

Revision	Date
△ Plan check comments	4/24/25

Designer:
Cathy Smith-Kemijl
6255 Vine Hill Rd.
Sebastopol, CA 95472
707-328-8744

C. Smith-Kemijl

Structural:
Structural Edge Engineering
David Sansotta
License # C-71107
(208) 501-2284

Energy:
Title 24
NRG Compliance
PO Box 3171
Santa Rosa Ca. 95402
(707) 231-6451

Cal Green
Talley Construction Consulting
Bill Talley 707.545.4514
billtalley@comcast.net
ICC Certification # - 0863253

CAD:
n2k CAD Services
314 12th Street
Petaluma, CA 94452
707.778.6414
info@n2kCAD.com

Drawings for:
**Cathy & Steve
Kemijl Residence**

3280 Hicks Road
Graton, CA
APN 130-146-003

DRAWN n2k
ISSUED Permit Review
DATE March 6, 2025
SCALE AS NOTED
SHEET

A2.3

ELECTRICAL NOTES

- ALL 120-VOLT, SINGLE PHASE, 15 AND 20 AMPERE RECEPTACLES TO SERVE COUNTERTOP SURFACES, INSTALLED WITHIN 6 FEET OF A NET BAR SINK OR TO SERVE A KITCHEN COUNTER, SHALL HAVE A GFI PROTECTION, PER NEC SECTION 210-8.
- ALL BRANCH CIRCUITS THAT SUPPLY RECEPTACLE OUTLETS, LIGHTS AND SMOKE DETECTORS INSTALLED IN BEDROOMS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER(S).
- IN THE KITCHEN AN OUTLET SHALL BE INSTALLED AT EACH WALL COUNTERTOP SPACE 12' OR WIDER. OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE WALL IS MORE THAN 24"
- IN THE KITCHEN OUTLETS SERVING COUNTERTOP SURFACES SHALL BE SUPPLIED BY NOT LESS THAN TWO SMALL APPLIANCE BRANCH CIRCUITS. (NO LIGHTING IS PERMITTED ON THESE CIRCUITS)
- RECEPTACLE OUTLETS TO SERVE ISLAND OR PENINSULA COUNTERTOPS SHALL BE INSTALLED ABOVE OR WITHIN 12" BELOW THE COUNTERTOP. RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE CENTERLINE OF THE LONG DIMENSION IS MORE THAN 24".
- IN THE KITCHEN SEPARATE CIRCUITS ARE REQUIRED FOR ALL BUILT-IN APPLIANCES. PLUG IN APPLIANCES SHALL HAVE THE PLUG ACCESSIBLE FOR DISCONNECT WITHOUT HAVING TO REMOVE THE APPLIANCE.
- COOK TOP HOOD EXHAUST SHALL NOT TERMINATE WITHIN 3' OF ANY OPERABLE WINDOW OR DOOR.
- ANY RECEPTACLES LOCATED IN AN AREA WITH AN EXPOSED CONCRETE FLOOR MUST BE GFCI PROTECTED.
- FOR THE BATHROOM, RECEPTACLE OUTLETS SHALL BE SUPPLIED BY DEDICATED 20 AMP BRANCH CIRCUIT PER CEC 210.11(C)(3). THIS CIRCUIT CANNOT SUPPLY ANY OTHER RECEPTACLES, LIGHTS, FANS, ETC. (EXCEPTION WHERE THE CIRCUIT SUPPLIES A SINGLE BATHROOM OUTLETS FOR THE EQUIPMENT WITHIN THE SAME BATHROOM SHALL BE ALLOWED).
- FOR THE KITCHEN, 1) A MINIMUM OF TWO 20-AMP DEDICATED CIRCUITS SHALL BE PROVIDED FOR SMALL APPLIANCES. CEC 210.52(C)(3). 1) WALL SPACES ALONG THE KITCHEN COUNTERTOP SHALL BE PROVIDED WITH RECEPTACLES SUCH THAT NO POINT ALONG THE WALL LINE IS MORE THAN 24 INCHES, MEASURED HORIZONTALLY, FROM A RECEPTACLE OUTLET IN THAT SPACE. CEC 210.52(C)(1).
- FOR THE LAUNDRY ROOM LAUNDRY RECEPTACLE OUTLET TO BE SUPPLIED BY DEDICATED 20 AMP BRANCH CIRCUIT PER CEC 210.11(C)(2).
- FOR RECEPTACLES, LOCATED OUTDOORS, SHALL BE GFCI PROTECTED AND WEATHERPROOFED PER CEC 210.8 AND 406.9(B).
- ARC-FAULT CIRCUIT-INTERRUPTER PROTECTION SHALL BE PROVIDED AS REQUIRED IN CEC 210.12(A), (B), (C), AND (D). THE ARC-FAULT CIRCUIT INTERRUPTER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION. ALL 120-VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHEN, FAMILY ROOMS DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. CEC 210.12
- ALL 125-VOLT, 25- AND 20-AMPERE RECEPTACLE OUTLETS SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES PER CEC 406.12.
- ALL 15 & 20 AMP NON-GFCI CIRCUITS ARE TO BE AFCI CIRCUITS FOR RECEPTACLES AND LIGHTING IN ALL AREAS.
- ALL 120 VOLT RECEPTACLES SHALL BE TAMPER RESISTANT.
- ALL PROPOSED LIGHTING HIGH EFFICACY PER TABLE 150.0-A-CEN-150.0(K)(1)(A)
- SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVERCURRENT PROTECTION. [R314.6] CARBON MONOXIDE ALARMS MUST ALSO RECEIVE THEIR PRIMARY POWER FROM BUILDING WIRING. R314.4 INTERCONNECTION WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING OR SLEEPING UNIT, THE SMOKE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. THE ALARM SHALL BE CLEARLY ADJUDICATED IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
- ALL LAUNDRY ROOM RECEPTACLES, INCLUDING THE WASHING MACHINE (BUT NOT THE DRYER) TO AFCI; LAUNDRY AREAS ARE NOW INCLUDED IN AFCI REQUIRED LOCATIONS.
- ALL LIGHTS THROUGHOUT THE RESIDENCE SHALL BE HIGH EFFICACY.
- OUTDOOR LIGHTS MUST BE HIGH EFFICACY AND CONTROLLED BY AN ASTRONOMICAL TIME CLOCK OR BY BOTH A MOTION SENSOR AND PHOTOCELL.
- LUMINAIRES LOCATED ABOVE A BATHUB OR SHOWER SHALL BE LISTED FOR WET LOCATIONS.
- EACH BATHROOM THAT CONTAINS A BATHTUB, SHOWER OR SIMILAR SOURCE OF MOISTURE SHALL HAVE A ENERGY STAR HUMIDISTAT-CONTROLLED FAN DUCTED TO THE OUTSIDE WITH A MINIMUM VENTILATION RATE OF 50 CFM. THE DUCTING SHALL BE SIZED ACCORDING TO ASHRAE STANDARD 62.2 TABLE 11. FANS MUST BE CONTROLLED BY A HUMIDITY CONTROLLER OR FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM AND HUMIDITY CONTROLS MUST HAVE A MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT, CAPABLE OF ADJUSTING BETWEEN A RELATIVE HUMIDITY RANGE OF LESS THAN OR EQUAL TO 50% UP TO A MAXIMUM OF 80%.
- CEC ARTICLE 410 / CEC 410.10 LUMINAIRES IN SPECIFIC LOCATIONS WET AND DAMP LOCATIONS. LUMINAIRES INSTALLED IN WET OR DAMP LOCATIONS SHALL BE INSTALLED SUCH THAT WATER CANNOT ENTER OR ACCUMULATE IN WIRING COMPARTMENTS, LAMP HOLDERS, OR OTHER ELECTRICAL PARTS. ALL LUMINAIRES INSTALLED IN WET LOCATIONS SHALL BE MARKED AS SUITABLE FOR WET LOCATIONS. ALL LUMINAIRES INSTALLED IN DAMP LOCATIONS SHALL BE MARKED AS SUITABLE FOR WET LOCATIONS OR SUITABLE FOR DAMP LOCATIONS.

