LANEY LIBRARY LRC – 220007

LOW VOLTAGE RELAY LIGHTING CONTROL PANEL LCPA

ZONE/SWITCH DESIGNATION	RELAY NO.	LINE VOLTAGE CIRCUIT	LOAD VA	ROOM NAME / FIXTURE TYPE	MASTER SWITCH ZONE GROUP	NOTES	PROGRAM CHANNEL
S1*	1	1HA-1	5	BOLLARD NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EHA-1		2.3	
S2*	2	1HA-1	5	BOLLARD NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EHA-1		2,3	
S3	3	1HA-1	60	POST TOP		2	
S4	4	1HA-1	30	POST TOP		1	
S5	5	1HA-1	200	IN-GRADE UPLIGHT		1	
S6	6	1HA-1	164	SIGN LIGHT		2	
S7*	7	1HA-1	34	DOWNLIGHT NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EHA-1		2,3	
S8*	8	1HA-1	34	DOWNLIGHT NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EHA-1		1,3	
S9*	9	1HA-1	5	SCONCE NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EHA-1		2,3	
S10*	10	1LD-26	5	STEPLT NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EPC-38		2.3	
S11*	11	1HA-1	5	READING 255 NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EHA-1		1	
S12*	12	1HA-1	5	READING 255 NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EHA-1		1	
S13*	13	1HA-1	56	STEPLIGHT		1	
S14*	14	1LD-26	5	TERRACE 275 NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EPC-38			
S15*	15	1HA-1	869	TERRACE 275 NON SWITCHED NORMAL SENSING CIRCUIT FOR 1EPC-38			
S16	16	3HA-13	395	ROOF PENTHOUSE			
S17	17	3HA-13	869	ROOF PENTHOUSE			
S18	18	3HA-13	200	ROOF PENTHOUSE			
	19			SPARE			
	20			SPARE			
	21			SPARE			
	22			SPARE			
	23			SPARE			
	24			SPARE			
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NOTES:
1 PROVIDE AN ASTRO-DIAL MASTER CHANNEL; ASTRO-ON, TIMECLOCK-OFF. RELAYS NOTED SHALL BE AUTOMATICALLY CONTROLLED BY THE RESPECTIVE ASTRO CHANNEL FOR EXTERIOR CONTROL.
2 PROVIDE AN ASTRO-DIAL MASTER CHANNEL; ASTRO-ON, ASTRO-OFF. RELAYS NOTED SHALL BE AUTOMATICALLY CONTROLLED BY THE RESPECTIVE ASTRO CHANNEL FOR EXTERIOR CONTROL.
*3 PROVIDE (1) EMERGENCY LIGHTING CONTROL MODULE FOR EACH RELAY INDICATED WITH AN ASTERISK. SEE TYPICAL SWITCHED EMERGENCY LIGHT FIXTURE CONNECTION DETAIL ON E5-03.

Laney LRC Electrical Equipment Seismic Chart

Equipment	Manufacturer/Model	Weight	Size (INCHES)	OSP	O'MM detail number
Generator in sound enclosure	Cummins/ONAN DFEK 500kW	24090# WET	222w x 82w x108h"	0268-10	6&7/E7.02
Pad Mount Transformer "Unit Substation A"	Eaton Mid Voltage Transformer	12900#	74w x 72d x 76h	N/A	4/E7.02
Main switchgear Main and Dist - 2500A	Sq D QED 2 Power- 400-5000A	1740# max ea. (per 4 sections)	42w x 36 d x 91.5 h	0022-10	12/E7.01
ATS1-100A4p Transfer Switch	ASCO 300 Wall Mount	90#	18.5w x 14.2d x 48h	0032-10	4/E7.01
ATS2-400A4p Transfer Switch	ASCO 300 Base Mount	375#	34w x 20d x 72h	0032-10	12/E7.01
MTS-1000A 4P Manual XFER Switch w/Portable Interconnect	ASCO 300 MTQ H-Frame	1250#	37w x 38.6d x 95.6h	0032-10	12/E7.01
Transformer 1TA 300kVA 480V	Eaton DT 300 kva 3PH	2050 #	34.5L x 33.5w x 51h	0008-10	2/E7.01
Transformer 3TA 112.5kVA 480V	Eaton DT 112.5kva 3PH	790 #	30.5L x 24w x 43h	0008-10	2/E7.01
Emergency Generator Distribution board 1000A	Sq D QED 2 Power- 400-5000A	1404# max ea. (per 2 sections)	24 w x 36 d x 91.5 h	0022-10	12/E7.01
Wall mounted panel Board M	Sq D CP Wall Mount	200# max	24w x 6.5d x 54h (max)	0016-10	4/E7.01

