

**ORANGE COUNTY PLANNING DEPARTMENT
131 W. MARGARET LANE, SUITE 201
HILLSBOROUGH, NORTH CAROLINA 27278**



**AGENDA
ORANGE COUNTY PLANNING BOARD**

**WHITTED MEETING FACILITY
300 WEST TRYON STREET, SECOND FLOOR
HILLSBOROUGH, NORTH CAROLINA 27278**

Wednesday, April 9, 2025

Ordinance Review Committee – 6:00 p.m.

Note: This Ordinance Review Committee (ORC) meeting is for Planning Board members who would like to attend. Attendance is not mandatory and a quorum is not necessary for the ORC meeting.

No.	Page(s)	Agenda Item
1.		CALL TO ORDER
2.	2 - 12	UNIFIED DEVELOPMENT ORDINANCE (UDO) TEXT AMENDMENT – RESIDENTIAL SOLAR ARRAYS - To review Planning Director-initiated amendments to the UDO pertaining to residential solar arrays. Presenters: Pat Mallett, Deputy Director – Development Services and Amy Eckberg, Sustainability Projects Manager
3.	13 - 65	UNIFIED DEVELOPMENT ORDINANCE (UDO) TEXT AMENDMENT – TELECOMMUNICATION FACILITIES - To review Planning Director-initiated amendments to the UDO pertaining to telecommunication facilities. Presenter: Pat Mallett, Deputy Director – Development Services and Consultants
4.		ADJOURNMENT

**ORANGE COUNTY
PLANNING BOARD ORDINANCE REVIEW COMMITTEE
ACTION AGENDA ITEM ABSTRACT**

Meeting Date: April 9, 2025

**Action Agenda
Item No. 2**

SUBJECT: Unified Development Ordinance (UDO) Text Amendment – Solar Array Residential and Accessory Standards

DEPARTMENT: Planning and Inspections

ATTACHMENT(S):

1. Proposed Amendments

INFORMATION CONTACT:

Amy Eckberg, Sustainability Program Manager, (919)-245-2626
Patrick Mallett, Deputy Director, Development Services, (919) 245-2577
Nicholas Stover, Planner I, (919)-245-2599
L. Karina Nabors, Sustainability Specialist, (919)-245-2637

PURPOSE: To review and comment upon a proposed County-initiated Unified Development Ordinance (UDO) text amendment regarding Solar Array Residential and Accessory Use Standards.

BACKGROUND: The Orange County Planning Department, in partnership with the Sustainability Office, has initiated amendments to UDO Sections 5.2 (Table of Permitted Uses), 5.9.6 (Solar Array), and Article 10 (Definitions). The proposed amendments are intended to be comprehensive in addressing overly complex text, and to improve interpretation and application for both staff and applicants.

This amendment represents the first update to the solar standards since the adoption of UDO Section 5.9.6: Solar Array on November 8, 2012. Because best practices surrounding solar array residential and accessory standards have since changed, the County staff has identified the need to update the language to reflect current practices.

The Orange County [Strategic Plan](#) identifies "Environmental Protection and Climate Action" as the first priority with the objective of "identify[ing] the priorities and resources necessary to implement the Climate Action Plan." [Orange County's Climate Action Plan](#) prioritizes solar energy adoption as a foundational strategy for achieving our renewable energy goals and reducing greenhouse gas emissions. Strategy BE 2.5.1 of the Climate Action Plan specifically calls for "implement[ing] an expedited permitting process for all new solar projects across the county." The purpose served by this text amendment is to carry out these objectives.

As part of our commitment to advancing solar energy, Orange County earned a SolSmart designation, recognizing our efforts to make solar more accessible. By updating the UDO with best practices in solar zoning, we can eliminate regulatory obstacles, simplify permitting, and provide greater clarity for property owners. These updates will further our SolSmart goals, directly support BE 2.5.1, and ensure faster approvals, reduced administrative burdens, and a smoother transition to clean energy for our community.

In compliance with the [Orange County-Chapel Hill-Carrboro Joint Planning Land Use Plan and Agreement](#), the proposed amendments were sent to both towns for comment on March 27, 2025. To date, no comments have been received.

Proposed text amendment language can be found in Attachment 1 within a “track changes” format.

FINANCIAL IMPACT: Consideration and approval will not create the need for additional funding for the provision of County services. Existing staff, included in the Departmental staffing budget, will accomplish the work required to process this amendment.

RECOMMENDATION(S): Planning staff recommends the Ordinance Review Committee review and comment upon the proposed amendments to the UDO.

Attachment 1

The following packet details the proposed modifications to Solar Array Residential and Accessory Standards. Proposed revisions include simplification of ordinance language to better interpret and administer provisions for both staff and applicants.

Within this amendment package:

- **Red Underlined Text**: Denotes new, proposed text that staff is suggesting be added to the UDO.
- **~~Red Strikethrough Text~~**: Denotes existing text that staff is proposing to delete.

Only those pages of the UDO impacted by the proposed modification(s) have been included within this packet. Some text on the following pages has a large “X” through it to denote that these sections are not part of the amendments under consideration. The text is shown only because in the full UDO it is on the same page as text proposed for amendment or footnotes from previous sections ‘spill over’ onto the included page. Text with a large “X” is not proposed for modification.

Please note that the page numbers in this amendment packet may or may not necessarily correspond to the page numbers in the adopted UDO because adding text may shift all of the text/sections downward.

Users are reminded that these excerpts are part of a much larger document (the UDO) that regulates land use and development in Orange County. The full UDO is available online at: <https://www.orangecountync.gov/3040/Unified-Development-Ordinance-UDO>.

TABLE OF PERMITTED USES																																								
		* = PERMITTED USE										Δ = SUBJECT TO USE STANDARDS										S = SPECIAL USE																		
USE TYPE		CONVENTIONAL ZONING DISTRICTS																ECONOMIC DEVELOPMENT DISTRICTS					CONDITIONAL DISTRICTS																	
		RB	AR	R1	R2	R3	R4	R5	R8	R13	LC1	NC2	CC3	GC4	EC5	O/RM	AS	EI	I1	I2	I3	PID	EDB-1	EDB-2	EDE-1	EDE-2	EDH-1	EDH-2	EDH-3	EDH-4	EDH-5	ASE-CD	MPD-CD	HP-CD	REDA-CD-1	R-CD	NR-CD			
62 (M).	Kennel Class II	S	S	S								S	S			S							S		S													Δ	Δ	
62 (N).	Petroleum Product Storage And Distribution																	*	*	*	*												*							
62 (O).	Sexually Oriented Businesses																			Δ	Δ																			
62 (P).	Storage of Goods									Δ		Δ	Δ	Δ	Δ			Δ	Δ	Δ		Δ		Δ							*		*				*			
62 (Q).	Taxidermy		S							Δ	Δ	Δ	Δ					Δ											Δ									*		
TELECOMMUNICATION USES																																								
63.	Telecommunication Tower (75 feet or shorter)	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ															Δ	Δ	Δ	Δ	
64.	Telecommunication Tower (Over 75 feet to less than 200 feet in height)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S				S	S						Δ	Δ		Δ	Δ	
65.	Telecommunication Tower (200 feet and higher)																																				Δ	Δ		
66.	Ham Radio Towers	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ																											Δ	Δ		
UTILITIES																																								
67.	Elevated Water Storage Tanks	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Δ	Δ	Δ	Δ	
68.	Public Utility Stations & Sub-Stations, Switching Stations, Telephone Exchanges, Water & Sewage Treatment Plants																																			Δ	Δ		Δ	Δ
69.	Electric, Gas, and Liquid Fuel Transmission Lines	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Δ	Δ	Δ	Δ
70.	Water & Sanitary Sewer Pumping Stations	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
71.	<u>Solar Array – Accessory, Residential, and Farm Uses</u>	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
72.	Solar Array – Large Facility	S	S	S	S	S	S	S	S	S	S	S	S		S	S		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Δ	Δ	Δ	Δ
73.	Solar Array – Public Utility																																			Δ	Δ	Δ	Δ	

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	RB	AR	R1	R2	R3	R4	R5	R8	R13	LC1	NC2	CC3	GC4	EC5	O/RM	AS	EI	I1	I2	I3	PID	EDB-1	EDB-2	EDE-1	EDE-2	EDH-1	EDH-2	EDH-3	EDH-4	EDH-5	ASE-CD	MPD-CD	HP-CD	REDA-CD-1	R-CD	NR-CD		
WASTE MANAGEMENT USES																																						
73. 74.	Landfills																																					Δ
74. 75.	Waste Management Facility																																					Δ
Wholesale Trade Uses																																						
75. 76.	Wholesale Trade											*	*		*			*	*	*		*		*				*	*		*					*		
Assembly Uses																																						
76. 77.	Club or Lodge	Δ	Δ	Δ						Δ	Δ	Δ	Δ		Δ							Δ		Δ						Δ	Δ			Δ	Δ			
77. 78.	Community Center	S	S	S	S	S	S	S	S	Δ	Δ	Δ			Δ							Δ		Δ						Δ	Δ				Δ	Δ		
78. 79.	Museum	S	S							S	S					S														Δ					Δ	Δ		
79. 80.	Place of Worship	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		Δ	Δ	Δ		Δ	Δ	Δ	Δ					Δ	Δ			Δ	Δ	Δ		
80. 81.	Retreat Center	S	S	S							Δ	Δ	Δ									Δ		Δ				Δ		Δ					Δ	Δ		
81. 82.	Rural Special Events	Δ	Δ														Δ													Δ					Δ	Δ		
82. 83.	Special Events – 150 attendees or less											Δ	Δ						Δ																	Δ	Δ	
83. 84.	Special Events – 151 attendees or more																																			Δ	Δ	
84. 85.	Theater									Δ	Δ	Δ	*										Δ		Δ	Δ	Δ	Δ	Δ		Δ			Δ	Δ	Δ		
Miscellaneous Uses																																						
85. 86.	Research Lands & Installations, Non-profit																					*																

- (c) A Landscape Plan, at the same scale as the site plan, showing existing and proposed trees, plus shrubs, ground cover and other landscape materials.

(2) Standards of Evaluation

- (a) Adequate provision has been made, by means of fencing or otherwise, for the security of the site, including the provision of a gate at the access entrance of access roads leading to such facilities.
- (b) A minimum lot size shall be adequate for the proposed use.
- (c) Adequate provision has been made for the protection of adjacent property from the dangers of collapse, fire, flooding or other menaces to public health and safety.
- (d) The applicant shall submit proof of liability insurance covering bodily injury and property damage demonstrating a minimum coverage limit of \$500,000.00 per occurrence.

5.9.5 Electric, Gas and Liquid Fuel Transmission Lines

(A) Submittal Requirements and Standards of Evaluation for Special Use Permit and Conditional Districts

(1) Submittal Requirements

In addition to the information required by Section 2.7, the following shall be submitted as part of the application:

- (a) A site plan showing the following:
 - (i) All existing and proposed structures within the site of the line,
 - (ii) All existing structures within 50 feet of the boundaries of the site, and
 - (iii) Officially designated floodways and floodplains.
- (b) An Erosion and Sedimentation Control Plan for the site.
- (c) Typical cross sections for the installation showing elevation of all structures and existing and proposed topography.
- (d) Plans and elevations of all proposed structures and descriptions of the color and nature of all exterior materials.
- (e) Certification by the applicant that it is a public utility and a statement that the proposed installation is necessary to accomplish its public utility function and that public convenience and necessity will be served by the proposed installation.

(2) Standards of Evaluation

- (a) Adequate provision has been made to protect adjacent property from the dangers of explosion, rupture, collapse, fire or other menaces to public health and safety.
- (b) The public convenience and necessity shall be served by this proposed installation, if installed as proposed.
- (c) The applicant shall submit proof of liability insurance covering bodily injury and property damage demonstrating a minimum coverage limit of \$500,000.00 per occurrence.

5.9.6 Solar Array

(A) Standards for Solar Arrays as an Accessory Use

(1) **Standards of Evaluation**

Residential and non-residential land uses shall be allowed to develop onsite solar arrays as a customary accessory use subject to submittal of a professionally prepared site plan in accordance with Section 2.5, demonstrating compliance with applicable standards as well as the following:

- (a) Nothing detailed herein shall be construed as the County mandating or requiring property owners adjacent, or in close proximity, to a parcel where a solar array is being erected to manage, remove, or otherwise alter foliage to guarantee solar access to a proposed array.
- (b) ~~Capacity, Volume, and Area Limits^[1]~~
~~Solar Arrays, whether building or ground mounted, shall conform to the following limits:~~
 - ~~(i) Residential~~
 - ~~a. Have a rated capacity consistent with local utility providers net metering policy not to exceed 20kilowatts (for electricity); or~~
 - ~~b. Have a rated storage volume of less than or equal to 240 gallons (for heated water); or~~
 - ~~c. Have a collector area of less than or equal to 1,000 square feet (for thermal).~~
 - ~~(ii) Non-residential~~
 - ~~a. Limits shall be based on the average electricity, storage volume, and thermal collector area necessary to support the needs of the proposed facility,~~
- ~~(e)(b)~~ Device(s) shall provide power for the principal ~~use~~ and accessory uses of the property on which it is located and shall not be installed and/or used solely for income generation purposes where power is sold either to a utility provider or other similar third party entity.

This provision shall be in no way construed as limiting the ability of the property owner to:

 - ~~(iii)~~ Transfer or sell excessive power generated onsite back to the utility provider or other third party entity or
 - ~~(iv)~~ Receive credit from a local utility provider for the power generated onsite as a means to offset utility bills.
- ~~(d) The property owner shall provide the County with written authorization from the local utility company acknowledging and approving the utility connection.~~
- ~~(e)(c)~~ The site plan shall denote the location and type of any batteries or other similar storage devices onsite.
- ~~(f) Panels shall be designed and oriented on the property such that concentrated solar radiation or glare shall not be directed onto nearby properties or road rights-of-way, or otherwise create a safety hazard.~~
- ~~(g)(d)~~ As part of the site plan submittal, the applicant shall be required to submit documentation detailing the proposed array will not alter, or require alteration of, any condition imposed as part of a previous approval allowing for the development and use of the property.
- ~~(h) All mechanical equipment associated with, and necessary for, the operation of the array shall be shielded to avoid damage. This shielding~~

~~may take the form of a small enclosed structure properly vented to allow for air flow, fence, or landscape hedge.~~

~~(i)(e)~~ Mechanical equipment shall not be located within the required setback areas for the underlying zoning district as detailed within Article 3 or within required landscaped areas as required under Section 6.8.

