1994-2014: 20 YEARS OF Telecommunications Services
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TELECOMMUNICATIONS OVERVIEW

As more and more of our nation connects through new and developing 4G hand-held mobile devices, we know that customer satisfaction is dependent on the quality and continuity of the carrier’s wireless infrastructure. Since the 1990s, we have kept pace with this ever-changing industry, offering a client-focused approach to delivering high-quality, efficient engineering services to assist with building wireless telecommunications networks. Our experienced professionals have worked on hundreds of new macro and micro sites and are skilled in designing site upgrades and modifications, as well as distributed antenna systems (DAS) and in-building projects.

Local and State Expertise with a National Footprint

We understand local and state codes and regulations in the regions we serve and have often worked with clients in developing and implementing community relations campaigns. Backed by the resources of a national company, we have the ability to deliver a full range of services on a fast-track basis.

Telecommunications Services:

- Distributed antenna systems
- Site design and installation
- Construction management
- Environmental services
- Geotechnical services
- Engineering services
- Structural analysis
- Photo simulations
- Expert testimony
- Switch buildings
- In-building sites
- Macro sites
- Micro sites
- Surveying
- Zoning
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The Early Years
Churches and Historic Buildings
This church houses a multi-level equipment area in the belfry. We designed the antennas for placement within the highest part of the existing fiberglass steeple.
Westminster Presbyterian Church
Alexandria, VA

For this historic church, constructed in 1952 with cornerstone laid by President Harry S. Truman, we engineered a partially submerged equipment area within the main courtyard with antennas installed in the steeple. In order to maintain a dry equipment area, we evaluated several alternatives which resulted in a complex sump pump design.
We analyzed an existing equipment platform to accommodate an LTE expansion and designed a new layout for the LTE expansion cabinet and antenna shrouds in the steeple.

Neshaminy Church
Neshaminy, PA
We located antennas behind the opaque glass within the tower and equipment inside the building to improve coverage with no aesthetic impact on this historic campus.
The current facility was rebuilt after a 1984 fire. We designed a fiberglass replica of the church spire, re-installed antennas and added additional equipment in this confined space.

West Newbury Congregational Church
West Newbury, MA

The current facility was rebuilt after a 1984 fire. We designed a fiberglass replica of the church spire, re-installed antennas and added additional equipment in this confined space.
Our design for a facility within this historic building accommodated an internal back-up generator in one tower and HVAC equipment in another, as well as fire protection systems throughout the entire development area.
Challenged with adding a fourth carrier within a structurally and logistically limited space, we designed additional reinforcements over the sanctuary to accommodate needed equipment near the rear of the church.
Our innovative design raised the existing fiberglass replicate hose tower by four feet to allow an additional carrier to use the same structure. The roof was temporarily removed and extension installed in a matter of hours with equipment located mid way up the tower.

Lyons Ambulance Station
Danvers, MA

Our innovative design raised the existing fiberglass replicate hose tower by four feet to allow an additional carrier to use the same structure. The roof was temporarily removed and extension installed in a matter of hours with equipment located mid way up the tower.
For ease and speed of construction, we designed this church installation to include equipment cabinets located in a third level space under the clock section with antennas in the oval windows below the steeple.
Due to limited space, we designed a custom garage accommodating telecommunication equipment in the basement with two generators and church storage on the ground level. Underground coaxial cable is routed to the church where a fiberglass replacement steeple houses the antennas.
Installing BTS equipment above the main entrance in the base of the steeple recently helped improve the façade of this church. We used the space behind new fiberglass louvers near the top of the steeple to install the telecommunications facility.
For this steeple replacement, we designed the “paint to match” coaxial cable run to match various building finishes. The antennas are placed within the steeple with BTS equipment located out of sight in the basement.
Antennas were placed in the bell level of this contemporary church. We designed the antennas to mount in the empty space between the columns and blend with the surroundings. A BTS equipment shelter was constructed in the basement of the church.
Stadiums, Convention Centers, and Special Events
Due to the high volume of calls during baseball games, we designed a distributed antenna system (DAS) to ensure adequate cell coverage throughout the park as well as blend with the existing surroundings. We expanded the existing shelter located on the roof of the parking garage and installed several antennas throughout the ballpark. We also designed a natural gas generator for backup power.

