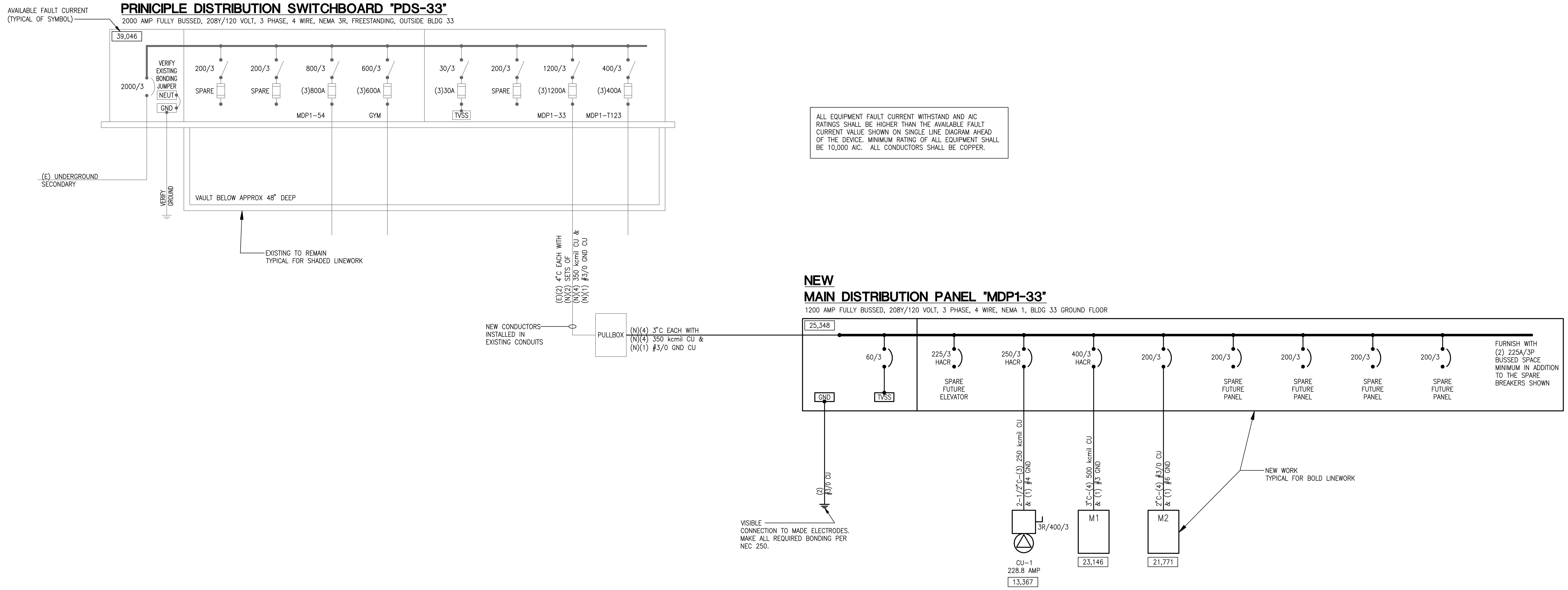

PANEL 'M1'
208Y/120-VOLT, 3-PHASE, 4-WIRE
400-AMP, MAIN LUGS ONLY
MOUNTING: FLUSH
NOTES: COMMERCIAL BOLT-ON CIRCUIT BREAKER PANELBOARD.