~~(j)(f)~~ ~~Before commencement of earth disturbing activities, the property owner must acknowledge that he/she is the responsible party for owning and ensuring the perpetual maintenance of the solar array.~~

~~(k)(g)~~ In cases where a solar array has not been in operation for a period of 6 months due to a malfunction or other defect the property owner shall affect repair(s) to the system within 30 days of notice from the County in accordance with Section 9.5 of the UDO.

In cases where the array has been deemed unsafe it shall be removed or repaired immediately in accordance with Section 9.5.5 of the UDO.

(2) Standards for Building Mounted Devices:

(a) An array may be mounted on the roof of a principal, or an accessory structure located on the property.

(b) The array shall be viewed as an extension of the roof structure and, as a result, shall not exceed the maximum building height detailed within Article 3 for the underlying zoning district where the property is located.

~~(c) As part of the building permit review process, structural engineering shall be provided demonstrating the roof can support the weight of the proposed array.~~

(3) Standards for Ground Mounted Devices:

~~(a) Ground mounted system shall not exceed a maximum height of 15 feet from finished grade.~~

~~(b) The surface area of a ground mounted system, regardless of the mounted angle, shall be calculated as part of the overall impervious surface area for the parcel in accordance with the provisions of Section 4.2.~~

~~(c)(a)~~ Arrays shall be allowed to be erected anywhere on the property outside of established setback areas, buffer areas, designated open space areas, and well/septic system setback areas as identified by Orange County Environmental Health.

~~(d)(b)~~ Arrays shall observe the setback requirements of the underlying zoning district where the property is located as detailed within Article 3.

In the case of an array erected on a non-residentially zoned property, the array shall not be located within any required setback, landscape, or buffer area.

(c) An array may be located on parcel separate from the one on which the residential structure it serves is located, provided there is a recorded easement detailing the off-site utility use of the array.

(d) Ground Mounted arrays shall be located not less than 10 feet from side and rear property lines, 20 feet from and public or private rights-of-way, and shall be outside stream buffers, floodplains, wetlands, and primary Common Open Space areas. ^[2]

- (e) Upon removal of a ground-mounted solar energy system, the disturbed land shall be restored to its natural grade, stabilized in accordance with Section 6.15, and revegetated, with plant materials consistent with the Orange County Recommended Plant list. [3]

(4) Standards for Farm-Related Solar Arrays

- (a) All properties with verifiable bona fide farm status shall be allowed to develop solar arrays including Solar Array - Private Utilities, pending electrical permitting from Building Inspections.

(B) Submittal Requirements and Standards of Evaluation for Solar Array – Large Facility (Special Use Permit)

(1) Submittal Requirements

In addition to the information required by Section 2.7, the following shall be submitted as part of the application:

- (a) A site plan showing all existing structures on the property, any proposed buildings or structures that are necessary to support the proposed array, existing and proposed storage areas, parking and access areas, topography at a contour interval of five feet, any officially designated floodplains or alluvial soils.
- (b) An assessment of the power needs for all structures on the property and the anticipated power generated by the proposed array.
- (c) The proposed arrays distance from all structures located on the property.
- (d) Plans and elevations for all proposed structures and arrays as well as descriptions of the color and nature of all exterior materials.
- (e) Landscape Plan, at the same scale as the site plan, showing existing and proposed trees, shrubs, ground cover and other landscape material
- (f) A soils report denoting the types of soil on the property including detail on the compaction necessary to support the proposed development.

(2) Standards of Evaluation

- (a) The proposed array shall not require the alteration of existing land use(s) to accommodate development.
- (b) All on-site utility and transmission lines shall, to the extent feasible, be placed underground.
- (c) The height of proposed arrays and support structures shall not exceed the height requirements of the underlying zoning district where the property is located as detailed within Article 3.
- (d) Individual arrays/solar panels shall be designed and located in order to prevent reflective glare toward any inhabited buildings on adjacent properties as well as adjacent street rights-of-way.
- (e) A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.
- (f) All mechanical equipment, including any structure for batteries or storage cells, shall be completely enclosed by a minimum eight (8) foot high fence with a self-locking gate, and provided with screening in accordance with the provisions of Section 6.8.
- (g) The applicant shall submit proof of liability insurance covering bodily injury and property damage demonstrating a minimum coverage limit of \$500,000.00 per occurrence.

- (h) A Type D Land Use Buffer shall be provided along any portion of the perimeter of the parcel, easement, or leasehold area located adjacent to property zoned, or otherwise utilized for, residential use except where such property is owned, leased or consists of other utility easements currently used for electrical distribution or transmission purposes.

Existing vegetation may be used to satisfy the landscaping requirements.

stenciling of the name of a non-residential establishment and may include hours of operation, phone numbers, and other pertinent information associated with the non-residential land use.

- An example of a window sign includes:



Site Specific Vesting Plan

A plan approved by the Orange County Board of Commissioners which describes, with reasonable certainty, the type and intensity of use for a specific parcel or parcels of property located within the County's zoning jurisdiction. A Site Specific Vesting Plan shall be deemed approved upon the effective date of the Board of Commissioners' action.

Site Plans, Conditional Districts, and Preliminary Subdivision Plats may be approved as Site Specific Vesting Plans in accordance with the provisions of this Ordinance. Site Specific Vesting Plans are required only where an applicant wishes to vest his property rights for a period longer than that otherwise permitted by this Ordinance, in accordance with NCGS 160D-108.

Solar Array

A device, array of devices, or structural design feature, the purpose of which is to provide for generation or storage of electricity from sunlight, or the collection, storage, and distribution of solar energy for space heating or cooling, interior lighting, water heating, or other domestic needs.

Solar Array – Accessory Use

Include any photovoltaic, concentrated solar thermal, or solar hot water devices that are accessory to, and incorporated into the development of an authorized use of the property, and which are designed for the purpose of reducing or meeting on-site energy needs.

Solar Array – Large Facility

A solar facility located on a developed or undeveloped parcel of property producing more than 20 but less than 100 kilowatts of power that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal (CST) devices, or various experimental solar technologies, with the purpose of supplying power to existing land use(s) as well as the wholesale or retail sale of generated electricity.

Solar Array – Private Utility

A privately-owned utility-scale facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal (CST) devices, or various experimental solar technologies, producing more than 100 kilowatts of power with the primary purpose of wholesale or retail sales of generated electricity.

Solar Array – Public Utility

A utility-scale commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal (CST) devices, or various experimental solar technologies, producing more than 100 kilowatts of power with the primary purpose of wholesale or retail sales of generated electricity.

**ORANGE COUNTY
PLANNING BOARD
ORDINANCE REVIEW COMMITTEE**

Meeting Date: April 9, 2025

**Action Agenda
Item No. 3**

SUBJECT: Unified Development Ordinance Text Amendment – Telecommunications Standards

DEPARTMENT: Planning and Inspections

ATTACHMENT(S):

1. Amendments Summary
2. Proposed Ordinance Amendments

INFORMATION CONTACT:

Cy Stober, Director (919) 245-2592
Patrick Mallett, Deputy Director,
Development Services, (919) 245-2577
Jack Moran, Planning Technician, (919)
245-2571

PURPOSE: To provide an overview and receive comments from the Planning Board's Ordinance Review Committee on County-initiated text amendments to the Unified Development Ordinance (UDO) Telecommunications Standards.

BACKGROUND: The Orange County Planning Department has initiated amendments to the Unified Development Ordinance sections 5.2: Table of Permitted Uses, 5.10: Standards for Telecommunications Facilities, and Article 10: Definitions, as well as creating a new section, 8.14: Nonconforming Wireless Telecommunication Facilities.

These proposed amendments to the ordinance represent the first update since the adoption of the UDO on April 5, 2011. In an effort to protect residential areas, minimize new facilities, and to encourage new telecommunication facilities to locate in non-residential areas, County staff has identified the need to update the text to reflect current best practices.

In compliance with the Orange County-Chapel Hill-Carrboro Joint Planning Land Use Plan and Agreement, the proposed amendments were sent to both towns for comment on March 27, 2025. To date, no comments have been received. A community and industry meeting detailing the proposed ordinance amendments will be held on April 7, 2025, to notify and receive input from stakeholders.

FINANCIAL IMPACT: This text amendment has an awarded contract for professional services with a budgeted fixed fee amount not to exceed \$25,000. There are no other costs associated with this project other than the use of staff time and the required legal advertisement for the text amendment's public hearing. Staff has and will continue to accomplish the necessary tasks associated with amending the UDO and the legal advertisement will be paid from budgeted funds for this purpose.

RECOMMENDATION(S): The Planning Director recommends the ORC review the proposed amendment actions and provide feedback to staff.

MEMORANDUM

TO: The Orange County Board of Commissioners, Planning Board and Staff

FROM: Albert Benshoff and Lydia Lavelle, The Brough Law Firm, PLLC

DATE: March 25, 2025

RE: Summary of changes to the Orange County UDO regarding Telecommunications Facilities

INTRODUCTION: The Brough Law Firm was retained to update the County's zoning ordinances on telecommunications facilities, include TV, radio, mobile telephone and ham radio towers. Since the current ordinance was adopted but the Federal Communications Commission and the N.C. General Assembly adopted mandatory requirements for new towers, particularly including deadline and mandatory placement of small towers in public rights-of-way. The draft replaces the current code. Please address any questions and comments to the Planning staff or to benshoff@broughlawfirm.com and/or to lavelle@broughlawfirm.com.

DEFINITIONS: The definitions were amended to follow those found in N.C. Gen. Stat. § 160D-931 *Definitions*. The definitions in the statute largely track those adopted by the Federal Communications Commission (FCC) and the industry.

STANDARDS and PROCEDURES: Most of the Telecommunications Facilities' standards were found in UDO § 5.10. Section 5.10 has been wholly revised. It is still called Standards for Telecommunications Facilities. New technologies require new standards. Some regulations were not effective in obtaining better development. These were deleted.

In the old version, most towers or "wireless support structures" as they are now called in the General Statutes over 75 feet tall were approved by Special Use Permits issued by the County Commissioners following a quasi-judicial hearing. Towers over 200 feet tall were permitted only with conditions in the R-CD and NR-CD zoning districts. A few towers could be approved administratively by staff.

In the new version, a SUP is required for towers above 75 feet located on private property, and all towers over 215 feet. The number of administrative (staff) approvals of towers and antennas are increased.

Site plans with additional standards for towers are still required for both administrative approvals and SUPs.

Co-locations of multiple antennas on the same towers are encouraged. Also, collocation of antennas on buildings and other structures is strongly encouraged. Stealth or disguised towers are encouraged. (For example, see the towers resembling pine trees along some interstates.)

After the current version of section 5.10 was adopted, the General Assembly adopted mandatory standards for telecommunication facilities. These standards largely track the FCC's mandatory standards. Section 5.10 was revised to mirror these amendments. The biggest change was that the legislature created a new class of wireless telecommunication facilities called "small or micro wireless facilities" (sometimes called 5G). Small and micro-wireless facilities have their own rows in the table of permitted uses and their own sub-section of standards in section 5.10.

Section 5.10 was simplified by removing some requirements that were not effective, principally the "Master Telecommunications Plan." The "Master Plan" was to be a joint County-industry plan that listed all the telecommunication sites to be built in the next year. An annual conference of interested parties was to be held. The annual conferences were poorly attended. Most providers did not share their future plans. Industry plans for future tower construction are usually confidential.

Under the current version of section 5.10, applicants were required to conduct a "balloon test" for towers approved by SUP. A balloon was to be flown or suspended for four days so that interested people could see the location of the top of the tower. All property owners of record in a 1,000-foot radius were to be notified. The balloon test is replaced by a photo-simulation of the new tower as it will appear from various angles. The photo-simulation will be mailed to each property owner before the mandatory neighborhood meeting. In addition, a map of the areas from which a new tower is visible is an application requirement.

This will not be the last round of UDO amendments about wireless towers and antennas. As the technology evolves, UDO updates will be required. Also changes to FCC regulations and the General Statutes will require further UDO amendments.

The following packet details the proposed modifications to Telecommunications Facilities Standards.

Within this amendment package:

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Only those pages of the UDO impacted by the proposed modification(s) have been included within this packet. Some text on the following pages has a large "X" through it to denote that these sections are not part of the amendments under consideration. The text is shown only because in the full UDO it is on the same page as text proposed for amendment or footnotes from previous sections 'spill over' onto the included page. Text with a large "X" is not proposed for modification.

Please note that the page numbers in this amendment packet may or may not necessarily correspond to the page numbers in the adopted UDO because adding text may shift all of the text/sections downward.

Users are reminded that these excerpts are part of a much larger document (the UDO) that regulates land use and development in Orange County. The full UDO is available online at: <https://www.orangecountync.gov/3040/Unified-Development-Ordinance-UDO>.