PANEL 2EPC (EMERGENCY POWER)

VOLTS: 120 / 208 V — PHASE: 1 PH — WIRE: 3 W — BUSSING: 100A — POLES: 24P

MINI POWER ZONE, 7.5KVA INTEGRAL TRANSFORMER, 480V PRIMARY
NEMA 3R

MAIN BRKR: 45A MCB — FEEDER: SEE SINGLE LINE — CONDUIT: SEE SINGLE LINE — MOUNTED: SURFACE — AIC RATING: 65k

LOAD DESCRIPTION	TYPE	A	B	BRKR.	CKT.	CKT.	BRKR.	A	B	TYPE	LOAD DESCRIPTION
FUEL LEAK PANEL	M	0.10		20/1	1	2	30/2	1.80		L	GENERATOR JACKET HEATER
RECEPTACLE GENERATOR AREA	R		0.18	20/1	3	4			1.80	L	
GENERATOR BATTERY CHARGER	M	0.20		20/1	5	6					SPACE
SPACE					7	8					SPACE
SPACE					9	10					SPACE
SPACE					11	12					SPACE
SPACE					13	14					SPACE
SPACE					15	16					SPACE
SPACE					17	18					SPACE
SPACE					19	20					SPACE
SPACE					21	22					SPACE
SPACE					23	24					SPACE
		0.30	0.18					1.80	1.80		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.30	100%	0.30
TYPE "L": LIGHTING / CONTINUOUS LOADS	3.60	125%	4.50
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.18	100%	0.18
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	4.08		4.98

PHASE A: 2.10 KVA
PHASE B: 1.98 KVA
17.50 MAX AMPS / PHASE

PANEL 1EHA (EMERGENCY POWER)

VOLTS: 277 / 480 — PHASE: 3 PH — WIRE: 4 W — BUSSING: 100A — POLES: 42P

MAIN BRKR: 100A MCB — FEEDER: SEE SINGLE LINE — CONDUIT: SEE SINGLE LINE — MOUNTED: SURFACE — AIC RATING: 65 KAIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
LTG - SITE, EXTERIOR	L	0.61			20/1	1	2	20/1	1.45			L	LTG - 2ND FLR LAB, ART, CIRC, REF
LTG - CIRC 100B, MATH TUTOR, INST. LABS	L		1.60		20/1	3	4	20/1		1.18		L	LTG - 2ND FLR RR, HALL, CLASSRM, READ
LTG - ENTRANCE, RR, HALL, STAIRS A & B	L			2.14	20/1	5	6	20/1			1.54	L	LTG - 3RD FLR RR, HALL, CIRC
SPARE					20/1	7	8	20/1	1.37			L	LTG - 3RD FLR CLASSRM, READING
SPARE					20/1	9	10	20/1					SPARE
SPARE					20/1	11	12	20/1					SPARE
SPARE					20/1	13	14	20/1					SPARE
SPARE					20/1	15	16	20/1					SPARE
SPARE					20/1	17	18	20/1					SPARE
SPACE						19	20						SPACE
SPACE						21	22						SPACE
SPACE						23	24						SPACE
SPACE						25	26						SPACE
SPACE						27	28						SPACE
SPACE						29	30						SPACE
SPACE						31	32						SPACE
SPACE						33	34						SPACE
SPACE						35	36						SPACE
SPACE						37	38	50/2	7.09			M	PANEL 1EPC
PANEL 2EPC	M		2.10		20/2	39	40			6.90		M	
	M			1.98		41	42						SPACE
		0.61	3.70	4.12					9.91	8.08	1.54		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	18.07	100%	18.07
TYPE "L": LIGHTING / CONTINUOUS LOADS	4.35	125%	5.44
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.00	100%	0.00
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	22.42		23.51

