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TECHNOLOGY ISSUES

Real Estate Issues In the Cellular Industry

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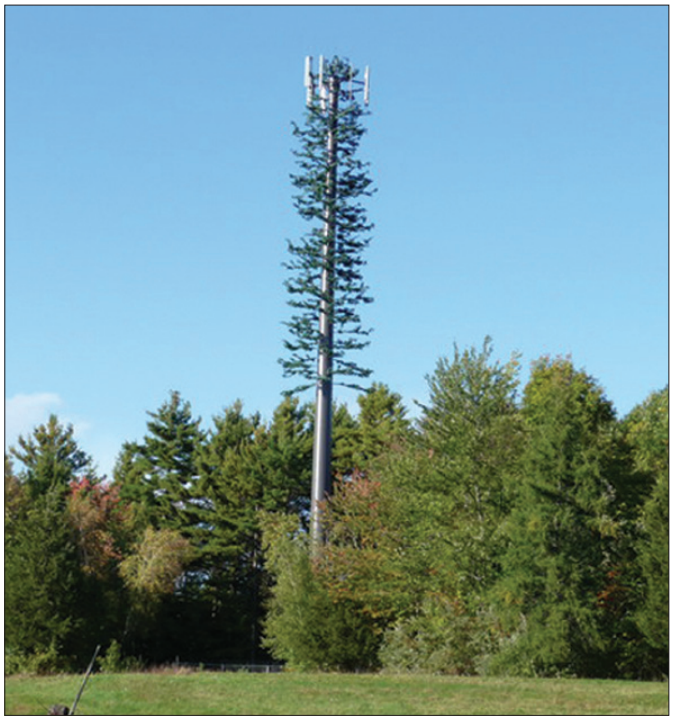
Wireless devices allow the user to remain connected to the world without being tied down to a particular place. However, this freedom to roam is wholly dependent on technology that, in order to function effectively, relies on numerous parcels of real property at locations around the world. Indeed, according to CTIA—The Wireless Association, there were 285,561 cell tower sites in service as of June 2012 in the United States alone. This article will describe the real estate interests that underlie the operation of the cellular communications industry.

Cell Phone Technology

Before examining the real estate aspects of mobile technology, it is worthwhile to provide a brief crash course on how mobile devices work. Mobile phones are essentially fancy radios—they receive and transmit signals at frequencies allotted to the mobile carrier on whose network they operate. When a call is placed, a mobile phone uses these signals to communicate with the antennas mounted on the nearest cell tower. The signal then travels from the antenna down the cell tower via cables and into a base station. The base station then passes the signal along via a hard wired connection (i.e., a landline) to a switching center, where the process will, if the call is being made to another mobile phone, essentially be reversed.

As anyone who has taken a long road trip prior to the days of satellite radio knows, radio signals degrade as they emanate further from their source. This is true for cell signals as well. In addition, although the broadcast range of an antenna may reach five miles or more in a flat, open area, this will diminish significantly as the terrain becomes more obstructed by buildings, trees, hills and other physical features. Because of the need for uninterrupted cell phone service at all locations throughout a market, carriers seek to situate their antennas at a multiplicity of cell towers, often in relatively close proximity to each other.



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Features of a Cell Tower Site

A cell tower site typically consists of a small parcel of land (often between 2,500 and 3,600 square feet in size) containing a tower and shelter enclosed by a security fence. In the United States, each parcel is generally linked to the power grid, although it may contain one or more generators that can be used in the event that grid power becomes compromised. Each parcel typically has a hard wired connection (via fiber optic or copper cable) to the telephone network.

