



RCS1020 Precast Concrete Shelters

MCNC/COMMSCOPE

Golden Leaf Rural Broadband Project North Carolina

New fiber build installation of approximately 2,000 miles of fiber optic cables throughout a 69 county area in the state of North Carolina. As part of the BroadbandUSA Initiative once complete the project will greatly increase the broadband capacity and stabilize bandwidth and Internet access costs for public school systems, community college campuses, libraries, universities, and other community anchor institutions.

Phase 1 required (2) two turnkey Co-Location Shelters to house the headend fiber network system.

Phase 2 required an additional (18) eighteen turnkey Co-Location shelter sites.



CONSTRUCTION CHALLENGE

In collaboration with MCNC, Commscope and the State of North Carolina Oldcastle Precast provided a “turnkey” solution for (20) different sites. Oldcastle’s scope of work consisted of the manufacturing, outfitting and installation of (20) twenty RCS1020 shelters along with foundations, fencing, power service, dc installation, racking and generators.

DESIGN & CONSTRUCTION TEAM

General Contractor

Commscope

Owner

MCNC

Contract Amount

\$3.7 Million

Precaster

Oldcastle Infrastructure

Manufacturing Facility

Oldcastle Infrastructure
Newnan, Georgia

MCNC/CommScope Golden Leaf Rural Broadband Project North Carolina



PRECAST SOLUTION

The turnkey project involved the manufacturing and complete out-fitting of Oldcastle Infrastructure's RCS1020 Precast Equipment Shelters with all specified equipment. In addition, the fully out-fitted shelters were shipped, installed and made fully functional at (20) twenty different locations in North Carolina. The RCS1020 shelters were manufactured at our Newnan, GA facility and foundations were installed in the field by our Oldcastle Services Group.

CONSTRUCTION SCHEDULE

Start Date

January 2012

Completion Date

Scheduled for September 1, 2012

SCOPE OF WORK

Precast Structure

A. STRUCTURE ENGINEERING

Drawings: Detailed engineering and drawings

B. PRECAST CONCRETE SHELL

Size: (1) RCS 1020 concrete shelter with waffle floor
 Concrete: 5000 psi concrete
 Outside dimension: 20'-0" Long x 10'-0" W x 10'-1" H
 Finished inside dimension: 19'-0" Long x 9'-0" W x 9'-0" H
 Weight: Approximate finished weight: 48,432 pounds
 Specifications:
 Floor load: 200 PSF
 Roof load: 60 PSF
 Wind load: 150 MPH, Exp "C"
 Bullet Resistance: UL752 Level 4 equivalent
 Fire Rating: 2 hour
 Seismic Zone: Up to 50% gravity acceleration

C. FINISHES

Exterior Walls: Exposed aggregate finish with tan trim
 Interior Walls & Ceiling: 1/8" FRP mounted on 1/2" board
 Insulation: R-11 on walls and ceiling
 Telco Board: (1) 4'x4' telco termination board; white
 Floor: Vinyl composition tile
 Roofing: Dura-cool coating

D. DOORS AND OPENINGS

Doors: (2) 3'-0" x 7'-0" heavy duty steel door & frame
 Locks: (2) Kaba – 5 key combination locksets,
 Door Hardware: NRP Stainless steel hinges, closer, pick plate, holder, weather stripping, door shoe & aluminum threshold
 Door Drip Caps: (2) Door drip caps – 2 1/2" wide
 Door Canopy: (2) Standard 3070 door canopies

E. POWER

Power Service: 200A, 1Ø, 120/240V
 Main Distribution Panel: 200A, 1Ø, main breaker w/ 42 positions "SQ D", breakers
 Exterior Disconnect: 200A, 1Ø, exterior disconnect
 Surge Suppression: (1) AC Data surge suppressor – AC2100NA
 Convenience Outlets: (8) 120v/20A duplex outlets
 Exterior GFI Outlets: (1) 120/20A outlet
 Twistlock Receptacles: (4) 120v/20A twistlock receptacles
 Automatic Transfer Switch: (1) Automatic Transfer Switch – Asco 300 Series
 Fiber Termination Panel: (2) Fiber Termination Panels
 Battery Plant: (2) 100A, Eltek Valere DC Battery Plants
 Standard Racks: (2) Standard racks
 Invertor: (1) 2000 Watt invertor

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Also Offering:

Real Estate Services

- Identification/Evaluation
- Due diligence
- Contract negotiation
- Representation at closing
- Real Estate Commissions

F. ENVIRONMENTAL SYSTEM

- HVAC: (2) 3 ton, 1Ø – Marvair HVAC units with 5kw heater, no economizer
- Controls: (1) Lead / Lag controller

G. ALARMS

- Alarms: (1) 25 pair alarm terminal box with Intrusion, smoke, power failure, HVAC fail and high/low temperature

H. LIGHTING

- Interior: (4) 4', double tube fl uorescent light fi xtures with lexan covers
- Exterior: (2) Exterior lights, 70 Watt HPS with photocell
- Emergency: (1) Emergency fi xture with dual fl ood lights
- Switches: (2) 20 amp light switches

I. CABLE LADDER

- Cable Ladder: 60 linear feet of 18" wide gold chromate cable ladder with supports and brackets
- Cable Brackets: 22 each cable brackets – Central Steel Part #ACB2ZY

Golden LEAF Rural Broadband Initiative

1,752 in newly-constructed or reconstructed fiber and 852 miles of IRU fiber. 2,604 total miles of new operational infrastructure. Expansion of NCREN will traverse 69 counties (67 completely or partially underserved).



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.

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