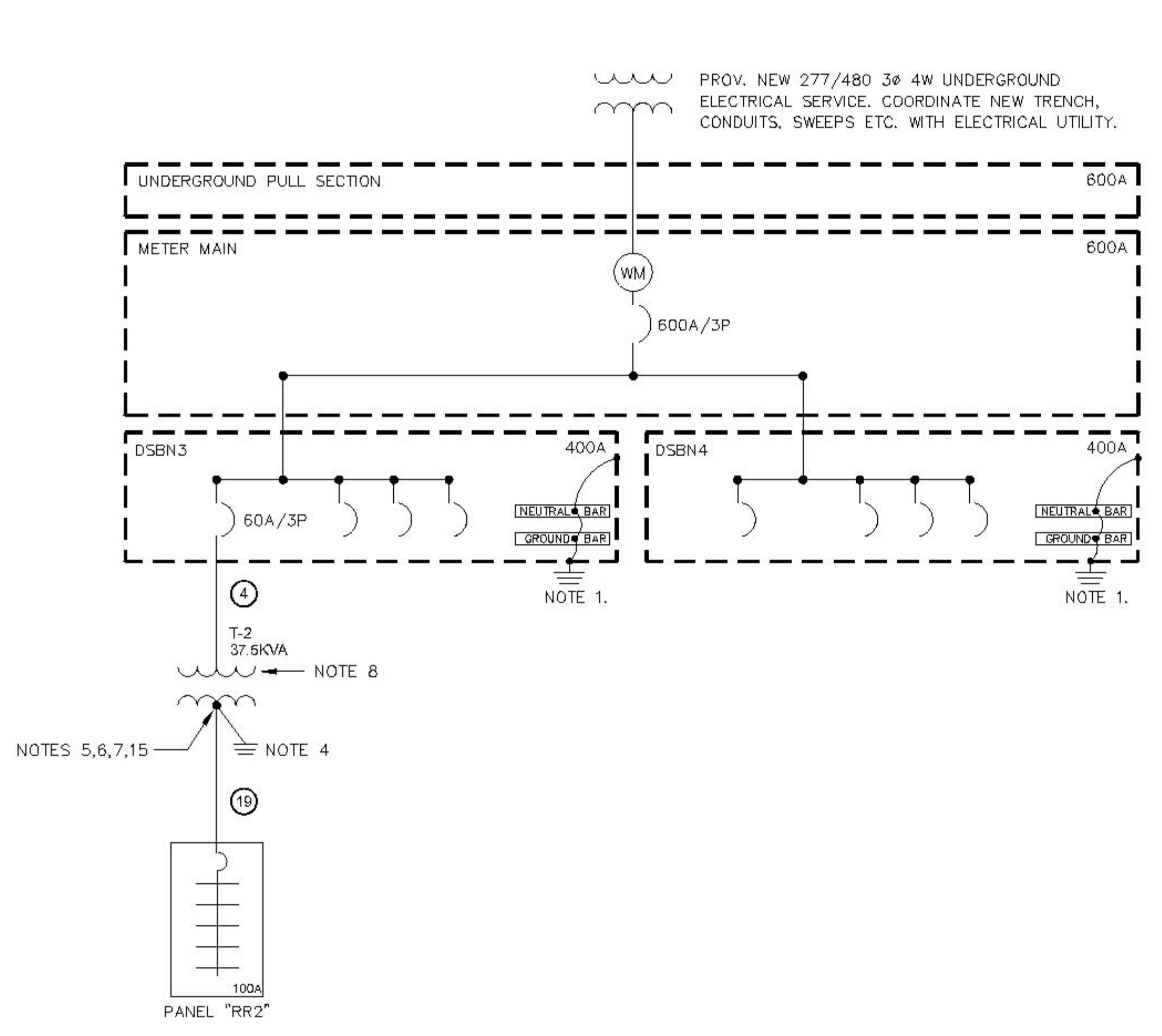


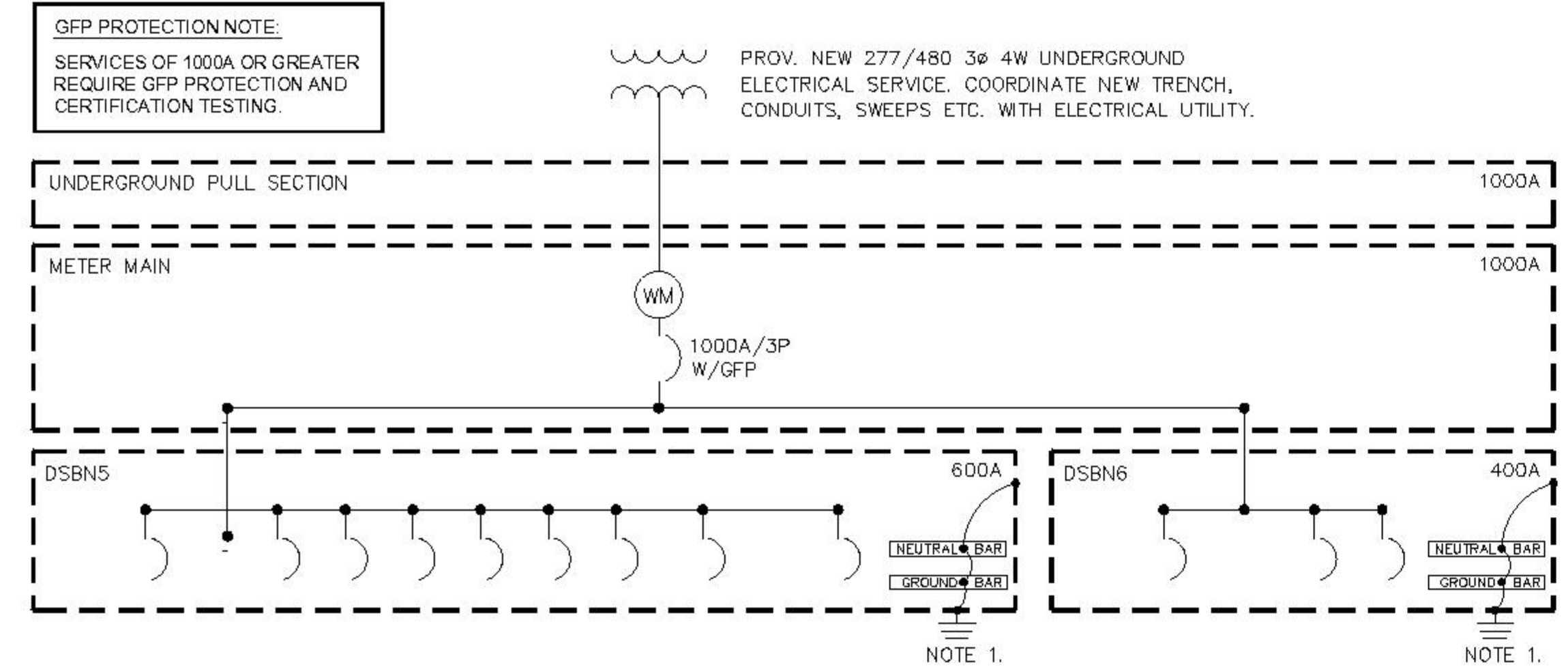
A.C. SINGLE LINE DIAGRAM - SERVICE #1
NO SCALE

1
E1



A.C. SINGLE LINE DIAGRAM - SERVICE #2
NO SCALE

2
E1



A.C. SINGLE LINE DIAGRAM - SERVICE #3 (AQUATIC CENTER)
NO SCALE

3
E1

SWITCHGEAR NOTES:

- BOND NEUTRAL BUS, GROUNDING BUS, AND SERVICE RACEWAY. CONNECT TO: (1) AN EFFECTIVELY GROUNDED STRUCTURAL METAL MEMBER OF THE STRUCTURE, IF AVAILABLE (2) METAL WATER PIPE (WITHIN FIRST FIVE FEET OF THE WATER PIPE ENTRANCE TO THE BUILDING), IF AVAILABLE (3) OTHER MADE GROUND ELECTRODES (DRIVEN GROUND ROD) SHOWN ON THESE PLANS. USE #4/0 COPPER CONDUCTORS FOR BONDING. GROUNDING CONDUCTOR SIZE PER DRIVEN GROUND ROD DETAIL.
- QUANTITY OF CIRCUIT BREAKERS SHOWN IS DIAGRAMMATICAL. REF. SITE PLAN AND A.C. BREAKER ASSIGNMENTS FOR QTY'S, SIZES OF CIRCUIT BREAKERS, CONDUCTORS AND CONDUIT.
- SERIES RATING OF MAIN SWITCHBOARD TO BE 30KAIC.
- BOND TRANSFORMER NEUTRALS ENCLOSURE AND SERVICE RACEWAY. CONNECT TO (1) AN EFFECTIVELY GROUNDED STRUCTURAL METAL MEMBER OF THE STRUCTURE (2) METAL WATER PIPE (3) OTHER MADE GROUND ELECTRODES SHOWN ON THESE PLANS. USE #2 COPPER CONDUCTORS FOR BONDING AND GROUNDING, UNLESS GROUNDING ELECTRODE CONDUCTOR IS INDICATED OTHERWISE IN GROUNDING DETAIL.
- FEEDER PROTECTION NOT REQUIRED PER SECTION NEC ARTICLE 240-21.
- SECONDARY PROTECTION NOT REQUIRED PER SECTION NEC ARTICLE 450-3(b)(2).
- TAP PER 25FT TAP RULE. NEC ART. 240-21 EXCEPTION B.
- TRANSFORMER T1 & T2 - 37.5KVA - 480V PRIMARY - 120/208V 3Ø 4W SECONDARY. 32"X32"X24"D. TRANSFORMER RR TO BE IN NEMA 1 ENCLOSURE. MANUFACTURER: SQUARE D
- TRANSFORMER T3 - 75KVA - 480V PRIMARY - 120/240V 1Ø SECONDARY. 40"X32"X32"D. MANUFACTURER: SQUARE D
- TRANSFORMER T4 & T5 - 112.5KVA - 480V PRIMARY - 120/208V 3Ø 4W SECONDARY. 37"X30"X24"D. MANUFACTURER: SQUARE D
- E.C. IS TO TRANSITION FROM 90° RATED CONDUCTORS TO 75° RATED CONDUCTORS WHEN TERMINATING INTO A THERMAL-MAGNETIC OVERCURRENT DEVICE RATED 75°. ILSCO TAP WITH CAP TO BE USED.
- CONTRACTOR WILL PROVIDE LETTER TO ENGINEER CONFIRMING ALL EQUIPMENT AND TERMINATIONS ARE PROPERLY TORQUED - SIGNED BY LICENSED CONTRACTOR.
- E.C. IS TO PROVIDE 400A FUSED DISCONNECT AS SHOWN. REF. POWER LAYOUT FOR EXACT LOCATION.
- BOND NEUTRAL BUS, GROUNDING BUS, AND FEEDER RACEWAY. CONNECT TO DRIVEN GROUND ROD, NEAREST AVAILABLE. METALLIC WATER PIPE ON PREMISES WITHIN THE FIRST FIVE FEET OF THE MAIN WATER PIPE ENTRANCE TO THE BUILDING, BUILDING STEEL, METAL ENCLOSURES OF THE BUILDING DISCONNECT MEANS AND ALL OTHER METAL ELECTRICAL ENCLOSURES NEUTRAL BARS OF EACH PANEL TO BE BONDED TO ADJACENT PANEL REFERENCE DETAIL FOR SIZE OF GROUNDING CONDUCTOR. USE #1/0 COPPER CONDUCTORS FOR BONDING.
- MAXIMUM 25 FOOT TAP ON SECONDARY SIDE OF TRANSFORMER.

