KEYED NOTES

(1) VERIFY WITH SERVICE PLANNER FOR AIC RATING AND ELECTRICAL INFORMATION BEFORE ISSUING ANY BID. NOTIFY ENGINEER IMMEDIATELY IF MAJOR DISCREPANCIES OCCURS.

(2) STUB UP CONDUIT FOR PV SYSTEM. PV SYSTEM SHALL BE SUBMITTED UNDER A SEPARATE PERMIT. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH PV CONSULTANT FOR THE EXACT SIZE OF CONDUIT AND ALL ELECTRICAL REQUIREMENTS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO SIZE THE BUS BAR OF PANEL PER NEC 705.12(D)(2)(3)(C).

(3) ALL SERVICES SUPPLYING DWELLING UNITS SHALL BE PROVIDED WITH A SURGE-PROTECTIVE DEVICE (SPD) IN ACCORDANCE WITH NEC 230.67. PROVIDE SIEMENS BOLT SHIELD SPD OR EQUAL FOR ALL TENANT LOAD CENTERS

GENERAL NOTES

1. THE MAXIMUM AVAILABLE FAULT CURRENT IS BASED ON WORST CASE FAULT CURRENT PUBLISHED BY THE UTILITY COMPANY. CONTRACTOR TO OBTAIN FAULT CURRENT LETTER FROM UTILITY COMPANY FOR EACH SERVICE BEFORE ORDERING SWITCHBOARD. IF AVAILABLE FAULT CURRENT IS HIGHER THAN SHOWN IN THE DRAWINGS, CONTACT ELECTRICAL ENGINEER IMMEDIATELY.

2. LETTER FOR SHORT CIRCUIT CURRENT VALUE FROM UTILITY COMPANY SHALL BE AVAILABLE AT THE JOB SITE FOR INSPECTION.

3. ELECTRICAL EQUIPMENT SHALL BE LISTED BY THE CITY, WHERE THE PROJECT IS LOCATED, RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT.

4. ALL NEW CIRCUIT BREAKERS, FUSIBLE SWITCHES AND ELECTRICAL EQUIPMENT SHALL BE FULLY RATED HAVING A SHORT-CIRCUIT (AIC) RATING EXCEEDING THE AVAILABLE SHORT-CIRCUIT CURRENT AT THE EQUIPMENT. SERIES RATING OF EQUIPMENT IS NOT ALLOWED.

5. ALL SWITCHBOARDS AND DISTRIBUTION BOARDS SHALL HAVE:
   - 5.1. TIN-PLATED ALUMINUM BUSSING WITH RECTANGULAR CROSS SECTION. HORIZONTAL AND VERTICAL BUSSING SHALL BE FULL LENGTH AND SHALL HAVE PROVISIONS FOR FUTURE EXTENSIONS. ALL BUSSING SHALL HAVE MINIMUM WITHSTAND RATING EQUAL TO THE AVAILABLE FAULT CURRENT INDICATED. ALL VERTICAL AND HORIZONTAL BUSSING SHALL BE RATED AT FULL CAPACITY IN ALL SWITCHBOARD AND DISTRIBUTION BOARD SECTIONS. PROVIDE 100% NEUTRAL BUSSING MINIMUM UNLESS OTHERWISE NOTED. PROVIDE FULL LENGTH GROUND BUS AND, WHERE INDICATED ON PLANS, ISOLATED GROUND BUSSING. PROVIDE REAR WIRE WAY IN ALL SWITCHBOARD SECTIONS.
   - 5.2. LUGS SUITABLE FOR USE WITH COPPER OR ALUMINUM CONDUCTORS LISTED FOR USE WITH 75 DEGREE CELSIUS AMPACITY CONDUCTORS.
   - 5.3. PERMANENT PLACARD(S) MARKED PER THE SPECIFICATIONS AND PER NEC (OR CEC-WHERE ADOPTED) SECTIONS 225.37, 230.2(E), 690.56, 692.56, 700.7, 701.7, 702.7, AND 705.10 DENOTING THE PRESENCE OF ADDITIONAL SERVICES, PHOTOVOLTAIC SYSTEMS, FUEL CELLS, EMERGENCY OR STAND-BY POWER SOURCES AS APPLICABLE.
   - 5.4. SINGLE LINE DIAGRAM SHOWN IS A "FULLY RATED SYSTEM" UNLESS NOTED. OTHERWISE.
   - 5.5. THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.
   - 5.6. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE "UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION".