CKT NO	WIRE SIZE	VOLT DROP	LOAD DESCRIPTION	REF NO	BRKR TYPE	LOAD AMPS	BREAKER P	BREAKER AMP	PHASE AMPS A	PHASE AMPS B	PHASE AMPS C	BREAKER AMP	BREAKER P	LOAD AMPS	BRKR TYPE	REF NO	LOAD DESCRIPTION	VOLT DROP	WIRE SIZE	CKT NO
1	10	0.7%	GWP-1		HACR	16.7	3	25	33.4			25	3	16.7	HACR		GWP-2	0.8%	10	2
3	10	0.7%	GWP-1		HACR	16.7	*	**		33.4		**	*	16.7	HACR		GWP-2	0.8%	10	4
5	10	0.7%	GWP-1		HACR	16.7	*	**			33.4	**	*	16.7	HACR		GWP-2	0.8%	10	6
7	12	0.6%	PHWP-1		HACR	10.6	3	20	21.2			20	3	10.6	HACR		PHWP-2	0.7%	12	8
9	12	0.6%	PHWP-1		HACR	10.6	*	**		21.2		**	*	10.6	HACR		PHWP-2	0.7%	12	10
11	12	0.6%	PHWP-1		HACR	10.6	*	**			21.2	**	*	10.6	HACR		PHWP-2	0.7%	12	12
13	12	0.7%	SHWP-33-1		HACR	10.6	3	20	21.2			20	3	10.6	HACR		SHWP-33-2	0.7%	12	14
15	12	0.7%	SHWP-33-1		HACR	10.6	*	**		21.2		**	*	10.6	HACR		SHWP-33-2	0.7%	12	16
17	12	0.7%	SHWP-33-1		HACR	10.6	*	**			21.2	**	*	10.6	HACR		SHWP-33-2	0.7%	12	18
19	6	0.9%	FUTURE SHWP-54-1		HACR	46.2	3	60	92.4			60	3	46.2	HACR		FUTURE SHWP-54-2	0.9%	6	20
21	6	0.9%	FUTURE SHWP-54-1		HACR	46.2	*	**		92.4		**	*	46.2	HACR		FUTURE SHWP-54-2	0.9%	6	22
23	6	0.9%	FUTURE SHWP-54-1		HACR	46.2	*	**			92.4	**	*	46.2	HACR		FUTURE SHWP-54-2	0.9%	6	24
25	6	0.8%	FUTURE SHWP-119-1		HACR	46.2	3	60	92.4			60	3	46.2	HACR		FUTURE SHWP-119-2	0.8%	6	26
27	6	0.8%	FUTURE SHWP-119-1		HACR	46.2	*	**		92.4		**	*	46.2	HACR		FUTURE SHWP-119-2	0.8%	6	28
29	6	0.8%	FUTURE SHWP-119-1		HACR	46.2	*	**			92.4	**	*	46.2	HACR		FUTURE SHWP-119-2	0.8%	6	30
31	12	1.3%	AHU-1 RETURN FAN		HACR	10.6	3	20	10.6			20	1				SPARE			32
33	12	1.3%	AHU-1 RETURN FAN		HACR	10.6	*	**		10.6		20	1				SPARE			34
35	12	1.3%	AHU-1 RETURN FAN		HACR	10.6	*	**			10.6	20	1				SPARE			36
37	6	1.2%	AHU-1 SUPPLY FAN		HACR	46.2	3	60	96.2			70	3	50.0	HACR		FUTURE WH-1 WATER HEATER	0.8%	4	38
39	6	1.2%	AHU-1 SUPPLY FAN		HACR	46.2	*	**		96.2		**	*	50.0	HACR		FUTURE WH-1 WATER HEATER	0.8%	4	40
41	6	1.2%	AHU-1 SUPPLY FAN		HACR	46.2	*	**			96.2	**	*	50.0	HACR		FUTURE WH-1 WATER HEATER	0.8%	4	42
			PROJECT #BLDG 33-PHASE 1					PANEL TOTALS:	367	367	367						03/03/11			

	ACTUAL KVA	DEMAND FACTOR	DEMAND KVA	
LIGHTING AND OTHER CONTINUOUS LOAD:	0.0	125%	0.0	Excludes track and show window lighting.
TRACK LIGHTING:	0.0	N/A	0.0	Length of Track: 0 ft
SHOW WINDOWS:	0.0	N/A	0.0	Length of show window0 ft
RECEPTACLE LOAD:	0.0	100%	0.0	100% of the first 10 kVA, plus 50% over 10 kVA.
KITCHEN EQUIPMENT LOAD:	0.0	100%	0.0	Based on 0 pieces of equipment.
HEATING (COINCIDENTAL) LOAD:	18.0	100%	18.0	Includes space heat in excess of cooling and other electric heat.
HEATING OR OTHER NON-COINCIDENTAL LOAD:	0.0	0%	0.0	Smaller of heat or cooling when loads do not operate simultaneously.
MOTORS AND OTHER NON-CONTINUOUS OR MISCELLANEOUS LOAD:	97.6	100%	97.6	All other loads excluding maximum motor load.
LARGEST MOTOR LOAD:	16.6	125%	20.8	
TOTALS:	132.3	103%	136.4	MINIMUM FEEDER: 379-AMPS

PANEL 'M2'
208Y/120-VOLT, 3-PHASE, 4-WIRE
225-AMP, MAIN LUGS ONLY
MOUNTING: FLUSH
NOTES: COMMERCIAL BOLT-ON CIRCUIT BREAKER PANELBOARD.

