



Substation Market: OP - RCS1523 Precast Shelter

# SEMINOLE ELECTRIC COOPERATIVE

## Control Enclosure

Palatka, FL

The intent of the SECI Riverview Substation project, located at the intersection of County Landfill Rd. and Cow Bay Rd. in Palatka, FL, was to design, engineer, fabricate, deliver and secure to Owner-supplied foundation, a substation Control Enclosure in preparation for a future project that will relocate existing DC batteries, communication equipment and protection and control facilities from within the existing Control Enclosure. In addition, Oldcastle Infrastructure provided the cable trench system.

### CONSTRUCTION CHALLENGE

Oldcastle Infrastructure was contracted to provide a - 23' long x 15' Wide x 11.6' High - precast concrete Control Enclosure with complete and functioning equipment and systems capable of safe and reliable operation

including electrical, lighting, building and equipment grounding, lightning protection and HVAC.

The cable trench system consisted of 30ft. Oldcastle Plastibeton High Density Polymer Concrete 2016 Drive-On Cable Trench complete with covers and 76ft. Oldcastle DUO Molded 2016 Pedestrian Trench complete with covers.

### PRECAST & TRENCH SOLUTION

The turnkey project involved the manufacturing and complete out-fitting of a bullet resistant, precast concrete OPI-RCS1523 Precast Shelter having 4 inch thick exterior walls with an exposed aggregate concrete finish. In addition, all equipment and systems were installed at the factory

### DESIGN & CONSTRUCTION TEAM

#### General Contractor

WorleyParsons  
TCI Sales

#### Owner

Seminole Electric Cooperative

#### Precaster

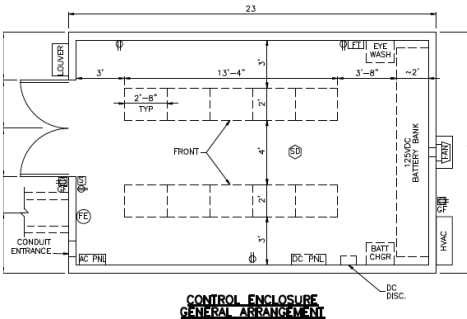
Oldcastle Infrastructure  
Shelter Solutions

#### Manufacturing Facility

Oldcastle Infrastructure  
Newnan, Georgia

Oldcastle Infrastructure  
Enclosure Solutions  
Cable Trench System

# Seminole Electric Cooperative Control Enclosure Palatka, FL



## SCOPE OF WORK Precast Structure

- A. STRUCTURAL ENGINEERING
  - Engineering: Provided complete product engineering services.
  - Drawings: Provided detailed engineering drawings.
  - Supervision: Provided an on site managing supervisor.
  
- B. PRECAST CONCRETE SHELL
  - Size: (1) RCS 1523 Precast Concrete Shelter  
 Outside Dimension - 23' long x 15' Wide x 11.6' High  
 Finished Inside Dimension - 21' 9" Long x 13' 9" Wide x 10' High  
 Approximate finished weight: ~76,000 pounds
  - Floor load: 200 PSF
  - Roof load: 85 PSF
  - Wind load: 150 MPH, Exp "C"
  - Bullet Resistance: UL752 Level 4 Equivalent (.30-06 at 15 Ft.)
  - Two Hour Equivalent
  - Up to 50% Gravity acceleration per IBC2006.
  
- Weight: \_\_\_\_\_
- Specifications: \_\_\_\_\_
  
- Fire rating: \_\_\_\_\_
- Seismic Zone: \_\_\_\_\_
  
- C. FINISHES
  - Exterior Walls: Solid Precast Concrete, 4" Thick, exposed aggregate with grey sealer and trim
  - Interior Wall & Ceiling: Nudo white 1/2" FRP board
  - Insulation: R-19 in the walls and R-30 in the ceiling
  - Floor: Grey slip resistant Thorocoat coating (floor insulation in foundation)
  - Roofing: White Elastomeric coating
  
- D. DOORS AND OPENINGS
  - Doors: (1) 6'-0" x 8'-6" heavy duty steel double door and frame, R-3.8 (Doors / frame galvanized, primed and enamel painted)
  - Locks: Cylindrical lockset with changeable core and interior panic bar
  - Other Door Hardware: (1) NRP Stainless steel hinges, anti pick plate; door holder, hydraulic door closer, weather strip, aluminum threshold, door sweeps, and surface bolts
  - Door Hood: (1) Door drip cap - 2 1/2" wide and full width canopy
  - Openings: Floor and wall block-outs determined by customer,
  - Telco Cable Entry: (1) 4 port Microflect waveguide entry panel
  