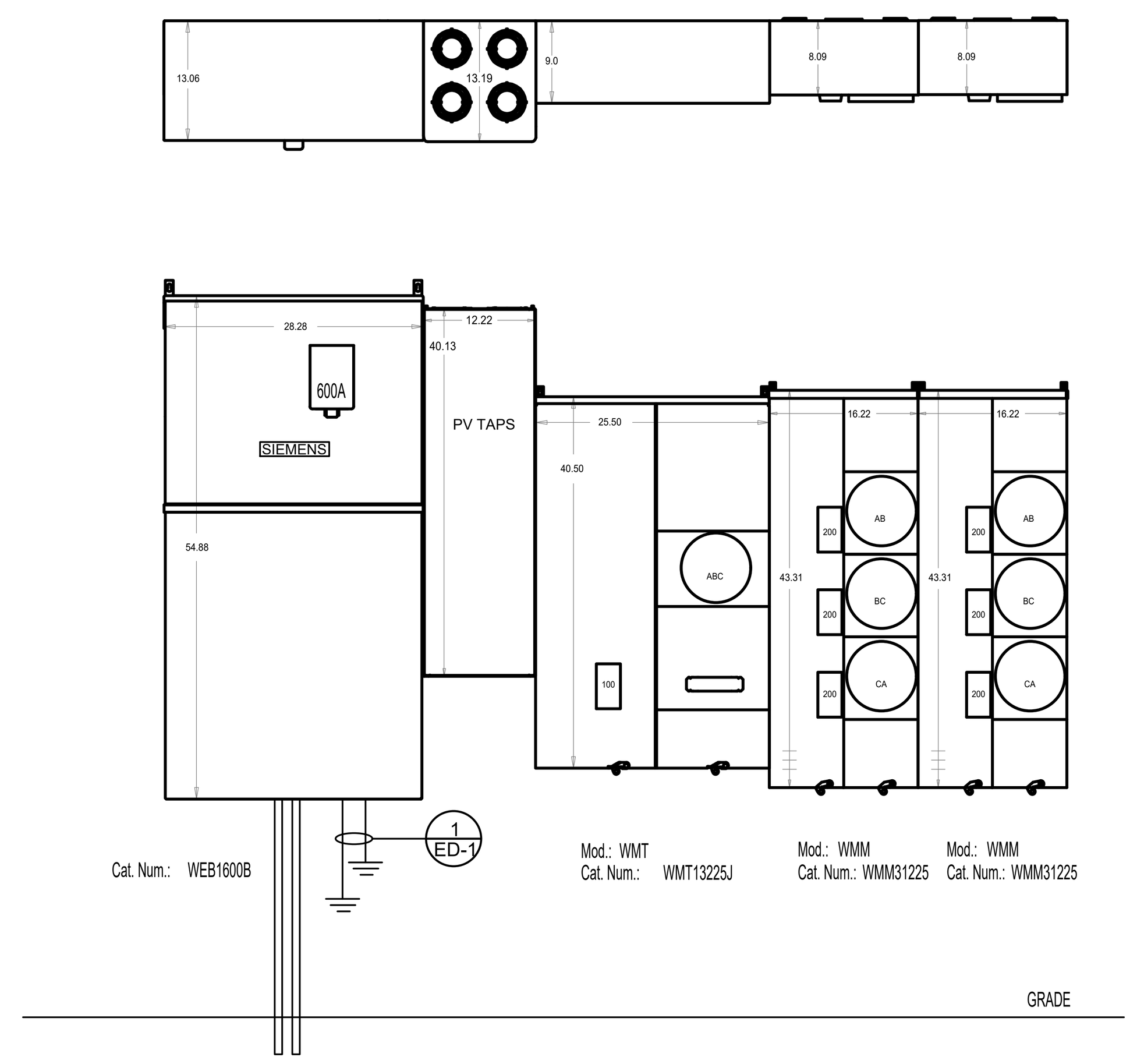
PV SYSTEM DEFERRED APPROVAL NOTES

1. A PERMANENT PLAQUE SHALL BE PROVIDED AT THE BUILDING MAIN ELECTRICAL PANEL CLEARLY IDENTIFYING THE EXISTENCE OF AN ALTERNATE POWER SOURCE AND LOCATION OF MEANS OF DISCONNECT FOR ALTERNATE POWER SYSTEM.

2. PV SYSTEM SCHEMATIC CONNECTIONS HAVE BEEN INCLUDED FOR REFERENCE ONLY. ACTUAL SYSTEM REQUIREMENTS SHALL BE DETERMINED BY EQUIPMENT / SYSTEM VENDOR AND INCORPORATED IN DEFERRED SUBMITTAL FOR PERMITTING.

