Executive Summary

This following report analyses the existing electrical system in the Rio Hondo Library and Learning Resource Center and checks the calculation of the NEC building design load. This electrical narrative is a brief and general overview of the system with attached calculation tables. Necessary drawings are also attached at the end of the report to provide background information on the electrical systems in the building.

Along with the electrical narrative a calculation of the NEC building design load was completed. This design load includes the use of mechanical equipment, heating elements, elevators, and actual lighting loads. It is then compared to the existing minimum size of the equipment that was chosen for the project. This calculation was completed by checking each panelboard separately and then summing the panelboards that feed into the distribution boards to check the sizing of the distribution boards as well. All panelboards are broken down into 120/208V and service different rooms that are listed in the following tables.

These distribution boards then feed into two transformers, one rated at 150 KVA and the other rated at 225 KVA. A calculation of these two panelboards as well as the mechanical equipment that is running off 277/4808V system was also completed to check the size of the switchboard.

After completing all the necessary NEC load calculations, it was decided that the Rio Hondo Library and Learning Resource Center's electrical equipment was sized correctly by GLUMAC, Int. The electrical system provides for the recommended 125 percent oversize factor for future expansion on all the panels. All feeders and panels running from 120/208V and 277/4808V are sized correctly. Currently there is no need to redesign the electrical systems of the building due to the sizing.

System Type and Building Utilization Voltage

All power distribution in the Rio Hondo Library and Learning Resource Center is the standard 120/208V and 277/408V. Power is first brought into the system through a 1000KVA campus utility transformer that feeds into the main switchboard. The main switchboard is rated at 1200A, 277/4808V, 3P, 4W and GND, 42KAIC. This switchboard services Panel 1L and Panel 2L along with the mechanical equipment that is listed later in a table and both elevators in the building. A central inverter is also powered from the main switchboard. An investigation shall prove whether the central inverter is the correct choice over a generator. Power is then fed through two transformers rated at 150KVA and 225KVA, respectively.

These two transformers then feed into two distribution boards that are sized at 600A, 120/208V, 3P, 4W and GND, 42KAIC and 800A, 120/208V, 3P, 4W and GND, 42KAIC, respectively. These distribution panels provide power for panels 1A, 1B, 2A, 2B, 1C, the roll up gate, 1D, 1E, 2C, 2D, 1F, 2E, and finally 1G. Each panelboards load is listed in tables that attached at the end of the summary. All panels are sized at 150A, except for 1G which is sized at 100A. These panels are located in different rooms which can be seen from the attached drawing E203 at the end of the report.

Transformer Configurations

This building runs off two step-down transformers to provide power at both 277/480V and 120/208V. T-1 is rated at 150 KVA while T-2 is rated at 225 KVA. T-1 steps down the power for the first distribution panel running at 120/208V that services panels 1A, 1B, 2A, 2B, 1C, and the roll up gate that is running at 3/4HP. T-2 steps down the power for the second distribution panel running at 120/208V that services panels 1E, 1D, 2C, 2D, 1F, 2E, and 1G. Two sets of 2.50” conduit with conductors sized at (4) phase, 250 KCMIL and a #2 sized ground wire carries the power that runs from T-1 to the distribution board while three sets of 3.00” conduit with conductors sized at (4) phase, 300 KCMIL and a #1/0 sized ground wire carries the power that runs from T-2 to its distribution board.

Emergency Power Systems

Two panels service the emergency power systems, FAEP1, FAEP 2, FAEP 3, and FACP. All panels are running from 120V and service all fire alarm system equipment. The fire alarm annunciator is located in the main lobby and connects to the panel FACP. All light fixtures fed from an emergency relay shall fail on regardless of the position of the push button in the relay switch station.

Overcurrent Protective Devices

Overcurrent protection devices are used in several locations in the building. Individual circuit breakers are labeled on the Single Line Diagram and on the panel tables attached at the end of report. This includes a main 1200A, 3P circuit breaker for the main switchboard and various circuit breakers ranging from 20A, 3P to 225A, 3P circuit breakers that can all be seen on the single line diagram.

Wiring and Bus Types

Wiring of branch circuits and primary feeders can be seen in detail from the single line diagram and the referencing chart. Wire resistance is based on tables from the NEC (uncoated solid copper wire).

General Location of Switchgear, Panelboards, and Motor Control Devices

All mechanical equipment is located on the roof of the Rio Hondo Library and Learning Resource Center. The electrical equipment is located in various rooms throughout the building. The panels 2A, 2B, 2L, 2LRC, and FAEP2 are all located in the electrical room, Room 211. The panels 1G, 1F, 1D, 1E, FAEP, DPB, and transformer TB are all located in the electrical room, Room 121. The panels 2C, 2D, 2E, and FAEP3 are all located in the electrical room, Room 226. Panels 1A, 1B, 1C, DPA, 1L, 1LRC, FACP, Main Switchboard, and the Central Inverter are all located in the main electrical room on the first floor, Room 109. These can be seen in the attached drawings. Also the rooms can be seen in relation to the floor plan on another drawing at the end of the report.

Typical Lighting Systems

The typical lighting system runs off of 277V and is primarily fluorescent with a few areas of metal halide due to the high ceilings. Emergency lighting is also present. All exit signs are lit by long-life LED lamps. Lighting is on a controller scheduled based on the time of the day. The five categories of time are on during LRC hours, on during extended hours, on during library hours, on from dusk till extended hours, and on from dusk till dawn. All lighting schedule with watts labeled is attached at the end of the report.

Power Factor

Currently there is no power factor correction.

Important Design Factors

Voltage drop considerations were an important design factor in the Rio Hondo Library and Learning Resource Center. The voltage drop considerations were taken with respect to the panels FACP, FAEP1, FAEP2, and FAEP3. The maximum voltage drop is 10 percent. The emergency alarms are located on these panels and are accounted for in the voltage drop. It is calculated by the equation [(circuit length in feet *2)*(amps)*(ohms/ft)]. The lump sum method was used to calculate allowable voltage drop. This method allows for a small margin of safety, taking into consideration the actual installed circuit routing may differ from what is shown on the drawings.

Being that this building is in California and LEED compliant power consumption is a very important design factor. Keeping the fixtures fluorescent will aid in the power consumption of this building.

Calculated Loads

In the following charts I summed each panelboard separately and then added the loads to the distribution boards to check that the sizing was correct. All electrical equipment is sized with the allowance for plenty of future expansion. In the charts you can see the total demand load and then comparing this load to the single line diagram, you can see this allowance.

Utility Rate Structure

The electric utility service is brought to Rio Hondo College by Southern California Edison Company. Southern California Edison Company is an investor-owned electric utility serving approximately 50,000 square miles and more than 11,000,000 people in Central and Southern California (www.cityofindustry.org). The Rio Hondo Library and Learning Resource Center is scheduled to open in late 2008, so there are no utility records as of now.

Southern California Edison Company produces electricity by many kinds of energy. They utilize natural gas, falling water in hydroelectric plants, nuclear energy, and renewable resources like solar and wind. Their generator produces AC electricity at 60Hz. The electricity then travels to the transformer which steps up the 13 kilovolts to 220 or 500 kilovolts. Then it goes to the transmission and sub-transmission substations and power voltage is reduced in a transformer. Then power voltage is reduced back down to 66kv. The power then is transferred form the Sub-Transmission to Distribution Substations and voltages are reduced again. The distribution lines then service the neighborhoods and power is received by Rio Hondo. Attached is the utility rate structure that Southern California Edison Company applies to their customers.

Attached Tables

- Primary lamps and ballasts used in the building and operating characteristics
- Single line diagram
  - Shows circuit breaker sizes, major mechanical equipment, transformer configuration
- First and Second Floor Plan showing location of electrical equipment
- Enlarged plan showing electrical rooms
- Lighting wiring and controls
- Utility Rate Structure

All tables and plans can be found in a larger format on P:Drive under Tech 2, Calculations and Tables

	PANEL 2A		Load KVA						
		Service	Total	A	B	C	Total	Service	
		Rm 232, D,E,F - REC	0.90	1.80			0.90	Rm 234 - REC	
		Rm 232D,E,F - REC	0.90		1.62		0.72	Rm 234 - REC	
		Rm 232,A,B,C - REC	0.90			1.80	0.90	Rm 209,218,234 - REC	
		Rm 232A,B,C - REC	0.90	1.98			1.08	Rm 209, 210,215-217	
		Rm 232,A,B,C - REC	0.90		1.62		0.72	Rm 217 - UPS	
		Rm 232 - COFFEE	1.20			2.28	1.08	Rm 217 - WIREMOLD REC	
		Rm 232 - MICROWAVE	1.20	2.28			1.08	Rm 217 - WIREMOLD REC	
		Rm 232 - COMP. REC	1.60		2.68		1.08	Rm 217 - WIREMOLD REC	
		Rm 232 - COMP. REC	1.00			2.08	1.08	Rm 217 - WIREMOLD REC	
		Rm 223,231,232 - REC	0.54	1.62			1.08	Rm 217 - WIREMOLD REC	
		Rm 232 - REC	0.90		1.98		1.08	Rm 217 - WIREMOLD REC	
		Rm 231-233 - REC	0.90			1.98	1.08	Rm 215 - REC	
		Rm 213,214,231,232 - REC	0.90	1.62			0.72	Rm 215 - REC	
		Rm 232 - KITCH REC	0.54		1.26		0.72	Rm 215 - REC	
		Rm 232 - KITCH REC	0.54			0.54		SPARE	
		Rm 232 - COFFEE	1.20	1.20				SPARE	
		Rm 232 - MICROWAVE	1.20		1.20			SPARE	
		SPARE				0.00		SPARE	
		SPARE		0				SPARE	
		SPARE			0.36		0.36	Rm 211 - REC	
		SPARE				0.50	0.50	Rm 211 - FAEP	
		Connected load per phase		10.50	10.72	9.18			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		19.18	0.50	9.59			
		Type "M" Miscellaneous Loads		1.22	1.00	1.22			
		Type "A" AC Loads			1.00				
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	30.4		20.81			

	PANEL 2B		Load KVA						
		Service	Total	A	B	C	Total	Service	
		Rm 201,A - REC	0.90	1.80			0.90	Rm 203,206 - REC	
		Rm 201,A - REC	0.72		1.44		0.72	Rm 206 - REC	
		Rm 201B,203,205 - REC	0.90			2.50	1.60	Rm 207A - COMP. REC	
		Rm 201,B,205,206 - REC	0.90	2.50			1.60	Rm 207A - COMP. REC	
		Rm 201B,204,205 - REC	0.72		2.50		1.78	Rm 207A - COMP. REC	
		Rm 201 - Copier	1.20			2.80	1.60	Rm 207A - COMP. REC	
		Rm 201B - AV Cabinet	0.72	1.22			0.50	RM 232 - SECURITY GATE CNTRL	
		RM 201B - TABLE	0.54		1.04		0.50	RM 232 - SECURITY GATE	
		RM 201B - PROJECTOR	0.36			0.86	0.50	RM 232 - SECURITY GATE CNTRL	
		RM 205 - MICROWAVE	1.20	1.70			0.50	RM 232 - SECURITY GATE	
		RM 205 - COFFEE	1.20		1.70		0.50	RM 219A - SECURITY GATE CNTRL	
		RM 205 - KITCH REC	0.54			1.04	0.50	RM 219A - SECURITY GATE	
		RM 205 -- GD	0.72	1.22			0.50	RM 209 - SECURITY GATE CNTRL	
		SPARE			0.50		0.50	RM 209 - SECURITY GATE	
		SPARE				0.50	0.50	RM 209 - SECURITY GATE	
		SPARE		0.00				SPARE	
		SPARE			0.00			SPARE	
		SPARE				1.00	1.00	VAV 2 30:39	
		SPARE		1.00			1.00	VAV 2-24:30,40:42	
		SPARE			1.39		1.39	CU-4	
		ROOF - REC	0.9			2.29	1.39		
		Connected load per phase		9.44	8.57	10.99			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		9.72	0.50	4.86			
		Type "M" Miscellaneous Loads		4.5	1.00	4.50			
		Type "A" AC Loads		4.78	1.00	4.78			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	29		24.14			

	PANEL 1A		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 130 - REC	0.54	1.26			0.72	RM 129 - REC	
		RM 130 - REC	0.54		1.26		0.72	RM 129 - REC	
		RM 130 - REC	0.54			1.26	0.72	RM 129 - REC	
		RM 130 - REC	0.54	1.26			0.72	RM 129 - REC	
		RM 130 - REC	0.54		1.08		0.54	RM 129 - REC	
		RM 130 - REC	0.54			1.08	0.54	RM 129 - REC	
		RM 130 - REC	0.54	1.08			0.54	RM 129 - REC	
		RM 130 - REC	0.54		1.08		0.54	RM 129 - REC	
		RM 130 - REC	0.54			1.08	0.54	RM 129 - REC	
		RM 130 - REC	0.54	1.08			0.54	RM 129 - REC	
		RM 130 - REC	0.72		1.44		0.72	RM 129 - REC	
		RM 130 - REC	0.72			1.44	0.72	RM 129 - REC	
		RM 130 - REC	0.72	1.44			0.72	RM 129 - REC	
		RM 130 - REC	0.54		1.08		0.54	RM 129 - REC	
		RM 130 - AV CAB	0.72			1.44	0.72	RM 129 - AV CAB	
		RM 130 130 - PODIUM	0.54	1.08			0.54	RM 129 - PODIUM	
		RM 130 - PROJECTOR, CAM	0.72		1.44		0.72	RM 129 - PROJECTOR,CAMERAS	
		SPARE	0.00			0.00	0.00	SPARE	
		ELEV-1 PIT - REC,LT	0.54	0.54			0.00	SPARE	
		RM 112 - REC,LT	0.54		0.90		0.36	RM 109 - REC	
		ELEV - 1	0.50			1.00	0.50	FACP	
		Connected load per phase		7.74	8.28	7.30			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		12.32	0.50	6.16			
		Type "M" Miscellaneous Loads		1	1.00	1.00			
		Type "A" AC Loads			1.00	0.00			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	23.32		17.16			

	PANEL 1B		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 141 - REC	0.90	1.80			0.90	RM 107A,110,137 - REC	
		RM 141 - REC	0.90		1.80		0.90	RM 107A,137,139,141 - REC	
		RM 141 - REC	0.90			1.80	0.90	RM 114,B,139 - REC	
		RM 141,A,B -REC	0.90	1.80			0.90	RM 114A,B,C,139 - REC	
		RM 141,A,B -REC	0.90		1.80		0.90	RM 107,114C,139 - REC	
		RM 141 - COFFEE	0.54			1.44	0.90	RM 114,D,G,137 - REC	
		RM 141C,D - REC	0.90	1.80			0.90	RM 114D,G,137 - REC	
		RM 141D - REC	0.54		1.44		0.90	RM 114E,F,137,138 - REC	
		RM 141D - REC	0.54			1.62	1.08	RM 114 - REC	
		RM 141D - REC	0.54	1.44			0.90	RM 114 - REC	
		RM 141D - AV CAB	0.72		1.62		0.90	RM 114 - REC	
		RM 141D - PODIUM	0.54			1.44	0.90	RM 107,114 - REC	
		RM 141D - PROJECTOR,CA	0.72	1.62			0.90	RM 114,.115 - REC	
		RM 138C,140A,C - REC	0.72		1.62		0.90	RM 114,G - REC	
		RM138,140A - REC	0.72			1.44	0.72	RM 140C - PROJECTOR	
		RM 138A,140,A - REC	0.72	1.44			0.72	RM 140C - PROJECTOR	
		RM 140B - REC	0.90		0.90		0.00	SPARE	
		RM 140B - AV CAB	0.72			0.72	0.00	SPARE	
		RM 140 - AV PNL	0.54	0.54			0.00	SPARE	
		RM 140 - CAMERAS	0.36		0.36		0.00	SPARE	
		SPARE	0.00			0.00	0.00	SPARE	
		Connected load per phase		10.44	9.54	8.46			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		18.44	0.50	9.22			
		Type "M" Miscellaneous Loads			1.00	0.00			
		Type "A" AC Loads			1.00	0.00			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	28.44		19.22			

	PANEL 1C		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 104-107	0.90	1.62			0.72	RM 101,107 - REC	
		RM 103-108	0.72		1.44		0.72	RM 101,C - REC	
		RM 104-107	0.90			1.62	0.72	RM 101,102,107 - REC	
		RM 104-106	0.90	1.62			0.72	RM 101,A,B - REC	
		RM 104 - AV CAB	0.72		1.44		0.72	RM 101,A,B - REC	
		RM 104 - PODIUM	0.54			1.44	0.90	RM 101,A,B - REC	
		RM 104 - PROJECTOR	0.36	1.08			0.72	RM 104 - REC	
		RM 105 - AV CAB	0.72		1.44		0.72	RM 104 - REC	
		RM 105 - PODIUM	0.54			1.26	0.72	RM 104 - REC	
		RM 106 - AV CAB	0.72	1.26			0.54	RM 104 - REC	
		RM 106 - PODIUM	0.54		1.08		0.54	RM 104 - REC	
		RM 105,106 - PROJECTORS	0.72			1.26	0.54	RM 104 - REC	
		SPARE		0.54			0.54	RM 104 - REC	
		SPARE			0.54		0.54	RM 104 - REC	
		SPARE				0.54	0.54	RM 104 - REC	
		SPARE		0.50			0.50	RM 107 - FAA	
		SPARE			0.00			SPARE	
		SPARE				0.00		SPARE	
		FSD	0.45	0.88			0.43	EF-3	
		VAV 1-42:51	1		1.56		0.56	AC-4	
		VAV 1-1:9	0.90			1.46	0.56		
		Connected load per phase		7.50	7.50	7.58			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		8.18	0.50	4.09			
		Type "M" Miscellaneous Loads		1.38	1.00	1.38			
		Type "A" AC Loads		3.02	1.00	3.02			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	22.58		18.49			

	PANEL 1L		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 127 - WH	5.50	8.73			3.23	RM 129-130 - LTG	
		RM 110 - WH	2.00		5.74		3.74	RM 141,A-D,108-110,112,137,139 - LTG	
		SPARE				3.31	3.31	RM 134,136,A,B,138,A,140,A-C - LTS	
		SPARE		2.81			2.81	RM 127,128,132,133,135 - LTG	
		SPARE			2.99		2.99	RM 114,A-G - LTG	
		SPARE				2.80	2.80	RM 119-123,125,A-C,126,A,B - LTG	
		SPARE		3.11			3.11	RM 124 - LTG	
		SPARE			2.88		2.88	RM 118,A,D,124A-C - LTG	
		SPARE				2.67	2.67	RM 116,117,A-D,118B,C, - LTG	
		SPARE		1.90			1.90	RM 115,A,131 - LTG	
		SPARE			3.87		3.87	RM 101,A-C,102-106	
		SPARE				1.33	1.33	EXTERIOR LTG	
		SPARE		0.00				SPARE	
		SPARE			0.00			SPARE	
		RM 102 - HAND DRYERS	4.70			4.70		SPARE	
		RM 103 - HAND DRYERS	4.70	4.70				SPARE	
		RM 131 - HAND DRYERS	4.70		4.70			SPARE	
		RM 132 - HAND DRYERS	4.70			4.70		SPARE	
		FC-3,4,5	0.97	0.97				SPARE	
			0.97		0.97			SPARE	
			0.97			0.97		SPARE	
		Connected load per phase		22.22	21.15	20.48			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads		34.64	1.25	43.30			
		Type "R" Receptacles (First 10 KVA)		0	1.00	0.00			
		Type "R" Receptacles (Over 10 KVA)		0	0.50	0.00			
		Type "M" Miscellaneous Loads		26.30	1.00	26.30			
		Type "A" AC Loads		2.91	1.00	2.91			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	63.85		72.51			