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TABLE OF PERMITTED USES																																							
* = PERMITTED USE Δ = SUBJECT TO USE STANDARDS S = SPECIAL USE																																							
USE TYPE			CONVENTIONAL ZONING DISTRICTS																	ECONOMIC DEVELOPMENT DISTRICTS							CONDITIONAL DISTRICTS												
			RB	AR	R1	R2	R3	R4	R5	R8	R13	LC1	NC2	CC3	GC4	EC5	O/RM	AS	EI	I1	I2	I3	PID	EDB-1	EDB-2	EDE-1	EDE-2	EDH-1	EDH-2	EDH-3	EDH-4	EDH-5	ASE-CD	MPD-CD	HP-CD	REDA-CD-1	R-CD	NR-CD	
62 (M).	Kennel Class II	S	S	S								S	S			S							S															Δ	Δ
62 (N).	Petroleum Product Storage And Distribution																*	*	*	*														*					
62 (O).	Sexually Oriented Businesses																		Δ	Δ																			
62 (P).	Storage of Goods										Δ		Δ	Δ	Δ			Δ	Δ	Δ		Δ		Δ								*		*			*		
62 (Q).	Taxidermy		S								Δ	Δ	Δ	Δ				Δ												Δ							*		
TELECOMMUNICATION USES																																							
63.	<u>Telecommunication Tower / Wireless Support Structure/ Substantial Modification (74 feet or shorter) Includes stealth wireless support structures)Telecommunication Tower (75 feet or shorter)</u>	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		
64.	<u>Telecommunication Tower / W.S.S. / Substantial Modification (75 feet to 214 feet in height)Telecommunication Tower (Over 75 feet to less than 200 feet in height)</u>	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Δ	Δ	Δ	Δ	Δ	Δ	Δ		
65	<u>Telecommunication Tower / W.S.S. / Substantial Modification on government and institution-owned properties (75 feet to 214 feet in height)</u>	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
66	<u>Telecommunication Tower (215 feet and higher)Telecommunication Tower (200 feet and higher)</u>	S	S														S	S				S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
67	<u>Small / Micro Cell Wireless Facility</u>	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
68	<u>Ham Radio Towers</u>	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	

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USE TYPE	CONVENTIONAL ZONING DISTRICTS															ECONOMIC DEVELOPMENT DISTRICTS										CONDITIONAL DISTRICTS													
	RB	AR	R1	R2	R3	R4	R5	R8	R13	LC1	NC2	CC3	GC4	EC5	O/RM	AS	EI	I1	I2	I3	PID	EDB-1	EDB-2	EDE-1	EDE-2	EDH-1	EDH-2	EDH-3	EDH-4	EDH-5	ASE-CD	MPD-CD	HP-CD	REDA-CD-1	R-CD	NR-CD			
UTILITIES																																							
697 .	Elevated Water Storage Tanks	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
706 8.	Public Utility Stations & Sub-Stations, Switching Stations, Telephone Exchanges, Water & Sewage Treatment Plants																																						
716 9.	Electric, Gas, and Liquid Fuel Transmission Lines	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
720 .	Water & Sanitary Sewer Pumping Stations	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		
734 .	Solar Array – Large Facility	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
742 .	Solar Array – Public Utility																																						
WASTE MANAGEMENT USES																																							
735 .	Landfills																																					Δ	
764 .	Waste Management Facility																																					Δ	
Wholesale Trade Uses																																							
775 .	Wholesale Trade																																					*	
Assembly Uses																																							
786 .	Club or Lodge	Δ	Δ	Δ																																	Δ	Δ	
797 .	Community Center	S	S	S	S	S	S	S	S	S	Δ	Δ	Δ																									Δ	Δ
807 8.	Museum	S	S																																			Δ	Δ

TABLE OF PERMITTED USES																																					
* = PERMITTED USE Δ = SUBJECT TO USE STANDARDS S = SPECIAL USE																																					
USE TYPE	CONVENTIONAL ZONING DISTRICTS																			ECONOMIC DEVELOPMENT DISTRICTS							CONDITIONAL DISTRICTS										
	RB	AR	R1	R2	R3	R4	R5	R8	R13	LC1	NC2	CC3	GC4	EC5	O/RM	AS	EI	I1	I2	I3	PID	EDB-1	EDB-2	EDE-1	EDE-2	EDH-1	EDH-2	EDH-3	EDH-4	EDH-5	ASE-CD	MPD-CD	HP-CD	REDA-CD-1	R-CD	NR-CD	
817 9.	Place of Worship	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		Δ	Δ	Δ		Δ	Δ	Δ	Δ						Δ	Δ		Δ	Δ	Δ	
820 .	Retreat Center	S	S	S							Δ	Δ	Δ									Δ		Δ					Δ		Δ				Δ	Δ	
834 .	Rural Special Events	Δ	Δ														Δ																		Δ	Δ	
842 .	Special Events – 150 attendees or less											Δ	Δ						Δ																	Δ	Δ
853 .	Special Events – 151 attendees or more																																			Δ	Δ
864 .	Theater									Δ	Δ	Δ	*										Δ		Δ	Δ	Δ	Δ	Δ	Δ		Δ		Δ	Δ	Δ	
Miscellaneous Uses																																					
875 .	Research Lands & Installations, Non-profit																				*																

SECTION 5.10: STANDARDS FOR TELECOMMUNICATION FACILITIES

5.10.1 Intent

~~The regulations contained herein are designed to provide for the safe and efficient integration of facilities necessary for the provision of advanced wireless telecommunications services through the community with the goal of establishing reliable wireless service to the public, governmental agencies, and first responders in a manner that provides for the public safety and general welfare of its citizens.~~

5.10.2 Master Telecommunications Plan (“Plan”)

- ~~(A) — The Plan is intended to assist providers in their search for suitable locations to build their service network. The County may develop the Plan (map), which would display locations within the County’s zoning jurisdiction where property owners have expressed formal, written, interest in allowing construction of telecommunications equipment.~~
- ~~(B) — Information that may be shown on the base Plan will include, but not limited to:

 - ~~(1) — Existing towers,~~
 - ~~(2) — Major transmission lines,~~
 - ~~(3) — County defined Natural Areas,~~
 - ~~(4) — Historic properties,~~
 - ~~(5) — Scenic corridors,~~
 - ~~(6) — Known bird migratory patterns through the County,~~
 - ~~(7) — Voluntary Agricultural Districts, and~~
 - ~~(8) — Publicly owned or quasi-public lands.~~~~
- ~~(C) — In order to participate in the Plan, all owner(s), or their legally binding representatives, shall submit an application on a form prepared by the Planning Department requesting inclusion.~~
- ~~(D) — All telecommunication providers who elect to construct facilities on properties in the Plan shall provide all necessary and requested information to the County’s telecommunications consultant.~~
- ~~(E) — Modification of the Plan may be considered annually at a Public Hearing in February of each calendar year. Any applicant requesting modification of the Plan shall make application to the Planning Director on or before December 1st of each year. The fee for modifying the Plan shall be that as set forth in the Orange County Schedule of Fees.~~
- ~~(F) — Withdrawal from the Plan is permitted if any owner submits, to the Planning Director, a notarized statement requesting same. Upon receipt of the request, including any fee for modifying the Plan as set forth in the Orange County Schedule of Fees, the Planning Director shall inform interested parties that the property has been withdrawn from consideration. Removal of the property from the Plan shall be processed as a modification as detailed herein.~~

5.10.3 Annual Telecommunications Projection Meeting (ATPM)

(A) Purpose and Outcome

- ~~(1) — The purpose of the ATPM meeting is to allow for a complete review of collocation opportunities, address coverage issues, and discuss the location of needed telecommunication support structures with providers who intent on submitting development applications for action by the County. The intended outcome of the meeting is to allow the County and interested parties to develop a plan for facility deployment within the County that provides reasonable coverage based on the~~

~~needs of the County and its residents, while minimizing the total number of needed telecommunication support facilities, including minimizing the intrusiveness of such facilities, and encouraging the development of a more efficient telecommunication network.~~

- ~~(2) — The intended outcome of the meeting is an understanding amongst the Planning Director and providers on areas of the County where telecommunication support facilities are needed and application request for the year should be focused.~~

~~**(B) — Applicability**~~

- ~~(1) — By December 31st of each calendar year, telecommunication providers shall submit to the Planning Director a plan indicating proposed search rings for anticipated telecommunication support structures. This plan shall identify areas where providers are looking to locate facilities, as well as identify those areas of the County that are underserved by existing facilities.~~
- ~~(2) — As of the effective date of this Ordinance amendment any pending applications that have not received a zoning compliance permit or a special use permit shall meet all requirements of this Ordinance, including, but not limited to submission deadlines, application standards and processing, excluding the ATPM requirement.~~

~~**(C) — Meeting Specifics**~~

- ~~(1) — The meeting shall occur by the end of January of each calendar year.~~
- ~~(2) — Attendees shall include all carriers and tower companies who have either filed applications the previous year or anyone who has expressed an interest in filing an application to construct a telecommunication support facility within the County.~~
- ~~(3) — The County shall notify each party of the date, time, and place of the meeting no later than 30 days prior to the meeting.~~
- ~~(4) — Those individuals/firms intent on submitting development applications are expected to attend the meeting. While a lack of attendance will not prevent the submittal of an application, it will prevent the applicant's ability to participate in the discussions outlining the areas of concentration for the location of telecommunication support structures for that given year.~~

- ~~(D) — Applications for the development of telecommunication support structures shall be processed in accordance with the provisions of this Ordinance.~~

~~**5.10.4 — Existing Wireless Telecommunications Support Structures**~~

- ~~(1) — Telecommunications equipment as accessory uses may be placed on existing wireless support structures in accordance with the provisions of this Ordinance.~~
- ~~(2) — Notwithstanding the other provisions of Section 5.10, telecommunications towers in existence as of December 10, 2002, may be replaced with a wireless support structure of equal or less visual impact after approval by the Planning Director. However, if the proposed new wireless support structure would not be consistent with the minimum standards under Section 5.10, replacement must be approved as provided for in this Ordinance.~~

~~**5.10.5 — Wireless Telecommunications Support Structures and Equipment as Principal or Accessory Uses**~~

- ~~(A) — Wireless telecommunications support structures shall be permitted as a principal or accessory use in accordance with the Table of Permitted Uses and as follows:~~

- ~~(1) — On property owned by the County or any public entity, except those designated as historic properties or sites, the County may, in its sole discretion as the owner of the property, authorize the application and use of County property after the applicant executes a lease agreement acceptable to the County.~~
- ~~(2) — Wireless telecommunications facilities, as part of existing utility poles shall be permitted as an accessory use. Wireless facilities shall be constructed as part of the existing utility poles or as replacements for the existing utility poles. No freestanding towers constructed exclusively for personal wireless services shall be permitted within utility easements.~~
- ~~(3) — The placement of new wireless telecommunications support structures shall be in accordance with the Table of Permitted Uses, except as permitted in the Master Telecommunications Plan (“Plan”) or by Section 5.10.6 of this Ordinance.~~

5.10.6 — Administrative Approval of Certain Telecommunication Facilities

(A) — Applicability

The following telecommunication facilities may be approved administratively by the Planning Staff provided that all of the provisions contained in Section 5.10 are met:

- ~~(1) — New stealth telecommunications wireless support structures up to 75 feet in height that are sufficiently disguised so as to minimize visual impact;~~
- ~~(2) — Any wireless support structure less than 75 feet in height;~~
- ~~(3) — Any wireless support structure less than 200 feet in height located on property that is owned or leased by Orange County; and~~
- ~~(4) — Any wireless support structure less than 200 feet in height on which the owner of such facility permits the County to collocate its wireless facilities on the structure at no charge to the County when the location of such facility is of benefit to the County as determined in the sole discretion of the County.~~
- ~~(5) — A written decision approving or denying an application for administrative approval of a telecommunication facility under this section shall be issued no later than 45 days following the submission of a complete application.~~
- ~~(6) — Collocation applications meeting the following requirements:

 - ~~(a) — The proposed additional facility will not increase the overall height and width of the tower or wireless support structure to which the wireless facilities are to be attached consistent with Section 2.7.15(11) of the Ordinance.~~
 - ~~(b) — The proposed additional facility will comply with applicable regulations, restrictions, or conditions, if any, applied to the initial wireless facilities placed on the tower or other wireless support structure.~~
 - ~~(c) — The proposed additional wireless facilities comply with all federal, State, and local safety requirements.~~
 - ~~(d) — The proposed additional facility does not exceed the applicable weight limits for the wireless support structure.~~~~

(B) — Submittal Requirements

All applications for telecommunication facilities that are eligible for administrative approval shall be submitted and reviewed in accordance with the standards of Section 5.10.8 of this Ordinance.

