

SAMPLE COMMISSIONING SCHEDULE

Key dates will be per the official construction schedule. This schedule to be reviewed/edited by the project team as the project progresses.

TASK	CONSTRUCTION TIMELINE																						
	Jun 2014	Jul 2014	Aug 2014	Sep 2014	May 2015				Jun 2015				Jul 2015				Aug 2015				Nov 2015		
					→	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4		
Submittal Reviews	█																						
Cx Kickoff Meeting	█																						
Pre-Functional Cx		█	█	█	→	█	█	█	█														
Submit Testing & Start-Up Plans				█	→	█																	
Elec Power Available						█																	
BAS Point to Point Testing							█	█	█	█	█												
Equipment Start-up								█	█	█	█												
Test and Balance									█	█	█	█											
BAS Testing / Tuning										█	█	█	█										
Cx Functional Testing														█	█	█	█						
O&M / Training Plan Review															█	█	█	█					
Substantial Completion																				█			
Final Issue Resolution																				█	█	█	
Training																					█	█	
Occupancy																						█	
Seasonal Cx																							█

841.1 Cx Kickoff 2017 04 27.docx

No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
0 MILESTONES									
0.01	MEP	Submittal Review	ECube		5/14/17				WIP. BAS?
0.02	MEP	Develop Prefunctional Checklists	ECube		5/14/17				WIP
0.03	MEP	Develop Functional Checklists	ECube		6/15/17				WIP
0.04	BAS	BAS Integration Planning	All						Need to schedule meeting
0.05	MEP	Startup Planning	All						Subs to submit plans
0.06	Mech	Test and Balance Planning	TAB						TAB to submit plan
0.07	MEP	Prefunctional Checklists	All	5/1/17					Subs to begin on Cx Alloy
0.08	MEP	Pre-Startup Testing	All						Subs to inform E Cube
0.09	MEP	Startup	All	7/11/17	8/4/17				
0.10	BAS	BAS Testing	BAS						
0.11	Mech	Test and Balance	TAB	11/29/17	1/4/18				
0.12	MEP	Functional Cx	E Cube	1/5/18	3/1/18				
0.13	MEP	Blackout Test	All						
0.14	MEP	O&M Manual Review	E Cube						Subs to submit drafts
0.15	MEP	Training Agenda Review	E Cube						Subs to submit drafts
0.16	MEP	Staff Training	GC						
0.17	All	Substantial Completion	All	1/23/18	1/23/18				
0.18	MEP	Resolve all Cx Issues	All						
0.19	All	Occupancy	All	3/1/18	3/1/18				
0.20	MEP	Seasonal Cx	E3						
0.21	MEP	Warranty Phase Review	E3						

NOTES:

1 ELECTRICAL									
1.01	Utility Xformer	Energize / Testing	Utility						
1.02	MDP-1 Distribution Panel	Prefunctional Checklist	Elec						
1.03	GEN-1, 2 EM Generators	Prefunctional Checklist	Elec						
1.04	ATS-LS Transfer Switch	Prefunctional Checklist	Elec						
1.05	LP-B, 1, 2 Lighting Panels	Prefunctional Checklist	Elec						
1.06	T-LSB Lighting Xformer	Prefunctional Checklist	Elec						
1.07	LPB Lighting Panel	Prefunctional Checklist	Elec						

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No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
1.08	ATS-EM Transfer Switch	Prefunctional Checklist	Elec						
1.09	EDP-1 Distribution Panel	Prefunctional Checklist	Elec						
1.10	PP-B Power Panel	Prefunctional Checklist	Elec						
1.11	T-RDP Power Xformer	Prefunctional Checklist	Elec						
1.12	RPB-1, 2, Elev Power Panels	Prefunctional Checklist	Elec						
1.13	UPS-1	Prefunctional Checklist	Elec						
1.14	UPS-B, 1 UPS Panels	Prefunctional Checklist	Elec						
1.15	RP-1A, 1B, 1C, K Power Panels	Prefunctional Checklist	Elec						
1.16	T-RDP-2 Power Xformer	Prefunctional Checklist	Elec						
1.17	RDP-2, RP-2A, 3	Prefunctional Checklist	Elec						
1.18	UPS-2	Prefunctional Checklist	Elec						
1.19	UPS-2 UPS Panel	Prefunctional Checklist	Elec						
1.20	PP-3	Prefunctional Checklist	Elec						
1.21	Conduit / Wire	Prefunctional Checklist	Elec						
1.22	Power System	Short Circuit Coordination Study	Elec						
1.23	MDP-1	Electrical Testing	Elec						
1.24	GEN-1, 2	Electrical Testing	Elec						
1.25	ATS-LS	Electrical Testing	Elec						
1.26	LP-B, 1, 2	Electrical Testing	Elec						
1.27	T-LSB	Electrical Testing	Elec						
1.28	LPB	Electrical Testing	Elec						
1.29	ATS-EM	Electrical Testing	Elec						
1.30	EDP-1	Electrical Testing	Elec						
1.31	PP-B	Electrical Testing	Elec						
1.32	T-RDP	Electrical Testing	Elec						
1.33	RPB-1, 2, Elev	Electrical Testing	Elec						
1.34	UPS-1	Electrical Testing	Elec						
1.35	UPS-B, 1	Electrical Testing	Elec						
1.36	RP-1A, 1B, 1C, K	Electrical Testing	Elec						
1.37	T-RDP-2	Electrical Testing	Elec						
1.38	RDP-2, RP-2A, 3	Electrical Testing	Elec						
1.39	UPS-2	Electrical Testing	Elec						
1.40	UPS-2	Electrical Testing	Elec						
1.41	PP-3	Electrical Testing	Elec						
1.42	Building Ground	Electrical Testing: NETA, Megger	Elec						
1.43	Normal Power	Power Energized to HVAC	Elec						

