SPDS ver 1.0 Manual

The Solar Plans Design System (SPDS) is an online tool designed by the Florida Solar Energy Center (FSEC) to certify and expedite the installation of simple, residential roof top solar photovoltaic systems. By providing a tool that can quickly and accurately produce certified, code compliant electrical drawings, the contractor can save time and money on the installation process. In addition, the authority having jurisdiction (AHJ) also benefits in that they are assured that the package submitted to them will be code compliant and meet FS 377.705.

Access to the tool requires and internet connection. The tool is accessed by typing the following URL into an internet browser:

https://scp.fsec.ucf.edu
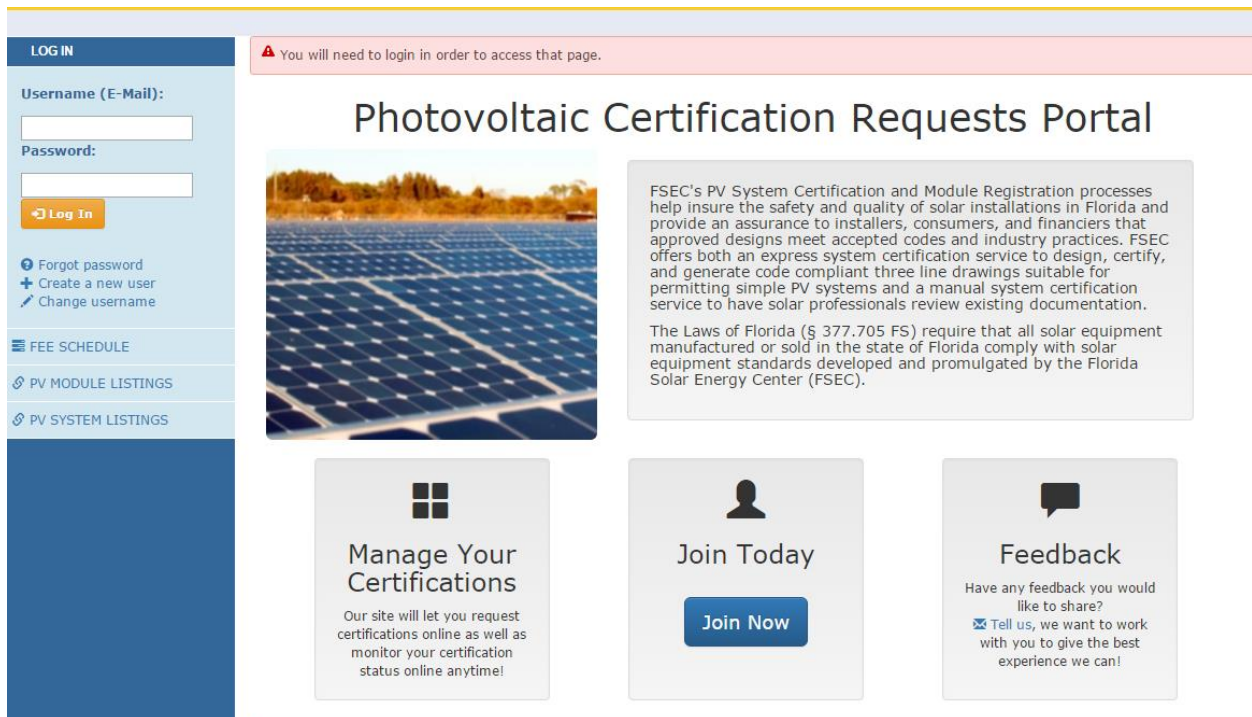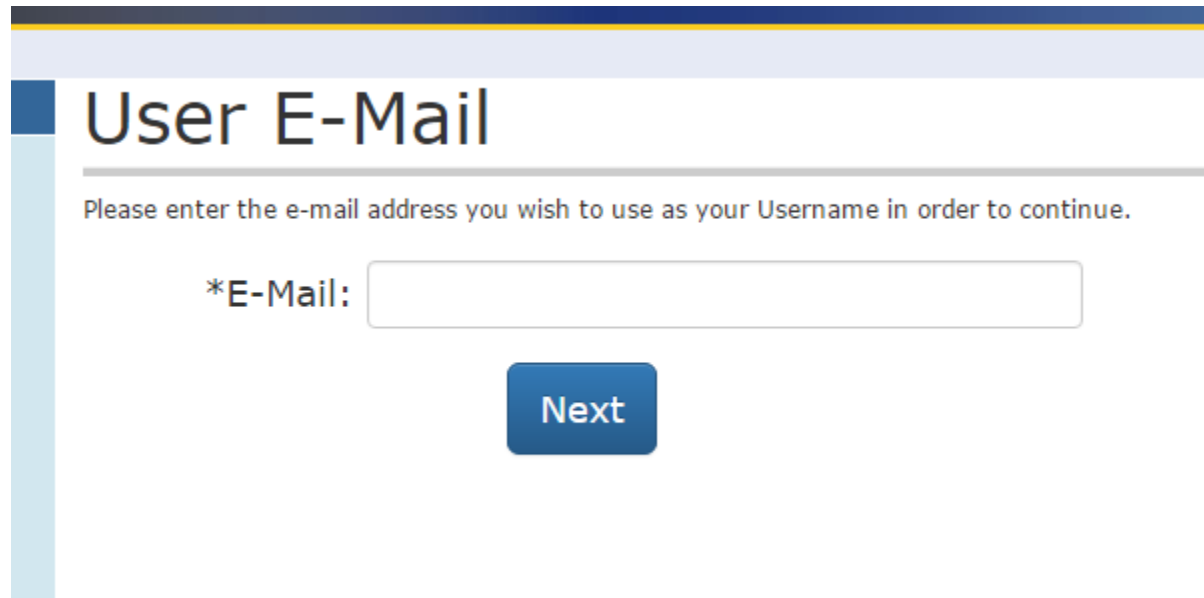
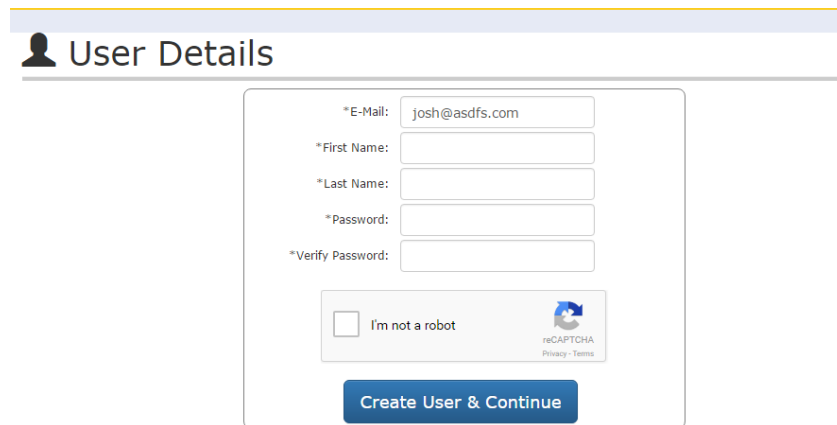Your browser will render the landing page below:

