELS PER NFPA 72 ACCORDANCE WITH NFPA 72.

3 VISIBLE NOTIFICATION MUST BE PROVIDED IN ALL NORMALLY UNOCCUPIED AREAS (SUCH AS MECHANICAL ROOMS, ELECTRICAL ROOMS, JANITOR ROOMS, STORAGE AREAS, COMMUNICATION CLOSETS AND OTHER SIMILAR SPACES) GREATER THAN 900 SQ.FT.

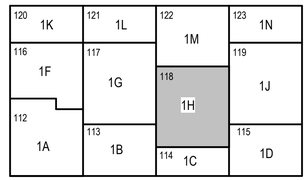
4 VISIBLE NOTIFICATION IS REQUIRED IN ANY NORMALLY UNOCCUPIED AREA WHERE THE AMBIENT NOISE IS LOUD ENOUGH TO REQUIRE HEARING PROTECTION.

5 VISIBLE NOTIFICATION DEVICE SPACING SHALL BE IN ACCORDANCE WITH EITHER NFPA 72 TABLE 18.5.5.5.1(A) AND FIGURE 18.5.5.5.1 OR TABLE 18.5.5.5.1(B).

6 ACOUSTICALLY DISTINGUISHABLE SPACES NOT REQUIRING INTELLIGIBILITY (BUT REQUIRED TO COMPLY WITH THE MINIMUM AUDIBILITY REQUIREMENTS):
1) BATHROOMS, LOCKER/SHOWER ROOMS, AND SIMILAR ROOMS/AREAS
2) MECHANICAL, ELECTRICAL, STORAGE ROOMS, AND SIMILAR ROOMS/AREAS
3) INDIVIDUAL OFFICES WITH LESS THAN 4-PERSONS
4) CLOSETS

KEYNOTES

1 -



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE ALARM/MNS - MEZZANINE

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER KHIN N. TAMBURELLO 29 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: JD
Drawn By: DW
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

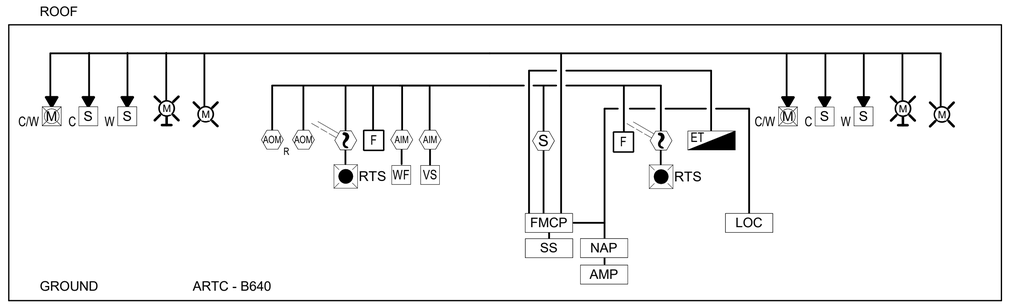
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS - MEZZANINE

SHEET IDENTIFICATION
FA131
SHEET 409 of 442

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C2 TYPICAL FIRE ALARM/MNS RISER

SCALE: N.T.S.

		ANNUNCIATION			NOTIFICATION		FIRE/MNS ALARM MONITORING			CONTROLS		
	PROJECT C- ARTC B640 BUILDING	ALARM ANNUNCIATION AT FMCP AND LOC	SUPERVISORY ANNUNCIATION AT FMCP AND LOC	TROUBLE ANNUNCIATION AT FMCP AND LOC	OPERATE FA/MNS SPEAKERS AND STROBES THROUGHOUT THE FACILITY WITH APPROPRIATE MESSAGE	ACTIVATE WATERFLOW BELL	TRANSMIT ALARM SIGNAL TO MONITORING STATION	TRANSMIT SUPERVISORY SIGNAL TO MONITORING STATION	TRANSMIT TROUBLE SIGNAL TO MONITORING STATION	SHUTDOWN ASSOCIATED HVAC UNIT	BUILDING PAGING SYSTEM - DISABLE	ACCESS CONTROL SYSTEM - UNLOCK EMERGENCY EGRESS DOORS
	SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K
1	MANUAL PULL STATIONS	x			X		X				X	X
2	SMOKE DETECTOR	X			X		X				X	X
3	CO DETECTORS	X			X		X				X	X
4	DUCT SMOKE DETECTORS		X					X		X		
5	WATER FLOW SWITCH	X			X	X	X				X	X
6	TAMPER SWITCH		X					X				
7	FMCP OPEN CIRCUIT			X					X			
8	FMCP GROUND FAULT			X					X			
9	FMCP AC FAIL			X					X			
10	FMCP SYSTEM LOW BATTERY			X					X			
11	NOTIFICATION APPLIANCE CIRCUIT SHORT			X					X			
12	MASS NOTIFICATION PRE-RECORDED MESSAGE ACTIVATED -FORCE PROTECTION ANTI-TERRORISM THREAT		X		X						X	
13	MASS NOTIFICATION PRE-RECORDED MESSAGE ACTIVATED - WEATHER		X		X						X	
14	MASS NOTIFICATION PRE-RECORDED MESSAGE ACTIVATED - EVACUATE		X		X						X	X
15	MASS NOTIFICATION PRE-RECORDED MESSAGE ACTIVATED - ALL CLEAR		X		X						X	

C6 FIRE ALARM/MNS MATRIX

SCALE: N.T.S.

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		Revisions		

GEORGIA REGISTERED ARCHITECT NO. RA031014 PROFESSIONAL
ANTHONY M. TAMBURELLO
29 JUN 2021

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Drawn By: DW
Checked By: PDR
Reviewed By:
Date: 06-29-2021
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I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

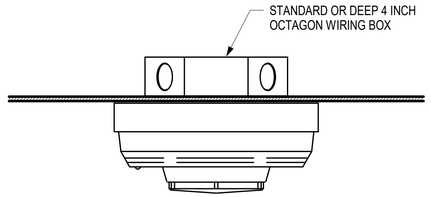
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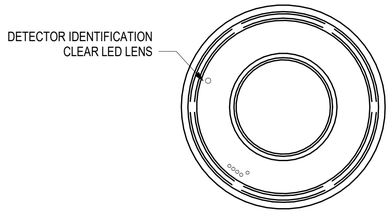
FIRE ALARM/MNS MATRIX

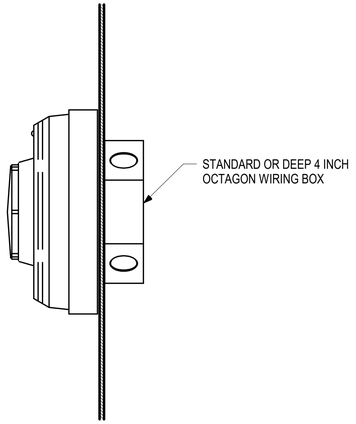
SHEET IDENTIFICATION
FA400
SHEET 410 of 442

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CEILING MOUNTED

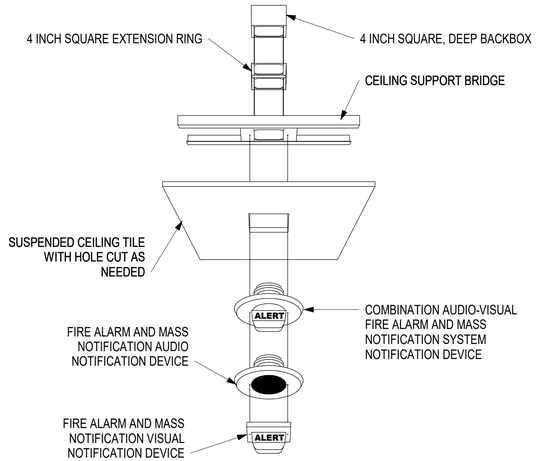




WALL MOUNTED

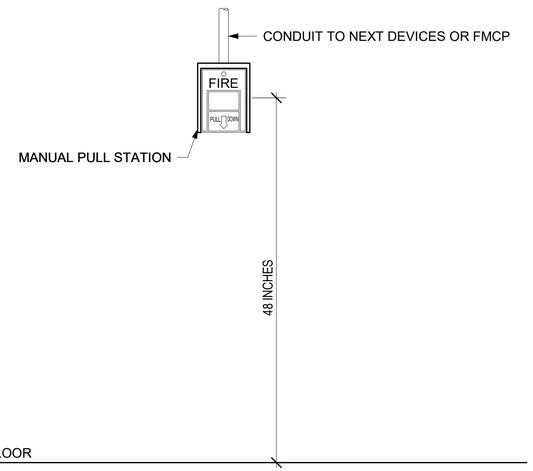
A3 SMOKE DETECTOR MOUNTED TO CEILING OR WALL

SCALE: N.T.S.



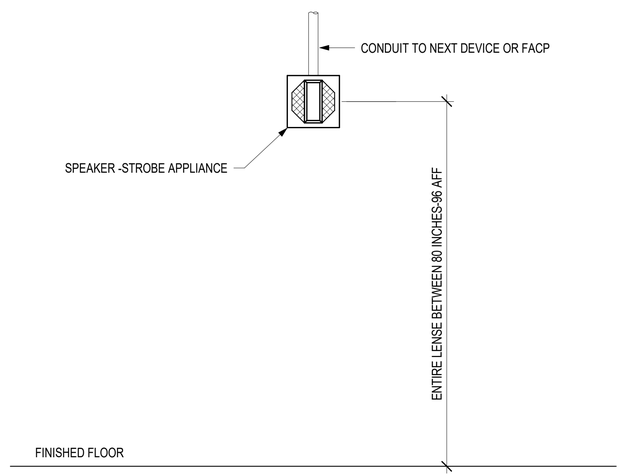
A5 MOUNTING OF APPLIANCE IN SUSPENDED CEILING

SCALE: N.T.S.



C5 MOUNTING OF MANUAL PULL STATION

SCALE: N.T.S.



F5 WALL MOUNTING OF NOTIFICATION APPLIANCES

SCALE: N.T.S.

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA
NOVEMBER 2014
PROFESSIONAL
ENGINEER
JOSEPH M. TAMBURELLO
29 JUN 2021

Designed By: DW	Date: 06-29-2021
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Checked By: PDR	I.S.O. Sheet File Name:
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U.S. ARMY ENGINEER DISTRICT
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MOBILE, ALABAMA

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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE ALARM/MNS DETAILS

SHEET IDENTIFICATION

FA501

SHEET 411 of 442

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SPRINKLER NOTES

1 THE SCOPE OF THIS PROJECT IS TO PROVIDE A COMPLETE NEW FIRE SPRINKLER SYSTEM THROUGHOUT THE ENTIRE BUILDING AS NOTED ON THE DRAWINGS, INCLUDING VALVES, PIPING, HANGERS, SPRINKLERS, AND ALL ASSOCIATED EQUIPMENT. ALL WORK AND INSTALLATION SHALL CONFORM WITH THE MOST RECENT EDITIONS OF THE APPLICABLE PROVISIONS OF UFC 3-600-01, 08 AUGUST 2016 (CHANGE 5 24 SEPT 2020), INTERNATIONAL BUILDING CODE (IBC) 2018 EDITION, NFPA 1 2018 EDITION, AND NFPA 13 2019 EDITION.

2 THE TERM "PROVIDE" SHALL MEAN THE CONTRACTOR SHALL FURNISH, INSTALL, CONNECT, AND TEST FOR A COMPLETE AND OPERATIONAL SYSTEM.

3 CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE CONCERNING THE WORK BEFORE PROCEEDING WITH EITHER FABRICATION OR INSTALLATION.

4 ANY INFORMATION CONFLICTS BETWEEN THE SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, EXCEPT AT THEIR OWN RISK, UNTIL CLARIFICATIONS OF THE CONFLICTS ARE ISSUED TO THE CONTRACTOR BY THE COTR.

5 PIPE SIZES AND LAYOUT WILL BE DETERMINED BY HYDRAULIC CALCULATIONS BASED ON THE USE OF SCHEDULE 10/40 STEEL PIPE. SUBMIT HYDRAULIC CALCULATIONS FOR ALL SPRINKLER SYSTEMS. PIPE SIZES 2-INCHES AND SMALLER SHALL BE SCHEDULE 40 AND SHALL BE THREADED. THREADED FITTINGS SHALL USE TEFLON TAPE OR MANUFACTURER'S APPROVED JOINT COMPOUND. PIPE SIZES LARGER THAN 2-INCH SHALL BE SCHEDULE 10 WITH ROLLED GROOVED OR WELDED FITTINGS. STEEL PIPING WITH WALL THICKNESS LESS THAN SCHEDULE 40 SHALL NOT BE THREADED OR CUT GROOVED.

6 CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS PRIOR TO CONDUCTING ANY WELDING AND CUTTING OPERATIONS. ALL WELDING SHALL BE CONDUCTED IN THE CONTRACTOR'S SHOP; NO PROJECT SITE WELDING SHALL BE CONDUCTED.

7 CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL CONFLICTS WITH LIGHTING FIXTURES, DIFFUSERS, GRILLS, DUCTS, STRUCTURAL MEMBERS, PIPES AND OTHER OBSTRUCTIONS ENCOUNTERED. CONTRACTOR IS ADVISED THAT DUCTS, PLUMBING PIPE AND ELECTRICAL CONDUIT ARE EXTENSIVE ABOVE THE SUSPENDED CEILING.

8 ALL WALL AND FLOOR PENETRATIONS SHALL BE CORE-DRILLED. PROVIDE PIPE SLEEVES FOR WALL AND FLOOR PENETRATIONS AS INDICATED IN THE SPECIFICATIONS. ALL PENETRATIONS IN WALLS, CEILINGS AND FLOORS SHALL BE SEALED TO THE FULL THICKNESS OF THE PENETRATION WITH AN APPROVED THROUGH PENETRATION FIRE STOP ASSEMBLY OF EQUAL OR GREATER FIRE RESISTANCE.

9 ALL DAMAGE TO WALLS, CEILINGS, FLOORS, AND STRUCTURAL MEMBERS FROM PENETRATIONS, INSTALLATIONS OR OTHER ACTIONS OF THE CONTRACTOR SHALL BE PATCHED, REPAIRED AND PAINTED WITH NEW MATERIALS BY THE CONTRACTOR TO MATCH ADJACENT WORK, WHETHER SPECIFICALLY NOTED OR NOT.

10 CONTRACTOR SHALL MAINTAIN A MINIMUM 80 INCHES HEAD ROOM CLEARANCE BETWEEN BOTTOM OF SPRINKLER PIPE AND ADJACENT FLOOR BELOW.

11 SPRINKLERS INSTALLED IN PROXIMITY TO DUCTS OR OTHER OBSTRUCTIONS SHALL BE LOCATED TO MINIMIZE OBSTRUCTION TO DISCHARGE IN ACCORDANCE WITH NFPA 13.

12 ALL NEW SPRINKLER PIPING SHALL BE INSTALLED SO THAT ALL PORTIONS OF THE SYSTEM CAN BE DRAINED. PROVISIONS SHALL BE MADE TO DRAIN TRAPPED WATER IN ACCORDANCE WITH NFPA 13.

13 PROVIDE SPRINKLER SEISMIC DESIGN CRITERIA PER NFPA 13.

14 CONTRACTOR SHALL CONCEAL ALL SPRINKLER PIPING IN AREAS PROVIDED WITH CEILINGS.

15 ALL SPRINKLERS THROUGHOUT THE ENTIRE BUILDING SHALL BE QUICK RESPONSE TYPE EXCEPT IN SPACES IN THE IMMEDIATE VICINITY OF UNIT-TYPE HEATERS, OR WHERE QUICK RESPONSE TYPE SPRINKLERS ARE NOT LISTED FOR USE.

16 NO STRUCTURAL MEMBERS SHALL BE CUT, DRILLED OR BURNED UNLESS PREVIOUSLY APPROVED IN WRITING BY THE PROJECTS STRUCTURAL ENGINEER AND COTR.

17 CONTRACTOR SHALL PROVIDE APPROVED GUARDS ON ALL SPRINKLERS IINSTALLED LESS THAN 80 INCHES ABOVE THE FLOOR OR WHERE SUBJECT TO MECHANICAL DAMAGE.

18 UNLESS OTHERWISE NOTED, SPRINKLER COVERAGE SHALL BE HYDRAULICALLY DESIGNED FOR LIGHT; ORDINARY AND EXTRA HAZARD OCCUPANCIES PER THE REQUIREMENTS OF NFPA 13, UFC 3-600-01, AND THE DESIGN SPECIFICATIONS. IF A CONFLICT OCCURS BETWEEN THE SPECIFICATIONS AND NFPA 13, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

19 PROVIDE CORROSION RESISTANCE SPRINKLERS IN SHOWER ROOMS, MULTI-PURPOSE WET ENVIRONMENT CLASSROOMS, AND ALL OTHER AREAS EXPOSED TO THE EXTERIOR OR CORROSIVE ENVIRONMENT IN ACCORDANCE WITH NFPA 13.

20 SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF THE CEILING TILE IN AREAS WITH A FINISHED SUSPENDED CEILING OR CENTER OF HALF TILE FOR 4 FEET X 2 FEET CEILING GRIDS. BRASS UPRIGHT SPRINKLERS SHALL BE USED IN UNFINISHED AREAS. SPRINKLERS UTILIZING AN O-RING TO SEAL THE DISCHARGE ORIFICE SHALL NOT BE USED.

21 FOR AREAS WITH PENDENT SPRINKLERS IN FINISHED CEILINGS, PIPE HANGERS WITH RESTRAINING CLIPS SHALL BE PROVIDED WITHIN 1-FOOT OF THE END SPRINKLER OF ALL BRANCH LINES AND ON ARM-OVERS LONGER THAN 12 INCHES. EXTENDING THE ALL-THREAD ROD TO THE PIPE IS NOT AN ACCEPTABLE MEANS OF PREVENTING UPWARD THRUST OF THE SPRINKLER.

22 NO SPRINKLER WORK SHALL BE PERFORMED WITHOUT AN APPROVED SPRINKLER SYSTEM SUBMITTAL (SHOP DRAWINGS, CUT SHEETS, AND CALCULATIONS) FROM THE COTR AND A COPY OF THE APPROVED SUBMITTAL SHALL BE MAINTAINED ON THE PROJECT SITE UNTIL ALL WORK IS COMPLETE INCLUDING FINAL TESTING AND ACCEPTANCE.

23 CONDUCT A HYDROSTATIC PRESSURE TEST ON ALL PORTIONS OF THE SPRINKLER SYSTEM IN ACCORDANCE WITH PROJECT SPECIFICATIONS. A PRE-TEST (FOLLOWING THE SAME CRITERIA AS THE FINAL TEST) SHALL BE CONDUCTED BY THE CONTRACTOR PRIOR TO REQUESTING A FINAL HYDROSTATIC PRESSURE TEST. SYSTEM SHALL PASS THE HYDROSTATIC PRESSURE TEST PRIOR TO FINAL ACCEPTANCE.

24 PROVIDE SPARE SPRINKLERS OF EACH TYPE USED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13.

25 THESE DRAWING(S) DEMONSTRATE THE CONFIGURATION OF MAJOR SYSTEM COMPONENTS. THEY ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS. PIPE LENGTHS AND DIMENSIONS INDICATED ON DRAWINGS ARE APPROXIMATE. COORDINATE FINAL INSTALLATION WITH FIELD CONDITIONS AND OTHER CONSTRUCTION TRADES.

26 CONTRACTOR SHALL CONDUCT A WATER FLOW TEST IN ACCORDANCE WITH NFPA 291 2019 EDITION AT THE SITE TO OBTAIN CURRENT WATER SUPPLY INFORMATION. WATERFLOW TEST DATA USED AS THE BASIS FOR HYDRAULIC CALCULATIONS SHALL BE A TWO HYDRANT TEST AND HAVE BEEN PERFORMED NO MORE THAN 6-MONTHS PRIOR TO THE SUBMISSION OF THE CALCULATIONS. AT A MINIMUM, FLOW TEST DATA SHALL INCLUDE: LOCATION OF HYDRANTS USED, DATE OF TEST, NAME OF TESTING AGENCY, NAME OF INDIVIDUAL PERFORMING TEST, HOW TEST WAS PERFORMED, STATIC PRESSURE, RESIDUAL PRESSURE, AND FLOW. THE LOWER WATER SUPPLY RESULTS FROM THE FLOW TEST CONDUCTED BY THE DESIGN TEAM ENGINEER-OF-RECORD AND THE MOST CURRENT FLOW TEST SHALL BE USED, UNLESS OTHERWISE APPROVED BY THE DESIGN TEAM ENGINEER-OF-RECORD AND THE COTR.

27 LABELING OF PIPING SHALL COMPLY WITH MIL-STD-101. PROVIDE LABELING ON SURFACE OF ALL FEED AND CROSS MAINS TO SHOW THE PIPE FUNCTION (E.G., "SPRINKLER SYSTEM", "FIRE DEPARTMENT CONNECTION"). FOR FIRE PIPE SIZES 4-INCH AND LARGER, PROVIDE WHITE PAINTED STENCILED LETTERS AND ARROWS, A MINIMUM OF 2-INCH IN HEIGHT AND VISIBLE FROM AT LEAST TWO SIDES WHEN VIEWED FROM THE FLOOR. FOR PIPE SIZES LESS THAN 4-INCH, PROVIDE WHITE PAINTED STENCILED LETTERS AND ARROWS, A MINIMUM OF 0.75-INCH IN HEIGHT AND VISIBLE FROM THE FLOOR.

