NOTES:

A. SEPARATE 2-POLE SWITCH SHALL BE PROVIDED TO DE-ENERGIZE POWER CONDUCTORS FOR LUMINAIRES.
A1. OPTIONAL SWITCH LOCATIONS CAN BE USED ON ANY CIRCUIT.
A2. SWITCH WIRING APPLIES TO AC OR DC VOLTAGE.
B. POWER CONDUCTORS SHALL BE PROTECTED BY A FUSE OR EQUIVALAENT. SEE TABLE FOR FUSE RATINGS
C. SEE PACKING GLAND TABLE FOR CABLE RANGE. CONDUIT HOSE SHALL BE FLAME RESISTANT WITH MIN. WALL OF 3/16" AS PER 30CFR PART 18.39 . CONDUIT HOSE SIZE: AS REQUIRED TO MATCH CABLE AND PACKING GLAND TUBE SIZE.
D. FOR MAXIMUN NUMBER OF LIGHT FIXTURES TO BE USED IN ANY ONE RUN OF CABLE SEE CABLE RUN TABLE.
E. CABLE RUN MINIMUM 16 AWG FLAME RESISTANT OR ENCLOSED IN APPROVED CONDUIT HOSE.
F. EACH FIXTURE REQUIRES GROUNDING THROUGH CABLE.
G. MAXIMUN NUMBER OF LIGHT FIXTURES PER CABLE RUN CANNOT EXCEED CABLE AMPERAGE.
H. ITEM E1 POWER SUPPLY OUTPUT MUST BE CONSISTANT WITH ITEM L1 LIGHT FIXTURE INPUT TO INSURE PROPER LAMP VOLTAGE IN ACCORDANCE WITH THE CABLE RUN TABLE.
I. THE RESISTOR MUST BE SIZED TO INSURE PROPER LAMP VOLTAGE IN ACCORDANCE WITH CABLE RUN TABLE.
J. ALL PACKING GLANDS MUST BE PACKED IN ACCORDANCE WITH 30CFR PART 18. ALL UNUSED GLAND ENTRANCES MUST BE PLUGGED AND TACK WELED IN PLACE.

K.

MCI CODE FOR ALL LED LAMPS					
MCI LAMP MODEL CODE	MANUFACTURE CODE	LAMP TYPE	TOTAL WATTAGE	LAMP DRIVER PER LED	LENS FOCUS
MCELED1231045	MCE	LED	12	310	45

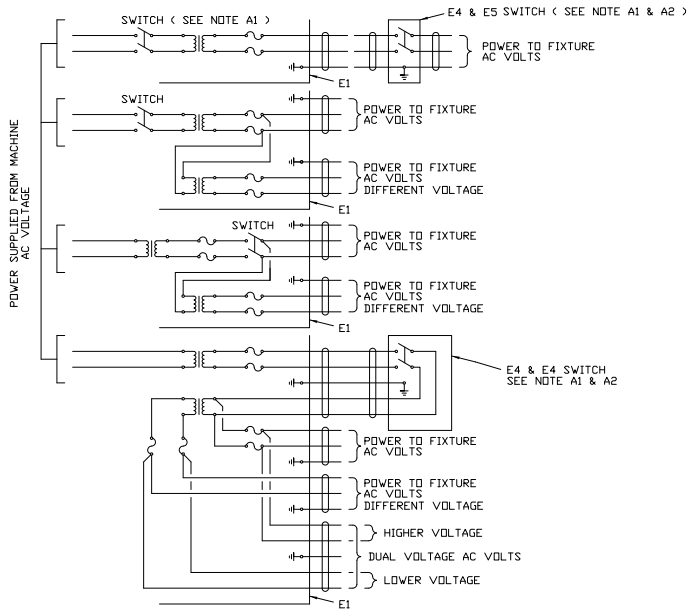
ENCLOSURES/MODEL CERTIFICATION					
ITEM	DESCRIPTION	MODEL NO.	CERTIFICATION NUMBERS	MAX. CABLE RANGE	SYSTEM QTY.
E1	POWER SUPPLY WITH SWITCH	28053	XP/2454-1	.645	OPT.
	POWER SUPPLY NO SWITCH	20759	X/P 2504-0	.645	OPT.
	EXISTING POWER SUPPLY OR APPROVED XP POWER SUPPLY				OPT.
E2	RESISTOR ENCL.	20765	X/P 2469-0	.645	OPT.
E3	CONNECTION BOX	20630-4 ALUM.	X/P 2456-0	.710	OPT.
		20630-5 BRASS			
		20630-6 DUCTILE			
		20630-24 ALUM.	X/P 2456-2	.710	OPT.
		20630-25 BRASS			
		27434CB1-L1	X/P 3844-1	.766	OPT.
		27434CB1-H1		1.500	
E4	SWITCH BOX	20630-1 ALUM	X/P 2456-0	.710	OPT.
		20630-2 BRASS			
		20630-3 DUCTILE			
		20630-21 ALUM	X/P 2456-2	.710	OPT.
		20630-22 BRASS			
		27434CB1-L2	X/P 3844-1	.766	OPT.
		27434CB1-H2		1.500	
E5	EXISTING SWITCH OR APPROVED XP SWITCH ENCLOSURE				OPT.
E6	EXISTING JUNCTION BOX OR APPROVED XP JUNCTION BOX				OPT.