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The central physical feature of a cell site is the tower, on which the antennas are mounted. Towers come in a variety of shapes and sizes, including steel lattice towers, guyed wire towers, tubular poles and stealth structures (e.g., fake trees, flagpoles, etc.). Cell sites may also consist of antennas mounted on rooftops, water towers, billboards or other tall structures. A tower's capacity to hold antennas will vary based on a number of factors, including the structure type, tower height and the tower design capacity (that is, the amount of weight and windload (i.e., the force exerted on the antennas, and consequently the tower, as a result of wind) of the antennas that a tower is designed to support); some towers are capable of holding only one carrier's antennas, while others may hold multiple carriers' antennas.

Each cell site also typically contains one or more shelters in which to locate communications equipment. A shelter houses the transceivers, amplifiers, other transmission equipment and back-up batteries that comprise a carrier's base station. Because the use of these components generates a significant amount of waste heat, a primary feature of each shelter is an HVAC system to maintain an optimum operating temperature. The number of shelters on a site may vary depending on a variety of factors including the number of carriers using such cell site, whether a carrier uses indoor communications equipment that requires a shelter or outdoor communications equipment that is installed in unsheltered cabinets and whether multiple carriers are willing to share a shelter.

Real Estate of Cell Towers

Because cell sites typically utilize only small parcels of land that are not separately subdivided, it is most common for a cell site to be ground leased rather than owned in fee. Historically, carriers would enter into these ground leases directly with the landowners and then construct the towers and shelters necessary for their own network operations. As the wireless telecommunications industry has developed, however, many carriers have raised cash by selling their towers to tower companies that have been formed to own, operate and manage cell sites. These tower companies—which also construct their own cell sites—act as tower landlords, leasing space on the tower and ground at each cell site to multiple carriers.[1] Accordingly, the real estate documentation of a cell site can be broken down into two main components: the ground lease for the cell tower site and the site lease with the carrier for space on the tower (for the carrier's antennas) and on the ground (for the carrier's base station).[2] In addition, tower companies and carriers often enter into build-to-suit agreements whereby a tower company will agree to construct new cell sites for a carrier's use.

While these ground leases and site leases both contain normal lease clauses relating to rent, term, events of default and the like, there are a number of provisions in these documents that are industry-specific. In the ground leases, these include provisions relating to subletting and assignment and use and access. In site leases, they include provisions defining the carrier's leased space, placing parameters on the amounts and types of equipment that can be installed, managing interference with broadcast signals among multiple carriers and ensuring compliance with regulatory requirements. Each of these issues is discussed in greater detail below.

Ground Lease—Subletting and Assignment. The right of a tower company to sublease space at a cell site is of paramount importance, as it goes to the heart of the tower company's business. A tower company will seek an unrestricted ability to enter into site leases with carriers that permit the carriers to install and operate their equipment at a cell site. A tower company will also seek an unfettered right to assign the ground lease in the event that it desires to sell the cell site in the future. Recognizing the significance of these rights to tower companies, lessors typically permit subleasing and assignment without limitation.

Ground Lease—Use and Access. A ground lease will frequently prescribe the types of activities that can be performed at the property. Often, this will be narrowly tailored to limit the tower company's use of the property to activities necessary for the construction, maintenance and operation of the cell site. The ground lease generally will also provide for an easement to permit the tower company to connect the cell site to hardwired telephone networks and the power grid.

The right to access a cell site is also critical. A ground lease typically provides the tower company with an easement for vehicular and pedestrian access to the property. A tower company will want to ensure that it (and the carriers) have the right to access the property 24 hours per day, seven days per week, as such access may be necessary to address on-site emergencies. Depending on the activities conducted on the ground lessor's other property, some access restrictions may be imposed (e.g., if a cell site is located on church property, no access may be permitted during Sunday morning services).

Site Lease—Leased Space. The space leased to a carrier pursuant to a site lease typically consists of a portion of the tower and ground space at a cell site. The tower space is generally identified by a specified height on the tower at which the carrier will be permitted to

install its equipment (such height is generally referred to as a RAD center). A carrier will often be granted an area on the tower above and below its RAD center (three feet or so on either side) in which it can place its antennas. A carrier will also have the right to run cables from its antennas down the mast to its ground-based equipment. It is also not uncommon for a carrier to have the right to install microwave dishes used to transmit cellular data when a landline is not available.