28 ALL VALVES SHALL BE MARKED WITH PERMANENT TAGS INDICATING NORMALLY OPEN OR NORMALLY CLOSED.

29 PIPING SHALL BE ROUTED TO AVOID HVAC, IT, PLUMBING AND OTHER ELECTRICAL COMPONENTS.

30 EACH SYSTEM SHALL BE PROVIDED WITH AN AUTOMATIC AIR VENT WITH A CONNECTION CONFORMING TO NFPA 13 SECTION 16.7 AND SHALL BE PIPE TO DRAIN TO EXTERIOR.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ATC	ACOUSTICAL TILE CEILING
BM	BEAM
BOB	BOTTOM OF BEAM
CON	CONCRETE SLAB AND BEAMS
COTR	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE
DN	DOWN
ELEC	ELECTRICAL
EXIST	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FL	FLOOR
F.S.	FLOW SWITCH
FT	FEET
GYP	GYPSUM BOARD ON WOOD OR METAL JOISTS
IBC	INTERNATIONAL BUILDING CODE
IN	INCH
LAT	LAY-IN ACOUSTICAL TILE - SUSPENDED
LTH	LIGHT HAZARD
MAT	LAY-IN METAL TILE - SUSPENDED
MECH	MECHANICAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
PAS-F	PROSCRIBED ACCESS SPACE
RM	ROOM
SAS	SECURE ACCESS SPACE
SERV	SERVICE
STL	STEEL DECK
UFC	UNIFIED FACILITIES CRITERIA
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED

OCCUPANCY HAZARD CLASSIFICATION

ALL AREAS ARE TO BE CONSIDERED LIGHT HAZARD (LH) IN ACCORDANCE WITH UFC 3-600-01 TABLE 9-3 NON-STORAGE OCCUPANCIES UNLESS NOTED OTHERWISE. REDUCTION IN DESIGN AREA FOR QUICK-RESPONSE SPRINKLERS IS NOT PERMITTED.

LIGHT HAZARD
0.1 GPM/SQ. FT OVER 1,500 SQ. FT
K-FACTOR: 5.6, MINIMUM
OUTSIDE HOSE STREAM: 250 GPM

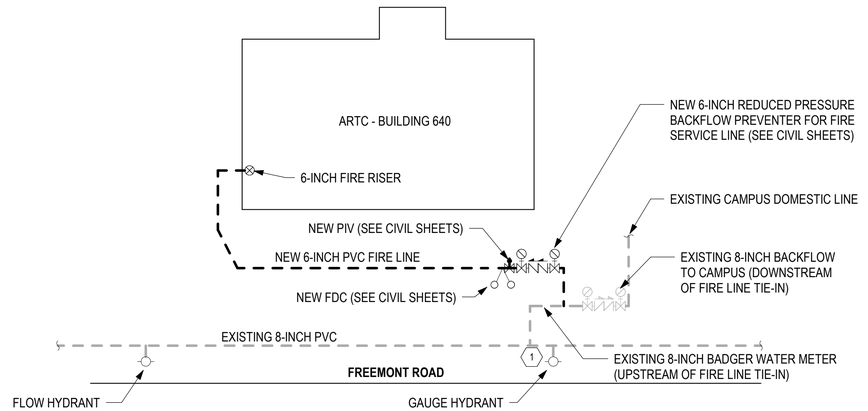
ORDINARY HAZARD
0.2 GPM/SQ. FT OVER 2,500 SQ. FT
K-FACTOR: 8.0, MINIMUM
OUTSIDE HOSE STREAM: 250 GPM

LEGEND

- NEW WORK LINE TYPE
- HYDRAULIC AREA BOUNDARY
- PIPE CONTINUATION
- PIPE CAP
- 90° ELBOW TURNED AWAY FROM VIEWER
- TEE TURNED AWAY FROM VIEWER
- SPRINKLER RISER
- O.S. &Y. CONTROL VALVE WITH TAMPER SWITCH
- TEST-DRAIN
- FIRE DEPARTMENT CONNECTION
- BACKFLOW PREVENTER TEST VALVES
- CHECK VALVE
- AIR VENT VALVE - SPRINKLER PIPE
- WATER FLOW SWITCH
- PRESSURE GAUGE
- UPRIGHT SPRINKLER K5.6
- UPRIGHT SPRINKLER K8.0
- FLAT CONCEALED PENDENT SPRINKLER K5.6
- FLAT CONCEALED PENDENT SPRINKLER K8.0
- CORROSION-RESISTANT PENDENT SPRINKLER K5.6
- HORIZONTAL SIDEWALL SPRINKLER
- BACK FLOW PREVENTER - CHAINED AND LOCKED
- FIRE HYDRANT
- HYDRAULIC NODE INDICATOR
- KEYNOTE INDICATOR
- ZONE 1 — SPRINKLER ZONE NUMBER IDENTIFIER
- START WORK INDICATOR

WATER SUPPLY INFORMATION

STATIC:	60 PSI
RESIDUAL:	55 PSI
FLOW:	1,061 GPM
DATE:	14 AUGUST 2020 AT 1030 HOURS
PERFORMED BY:	TELGIAN E&C (CRISTINA ARAGON-VANDENBENT)



SITE PLAN (NOT TO SCALE)

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA — NO. PE0011014 — PROFESSIONAL — ENGINEER
MICHAEL N. TAMBURELLO
21 JUN 2021

Date: 06-29-2021
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Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER NOTES

SHEET IDENTIFICATION
FP001
SHEET 412 of 442

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Hydraulic Information	
Remote Area Name	DINING AREA
Occupancy Classification	Light Hazard
Density	0.1 GPM
Total Hose Streams	250.0 GPM
Flowing Heads	17 @ 16.8 GPM
K-Factor	5.6
Total Water Required	586.9 GPM
Total Pressure Required	45.94 psi
Base of Riser	586.9 GPM
Base of Riser	45.94 psi
Safety Margin	+12.39 (21.24%)

Hydraulic Information	
Remote Area Name	LIGHT HAZARD SOUTH
Occupancy Classification	Light Hazard
Density	0.1 GPM
Total Hose Streams	250.0 GPM
Flowing Heads	16 @ 19.6 GPM
K-Factor	5.6
Total Water Required	577.2 GPM
Total Pressure Required	43.71 psi
Base of Riser	577.2 GPM
Base of Riser	43.71 psi
Safety Margin	+14.67 (25.12%)

Hydraulic Information	
Remote Area Name	EAST MECH ROOM AND LH
Occupancy Classification	OH w/ ADJACENT LH
Density	0.2 GPM
Total Hose Streams	250.0 GPM
Flowing Heads	11 @ 24.0 GPM + 4 @ 22.5 GPM
K-Factor	5.6 AND 8.0
Total Water Required	638.1 GPM
Total Pressure Required	47.80 psi
Base of Riser	638.1 GPM
Base of Riser	47.80 psi
Safety Margin	+10.25 (17.65%)

Hydraulic Information	
Remote Area Name	CLASSROOM AND OH
Occupancy Classification	Light Hazard
Density	0.1 GPM
Total Hose Streams	250.0 GPM
Flowing Heads	13 @ 19.6 GPM + 5 @ 26.0 GPM
K-Factor	5.6 AND 8.0
Total Water Required	688.0 GPM
Total Pressure Required	47.65 psi
Base of Riser	688.0 GPM
Base of Riser	47.65 psi
Safety Margin	+10.11 (17.51%)

SHEET NOTES

1 REFER TO SHEET FP001 FOR SYMBOLS AND ABBREVIATIONS.

2 REFER TO SHEET FP401 FOR ADDITIONAL HANGER LIMITATIONS.

3 HYDRAULIC CALCULATION ESTIMATES, SPRINKLER AND PIPING LOCATIONS SHOWN ARE FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR THE FINAL LAYOUT IN ACCORDANCE WITH NFPA 13, APPLICABLE CODES AND STANDARDS, PROJECT REQUIREMENTS, AND RESPONSIBLE FOR FULL COORDINATION WITH ALL OTHER DISCIPLINES.

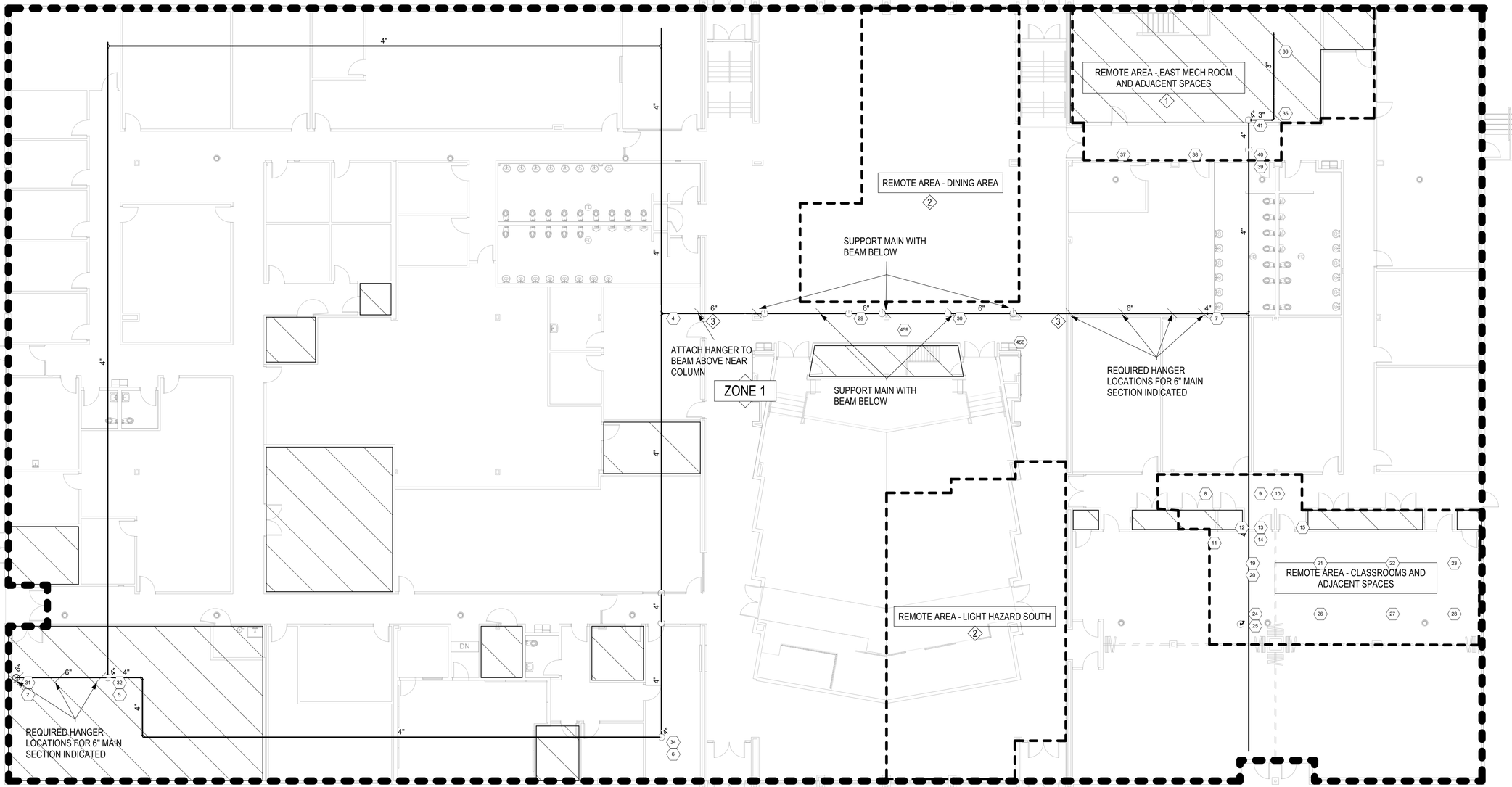
KEYNOTES

KEYNOTES

1 IN ACCORDANCE WITH NFPA 13 SECTION 19.2.2, SINCE THE ORDINARY HAZARD AREA IS SMALL AND SURROUNDED BY A LESSER HAZARD, THE ENTIRE ORDINARY HAZARD AREA WAS INCLUDED IN HYDRAULIC CALCULATION AND 0.10 GPM/SQ FT OVER 1,500 SQ FT (LIGHT HAZARD CRITERIA) WAS USED FOR THE REMAINDER OF THE REMOTE AREA.

2 DUE TO AREAS CONTAINING CEILINGS WITH SLOPES GREATER THAN 1 IN 6, REMOTE AREA WAS INCREASED BY 30 PERCENT (1,950 SQ FT REMOTE AREA FOR LIGHT HAZARD CALCULATION).

3 DO NOT ATTACH 6" MAIN BETWEEN COLUMN LINES 9 AND 13 TO ROOF STRUCTURE ABOVE WITHOUT WRITTEN APPROVAL FROM DESIGN TEAM'S STRUCTURAL ENGINEER.



FIRE SPRINKLER - COMPOSITE PLAN

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

0 6' 12' 24'

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

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
Revisions				

GEORGIA
STEPHEN M. TAMBURELLO
No. PE013114
PROFESSIONAL
ENGINEER
29 JUN 2021

Designed By: SMT	Date: 06-29-2021
Drawn By: SMT	File No:
Checked By: PDR	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER - COMPOSITE PLAN

SHEET IDENTIFICATION
FP111
SHEET 413 of 442

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SHEET NOTES

1 REFER TO SHEET FP001 FOR SYMBOLS AND ABBREVIATIONS.

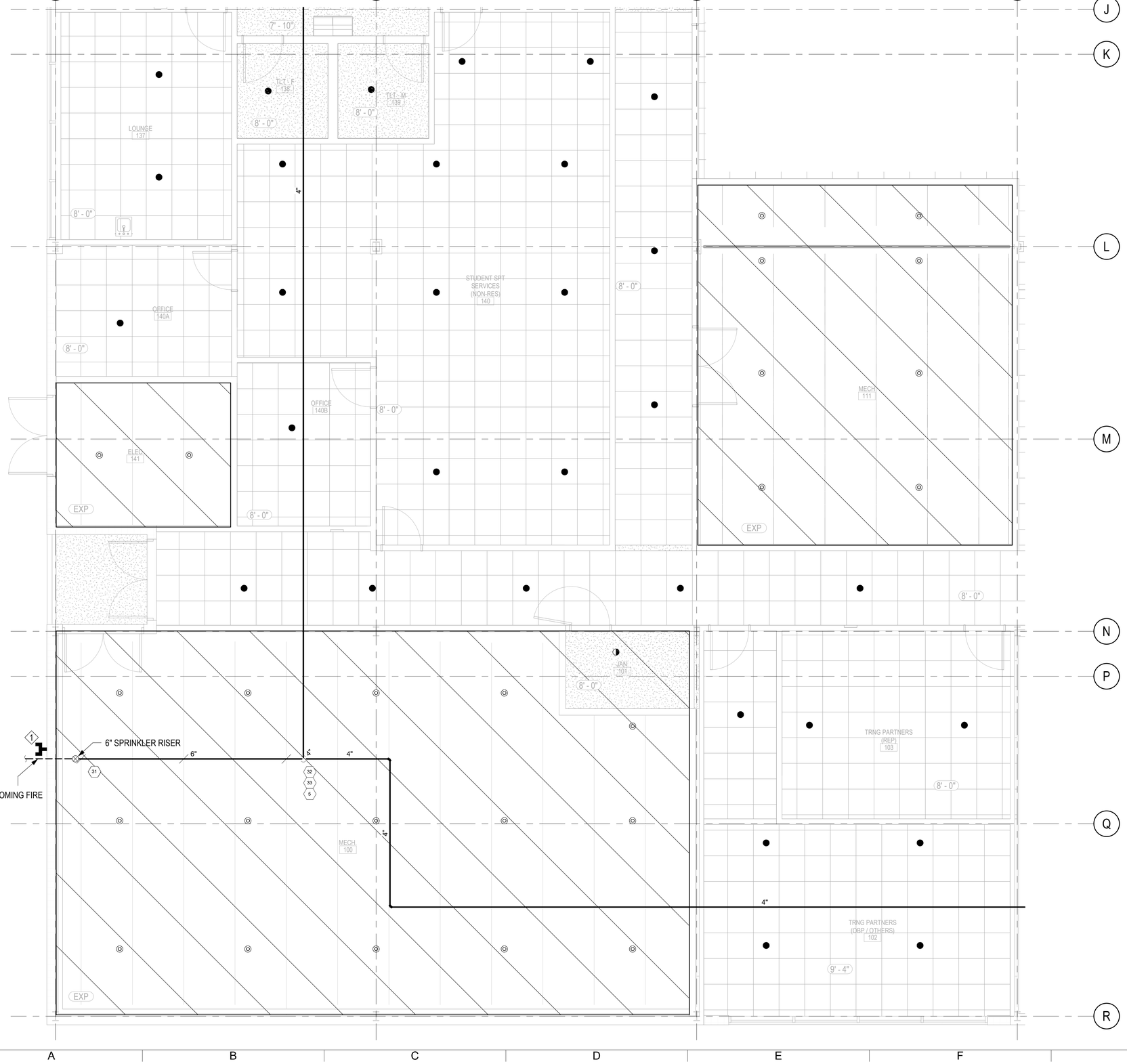
2 SPRINKLER AND PIPING LOCATIONS AND HYDRAULIC CALCULATIONS SHOWN ARE FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR THE FINAL LAYOUT IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS, AND ALL OTHER PROJECT REQUIREMENTS, AND COORDINATION WITH ALL OTHER DISCIPLINES.

3. PIPING SHALL NOT PASS-THROUGH ELECTRICAL ROOMS OR COMMUNICATIONS ROOMS. PIPING ENTERING THESE SPACES SHALL SUPPLY THE SPRINKLERS SERVING THESE SPACES ONLY.

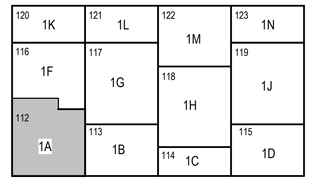
4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

<1> PROVIDE TEST VALVES FOR FULL FLOW TESTING OF BACKFLOW PREVENTER. THESE VALVES SHALL BE ANGLE OR GLOBE VALVES WITH 2.5-INCH MALE NATIONAL STANDARD HOSE THREADS WITH CAP AND CHAIN. PROVIDE ONE VALVE FOR EACH 250 GPM, AND FRACTION THEREOF, OF HIGHEST SYSTEM DEMAND FLOW OF THE HYDRAULICALLY MOST DEMANDING SYSTEM DEMAND FLOW (E.G., A VOLUMETRIC WATERFLOW RATE OF 450 GPM WOULD REQUIRE TWO VALVES).



PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1A

SCALE: 1/4" = 1'-0"

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED ARCHITECT No. RA013014 PROFESSIONAL
29 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:
Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

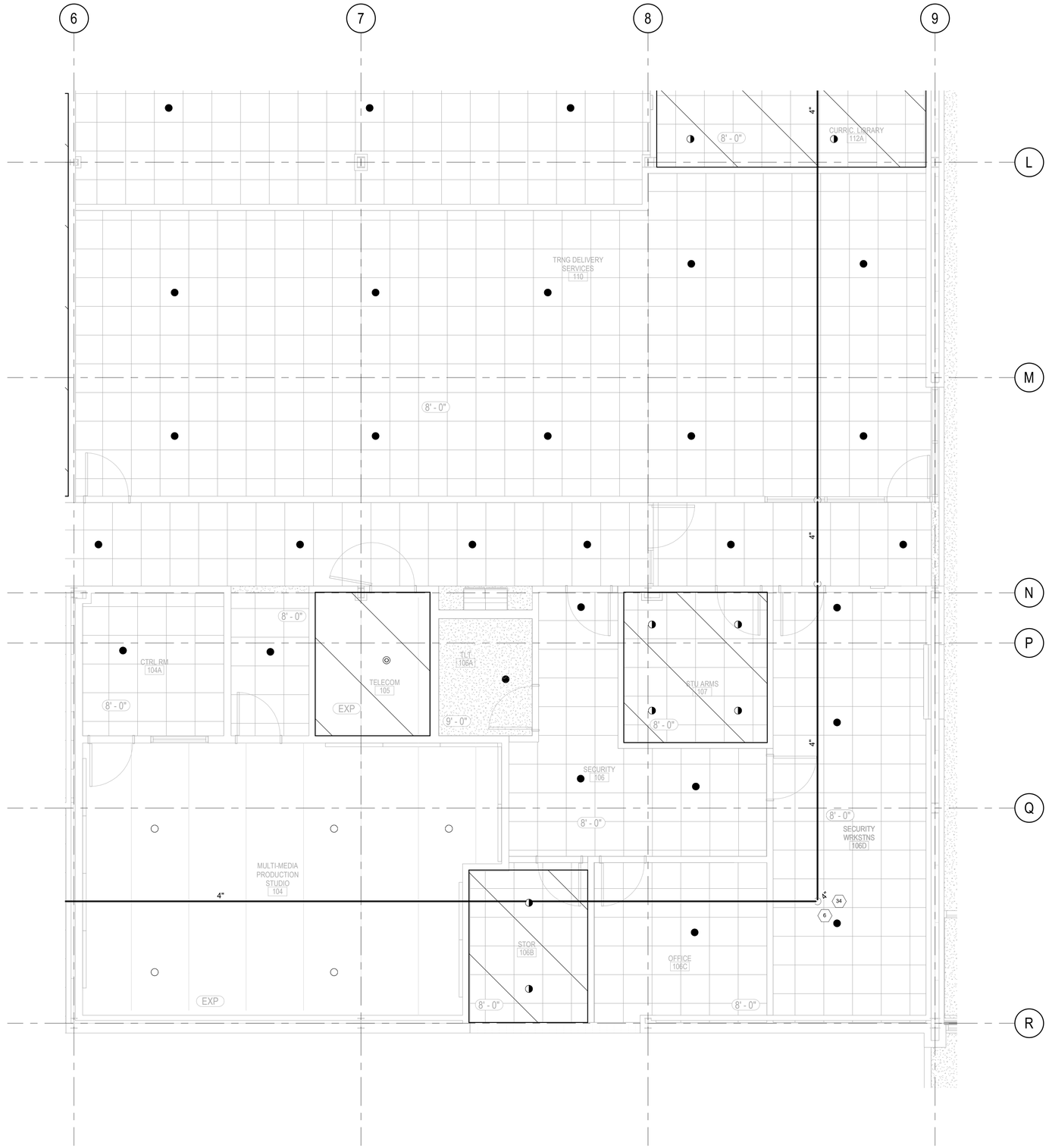
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER - BLOCK 1A

