

ShorePowerCalc User Guide

Single Panel, Multi Panel, and Large MDP & Substation Marina Workflows

Version 2.1.0 - Updated July 15, 2026

A complete guide to project setup, marina distribution, shore-power pedestals, boat lifts, other marina loads, calculation results, one-line diagrams, and PDF reports.

Mode	Use when	Distribution modeled
Single Panel Marina	A small marina has one panel feeding pedestal circuits.	One service/panel with pedestal circuit rows.
Multi Panel Marina	A low-voltage MDP feeds several dock panels.	Low-voltage MDP, dock-panel feeders, phase loading, and each dock panel's pedestal circuits.
Large MDP & Substation Marina	A larger marina uses 480V distribution and marine substations.	480/277V MDP, 480V single-phase substation feeders, substations, and downstream pedestal panels.

Important: ShorePowerCalc is an informational calculation aid. It is not a licensed engineer and does not create sealed, permit-ready, or construction-ready documents.

1. Install, Activate, And Accept The EULA

Install ShorePowerCalc with the Setup file, or run the Portable file from a location where Windows permits the app to write its local data. The customer release requires a valid Gumroad license key and internet access for activation and periodic verification.

Activate ShorePowerCalc

Enter the Gumroad license key from your receipt and accept the EULA to unlock the app on this computer.

END USER LICENSE AGREEMENT (EULA)
ShorePowerCalc v2.1.0
Vendor: Southern Electrical Solutions (SES)
Effective Date: 2026-07-14

IMPORTANT: READ CAREFULLY. BY SELECTING THE EULA AGREEMENT CHECKBOX AND THEN SELECTING "ACTIVATE & ACCEPT" OR "ACCEPT UPDATED EULA," OR BY INSTALLING OR USING THE SOFTWARE AFTER THAT ACCEPTANCE, YOU AGREE TO BE BOUND BY THIS EULA.

1. DEFINITIONS

"Software" means the ShorePowerCalc desktop software, including its executable files, updates, documentation, and related materials.
"You" or "Licensee" means the person or entity that obtains a license to use the Software.
"Device" means one physical or virtual computer.
"License Term" means the 365-day period beginning on the Gumroad purchase date returned by Gumroad for the license key.

2. LICENSE GRANT, SCOPE, AND TERM

2.1 Grant. Subject to this EULA and successful Gumroad activation, SES grants You a limited, non-exclusive, non-

Gumroad License Key:

YOUR-GUMROAD-LICENSE-KEY

Name:

Customer Name

Email:

customer@example.com

Enter the Gumroad license key, customer name, and email; review the displayed EULA; select the electronic-signature agreement; then choose Activate and Accept.

License and activation notes

- A customer license is valid for 365 days from the Gumroad purchase date. Reinstallation does not restart the term.
- A changed EULA requires affirmative re-acceptance. Re-acceptance does not consume another Gumroad activation.
- Keep the Gumroad receipt and license key with the purchaser's business records.
- Do not share, resell, publish, or distribute the license key, executable files, project source, or protected documentation.

2. Safety, Scope, And Required Review

Use ShorePowerCalc to organize marina inputs and produce planning-level load calculations, schedules, voltage-drop information, tagged feeders, and one-line report graphics.

Before using any output for permitting, procurement, construction, installation, or energizing, have all inputs, assumptions, equipment selections, grounding and bonding, GFCI/GFPE decisions, and final documents independently reviewed and approved for the specific project and jurisdiction.

The app can help with

- User-entered shore-power receptacle demand and accessory loads.
- Single Panel, Multi Panel, and Large MDP and Substation distribution calculations.
- Boat-lift motor loads, controller-supply planning values, and motor-feeder OCPD review.
- Other user-calculated marina loads added at 100% with planning branch-circuit values.
- Planning conductor, breaker, EGC, conduit, voltage-drop, schedule, and one-line outputs.

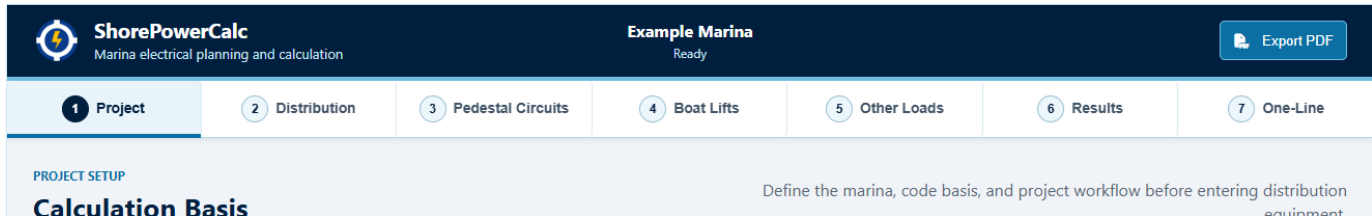
The app does not

- It does not certify NEC compliance or local-code compliance.
- It does not perform fault-current, coordination, arc-flash, transformer inrush, utility, corrosion, or manufacturer-specific studies.
- It does not select, set, locate, or coordinate GFPE/GFCI devices.
- It does not replace the listed lift-controller OCPD, equipment markings, manufacturer instructions, or a selective-coordination review.
- It does not produce stamped engineering drawings.

Report item	What to check before relying on it
Demand and current	Verify receptacle counts, voltage selection, pedestal layouts, and sub-meter setting.
Conductors, raceways, and breakers	Review final feeder, service, neutral, parallel conductor, raceway, EGC, and OCPD selections with the engineer/AHJ.
Voltage drop	Confirm actual routing lengths, looped pedestal distances, conductor material, and installation conditions.
GEC/EGC values	Treat as calculation aids. Grounding, bonding, corrosion, and separately derived system requirements need project review.
One-line diagrams	Use as a planning diagram only. Do not use as stamped construction documents.

3. Seven-Step Workflow

V2.1.0 uses the same seven tabs for every project mode. Complete the tabs from left to right; use the equipment selectors inside Pedestal Circuits, Boat Lifts, and Other Loads instead of returning to Distribution whenever you change panels or substations.



The workflow tabs are Project, Distribution, Pedestal Circuits, Boat Lifts, Other Loads, Results, and One-Line.

Recommended sequence

- Project: enter the project basis and choose a marina mode.
- Distribution: define the panel, low-voltage MDP and dock panels, or 480V MDP and substations.
- Pedestal Circuits: select the serving equipment and enter shore-power pedestal circuits.
- Boat Lifts: select the serving equipment and enter lift-controller and motor loads.
- Other Loads: select the serving equipment and enter already-calculated non-shore-power loads.
- Choose Calculate Project at the end of Other Loads, then review Results and all warnings.
- Review One-Line, then use Export PDF in the upper-right header.

Open, Save, and Save As are under the application File menu. Help contains the complete Assumptions and Notes and the EULA. Project files use the .mlc extension.

4. Project Tab

Project Information applies to every mode and appears in the saved project and exported report.

i Project Information

Project Name:	Example Marina
Project Address:	123 Marina Way, Coastal City, ST 12345
Prepared For:	Example Marina Owner
Prepared By:	Southern Electrical Solutions
Marina Basis:	Existing marina / modification
NEC Edition:	2026 NEC
Project Mode:	Single Panel Marina

Enter the project name, full address, Prepared For, Prepared By, Marina Basis, NEC edition, and Project Mode.

Field notes

- Prepared For, Prepared By, and Marina Basis improve project identification but do not change calculations.
- NEC Edition controls the code-basis label and selected-edition marina demand-table references. Verify the locally adopted edition, effective date, errata, amendments, and AHJ requirements.
- Project Mode controls the Distribution workflow and available MDP-direct choices.
- Individual Sub-Meters is intentionally entered on the Pedestal Circuits tab, where the qualifying shore-power circuits are defined.

