

PARTIAL - EXISTING SINGLE LINE DIAGRAM NONE A

SINGLE LINE GENERAL NOTES

- ALL OVERCURRENT DEVICES IN AN INDIVIDUAL PIECE OF EQUIPMENT SHALL HAVE AN AIC RATING EQUAL TO THE OVERALL RATING OF THE EQUIPMENT - SERIES RATING OF DEVICES WITHIN A PIECE OF EQUIPMENT IS NOT ALLOWED.
- SERIES CONNECTED DEVICES SHALL HAVE BEEN INVESTIGATED BY UL IN COMBINATION WITH THE END USE EQUIPMENT, AND THE EQUIPMENT IN WHICH THESE DEVICES ARE USED SHALL BE MARKED WITH THE SERIES CONNECTED RATING. ALL EQUIPMENT SHALL BE MARKED IN ACCORDANCE WITH NEC REQUIREMENTS.
- ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75 DEGREE CELSIUS CONDUCTORS.
- ALL SERVICE ENTRANCE EQUIPMENT, SWITCHBOARDS, DISTRIBUTION BOARDS, AND PANELBOARDS RATED AT 400 AMPS OR GREATER, SHALL BE PROVIDED WITH A MAIN OVERCURRENT DEVICE AND BUSSING RATED AT 100% CONTINUOUS OPERATION.
- ALL BRANCH OR FEEDER CIRCUIT OVER-CURRENT DEVICES RATED AT 400 AMPS OR HIGHER SHALL BE RATED FOR 100% CONTINUOUS OPERATION.
- CONTRACTOR SHALL SUBMIT SWITCHBOARD SHOP DRAWINGS TO THE SERVING UTILITY FOR APPROVAL PRIOR TO FABRICATION. CONTRACTOR SHALL SECURE CONFIRMATION THAT THE PROPOSED SWITCHBOARD COMPLIES WITH THE POWER COMPANY REGULATIONS.
- BUSSING:
 - ALL BUSSING SHALL BE COPPER OR ALUMINUM IN CONSTRUCTION. MAIN HORIZONTAL AND VERTICAL BUSSING SHALL BE FULL CAPACITY IN ALL SWITCHBOARD SECTIONS.
 - HORIZONTAL AND VERTICAL BUSSING SHALL BE FULL LENGTH. ALL BUSSING SHALL HAVE A MINIMUM WITHSTAND RATING EQUAL TO THE AVAILABLE FAULT CURRENT INDICATED, BUT IN NO CASE SHALL THE RATING BE LESS THAN 65,000 AMPS, SYMMETRICAL.
- GROUND FAULT RELAY SETTINGS:
 - TO MINIMIZE NUISANCE TRIPPING OF THE MAIN AND FEEDER BREAKER, THE CONTRACTOR SHALL ADJUST THE GROUND FAULT RELAY SETTINGS FOR ALL THE GFP DEVICES TO BE HIGHER THAN ALL DOWNSTREAM GFP AND NON-GFP DEVICES. THE GROUND FAULT CURRENT PICK-UP AND TIME DELAY SETTINGS SHALL BE ADJUSTED, PER THE MANUFACTURERS RECOMMENDATIONS, RESULTING FROM A CONTRACTOR/MANUFACTURER PREPARED COORDINATION STUDY - WHICH SHALL BE DOCUMENTED IN THE SHOP DRAWING SUBMITTAL.
 - DURING THE CONSTRUCTION PHASE OF THE PROJECT, ALL GROUND FAULT RELAYS SHALL BE SET AT THE SHORTEST AVAILABLE TIME DELAY.
 - AFTER ALL SETTINGS HAVE BEEN ADJUSTED, THE CONTRACTOR SHALL HAVE THE GROUND FAULT SYSTEM TESTED BY AN INDEPENDENT TESTING AGENCY PER NEC 230-95 (C). THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE LOCAL AUTHORITY HAVING JURISDICTION AND THE TEST RESULTS SHALL BE DELIVERED TO THE ENGINEER OF RECORD.

EXISTING PANEL "C"													
MOUNTING RECESSED		DOUBLE LUG NO		Volts: 120/240V				MAIN MLO					
NEMA 3R NO		200% NO		Phases: 1				BUS 100					
FEED THRU NO		UG BUS NO		Wires: 3				A.I.C.					
N O T E S	C I R C U I T	LOCATION	TRIP	POLES	A				B				
					POLES	TRIP	LOCATION	POLES	TRIP	LOCATION			
	1	EXISTING LOAD	20A	2	1000	1000	1000	1000	2	20A	RECEP - EAST & SOUTH WALL, DISPATCH	2	
	3					1000	1000	1000			RECEP - EAST WALL & CONTROL	4	
	5	EXISTING LOAD	30A	2	1800	1800	1800	1800	2	30A	RELAY BUZZER	6	
	7					1800	1800	1800			RECEP - EQUIP ROOM	8	
	9	AC UNIT ON ROOF	50A	2	3264	1800	1800	1800	2	30A	FIRE ALARM PANEL	10	
	11	AC1				3264	1800	1800				12	
TOTAL DEMAND LOAD:					ØA		ØB						
TOTAL DEMAND AMPS:					10664		10664		100% PERCENT BALANCE				
					89		89						
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL LOADS								
CONTINUOUS LOAD = C		0	125%	0	TOTAL CONN. LOAD (VA)		0						
KITCHEN EQUIPMENT LOAD = K		0	100%	0	TOTAL EST. DEMAND (VA)		0						
LIGHTING LOAD = L		0	125%	0	TOTAL CONN. (AMPS)		0						
MOTOR LOAD = M		0	100%	0	TOTAL EST. DEMAND (AMPS)		0						
NON-CONTINUOUS LOAD = N		0	100%	0									
PANEL LOAD = P		0	100%	0									
RECEPTACLE LOAD = R		0	100%	0									