SHEET IDENTIFICATION
FP112
SHEET 414 of 442

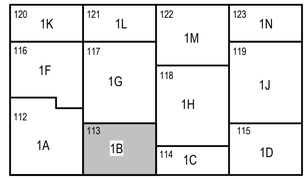
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SHEET NOTES

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3. PIPING SHALL NOT PASS-THROUGH ELECTRICAL ROOMS OR COMMUNICATIONS ROOMS. PIPING ENTERING THESE SPACES SHALL SUPPLY THE SPRINKLERS SERVING THESE SPACES ONLY.
4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1B

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE031014 STEPHEN M. TAMBURELLO

29 JUN 2021

Designed By: SMT	Date: 06-29-2021
Drawn By: SMT	File No.
Checked By: PDR	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

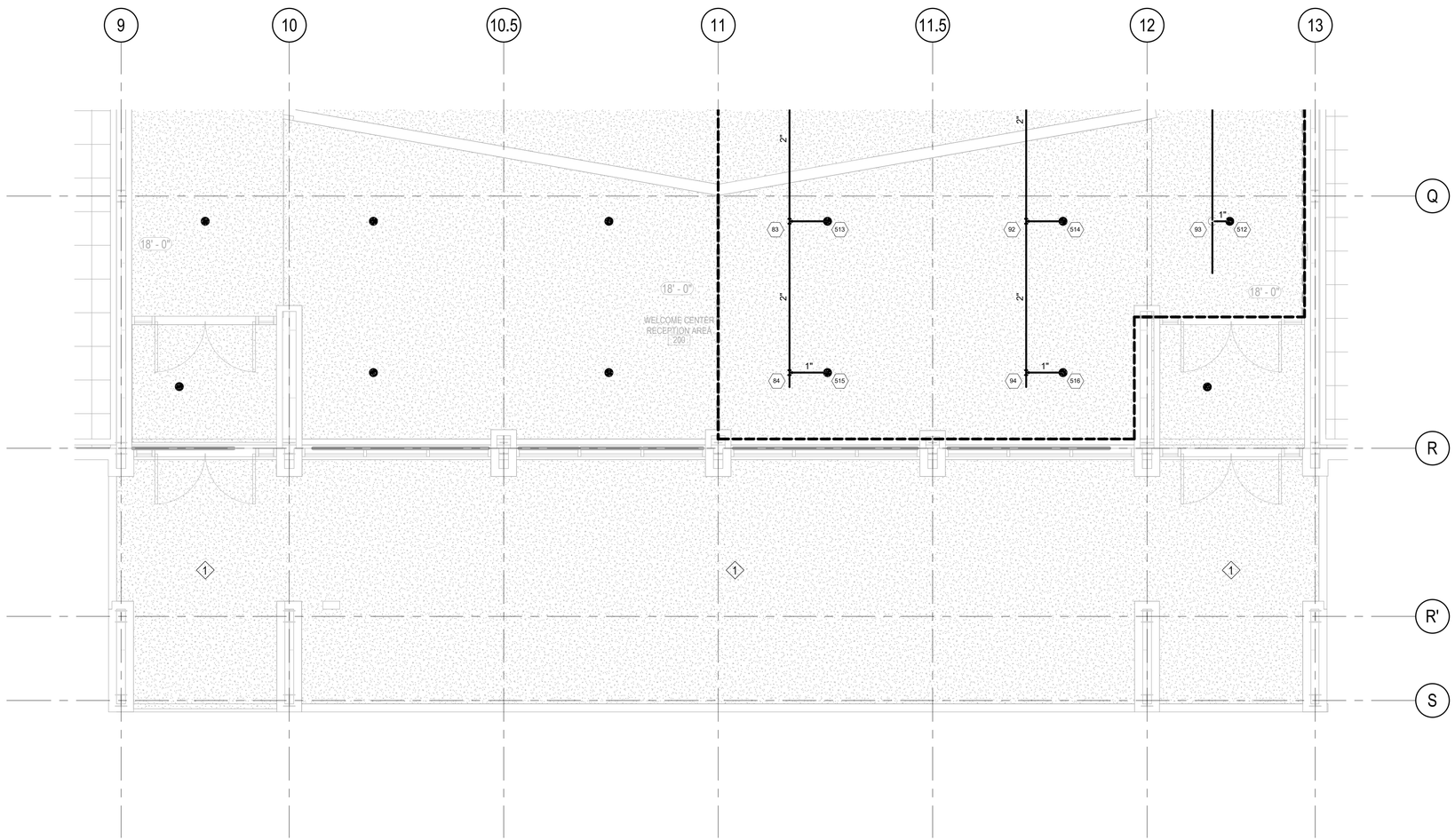
FIRE SPRINKLER - BLOCK 1B

SHEET IDENTIFICATION

FP113

SHEET 415 of 442

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SHEET NOTES

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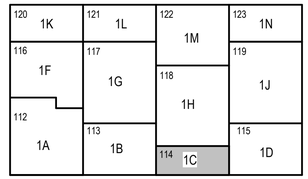
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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

◇1 SPRINKLER PROTECTION NOT REQUIRED UNDER NON-COMBUSTIBLE EXTERIOR CANOPY PER NFPA 13 SECTION 9.2.3.2.

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1C

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. PE013514 SHERRI M. TAMBURELLO

29 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

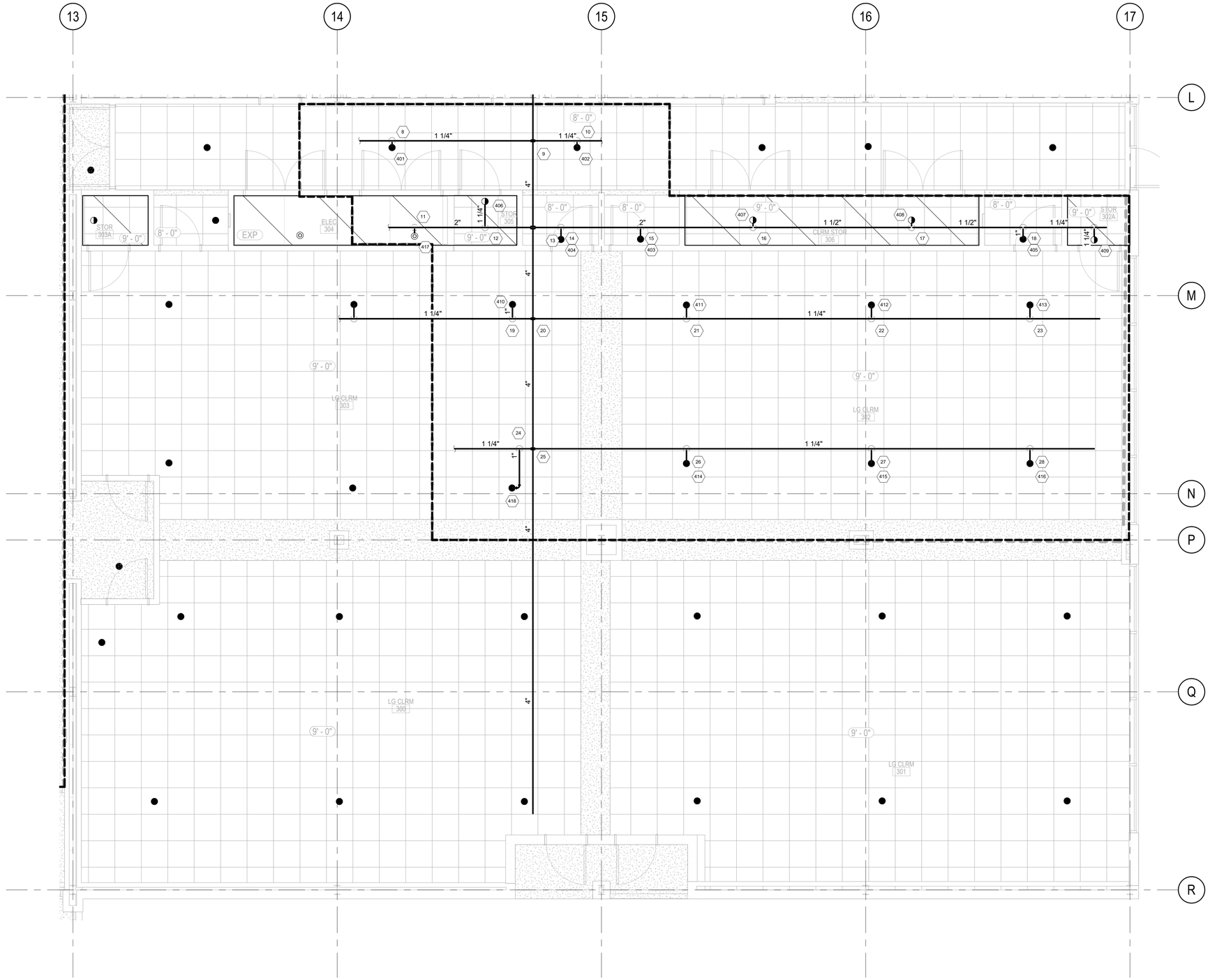
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER - BLOCK 1C

SHEET IDENTIFICATION
FP114
SHEET 416 of 442

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SHEET NOTES

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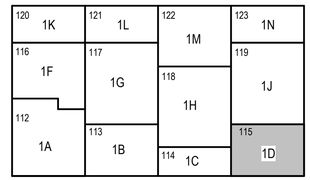
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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

(#)

(1) -



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1D

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER JOHN M. TAMBURILLO

21 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

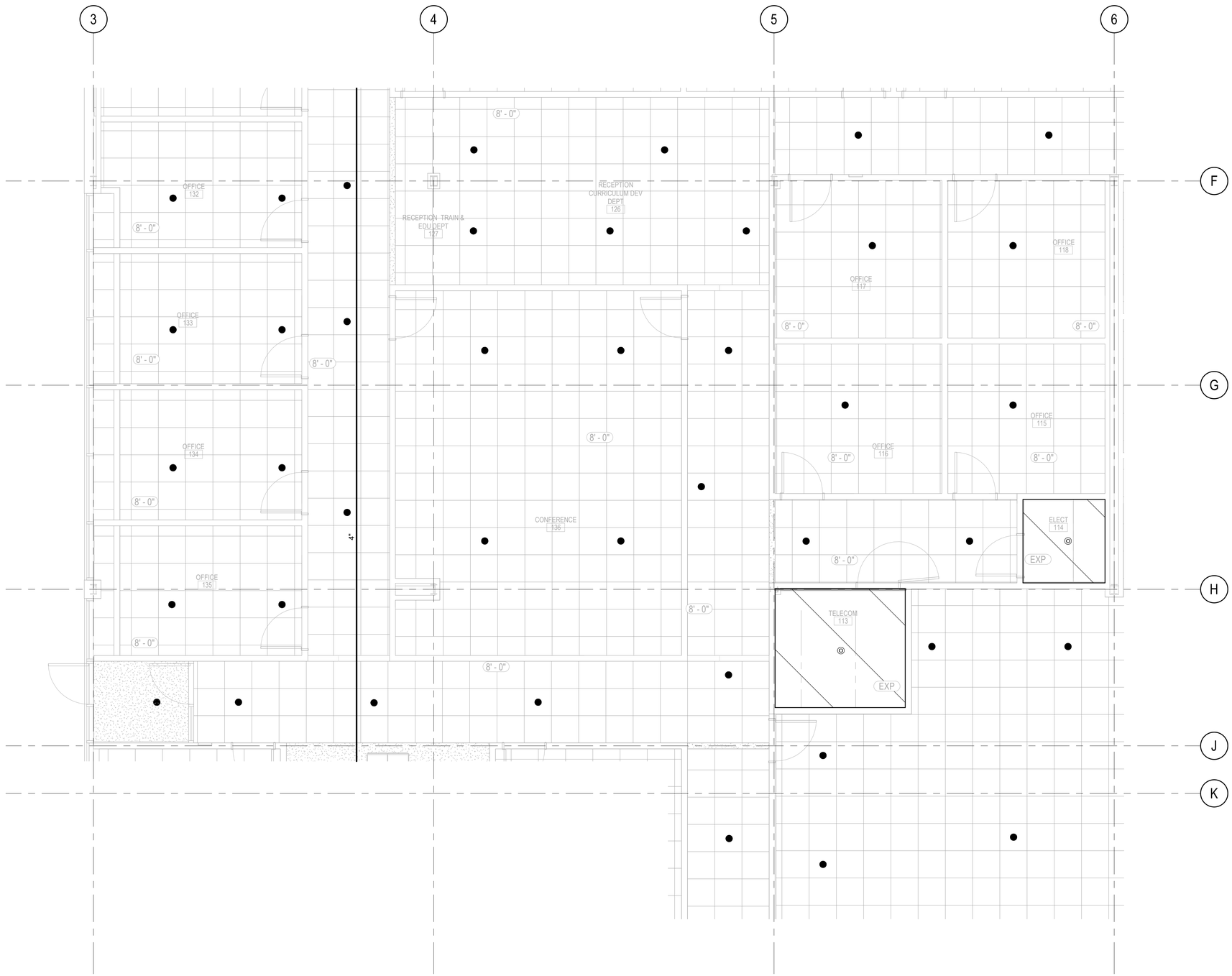
FIRE SPRINKLER - BLOCK 1D

SHEET IDENTIFICATION

FP115

SHEET 417 of 442

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SHEET NOTES

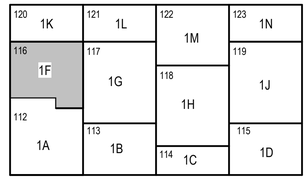
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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

◇# KEYNOTES

◇1 -

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1F

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ARCHITECT NO. RA024014 STEPHEN M. TAMBURELLO

29 JUN 2021

Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:

Date: 06-29-2021
File No:
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

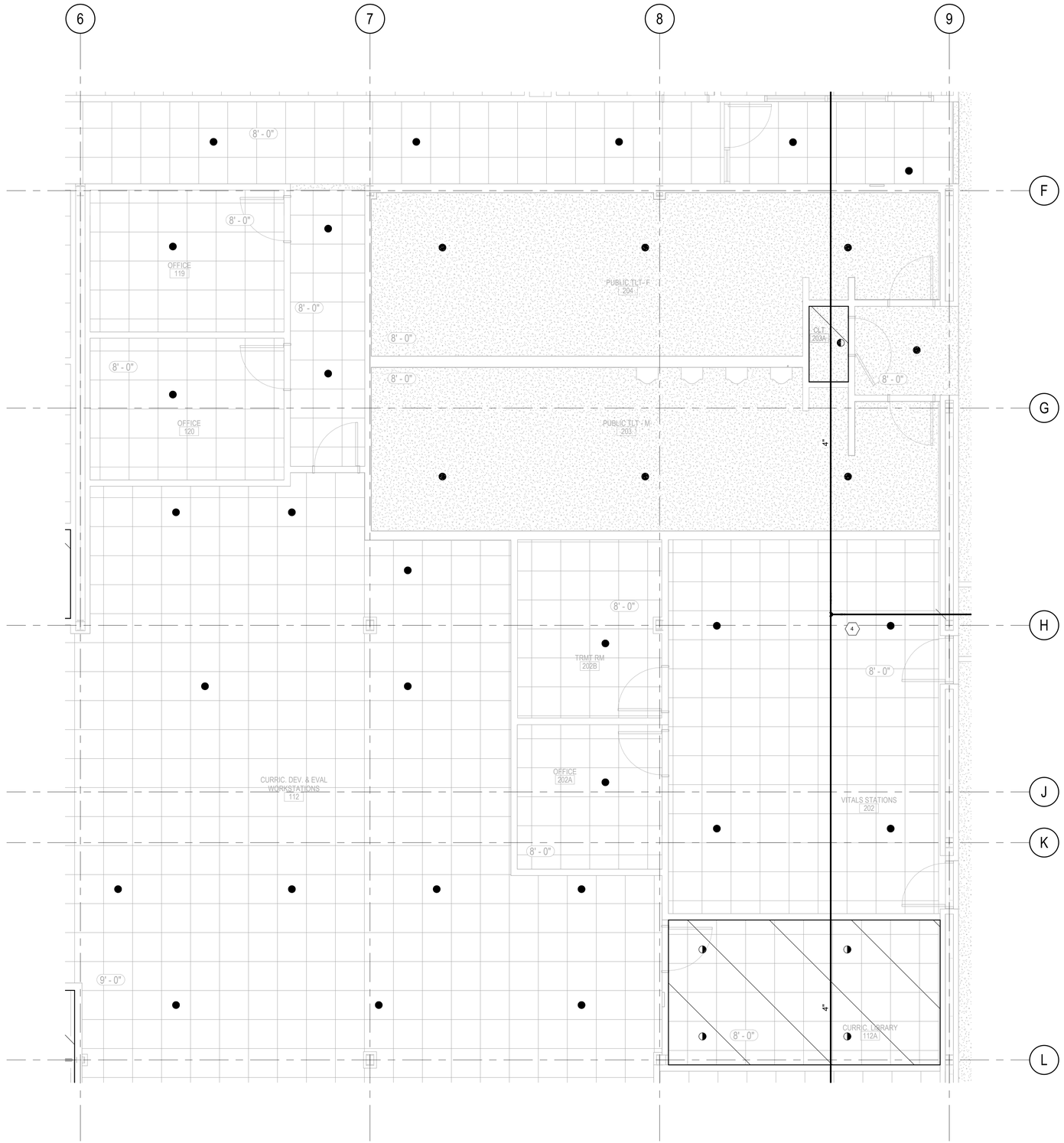
ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER - BLOCK 1F

SHEET IDENTIFICATION
FP116
SHEET 418 of 442

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SHEET NOTES

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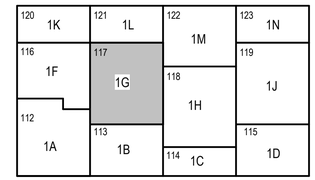
4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

(#)

(1) -

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1G

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ARCHITECT NO. RA031414 STEPHEN M. TAMBURELLO

29 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

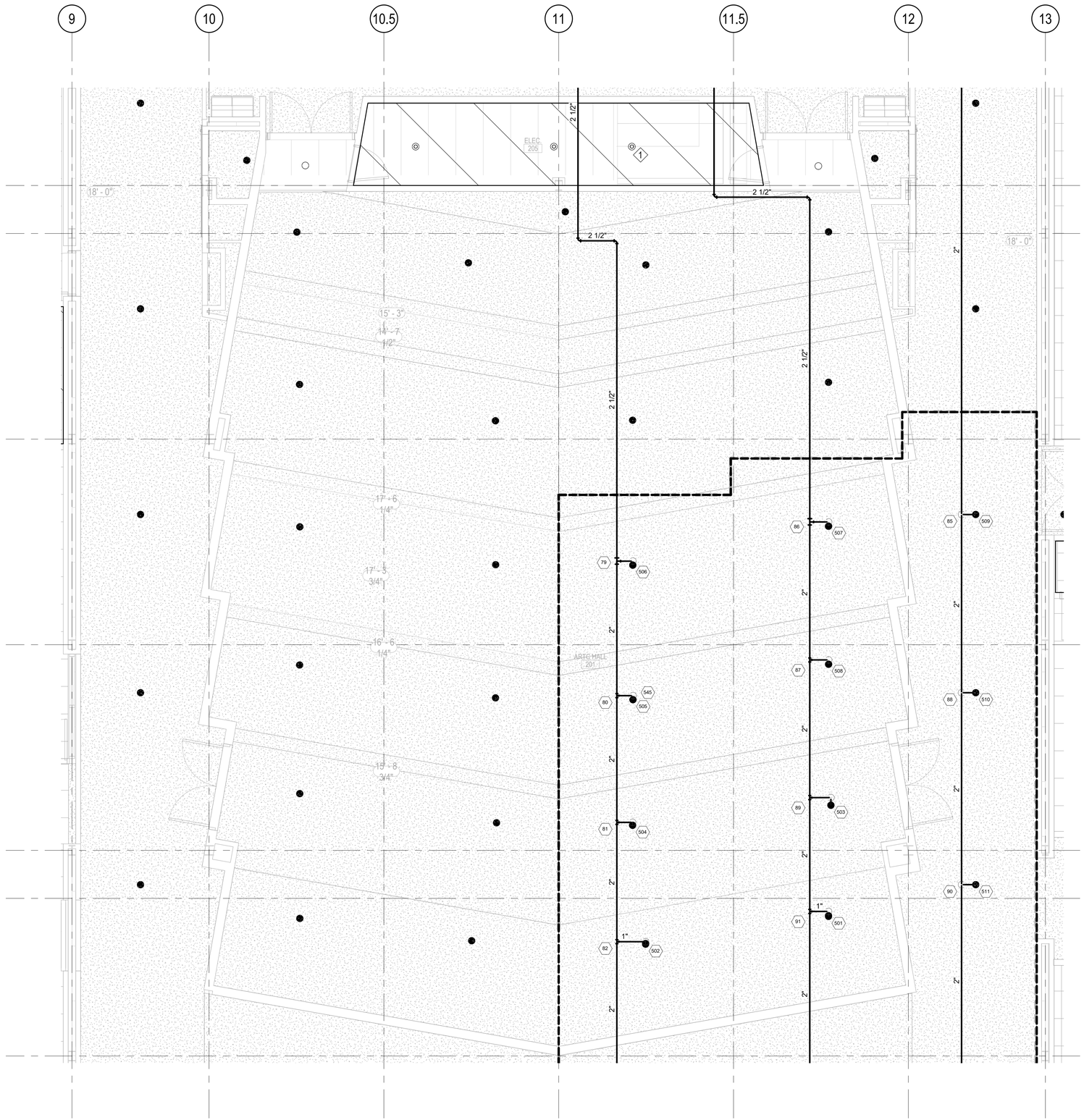
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER - BLOCK 1G

SHEET IDENTIFICATION
FP117
SHEET 419 of 442

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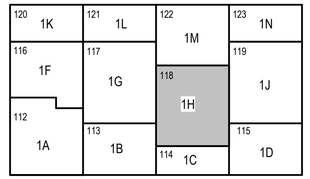
SHEET NOTES

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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

◇# KEYNOTES

◇1 PROVIDE SPRINKLER PROTECTION BELOW STAIRWAY.