5. Choose The Marina Type

Mode	Use when	Distribution modeled
Single Panel Marina	A small marina has one panel feeding pedestal circuits.	One service/panel with pedestal circuit rows.
Multi Panel Marina	A low-voltage MDP feeds several dock panels.	Low-voltage MDP, dock-panel feeders, phase loading, and each dock panel's pedestal circuits.
Large MDP & Substation Marina	A larger marina uses 480V distribution and marine substations.	480/277V MDP, 480V single-phase substation feeders, substations, and downstream pedestal panels.

Choose the simplest mode that accurately matches the project distribution boundary. Do not use Large MDP and Substation Marina unless the project actually includes the modeled 480V MDP and marine-substation arrangement.

Mode boundaries

- Single Panel Marina starts at one panel feeding the pedestal circuits.
- Multi Panel Marina starts at a low-voltage MDP/switchboard feeding multiple dock panels.
- Large MDP & Substation Marina starts at a 480/277V landside MDP/switchboard feeding marine substations.
- Multi Panel and Large Marina projects may also contain direct MDP pedestal, boat-lift, and other-load branches where supported by the serving voltage.

6. Distribution - Single Panel Marina

Use Single Panel Marina for smaller projects where one panel directly feeds the pedestal circuits.

 **Single Panel Distribution**

Model one marina panel feeding the pedestal circuits. Enter the source and service information here, then build the pedestal circuit table below.

Panel Name:

Main Dock Panel

Distance To Source (ft):

75

Voltage:

120/240V

▼

Service Wire Material:

Copper

▼

Service Raceway:

PVC Schedule 80

▼

Ambient Temperature:

26-30 C

▼

Single Panel Distribution contains the source and service information for the one panel.

Enter

- Enter the panel name and source distance.
- Select the voltage, service wire material, PVC Schedule 40 or Schedule 80 service raceway, and ambient temperature.
- Continue to Pedestal Circuits. There is no separate calculation button on the Distribution tab.

Use this mode when there is no upstream dock-panel list and no 480V substation distribution to model.

7. Distribution - Multi Panel Marina

Use Multi Panel Marina when a low-voltage MDP or switchboard feeds multiple dock panels and each dock panel feeds shore-power pedestal circuits.


Multi Panel Distribution

Model a low-voltage MDP or switchboard feeding multiple dock panels. Edit the selected dock panel with the pedestal circuit table below; changes are saved automatically as you move through the marina setup.

MDP Name:

MDP Voltage:

MDP Service Distance (ft):

MDP Wire Material:

MDP Raceway:

MDP Ambient Temp:

+ Add Dock Panel

Edit	Dock Panel	Dock / Area	MDP Distance (ft)	Panel Voltage	Auto Phase	Demand	Feeder	Delete
	Dock Panel 1	Dock 1	75	120/240V, 1 Phase	-	-	Not calculated	
	Dock Panel 2	Dock 2	150	120/240V, 1 Phase	-	-	Not calculated	

Enter the MDP data, add each dock panel, and define its area, MDP distance, and panel voltage.

Workflow

- Add one row for every downstream dock panel included in the calculation boundary.
- The Edit command selects a dock panel, but downstream tabs also provide their own selectors to prevent editing the wrong panel.
- MDP Direct appears first in downstream selectors for loads that originate at the low-voltage MDP.
- MDP demand is calculated from all downstream shore-power receptacles, lift allocations, and other loads; it is not a simple sum of dock-panel demand values.

8. Distribution - Large MDP And Substation Marina

Use this mode for a 480/277V landside MDP/switchboard feeding 480V single-phase marine substations with 120/240V single-phase secondary pedestal panels.

Large MDP & Substation Distribution

Model the landside MDP/switchboard feeding 480V single-phase marine substations. Edit the selected substation with the pedestal circuit table below; changes are saved automatically as you move through the marina setup.

MDP Name:

MDP Voltage:

MDP Service Distance (ft):

MDP Wire Material:

MDP Raceway:

MDP Ambient Temp:

Substation kVA Presets:

+ Add Substation

Edit	Substation	Dock / Area	MDP Distance (ft)	Selected kVA	Auto Phase	Demand	Status	Delete
	Marine Substation 1	Dock 1	250	330	-	-	Not calculated	
	Marine Substation 2	Dock 2	325	330	-	-	Not calculated	

Enter the MDP data, editable substation kVA presets, and each substation's dock/area, MDP distance, and selected kVA.

Workflow

- Add one row for each marine substation or dock area included in the MDP calculation boundary.
- Substation kVA selection is a planning aid; transformer losses, inrush, impedance, manufacturer data, and separately derived system details require separate review.
- Automatic phase balancing assigns single-phase substation feeders across A-B, B-C, and C-A.
- The utility transformer is outside this calculation boundary.

9. Pedestal Circuits

The pedestal editor is shared by all three modes. In Multi Panel and Large Marina modes, always use the selector at the top of the tab to confirm which dock panel, substation, or MDP is being edited.

Ckt ID	Pedestal Side 1	Pedestal Side 2	Installation Type	Wire Material	Distance (ft)	Delete
Ckt 1	30A	30A	Sch40-THWN-2	Copper	60	Delete
Ckt 2	30A	30A	Sch40-THWN-2	Copper	60	Delete
Ckt 3	30A	30A	Sch40-THWN-2	Copper	60	Delete
Ckt 4	30A	30A	Sch40-THWN-2	Copper	60	Delete
Ckt 5	50A + 30A	None	Sch40-THWN-2	Copper	110	Delete
Ckt 6	50A + 30A	None	Sch40-THWN-2	Copper	110	Delete

Each row defines a circuit ID, pedestal-side receptacle layouts, installation type, wire material, and route distance.

PEDESTAL SCHEDULE

Shore Power Pedestal Circuits

Enter the slip pedestal arrangements, feeder circuits, wiring method, conductor material, and route distances.

Editing Dock Panel:

Dock Panel 1 - Dock 1

Multi Panel Marina

Selected Dock Panel Pedestal Circuits

Individual Sub-Meters: Yes

+ Add Circuit

Reset Form

Ckt ID	Pedestal Side 1	Pedestal Side 2	Installation Type	Wire Material	Distance (ft)	Delete
Ckt 1	30A	30A	Sch40-THWN-2	Copper	50	Delete
Ckt 2	30A	30A	Sch40-THWN-2	Copper	50	Delete

The equipment selector changes the active dock panel without returning to Distribution. MDP Direct is the first choice in Multi Panel and Large Marina modes.

Entry rules

- Use the Individual Sub-Meters Yes/No control only when qualifying individual pedestal sub-meters are actually provided.
- Reusing a circuit ID identifies multiple pedestal rows on one looped feeder.
- For looped feeders, enter the panel-to-first-pedestal distance and then each segment distance unless an entry is explicitly identified as a total run.
- Use Custom only when a standard receptacle layout does not describe the pedestal.
- In Large Marina mode, selecting the MDP opens the MDP-Fed Large Pedestal editor for direct 480V or 277/480V three-phase receptacles.

10. MDP-Fed Large Pedestals

Large Marina mode provides a dedicated editor for 100A and 200A 480V or 277/480V pin-and-sleeve shore-power receptacles fed directly from the MDP rather than a marine substation.

PEDESTAL SCHEDULE

Shore Power Pedestal Circuits

Enter the slip pedestal arrangements, feeder circuits, wiring method, conductor material, and route distances.

Editing MDP:

MDP-1 - MDP Direct

Large MDP & Substation Marina

MDP-Fed Large Pedestal Circuits

Individual Sub-Meters: Yes

MDP-Fed Large Pedestals

Use this for 100A or 200A 480V and 277/480V pin-and-sleeve pedestal locations fed directly from the MDP, not from a marine substation.