ELECTRICAL / LIGHTING LEGEND	
SYMBOL	DESCRIPTION
Ⓢ	SWITCH
Ⓢ3	3 WAY SWITCH
Ⓢ	** NOTE: DIMMERS ON ALL SWITCHES **
Ⓢ	DUPLEX OUTLET (AFCI)
ⓈGFI	GROUND FAULT INTERRUPTED DUPLEX OUTLET
ⓈWP	WEATHER PROOF EXTERIOR OUTLET MOUNTED @ 18" AFF
Ⓢ220	220V OUTLET
Ⓢ	LIGHT FIXTURE - 4" RECESSED LED U.O.
Ⓢ	LIGHT FIXTURE - 2" RECESSED LED U.O. 1/4" WALL WASHER TRIM
Ⓢ	WALL MOUNTED LIGHT FIXTURE
Ⓢ	EXTERIOR WALL MOUNTED LED LIGHT FIXTURE. IF OTHER LIGHTING IS UTILIZED IT MUST BE CONTROLLED BY MOTION SENSOR W/ INTEGRAL PHOTOSENSOR. SUITABLE FOR WET LOCATIONS.
Ⓢ	CEILING MOUNT OR PENDANT LIGHT FIXTURE (LED U.O.)
Ⓢ	UNDER-CABINET LIGHT (FLUORESCENT) (18" U.O.)
Ⓢ	CEILING FAN OR CEILING MOUNTED LIGHT
Ⓢ	EXHAUST FAN
Ⓢ	SMOKE & CARBON MONOXIDE DETECTOR
Ⓢ	ELECTRICAL PANEL
Ⓢ	WIRING
Ⓢ	VACANCY SENSOR
Ⓢ	GAS HOOK UP