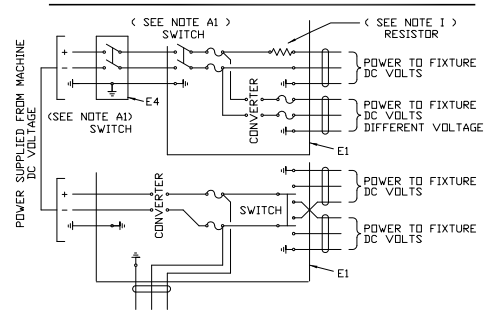
LIGHT FIXTURES - ITEM L1 APPROVED LAMP / MODEL CERTIFICATION

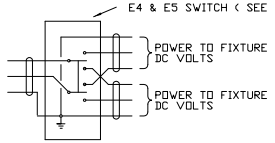
MODEL NO. / MATERIAL	APPROVED LAMPS: WATTAGE	TYPE	BULB TYPE	VOLTAGE	CERTIFICATION NO. / DUAL PACKING GLANDS	MAX. CABLE RANGE	SYSTEM QTY.
21322-A ALUM.	150	INC	A-23	125 / 130	X/P 2594-0, -1	.710	1 TO 20
21322-B BRASS					X/P 2594-0, -2		
21322-D DUCTILE					X/P 2594-0, -2		
24000-A ALUM.	**100**	**QH FROST**	DC	**120**	X/P 3118-0	.710	ALT
24000-B BRASS	**100**	**QH CLEAR**		**120**			
	75	**QH CLEAR**		**28**			
27434-A ALUM.	18	FL	SL*18	**120**	X/P 3586-0	.730	ALT
27434-B BRASS	15	FL	EL	**120**			
27434-LP 27434-LP2	20 2-20	FL	EL / SLS EL / SLS	120	X/P 3843-0,-1,-2,-3 X/P 3843-2,-3	.730	ALT
27434-LP 27434-LP2	23 2-23	FL	EL / SLS EL / SLS	120	X/P 3843-0,-1,-2,-3 X/P 3843-2,-3	.730	ALT
27434-LP 27434-LP2	25 2-25	FL	SLS SLS	120	X/P 3843-0,-1,-2,-3 X/P 3843-2,-3	.730	ALT
27434-LP 27434-LP2	26 2-26	FL	PL-T 26W/4P PL-T 26W/4P	120	X/P 3843-2 X/P 3843-2	.730	ALT
	150	INC	PAR-36	**120**	X/P 2372-0	.710	ALT
20043-A ALUM.	150			**32**			
20043-B BRASS	150			28			
20043-D DUCTILE	**100**			**120**			
	75			**120**			
20061-A ALUM.	150	INC	PAR-46	120	X/P 2372-1	.710	ALT
20061-B BRASS	100			60			
30000-A ALUM. 30000-B BRASS	50	QH	MR-16	12	X/P 3493-0 , -1	.730	ALT
30000-A ALUM. 30000-B BRASS	50 / 75	QH	MR-16	12	X/P 3493-2	.730	ALT
MCI50XP	50	QH	MR-16	12	X/P3938-0	.776	ALT
	20/35/50/65/75	QH	MR-16	12/24/120	X/P3938-1	.776	ALT
	(3) 4 WATT	LED	MCELED1231045 SEE NOTE K.	9-26	X/P3938-0 , -1	.776	ALT
700-D	150	INC	PAR-36	120	X/P 2659-0		ALT