+ Add MDP-Fed Pedestal

Pedestal	Dock / Area	Receptacle	Rec Qty	MDP Distance (ft)	Wire Material	Demand	Feeder
Large Pedestal 1	Fuel Dock	100A, 480V, 3P/4W	2	300	Copper	166.28 kVA	200A/3P, 3/0 AWG

Select the MDP in Pedestal Circuits, then enter the pedestal name, dock/area, receptacle type, receptacle quantity, MDP distance, and wire material.

- Receptacle quantity is the number of receptacles at the location, including multiple receptacles on one pedestal.
- The load is included in the MDP receptacle count, demand factor, phase loading, feeder schedule, and one-line.
- The load is not included in substation sizing.
- Do not use this editor for the 120/240V pedestal circuits downstream of a substation.

11. Boat Lifts

Select the serving panel, substation, or MDP at the top of the tab before entering lifts. Add one row for each complete lift, and enter the number of motors on that lift rather than a quantity of separate lifts.

↑ Boat Lift Loads

Add boat lift motor loads served by the selected panel, pedestal circuit, or MDP. A Pedestal Circuit automatically uses the larger of the lift or shore-power load for the same slip under Note 3 of the applicable marina demand table. A dedicated serving-panel or MDP circuit does not require a pedestal. Maximum Simultaneous Lifts applies between complete lifts that are not governed by that same-slip comparison. Leave the limit blank to include every connected lift. A reduced limit requires a documented basis and AHJ acceptance. Enter the actual listed controller/equipment branch OCPD when known; leave it blank to retain the conservative calculated range. Lift controller and motor branch conductors default to wet-location-rated copper THWN-2 planning values. Select PVC Schedule 40 or Schedule 80 for each controller run; raceway fill includes a full-size neutral and one copper EGC. Direct 480/277V MDP lift branches use 480V three-phase motors and do not include 120V accessory receptacles without a separate low-voltage source. Verify the actual wiring method, equipment lugs, and manufacturer requirements.

Panel Lift Limit

1 lift maximum at this scope -

This optional limit applies to this panel calculation. Leave it blank to include every connected applicable lift.

Maximum Lifts at This Panel:

1

Basis Note:

Operating controls limit applicable lifts to one at a time

+ Add Boat Lift Load

Location / Run / Raceway	Circuit Source	Pedestal Slip	Motors	HP / Motor	Motor Voltage	FLC (A)	Actual OCPD (A)	Extra 20A Recs	Delete
Slip 1 Pedestal Lift									
35	Pedestal Circuit ▼	R1 / Ckt 1 / S1 ▼	2	1.5 HP ▼	230/240V, 1 Phase ▼	NEC	30	0	
PVC Schedule 40 ▼									

Enter the controller/run, circuit source, pedestal slip when applicable, motor count, horsepower, compatible motor voltage, optional FLC override, actual OCPD when known, extra 20A receptacles, and raceway.

Circuit source and limits

- Pedestal Circuit compares the lift and qualifying same-slip shore-power load and includes the larger result under the selected-edition marina demand-table note.
- Serving Panel Circuit creates a dedicated branch from the active panel or substation and does not require a pedestal.
- Serving MDP Circuit creates a direct MDP branch where the serving voltage supports the selected motor.
- Maximum Simultaneous Lifts applies between complete lifts. A reduced value requires a Basis Note, supporting documentation, and AHJ acceptance.

The motor-voltage list is filtered by the selected serving equipment to reduce incompatible entries. Nameplate and manufacturer data always govern.

12. Boat-Lift OCPD Review

The Motor Feeder OCPD Review appears only for panel mains and feeders that supply valid boat-lift motor branches. Feeders without motors are omitted.

Motor Feeder OCPD Review

Feeder	Breaker	430.24 Min Ampacity	430.62 Motor Limit	430.63 Breaker Basis	Lift OCPDs	Phase	Status
Panel Main	300A prelim.	249.23 A	70A entered*	300A entered*	2/2 entered	B	Entered OCPDs applied*
Ckt 1	60A prelim.	44.10 A	30A entered*	60A entered*	1/1 entered	B	Entered OCPDs applied*

* Enter each known listed controller/equipment branch OCPD in the Boat Lift Loads table. Unknown entries retain the conservative calculated range. Only feeders with at least one valid downstream boat-lift motor branch appear here. Manufacturer instructions, conductor protection, selective coordination, and AHJ review govern the final selection.

The review reports downstream lift-controller OCPD completion and the preliminary NEC motor-feeder range.

- Enter the listed controller/equipment inverse-time circuit-breaker rating in Actual OCPD when known.
- Leave Actual OCPD blank when unknown so the calculated lower-to-maximum range remains visible.
- The valid entered OCPD becomes the branch EGC basis and is used in upstream NEC 430.62/430.63 review.
- The schedule separately reports controller-supply and controller-to-motor conductor planning values.
- Equipment markings, overload protection, controller listing, selective coordination, and manufacturer instructions govern final selection.

13. Other Marina Loads

Use Other Loads for site lighting, buildings, pumps, controls, security equipment, EV charging, and other non-shore-power loads. Select the serving equipment before adding rows; MDP Direct is listed first in Multi Panel and Large Marina modes.

Use this schedule for non-shore-power loads such as site lighting, buildings, pumps, controls, security equipment, and EV charging. Enter a calculated load that already includes applicable continuous-load, demand, and equipment-specific adjustments. Each row represents one branch circuit and is added at 100%; ShorePowerCalc does not invent a diversity factor for these loads.

+ Add Other Load

Load Description	Category	Calculated VA Each	Qty on Circuit	Phase Type	Phase	Delete
Dock and Parking Lighting	Site Lighting	1800	2	1-Phase, Line-to-Line (2-pole)	Auto	
Wire Material Copper Raceway PVC Schedule 40 / THWN-2 Branch Distance (ft) 125 3-Phase Neutral No Basis / Notes Calculated load includes continuo Branch basis One row is one branch circuit. Qty is the equipment served by that circuit; circuit load equals VA Each x Qty.						
Marina Pump	Pump / Mechanical	3200	1	1-Phase, Line-to-Line (2-pole)	Auto	
Wire Material Copper Raceway PVC Schedule 80 / THWN-2 Branch Distance (ft) 90 3-Phase Neutral No Basis / Notes User-entered calculated equipme Branch basis One row is one branch circuit. Qty is the equipment served by that circuit; circuit load equals VA Each x Qty.						
Schedule Rows 2		Serving Equipment Main Dock Panel		Calculated Load 6.80 kVA		

Each row is one branch circuit and includes load description, category, calculated VA each, quantity on the circuit, phase type, phase, material, raceway, distance, neutral choice when applicable, and basis notes.

- Enter already-calculated VA that includes all applicable continuous-load, equipment-specific, motor, and project adjustments.
- Quantity means the number of load units on that one branch circuit. Use separate rows for separate circuits.
- Other Loads are added at 100% and do not receive the marina shore-power demand factor.
- Results include a planning breaker, conductors, copper EGC, conduit, distance, and voltage drop.

Listed equipment MCA/MOCP, OCPD, disconnect, controller, conductor, neutral, harmonic, manufacturer, utility, and AHJ requirements always govern.

14. Calculate Project And Review Results

Choose Calculate Project at the end of Other Loads. The app saves the active equipment state, calculates the selected marina mode, moves to Results, and updates the project status.

Results are organized from project level to branch detail

- Calculation status and warnings.
- MDP or panel load and main summary.
- Phase loading and imbalance.
- Project-level feeder schedules.
- MDP-direct branch details where present.
- Each panel or substation detail, pedestal schedule, boat-lift schedule, other-load schedule, and tagged feeders.
- Motor Feeder OCPD Review only where applicable.

Required review

Report item	What to check before relying on it
Demand and current	Verify receptacle counts, voltage selection, pedestal layouts, and sub-meter setting.
Conductors, raceways, and breakers	Review final feeder, service, neutral, parallel conductor, raceway, EGC, and OCPD selections with the engineer/AHJ.
Voltage drop	Confirm actual routing lengths, looped pedestal distances, conductor material, and installation conditions.
GEC/EGC values	Treat as calculation aids. Grounding, bonding, corrosion, and separately derived system requirements need project review.
One-line diagrams	Use as a planning diagram only. Do not use as stamped construction documents.

