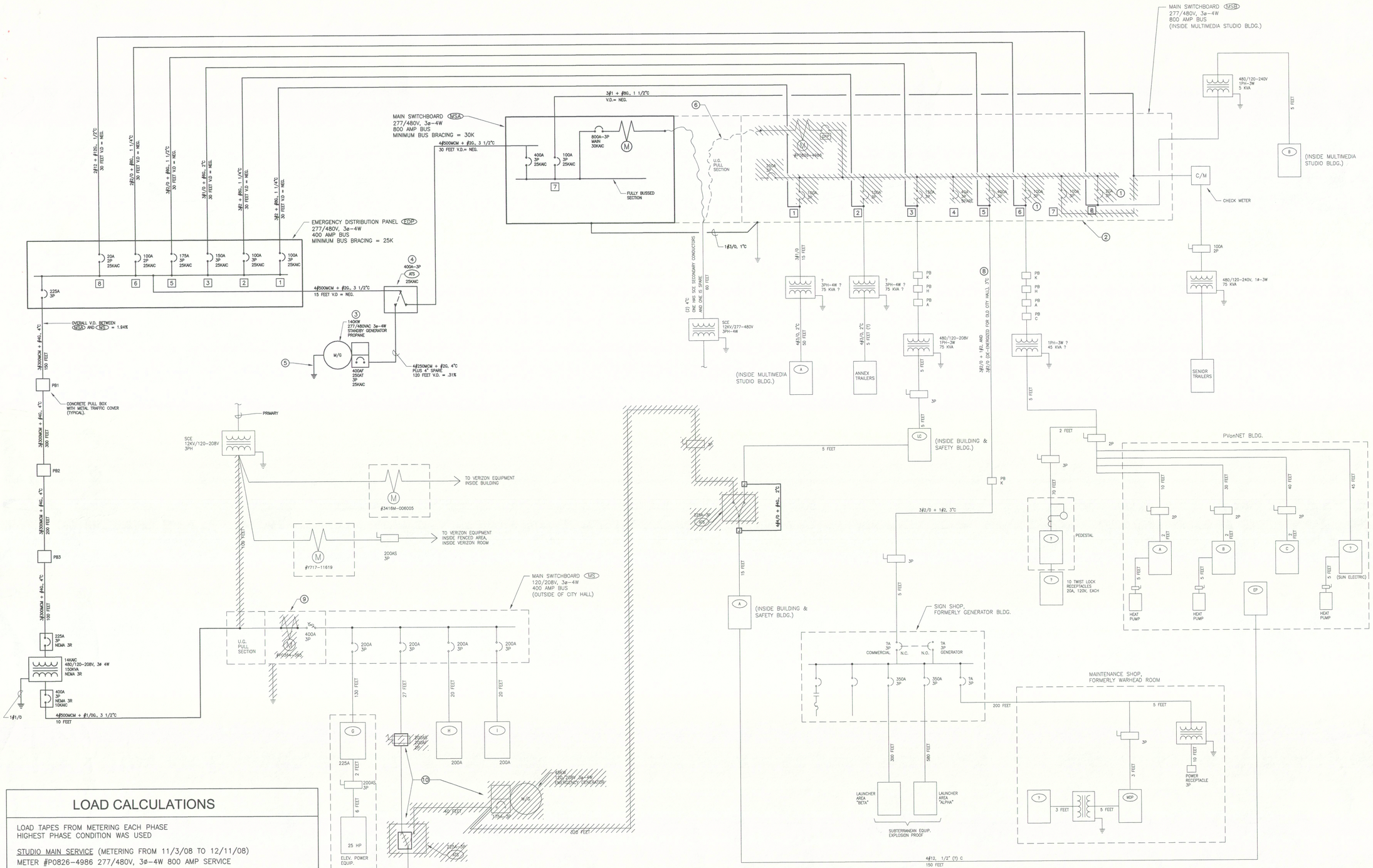

LOAD CALCULATIONS

LOAD TAPES FROM METERING EACH PHASE
HIGHEST PHASE CONDITION WAS USED

STUDIO MAIN SERVICE (METERING FROM 11/3/08 TO 12/11/08)
METER #P0826–4986 277/480V, 3ø–4W 800 AMP SERVICE
PEAK = 128 AMPS