**Fenway Park**

Boston, MA

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20 Years of Telecommunications Services | Stadiums, Convention Centers, and Special Events

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Dewberry
The latest in our portfolio of sporting venues, TD Garden’s new distributed antenna system enables mobile service within the confines of the arena.
Surrounded by world-class shopping, dining, attractions, public transportation, and other amenities, the 193,000-SF convention center technology upgrade included design of a 1,850-SF head end data center in the basement level that supports a building-wide neutral host distributed antenna system (DAS) to provide a state-of-the-art high capacity wireless voice and data.

**John B. Hynes Convention Center**

Boston, MA

Surrounded by world-class shopping, dining, attractions, public transportation, and other amenities, the 193,000-SF convention center technology upgrade included design of a 1,850-SF head end data center in the basement level that supports a building-wide neutral host distributed antenna system (DAS) to provide a state-of-the-art high capacity wireless voice and data.
In order to meet growing demand during college football season, we designed a distributed antenna system (DAS) and secondary equipment room on the ground floor of Alumni Stadium. The room houses power, HVAC, and fiber optic cables. Multiple antenna locations around the stadium include Conte Forum.

Boston College Alumni Stadium
Boston, MA

In order to meet growing demand during college football season, we designed a distributed antenna system (DAS) and secondary equipment room on the ground floor of Alumni Stadium. The room houses power, HVAC, and fiber optic cables. Multiple antenna locations around the stadium include Conte Forum.
With thousands of people in the area, we designed a temporary cell on wheels (COW). This mobile unit was installed in a centrally-located area to provide sufficient coverage, but as unobtrusively as possible to the adjacent National Museum of American History. Electrical service included 390-LF of underground conduit.
We installed equipment on an existing catwalk platform above the arena and mounted LTE equipment and antennas to the catwalk. A four-day construction schedule was required to work around a busy season of activities at the arena.

Verizon Center
Washington, D.C.

We installed equipment on an existing catwalk platform above the arena and mounted LTE equipment and antennas to the catwalk. A four-day construction schedule was required to work around a busy season of activities at the arena.
We installed a temporary cell site with a 104-foot-tall monopole outside the University of Maryland’s Cole Field house over an existing concrete duct bank. Included several test pits to locate existing duct bank, sewer, telephone, gas and fiber optic cables within 30 feet of the site, requiring a subsurface exploration and geotechnical/structural investigation and analysis.
With thousands of race participants alone spending a week in the area, as well as over 35,000 fans each day over the three-day event, our client wanted to ensure adequate cell coverage. We designed a temporary cell on wheels (COW) with connection to a generator at an existing hotel parking garage, as well as a steel support frame for the “bread truck” style unit.

Grand Prix Cell on Wheels
Baltimore, MD

With thousands of race participants alone spending a week in the area, as well as over 35,000 fans each day over the three-day event, our client wanted to ensure adequate cell coverage. We designed a temporary cell on wheels (COW) with connection to a generator at an existing hotel parking garage, as well as a steel support frame for the “bread truck” style unit.
We were tasked with locating three additional panel antennas on the roof of the existing building, as well as additional equipment. This task was particularly challenging given the hotel’s massive 18-story, glass-enclosed barrel-vaulted atrium.
Our design of a wireless distributed antennas system (DAS) provides in-building coverage to customers and employees within the BNY Mellon Center building, a 54-story skyscraper. Our designs included a head end room located in the building and build out of structural, mechanical, and electrical systems and architectural features.
Natural Settings
We designed a 120-foot-tall tree monopole with additional branches added to meet the existing tree canopy for this municipal complex. Specially designed red brick equipment shelters with Spanish tile roofs were required by three carriers and the township.

**Benards Township Monopole**

Somerset County, NJ

We designed a 120-foot-tall tree monopole with additional branches added to meet the existing tree canopy for this municipal complex. Specially designed red brick equipment shelters with Spanish tile roofs were required by three carriers and the township.
Wagner Circle
Annapolis, MD

To increase capacity, we designed a unique laminated wood Baltimore Gas and Electric utility pole replacement that blends with the neighborhood. The pole’s proximity to an existing AM transmission tower required the design to locate and protect the existing ground grid as well as installation of detuning equipment on the pole itself.
In order to bring reliable wireless service to this rural town, we located an equipment shelter and generator at grade within a new fenced compound and antennas mounted on the existing Cohasset water tank. We also installed a driveway extension to improve the access to the site.
Responding to a State Historic Preservation Office determination that the project would have an adverse visual impact, we designed a context-sensitive solution—a barn constructed to house equipment while blending into the local countryside. Wireless service is now available in the northern end of the Washington Valley.