Do not ignore warnings. Correct invalid inputs and obtain missing equipment information before relying on or exporting the result.

15. Single Panel Results

Review total receptacle count, demand factor, lift reconciliation, panel schedule, demand current, main breaker, service conductors, service raceway, voltage drop, phase balance, grounding aids, and tagged feeders.

Total Shore Power Receptacles: 10

Demand Factor: 80%

Boat Lift Load Summary

Location	Source / Circuit	Circuit Source	Motor	FLC	Shore kVA	Lift Branch kVA	Result
Slip 1 Pedestal Lift	Ckt 1 - Side 1	Pedestal Circuit	2 x 1.5 HP 240V 1P	10.00 A NEC Table 430.248 (230V column)	3.60	5.40	Boat Lift controls same-slip comparison
Dock Dedicated Lift	Ckt 7-9 - Serving Panel	Serving Panel Circuit	4 x 1.5 HP 240V 1P	10.00 A NEC Table 430.248 (230V column)	-	10.20	Serving-panel branch included in simultaneous feeder set

Boat Lift Branch Schedule

Location	Phase	Branch Demand	Load Current	Controller Run	Branch Circuit	VD	Extra 20A Recs
Slip 1 Pedestal Lift	A-B	5400 VA	22.50 A	35 ft	Controller supply: 12 AWG Copper Neutral: 12 AWG Copper (full-size) Each motor: 12 AWG Copper minimum	1.30%	0 (0 VA)

Single Panel results include project demand and boat-lift reconciliation where lifts are present.

ShorePowerCalc

Marina electrical planning and calculation

Example Marina

Ready

Export PDF

1 Project

2 Distribution

3 Pedestal Circuits

4 Boat Lifts

5 Other Loads

6 Results

7 One-Line

Ckt 3	2592.00	2592.00	30/2P	2.33%	60 ft	8 AWG	Copper	8 (upsized)	3/4"
Ckt 4	2592.00	2592.00	30/2P	2.33%	60 ft	8 AWG	Copper	8 (upsized)	3/4"
Ckt 5	4320.00	4320.00	50/2P	2.25%	110 ft	6 AWG	Copper	8 (upsized)	1"
Ckt 6	4320.00	4320.00	50/2P	2.25%	110 ft	6 AWG	Copper	8 (upsized)	1"
Ckt 7-9	5100.00	5100.00	50/2P	1.38%	50 ft	8 AWG	Copper	10	3/4"
Ckt 10	180.00	0.00	20/1P	0.25%	50 ft	12 AWG	Copper	12	1/2"

Total Demand Load: 56060.00 VA

Demand Current: 243.63 A

10% reduction applied to qualifying shore-power demand per NEC Table 120.120 Note 2.

Main Breaker Size: 300 A

Motor Feeder OCPD Review

Feeder	Breaker	430.24 Min Ampacity	430.62 Motor Limit	430.63 Breaker Basis	Lift OCPDs	Phase	Status
Panel Main	300A prelim.	249.23 A	70A entered*	300A entered*	2/2 entered	B	Entered OCPDs applied*
Ckt 1	60A prelim.	44.10 A	30A entered*	60A entered*	1/1 entered	B	Entered OCPDs applied*

* Enter each known listed controller/equipment branch OCPD in the Boat Lift Loads table. Unknown entries retain the conservative calculated range. Only feeders with at least one valid downstream boat-lift motor branch appear here. Manufacturer instructions, conductor protection, selective coordination, and AHJ review govern the final selection.

The panel schedule and tagged feeder sections report the calculated branch and service planning values.

16. Multi Panel Results

The Multi Panel result starts with the MDP summary, phase loading, and MDP-to-dock-panel feeder schedule, then presents MDP-direct branches and each dock panel's detailed schedules.

MULTI PANEL SUMMARY

Review project basis and calculation warnings before using the schedules below.

Calculation Status

Code Basis
2026 NEC

Project Mode
Multi Panel Marina

MDP
MDP-1 | 120/240V, 1 Phase

Individual Sub-Meters
Yes - 10% reduction

Total Shore Receptacles
22

2026 mode applies the demand percentages in Table 120.120. Verify the locally adopted edition and amendments.

 10% individual sub-meter demand reduction applied to qualifying shore-power demand per NEC Table 120.120 Note 2.

Calculation Complete

No calculation warnings

UPSTREAM CAPACITY

MDP Load and Main

Calculated project demand and upstream equipment planning values.

MDP Demand
81.65 kVA

MDP Demand Factor
70%

Other Marina Loads
0.00 kVA at 100%

Lift Demand Outside Same-Slip Comparison
0.00 kVA

Simultaneous Boat Lifts
0 of 0 (panel limits)

Lift Basis
All connected lifts included

MDP Main
350A, 500 kcmil

MDP Raceway
PVC Schedule 80; one set per raceway

MDP GEC
1/0 AWG Copper

LOAD DISTRIBUTION

Phase Loading

Calculated MDP phase currents and maximum phase imbalance.

Phase A
340.20 A

Phase B
340.20 A

Phase C
N/A

Imbalance
0.00 A

OUTGOING DISTRIBUTION

MDP to Dock Panel Feeders

Outgoing feeder assignments from the MDP to each dock panel.

Dock Panel	Phase A	Phase B	Phase C
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			

Review the MDP load and main before working through each downstream dock panel.

- Single-phase dock-panel feeders on a 120/208V three-phase MDP are assigned across A-B, B-C, and C-A to reduce imbalance.
- Three-phase dock panels retain their calculated A/B/C load split.
- Final phase assignment remains a planning decision requiring project review.

17. Large Marina Results

The Large Marina result starts with MDP demand, phase loading, MDP main, substation feeder schedule, direct MDP branches, and then each substation's secondary details.

LARGE MARINA SUMMARY
Calculation Status

Review project basis and calculation warnings before using the schedules below.

Code Basis
2026 NEC

Project Mode
Large MDP & Substation Marina

MDP
MDP-1 | 480/277V, 3 Phase

Individual Sub-Meters
Yes - 10% reduction

Total Shore Receptacles
32

2026 mode applies the demand percentages in Table 120.120. Verify the locally adopted edition and amendments.
10% individual sub-meter demand reduction applied to qualifying shore-power demand per NEC Table 120.120 Note 2.

Calculation Complete

No calculation warnings

UPSTREAM CAPACITY
MDP Load and Main

Calculated project demand and upstream equipment planning values.

MDP Demand
211.61 kVA

MDP Demand Factor
60%

Other Marina Loads
0.00 kVA at 100%

Lift Demand Outside Same-Slip Comparison
0.00 kVA

Simultaneous Boat Lifts
0 of 0 (substation limits)

Lift Basis
All connected lifts included

MDP-Fed Large Pedestals
2 receptacles, 166.28 kVA connected

MDP Main
300A, 500 kcmil

MDP Raceway
PVC Schedule 80; one set per raceway

MDP GEC
1/0 AWG Copper

LOAD DISTRIBUTION
Phase Loading

Calculated MDP phase currents and maximum phase imbalance.

Phase A
280.80 A

Phase B
297.00 A

Phase C
253.80 A

Imbalance
43.20 A

OUTGOING DISTRIBUTION
MDP to Substation Feeders

480V feeder assignments from the MDP to each marine substation.

