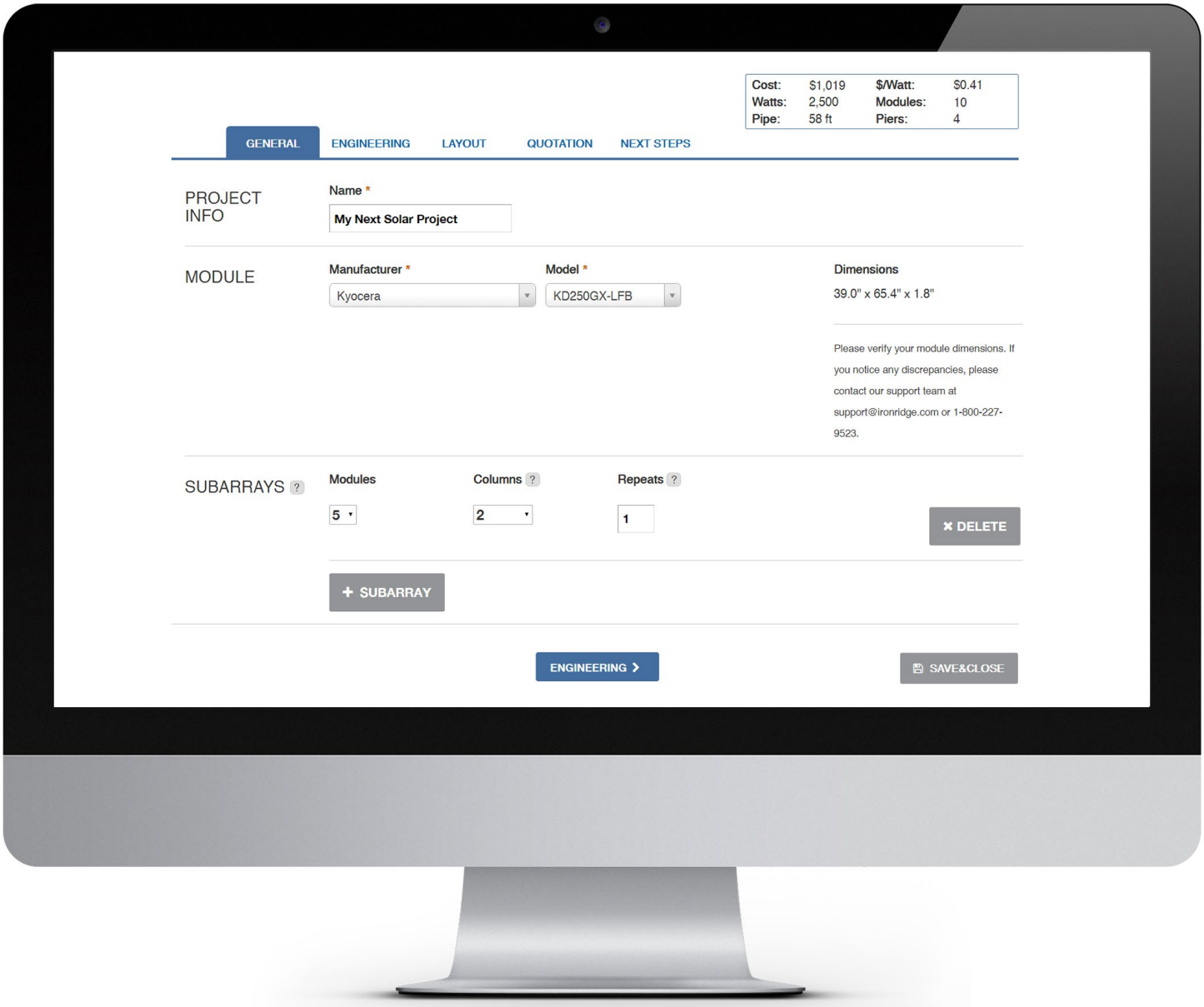
GROUND MOUNT DESIGN ASSISTANT™



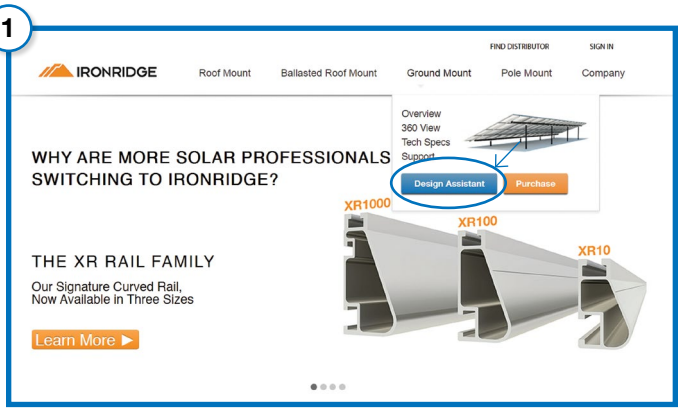
USER GUIDE

IRONRIDGE

GET STARTED

1. START DESIGN ASSISTANT

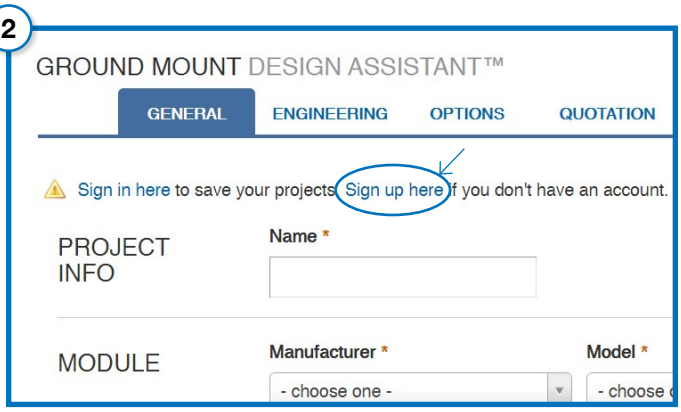
Go to the IronRidge home page at ironridge.com, then hover over the "Ground Mount" menu at the top and click the blue "Design Assistant" button.



2. SIGN UP FOR AN ACCOUNT

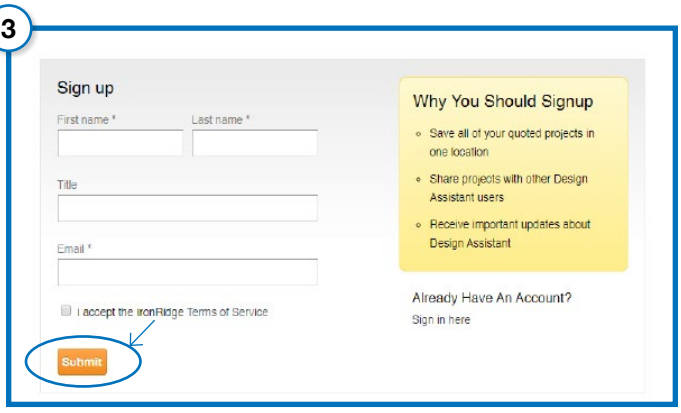
If you don't have an account, click the sign up here link at the top of the page. If you already have an account click the sign in here link.

☑ **Having a Design Assistant account allows you to save all of your quoted projects in one location, share projects with other Design Assistant users, and receive important updates.**



