

**1 ELECTRICAL ONLINE FOR NORTH PARK - MS1**

- NOT TO SCALE  
 NOTES:  
 ① CONNECT TO CONTACTORS CONTROLS SEE CONTACTOR SCHEDULE ON SAME SHEET.  
 ② MUSCO CONTROL LINK ENCLOSURE NEMA 3R  
 ③ CONTACTORS LOCATED IN MUSCO CONTROL LINK.

**ELECTRICAL LOAD CALCULATION - NORTH PARK**

LOAD	DF	DEMAND
<b>SANDHILLS AND OWENS PARK</b>		
TJK #08015		
208Y/120V		
<b>STANDARD RESTROOM BUILDING</b>		
LIGHTING 1050 SF 3.5 VA/SF	1.25	4,600
POWER 1050 SF 2.0 VA/SF	1.00	2,100
HVAC 1050 SF 4.2 TONS	1.00	9,070
0 HAND DRYER	1.00	0
0 IRRIGATION CONTROLLER	1.00	0
<b>RAMADA LIGHTING</b>		
8 LED SURFACE MOUNT 217W F8	1.25	2,170
<b>PARKING LOT</b>		
10 AREA LIGHTS @ 180W F2	1.25	2,250
1 AREA LIGHTS @ 180W F2B	1.25	450
<b>TOT LOT</b>		
8 217W FIXTURES F5	1.25	2,170
<b>SOCCER FIELD</b>		
20 1500W FIXTURES	1.25	41,250
<b>BASKETBALL COURTS</b>		
4 1000W FIXTURES	1.25	6,250
<b>SECURITY/TRAIL/DOG PARK AREA LIGHTS</b>		
28 70W FIXTURES F4	1.25	2,450
4 180W FIXTURES F1B	1.25	900
<b>IRRIGATION CONTROLLER</b>		
1 CONTROLLER 3 AMPS	1.25	450
<b>25% FUTURE</b>		
	0.25	18,190
<b>TOTAL</b>		<b>92,300</b>
92,300 / (208*1.732) =		258 AMPS
<b>SERVICE SIZE =</b>		<b>400 AMPS</b>

