

# Areas of opportunity.

## Services

### Construction

- Access Roads
- Antenna and Line Installation
- Collocation Site Construction
- Electrical
- Fiber Work
- Foundations
- Grounding
- Microwave Path Alignment
- Raw Land Site Construction
- Rooftop Site Construction
- Small Cell Network Construction (iDas/oDas)
- Tower Erection
- Tower Reinforcement
- Waveguide/Sweep Testing

### Construction Management

- Design/Build
- Materials Specification
- Permitting
- Pre-Construction Consultation
- Site Visit, Feasibility, Budget Analysis

### Consulting Services

- AM Detuning
- Drive Testing
- EME and NIR Studies
- Environmental Assessment: NEPA, Phase I & II, SHPO
- FAA 2C & 1A Certification
- Interference/Inter-Modulation Studies
- RF Emissions
- Site Acquisition:
  - Leases, Title, Regulatory
  - Compliance, Site Identification
- Surveying

### Engineering

- Certified Welding Inspections
- Construction Drawings
- Geo-Technical Reports
- Materials Analysis
- Modification Drawings
- Non-Destructive Testing:
  - Dye Testing, Level II Ultrasonic Testing (UT), Magnetic Testing (MT)
- Post-Construction Inspections
- Site Plans
- Structural Analysis
- Tower Mapping
- Zoning Drawings

### Repair & Maintenance

- Generator Maintenance
- Grounds Keeping
- HVAC Maintenance
- Lighting Service:
  - System Repair and Replacement
- Site Maintenance:
  - Compound Repair and Improvement
- Tower Audits/Inspections
- Tower Maintenance

### New/Emerging Market Services

- EF&I Services
- Fiber Optic Testing and Qualification (PMD/CD)
- Network and Inventory Audit (Fiber/Equipment/Facilities)

## Products

### Towers

- Accessories
- Antennas
- Antenna Mounts
- Grounding Products
- Ice Bridges
- Jumpers
- Transmission Lines

### Small Cell Network Construction (iDas/oDas)

- Antennas
- Conduits
- Enclosures
- Fiber Optic Cables
- Hand-Holes
- Lightning Protection
- Underground Electrical Vaults
- Wireless Networking Equipment

### Repair & Maintenance

- Batteries
- Concealed Communication Towers
- Electrical Supplies
- Equipment Shelters
- Flags
- Generators
- Hand Tools
- Locks
- Paint/Coatings
- Replacement Lamps
- Safety Equipment
- Signage
- Standard Communication Towers
- Testing Equipment
- Tower Construction
- Tower Lighting:
  - Dual, Medium Intensity, High Intensity, Red Systems, White Systems

## About Crown Castle

Crown Castle owns, operates and leases more than 40,000 cell towers and approximately 65,000 route miles of fiber supporting small cells and fiber solutions across every major US market. This nationwide portfolio of communications infrastructure connects cities and communities to essential data, technology and wireless service—bringing information, ideas and innovations to the people and businesses that need them.