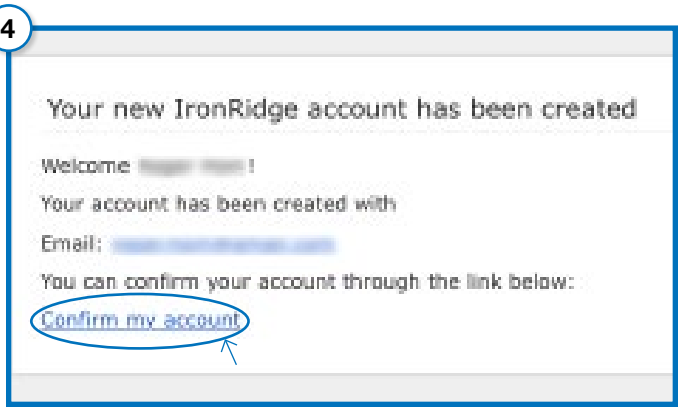
3. FILL OUT AND SUBMIT FORM

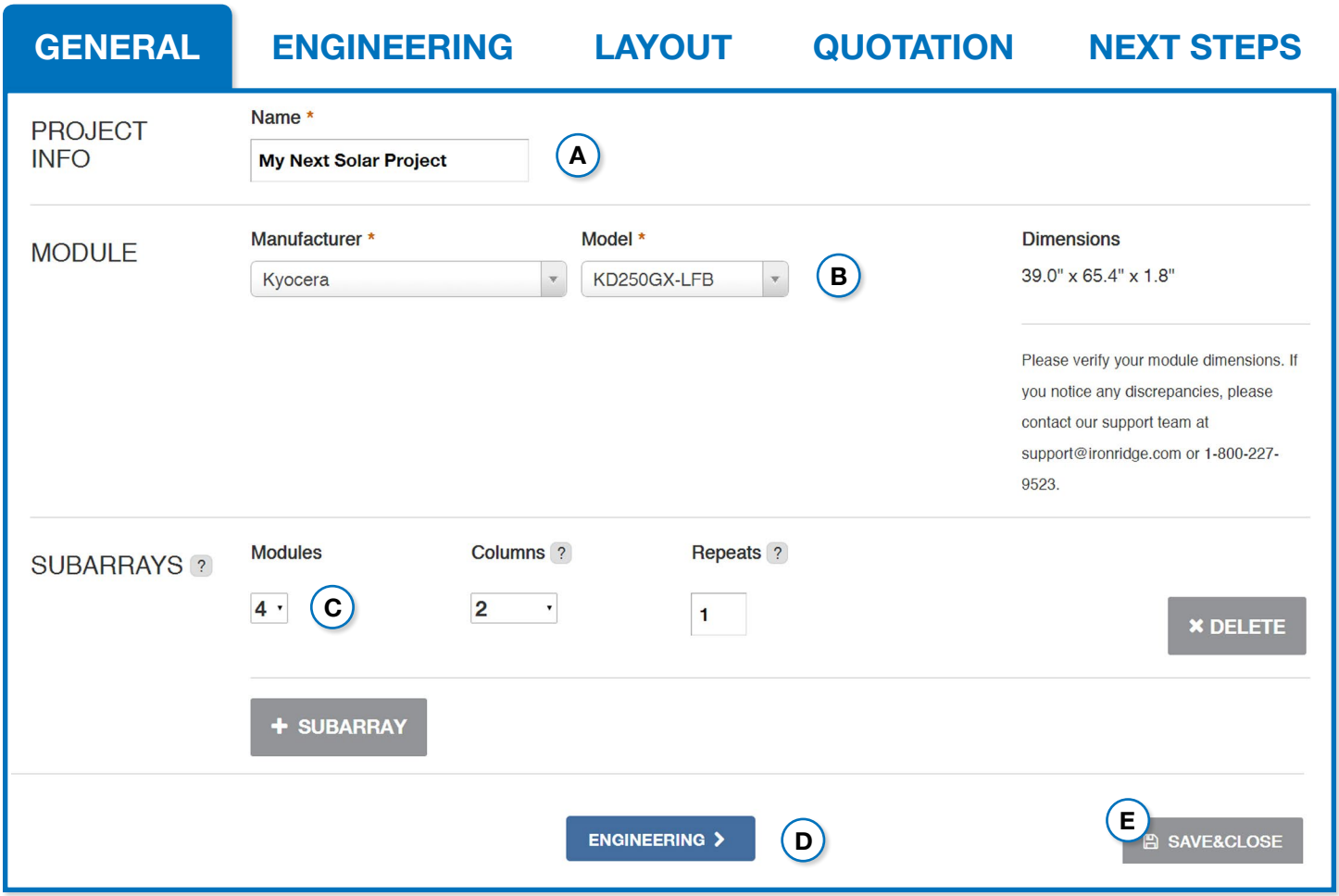
Fill out the web form as required, agree to the IronRidge terms of service, and then click the "submit" button. You should receive a confirmation email shortly after.



4. CONFIRM YOUR ACCOUNT

Click the "confirm my account" link in your confirmation email. You will be automatically signed in. Start Design Assistant as before to begin.





A PROJECT TITLE

Enter a name for your project. This will help you identify your project later on the "My Projects" page.

B MODULE SELECTION

Select the module manufacturer and model. Confirm the module dimensions listed. Design Assistant calculates specifications from a database of nearly 3,000 modules.

Contact support@ironridge.com if a module is not listed or dimensions are inaccurate.

C SUBARRAY ENTRY

Enter the number of modules (rows) up and columns for each subarray. If you will be repeating the same subarray multiple times, enter the number of times the subarray will be repeated.

