CALIFORNIA BUILDING OFFICIALS

Options for SB 379 Compliance

PANEL OF PRESENTERS





Lucio Hernandez & Silvia Palma-Rojas CA Energy Commission

Osama Younan General Manager, City of LA





Mostafa Kashe Chief Electrical Engineer and Inspector Los Angeles County Public Works

CALIFORNIA BUILDING OFFICIALS







Shan Sundar CEO, Saira Solutions

David Khorram PE Superintendent of Building & Safety -City of Long Beach

John P. Ramirez, AICP Director of Community Development City of Norwalk



Gabriel Linares PE Community Development Director City of Lynnwood







- SB 379 Mandates Objective and requirements
- Timelines and deadlines to comply and implement
- Grants for Instant solar permitting

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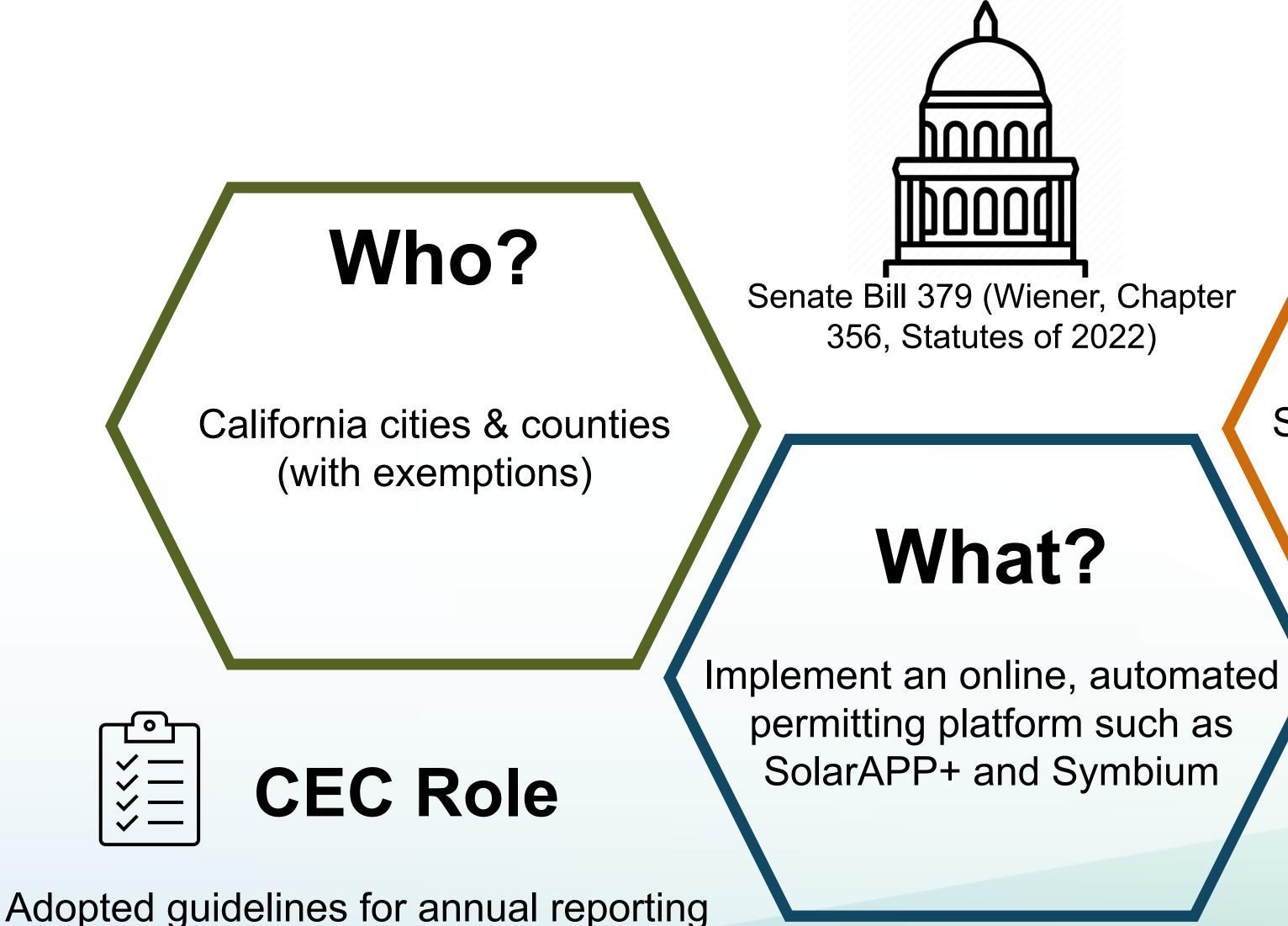


California Energy Commission

Residential Solar Permit Reporting – SB 379 and the California Automated Permit Processing Program Lucio Hernandez April 22, 2024







Residential Solar Permit Reporting – SB 379

When?

By September 30, 2023 or September 30, 2024 (depending on population size)



Who?	Threshold
City	 Population fewer than
Example	 City of Truckee (Popu
County	 Population fewer than cities within)
Example	 Nevada County (Pop

n 5,000

ulation $\sim 16,000$)



n 150,000 (includes population of









Annual Reporting

SB 379: "The Energy Commission shall set guidelines...for jurisdictions to report on the number of permits issued and the relevant characteristics of those systems."

Data Submission to the CEC:

Authorized representatives of non-exempt reporting jurisdictions shall provide information to the Energy Commission that satisfies the requirements of SB 379

Submission deadlines:

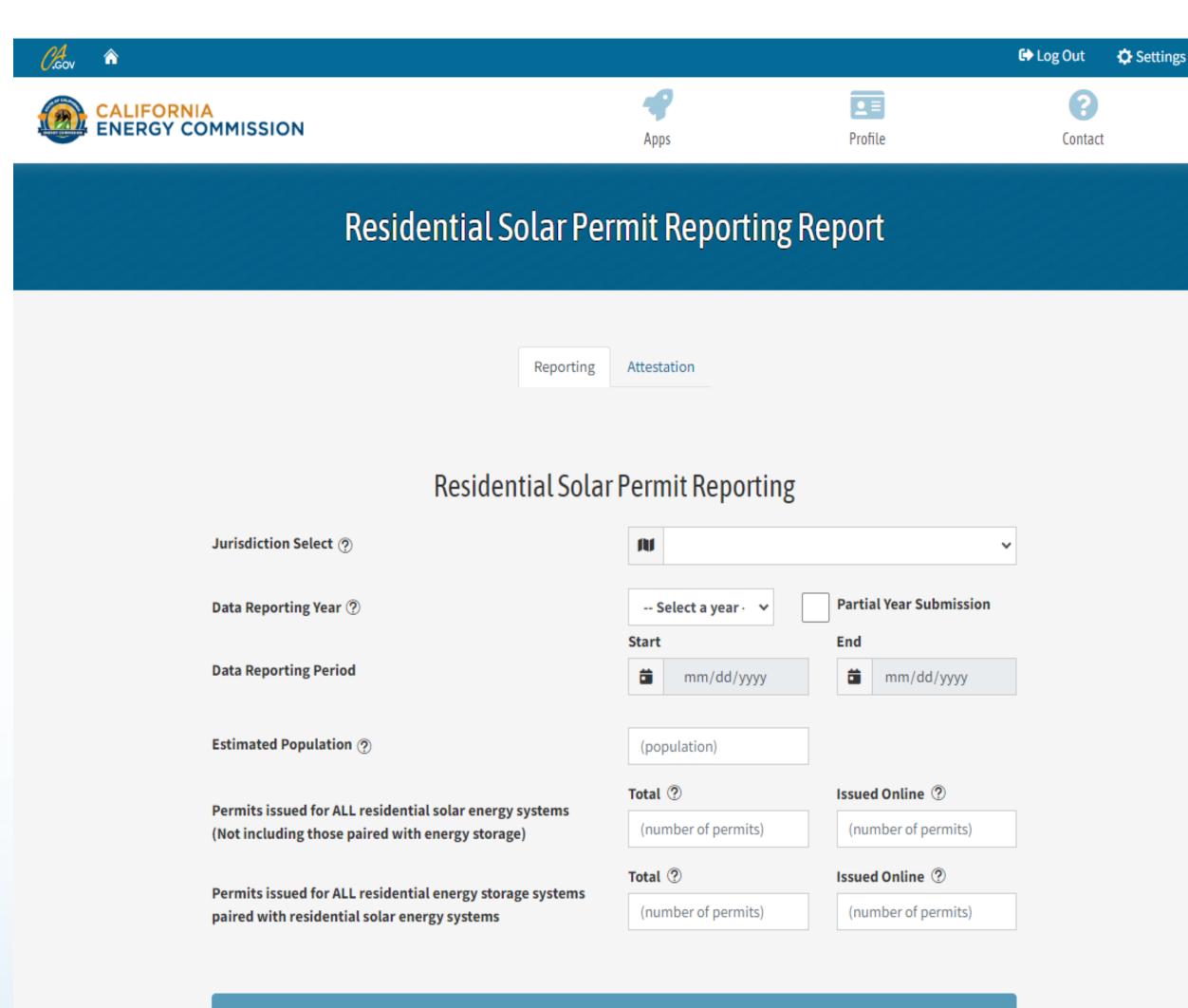
Non-exempt reporting jurisdictions shall submit annual reports by June 30th every year following compliance until June 30, 2034

Data Reporting:

Data shall cover the previous calendar year from January 1 – December 31







Next »

https://datasubmission.energy.ca.gov/RSPR/Report

CEC Data Submission Portal

Attestation Form

I, (print name) , declare under the requirements defined by Senate Bill 379 and the California Energy Commission's

SB 379 Guidelines that by completing and submitting this information, I attest the following:

- I am an authorized representative of a non-exempt reporting city, county, or city and county and have the authority to complete and submit this information on behalf of the city, county, or city and county I selected.
- I have read and understand Senate Bill 379 and the California Energy Commission's SB 379 Guidelines, including the annual reporting requirements.
- The city, county, or city and county I am reporting on behalf of has adopted an online, automated platform that is in compliance with Senate Bill 379 and the California Energy Commission's SB 379 Guidelines.
- I acknowledge that the California Energy Commission may request additional information to substantiate the information submitted in the annual report.
- I declare under penalty of perjury that the information submitted on behalf of the city, county, or city and county is true and correct to the best of my knowledge.

Jurisdiction Represented



Reporting individual is an employee of the Jurisdiction?

Reporting Individual's Company

ĉ (reporting individual's company)

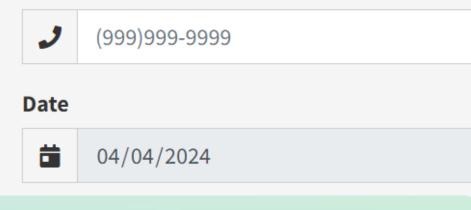
Email Address

(email address)

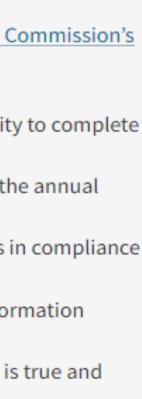
Signature

≁ (signature)

Phone Number



8





SB 379 Solar Permit Annual Reports

Name of Jurisdiction	Туре	Estimated Population	Year Reported	PV Permits Issued	Online PV Permits Issued	PV + Storage Permits Issued	Online PV + Storage Permits Issued
Aliso Viejo	City	52,222	2023	269	269	-	-
Arcadia	City	55,503	2023	155	48	41	16
Benicia	City	28,174	2023	189	55	47	33
Butte	County	207,000	2023	750	750	93	93
Chino	City	95,000	2023	6	6	4	4
Citrus Heights	City	89,000	2023	91	91	17	17
Concord	City	124,074	2023	32	3	95	30
Contra Costa	County	1,160,000	2023	2,018	8	536	32



Residential Solar Permitting Program Dashboard

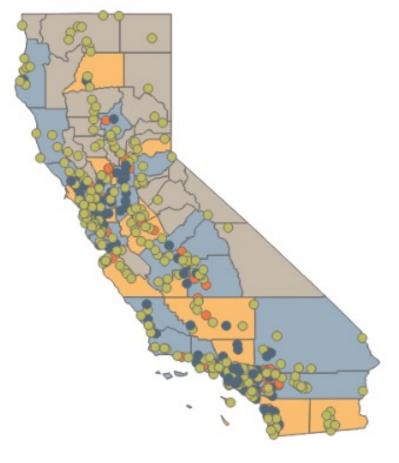
Residential Solar Permitting Program

SB 379 in Numbers

Online, Automated Platform Counties:21 Cities:122

Annual Report Submitted to CEC Counties:7 Cities:46

Percentage of Jurisdictions:9.8%



CalAPP Awarded Funds

Total Jurisdictions: 326

Total Funds: \$18,060,000

Item	Jurisdiction	Population	SB 379 Deadline	SB 379 Platform Status	Annual Report Submitted	CalAPP Funding	Funds Awarded
2	Adelanto (City)	36,656	Sept 2024	Exempt Until Sept 2024	None	Not Awarded	N/A
3	Agoura Hills (City)	19,770	Sept 2024	Exempt Until Sept 2024	None	Awarded	\$40,000
4	Alameda (City)	77,287	Sept 2023	SolarAPP+ Platform	None	Awarded	\$60,000
5	Alameda (County)	1,636,194	Sept 2023	Without Platform	None	Not Awarded	N/A
6	Albany (City)	21,401	Sept 2024	Exempt Until Sept 2024	None	Awarded	\$40,000
7	Alhambra (City)	81,303	Sept 2023	Without Platform	None	Awarded	\$60,000

https://www.energy.ca.gov/programs-and-topics/programs/residential-solar-permit-reporting-sb-379/residential-solar-permitting 10

Keyword Search Report Submitted (All) SB 379 Deadline (All) (All) SB 379 Platform Status (All) CalAPP Funding (All) SB 379 Platform Status Legend Counties with Online, Automated Platform Cities with Online, Automated Platform Cities Without Platform Cities Without Platform Counties Exempt	
Cities Exempt/Exempt Until 2024 Note: To use the Keyword Search, type in the search term into the text box, and then press the 'enter' button on your keyboard. Image: Comparison of the text box of text b	





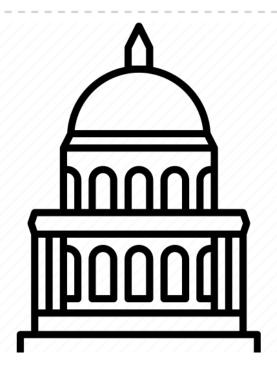
California Automated Permit Processing (CalAPP) Program







CalAPP Program Overview



What?

Grant program for cities, counties, or cities and counties to establish online solar permitting Senate Bill 129 (Skinner, Budget Act of 2021)

Budget: \$20 million (up to \$1 million for admin costs)

Eligibility

All incorporated California cities (482) and counties (58)

Funding Structure

\$40,000 - \$100,000

Deadline

May 1, 2024

Application Form: <u>https://www.energy.ca.gov/calapp</u>





CalAPP Numbers to Date

- Applications
 - 331 applications submitted
 - 327 agreements awarded
- Funding
 - \$18,100,000 encumbered
 - \$900,000 remaining

Jurisdictions using CaIAPP funds to assist with the adoption or implementation of an online, automated platform issuing solar permits in real time

SB 379 Platform Status Legend

Counties with Online, Automated Platform Cities with Online, Automated Platform Counties Without Platform Cities Without Platform Counties Exempt Cities Exempt/Exempt Until 2024





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• May 1, 2024: CalAPP Application deadline to reserve funding

- CalAPP Program webpage: <u>https://www.energy.ca.gov/calapp</u>
 - Application Form accessible from this page
- SB 379 webpage: <u>https://www.energy.ca.gov/programs-and-topics/programs/residential-solar-permit-reporting-sb-379</u>
- https://public.govdelivery.com/accounts/CNRA/signup/31719
- CEC Contact: calapp@energy.ca.gov

Next Steps & More Information

Please join the CalAPP email list topic, available from our webpage or at

Customer Experience









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Instant Solar Permits

The City of Lynwood is pleased to announce a new streamlined residential roof top solar plan check and permitting process.

New simplified Solar Permit Application - just one application to complete!

Apply for the qualifying Expedited Solar PV Permit through our Lynwood Instant Solar Permits https://lynwood.edgesoftinc.com/cap/ or in person at City Hall.

Residential Photovoltaic Eligibility Checklist for projects that comply with the new screening checklist, no structural plan check required!

For questions regarding this permit process, please consult the Community Develpment Department at (310) 603-0220, ext. 289 or visit https://www.lynwoodca.gov

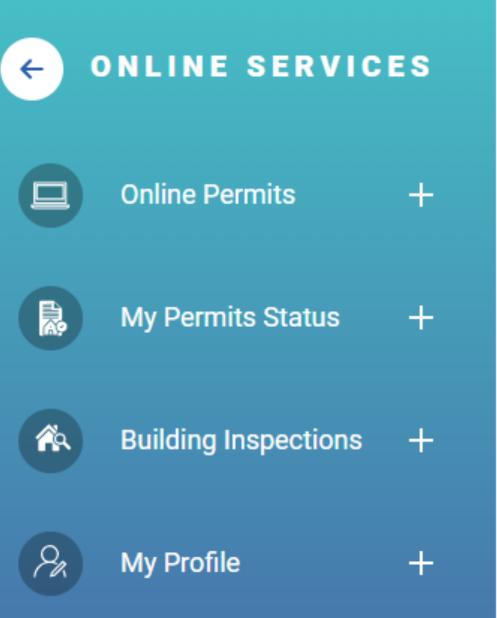


scan me





Citizen Access Portal



Welcome To The City Of Lynwood Online Portal!

Please refer to the navigation bar at the left of the screen to navigate. Some of the features include:

APPLY FOR PLANNING REVIEW

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Apply and pay for Online Planning Applications.

CLICK HERE TO APPLY FOR PLANNING REVIEW

INSPECTIONS



Request an Inspection, Review Scheduled Inspections, Cancel a Scheduled Inspection.



APPLY FOR INSTANT SOLAR PERMIT	
Apply and pay for Online Instant Solar Permit.	My Active Permits.
CLICK HERE TO APPLY FOR INSTANT SOLAR 🦽	CLICK HERE FOR MY ACTIVE PERMITS
Review and update your profile. Provide the city with your contact information.	
CLICK HERE TO GO TO YOUR PROFILE	





Citizen Access Portal

Step 1 of 5 ·	• Apply for	Solar Permit: Add
---------------	-------------	-------------------

Street Name	Street Numb
Please Select	*
~	en't yet obtained a confirm



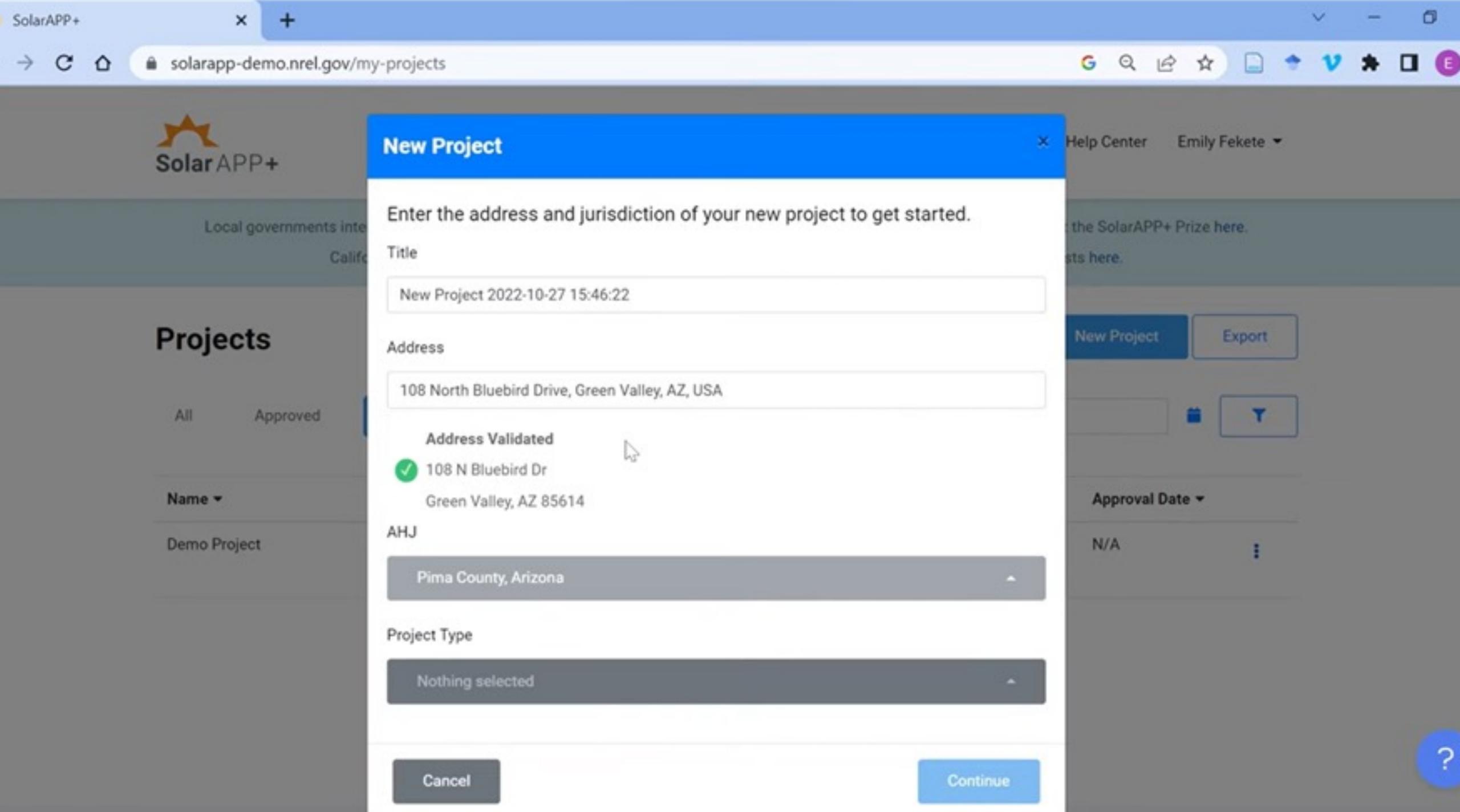
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Place?



mber from SolarApp+ please <u>click here</u>

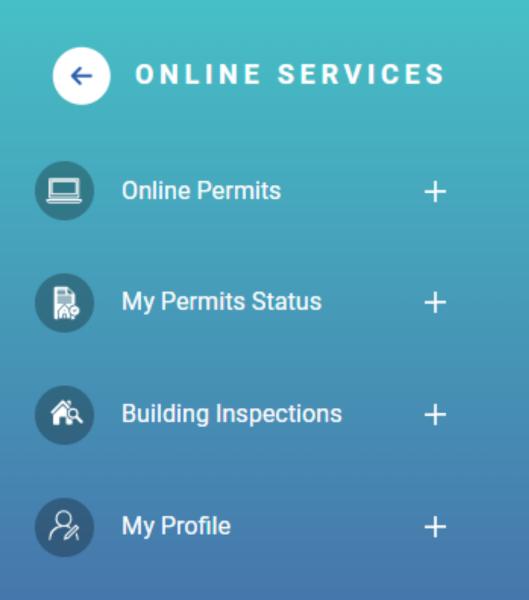












Welcome To The City Of Norwalk Online Portal!

Please refer to the navigation bar at the left of the screen to navigate. Some of the features include:

APPLY FOR BUILDING PERMITS

Apply and pay for Online Building Permits.

CLICK HERE TO APPLY FOR BUILDING PERMTIS

INSTANT SOLAR PERMIT

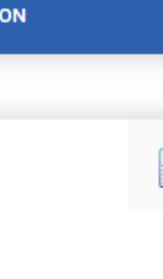
This is applicable for residential solar permit only. For all other permits, use building perm process.

CLICK HERE TO APPLY FOR INSTANT SOLAR PERMIT

Citizen Access Portal

	APPLY FOR PLANNING REVIEW		YARD SALE APPLICATION
211200		anen	
	Apply and pay for Online Planning Applications.		Yard Sale Application
e* .	CLICK HERE TO APPLY FOR PLANNING REVIEW	e*	CLICK HERE FOR YARD SALE APPLICATION
	PERMIT STATUS		INSPECTIONS
it	My Active Permits		Request an Inspection, Review Scheduled Inspections, Cancel a Scheduled Inspection
	CLICK HERE FOR MY ACTIVE PERMITS	e* -	CLICK HERE TO REQUEST AN INSPECTIO





Step 1 of 4 - Basic Information

Street Name*		Stree
Please Select		*
Street Fraction		
~		
SolarAPP+Appro	val ID*	Desc
	lf you don't h	ave a confir

Be Taking Place?

ber*



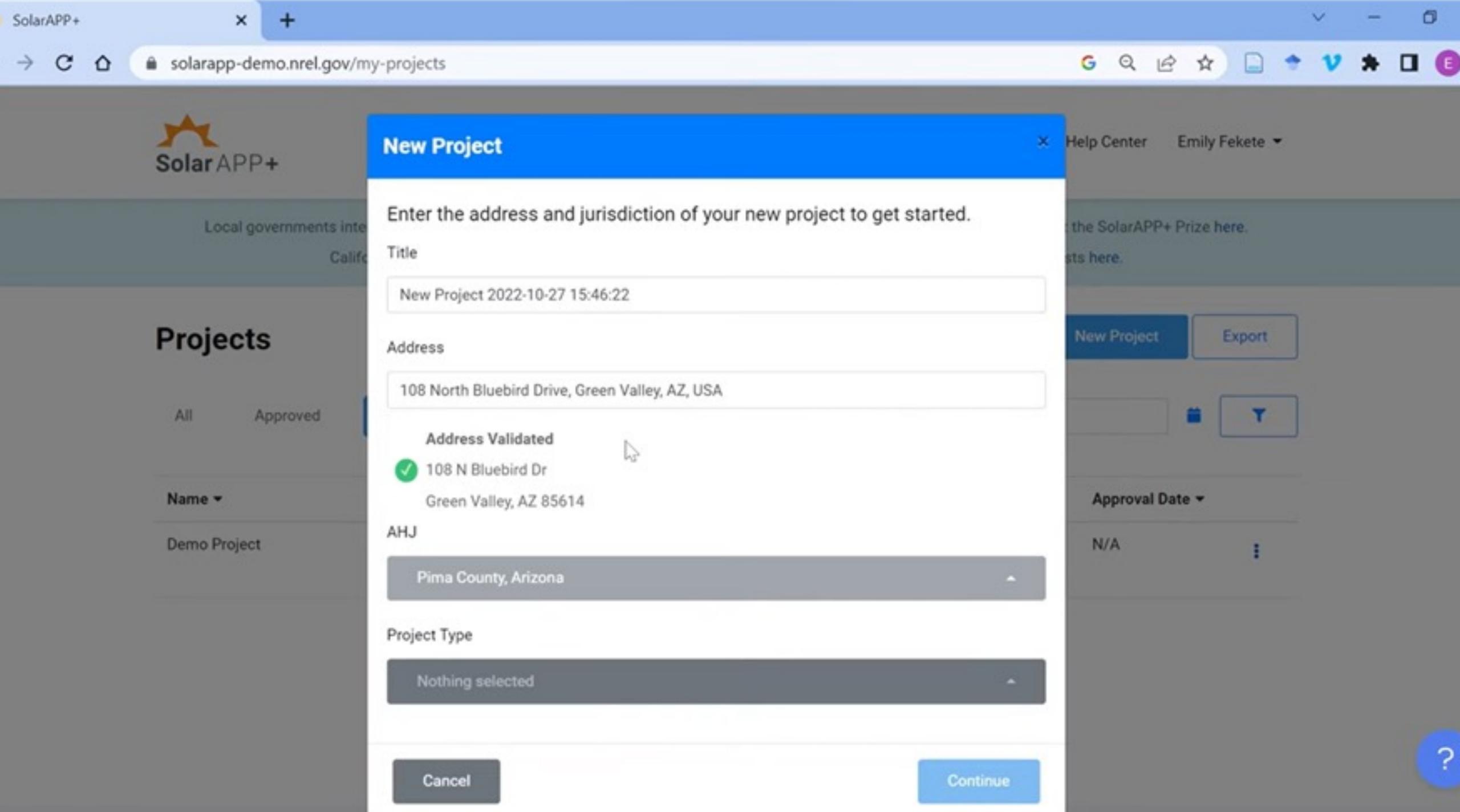
on number from SolarApp+ please <u>click here</u>

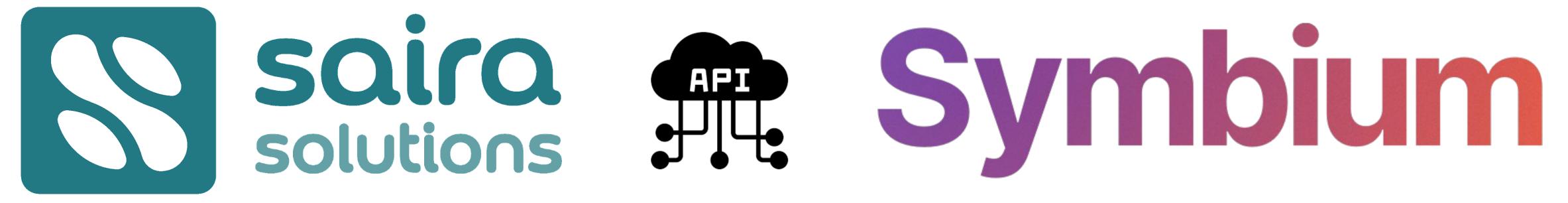
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ograde, please get an additional permit.





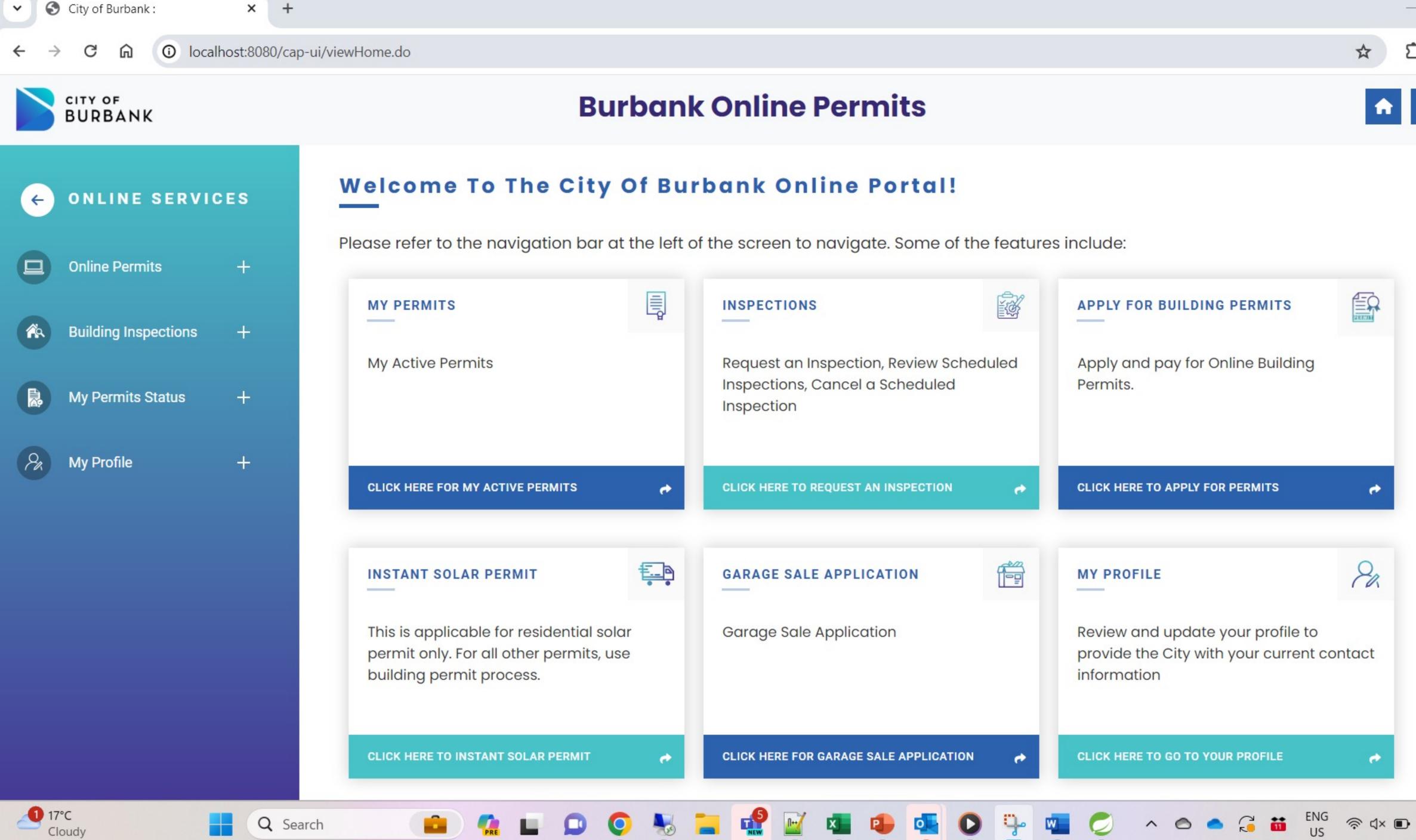


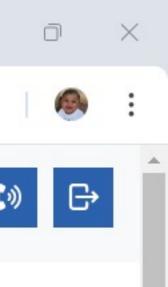




CITY OF





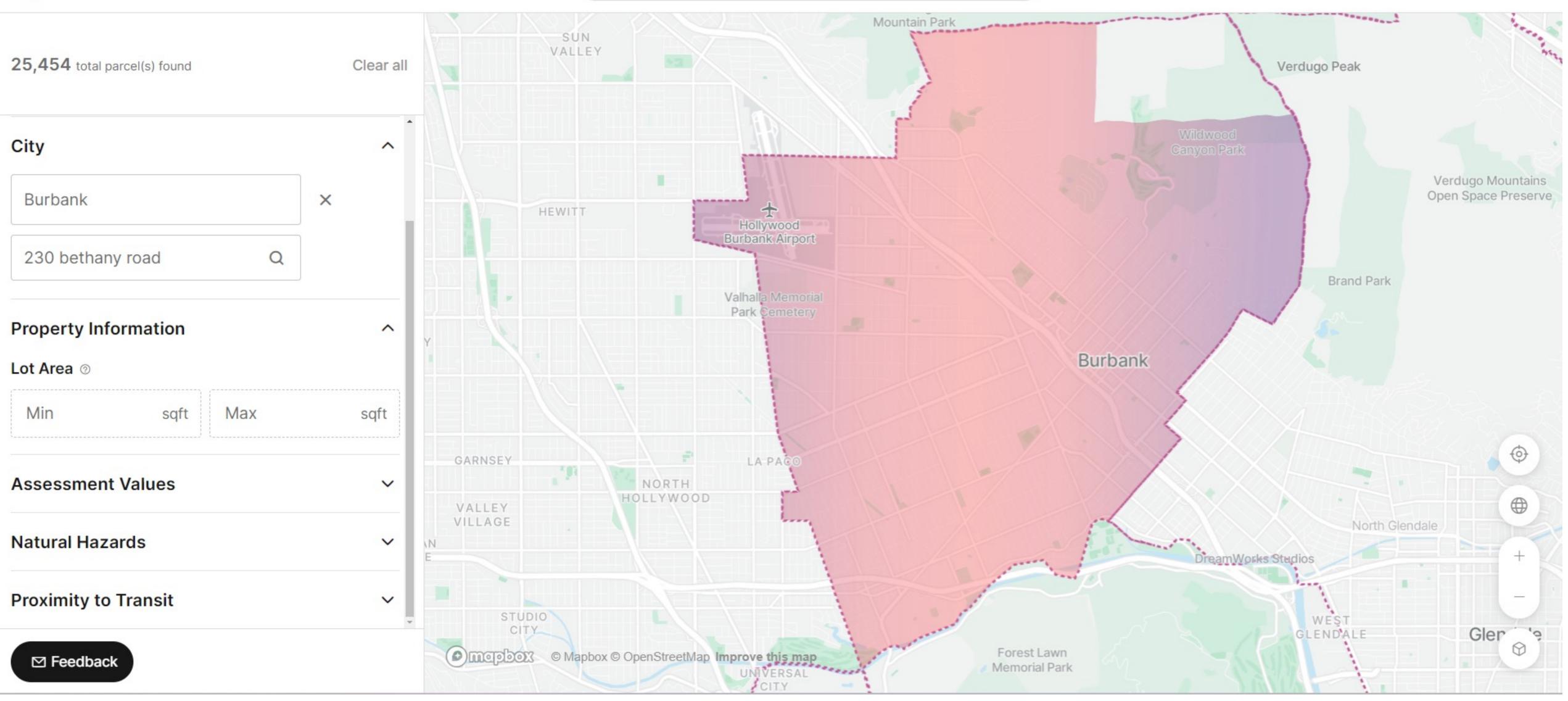


12:33 PM 4/12/2024

Symbium



E



Enter a California location







Population of almost ¹/₂ million Required to comply by October 2023

Steps we followed:

- 1. Adjusted the residential PV and ESS city permit fees in accordance with mandate 2. Trained and established a team of expert "permit technicians" to address the large number of expected submittals
- 3. Updated the existing checklists
- 4. Hired a consultant and developed a portal that applicants can pay and process their PV, ESS, and EVCS projects in real time
- 5. Applied and awarded a grant of \$100,000 from the CA Energy Commission (CEC) 6. Demonstrated the system and passed the CEC audit





COMMUNITY DEVELOPMENT

About Us LBCD Home Services

Home » Community Development » Building And Safety » Permit Center » Solar Photovoltaic (PV) Process

SOLAR PHOTOVOLTAIC (PV) PROCESS



The City of Long Beach (City) is committed to encouraging and supporting the installation of rooftop solar PV systems that generates renewable energy, provides stable electricity, and reduces pollution. The City permits such installations by reviewing, approving, and issuing most construction permits (electrical and/or building) over the public counter process. The inspection of these projects can be scheduled and conducted at the convenience of the applicant upon the issuance of the construction permits.

SUBMIT ELECTRONIC SOLAR PV PLANS AND APPLICATIONS

The City's Development Permit Center accepts electronic solar PV plans and applications for the installation of solar PV systems.

<u>https://www.longbeach.gov/lbcd/building/permit-center/solar-permit/</u>

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Programs & Projects

Maps

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HELPFUL QUICK LINKS

PERMIT CENTER APPOINTMENTS

PLAN REVIEW SERVICE

SCHEDULE AN INSPECTION

FORMS & APPLICATIONS

FEE SCHEDULES

INFORMATION BULLETINS

ONLINE PERMITTING



Permit Statistics Since October 2023

Photovoltaic System (PV)

Energy Storage System (ESS)

Electrical Vehicle Charging Stat

TOTAL

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	513
ion (EVCS)	73
	16
	424





LA County compliance with SB379 for an online, automated permitting platform

LA County Compliance with SB379

- SB379 requires a software platform that must be:
- Capable of verifying code compliance or issuing permits in real time.
- Consistent with the system parameters, configurations, and eligibility of SolarAPP+.

two new "express permit" types:

- Express Solar Roof Mount Residential
- Express Solar Roof Mount Residential with Energy Storage System

LA County elected to utilize their existing EpicLA platform to comply with SB379 by implementing



LA County Compliance with SB379

To comply with California Senate Bill 379, LA County took the following steps:

1) Created "express permit" types as part of the EpicLA (Energov) online system.

- These application types were developed by the in-house IT Section. A copy of the design template used to make these permit application types is available to be shared.
- EpicLA collects general information about the solar and energy system.
- The applicant is responsible for providing accurate inputs, which are used to generate the fee and subsequently create a permit for those items.
- Inspections can be scheduled online through EpicLA as well.
- Additional information is provided to the applicants concerning outside agency involvement such as Fire Department and Department of Regional Planning (Coastal Commission).



LA County Compliance with SB379

To comply with California Senate Bill 379, LA County took the following steps:

- 2) Trained inspectors for review and inspections of solar and solar/ESS installations.
- Inspection guide checklists for the express permit types were created.



EXPRESS SOLAR PERMIT + EXPRESS SOLAR AND ENERGY STORAGE PERMIT Inspection Guide Checklist

		Υ	Ν	NA
1	Applicant presented a copy of the permit and equipment data sheets.			
	Equipment model numbers and quantities on the express permit match what is on site.			
	a. PV Module			
	 b. DC-DC Converter ("optimizers") 			
2	c. Central Inverter			
	d. Microinverter			
	e. Racking system			
	f. Other equipment			
	NRTL certifications are confirmed for all PV equipment.			
	a. PV module – UL1703 or UL61730			

 b. Central or Microinverters – UL1741 		
c. Racking System – UL2703		
 d. DC-DC Converter ("optimizers") – UL1741 		
 e. Other equipment – applicable standards 		

PATHWAYS At least 2x 3-foot-wide pathways on separate roof planes are provided from the lowest roof edge to the ridge. At least one pathway is on the street or driveway side of the roof. □ At least one pathway is on the street or driveway side of the roof. □ SETBACK AT RIDGE If the building does not have an automatic sprinkler system: • When the PV modules cover up to 33% of the total roof space, an 18" setback is provided on each side of the ridge. □ 4 • When the PV modules cover more than 33% of the total roof space, a 36" setback is provided on each side of the ridge. □ If the building has an automatic sprinkler system: • When the PV modules cover up to 66% of the total roof space, an 18" setback is provided on each side of the ridge. □ If the building has an automatic sprinkler system: • When the PV modules cover up to 66% of the total roof space, an 18" setback is provided on each side of the ridge. □ • When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. □ • When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. □ • When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. □ • When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. □ • When the PV modules cover mor		Appropriate fire setbacks and pathways are provided.						
 If the building does not have an automatic sprinkler system: When the PV modules cover up to 33% of the total roof space, an 18" setback is provided on each side of the ridge. When the PV modules cover more than 33% of the total roof space, a 36" setback is provided on each side of the ridge. If the building has an automatic sprinkler system: When the PV modules cover up to 66% of the total roof space, an 18" setback is provided on each side of the ridge. When the PV modules cover up to 66% of the total roof space, an 18" setback is provided on each side of the ridge. When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. EMERGENCY ESCAPE AND RESCUE OPENING Modules are arranged such that a 3-foot-wide pathway is available to any Image: Image: Image:		At least 2x 3-foot-wide pathways on separate roof planes are provided from the lowest roof edge to the ridge.						
	4	 SETBACK AT RIDGE If the building does not have an automatic sprinkler system: When the PV modules cover up to 33% of the total roof space, an 18" setback is provided on each side of the ridge. When the PV modules cover more than 33% of the total roof space, a 36" setback is provided on each side of the ridge. If the building has an automatic sprinkler system: When the PV modules cover up to 66% of the total roof space, an 18" setback is provided on each side of the ridge. When the PV modules cover up to 66% of the total roof space, an 18" setback is provided on each side of the ridge. When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. When the PV modules cover more than 66% of the total roof space, a 36" setback is provided on each side of the ridge. 						

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3

Y N NA

 Roof and attachment details are consistent with the structural compliance method identified in the express permit: Prescriptive Requirements Attachment E – Structural Toolkit Structural Engineering Calculations Roof member size, roof member spacing, roof material, attachment method (lag size), attachment spacing, and height between module and roof are all appropriate for the selected method of structural compliance. Projects with site elevation > 2000 ft. (<i>especially Antelope Valley District Office</i>): Structural calculations include 20 psf snow load analysis. PRESCRIPTIVE REQUIREMENTS The roofing material is wood shingle, asphalt shingle, or rolled/torch-down and is single or double layered only. The PV system weighs not more than 4 psf. The distance between the top most part of any module to the roof is less than 18". Rafters are 2x4's (or better) spaced 24" on center with a maximum PV attachment span of 4 feet (48 inches) on center. Attachments are made with minimum 5/16" lag screws with minimum 2.5" penetration depth. 			 	
 Structural calculations include 20 psf snow load analysis. PRESCRIPTIVE REQUIREMENTS The roofing material is wood shingle, asphalt shingle, or rolled/torch-down and is single or double layered only. The PV system weighs not more than 4 psf. The maximum concentrated load imposed by the PV system supports onto the roof structure is 40 pounds. The distance between the top most part of any module to the roof is less than 18". Rafters are 2x4's (or better) spaced 24" on center with a maximum PV attachment span of 4 feet (48 inches) on center. Attachments are made with minimum 5/16" lag screws with minimum 2.5" 		identified in the express permit: Prescriptive Requirements Attachment E – Structural Toolkit Structural Engineering Calculations Roof member size, roof member spacing, roof material, attachment method (lag size), attachment spacing, and height between module and roof are all appropriate for the selected method of structural compliance.		
 The roofing material is wood shingle, asphalt shingle, or rolled/torch-down and is single or double layered only. The PV system weighs not more than 4 psf. The maximum concentrated load imposed by the PV system supports onto the roof structure is 40 pounds. The distance between the top most part of any module to the roof is less than 18". Rafters are 2x4's (or better) spaced 24" on center with a maximum PV attachment span of 4 feet (48 inches) on center. Attachments are made with minimum 5/16" lag screws with minimum 2.5" 	5	Structural calculations include 20 psf snow load analysis.		
 3) The maximum concentrated load imposed by the PV system supports onto the roof structure is 40 pounds. 4) The distance between the top most part of any module to the roof is less than 18". 5) Rafters are 2x4's (or better) spaced 24" on center with a maximum PV attachment span of 4 feet (48 inches) on center. 6) Attachments are made with minimum 5/16" lag screws with minimum 2.5" 		 The roofing material is wood shingle, asphalt shingle, or rolled/torch-down and is single or double layered only. 		
 than 18". 5) Rafters are 2x4's (or better) spaced 24" on center with a maximum PV attachment span of 4 feet (48 inches) on center. 6) Attachments are made with minimum 5/16" lag screws with minimum 2.5" 		 The maximum concentrated load imposed by the PV system supports onto the roof structure is 40 pounds. 		
attachment span of 4 feet (48 inches) on center. 6) Attachments are made with minimum 5/16" lag screws with minimum 2.5"		than 18".		
		attachment span of 4 feet (48 inches) on center.		

	Roof penetrations, sealants, and flashings are installed correctly.		
6	No plumbing/attic vents are installed beneath the PV modules (or are rerouted appropriately).		

	Rooftop and/or attic wiring methods are per Code.		
7	PV Wire or USE-2/RHW-2 for exposed wires; exposed wires are secured beneath modules/rails and off the roof; THWN or THWN-2 or similar rated wire in raceways, wire size is appropriate, conduit size is appropriate, conduits are strapped/supported at appropriate intervals.		

8	Rooftop junction box(es) are installed per Code. Transition from free-air wiring to raceway wiring methods using appropriate wire types, wire nuts, and C-Clamp properly crimped if applicable.		
9	The racking system is bonded per installation instructions with any grounding lugs and ground wire at appropriate locations.		

10	For installations in very high fire hazard severity zones, the racking system classification + module fire type rating are shown to have a Class A Rating.		
10	classification + module fire type rating are shown to have a Class A Rating.		



		Y	N	NA
	Rapid Shutdown equipment is installed per Section 690.12(B)			
11	The Rapid Shutdown Initiation Device is one of the below options and is installed outside of the residence per Section 690.12(C).			
	PV system disconnecting means Readily accessible switch that plainly indicates whether it is in the "off" or "on" position			
		r		
12	The AC side breakers and wire sizes are determined using 125% of the inverter output current per Sections 690.8 and 690.9.			
	The Equipment Grounding Conductor(s) are determined using the breaker/fuse size per Table 250.122			
	All AC wining month and a new man Conde			
	All AC wiring methods are per Code.			
13	THWN or THWN-2 or similar rated wire in raceways, wire size is appropriate,			
	conduit size is appropriate, conduits are strap/supported at appropriate intervals.			
	The backfeed contribution satisfies one of the 705.12 methods of compliance.			
	Most commonly, installations will follow the "120% rule" per Section			
14	705.12(B)(2)(3)(b). The PV breaker is installed at the opposite end of the main			
	breaker or input feeders such that:			
	MAX Backfeed = 1.2 x Busbar Rating – Main OCPD Rating			
	If the main breaker is de-rated, a residential load calculation per Article 220 is presented to justify the demand is less than the main breaker rating.			
	presented to justify the demand is less than the main breaker rating.			
	All PV labels are installed with values completed.			
15				
	See separate reference guide for more details.			
	All equipment and inverter compatibility was verified.	[
	Examples: Solar Edge optimizer P370 allows for a maximum input of 370W with a footnote			
	allowing up to +5% \rightarrow 388.5W absolute maximum power for the module rating			
16	SolarEdge optimizer P400 requires a minimum of 8 per string and up to a maximum of 5700W per string on 3.0, 3.8, 5.0, 6.0 kW inverter OR 6000W per			
	string on the 7.6 kW and higher rated inverters			
	SolarEdge inverters have a maximum DC power allowed. For example, a maximum of 11.8 kW DC (rating of all modules) on a 7.6 kW SolarEdge inverter			
	is allowed.			

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		Υ	Ν	NA
	When a main panel upgrade is part of the scope of work			
	Panel is accounted for on an issued electrical permit.			
	Overhead entrance conductors are sized to Section 310.12(A).			
	Vertical riser is strapped per Code based on the type of conduit selected.			
	Grounding Electrode Conductor (GEC) is sized to Table 250.66			
17	If structure is served by a metallic water service, the water pipe electrode is bonded within the first five feet of entrance into the building. Section 250.68(C)(1)			
	At least one type of electrode is used to supplement the water pipe electrode per Section 250.53(D)(2)			
	If using ground rods as the supplemental electrode type, at least 2 ground rods shall be installed with minimum of 6 feet separation. Section 250.53(A)(2)&(3)			
	If the main service panel was relocated such that circuits are extended more than six feet, AFCI protection is provided for applicable circuits per Section 210.12(D).			
r	Smoke and carbon monoxide detectors are installed inside the residence where	r	r – – – – – – – – – – – – – – – – – – –	
18	required. (Video documented or walk-through)			
	(nace accumented of main anough)			
19	The applicant provided a completed permit affidavit form – eligible on projects <38.4kW (AC Nameplate Rating). If no permit affidavit is completed, the modules are verified to be installed on a legal structure.			
r		r	r —	
20	Electrical work in general is per Code and there are no code violations related to the PV installation. Possible examples shown below. Working clearance for panels and fused disconnects. Section 110.26 Location of breakers not more than 6'7" from floor/grade. Section 240.24(A) Equipment is at least 5 feet from pool edge. Section 680.22(C) Conduit, junction box, and raceway fills are not exceeded. Chapter 3.			

**For projects that are in the COASTAL COMMISSION AREA, a referral from the field office staff must be made to the Department of Regional Planning for their review and approval.





THIS SECTION OF THE CHECKLIST IS ONLY APPLICABLE TO THE ENERGY STORAGE SYSTEMS INSTALLED AS PART OF AN EXPRESS PERMIT FOR SOLAR AND ENERGY STORAGE.

		Υ	Ν	NA
	Applicant presented a copy of the permit and equipment data sheets.			
1	Equipment model numbers and quantities on the express permit match what is on site.			
<u> </u>	1	r	r	
2	LA County Fire Department field inspection completed.			
r		<u> </u>		r
3	The energy storage system is listed by an NRTL to UL9540. Section R328.2			
4	 The location of the ESS is installed in a location allowed by Section R328.4 1. Detached garages and detached accessory structures. 2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6 3. Outdoors or on the exterior side of exterior walls located not less than 3 ft from doors and windows directly entering the dwelling unit. 4. Enclosed utility closets, basements, storage, or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch Type X gypsum wallboard. ESS shall not be installed in sleeping rooms, closets, spaces opening directly into sleeping rooms or in habitable spaces of dwelling units. 			
5	The spacing between individual ESS units is at least 3 feet per Section R328.3.1 LA County Fire Department approved plans or documentation for a closer spacing may be shown instead.			
6	Disconnecting means for the ESS is provided in a readily accessible location, is lockable in the open position, and is within sight of the ESS. If not already outside, an additional disconnect is required outside. Section 706.15(A)			
		-	-	_
7	Overcurrent protective devices (OCPD) are provided on the ESS circuit per Section 706.31(A). An OCPD is provided at the ESS location if the conductors to the connected equipment pass through a wall, floor, or ceiling. Section 706.31(F)			
			r	
8	The DC or AC side OCPDs and wire size are determined using 125% of the output current per Sections 706.30(B) and 706.31(B). The Equipment Grounding Conductor(s) are determined using the breaker/fuse size per Table 250.122			

9	Where the ESS is connected to a backfed circuit breaker, an additional fastener shall be provided on that breaker per Section 408.36(D). The circuit breaker and additional fastener shall be made by the same manufacturer.			
	The backfeed contribution satisfies one of the 705.12 methods of compliance.			
10	Most commonly, installations will follow the "120% rule" per Section 705.12(B)(2)(3)(b). The PV/ESS breaker is installed at the opposite end of the main breaker or input feeders such that: MAX Backfeed = 1.2 x Busbar Rating – Main OCPD Rating			
	Alternatively, the installer demonstrates the system is equipped with a Power Control System (PCS) and has been programmed to meet compliance via Section 705.13.			
44	Each papel is protected from all available power sources. Castion 409.20			
11	Each panel is protected from all available power sources. Section 408.30			
	Electrical work in general is per Code and there are no code violations related to	r –	r —	
12	 the ESS installation. Possible examples shown below. *Working clearance for panels and fused disconnects. Section 110.26 Location of breakers not more than 6'7" from floor/grade. Section 240.24(A) Equipment is at least 5 feet from pool edge. Section 680.22(C) Conduit, Junction Box, and Raceway fills are not exceeded. Chapter 3. Physical protection shall be provided if the equipment is on the back wall of a garage or otherwise facing vehicle traffic. *ESS are required to have working clearance per Section 706.20(C)(1). 			
13	Manufacturer instructions specific to the ESS product have been followed. <i>Common examples:</i> The Solar Edge Back Up Interface has terminals for the "grid" connection and for the "backup loads" connection that accept #4-4/0 wires. A minimum #4 wire is needed even if a smaller sized breaker is used on either end of those terminals. The Tesla Gateway 2 comes standard with a "Neutral-Bond Strap" installed. This should be removed in any installation where the Gateway 2 is not acting as the main service (which is almost all installations in LA County). The Tesla Gateway 2 has various configurations for its internal panelboard to be installed. If installed as the "non-back up" panel within the Gateway 2, it is required to have a backfed 100A (max) main breaker. The Sunpower Hub+ is permitted to be installed on a circuit breaker up to 200A from the main service panel. The "non back up pan" (subpanel) within the HUB+ is rated 125A. If the breaker at the main panel is larger than 125A, a 125A (max) main breaker must be installed on that pan within the HUB+.			



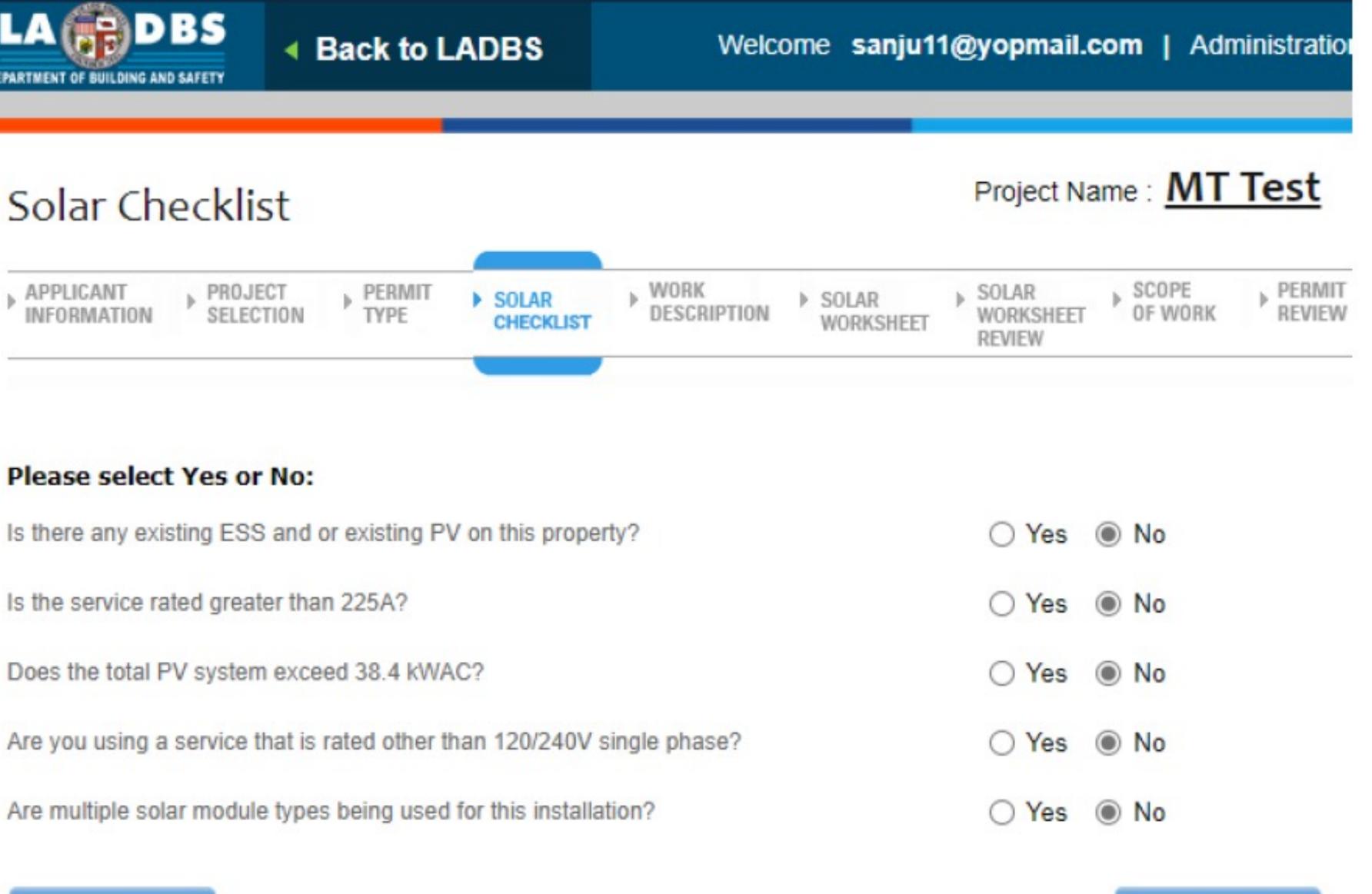








Solar Checklist



Is the service rated greater than 225A?

Does the total PV system exceed 38.4 kWAC?

BACK

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Permit Description

All items marked with asterisk (*) are required

APPLICANT INFORMATION	Þ	PROJECT SELECTION	PERMIT TYPE	SOLA
--------------------------	---	----------------------	----------------	------

PV System Grounding Method

Work Description

Installation Requirements

- The number of strings is four or fewer (with or without one combiner box).
- The total capacity of the PV system is 38.4kWac or less.
- GECL or AECL over current devices are not installed in the Alternate Current (AC) output of the inverter
- PV modules are roof-top mounted and are crystalline or multi-crystalline type.
- The AC power system is rated 120/240 volts single phase
- The service disconnect is rated for less than or equal to 225A with a busbar size up to 400A, and meets one of the methods of compliance per NEC 2020 705.12(B)(3)(2) or 705.13.
- The PV system does not consist of any the following items: storage battery, building integrated photovoltaic, photovoltaic roll roofing.
- DC arc-fault circuit protecting device shall be installed per 690.11.
- A separate building permit may be required for the ground mounted structural support of the solar photovoltaic system. Refer to information Bulleting P/GI 2014-027 "Guidelines for Plan Check and Permit Requirements for Solar Energy Devices" for more information.
- Solar PV system will be installed on an existing permitted building/structure.
- 11. PV Solar installation shall comply with LAFD requirement NO. 96

Rent Control

For installations in rental properties that are subject to the Rent Stabilization Ordinance, no portion of the work covered by this permit will occur in any habitable room, unit, or housing accommodation. Further, the portion of the work being performed under this permit shall not affect tenant habitability and/or safety. For additional information, refer to the Los Angeles Housing and Community Investment Department's "Identification Checklist For All Rental Properties Subject to the Rent Stabilization Ordinance.

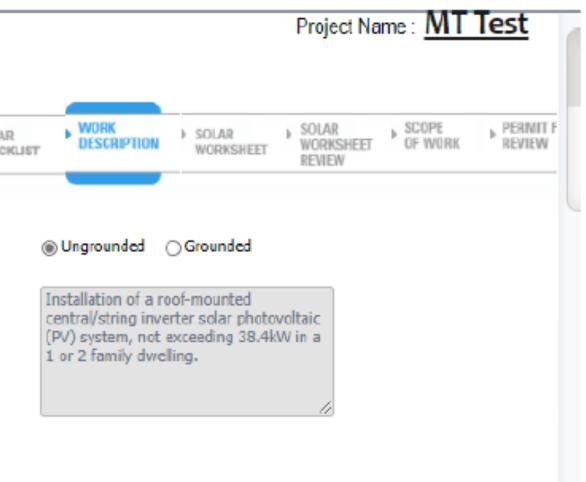
City Planning Requirements

I hereby acknowledge that I have read the Los Angeles City Planning Department Advisory Notice for Installing Solar Equipment on Historic Buildings.

I have read and agree to follow the above Terms & Conditions.

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INFORMATION SELE		PERMIT		SOLAR CHECK
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General Information

Total Number of Inverters Installed:

Inverter 1 Power Rating

Inverter 2 Power Rating

Inverter 3 Power Rating

Inverter 4 Power Rating

Number of AC Backfeed Overcurrent Protective Device (OCPD) Size of AC Backfeed Overcurrent Protective Device 1 (OCPD) Size of AC Backfeed Overcurrent Protective Device 2 (OCPD) Size of AC Backfeed Overcurrent Protective Device 3 (OCPD) Size of AC Backfeed Overcurrent Protective Device 4 (OCPD) Are you installing a branch circuit for Energy Meter?

Module Information

Inverter 1 System

Module Manufacturer

Module Model

Module Voc (from module nameplate)

Module Isc (from module nameplate)

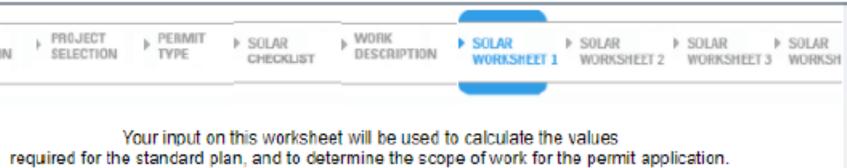
Module DC Output Power under Standard Test Conditions (STC) Module Vmpp (from module nameplate) Module Impp (from module nameplate)

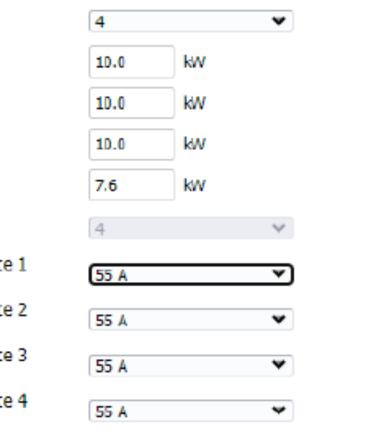
Solar Photovoltaic (PV) System AC Output Power

All inverters are using same module information.

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	a		
	a		
	44.5	Volts	
	9.76	Amps	
	340	Watts	
	37.8	Volts	
	9.0	Amps	
lating	37.60		kW





Your input on this worksheet will be used to required for the standard plan, and to deter

Inverter Information

Inverter 1 Information

Inverter Manufacturer

Inverter Model

Max Continuous AC Output Current Rating

Max. Input Short Circuit Current Rating

Max Inverter Input Voltage Rating

Are DC/DC Converters used?

Does Inverter2 system have the same Inverter1 information? Does Inverter3 system have the same Inverter2 information? Does Inverter4 system have the same Inverter3 information?

Inverter 4 Information

Inverter Manufacturer

Inverter Model

Max Continuous AC Output Current Rating

Max. Input Short Circuit Current Rating

Max Inverter Input Voltage Rating

Are DC/DC Converters used?

Inverter 1 System

DC Module Layout

How many source circuits (strings) are installed in Inverter 1 System?

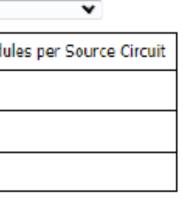
3			

Source Circuit Label	Number of Modu
String 1	10
String 2	10
String 3	10

SOLAR WORKSHEET 1	SOLAR WORKSHEET		SOLAR WORKSHEE		SOLAR WORKSHEET 4	SOLAR WORKSHEE
o calculate the mine the sco		for th	ne permi	it ap	plication.	

c	
c	
42.0	Amps
45.0	Amps
500	Volts
Yes	⊖ No
Yes	⊖ No
Yes	⊖ No
⊖ Yes	🖲 No

d	
d	
32.0	Amps
45.0	Amps
500	Volts
🖲 Yes 🛛	No







Your input on this worksheet will be used to calculate the values

```
Inverter 1 System (Continued)
```

DC/DC Converter

Are DC/DC Converters used?

DC/DC Converter Model

DC/DC Converter Max DC Input Voltage

Max DC Output Voltage

Max DC Output Current

Number of Modules per DC/DC Converter

DC/DC Converter Max DC Input Power

DC/DC Converter Used with

Do DC/DC Converters run in parallel on one source circuit?

Largest number of DC/DC converters running in parallel on one source circuit

Maximum System DC Voltage

Are you using the module manufacturer's open-circuit voltage temperature coefficient (TCvoc)?

Select the unit for the Temperature Coefficient

Enter the temperature coefficient value (Format: -0.xxx)

Sizing PV Source Circuit Conductors

Number of current carrying conductors in raceway

Raceway height above the roof

Inverter DC Disconnect

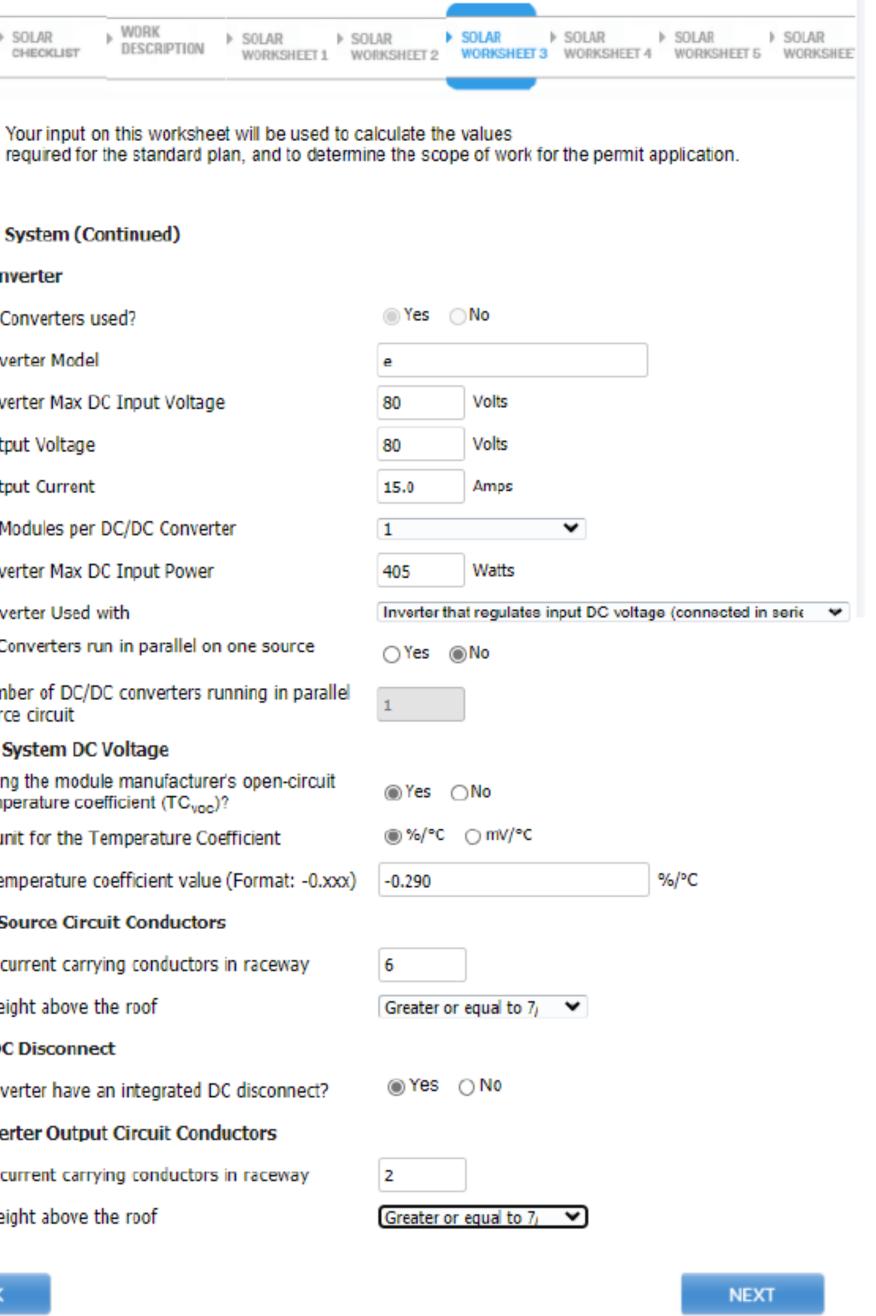
Does the inverter have an integrated DC disconnect?

Sizing Inverter Output Circuit Conductors

Number of current carrying conductors in raceway

Raceway height above the roof

BACK







R > SOLAR > KSHEET 1 WORKSHEET 2

Your input on this worksheet will be used to a required for the standard plan, and to determ

Inverter 2 System

DC Module Layout 🛛 🖉 Copy information from Inverter 1 system. Please

How many source circuits (strings) are installed in Inverter 2 System?

Source Circuit Label	Number of Modu		
String 1	10		
String 2	10		
String 3	10		

DC/DC Converter 🛛 Copy information from Inverter 1 system. Pla

Are DC/DC Converters used?

DC/DC Converter Model

DC/DC Converter Max DC Input Voltage

Max DC Output Voltage

Max DC Output Current

Number of Modules per DC/DC Converter

DC/DC Converter Max DC Input Power

DC/DC Converter Used with

Do DC/DC Converters run in parallel on one source circuit?

Largest number of DC/DC converters running in parallel on one source circuit

Maximum System DC Voltage 🛛 Copy information from In

Are you using the module manufacturer's open-circuit voltage temperature coefficient (TCvoc)?

Select the unit for the Temperature Coefficient

Enter the temperature coefficient value (Format: -0.xxx)

BACK

SOLAR WORKSHEET 3 SOLAR SOLAR WORKSHEET 5 SOLAR WORKSHEET 6 WORKSHEET 6 WORKSHEET 6 WORKSHEET 6
calculate the values nine the scope of work for the permit application.
e review and edit information as applicable.
3
Iles per Source Circuit
lease review and edit information as applicable.
Yes No
e
80 Volts
80 Volts
15.0 Amps
1 Vatts
405 Watts
Inverter that regulates input DC voltage (connected in seri
⊖Yes ⊛Na
1
nverter 1 system. Please review and edit information as applicable.
@ Yes ⊖No
-0.290 %/°C
NEXT





SOLAR SOLAR SOLAR SOLAR WORKSHEET WORKSHEET 2 WORKSHEET3 WORKSHEET 4

Your input on this worksheet will be used to calculate the values

Inverter 2 System (Continued)

Sizing PV Source Circuit Conductors Copy information from Inverter 1 system. Please review and edit information as applicable.

Number of current carrying conductors in raceway

Raceway height above the roof

Inverter DC Disconnect

Copy information from Inverter 1 system. Please review and edit information as applicable.

Does the inverter have an integrated DC disconnect?

Sizing Inverter Output Circuit Conductors

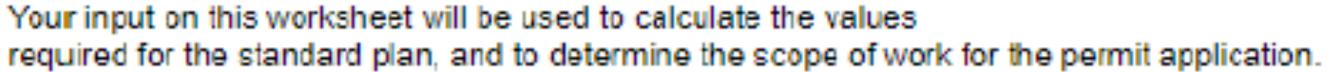
Number of current carrying conductors in raceway

Raceway height above the roof

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6]	
Greater or	equal to 7/	۷

۲	Yes	0	10
Ś		· · ·	

Copy information from Inverter 1 system. Please review and edit information as applicable.

2]	
Greater or	equal to 7/	¥





SOLAR SOLAR SOLAR SOLAR SOLAR SOLAR WORKSHEET 1 WORKSHEET 2 WORKSHEET 3 WORKSH

Your input on this worksheet will be u required for the standard plan, and to

Inverter 3 System

DC Module Layout Copy Information from Inverter 2

How many source circuits (strings) are installed i Inverter 3 System?

Source Circuit Label	Number of
String 1	10
String 2	10
String 3	10

DC/DC Converter Copy information from Inverter 2

Are DC/DC Converters used?

DC/DC Converter Model

DC/DC Converter Max DC Input Voltage

Max DC Output Voltage

Max DC Output Current

Number of Modules per DC/DC Converter

DC/DC Converter Max DC Input Power

DC/DC Converter Used with

Do DC/DC Converters run in parallel on one sour circuit?

Largest number of DC/DC converters running in on one source circuit

Maximum System DC Voltage Copy informatio

Are you using the module manufacturer's open-o voltage temperature coefficient (TCvoc)?

Select the unit for the Temperature Coefficient

Enter the temperature coefficient value (Format:

Sizing PV Source Circuit Conductors

Number of current carrying conductors in racewa

Raceway height above the roof

Inverter DC Disconnect Copy informat

Does the inverter have an integrated DC disconn

Sizing Inverter Output Circuit Conductors app

Number of current carrying conductors in racewa

Raceway height above the roof

HEET 4 SOL	AR SOLAR SOLAR SOLAR SOLAR OF WORKSHEET G WORKSHEET G
	culate the values e the scope of work for the permit application.
system. Please	ereview and edit information as applicable.
in	3
of Modules	per Source Circuit
system. Please	e review and edit information as applicable.
	Yes No
	e
	80 Volts
	80 Volts
	15.0 Amps
	1 Vatts
	405 Watts
rce	O Yes No
parallel	1
on from Inverte	er 2 system. Please review and edit information as applicable.
oirouit	@ Yes ⊖ No
	⊛ %/°C ○ mV/°C
: -0.xxx)	-0.290 %/°C
py information	from Inverter 2 system. Please review and edit information as applicable.
ау	6
	Greater or equal to 7
tion from Inver	ter 2 system. Please review and edit information as applicable.
nect?	
Copy inform Opticable.	ation from Inverter 2 system. Please review and edit information as
ау	2
	Greater or equal to 7





SOLAR SOLAR SOLAR SOLAR WORKSHEET 1 WORKSHEET 2 WORKSHEET	► SOLAR ► SOL 13 WORKSHEET 4 WO	RKSHEET 5 WORKSHEET 6 REVIEW SOLAR DF WORK			
	_				
Your input on this workshe required for the standard of		culate the values the permit application.			
Inverter 4 System					
DC Module Layout	m Inverter 3 system. Pleas	e review and edit information as applicable.			
How many source circuits (strings) are Inverter 4 System?	installed in	2 🗸			
Source Circuit Label	Number of Modules	per Source Circuit			
String 1	11				
String 2	11				
DC/DC Converter 🖾 Copy Information fro	m Inverter 3 system, Pleas	e review and edit information as applicable.			
Are DC/DC Converters used?		Yes No			
DC/DC Converter Model		e			
DC/DC Converter Max DC Input Voltag	e	80 Volts			
Max DC Output Voltage		80 Volts			
Max DC Output Current		15.0 Amps			
Number of Modules per DC/DC Conver	ter	1 Vatts			
DC/DC Converter Max DC Input Power		405 Watts			
DC/DC Converter Used with		Inverter that regulates input DC voltage (connected in set \checkmark			
Do DC/DC Converters run in parallel on one source circuit?		⊖ Yas ⊜ No			
Largest number of DC/DC converters r on one source circuit	unning in parallel	1			
Maximum System DC Voltage 🛛 🖗	opy information from Invert	er 3 system. Please review and edit information as applicable.			
Are you using the module manufacture voltage temperature coefficient (TC $_{\rm voc}$		@ Yes ⊖No			
Select the unit for the Temperature Co	pefficient	@ %/°C ⊖ mV/°C			
Enter the temperature coefficient value	e (Format: -0.xxx)	-0.290 %/*C			
Sizing PV Source Circuit Conductor	s Copy Information	n from Inverter 3 system. Please review and edit information as applicable.			
Number of current carrying conductors	s in raceway	4			
Raceway height above the roof		Greater or equal to i 💙			
Inverter DC Disconnect 🖾 Copy information from Inverter 3 system. Please review and edit information as applicable.					
Does the inverter have an integrated [C disconnect?	@Yes ⊖No			
Sizing Inverter Output Circuit Conductors	Copy informapplicable.	nation from Inverter 3 system. Please review and edit information as			
Number of current carrying conductors	s in raceway	2			
Raceway height above the roof		Greater or equal to i 💙			
ВАСК		NEXT			

Source Circuit Label	Number
String 1	11
String 2	11





Your input on this worksheet will be used to calculate the values

Generation Subpanel

Combined PV inverters OCPD(s) rating

The 125% of combined PV nameplate rated circuit currents:

*Subpanel busbar rating

* Subpanel main OCPD rating

Number of output current carrying conductors in raceway

Raceway height above the roof

Point of Connection to Main Service Panel

Is this a new or existing service panel?

Existing
 New

Main Circuit Breaker Rating (Main OCPD Size)

Main Service Panel Busbar Rating (Bus Size)

Based on the indicated Main Service Panel Busbar Rating (Bus size) and Electric Power Sources Combined Output OCPD Rating, Main Service disconnect rating is not to exceed If the main breaker is reduced, a load calculation per Article 220 must accompany the Standard Plans to show that the reduction is allowed.

Rapid Shutdown

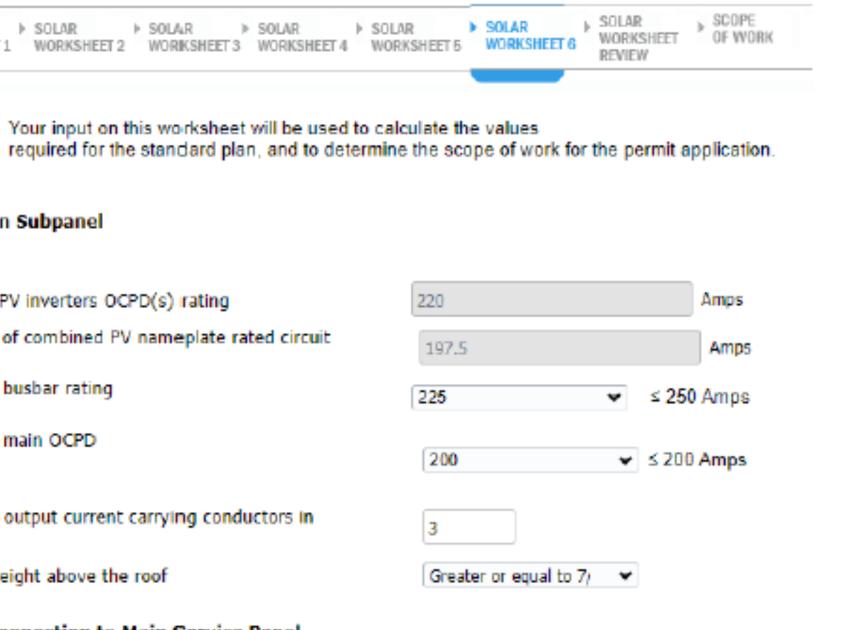
The rapid shutdown initiation device shall be labeled according to CEC 690.56(C), and its location shall be shown on the site plan drawing. The rapid shutdown system on the building shall comply with 690.12(A) through (D).

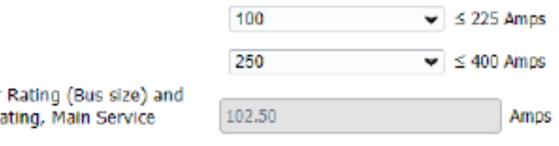
Grounding and Bonding of Modules and Racking System

Racking system listed to UL 2703 using modules identified in the listing

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* Separate Fused AC Disconnect

Conductor, Cable and Conduit Schedule

Click here to view the Single Line Diagram 1A to indicate tags for A, B, C and D

Click here to view the Single Line Optimizers Diagram to indicate tags for A, B, and C

Supplemental Worksheet

³ Are Junction boxes installed on the roof line)?

* Is a Separate DC disconnect installed fo under single line)?

² Does the inverter has a built in DC disco line)?

* Does the inverter has a built in AC disco line)?

^{*} Is a Separate AC disconnect installed for under single line)?

² Is a performance meter required and ins under single line)?