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No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
1.44	Normal Power	Power Energized to BAS	Elec						
1.45	Normal Power	Point to Point Testing	BAS						
1.46	EM Power	Point to Point Testing	BAS						
1.47	GEN-1, 2	Startup / Testing / Load Bank	Elec						
1.48	ATS-LS, EM	Startup / Testing	Elec						
1.49	UPS-1, 2	Startup / Testing / Load Bank	Elec						
1.50	EM Power System	BAS Integration Load Shed Testing	BAS						
1.51	EM Power System	Functional Cx	E Cube						

NOTES:

2 PLUMBING									
Domestic Water System									
2.01	BP-1 Booster Pump	Prefunctional Checklist	Plumb						
2.02	GWH-1, 2 Water Heaters	Prefunctional Checklist	Plumb						
2.03	DWT-1 Dom Water Tank	Prefunctional Checklist	Plumb						
2.04	CP-1, 2 HW Recirc Pumps	Prefunctional Checklist	Plumb						
2.05	ET-1 Expansion Tank	Prefunctional Checklist	Plumb						
2.06	WS-1 Water Softener	Prefunctional Checklist	Plumb						
2.07	HW, CW Piping	Prefunctional Checklist	Plumb						
2.08	RPZ	Testing	Plumb						
2.09	HW, CW Piping	Leak Test	Plumb						
2.10	HW, CW Piping	Flush / Clean	Plumb						
2.11	BP-1	Startup	Plumb						
2.12	WS-1	Startup	Plumb						
2.13	GWH-1, 2	Startup	Plumb						
2.14	CP-1, 2	Startup	Plumb						
2.15	BP-1, GHW-1, 2	Program / Test / Tune	BAS						
2.16	TMV-1, 2, 3	Set Mixing Valves	Plumb						
2.17	HW, CW Piping	Chlorination	Plumb						
2.18	Dom Water System	Functional Cx	E Cube						
Storm / Waste System									
2.19	SP-1, 2, 3, 4, 5 Sump Pumps	Prefunctional Checklist	Plumb						
2.20	MM-1 thru 7 Muffin Monsters	Prefunctional Checklist	Plumb						
2.21	Drain / Waste Piping	Prefunctional Checklist	Plumb						

No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
2.22	HW, CW Piping	Leak Test	Plumb						
2.23	SP-1, 2, 3, 4, 5	Startup / Testing	Plumb						
2.24	MM-1 thru 7	Startup / Testing	Plumb						
2.25	SP-x, MM-x	Program / Test / Tune	BAS						
2.26	Dom Water System	Functional Cx	E Cube						

NOTES:

3 CENTRAL HEATING PLANT									
Heating HW System									
3.01	B-1, 2, 3 HW Boilers	Prefunctional Checklist	Mech						
3.02	P-1, 2, 3 Primary HW Pumps	Prefunctional Checklist	Mech						
3.03	P-4, 5 Sec HW Pumps	Prefunctional Checklist	Mech						
3.04	HW Flow Meter	Prefunctional Checklist	Mech						
3.05	HWS/R Piping	Prefunctional Checklist	Mech						
3.06	ET-1, AS-1 HW Specialties	Prefunctional Checklist	Mech						
3.07	HWS/R Piping	Leak Test	Mech						
3.08	HW System	Point to Point Testing	BAS						
3.09	HWP-1, 2, 3	Startup	Mech						
3.10	HWP-4, 5	Startup	Mech						
3.11	HWS/R Piping	Fill / Flush / Clean	Mech						
3.12	HWS/R Piping	Chemical Treatment	Mech						
3.13	B-1, 2, 3	Startup / Testing	Mech						
3.14	Heating HW System	TAB	TAB						
3.15	Heating HW System	Program / Test / Tune	BAS						
3.16	Heating HW System	Functional Cx	E Cube						