D NAVIGATION

Click on the blue button to move to the next section.

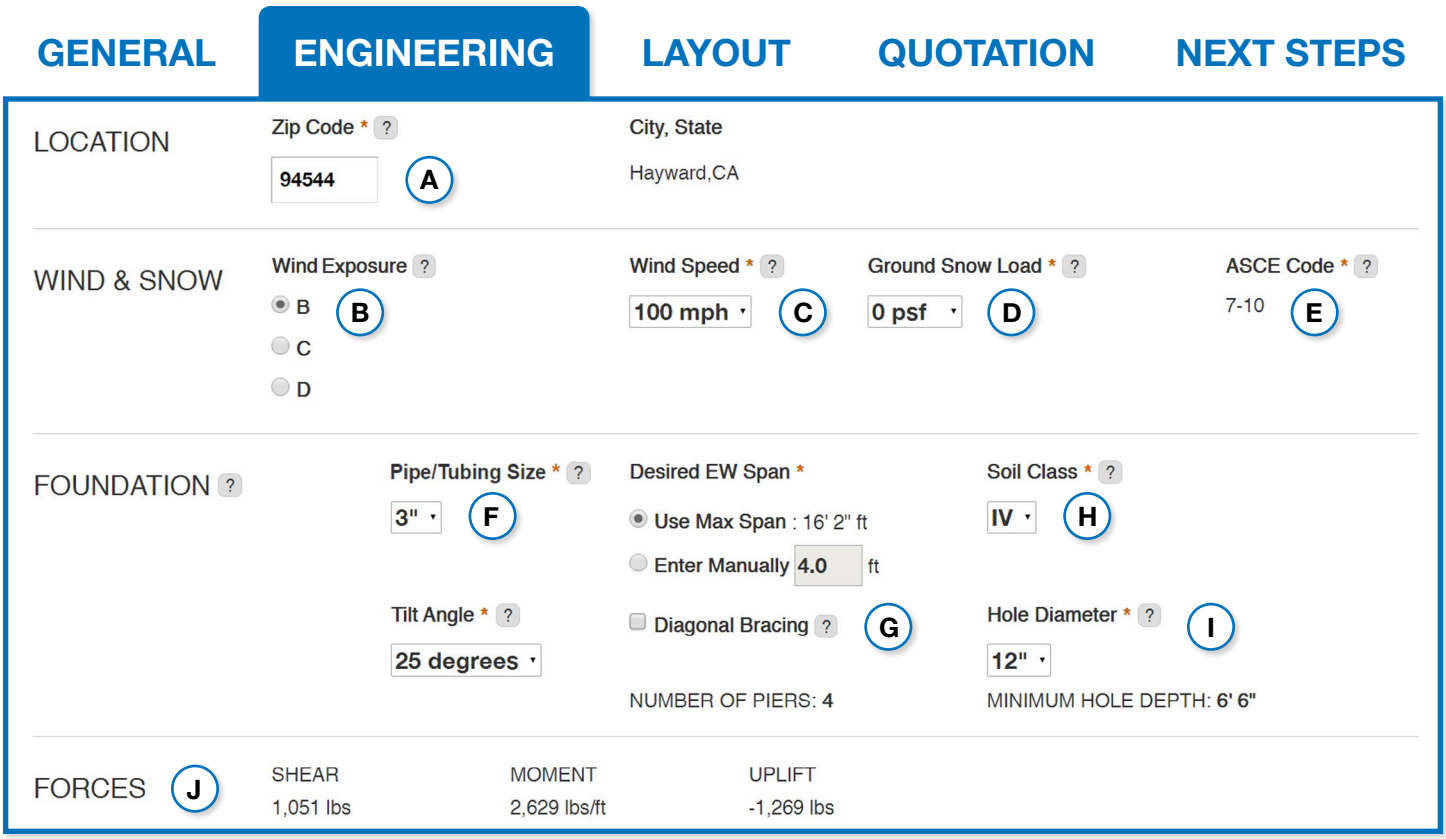
E SAVE & CLOSE

If you need to leave Design Assistant, remember to "save & close" your project, so that you can come back to finish your project later.

You must register to save projects.

? QUESTION MARKS

Click on the question mark button next to a particular section to learn more about it.