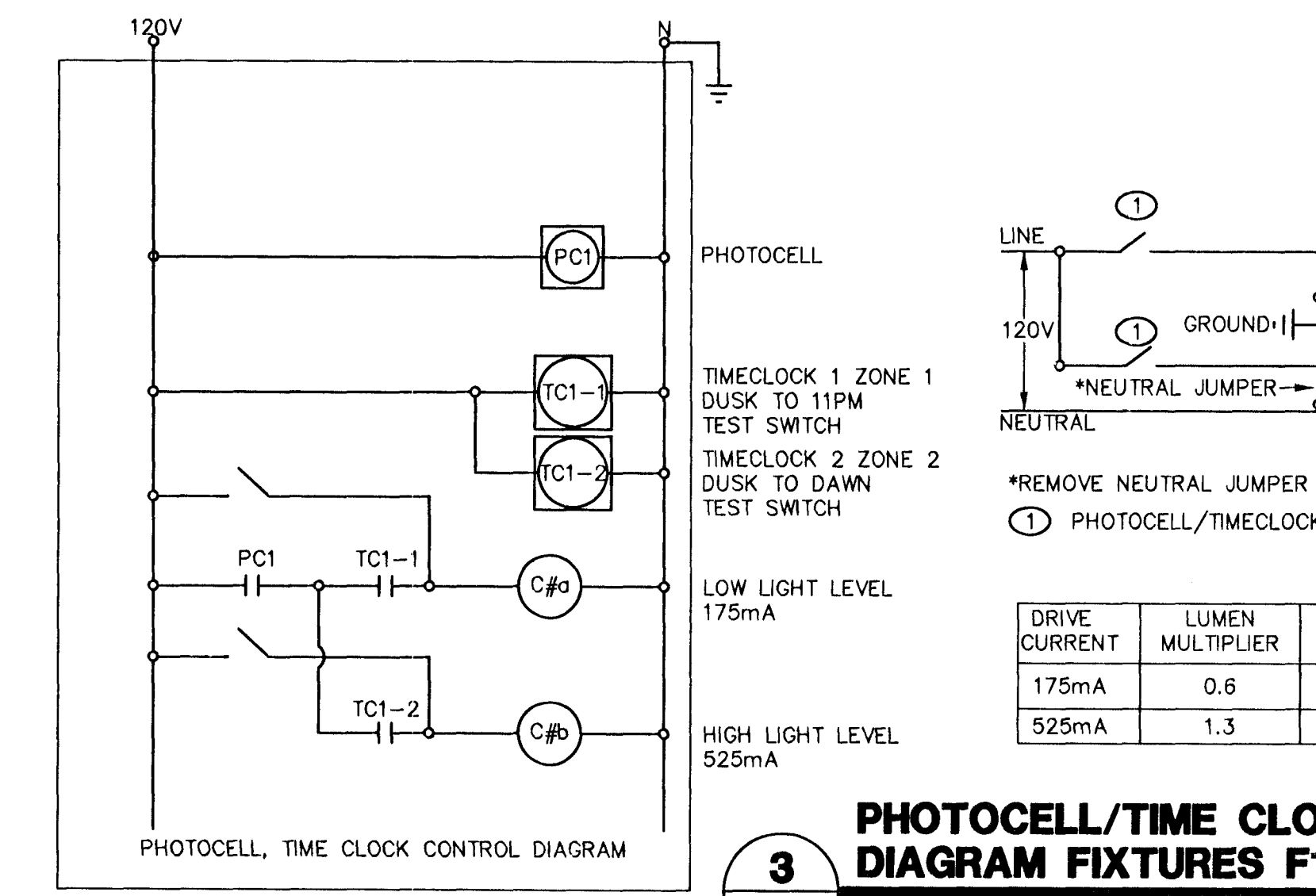
**NORTH PARK CONTACTOR SCHEDULE**

CONTACTOR #	RATING	NO. POLES	LOCATION	CIRCUITS CONTROLLED
C1	60	3	MAIN SWITCHBOARD MS1	MS1-2
C2	60	3	MAIN SWITCHBOARD MS1	MS1-3
C3	60	3	MAIN SWITCHBOARD MS1	MS1-4
C4	60	3	MAIN SWITCHBOARD MS1	MS1-5
C5	30	1	MAIN SWITCHBOARD MS1	MS1-6
C6	30	1	MAIN SWITCHBOARD MS1	MS1-7
C7a	30	1	MAIN SWITCHBOARD MS1	MS1-8
C7b	30	1	MAIN SWITCHBOARD MS1	MS1-8
C8a	30	1	MAIN SWITCHBOARD MS1	MS1-9
C8b	30	1	MAIN SWITCHBOARD MS1	MS1-9
C9a	30	1	MAIN SWITCHBOARD MS1	MS1-10
C9b	30	1	MAIN SWITCHBOARD MS1	MS1-10
C10a	30	1	MAIN SWITCHBOARD MS1	MS1-11
C10b	30	1	MAIN SWITCHBOARD MS1	MS1-11
C11	30	1	MAIN SWITCHBOARD MS1	MS1-12
C12	30	1	MAIN SWITCHBOARD MS1	MS1-13

**CONTROL SCHEDULE**

CONTROL	DESCRIPTION	CONTACTORS CONTROLLED	AREA
MUSCO	SPORTS LIGHTING	C1, C2, C3, C4	MUSCO CONTROL LINK
PC1/TC1 (ZONE-3)	TOT LOT, BASKETBALL COURT, RAMADA	C5, C6, C11	MAIN SWITCHBOARD MS1
PC1/TC1-1 (ZONE 1)	TRAIL LIGHTING, DOG PARK (LOW)	C8a*, C9a*, C10a*	MAIN SWITCHBOARD MS1
PC1/TC1-2 (ZONE 2)	TRAIL LIGHTING, DOG PARK (HIGH)	C8b*, C9b*, C10b*	MAIN SWITCHBOARD MS1
PC1/TC1-1 (ZONE 1)	PARKING LOT (LOW)	C7a*	MAIN SWITCHBOARD MS1
PC1/TC1-2 (ZONE 2)	PARKING LOT (HIGH)	C7b*	MAIN SWITCHBOARD MS1