	PANEL 2L		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 222 - WH	5.50	8.97			3.47	RM 223,A-G,224 - LTG	
		RM 222 - WH	5.50		8.47		2.97	RM 231,232,A-F - LTG	
		RM 205 - WH	5.50			8.85	3.35	RM 216,217,230,234 - LTG	
		SPARE		2.77			2.77	RM 209,215,219A - LTG	
		SPARE			2.43		2.43	RM 201,A-B,202,204-206 - LTG	
		SPARE				2.27	2.27	RM 207,A - LTG	
		SPARE		2.99			2.99	RM 221A-B,222 - LTG	
		SPARE			3.06		3.06	RM 221 - LTG	
		RM 214 - HAND DRYERS	4.70			7.70	3.00	RM 221 - LTG	
		RM 213 - HAND DRYERS	4.70	7.95			3.25	RM 221 - NE STACK LTG	
		RM 228 - HAND DRYERS	4.70		7.78		3.08	RM 221 - W STACK LTG	
		RM 227 - HAND DRYERS	4.70			8.32	3.62	RM 221 - E STACK LTG	
		FC-1,2	0.42	0.42				SPARE	
			0.42		0.42			SPARE	
			0.42			0.42		SPARE	
		EF-2,4	0.56	0.56				SPARE	
			0.56		0.56			SPARE	
			0.56			0.56		SPARE	
		EF-1	0.50	0.50				SPARE	
			0.50		0.50			SPARE	
			0.50			0.50		SPARE	
		Connected load per phase		24.16	23.22	28.62			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads		36.26	1.25	45.33			
		Type "R" Receptacles (First 10 KVA)		0	1.00	0.00			
		Type "R" Receptacles (Over 10 KVA)		0	0.50	0.00			
		Type "M" Miscellaneous Loads		35.30	1.00	35.30			
		Type "A" AC Loads		4.44	1.00	4.44			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	76		85.07			

	INV 1		Load KVA						
		Service	Total	A	B	C	Total	Service	
		1ST FLR EM LTG - RM 101,107,115,131,141	1.79	3.80			2.01	2ND FLR EM LTG - RM 202,203,207,209,215	
		1ST FLR EM LTF - RM 125,124,118,117,114,138	1.78		4.26		2.48	2ND FLR EM LTG - RM 221 W STACKS	
		2ND FLR EM LTG - RM 222,223,231,232	1.99			3.61	1.62	2ND FLR EM LTG - RM 221 SE STACKS	
		EXTERIOR EM LTG	0.77	2.44			1.67	2ND FLR EM LTG - RM 221 E STACKS	
		SPACE			0.00			SPACE	
		SPACE				0.00		SPACE	
		SPACE		0.00				SPACE	
		SPACE			0.00			SPACE	
		Connected load per phase		6.24	4.26	3.61			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads		14.11	1.25	17.64			
		Type "R" Receptacles (First 10 KVA)			1.00	0.00			
		Type "R" Receptacles (Over 10 KVA)			0.50	0.00			
		Type "M" Miscellaneous Loads			1.00	0.00			
		Type "A" AC Loads			1.00	0.00			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	14.11		17.64			

	Main Distribution Panel DSP		Load KVA						
P	BKR	Circuit	Total	A	B	C	Total	Service	
3	150	PNL 1A		7.74	8.28	7.30		PNL 1B	
3	150	PNL 1A		10.44	9.54	8.46		PNL 1B	
3	150	PNL 2A		10.50	10.72	9.18		PNL 2B	
3	150	PNL 2A		9.44	8.57	10.99		PNL 2B	
3	150	PNL 1C		7.50	7.50	7.58		ROLL UP DOOR	
3	150	PNL 1C		0.38	0.38	0.38		ROLL UP DOOR	
		SPACE		0.00				SPACE	
		SPACE			0.00			SPACE	
		SPACE				0.00		SPACE	
		SPACE		0.00				SPACE	
		SPACE			0.00			SPACE	
		SPACE				0.00		SPACE	
		SPACE		0.00				SPACE	
		SPACE			0.00			SPACE	
		Connected load per phase		46.00	44.99	43.89			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads		0.00	1.25	0.00			
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		107.84	0.50	53.92			
		Type "M" Miscellaneous Loads		9.25	1.00	9.25			
		Type "A" AC Loads		7.80	1.00	7.80			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	134.89		80.97			

	Main Switchboard MSS		Load KVA						
P	BKR	Circuit	Total	A	B	C	Total	Service	
3	225	PNL 1L		22.22	21.15	20.48		PNL 2L	
3	225	PNL 1L		24.16	23.22	28.62		PNL 2L	
3	150	AH - 1 (SF)		18.01	18.01	18.01		AH - 2 (SF)	
3	150	AH - 1 (SF)		18.01	18.01	18.01		AH - 2 (SF)	
3	80	AH - 1 (RF)		9.42	9.42	9.42		AH - 2 (RF)	
3	80	AH - 1 (RF)		9.42	9.42	9.42		AH - 2 (RF)	
	30	INV - 1		6.24	4.26	3.61		XFRM T1 (DPA)	
	30	INV - 1		46.00	44.99	43.89		XFRM T1 (DPA)	
	400	XRFM TS (DPB)		79.56	70.69	72.29		ELEV - 1	
	400	XRFM TS (DPB)		9.41	9.41	9.41		ELEV - 2	
	80	ELEV-2		9.41	9.41	9.41		SPACE	
	80	ELEV-2				0.00		SPACE	
		SPACE		0.00				SPACE	
		SPACE			0.00			SPACE	
		Connected load per phase		251.86	237.99	242.57			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads		85.01	1.25	106.26			
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		261.12	0.50	130.56			
		Type "M" Miscellaneous Loads		360.37	1.00	360.37			
		Type "A" AC Loads		45.93	1.00	45.93			
		Type "K" Kitchen Loads		0.00	0.65				
			Largest Motor Load	54.03	0.25	13.51			
			Total	816.46		666.63			

	PANEL 1G		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 134 - DED REC	1.20	3.20			2.00	RM 136A - DED REC	
		RM 134 - DED REC	1.20		3.20		2.00	RM 136A - DED REC	
		RM 134 - DED REC	1.20			3.20	2.00	RM 136A - DED REC	
		RM 134 - DED REC	2.00	4.00			2.00	RM 136A - DED REC	
		RM 134 - DED REC	2.00		4.00		2.00	RM 136A - DED REC	
		RM 136B - DED REC	1.20			3.20	2.00	RM 136A - DED REC	
		RM 136B - DED REC	1.20	1.92			0.72	RM 134,136A,B - REC	
		RM 136B - DED REC	1.20		1.92		0.72	RM 134,136A,B - REC	
		RM 136B - DED REC	1.20			1.74	0.54	RM 134,136A,B - REC	
		RM 136B - DED REC	1.20	1.20				SPARE	
		SPARE			0.00			SPARE	
		SPARE				0.00		SPARE	
		SPARE		0.00				SPARE	
		SPARE			0.00			SPARE	
		SPARE				0.00		SPARE	
		SPARE		0.00				SPARE	
		SPARE			0.00			SPARE	
		SPARE				0.00		SPARE	
		SPARE		0				SPARE	
		SPARE			0.00			SPARE	
		SPARE				0.00		SPARE	
		Connected load per phase		10.32	9.12	8.14			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		1.98	1.00	1.98			
		Type "R" Receptacles (Over 10 KVA)		0	0.50	0.00			
		Type "M" Miscellaneous Loads		25.6	1.00	25.60			
		Type "A" AC Loads			1.00				
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	27.58		27.58			

	PANEL 2C		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 222 - REC	0.72	1.62			0.90	RM 222,223,A,B,C - REC	
		RM 222 - REC	0.90		1.80		0.90	RM 222,223A,B,C - REC	
		RM 222 - MICROFICHE	0.72			1.62	0.90	RM 221,223A,B,C - REC	
		RM 221A,B,222 - REC	0.90	1.98			1.08	RM 223,D,E,F,G - REC	
		RM 221 A,B,222 - REC	0.90		1.80		0.90	RM 223D,E,F,G - REC	
		RM 221 ,A,B,222 - REC	0.72			1.80	1.08	RM 223D,E,F,G - REC	
		RM 221 - REC	0.90	2.10			1.20	RM 223 - COMP REC	
		RM 221 - REC	0.90		2.10		1.20	RM 223 - COMP REC	
		RM 221 - REC	0.90			2.10	1.20	RM 223 - COMP REC	
		RM 221 - REC	1.08	2.28			1.20	RM 223 - COMP REC	
		RM 221 - REC	0.90		2.10		1.20	RM 223 - COMP REC	
		RM 221 - REC	0.90			2.10	1.20	RM 223 - COMP REC	
		RM 219 - COMP REC	1.60	2.80			1.20	RM 223 - COMP REC	
		RM 219 - COMP REC	1.60		2.80		1.20	RM 223 - COMP REC	
		RM 221 - REF DESK REC	0.72			1.92	1.20	RM 223 - COMP REC	
		RM 221 - REF DESK REC	0.72	1.92			1.20	RM 223 - COMP REC	
		RM 221 - REF DESK REC	0.72		1.92		1.20	RM 223 - COMP REC	
		RM 219 - COMP REC	1.60			2.80	1.20	RM 223 - COMP REC	
		RM 219 - COMP REC	1.60	1.60				SPARE	
		SPARE			0.00			SPARE	
		SPARE				0.00		SPARE	
		Connected load per phase		14.30	12.52	12.34			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		28.44	0.50	14.22			
		Type "M" Miscellaneous Loads		0.72	1.00	0.72			
		Type "A" AC Loads			1.00				
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	39.16		24.94			

	PANEL 2D		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 224 - REC	0.54	1.08			0.54	RM 230 - REC	
		RM 224 - REC	0.54		1.08		0.54	RM 230 - REC	
		RM 224 - REC	0.54			1.08	0.54	RM 230 - REC	
		RM 224 - REC	0.54	0.90			0.36	RM 230 - REC	
		RM 224 - REC	0.54		1.08		0.54	RM 230 - REC	
		RM 224 - REC	0.36			0.72	0.36	RM 230 - REC	
		RM 224 - REC	0.36	0.90			0.54	RM 230 - REC	
		RM 224 - REC	0.36		0.72		0.36	RM 230 - REC	
		RM 224 - REC	0.36			0.90	0.54	RM 230 - REC	
		RM 224 - REC	0.36	0.90			0.54	RM 230 - REC	
		RM 224 - REC	0.36		0.90		0.54	RM 230 - REC	
		RM 224 - REC	0.36			0.72	0.36	RM 230 - REC	
		RM 224 - REC	0.36	0.72			0.36	RM 230 - REC	
		RM 224 - REC	0.36		0.72		0.36	RM 230 - REC	
		RM 224 - REC	0.36			0.72	0.36	RM 230 - REC	
		RM 224 - AV CABINET	0.72	1.08			0.36	RM 230 - REC	
		RM 224 - PODIUM	0.54		0.90		0.36	RM 230 - REC	
		RM 224 - PROJECTOR	0.36			0.72	0.36	RM 230 - REC	
		RM 223,224 - REC	0.90	1.26			0.36	RM 230 - REC	
		SPARE			0.54		0.54	RM 230 - REC	
		SPARE				0.00		SPARE	
		Connected load per phase		6.84	5.94	4.86			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		7.64	0.50	3.82			
		Type "M" Miscellaneous Loads		0	1.00	0.00			
		Type "A" AC Loads			1.00				
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	17.64		13.82			

	PANEL 2E		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 230 - AV CABINET	0.72	1.08			0.36	ROOF - REC	
		RM 230 - PODIUM	0.54		0.90		0.36	RM 226 - REC	
		RM 230 - PROJECTOR	0.36			0.36			
		RM 219,223,227,228 - REC	0.72	0.72					
		RM 220 - REC	0.72		0.72				
		RM 219,220,234 - REC	0.72			0.72			
		RM 220 - COPIER	1.20	1.20					
		RM 220 - COPIER	1.20		1.20				
		RM 229 - DED REC	1.20			1.20			
		RM 229 - DED REC	1.20	1.20					
		RM 229 - DED REC	1.20		1.20				
		RM 229 - DED REC	2.00			2.00			
		RM 229 - DED REC	2.00	2.75			0.75	PSD	
		RM 229 - REC	0.36		1.56		1.20	VAV 2-1:12	
		SPARE				1.10	1.10	VAV 2-13:23	
		SPARE		0.56			0.56	AC-6	
		SPARE			0.56		0.56	AC-6	
		SPARE				5.26	5.26	CU-1,5,6	
		SPARE		5.26			5.26	CU-1,5,7	
		SPARE			4.53		4.53	CU-2,3	
		SPARE				4.53	4.53	CU-2,4	
		Connected load per phase		12.77	10.67	15.17			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		4.86	1.00	4.86			
		Type "R" Receptacles (Over 10 KVA)		0	0.50	0.00			
		Type "M" Miscellaneous Loads		10.75	1.00	10.75			
		Type "A" AC Loads		23	1.00	23.00			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	38.61		38.61			

	PANEL 1D		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 124B,C - REC	0.72	2.32			1.60	RM 118 - COMP REC	
		RM 124A,B,C - REC	0.90		2.50		1.60	RM 118 - COMP REC	
		RM 124,A,B - REC	0.90			2.10	1.20	RM 118 - COMP REC	
		RM 118D,119,124A - REC	0.90	2.10			1.20	RM 118 - COMP REC	
		RM 118,D,119,124 - REC	0.90		2.10		1.20	RM 118 - COMP REC	
		RM 118D,119,124 - REC	0.90			2.10	1.20	RM 118 - COMP REC	
		RM 119,120,123 - REC	0.90	2.10			1.20	RM 118 - COMP REC	
		RM 119,122,123 - REC	0.90		2.10		1.20	RM 118 - COMP REC	
		RM 123 - AV CAB	0.72			1.92	1.20	RM 118 - COMP REC	
		RM 123 - PODIUM	0.54	1.74			1.20	RM 118 - COMP REC	
		RM 119 - AV CAB	0.72		1.80		1.08	RM 117,A,B,C,D,118 - REC	
		RM 119 - PODIUM	0.54			1.44	0.90	RM 117,B,C,118,C - REC	
		RM 119,123 - PROJECTORS	0.72	1.62			0.90	RM 117A,B,C,118C - REC	
		RM 124 - REC	0.72		1.80		1.08	RM 117,118,A,B - REC	
		RM 123, 124 - REC	0.90			1.80	0.90	RM 118,A,B - REC	
		SPARE		0.90			0.90	RM 115,117A,118A,B - REC	
		SPARE			0.90		0.90	RM 131,138 - REC	
		SPARE				0.54	0.54	ELEV-2 PIT - REC,LT	
		SPARE		0.54			0.54	RM 135 - REC, LT	
		SPARE			0.50		0.50	ELEV - 2	
		SPARE				0.36	0.36	RM 121 - REC	
		Connected load per phase		11.32	11.70	10.26			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		22.78	0.50	11.39			
		Type "M" Miscellaneous Loads		0.5	1.00	0.50			
		Type "A" AC Loads		0	1.00	0.00			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	33.28		21.89			

	PANEL 1E			Load KVA					
		Service		Total	A	B	C	Total	Service
		RM 127,128,131,133 - REC		1.08	2.68			1.60	RM 124 - COMP REC
		RM 127,128,132 - REC		0.90		2.10		1.20	RM 124 - COMP REC
		RM 115,127,128 - REC		0.90			2.50	1.60	RM 124 - COMP REC
		RM 128 - AV CAB		0.72	1.92			1.20	RM 124 - COMP REC
		RM 128 - PODIUM		0.54		1.74		1.20	RM 124 - COMP REC
		RM 128 - PROJECTOR		0.36			1.56	1.20	RM 124 - COMP REC
		RM 127 - MICROWAVE		1.20	2.40			1.20	RM 124 - COMP REC
		RM 127 - COFFEE		1.20		2.00		0.80	RM 124 - COMP REC
		RM 127 - GD		0.72			1.52	0.80	RM 124 - COMP REC
		RM 125A,B,C - REC		0.90	1.70			0.80	RM 124 - COMP REC
		RM 125A,B,C - REC		0.90		1.70		0.80	RM 124 - COMP REC
		RM 115,125A,B,C - REC		1.08			1.88	0.80	RM 124 - COMP REC
		RM 124,126A,B - REC		0.90	1.70			0.80	RM 124 - COMP REC
		RM 124,126A,B - REC		0.90		2.10		1.20	RM 124 - COMP REC
		RM 124,125,126A,B - REC		1.08			2.28	1.20	RM 124 - COMP REC
		RM 124 - REC		0.72	1.92			1.20	RM 124 - COMP REC
		RM 124 - REC		0.72		1.92		1.20	RM 124 - COMP REC
		RM 124 - REC		0.72			1.92	1.20	RM 124 - COMP REC
		RM 124 - REC		0.72	0.72				SPARE
		SPARE				0.00			SPARE
		SPARE					0.00		SPARE
		Connected load per phase			13.04	11.56	11.66		
		Load Summary			Conn. KVA	Demand Factor	Demand KVA		
		Type "L" Continuous Loads				1.25			
		Type "R" Receptacles (First 10 KVA)			10	1.00	10.00		
		Type "R" Receptacles (Over 10 KVA)			26.26	0.50	13.13		
		Type "M" Miscellaneous Loads			0	1.00	0.00		
		Type "A" AC Loads			0	1.00	0.00		
		Type "K" Kitchen Loads				0.65			
			Largest Motor Load			0.25			
			Total		36.26		23.13		

	PANEL 1F		Load KVA						
		Service	Total	A	B	C	Total	Service	
		RM 117 - COMP REC	1.60	2.32			0.72	RM 116 - REC	
		RM 117 - COMP REC	1.20		1.92		0.72	RM 116 - REC	
		RM 117 - COMP REC	1.20			1.92	0.72	RM 116 - REC	
		RM 117 - COMP REC	1.20	1.56			0.36	RM 116 - REC	
		RM 117 - COMP REC	1.60		2.14		0.54	RM 116 - REC	
		RM 117 - COMP REC	1.60			2.14	0.54	RM 116 - REC	
		RM 117 - COMP REC	1.20	1.92			0.72	RM 116 - AV CAB	
		RM 117 - COMP REC	1.20		1.74		0.54	RM 116 - PODIUM	
		RM 117 - COMP REC	1.20			1.56	0.36	RM 116 - PROJECTOR	
		RM 117 - COMP REC	1.20	1.20				SPARE	
		RM 117 - COMP REC	1.20		1.20			SPARE	
		RM 117 - COMP REC	0.80			0.80		SPARE	
		RM 117 - REC	0.90	1.65			0.75	FSD	
		SPARE			0.90		0.90	VAV 1-34:41	
		SPARE				1.20	1.20	VAV 1-22:33	
		SPARE		1.20			1.20	VAV 1-10:21	
		SPARE			0.16		0.16	EF-5	
		SPARE				1.12	1.12	AC-1,5	
		SPARE		1.12			1.12	AC-1,5	
		SPARE			1.12		1.12	AC-2,3	
		SPARE				1.12	1.12	AC-2,4	
		Connected load per phase		10.97	9.18	9.86			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads			1.25				
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		11.32	0.50	5.66			
		Type "M" Miscellaneous Loads		0.91	1.00	0.91			
		Type "A" AC Loads		7.78	1.00	7.78			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	30.01		24.35			