- E. POWER
  - Power Service: 200A 10 120/240V supplied by others
  - Main Distribution Panel: (1) SqD 200A 10 120/240V panel, 40 space, 22kAIC with main breaker
  - Surge Suppression: (1) SqD SDSA1175 integrated into MDP Convenience
  - Receptacles: (4) 20A, 120V
  - Exterior GFI Receptacle: (2) 20A, 120V
  
- F. ENVIRONMENTAL SYSTEM
  - HVAC: (1) Bard 2 Ton 10 HVAC Unit with 5kw heater, no economizer
  - Controls: (1) Automatic thermostat
  - Exhaust Fan: (1) Centrifugal fan, Grainger 4HZ34 with timer control and hood
  - Intake Louver: (1) 24" X 24" fixed aluminum intake louver with hood
  
- G. ALARMS
  - Alarms: (2) Door intrusion alarm switches, Honeywell S&C, DTE6-2RN2
  
- H. LIGHTING
  - Interior: (8) 4ft.- 2 Lamp (32W each) fluorescent light fixtures with acrylic lens covers
  - Exterior: (1) 70W HPS Exterior light with photocell, Grainger 2RGW8
  - Emergency: (1) Emergency fixture with dual 1.5 watt lamps, EXIT sign, 3 hour battery (Larger lamps not available with 3 hour battery)
  - Switches: (1) 20A light switch

before shipping. (See Scope of Work).  
 The RCS1523 Precast Shelter was manufactured and equipped at our Oldcastle Infrastructure - Newnan, GA facility and installed in the field by our Oldcastle Infrastructure Shelter Solutions Group.  
 The Oldcastle Cable Trench System was tied into an existing concrete trench system with a transition piece attaching Oldcastle Infrastructure's new cable trench system together with the existing concrete trench system.

**CONSTRUCTION SCHEDULE**  
**Start Date**  
 May 2012

**K. ADDITIONAL ITEMS**

Smoke Detector, GE 350CX; (1) Fire extinguisher, Grainger 4XP83; Tie down kit with anchors; (1) eye wash station, Grainger 1KW77; Interior and exterior cable ladder system per specification and drawing; (1) Trenwa # CR2212-120 enclosure

**TRENCH SOLUTION**

**Scope**

Oldcastle Infrastructure Enclosures Solutions provided the Cable Trench System for Seminole Electric's Riverview Substation Expansion project.

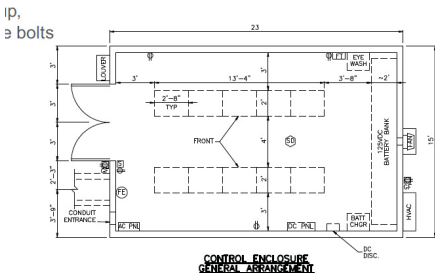
The Oldcastle Cable Trench System was tied into an existing concrete trench system with a transition piece attaching Oldcastle Infrastructure's new cable trench system together with the existing concrete trench system. The cable trench system consisted of 30ft. Oldcastle Plastibeton High Density Polymer Concrete 2016 Drive-On Cable Trench complete with covers and 76ft. Oldcastle DUO Molded 2016 Pedestrian Trench complete with covers. The Oldcastle trench system was installed by a construction crew hired by Seminole Electric and installed in between the existing substation cable trench system and attached into the new Oldcastle Infrastructure Control Building.

**Manufacturing**

The Oldcastle Enclosure Solutions Cable Trench System was manufactured and shipped from its Candiatic, QB, Canada Manufacturing Facility.

The Plastibeton Cable Trench System is designed and tested to support 40,000 lbs over a 10X10 square area and is manufactured utilizing a patented High Density Polymer Concrete material. With a combination of 6% resin and 94% stone, this 20,000 psi composite material does not absorb water, is not affected by acids, salts, chemicals with exceptional resistance to freeze/thaw cycles and is a dielectric material with no grounding required.

The Duo Pedestrian Cable Trench System is manufactured utilizing two composite materials and a patented manufacturing process. The Duo trench is the lightest most durable pedestrian trench system available today and is designed to withstand the lateral loads of passing vehicles without deflection and light enough to hand install.



**About Oldcastle Infrastructure**

Oldcastle Infrastructure, A CRH Company, is the leading provider of building materials, products and services for infrastructure projects to several market sectors nationwide, including: Building Structures, Communications, Energy, Transportation and Water.

**For More Information Contact:**

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