DRY UTILITY SERVICE NOTE:
1. E.C. IS TO PROVIDE IN HIS BID ALL COSTS FOR RUNNING ALL DRY UTILITIES (ELECTRICAL, TELEPHONE, GAS & CABLE TV) SERVICE LATERALS, AND STRUCTURES FROM UTILITY POINT OF CONNECTION ON TO UTILITY POINT OF TERMINATION AT IN BUILDING.

EXPOSED CONDUIT NOTES:
1. E.C. IS TO PRIME AND PAINT ALL NEW EXPOSED CONDUIT AND BOXES, TO MATCH COLOR OF SURFACE MOUNTED TO.
2. ALL EXPOSED CONDUIT SWEEPS AND LBS ARE TO BE KEPT TO MINIMUM POSSIBLE SIZE.

NOTES:
1. LIGHT STANDARDS REQUIRE A SEPARATE PERMIT
2. ALL SIGNS REQUIRE SEPARATE PERMITS AND APPROVALS

ELECTRICAL UTILITY: Mike Trayer SD&E (949) 361-8015	TELEPHONE UTILITY: Robert Heckler AT&T (714) 899-5498	CABLE UTILITY: Al Santos Com (949) 549-2484
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GAS UTILITY:
John Schlinger
The Gas Company
(949) 425-4783

CONDUCTOR SCHEDULE				
RUN	CIRCUIT	GROUND	CONDUIT	% FILL
1	2#10	1#10	1-1/2"	2.71%
2	4#10	1#10	1-1/2"	4.51%
3	2#12	1#10	1-1/2"	2.05%
4	3#6	1#10	1-1/2"	8.53%
5	6#6	1#10	1-1/2"	16.17%
6	6#8	1#10	1-1/2"	11.87%
7	3#8	1#10	1-1/2"	6.39%
8	3#8 3#10	1#10	1-1/2"	9.09%
9	6#10	1#10	1-1/2"	6.31%
10	3#8 3#12	1#10	1-1/2"	8.11%
11	6#12	1#10	1-1/2"	4.34%
12	3#12	1#10	1-1/2"	2.62%
13	3#8 5#8	1#10	1-1/2"	24.04%
14	4#12	1#10	1-1/2"	3.20%
15	6#8 3#12	1#10	2"	8.25%
16	6#8 3#10	1#10	2"	8.85%
17	3#10	1#10	1-1/2"	3.61%
18	3#10 3#12	1#10	1-1/2"	5.33%
19	4#2	1#10	1-1/2"	24.08%
20	3/16" PULLROPE	---	1-1/2"	---
21	3/16" PULLROPE	---	4"	---
22	3/16" PULLROPE	---	6"	---
23	3/16" PULLROPE	---	1"	---
24	3#1/0	1#6	2"	18.45%
25	4#3/0	1#3	2-1/2"	24.75%
26	3#6 2#8	1#10	1-1/2"	28.92%
27	3#4	1#10	1-1/4"	18.13%
28	3#4 3#6	1#10	1-1/4"	28.51%
29	3#6 3#8	1#10	1-1/4"	19.07%
30	3#6 3#10	1#10	1-1/2"	26.66%
31	3#6 6#8	1#10	1-1/4"	26.53%
32	3#6 3#8 3#10	1#10	1-1/4"	22.75%
33	5#12	1#10	1-1/2"	14.51%
34	6#12 3#10	1#10	1-1/2"	27.13%
35	2#12 2#10	1#10	1-1/2"	15.25%