	Distribution Panel DSP		Load KVA						
P	BKR	Circuit	Total	A	B	C	Total	Service	
3	150	PNL 1E		13.04	11.56	11.66		PNL 1D	
3	150	PNL 1E		11.32	11.70	10.26		PNL 1D	
3	150	PNL 2C		14.30	12.52	12.34		PNL 2D	
3	150	PNL 2C		6.84	5.94	4.86		PNL 2D	
3	150	PNL 1F		10.97	9.18	9.86		PNL 2E	
3	150	PNL 1F		12.77	10.67	15.17		PNL 2E	
3	100	PNL 1G		10.32	9.12	8.14		SPACE	
		SPACE			0.00			SPACE	
		SPACE				0.00		SPACE	
		SPACE		0.00				SPACE	
		SPACE			0.00			SPACE	
		SPACE				0.00		SPACE	
		SPACE		0.00				SPACE	
		SPACE			0.00			SPACE	
		Connected load per phase		79.56	70.69	72.29			
		Load Summary		Conn. KVA	Demand Factor	Demand KVA			
		Type "L" Continuous Loads		0.00	1.25	0.00			
		Type "R" Receptacles (First 10 KVA)		10	1.00	10.00			
		Type "R" Receptacles (Over 10 KVA)		143.28	0.50	71.64			
		Type "M" Miscellaneous Loads		38.48	1.00	38.48			
		Type "A" AC Loads		30.78	1.00	30.78			
		Type "K" Kitchen Loads			0.65				
			Largest Motor Load		0.25				
			Total	222.54		150.90			

INTERIOR LIGHTING FIXTURE SCHEDULE CONTINUED (BY LIGHTING DESIGNER)

FIXTURE TYPE	MANUFACTURER AND CATALOG NO.	DESCRIPTION	VOLTAGE	LAMPS NO.	LAMPS TYPE	FIXTURE "WATTS"	REMARKS
F25	TRANSLITE #SLT4-9"-1-28-RMS-OW	4' FLUORESCENT SIGN LIGHT; EXTRUDED ALUMINUM HOUSING; OPAL WHITE ACRYLIC LENS; REMOTE BALLAST	277	1	28W T5 3500K	28	REMOTE BALLAST SHALL BE LOCATED IN ACCESSIBLE SPACE WITHIN 18' OF FIXTURE.
F26	ELLIPTIPAR #F210-1128-L-02-1/2-XX-G	AIMABLE RECESSED FLUORESCENT WALLWASH; SEMI-GLOSS WHITE ALUMINUM HOUSING, ENDPLATES, AND TRIM; EXTRUDED ALUMINUM REFLECTOR WITH CLEAR ANODIZED SPECULAR FINISH; ELECTRONIC BALLAST	277	1	28W T5 3500K	34	
F274	METALUX #CL-12875-EB-277V	4' FLUORESCENT UNDERCABINET LIGHT; HEAVY GUAGE COLD ROLLED STEEL HOUSING; ACRYLIC LINEAR RIBBED DIFFUSER; ELECTRONIC BALLAST	277	1	28W T5 3500K	34	
F272	METALUX #CL-12875-EB-277V	2' FLUORESCENT UNDERCABINET LIGHT; HEAVY GUAGE COLD ROLLED STEEL HOUSING; ACRYLIC LINEAR RIBBED DIFFUSER; ELECTRONIC BALLAST	277	1	14W T5 3500K	14	
F28	BIRCHWOOD #ASH-T5-2 "ASHLEY"	FLUORESCENT COVE LIGHT; HAVY GAUGE ALUMINUM HOUSING WITH SPECULAR-HAMMERTONE BACK REFLECTOR AND HIGH REFLECTIVITY WHITE FRONT REFLECTOR; WHITE POWDERCOAT FINISH; ELECTRONIC BALLAST	277	1	28W T5 3500K	34/4LF	-SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER -PROVIDE CONTNUOUS LENGTHES AS SHOWN ON PLANS

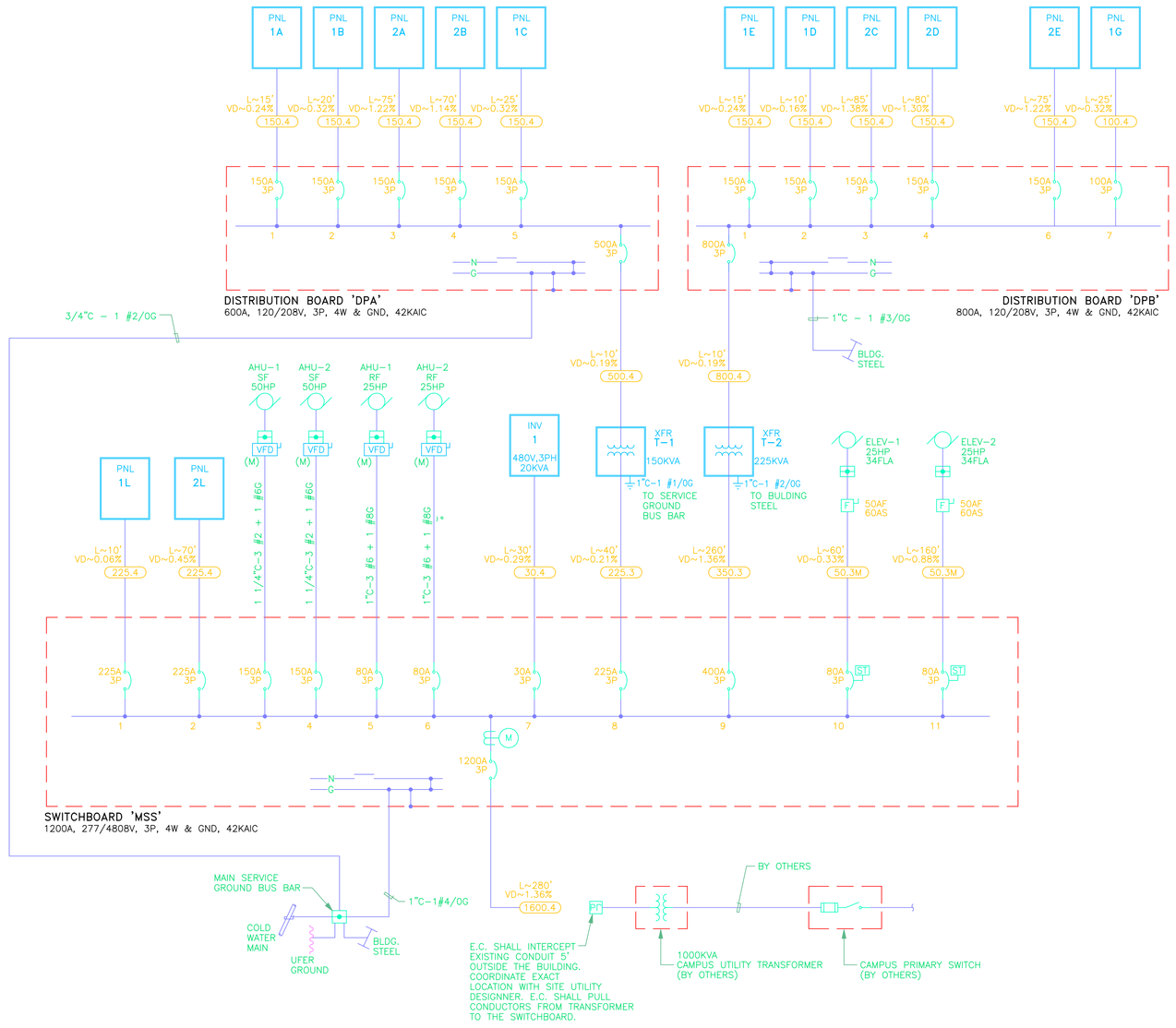
EMERGENCY LIGHTING FIXTURE SCHEDULE (BY ENGINEER)

FIXTURE TYPE	MANUFACTURER AND CATALOG NO.	DESCRIPTION	VOLTAGE	LAMPS NO.	LAMPS TYPE	FIXTURE "WATTS"	REMARKS
X1	CANLET #BFWR26H1-G-PPC OR EQUAL	VAPOR TIGHT FLUORESCENT WALL BRACKET WITH PRISMATIC POLYCARBONATE GLOBE.	120	1	26W TT 3500K	29	ELEV. PIT
X2	LITHONIA #LRP-120/277 OR EQUAL	EDGE LIT LED EXIT SIGN; PROVIDE NUMBER OF FACES, DIRRECTIONAL ARROWS, AND MOUNTING TYPE AS SHOWN ON PLANS	277	-	LED	1	VERIFY COLORS WITH ARCHITECT

INTERIOR LIGHTING FIXTURE SCHEDULE (BY LIGHTING DESIGNER)

FIXTURE TYPE	MANUFACTURER AND CATALOG NO.	DESCRIPTION	VOLTAGE	LAMPS NO.	LAMPS TYPE	FIXTURE "WATTS"	REMARKS
D01	FOCAL POINT #FMEP-34-WA-6BX50-2C-277-S-C48/BXX-TS "METRO"	34" DIAMETER DECORATIVE INDIRECT FLUORESCENT PENDANT WITH DUAL CIRCUITING; ONE-PIECE SPUN 20 GA C.R.S. HOUSING WITH FROSTED WHITE ACRYLIC DIFFUSER; TITANIUM SILVER FINISH; (6) 1-LAMP ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	6	50W BIAX 3500K	318	SHADING INDICATES 1/2 OF LAMPS IN FIXTURE CONNECTED TO EMERGENCY INVERTER
D02	SHAPER #600-24-T5/2/14-277V-NA	2' FLUORESCENT DECORATIVE MIRROR SCONCE; ALUMINUM BODY WITH EXTRUDED MATTE WHITE ACRYLIC DIFFUSER; NATURAL ALUMINUM FINISH; ELECTRONIC HPF BALLAST	277	2	14W T5 3500K	28	
D03	DARK #NO FRUIT-S-TRANSPARENT WHITE	13.8" DIAMETER DECORATIVE FLUORESCENT FIXTURE; TRANSPARENT GLOBE	277	3	39W T5 3500K	128	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
D04	LOUIS POULSEN #WOP-13.7-COMPACT FLUOR.-GLASS "WOHLERT"	4' DIAMETER DECORATIVE PENDANT; HANDBLOWN WHITE OPAL GLASS GLOBE	277V	1	26W TT 3500K	29	
F01	FOCAL POINT #FTWS-PA-115HO-1C-277-S-J24-TS "TWELVE"	FLUORESCENT DIRECT/INDIRECT PENDANT; 20 GA C.R.S. HOUSING WITH LINEAR PATTERNED ACRYLIC DIFFUSER WITH CU FILTER; TITANIUM SILVER FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	1	54W T5HO 3500K	62/4LF	-SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER -PROVIDE CONTNUOUS LENGTHS AS SHOWN ON PLANS
F02	FOCAL POINT #FMEW-PA-115HO-1C-277-S-WM-TS "METRO"	FLUORESCENT WALL MOUNTED DIRECT/INDIRECT; 20 GA C.R.S. HOUSING WITH LINEAR PATTERNED ACRYLIC DIFFUSER; TITANIUM SILVER FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	1	54W T5HO 3500K	62/4LF	-SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER -PROVIDE CONTNUOUS LENGTHS AS SHOWN ON PLANS
F03	FOCAL POINT #FAVCW-SD-1T5-1C-277-S-WM-DC-TS-4' "AVENUE C"	4' FLUORESCENT WALL MOUNTED INDIRECT; 20 GA C.R.S. HOUSING WITH SOLID BASE AND CLEAR ACRYLIC DUST COVER; TITANIUM SILVER FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	1	28W T5 3500K	34	SHADING INDICATES 1/2 OF LAMPS IN FIXTURE CONNECTED TO EMERGENCY INVERTER
F038	FOCAL POINT #FAVCW-SD-1T5-1C-277-S-WM-DC-TS-8' "AVENUE C"	8' FLUORESCENT WALL MOUNTED INDIRECT; 20 GA C.R.S. HOUSING WITH SOLID BASE AND CLEAR ACRYLIC DUST COVER; TITANIUM SILVER FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD); PROVIDE 1-BALLAST PER LAMP FOR BI-LEVEL SWITCHING	277	2	28W T5 3500K	66	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F04	FOCAL POINT #FAVA-NS-1T5-1C-277-S-XX-WH-4' "AVENUE A"	1'x4' FLUORESCENT RECESSED WALLWASH TROFFER; 20 GA C.R.S. HOUSING WITH OPEN OPTIC; MATTE WHITE FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	1	28W T5 3500K	34	-COORDINATE MOUNTING TYPE WITH PLANS
F042	FOCAL POINT #FAVA-NS-1T5-1C-277-S-XX-WH-2' "AVENUE A"	1'x2' FLUORESCENT RECESSED WALLWASH TROFFER; 20 GA C.R.S. HOUSING WITH OPEN OPTIC; MATTE WHITE FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	1	14W T5 3500K	14	-COORDINATE MOUNTING TYPE WITH PLANS
F05	LINEAR LIGHTING #WW4-D-1-ET5-277-NS-R-BW	4' FLUORESCENT SLOT LIGHT; 20 GAUGE STEEL HOUSING WITH ALUMINUM REFLECTOR; WHITE ENAMEL FINISH; ELECTRONIC BALLAST	277	1	28W T5 3500K	34/4LF	-SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER -PROVIDE CONTNUOUS LENGTHS AS SHOWN ON PLANS
F052	LINEAR LIGHTING #WW4-D-1-ET5-277-NS-R-BW	2' FLUORESCENT SLOT LIGHT; 20 GAUGE STEEL HOUSING WITH ALUMINUM REFLECTOR; WHITE ENAMEL FINISH; ELECTRONIC BALLAST	277	1	14W T5 3500K	14/4LF	-SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER -PROVIDE CONTNUOUS LENGTHS AS SHOWN ON PLANS
F06	FOCAL POINT #FLU-24-B-2-T5HO-S-277-G-PS-WH "LUNA"	2'x4' FLUORESCENT DIRECT/INDIRECT TROFFER WITH PERFORATED LAMP SHIELD; 20 GA C.R.S. HOUSING; MATTE WHITE FINISH; (2) 1-LAMP ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	2	54W T5HO 3500K	117	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F07	FOCAL POINT #FSD-44-D-4-BX40-S-277-U-CR-HW "SKYDOME"	4' DIAMETER RECESSED DIRECT SYMMETRICAL FLUORESCENT TROFFER WITH WHITE ACRYLIC CONCAVE LENS; 20 GA C.R.S. HOUSING; HIGH REFLECTANCE WHITE FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	4	32W T8 3500K	128	SHADING INDICATES 1/2 LAMPS IN FIXTURE CONNECTED TO EMERGENCY INVERTER
F072	FOCAL POINT #FSD-22-D-4-BX40-S-277-U-CR-HW "SKYDOME"	2' DIAMETER RECESSED DIRECT SYMMETRICAL FLUORESCENT TROFFER WITH WHITE ACRYLIC CONCAVE LENS; 20 GA C.R.S. HOUSING; HIGH REFLECTANCE WHITE FINISH; ELECTRONIC PROGRAM START BALLAST (<10% THD)	277	2	17W T8 3500K	34	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F08	DESIGN PLAN #CRS-8-6D-1X-4-06-0-C-OPAL GLASS-0 "CRICKET 61"	2' RECESSED LINEAR FLUORESCENT WITH OPAL GLASS LENS AND SYMMETRIC DISTRIBUTION; ALUMINUM TRIM WITH PAINTED FINISH; ELECTRONIC BALLAST (<10% THD)	277	1	14W T5 3500K	14	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F09	LUMIERE #714-2-MH39PAR20-277-XX "WESTWOOD"	COLUMN MOUNTED CYLINDER UP/DOWN LIGHT; CORROSION RESISTANT 6061-T6 ALUMINUM HOUSING; TEMPERED GLASS LENS; PROVIDED WITH REMOTE BALLAST	277	2	39W MH PAR20FL	96	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F10	COOPER-PORTFOLIO #C6132-E-6150-H-TRM6/P	6" DIAMETER RECESSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, HAZE ALZAK REFLECTOR, AND WHITE TRIM RING	277	1	42W TT 3500K	42	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F11	CONCORD #4064670 "KOMETA"	DECORATIVE RECESSED DOWNLIGHT	277	1	26W TT 3500K	29	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F12	COOPER-PORTFOLIO #C6132-E-6110-H-TRM6/P	6" DIAMETER RECESSED FLUORESCENT WALLWASHER WITH HORIZONTAL LAMP, HAZE ALZAK REFLECTOR, AND WHITE TRIM RING	277	1	26W TT 3500K	29	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F13	COOPER-PORTFOLIO #C16032-2E-X-6000-H	6" DIAMETER SURFACE MOUNTED FLUORESCENT CYLINDER WITH VERTICAL LAMP AND HAZE ALZAK REFLECTOR; ELECTRONIC BALLAST	277	1	32W TT 3500K	36	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F14	OPEN	-	-	-	-	-	
F15	SHAPER #M684-WP-SQ-CFL/32-277-XX "YORK"	WALL MOUNTED FLUORESCENT DOWNLIGHT SCONCE; FORMED METAL HOUSING; ELECTRONIC BALLAST	277	2	26W TT 3500K	58	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F16	FOCAL POINT #FMEC-2-1T5HO-1C-277-S-WM-TS "METRO"	WALL MOUNTED DECORATIVE FLUORESCENT SCONCE; 20 GA DIE-FORMED C.R.S. HOUSING; LOW IRIDESCENT, SPECULAR ALUMINUM REFLECTOR; ACRYLIC DIFFUSER; TITANIUM SILVER FINISH; ELECTRONIC PROGRAM START BALLAST (<10%THD)	277	1	27W T5HO 3500K	27	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F17	DESIGN PLAN #CAW-9-2W-4-SS-0-0-T-00 "CENTAUR"	GROUND RECESSED UPLIGHTER WITH ADJUSTABLE OPTICS AND ROTATIONALLY SYMMETRICAL MEDIUM WIDE BEAM; LOW COPPER ALLOY DIE-CAST ALUMINUM HOUSING; LOW IRON TEMPERED GLASS LENS; SILICON RUBBER GASKETS; INTEGRAL BALLAST	277	1	39W CMH 3000K	48	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F18	REYK LIGHTING #SHL-1T5HO-A/B-E-L-C-S + #STA-C-F-C-2-277V-X	STACK-MOUNTED HANGER FLUORESCENT LIGHT; ELECTRONIC BALLAST; LIBRARY STACK BLACK BAFFLES; CUSTOM REFLECTOR; SILVE ANODIZED HANGER	277	1	54W T5HO 3500K	62/4LF	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F18	REYK LIGHTING #SHL-1T5HO-A/B-E-L-C-S + #STA-C-F-C-2-277V-X-M	SAME AS FIXTURE 'F18' EXCEPT WITH INTEGRAL MOTION SENSOR.	277	1	54W T5HO 3500K	62/4LF	SHADING INDICATES FIXTURE CONNECTED TO EMERGENCY INVERTER
F19	METALUX #SN-132-277-EB81 + #WG/SN-4FT	4' FLUORESCENT STRIP WITH WIREGUARD; DIE FORMED CHANNEL; ELECTRONIC INSTANT START BALLAST	277	2	32W T8 3500K	64	
F19A	METALUX #SN-132-277-EB81 + #WG/SN-4FT	SAME AS FIXTURE 'F19' EXCEPT 120V.	120	2	32W T8 3500K	64	
F20	DESIGN PLAN #GIA-9-L5-B-99-0-1-T + #128-0-31-XX "GIZMO"	METAL HALIDE ADJUSTABLE FLOOD LIGHT; ASYMMETRIC BEAM; DIE CAST ALUMINIMUM HOUSING AND CLEAR TEMP. GALSS; ELECTRONIC BALLAST	277	1	70W CMH 3000K	94	
F21	RSA #CC2-55-S "COMBO CLASSIC"	ADJUSTABLE RECESSED FIXTURE WITH MULTIPLE LAMPS; 18 GA C.R.S. HOUSING WITH PLASTER FRAME & TRIM; INTEGRAL METAL HAILDE BALLAST	277	2	70W CMH PAR 30 3000K	188	
F22	RSA #CRT420MH-T514W-1420MH-TR "COMBO CLASSIC"	COMBINATION ADJUSTABLE RECESSED FIXTURE WITH MULTIPLE LAMPS AND FLUORESCENT CELL; 18 GA C.R.S. HOUSING WITH PLASTER FRAME & TRIM; INTEGRAL METAL HAILDE AND FLUORESCENT BALLASTS	277	2 1	20W T4 CMH 3000K 14W T5 3500K	54	
F23	PRUDENTIAL #P-9222-2T8-WA-JW-277-X38-10THD	2'x2' FLUORESCENT TROFFER; 20 GA STEEL HOUSING WITH EXTRUDED ALUMINUM DOORFRAME; WHITE ACRYLIC DIFFUSER; SMOOTH WHITE FRAME; ELECTRONIC BALLAST (10%THD)	277	2	17W T8 3500K	34	
F24	DESIGN PLAN #RDL-8-H3-V-XX-0-C-C	7" DIAMETER RECESSED DOWNLIGHT MOUNTED IN CONCRETE; HORIZONTAL LAMP; 18GA ZINC COATED STEEL HOUSING; ZERO IRIDESCENCE REFLECTOR; TRIPLE GASKETED; 3/16" THICK UV STABLIZED CLEAR POLYCARBONATE LENS; ELECTRONIC BALLAST	277	1	32W TT 3500K	36	