(C) — Neighborhood Information Meeting

- ~~(1) For all administratively approved wireless support structures, excluding collocations, a neighborhood information meeting shall be scheduled in accordance with the provisions of Section 5.10.8(A)(2).~~

5.10.7 Antennas Not Located on Wireless Telecommunications Support Structures

(A) General Standards

- ~~(1) To minimize adverse visual impacts, stealth antenna types shall be preferred. If a non-stealth antenna is proposed, the application shall be required to demonstrate, in a technical manner acceptable to the Planning Director, why the stealth antenna (i.e. an antenna incorporated into the architecture of the building or fully screened from view from sight proximate to the antenna) cannot be used for the particular application. This does not preclude a combination of the various types of antennas.~~
- ~~(2) Antenna dimensions shall be subject to approval by the Planning Director. A statement shall be submitted, prepared by a professional engineer competent to evaluate antenna choices, to certify the technical need for the required dimensions.~~
- ~~(3) Prior to the issuance of a Building Permit by the Inspections Division, the application shall provide evidence that the wireless telecommunication support structure or antennas are in compliance with FAA regulations. Where an antenna will not exceed the highest point of the existing structure upon which it is to be mounted, such evidence shall not be required.~~

(B) Standards of Evaluation for Stealth Rooftop or Building, Water Tower, or Transmission Line Mounted Antennas

~~In addition to the standards established in Subsection A above, the following are applicable to all Stealth Rooftop or Building, Water Tower, or Transmission Line Mounted Antennas:~~

- ~~(1) Antennas shall not exceed 20 feet above the roofline of the building or support structure, water tank, or transmission line;~~
- ~~(2) Commercial advertising shall not be allowed on an antenna;~~
- ~~(3) Signals, lights, or illumination shall not be permitted on an antenna, unless required by the FCC or the FAA;~~
- ~~(4) Any related unstaffed equipment building shall not contain more than 600 square feet of gross floor area per user or exceed 12 feet in height;~~
- ~~(5) Documentation shall be required denoting that the erection of an antenna will not compromise the structural integrity of the building, water tank, or transmission line;~~
- ~~(6) If an antenna is erected on a transmission line, documentation shall be required outlining that the antenna will not interfere, or be interfered with, by the normal operating characteristics of the transmission line;~~
- ~~(7) If the equipment building is located on the roof of the building, the area of the equipment building shall not occupy more than 25% of the roof area, and shall comply with all State of North Carolina Building Code requirements for the proposed and existing building; and~~
- ~~(8) Approval of the Planning Director to ensure consistency with the definition of stealth facility is required. Each application shall contain a rendering or photograph of the antenna including, but not limited to, colors and screening devices.~~

(C) Standards of Evaluation for Non-Stealth Rooftop or Building, Water Tank or Transmission Line Mounted Antennas

~~In addition to the standards established in Sub-Section (A) above, the following are applicable to all Non-Stealth Mounted Antennas:~~

- ~~(1) — Antennas shall not exceed 20 feet above the roofline of the subject building or support structure, water tank, or transmission line;~~
- ~~(2) — Antennas shall only be permitted on buildings or structures that are at least 33 feet tall. Antennas may be placed on buildings less than 33 feet tall if public safety needs warrant the antenna;~~
- ~~(3) — Antennas, and related equipment buildings, shall be located or screened to minimize the visual impact of the antenna upon adjacent properties and shall be of a material or color which matches the exterior of the building or structure upon which it is situated;~~
- ~~(4) — Commercial advertising shall not be allowed on an antenna;~~
- ~~(5) — Signals, lights, or illumination shall not be permitted on an antenna, unless required by the FCC or the FAA;~~
- ~~(6) — Any related unstaffed equipment building shall not contain more than 600 square feet of gross floor area per user or be more than 12 feet in height;~~
- ~~(7) — If the equipment building is located on the roof of the building, the area of the equipment building shall not occupy more than 25% of the roof area, and shall comply with all State of North Carolina Building Code requirements for the proposed and existing building;~~
- ~~(8) — Antennas may be located on utility poles pursuant to the following regulations:~~
 - ~~(a) — The maximum height of the pole with antenna shall not exceed 70 feet in height.~~
 - ~~(b) — The utility poles shall be located on public property, within public easements, or public rights-of-way.~~
 - ~~(c) — The antenna shall be of a size and placement that is structurally compatible with the engineering design of the pole pursuant to the North Carolina State Building Code and attested to by a professional engineer licensed in the State of North Carolina, and competent to evaluate antenna choices.~~
 - ~~(d) — The antenna shall not extend more than ten feet above the existing pole height. If the pole is replaced to withstand the addition of telecommunications equipment, then the same restriction shall apply except that the utility pole may be 20 feet higher than the adjacent pole heights.~~
 - ~~(e) — Placement of an antenna on a utility pole shall only be on poles owned or operated by a public utility authorized to operate in the County, a County franchisee, or Orange County.~~
 - ~~(f) — All relocation costs associated with any relocation of the antenna necessitated by roadway or sidewalk improvements shall be borne by the telecommunications provider.~~

5.10.8 — Wireless Telecommunications Support Structures — Submittal and Review Requirements

(A) — General Submittal Requirements for all Telecommunication Support Structures

(1) — Submittal Requirements

- ~~(a) — A site plan and site plan application package prepared in accordance with Section 2.5 shall be presented for approval to the Planning Division including all requirements for site development plan approval as required.~~

- ~~(b) — A detailed description of the proposed telecommunication support structure (i.e. monopole, self-supporting lattice, etc.) including a detailed narrative description and explanation of the specific objective(s) for the new facility including a description as to the coverage and/or capacity, technical requirements, and the identified boundaries of the specific geographic area of intended coverage for the proposed telecommunication support structure.~~
- ~~(c) — Elevation drawings and color renderings of the proposed tower showing:

 - ~~(i) — The vertical rendition of the telecommunication support structure(s) identifying all users and attachments,~~
 - ~~(ii) — All related fixtures, structures, appurtenances and apparatus including the height of said structures above the lowest adjacent pre-existing grade,~~
 - ~~(iii) — The materials that will be used on-site for said structures including their color and any proposed lighting and shielding devices, and~~
 - ~~(iv) — If the facility is intended to be a stealth, as defined herein, the colors and screening devices for the Planning Director to verify consistency with applicable definitions.~~~~
- ~~(d) — A signed statement from the applicant certifying that the proposed telecommunication support structure:

 - ~~(i) — Shall be maintained in a safe manner,~~
 - ~~(ii) — Is in compliance with all conditions of all applicable permits and authorizations without exception, and~~
 - ~~(iii) — Is in compliance with all applicable and permissible local, State, and Federal rules and regulations.~~~~
- ~~(e) — A statement, prepared by a professional engineer licensed in the State of North Carolina, which through rational engineering analysis, certifies the tower's compliance with applicable standards as set forth in the State of North Carolina Building Code, and any associated regulations; and describes the tower's capacity, including an example of the number and type of antennas it can accommodate.~~
- ~~(f) — A statement stating how the proposed tower will minimize visual intrusiveness to surrounding properties in the area. Criteria that may be used for such evidence may be height and type of existing trees surrounding the proposed tower, and local topography.~~
- ~~(g) — A copy of the installed foundation design including a geotechnical sub-surface soils investigation, evaluation report, and foundation recommendation for the proposed wireless support structure.~~
- ~~(h) — The existing cell sites (latitude, longitude, power levels) to which this proposed site will be a handoff candidate.~~
- ~~(i) — Propagation studies of the proposed site and showing all adjoining planned, proposed, in-service or existing sites. This will include all of the modeling information used to produce the study including, but not limited to, any assumptions made about ambient tree height.~~
- ~~(j) — The search ring utilized in finding the proposed site.~~
- ~~(k) — The number, type, height, and model of the proposed antennas along with a copy of the applicable specification sheet(s).~~

- ~~(l) — The make, model and manufacturer of the tower and antenna(s), antenna heights and power levels of proposed site. This will include documentation establishing the azimuth, size, and centerline height location of all proposed and existing antennas on the structure.~~
- ~~(m) — The frequency, modulation and class of service of radio or other transmitting equipment.~~
- ~~(n) — The maximum transmission power capability of all radios, as designed, if the applicant is a cellular or functional equivalent carrier, or the maximum transmission power capability, as designed, of all transmission facilities if the applicant is not a cellular or functional equivalent carrier.~~
- ~~(o) — The actual intended transmission and the maximum effective radiated power of the antenna(s).~~
- ~~(p) — The direction(s) of maximum lobes and associated radiation of the antenna(s).~~
- ~~(q) — Certification that the NIER levels at the proposed site are within the threshold levels adopted by the FCC.~~
- ~~(r) — Certification that the proposed antenna(s) will not cause interference with other telecommunications devices.~~
- ~~(s) — A written affidavit stating why "the proposed site is necessary for their communications service" (e.g., for coverage, capacity, hole-filling, etc.) and a statement that there are no existing alternative sites within the provided search ring and there are no alternative technologies available which could provide the proposed telecommunications service need without the tower.~~
- ~~(t) — A copy of the FCC license applicable for the intended use of the facility as well as a copy of the 5 and 10 year building out plan required by the FCC.~~

Some or all of items listed in (h) through (r) may be required to be provided on a propagation study data form to be provided by the County.

(2) — Additional Submittal Requirements — Collocation of Antennas

In addition to the requirements denoted herein, applications for the collocation of antennas on existing structures shall be required to submit the following:

- ~~(a) — The age of the existing tower in years, including the date of the grant of the original permit or authorization for the existing tower;~~
- ~~(b) — For a wireless support structure that is five years old or older, or for a guyed structure that is three years old or older, a copy of the latest ANSI Report done pursuant to the latest edition of ANSI EIA/TIA 222F—Annex E for any self-supporting tower. If an ANSI report has not been done pursuant to the preceding schedule, an ANSI report shall be done and submitted as part of the application. No Building Permit shall be issued for any wireless support structure where the structure being attached to is in need of remediation, unless and until the County Planning and Inspections Department has approved all remediation work needed has been completed or a schedule for the remediation work.~~
- ~~(c) — A Structural Report signed by a Professional Engineer licensed to do business in the State and bearing that engineer's currently valid stamp, showing the structural adequacy of the wireless support structure to accommodate the proposed modification or antenna array Collocation, including any equipment shelter, unless the equipment shelter is located on the lowest floor of a building;~~

~~(d) — If attaching to a structure other than a tower or where the proposed attachment is within 30 feet of areas to which the public has or could reasonably have or gain access to, documentation shall be provided, including all calculations, proving that the potential exposure to RF radiation (i.e. Non-Ion Emitting Radiation), will be comply with the most recent FCC regulations governing RF radiation and exposure thereto, and further denoting the minimum distance from any antennas an individual may safely stand without being exposed to RF radiation in excess of the FCC's permitted standards and any portion(s) of the structure that would be exposed to RF radiation in excess of the FCC's permitted standards. Compliance with the FCC's regulations, in such an instance the RF radiation from all facilities at that location shall be included in the calculations to show the cumulative effect on any area of the building or structure deemed accessible by the public or workers. Such report or analysis shall be signed and sealed by a Professional Engineer licensed in the State.~~

~~(e) — If the modification or antenna array collocation is 30 feet or more above ground level, then a signed document such as the FCC's "Checklist to Determine whether a Wireless support structure may be Categorically Excluded" shall be provided to verify that the modification or antenna array collocation will fully comply with the current FCC's RF emissions regulations. If not categorically excluded, a complete RF emissions study is required to enable compliance verification, including providing all calculations so that such may be verified prior to issuance of a Building Permit;~~

~~If any section or portion of the structure to be attached to is not in compliance with the FCC's regulations regarding RF radiation, that section or portion must be barricaded with a suitable barrier to discourage approaching into the area in excess of the FCC's regulations, and be marked off with yellow and black striped warning tape or a suitable warning barrier, as well as placing RF radiation signs as needed and appropriate to warn individuals of the potential danger;~~

~~(f) — A signed statement that the applicant will expeditiously remedy any physical or RF interference with other telecommunications or wireless devices or services caused by the new installation.~~

~~(3) — Standards of Evaluation – Collocations and Towers Requiring Administrative Approval~~

~~(a) — A proposed tower shall not be permitted if it is not substantially necessary for the telecommunications service need identified pursuant to the standards of this Ordinance.~~

~~(b) — Tower height shall be measured from the base of the tower to the highest point of the proposed antenna(s), with lightning rod, to be located atop the tower structure.~~

~~(c) — Telecommunications towers shall conform with all of the requirements of this Ordinance.~~

~~(d) — All towers shall be engineered to allow for collocations. No co-locator shall be refused access for collocation by charging exorbitant lease fees. Public safety provider collocations shall take priority over other co-locators.~~

~~(e) — A telecommunications consultant shall provide Planning Staff assistance on exorbitant rate leases.~~

~~(f) — All wireless support structures shall satisfy all applicable public safety, land use, or zoning issues required in this Ordinance, including~~

aesthetics, landscaping, land-use based location priorities, structural design, setbacks, and fall zones.

- ~~(g) Applicants shall evaluate the reasonable feasibility of collocating new antennas and equipment on an existing structure or structures within the applicant's search ring.~~
- ~~(h) Prior to issuing a building permit for the collocation of an antenna array on an existing facility, an applicant shall demonstrate that the collocation is located appropriately on the facility with the overall goal being to preserve the carrying capacity of the facility for future collocations and to minimize the visual intrusiveness and impact, including the profile of the facility.~~
- ~~(i) In determining the necessary height for a facility, or the height of a collocation on a facility, the signal strengths analyzed shall be the threshold or lowest signal strength at which the customer equipment is designed to function, which may be required to be determined by the manufacturer's published specifications for the customer equipment.~~
- ~~(j) Approval of the Planning Director to verify consistency with the definition of stealth facility is required.~~
- ~~(k) All telecommunications towers shall be placed in heavily wooded areas on the site to the maximum extent possible so as to lessen the visual intrusiveness of the structure and accessory structures.~~
- ~~(l) No tower shall be permitted to exceed its designed loading capacity. For all wireless support structures attached to existing structures, the engineer certification statement shall include certification that the structure can support the load superimposed from the wireless support structure. All wireless support structures shall have the capacity to permit multiple users; at a minimum monopole wireless support structures shall be structurally designed to accommodate four users and self-support/lattice or guyed wireless support structures shall, at a minimum accommodate three users.~~

~~(B) General Submittal Requirements – Special Use Permits or Conditional Districts~~

~~In addition to the general submittal requirements detailed herein, and the specific submittal requirements for all Special Use Permit applications detailed within Section 2.7 or 2.9, as applicable, of this Ordinance, applicants shall be required to adhere to the following:~~

~~(1) Overall Policy and Desired Goals~~

~~The overall policy and desired goals for approvals of wireless telecommunications support structures shall be promoting and encouraging, wherever possible, the following:~~

- ~~(a) Alternatives to constructing new wireless support structures, including but not limited to the collocation of wireless telecommunications equipment and mitigating the visual effect of a wireless telecommunication support structure to an extent not commercially impracticable; and~~
- ~~(b) The placement, height and quantity of wireless telecommunications towers and equipment in such a manner, including but not limited to the use of stealth technology or camouflage techniques, to minimize adverse aesthetic and visual impacts on the land, property, buildings, and other facilities adjacent to, surrounding, and in generally the same area as the requested location of such wireless telecommunications support structure, which shall mean using the least visually and physically~~

~~intrusive facility that is not technologically or commercially impracticable under the facts and circumstances.~~