- ELECTRICAL NOTES & SYMBOLS**
- ALL WORK TO BE DONE IN ACCORDANCE WITH CALIFORNIA ELECTRICAL CODE 2007 EDITION.
 - ALL UNDERGROUND OUTSIDE BRANCH CIRCUIT AND FEEDER CIRCUITS ARE TO BE RUN IN NONMETALLIC CONDUIT SCHEDULE 40, UNLESS OTHERWISE INDICATED, LISTED FOR UNDERGROUND INSTALLATIONS, UL LISTED AND RATED FOR 90° CONDUCTORS. ALL ELECTRICAL CONDUCTORS RUN EXPOSED, SHALL BE RUN IN EMT CONDUIT SUPPORTED AT 10' INTERVALS AND WITHIN 3' OF TERMINATIONS OR BOXES.
 - ALL ELECTRICAL SYMBOLS PER ANSI Y32.9 1972, REAFFIRMED 1988.
 - GFCI PROTECTED AND WEATHERPROOF RECEPTACLE OUTLET IS TO BE LOCATED WITHIN 25 FEET OF ROOF MOUNTED HVAC EQUIPMENT. RECEPTACLE IS NOT TO BE WIRED ON LOAD SIDE OF ANY DISCONNECT SWITCH CONTROLLING ROOF MOUNTED HVAC EQUIPMENT. PER NEC ARTICLE 210-63 & THE UMC. ROOM CENTER AT +15".
 - ALL NEW ELECTRICAL CONDUCTORS ARE TO BE COPPER, INSULATION FOR #12 TO #14 SHALL BE THWN, #10 THROUGH #4/0 SHALL BE TYPE XHHW 58mls, AND #250 VCM AND LARGER SHALL BE TYPE XHHW 65mls GROUNDING CONDUCTOR SHALL BE THWN.
 - UTILITIES AND LIGHTING EQUIPMENT ARE DRAWN DIAGRAMMATICALLY. SCALED DIMENSIONS ARE APPROXIMATE ONLY. BEFORE PROCEEDING WITH WORK, CAREFULLY CHECK AND VERIFY DIMENSIONS IMMEDIATELY NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS OR SPECIFICATIONS AND ACTUAL CONDITIONS ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE. IT IS NOT WITHIN SCOPE OF THE DRAWINGS TO SHOW NECESSARY OFFSETS, OBSTRUCTIONS, OR SITE CONDITIONS. THE CONTRACTOR WILL BE RESPONSIBLE TO INSTALL WORK IN SUCH A MANNER THAT IT WILL CONFORM TO SITE CONDITIONS, COMPLETE AND IN GOOD WORKING ORDER.
 - ALL BRANCH CIRCUITS AND FEEDERS CIRCUITS SHALL HAVE A GROUNDING CONDUCTOR PULLED WITH THEM. REF. A.C. BREAKER ASSIGNMENTS & LIGHT AND POWER LAYOUTS FOR SIZE OF GROUNDING CONDUCTOR. THIS COPPER GROUNDING CONDUCTOR SHALL BE TERMINATED TO GROUNDING TERMINALS OF ALL RECEPTACLES & ALL NONCURRENT-CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRICAL EQUIPMENT LIKELY TO BECOME ENERGIZED THAT ARE SUBJECT TO PERSONAL CONTACT.
 - THE E.C. SHALL PROVIDE SUPPORT FOR ALL FIXTURES AND ELECTRICAL EQUIPMENT TO COMPLY WITH THE SPECIFIC REQUIREMENTS OF THE UNIFORM BUILDING CODE AND ALL LOCAL ORDINANCES. THE E.C. SHALL VERIFY WHO IS PROVIDING SUPPORT WIRES FOR ALL LIGHTING FIXTURES IN SUSPENDED CEILING AS REQUIRED.
- 1 INDICATES DETAIL #
E1 INDICATES SHEET #