Figure 1 User Landing Page.

User Registration

First time users will enter the site by using the **Join Today** access button. The user will then be prompted to enter a valid email address followed by a screen requiring some basic information and a user password.

Figure 2 Valid Email Entry.

Figure 3 User Detail information entry form.

Once a user account has been created the tool allows the new user to either continue as a single user or join as part of a previously registered company.
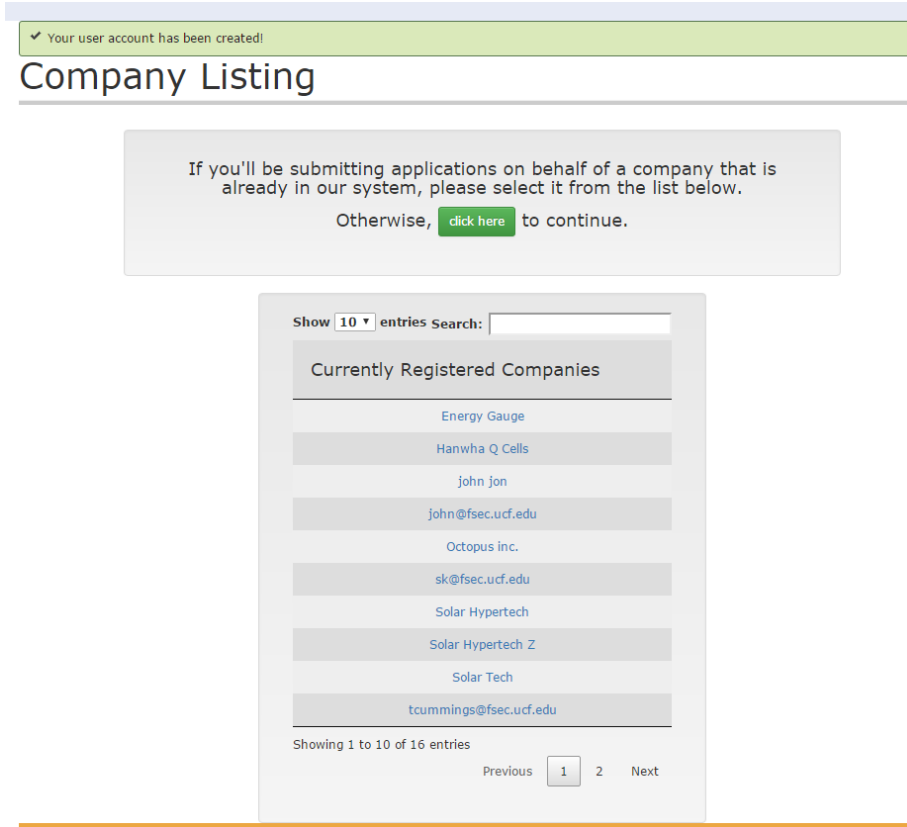

