

**THOMAS FIRE
ELECTRICAL PLAN CHECK GUIDELINES**

START WITH: Contact SCE Planning at 800-655-4555 for the new service size and location, an SCE Planner will provide SCE website online direction for the location of the equipment. Some of the lots will have overhead equipment connection and some will have underground connection pull box's that may determine the maximum size (in amps) of the service equipment allowed by SCE. This contact information is very important because depending on which type of service is present there may be limits to your new service panel size. A typical residential service panel can range in size between 125 amps – 400 amps. Once the location is established this will be the point in the foundation where the concrete encased grounding electrode will be installed, this is the most important component of an electrical service. When locating a semi flush service panel be careful not to show it where there is a structural shear wall, this will compromise the structural value. A surface mount panel will solve this problem as they mount on the wall not in the wall. Please see the attached SCE service panel installation graphics.

NOTE: It is important for you to contact your local Telephone and TV provider as well, coordinating with these utilities may take some time.

2016 California Electrical Code as it applies to single family dwellings. The most important code applications in the design stage for plan check are articles 210.8(A) , 210.11 , 210.12(A) , 210.52 , 230 , and 250.52

AFCI requirements have been expanded for all electrical outlets located in dwelling unit kitchens and laundry rooms, this would include detectors, all lights, receptacles, refrigerator, microwaves, dishwashers, garbage disposals, washers, and dryers.

GFCI requirements have been expanded to include garbage disposals, dishwashers, refrigerators, laundry receptacles, garage receptacles including one receptacle for each parking space and the garage door opener.

A new circuit breaker is now available just about everywhere; it's called a DFCI or dual function circuit interrupter. This device will provide both AFCI and GFCI in one unit and takes the confusion out of how to provide both types of protection when required. (Kitchen and Laundry)

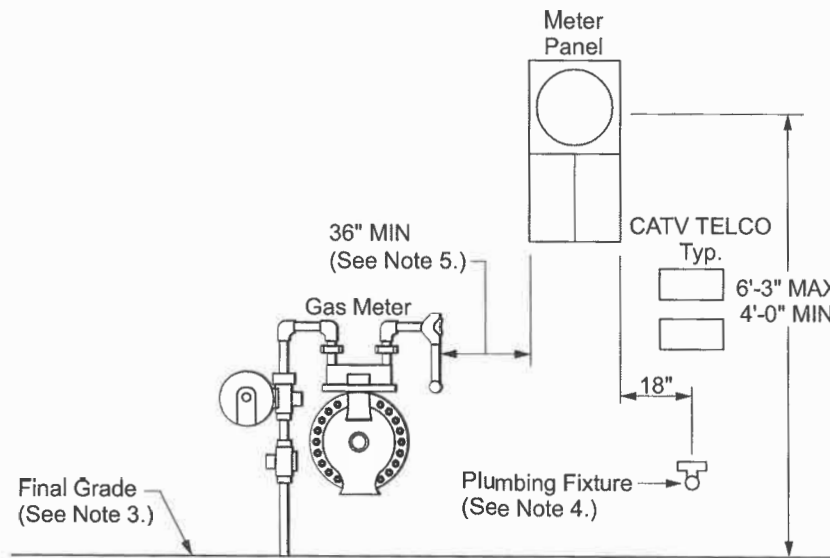
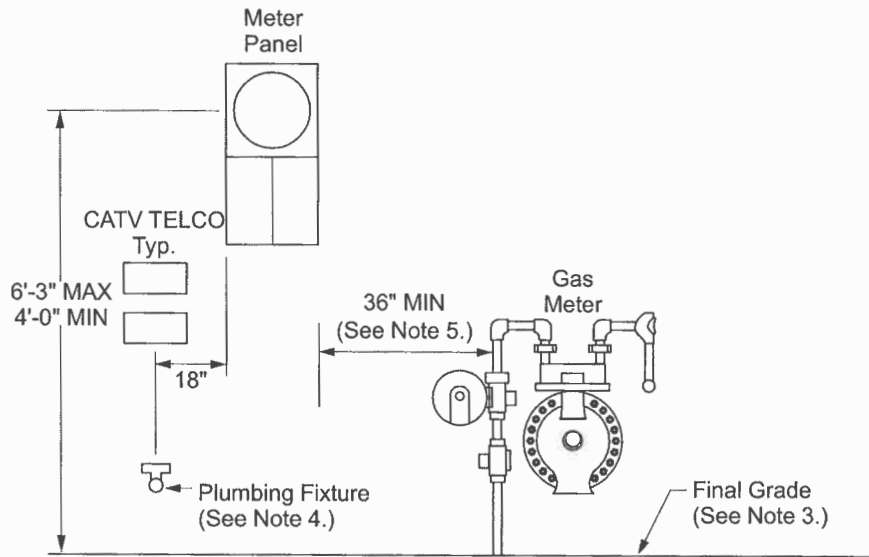
Lighting: All lighting is required to be high efficacy – incandescent lighting is no longer allowed. Recessed lighting in clothes closets must be totally enclosed

Energy Code: Lighting control or switching at laundry areas, bathrooms, garages, and utility rooms over 70 square feet now require a vacancy sensor. This device uses manual on and automatic off when the room is empty.