A ZIP CODE

Enter your project's zip code. Design Assistant will pre-load wind and snow values.

B WIND EXPOSURE

Select wind exposure category B, C or D.

Category B covers most urban and suburban areas.

C WIND SPEED

The default wind speed for your zip code is pre-loaded, but a different wind speed can be selected if needed.

Consult local building authorities to confirm wind speed.

D GROUND SNOW LOAD

The ground snow load for your zip code is pre-loaded, but a different snow load can be selected if needed.

E ASCE CODE

Design Assistant automatically calculates design loads based on ASCE 7-10.

ASCE 7-10 is the most up-to-date structural code in the United States, and is the basis for all structural provisions in the 2012 International Building Code (IBC).

F PIPE/TUBING SIZE

Select 2” or 3” substructure.

Try both options to see how the size affects the Max EW Span, number of piers, minimum hole depth, and total cost.

G DIAGONAL BRACING

Adding bracing between North and South piers can reduce foundation requirements or increase E-W spans.

H SOIL CLASS

Select either Soil Class 2, 3 or 4. Class 4 is the most conservative and set as the default.

To use Class 2 or 3, consult a soils report with a professional engineer to verify soil bearing capacity.

I HOLE DIAMETER

Select the diameter of the holes for your piers.

Increasing the hole diameter can reduce the minimum hole depth to as little as 36".

J FORCES

The maximum forces each pier could face, at ground level, based on code-compliant calculations.

GENERAL | ENGINEERING | **LAYOUT** | QUOTATION | NEXT STEPS

SUBARRAY DETAILS

SUB ARRAY	CONFIG	A REPEATS	PIERS	B MODULES / PIER	C CANTIL. ?	D EDGE CLEAR. ?	EW PIER SPAN ?	NS PIER SPAN ?	E AREA ?
1	4x2	1	4	2.00	7"	1' 5"	16' 2"	7' 6"	13' x 10' 11"
	TOTAL PIERS		4				TOTAL AREA		13' x 10' 11"

SUBSTRUCTURE

SUB ARRAY	REPEATS	SOUTH PIERS	F SOUTH PIER [ABOVE/BELOW]	NORTH PIERS	G NORTH PIER PIPE [ABOVE/BELOW]	H CROSS PIPES ?	CROSS PIPE LENGTH	I TOTAL LENGTH
1	1	2	6' 10" [2' 6" / 4' 4"]	2	10' 4" [6' / 4' 4"]	2	12' 1"	57' 4"
TOTALS		2		2		2		57' 4"

CONCRETE J

VOL/PIER	NO. PIERS	TOTAL VOL
0.19 yd^3	x 4	0.76 yd^3

A REPEATS

The number of times the subarray is repeated, or copied.

B MODULES/PIER

The ratio of modules to piers.

Compare this ratio among all subarrays to see which ones are optimized for the most modules per pier.

C CANTILEVER

The length of cross pipe that extends past the last piers, or overhang, in the EW directions.

D EDGE CLEARANCE

The distance between the southernmost module's front edge to the ground.

E AREA

The overall footprint of the subarray, not including inter-row spacing.

F SOUTH PIER PIPE

The pipe or tubing length for each south pier. The length above and below ground are in brackets [above/below].

G NORTH PIER PIPE

The pipe or tubing length for each north pier. The length above and below ground are in brackets [above/below].