ELECTRICAL LIGHTING FIXTURE SCHEDULE



1 **SINGLE LINE DIAGRAM**
SCALE: NTS

COPPER FEEDER SCHEDULE

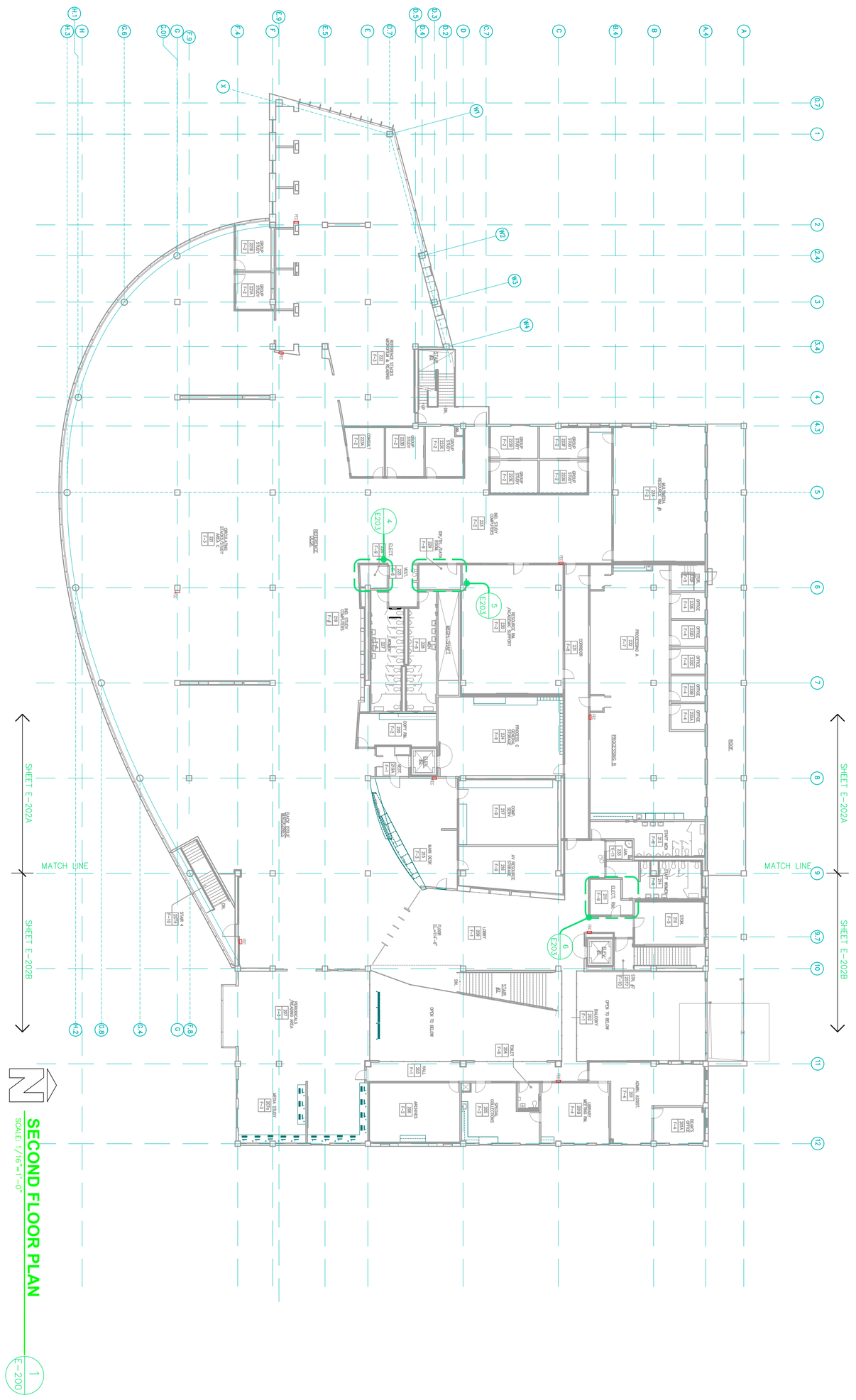
FEEDER TAG	CONDUITS MET	CONDUITS SETS	CONDUITS RNC	CONDUCTORS PER SET PHASE/NEUTRAL	CONDUCTORS PER SET GROUND	NOTES
4000.4	3.50"	11	4.00"	(4) 500 KCMIL	500 KCMIL	–
4000.3	3.00"	11	4.00"	(3) 500 KCMIL	500 KCMIL	–
3500.4	3.50"	10	4.00"	(4) 500 KCMIL	500 KCMIL	–
3500.3	3.00"	10	4.00"	(3) 500 KCMIL	500 KCMIL	–
3000.4	3.50"	8	4.00"	(4) 500 KCMIL	400 KCMIL	–
3000.3	3.00"	8	4.00"	(3) 500 KCMIL	400 KCMIL	–
2500.4	3.50"	7	4.00"	(4) 500 KCMIL	350 KCMIL	–
2500.3	3.00"	7	4.00"	(3) 500 KCMIL	350 KCMIL	–
2000.4	3.00"	6	4.00"	(4) 400 KCMIL	250 KCMIL	–
2000.3	3.00"	6	4.00"	(3) 400 KCMIL	250 KCMIL	–
1600.4K	3.50"	5	4.00"	(3) 500 KCMIL, (2) 400 KCMIL-N	#4/0	7
1600.4	3.00"	5	4.00"	(4) 400 KCMIL	#4/0	–
1600.3	3.00"	5	4.00"	(3) 400 KCMIL	#4/0	–
1200.4	3.00"	4	4.00"	(4) 350 KCMIL	#3/0	–
1200.3	3.00"	4	4.00"	(3) 350 KCMIL	#3/0	–
1000.4K	3.50"	3	4.00"	(3) 500 KCMIL, (2) 400 KCMIL-N	#2/0	7
1000.4	3.00"	3	4.00"	(4) 400 KCMIL	#2/0	–
1000.3	3.00"	3	4.00"	(3) 400 KCMIL	#2/0	–
800.4K	3.00"	3	4.00"	(3) 350 KCMIL, (2) 300 KCMIL-N	#1/0	7
800.4	3.00"	3	3.00"	(4) 300 KCMIL	#1/0	–
800.3	2.50"	3	3.00"	(3) 300 KCMIL	#1/0	–
700.4	3.50"	2	4.00"	(4) 500 KCMIL	#1/0	–
700.3	3.00"	2	4.00"	(3) 500 KCMIL	#1/0	–
600.4	3.00"	2	4.00"	(4) 350 KCMIL	#1	–
600.3	2.50"	2	3.00"	(3) 350 KCMIL	#1	–
500.4K	3.00"	2	4.00"	(3) 300 KCMIL, (2) 250 KCMIL-N	#2	7
500.4	2.50"	2	3.00"	(4) 250 KCMIL	#2	–
500.3	2.50"	2	2.50"	(3) 250 KCMIL	#2	–
450.4	2.50"	2	3.00"	(4) #4/0	#2	–
450.3	2.00"	2	2.50"	(3) #4/0	#2	–
400.4K	2.50"	2	2.50"	(3) #4/0, (2)#3/0-N	#2	7
400.4	2.00"	2	2.50"	(4) #3/0	#2	–
400.3	2.00"	2	2.50"	(3) 3/0	#2	–
350.4	3.50"	1	4.00"	(4) 500 KCMIL	#2	–
350.3	2.50"	1	4.00"	(3) 500 KCMIL	#2	–
300.4	3.00"	1	3.00"	(4) 350 KCMIL	#4	–
300.3	2.50"	1	3.00"	(3) 350 KCMIL	#4	–
250.4	2.50"	1	3.00"	(4) 250 KCMIL	#4	–
250.3	2.50"	1	3.00"	(3) 250 KCMIL	#4	–
225.4K	3.00"	1	3.00"	(3) 250 KCMIL, (2)#4/0-N	#4	7
225.4	2.50"	1	3.00"	(4) #4/0	#4	–
225.3	2.00"	1	2.50"	(3) #4/0	#4	–
200.4K	2.50"	1	2.50"	(3)#4/0,(2)#3/0-N	#6	–
200.4	2.00"	1	2.50"	(4) #3/0	#6	–
200.3	2.00"	1	2.50"	(3) #3/0	#6	–
175.4	2.00"	1	2.50"	(4) #2/0	#6	–
175.3	1.50"	1	2.00"	(3) #2/0	#6	–
150.4K	2.00"	1	2.00"	(3)#2/0,(2)#1/0-N	#6	–
150.4	2.00"	1	2.00"	(4) #1/0	#6	–
150.3	1.50"	1	2.00"	(3) #1/0	#6	–
125.4	1.50"	1	1.50"	(4) #1	#6	–
125.3	1.25"	1	1.50"	(3) #1	#6	–
110.4K	1.50"	1	2.00"	(3) #2,(1)#4/0-N	#6	7
110.4	1.25"	1	1.50"	(4) #2	#6	–
110.3	1.25"	1	1.50"	(3) #2	#6	–
100.4	1.25"	1	1.50"	(4) #2	#8	–
100.3	1.25"	1	1.50"	(3) #2	#8	–
90.4	1.25"	1	1.50"	(4) #2	#8	–
90.3	1.25"	1	1.50"	(3) #2	#8	–
80.4	1.25"	1	1.50"	(4) #4	#8	–
80.3	1.00"	1	1.50"	(3) #4	#8	–
70.4	1.25"	1	1.50"	(4) #4	#8	–
70.3	1.00"	1	1.50"	(3) #4	#8	–
60.4	1.00"	1	1.00"	(4) #6	#10	–
60.3	0.75"	1	1.00"	(3) #6	#10	–
50.4K	1.00"	1	1.50"	(3) #6,(1)#2-N	#10	7
50.4	1.00"	1	1.00"	(4) #6	#10	–
50.3M	0.75"	1	1.00"	(3) #6	#8	–
50.3	0.75"	1	1.00"	(3) #6	#10	–
40.4	0.75"	1	1.00"	(4) #8	#10	–
40.3	0.75"	1	1.00"	(3) #8	#10	–
30.4	0.75"	1	1.00"	(4) #10	#10	–
30.3	0.75"	1	1.00"	(3) #10	#10	–
20.4	0.75"	1	1.00"	(4) #12	#12	–
20.3	0.75"	1	1.00"	(3) #12	#12	–

NOTES:

1. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
2. THIS SCHEDULE SHALL BE USED ON ALL FEEDERS SERVING LOADS WHERE THE CIRCUIT BREAKER SIZE MATCHES THE AMPACITY OF ITS FEEDER.
3. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS AND BRANCH CIRCUITS. WHERE MULTIPLE CONDUITS ARE INDICATED PROVIDE NOTED GROUND WIRE IN EACH CONDUIT.
4. NOT ALL FEEDERS ARE NECESSARILY USED ON THIS PROJECT.
5. NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75 DEG..C TERMINALS.
6. "MET"= EMT, IMC, GRC, RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"= PVC 40, PVC 80 OR FIBERGLASS TYPE CONDUITS ROUTED UNDERGROUND. REFER TO SIZING ON DRAWINGS IF "RNC" CONDUITS ARE ROUTED ABOVEGROUND. CONDUIT SIZES NOTED ON SINGLE-LINE DIAGRAM OR ON PLANS SUPERSEDE SIZES NOTED ABOVE IF LARGER.
7. OVERSIZED (17.3% MIN.) NEUTRAL FOR FEEDERS CONNECTED TO A K-4 OR HIGHER RATED TRANSFORMER.

ELECTRICAL SINGLE LINE DIAGRAM

E-002



SHEET NOTES

1. ELECTRICAL SERVICE, SEE SINGLE LINE DIAGRAM
2. PROVIDE (2) 4"C WITH PULL CORD.
3. EXISTING PULL BOX PROVIDED BY THE SITE ELECTRICAL UTILITY CONTRACTOR. COORDINATE EXACT LOCATION WITH SITE UTILITY PLANS (BY OTHERS).

ac martin partners, inc
PLANNING ARCHITECTURE ENGINEERING

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plot date: 9/29/05

sheet number: E-200

project:
LIBRARY / LEARNING RESOURCE CENTER
RIO HONDO COMMUNITY COLLEGE
AGENCY SUBMITTAL OCTOBER 31, 2005

sheet title:
ELECTRICAL OVERALL GROUND & SECOND FLOOR PLANS

project information

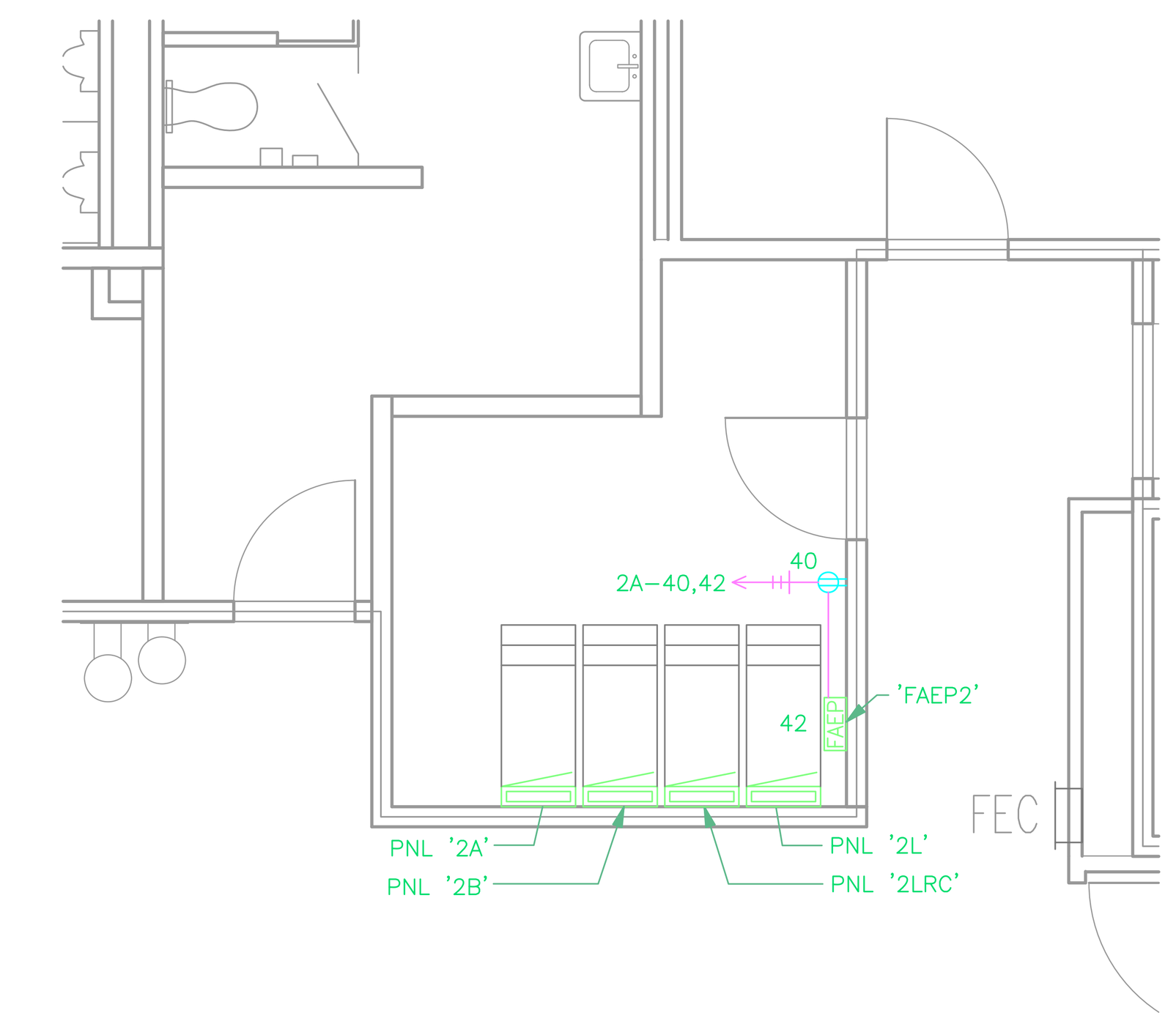
job number	2005303
project director	D. FISHER
project designer	G. BOUVRIE
project architect	T. REDMOND
plan check submittal date	
drawn by	
checked by	
construction issue date	

revision information

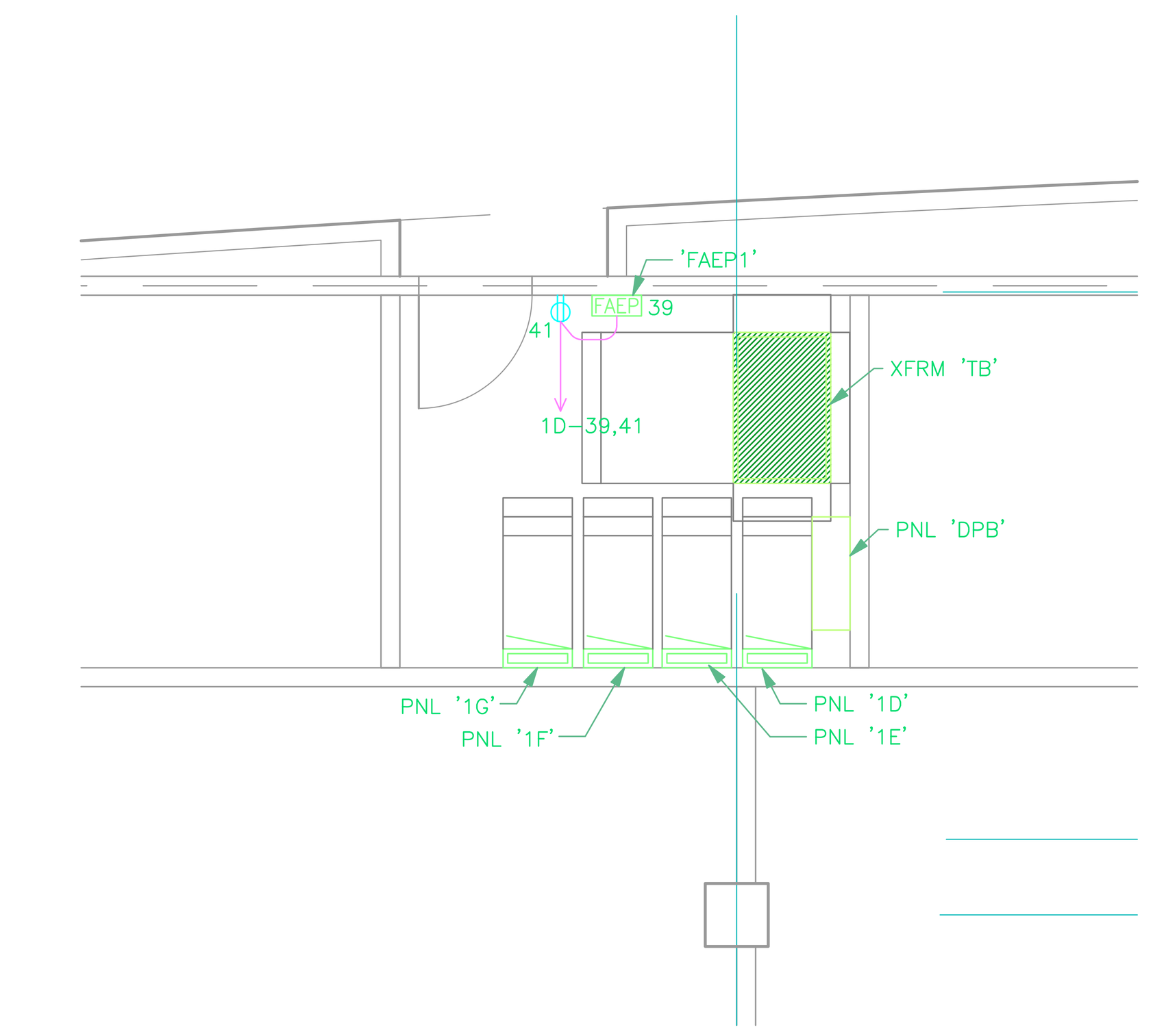
no.	date	revision	by	no.	date	revision	by