(2) ~~Balloon Test and Neighborhood Information Meeting~~

- ~~(a) The applicant shall, at least 45 days prior to a Special Use Permit evidentiary hearing or Planning Board meeting at which a Conditional District application is scheduled for review, conduct a balloon test whereby the applicant shall arrange to fly, or raise upon a temporary mast, a minimum of 10'3" in length, brightly colored red or orange balloon at the maximum height of the proposed new wireless support structure.~~
- ~~(b) The balloon test shall be flown for at least four consecutive daylight hours starting sometime between 10:00 A.M. and 2:00 P.M. on the dates chosen.~~
- ~~(c) A notice of the dates (including a second date in case of poor visibility, weather or atmospheric conditions on the initial date), times, and location of the balloon test shall be mailed, by certified mail, return receipt requested, by the applicant, to all persons owning property within 1,000 feet of the subject parcel no less than 14 days in advance of the first test date. The data contained within the office of Orange County Land Records shall be used as the primary source for determining which residents are to receive notice of the balloon tests.~~
- ~~This notice shall also inform local residents that a neighborhood information meeting shall be held the day of the balloon test so that the applicant can explain the proposal and Planning staff, including the County's telecommunications consultant, can explain the review process.~~
- ~~(d) The primary date shall be on a weekend (excluding legal holidays), but to prevent delays in the processing of the application, and in case of poor weather or atmospheric conditions on the initial date, the secondary date may be a weekday.~~
- ~~(e) The applicant shall inform the County Planning Staff, in writing, of the dates and times of the test at least 14 days in advance.~~
- ~~(f) The applicant shall also post a sign on the subject property, and directional signs posted at locations to be determined by Planning Staff. The signs shall measure no more than nine square feet in area and no less than four square feet in area, giving the contact information of the County Planning Department, the proposed dates, times, and location of the balloon test. The signs shall be posted to meet the same time limits as provided for in the balloon test notification as stated above.~~

(3) ~~Submittal Requirements~~

~~In addition to the information required herein as well as Section 2.7 or 2.9, as applicable, the following shall be submitted as part of the application:~~

- ~~(a) A site plan showing the following:~~
- ~~(i) The entire site (including property boundary lines) and size of all existing structures within 500 feet of the site,~~
 - ~~(ii) Existing and proposed structures on site,~~
 - ~~(iii) The fall zone of the tower,~~
 - ~~(iv) Existing and proposed topography at a contour interval of five feet and~~
 - ~~(v) Any officially designated floodways and floodplains, or the presence of alluvial soils.~~

- ~~(b) Plans, and elevations for all proposed structures and descriptions of the color and nature of all exterior material, along with the make, model, and manufacturer of the proposed structure, maximum antenna heights, and power levels.~~
- ~~(c) A Landscape and Tree Preservation Plan drawn at the same scale as the site plan, showing the existing and proposed trees, shrubs, ground cover and other landscape materials. This plan shall minimize adverse visual effects of wireless telecommunications support structures and antennas through careful design, siting, landscape screening and innovative camouflaging techniques.~~
- ~~(d) Evidence that the applicant has investigated the possibilities of placing the proposed equipment on an existing wireless support structure. Such evidence shall consist of:

 - ~~(i) A listing of all wireless telecommunications support structures within a two mile radius of the proposed wireless support structure site and a listing of all wireless support structure, utility poles and other structures in the vicinity of the proposed facility that are technically feasible for utilization by the applicant to fill all or a substantial portion of the telecommunications service need identified by the Applicant pursuant to section 5.10.8(A)(1)(s). Documents shall be submitted at the time of application filing that indicates the applicant's ability or inability to co-locate on the identified tower(s) and reasons why.~~
 - ~~(ii) Delineation of the boundaries of the maximum search ring within which the telecommunication equipment can function as intended. The following information shall be provided for all existing wireless support structures within the search ring:

 - ~~a. Wireless telecommunication support structure height;~~
 - ~~b. Existing and planned wireless support structure users;~~
 - ~~c. Whether the existing wireless telecommunication support structure could accommodate the telecommunication equipment to be attached to the proposed wireless support structure without causing structural instability or radio frequency interference; and~~
 - ~~d. If the proposed telecommunication equipment cannot be accommodated on the existing wireless telecommunication support structure, assess whether the existing wireless support structure could be structurally strengthened or whether the antennas transmitters and related equipment could be protected from electromagnetic interference, and generally describe the means and projected cost of shared use of the existing wireless support structure; and~~
 - ~~e. Any restrictions or limitations of the FCC or FAA that would preclude the shared use of the wireless support structure;~~
 - ~~f. Propagation studies of all adjoining planned, proposed, in-service, or existing sites, and;~~
 - ~~g. Any additional information requested by the County.~~~~
 - ~~(iii) A summary explanation of why proposed telecommunication equipment cannot be located on any of the existing wireless support structures in the search ring.~~~~

- ~~(e) Documentation from applicable state or federal agencies indicating requirements, which affect the appearance of the proposed wireless support structure, such as lighting and coloring.~~
- ~~(f) Draft performance bond guaranteeing removal of the wireless support structure in the event that it is abandoned or unused consistent with the provisions of this Ordinance~~
- ~~(g) A listing of, and current tax map identifying, all property owners within 1,000 feet of the parcel and addressed, first class stamped envelopes to the property owners for notifications of the public hearing in accordance with Section 2.7.6 of this Ordinance.~~
- ~~(h) A report containing any comments received by the applicant in response to the balloon test along with color photographs from various locations around the balloon.~~
- ~~(i) Evidence that the balloon test requirement has been met, including a notarized statement and listing of the property owners notified of the test, a copy of a current Orange County Tax Map showing the subject property and all properties within the notification ring, and copies of the certified mail returned receipts from the mail out.~~
- ~~(j) A notarized statement that the sign posting requirement has been met.~~
- ~~(k) Photographs of a clearly visible balloon floated at the proposed tower location to the maximum height of the tower, as well as photographs with the proposed tower and associated antennas superimposed upon them showing what the proposed tower will look like. Photographs shall be taken from locations such as: property lines, and/or nearby residential areas, historic sites, roadways, including scenic roads and major view corridors, and other locations as deemed necessary by the Planning Staff to assess the visual impact of the proposed tower.~~
- ~~(l) The application shall include a statement that the facility and its equipment will comply with all federal, state and local emission requirements.~~
- ~~(m) An Applicant may be required to submit an Environmental Assessment Analysis and a Visual addendum. Based on the results of the Analysis, including the Visual addendum, the County may require submission of a more detailed visual analysis. The scope of the required Environmental and Visual Assessment will be reviewed at the pre-application meeting.~~
- ~~(n) If required, a Visual Impact Assessment, which shall include:
 - ~~(i) A "Zone of Visibility Map" shall be provided in order to determine locations from which the tower may be seen.~~
 - ~~(ii) Panorama photo simulations of the proposed wireless support structure, superimposed on the existing landscape, to scale, showing "before and after" views including but not limited to State highways and other major roads; State and local parks; other public lands; historic districts; preserves and historic sites normally open to the public; and from any other location where the site is visible to a large number of visitors, travelers or residents~~
 - ~~(iii) An assessment of the visual impact of the wireless support structure base, guy wires and accessory buildings from abutting and adjacent properties and streets shall be considered to determine the need of screening.~~~~

- ~~(o) All applications shall contain a demonstration that the wireless support structure is sited so as to have the least visually intrusive effect reasonably possible and thereby have the least adverse visual effect on the environment and its character, on existing vegetation, and on the residences in the area of the telecommunications tower.~~
- ~~(p) A statement, prepared by a professional engineer licensed in the State of North Carolina, which through rational engineering analysis, certifies the tower's compliance with applicable standards as set forth in the State of North Carolina Building Code, and any associated regulations; and describes the tower's capacity, including an example of the number and type of antennas it can accommodate.~~

~~(4) Standards of Evaluation~~

- ~~(a) The telecommunications equipment planned for the proposed wireless support structures cannot be accommodated on an existing wireless support structures due to one or more of the following reasons:

 - ~~(i) The planned equipment would exceed the structural capacity of existing and approved wireless support structures, considering existing and planned use of those wireless support structures and the wireless support structures cannot be reinforced to accommodate planned or equivalent equipment at a reasonable cost.~~
 - ~~(ii) The planned equipment would cause radio frequency interference with other existing or planned equipment for these wireless support structures, and the interference cannot be prevented at a reasonable cost.~~
 - ~~(iii) Existing or approved wireless support structures do not have space on which the equipment can be placed so it can function effectively and reasonably in parity with similar existing or approved equipment.~~
 - ~~(iv) No tower or other suitable facility exists in an area where the equipment to be placed on the tower will function in its intended manner.~~~~
- ~~(b) Location of Wireless Support Structures

 - ~~(i) Applicants for facilities shall locate, site and erect said facilities according to the following priorities, in the following order:

 - ~~a. On existing County-owned facilities without increasing the height of the tower or structure.~~
 - ~~b. On existing Facilities without increasing the height of the tower or structure.~~
 - ~~c. On County-owned properties or facilities.~~
 - ~~d. On properties in areas zoned for commercial or industrial use.~~
 - ~~e. On properties in areas zoned Agricultural Residential (AR).~~
 - ~~f. On properties in areas zoned for residential use.~~~~
 - ~~(ii) If an Applicant proposes to place telecommunications equipment at a location that is not a preferred priority 1 site, then the Applicant must provide a detailed explanation as to why a higher priority site is not proposed. The explanation shall be in the form of a written report demonstrating the Applicant's review of the~~~~

~~above locations in order of priority and the reason(s) for the site selection. The explanation shall, at a minimum, include the information required by section 5.10.8(B)(3)(d).~~

- ~~(iii) — The application shall not be approved unless it demonstrates that the telecommunications equipment may not be sited at a higher priority site because of commercial impracticability or because no higher priority site is available that would serve to provide the telecommunications service need identified by the Applicant as provided for in section 5.10.8(A)(1)(c).~~
- ~~(iv) — An Applicant may not by pass sites of higher priority merely because the site proposed is the only site leased or selected. Agreements between providers limiting or prohibiting collocation shall not be a valid basis for any claim of commercial impracticability.~~
- ~~(v) — Notwithstanding that a potential site may be situated in an area of highest priority or highest available priority, an application shall not be approved if it conflicts with the provisions and requirements of this Ordinance.~~
- ~~(vi) — Wireless support structures shall not be located within one-half (½) mile of any existing monopole, lattice or guyed wireless telecommunications support structure.

 - ~~a. — An exception may be allowed when the applicant can sufficiently demonstrate that:

 - ~~i. — Appropriate space on the existing telecommunication wireless support structure is not available; or~~
 - ~~ii. — The applicant has made good faith effort to negotiate an agreement with the owner of the existing wireless telecommunication support structure and has been unsuccessful, which must be documented in writing; or~~
 - ~~iii. — The telecommunication equipment on the existing wireless telecommunication support structure is not compatible with the proposed telecommunication equipment of the applicant; or~~
 - ~~iv. — Adequate coverage by the applicant cannot be met at the location of the existing wireless telecommunication support structure; or~~
 - ~~v. — The existing wireless telecommunication support structure cannot be reasonably modified to accommodate additional collocation by the applicant.~~~~
 - ~~b. — Exceptions shall only be allowed after a thorough analysis of the search area, provided by the applicant is performed by the County's consultant or Staff, indicating that coverage is not possible on an existing wireless support structure at the four carrier capacity or other user capacity that can be achieved.~~~~
- ~~(c) — Setbacks

 - ~~(i) — Within or adjacent to residential zoning districts, minimum~~~~

~~setbacks from the base of the wireless support structure to the property boundary shall be equal to 110% of the wireless support structure height.~~

~~(ii) If the wireless support structure is proposed as an accessory use to a residential use, the setback shall be 110% of the wireless support structure height from any residence or dwelling unit on the subject property.~~

~~(iii) Adjacent to non-residential uses or non-residential zoning districts, minimum setbacks from the base of the wireless support structure to the property boundary shall be the greater of 20% of the tower height, or the minimum required setback.~~

~~(iv) All buildings and other structures to be located on the same zoning lot as a telecommunication tower wireless support structure shall conform with the setbacks established for the zoning district or as established through the subdivision process, whichever is greater.~~

~~(d) Access~~

~~(i) At a wireless telecommunications support structure site, an access road, turn-around space and parking shall be provided to ensure adequate emergency and service access.~~

~~(ii) Maximum use of existing roads, whether public or private, shall be made to the extent practicable.~~

~~(iii) Road construction shall, at all times, minimize ground disturbance and the cutting of vegetation.~~

~~(iv) Road grades shall closely follow natural contours to ensure minimal visual disturbance and reduce soil erosion.~~

~~(e) Landscaping and Buffers~~

~~(i) A Type C Landscape Buffer shall be provided between the wireless support structures and its accessory structures and adjoining property/properties.~~

~~(ii) Existing vegetation may be removed only to the extent necessary to accommodate the wireless support structures, equipment buildings, and support structures such as guy wires.~~

~~(iii) Plantings around the compound perimeter, outside of any fence or wall, shall be composed entirely of fast growing evergreen vegetation.~~

~~(iv) New plantings and existing vegetation used for screening shall be at least six feet in height or greater at planting.~~

~~(v) Proposed plantings (name, type, height) shall be shown on the Landscape Plan for the facility.~~

~~(vi) Landscaping shall provide a screen on a year-round basis.~~

~~(f) The visibility of the balloon to adjacent properties and the surrounding area shall not constitute sole justification of denial of a permit application, but is an indication of what location on the site may be less visually intrusive.~~

~~(g) The applicant shall demonstrate and provide a description in writing and by drawing how it shall effectively screen from view the base and all related equipment and structures of the proposed facility.~~