Mendham Wireless Facility
Mendham, MA
A new 95-foot-tall silo located on an existing farm in rural New Jersey provides a fiberglass enclosure designed for one current carrier and two future carriers. The equipment is located inside the silo on the ground floor while the two future carriers will be able to construct equipment platforms or equipment rooms on the second and third story of the silo.

Long Valley Silo
Washington Township, NJ

A new 95-foot-tall silo located on an existing farm in rural New Jersey provides a fiberglass enclosure designed for one current carrier and two future carriers. The equipment is located inside the silo on the ground floor while the two future carriers will be able to construct equipment platforms or equipment rooms on the second and third story of the silo.
We worked in conjunction with the water tank designers to develop the antenna mounting design. Based on information we provided, the water tank design was modified to accommodate the antennas.
We designed 110-foot monopole tree with antennas less than 30-inches from the pole to blend with the Historic Washington Valley District and the existing campus of this private high school.
We designed an access road with retaining walls for this monopole tree on a challenging site.
We designed the installation of a 120-foot monopole and its associated gravel access road. In addition to the site design, we prepared photo simulations for the town of Worthington to consider the various tower types available.
We designed the installation of a 110-foot-tall monopine, fenced compound, and gravel access road in Francestown, located in the beautiful Monadnock Region of southern New Hampshire. We provided a stormwater analysis and pollution prevention plan, and coordinated balloon floats and photo simulations at the request of the town in order to garner community support for the project.
We began the design of this antenna installation in January 2012, traveling to the summit with Park Rangers in a snow tractor. The antennas are encased in a 10-foot-tall fiberglass extension, which was connected to the top of an existing tower. With winds exceeding hurricane force an average of 110 days per year, this was anything but a typical design.
In this picturesque area of New Hampshire, we designed a tower to blend with the surrounding natural environment and maintain a local homeowner’s view.
Our design of a telecommunications tower disguised as a flag pole adds to the character of a nearby shopping area.

**Midway Shopping Center**

Scarsdale, NY

Our design of a telecommunications tower disguised as a flag pole adds to the character of a nearby shopping area.
A 50-foot flag pole becomes a telecommunications tower atop this former warehouse. We developed the shelter on the roof to blend with the structure without detracting from its curb appeal.
Faux/Brick Installations
At an abandoned coal plant in the historic town of Chambersburg, PA, we designed a new site where antennas are mounted to the existing smoke stack and the equipment shelter is located on the existing abandoned elevated railroad line.

Ervin Drive Chimney Site
Chambersburg, PA

At an abandoned coal plant in the historic town of Chambersburg, PA, we designed a new site where antennas are mounted to the existing smoke stack and the equipment shelter is located on the existing abandoned elevated railroad line.
Increased smart phone usage by students and limited coverage led to the design of this fiberglass penthouse housing a steel equipment platform, radio equipment, and a hidden sector of antennas. We designed a second sector in a custom low-profile fiberglass chimney.
In adding another carrier to this theater, we designed a false chimney and flue pipe.
BTS equipment is located in the basement.

The Riverside Theater
Boston, MA

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Nativity Catholic School
Washington, D.C.

Designed to blend with the architectural fabric of the surrounding community, we used a smaller cupola on a nearby building as a reference for the site design.
For this new site, we located outdoor equipment within an existing parking spot with a canopy. Antennas were designed to match the existing vent pipes on the roof and mounted to the parapet wall.
We designed six chimney-mounted antennas on a historic building. To reduce the aesthetic impact on the building, our designs included custom made antenna mounts and an equipment shelter at grade.
We coordinated with the laboratory's engineers and architects to develop antenna mounting designs that would fit with the character of the iconic building. We located the carrier's equipment within a mechanical penthouse, which was modified to accommodate the equipment. We also provided additional upgrades at the site as part of the UMTS improvement project.
As part of continuing UMTS upgrades, we placed antennas on this smoke stack and added additional equipment to the facility, as well as other improvements.
Disguised Cellular Tower Design
West Medford, MA

From an alternate angle, it’s easy to see that the new false chimney mounted to the rear of this historic building. BTS equipment was fenced in at the back lot.
For this rooftop site, we mounted four false chimneys directly to the roof structure. The shelter was placed at grade within a compound near the back of the property, while cables were placed in a matching tray in the building's corner.
Jamaicaway
Boston, MA

In this residential area, we used real brick veneer for the stick-built rooftop shelter with FM-200 fire suppression installed.
Downtown Fitchburg
Fitchburg, MA

Designs for this complex site included a shelter adjacent to the building, a screened generator on the mid-level rooftop, and a faux penthouse.
We were challenged with installing additional equipment on the roof of this residential building, ultimately including a false chimney to blend with the historic neighborhood.