FIRST FLOOR KEY PLAN

PLAN NORTH

FIRE SPRINKLER - BLOCK 1H

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE031314 STEPHEN M. TAMBURELLO

29 JUN 2021

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: SMT
Drawn By: SMT
Checked By: PDR
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

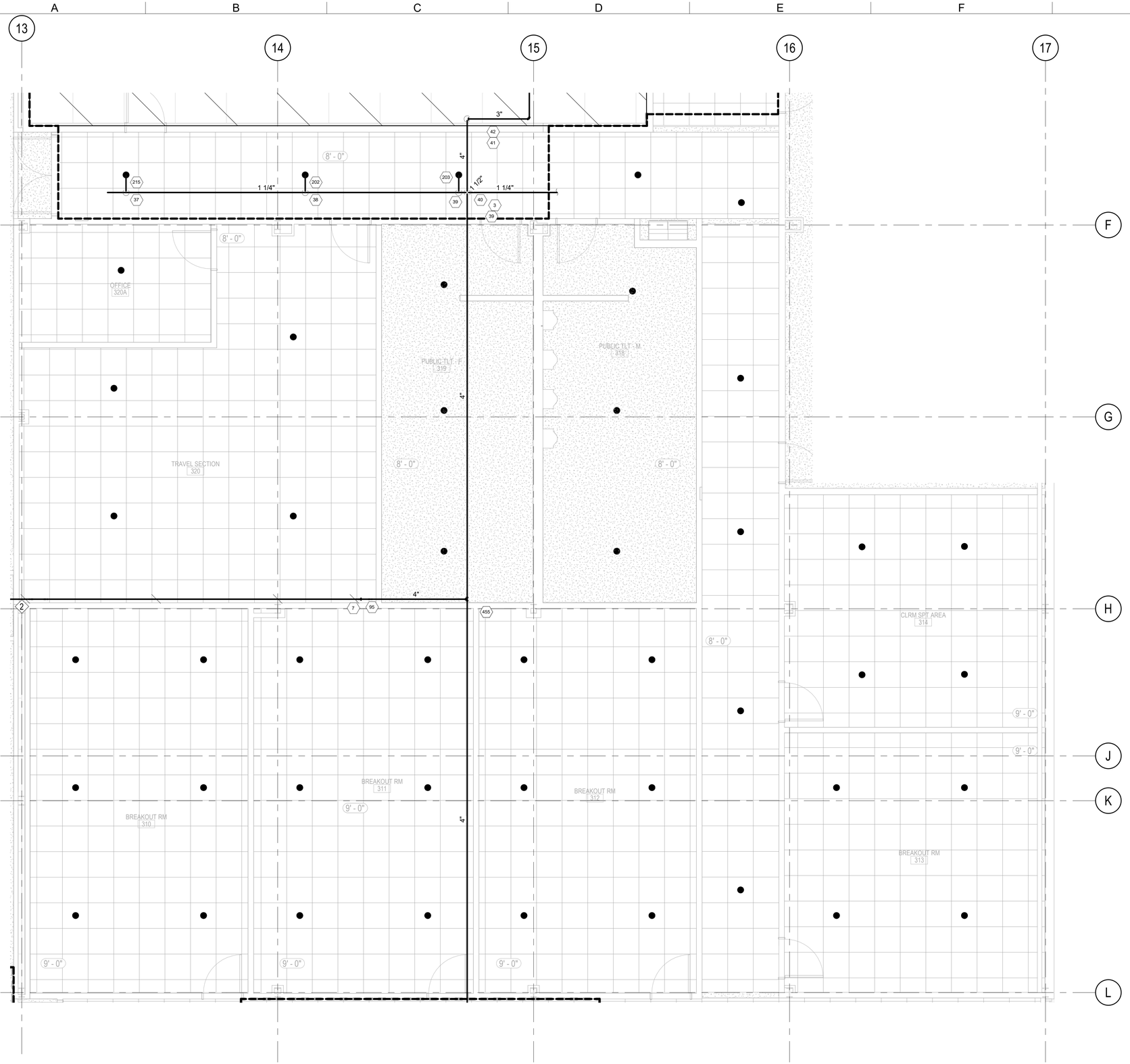
FIRE SPRINKLER - BLOCK 1H

SHEET IDENTIFICATION

FP118

SHEET 420 of 442

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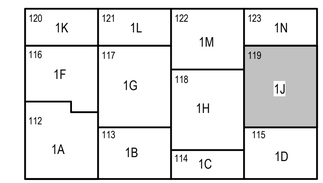


SHEET NOTES

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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

(#) (1) -



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1J

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. 26031014
STEPHEN M. TAMBURELLO
29 JUN 2021

Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

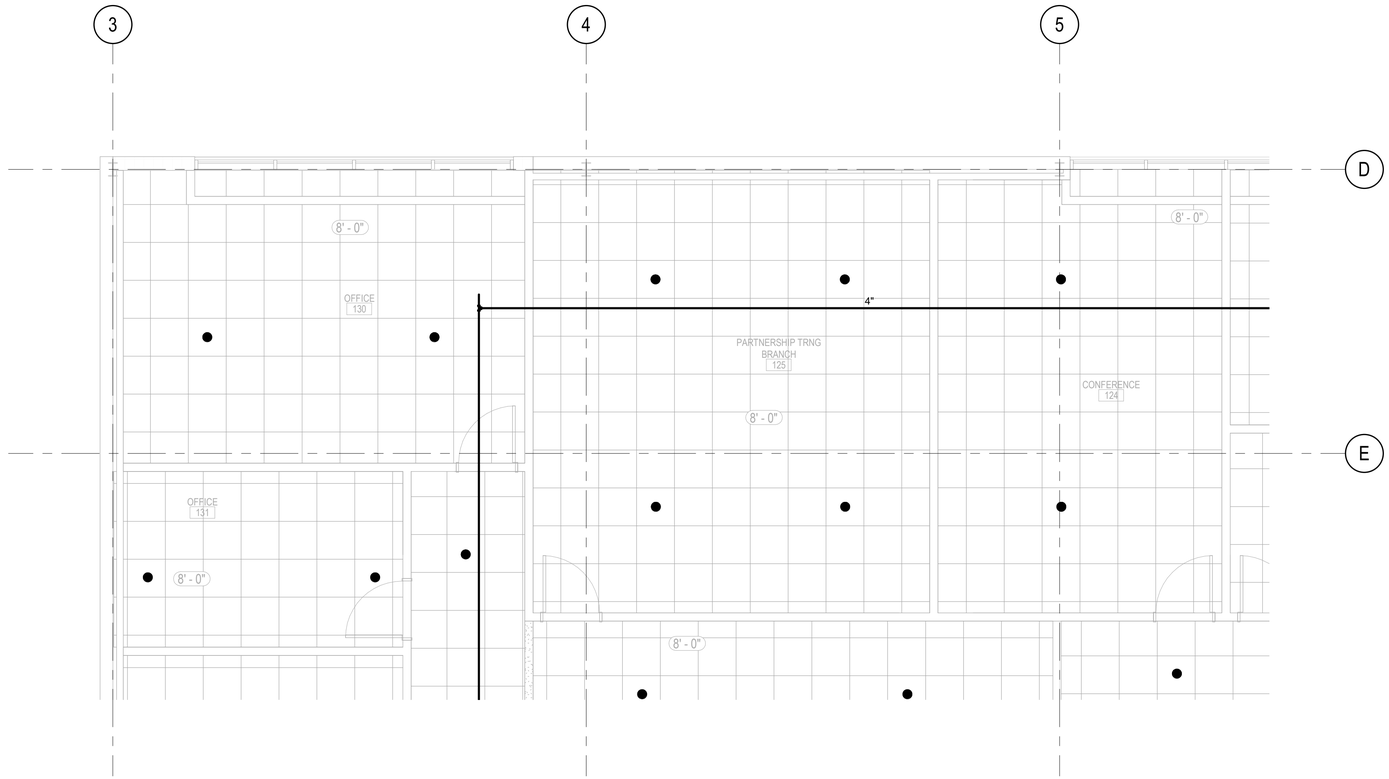
ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER - BLOCK 1J

SHEET IDENTIFICATION
FP119
SHEET 421 of 442

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SHEET NOTES

1 REFER TO SHEET FP001 FOR SYMBOLS AND ABBREVIATIONS.

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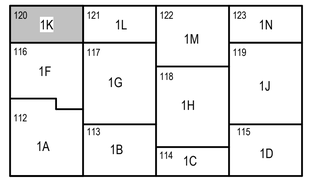
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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

◇# KEYNOTES

◇1 -



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1K

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE031014 STEPHEN M. TAMBURELLO

29 JUN 2021

Designed By: SMT	Drawn By: SMT	Checked By: PDR	Reviewed By:
Date: 06-29-2021	File No.	I.S.O. Sheet File Name:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

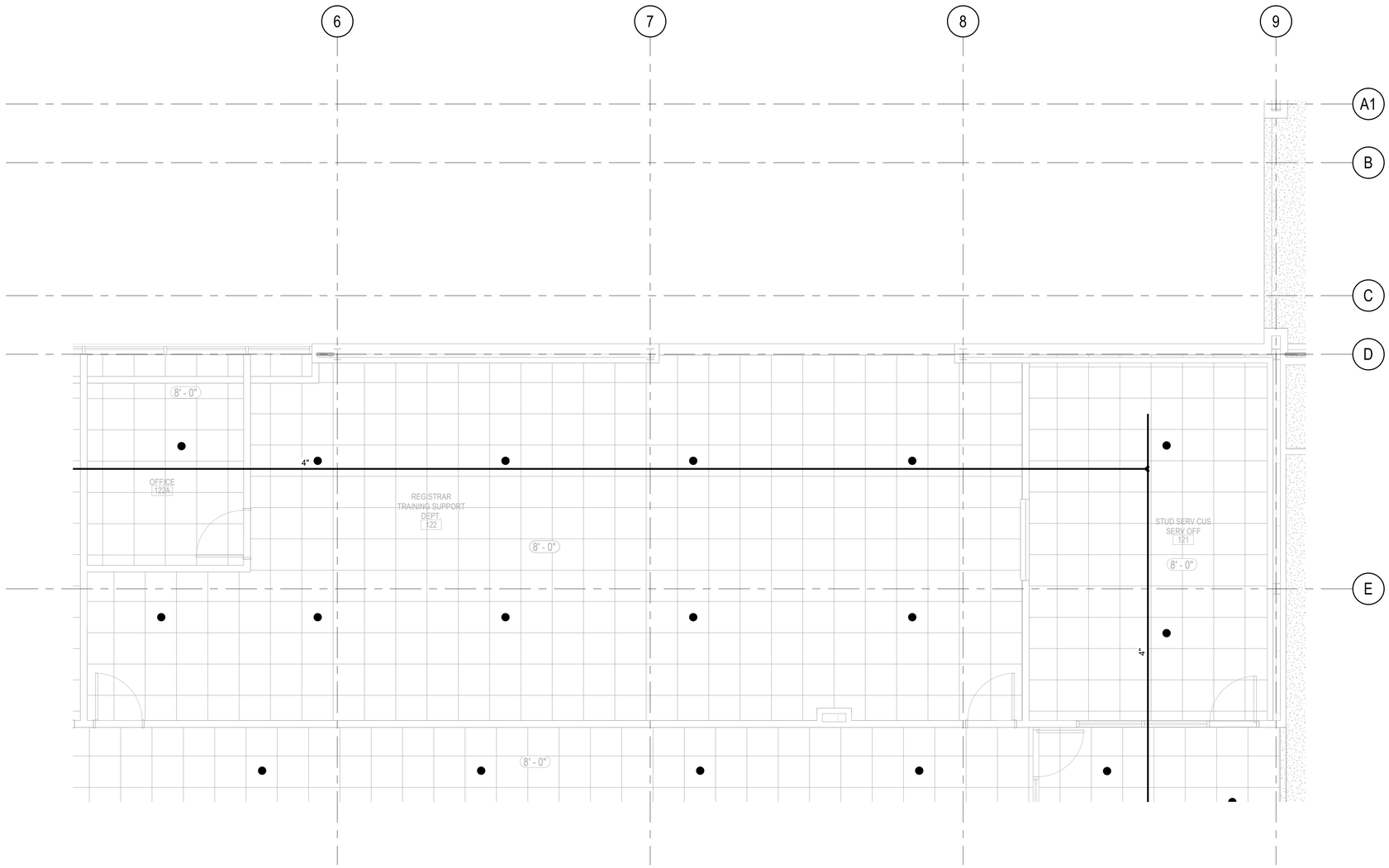
FIRE SPRINKLER - BLOCK 1K

SHEET IDENTIFICATION

FP120

SHEET 422 of 442

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SHEET NOTES

1 REFER TO SHEET FP001 FOR SYMBOLS AND ABBREVIATIONS.

2 SPRINKLER AND PIPING LOCATIONS AND HYDRAULIC CALCULATIONS SHOWN ARE FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR THE FINAL LAYOUT IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS, AND ALL OTHER PROJECT REQUIREMENTS, AND COORDINATION WITH ALL OTHER DISCIPLINES.

3. PIPING SHALL NOT PASS-THROUGH ELECTRICAL ROOMS OR COMMUNICATIONS ROOMS. PIPING ENTERING THESE SPACES SHALL SUPPLY THE SPRINKLERS SERVING THESE SPACES ONLY.

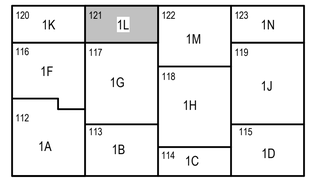
4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

◇# KEYNOTES

◇1 -

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1L

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER STEPHEN M. TAMBURELLO

29 JUN 2021

Designed By: SMT	Date: 06-29-2021
Drawn By: SMT	File No.
Checked By: PDR	I.S.O. Sheet File Name:
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

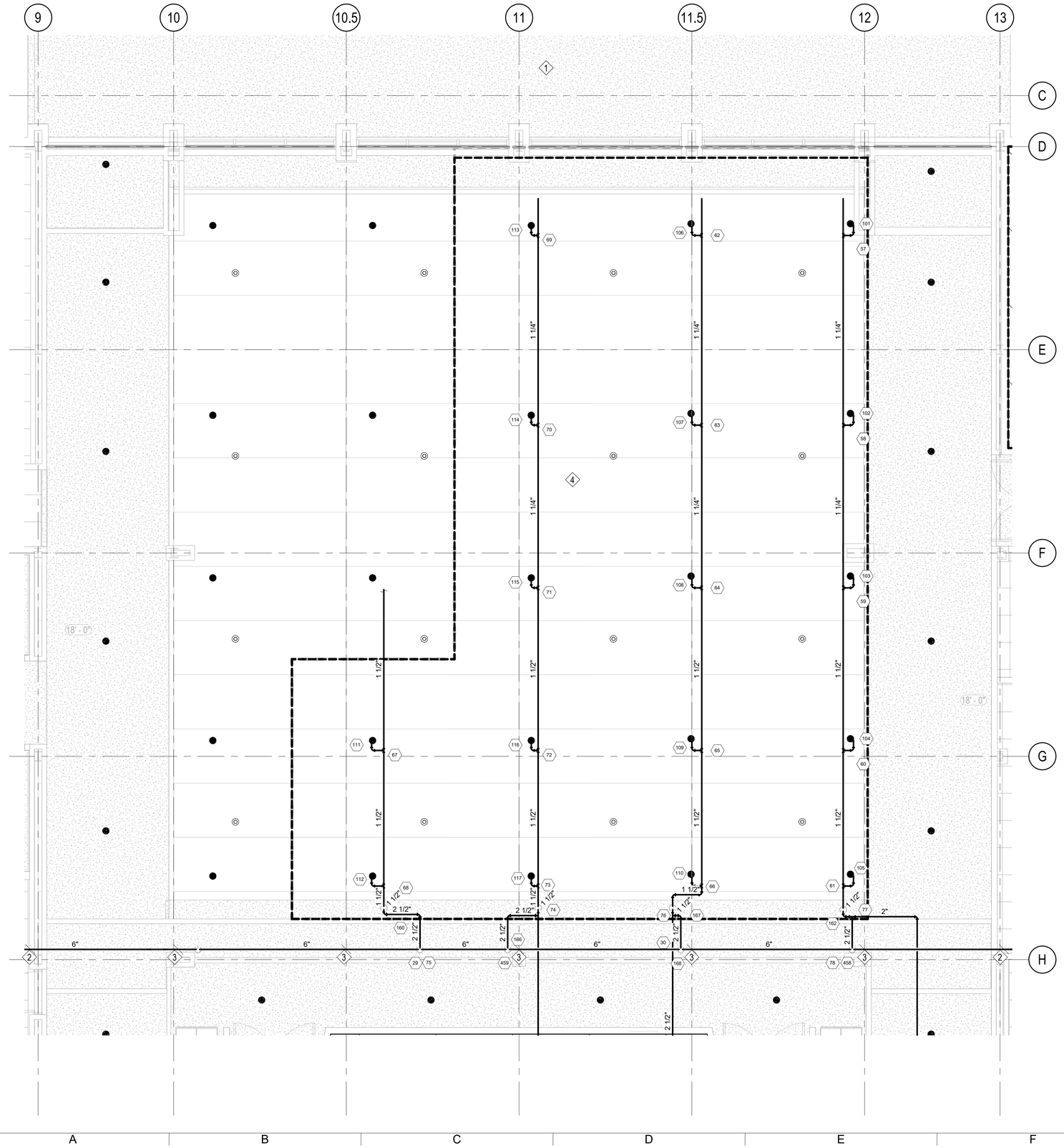
FIRE SPRINKLER - BLOCK 1L

SHEET IDENTIFICATION

FP121

SHEET 423 of 442

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6/28/2021 12:37:53 PM



SHEET NOTES

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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

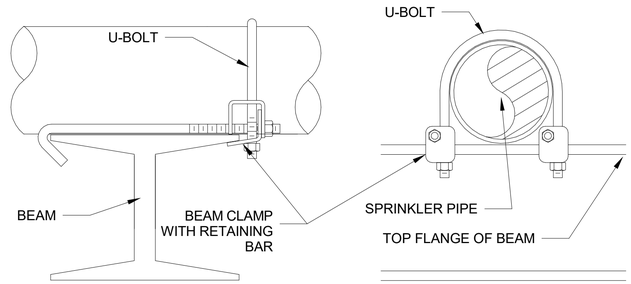
◇#

◇1 SPRINKLER PROTECTION NOT REQUIRED UNDER NON-COMBUSTIBLE EXTERIOR CANOPY PER NFPA 13 SECTION 9.2.3.2.

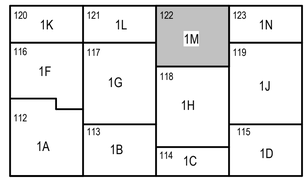
◇2 PER STRUCTURAL ENGINEER. SUPPORT 6-INCH MAIN FROM BEAM ABOVE SUPPORTING OFF OF COLUMN.

◇3 PER STRUCTURAL ENGINEER, SUPPORT 6-INCH MAIN TO BEAM BELOW. TOP OF BEAMS APPROXIMATELY 9' 6" A.F.F. DO NOT SUPPORT MAIN FROM ROOF STRUCTURE ABOVE. SEE DETAIL G4, THIS SHEET.

◇4 SPRINKLER PROTECT ABOVE CEILING. EXTEND PROTECTION INTO SPACE 23'3" FROM EDGE OF LOWER CEILING (0.6 TIMES THE SQUARE ROOT OF DESIGN AREA) PER NFPA 13 SECTION 9.3.14.3.



G4 MAIN SUPPORTED ABOVE BEAM
SCALE: N.T.S.



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1M

SCALE:As indicated

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA
STEPHEN M. TAMBURELLO
No. PE013414
PROFESSIONAL
ENGINEER
29 JUN 2021

Designed By: SMT
Drawn By: SMT
Checked By: PDR
Reviewed By:
Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

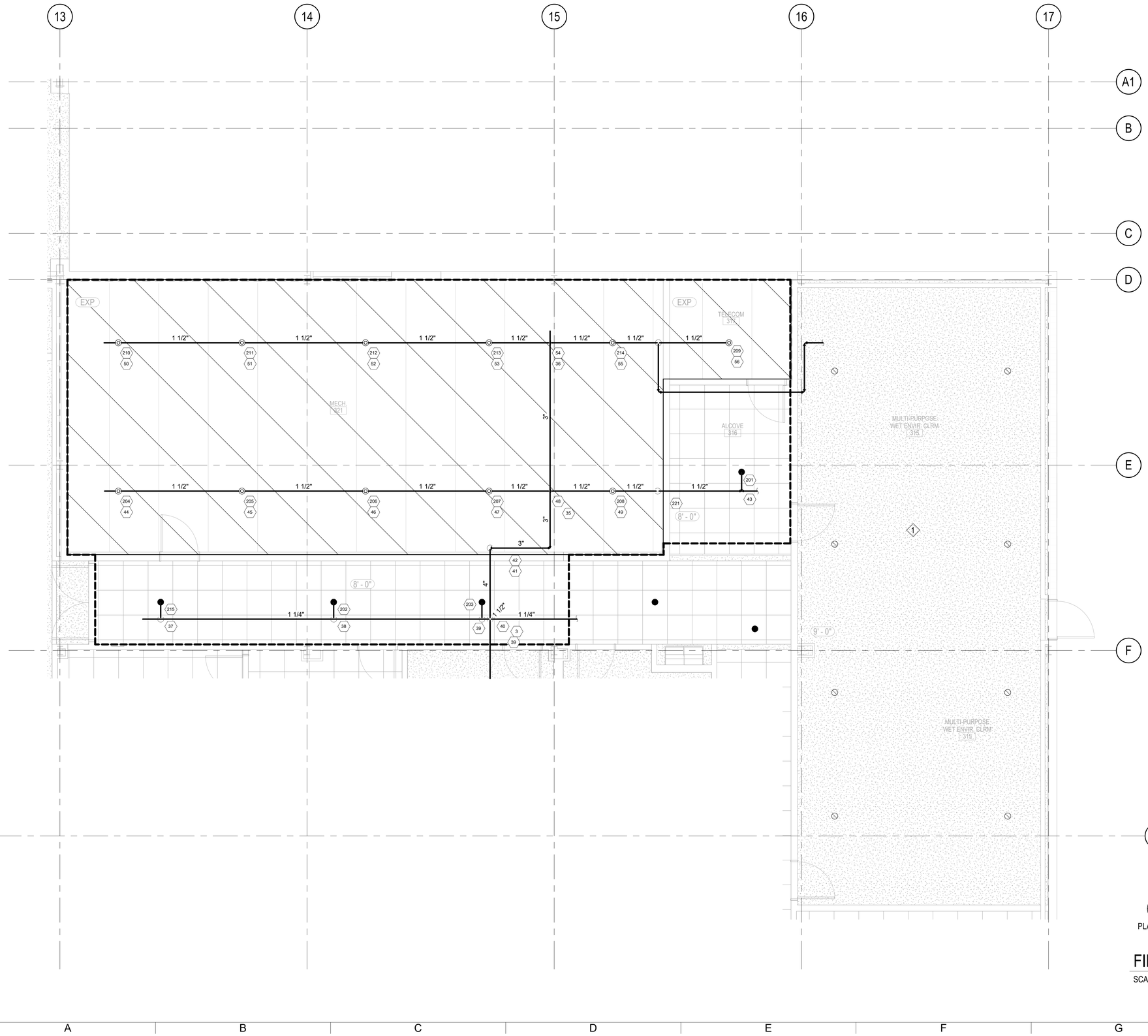
ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER - BLOCK 1M

SHEET IDENTIFICATION
FP122
SHEET 424 of 442

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SHEET NOTES

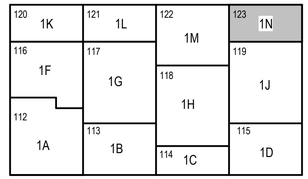
1. REFER TO SHEET FP001 FOR SYMBOLS AND ABBREVIATIONS.
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3. PIPING SHALL NOT PASS-THROUGH ELECTRICAL ROOMS OR COMMUNICATIONS ROOMS. PIPING ENTERING THESE SPACES SHALL SUPPLY THE SPRINKLERS SERVING THESE SPACES ONLY.
4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES

(#)

(1) PROVIDE CORROSION RESISTANT SPRINKLERS WITH SPRINKLER GUARDS IN MULTI-PURPOSE WET ENVIRONMENT CLASSROOM.