- PANEL SCHEDULE NOTES:**
- PROVIDE LOCK-ON DEVICE.
 - PROVIDE LOCK-OFF DEVICE.
 - CIRCUIT BREAKER CONTROLLED BY ANSUL SYSTEM REFER TO HOOD FIRE SYSTEM INTERLOCK DIAGRAM.
 - PROVIDE GFCI TYPE DEVICE.
 - PROVIDE A RED CIRCUIT BREAKER.
 - PROVIDE A NEW BREAKER TO EXISTING TYPE AND A.I.C. RATING IN PANEL.
 - PROVIDE "HACR" TYPE CIRCUIT BREAKER FOR HVAC EQUIPMENT.
 - PROVIDE PHOTOCELL AND TIME CLOCK WITH RELAYS FOR EXTERIOR LIGHTING CONTROL. REFER TO EXTERIOR LIGHTING CONTROL DIAGRAM.
 - EXISTING BREAKER CIRCUIT MADE AVAILABLE THROUGH DEMOLITION.

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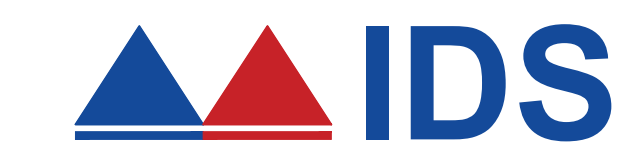


CITY OF TORRANCE
3031 TORRANCE BLVD.
TORRANCE, CA 90503

PROJECT NAME

**FIRE STATION #4
ROOF TOP UNIT
REPLACEMENT**
5205 CALLE MAYOR
TORRANCE, CA 90501

CONSULTANT



1 PETERS CANYON ROAD, SUITE 130
IRVINE, CA. 92606
TEL: 949-387-8500, FAX: 949-387-0800

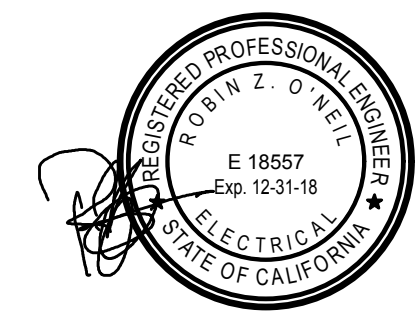
Project # 17X036.00

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Date

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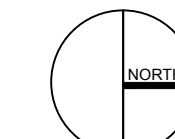
REV.	DESCRIPTION	DATE
	CITY SUBMITTAL	03/05/2018

SHEET TITLE

**ELECTRICAL SINGLE
LINE DIAGRAM
& PANEL SCHEDULE**

SHEET NUMBER

E0.2



PLAN GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING AND ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND CHARACTERISTICS OF ALL EQUIPMENT LISTED IN SCHEDULE. ANY MODIFICATIONS AND/OR ADDITIONAL WORK NECESSARY SHALL BE INCLUDED IN THE BASE BID.
2. ALL TEMPERATURE CONTROL AND INTERLOCK CONDUIT AND WIRING SHALL BE BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE. SEE MECHANICAL/PLUMBING DRAWINGS FOR ALL INFORMATION.
3. ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL CONNECTION POINTS WITH THE EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE LOCAL REMOTE DISCONNECTING MEANS FOR ALL ELECTRIC HEATING EQUIPMENT IF REQUIRED BY THE LOCAL ELECTRICAL CODE.
5. ELECTRICAL CONTRACTOR SHALL COORDINATE THE ROUTING OF POWER WIRING TO ROOF-MOUNTED EQUIPMENT WITHIN MECHANICAL PIPE CURB ASSEMBLY. NO SEPARATE ROOF PENETRATIONS WILL BE PERMITTED. ALL WIRING SHALL BE BELOW THE ROOF IN AN ACCESSIBLE CEILING SPACE LOCATION.
6. ALL ROOF MOUNTED EQUIPMENT SHALL BE NEMA 3R RATED.
7. ALL DISCONNECT SWITCHES SHALL BE RP RATED IN ACCORDANCE WITH NEC-400-101.
8. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.

SHEET NOTES

- 1. PROVIDE NEW WEATHER PROOF FUSED DISC. SWITCH AND SEALTIE CONDUIT FOR POWER CONNECTION TO HVAC UNIT. COORDINATE WITH MECHANICAL CONTRACTOR.
- 2. PROVIDE WEATHER PROOF T-BOX AND 3/4" SEALTIE CONDUIT FOR MECHANICAL CONTROLS CONNECTION. COORDINATE WITH MECHANICAL CONTROLS CONTRACTORS.
- 3. REMOVE ALL EXISTING CONDUITORS AND DISCONNECTS.
- 4. NEW CONDUITORS BACK IN EXISTING CONDUIT.

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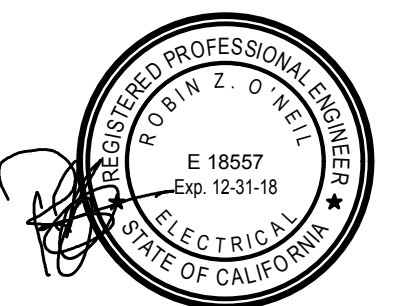
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SHEET TITLE

**ELECTRICAL ROOF
RENOVATION PLAN**

SHEET NUMBER

E2.0