Figure 4 Existing company user registration.

By selecting an existing registered company, the user is prompted to initiate a request to join. An email will be sent to the company's site administrator who will then enter the new user into the list of authorized company users. The new user will receive an email confirming registration with the existing company.
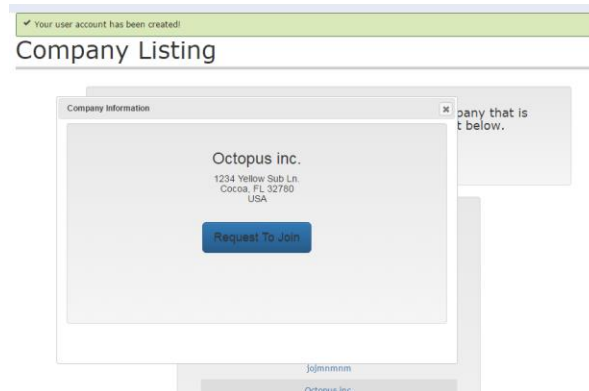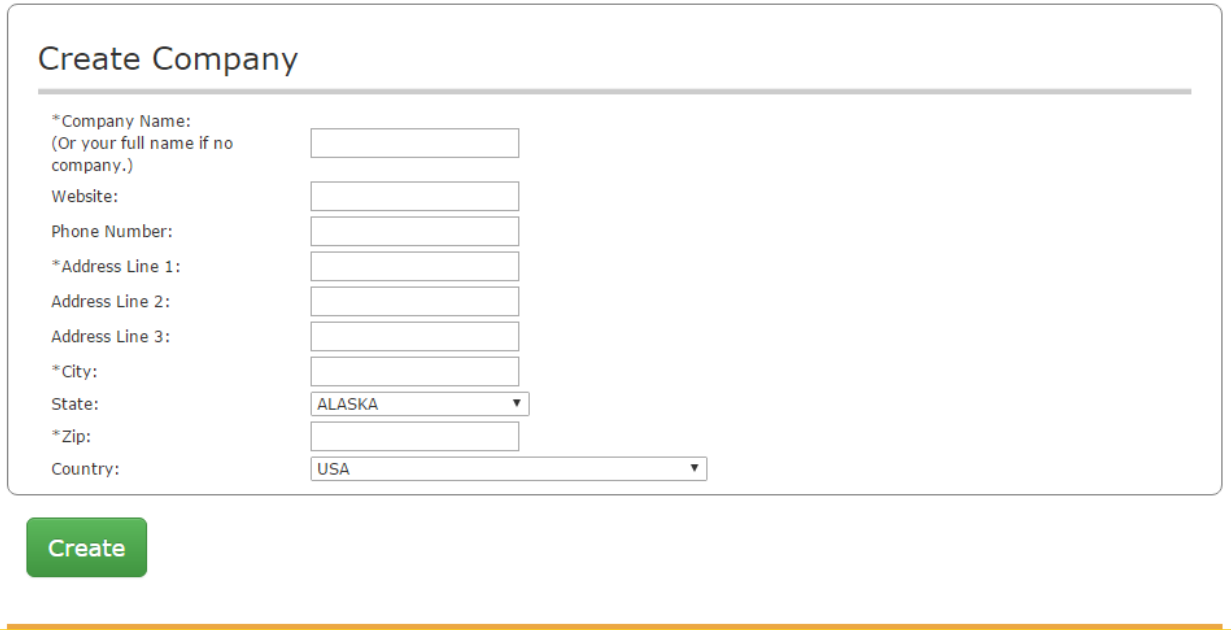

Figure 5 Company request screen.