PLAN NORTH



FIRST FLOOR KEY PLAN

FIRE SPRINKLER - BLOCK 1N

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved

Revisions

GEORGIA
NO. PE0013014
PROFESSIONAL
ENGINEER
SHIHAN M. TAMBURELLO
29 JUN 2021

Designed By: SMT	Date: 06-29-2021		
Drawn By: SMT	File No.	I.S.O. Sheet File Name:	Solicitation Number:
Checked By: PDR			
Reviewed By:			

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

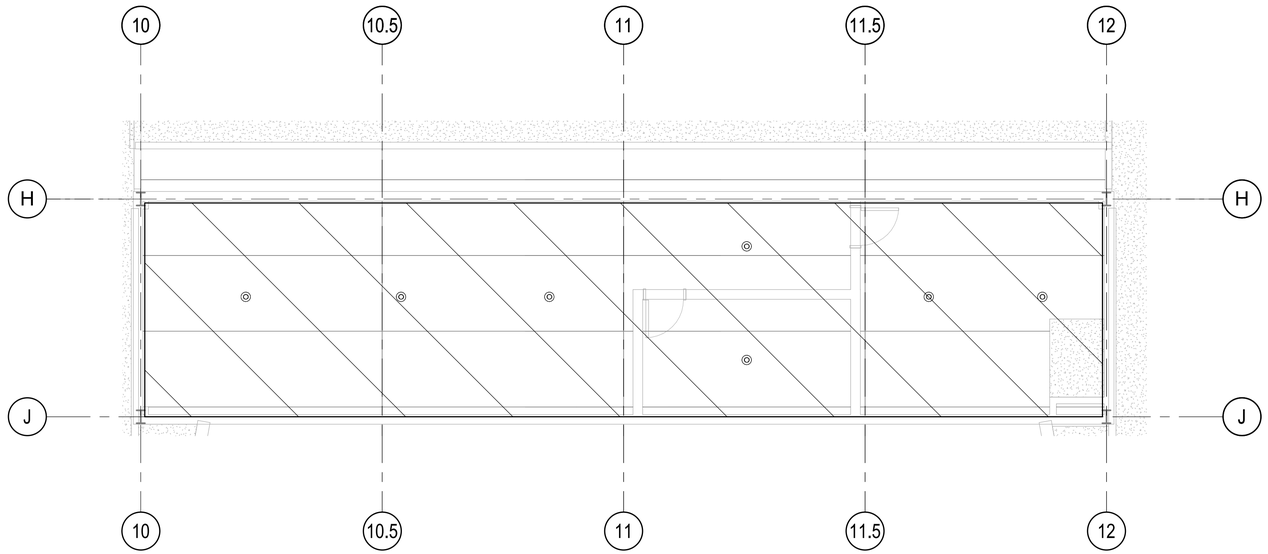
FIRE SPRINKLER - BLOCK 1N

SHEET IDENTIFICATION

FP123

SHEET 425 of 442

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6/28/2021 12:37:58 PM



SHEET NOTES

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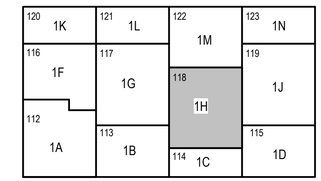
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4. ALIGN SPRINKLER DEFLECTORS TO BE PARALLEL WITH CEILING ANGLES.

KEYNOTES



1 -



PLAN NORTH

FIRST FLOOR KEY PLAN

FIRE SPRINKLER - MEZZANINE

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED NO. PE0019014 PROFESSIONAL JOSHUA M. TAMBURELLO

29 JUN 2021

Designed By: SMT	Drawn By: SMT	Checked By: PDR	Reviewed By:
Date: 06-29-2021	File No:	I.S.O. Sheet File Name:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

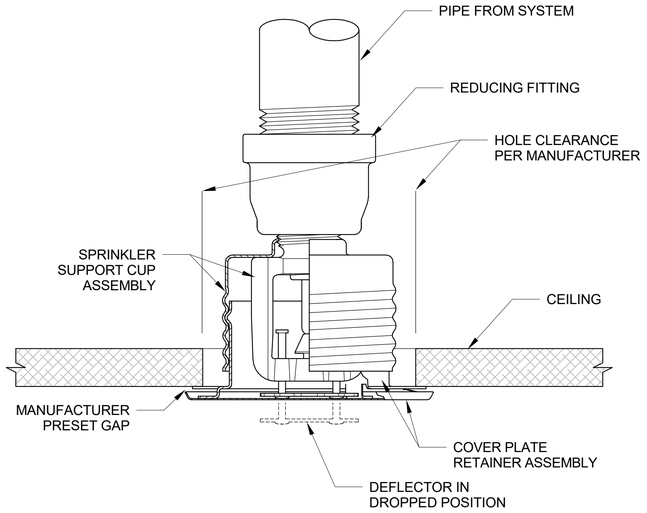
FIRE SPRINKLER - MEZZANINE

SHEET IDENTIFICATION

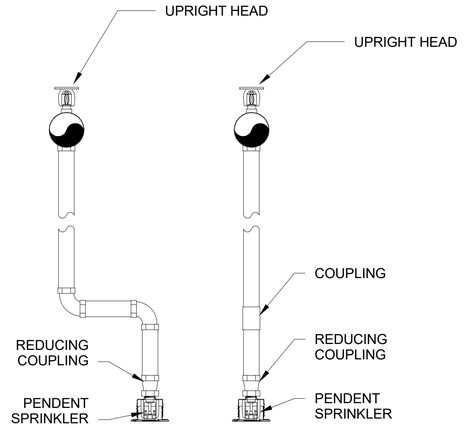
FP131

SHEET 426 of 442

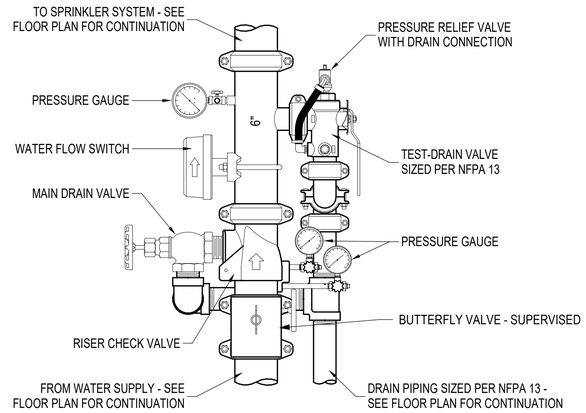
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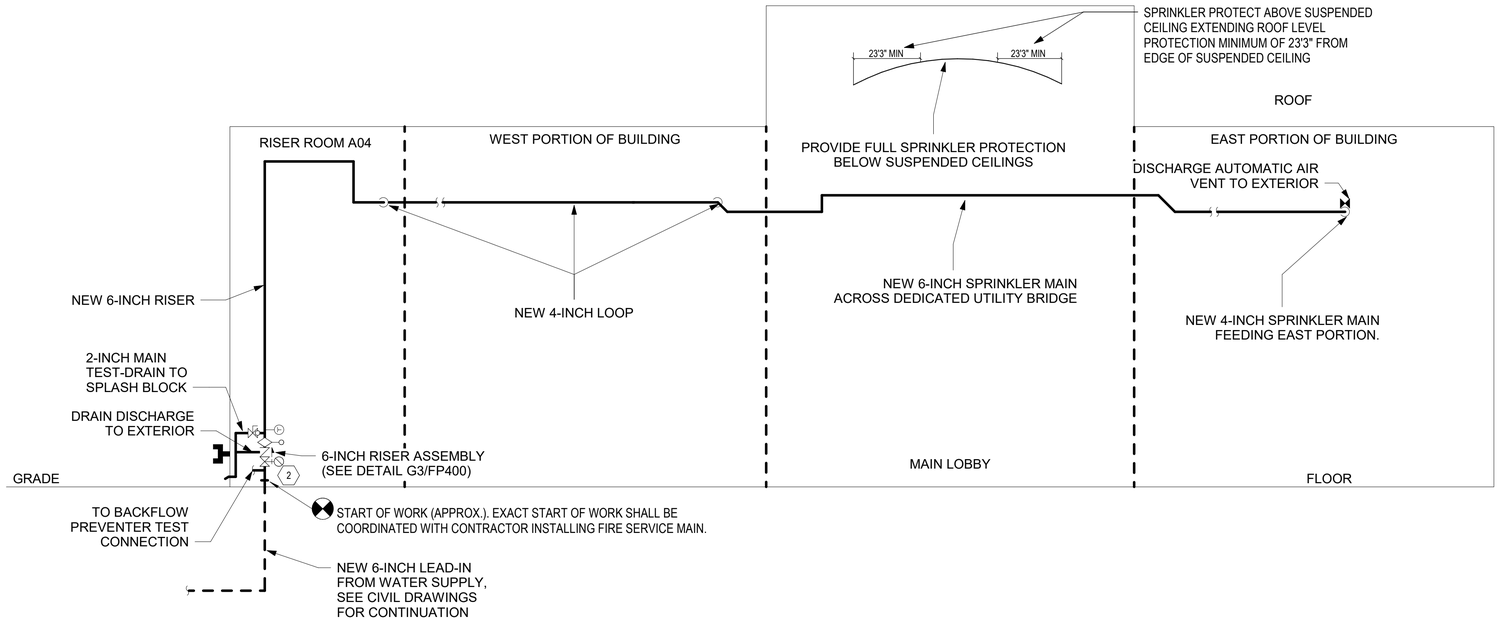
A3 CONCEALED PENDENT SPRINKLER
SCALE: 12" = 1'-0"



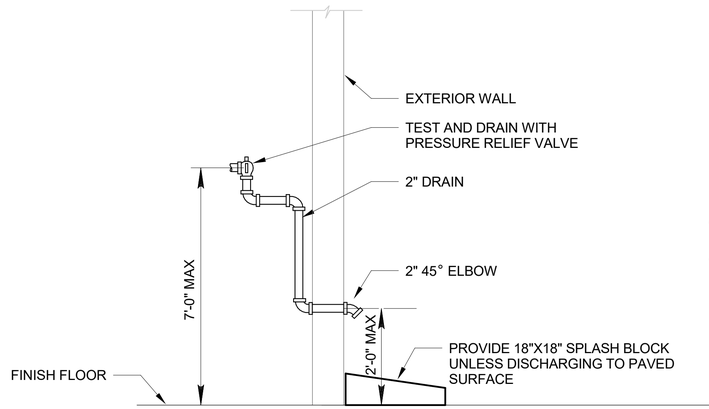
D3 SPRINKLER DROP DETAILS
SCALE: N.T.S.



G3 6-INCH RISER ASSEMBLY
SCALE: N.T.S.



A6 SPRINKLER RISER DIAGRAM
SCALE: N.T.S.



F6 INSPECTOR'S TEST CONNECTION AND DRAIN
SCALE: N.T.S.

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE031014
STEPHEN M. TAMBURELLO
29 JUN 2021

Designed By: SMT	Drawn By: SMT	Checked By: PDR	Reviewed By:
Date: 06-29-2021	File No.	I.S.O. Sheet File Name:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

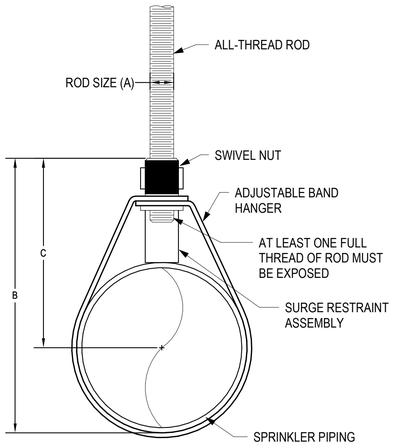
ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER DETAILS AND RISER

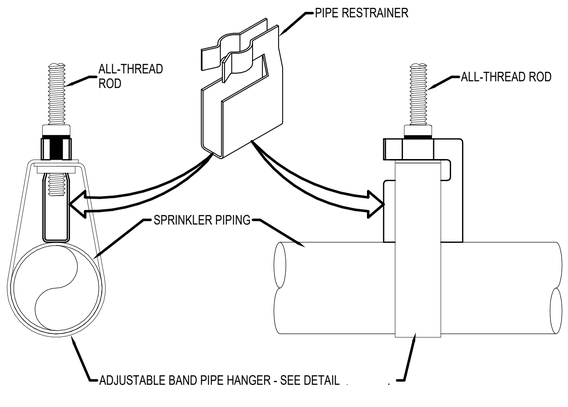
SHEET IDENTIFICATION
FP400
SHEET 427 of 442

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PIPE SIZE	A	B	C
1/2	3/8	3 1/8	2 5/8
3/4	3/8	3 1/8	2 1/2
1	3/8	3 3/8	2 5/8
1 1/4	3/8	3 3/4	2 7/8
1 1/2	3/8	3 7/8	2 7/8
2	3/8	4 1/2	3
2 1/2	3/8	5 5/8	4 1/8
3	3/8	5 7/8	4
4	3/8	7 3/8	5
5	1/2	9 1/8	6 1/4
6	1/2	10 1/8	6 3/4
8	1/2	13 1/8	8 3/4

A3 INSTALLATION OF ADJUSTABLE BAND HANGER
SCALE: N.T.S.

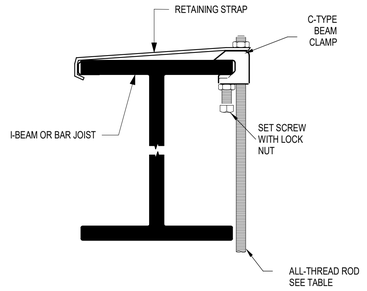


NOTE: PIPE RESTRAINERS SHALL BE PROVIDED ON ALL FIRE SUPPRESSION PIPING 2" AND SMALLER. RESTRAINERS SHALL BE PLACED IN ACCORDANCE WITH NFPA 13.

A6 INSTALLATION OF SURGE RESTRAINER
SCALE: N.T.S.

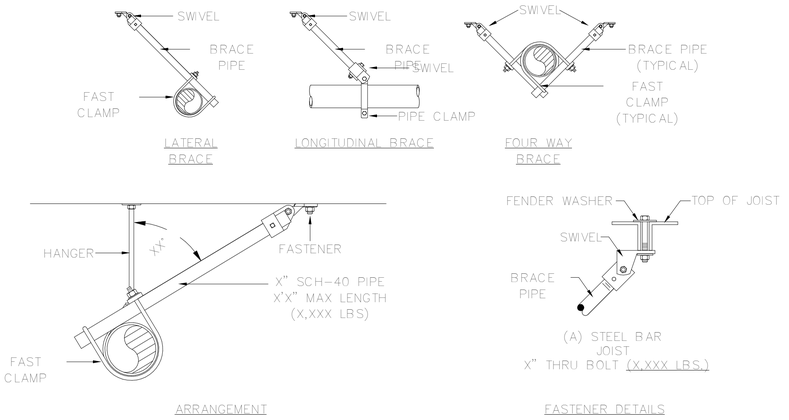
ALL SIZES IN INCHES	NOMINAL PIPE SIZE									
	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
ROD DIAMETER	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"
SIZE OF SET SCREW	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"

ALL SIZES ARE IN INCHES



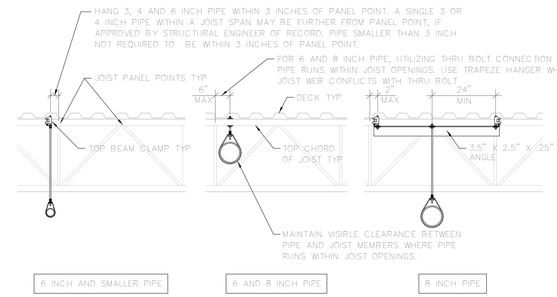
C-TYPE BEAM CLAMP SHALL BE UTILIZED IN THE TOP OF BEAM CONFIGURATION. WHERE SUPPORTING FROM TOP OF BEAM IS NOT POSSIBLE, PIPE MAY BE SUPPORTED FROM BOTTOM OF BEAM.

D3 INSTALLATION OF STEEL C-CLAMP
SCALE: N.T.S.

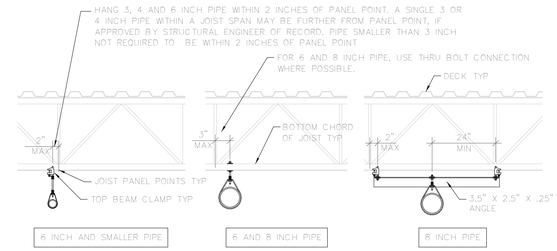


D6 TYPICAL SEISMIC BRACING DETAILS
SCALE: N.T.S.

HANGERS SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13 AND PROJECT REQUIREMENTS. HANGER LAYOUT AND SPACING SHALL BE SUBMITTED TO THE DESIGN STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. PROVIDE ADDITIONAL HANGERS AND TRAPEZE HANGERS, IF REQUIRED BASED ON THE STRUCTURAL ENGINEER REVIEW, TO ENSURE THE EXISTING BUILDING STRUCTURAL COMPONENTS ADEQUATELY SUPPORT THE SPRINKLER SYSTEM LOAD OF THE WATER-FILLED PIPE PLUS 250 LB APPLIED AT THE POINT OF THE HANGER. ABOVEGROUND FIRE MAIN PIPING (3-INCH AND GREATER) DEMONSTRATED ON THESE DRAWINGS HAS BEEN REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER.

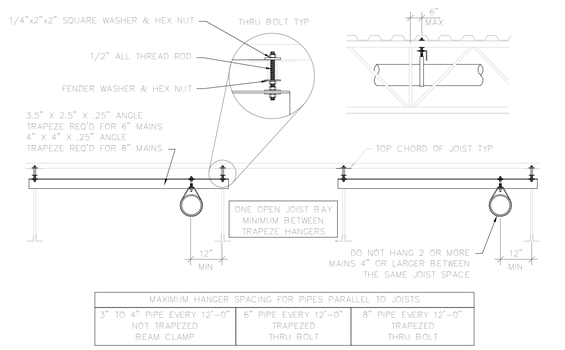


NOTE: SUPPORT SPRINKLER PIPING FROM TOP CHORD OF BAR JOISTS. WHERE SUPPORTING FROM TOP CHORD IS NOT POSSIBLE, PIPE MAY BE SUPPORTED FROM BOTTOM CHORD.



MAXIMUM HANGER SPACING FOR PIPING PERPENDICULAR TO JOISTS (U.N.O)		
BEAM CLAMP NOT TRAPEZED	THRU-BOLT NOT TRAPEZED	BEAM CLAMP TRAPEZED
3" TO 4" PIPE EVERY 12'-0" EVERY OTHER JOIST 6" PIPE EVERY 6'-0" EVERY JOIST 8" PIPE NOT ALLOWED	3" TO 4" PIPE EVERY 12'-0" EVERY OTHER JOIST 6" PIPE EVERY 12'-0" EVERY OTHER JOIST 8" PIPE EVERY 6'-0" EVERY JOIST	3" TO 4" PIPE NOT NECESSARY 6" PIPE NOT NECESSARY 8" PIPE EVERY 6'-0" EVERY JOIST

PIPE RUNNING PERPENDICULAR TO JOISTS



MAXIMUM HANGER SPACING FOR PIPES PARALLEL TO JOISTS		
3" TO 4" PIPE EVERY 12'-0" NOT TRAPEZED BEAM CLAMP	6" PIPE EVERY 12'-0" TRAPEZED THRU BOLT	8" PIPE EVERY 12'-0" TRAPEZED THRU BOLT

PIPE RUNNING PARALLEL TO JOIST

CONTRACTOR MAY SUBSTITUTE ANGLE IRON TRAPEZE MEMBER WITH PIPE MEMBER. SIZE PIPE MEMBER IN ACCORDANCE WITH NFPA-13 AND MAINTAIN 12 INCH MAXIMUM DEFLECTOR DISTANCE.