SHEET NOTES

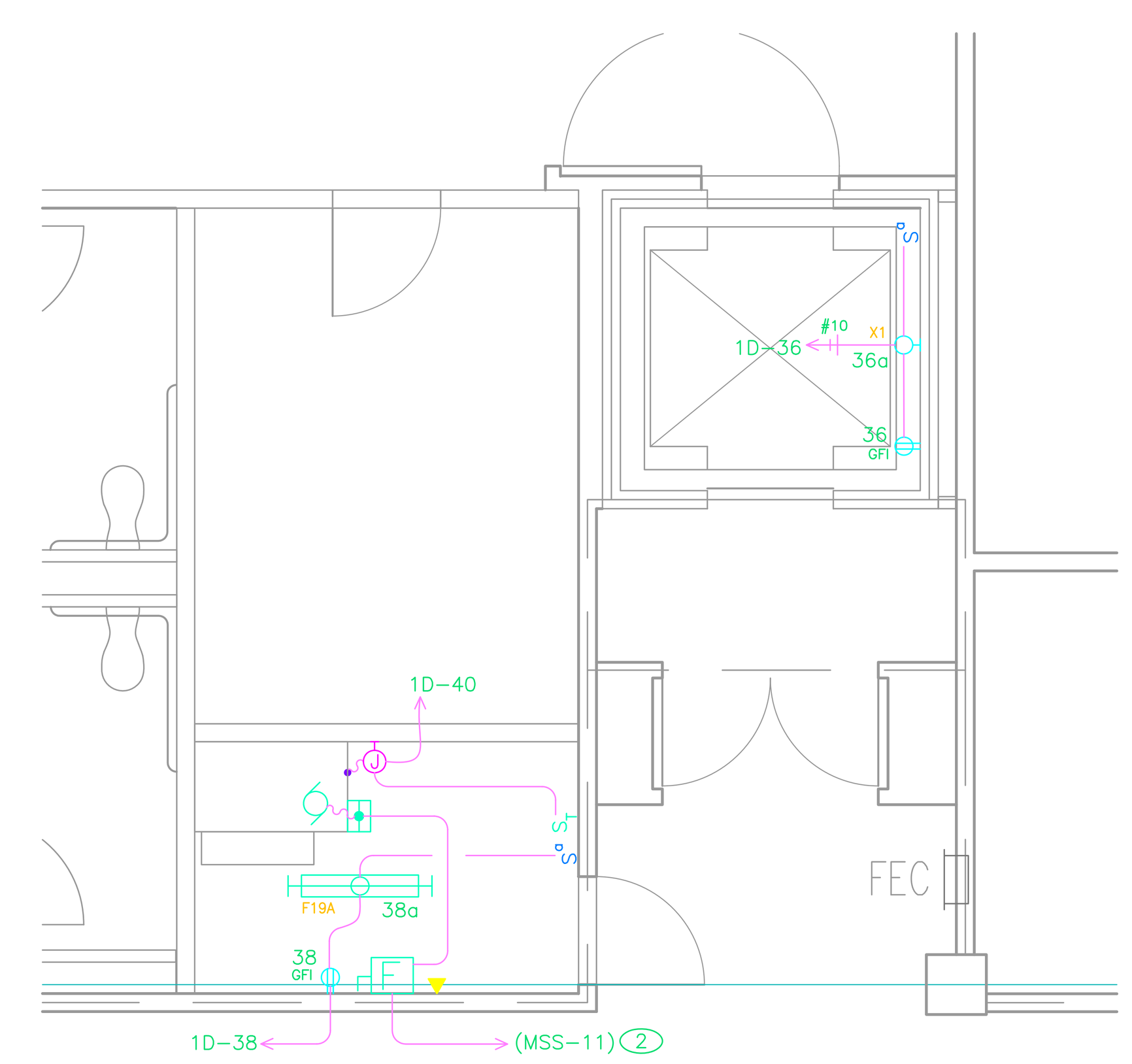
1. ELECTRICAL OCNTRACTOR SHALL PROVIDE CABLE TRAYS AS SHOWN ON THE TELECOM AND AV DRAWINGS.
2. REFER TO THE SINGLE LINE DRAWING FOR FEEDER AND FUSE SIZE. (SHEET E-002)



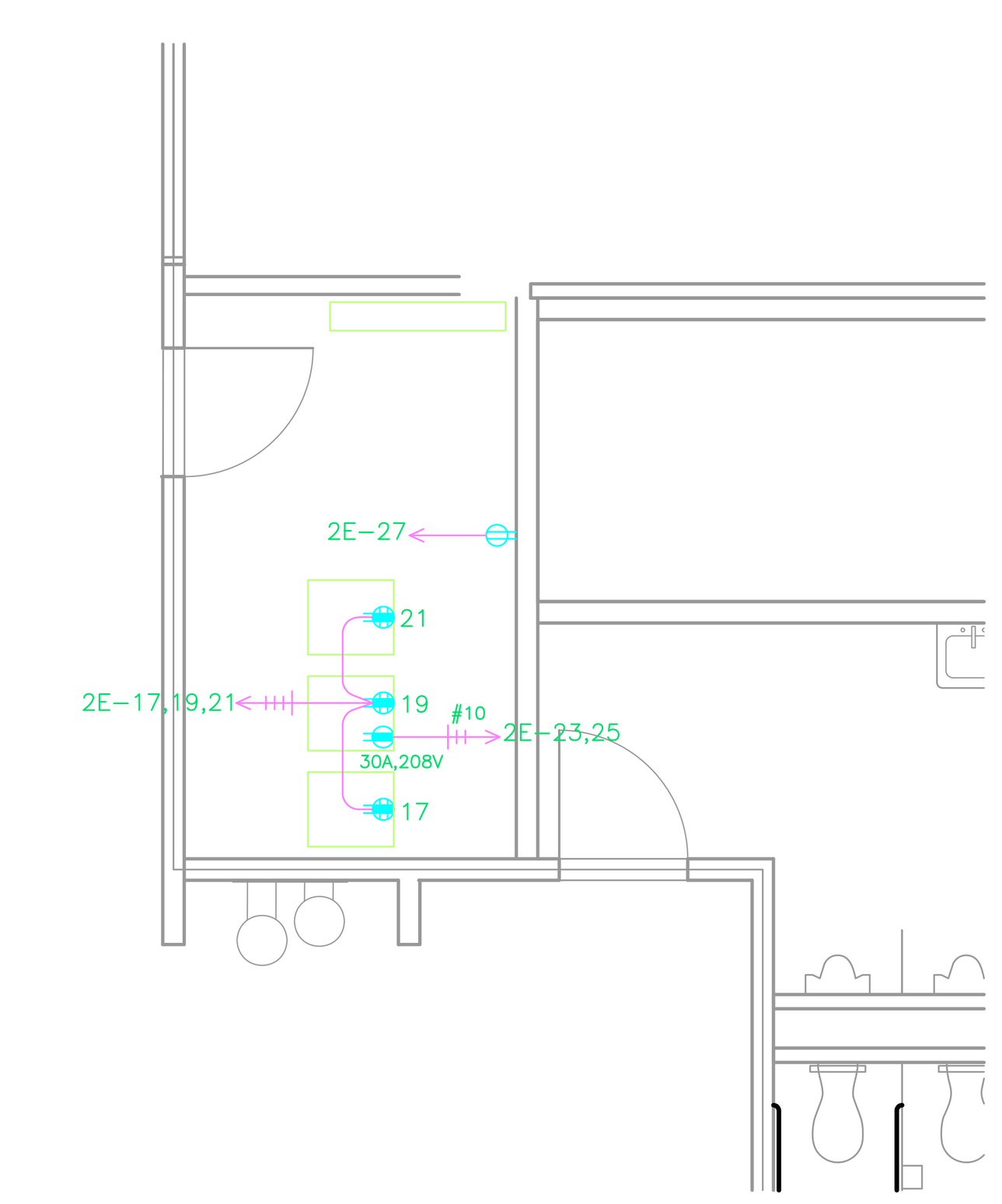
6 ELECTRICAL ROOM - RM 211
SCALE: 1/4"=1'-0"



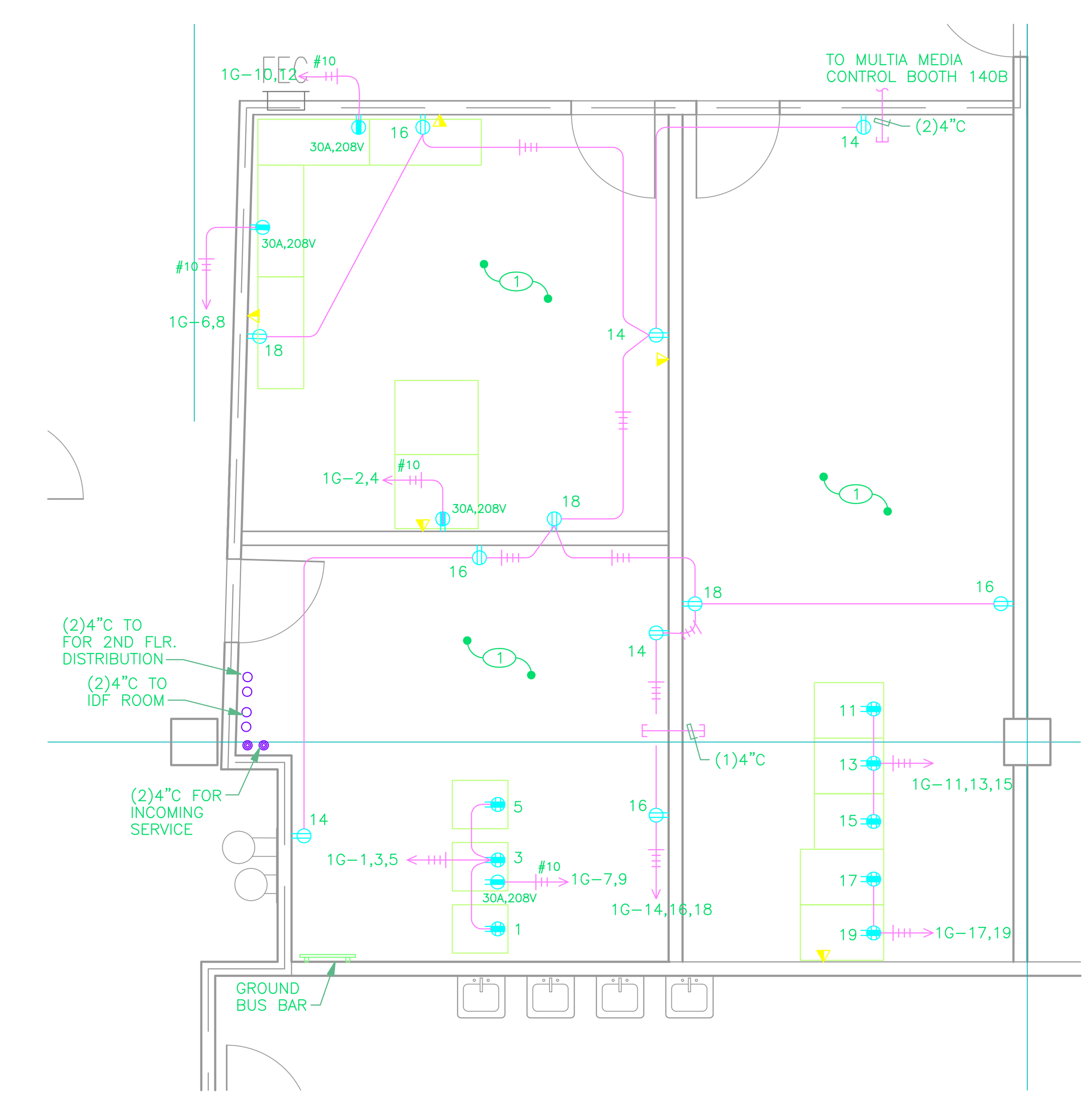
3 ELECTRICAL ROOM - RM 121
SCALE: 1/4"=1'-0"



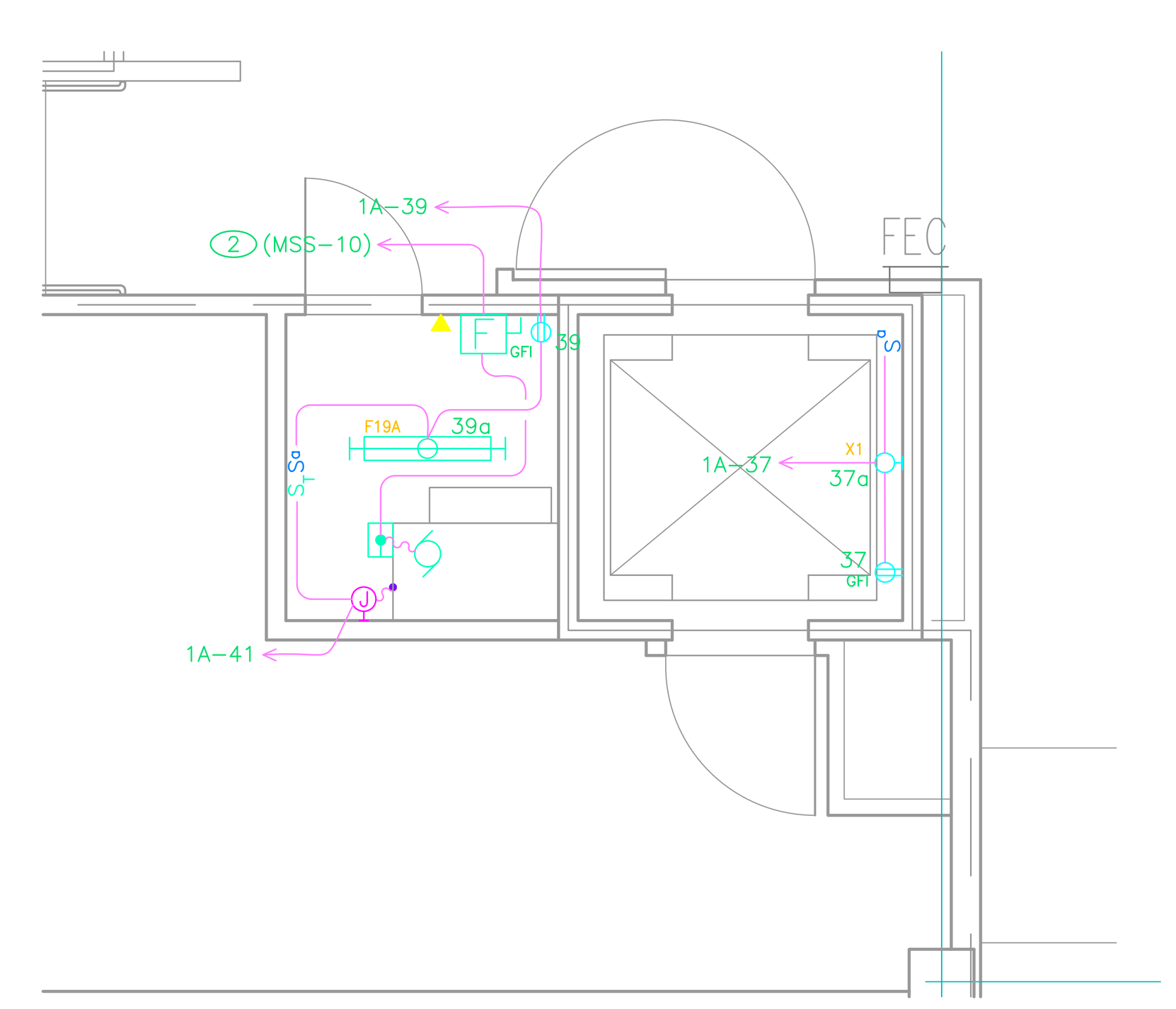
8 ELEV-2 MACHINE ROOM - RM 135
SCALE: 1/4"=1'-0"



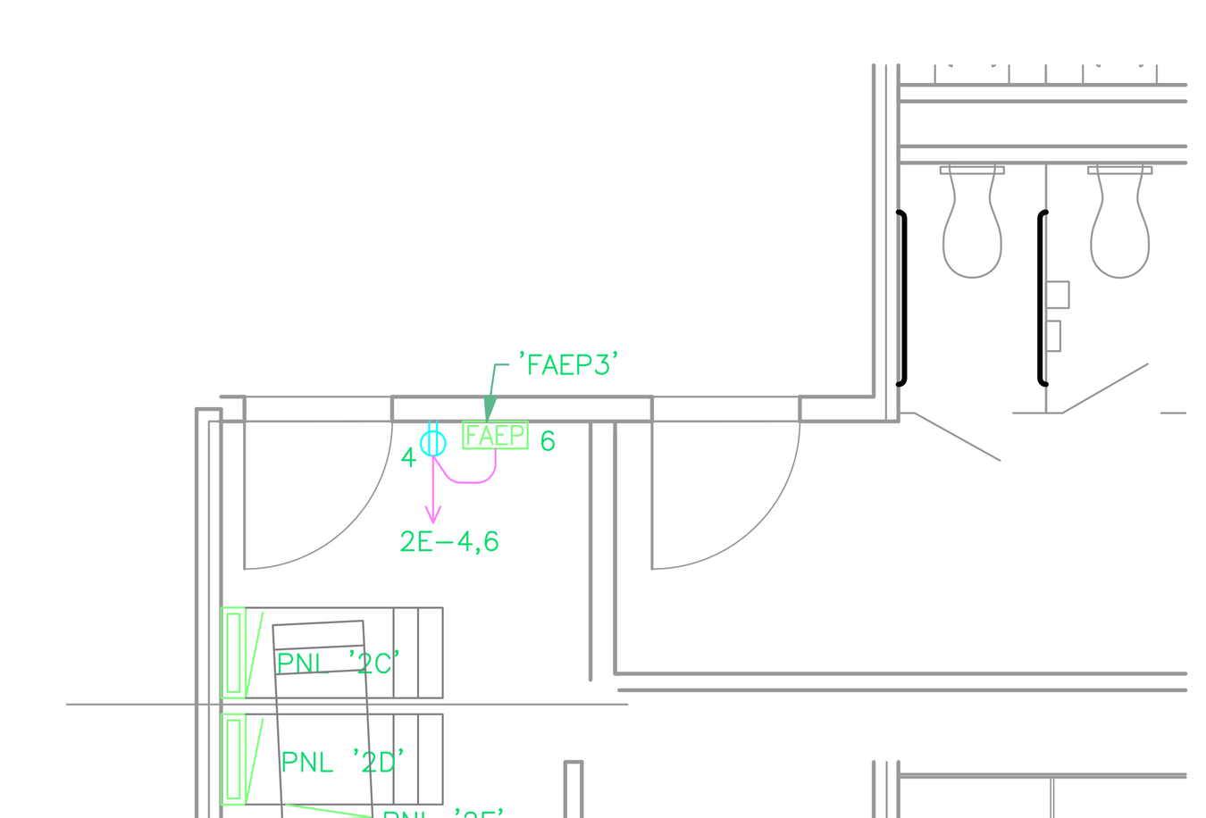
5 IDR/TEL/DATA ROOM - RM 229
SCALE: 1/4"=1'-0"