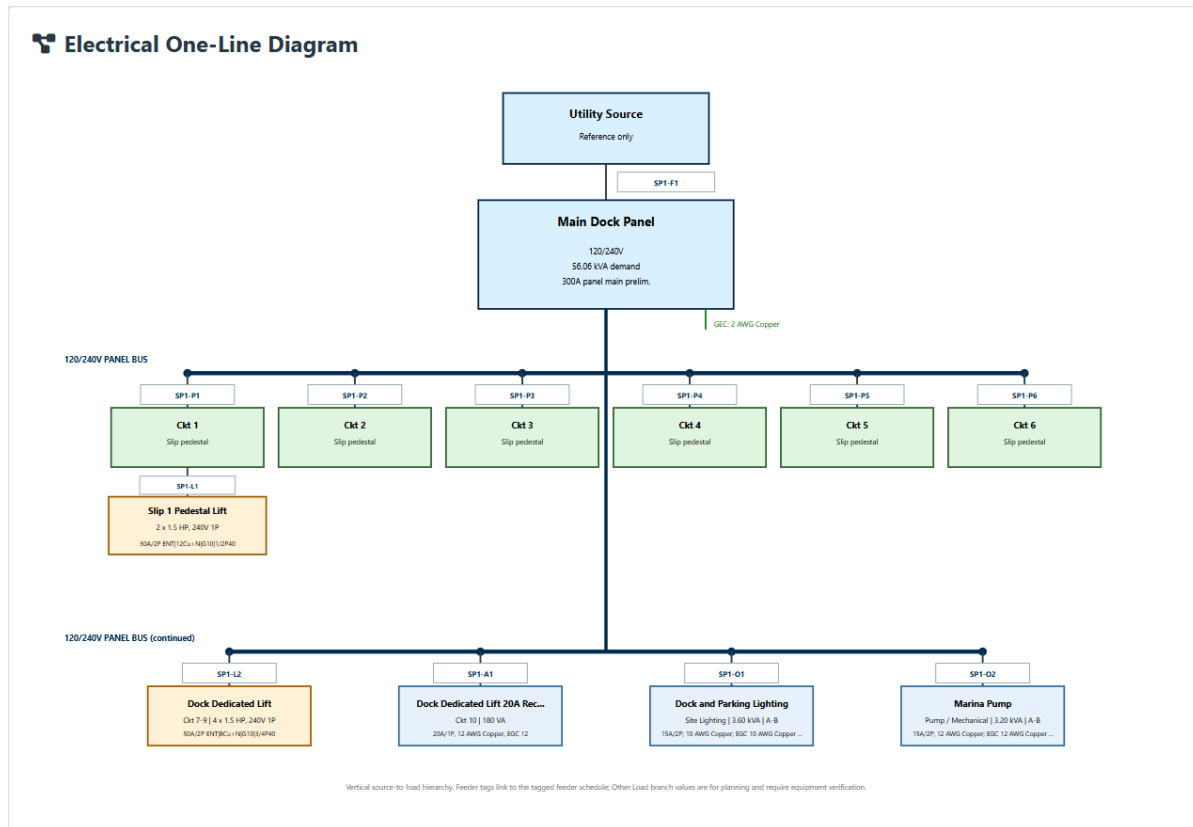
Tag	Substation	Dock / Area	Phase Pair	Demand	Selected kVA	480V Current	Breaker	Feeder	Material	EGC	Conduit	VD
-----	------------	-------------	------------	--------	--------------	--------------	---------	--------	----------	-----	---------	----

Review the MDP calculation before the individual substation sections.

- Selected substation kVA is a planning aid and not a substitute for manufacturer or engineered equipment selection.
- Verify primary feeder, secondary panel, grounding and bonding, transformer impedance, inrush, and separately derived system requirements.
- Confirm direct MDP large-pedestal, lift, and other-load branches are not duplicated under a substation.

18. One-Line Diagrams

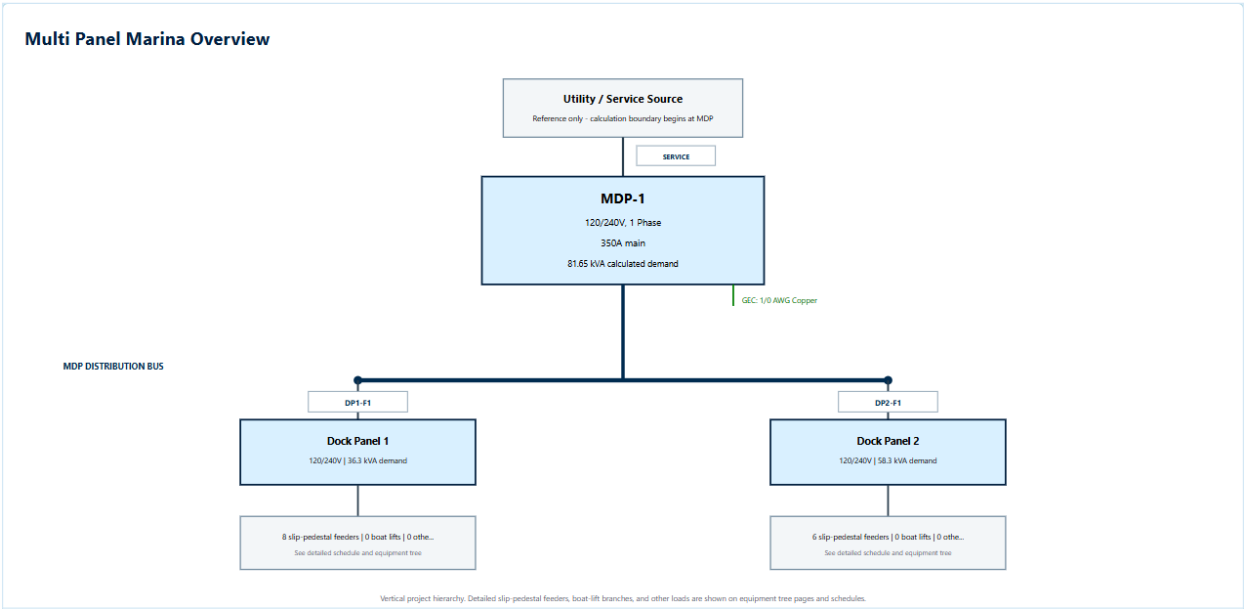
The One-Line tab is the dedicated visual review. Results does not duplicate these diagrams. Tagged feeder labels connect each graphic to the schedules.



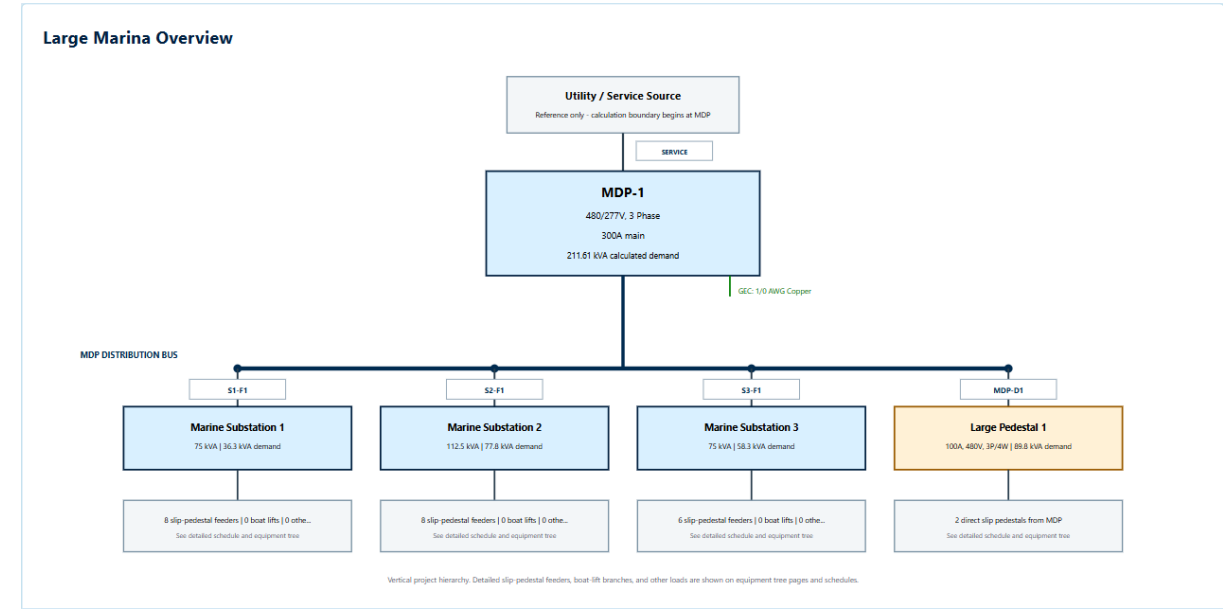
Single Panel one-line: utility/source, panel, pedestal circuits, boat lifts, and other loads.