Panel / Load Schedule: We have included a blank panel schedule as well as a sample. Depending on the electrical design and equipment shown on the submittal load schedule could vary greatly. Sub panels with circuit breakers cannot be located in clothes closets.

Questions: Please call Building and Safety 805-654-7869.

Figure 5-4: Separation of Meter Assemblies for Electric and Gas Services

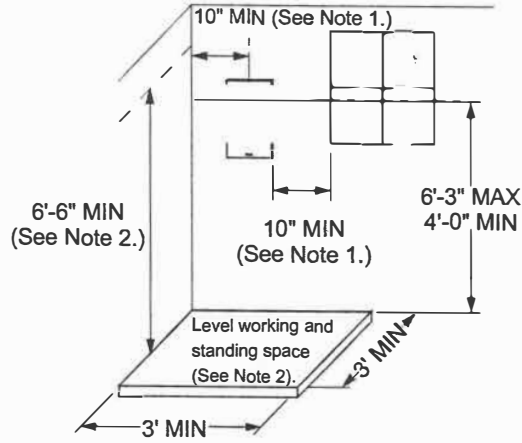


Note(s):

1. Size and dimensions of panels will vary. Drawings are not to scale.
2. This drawing pertains to both overhead and underground electric service applications.
3. Maintain a 3-foot clear, level, and unobstructed workspace in front of electric service equipment.
4. Plumbing fixtures that extend more than 6 inches out from wall surface must be located 18-inches minimum from the outside edge of the meter panel.
5. For new construction only, does not apply for upgrades.

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Figure 5-5: Workspace — Surface-Mounted or Semi-Flush Meter Installation



Surface-Mounted or Semi-Flush Meter Installation

Note(s):

1. The horizontal clearance from the centerline of the meter to the nearest side wall or other obstruction shall be 10 inches minimum. A horizontal clearance from the edge of the meter panel to the edge of a window or doorway (including sliding glass doors) shall be 10 inches minimum. A gas meter or plumbing fixture that does not protrude more than 6 inches out from the wall, or extend less than 18 inches horizontally from the outside edge of the meter panel, shall not be considered an obstruction. See Figure 5-4 (Page 5-24).
2. A level working and standing surface, clear and unobstructed, entirely on the property of the customer, shall be provided. The minimum width of the workspace shall be 36 inches overall, but need not be centered beneath the meter. The minimum depth of the workspace shall be 36 inches. Where meters are enclosed in a closet or recessed in an enclosure, the depth of the workspace is measured from the outer face of the closet or recess. The minimum height of the workspace shall be 78 inches.