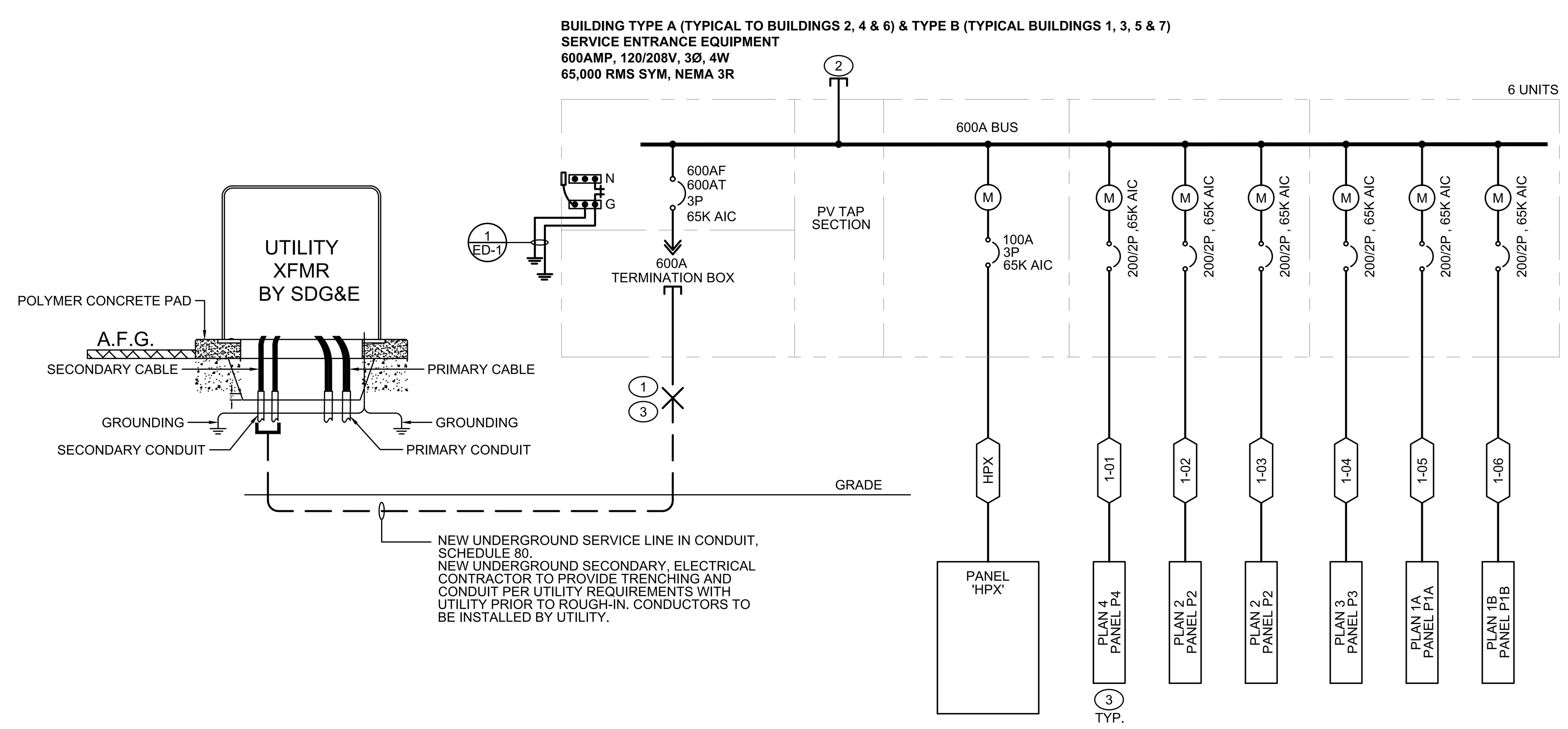
3. SPECIFIC REQUIREMENTS:
   - 3.1. THE SOLAR INTERCONNECTION TO THE BUILDING MAIN ELECTRICAL SERVICE SHALL BE IN ACCORDANCE TO CEC ARTICLE 690.
   - 3.2. THE PHOTOVOLTAIC SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS CEC 605.11.1-605.11.4. MARKING IS REQUIRED ON THE INTERIOR AND EXTERIOR DIRECT CURRENT (DC) CONDUIT, ENCLOSURES, RACEWAYS, CABLE ASSEMBLIES, JUNCTION BOXES, COMBINER BOXES, AND DISCONNECTS.
   - 3.3. SOLAR COMPONENTS SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENING SUCH AS WINDOWS, DOORS, AND MUST BE LOCATED OVER STROND POINTS WHERE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTACLES SUCH AS TREES, WIRES, OR SIGNS.
   - 3.4. THERE SHALL BE A SIX (6) FOOT WIDE CLEAR PERIMETER AROUND THE EDGES OF THE ROOF UNLESS EITHER AXIS OF THE BUILDING IS 250 FEET, THAN FOUR (4) FOOT CLEAR PERIMETER SHALL BE PERMITTED. SMOKE VENTILATION OPERATIONS REQUIRE DISTANCES BETWEEN ARRAYS TO BE EIGHT (8) FEET OR GREATER IN WIDTH OR A FOUR (4) FOOT, OR GREATER, PATHWAY AND BORDERING ROOF SKYLIGHTS, OR SMOKE AND HEAT VENTS OR A FOUR (4) FOOT, OR GREATER, AND A BORDERING FOUR (4) FOOT BY EIGHT (8) FOOT " VENTING CUTOUTS " EVERY 20 FEET ON ALTERING SIDES OF THE PATHWAY.
   - 3.5. THE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) WITH CALIFORNIA STATE AMENDMENTS AS APPLICABLE AND SHALL BE PREPARED BY A LICENSED DESIGN PROFESSIONAL. IN ADDITION, THE GENERAL REQUIREMENTS OF CHAPTERS 1 - 4, SPECIAL REQUIREMENTS MAY ALSO APPLY. THE DESIGN SHALL COMPLY WITH ARTICLE 690, 445, 480, AND 705. OTHER ARTICLES MAY ALSO APPLY DEPENDING ON THE SYSTEM CONFIGURATION.
   - 3.6. THE PHOTOVOLTAIC SYSTEM SHALL IN INSTALLED BY A QUALIFIED ELECTRICIAN.