Read every one-line as a planning diagram only. Confirm the actual source-to-load hierarchy, circuit tags, phase assignment, equipment ratings, and branch origin before sharing it for review.

18. One-Line Diagrams, Continued



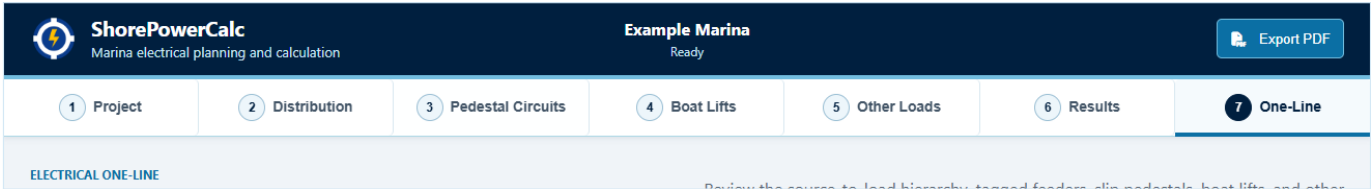
Multi Panel overview: MDP, dock panels, and direct MDP branches.



Large Marina overview: 480/277V MDP, substations, and direct MDP branches.

19. Save, Help, And Export PDF

Use File > Open, Save, or Save As to manage .mlc project files. Save before exporting so the report and project file represent the same inputs.



Export PDF is the single PDF command and remains available in the upper-right application header.

Assumptions and Notes

General

Boat Lifts

Other Loads

Multi Panel

Large Marina

Ground-Fault

Legal

ShorePowerCalc is provided "as is" as an informational calculation aid only. It is not a licensed electrical engineer, does not exercise engineering judgment, and does not create sealed, permit-ready, or construction-ready documents. Calculations are based on user-entered information, selected assumptions, embedded tables, and selected NEC code-basis labels, and may contain errors, omissions, or inaccuracies. Outputs are estimates only and are not guaranteed to comply with the adopted NEC edition, local amendments, utility requirements, manufacturer instructions, project specifications, or site-specific conditions. A licensed electrical engineer, qualified professional, utility, manufacturer, and local authority having jurisdiction (AHJ), as applicable, must independently review and approve all inputs, calculations, assumptions, equipment selections, grounding and bonding, GFCI/GFPE settings, construction documents, and installations before permitting, procurement, construction, or energizing. Use of this tool is at your own risk, and Southern Electrical Solutions assumes no liability for damages, injuries, losses, rejected permits, rework, non-compliance, or unsafe installations arising from use of or reliance on the tool.

General and Single Panel Assumptions

- Outputs are only as accurate as the information entered by the user. Verify all receptacle quantities, voltages, distances, conductor materials, raceways, equipment ratings, environmental conditions, and field routing before relying on any result.
- Results are calculation aids only and are not a substitute for sealed engineering documents, utility coordination, manufacturer instructions, field verification, plan review, inspection, or AHJ approval.
- 20A and 30A receptacles are assumed to be 120V; 50A, 100A, and 200A receptacles are assumed to be 240V per NEC 220.5(A).
- Voltage-drop sizing uses a 3% branch/feeder design target in this tool. This is a planning criterion, not a guarantee of NEC compliance; verify project specifications, total feeder-plus-branch drop, actual conductor characteristics, and AHJ requirements. For mixed 120V and 240V loads, voltage drop is evaluated per leg using the applicable voltage.
- Neutral sizing: Ensure neutral conductor is sized per NEC 220.61, typically matching phase conductors for non-linear loads.
- Equipment grounding conductor: The base copper EGC is selected from NEC Table 250.122 using the feeder or branch-circuit OCPD. Where

Use Help > Assumptions and Notes for the complete in-app review language. The tabs separate General, Boat Lifts, Other Loads, Multi Panel, Large Marina, Ground-Fault, and Legal notes.

The exported report includes the project identity, selected code basis, calculation summaries, schedules, tagged feeders, one-lines, applicable warnings, assumptions, ground-fault notes, and legal disclaimers. It remains an informational calculation aid requiring independent review.

20. Assumptions And Notes

These pages reproduce the complete planning basis used by the guide and in-app Help. Exported reports include the applicable project-mode subset.

ShorePowerCalc is provided 'as is' as an informational calculation aid only. It is not a licensed electrical engineer, does not exercise engineering judgment, and does not create sealed, permit-ready, or construction-ready documents. Calculations are based on user-entered information, selected assumptions, embedded tables, and selected NEC code-basis labels, and may contain errors, omissions, or inaccuracies. Outputs are estimates only and are not guaranteed to comply with the adopted NEC edition, local amendments, utility requirements, manufacturer instructions, project specifications, or site-specific conditions. A licensed electrical engineer, qualified professional, utility, manufacturer, and AHJ, as applicable, must independently review and approve all inputs, calculations, assumptions, equipment selections, grounding and bonding, GFCI/GFPE settings, construction documents, and installations before permitting, procurement, construction, or energizing. Use of this tool is at your own risk, and Southern Electrical Solutions assumes no liability for damages, injuries, losses, rejected permits, rework, non-compliance, or unsafe installations arising from use of or reliance on the tool.

General And Single Panel Assumptions

- Outputs are only as accurate as the information entered by the user. Verify all receptacle quantities, voltages, distances, conductor materials, raceways, equipment ratings, environmental conditions, and field routing before relying on any result.
- Results are calculation aids only and are not a substitute for sealed engineering documents, utility coordination, manufacturer instructions, field verification, plan review, inspection, or AHJ approval.
- 20A and 30A receptacles are assumed to be 120V; 50A, 100A, and 200A receptacles are assumed to be 240V per NEC 220.5(A).
- Voltage-drop sizing uses a 3% branch/feeder design target in this tool. This is a planning criterion, not a guarantee of NEC compliance; verify project specifications, total feeder-plus-branch drop, actual conductor characteristics, and AHJ requirements. For mixed 120V and 240V loads, voltage drop is evaluated per leg using the applicable voltage.
- Neutral sizing: Ensure neutral conductor is sized per NEC 220.61, typically matching phase conductors for non-linear loads.
- Equipment grounding conductor: The base copper EGC is selected from NEC Table 250.122 using the feeder or branch-circuit OCPD. Where phase conductors are increased beyond the corrected/adjusted ampacity minimum, the EGC is increased proportionately under the selected edition's NEC 250.122 provisions, without exceeding the largest ungrounded conductor in that raceway.
- Raceway sizing uses NEC Chapter 9 Table 4 PVC Schedule 40 or 80 areas, Chapter 9 conductor areas, a full-size neutral where applicable, one insulated copper EGC in each raceway, and the normal 40% fill limit. Every parallel set is modeled in its own identical raceway; the reported format '2 x 2 1/2 inch' means two raceways of that trade size with one complete conductor set in each. Verify whether an EGC is required in the specific service or feeder segment and confirm the final raceway arrangement with the engineer/AHJ.
- Service entrance conductors sized per NEC 230.42, ampacity not less than calculated demand load, using 75 C column, with voltage drop calculation if distance provided (2% max recommended).
- For service entrance conductors, sizes over 500 kcmil copper or 750 kcmil aluminum are installed in parallel configurations.
- Ambient temperature correction uses the 75 C factors in NEC Table 310.15(B)(1)(1) based on the selected range and caps the effective multiplier at 1.0 so corrected ampacity never exceeds the applicable termination-temperature column. The grouped 20 C-or-less option therefore does not increase base ampacity.
- General feeder, service, pedestal distribution, and local boat-lift controller and motor branch ampacity calculations use the 75 C column from NEC Table 310.16 (formerly 310.15(B)(16)). The tool assumes the associated equipment terminals are listed and identified for 75 C conductors. If any terminal is limited to a lower temperature, recalculate that circuit using the lower column. Never use 90 C conductor ampacity as the final termination ampacity.

