



CITY OF TORRANCE

COMMUNITY DEVELOPMENT DEPARTMENT

BUILDING & SAFETY DIVISION

SOLAR QUALIFICATIONS FOR AUTOMATED PERMITTING

REQUIREMENTS FOR AUTOMATED SOLAR PERMITTING:

In order to qualify for automated permitting, the solar submittal must comply with all requirements listed below. Applications may be submitted for automated online solar permits through the citizen access portal (<https://aca.torranceca.gov/citizenaccess/default.aspx>). Please make sure to have a roof layout, line diagram, and all data sheets ready before beginning the application form.

If the project does not meet any of the below requirements, the applicant may still submit the project for plan review online via email. The applicant shall submit: One (1) set of plans by email to SolarPlanCheck@TorranceCA.Gov which are drawn to scale, readable, and legible; A completed solar permit application, BMP form, and the Solar Checklist

GENERAL

1. New PV System installed on an existing, permitted R-3 occupancy.
2. System size is rated less than 38.4kW AC nameplate.
3. All work to be performed by qualified persons (CEC 690.4(C)).
4. Each residence must have a unique utility meter.
5. No existing PV or ESS on the property.
6. System uses a load-side connection.
7. System is flush-mount, or is tilt-mount and not located in the hillside overlay. Ground mounted systems are not allowed.
8. System uses flat plate PV modules only.
9. System does not use BIPV modules.
10. No trenching allowed.
11. No carports or non-permanent structures.
12. No modifications or alterations to the structure are allowed.
13. All work to comply with the 2022 CBC, CMC, CEC, CPC, CRC, CFC, 2018 NDS, and latest amendments to the TMC

ELECTRICAL

14. DC system size has maximum of 600V.
15. System is single phase 240V.
16. System uses copper wires.
17. System uses 600V rated PV wire.
18. System uses 90°C rated insulated wire.
19. Maximum of 9 current carrying conductors in a raceway.
20. Inverter output circuit conductors must be THWN-2, or listed NM.
21. All conductors are sized per CEC.
22. Terminals must be rated to 75°C, labeled for use with copper wires, and accept minimum 8 AWG wire.
23. Conduit along the wall must be EMT or RMC. Conduit runs leading to the roof or along the roof must be RMC.
24. Height of rooftop conduit is $\geq 7/8$ ".
25. Microinverters and AC Module branch circuit OCPD must be rated for a maximum of 20A.
26. All power production inverter outputs have the same point of connection.
27. No new loads (excluding monitoring loads).
28. System is installed on up to or equal to 225A Service Disconnect (Main Breaker).
29. Load calculations are provided for all de-rated main breakers.
30. System is installed on up to or equal to 225A busbars.
31. Backfeed breaker must be rated per 120% rule [CEC 705.12(B)(3)(2) and CEC 705.12(B)(3)(4)]. Systems using PCS methods must be submitted for plan review and do not qualify for automated permitting.
32. All electrical equipment must be listed.
33. All equipment must be non-continuous rated.
34. All equipment shall be compatible with the rest of the equipment used in the system.
35. All equipment shall be installed per the manufacturer's instructions.
36. May install only 1 module type.
37. May install only 1 inverter type.
38. May install only 1 racking system type.
39. May install only 1 ESS type.
40. Bladelike disconnecting means shall be provided and shall be readily accessible on an exterior wall, within sight of equipment, and be able to disconnect PV systems, ESS systems, and utilization equipment from each other.

FIRE

41. Installation complies with 2022 CEC Rapid Shutdown Requirements.
42. Installations comply with all pathways and signage requirements per the Solar Fire Requirements document.
43. Roof access points shall be located in areas that do not require the placement of ground ladders over opening such as windows or doors, and located at strong point of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs. **(R324.6 CRC)**.
44. Fire Setbacks (Pitched Roofs)
- Not fewer than two 3'0" pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings (excepting detached garages). At least one pathway shall be located on the street or driveway side of the roof. Each roof plane with panels and modules installed must provide one 3'0" pathway from lowest roof edge to ridge on the same roof plane, adjacent roof plane, or straddling the same and adjacent roof planes **(CFC 1204.2.1.1)**.
 - Panels and modules installed with roof hips and valleys shall be located no closer than 1'6" to a hip or a valley where panels and modules are to be placed on both sides of a hip or valley.
 - Provide 3'0" clearance from all ridges. Where solar panels/modules are placed on both sides of any ridge they shall be spaced a minimum of 5'0" on one side and 3'0" on the other side of the ridge **(TMC 85.2.110)**.
45. Fire Setbacks (Flat and Alternative Roofs)
- Panels and modules shall be located in a manner that provides a minimum 3ft clear perimeter around the edges of the roof. The panels and modules shall be installed in a way that smoke ventilation areas are created over common hallways and corridors to the approval **(TMC 85.2.110)**.

STRUCTURAL COMPLIANCE METHODS

46. Project must be compliant with either the prescriptive requirements, or the applicant must submit structural calculations prepared and signed by a California licensed architect or civil engineer:
- Prescriptive Methods
 - PV System + hardware weight is less than or equal to 4 psf.
 - Roof material is composition shingle, asphalt shingle, or rolled/torch-down roof materials and is single or double layered only.
 - Attachments are made with minimum 5/16" lag screws with minimum 2.5" penetration depth.
 - Panels are not >30' above grade or not in the hillside.
 - Attachment spacing does not exceed 72" (cannot exceed 48" if rafter spacing is 16" OC).
 - Anchors are staggered.
 - Panel slope matches roof slope and is less than 6:12.
 - Not within 600 feet of coastline.
 - Rafter span does not exceed Allowable Roof Rafter Spans Table.

Table 1:

Allowable Roof Rafter Spans

Roof Rafters		Allowable Span	
Size	Spacing	Comp. Shingle Roofing	Clay or Conc. Tile Roofing
2x4	16"	9'-10"	8'-6"
	24"	8'-0"	6'-11"
2x6	16"	14'-4"	12'-5"
	24"	11'-9"	10'-2"
2x8	16"	18'-2"	15'-9"
	24"	14'-10"	12'-10"

ENERGY STORAGE SYSTEMS (ESS)

47. ESS shall be located not less than 3 feet (914mm) from doors, windows, and other openings directly entering the dwelling unit. **(CRC 327.4(3))**.
48. Individual ESS shall be located not less than 3 feet from other ESS units.
49. ESS shall not be installed inside any attached structure to a dwelling unit, or within enclosed utility closets, basements, storage or utility spaces within dwelling units **(TMC 85.2.110)**. ESS shall be installed within detached garages and detached accessory structures not associated with dwelling units, and outdoors or on the exterior side of the exterior walls located not less than 3 feet (914mm) from doors and windows directly entering the unit.
50. Individual ESS shall have a maximum rating of 20kWh. The aggregate rating of all ESS shall not exceed 80kWh. ESS installations exceeding the permitted individual or aggregate ratings shall be installed in accordance with Sections 1207.1 through 1207.9 of the California Fire Code, and be routed to the Fire division for their approval **(TMC 85.2.110)**.
51. ESS shall be provided with impact protection when installed in a location subject to vehicle damage **(CFC 1207.11.7)**