PHASE A: 10.52 KVA
PHASE B: 11.78 KVA
PHASE C: 5.66 KVA
42.53 MAX AMPS / PHASE

DISTRIBUTION PANEL 1EDHA (EMERGENCY POWER)

VOLTS: 277 / 480 — PHASE: 3 PH — WIRE: 4 W — BUSSING: 1000A — POLES: 24

MAIN BRKR: 1000A MCB — FEEDER: SEE SINGLE LINE — CONDUIT: SEE SINGLE LINE — MOUNTED: SURFACE — AIC RATING: 65 KAIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
	M	10.52				1	2						
PANEL 1EHA	M		11.78		100/3	3	4						SPACE
	M			5.66		5	6						
	M	56.70				7	8						
DIST. PANEL 1EHB	M		56.70		400/3	9	10						SPACE
	M			56.70		11	12						
	M	26.67				13	14						
FIRE PUMP (75HP)	M		26.67		600/3	15	16						SPACE
CIRCUIT BREAKER BASED ON CEC 695.4	M			26.67		17	18						
						19	20						
SPACE						21	22						SPACE
						23	24						
		93.89	95.15	89.03					0.00	0.00	0.00		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	278.07	100%	278.07
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.00	100%	0.00
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	278.07		278.07

PHASE A: 93.89 KVA
PHASE B: 95.15 KVA
PHASE C: 89.03 KVA
343.50 MAX AMPS / PHASE

PANEL 1EPC (EMERGENCY POWER)

VOLTS: 120 / 208 V — PHASE: 1 PH — WIRE: 3 W — BUSSING: 125A — POLES: 40P

MINI POWER ZONE, 22.5KVA INTEGRAL TRANSFORMER, 480V PRIMARY

MAIN BRKR: 125A MCB — FEEDER: SEE SINGLE LINE — CONDUIT: SEE SINGLE LINE — MOUNTED: SURFACE — AIC RATING: 65k

LOAD DESCRIPTION	TYPE	A	B	BRKR.	CKT.	CKT.	BRKR.	A	B	TYPE	LOAD DESCRIPTION
FIRE ALARM CONTROL PANEL - ELECT 183A	M	0.20		20/1	1	2	20/1	0.20		L	AH-H-3M CONTROL POWER & LIGHT
EMERG LTG CONTROL PANEL - ELECT 183A	L		0.20	20/1	3	4	20/1		0.20	L	AH-C-3M CONTROL POWER & LIGHT
REC - ELECT 183A	R	0.36		20/1	5	6	20/1	0.50		M	TCP-3M CONTROL PANEL
SPARE				20/1	7	8	20/1		0.10	M	FSD'S PENTHOUSE
SPARE				20/1	9	10	20/1	0.20		M	TCP-1 CONTROL PANEL
ELEV FIRE SMOKE DOOR - LEVEL 2	M		0.50	20/1	11	12	20/1		0.50	M	FSD's LEVEL 1
ELEV FIRE SMOKE DOOR - LEVEL 2	M	0.50		20/1	13	14	20/1	0.20		M	TCP-2 CONTROL PANEL IDF LEVEL 2
ELEV FIRE SMOKE DOOR - LEVEL 3	M		0.50	20/1	15	16	20/1		0.50	M	FSD's LEVEL 2
ELEV FIRE SMOKE DOOR - LEVEL 3	M	0.50		20/1	17	18	20/1	0.20		M	TCP-2 CONTROL PANEL IDF LEVEL 3
FIRE ALARM EXPANDER PANEL - ELECT 281	M		0.50	20/1	19	20	20/1		0.60	M	FSD's LEVEL 3
SMOKE DAMPERS LEVEL 2	M	0.60		20/1	21	22	20/1	0.13		M	TF 3M-2 PENTENHOUSE VDF ROOM
SMOKE DAMPERS LEVEL 2	M		0.60	20/1	23	24	20/1		0.20	M	FIREFIGHTERS SMOKE CONTROL PANEL
SMOKE DAMPERS LEVEL 2	M	0.60		20/1	25	26	20/1	0.60		M	SMOKE DAMPERS LEVEL 1
SMOKE DAMPERS LEVEL 2	M		0.40	20/1	27	28	20/1		0.60	M	SMOKE DAMPERS LEVEL 1
SMOKE DAMPERS LEVEL 2	M	0.40		20/1	29	30	20/1	0.60		M	SMOKE DAMPERS LEVEL 1
DROP DOWN FIRE DOOR STAIR 2 LOBBY	M		0.30	20/1	31	32	20/1		0.60	M	SMOKE DAMPERS LEVEL 1
WON-DOOR STAIR LOBB2	M	0.50		20/1	33	34	20/1	0.60		M	SMOKE DAMPERS LEVEL 1
SPARE				20/1	35	36	20/1		0.60	M	SMOKE DAMPERS LEVEL 1
SPARE				20/1	37	38	20/1	0.20		L	EXTERIOR 120 VOLT LIGHTING
SPARE				20/1	39	40	20/1				SPARE
		3.66	3.00					3.43	3.90		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	12.83	100%	12.83
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.80	125%	1.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.36	100%	0.36
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	13.99		14.19