ENERGY CODE NOTES

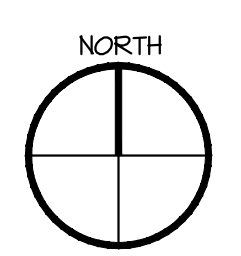
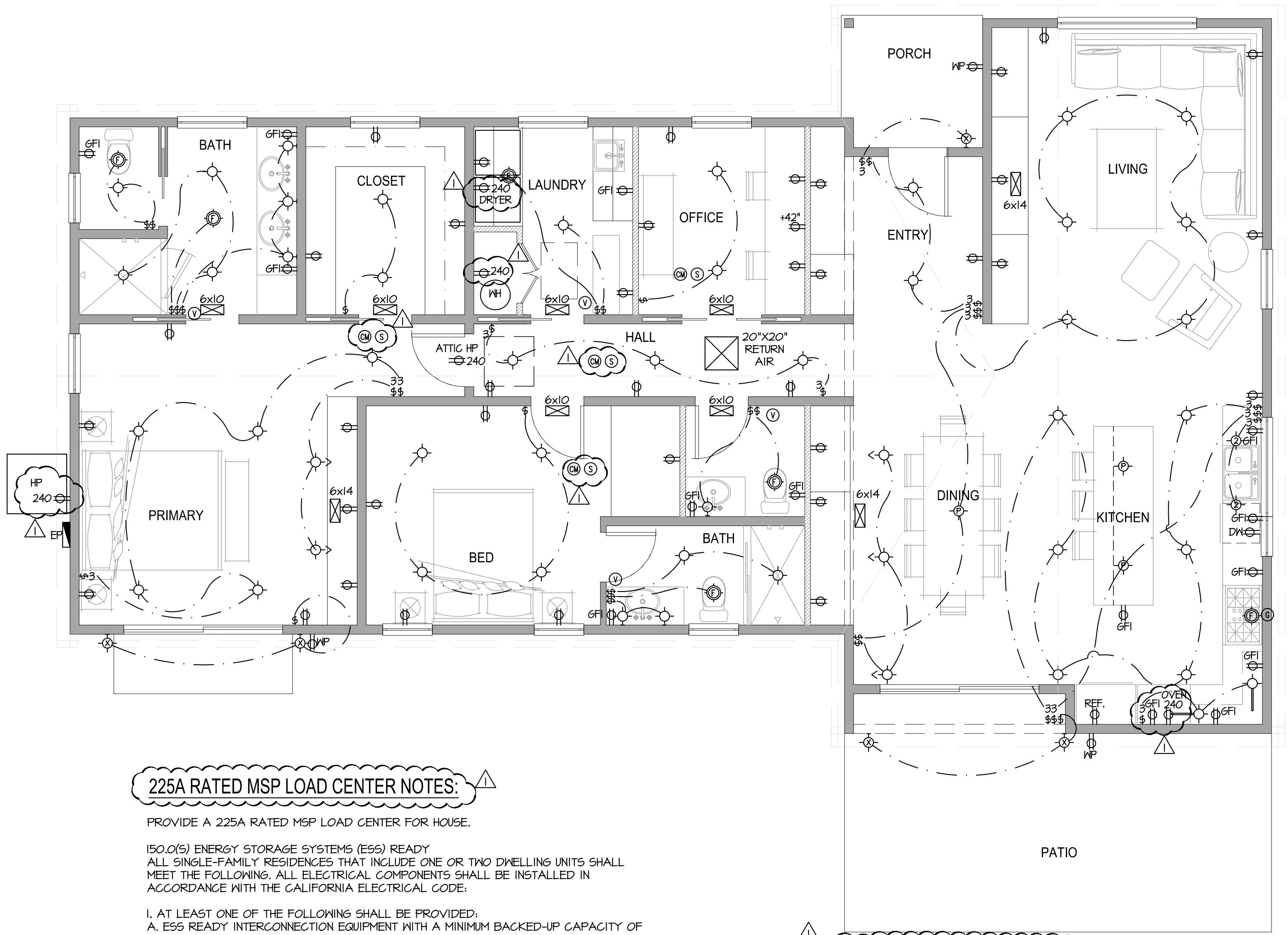
- 150.0(T) HEAT PUMP SPACE HEATER READY.
 - A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE FURNACE AND ACCESSIBLE TO THE FURNACE WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM.
- 150.0(N) WATER HEATING SYSTEM SYSTEMS USING GAS OR PROPANE WATER HEATERS TO SERVE INDIVIDUAL DWELLING UNITS SHALL DESIGNATE A SPACE AT LEAST 2.5 FEET BY 2.5 FEET WIDE AND 7 FEET TALL. SUITABLE FOR THE FUTURE INSTALLATION OF A HEAT PUMP WATER HEATER (HPWH) BY MEETING EITHER A OR B BELOW. ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE.
 - A DEDICATED 240 VOLT BRANCH CIRCUIT SHALL BE INSTALLED WITHIN 3 FEET FROM THE DESIGNATED SPACE. THE BRANCH CIRCUIT SHALL BE RATED AT 30 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS 240V READY.
- 150.0(V) ELECTRIC CLOTHES DRYER READY.
 - A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE CLOTHES DRYER LOCATION AND ACCESSIBLE TO THE CLOTHES DRYER LOCATION WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM.