To continue the registration as a new company or new individual, the user is prompted to complete the company creation information form below. Clicking on the "Create" button will register a new user. At this point, the tool can be accessed using the login section (Figure 7).

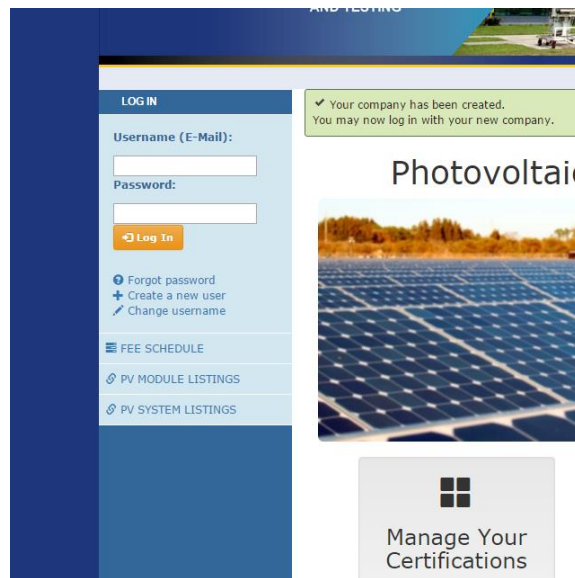Figure 6 New user information form.

Figure 7 Registered user login panel

SPDS Options

The SPDS design tool incorporates three main features:

1. PV system certification. Photovoltaic systems can be certified by either the Manual review process or using the Express plans generation system.
2. PV module registration. Photovoltaic modules can be registered for use in the State of Florida per FS 377.705
3. Past Requests. System and Module certifications previously registered can be viewed along with pending status of actions in progress.
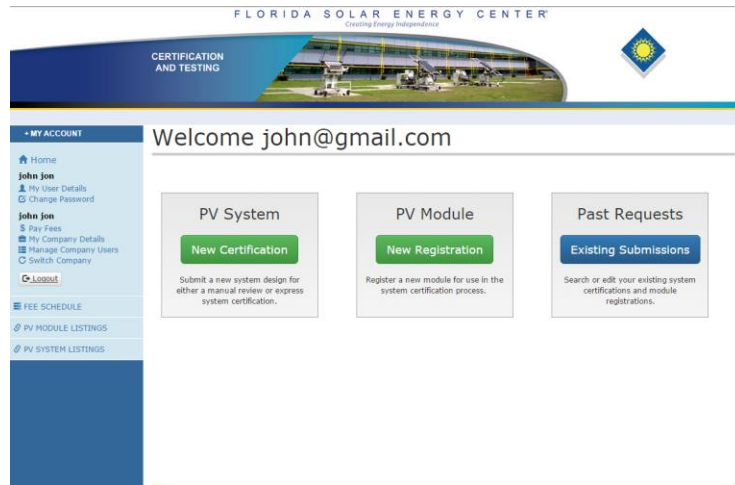

Figure 8 SPDS Option panel.

PV System Certification

PV system certification can be accomplished through either a Manual review process or using the Express system plans generation engine. Selecting the New Certification button will present the options for selecting the desire certification process. A new system to be certified is named on the Project Name page.

Figure 9. Project Name Page.

After a project is named, the user is prompted to select the review option through the Review option page. There are two options for review, Manual and Express. The Express is subject to restrictions and requires training.

Figure 10 Review Option Selection page.

Express Option Training

Use of the Express certification training requires the user to be a certified contractor and participate in a training session. First time users who select the Express method will be prompted to enter a valid State of Florida contractor's license number, participate in a training video and complete a short survey.

PV System Express Training

GO SOLAR | FLORIDA

Solar Plans Design System

Online Express System Training

11:42   03:18   .ıll HD :: vimeo

Contractor Number:

Training Program Evaluation:

Directions: Please provide comments and information about your experience with this training program. Please answer the following questions carefully and honestly. Your answers will provide important information to help us improve this training program.

#	Question	Yes	No
1	Were the goals and objectives of this training program made clear to you?	○	○
2	Were the goals and objectives consistent with your expectations?	○	○
3	Did you encounter any problems in completing the training program?	○	○

For questions 4-10, please rate the following aspects of the training program using the scale below. Please circle the number that is most appropriate for you.