- ~~(h) The site plan shall indicate a location for at least two equipment buildings in addition to that proposed for use by the applicant.~~
- ~~(i) All utilities at a facility site shall be installed underground and in compliance with all Laws, ordinances, rules and regulations of the County, including specifically, but not limited to, the National Electrical Safety Code and the National Electrical Code where appropriate.~~
- ~~(j) All wireless support structures shall satisfy all applicable public safety, land use, or zoning issues required in this Ordinance, including aesthetics, landscaping, land use based location priorities, structural design, setbacks, and fall zones.~~
- ~~(k) Fences and Walls~~
 - ~~(i) An eight foot fence or wall shall be required around the base of any wireless support structures. This fence or wall shall encompass all accessory equipment within the compound.~~
 - ~~(ii) Fences shall be required around guy wire tie downs~~
 - ~~(iii) A fence or wall may be placed around the perimeter of the facility to include guy wire tie downs and associated equipment should the applicant/owner wish to do so.~~
- ~~(l) The communications tower is structurally designed to support additional users as provided for in Section 5.10.8(A)(3)(d), and the Special Use Permit or Conditional District approval includes a statement that the owner of the wireless support structure is willing to permit other user(s) to attach communication equipment which do not interfere with the primary purpose of the wireless support structure, provided that such other users agree to negotiate a reasonable compensation to the owner from such liability as may result from such attachment.~~
- ~~(m) To minimize the number of antenna arrays and thus the visual impact, the County may require that dual mode antennas be used, including by two different carriers, unless it can be proven that such will not work technologically and that such would have the effect of prohibiting the provision of service in the County.~~
- ~~(n) Structures shall be galvanized and/or painted with a rust preventive paint of an appropriate color to harmonize with the surroundings.~~
- ~~(o) Both the wireless telecommunications support structure and any and all accessory or associated telecommunication equipment and related facilities shall maximize the use of building materials, colors and textures designed to blend with the structure to which it may be affixed and/or to harmonize with the natural surroundings, this shall include the utilization of stealth technology as may be required by the County.~~
- ~~(p) Antennas~~
 - ~~(i) All new or replacement antennas, except omni-directional whip antennas, shall be flush mounted or as close to flush mounted as is technologically possible on any facility, so long as such does not have the effect of prohibiting the provision of service to the intended service area, alone or in combination with another site(s), unless the applicant can prove that it is technologically impracticable.~~
 - ~~(ii) If attached to a building, all antennas shall be mounted on the facade of the building and camouflaged so as to match the color and, if possible, texture of the building or in a manner so as to make the antennas as visually innocuous and undetectable as is~~

~~possible given the facts and circumstances involved.~~

~~(q) — Lighting~~

~~(i) — The wireless support structures will not be artificially lighted unless required by the FAA, FCC or other federal or state agency. Where such agencies allow a choice between painting the tower or installing strobe lighting, painting shall be the preferred choice.~~

~~(ii) — If lighting is legally required or proposed, the applicant shall provide a detailed plan for sufficient lighting of as unobtrusive and inoffensive an effect as is permissible under State and federal regulations.~~

~~(iii) — For any facility for which lighting is required under the FAA's regulations, or that for any reason has lights attached, all such lighting shall be affixed with technology that enables the light to be seen as intended from the air, but that prevents the ground scatter effect so that it not able to be seen from the ground to a height of at least 12 degrees vertical for a distance of at least one mile in a level terrain situation. Such device must be compliant with or not in conflict with FAA regulations. A physical shield may be used, as long as the light is visible from the air, as intended by the FAA.~~

~~(iv) — All outdoor lighting not regulated by the FCC shall comply with the Outdoor Lighting Standards set forth in Section 6.11 of this Ordinance.~~

~~(r) — The tower and antenna will not result in a significant adverse impact on the view of or from any historic site, scenic road, or major view corridor.~~

~~(s) — Facilities, including antennas, towers and other supporting structures, such as guy anchor points and wires, shall be made inaccessible to individuals and constructed or shielded in such a manner that they cannot be climbed or collided with; and transmitters and telecommunications control points shall be installed in such a manner that they are readily accessible only to persons authorized to operate or service them.~~

~~(t) — A determination shall be made that the facility and its equipment will comply with all federal, state and local emission requirements, and the Special Use Permit or Conditional District approval shall include a statement that the facility and its equipment will comply with all federal, state and local emission requirements.~~

~~(u) — Electro-Magnetic Radiation Levels~~

~~(i) — The Special Use Permit or Conditional District approval shall include a condition that the electro-magnetic radiation levels maintain compliance with requirements of the FCC, regarding emission of electromagnetic radiation.~~

~~(ii) — Within 30 days of installation of equipment on the tower, and within 30 days of the installation of any additional equipment in the future, the tower owner shall provide documentation of emission levels in relation to FCC standards.~~

~~(iii) — In addition, the tower owner must provide documentation of emission levels within five working days if so requested by Orange County.~~

~~(iv) — Orange County may make such requests at any time, not to~~

exceed two times per year.

- (v) ~~“High Voltage”, “No Trespassing” and Other Signs~~
 - (i) ~~If high voltage is necessary for the operation of the telecommunications tower or any accessory structures, “HIGH VOLTAGE – DANGER” warning signs shall be permanently attached to the fence or wall and shall be spaced no more than 40 feet apart.~~
 - (ii) ~~“NO TRESPASSING” warning signs shall be permanently attached to the fence or wall and shall be spaced no more than 40 feet apart.~~
 - (iii) ~~The letters for the “HIGH VOLTAGE – DANGER” and “NO TRESPASSING” warning signs shall be at least six inches in height. The two warning signs may be combined into one sign. The warning signs shall be installed at least five feet above the finished grade of the fence.~~
 - (iv) ~~The warning signs may be attached to freestanding poles if the content of the signs would, or could, be obstructed by landscaping. Signs noting federal registration (if required) shall be attached to the tower structure in compliance with federal regulation.~~
 - (v) ~~Facilities shall contain a sign no larger than four square feet to provide adequate notification to persons in the immediate area of the presence of RF radiation or to control exposure to RF radiation within a given area.~~
 - (vi) ~~A sign no larger than four square feet containing the name(s) of the owner(s) and operator(s) of the antenna(s) as well as emergency phone number(s) shall be installed. The sign shall be on the equipment shelter or cabinet of the applicant and be visible from the access point of the site and must identify the equipment owner of the shelter or cabinet.~~
 - (vii) ~~On tower sites, an FCC registration sign, as applicable, is also to be present. The signs shall not be lighted, unless applicable law, rule or regulation requires lighting.~~
 - (viii) ~~The use of any portion of a tower for signs or advertising purposes including company name, banners, streamers, etc. shall be strictly prohibited.~~
 - (ix) ~~Mobile or immobile equipment not used in direct support of a tower facility shall not be stored or parked on the site of the telecommunication tower, unless repairs to the tower are being made.~~

(5) ~~Performance Guarantees~~

- (a) ~~The applicant and/or the owner of record of a telecommunication support structure shall, at their expense, execute and file with the County a Performance Guarantee ensuring the faithful performance of the terms and conditions of this Section, Section(c) 2.27 and 6.22 of this Ordinance, and applicable conditions of any Special Use Permit or Conditional District approval. This guarantee shall include costs for the removal of a telecommunication support structure that has ceased being used consistent with Section 5.10.9 of this Ordinance.~~
- (b) ~~The full amount of the Performance Guarantee shall remain in full force and effect throughout the term of the Special Use Permit or Conditional~~

~~District approval and/or until any necessary site restoration is completed to restore the site to a condition comparable to that, which existed prior to the issuance of the original Special Use Permit or Conditional District approval.~~

~~(6) — Liability Insurance~~

- ~~(a) — A holder of a Special Use Permit or Conditional District approval for a wireless support structure shall secure and at all times maintain public liability insurance for personal injuries, death and property damage, and umbrella insurance coverage, for the duration of the Special Use Permit or Conditional District approval in the following amounts:

 - ~~(i) — Commercial General Liability covering personal injuries, death and property damage: \$1,000,000 per occurrence/\$2,000,000 aggregate; and~~
 - ~~(ii) — Automobile Coverage: \$1,000,000.00 per occurrence/ \$2,000,000 aggregate; and~~
 - ~~(iii) — A \$3,000,000 Umbrella coverage; and~~
 - ~~(iv) — Workers Compensation and Disability: Statutory amounts.~~~~
- ~~(b) — For a wireless support structure on County property, the Commercial General Liability insurance policy shall specifically name the County as an additional insured. The insurance policies shall be issued by an agent or representative of an insurance company licensed to do business in the State and with a Best's rating of at least A.~~
- ~~(c) — The insurance policies shall contain an endorsement obligating the insurance company to furnish the County with at least 30 days prior written notice in advance of the cancellation of the insurance.~~
- ~~(d) — Renewal or replacement policies or certificates shall be delivered to the County at least 15 days before the expiration of the insurance that such policies are to renew or replace.~~
- ~~(e) — Before construction of a permitted facility is initiated, but in no case later than 15 days prior to the grant of the building permit, the holder of the Special Use Permit or Conditional District approval shall deliver to the County a copy of each of the policies or certificates representing the insurance in the required amounts. A Certificate of Insurance that states that it is for informational purposes only and does not confer rights upon the County shall not be deemed to comply with this Section.~~

~~(C) — General Building and Inspection Standards for all Telecommunication Support Structures~~

~~(1) — Tower Inspection~~

- ~~(a) — Telecommunication tower owners shall submit a report to the County Inspections Division certifying structural and electrical integrity upon completion of the initial construction and at intervals as specified in this Section.~~
- ~~(b) — Inspection records shall be kept by the tower owner and made available upon request to the Inspections Division during regular business hours.~~
- ~~(c) — The following inspection schedule shall be followed, except in cases where a tower has no structures other than those associated with telecommunication tower use located within the tower's fall zone.

 - ~~(i) — At least once every 36 months, or 36 months from the date of a collocation approval, a structural engineer who is regularly involved in the maintenance, inspection and/or erection of~~~~

~~telecommunications towers shall inspect the tower and submit a report to the Inspections Division within a reasonable time thereafter. At a minimum, this inspection shall be conducted in accordance with the provisions of this Ordinance and in accordance with the tower inspections check list provided in the EIA-222 (as amended from time to time). This is considered a major inspection review.~~

- ~~(ii) At least once every 12 months, a visual inspection from the ground shall be conducted by a properly trained staff member of a tower provider or tower consultant and a report shall be filed with the Inspections Division within a reasonable time thereafter. This inspection shall include, but shall not be limited to, visual inspection of tower foundations, structures, guys, and connections for evidence of settlement or later movement; soil erosion; condition of paint or galvanizing; rust or corrosion, loose or missing bolts, loose or corroded lightning protection connectors; tower plumbness, significant variation in guy sags (i.e. tensions), and other material areas or matters relating to the structural integrity of the tower. This is considered a minor inspection review.~~
- ~~(iii) In addition to the regularly scheduled major and minor inspections set forth herein, a minor inspection, at a minimum, will be conducted if the tower or its appurtenances are noted at any time to be visibly damaged. Additionally, a major inspection shall be conducted if the visible damage to the tower is significant or when, after conducting a minor inspection, significant questions remain about the structural integrity of the tower.~~
- ~~(d) The Inspections Division may conduct periodic inspections of telecommunications towers to ensure electrical integrity. The owner of the telecommunication tower may be required by the County to have more frequent inspections should there be reason to believe that the electrical integrity of the tower is jeopardized. The County reserves the right to require additional inspections if there is evidence that the tower has a safety problem or is exposed to extraordinary conditions.~~
- ~~(e) Any tower found, through inspection by the owner or by inspection of the Inspections Division, to be structurally unsafe and cannot be brought into compliance within 180 days shall be removed at the owner's expense.~~
- ~~(f) Current or former EIA standards shall apply to the addition of antennas or other appurtenances to communications towers under the following conditions:

 - ~~(i) Additions to towers constructed prior to the effective date of this Ordinance, regardless of whether the additions are accounted for in the original design, shall comply with the current EIA standards, and the wind loading specified therein. Additions to towers constructed subsequent to the effective date of this Ordinance shall comply with standards set forth elsewhere in this Section.~~
 - ~~(ii) Existing towers that will not have any additional attached appurtenances shall at a minimum comply with the EIA standards in existence at the time the tower was erected.~~
 - ~~(iii) Replacement of antennas or other appurtenances shall at a minimum comply with the EIA standard in existence at the time the tower was erected if the replacement does not add to the~~~~

~~original design loading.~~

~~(iv) — If a structural analysis shows a tower is not in compliance with the appropriate EIA standards, the owner shall submit an application to the Inspections Division with a plan to bring the tower into compliance within six months.~~

~~(v) — Analysis of Existing Towers~~

~~a. — Within 12 months of the effective date of this Ordinance an analysis commissioned by tower owners and prepared by a North Carolina Licensed Professional Engineer (P.E. Analysis) shall be performed on all towers in excess of 100 feet in height and shall be submitted to the Inspections Division.~~

~~b. — The analysis shall determine the tower's compliance or lack thereof with the EIA standard in effect at the time the tower was constructed and when the most recent structural loading change was made.~~

~~c. — For all towers less than six years old, a current existing P.E. analysis of the tower may be submitted in lieu of the new P. E. analysis required above.~~

~~d. — If the tower does not meet the aforementioned EIA standards, the letter or existing P.E. analysis shall include the types of modifications that would be required to bring the tower up to standard.~~

~~e. — All existing towers shall be subject to the annual electrical inspection conducted by the Inspections Division including any associated inspection fees.~~

~~f. — The Inspections Division shall be notified in writing when a required analysis is complete. A copy of the analysis report shall be made available to the County Inspections Division upon request. That report shall also give details of the net result of any changes made to the tower or its appurtenances since the last inspection.~~

(D) — Fees

~~(1) — A filing fee as set by the Board of County Commissioners shall be paid upon application for a Site Plan/Zoning Compliance Permit Application, a Building Permit application, a Conditional District, or Special Use Permit.~~

~~(2) — An inspection fee is due the County at the time of all required future inspections as detailed within Section 5.10.8(C)(1)(c) of this Ordinance. Such fees may reflect the County's fully allocated costs, and shall not exceed such costs.~~

~~(3) — Public land or right-of-way lease agreements shall be established by separate instrument and recorded prior to the issuance of Building Permits.~~