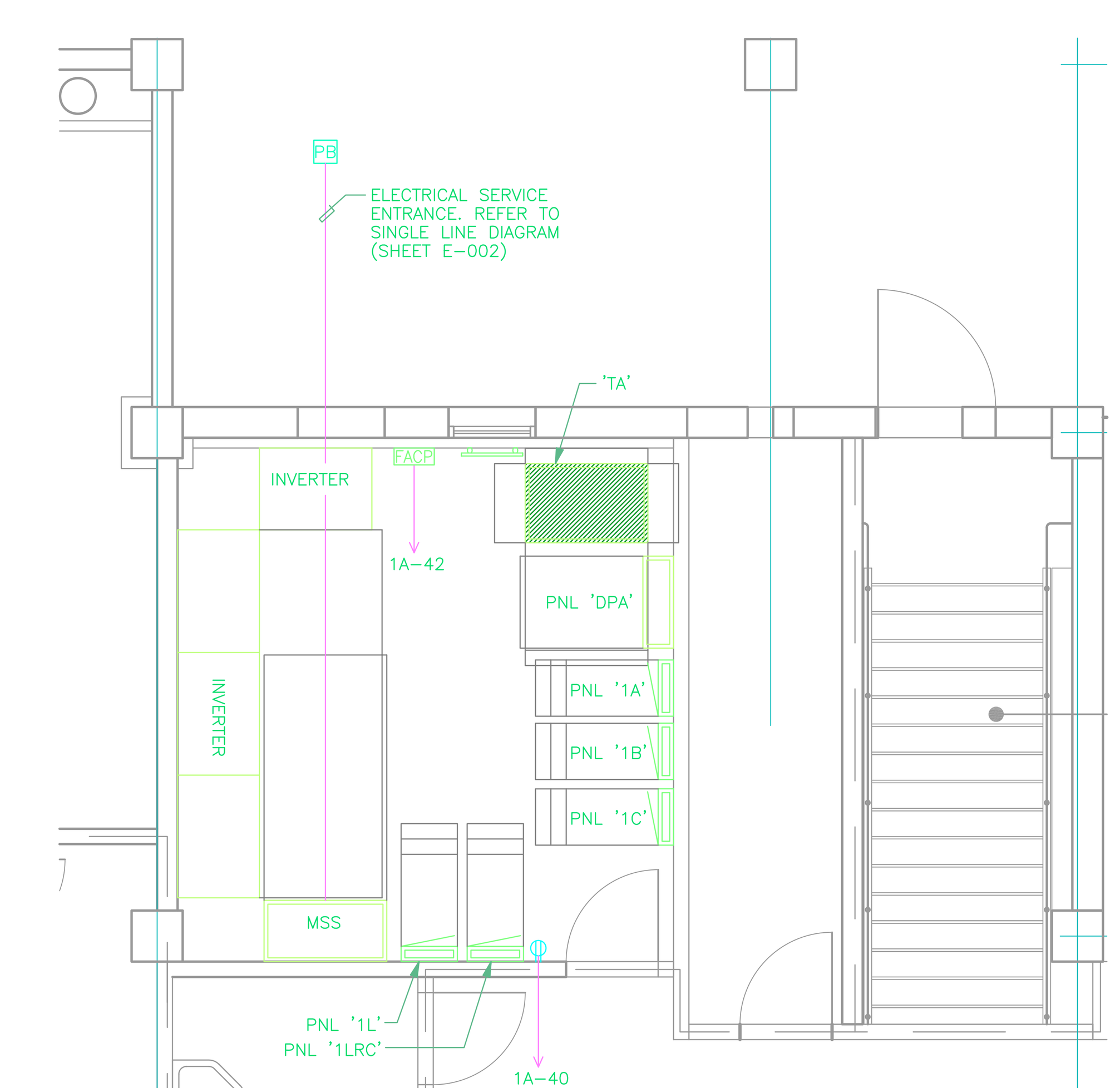
2 BDF, SERVER & DIGITAL HEAD END ROOMS - RM 134,136A,136B
SCALE: 1/4"=1'-0"



7 ELEV-1 MACHINE ROOM - RM 112
SCALE: 1/4"=1'-0"



4 ELECTRICAL ROOM - RM 226
SCALE: 1/4"=1'-0"



1 MAIN ELECTRICAL ROOM - RM 109
SCALE: 1/4"=1'-0"

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plot date: 9/26/05

sheet number: **E-203**

project:
LIBRARY / LEARNING RESOURCE CENTER
RIO HONDO COMMUNITY COLLEGE
AGENCY SUBMITTAL OCTOBER 31, 2005

sheet title:
ELECTRICAL ENLARGED PLANS

project information

job number	2005303
project director	D. FISHER
project designer	G. BOUVRIE
project architect	T. REDMOND
plan check submittal date	
drawn by	
checked by	
construction issue date	

revision information

no.	date	revision	by	no.	date	revision	by

GENERAL NOTES

A. DEVICE ORDER IS FOR DIAGRAMATIC PURPOSES ONLY. CONTRACTOR SHALL COORDINATE OPTIMAL CABLE ROUTING WITH MANUFACTURER.

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	2L-2	277V	NORMAL	NC	TC3,SE2	RM 223 LTS	RM 221 DAYLTS	TC3,PC24,SC3	NORMAL	NC	277V	2L-16	2
3	2L-2	277V	NORMAL	NC	TC3,SF2	RM 223 LTS	RM 221 DAYLTS	TC3,PC25,SD3	NORMAL	NC	277V	2L-16	4
5	2L-4	277V	NORMAL	NC	TC3,SL2	RM 232 LTS	RM 221 DAYLTS	TC3,PC26,SE3	NORMAL	NC	277V	2L-16	6
7	2L-4	277V	NORMAL	NC	TC3,SM2	RM 232 LTS	RM 221 LTS	TC3,SF3	NORMAL	NC	277V	2L-16	8
9	2L-4	277V	NORMAL	NC	TC3,PC21,SN2	RM 232 DAYLTS	RM 221 LTS	TC3,SG3	NORMAL	NC	277V	2L-16	10
11	2L-4	277V	NORMAL	NC	TC3,SG2	RM 231 LTS	RM 221 DAYLTS	TC3,PC29,SH3	NORMAL	NC	277V	2L-16	12
13	2L-8	277V	NORMAL	NC	TC3,SP2	RM 209 LTS	RM 221 LTS	TC3,SF3	NORMAL	NC	277V	2L-18	14
15	2L-8	277V	NORMAL	NC	TC3,SQ2	RM 209 LTS	RM 221 LTS	TC3,SG3	NORMAL	NC	277V	2L-18	16
17	2L-8	277V	NORMAL	NC	TC3,PC212,ST2	RM 209 DAYLTS	RM 221 LTS	TC3,SF3	NORMAL	NC	277V	2L-20	18
19	2L-8	277V	NORMAL	NC	TC3,SR2	RM 209A LTS	RM 221 LTS	TC3,SG3	NORMAL	NC	277V	2L-20	20
21	2L-8	277V	NORMAL	NC	TC3,SS2	RM 209A LTS	RM 221 DAYLTS	TC3,PC27,SJ3	NORMAL	NC	277V	2L-20	22
23	2L-10	277V	NORMAL	NC	TC3,PC211,SU2	RM 107 LTS	RM 221 STACK LTS	TC3,SK3	NORMAL	NC	277V	2L-20	24
25	2L-12	277V	NORMAL	NC	TC3,SV2	RM 207 LTS	RM 221 STACK LTS	TC3,SK3	NORMAL	NC	277V	2L-22	26
27	2L-12	277V	NORMAL	NC	TC3,SW2	RM 207 LTS	RM 221 STACK LTS	TC3,SK3	NORMAL	NC	277V	2L-24	28
29	2L-12	277V	NORMAL	NC	TC3,PC210,SX2	RM 207 DAYLTS	RM 221 COVE LTS	TC3,SL3	NORMAL	NC	277V	2L-26	30
31	2L-14	277V	NORMAL	NC	TC3,SY2	RM 222 LTS	RM 221 COVE DAYLTS	TC3,PC28,SM3	NORMAL	NC	277V	2L-26	32
33	2L-14	277V	NORMAL	NC	TC3,SZ2	RM 222 LTS	RM 221 COVE WALLTS	TC3,SN3	NORMAL	NC	277V	2L-26	34
35	2L-14	277V	NORMAL	NC	TC3,SA3	RM 222 PENDANTS	–	–	–	–	–	–	36
37	2L-14	277V	NORMAL	NC	TC3,PC23,SB3	RM 222 DAYLTS	–	–	–	–	–	–	38
39	–	–	–	–	–	–	–	–	–	–	–	–	40
41	–	–	–	–	–	–	–	–	–	–	–	–	42
43	–	–	–	–	–	–	–	–	–	–	–	–	44
45	–	–	–	–	–	–	–	–	–	–	–	–	46
47	–	–	–	–	–	–	–	–	–	–	–	–	48

LOCATION: RM. 211
SUPPLY CIRCUIT: 6L-13
VOLTAGE: 277V
MOUNTING: SURFACE

LCP **LCP2** (SLAVE)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	1L-14	277V	NORMAL	NC	TC1,SU	RM 124 LTS	RM 107A LTS	TC1,SP1	NORMAL	NC	277V	1L-24	2
3	1L-14	277V	NORMAL	NC	TC1,SV	RM 124 LTS	RM 107 LTS	TC2,SM1	NORMAL	NC	277V	1L-24	4
5	1L-14	277V	NORMAL	NC	TC1,SW	RM 124 DNLTS	RM 107 LTS	TC2,SN1	NORMAL	NC	277V	1L-24	6
7	1L-14	277V	NORMAL	NC	TC1,PC5,SX	RM 124 DAYLTS	RM 107 DAYLTS	TC2,SL1	NORMAL	NC	277V	1L-24	8
9	1L-16	277V	NORMAL	NC	TC1,SY	RM 118 LTS	RM 115,131 LTS	TC1,SF1	NORMAL	NC	277V	1L-20	10
11	1L-16	277V	NORMAL	NC	TC1,SZ	RM 118 LTS	RM 115,131 LTS	TC1,SF1	NORMAL	NC	277V	1L-20	12
13	1L-16	277V	NORMAL	NC	TC1,PC6,SA1	RM 118 DAYLTS	EXTERIOR LTS	TC5 (Q1)	NORMAL	NC	277V	1L-24	14
15	1L-16	277V	NORMAL	NC	TC1,SB1	RM 118 DNLTS	EXTERIOR LTS	TC4 (R1)	NORMAL	NC	277V	1L-24	16
17	1L-18	277V	NORMAL	NC	TC1,SC1	RM 117 LTS	–	–	–	–	–	–	18
19	1L-18	277V	NORMAL	NC	TC1,SD1	RM 117 LTS	–	–	–	–	–	–	20
21	1L-18	277V	NORMAL	NC	TC1,PC7,SE1	RM 117 DAYLTS	–	–	–	–	–	–	22
23	1L-10	277V	NORMAL	NC	TC1,SS	RM 114 LTS	–	–	–	–	–	–	24
25	1L-10	277V	NORMAL	NC	TC1,ST	RM 114 LTS	–	–	–	–	–	–	26
27	1L-4	277V	NORMAL	NC	TC1,SN	RM 141 LTS	–	–	–	–	–	–	28
29	1L-4	277V	NORMAL	NC	TC1,SP	RM 141 LTS	EXTERIOR EM LTS	TC5 (Q1)	EMERG	NC	277V	INV1-7	30
31	1L-4	277V	NORMAL	NC	TC1,PC1,SQ	RM 141 DAYLTS	RM 115,131 EM LTS	TC1,SG1	EMERG	NC	277V	INV1-1	32
33	1L-4	277V	NORMAL	NC	TC1,SR	RM 141 CORR LTS	RM 107 EM LTS	TC2,SN1	EMERG	NC	277V	INV1-1	34
35	–	–	–	–	–	–	RM 107A EM LTS	TC1,SP1	EMERG	NC	277V	INV1-1	36
37	–	–	–	–	–	–	RM 141 EM CORR LTS	TC1,SR	EMERG	NC	277V	INV1-1	38
39	–	–	–	–	–	–	RM 141 EM LTS	TC1,SP	EMERG	NC	277V	INV1-1	40
41	–	–	–	–	–	–	RM 114 EM LTS	TC1,ST	EMERG	NC	277V	INV1-3	42
43	–	–	–	–	–	–	RM 117 EM LTS	TC1,SD1	EMERG	NC	277V	INV1-3	44
45	–	–	–	–	–	–	RM 118 EM LTS	TC1,SZ	EMERG	NC	277V	INV1-3	46
47	–	–	–	–	–	–	RM 124 EM LTS	TC1,SU	EMERG	NC	277V	INV1-3	48

LOCATION: RM. 109
SUPPLY CIRCUIT: 6L-13
VOLTAGE: 277V
MOUNTING: SURFACE

LCP **LCP1** (MASTER)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	INV1-5	277V	EMERG	NC	TC3,SE2	RM 223 EM LTS	–	–	–	–	–	–	2
3	INV1-5	277V	EMERG	NC	TC3,SL2	RM 232 EM LTS	–	–	–	–	–	–	4
5	INV1-5	277V	EMERG	NC	TC3,SG2	RM 231 EM LTS	–	–	–	–	–	–	6
7	INV1-2	277V	EMERG	NC	TC3,SP2	RM 209 EM	–	–	–	–	–	–	8
9	INV1-2	277V	EMERG	NC	TC3,SR2	RM 209A EM LTS	–	–	–	–	–	–	10
11	INV1-2	277V	EMERG	NC	TC3,SW2	RM 207 EM LTS	–	–	–	–	–	–	12
13	INV1-5	277V	EMERG	NC	TC3,SY2	RM 222 EM LTS	–	–	–	–	–	–	14
15	INV1-5	277V	EMERG	NC	TC3,SF3	RM 221 EM LTS	–	–	–	–	–	–	16
17	INV1-2	277V	EMERG	NC	TC3,SF3	RM 221 EM LTS	–	–	–	–	–	–	18
19	INV1-4	277V	EMERG	NC	TC3,SK3	RM 221 STACK EM LTS	–	–	–	–	–	–	20
21	INV1-6	277V	EMERG	NC	TC3,SK3	RM 221 STACK EM LTS	–	–	–	–	–	–	22
23	INV1-8	277V	EMERG	NC	TC3,SK3	RM 221 STACK EM LTS	–	–	–	–	–	–	24
25	INV1-2	277V	EMERG	NC	TC3,SP3	RM 203 EM LTS	–	–	–	–	–	–	26
27	INV1-2	277V	EMERG	NC	TC3,SU3	RM 107 EM LTS	–	–	–	–	–	–	28
29	–	–	–	–	–	–	–	–	–	–	–	–	30
31	–	–	–	–	–	–	–	–	–	–	–	–	32

LOCATION: RM. 211
SUPPLY CIRCUIT: 6L-13
VOLTAGE: 277V
MOUNTING: SURFACE

LCP **LCP2A** (SLAVE)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	1L-2	277V	NORMAL	NC	TC1,SA	RM 130 LTS	RM 130 DAYLTS	TC1,PC2,SC	NORMAL	NC	277V	1L-2	2
3	1L-2	277V	NORMAL	NC	TC1,SB	RM 130 LTS	RM 130 BOARD LTS	TC1,SD	NORMAL	NC	277V	1L-2	4

LOCATION: RM. 130
SUPPLY CIRCUIT: 1L-2
VOLTAGE: 277V
MOUNTING: IN CEILING

LCP **LCP1A** (SLAVE)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	1L-2	277V	NORMAL	NC	TC1,SE	RM 129 LTS	RM 129 DAYLTS	TC1,PC3,SG	NORMAL	NC	277V	1L-2	2
3	1L-2	277V	NORMAL	NC	TC1,SF	RM 129 LTS	RM 129 BOARD LTS	TC1,SH	NORMAL	NC	277V	1L-2	4

LOCATION: RM. 129
SUPPLY CIRCUIT: 1L-2
VOLTAGE: 277V
MOUNTING: IN CEILING

LCP **LCP1B** (SLAVE)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	2L-2	277V	NORMAL	NC	TC3,SA2	RM 224 LTS	RM 224 DAYLTS	TC3,PC22,SC2	NORMAL	NC	277V	2L-2	2
3	2L-2	277V	NORMAL	NC	TC3,SB2	RM 224 LTS	RM 224 BOARD LTS	TC3,SD2	NORMAL	NC	277V	2L-2	4

LOCATION: RM. 224
SUPPLY CIRCUIT: 2L-2
VOLTAGE: 277V
MOUNTING: IN CEILING

LCP **LCP2B** (SLAVE)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	1L-8	277V	NORMAL	NC	TC1,SJ	RM 128 LTS	RM 128 DAYLTS	TC1,PC3,SL	NORMAL	NC	277V	1L-8	2
3	1L-8	277V	NORMAL	NC	TC1,SK	RM 128 LTS	RM 128 BOARD LTS	TC1,SM	NORMAL	NC	277V	1L-8	4

LOCATION: RM. 128
SUPPLY CIRCUIT: 1L-8
VOLTAGE: 277V
MOUNTING: IN CEILING

LCP **LCP1C** (SLAVE)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	2L-6	277V	NORMAL	NC	TC3,SH2	RM 230 LTS	RM 230 BOARD LTS	TC3,SK2	NORMAL	NC	277V	2L-8	2
3	2L-6	277V	NORMAL	NC	TC3,SJ2	RM 230 LTS	SPACE	–	–	–	–	–	4

LOCATION: RM. 230
SUPPLY CIRCUIT: 2L-6
VOLTAGE: 277V
MOUNTING: IN CEILING

LCP **LCP2C** (SLAVE)

RELAY	CIRCUIT	VOLTAGE	SOURCE	TYPE	CONTROLLER	LIGHTING ZONE	LIGHTING ZONE	CONTROLLER	SOURCE	TYPE	VOLTAGE	CIRCUIT	RELAY
1	1L-22	277V	NORMAL	NC	TC1,SH1	RM 101 LTS	RM 101 DAYLTS	TC1,PC3,SK1	NORMAL	NC	277V	1L-22	2
3	1L-22	277V	NORMAL	NC	TC1,SJ1	RM 101 LTS	SPACE	–	–	–	–	–	4