² What is the rating of the main service(L

Conductor Size	10
Number of Conductors	6
* Conductor/Cable type	THHN
² Conduit Size	1
* Conduit Type	EMT
Tag A / B : EGC(AWG Copper)	
* Conductor Size	8
² Number of Conductors	2
* Conductor/Cable type	THHW

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Conductor/Cable Installation shall be subject to field inspection Per LA City 2020 Electrical Code.

oftop (Label 3 under single	No 👻	
for the solar system(Label 4	No	0
connect(Label 5a under single	No	7
connect(Label 5b under single	No 🛩	1
or the solar system(Label 7	No	n N
nstalled per LADWP(Label 8	No	- -
Label 9 under Single Line 1)?	200	≤ 225 Amps
	-	

Tag A / B : Current-Carrying Conductors (TYP based on the largest source circuit)







Tag C : Current-Carrying Conductor (TYP based on the largest Inverter-output circuit)

Conductor Size	6				
*Number of Conductors	2				
* Conductor/Cable type	THHW				
* Conduit Size	1 1/4				
* Conduit Type	FMT				
Tag C : EGC(AWG Copper)					
* Conductor Size	8				
*Number of Conductors	3				
* Conductor/Cable type	THWN-2				
Tag D : Current-Carrying Conductors					
Conductor Size	3/0				
*Number of Conductors	3				

	1				
*Number of Conductors	3				
* Conductor/Cable type	THHW				
[^] Conduit Size	%				
* Conduit Type	RMC				
Tag D : EGC(AWG Copper)					
* Conductor Size	12				
*Number of Conductors	2				
* Conductor/Cable type	THHW				

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Summary Review page(see PDF)

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REVIEW



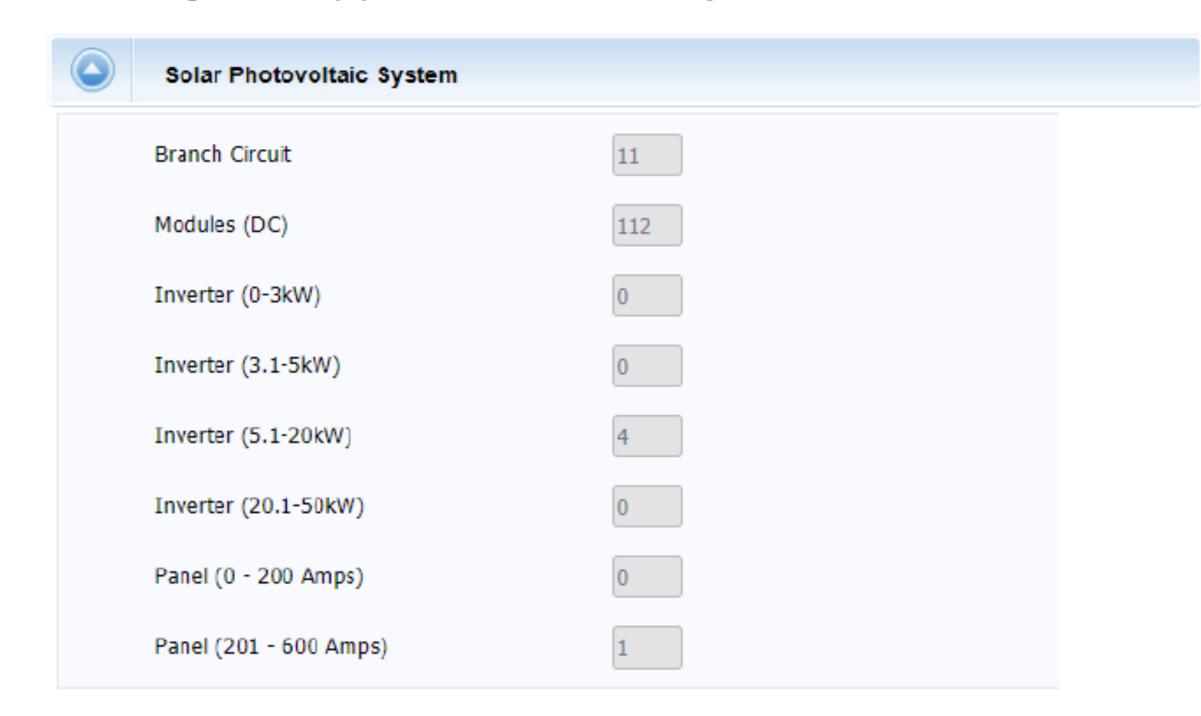


Project Name : MT Test Standard Plan - Central Inverters Scope of Work

All items marked with asterisk (*) are required

₽	SOLAR	Þ	SOLAR 🕨 🕨	SOLAR	Þ	SOLAR
	WORKSHEET 2		WORKSHEET 3	WORKSHEET 4		WORKS

The following is a list of equipment based on the information you have entered.



UPDATE WORKSHEET

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Permit Fees Review

_			
Þ	WORK DESCRIPTION	▶ QUESTIONNAIRE	PERMIT REVIEW

Applying as:	Contractor
License Number:	92
Expiration Date:	08/31/2025
BTRC Number:	0000068488
Fee Item	
Ltg/Gen Rec, Dwe	ll App, Non-Dwell App

Modules

Inverter (5.1 to 20 kW)

Panel 201-600 Amp

Fee Subtotal

State Cap (AB1414)

Issuing fee

Dev Serv Center Surch

System Surcharge

Total Fees Due

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FEES	▶ DECLARATION	 PERMIT CART REVIEW 	
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Permit Address: 204 E SUNSET AVE 90291

Solar PV/ Energy Storage - Electrical Permit Type: Permit Sub-Type: House/Duplex

	Fee Amount	
(PVR)		\$187.00
		\$672.00
		\$108.00
		\$16.00
		\$983.00
		\$-533.00
		\$23.00
		\$14.19
		\$28.38
		\$515.57





Electrical - Scope of Work

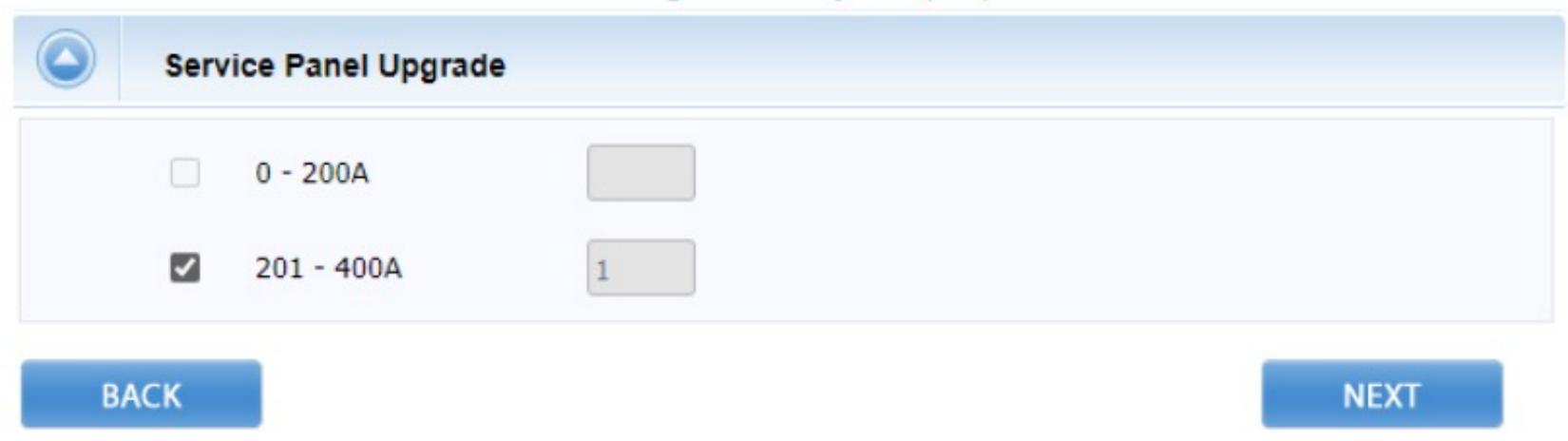
All items marked with asterisk (*) are required



Enter the applicable items to be included on this permit within each of the designated boxes.

Leave boxes blank that are not applicable. If you are not sure which boxes are applicable, please call our customer Call Center at one of the following numbers:

> Within Los Angeles County, dial 311 Outside Los Angeles County, dial (213) 473-3231



CALIFORNIA BUILDING OFFICIALS

Project Name : MT Test

PERMIT CART REVIEW





Permit Fees Review



BACK

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PERMIT CART REVIEW

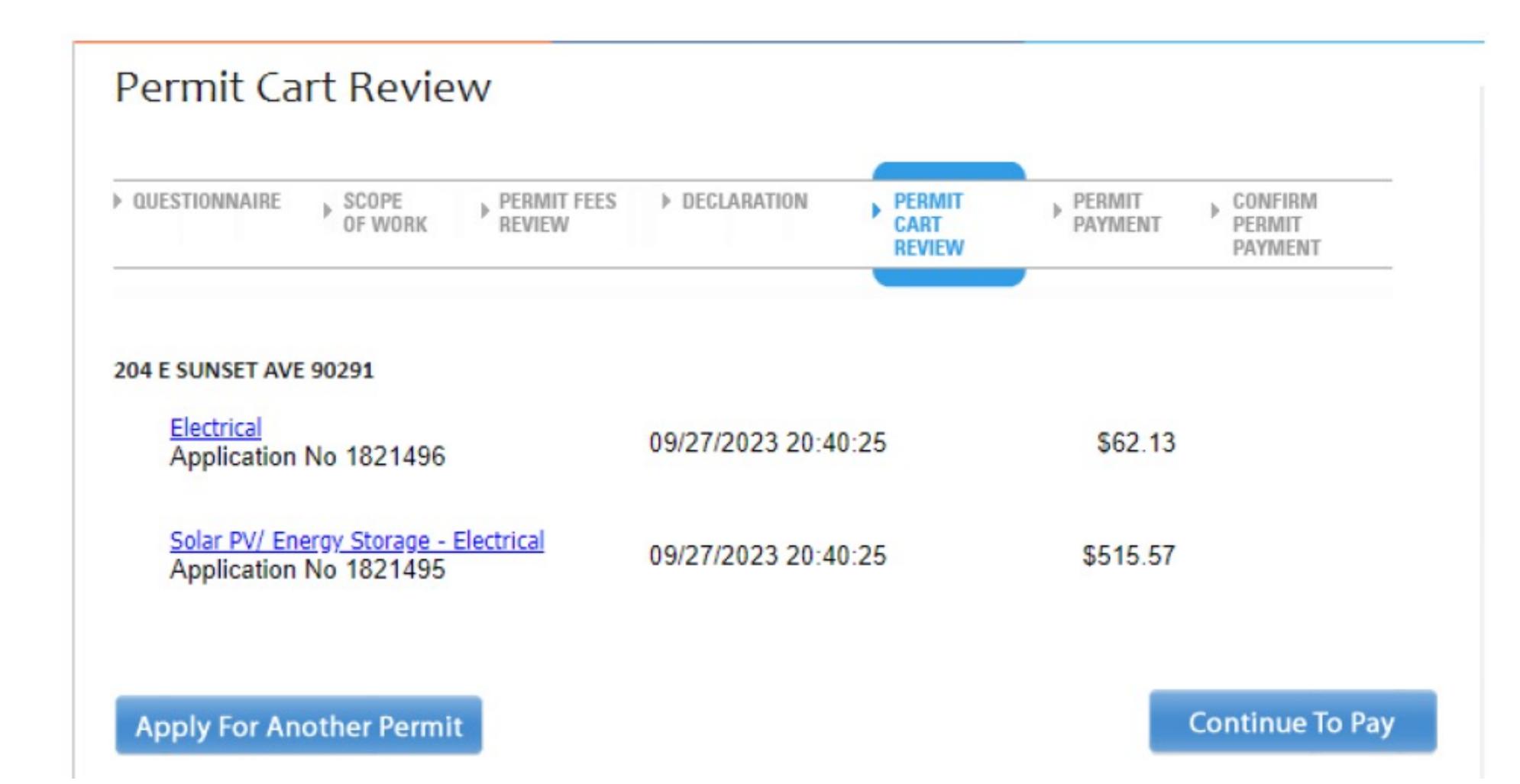
Permit Address: 204 E SUNSET AVE 90291 Electrical Permit Sub-Type: House/Duplex

Fee Amount	
	\$34.00
	\$34.00
	\$0.00
	\$23.00
	\$1.71
	\$3.42
	\$62.13



















Questions? For additional questions about this program, please contact the CALBO Office at 916-457-1103 or info@calbo.org