PHASE A: 7.09 KVA
PHASE B: 6.90 KVA
59.08 MAX AMPS / PHASE

DISTRIBUTION PANEL 1EHB (EMERGENCY POWER)

VOLTS: 277 / 480 — PHASE: 3 PH — WIRE: 4 W — BUSSING: 400A — POLES: 42P

ATRIUM SMOKE EXHAUST & JOCKEY PUMP ONLY

* PROVIDE BREAKER WITH AUXILORY SWITCH ONE N.C. CONTACT & ONE N.O. CONTACT TO ALLOW REMOTE MONITORING BY THE FIRE ALARM SYSTEM.

MAIN BRKR: 400A MCB * — FEEDER: SEE SINGLE LINE — CONDUIT: SEE SINGLE LINE — MOUNTED: SURFACE — AIC RATING: 65 KAIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
	H	9.50				1	2		9.50			H	
FAN RF-3M-1 (25HP) ATRIUM SMOKE	H		9.50		70/3	3	4	70/3		9.50		H	FAN RF-3M-2 (25HP) ATRIUM SMOKE
	H			9.50	*	5	6	*			9.50	H	
	H	12.20				7	8		12.20			H	
AH-C-3M-1 (4X7.5HP) ATRIUM SMOKE	H		12.20		80/3	9	10	80/3		12.20		H	AH-C-3M-1 (4X7.5HP) ATRIUM SMOKE
	H			12.20	*	11	12	*			12.20	H	
	H	6.30				13	14		6.30			H	
AH-H-3M-1 (3X5HP) ATRIUM SMOKE	H		6.30		50/3	15	16	50/3		6.30		H	AH-H-3M-1 (4X5HP) ATRIUM SMOKE
	H			6.30	*	17	18	*			6.30	H	
SPACE						19	20		0.70			H	
SPACE						21	22	20/3		0.70		H	JOCKEY PUMP (1.5HP)
SPACE						23	24	*			0.70	H	
SPACE						25	26						SPACE
SPACE						27	28						SPACE
SPACE						29	30						SPACE
SPACE						31	32						SPACE
SPACE						33	34						SPACE
SPACE						35	36						SPACE
SPACE						37	38						SPACE
SPACE						39	40						SPACE
SPACE						41	42						SPACE
		28.00	28.00	28.00					28.70	28.70	28.70		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.00	100%	0.00
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	170.10	100%	170.10
TOTALS:	170.10		170.10

PHASE A: 56.70 KVA
PHASE B: 56.70 KVA
PHASE C: 56.70 KVA
204.69 MAX AMPS / PHASE

APPROVALS

NOLL & TAM ARCHITECTS
729 Heinz Avenue
Berkeley, CA 94710
tel 510.542.2200
fax 510.542.2201

CAVAGNERO
MARK CAVAGNERO ASSOCIATES ARCHITECTS
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F: 415.398.6943
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PROJECT TITLE

Peralta Community College District
Laney Library & Learning Resource Center (Building 100 Replacement)

900 Fallon Street, Oakland, CA 94607

ISSUE FOR BID

ISSUE DATE 3/31/23
N&T JOB NUMBER 21942

REVISIONS

#	DATE	DESCRIPTION
3	05/16/2024	ADDENDUM NO. 03

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SHEET TITLE
SCHEDULES

SHEET NUMBER
E6.04

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