LOCATION: RM. 101
SUPPLY CIRCUIT: 1L-22
VOLTAGE: 277V
MOUNTING: IN CEILING

LCP **LCP1D** (SLAVE)

SWITCH STATION 21

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2: 13,15,17; LCP 2A: 7	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 2: 13,15,17; LCP 2A: 7	GREY	ALL OFF	
3	P2	On Mode	LCP 2: 13; LCP 2A: 7	GREY	LOBBY	
4	Q2	On Mode	LCP 2: 15	GREY	LOBBY	
5	T2	On Mode	LCP 2: 17	GREY	LOBBY	DAYLT

SWITCH STATION 22

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	G2	On Mode	LCP 2: 11; LCP 2A: 5	GREY	CORRIDOR	
2	P2	On Mode	LCP 2: 11; LCP 2A: 5	GREY	LOBBY	

SWITCH STATION 23

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2: 5,7,9; LCP 2A: 3	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 2: 5,7,9; LCP 2A: 3	GREY	ALL OFF	
3	L2	On Mode	LCP 2: 5; LCP 2A: 3	GREY	WORKRM	
4	M2	On Mode	LCP 2: 7	GREY	WORKRM	
5	N2	On Mode	LCP 2: 9	GREY	WORKRM	DAYLT

SWITCH STATION 24

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2C: 1,2,3,4	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 2C: 1,2,3,4	GREY	ALL OFF	
3	H2	On Mode	LCP 2C: 1	GREY	PENDANT	
4	J2	On Mode	LCP 2C: 3	GREY	PENDANT	
5	K2	On Mode	LCP 2C: 2	GREY	BOARD	

SWITCH STATION 25

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2: 5,7,9; LCP 2A: 3	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 2: 5,7,9; LCP 2A: 3	GREY	ALL OFF	
3	L2	On Mode	LCP 2: 5; LCP 2A: 3	GREY	WORKRM	
4	M2	On Mode	LCP 2: 7	GREY	WORKRM	
5	N2	On Mode	LCP 2: 9	GREY	WORKRM	DAYLT

SWITCH STATION 26

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	G2	On Mode	LCP 2: 11; LCP 2A: 5	GREY	CORRIDOR	
2	E2	On Mode	LCP 2: 1; LCP 2A: 1	GREY	IND.	STUDY
3	F2	On Mode	LCP 2: 3	GREY	IND.	STUDY

SWITCH STATION 27

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2B: 1,2,3,4	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 2B: 1,2,3,4	GREY	ALL OFF	
3	A2	On Mode	LCP 2B: 1	GREY	PENDANT	
4	B2	On Mode	LCP 2B: 3	GREY	PENDANT	
5	C2	On Mode	LCP 2B: 2	GREY	PENDANT	DAYLT
6	D2	On Mode	LCP 2B: 4	GREY	BOARD	

SWITCH STATION 28

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2: 31,33,35,37; LCP 2A: 13	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 2: 31,33,35,37; LCP 2A: 13	GREY	ALL OFF	
3	Y2	On Mode	LCP 2: 31; LCP 2A: 13	GREY	GEN. LTS	
4	Z2	On Mode	LCP 2: 33	GREY	GEN. LTS	
5	B3	On Mode	LCP 2: 37	GREY	GEN. LTS	DAYLT
6	A3	On Mode	LCP 2: 35	GREY	PENDANT	

SWITCH STATION 29

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2: 13,15,17,19,21; LCP 2A: 7,9	GREY	ALL ON	LOBBY
2	ALL OFF	Off Mode	LCP 2: 13,15,17,19,21; LCP 2A: 7,9	GREY	ALL OFF	LOBBY
3	ALL ON	On Mode	LCP 2: 1,3,25,27,29,2,4,6,8,10,12,14,16,18, 20,22,24,26,28,30,32,34; LCP 2A: 1,11,15,17,19,21,23	GREY	ALL ON	LIBRARY
4	ALL OFF	Off Mode	LCP 2: 1,3,25,27,29,2,4,6,8,10,12,14,16,18, 20,22,24,26,28,30,32,34; LCP 2A: 1,11,15,17,19,21,23	GREY	ALL OFF	LIBRARY

SWITCH STATION 29A

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	R2	On Mode	LCP 2: 19; LCP 2A: 9	GREY	LOBBY	DESK
2	S2	On Mode	LCP 2: 21	GREY	LOBBY	DESK
3	P2	On Mode	LCP 2: 13; LCP 2A: 7	GREY	LOBBY	
4	Q2	On Mode	LCP 2: 15	GREY	LOBBY	
5	T2	On Mode	LCP 2: 17	GREY	LOBBY	DAYLT

SWITCH STATION 29B

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	C3	On Mode	LCP 2: 2	GREY	CIRC.	DAYLT
2	D3	On Mode	LCP 2: 4	GREY	CIRC.	DAYLT
3	E3	On Mode	LCP 2: 6	GREY	CIRC.	DAYLT
4	F3	On Mode	LCP 2: 8,14,18; LCP 2A: 15,17	GREY	CIRC.	GEN.
5	G3	On Mode	LCP 2: 10,16,20	GREY	CIRC.	GEN.

SWITCH STATION 29C

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	H3	On Mode	LCP 2: 12	GREY	CIRC.	GEN. DAY
2	J3	On Mode	LCP 2: 22	GREY	CIRC.	GEN. DAY
3	K3	On Mode	LCP 2: 24,26,28; LCP 2A: 19,21,23	GREY	CIRC.	STACKS
4	L3	On Mode	LCP 2: 30	GREY	COVE	COVE
5	M3	On Mode	LCP 2: 32	GREY	COVE	DAYLT
6	N3	On Mode	LCP 2: 34	GREY	COVE	WALL

SWITCH STATION 29D

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	E2	On Mode	LCP 2: 1; LCP 2A: 1	GREY	IND.	STUDY
2	F2	On Mode	LCP 2: 3	GREY	IND.	STUDY
3	V2	On Mode	LCP 2: 25	GREY	PERIOD.	GEN.
4	W2	On Mode	LCP 2: 27; LCP 2A: 11	GREY	PERIOD.	GEN.
5	X2	On Mode	LCP 2: 29	GREY	PERIOD.	GEN. DAY

SWITCH STATION 210

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 2: 25,27,29; LCP 2A: 11	GREY	ALL ON	PERIOD.
2	ALL OFF	Off Mode	LCP 2: 25,27,29; LCP 2A: 11	GREY	ALL OFF	PERIOD.
3	V2	On Mode	LCP 2: 25	GREY	PERIOD.	GEN.
4	W2	On Mode	LCP 2: 27; LCP 2A: 11	GREY	PERIOD.	GEN.
5	X2	On Mode	LCP 2: 29	GREY	PERIOD.	GEN. DAY
6	P3	On Mode	LCP 2: 25	GREY	CORRIDOR	

SWITCH STATION 211

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	P3	On Mode	LCP 2: 25	GREY	CORRIDOR	
2	P2	On Mode	LCP 2: 13; LCP 2A: 7	GREY	LOBBY	

SWITCH STATION 1

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 27,29,31,33,38,40	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 27,29,31,33,38,40	GREY	ALL OFF	
3	N	On Mode	LCP 1: 27	GREY	WORKRM	
4	P	On Mode	LCP 1: 29,40	GREY	WORKRM	
5	Q	On Mode	LCP 1: 31	GREY	WORKRM	DAYLT
6	R	On Mode	LCP 1: 33,38	GREY	CORR	

SWITCH STATION 2

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 27,29,31,33,38,40	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 27,29,31,33,38,40	GREY	ALL OFF	
3	N	On Mode	LCP 1: 27	GREY	WORKRM	
4	P	On Mode	LCP 1: 29,40	GREY	WORKRM	
5	Q	On Mode	LCP 1: 31	GREY	WORKRM	DAYLT
6	R	On Mode	LCP 1: 33,38	GREY	CORR	

SWITCH STATION 3

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 10,12,32	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 10,12,32	GREY	ALL OFF	
3	F1	On Mode	LCP 1: 10	GREY	CORRIDOR	
4	G1	On Mode	LCP 1: 12,32	GREY	CORRIDOR	

SWITCH STATION 4

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1A: 1,2,3,4	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1A: 1,2,3,4	GREY	ALL OFF	
3	A	On Mode	LCP 1A: 1	GREY	PENDANT	
4	B	On Mode	LCP 1A: 3	GREY	PENDANT	
5	C	On Mode	LCP 1A: 2	GREY	PENDANT	DAYLT
6	D	On Mode	LCP 1A: 4	GREY	BOARD	

SWITCH STATION 5

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1B: 1,2,3,4	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1B: 1,2,3,4	GREY	ALL OFF	
3	E	On Mode	LCP 1B: 1	GREY	PENDANT	
4	F	On Mode	LCP 1B: 3	GREY	PENDANT	
5	G	On Mode	LCP 1B: 2	GREY	PENDANT	DAYLT
6	H	On Mode	LCP 1B: 4	GREY	BOARD	

SWITCH STATION 6

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1C: 1,2,3,4	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1C: 1,2,3,4	GREY	ALL OFF	
3	J	On Mode	LCP 1C: 1	GREY	PENDANT	
4	K	On Mode	LCP 1C: 3	GREY	PENDANT	
5	L	On Mode	LCP 1C: 2	GREY	PENDANT	DAYLT
6	M	On Mode	LCP 1C: 4	GREY	BOARD	

SWITCH STATION 7

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 10,12,32	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 10,12,32	GREY	ALL OFF	
3	F1	On Mode	LCP 1: 10	GREY	CORRIDOR	
4	G1	On Mode	LCP 1: 12,32	GREY	CORRIDOR	

SWITCH STATION 8

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 1,3,5,7,48	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 1,3,5,7,48	GREY	ALL OFF	
3	U	On Mode	LCP 1: 1,48	GREY	PENDANT	
4	V	On Mode	LCP 1: 3	GREY	PENDANT	
5	W	On Mode	LCP 1: 5	GREY	DNLTS	
6	X	On Mode	LCP 1: 7	GREY	DAYLTS	

SWITCH STATION 9

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 9,11,13,15,46	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 9,11,13,15,46	GREY	ALL OFF	
3	Y	On Mode	LCP 1: 9	GREY	PENDANT	
4	Z	On Mode	LCP 1: 11,46	GREY	PENDANT	
5	B1	On Mode	LCP 1: 15	GREY	DNLTS	
6	A1	On Mode	LCP 1: 13	GREY	DAYLTS	

SWITCH STATION 10

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 17,19,21,44	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 17,19,21,44	GREY	ALL OFF	
3	C1	On Mode	LCP 1: 17	GREY	PENDANT	
4	D1	On Mode	LCP 1: 19,44	GREY	PENDANT	
5	E1	On Mode	LCP 1: 21	GREY	DAYLTS	

SWITCH STATION 11

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 23,25,42	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 23,25,42	GREY	ALL OFF	
3	S	On Mode	LCP 1: 23	GREY	PENDANT	
4	T	On Mode	LCP 1: 25,42	GREY	PENDANT	

SWITCH STATION 12

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 10,12,32	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 10,12,32	GREY	ALL OFF	
3	F1	On Mode	LCP 1: 10	GREY	CORRIDOR	
4	G1	On Mode	LCP 1: 12,32	GREY	CORRIDOR	

SWITCH STATION 13

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 4,6,8,34; LCP 2: 17,23; LCP2A: 27	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 4,6,8,34; LCP 2: 17,23; LCP2A: 27	GREY	ALL OFF	

SWITCH STATION 13A

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	M1	On Mode	LCP 1: 4	GREY	GEN. LTS	
2	N1	On Mode	LCP 1: 6,34	GREY	GEN. LTS	
3	L1	On Mode	LCP 1: 8	GREY	GEN. LTS	
4	Q3	On Mode	LCP 2A: 27	GREY	UPPER	
5	T2	On Mode	LCP 2: 17	GREY		
6	U2	On Mode	LCP 2: 23	GREY		

SWITCH STATION 14

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1D: 1,2,3	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1D: 1,2,3	GREY	ALL OFF	
3	H1	On Mode	LCP 1D: 1	GREY	PENDANT	
4	J1	On Mode	LCP 1D: 3	GREY	PENDANT	
5	K1	On Mode	LCP 1D: 2	GREY	PENDANT	DAYLT

SWITCH STATION 15

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	ALL ON	On Mode	LCP 1: 4,6,8,34; LCP 2: 17,23; LCP2A: 27	GREY	ALL ON	
2	ALL OFF	Off Mode	LCP 1: 4,6,8,34; LCP 2: 17,23; LCP2A: 27	GREY	ALL OFF	

SWITCH STATION 15A

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	M1	On Mode	LCP 1: 4	GREY		
2	N1	On Mode	LCP 1: 6,34	GREY		
3	L1	On Mode	LCP 1: 8	GREY		
4	Q3	On Mode	LCP 2A: 27	GREY		
5	T2	On Mode	LCP 2: 17	GREY		
6	U2	On Mode	LCP 2: 23	GREY		

SWITCH STATION 16

Button	Name	Function	Relays Controlled	Color	Line 1	Line 2
1	P1	On Mode	LCP 1: 2,36	GREY	CORRIDOR	

CONTROLLER SCHEDULE

TIME CLOCKS:
TC1: ON DURING LRC HOURS
TC2: ON DURING EXTENDED HOURS
TC3: ON DURING LIBRARY HOURS
TC4: ON FROM DUSK TILL EXTENDED HOURS
TC5: ON FROM DUSK TILL DAWN

PHOTOCELLS:
PC#: LOW VOLTAGE PHOTOCELL IN SPACE (SEE LIGHTING PLANS FOR LOCATIONS)

SWITCHES:
S#: LOCAL LOW VOLTAGE CONTACT SWITCH MOUNTED IN SWITCH STATIONS SHALL ACT AS 2-HOUR BY-PASS SWITCH DURING OFF HOURS. SUBSCRIPT CORRESPONDS TO THE LIGHT FIXTURES CONTROLLED. (SEE LIGHTING PLANS)

GENERAL NOTES

A. ALL RELAYS LISTED AS FED FROM AN EMERGENCY CIRCUIT SHALL FAIL IN THE CLOSED POSITION.

B. ALL LIGHT FIXTURES FED FROM AN EMERGENCY RELAY SHALL FAIL ON REGARDLESS OF THE POSITION OF THE PUSHBUTTON IN THE RELAY SWITCH STATION.

C. LIGHTING CONTROL SYSTEM SHALL BE TITLE 24 COMPLIANT AND APPROVED.

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ELECTRICAL LIGHTING CONTROL
WIRING DIAGRAM AND SCHEDULE

E-102

Schedule GS-2 Sheet 1
GENERAL SERVICE - DEMAND

APPLICABILITY

Applicable to single- and three-phase service including lighting and power, except that:

1. A customer whose monthly Maximum Demand, in the opinion of SCE, is expected to exceed 500 kW or has exceeded 500 kW for any three months during the preceding 12 months is ineligible for service under this Schedule. Effective with the date of ineligibility, the customer's account shall be transferred to Schedule TOU-8.

2. A customer served under this Schedule whose monthly Maximum Demand is 200 kW or greater for any three months during the preceding 12 months shall receive service under the Time-of-Use (TOU) pricing provisions of this Schedule. Upon the third occasion when such customer's Maximum Demand reaches 200 kW, the customer will be placed on the TOU pricing provisions of this Schedule effective the next regularly scheduled meter read date. Further, when such customers Maximum Demand has registered less than 200 kW for 12 consecutive months the customer is eligible for service under the Non TOU pricing provisions of this Schedule or service under another applicable rate schedule.

3. A customer served under this Schedule whose monthly Maximum Demand has registered 20 kW or less for 12 consecutive months is eligible for service under another applicable rate schedule.

A customer who makes a permanent change in operating conditions that SCE, in its sole opinion, anticipates will reduce the customer's demand to 20 kW or less, or, for customers on the TOU pricing provision to less than 200 kW, may transfer to another applicable rate schedule or remain on this Schedule before completing 12 consecutive months at the reduced demand levels. Such customer shall be required to sign the Permanent Change in Operating Conditions Declaration, Form 14-548. This Schedule is subject to meter availability.

TERRITORY

Within the entire territory served.

RATES

	Delivery Service							Gen[8]	
	Trans[1]	Distrbtn[2]	NDC[3]	PPPC[4]	PUCRF[5]	DWRBC[6]	Total[7]	URG**	DWR
Energy Charge - $/kWh/Meter/Month									
Non TOU									
Summer	0.00184 (I)	0.00591	0.00054	0.00571	0.00000	0.00459	0.01859 (I)	0.05955	0.07981
Winter	0.00184 (I)	0.00591	0.00054	0.00571	0.00000	0.00459	0.01859 (I)	0.05460	0.07981
TOU Pricing Option									
Summer Season – On-Peak	0.00184 (I)	0.00591	0.00054	0.00571	0.00000	0.00459	0.01859 (I)	0.13492	0.07981
Mid-Peak	0.00184 (I)	0.00591	0.00054	0.00571	0.00000	0.00459	0.01859 (I)	0.06025	0.07981
Off-Peak	0.00184 (I)	0.00591	0.00054	0.00571	0.00000	0.00459	0.01859 (I)	0.01371	0.07981
Winter Season – Mid-Peak	0.00184 (I)	0.00591	0.00054	0.00571	0.00000	0.00459	0.01859 (I)	0.08902	0.07981
Off-Peak	0.00184 (I)	0.00591	0.00054	0.00571	0.00000	0.00459	0.01859 (I)	0.01616	0.07981
Customer Charge - $/Meter/Month		70.28					70.28		
Facilities Related Demand Charge - $/kW	1.09	4.84					5.93	3.26	
Time Related Summer		7.55					7.55	7.93	
Winter		0.00					0.00	0.00	
Single Phase Service - $/Month		(2.80)					(2.80)		
Power Factor Adjustment - $/kVA/Month									
Greater than 50 kV		0.17					0.17		
50 kV or less		0.19					0.19		

(Continued)

Schedule GS-2 — Sheet 2
GENERAL SERVICE - DEMAND

(Continued)

RATES (Continued

	Delivery Service							Gen[8]	
	Trans[1]	Distrbtn[2]	NDC[3]	PPPC[4]	PUCRF[5]	DWRBC[6]	Total[7]	URG**	DWR
Voltage Discount, Demand - $/kW									
Facilities Related									
From 2 kV to 50 kV		(0.11)					(0.11)	(0.03)	
Above 50 kV		(3.72)					(3.72)	(0.08)	
Time Related									
From 2 kV to 50 kV		(0.18)					(0.18)	(0.08)	
Above 50 kV		(6.01)					(6.01)	(0.20)	
Voltage Discount, Energy - $/kWh									
From 2 kV to 50 kV		0.00000					0.00000	(0.00102)	
Above 50 kV		0.00000					0.00000	(0.00220)	
California Alternate Rates for Energy Discount - %		100.00					100.00*		
Bill Limiter - %		20.89*					20.89*	79.11*	
TOU Option Meter Charge - $/Meter/Month									
Standard		12.76					12.76		
RTEM		45.47					45.47		

* Represents 100% of the discount percentage as shown in the applicable Special Condition of this Schedule.
** The ongoing Competition Transition Charge (CTC) of $0.00035 is recovered in the URG component of Generation.
1 Trans = Transmission and the Transmission Owners Tariff Charge Adjustments (TOTCA) which are FERC approved. The TOTCA represents the Transmission Revenue Balancing Account Adjustment (TRBAA) of negative $0.00089 per kWh, Reliability Services Balancing Account Adjustment (RSBAA) of $0.00199 per kWh, and Transmission Access Charge Balancing Account Adjustment (TACBAA) of $0.00074 per kWh. (I)
2 Distrbtn = Distribution
3 NDC = Nuclear Decommissioning Charge
4 PPPC = Public Purpose Programs Charge (includes California Alternate Rates for Energy Surcharge where applicable.)
5 PUCRF = The PUC Reimbursement Fee is described in Schedule RF-E.
6 DWRBC = Department of Water Resources (DWR) Bond Charge. The DWR Bond Charge is not applicable to exempt Bundled Service and Direct Access Customers, as defined in and pursuant to D.02-10-063, D.02-02-051,and D.02-12-082.
7 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation (CCA) customers, except DA and CCA customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
8 Gen = Generation – The Gen rates are applicable only to Bundled Service Customers. When calculating the Energy Charge, the Gen portion is calculated as described in the Billing Calculation Special Condition of this Schedule.