CITY HALL SERVICE (METERING FROM 11/3/08 TO 12/17/08)
METER #P0364–365 120/208V, 3ø–4W 400 AMP SERVICE
PEAK = 258 AMPS

• NORMAL LOAD TOTAL PER NEC

$= 1.25\ (128\ \text{AMPS} + \frac{258\ \text{AMPS} \times 360}{831}) = \boxed{299.71\ \text{AMPS}}$

• EMERGENCY LOAD ON GENERATOR PER NEC

$= 1.25\ (128\ \text{AMPS} - \underset{①}{59\ \text{AMPS}} + (\frac{258\ \text{AMPS} - \underset{②}{63\ \text{AMPS}} - \underset{③}{68\ \text{AMPS}}) \times 360}{831}))$

$= \boxed{155.02\ \text{AMPS} \times 831 = 128.82\ \text{KW}}$

① SENIOR CENTER TRAILER PEAK NOT CONNECTED TO GENERATOR.

② ELEVATOR PEAK NOT CONNECTED TO GENERATOR.

③ HEATERS PEAK NOT CONNECTED TO GENERATOR.

SINGLE LINE DIAGRAM

- DARK LINE WORK INDICATES NEW (SEE NOTES (3) AND (4)).
- LIGHT LINE WORK INDICATES EXISTING.

NOTES:

1. ONLY 2–POLES ARE CONNECTED (SINGLE PHASE).
2. EXISTING MAIN SECTION IS BEING GUTTED AND REUSED AS A SPLICE BOX. PROVIDE COMPRESSION LUGS FOR SPLICING (DUAL RATED FOR COPPER/ALUMINUM WHERE REQUIRED).
3. GENERATOR WAS PURCHASED IN 2006 IS AT THE SITE AWAITING INSTALLATION UNDER THIS CONTRACT.
4. AUTOMATIC TRANSFER SWITCH WAS PURCHASED IN 2006 IS AT THE SITE AWAITING INSTALLATION UNDER THIS CONTRACT.
5. BONDING GROUNDING ONLY. NEUTRAL SHALL NOT BE GROUNDED AT GENERATOR. NEUTRAL IS SOLID (3–POLE ATS) AND SHALL BE TIED TO MAIN SWITCHBOARD GROUND ELECTRODE.
6. COORDINATE AND ARRANGE FOR SCE TO DISCONNECT AND RECONNECT THE SECONDARY CONDUCTORS TO THE NEW SWITCHBOARD (MSA).
7. A.I.C. RATING OF ALL BREAKERS AND BUS BRACING SHALL EXCEED MAXIMUM AVAILABLE FAULT CURRENT.
8. PULL OUT ABANDONED SET OF 3#2/0 CONDUCTORS BETWEEN (MS) AND PB–K.
9. MAKE ARRANGEMENTS WITH S.C.E. TO REMOVE SECONDARIES AND METER. REMOVE CT'S AND PROVIDE BUS JUMPER.
10. REMOVE DISCONNECT AND REPLACE WITH NEMA 3R SPLICE BOX. REMOVE ATS AND REPLACE WITH NEMA 3R SPLICE BOX. REMOVE GENERATOR. CONFIRM WITH CITY DURING BIDDING IF GENERATOR AND ATS WILL BE SALVAGED FOR CITY OR DISPOSED OF BY CONTRACTOR.

REV.	DESCRIPTION	DATE

Project

RPV GENERATOR

CITY OF RANCHO PALOS VERDES
30940 HAWTHORNE BLVD.
RANCHO PALOS VERDES, CA 90275

NIKOLAKOPULOS and ASSOC., INC.
CONSULTING ELECTRICAL ENGINEERS
2780 SKYPARK DRIVE, SUITE #280
TORRANCE, CA 90505
310/530-7277 FAX: 310/530-7283

LICENSED ENGINEER — JOHN NIKOLAKOPULOS — No. E 6243 — REN. 09-30-10 — STATE OF CALIFORNIA

Sheet Title

SINGLE LINE DIAGRAM

Scale: NOT TO SCALE

Date 2/12/09

CAD File | Project Number

Sheet Number

E2R