20. Assumptions And Notes, Continued

General And Single Panel Assumptions, Continued

- For 4-wire, 3-phase wye distribution raceways, the neutral is conservatively counted as a current-carrying conductor because marina loads are treated as predominantly nonlinear. Four current-carrying conductors therefore receive the 80% adjustment factor from NEC Table 310.15(C)(1). A single-phase neutral carrying only imbalance is not counted. Verify the actual load characteristics and conductor grouping for the project.
- For nonmotor general circuits, the small-conductor overcurrent limits in NEC 240.4(D) are enforced in addition to 75 C ampacity: 12 AWG aluminum is limited to 15A, 12 AWG copper to 20A, 10 AWG aluminum to 25A, and 10 AWG copper to 30A. Article 430 motor-circuit exceptions are evaluated separately.
- For an OCPD rated over 800A, the corrected and adjusted conductor ampacity is never selected below the OCPD rating. The next-size allowance for devices rated 800A or less is not applied above 800A.
- Installation type does not change the base ampacity table, but it does set supported/minimum conductor sizes and whether the tool calculates raceway fill. Verify the actual cable or raceway listing and installation conditions.
- For G-Cable, wire sizes are limited to 8 AWG through 500 kcmil; paralleling uses the smallest conductor size that meets the ampacity with the minimal number of conductors.
- For PVC Schedule 40 and Schedule 80 raceways with wet-location-rated THWN-2 conductors, wire sizes are limited to 12 AWG through 500 kcmil; paralleling uses the smallest conductor size that meets the ampacity with the minimal number of conductors when exceeding 500 kcmil.
- For high loads exceeding single-conductor ampacity, the tool selects the fewest supported parallel conductor sets that satisfy corrected ampacity and voltage-drop criteria, then calculates one same-size PVC raceway for each set.
- Parallel conductors must comply with NEC 310.10(G), including the general 1/0 AWG minimum and identical length, material, circular-mil area, insulation, and termination method. Each raceway is assumed to contain the same number of conductors and the same electrical characteristics, with all circuit conductors and one EGC grouped as a complete set.
- For PVC Schedule 40 and Schedule 80 THWN-2 installations, the smallest wire size used is 12 AWG.
- For G-Cable installations, the smallest wire size used is 8 AWG.
- 20A GFCI receptacles are treated as accessory/convenience receptacles and are not included in the shore power receptacle count for demand factors; their load is calculated at 180 VA ($1.5 \text{ A} \times 120 \text{ V}$) per NEC 220 and added at 100% demand.

20. Assumptions And Notes, Continued

General And Single Panel Assumptions, Continued

- The tool assumes that pedestals have individual branch circuit breakers for each receptacle, so the circuits shown are feeders sized based on the demand-adjusted load under the applicable marina demand table: NEC Table 220.58 for 2023 projects or Table 120.120 for 2026 projects (not full connected load).
- To loop multiple pedestals on a single feeder, enter the same circuit ID for each pedestal row. Provide the distance from the supply panel to the first pedestal, then list the span between each subsequent pedestal unless explicitly labeled as a total run; the tool sums these spans, surfaces conflicts, and reports the feeder length in the loop notes.
- Looped pedestal circuits are identified on the one-line diagram by the count shown below each pedestal symbol; confirm each looped segment length and conductor size in the field.
- Each side of a pedestal is considered an individual slip for the purpose of applying the marina demand factors in NEC Table 220.58 for 2023 projects or Table 120.120 for 2026 projects.
- Where individual sub-meters are present, selecting 'Yes' applies the table's 10% reduction to the qualifying shore-power demand under Note 2. The reduction is not applied to dedicated serving-panel lift motor or accessory receptacle loads.
- Under Note 1 of the applicable marina demand table, for a boat slip with exactly two shore power receptacles of different voltages, only the one with the higher kVA rating is included in the load and count for demand calculations. This is applied per pedestal side or slip.
- For balancing, 120V loads, accessory and non-accessory, on side 1 are assigned starting with phase A and on side 2 starting with phase B when identical layouts are used.

20. Assumptions And Notes, Continued

Boat Lift Load Assumptions

- Boat lift motor FLC values use NEC Table 430.248 for single-phase motors and Table 430.250 for three-phase motors unless the user enters a manual override. Every motor on each selected complete lift is included at 100%, with one 25% largest-motor adder at each calculated feeder level.
- Motor-voltage choices follow the selected serving equipment. A 120/240V single-phase source offers 115/120V and 230/240V single-phase motors; a 120/208V source offers only compatible 115/120V and 208V choices for its phase configuration; and a direct 480/277V MDP circuit offers 460/480V three-phase motors. Unusual motor ratings require a compatible source plus separately verified nameplate and manufacturer data.
- Boat lift controller-supply conductors are sized for 125% of the highest-rated motor plus the full-load current of the other motors under NEC 430.24. These local branch results default to wet-location-rated copper THWN-2, use the 75 C ampacity column based on assumed 75 C controller and motor terminals, and do not inherit pedestal or panel feeder material. Each local lift branch uses the selected PVC Schedule 40 or Schedule 80 raceway. Raceway fill includes the controller-supply phase conductors, one full-size neutral matching the controller-supply conductor, and one copper EGC. The ampacity calculation assumes no more than three current-carrying conductors; verify neutral loading and apply NEC 310.15(C)(1) adjustment when the neutral must be counted or multiple branch circuits are grouped. Separate controller-to-motor conductors are sized at 125% of one motor FLC under NEC 430.22. Voltage drop applies only to the entered source-to-controller run. The Actual OCPD input assumes an inverse-time circuit breaker; other protection types require separate engineering review. A valid entered actual controller/equipment OCPD replaces the calculated maximum and becomes the EGC sizing basis. Equipment markings and manufacturer instructions always govern.
- Feeders supplying boat-lift motors are not reduced below the Article 430.24 motor-feeder ampacity calculation. Breakers marked 'prelim.' are planning values. The NEC 430.62/430.63 review appears only for feeders with valid downstream motor branches and applies each valid entered actual lift-controller OCPD. Missing or invalid entries retain a calculated lower-to-maximum range. Equipment markings, conductor protection, selective coordination, manufacturer instructions, and AHJ review govern the final feeder breaker.
- Where a boat lift and shore power serve the same slip, the tool compares both calculated loads and uses the larger load under Note 3 of the selected-edition NEC marina demand table. The lift is still modeled with its own appropriately protected branch from the pedestal.

20. Assumptions And Notes, Continued

Boat Lift Load Assumptions, Continued

- A Pedestal Circuit lift with no qualifying shore-power receptacle is included at its complete motor load on the selected pedestal feeder.
- Extra 20A Recs are additional accessory loads and must not duplicate receptacles already entered in the pedestal layout. The tool warns when both locations contain accessory receptacles so the input can be reviewed.
- A Serving Panel Circuit receives an automatic panel circuit number and does not require a pedestal. Extra 20A Recs on that row receive a separate 20A panel branch circuit rather than being combined with the motor circuit.
- Lift motor loads outside the automatic same-slip comparison do not receive the shore-power receptacle demand factor. All motors on one lift are treated as operating together. Maximum Simultaneous Lifts applies only between separate complete lifts, with one governing 25% largest-motor adder at each calculated feeder level. A limit below the connected lift count is a user-entered NEC 430.26 operating assumption that requires supporting documentation and AHJ acceptance.