ALL CONTACTORS EXCEPT FOR C1 TO C4 ARE TO BE INSTALLED PER THE CITY OF LAS VEGAS STANDARD  
 \*FIXTURES F1 THROUGH F4 WILL BE CONTROLLED BY CONTACTORS C8a, C9a, C10a ON LOW AND CONTACTORS C8b, C9b, C10b WILL CONTROL THE CONTACTORS ON HIGH



**3 PHOTOCELL/TIME CLOCK CONTROL DIAGRAM FIXTURES F1 THROUGH F4 AND F8**

- GENERAL NOTES:  
 TIME CLOCK WILL BE ASTRONOMICAL BASED ON CITY OF LAS VEGAS STANDARDS

**SHORT CIRCUIT CALCULATIONS - NORTH PARK**

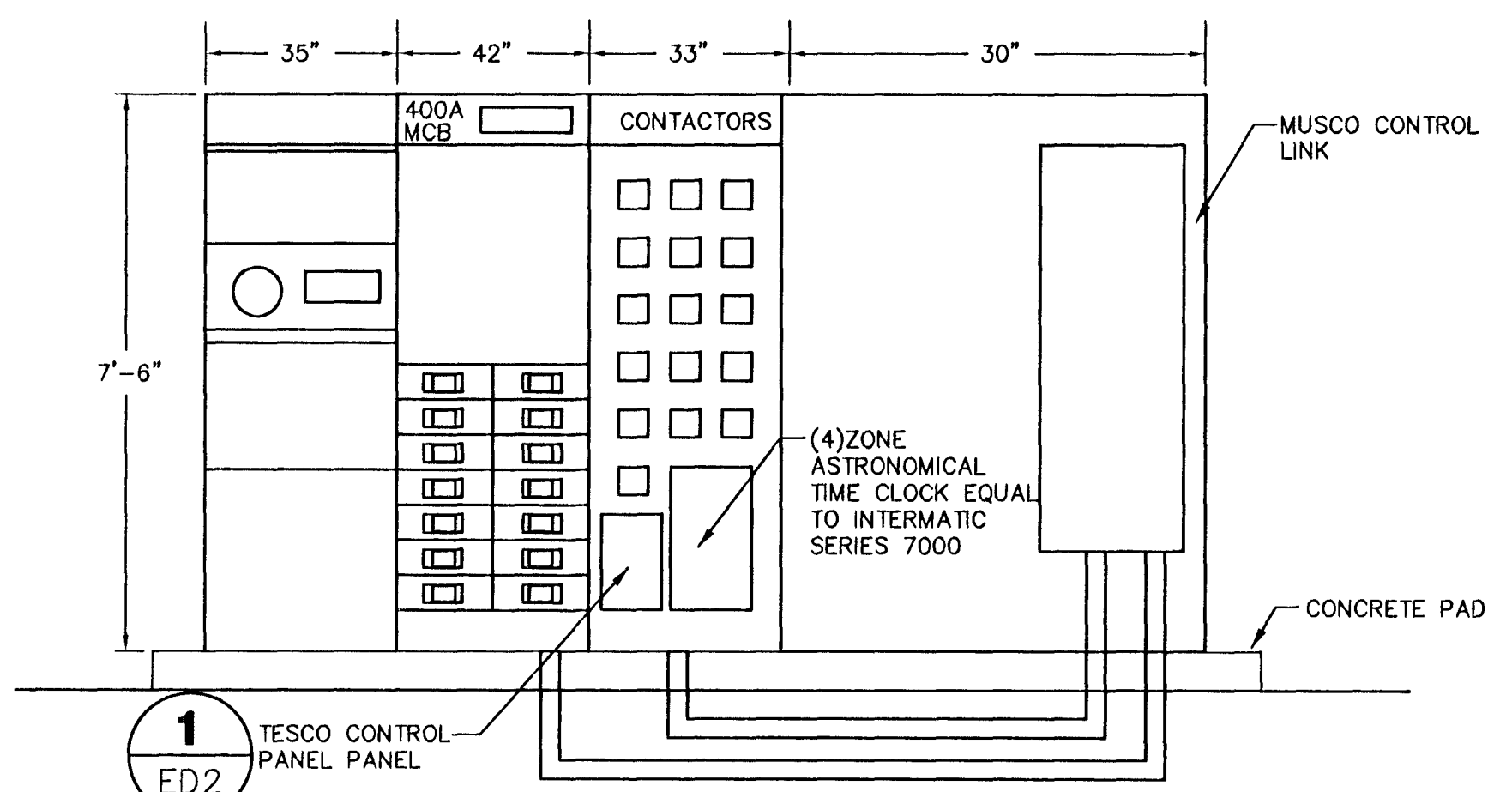
PROJECT: SANDHILL AND OWENS PARK AND TRAILHEAD PROJECT NO: 08015  
 LOCATION: SANDHILL AND OWENS - CITY OF LAS VEGAS DATE: 08/27/09

