



District of Columbia

DCRA Solar Permitting Guidelines

Solar systems require permits and inspections in the District: this includes residential & commercial, and both PV (electric) & solar thermal systems. This guide provides an overview of code compliance requirements for solar installation, lays out the specific elements involved, and highlights some common pitfalls. This guide is general and indicative in nature: additional code elements may apply to any specific project. The permitting sequence typically involves:

- Plan Preparation*
- ↓ Permit Application
- ↓ Plan Review
- ↓ Installation*
- ↓ Inspections*
- The Operation of a New Solar System

* There will be Pepco requirements roughly correlating with these steps

Preparing the Plan Set

Prepare the following documents in your plan set (these will be digital, generally PDF's, for [ProjectDox](#) submittal):

1. Zoning Review: Site plan, Plats & the Solar Zoning Self-Certification Form:

Site Plan: When the solar system is less than 4' (four feet) above the roof or parapet wall, a [Solar Zoning Self-Certification Form](#) is available on www.buildgreendc.org that may significantly speed permit processing through DCRA. NOTE: Make it very obvious on your plans, with notes and elevations or sections, that the system is less than 4' above the roof: the [Solar Zoning Self-Certification Form](#) will require you to identify the page(s) on which this detail is shown on your plans. Upload the SZSC form, and the associated Clean Hands Certification, into the Supporting Documents folder in ProjectDox for each project. In such cases, it is generally permissible to submit a site plan which is not drawn on an [official DC plat](#). Similar information must be conveyed -- lot lines, existing

buildings, and proposed solar system, all accurately dimensioned, labeled, placed & oriented.

Plat: if the project rises more than 4' above the roof, you will need to [obtain a plat](#) from the [Surveyor's Office](#), and the existing structure(s) and proposed solar system must be added to the plat and labeled accordingly. The online guide "[Steps to Showing Improvements on Plat](#)" is available to help clarify these requirements.

2. DCRA does not require neighbor notifications for solar projects that do not involve either:

- a. the installation of the structural support of an adjacent building, structure or premises or
- b. the underpinning of a party wall.

If the Code Official or designee determines a project **does** involve such work and is, therefore, subject to Sections 3307.2 or 3307.3, the applicant will be required to provide neighbor notification pursuant to those sections of the DC Building Code.

A solar system attached to a party wall ("that could affect the structural integrity of a party wall") does not require neighbor notification, but pursuant to 3307.4:

"[T]he person causing the work shall preserve the party wall from injury and ensure the structural stability of the party wall at said person's own expense. The party wall shall be maintained weatherproof and structurally stable."

3. Construction Documents¹ (Scaled plans, specs, and details)

- a. All plans should be submitted as single-page pdfs. Refer to the ProjectDox User Manual for further information.
- b. Site Plan showing the north arrow, including the location of all major components including modules, inverter(s), disconnects, main electrical service, and meter (this can optionally be on the same site plan addressed above).
- c. Architectural plans including roof layout and schematic detailing of the solar modules and roof attachment details.
- d. Engineering plans including electrical, fire protection, structural, plumbing and mechanical (as appropriate) with associated calculations.
- e. Please refer to the online DCRA ProjectDox Applicant User Guide for further details on ProjectDox protocol.

¹ 12 DCMR A, DC Building Code Supplement, Section 106

Further Guidance on Engineering Plan Submissions

ELECTRICAL ENGINEERING REVIEW

Submit a completed Standard Electrical Plan that includes the following:

1. Locations/position of the main service or utility disconnect (these can be on the site plan referenced above).
2. Total number of modules, the number of modules per string, and the total number of strings.
3. Makes and models of inverters, combiner boxes, optimizers and other equipment.
4. One-line or Three-line diagram of the system.
5. Specify grounding/bonding connections & hardware, conduit type and size, and a number of conductors in each section of conduit. Show calculations to verify proper temperature de-rating, etc.
6. Equipment cut sheets including inverters, modules, racking systems, AC and DC disconnects and combiners, pumping stations, storage tanks, etc.
7. Intended labeling of equipment as required by NEC sections 690 & 705, and as indicated below.

FIRE ENGINEERING REVIEW

Commercial PV systems shall meet code requirements in DC Fire Code 605.11. This requires as a minimum a 4' setback from all roof edges (sometimes 6'). The [DCFC is available online](#).

STRUCTURAL ENGINEERING REVIEW

1. Verify existing structural members including beams are in compliance with current building code under change in snow load pattern caused by the modules (drifting and sliding snow), wind loads, dead loads of modules and their mounting system, ballast, etc., as well as existing roof dead loads both for strength and deflection, as applicable.
2. Note that ground snow loads in Washington DC are 25 psf Residential and 30 psf Commercial for the purpose of structural calculations.
3. An optional Certification of Structural Design is available per 2013 DCMR 12A 106.1.4.1 which involves an application form and indications on related plan pages; The code official is authorized to accept the structural portions of the plans thus certified at the code official's discretion. The engineering documentation should show clear evidence that the project was fully considered by the engineer.

Note that the applicant is responsible for coordinating with Pepco on all interconnection application requirements. Generally, that will initially include Part 1 of the Pepco Interconnection Application. You will have to receive “Permission to Install” from Pepco before starting the installation. For more details on the interconnection application process and the required forms, visit Pepco's NEM and Small Generator Interconnection website at www.pepco.com/greenpowerconnection.

The Solar Permit Application Process

Permitting begins online. Start the process at dcra.dc.gov at the [Online Construction Permit Intake \(OCPI\)](#). Under “Type of Proposed Work” select “Solar System”: this will get you to the new, solar-specific permit application (SOLxxxxxx permits). Several pages further, you will enter the details of the system -- the precise fields required will depend somewhat on prior choices (i.e. solar thermal vs. solar PV systems). Note that in the case of PV, you will enter the number, and size of modules (i.e., 280 Wp), and OCPI will calculate total system size (therefore, you do not enter system size in kW: only module size and number).

PRC (DCRA First Visit): After completing the online application, the applicant comes into DCRA where a Plans Review Coordinator (PRC) determines what review categories/disciplines apply to that job. The applicant is subsequently sent an email invitation to upload their plans into [ProjectDox](#), DCRA’s online electronic permitting application.

ProjectDox: Once the applicant has logged into ProjectDox, the plans are submitted as PDF files online². Review proceeds concurrently by all departments following a QA review.

Advantages of ProjectDox:

- Concurrent review by all departments allows for a quicker turnaround than a sequential approach.
- Online application means plans are submitted, monitored and updated without requiring visits to DCRA.
- Digital/Electronic plans mean no copy costs, free use of color, simpler permit sizing constraints, and easy sharing and transmission of permits in both application and issued stages.

Cautions:

- Very specific plan formatting requirements -- file names, page layouts and other plan features have to meet system requirements precisely (see online [ProjectDox Applicant User Manual](#)).
- Learning curve for the applicant: requires some computer skills.
- Currently, the applicant must visit DCRA at least twice: once for the initial PRC & payment, and once for permit issuance (these functions may be available online at some point). In general, these will be relatively brief visits.

² ProjectDox can accept other file formats, but converts them all to pdf. The online DC ProjectDox Applicant User Guide goes into the details of the ProjectDox submittal process.

The following reviews are most likely to be necessary when installing a solar photovoltaic system: **Electrical, Fire Protection, Structural, and Zoning (or self-certification)**, Plumbing, Mechanical, and Historic Preservation³ (bold disciplines are always required). While some projects are assessed fees at the PRC stage, fees are often paid at issuance.

Solar Permit Fees

Solar permitting fees were adjusted effective 10/1/14.

Solar Electric (PV) system fees will be assessed at the following rates:

DCRA Schedule of Fees ⁴ for Solar PV Systems				
	< 15 kW	15-99 kW	100-200 kW	200 kW
Building Permit Fee	\$250 Residential/ \$300 Commercial	\$300+ \$11.25/kW >15	\$1250 + \$2.50/kW>100	\$1500 + \$1/kw >200
Enhancement Fee	10% of total fee			

Solar thermal system fees will be assessed at the following rates:

DCRA Schedule of Fees for Solar Thermal Systems				
Building Permit Fee	Fewer Than 10 Panels	10-24 Panels	25-49 Panels	50 Panels and More
	\$250 Residential \$300 Commercial	\$300 + \$25 per each panel > 10	\$650 + \$15 per add. panel > 25	\$1010 + \$10 per add. panel > 50
Enhancement Fee	10% of total fee			

In addition to the building permit, there will be required trade permits (i.e. Electrical, Mechanical, and Plumbing). The most common of these will be Electrical permits for residential PV. Only a DC-licensed master tradesperson may apply for trade permits. Typical residential PV Electrical trade permit requirements will depend on where the system lands:

³ Further information on the requirements of Historic Preservation is available online.

⁴ For full schedule of fees go online to: <http://dcra.dc.gov/publication/building-permit-fees>;
http://lims.dccouncil.us/_layouts/15/uploader/Download.aspx?legislationid=31515&filename=B20-0750-SignedAct.pdf

- Backfed Breaker in existing panel
 - \$20 for branch circuit/breaker (Group 1)
 - \$33 for Inverter/transformer 1-10 kVA (Group 9)
 - + 10% Enhancement fee = \$58.30
- Line-side tap
 - \$20 for feeder conductor (feeder tap) (Group 13)
 - \$33 for Inverter/transformer 1-10 kVA (Group 1)
 - + 10% Enhancement fee = \$58.30

BUILDING PERMIT ISSUANCE

After the assigned reviews have been completed, the customer comes into DCRA, goes to the Issuance desk, documents are checked for completeness, remaining fees are paid, and the building permit is issued. Since fees for solar are often confirmed during the structural review, the customer often receives an invoice at this point and pays the fees to the cashier, if they haven't already. Fees can be paid by cash, check, and credit card.

INSPECTIONS

Following construction, DCRA must conduct inspections of Solar installations to ensure compliance with the approved plans and the D.C. Construction Codes – these consist of a Final Building Inspection and a Final Electrical Inspection, and others as applicable. Such inspections are scheduled through [DCRA's phone-in inspection scheduling system \(IVR\)](#). Further information can be found here: <http://dcra.dc.gov/service/schedule-construction-inspection>. At present, we are working to provide scheduling SOL permit types on IVR. We encourage customers to schedule the electrical inspection via IVR and then call into DCRA to personally schedule the solar inspection simultaneously at (202) 442-9557.

After inspections, the contractor or customer will be required to submit a copy of your DCRA On-Site Inspection Record to Pepco along with Part II of your Pepco Interconnection Application and a signed Certificate of Completion. For more details on the interconnection application process and to access all the required forms, visit Pepco's NEM and Small Generator Interconnection website at www.pepco.com/greenpowerconnection.

SOLAR PV AGENCY CONTACTS

Agency	Division	Contact	Email
DCRA	Office of the Zoning Administrator	Kathleen Beeton	kathleen.beeton@dc.gov
DCRA	Green Building	Keith Winston	keith.winston@dc.gov
DOEE	Department of Energy & Environment	Emil King Daniel White	emil.king@dc.gov daniel.white2@dc.gov
Pepco	Green Power Connection	Team	gpc-south@pepco.com