CKT NO	WIRE SIZE	VOLT DROP	LOAD DESCRIPTION	REF NO	BRKR TYPE	LOAD AMPS	BREAKER P	BREAKER AMP	PHASE AMPS A	PHASE AMPS B	PHASE AMPS C	BREAKER AMP	BREAKER P	LOAD AMPS	BRKR TYPE	REF NO	LOAD DESCRIPTION	VOLT DROP	WIRE SIZE	CKT NO
1	12	0.3%	LTS- CENT PLANT, PUMP RM, CORR			4.1	1	20	7.1			20	1	3.0			REC-CENT PLANT,PUMP RM	0.2%	12	2
3	12	0.8%	LTS-ELEC,CORR,UTIL, FUTURE			5.7	1	20		8.7		20	1	3.0			REC-ELEC,CORR	0.2%	12	4
5	12	0.3%	LTS-MECH, FUTURE			4.7	1	20			9.2	20	1	4.5			FUTURE REC-	0.3%	12	6
7	12	0.5%	DDC CONTROL CABINET			5.0	1	20	14.8			20	1	9.8	HACR		GLYCOL PUMP-GF-1	0.6%	12	8
9	12	0.7%	CONTROL POWER			5.0	1	20		16.0		20	2	11.0	HACR		BOILER-B-1	0.7%	12	10
11	12	0.7%	CONTROL POWER			5.0	1	20			16.0	**	*	11.0	HACR		BOILER-B-1	0.7%	12	12
13	12	0.1%	DDC COMPUTER			3.0	1	20	4.5			20	1	1.5			REC-CONDENSER UNIT	0.2%	12	14
15			SPARE				1	20		1.3		20	1	1.3			UNIT HEATERS-UH-1,2,3	0.1%	12	16
17			SPARE				1	20			2.1	20	1	2.1			EXHAUST FAN-EF-1	0.2%	12	18
19			SPARE				1	20	0.0			20	1				SPARE			20
21			SPARE				1	20		3.1		20	1	3.1			TEMPORARY LIGHTING FLR 1,2,3	0.4%	12	22
23			SPARE				1	20			0.0	20	1				SPARE			24
25			SPARE				1	20	0.0			20	1				SPARE			26
27			SPARE				1	20		0.0		20	1				SPARE			28
29			SPARE				1	20			0.0	20	1				SPARE			30
31			SPARE				1	20	0.0			20	1				SPARE			32
33			SPARE				1	20		0.0		20	1				SPARE			34
35			SPARE				1	20			0.0	20	1				SPARE			36
37			SPARE				1	20	0.0			20	1				SPARE			38
39			SPARE				1	20		0.0		20	1				SPARE			40
41			SPARE				1	20			0.0	20	1				SPARE			42
			PROJECT #BLDG 33-PHASE 1					PANEL TOTALS:	26	29	27						03/03/11			

	ACTUAL KVA	DEMAND FACTOR	DEMAND KVA	
LIGHTING AND OTHER CONTINUOUS LOAD:	2.5	125%	3.1	Excludes track and show window lighting.
TRACK LIGHTING:	0.0	N/A	0.0	Length of Track: 0 ft
SHOW WINDOWS:	0.0	N/A	0.0	Length of show window0 ft
RECEPTACLE LOAD:	1.8	100%	1.8	100% of the first 10 kVA, plus 50% over 10 kVA.
KITCHEN EQUIPMENT LOAD:	0.0	100%	0.0	Based on 0 pieces of equipment.
HEATING (COINCIDENTAL) LOAD:	0.0	100%	0.0	Includes space heat in excess of cooling and other electric heat.
HEATING OR OTHER NON-COINCIDENTAL LOAD:	0.0	0%	0.0	Smaller of heat or cooling when loads do not operate simultaneously.
MOTORS AND OTHER NON-CONTINUOUS OR MISCELLANEOUS LOAD:	3.0	100%	3.0	All other loads excluding maximum motor load.
LARGEST MOTOR LOAD:	2.6	125%	3.3	
TOTALS:	9.9	113%	11.2	MINIMUM FEEDER: 31-AMPS

BUILDING LOAD SUMMARY

NUMBER	DESCRIPTION	208-V AMPERE TOTALS A	B	C	REMARKS
1	FUTURE ELEVATOR	127	127	127	FUTURE ESTIMATED LOAD
2	CU-1	229	229	229	
3	PANEL 'M1'	367	367	367	
4	PANEL 'M2'	26	29	27	
5	PANEL 'T'	20	29	20	FUTURE ESTIMATED LOAD
6	PANEL '1'	70	70	70	FUTURE ESTIMATED LOAD
7	PANEL '2'	70	70	70	FUTURE ESTIMATED LOAD
8	PANEL '3'	37	37	37	FUTURE ESTIMATED LOAD
	TOTAL CONNECTED LOAD:	946	958	947	03/03/11

N.E.C. DEMAND CALCULATIONS

	ACTUAL KVA	DEMAND FACTOR	DEMAND KVA	
LIGHTING AND OTHER CONTINUOUS LOAD:	13.4	125%	16.7	Excludes track and show window lighting.
TRACK LIGHTING:	0.0	N/A	0.0	Length of track: 0 ft
SHOW WINDOWS:	0.0	N/A	0.0	Length of show window: 0 ft
RECEPTACLE LOAD:	42.8	62%	26.4	100% of the first 10 kVA, plus 50% over 10 kVA.
KITCHEN EQUIPMENT LOAD:	0.0	100%	0.0	Based on 0 piece(s) of equipment.
HEATING (COINCIDENTAL) LOAD:	18.0	100%	18.0	Includes space heat in excess of cooling and other electric heat.
MOTORS AND OTHER NON-CONTINUOUS OR MISCELLANEOUS LOAD:	123.8	100%	123.8	All other loads excluding maximum motor load.
LARGEST MOTOR LOAD:	16.6	125%	20.8	
TOTALS:	214.6	96%	205.7	MINIMUM 3-PHASE FEEDER: 919-AMPS

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REVISIONS | DATE

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ENERGY UPGRADES
PHASE ONE BUILDING 33

BUILDING NUMBER 33 | CHECKED AKD | DRAWN DJP

LOCATION BOISE, IDAHO

DATE 03/03/11

PROJECT NO. 531-10-114

DRAWING NO. E3.1

DEPARTMENT OF VETERANS AFFAIRS