H CROSS PIPE

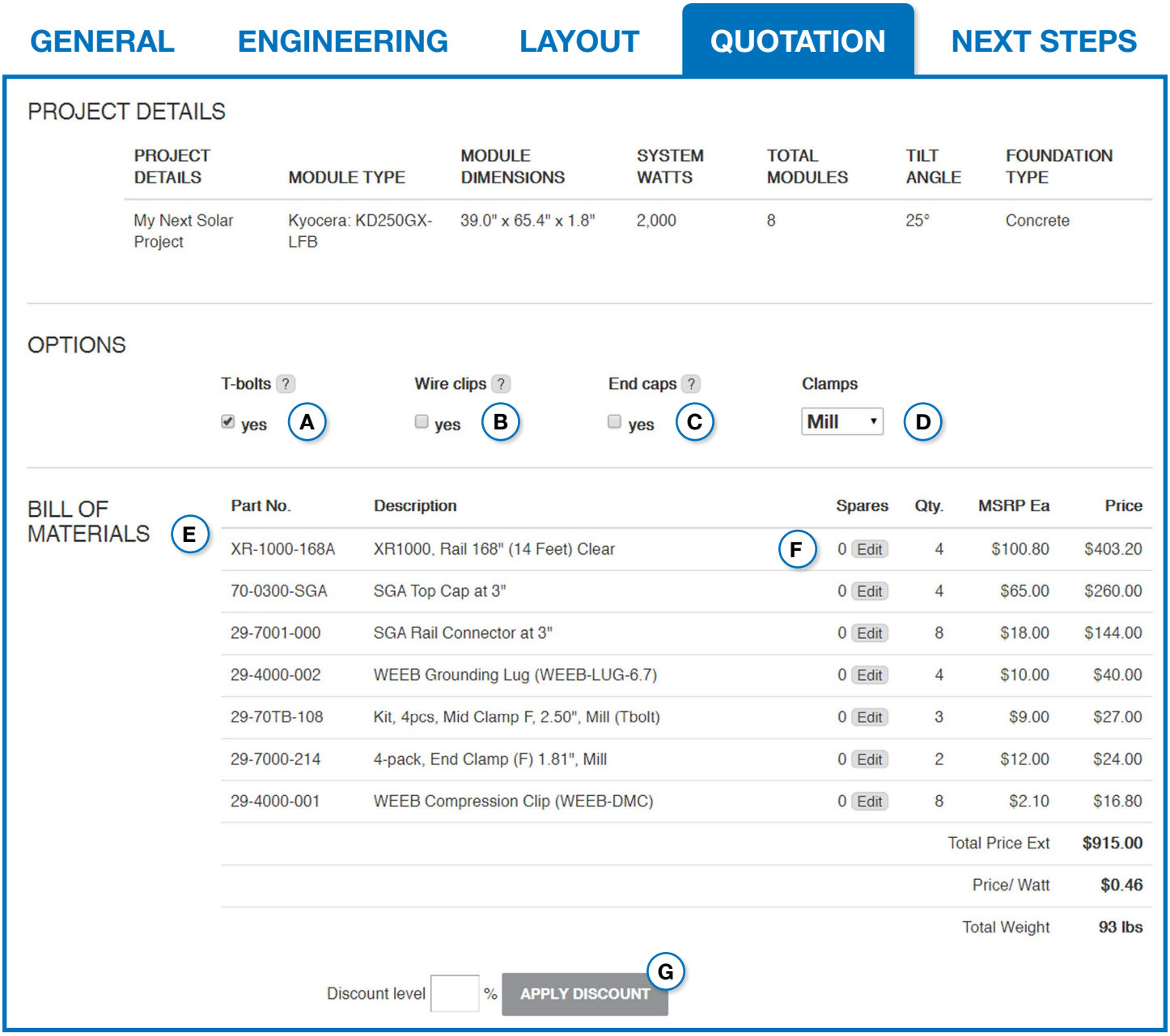
The horizontal pipe or mechanical tubing (across piers).

I TOTAL LENGTH

The total pipe or mechanical tubing length for each subarray, including cross pipe lengths and pier lengths.

J CONCRETE

The volume of concrete needed per pier, as well as the total volume of concrete for the entire project.



A T-BOLTS

Select T-bolts to use Mid Clamps with T-bolts.

B WIRE CLIPS

Wire clips provide an easy way to manage PV cables.

C END CAPS

End caps press into the ends of rails and provide a finished look while keeping out dirt, debris, and pests.

D CLAMPS

Select a Mill or Black finish for Mid and End Clamps.