ABBREVIATIONS

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE FURNISHED & INSTALLED NEW, BY E.C.	TYP.	TYPICAL.
M.O.C.C.D.	MAIN OVER CURRENT DEVICE, EITHER A FUSE OR CIRCUIT BREAKER	BRANCH CIRCUIT	ELECTRICAL CONDUCTORS BEYOND THE LAST PROTECTIVE DEVICE
XEMR	TRANSFORMER, ELECTRICAL DEVICE THAT CHANGES VOLTAGE LEVELS	SWBD	SWITCHBOARD - ELECTRICAL EQUIPMENT CONTAINING PULLSECTION, METER MAIN, AND FEEDER OVER CURRENT DEVICES
	PRIMARY, OR HIGH VOLTAGE SIDE OF A TRANSFORMER	SWGR	SWITCHGEAR - ELECTRICAL EQUIPMENT, SUCH AS SWITCHBOARD, PANEL BOARD, DISCONNECT, ETC.
	SECONDARY, OR LOW VOLTAGE SIDE OF A TRANSFORMER	MPZ	MINI POWER ZONE. UNMETERED PEDESTAL WITH PANELS, CIRCUIT BREAKERS, TRANSFORMER, AND CONTROLS, AS SHOWN ON SINGLE LINE DIAGRAMS AND DETAILS.
FEEDERS	ELECTRICAL CONDUCTORS FEEDING ELECTRICAL EQUIPMENT WITH OVER CURRENT DEVICES SUCH AS PANEL BOARDS OR MOTORS		

SCOPE OF ELECTRICAL WORK

ELECTRICAL PORTION OF CONTRACT WORK IS TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:

ELECTRICAL & TELEPHONE SERVICE:
E.C. IS TO PROVIDE NEW ELECTRICAL & TELEPHONE SERVICE, WHICH CONSISTS OF COORDINATING WITH SD&E AND SBC. E.C. IS TO COORDINATE SERVICE LATERAL TRENCH, CONDUIT, BENDS, ELBOWS AND BOXES WITH DRY UTILITIES PRIOR TO INSTALLATION

NEW SPORTS POLES AND LUMINAIRES:
E.C. IS TO PROVIDE NEW SPORTS POLES, FOOTINGS AND LUMINAIRES AS SHOWN ON THESE PLANS. E.C. IS TO PROVIDE ALL SECURITY LIGHTS SHOWS (PARKING LOT, GAZEBO, WALKWAY, SECURITY LIGHTS ON POLES, ETC.). E.C. IS TO PROVIDE ALL MOUNTING HARDWARE REQUIRED TO INSTALL LIGHTING FIXTURES.

ELECTRICAL SWITCHGEAR AND CONTROLS:
E.C. IS TO INSTALL NEW SWITCHGEAR AND SPORTS LIGHTING CONTROLS AS SHOWN ON THESE PLANS.

NEW FEEDER AND BRANCH CIRCUITS:
E.C. IS TO PROV. NEW FEEDER AND BRANCH CIRCUITS, TRENCH, CONDUCTORS AND CONDUIT, AS SHOWN ON THESE PLANS.

INTERIOR ELECTRICAL AND COMMUNICATIONS:
E.C. IS TO PROVIDE ALL INTERIOR BRANCH CIRCUITS, RECEPTACLE OUTLETS, INTERIOR AND EXTERIOR BUILDING LIGHTS, PHONE JACKS, COMPUTER JACKS AND ANY OTHER EQUIPMENT BEING SPECIFIED ON THESE PLANS.

SHEET INDEX

SHEET NO.	TITLE
E-1	A.C. SINGLE LINE DIAGRAM
E-1A	PARTIAL ELECTRICAL SITE PLAN
E-1B	PARTIAL ELECTRICAL SITE PLAN
E-1C	ELECTRICAL LOAD CALCULATIONS AND VOLTAGE DROP CALCULATIONS
E-1D	A.C. BREAKER ASSIGNMENTS
E-1E	TITLE 24 LIGHTING FORMS
E-2	LUMINAIRE SCHEDULE
E-2A	PHOTOMETRIC SITE PLAN - SPORTS AREA
E-2B	PHOTOMETRIC SITE PLAN - PARKING LOT
E-3	BUILDING DEPARTMENT NOTES
E-4	SPORTS AREA LUMINAIRE DETAILS
E-4A	SPORTS AREA POLE DETAILS
E-5	ELECTRICAL DETAILS
E-5A	ELECTRICAL DETAILS
E-5B	ELECTRICAL DETAILS
E-6	POWER & LIGHTING LAYOUT - RESTROOM BUILDING

SPECIAL INSPECTION FORM PERMIT NO. _____

City of San Clemente
Phone: (949) 551-6100 Fax: (949) 361-9281
Building@sanclermonte.org

Project Address: _____ Plan Review Project No. _____
Property Owner: _____ Architect: _____
Engineer: _____ Plans Examiner: _____

Specia. Inspector: _____ Phone No: _____
Inspection Agency (Firm): _____ Phone No: _____
Owner / Architect or Engineer (Signature): _____ Phone No: _____

The above signed hereby certifies that the special inspector identified above has been engaged to perform the special inspections outlined below as required by Section 101 of the California Building Code.