175 Beacon Street
Somerville, MA

We were challenged with installing additional equipment on the roof of this residential building, ultimately including a false chimney to blend with the historic neighborhood.
Rooftops

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This rooftop LTE upgrade site required coordination with Capitol police, the Architect of the Capitol, and Rayburn staff. The project was fast tracked through the coordination of all parties to be upgraded for LTE and on air by the 2013 inauguration to cover the Capitol Building.
Dewberry’s headquarters complex has grown over the past 45 years to two buildings and a parking garage, housing 700 employees. As our firm has grown, so has the demand for telecommunications services.
Nestled on the roof of a structure in Copely Square, a popular tourist destination, the facility is almost invisible to the average pedestrian without using any fiberglass concealment. We also located the shelter, generator, and antennas on the roof.

Charles Mark Hotel
Boston, MA

Nestled on the roof of a structure in Copely Square, a popular tourist destination, the facility is almost invisible to the average pedestrian without using any fiberglass concealment. We also located the shelter, generator, and antennas on the roof.
In midtown Manhattan, outdoor equipment on an existing steel frame was abandoned by another carrier. We retrofitted the frame to accommodate new carrier equipment. We designed an antenna and cable tray layout so that New York City Fire Department review and approval of the roof plan was not required.
We designed an addition of three panel antennas on an existing penthouse and added equipment within an existing shelter at this federal office building.

U.S. Department of Education Building
Washington, D.C.

We designed an addition of three panel antennas on an existing penthouse and added equipment within an existing shelter at this federal office building.
We designed three unique antenna mount designs and an equipment room build out on the third floor of this Manhattan building. We obtained Fire Department of New York (FDNY) approval for roof access and navigation over and around utility equipment in case of an emergency.
Located in Boston’s historic financial district, the Post Office Square area demands a high level of telecommunications services. We designed a rooftop installation that included a false chimney in order to blend with the historic surroundings.
We designed this rooftop application to be placed behind false vents and screen walls, obscuring the facility from the popular courtyard below.

Regis College
Weston, MA

We designed this rooftop application to be placed behind false vents and screen walls, obscuring the facility from the popular courtyard below.
We designed the installation of four antennas on the roof of the building, including additional equipment in the interior equipment room.
We designed an equipment shelter and low profile false flue canisters for this MIT building to meet coverage objectives for both the University and surrounding areas.
Perched high above historic Revere Beach, north of Boston, we designed a screen wall to hide any evidence of equipment cabinets on the roof, allowing residents continued enjoyment of their views.

The Breakers
Revere, MA
For this rooftop site, the equipment frame was mounted to the roof structure. We designed a special antenna frame for two of the three sectors to match a similar existing installation.
We designed an equipment platform to meet the growing voice and data demands of students and facility in the heart of MIT’s campus.
In order to upgrade the existing antenna system to support LTE antennas and equipment, we designed equipment placement and 18-foot-tall tripod masts in an extremely confined area of this federal office building.
We designed the upgrade of the existing antenna system to support LTE antennas and equipment. We mapped areas within confined spaces above the tunnels and within the tunnel air supply and exhaust vents.

**Fort McHenry Tunnel**

Baltimore, MD

We designed the upgrade of the existing antenna system to support LTE antennas and equipment. We mapped areas within confined spaces above the tunnels and within the tunnel air supply and exhaust vents.
We designed the upgrade of the existing antenna system to support LTE antennas and equipment. We mapped areas within confined spaces above the tunnels and within the tunnel air supply and exhaust vents for this nearly 1.25-mile-long tunnel that carries 24 million vehicles per year along I-895.
This was Dewberry’s largest telecommunications project in scope, and the largest highway DAS of its kind, providing the tunnel with wireless phone and data services, 911 emergency response, and revenue for both the carriers and Massachusetts Department of Transportation.

Central Artery Tunnel
Bedford, MA