NOTES:

4 AIR-HANDLING									
AHU-1									
4.01	AHU-1 Air Handling Unit	Prefunctional Checklist	Mech						
4.02	CU-3 Condensing Unit	Prefunctional Checklist	Mech						
4.03	VAV Terminal Units	Prefunctional Checklist	Mech						
4.04	Ductwork	Prefunctional Checklist	Mech						

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No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
4.05	Ductwork	Leak Testing	Mech						
4.06	AHU-1	Casing Leak Test	Mech						
4.07	Fire Dampers	Testing	Mech						
4.08	AHU-1	Point to Point Testing	BAS						
4.09	AHU-1	Supply Fan & VFD Startup	Mech	7/24/17	8/4/17				
4.10	AHU-1, VAVs	Supply Air Test & Balance	TAB						
4.11	AHU-1 Space	Building Clean or RA Filtered with MERV 8	GC						
4.12	AHU-1	Return Fan & VFD Startup	Mech						
4.13	AHU-1	Return Air / Final TAB	TAB						
4.14	AHU-1 System	Program / Test / Tune	BAS						
4.15	AHU-1 System	Functional Cx	E Cube						
AHU-2									
4.16	AHU-2 Air Handling Unit	Prefunctional Checklist	Mech						
4.17	CU-1, 2 Condensing Unit	Prefunctional Checklist	Mech						
4.18	VAV Terminal Units	Prefunctional Checklist	Mech						
4.19	Ductwork	Prefunctional Checklist	Mech						
4.20	Ductwork	Leak Testing	Mech						
4.21	AHU-2	Casing Leak Test	Mech						
4.22	Fire Dampers	Testing	Mech						
4.23	AHU-2	Point to Point Testing	BAS						
4.24	AHU-2	Supply Fan & VFD Startup	Mech	7/24/17	8/4/17				
4.25	AHU-2, VAVs	Supply Air Test & Balance	TAB						
4.26	AHU-1 Space	Building Clean or RA Filtered with MERV 8	GC						
4.27	AHU-2	Return Fan & VFD Startup	Mech						
4.28	AHU-2	Return Air / Final TAB	TAB						
4.29	AHU-2 System	Program / Test / Tune	BAS						
4.30	AHU-2 System	Functional Cx	E Cube						
RTU-1									
4.31	RTU-1 Rooftop Unit	Prefunctional Checklist	Mech						
4.32	VAV Terminal Units	Prefunctional Checklist	Mech						
4.33	Ductwork	Prefunctional Checklist	Mech						
4.34	Ductwork	Leak Testing	Mech						
4.35	RTU-1	Casing Leak Test	Mech						
4.36	Fire Dampers	Testing	Mech						
4.37	RTU-1	Point to Point Testing	BAS						
4.38	RTU-1	Supply Fan & VFD Startup	Mech	7/11/17	7/24/17				
4.39	RTU-1, VAVs	Supply Air Test & Balance	TAB						

No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
4.40	RTU-1 Space	Building Clean or RA Filtered with MERV 8	GC						
4.41	RTU-1	Return Fan & VFD Startup	Mech						
4.42	RTU-1	Return Air / Final TAB	TAB						
4.43	RTU-1 System	Program / Test / Tune	BAS						
4.44	RTU-1 System	Functional Cx	E Cube						
RTU-2									
4.45	RTU-2 Rooftop Unit	Prefunctional Checklist	Mech						
4.46	VAV Terminal Units	Prefunctional Checklist	Mech						
4.47	Ductwork	Prefunctional Checklist	Mech						
4.48	Ductwork	Leak Testing	Mech						
4.49	RTU-2	Casing Leak Test	Mech						
4.50	Fire Dampers	Testing	Mech						
4.51	RTU-2	Point to Point Testing	BAS						
4.52	RTU-2	Supply Fan & VFD Startup	Mech	7/11/17	7/24/17				
4.53	RTU-2, VAVs	Supply Air Test & Balance	TAB						
4.54	RTU-2 Space	Building Clean or RA Filtered with MERV 8	GC						
4.55	RTU-2	Return Fan & VFD Startup	Mech						
4.56	RTU-2	Return Air / Final TAB	TAB						
4.57	RTU-2 System	Program / Test / Tune	BAS						
4.58	RTU-2 System	Functional Cx	E Cube						

NOTES:

5 SUPPLY / EXHAUST SYSTEMS									
Kitchen									
5.01	EF-KE-1 Kitchen Exh Fan	Prefunctional Checklist	Mech						
5.02	EF-DW1, DW2 Dishwasher Exh Fan	Prefunctional Checklist	Mech						
5.03	Ductwork	Prefunctional Checklist	Mech						
5.04	EF-KE1 EF-DW1, DW2	Point to Point Testing	BAS						
5.05	EF-KE1 EF-DW1, DW2	Startup	Mech						
5.06	EF-KE1 EF-DW1, DW2	Test and Balance	TAB						
5.07	EF-KE1 EF-DW1, DW2	Program / Test / Tune	BAS						
5.08	EF-KE1 EF-DW1, DW2	Functional Cx	E Cube						
Electrical Room									
5.09	EF-EL1 Exhaust Fan	Prefunctional Checklist	Mech						

