

Cornell NYCTech FAB -- 100% Construction Document Electrical Winter Calculations																				
Level	Area Description	Approx Sqft²	Lights Connected	Lights Demand	Power Connected	Power Demand	Misc. MEP Connected	Misc. MEP DF	Misc. MEP Demand	Kitchen Connected	Kitchen Demand	Security Connected	Security Demand	IT Equipment Connected	IT Equipment Demand	Misc. Eq. Connected	Misc. Eq. DF	Misc. Eq. Demand	Elevators Connected	Elevators Demand
Level B1	LP-B1S		2147	2147																
	LP-B1N		4603	4603												1746	0.3	523.8		
	LP-LH		1594	1594																
	PP-FS-A				1620	1620	3100	0.75	2325	21411	13917									
	RP-LH				13720	11860										2160	0.3	648		
	ELP-1S		4422	4422																
	ELP-1N		4143	4143																
	RP-B1-SA				9900	9900	6547	0.75	4910							1160	0.3	348		
	RP-B1-NA				16360	13180	500	0.75	375							9052	0.3	2715.6		
	RP-B1-NB				4320	4320	3116	0.75	2337							10956	0.3	3286.8		
	ERP-1S						1820	0.75	1365							3600	0.3	1080		
	ERP-1N						7600	0.75	5700											
	LRRP-BS				1920	1920	500	0.75	375			23040	3840							
	LRIT-BN													7830	3960					
	SE-1						1200	0.7	840											
	ESP-1						1700	0.7	1190											
	ESP-2						1700	0.7	1190											
	PBP-1						12600	1	12600											
	NPP-1						22400	0.7	15680											
	HE-1						1800	0.7	1260											
	CP-1						900	0.7	630											
	JP-1						12600	0.7	8820											
	CHWP-1&2						22447	0.40	8979											
	SCHW-1&2						11639	0.40	4656											
	HHWP-1&2						28267	0.70	19787											
	GWP-1&2						54040	0.70	37828											
	CWP-1&2						43232	0.40	17293											
	CWP-3&4						22447	0.00	0											
	MODULAR HEAT RECOVERY CHILLER						535411	0.40	214164											
	TF-0.1						696	0.70	487											
	TF-0.2						696	0.70	487											
	TF-0.3						696	0.70	487											
	TF-0.4						696	0.70	487											
	FOP-1						900	0.00	0											
	FCU-0.1						1200	0.70	840											
	FCU-0.2						1200	0.70	840											
	FCU-0.3						1100	0.70	770											
	UH-0.1						200	0.70	140											
	UH-0.2						300	0.70	210											
	Waste Dehydrator													12471	8106					
	Pulper, Close Coupled													16628	10808					
	Sub Total Load	21164	14762	14762	47840	42800	803251		367053	21411	13917	23040	3840	36929	22874	28674		8602	0	0
	Total Connected Floor Load VA	1221497																		
	Sub Total Emergency Load		8565	8565	1920	1920	9920		7440			23040	3840	7830	3960	3600		1080	0	0
	Total Emergency Connected Floor Load VA	22040																		
	Floor VA/sq.ft	57.7																		
Level 01	LP-1S		4054	4054																
	LP-1N		8827	8827												1746	0.3	523.8		
	LP-FS		1735	1735																
	RP-1S-A				10050	10025	1920	0.75	1440							4536	0.3	1360.8		
	RP-1S-B				10160	10080	2520	0.75	1890							4762	0.3	1428.6		
	RP-1N-A				13220	11610										2592	0.3	777.6		
	RP-1N-B						3720	0.75	2790			720	360			600	0.3	180		
	RP-1N-C				19880	14940	3840									3024	0.3	907.2		
	PP-FS-B				3420	3420				72298	46994									
	LRIT-1N													6840	3960					
	TF-1.1						700	0.70	490											
	TF-1.2						700	0.70	490											
	TF-1.3						700	0.70	490											
	FCU-1.1						2500	0.70	1750											
	FCU-1.2						1224	0.70	857											
	FCU-1.3						1056	0.70	739											
	CUH-1.1						200	0.70	140											
	CUH-1.2						200	0.70	140											
	UH-1.1						20	0.70	14											
	UH-1.2						20	0.70	14											
	UH-1.3						30	0.70	21											
	UH-1.4						20	0.70	14											
	RFP-1						696	0.70	487											
	RFP-2						696	0.70	487											
	RFP-3						696	0.70	487											
	Sub Total Load	29282	10562	10562	56730	50075	21458		12741	72298	46994	720	360	6840	3960	17260		5178	0	0
	Total Floor Load VA	103630																		
	Sub Total Emergency Load		0	0	0	0	0		0			0	0	0	0	0		0	0	0

Cornell NYCTech FAB -- 100% Construction Document Electrical Winter Calculations																				