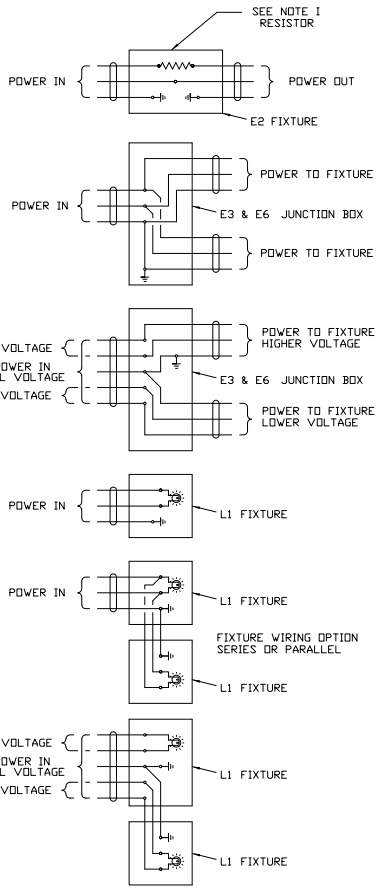
PACKING GLAND INFORMATION SEE MCI DW'G. C-26555 FOR DETAILS

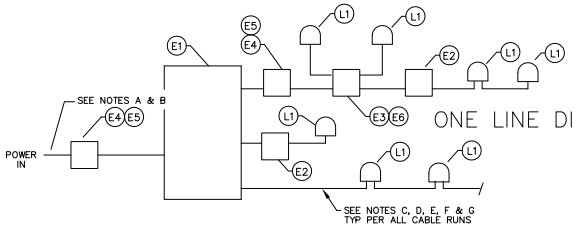
PACKING GLAND PART NO.	CABLE RANGE	PACKING NUT	PACKING TUBE P/N	PACKING TUBE TYPE	PACKING TUBE O.D.	BUSHING INNER / OUTER	PACKING P/N	PACKING SIZE
20503-1	.328 TO .417	20029-1	20498	ST	5/8"	20030	59204	1/4"
20504-1		20029-1	20499	90°	5/8"	20030-1	59204	1/4"
20031-1		20029-3	20010	ST	3/4"	20030-1	59204	1/4"
20036-1		20029-3	20035	90°	3/4"	20030-1	59204	1/4"
20503-2	.333 TO .480	20029-1	20498	ST	5/8"	20030-2	59204	1/4"
20504-2		20029-1	20499	90°	5/8"	20030-2	59204	1/4"
20031-2		20029-3	20010	ST	3/4"	20030-2	59204	1/4"
20036-2		20029-3	20035	90°	3/4"	20030-2	59204	1/4"
20503-3	.395 TO .542	20029-1	20498	ST	5/8"	20030-3	59204	1/4"
20504-3		20029-1	20499	90°	5/8"	20030-3	59204	1/4"
20031-3		20029-3	20010	ST	3/4"	20030-3	59204	1/4"
20036-3		20029-3	20035	90°	3/4"	20030-3	59204	1/4"
20031-5	.520 TO .667	20029-3	20010	ST	3/4"	20030-5	59204	1/4"
20036-5		20029-3	20035	90°	3/4"	20030-5	59204	1/4"
20503-4	.370 TO .430	20029-1	20498	ST	5/8"	20030-2	31381-R	GROMMET
20504-6	.370 TO .430	20029-1	20499	90°	5/8"	20030-2	31381-R	GROMMET
20031-12	.510 TO .576	20029-3	20010	ST	3/4"	20030-3	31381-G	GROMMET
20036-8	.510 TO .576	20029-3	20035	90°	3/4"	20030-5	31381-G	GROMMET
20057-1	PACKING PLUG 1 1/8 - 12 SEE NOTE J.							











CABLE / CONDUIT AND FUSE INFORMATION
PERMISSABLE CIRCUIT OPTIONS AS REQUIRED TO SUIT APPLICATIONS.

CABLE	TYPE SO NOM. O.D. 600 VOLTS	TYPE EP NOM. O. D. 1000 VOLT	FUSE RATING MAX. (AMPS)	COND. SIZE AWG.	COND. CAP. AMPS.
16 - 3	.393	--	10	16	10
14 - 3	.538	.490	15	14	15
12 - 3	.616	.530	20	12	20

CABLE RUN SEE NOTE H
MAXIMUM NUMBER OF FIXTURES PER CABLE RUN

LAMP TYPE	INCANDESCENT							FLUORESCENT						LED	
WATTAGE	150	100	100	100	75	75	50	15	18	20	23	25	26	12	9-26
VOLTAGE ± 5%	120	120	60	12	120	28	12	120	120	120	120	120	120	@12	@24
AMPERAGE	1.25	.83	1.66	8.33	.62	2.67	4.16	.21	.25	.28	.32	.35	.25	1.0	0.5
NO. FIXTURES PER CABLE RUN	8	13	6	1	17	3	2	35	30	26	23	21	40	9	18
	13	19	9	1	26	5	3	53	45	40	35	32	56	14	28
	17	26	12	2	35	7	4	71	60	53	46	42	48	19	38

DO NOT CHANGE WITHOUT "MSHA" APPROVAL

MINING CONTROLS INCORPORATED

LIGHTING SYSTEMS ELECTRICAL SCHEMATIC AND ONE LINE DIAGRAM

DRAWN BY	SCALE	DRAWING NO.	REV.
L.W.R.	NA	28575F-EL	M
DATE 01-18-99	CHK'D BY		