E BILL OF MATERIALS

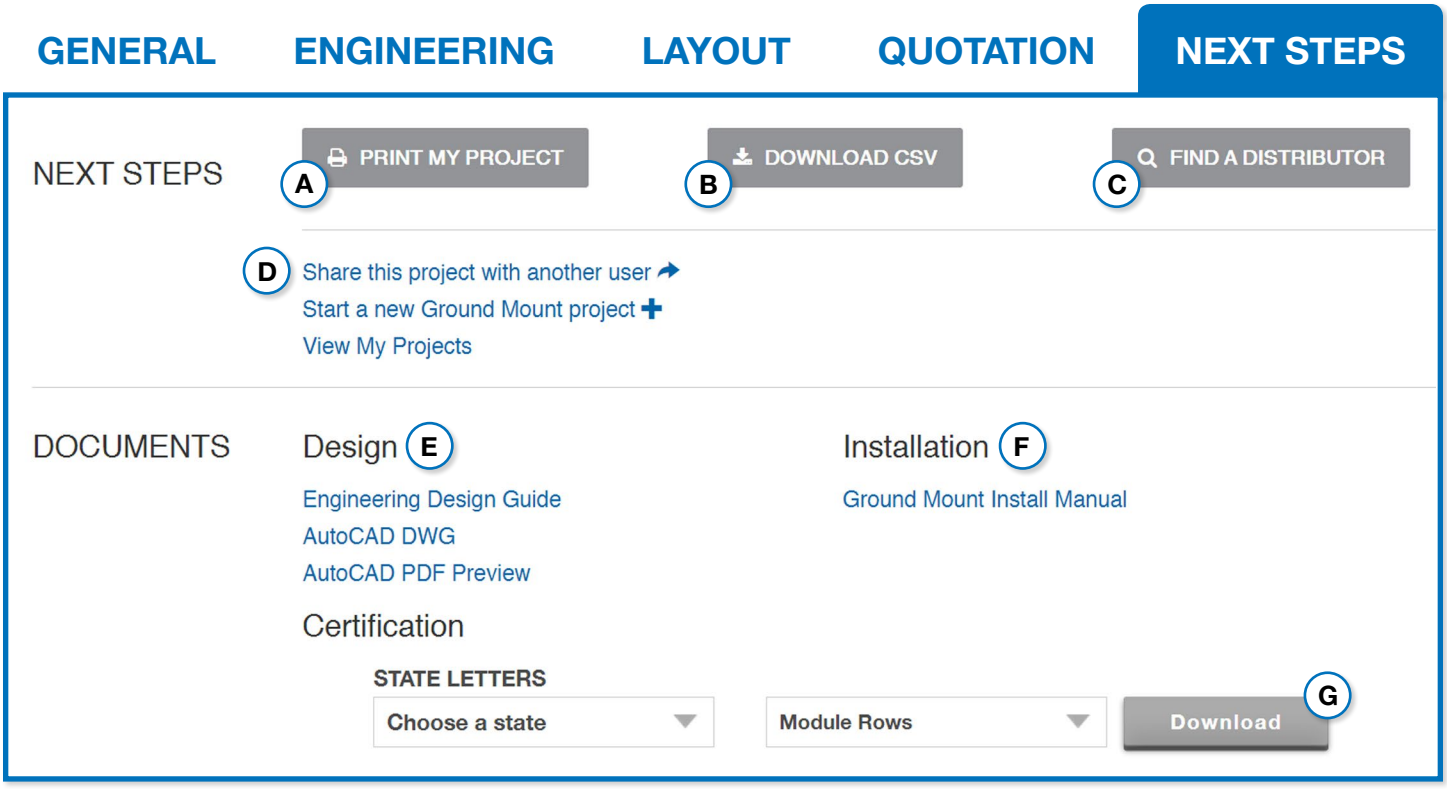
The part number, description, quantity and price of each part are listed.

F SPARES

Use the “Edit” button to modify quantities of each part. Get extra parts, just in case, or use parts you already have from a previous project.

G DISCOUNT LEVEL

If your distributor is offering a discount, enter it here. The bill of materials will update to reflect the new total price.



A PRINT PROJECT

Print your project to share with others. The print-out includes all the projects details, engineering report and bill of materials.

B DOWNLOAD CSV

Download the complete bill of materials as a spreadsheet (CSV) file.

C FIND DISTRIBUTOR

Use our Distributor Locator to find an IronRidge distributor near you.

D SHARE PROJECT

Share your project with another Design Assistant user.

A shared project can be edited and updated by either user. To share a project you must know the email address of the other registered Design Assistant user.

E DESIGN DOCUMENTS

Review design documents to get more detailed design information about the system.

F INSTALLATION DOCUMENTS

Review installation manuals to learn how to install the system and get helpful procedure tips.

G CERTIFICATION LETTERS

Download any certification letters you'll need for permitting. Select state of installation and the number of module rows up.

? NEED FURTHER ASSISTANCE?

Contact the IronRidge support team for further assistance with your design. Call 1-800-227-9523 or email support@ironridge.com.

IronRidge.com/gm