FAULT LOCATION	TRANS. KVA	PRI. VOLT. L-L	SEC. VOLT. L-L	XFMR. %Z	SEC. FLA	XFMR. PRI. I <sub>sc</sub> **	XFMR. SEC. I <sub>sc</sub>	'MOTOR CONTRIB.	TOTAL CONTRIB.
									I <sub>sc</sub>
UTILITY TRANSFORMER - MIN	150	208	208	---	---	---	53871		53871
UTILITY TRANSFORMER - MAX	150	208	208	---	---	---	53871		53871

FAULT LOCATION	CKT LEN. FT.	A/CU	CONDUCTORS		CONDUIT MAG=1 NON=2	CKT VOLT. L-L	CIRCUIT "C"	BEGINNING I <sub>sc</sub>	FAULT I <sub>sc</sub>
			NO./PH.	SIZE					
SERVICE PEDESTAL 'MS1'	30	CU	#3/0	2	2	208	27846	53871	36319

\* MULTIPLY THE TOTAL MOTOR LOAD CURRENT BY 4  
 \*\* FOR INFINITE BUS USE 100,000,000  
 \*\*\* SECONDARY SHORT CIRCUIT INFORMATION TAKEN FROM NEVADA POWERS PUBLISHED FAULT CURRENTS, LATEST REVISION AS OF THE DATE ABOVE  
 ALL CALCULATIONS BASED ON BUSSMAN POINT-TO-POINT METHOD



**2 MAIN SWITCHBOARD 'MS1' ELEVATION**

- NOT TO SCALE  
 GENERAL NOTES FOR ONELINE AND ENCLOSURE:  
 1. SWITCHBOARD SHOWN WITHOUT NEMA 3R DOORS FOR CLARITY.  
 2. SEE ONELINE DIAGRAM FOR CONDUIT AND FEEDER REQUIREMENTS.  
 3. ALL FEEDERS ARE INSTALLED IN CONDUIT AND ANY DEVIATION IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE CONDUIT FILL, HEAT, AND DERATE ALL MEET THE NEC REQUIREMENTS.  
 4. PAINT ENCLOSURE PER THE CITY OF LAS VEGAS STANDARDS. VERIFY COLOR PRIOR TO ORDERING.  
 5. MUSCO CONTROL LINK WILL BE IN A SEPERATE NEMA 3R ENCLOSURE CONNECTED TO MAIN SWITCHBOARD.

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE DESIGN PROFESSIONAL HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

**DEPARTMENT OF PUBLIC WORKS**

SANDHILL OWENS PARK & TRAILHEAD  
 LAS VEGAS, NEVADA

ELECTRICAL ONELINE PLAN

OWNER: CITY OF LAS VEGAS  
 DEPARTMENT OF PUBLIC WORKS  
 CAPITAL PROJECT MANAGEMENT SECTION

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DATE: 12/7/2008  
 SCALE: NT3  
 BID NO: 081634111  
 CLV OR: NO

EG2