4. THE PHOTOVOLTAIC SYSTEM SHALL BE A DEFERRED APPROVAL. INSTALLATION OF THE PHOTOVOLTAIC SYSTEM SHALL NOT BEGIN UNTIL THE CONTRACTOR HAS OBTAINED A PERMIT FOR THE WORK BY THE AUTHORITY HAVING JURISDICTION.



(A) ELECTRICAL EQUIPMENT ELEVATION - BUILDING TYPE A (TYPICAL TO BUILDINGS 2, 4 & 6) & TYPE B (TYPICAL BUILDINGS 1, 3, 5 & 7)

SCALE: NONE



Voltage Drop and Short Circuit Calculation

					FEEDER					CONDUIT					FAULT CURRENT				
CABLE NAME	PANEL NAME	UNIT/ CIRCUIT	VOLTS	PHASE	DEMAND AMPS	AMPS	PARALLEL RUNS	PHASE CONDUCTOR	EQUIPMENT GROUNDING CONDUCTOR	CONDUCTOR MATERIAL	CONDUCTOR INSULATION	CONDUIT TYPE	CONDUIT SIZE	FILL% (<40%)	DISTANCE (FT) 'L'	%VD	FAULT CURRENT	Isc	AIC
1-01	P4	UNIT 4	208	1	166	200	1	250	4	ALUM	THHN	SER	NaN	-	105	1.68	65000	10135	22000
1-02	P2	UNIT 2	208	1	166	200	1	250	4	ALUM	THHN	SER	NaN	-	102	1.63	65000	10385	22000
1-03	P2	UNIT 2	208	1	166	200	1	250	4	ALUM	THHN	SER	NaN	-	79	1.26	65000	12812	22000
1-04	P3	UNIT 3	208	1	166	200	1	250	4	ALUM	THHN	SER	NaN	-	80	1.28	65000	12684	22000
1-05	P1A	UNIT 1A	208	1	166	200	1	250	4	ALUM	THHN	SER	NaN	-	47	0.75	65000	18988	22000
1-06	P1B	UNIT 1B	208	1	166	200	1	250	4	ALUM	THHN	SER	NaN	-	48	0.77	65000	18706	22000
HPX	HPX	HOUSE PANEL	208	3	100	100	1	1	4	ALUM	THHN	EMT	1 1/2	34.73%	20	0.42	65000	19517	22000

