



# CAL POLY

College of Architecture & Environmental Design  
Construction Management

# San Pedro Roman Catholic Primary School Photovoltaic Project (Belize)

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## ELECTRI INTERNATIONAL

THE FOUNDATION FOR ELECTRICAL CONSTRUCTION INC.



Figures 1, 2: Shipping crates being built (left), and crates ready to ship (right)

In December 2016, the California Polytechnic State University National Electrical Contractors Association (NECA) Student Chapter, along with Construction Management faculty and alumni/industry members, installed a photovoltaic system in San Pedro, Belize. This student-led team won the Student Passport Initiative grant from ELECTRI International, with the purpose of designing and constructing a photovoltaic system for the San Pedro Roman Catholic Primary School. This senior project will discuss the preconstruction tasks associated with the project, focusing mainly on maintaining the schedule, the installation of the system in-country, and lessons learned.

**Key Words:** Photovoltaic System, Scheduling, International Projects, Material Procurement



Figure 4: Completed PV layout



Figure 3: Student team members when material shipment arrived on-site

### The Project:

- 14-panel PV layout
- Inverter
- Automatic Transfer Switch (ATS)
- All necessary electrical connections to existing system

### The Purpose:

- Reduce dependence on the grid
- Encourage carbon neutrality
- Aim for net-zero energy consumption
- Better the community



Schedule Summary				
Milestone	Title	Scheduled Date	Actual Date	Location
1	Precon Trip	June 28-29, 2016	On Schedule	San Pedro, BZ
2	ELECTRI Presentation	June 30 - July 4, 2016	On Schedule	Napa, CA, USA
3	Final Design Complete	December 12, 2016	On Schedule	SLO, CA, USA
4	Shipping Crates Built, Materials/Tools Packed	Oct. 21, 2016	On Schedule	SLO, CA, USA
5	Shipment Sent Out	Oct. 25, 2016	On Schedule	SLO, CA, USA
6	Shipment from Port Everglades, FL	Nov. 24, 2016	Dec. 3, 2016	Ft. Lauderdale, FL, USA
7	Customs	Nov. 28 - Dec. 1, 2016	Dec. 7-12, 2016	Belize City, BZ
8	In-Country Travel	Dec. 2-4, 2016	Dec. 13-17, 2016	Belize
9	Shipment Arrives at Jobsite	Dec. 5, 2016	Dec. 17, 2016 (+12 days)	San Pedro, BZ
10	Team Arrives	Dec. 14, 2016	On Schedule	San Pedro, BZ

Table 1: Breaks down major preconstruction milestones in the project and illustrates whether the tasks occurred on or behind schedule.