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No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
5.10	Ductwork	Prefunctional Checklist	Mech						
5.11	EF-EL1	Point to Point Testing	BAS						
5.12	EF-EL1	Startup	Mech						
5.13	EF-EL1	Test and Balance	TAB						
5.14	EF-EL1	Program / Test / Tune	BAS						
5.15	EF-EL1	Functional Cx	E Cube						
General Exhaust									
5.16	EF-G1 thru G9 Exhaust Fan	Prefunctional Checklist	Mech						
5.17	Ductwork	Prefunctional Checklist	Mech						
5.18	EF-GE1 thru GE9	Point to Point Testing	BAS						
5.19	EF-GE1 thru GE9	Startup	Mech						
5.20	EF-GE1 thru GE9	Test and Balance	TAB						
5.21	EF-GE1 thru GE9	Program / Test / Tune	BAS						
5.22	EF-GE1 thru GE9	Functional Cx	E Cube						
Smoke Exhaust									
5.23	SE-1 thru 8 Exhaust Fan	Prefunctional Checklist	Mech						
5.24	Ductwork	Prefunctional Checklist	Mech						
5.25	SE-1 thru 8	Point to Point Testing	BAS						
5.26	SE-1 thru 8	Startup	Mech						
5.27	SE-1 thru 8	Test and Balance	TAB						
5.28	SE-1 thru 8	Program / Test / Tune	BAS						
5.29	SE-1 thru 8	Functional Cx	E Cube						
Toilet Exhaust									
5.30	TE-1, 2 Exhaust Fans	Prefunctional Checklist	Mech						
5.31	Ductwork	Prefunctional Checklist	Mech						
5.32	TE-1, 2	Point to Point Testing	BAS						
5.33	TE-1, 2	Startup	Mech						
5.34	TE-1, 2	Test and Balance	TAB						
5.35	TE-1, 2	Program / Test / Tune	BAS						
5.36	TE-1, 2	Functional Cx	E Cube						
Misc Exhaust									
5.37	EF-SZ-CEN Exhaust Fan	Prefunctional Checklist	Mech						
5.38	EF-SZ-CEN	Point to Point Testing	BAS						
5.39	EF-SZ-CEN	Startup	Mech						
5.40	EF-SZ-CEN	Test and Balance	TAB						
5.41	EF-SZ-CEN	Program / Test / Tune	BAS						
5.42	EF-SZ-CEN	Functional Cx	E Cube						

NOTES:

No.	Equipment	Activity	Resp Party	Planned Start	Planned End	Actual End	% Complete	Report	Notes
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6 SPLIT SYSTEMS									
6.01	MS-1, 2, 3, 4, 5 Mini Split Systems	Prefunctional Checklist	Mech						
6.02	CU-4, 5, 6, 7, 8 Condensing Units	Prefunctional Checklist	Mech						
6.03	Refrigerant Piping	Prefunctional Checklist	Mech						
6.04	Refrigerant Piping	Leak Test	Mech						
6.05	MS-1, 2, 3, 4, 5	Startup	Mech						
6.06	CU-4, 5, 6, 7, 8	Starup	Mech						
6.07	MS-1, 2, 3, 4, 5 CU-4, 5, 6, 7, 8	Test and Balance	TAB						
6.08	MS-1, 2, 3, 4, 5 CU-4, 5, 6, 7, 8	Program / Test / Tune	BAS						
6.09	MS-1, 2, 3, 4, 5 CU-4, 5, 6, 7, 8	Functional Cx	E Cube						

NOTES:

7 CABINET HEATERS / UNIT HEATERS									
7.01	CUH-x Cabinet Heaters	Prefunctional Checklist	Mech						
7.02	UH-x Unit Heaters	Prefunctional Checklist	Mech						
7.03	CUH-x	Startup	Mech						
7.04	UH-x	Starup	Mech						
7.05	CUHx, UH-x	Functional Cx	E Cube						

NOTES:

8 LIGHTING CONTROLS									
8.01	Lighting Controls	Prefunctional	Elec						
8.02	Lighting Controls	Startup / Testing	Elec						
8.03	Lighting Controls	Functional Cx	E Cube						

NOTES:

9 SECURITY									
9.01	Security	Prefunctional Checklists	Elec						
9.02	Security	Cable Testing	Elec						
9.03	Security	Startup / Testing	Elec						
9.04	Security	Functional Cx	E Cube						

NOTES: