

EXPRESS PERMIT PROCESS FOR SMALL-SCALE PV SYSTEMS STANDARD STRING SYSTEM

Required Information for Permit:

1. Site plan showing location of major components on the property. This drawing need not be exactly to scale, but it should represent relative location of components at site (see supplied example site plan). PV arrays on dwellings with a 3' perimeter space at ridge and sides may not need separate fire service review.
2. Electrical diagram showing PV array configuration, wiring system, overcurrent protection, inverter, disconnects, required signs, and ac connection to building (see supplied standard electrical diagram).
3. Specification sheets and installation manuals (if available) for all manufactured components including, but not limited to, PV modules, inverter(s), combiner box, disconnects, and mounting system.

Step 1: Structural Review of PV Array Mounting System

Is the array to be mounted on a defined, permitted roof structure? Yes No

If No due to non-compliant roof or a ground mount, submit completed worksheet for the structure WKS1.

Roof Information:

1. Is the roofing type lightweight (Yes = composition, lightweight masonry, metal, etc...)_____

If No, submit completed worksheet for roof structure WKS1 (No = heavy masonry, slate, etc...).

2. Does the roof have a single roof covering? Yes No

If No, submit completed worksheet for roof structure WKS1.

3. Provide method and type of weatherproofing roof penetrations (e.g. flashing, caulk)_____

Mounting System Information:

1. Is the mounting structure an engineered product designed to mount PV modules with no more than an 18" gap beneath the module frames? Yes No

If No, provide details of structural attachment certified by a design professional.

2. For manufactured mounting systems, fill out information on the mounting system below:

- a. Mounting System Manufacturer _____ Product Name and Model# _____
- b. Total Weight of PV Modules and Rails _____ lbs
- c. Total Number of Attachment Points _____
- d. Weight per Attachment Point (b ÷ c) _____ lbs (if greater than 45 lbs, see WKS1)
- e. Maximum Spacing Between Attachment Points on a Rail _____ inches (see product manual for maximum spacing allowed based on maximum design wind speed)
- f. Total Surface Area of PV Modules (square feet) _____ ft²
- g. Distributed Weight of PV Module on Roof (b ÷ f) _____ lbs/ft²

If distributed weight of the PV system is greater than 5 lbs/ft², see WKS1.

Step 2: Electrical Review of PV System (Calculations for Electrical Diagram)

In order for a PV system to be considered for an expedited permit process, the following must apply:

1. PV modules, utility-interactive inverters, and combiner boxes are identified for use in PV systems.
2. The PV array is composed of 4 series strings or less per inverter.
3. The total inverter capacity has a continuous ac power output 13,440 Watts or less
4. The ac interconnection point is on the load side of service disconnecting means (690.64(B)).
5. One of the standard electrical diagrams (E1.1, E1.1a, E1.1b, or E1.1c) can be used to accurately represent the PV system.

Fill out the standard electrical diagram completely. A guide to the electrical diagram is provided to help the applicant understand each blank to fill in. If the electrical system is more complex than the standard electrical diagram can effectively communicate, provide an alternative diagram with appropriate detail.

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Step 3: Complete Solar Permit Application on the next two pages and sign. Include completed diagrams on pages four, five and six. Complete Tree Affidavit.

Step 4: Submit the application, supporting manufacturer's data, Photovoltaic Tree Affidavit and NABSEP certification via an email to Loraine Bell at: lbell@dekalbcountyga.gov or in person at 330 West Ponce De Leon Avenue, 2nd floor, Decatur, GA 30030.

**Once approved, submit for an electrical trade permit online at:
http://63.170.23.47/DP1/Metroplex/DekalbCounty/permit/WIZ_APWELCOME.asp**



404.371.2155 (o)
404.371.4556 (f)
DeKalbCountyGa.gov

Clark Harrison Building
330 W. Ponce de Leon Ave
Decatur, GA 30030

Chief Executive Officer

DEPARTMENT OF PLANNING & SUSTAINABILITY

Director

Andrew A. Baker, AICP

Shaded area for office use only

Permit Number	Date Processed
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PROJECT NAME / SUBDIVISION NAME	NUMBER OF UNITS
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PROJECT ADDRESS		City	State	Zip
Building #	Floor #	Apt #	Suite #	Lot #

PROPERTY OWNER'S NAME		
Address		
Phone	Mobile	Fax
Email		

APPLICANT	<input type="checkbox"/> Property Owner	<input type="checkbox"/> Tenant Leasing Commercial Space	<input type="checkbox"/> Contractor	<input type="checkbox"/> Authorized Agent	<input type="checkbox"/> Architect/Engineer
Applicant's Name					
Company Name					
Address					
Phone	Mobile	Fax			
Email					

CONTRACTOR	<input type="checkbox"/> Property Owner	<input type="checkbox"/> To Be Determined	<input type="checkbox"/> State of GA Licensed Electrical Contractor	<input type="checkbox"/> Specialty Contractor
Contractor's Name				
Company Name				
Address				
Phone	Mobile	Fax		
Email			Business License Number	
Individual / Authorized Agent's State License #			Company's State License #	
NABSEP Certification #			#	

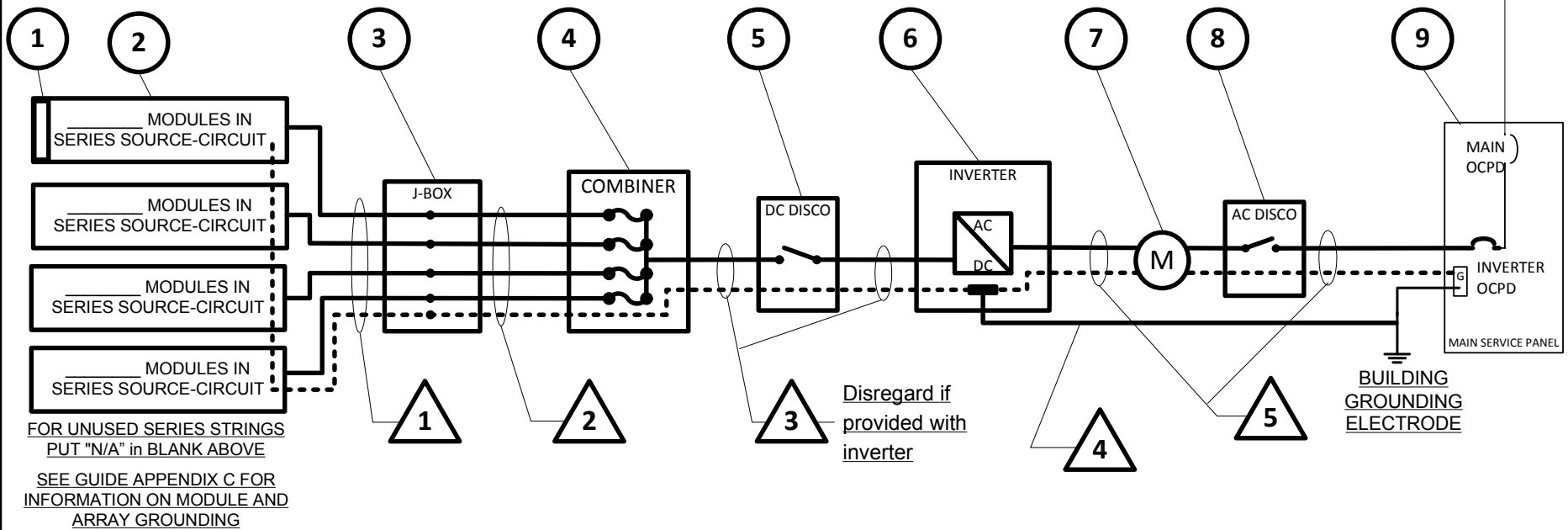
STANDARD STRING SYSTEM SITE PLAN



Contractor Name, Address and Phone:	Site Plan			
	for Small-Scale, Single-Phase PV Systems			
	Site Name:			
	Site Address:			
	System AC Size:			
Drawn By:	SIZE	FSCM NO	DWG NO	REV
Checked By:	SCALE	NTS	Date:	SHEET

STANDARD STRING SYSTEM ELECTRICAL DIAGRAM

EQUIPMENT SCHEDULE			
TAG	DESCRIPTION	PART NUMBER	NOTES
1	SOLAR PV MODULE		
2	PV ARRAY		
3	J-BOX (IF USED)		
4	COMBINER (IF USED)		
5	DC DISCONNECT		
6	DC/AC INVERTER		
7	GEN METER (IF USED)		
8	AC DISCONNECT (IF USED)		
9	SERVICE PANEL		
			_____ VAC, _____ A MAIN, _____ A BUS, _____ A INVERTER OCPD (SEE NOTE 5 FOR INVERTER OCPDs, ALSO SEE GUIDE SECTION 9)



CONDUIT AND CONDUCTOR SCHEDULE					
TAG	DESCRIPTION OR CONDUCTOR TYPE	COND. GAUGE	NUMBER OF CONDUCTORS	CONDUIT TYPE	CONDUIT SIZE
1	USE-2 <input type="checkbox"/> or PV WIRE <input type="checkbox"/>			N/A	N/A
	BARE COPPER EQ. GRD. COND. (EGC)			N/A	N/A
2	THWN-2 <input type="checkbox"/> or XHHW-2 <input type="checkbox"/> or RHW-2 <input type="checkbox"/>				
3	THWN-2 <input type="checkbox"/> or XHHW-2 <input type="checkbox"/> or RHW-2 <input type="checkbox"/>				
	INSULATED EGC				
4	DC GROUNDING ELECTRODE COND.				
5	THWN-2 <input type="checkbox"/> or XHHW-2 <input type="checkbox"/> or RHW-2 <input type="checkbox"/>				
	INSULATED EGC				

Contractor Name, Address and Phone: _____ _____ _____		One-Line Standard Electrical Diagram for Small-Scale, Single-Phase PV Systems Site Name: _____ Site Address: _____ System AC Size: _____		
Drawn By:	SIZE	FSCM NO	DWG NO	REV
Checked By:	SCALE	NTS	Date:	SHEET

NOTES FOR STANDARD STRING SYSTEM ELECTRICAL DIAGRAM

PV MODULE RATINGS @ STC (Guide Section 5)

MODULE MAKE	
MODULE MODEL	
MAX POWER-POINT CURRENT (I_{MP})	A
MAX POWER-POINT VOLTAGE (V_{MP})	V
OPEN-CIRCUIT VOLTAGE (V_{OC})	V
SHORT-CIRCUIT CURRENT (I_{SC})	A
MAX SERIES FUSE (OCPD)	A
MAXIMUM POWER (P_{MAX})	W
MAX VOLTAGE (TYP 600V _{DC})	V
VOC TEMP COEFF (mV/°C □ or %/°C □)	
IF COEFF SUPPLIED, CIRCLE UNITS	

NOTES FOR ALL DRAWINGS:

OCPD = OVERCURRENT PROTECTION DEVICE

NATIONAL ELECTRICAL CODE® REFERENCES SHOWN AS (NEC XXX.XX)

INVERTER RATINGS (Guide Section 4)

INVERTER MAKE	
INVERTER MODEL	
MAX DC VOLT RATING	V
MAX POWER @ 40°C	W
NOMINAL AC VOLTAGE	V
MAX AC CURRENT	A
MAX OCPD RATING	A

SIGNS—SEE GUIDE SECTION 7

SIGN FOR DC DISCONNECT

PHOTOVOLTAIC POWER SOURCE	
RATED MPP CURRENT	A
RATED MPP VOLTAGE	V
MAX SYSTEM VOLTAGE	V
MAX CIRCUIT CURRENT	A
WARNING: ELECTRICAL SHOCK HAZARD—LINE AND LOAD MAY BE ENERGIZED IN OPEN POSITION	

SIGN FOR INVERTER OCPD AND AC DISCONNECT (IF USED)

SOLAR PV SYSTEM AC POINT OF CONNECTION	
AC OUTPUT CURRENT	A
NOMINAL AC VOLTAGE	V
THIS PANEL FED BY MULTIPLE SOURCES (UTILITY AND SOLAR)	

NOTES FOR ARRAY CIRCUIT WIRING (Guide Section 6 and 8 and Appendix D):

1.) LOWEST EXPECT AMBIENT TEMPERATURE BASED ON ASHRAE MINIMUM MEAN EXTREME DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. LOWEST EXPECTED AMBIENT TEMP _____°C

2.) HIGHEST CONTINUOUS AMBIENT TEMPERATURE BASED ON ASHRAE HIGHEST MONTH 2% DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. HIGHEST CONTINUOUS TEMPERATURE _____°C

2.) 2005 ASHRAE FUNDAMENTALS 2% DESIGN TEMPERATURES DO NOT EXCEED 47°C IN THE UNITED STATES (PALM SPRINGS, CA IS 44.1°C). FOR LESS THAN 9 CURRENT-CARRYING CONDUCTORS IN ROOF-MOUNTED SUNLIT CONDUIT AT LEAST 0.5" ABOVE ROOF AND USING THE OUTDOOR DESIGN TEMPERATURE OF 47°C OR LESS (ALL OF UNITED STATES),

a) 12 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I_{sc} OF 7.68 AMPS OR LESS WHEN PROTECTED BY A 12-AMP OR SMALLER FUSE.

b) 10 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I_{sc} OF 9.6 AMPS OR LESS WHEN PROTECTED BY A 15-AMP OR SMALLER FUSE.