#	Question	Inadequate	Fair	Good	Very Good	Excellent
4	Overall quality of the training...	○	○	○	○	○
5	General organization of the training...	○	○	○	○	○
6	Pacing of the training...	○	○	○	○	○
7	The readability of graphics...	○	○	○	○	○
8	Quality of the instruction manual...	○	○	○	○	○
9	The instructor's delivery of information...	○	○	○	○	○
10	Effectiveness of training for enabling use of SPDS...	○	○	○	○	○

Figure 11 Express Option Training page.

At the completion of the training session and required survey, the training session is validated and the user is authorized to use the Express certification option. Validation is accomplished by verification of both the training and the contractor number. The user is notified via email that Express authorization is complete. Express authorization is only required once per valid contractor number.
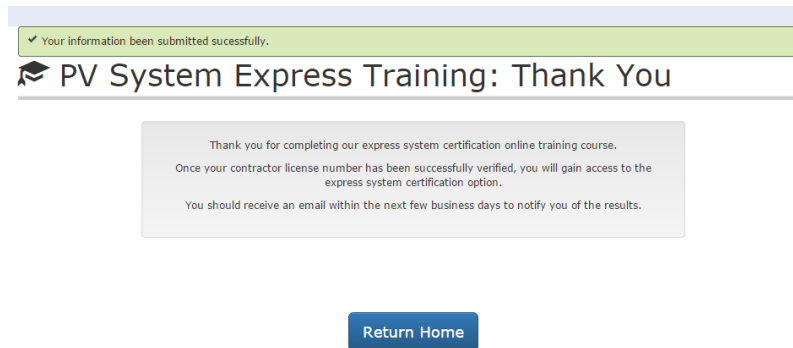

> ✔ Your information been submitted sucessfully.
>
> 🎓 PV System Express Training: Thank You
>
> Thank you for completing our express system certification online training course.
>
> Once your contractor license number has been successfully verified, you will gain access to the express system certification option.
>
> You should receive an email within the next few business days to notify you of the results.
>
> **Return Home**

Figure 12 Express training verification page

Express Option System data entry.

The Express Option data entry form contains the required information for an Express certification. Field entry information is provided online by hovering the mouse over the selected data field.

Figure 13 Express Option data entry form

At the completion of the system entry parameters, structural documents must be uploaded to complete the permit package. These will be signed and sealed by a registered professional engineer and contain all the elements presented in the Structural Schematic checklist.

Structural Schematic

Site-specific, signed & sealed structural drawings and specifications (including all items below):
✔ Minimum design loads
✔ Building Code in effect {currently 5th Edition (2104) FBC}
✔ Building Type (limited to group 3 residential)
✔ Risk Category (limited to Catagory II)
✔ Site wind zone velocity (mph)
✔ Exposure (limited to C & D)
✔ Roof slope (limited to 2:12 to 6:12)
✔ Eave height (ft)
✔ Ridge height (ft) (limited to maximum average height of 30 ft)
✔ Roof structure (limited to wood trusses spaced 2 feet on center maximum)
✔ Roof covering (shingles, tile, metal – limited to 1 layer)
✔ Module dead load (psf)
✔ Racking system dead load (psf)
✔ Total additional dead load (maximum allowed = 7psf)
✔ Array mounting details (including product cut sheets)
  ○ Structural details: Materials
  ○ Structural details: Dimensions
  ○ Structural details: Methods of attachment
  ○ Structural details: Fastener type and material
  ○ Structural details: Fastener diameter (minimum)
  ○ Structural details: Fastener length (minimum)
  ○ Structural details: Number of fasteners per attachment
  ○ Structural details: Module to rails attachment details
  ○ Structural details: Grounding clips and lugs
  ○ Structural details: Penetration flashing and waterproofing
✔ Site-specific, signed & sealed roof plan with module layout and section drawings showing attachment details (including all items below):
  ○ Drawing scale
  ○ Wind zone diagram including pressure zones
  ○ Arrangement of modules on the roof
  ○ PV system location: installation zone not closer than 3 feet to valleys, ridges, or roof edges
  ○ PV system location: support rails at right angles to roof trusses
  ○ PV system location: number of modules in array
  ○ PV system location: installed parallel to roof (max 10 inches above surface)
  ○ PV system location: spacing of support rail attachments to roof trusses
  ○ Access point: location of code-compliant access pathways
✔ Site-specific, signed & sealed site diagram and specifications (including all items below):
  ○ North arrow
  ○ Location(s) of main service or utility disconnect(s)
  ○ Locations of PV system disconnects

Upload Structural Schematic

Step#1: Select File
[Choose File] No file chosen

Step#2: File Description
[   ]

Step#3:
[Upload File]

Uploaded Files

File Name	File Type	Date	File Description
No files found.			

