

Engineering Services

SERVICES

Broadband Viability and Feasibility Studies
 Loan and Grant Application Assistance
 Network Planning & Design for Fiber, Wireless, Hybrid
 Outside Plant Design Engineering (Architecture, Field Notes, Design, Permitting)
 GIS/CAD Services
 Construction Plans, Specs & Management

MARKETS

ILEC	Global Carriers
CLEC	OEM
Cable	Municipalities
Wireless	Utility
IXC	IOC
Small/Medium Businesses	

NETWORKS

Wireline	Cable
Wireless	LAN/WAN

ENVIRONMENTS

Central Office
 Headend/Hub
 Network Ops Center
 Outside Plant
 Switching Center
 Customer Premise
 APOP/Data Center

We identify and implement infrastructure solutions that meet your technical needs, timelines, and financial requirements!

CHR understands that traditional communications isn't just Voice, Data, and Video services anymore. Knowledge and expertise of current and emerging technology is our business, and our staff is experienced in applying those technologies to replace revenues that are eroding under pressure from changing demographics and competition. We don't provide a quick-fix, we partner with you every step of the way and work to provide long-term solutions.



CHR's designs build better in comparison to other Engineering companies.
 — a Utility Construction Vendor

Who Are We, You Ask?

CHR is a leading provider of engineering, billing software, and managed services for communications service providers. Our legacy was built by providing comprehensive services to the independent and rural carriers for all of their network and business needs. We have taken that knowledge and created specialized programs, most notable being Outside Plant, FTTx, wireless, access equipment, network and switching design. Our industry experts help clients grow revenue and reduce cost through operational efficiencies and enhanced customer experience.

Our Experience is Your Advantage

- 75+ years of service to communication providers
- Professional Engineers certified in 44 states
- Surpassed 2 million FTTx passings designed
- Secured over \$1.5 billion in private and government funding
- Completed over 300 RUS loan designs; helping clients acquire Federal funds
- Prepared applications and design engineering for 50+ RUS/FCC-funded projects

Why CHR?

CHR provides holistic program and project management and has the experience and success to deliver overall network deployment projects. We are an industry leader, with intimate knowledge of large and small broadband providers, including power coops, telco, and cable. Our infrastructure Engineers and Project Management resources are experienced in construction, which heavily influences our design methods, resulting in lower build costs.

CHR can deliver an end-to-end solution or a subset of individual projects, such as engineering designs. A project manager will be assigned to work with our subject matter experts to lead your project from beginning to end, delivering all aspects. We take on complete ownership of delivery, including managing all partner agreements and performance.

BUILDING THE FUTURE WITH BROADBAND



Professional Engineering, Field Services and Technology Expertise

CHR is experienced in applying current and emerging technologies to add revenue, improve efficiency, and reduce maintenance costs that service providers are experiencing. Uncertainty with high-cost support and pressure from competition requires an enhanced level of expertise and foresight. Our engineers are continually researching new and emerging technologies to ensure our clients have the information required to make informed decisions and partner with them to implement the solution. CHR will help you leverage and improve your existing infrastructure to support new services and sources of revenue.

CHR creates designs that can manage the transition from a legacy voice and long distance mentality to a data-driven, phased solution that has the end goal in mind. By utilizing 'Just in Time Designs,' CHR can be stewards of your engineering services budget.

Professional Engineering and Outside Plant

- Network Planning & Design
- PE Certification
- Plans & Specifications Preparation
- Complete Project Management
- Access Equipment Engineering
- Network Evolution Plans
- CAD/GIS Services
- RUS/Co-Bank Loans and Grant Applications
- Wireless Engineering
- Construction Management
- Outside Plant Engineering
- Grounding Audits

FTTx

- Active Ethernet
- GPON and RFOG
- Aerial and Buried
- Splitter Placement
- Service Integration
- Residential and Commercial Design and Deployment (including multi-dwelling)
- Product Recommendations
- OSP Layout and Design
- OSP Staking Services
- OSP Inspection Services
- Feasibility Studies

Data and Voice

- Transport Networks and DWDM
- TDM to IP Migration
- Network Design and Implementation
- Network Integration
- MPLS, VPLS, and VLANs
- Carrier Grade Softswitch Migration
- Voice over IP (VoIP)