NOTES FOR INVERTER CIRCUITS (Guide Section 8 and 9):

1) IF UTILITY REQUIRES A VISIBLE-BREAK SWITCH, DOES THIS SWITCH MEET THE REQUIREMENT? YES NO N/A

2) IF GENERATION METER REQUIRED, DOES THIS METER SOCKET MEET THE REQUIREMENT? YES NO N/A

3) SIZE PHOTOVOLTAIC POWER SOURCE (DC) CONDUCTORS BASED ON MAX CURRENT ON NEC 690.53 SIGN OR OCPD RATING AT DISCONNECT

4) SIZE INVERTER OUTPUT CIRCUIT (AC) CONDUCTORS ACCORDING TO INVERTER OCPD AMPERE RATING. (See Guide Section 9)

5) TOTAL OF _____ INVERTER OCPD(S), ONE FOR EACH INVERTER. DOES TOTAL SUPPLY BREAKERS COMPLY WITH 120% BUSBAR EXCEPTION IN 690.64(B)(2)(a)? YES NO

Contractor Name, Address and Phone: _____ _____ _____		Notes for One-Line Standard Electrical Diagram for Single-Phase PV Systems			
		Site Name: _____			
		Site Address: _____			
		System AC Size: _____			
Drawn By:	SIZE	FSCM NO	DWG NO	REV	
Checked By:	SCALE	NTS	Date:	SHEET	

DEKALB COUNTY ARBORIST - PHOTOVOLTAIC TREE AFFIDAVIT

DEKALB COUNTY DEPARTMENT OF PLANNING AND SUSTAINABILITY

Date: _____

Property Owner(s): _____

Project Address: _____

Please check or or more initial one of the following:

____ I certify that no trees will be removed or pruned for the installation of PV system.

____ I understand that no more than 20% (twenty percent) of the live canopy may be pruned. Pruning/removing up to 20% (twenty percent) of the live canopy must not make the tree lopsided or unbalanced. Proper pruning cuts must be made in accordance to ANSI standards.

____ I certify that I am removing up to five (5) healthy trees on your property per calendar year for the installation of PV system, *provided that those trees are not specimen trees.*

NOTE: The DeKalb County Ordinance Section 14-39 9(g) (8) defines a specimen tree as

A specimen tree is defined as a tree with a life expectancy of 15 years or more, relative sound trunk with no extensive decay or hollow and less than 20% trunk dieback. No major insect or pathological problem. In addition to a specimen tree must meet the following size guidelines:

- For Overstory (large) trees, ex.: Oak ,poplar & pine- diameter at breast height (4 ½ feet up from the ground) is greater than or equal to 30 inches (which equates to a circumference of 94.2 inches)
- For Understory (small) trees, ex: Dogwood - diameter at breast height (4 ½ feet up from the ground) is greater than or equal to 10 inches (which equates to a circumference of 31.4 inches)

I understand that if I provide false or misleading information in this form, I will be in violation of the DeKalb Tree Protection Ordinance and will be subject to the payments and penalties set forth therein.

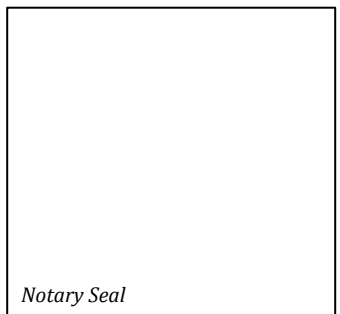
I hereby affirm that the information provided is true and accurate. I hereby affirm that approval of this application does not constitute approval for any other permit that may be required by the county or other agency having jurisdiction.

I, (Owner's / Contractor's Signature) _____, attest that, to the best of my knowledge, all of the above information is true.

Sworn to and subscribed before me this _____ day of _____, 20_____.

Signature of Notary Public

My Commission Expires



Relationship to project (Circle): Property Owner Contractor Design Professional