Other Marina Load Assumptions

- Other Loads are added at 100% of the user-entered calculated volt-amperes and are not included in the shore-power receptacle count or marina demand factor.
- The entered VA must already include all applicable continuous-load multipliers, equipment-specific demand factors, motor requirements, lighting calculations, nonlinear loading, and other code or project adjustments. Do not enter unadjusted nameplate values unless that is the correct calculated load for the equipment.
- Panel or Substation loads are included in the selected downstream equipment demand and its upstream feeder. MDP Direct loads bypass the selected downstream panel or substation and are added only at the project MDP.

20. Assumptions And Notes, Continued

Other Marina Load Assumptions, Continued

- Each Other Loads row represents one branch circuit. Quantity is the number of entered load units served by that circuit, so branch load equals Calculated VA Each multiplied by Qty on Circuit. Enter separate rows when equipment is divided among separate branch circuits.
- Automatic phase assignment balances entered loads against calculated phase loading. Line-to-neutral loads use a one-pole branch, line-to-line loads use a two-pole branch, and three-phase loads use a three-pole branch. For a three-phase load, selecting a neutral includes four insulated conductors and conservatively counts all four as current-carrying for adjustment.
- Other-load branch planning uses the selected copper or aluminum phase conductors, PVC raceway, entered branch distance, source ambient temperature, assumed 75 C terminations, and a 3% voltage-drop target. The copper EGC is sized from the planning OCPD and is proportionately increased when phase conductors are increased for voltage drop.
- The reported branch OCPD, conductors, EGC, raceway, and voltage drop are planning values. Listed equipment MCA/MOCP, nameplate OCPD, disconnect, controller, neutral, harmonic, fault-current, conductor-temperature, manufacturer, utility, local amendment, and AHJ requirements always govern the final circuit.

Multi Panel Mode Assumptions

- Multi Panel mode starts the calculation boundary at the low-voltage landside MDP/switchboard and models downstream dock panels and pedestal loads. It does not model utility transformers or 480V marine substations.
- Multi Panel outputs are planning-level calculation aids only. They do not replace engineered service studies, fault-current studies, coordination studies, utility service requirements, manufacturer submittals, stamped construction drawings, or AHJ review.
- MDP demand is calculated from all downstream shore power receptacles served by the MDP, not by simply adding individual dock-panel demands.
- Dock-panel feeders are sized from each dock panel's calculated demand and reported as calculation aids. Final feeder, panelboard, overcurrent, neutral, grounding, bonding, and voltage-drop decisions must be reviewed by the engineer of record and AHJ.
- For 120/208V three-phase MDPs, single-phase dock-panel feeders are automatically assigned across A-B, B-C, and C-A to reduce phase imbalance. Three-phase dock panels retain their calculated A/B/C load split.
- The Multi Panel feeder schedule reports equipment grounding conductors (EGC) for feeders. The one-line and summary also show grounding electrode conductor (GEC) values for the MDP and dock panels as calculation aids.
- When 2026 NEC is selected, the report applies the demand percentages in Table 120.120. Verify the locally adopted edition, local amendments, and project-specific requirements.

20. Assumptions And Notes, Continued

Large Marina Mode Assumptions

- Large Marina mode starts the calculation boundary at the landside MDP/switchboard and models downstream marine substations and pedestal panel loads. Utility transformer sizing is reference-only and is not included.
- Large Marina outputs are planning-level calculation aids only. They do not replace engineered service studies, fault-current studies, coordination studies, utility service requirements, manufacturer submittals, stamped construction drawings, or AHJ review.
- MDP demand is calculated from all downstream shore power receptacles served by the MDP, not by simply adding selected substation kVA ratings.
- MDP-fed large pedestal loads are modeled as direct 480V or 277/480V three-phase shore power receptacles served from the MDP. They are included in the MDP receptacle count, demand factor, phase loading, and feeder schedule, but are not included in marine substation sizing.
- Marine substations are modeled as 480V single-phase primary to 120/240V single-phase secondary equipment. Transformer losses, inrush, impedance, bonding details, and manufacturer-specific requirements must be reviewed separately.
- Automatic phase balancing assigns single-phase 480V substation feeders across A-B, B-C, and C-A using calculated demand to reduce phase imbalance.
- The Large Marina feeder schedule reports equipment grounding conductors (EGC) for feeders. The one-line and summary also show grounding electrode conductor (GEC) values for the MDP and substation secondary panels as calculation aids.
- Grounding, bonding, separately derived system requirements, marina equipotential bonding, and local corrosion/environmental requirements must be verified by the engineer of record and AHJ.
- When 2026 NEC is selected, the report applies the demand percentages in Table 120.120. Verify the locally adopted edition, effective date, local amendments, and project-specific requirements.

20. Assumptions And Notes, Continued

Ground-Fault Protection (NEC Article 555.35)

- Ground-fault protection, leakage-current coordination, bonding, grounding, and corrosion-related requirements are life-safety items and must be reviewed by the engineer of record, equipment manufacturer, and AHJ.
- Article 555 ground-fault requirements vary by adopted NEC edition, receptacle type, feeder or branch-circuit location, equipment rating, marina configuration, device coordination, and local amendments. Verify exact GFPE/GFCI thresholds, testing, location, and coordination requirements with the adopted NEC edition and AHJ.
- Do not rely on this app to select, set, locate, or coordinate GFPE/GFCI devices. Manufacturer data, engineered coordination review, field testing requirements, and AHJ direction must control.
- Ground-fault protection devices should be installed in locations to minimize nuisance tripping and must be accessible for testing and maintenance.
- Consult the local AHJ to confirm specific ground-fault protection requirements, as they may impose additional or more stringent rules.

Legal And Liability Disclaimer

- By using this tool, you agree to indemnify and hold harmless Southern Electrical Solutions from any claims, liabilities, or expenses related to its use.
- This tool does not constitute professional engineering, legal, consulting, utility, manufacturer, or AHJ advice, and no attorney-client, engineer-client, or other professional relationship is formed.
- All outputs are estimates and calculation aids; actual installations must be designed, reviewed, approved, inspected, and accepted by qualified professionals and authorities with jurisdiction.
- Do not use any output for permitting, procurement, construction, installation, or energizing until it has been independently verified and approved for the specific project and jurisdiction.
- In the event of any conflict between this tool and official NEC or local codes, the official sources prevail.

21. Troubleshooting And Release Checks

When a result looks unexpected

- Confirm Project Mode, NEC Edition, serving equipment, voltage, material, ambient temperature, raceway, and distances.
- Confirm the correct panel, substation, or MDP is selected on each downstream tab.
- Confirm circuit IDs and pedestal-side layouts; repeated IDs create looped feeders.
- Confirm whether a boat lift is pedestal-fed, serving-panel-fed, or MDP-fed.
- Enter listed lift-controller Actual OCPD values when available and review every motor-feeder warning.
- Confirm Other Loads contain calculated VA rather than an unadjusted nameplate value.
- Recalculate after correcting inputs, then review Results and One-Line again before exporting.

Release and file notes

- Current guide version: 2.1.0.
- Project files use the .mlc format.
- Customer release builds require Gumroad license activation.
- A customer license is valid for 365 days from the Gumroad purchase date and requires periodic online verification. Reinstallation or replacement does not restart the term.
- Activation requires the user to review the displayed EULA, select the electronic-signature agreement checkbox, and choose Activate & Accept. A changed EULA requires affirmative re-acceptance without adding another Gumroad activation use.
- The Setup and Portable executables contain the same licensed application. The Portable file is not an unlicensed version.

Final reminder: when official NEC text, local amendments, project specifications, utility requirements, manufacturer instructions, or AHJ direction differ from this app, the official project requirements control.