Level	Area Description	Approx Sqft²	Lights Connected	Lights Demand	Power Connected	Power Demand	Misc. MEP Connected	Misc. MEP DF	Misc. MEP Demand	Kitchen Connected	Kitchen Demand	Security Connected	Security Demand	IT Equipment Connected	IT Equipment Demand	Misc. Eq. Connected	Misc. Eq. DF	Misc. Eq. Demand	Elevators Connected	Elevators Demand
Roof																				
	LP-R		2999	2999																
	RP-R		1500	1500	8640	8640	1000	0.75	750											
	ERP-GP				7440	7440														
	FA CUTOUT P						400	0.75	300											
	AHU-1 WORKSPACE N (supply)						64017	0.40	25607											
	AHU-1 WORKSPACE N (return)						33255	0.40	13302											
	AHU-1 WORKSPACE N (recovery wheels)						915	0.40	366											
	AHU-2 WORKSPACE S (supply)						33255	0.40	13302											
	AHU-2 WORKSPACE S (return)						17459	0.40	6984											
	AHU-2 WORKSPACE S (recovery wheels)						915	0.40	366											
	AHU-3 CAFÉ (supply)						22447	0.40	8979											
	AHU-3 CAFÉ (return)						11639	0.40	4656											
	AHU-3 CAFÉ (recovery wheels)						915	0.40	366											
	AHU-4 SEMINAR (supply)						43232	0.40	17293											
	AHU-4 SEMINAR (return)						33255	0.40	13302											
	AHU-4 SEMINAR (recovery wheels)						915	0.40	366											
	AHU-5 CONFERENCE (supply)						43232	0.40	17293											
	AHU-5 CONFERENCE (return)						17459	0.40	6984											
	AHU-5 CONFERENCE (recovery wheels)						915	0.40	366											
	SEF-1 (only operating in smoke condition. Assumes AHUs shutdown.)						22447	0.00	0											
	SEF-2 (only operating in smoke condition. Assumes AHUs shutdown.)						22447	0.00	0											
	SEF-3 (only operating in smoke conditio. Assumes AHUs shutdown.)						11639	0.00	0											
	SEF-4 (only operating in smoke condition. Assumes AHUs shutdown.)						11639	0.00	0											
	SEF-5 (only operating in smoke condition. Assumes AHUs shutdown.)						22447	0.00	0											
	SEF-6 (only operating in smoke condition. Assumes AHUs shutdown.)						22447	0.00	0											
	SEF-7 (only operating in smoke condition. Assumes AHUs shutdown.)						17459	0.00	0											
	EF-5.1						2827	0.70	1979											
	EF-5.2						1330	0.70	931											
	TOILET EXHAUST (TX-5.1)						3991	0.70	2793											
	SF-5.1						696	0.70	487											
	SF-5.2						696	0.70	487											
	CT-1						9145	0.00	0											
	CT-1 SUPPLY HEAT TRACE						1920	0.00	0											
	CT-1 RETURN HEAT TRACE						1920	0.00	0											
	CTF-1						1746	0.00	0											
	FCU-5.1						528	0.70	370											
	FCU-5.2						528	0.70	370											
	UH-5.1						15	0.70	10											
	UH-5.2						15	0.70	10											
	UH-5.3						22	0.70	16											
	UH-5.4						22	0.70	16											
	UH-5.5						22	0.70	16											
	UH-5.6						15	0.70	10											
	UH-5.7						15	0.70	10											
	Sub Total Load	8752	1500	1500	16080	16080	481205.0903		138085.3585	0	0	0	0	0	0	0		0	0	0
	Total Floor Load VA	619290																		
	Sub Total Emergency Load		0	0	7440	7440	130927		300	0		0	0	0	0	0		0	0	0
	Total Emergency Connected Floor Load VA	131227																		
	Floor VA/sq.ft	70.8																		
Miscellaneous																				
	Site Lighting			5000																
	PE-1																		41382	37243.8
	PE-2																		41382	37243.8
	PE-3																		31832	28648.8
	Total Connected Load Area	152110																		
	Total Demand Load Area	152110																		
	Total Connected Load (kVA)	2150	80		330		1361			94		24		95		83			83	
	Total Demand Load (kVA)	1153		85		288			559		61		4		56			25		74
	Total Connected Emergency Load Area (kVA)	328	27		26		150			0		23		52		8			41	
	Total Demand Emergency Load (kVA)	142		32		23			15		0		4		29			2		37
	Power factor	0.88																		
	Total Connected kW	2150																		
	Diversity Factor	0.95																		
	Demand kVA	1153																		
	Demand kW	1015																		
	W/sq.ft	6.7																		
	Service ampacity @ 480Y/277V	1222																		
	20% Spare Capacity	1466																		