A site lease will also provide a carrier with the right to use ground space at a cell site. In some instances, this will consist of the right to use space of a specified size (commonly approximately 200 square feet) to install a shelter (or, if outdoor cabinets can be used, approximately 50-150 square feet to accommodate the carrier's base station). In other instances, the tower company may have already installed shelters at a cell site, in which case a carrier will be granted the right to install its equipment in such a shelter. For cell sites with limited ground space, the site lease may provide that the tower company has the right to permit shelters to be stacked on top of each other.

Site Lease—Limitations on Equipment. Although a carrier will be granted a defined space in which to locate its antennas on a tower, this does not necessarily mean that the carrier has free reign to install equipment within its space. Rather, a site lease will generally provide for limitations on the number of antennas and cables that a carrier can place on a tower. Frequently, these limitations are expressed in terms of a fixed amount of windload which the carrier's equipment may not exceed. This provides the carrier with flexibility in its configuration of antennas, as, absent other restrictions in the site lease regarding the substitution of antennas (as discussed below), the carrier will be permitted to modify its equipment from time to time as technology changes so long as it remains within its allotted windload capacity. Alternatively, the site lease may specify the exact number and size of antennas and cables that a carrier may install at a cell site.

Because the installation, modification, replacement or removal of equipment from a tower affects the overall loading of a tower, a tower company will frequently impose conditions on a carrier's right to make any such changes. A carrier will often be required to submit an application for approval by the tower company (including the payment of a processing fee), which application may require the performance of a structural analysis of the tower to ensure that the proposed changes will not cause the design capacity of the tower to be exceeded. Often, a carrier will be given the right to perform structural alterations to a tower in order to install equipment with a greater windload.

Site Lease—Interference. One of the primary concerns for a carrier collocating at a cell site with other carriers is that another party's equipment may cause radio interference with its communications equipment. As a result, site leases generally include a first-in-time, first-in-right clause that provides that, in the event of interference, the communications equipment first installed at a cell site takes precedence over subsequently installed communications equipment. Under such a provision, a carrier is obligated to cure any interference caused by newly installed equipment or remove the offending equipment within a specified time period (and the tower company is obligated to cause any other carrier that may be the cause of such interference to do the same).

Site Lease—Regulatory Requirements. In general, a site lease will provide that each party is responsible for obtaining the licenses and permits, including those relating to Federal Communications Commission (FCC) and Federal Aviation Administration (FAA) regulations, required to be obtained by it. The tower company will also have the responsibility of complying with FAA tower lighting regulations, although a carrier may be granted the right to install equipment to monitor the lighting system serving the tower to ensure the tower company's compliance. Additionally, the tower company will be obligated to install barriers restricting access to a cell site and signage warning of the dangers of radiation exposure and electrocution at all points of entry to the cell site in accordance with FCC regulations.

Build-to-Suit Agreements. Build-to-suit agreements, which are agreements between tower companies and carriers for the construction of new cell sites, are broadly similar to other types of construction contracts in that they provide for performance in accordance with plans and specifications based on an agreed-upon schedule (and the imposition of liquidated damages for failure to meet the schedule). However these agreements also have industry specific components. These include provisions governing how a tower company identifies locations suitable for a carrier's network needs and the allocation of responsibility between the parties related to obtaining zoning and other approvals with respect to the construction of a new cell site. In addition, a build-to-suit agreement will obligate the carrier to enter into a site lease with respect to the newly constructed cell site upon completion of construction.

1. For ease of explanation, this article will assume that a tower company is acting as the ground lessee and tower landlord.

2. Because tower companies own numerous towers on which a particular carrier may seek to use space, these site leases frequently consist of a master lease agreement between the tower company and the carrier that is then supplemented with lease schedules for each particular cell site that becomes subject to the agreement.