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EXAMPLE

Sample 1Ø Panel Schedule													
PANEL NO.		SECTION: OF				Bus: 120/240			<input checked="" type="radio"/> Main C.B. AMP <input type="radio"/> Main Lugs Only				
Location:		Serving:				1Ø 3 Wire			AMP				
A.I.C. Rating		<input type="checkbox"/> Fully Rated <input type="checkbox"/> Series Rated		<input type="checkbox"/> Feed Thru Lugs <input type="checkbox"/> SubFeed Lugs		<input type="checkbox"/> Iso. Gnd. Bus		<input type="checkbox"/> Flush Mount <input type="checkbox"/> Surface Mount		<input type="checkbox"/> Top Feed <input type="checkbox"/> Bottom Feed			
Load Type	Circuit Description	CONN KVA	Circuit Breaker			PH	Circuit Breaker			CONN KVA	Circuit Description	Load Type	
			AMP	Pole	CKT		CKT	Pole	AMP				
dfci	Kitchen recept. S.A.	1.5	20	1	1	A	2	1	20		Bathroom #1	qfci	
dfci	Kitchen recept. S.A.	1.5	20	1	3	B	4	1	20		Bathroom #2	qfci	
dfci	DW and Gar. Desp.		20	1	5	A	6	1	20		Bathroom #3	qfci	
dfci	Kitchen micro		20	1	7	B	8	1	20		Garage receptacles	qfci	
dfci	Kitchen recept / Itg mic		20	1	9	A	10	1	20		Master Bath	qfci	
dfci	Laundry receptacles	1.5	20	1	11	B	12	1	20		Spa tub	qfci	
afci	Ltg @ LR, BR#1, BR#2		15	1	13	A	14	1	20	1.5	Recpt. Dinrm, hall, den	afci	
afci	Ltg @ BR3#, BR#4, Hall		15	1	15	B	16	1	20		Recpt. BR#1 and 2	afci	
afci	Ltg @ , din rm, den		15	1	17	A	18	1	20		Recpt. BR#3 and 4	afci	
afci	Ltg @ gar, laun, exter.		15	1	19	B	20	1	20		Recept. exterior	qfci	
	FAU		15	1	21	A	22	1	20		LR entertainment recpt.	afci	
	HVAC		40	2	23	B	24	1	20		Pool equipment	qfci	
	HVAC				25	A	26	1	15		Pool Itg / recept.	qfci	
	space				27	B	28				space		
	space				29	A	30				space		
	space				31	B	32				space		
	space				33	A	34				space		
	space				35	B	36				space		
	space				37	A	38				space		
2	Future Solar	2.4	20	2	39	B	40	2	40	4.8	Future EVC spare		
	Future Solar	2.4			41	A	42			4.8	Future EVC spare		
CONNECTED LOAD						DEMAND LOAD							
Total General-Purpose Receptacle (R) Load @ 180VA/ea. KVA						Total General-Purpose Receptacle (R) Load @ 180VA/ea., 100% for first 10 KVA & 50% for remainder KVA							
Total Specific-Purpose (SP) Receptacles KVA						Total Specific-Purpose (SP) Receptacles KVA							
Total Motor (M) Load KVA						Total Motor (M) Load KVA							
Total Lighting (L) Load @ 125% KVA						Total Lighting (L) Load @ 125% KVA							
Total HVAC (H) Load KVA						Total HVAC (H) Load KVA							
TOTAL CONNECTED LOAD KVA						Largest Motor @ 125% KVA							
CONNECTED AMP						TOTAL DEMAND LOAD KVA							
Total / Phase		A	B	MINIMUM FEEDER CAPACITY									
				KVA		AMP							

EXAMPLE

Sample 3Ø Panel Schedule

PANEL NO.		SECTION: OF		Bus: Choose one.		<input type="radio"/> Main C.B. AMP						
Location:		Serving:		3Ø 4 Wire		<input type="radio"/> Main Lugs Only						
A.I.C. Rating		<input type="checkbox"/> Feed Thru Lugs		<input type="checkbox"/> Flush Mount		<input type="checkbox"/> Top Feed						
<input type="checkbox"/> Fully Rated <input type="checkbox"/> Series Rated		<input type="checkbox"/> SubFeed Lugs		<input type="checkbox"/> Iso. Gnd. Bus		<input type="checkbox"/> Surface Mount <input type="checkbox"/> Bottom Feed						
Load Type	Circuit Description	CONN KVA	Circuit Breaker			PH	Circuit Breaker			CONN KVA	Circuit Description	Load Type
			AMP	Pole	CKT		CKT	Pole	AMP			
					1	A	2					
					3	B	4					
					5	C	6					
					7	A	8					
					9	B	10					
					11	C	12					
					13	A	14					
					15	B	16					
					17	C	18					
					19	A	20					
					21	B	22					
					23	C	24					
					25	A	26					
					27	B	28					
					29	C	30					
					31	A	32					
					33	B	34					
					35	C	36					
					37	A	38					
					39	B	40					
					41	C	42					
CONNECTED LOAD						DEMAND LOAD						
Total General-Purpose Receptacle (R) Load @ 180VA/ea. KVA						Total General-Purpose Receptacle (R) Load @ 180VA/ea., 100% for first 10 KVA & 50% for remainder KVA						
Total Specific-Purpose (SP) Receptacles KVA						Total Specific-Purpose (SP) Receptacles KVA						
Total Motor (M) Load KVA						Total Motor (M) Load KVA						
Total Lighting (L) Load @ 125% KVA						Total Lighting (L) Load @ 125% KVA						
Total HVAC (H) Load KVA						Total HVAC (H) Load KVA						
TOTAL CONNECTED LOAD KVA						Largest Motor @ 125% KVA						
CONNECTED AMP						TOTAL DEMAND LOAD KVA						
Total / Phase		A	B	C	MINIMUM FEEDER CAPACITY KVA		AMP					