UTILIZE THESE HANGING METHODS FOR ALL SPRINKLER PIPING. SPACE TRAPEZE HANGERS IN ACCORDANCE WITH SCHEDULE. LOCATE HANGERS WITHIN 3 INCHES OF JOIST PANEL POINTS U.N.O.

G6 TYPICAL JOIST HANGER DETAILS
SCALE: N.T.S.

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 26041014 STEPHEN M. TAMBURELLO
29 JUN 2021

Designed By: SMT
Drawn By: SMT
Date: 06-29-2021
File No.
Checked By: PDR
Reviewed By:
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

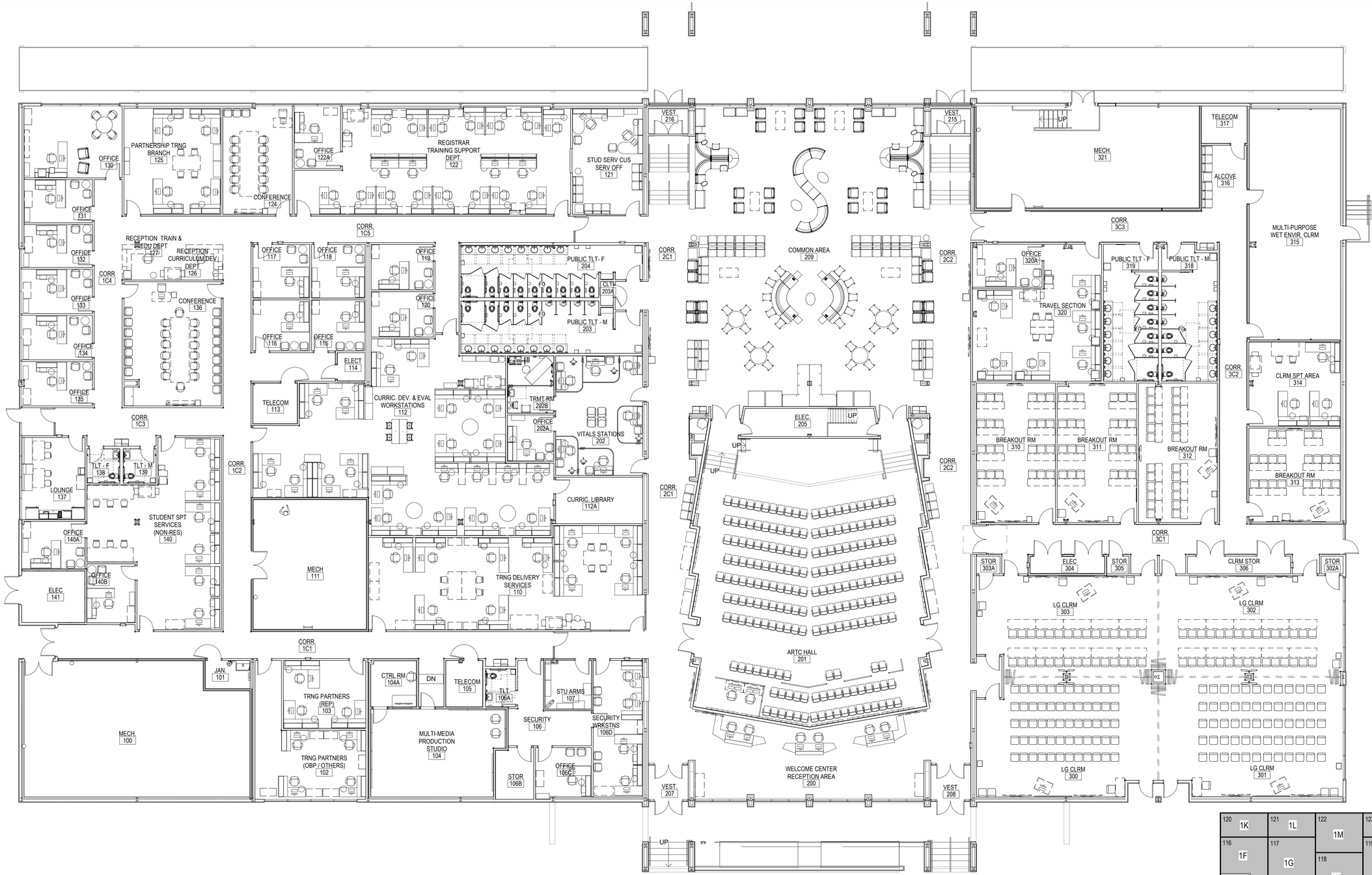
ss&a CLARKNEXSEN

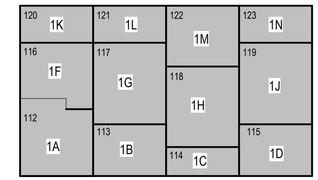
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

FIRE SPRINKLER DETAILS

SHEET IDENTIFICATION
FP401
SHEET 428 of 442

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PLAN NORTH

FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - COMPOSITE

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

0 6' 12' 24'

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

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

Designed By: Designer
Drawn By: Author
Checked By: Checker
Reviewed By:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

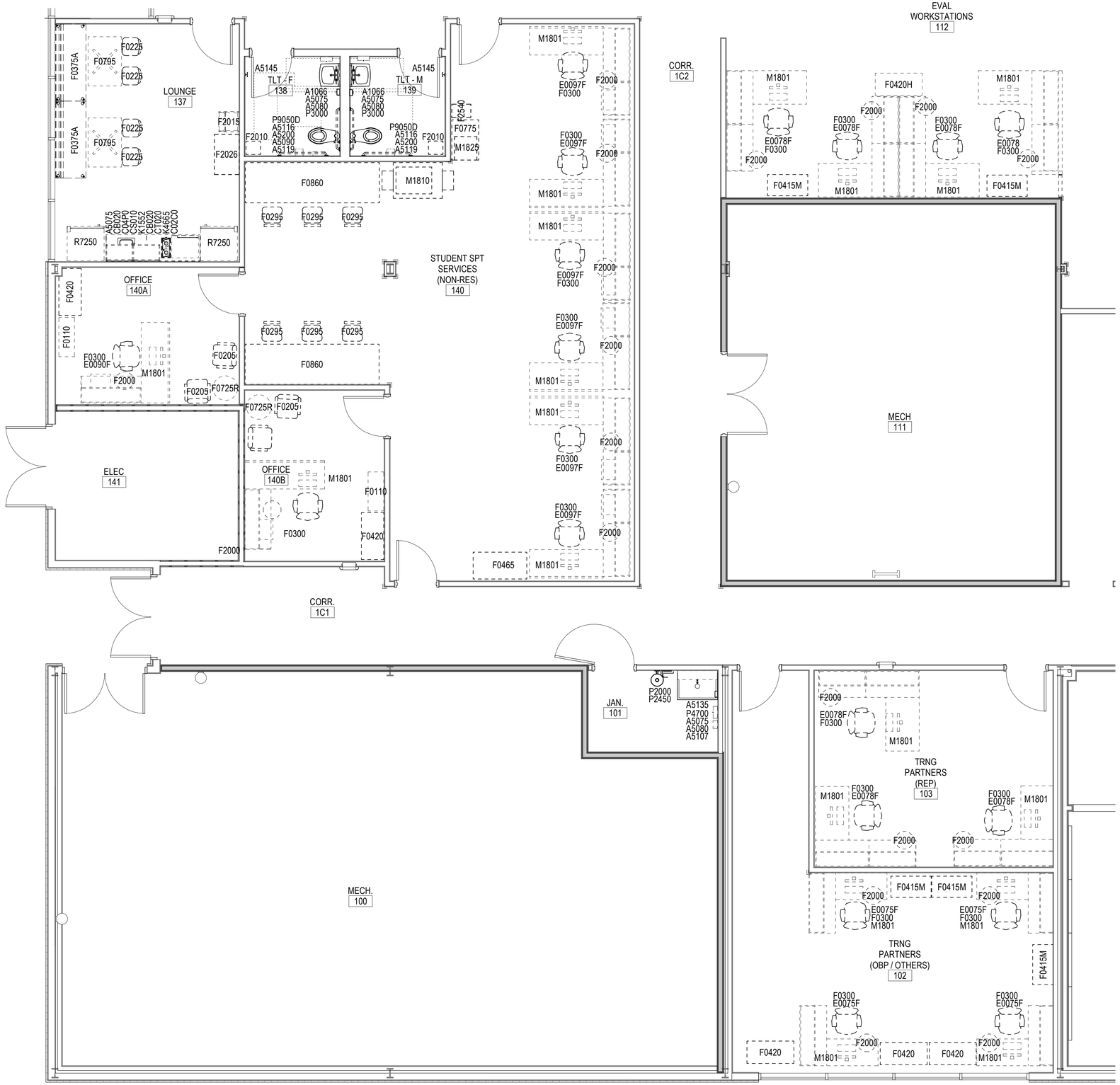
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - COMPOSITE

SHEET IDENTIFICATION
EQ111
SHEET 429 of 442

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PLAN LEGEND

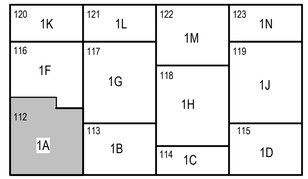
ROOM NAME 101	ROOM NAME AND NUMBER SEE FINISH SCHEDULE ON SHEETS A-661 THROUGH A-663
A1066	JSN NUMBER, SEE EQUIPMENT SCHEDULE SHEET A-680 & A-681
A1066	JSN NUMBER RELOCATED EQUIPMENT, SEE EQUIPMENT SCHEDULE SHEET A-680 & A-681

GENERAL NOTES

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2. SEE ARCHITECTURAL PLANS FOR LOGISTICAL CATEGORY A EQUIPMENT (CONTRACTOR FURNISHED / CONTRACTOR INSTALLED)

PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1A

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Revisions

Symbol	No.	Description	Date	Approved

Designed By: Designer
Drawn By: Author
Checked By: Checker
Reviewed By:

Date: 06-29-2021
File No.
I.S.O. Sheet File Name:
Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1A

SHEET IDENTIFICATION
EQ112
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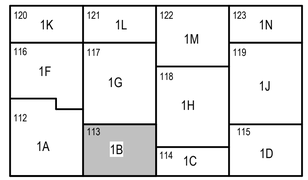
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1B

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Revisions				
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

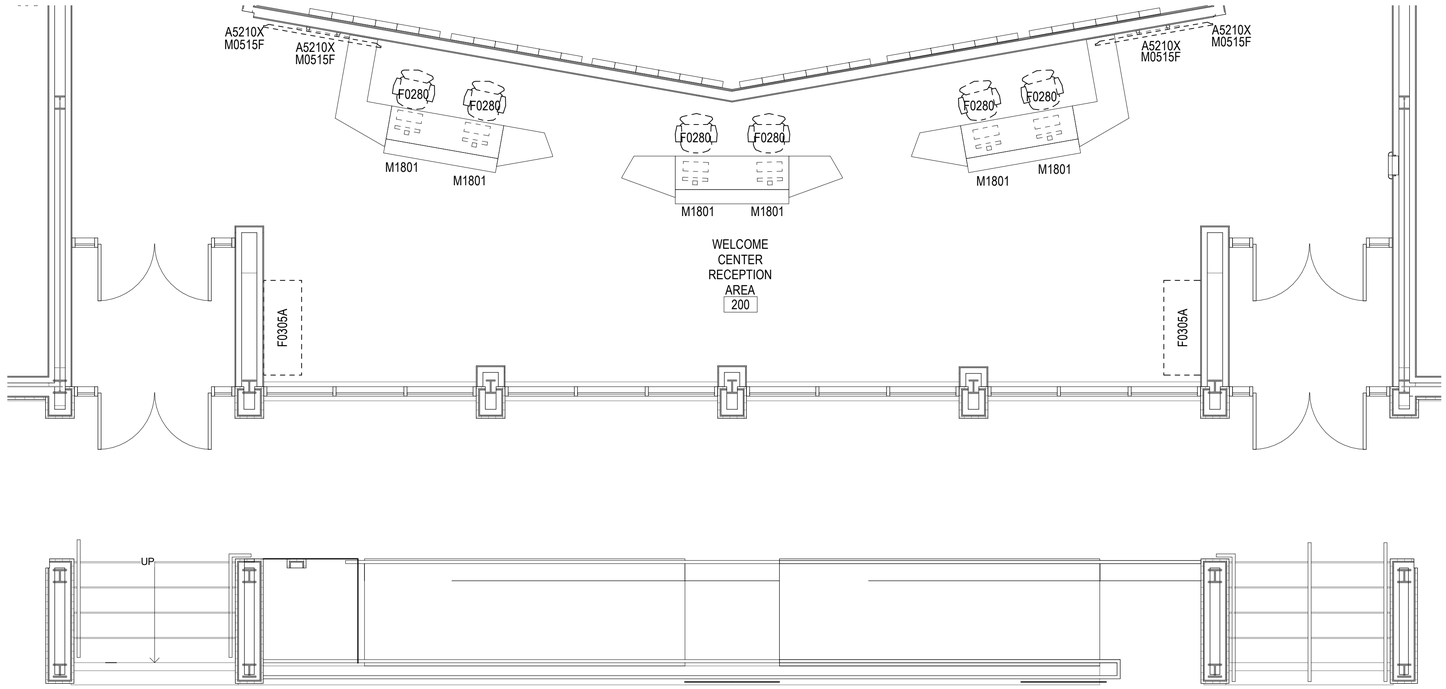
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1B

SHEET IDENTIFICATION
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SHEET 431 of 442

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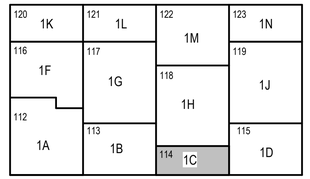
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CATEGORY A EQUIPMENT (CONTRACTOR FURNISHED / CONTRACTOR INSTALLED)



PLAN NORTH

FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1C

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Revisions

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

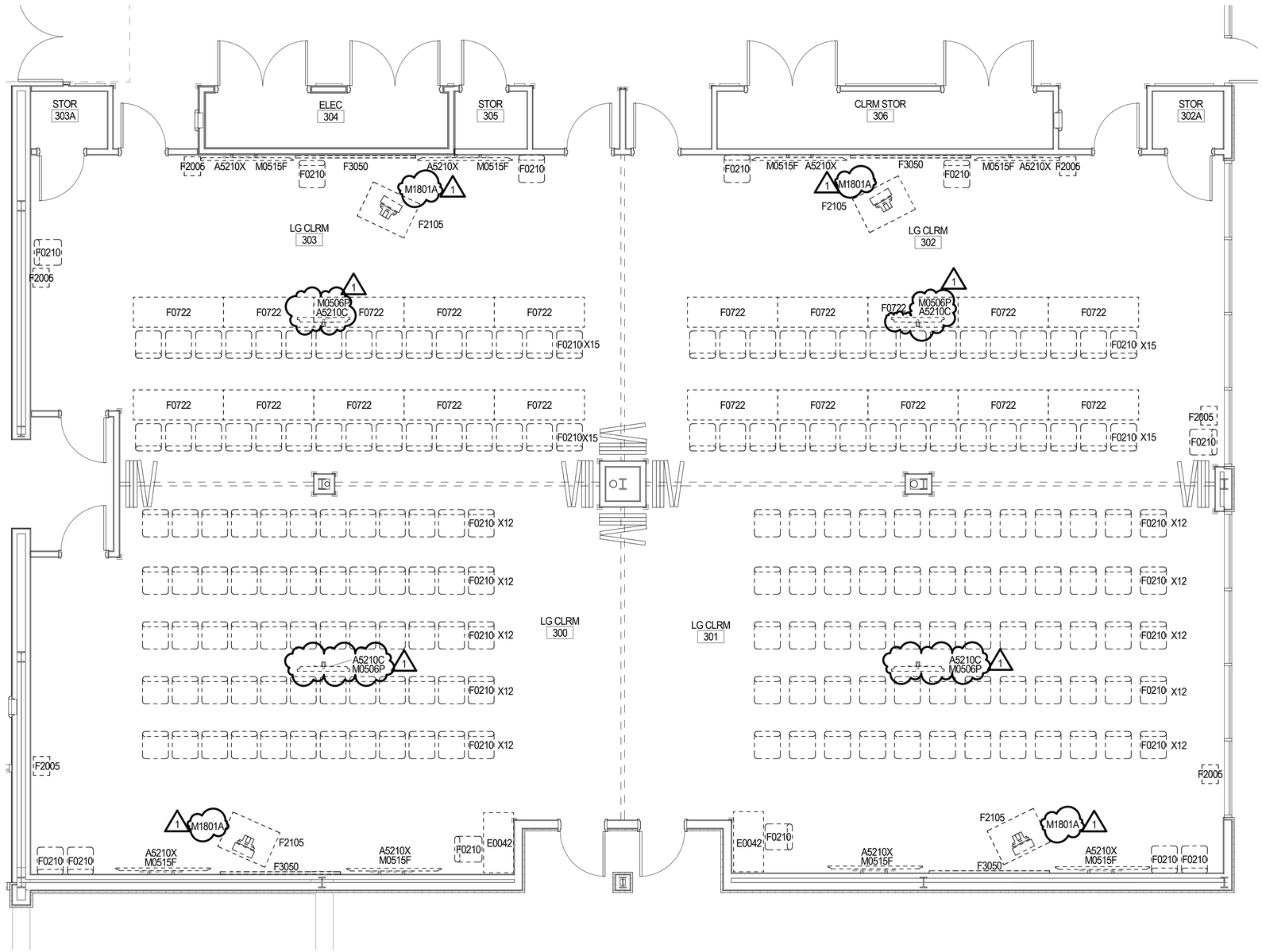
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1C

SHEET IDENTIFICATION
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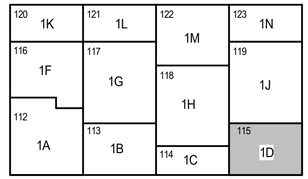
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1D

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 0001	08/27/2021	

Revisions

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

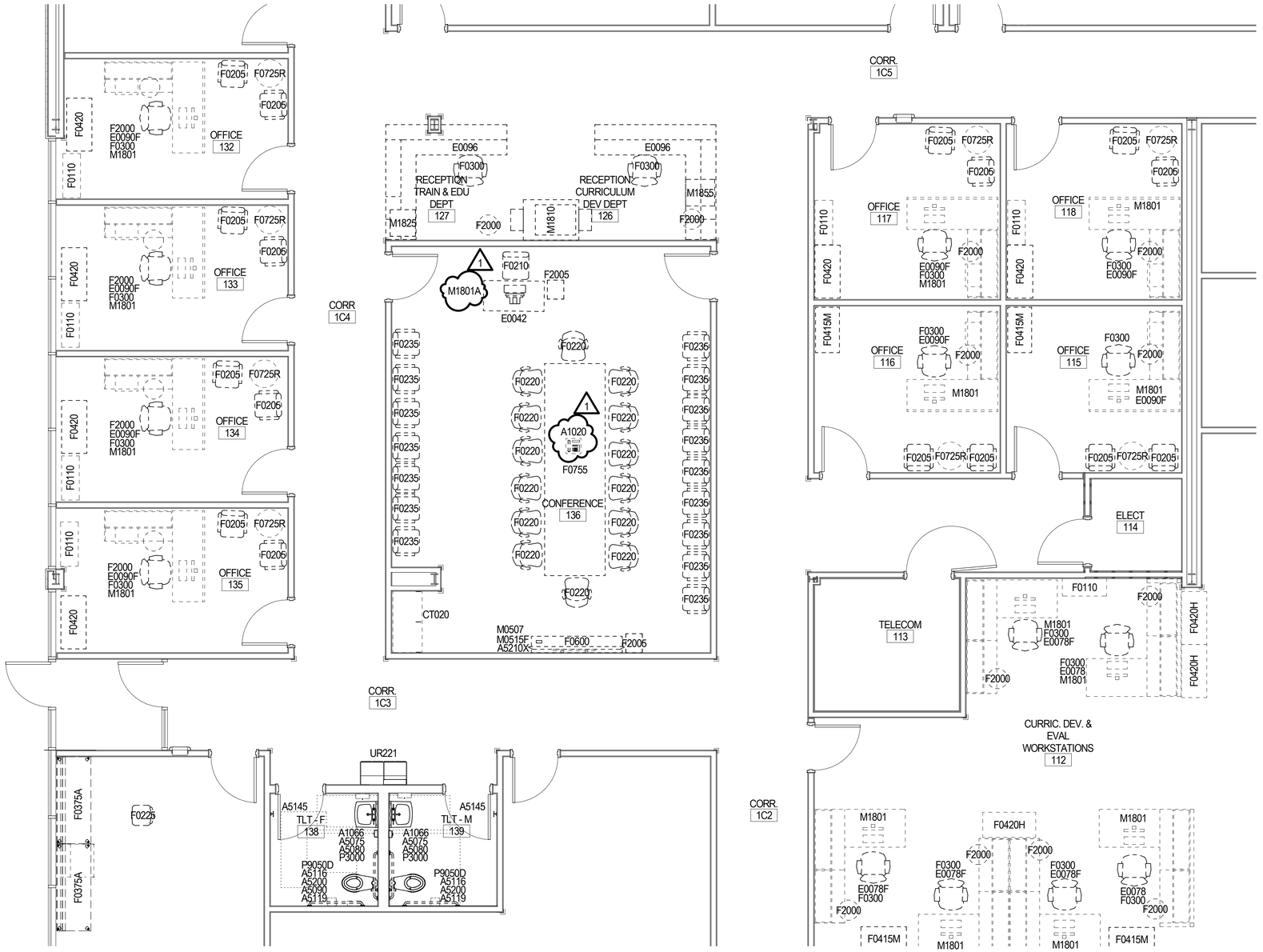
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1D

SHEET IDENTIFICATION
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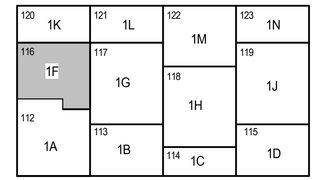
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1F