NOTE :THE VOLTAGE DROP IN THE ABOVE TABLE IS AN ESTIMATED LENGTH.THE CONTRACTOR SHALL REVISE THE FEEDER SCHEDULE BASED ON THE ACTUAL LENGTH IN THE FIELD, AND INCREASE OR DECREASE THE FEEDER SIZE TO ACCOMMODATE THE VOLTAGE DROP. PER CEC 2022.19(A) AND 215.2(A)(1)(b) THE FEEDER AND BRANCH CIRCUIT SHALL BE SIZED TO PREVENT VOLTAGE DROP NOT EXCEEDING 3% AND TOTAL VOLTAGE DROP FOR BRANCH CIRCUIT AND FEEDER SHALL NOT EXCEED 5%.

SINGLE LINE DIAGRAM - BUILDING TYPE A (TYPICAL TO BUILDINGS 2, 4 & 6) & TYPE B (TYPICAL BUILDINGS 1, 3, 5 & 7)

ISSUED DATE:XX/XX/XX

PROJECT:
9040 FRIARS ROAD
Multi Family
Attached homes

REVISIONS

NO.	DATE	DESCRIPTION

SHEET NAME:
SINGLE LINE DIAGRAM
BUILDING TYPE A
(TYPICAL TO BLDGS 2, 4 & 6) &
TYPE B
(TYPICAL BLDGS 1, 3, 5 & 7)

PROJECT NUMBER:
66584

ENGINEER:

DRAFTER:

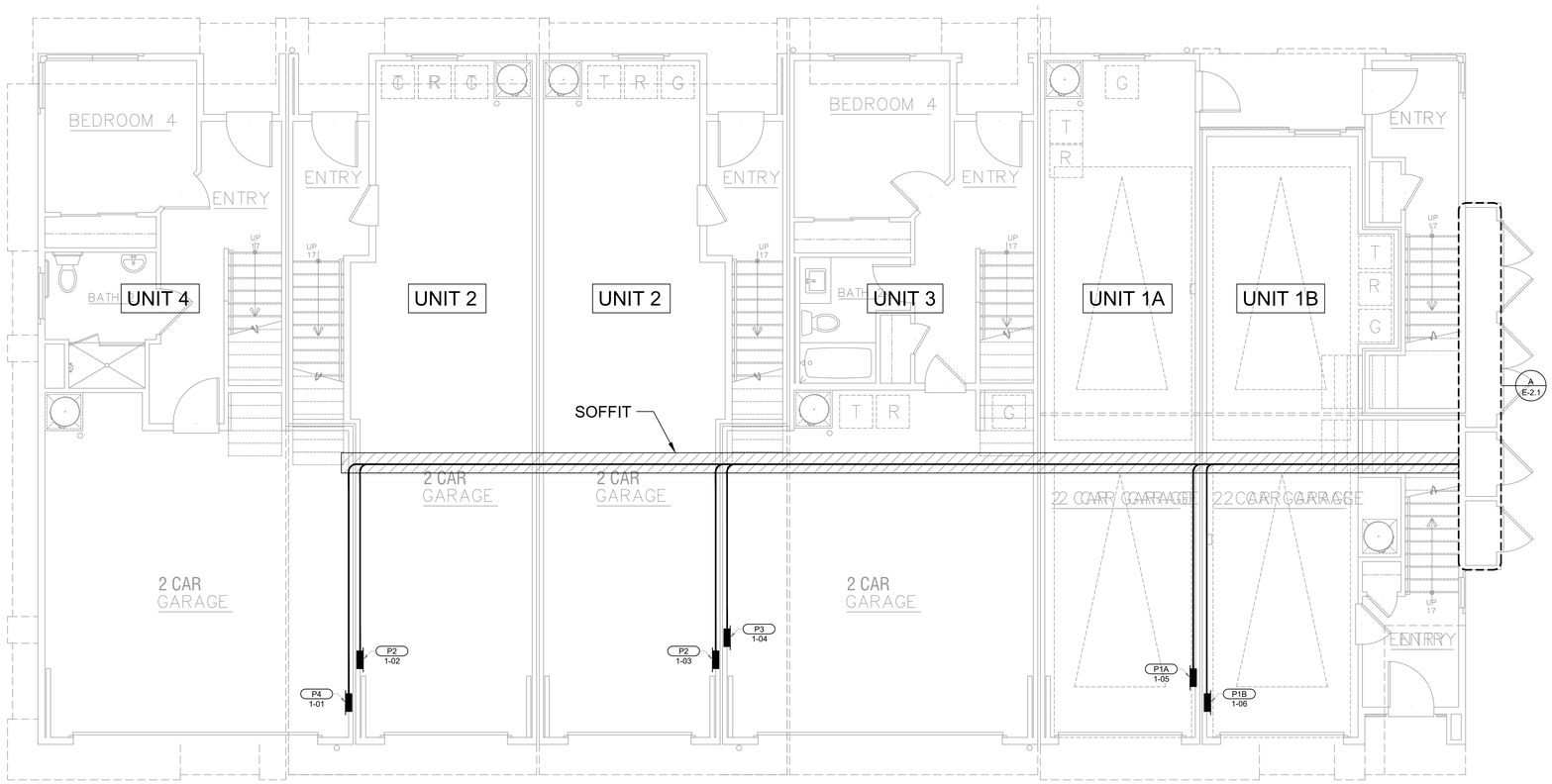
SHEET NUMBER:
EN-0.3

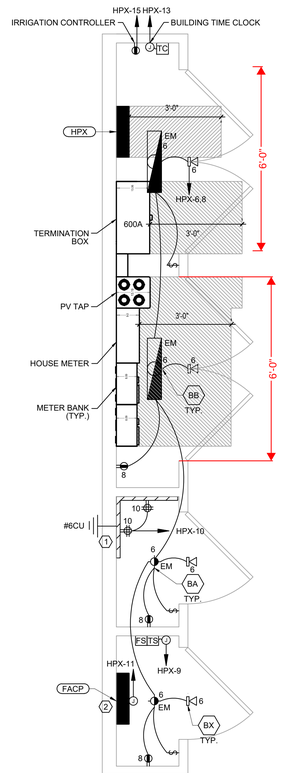
KEYED NOTES

1. PROVIDE W.P. G.F.I. SERVICE RECEPTACLE WITHIN 25 FEET OF CONDENSING UNIT
2. PROVIDE W.P. J-BOX FOR CU MOTOR RATED SWITCH FOR CONNECTION TO THE OUTSIDE CONDENSING UNIT. VERIFY WITH MECHANICAL PLAN FOR HVAC UNIT DESIGNATION AND MANUFACTURER SPECS BEFORE ROUGH IN.
3. LOW VOLTAGE BOX RESERVED FOR TELE/CABLE. REFER TO LOW VOLTAGE PLANS FOR DETAILS.
4. LIGHTED ADDRESS SIGN @ 5'-0" ABOVE FINISH GRADE.
5. PER SECTION 150.0(K)(3) ALL OUTDOOR LIGHTING SHALL BE HIGH EFFICACY AND CONTROLLED BY MANUAL ON/OFF SWITCH AND ONE OF THE CHOICES BELOW:
   1. PHOTOCELL AND MOTION CENSOR
   2. PHOTOCELL AND AUTOMATIC TIME SWITCH
   3. ASTRONOMIC TIME CLOCK
6. ROUTE UNIT PANEL FEEDER AT UNDERGROUND TO EACH PANEL LOCATION IN GARAGE. VERIFY WITH CONTRACTOR BEFORE ROUGH IN
7. ROUTE UNIT PANEL FEEDER AT GARAGE CEILING, IN RATED SOFFIT, TO UNIT PANEL LOCATION IN GARAGE. VERIFY WITH CONTRACTOR BEFORE ROUGH IN.

ELECT. CLOSET KEYED NOTES

1. MAIN CATV BKBD, "MCTV/MTBB" 2'X2'X3'X3/4" PLYWOOD. PROVIDE1#6CU. GROUND WIRE CONNECTION TO NEAREST APPROVED GROUND ELECTRODE.
2. COORDINATE WITH FIRE ALARM CONSULTANT FOR ALL REQUIREMENT.





A UTILITY CLOSET
SCALE: 1/2" : 1'-0"
FOR BUILDING 2, 4 & 6

0 2' 4' 8' 12'
1/4" = 1'-0"

BUILDING TYPE A (TYPICAL TO BUILDING 2, 4 & 6) - FIRST FLOOR PLAN 1

ISSUED DATE:XX/XX/XX

PROJECT:
9040 FRIARS ROAD
Multi Family
Attached homes

REVISIONS

NO.	DATE	DESCRIPTION

SHEET NAME:
BUILDING TYPE A
(TYPICAL TO BUILDINGS 2, 4 & 6)
FIRST FLOOR PLAN

PROJECT NUMBER:
66584

ENGINEER:

DRAFTER:

SHEET NUMBER:
E-2.1