GEOTECHNICAL / SOILS
 Prior to foundation inspection submit a field memo stamped and signed by licensed geotechnical engineer to certify foundation excavation are located in proper soil bearing material, and to confirm required soil-bearing capacity.
 Soil Bearing Confirmation (see SEE SOILS REPORT)

FOUNDATION CONCRETE
 Fe = 4,000 psi concrete strength required (maximum water/cement ratio = 0.45) exposed to sulfates
 Type V cement required exposed to sulfates
 Special inspection and concrete lab testing IS REQUIRED
 Special inspection NOT required. Submit concrete batch mix trip ticket to building inspector.

PILE INSTALLATION
 Drilled Cast-in-Place Concrete / Piles Precast Concrete Piles
 Foundations Underpinning Installation Steel Piles

REINFORCED CONCRETE
 High Strength Concrete (≥2,500 psi) Cast-in-Place Concrete
 Grade Beams Cast-in-Place Columns / Piles Reinforcing Placement
 Concrete Frames Post-tensioned (tendon placing / stressing and concrete placement)
 Shotcrete / Gunite

STRUCTURAL STEEL
 Field Welding - E7018 Spray Applied Fire Proofing
 Steel Erection High Strength Bolting Walks & Plasters - f.m. = 1500 psi

STRUCTURAL MASONRY
 Retaining Walls - f.m. = 1500 psi Walks & Plasters - f.m. = 1500 psi

MISCELLANEOUS
 STRUCTURAL OBSERVATION IS REQUIRED (See attached structural observation form)
 Epoxy Anchors / Bolts
 Shear Walls / Diaphragm Walling
 Other Geotechnical Engineer to approve and certify composition of the non-proprietary backfill materials used behind retaining walls.
 Other Geotechnical Engineer to approve and certify subgrade material, system & installation used behind retaining walls.

Building/Forms/Walking/Special Inspection Form - 08/2008/02 1/18/05
Building Division, 910 Civic Center, Suite 100 San Clemente, CA 92673

CITY OF SAN CLEMENTE
Department of Beaches, Parks & Recreation
AVENIDA VISTA HERMOSA / AVENIDA LA PATA PARK (PHASE-1B)

A.C. SINGLE LINE DIAGRAM

APPROVED BY: _____ DATE: 10/28/09
REVIEWED BY: _____ DATE: 10/28/09
BY: RM

DESIGNED BY: _____ DATE: 02/21/08
DRAWN BY: JH
CHECKED BY: _____ DATE: _____
UNDER THE SUPERVISION OF: _____ DATE: 10/16/2008

PLANS PREPARED BY: _____
Dream Engineering Inc.
Consulting Electrical Engineers

DATE: 10/16/2008
DATE: 10/16/2008
DATE: 10/16/2008

Sheet: 102 of 178
AS SHOWN
E-1

1-800-424-1133
DIPARTI
INTERNATIONAL BUREAU OF FIREMAKERS CALIFORNIA
CALIFORNIA FIREMAKERS ASSOCIATION
15490 Olive Drive
Van Nuys, CA 91411
Tel: 760-741-6474
www.dreameng.com
email: info@dreameng.com

DESIGNED BY: _____ DATE: 02/21/08
DRAWN BY: JH
CHECKED BY: _____ DATE: _____
UNDER THE SUPERVISION OF: _____ DATE: 10/16/2008

JUAN A. ARAUJO
EE 16537

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