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 0001	08/27/2021	

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

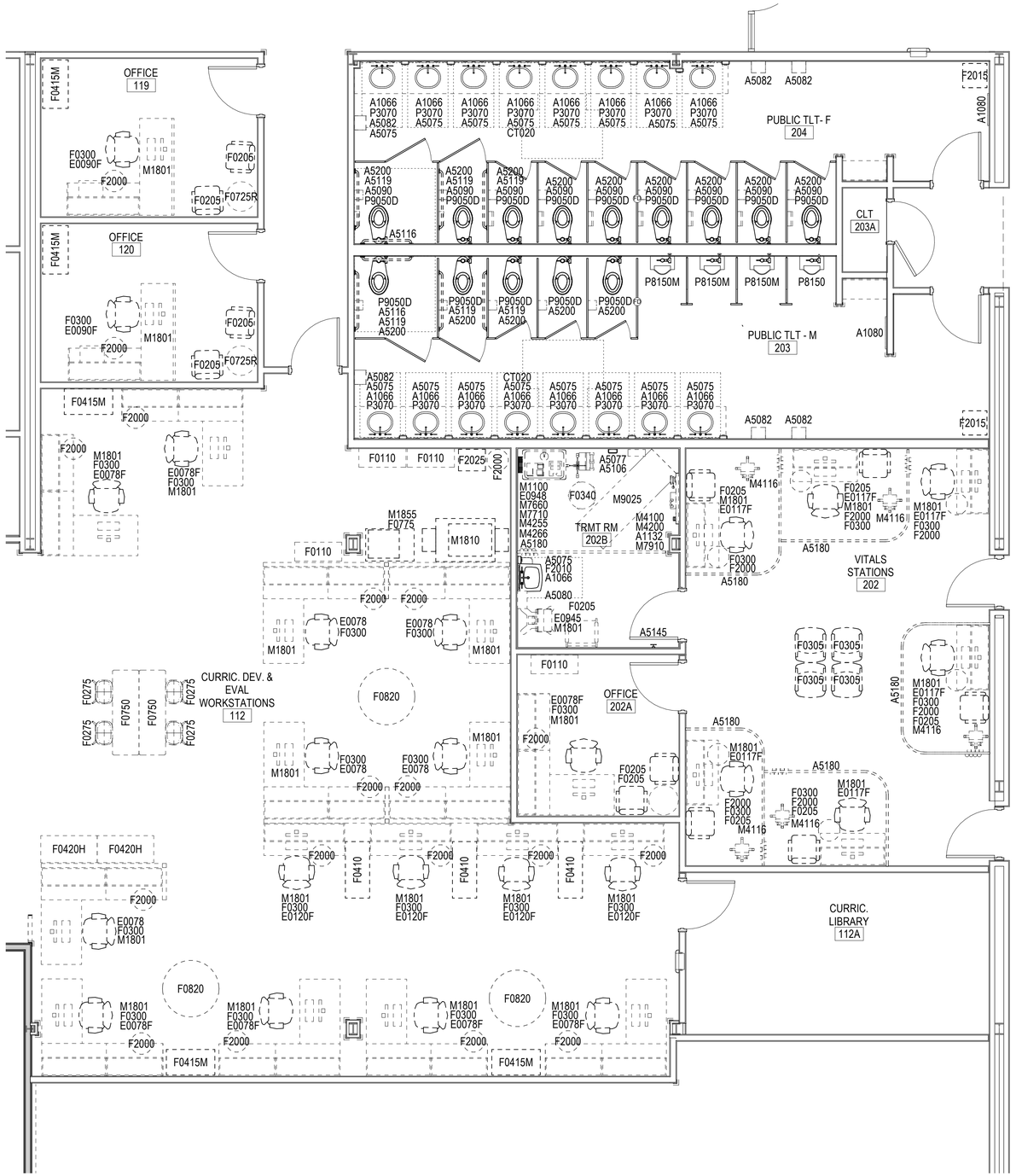
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1F

SHEET IDENTIFICATION
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SHEET 434 of 442

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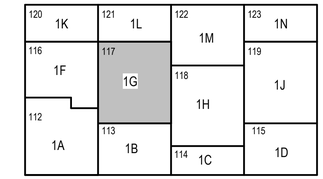
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1G

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

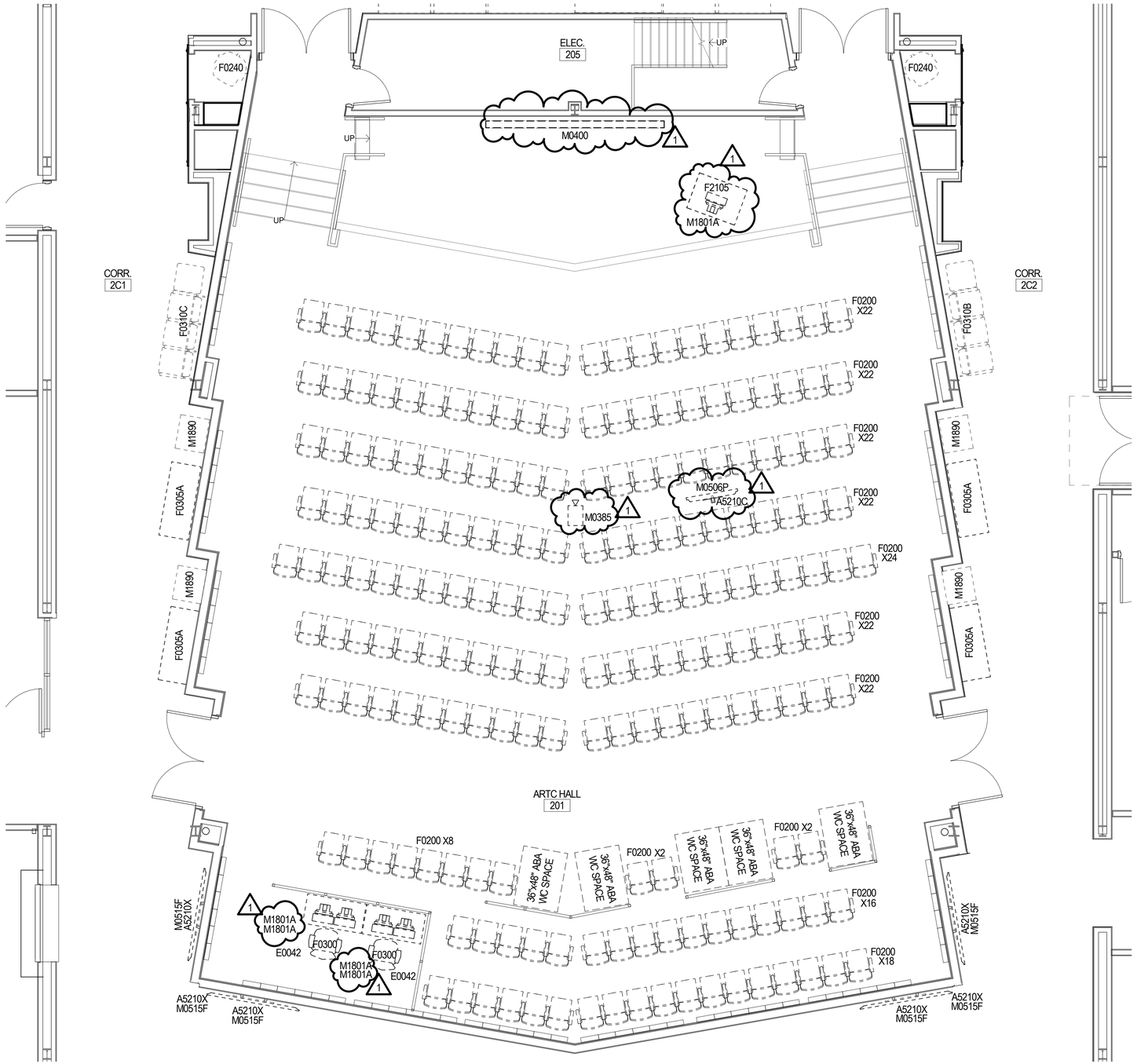
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1G

SHEET IDENTIFICATION
EQ117
SHEET 435 of 442

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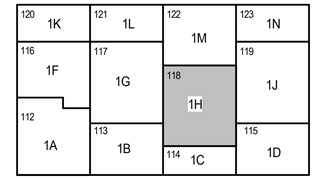
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1H

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 0001	08/27/2021	

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

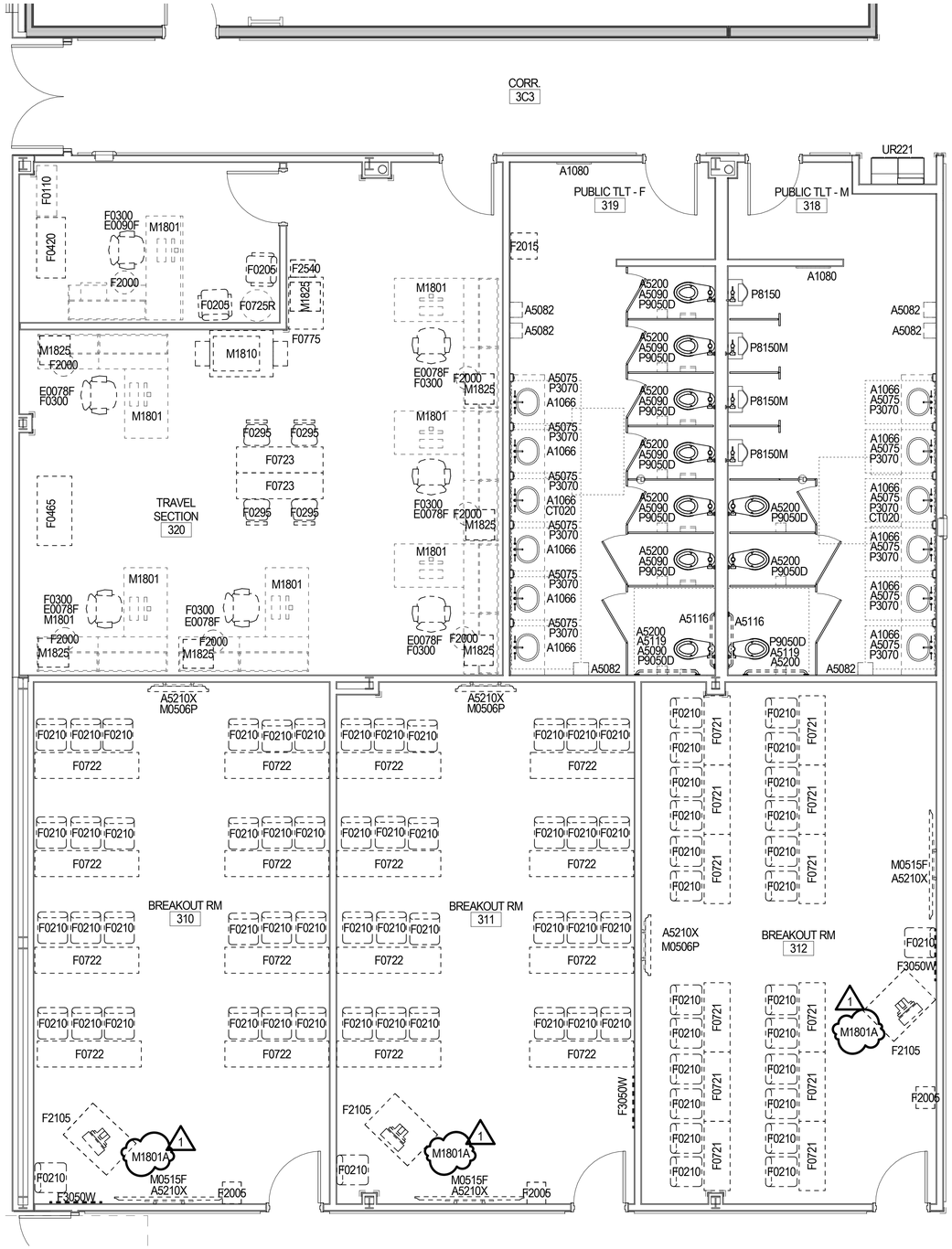
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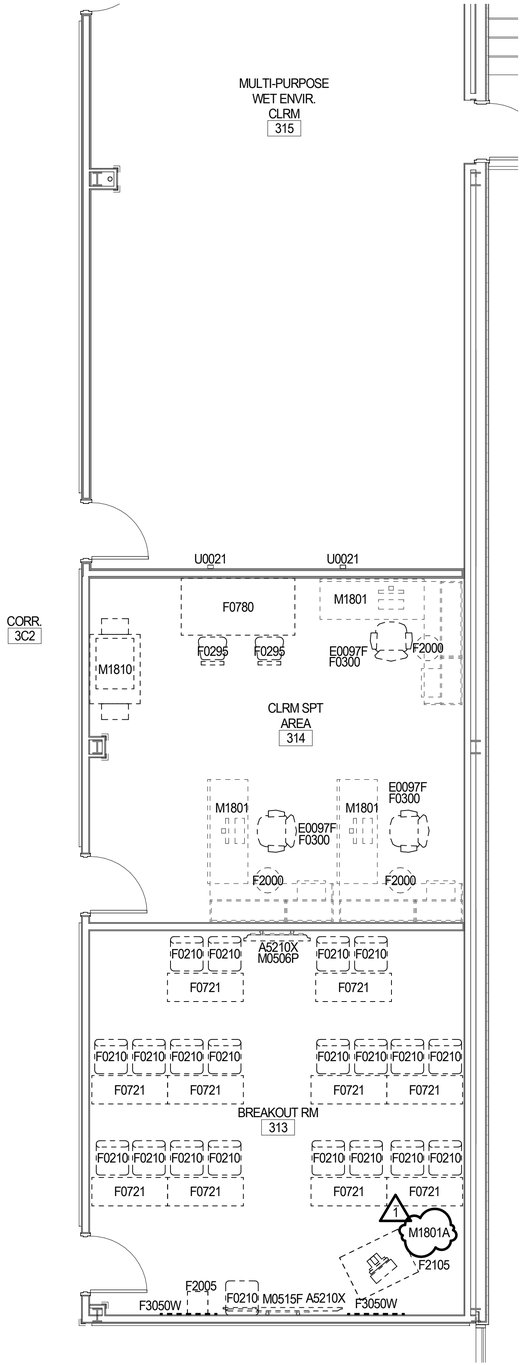
ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1H

SHEET IDENTIFICATION
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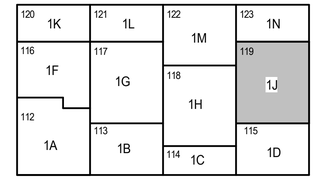
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1J

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 0001	08/27/2021	

Revisions

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

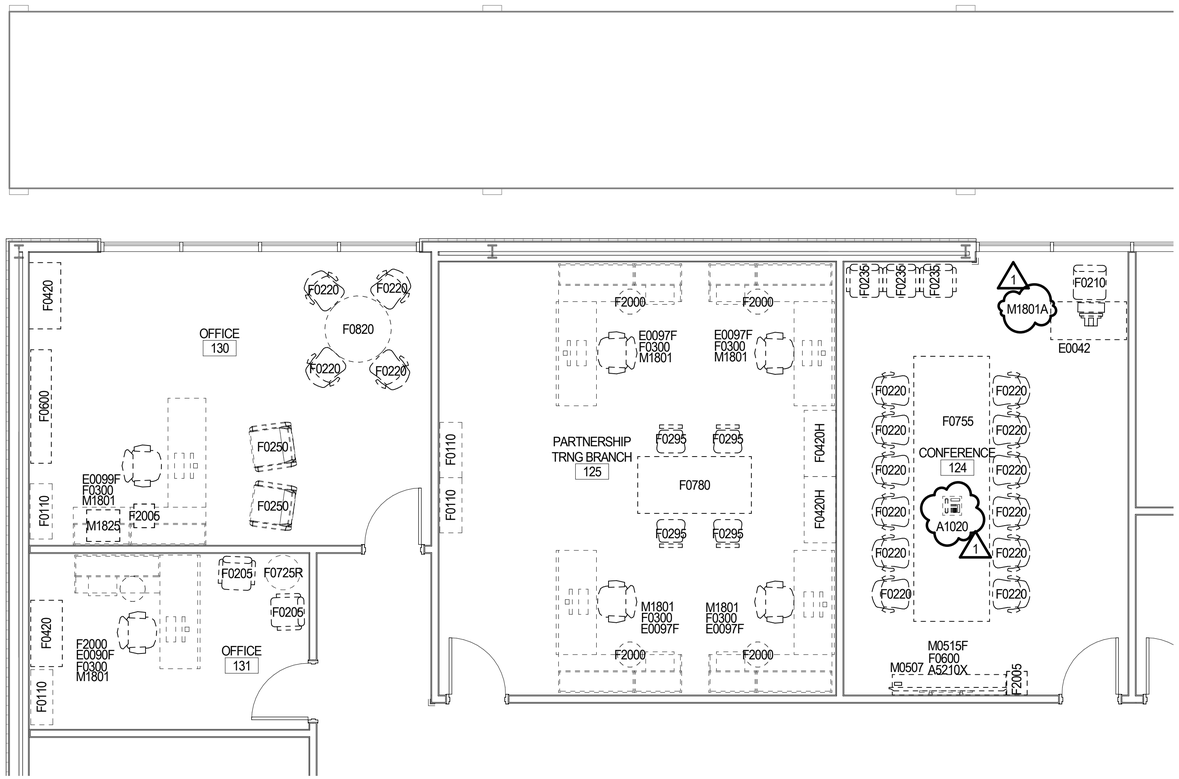
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ARTC - B640 RENOVATION
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EQUIPMENT PLAN - 1J

SHEET IDENTIFICATION
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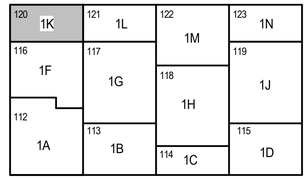
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1K

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

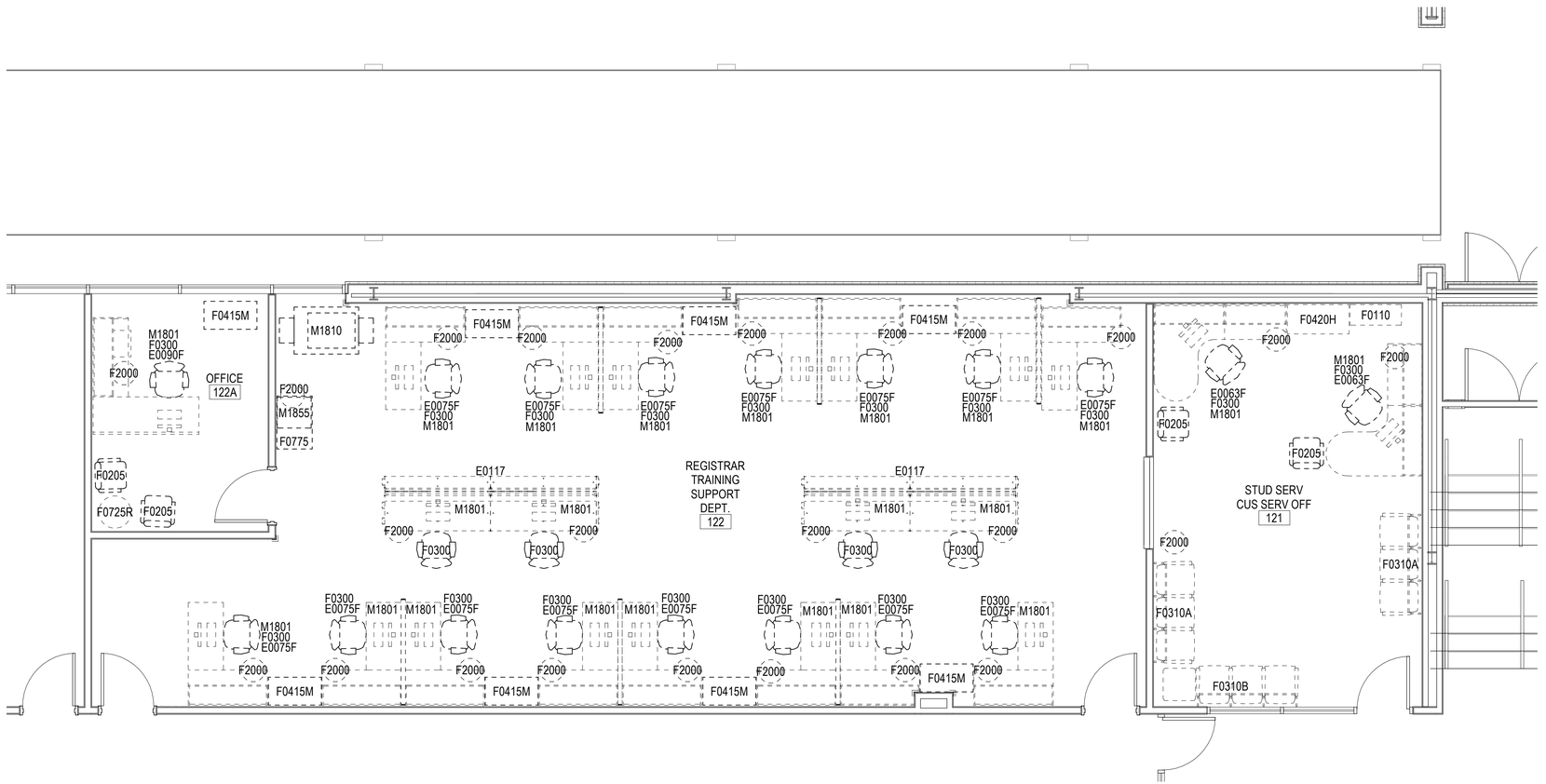
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1K

SHEET IDENTIFICATION
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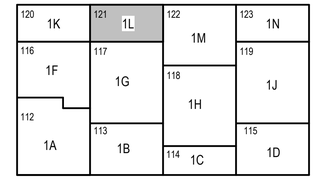
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PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1L