~~(4) — Consultant Fee. Regardless of the type of telecommunication support structure proposed (i.e. administrative approval, special use permit, collocation, etc.) an applicant is required to submit a fee to cover the County's telecommunications consultant to review the application. An escrow account of an amount determined by the Board of County Commissioners, as denoted on the adopted fee schedule, shall be paid by check to Orange County to pay associated consultant review fees during all phases of the application review process. The Board of County Commissioners shall determine the amount of charges or fees assessed to an applicant on account of an outside consultant in advance and incorporate these charges and fees into an application fee that is based on the~~

~~reasonable costs of the services the County incurs in connection with the application review. The fees and charges paid by the applicant for the services of a consultant shall not exceed what is usual and customary for wireless facilities and support structures. The foregoing does not prohibit the County from imposing additional reasonable cost-based fees for the actual costs incurred by the County for a consultant's review of an application due to amendments or revisions to the original application. The amount of the consultant charges incorporated into the application fee shall be separately identified and disclosed to the applicant upon request. Any unused funds in the account after either the approval of the Certificate of Occupancy (CO), or the expiration of the Special Use Permit approval, whichever is sooner, shall be returned to the designated party.~~

5.10.9 Removal of Wireless Support Structures and Facilities

- ~~(A) The owner of any facility shall be required to provide a minimum of 30 days written notice to the County Clerk prior to abandoning any facility.~~
- ~~(B) County Determination~~
- ~~Under the following circumstances, the County may determine that the health, safety, and welfare interests of the County warrant and require facility removal:~~
- ~~(1) Facilities that have been abandoned (i.e. not used as facilities) for a period exceeding 90 consecutive days or a total of 180 days in any 365 day period, except for periods caused by force majeure or Acts of God, in which case, repair or removal shall commence within 90 days of abandonment;~~
- ~~(2) Permitted facilities fall into such a state of disrepair that it creates a health or safety hazard;~~
- ~~(3) Facilities have been located, constructed, or modified without first obtaining, or in a manner not authorized by, the required Special Use Permit or Conditional District approval, or any other necessary authorization and the development approval may be revoked.~~
- ~~(C) If the County makes such a determination as noted above, then the County shall notify the holder of the development approval for the facility within 48 hours that said facility shall be removed.~~
- ~~(D) The holder of the development approval, or its successors or assigns, shall dismantle and remove such facility, and all associated structures, from the site and restore the site to as close to its original condition as is possible, such restoration being limited only by physical or commercial impracticability, within 90 days of receipt of written notice from the County. However, if the owner of the property upon which the facility are located wishes to retain any access to the facility, the owner may do so with the approval of the County.~~
- ~~(E) If a facility is not removed or substantial progress has not been made to remove the facilities within 90 days after the permit holder has received notice, then the County may order officials or representatives of the County to remove the facility at the sole expense of the owner or development approval holder.~~
- ~~(F) If the County removes, or causes to be removed a facility, and the facility owner does not claim and remove it from the site to a lawful location within ten days, then the County may take steps to declare the facility abandoned, and sell them and their components.~~
- ~~(G) Temporary Use Permit/Agreement~~
- ~~(1) Notwithstanding anything in this Section to the contrary, the County may approve a temporary use permit/agreement for the facility, for no more than 90 days, during which time the holder of the development approval shall develop a suitable plan for facility removal, conversion, or re-location, subject to the approval of the County, and the holder of the development approval and the County shall execute an agreement to such plan.~~

- ~~(2) If such a plan is not developed, approved and executed within the 90 day time period, then the County may take possession of and dispose of the affected facility in the manner provided in this Section and utilize the Performance Guarantee.~~

5.10.10 Ham Radio Antenna

~~(A) Standards of Evaluation~~

- ~~(1) Shall be for the private use of the property owner on which they are located.~~
- ~~(2) Shall not exceed 90 ft. in height.~~
- ~~(3) Minimum setbacks from the base of the antenna to the property boundary shall be equal to 110% of the tower height.~~

5.10.1 Purpose and Intent

~~(A) This section establishes general standards for the siting of wireless telecommunications facilities that will provide for the public health, safety, and welfare. The terms “wireless support structure” and “tower” are synonymous. The provisions of this section are specifically intended to:~~

- ~~(1) Protection of residential areas and uses from potential adverse impacts of wireless communications facilities, and generally encourage these facilities in areas where adverse impacts on the community are minimal;~~
- ~~(2) Encourage the placement of wireless telecommunications facilities in non-residential areas;~~
- ~~(3) Minimize the number of new major telecommunications towers (wireless support structures);~~
- ~~(4) Create conditions where wireless telecommunications service providers are able to provide wireless telecommunications services effectively and efficiently in accordance with State and Federal law;~~
- ~~(5) Minimize the number of new telecommunications towers throughout the County by encouraging the joint use or collocation of new and existing wireless telecommunications facilities; and~~
- ~~(6) Establish collocation and concealed towers as the preferred options for the accommodation of wireless telecommunications equipment.~~

~~(B) Policy of Orange County~~

~~It is the policy of Orange County that new wireless telecommunications facilities and/or substantial modifications to existing telecommunications facilities be located in the following prioritized order:~~

- ~~(1) Collocations on any existing wireless support structure provided that the height of the structure is not increased.~~
- ~~(2) New wireless support structures located on state or local government real properties owned or leased by Orange County, municipalities, EMS, Public Safety, public utility authorities as defined in N.C. General Statutes Chapter 162A, (e.g., OWASA and Orange Alamance Water), and Institutions of higher public education and research (e.g. UNC, Duke, Duke Forest Durham Technical Community College);~~
- ~~(3) Properties in areas zoned for commercial, economic development, or industrial use.~~
- ~~(4) Properties in areas zoned Agricultural Residential (AR), Rural Residential (R-1), or Rural Buffer (RB); and~~

(5) Properties in areas zoned for denser residential use.

(C) EXEMPTIONS

The standards in this section shall apply to all wireless telecommunications facilities except for the following, which are exempted from these standards but remain subject to all other applicable standards in this Ordinance:

- (1) Removal of antennas, wireless support structures, or wireless telecommunications equipment on an existing telecommunications tower, utility pole, vertical projection, or equipment compound, where the device or structure is not replaced;
- (2) The operation of a small wireless facility solely within or inside an open structure, (e.g. an athletic stadium);
- (3) Per 47 CFR 1.4000 and FCC Order 98-273 non-commercial uses of dish antennas, satellite earth stations, noncommercial receive-only TV or radio antennas Dish antenna/ satellite earth stations may be no more than one (1) meter (39.37 inches) in diameter and not greater than 35 feet above ground level.
- (4) County or other government-owned wireless communications; and
- (5) Properties in areas zoned for denser residential use. Upon the declaration of a state of emergency by U.S. or N.C. State government(s), temporary, commercial wireless communications facilities may receive temporary use permits under section 5.10.11.

(D) Wireless telecommunications facilities subject to this section.

The following use types and configurations are considered to be wireless telecommunications facilities, and land uses subject to these requirements:

<u>Type of Approval</u>	<u>Type of Wireless Telecommunications Facility</u>
<u>Administrative</u>	<u>New, replacement, and substantial modifications of major telecommunication towers up to 74 feet in height</u>
<u>Administrative</u>	<u>Stealth or concealed telecommunication towers, antennae, or wireless telecommunications equipment up to 74 feet in height</u>
<u>Administrative</u>	<u>Collocations of antennae and associated equipment on existing towers, buildings, or other vertical projections that are not substantial modifications</u>
<u>Administrative</u>	<u>The installation of small / micro wireless telecommunications facilities</u>
<u>On government properties -Administrative; On non-government owned properties - Special Use Permit (SUP)</u>	<u>New, replacement, and substantial modifications of major telecommunication towers between 75 and 214 feet in height</u>
<u>SUP</u>	<u>New, replacement, and substantial modifications of major telecommunication towers of 215 feet in height or taller</u>

5.10.2 Standards and Submittal Requirements for all new Wireless Support Structures and Substantial Modification

The following requirements shall apply to all new wireless telecommunications facilities, substantial modifications and any modifications to an existing wireless telecommunications facility that exceeds the scope of routine maintenance.

(A) Applicant Statements:

Signed statement(s) from the applicant and owner of the wireless support structure certifying that the proposed telecommunication support structure:

- (1) Shall be maintained in a safe manner;
- (2) Is in compliance with all conditions of all applicable permits and authorizations without exception; and
- (3) Is in compliance with all applicable and permissible local, State, and Federal rules and regulations.

(B) A detailed description of the proposed wireless support structure (e.g., monopole, self-supporting lattice, or other.), including a detailed narrative description of the specific objective(s) for the new facility with a description regarding coverage and/or capacity within the geographic area of intended coverage for the proposed wireless support structure, and how the proposed tower will minimize its visibility to properties in the area; and

(C) A statement by a N.C. Professional Engineer that certifies the tower's compliance with applicable N.C. State Building Codes regarding the tower's capacity to safely carry the number and type of antennas proposed. FOR NEW WIRELESS SUPPORT STRUCTURES ONLY, a Fall Zone Analysis will be provided. A N.C. Professional engineer shall submit a sealed document stating the area(s) in which the wireless support structure will fall if the structure fails.

(D) All wireless support structures shall have the capacity to permit multiple users. Self-support/lattice or guyed wireless support structures shall accommodate at least three users.

(E) A site plan and site plan application meeting Section 2.5. In addition to the requirements of Section 2.5.3, the following additional information shall also be included:

- (1)** Elevations for all proposed structures and descriptions of the color and nature of all exterior material, along with the make, model, and manufacturer of the proposed structure, maximum antenna heights, and power levels;
 - (a)** Wireless support structures shall be galvanized and/or painted with a rust-preventive paint of an appropriate color to harmonize with the surroundings;
 - (b)** Both wireless support structures and all accessory or associated telecommunication equipment and related facilities shall maximize the use of building materials, colors, and textures designed to blend with the structure to which it may be affixed and/or to harmonize with the natural surroundings, this shall include the utilization of stealth technology.
- (2)** All utilities at a facility site shall be installed underground.
- (3)** A map showing the size and location of all existing structures within 1,000 feet of the property boundaries where the facility is to be installed.
- (4)** A site plan of the wireless support structure showing all of the following:
 - (a)** Within or adjacent to residential zoning districts, minimum setbacks from the base of the wireless support structure to the property boundary shall be equal to 110% of the wireless support structure height.

- (b) If the wireless support structure is proposed as an accessory use to a residential use, the setback shall be 110% of the wireless support structure height from any residence or dwelling unit on the subject property.
- (c) Adjacent to non-residential uses or non-residential zoning districts, minimum setbacks from the base of the wireless support structure to the property boundary shall be the greater of 20% of the tower height, or the minimum required setback.
- (d) All stealth towers, buildings and other structures to be located on the same zoning lot as a wireless support structure shall conform with the setbacks established for the zoning district or as established through the subdivision process, whichever is greater.
- (5) Landscape Plan. A Landscape Plan meeting the requirements of Section 6.8 is required.
- (F) A statement evidencing compliance with federal and state regulations. All wireless telecommunication facilities shall comply with or exceed current standards and regulations of the Federal Aviation Administration (FAA), the Federal Communications Commission (FCC), and any other agency of the federal government that regulates telecommunications facilities. A copy of the FCC license applicable for the intended use of the facility as well as a copy of the 5 and 10- year building out plan required by the FCC is required. In addition to federal requirements, all wireless telecommunication facilities shall comply with or exceed current standards and regulations of N.C. Gen. Stat. §§160D-930 through 160D-936.
- (G) Accessory equipment.**
- An Itemization of all accessory equipment, including any buildings, cabinets, or shelters, shall be used only for the purpose of housing wireless telecommunications equipment and other supplies in direct support of the operation of the wireless telecommunications facility. Any equipment or materials not used in direct support of such an operation shall not be stored on the site.
- (H) Lighting Plan.**
- A lighting Plan in accordance with section 6.11 is required with the following additional prevailing standard:
- (1) Lighting of a wireless support structure is limited to that required for compliance with FAA minimum standards. Any lighting required by the FAA must be of the minimum intensity and duration. FAA-required lighting shall be designed so that it is not visible from the ground, to the extent permitted by FAA regulations.
- (I) Signage. "High Voltage," "No Trespassing" and Other Signs**
- (1) If high voltage is necessary for the operation of the telecommunications facility or any accessory structures, "HIGH VOLTAGE - DANGER" warning signs shall be permanently attached to the fence or wall and shall be spaced no more than 40 feet apart.
- (2) The warning signs may be attached to freestanding poles if the content of the signs would, or could, be obstructed by landscaping. Signs noting federal registration (if required) shall be attached to the tower structure in compliance with federal regulation.
- (3) The letters for the "HIGH VOLTAGE - DANGER" and "NO TRESPASSING" warning signs shall be at least six inches in height.
- (a) The two warning signs may be combined into one sign.
- (b) All warning signs shall be installed at least five feet above the finished grade of the fence.

- (4) Facilities shall contain a sign no larger than four square feet to provide adequate notification to people in the immediate area of the presence of RF radiation or to control exposure to RF radiation within a given area.
- (5) A sign no larger than four square feet containing the name(s) of the owner(s) and operator(s) of the antenna(s), as well as emergency phone number(s), shall be installed. The sign shall be on an equipment shelter or cabinet and be visible from the access point of the site.
- (6) The use of a wireless support structure for signs or advertising purposes including company name, banners, streamers, flags, or other similar devices is strictly prohibited.

(J) Retention of expert assistance and reimbursement by applicant.

The County may hire any consultant and/or expert necessary to assist the County in reviewing and evaluating applications for a wireless telecommunications facility, including the construction and modification of the site. The County consultants/experts shall invoice the County for its services in reviewing the application, including the construction and modification of the site, once permitted. The fees for these services shall be reimbursed by the applicant up to the statutory limits.

5.10.3 Submittal Requirements for all New Wireless Telecommunication Facilities and Substantial Modifications Requiring a Special Use Permit

An application meeting the requirements of Sections 2.7, 5.10.2, and this section is required. The application will be processed as any other application for a Special Use Permit (SUP) provided that the standards of this section are met.