[Save] [Save & Continue]

Figure 14 Structural Document requirements upload page.

Once the structural documents are uploaded, the electrical schematics are available for preview. The user can them review the drawing and submit.
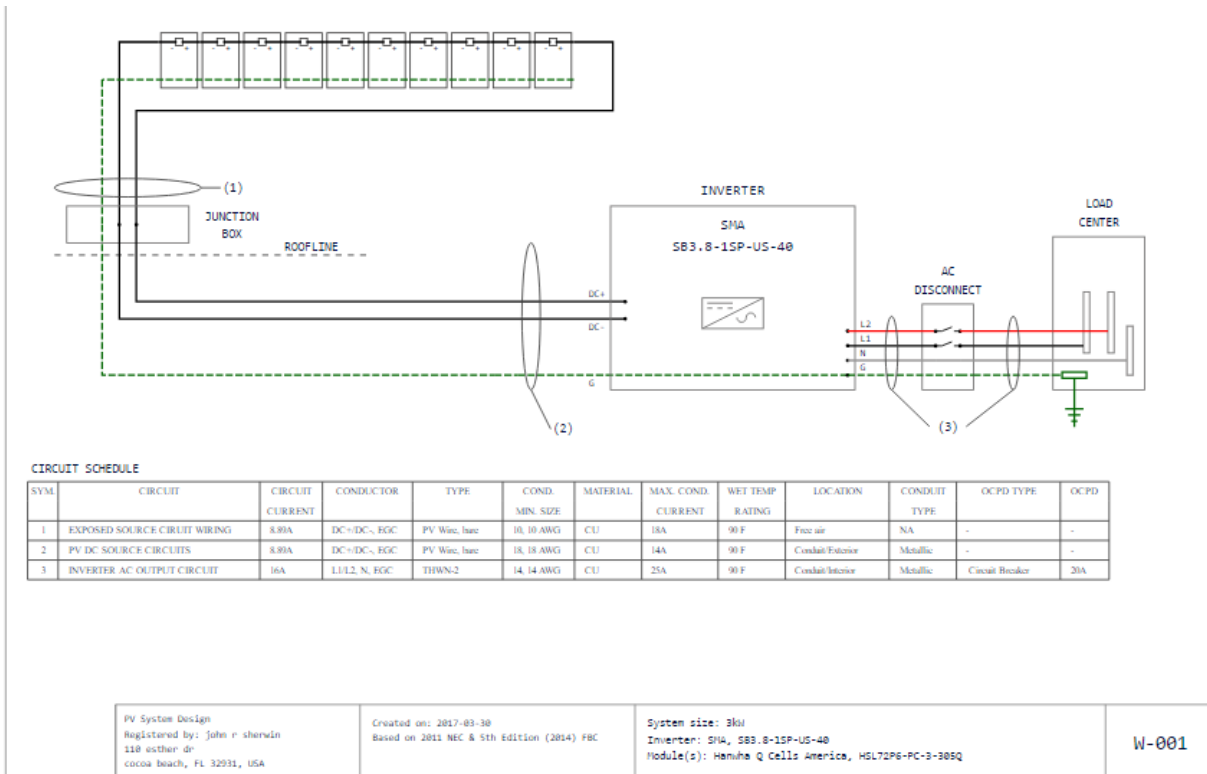

Figure 15 Electrical Schematic Preview

Payment

Once submitted, an invoice is generated and made available for payment. The System History payments page will show all packages submitted by the user and actionable items needed.

Figure 16 System History Payments page.

Selecting the Pay Now option will generate a payment agreement. Agreement will produce the Payment Method page and options for payment.

Figure 17 Payment Agreement.

Figure 18 Payment Method.

Figure 19 Invoice

Once the payment has been processed, an invoice can be printed. Selecting the Continue button will display the package download page.

Figure 20 Package Details

Past Requests

The SPDS tool allows users to view and search past certifications. This feature is accessed through the main page. Selecting Existing Submissions in the Past Requests panel will return the submission history.

Figure 21 Certification Request history

Highlighted text within the Certification Request history page allows the user to view system submissions as well as the history and status. Submissions can also be deleted and downloaded.