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Revisions

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

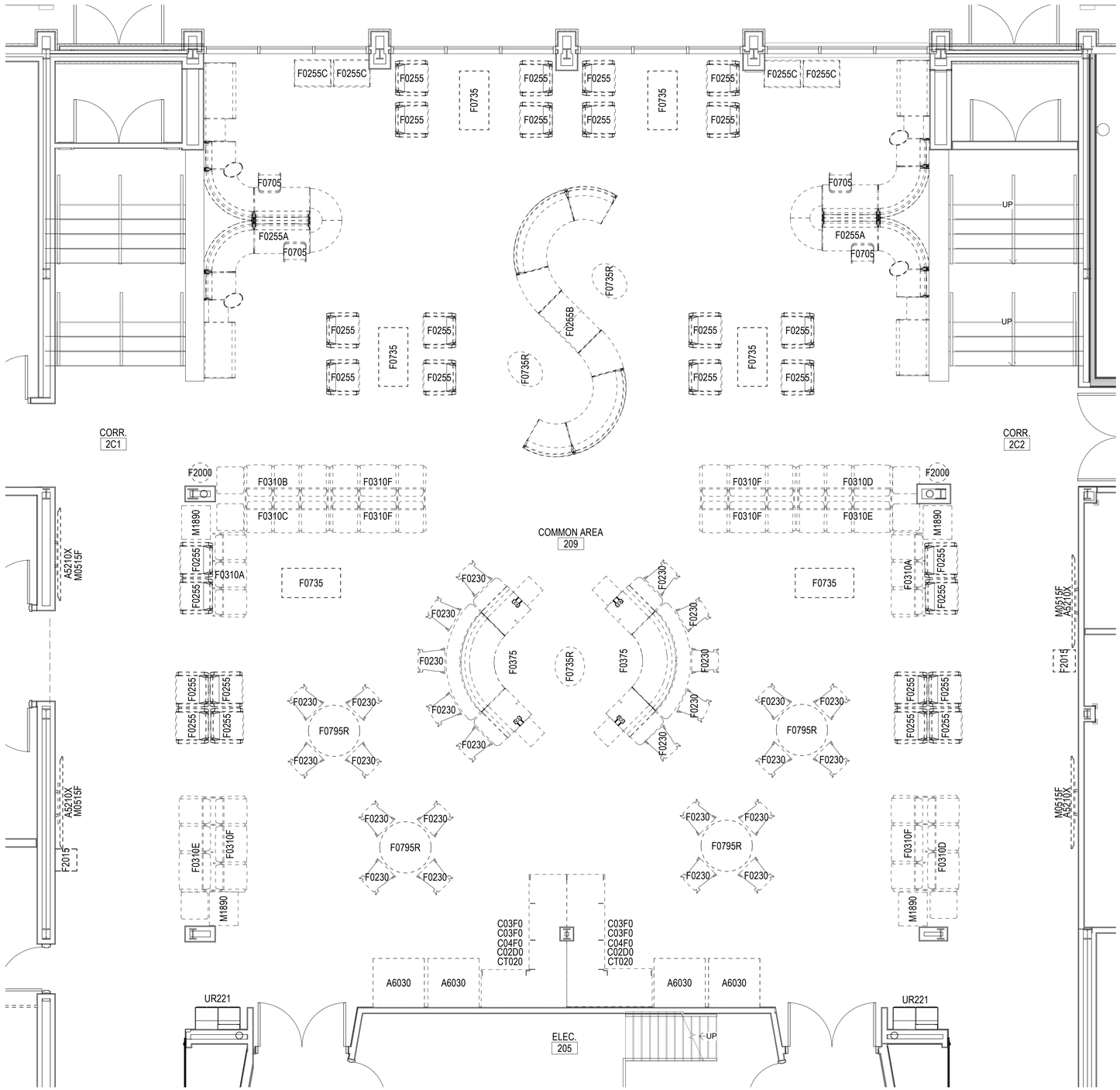
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CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1L

SHEET IDENTIFICATION
EQ121
SHEET 439 of 442

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PLAN LEGEND

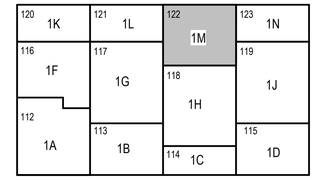
ROOM NAME 101	ROOM NAME AND NUMBER SEE FINISH SCHEDULE ON SHEETS A-661 THROUGH A-663
A1066	JSN NUMBER, SEE EQUIPMENT SCHEDULE SHEET A-680 & A-681
A1066	JSN NUMBER RELOCATED EQUIPMENT, SEE EQUIPMENT SCHEDULE SHEET A-680 & A-681

GENERAL NOTES

1. EQUIPMENT PLANS ARE PROVIDED FOR REFERENCE ONLY. THEY SHOW ALL EQUIPMENT, INCLUDING FURNITURE AND SHOULD BE USED FOR COORDINATION PURPOSES ONLY.

2. SEE ARCHITECTURAL PLANS FOR LOGISTICAL CATEGORY A EQUIPMENT (CONTRACTOR FURNISHED / CONTRACTOR INSTALLED)

PLAN NORTH



FIRST FLOOR KEY PLAN

EQUIPMENT PLAN - 1M

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0"

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
		Revisions		

Designed By: Designer	Date: 06-29-2021
Drawn By: Author	File No:
Checked By: Checker	I.S.O. Sheet File Name:
Reviewed By:	Solicitation Number:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

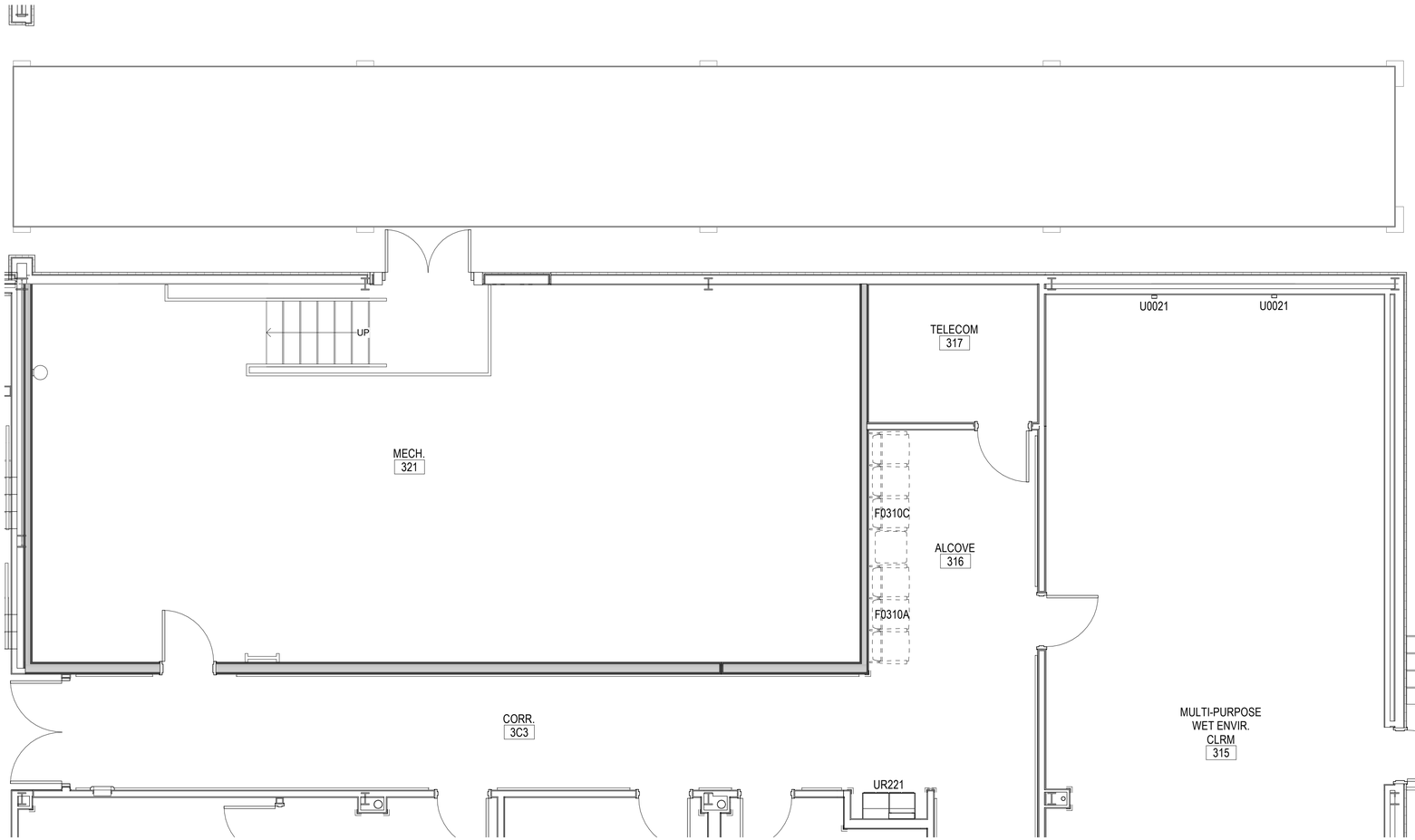
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ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1M

SHEET IDENTIFICATION
EQ122
SHEET 440 of 442

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US Army Corps of Engineers
Mobile District

PLAN LEGEND

ROOM NAME 101	ROOM NAME AND NUMBER SEE FINISH SCHEDULE ON SHEETS A-661 THROUGH A-663
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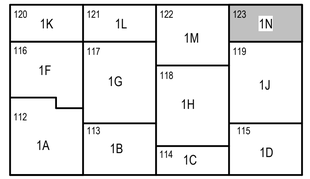
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Revisions			
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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PLAN NORTH

FIRST FLOOR KEY PLAN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT PLAN - 1N

EQUIPMENT PLAN - 1N

SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0"

SHEET IDENTIFICATION
EQ123
SHEET 441 of 442

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EQUIPMENT SCHEDULE

JSN	DESCRIPTION	LOG CAT
A1020	Telephone, Conferencing System	A
A1066	Mirror, Float Glass, With SS Frame	A
A1080	Mirror, Posture, Wall Mounted	A
A5080	Dispenser, Paper Towel, SS, Surface Mounted	A
A5082	Dispenser, Paper Towel, Sensor, Hands Free	A
A5090	Disposal, Sanitary Napkin, SS, Surface Mounted	A
A5116	Grab Bar, 1-1/4" Dia., SS, 2 Wall, W/C Accessible	A
A5119	Grab Bar, Ss, 1-1/4 Dia 42 Inch Straight	A
A5135	Shelf, Utility W/ Mop/Broom Holders, SS, Sur Mntd	A
A5145	Hook, Garment, Double, SS, Surface Mounted	A
A5180	Track, Cubicle, Surface Mounted, With Curtain	A
A5200	Dispenser, Toilet Tissue, SS, 2-Roll, Surface Mntd	A
A5210C	Bracket, Television, Ceiling Mounted for flat screens	A
A5210X	Bracket, Television, Flat, Wall Mounted, 37-"70"	A
C02C0	Cabinet, U/C/B, 1 Shelf, 1 Drawer, 1 DO, 36x24x22	A
C02D0	Cabinet, U/C/B, 4 Drawer, 36x24x22	A
C02D0B	Cabinet, U/C/B, 4 Drawer, 32x24x22	A
C02G0B	Cabinet, U/C/B, 2 Shelf, 2 Door, 32x24x22	A
C03F0	Cabinet, U/C/B, 1 Shelf, 2 Half DR, 2 DO, 36x30x22	A
C04F0	Cabinet, U/C/B, 1 Shelf, 2 Half DR, 2 DO, 36x36x22	A
C04P0	Cabinet, Sink, U/C/B, 2 Door, 36x36x22	A
CB020	Cabinet, W/H, 2 Shelf, 1 DO, Sloping Top, 38x24x13	A
CS010	Sink, SS, Single Compartment, 7.5x12x12 ID	A
CT020	Countertop, Solid Surface	A
F2105	Lectern, Mobile	A
M0400	Screen, Projection	A
M0506P	LCD HDTV 32" Screen	A
M0507	Video Teleconferencing Camera	A
M0515F	Television, Flat Screen 82"	A
M1801A	Computer, Microprocessing, w/Flat Panel Monitor (Cat A)	A
P2000	Eyewash, Wall Mounted, Hands-Free	A
P2450	Valve, Mixing, Thermostatic	A
P3000	Lavatory, Vitreous China, Straight Back	A
P3070	Lavatory, Vitreous China, Under counter Mtd	A
P4700	Sink, Mop, Molded Stone, 10x36x24	A
P8150	Urinal, Wall Hung Touchless (H/C Mount Height)	A
P8150M	Urinal, Wall Hung,Touchless	A
P9050	Toilet, Wall Hung, Siphon Jet (H/C Mount Height)	A
P9050D	Toilet, Floor Mounted, Floor Discharge (H/C Mount Height)	A
U0021	Hose Holder, Wall Mounted	A
UR221	Fountain, Water, CRS, Wall Mounted, 2 Level, Bottle Fill Station	A
A1132	Rail, Accessory Mounting, Length As Required	C
A5075	Dispenser, Soap, Disposable	C
A5077	Dispenser, Hand Sanitizer, Hands-Free	C
A5106	Waste Disposal Unit, Sharps w/Glove Dispenser	C
A5107	Dispenser, Glove, Surgical/Examination, Wall Mntd	C
E0042	Work center, Computer, Free Standing, 48" W	C
E0063F	Workstation, L-Shaped w/Peninsula, Free Stand, w/o Panels	C
E0075F	Workstation, L-Shaped, Freestanding, w/o Panels	C
E0078	Workstation, L-Shaped w/Peninsula, Free Std	C
E0078F	Workstation, L-Shaped, w/Storage Tower, w/o Panels	C
E0090F	Workstation, L-Shaped, Free Standing, w/o Panels	C
E0096	Workstation, L-Transaction 72, Free Stand, 72x96	C
E0097F	Workstation, L-Shaped, Free Standing, w/o Panels	C
E0099F	Workstation, Corner Work Surf, Free Stand, w/o Panels	C
E0117	Workstation, Straight, Free Standing	C
E0117F	Workstation, Straight, Free Standing, w/o Panels	C
E0120F	Workstation, Straight, Free Standing, w/o Panels	C
E0945	Cart, Computer, Mobile	C
E0948	Cart, General Storage, Mobile, 42"H x 32"W x 22"D	C
F0110	Bookcase, 3 Shelf	C
F0115	Bookcase, Open, 5 Shelf	C
F0200	Chair, Arm, Writing	C
F0205	Chair, Side With Arms	C
F0210	Chair, Side, Without Arms	C
F0220	Chair, Conference	C
F0225	Chair, Dining Room	C
F0230	Chair, Drafting, Rotary	C
F0235	Chair, Executive, Wood	C
F0240	Chair, Executive, Swivel	C
F0250	Chair, Arm, Lounge Type	C
F0255	Chair, Easy	C
F0255A	Chair, Easy	C
F0255B	Chair, Easy	C

EQUIPMENT SCHEDULE

JSN	DESCRIPTION	LOG CAT
F0255C	Chair, Easy	C
F0275	Chair, Swivel, High Back	C
F0280	Chair, Swivel, Low Back	C
F0295	Chair, Stacking	C
F0300	Chair, Task, Swivel, With Arms	C
F0305	Chair, Waiting Room, Single	C
F0305A	Bench, Waiting Room, Padded	C
F0310A	Chair, Side With Arms	C
F0310B	Chair, Side With Arms	C
F0310C	Chair, Side With Arms	C
F0310D	Chair, Side With Arms	C
F0310E	Chair, Side With Arms	C
F0310F	Chair, Side With Arms	C
F0340	Stool, Self Adjusting	C
F0375	Sofa, Upholstered	C
F0375A	Sofa, Corner, Upholstered	C
F0410	Cabinet, Filing, Half Height, 2 Drawer	C
F0415M	Cabinet, Filing, Lateral, Full Height, 5 Drawer Modified	C
F0420	Cabinet, Filing, Lateral, Half Height	C
F0420H	Cabinet, Filing, Lateral, Half Height, 3 Drawer	C
F0465	Cabinet, Storage, 2 Door, 5 Shelf	C
F0600	Credenza, Executive, Wood	C
F0705	Table, Computer, Small, 35 x 36 x 30	C
F0721	Table, Writing, 29"H x 72"W x 18"D	C
F0722	Table, Writing, 29"H x 60"W x 18"D	C
F0723	Table, Writing, 29"H x 48"W x 18"D	C
F0725R	Table, Occasional, Round	C
F0735	Table, Coffee, 18 X 52 X 24	C
F0735R	Table, Coffee, Round	C
F0750	Table,Office	C
F0755	Table, Conference, Wood	C
F0775	Table, Work, 2 Drawer	C
F0780	Table, Work, 60W X 30D	C
F0795	Table, Dining	C
F0795R	Table, Dining, Round Furniture	C
F0820	Table, Office, Round, 29 x 42 Diameter	C
F0860	Table, Mobile	C
F2000	Basket, Wastepaper, 18 H x 16 Dia.	C
F2005	Basket, Wastepaper, Executive, Wood	C
F2010	Basket, Wastepaper, Step-On	C
F2015	Basket, Wastepaper, Metal/Plastic,2 Swinging Doors	C
F2025	Container, Recycling, Small	C
F2026	Container, Recycling, Large	C
F2540	Shredder, Paper, Security	C
F3050	Whiteboard, Dry Erase	C
F3050W	Whiteboard, Marker, Dry Erase, Wood frame	C
F3200	Clock, Battery, 12" Diameter	C
K1552	Brewer, Coffee, Auto, Elect, 3 Burner, Front/Back	C
K4665	Oven, Microwave, Consumer	C
M0385	Projector, Multimedia/Data	C
M0506P	Television, Flatscreen, 42"	C
M1100	Resuscitator, Bag-Mask, Hand Operated	C
M1801	Computer, Microprocessing, w/Flat Panel Monitor	C
M1810	Copier, Floor Standing, Digital	C
M1825	Printer, Computer	C
M1855	Facsimile Machine	C
M1890	Kiosk, Education, Stand Up	C
M4100	Sphygmomanometer, Aneroid, Wall Mounted	C
M4116	Monitor, Vital Signs	C
M4200	Otoscope/Ophthalmoscope, Wall Mounted	C
M4255	Stand, IV, Adjustable	C
M4266	Pump, Volumetric, Infusion, Multiple Line	C
M7660	Defibrillator/Monitor/Recorder, Portable	C
M7710	Electrocardiograph, 12 Lead, Portable	C
M7910	Thermometer, Electronic, with Red and Blue Probes	C
M9025	Table, Examination/Treatment, With Cabinet	C
R7250	Refrigerator/Freezer, 20 Cubic Feet	C
UT103	Locker, Small Arms, Rifles	C
UT104	Locker, Small Arms, Pistols	C
UT105	Locker, Small Arms, Combination	C
UT223	Clearing Barrel	C
A6030	Machine, Vending	D
U0012	Combination, Control Panel - Desk, Moveable	R
UM1800	Monitor, Control, Re-Use	R

PLAN LEGEND

THE EQUIPMENT SCHEDULE

THE EQUIPMENT SCHEDULE LISTS THE EQUIPMENT SHOWN ON THE DRAWINGS BY JOINT SCHEDULE NUMBER (JSN). THIS IS A FIVE OR SIX DIGIT NUMBER SUCH AS "L1080."

LOGISTICAL RESPONSIBILITY

THE LOGISTICAL RESPONSIBILITY FOR EACH ITEM IS SHOWN IN THE COLUMN LABELED "**LOG CAT**" AND IS DESCRIBED BELOW:

A CONTRACTOR FURNISHED CONTRACTOR INSTALLED. EQUIPMENT IS PURCHASED AND INSTALLED BY THE CONSTRUCTION CONTRACTOR USING CONSTRUCTION FUNDS (CONSTRUCTION APPROPRIATION/MEDICAL CONSTRUCTION APPROPRIATION). ITEMS IDENTIFIED AS LOGCAT A ARE AFFIXED AND BUILT INTO A FACILITY AS AN INTEGRAL PART OF THAT FACILITY, AND ARE NECESSARY TO MAKE THE FACILITY COMPLETE AND USEABLE FOR ITS INTENDED PURPOSE.

C GOVERNMENT FURNISHED GOVERNMENT INSTALLED. EQUIPMENT IS PROVIDED BY THE GOVERNMENT FROM EXISTING ASSETS OR PURCHASED USING SERVICE OPERATING FUNDS (OTHER THAN CONSTRUCTION) AND INSTALLED BY THE GOVERNMENT (EQUIPMENT VENDOR OR AGENT) USING SERVICE OPERATING FUNDS (OTHER THAN CONSTRUCTION).

R GOVERNMENT FURNISHED GOVERNMENT INSTALLED. THESE ARE EXISTING EQUIPMENT ASSETS THAT WILL BE TRANSFERRED AND REUSED. THERE ARE NO PROCUREMENT COSTS UNLESS THE ITEM WILL BE UPGRADED DURING RELOCATION. WHEN THIS IS THE CASE SERVICE OPERATING FUNDS (OTHER THAN CONSTRUCTION) WILL BE USED. RELOCATION FUNDING MAY BE REQUIRED USING SERVICE OPERATING FUNDS (OTHER THAN CONSTRUCTION).

1

REVISION 1: THE REVISIONS ON THIS SHEET UNDER REVISION 1 INCLUDE THE FOLLOWING CHANGES:
1. THE FOLLOWING ITEMS WERE ADDED TO THE EQUIPMENT SCHEDULE: A1020, M1801A, M0385 AND M0400.
2. THE DISCRIPTIONS TO THE FOLLOWING ITEMS WERE CHANGED: F2105, M0506P, M0507, AND M515F.

US Army Corps of Engineers
Mobile District

Symbol	No.	Description	Date	Approved
1	1	AMENDMENT 0001	08/27/2021	

Revisions

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ss&a
CLARKNEXSEN

ARTC - B640 RENOVATION
FEMA - DHS - CDP, ANNISTON, AL

EQUIPMENT SCHEDULE

SHEET IDENTIFICATION
EQ601
SHEET 442 of 442

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