(Continued)

Schedule GS-2 Sheet 3
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS

1. Time periods are defined as follows:

On-Peak:	Noon to 6:00 p.m. summer weekdays except holidays
Mid-Peak:	8:00 a.m. to Noon and 6:00 p.m. to 11:00 p.m. summer weekdays except holidays 8:00 a.m. to 9:00 p.m. winter weekdays except holidays
Off-Peak:	All other hours.

Holidays are New Year's Day (January 1), Washington's Birthday (third Monday in February), Memorial Day (last Monday in May), Independence Day (July 4), Labor Day (first Monday in September), Veterans Day (November 11), Thanksgiving Day (fourth Thursday in November), and Christmas (December 25).

When any holiday listed above falls on Sunday, the following Monday will be recognized as an off-peak period. No change will be made for holidays falling on Saturday.

The summer season shall commence at 12:00 a.m. on the first Sunday in June and continue until 12:00 a.m. of the first Sunday in October of each year. The winter season shall commence at 12:00 a.m. on the first Sunday in October of each year and continue until 12:00 a.m. of the first Sunday in June of the following year. A pro rata computation will be made for seasonal billing purposes.

2. TOU Pricing for Customers Whose Maximum Demand is less than 200 kW: Customers served under this Schedule whose Maximum Demand is less than 200 kW may elect TOU pricing, but, only after installation of an interval meter provided at the customer's expense. Customers may elect a standard interval meter or Real Time Energy Metering (RTEM) meter and shall pay the monthly charges, as indicated in the Rates Section of this Schedule. Service under TOU pricing will become effective on the next regularly scheduled meter read date following installation of the standard interval meter or RTEM meter. (C) | | | | | (C) (D)

3. Voltage: Service will be supplied at one standard voltage. (T)

4. Billing Demand: The Billing Demand shall be the kilowatts of Maximum Demand, determined to the nearest kW. The Demand Charge shall include the following billing components. The Time Related Component shall be for the kilowatts of Maximum Demand recorded during (or established for) the relevant TOU period for the monthly billing period. The Facilities Related Component shall be for the kilowatts of Maximum Demand recorded during (or established for) the monthly billing period. However, when SCE determines the customer's meter will record little or no energy use for extended periods of time or when the customer's meter has not recorded a Maximum Demand in the preceding eleven months, the Facilities Related Component of the Demand Charge may be established at 50 percent of the customer's connected load. (T) (T) (D) (D)

(Continued)

Schedule GS-2 Sheet 4
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS (Continued)

5. Maximum Demand: The maximum demand in any month shall be the measured maximum average kilowatt input, indicated or recorded by instruments, during any 15-minute metered interval in the month, but, where applicable, shall not be less than the diversified resistance welder load computed in accordance with the section designated Welder Service in Rule 2. Where the demand is intermittent or subject to violent fluctuations, a 5-minute interval may be used. (T)

6. Single-Phase Service: Where SCE provides single-phase service, the billing will be reduced by the amount shown in the Rates section, above. (T)

(D)

7. Voltage Discount: Bundled Service and Direct Access Customers will have the Distribution rate component of the applicable Delivery Service charges reduced by the corresponding Voltage Discount amount for service metered and delivered at the applicable voltage level as shown in the Rates section above. In addition, Bundled Service Customers will have the Utility Retained Generating (URG) rate component of the applicable Generation charges reduced by the corresponding Voltage Discount amount for service metered and delivered at the applicable voltage level as shown in the Rates section. (C) | | | | | (C)

8. Power Factor Adjustment: When the Maximum Demand has exceeded 200 kW for three consecutive months, kilovar metering will be installed as soon as practical, and, thereafter, until the Maximum Demand has been less than 150 kW for twelve consecutive months, the billing will be increased each month for power factor by the amount shown in the Rates section above for service metered and delivered at the applicable voltage level, based on the per kilovar of maximum Reactive Demand imposed on SCE. The reactive demand will be determined as follows: (T)

   a. Service metered and delivered at voltages of 4 kV or greater and for all Cogeneration and Small Power Production customers:

      The maximum reactive demand shall be the highest measured maximum average kilovar demand indicated or recorded by metering during any 15-minute metered interval in the month. The kilovars shall be determined to the nearest unit. A device will be installed on each kilovar meter to prevent reverse operation of the meter.

(Continued)

Schedule GS-2 Sheet 5
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS (Continued)

8. Power Factor Adjustment: (Continued) (T)

b. Service metered and delivered at voltages Less than 4 kV:

(1) For customers with metering used for billing that measures reactive demand.

The maximum reactive demand shall be the highest measured maximum average kilovar demand indicated or recorded by metering during any 15-minute metered interval in the month. The kilovars shall be determined to the nearest unit. A device will be installed on each kilovar meter to prevent reverse operation of the meter.

(2) For customers with metering used for billing that measures kilovar-hours instead of reactive demand.

The kilovars of reactive demand shall be calculated by multiplying the kilowatts of measured maximum demand by the ratio of the kilovar-hours to the kilowatthours. Demands in kilowatts and kilovars shall be determined to the nearest unit. A ratchet device will be installed on the kilovar-hour meter to prevent its reverse operation on leading power factors.

9. Temporary Discontinuance of Service: Where the use of energy is seasonal or intermittent, no adjustments will be made for a temporary discontinuance of service. Any customer resuming service within twelve months after such service was discontinued will be required to pay all charges which would have been billed if service had not been discontinued. (T)

(Continued)

Schedule GS-2 Sheet 6
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS (Continued)

11. Customer-Owned Electrical Generating Facilities: (T)

a. Where customer-owned electrical generating facilities are used to meet a part or all of the customer's electrical requirements, service shall be provided concurrently under the terms and conditions of Schedule S and this Schedule. Parallel operation of such generating facilities with SCE's electrical system is permitted. A generation interconnection agreement is required for such operation.

b. Customer-owned electrical generating facilities used solely for auxiliary, emergency, or standby purposes (auxiliary/emergency generating facilities) to serve the customer's load during a period when SCE's service is unavailable and when such load is isolated from the service of SCE are not subject to Schedule S. However, upon approval by SCE, momentary parallel operation may be permitted to allow the customer to test the auxiliary/emergency generating facilities. A Momentary Parallel Generation Contract is required for this type of service.

12. CARE Discount: Customers who meet the definition of a group living facility as defined in the (T)
Preliminary Statement, Part O, Section 3.d., may qualify for a 25.3% discount off of their bill prior (T) (I)
to application of the PUC Reimbursement Fee and any applicable user fees, taxes, and late (T)
payment charges. Customers eligible for the CARE Discount will not be required to pay the
CARE Surcharge. as set forth in Preliminary Statement, Part O, Section 4 and are not subject
to the DWRBC rate component of the Total charges for Delivery Service. An Application and (T)
Eligibility Declaration (Form No. 14-526), as defined in the Preliminary Statement, Part O,
Section 3.e., is required for service under this Special Condition. Eligible customers shall be (T)
billed on this Schedule commencing no later than one billing period after receipt and approval of
the customer's application by SCE. Customers may be rebilled on the applicable rate schedule
for periods in which they do not meet the eligibility requirements for the CARE discount as
defined in the Preliminary Statement, Part O, Section 3.e. and Section 3.g. (T)

(D)

(Continued)

Schedule GS-2 — Sheet 7
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS (Continued)

13. Bill Limiter: For customers transferred to Schedule GS-2 for the first time due to becoming ineligible for service under Schedule GS-1, the customer's total monthly bill for charges under Schedule GS-2, excluding the Public Utilities Reimbursement Fee, California Alternate Rates for Energy Surcharge, as set forth in Preliminary Statement, Part O, Section 5, and Power Factor Adjustment, shall for the first three years following transfer be limited to no more than the customer's comparable monthly bill for charges under Schedule GS-1 for the same period plus the following percentages: (T) (T) (D)

Period	Percentages
1st Year	10
2nd Year	20
3rd Year	30

The Bill Limiter shall not apply commencing in the fourth year after the customer has transferred to Schedule GS-2. This Special Condition is applicable to customers purchasing Delivery and Generation services from SCE pursuant to this Schedule. Direct Access and Community Choice Aggregation customers and customers receiving Transitional Bundled Service are not eligible.

14. Billing Calculation: A customer's bill is calculated according to the rates and conditions above. (T)

Except for the Energy Charge, the charges listed in the Rates section are calculated by multiplying the Total Delivery Service rates and the Generation rates, when applicable, by the billing determinants (e.g., per kilowatt [kW], kilowatthour [kWh], kilovar [kVa] etc.),

The Energy Charge, however, is determined by multiplying the total kWhs by the Total Delivery Service per kWh rates to calculate the Delivery Service amount of the Charge. To calculate the Generation amount, SCE determines what portion of the total kWhs is supplied by the Utility Retained Generation (URG) and the Department of Water Resources (DWR). The kWhs supplied by the URG are multiplied by the URG per kWh rates and the kWhs supplied by the DWR are multiplied by the DWR per kWh rate and the two products are summed to arrive at the Generation amount. The Energy Charge is the sum of the Delivery Service amount and the Generation amount.

For each billing period, SCE determines the portion of total kWhs supplied by SCE's URG and by the DWR. This determination is made by averaging the daily percentages of energy supplied to SCE's Bundled Service Customers by SCE's URG and by the DWR.

a. Bundled Service Customers receive Delivery Service from SCE and receive supply (Gen) service from both SCE's URG and the DWR. The customer's bill is the sum of the charges for Delivery Service and Gen determined, as described in this Special Condition, and subject to applicable discounts or adjustments provided under SCE's tariff schedules.

b. Direct Access Customers receive Delivery Service from SCE and purchase energy from an Energy Service Provider. The customer's bill is the sum of the charges for Delivery Service determined as described in this Special Condition except that the DWRBC rate component is subtracted from the Total Delivery Service rates before the billing determinants are multiplied by such resulting Total rates; plus the applicable charges as shown in Schedule DA-CRS and subject to applicable discounts or adjustments provided under SCE's tariff schedules.

c. Community Choice Aggregation (CCA) customers receive Delivery Service from SCE and purchase energy from their Community Choice Provider (CCP). SCE will read the meters and present the bill for both Delivery and Generation Services to the CCA customer. The customer's bill is the sum of the charges for Delivery Service as displayed in this Rate Schedule and Generation charges determined by the CCP plus the applicable charges as shown in Schedule CCA-CRS, and subject to applicable discounts or adjustments provided under SCE's tariff schedules.

(Continued)

Schedule GS-2 Sheet 8
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS (Continued)

15. Customers with Service Metered and Delivered at Voltages above 50 kV (Sub-transmission customers) Included in Rotating Outages. (D) (T)

Sub-transmission customers, except for those customers exempt from rotating outages, are to be included in controlled, rotating outages when required by the Independent System Operator (ISO). To the extent feasible, SCE will coordinate rotating outages applicable to Sub-transmission customers who are fossil fuel producers and pipeline operators and users to minimize disruption to public health and safety. SCE shall not include a Sub-transmission customer in an applicable rotating outage group if the customer's inclusion would jeopardize electric system integrity. Sub-transmission customers who are not exempt from rotating outages, and seek such exemption, may submit an Optional Binding Mandatory Curtailment (OBMC) Plan to SCE in accordance with Schedule OBMC. If SCE approves a customer's OBMC Plan, the customer will become exempt from rotating outages and will be subject to the terms and conditions of Schedule OBMC and its associated contract.

Non-exempt Sub-transmission customers shall be required to drop their entire electrical load during applicable rotating outages by either (1) implementing the load reduction on their own initiative, in accordance with subsection a, below; or (2) having SCE implement the load reduction through remote-controlled load drop equipment (control equipment) in accordance with subsection b, below. A Sub-transmission customer shall normally be subject to the provisions of subsection a. If SCE approves a customer's request to have SCE implement the load reduction or if the customer does not comply with prior required load reductions, as specified in subsection c, the customer will be subject to the provisions of subsection b.

a. Customer-Implemented Load Reduction.

(i) Notification of Required Load Reduction. At the direction of the ISO, SCE shall notify each Sub-transmission customer in an affected rotating outage group to drop its entire load. Within 30 minutes of such notification, the customer must drop its entire load. The customer shall not return the dropped load to service until 90 minutes after SCE sent the notification to the customer to drop its load, unless SCE notifies the customer that it may return its load to service prior to the expiration of the 90 minutes.

(Continued)

Schedule GS-2 Sheet 9
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS (Continued)

15. Customers with Service Metered and Delivered at Voltages above 50 kV (Sub-transmission customers) Included in Rotating Outages. (Continued) (T)

a. Customer-Implemented Load Reduction. (Continued)

(ii) Method of Notification. SCE will notify Sub-transmission customers who are required to implement their own load reduction via telephone, by either an automated calling system or a manual call to a business telephone number or cellular phone number designated by the customer. The designated telephone number will be used for the sole purpose of receiving SCE's rotating outage notification and must be available to receive the notification at all times. When SCE sends the notification to the designated telephone number the customer is responsible for dropping its entire load in accordance with subsection a. (i), above. The customer is responsible for informing SCE, in writing, of the telephone number and contact name for purposes of receiving the notification of a rotating outage.

(iii) Excess Energy Charges. If a Sub-transmission customer fails to drop its entire load within 30 minutes of notification by SCE, and/or fails to maintain the entire load drop until 90 minutes after the time notification was sent to the customer, unless SCE otherwise notified the customer that it may return its load to service earlier in accordance with subsection a. (i) above, SCE shall assess Excess Energy Charges of $6 per kWh for all kWh usage in excess of the Authorized Residual Ancillary Load. Such charges will be based on the total kWh usage during the applicable rotating outage penalty period, less the product of Authorized Residual Ancillary Load in kW and the applicable rotating outage penalty period in hours. Excess Energy Charges will be determined and applied by SCE subsequent to the Sub-transmission customer's regularly scheduled meter read date following the applicable rotating outage.

(iv) Authorized Residual Ancillary Load. Authorized Residual Ancillary Load is load that is deemed to be equivalent to five percent of the Sub-transmission customer's prior billing month's recorded Maximum Demand. This minimum load level is used as a proxy to allow for no-load transformer losses and/or load attributed to minimum grid parallel operation for generators connected under Rule 21.

(Continued)

Schedule GS-2 Sheet 10
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITIONS (Continued)

15. Customers with Service Metered and Delivered at Voltages above 50 kV (Sub-transmission customers) Included in Rotating Outages. (Continued) (T)

b. SCE-Implemented Load Reduction.

Non-exempt Sub-transmission customers may request, in writing, to have SCE drop the customer's entire load during all applicable rotating outages using SCE's remote-controlled load drop equipment (control equipment). If SCE agrees to such arrangement, SCE will implement the load drop by using one of the following methods:

(i) Control Equipment Installed. For a Sub-transmission customer whose load can be dropped by SCE's existing control equipment, SCE will implement the load drop during a rotating outage applicable to the customer. The customer will not be subject to the Notification and Excess Energy Charge provisions set forth in subsection a, above.

(ii) Control Equipment Pending Installation. For a Sub-transmission customer whose load can not be dropped by SCE's existing control equipment, the customer must request the installation of such equipment at the customer's expense in accordance with SCE's Rule 2, Section H, Added Facilities. Pending the installation of the control equipment, the customer will be responsible for dropping load in accordance with the provisions of subsection a, above, including the Notification and Excess Energy Charge provisions.

c. Non-compliance: A non-exempt Sub-transmission customer subject to subsection a, above, who fails to drop load during three rotating outages in a three year period to a demand level of 20% or less of the customer's prior billing month's recorded Maximum Demand averaged over the applicable rotating outage period, is not in compliance with this tariff. The three year period shall commence with the first failure to drop load as specified in this subsection. A customer not in compliance with this condition will be placed at the top of the Sub-transmission customer rotating outage group list and will be expected to comply with subsequent applicable rotating outages. In addition, the customer must select one of the two options below within fifteen days after receiving written notice of non-compliance from SCE. A customer failing to make a selection within the specified time frame will be subject to subsection c. (ii) below.

(i) Subject to Schedule OBMC: The customer shall submit an OBMC Plan, in accordance with Schedule OBMC, within 30 calendar days of receiving written notice of non-compliance from SCE. Pending the submittal of the OBMC Plan by the customer and pending the review and acceptance of the OBMC Plan by SCE, the customer will remain responsible for dropping load in accordance with the provisions of subsection a, above, including the Notification and Excess Energy charge provisions. If the customer fails to submit an OBMC Plan within 30 days of receiving notice of non-compliance from SCE, or if the customer's OBMC Plan is not approved by SCE, or if the customer fails to meet the requirements of Schedule OBMC once the OBMC Plan is approved, the customer shall be subject subsection c. (ii), below.

(Continued)

Schedule GS-2 — Sheet 11
GENERAL SERVICE - DEMAND

(Continued)

SPECIAL CONDITION`S (Continued)

15. Customers with Service Metered and Delivered at Voltages above 50 kV (Sub-transmission customers) Included in Rotating Outages. (Continued) (T)

c. Non-compliance: (Continued)

(ii) Installation of Control Equipment. The customer shall be subject to the installation of control equipment at the customer's expense in accordance with SCE's Rule 2, Section H, Added Facilities, if such equipment is not currently installed. If such switching capability is installed, SCE will drop the customer's load for all applicable subsequent rotating outages in accordance with the provisions of subsection b, above. Pending the installation of control equipment, the customer will remain responsible for dropping load in accordance with the provisions of subsection a, above, including the Notification and Excess Energy Charge provisions.

d. Net-Generators

Sub-transmission customers who are also net-generators are normally exempt from rotating outages, but they must be net suppliers of power to the grid during all rotating outages. For the purpose of this Special Condition, a net-generator is an SCE customer who operates an electric generating facility as part of its industrial or commercial process, and the generating facility normally produces more electrical power than is consumed in the industrial or commercial process, with the excess power supplied to the grid. Sub-transmission customers whose primary business purpose is to generate power are not included in this Special Condition.

(i) Notification of Rotating Outages. SCE will notify sub-transmission customers who are net-generators of all rotating outages applicable to customers within SCE's service territory. Within 30 minutes of notification, the customer must ensure it is a net supplier of power to the grid throughout the entire rotating outage period. Failure to do so will result in the customer losing its exemption from rotating outages, and the customer will be subject to Excess Energy Charges, as provided below.

(ii) Excess Energy Charges. Net generators who are not net suppliers to the grid during each rotating outage period will be subject to Excess Energy Charges of $6 per kWh for all kWh usage in excess of the Authorized Residual Ancillary Load. Such charges will be based on the total kWh usage during a rotating outage penalty period, less the product of Authorized Residual Ancillary Load in kW and the applicable rotating outage period hours. Excess Energy Charges will be determined and applied by SCE subsequent to the customer's regularly scheduled meter read date following the applicable rotating outage. Excess Energy Charges shall not apply during periods of verifiable scheduled generator maintenance or if the customer's generator suffers a verifiable forced outage. The scheduled maintenance must be approved in advance by either the ISO or SCE, but approval may not be unreasonably withheld.

(Continued)