ELECTRICAL COOKTOP NOTES:

- 150.0(T) HEAT PUMP SPACE HEATER READY.
 - A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE FURNACE AND ACCESSIBLE TO THE FURNACE WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM.
- 150.0(N) WATER HEATING SYSTEM SYSTEMS USING GAS OR PROPANE WATER HEATERS TO SERVE INDIVIDUAL DWELLING UNITS SHALL DESIGNATE A SPACE AT LEAST 2.5 FEET BY 2.5 FEET WIDE AND 7 FEET TALL. SUITABLE FOR THE FUTURE INSTALLATION OF A HEAT PUMP WATER HEATER (HPWH) BY MEETING EITHER A OR B BELOW. ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE.
 - A DEDICATED 240 VOLT BRANCH CIRCUIT SHALL BE INSTALLED WITHIN 3 FEET FROM THE DESIGNATED SPACE. THE BRANCH CIRCUIT SHALL BE RATED AT 30 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS 240V READY.
- 150.0(V) ELECTRIC CLOTHES DRYER READY.
 - A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE CLOTHES DRYER LOCATION AND ACCESSIBLE TO THE CLOTHES DRYER LOCATION WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM.

225A RATED MSP LOAD CENTER NOTES:

- PROVIDE A 225A RATED MSP LOAD CENTER FOR HOUSE.
- 150.0(S) ENERGY STORAGE SYSTEMS (ESS) READY
ALL SINGLE-FAMILY RESIDENCES THAT INCLUDE ONE OR TWO DWELLING UNITS SHALL MEET THE FOLLOWING. ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE:
- AT LEAST ONE OF THE FOLLOWING SHALL BE PROVIDED:
 - ESS READY INTERCONNECTION EQUIPMENT WITH A MINIMUM BACKED-UP CAPACITY OF 60 AMPS AND A MINIMUM OF FOUR ESS-SUPPLIED BRANCH CIRCUITS, OR
 - A DEDICATED RACEWAY FROM THE MAIN SERVICE TO A PANELBOARD (SUBPANEL) THAT SUPPLIES THE BRANCH CIRCUITS IN SECTION 150.0(S)(2). ALL BRANCH CIRCUITS ARE PERMITTED TO BE SUPPLIED BY THE MAIN SERVICE PANEL PRIOR TO THE INSTALLATION OF AN ESS. THE TRADE SIZE OF THE RACEWAY SHALL BE NOT LESS THAN 1 INCH. THE PANELBOARD THAT SUPPLIES THE BRANCH CIRCUITS (SUBPANEL) MUST BE LABELED @SUBPANEL SHALL INCLUDE ALL BACKED UP LOAD CIRCUITS.
 - A MINIMUM OF FOUR BRANCH CIRCUITS SHALL BE IDENTIFIED AND HAVE THEIR SOURCE OF SUPPLY COLLOCATED AT A SINGLE PANELBOARD SUITABLE TO BE SUPPLIED BY THE ESS. AT LEAST ONE CIRCUIT SHALL SUPPLY THE REFRIGERATOR, ONE LIGHTING CIRCUIT SHALL BE LOCATED NEAR THE PRIMARY EGRESS AND AT LEAST ONE CIRCUIT SHALL SUPPLY A SLEEPING ROOM RECEPTACLE OUTLET.
 - THE MAIN PANELBOARD SHALL HAVE A MINIMUM BUSBAR RATING OF 225 AMPS.
 - SUFFICIENT SPACE SHALL BE RESERVED TO ALLOW FUTURE INSTALLATION OF A SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH WITHIN 3 FEET OF THE MAIN PANELBOARD. RACEWAYS SHALL BE INSTALLED BETWEEN THE PANELBOARD AND THE SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH LOCATION TO ALLOW THE CONNECTION OF BACKUP POWER SOURCE.



ELECTRICAL & LIGHTING PLAN

Scale: 1/4" = 1'-0"

1