(A) PROCEDURE for APPROVAL

- (1) Applications shall be approved according to the following schedule. If a decision is not reached within the allotted period, the application shall be automatically approved.

<u>Facility Requested</u>	<u>Time to Deem Application Complete (days)</u>	<u>Time to Decision After Application is Complete (days)</u>	<u>Total Time to Decide (days)</u>
<u>New Wireless Support Structure requiring a Special Use Permit, Site Plan Approval, or a Substantial Modification</u>	<u>90</u>	<u>60</u>	<u>150</u>
<u>Collocation</u>	<u>45</u>	<u>45</u>	<u>90</u>
<u>Small / Micro Wireless Facility</u>	<u>30</u>	<u>45</u>	<u>75</u>

(B) Additional Application Requirements and Standards

In addition to the requirements of Section 5.10.4, the following information shall be submitted with the application.

- (1) A Visual Impact Assessment, which shall include:
 - (a) A “Zone of Visibility Map” shall be provided in order to determine locations from which the tower (wireless support structure) may be seen;

- (b) Panorama photo simulations of the proposed wireless support structure, superimposed on the existing landscape, to scale, showing “before and after” views from public rights of way and/or publicly accessed properties and waters; and
- (c) A narrative assessment of the visual impact of the communications facility from adjacent properties and streets to determine the need of screening.

5.10.4 Standards and Procedures for Administrative Approvals of Wireless Support Structures, Substantial Modifications, Collocations and Eligible Facility Requests

(A) Applicability

The following telecommunication facilities may be approved administratively by the County provided that all of the provisions contained in Section 5.10 are met:

- (1) New stealth telecommunications wireless support structures;
- (2) Any monopole wireless support structure less than 75 feet in height;
- (3) Any wireless support structure less than 215 feet in height located on property that is owned or leased by
 - (a) Orange County;
 - (b) A voluntary fire organization;
 - (c) An Emergency Service organization; and/or
 - (d) Any other public entity;
- (4) A wireless support structure less than 215 feet in height on which the owner of such facility permits the County to collocate its wireless facilities on the structure at no charge to the County, at the County’s request;
- (5) Small and Micro-Wireless Facilities as defined and regulated by Section 5.10.8; .
- (6) Applications for collocation on Wireless Support Structures or other structures meeting the following requirements:
 - (a) The proposed additional facility will not increase the overall height and width of the tower or wireless support structure;
 - (b) (ii) Twenty-foot tall Wireless Support Structures are permitted on buildings as defined and regulated by Section 5.10.6(D);
 - (c) The proposed additional facility will comply with applicable regulations, restrictions, or conditions, if any, applied to the initial wireless facilities placed on the tower or other wireless support structure;
 - (d) The proposed additional wireless facilities comply with all federal, State, and local safety requirements;
 - (e) All applications for the collocation of antennas on existing structures shall be required to submit the following;
 - (i) The age of the existing wireless support structure;
 - (ii) The date of the original permit approval or authorization for the existing wireless support structure;
 - (iii) For a wireless support structure that was built five or more years before the date of an application, or for a guyed structure built three years before an application date, a copy of the latest ANSI Report done pursuant to the latest adopted Appendix to ANSI-EIA/TIA 222 for any self-supporting tower. If an ANSI report has not been done pursuant to the preceding schedule, an ANSI

report shall be done and submitted as part of the application. No Building Permit shall be issued for any wireless support structure where the structure being attached to is in need of remediation, unless and until the County Planning and Inspections Department has approved all remediation work needed has been completed and/or a schedule for the remediation work has been approved; and.

(iv) A Structural Report signed and sealed by a Professional Engineer showing the structural adequacy of the wireless support structure to accommodate the additional facility and any associated equipment.

(7) Notwithstanding the other provisions of Section 5.10, wireless communications facilities in existence as of December 10, 2002, may be replaced with a new wireless communications facility of equal or less visual impact, provided they comply with the minimum standards of Section 5.10.

(B) Stealth

(1) General Standards

- (a) To minimize adverse visual impacts, stealth antenna types shall be preferred.
- (b) Written narrative justifying that the wireless communications facility meets the definition of a stealth facility. Each application shall contain a rendering or photograph of the antenna (and Wireless Support Structure, if any) including, but not limited to, colors and screening devices.
- (c) Antennas, including their wireless support structure, shall not exceed 20 feet above the roofline of a building or support structure, water tank, or transmission line.
- (d) Any related equipment building shall not exceed 600 square feet of gross floor area per WCF user or exceed 12 feet in height.
- (e) A signed and sealed statement by a Professional Engineer that an antenna / wireless support structure will not compromise the structural integrity of a building, water tank, or transmission line.
- (f) If an equipment building is located on the roof of a building, the area of the equipment building shall not occupy more than 25% of the roof area.

(2) Setbacks

- (a) The setback of the primary land use shall apply to freestanding stealth wireless support structures when they are installed on existing structures.
- (b) For new free standing stealth wireless support structure, the setback shall be the distance required for the use being mimicked. For example, a concealed WTF disguised as a steeple shall be set back the distance required for churches.

(C) Colocations on Wireless Support Structure or Building

If a non-stealth antenna is proposed, the application shall be required to demonstrate, in a technical manner acceptable to the Planning Director, why the stealth antenna (as defined by this UDO) cannot be used for the particular application.

(1) Wireless support structures shall not exceed 20 feet above the roofline of the subject building or support structure, water tank, or transmission line. The height of the Wireless Support Structure shall be measured from the base of the structure to its highest point.

- (2) Non-stealth antennas shall only be permitted on buildings or structures that are at least 33 feet tall unless Orange County determines that public safety needs to warrant an antenna on a shorter building.
- (3) Antennas, wireless support structures, and related equipment buildings, shall be located or screened to minimize the visual impact of the antenna upon adjacent properties and shall be of a material or color which matches the exterior of the building or structure upon which it is situated.
- (4) Any related unstaffed equipment building shall not contain more than 600 square feet of gross floor area per service provider or be more than 12 feet in height.
- (5) If the equipment building is located on the roof of the building, the area of the equipment building shall not occupy more than 25% of the roof area and shall comply with all State of North Carolina Building Code requirements for the proposed and existing building;.
- (6) Current or former Electronic Industries Alliance standards shall apply to the addition of antennas or other appurtenances to communications towers under the following conditions:
 - (a) Additions to towers constructed prior to the effective date of this Ordinance, regardless of whether the additions are accounted for in the original design, shall comply with the current Electronic Industries Alliance standards, and the wind loading specified therein. Additions to towers constructed subsequent to the effective date of this Ordinance shall comply with standards set forth elsewhere in this Section.
 - (b) Existing towers that will not have any additional attached appurtenances shall at a minimum comply with the Electronic Industries Alliance standards in existence at the time the tower was erected.
 - (c) Replacement of antennas or other appurtenances shall at a minimum comply with the Electronic Industries Alliance standard in existence at the time the tower was erected if the replacement does not add to the original design loading.
 - (d) If a structural analysis shows a tower is not in compliance with the appropriate EIA standards, the owner shall submit an application to the Inspections Division with a plan to bring the tower into compliance within six (6) months.

(D) Monopoles

- (1) At a minimum, monopole wireless support structures shall be structurally designed to accommodate as many antenna arrays as the tower is designed to carry.

(E) Procedure

All applications for telecommunication facilities that are eligible for administrative approval shall be submitted and reviewed in accordance with the standards of Section 5.10.3 of this Ordinance.

- (1) A written decision approving or denying an application for administrative approval of a telecommunication facility under this section shall be issued no later than 45 days following the submission of a complete application.
- (2) If the Planning Director denies the application, the reasons for such a decision shall be stated in writing to the applicant.

5.10.5 Standards and Procedures for Small and Micro-Wireless Facilities

(A) An applicant may file a single consolidated application for up to 25 separate small or micro-wireless facilities at one time, but the County may choose to issue separate decisions on one or more of the facilities included within a consolidated application.

(B) Timeframe for review.

Applications for the establishment of a small/micro wireless facility shall be processed and decided within 45 days from the date the application is determined to be complete. Nothing shall prohibit the County and the applicant from mutually agreeing to a longer review period.

(1) If an application is denied, the County will send a written explanation of the reasons for denial no later than the date of denial. The applicant may cure the deficiencies and submit the revised application within 30 days of the initial denial. The application will be deemed complete on resubmission if the application materials cure the deficiencies. [See N.C. Gen. Stat. § 160D-933 (d)(3).]

(C) Timing for operation.

Construction of a small/micro wireless facility shall commence within six (6) months of its approval and the small wireless facility shall be activated for use within one (1) year from the permit issuance date, unless delayed by a lack of commercial power at the site.

(D) Maximum equipment size.

(1) In no instance shall a small or micro wireless facility exceed the following maximum size limitations found in the definition; a small or micro wireless facility that exceeds these maximum size limitations shall be reviewed as a wireless communications facility.

(2) Micro wireless facilities shall be no larger in dimension than 24 inches in length, 15 inches in width, and 12 inches in height and that has an exterior antenna, if any, no longer than 11 inches.

(3) The antenna(s) of small wireless facilities shall be located inside an enclosure of no more than 6 cubic feet in volume or, in the case of an antenna that has exposed elements, the antenna and all of its exposed elements, if enclosed, could fit within an enclosure of no more than 6 cubic feet. All other wireless equipment associated with the facility shall have a cumulative volume of no more than 28 cubic feet.

(a) The following types of ancillary equipment are not included in the calculation of equipment volume, as discussed herein: electric meters, concealment elements, telecommunications demarcation boxes, ground-based enclosures, grounding equipment, power transfer switches, cut-off switches, vertical cable runs for the connection of power and other services, or other support structures.

(E) Maximum height.

No new structure intended to support a small wireless facility shall be taller than 50 feet above the adjacent, pre-construction grade. An existing structure (such as a utility pole, light standard, sign, etc.) may be replaced in order to accommodate a small wireless facility, but the replacement structure shall not exceed the height of the original structure being replaced or 50 feet, whichever is taller. In cases where a new structure is installed to serve a small wireless facility exceeds 50 feet in height, the structure shall be reviewed and decided in accordance with the standards for a wireless communications facility, as defined and regulated by Section 5.10.

(1) The antennae or equipment associated with a small wireless facility project shall not exceed ten feet above the height of the structure the small wireless facility is

mounted on. In cases where a replacement structure intended to serve a small wireless exceeds the height of the original structure, the replacement structure shall be reviewed and decided in accordance with the standards for a collocation.

(F) Placement.

A small wireless facility, including the support structure and all other equipment, shall not obstruct the safe passage of vehicles, pedestrians, or bicycles.

(G) Method of attachment.

All equipment associated with a small wireless facility shall be fastened to a supporting structure in a manner that minimizes the potential for structural failure, as justified and established in a signed and sealed analysis from a professional engineer.

(H) Appearance.

The portion of a small/micro wireless facility attached to the support structure shall match the color of the support structure, to the maximum extent practicable. In cases where an applicant proposes inclusion of a small / micro wireless facility on a decorative support structure, sign, or other existing structure not constructed solely for the purposes of providing wireless telecommunications services, the County may require the small wireless facility to be configured or concealed to ensure compatibility with the structure as a condition of approval.

(I) Electrical service.

In cases where a small/micro wireless facility is proposed in areas where electrical service is underground, all electrical service to power the small wireless facility shall also be underground.

5.10.6 Cessation

- (A)** A wireless telecommunication facility shall be considered to have ceased operation if the County receives written notice from a wireless services provider that it intends to cease operations at a particular wireless telecommunication facility, or a wireless telecommunications facility ceases to transmit a wireless telecommunications signal for a period of 30 consecutive days or longer.
- (B)** Upon receipt of a written notice from a wireless services provider or upon determination that a wireless communication facility has ceased operation, the County shall forward written documentation of the cessation to the wireless services provider, and the owner of the land, if different.
- (C)** The deadline to remove the wireless support structure shall be 180 days for small /micro wireless facilities.

5.10.7 Abandonment

- (A)** The wireless telecommunications facility shall be deemed abandoned if wireless telecommunications signals do not resume for a period of 180 consecutive days or longer from the date the written documentation of cessation is filed.
- (B)** Upon making a determination that a wireless telecommunications facility has been abandoned, the County shall forward written documentation of the abandonment to the wireless services provider, and the owner of the land, if different.
- (C)** The deadline to remove the wireless support structure shall be 180 days for small /micro wireless facilities.

5.10.8 Removal

- (A)** The County may require the wireless services provider or the owner of the land, if different, to remove an abandoned wireless telecommunications facility within 30 days of the date it is deemed abandoned, according to Section 5.10.9.

(B) Should the wireless services provider, or the owner of the land, if different, fail to remove the abandoned telecommunications facility within 30 days of the date that notice of abandonment is filed, the County may remove the wireless telecommunications facility and recover the actual cost of such removal, including legal fees, from the wireless services provider and the owner of the land, if different. The county reserves the right to place a lien upon the property for unrecovered costs associated with the removal of the wireless communication facility.

(C) The deadline shall be 180 days for small /micro wireless facilities.

5.10.9 Temporary Use Permits for Wireless Support Structures and Facilities

(A) Notwithstanding anything in this Section to the contrary, the County may approve a temporary use permit/agreement for a facility for no more than 90 days, during which time the applicant shall develop a plan for facility removal, conversion to another type of wireless support structure, or relocation. All such modifications to the existing wireless communications facility shall be subject to the approval of the County.

(1) (1) EXCEPTION. Upon the declaration of a state of emergency by U.S. or N.C. State government(s), temporary, commercial wireless communications facilities may be granted temporary use permits for multiple 90-day terms. No emergency temporary use permit shall be granted more than 90 days after a state of emergency, or determination of public necessity ends.

(B) If such a plan is not developed, approved and executed within the 90-day time period, then the County may take possession of and dispose of the affected facility in the manner provided in this Section and utilize the filed bond or other security.

5.10.10 Ham Radio Antennas

(A) Standards of Evaluation

(1) Shall be for the non-commercial use of the property owner on which they are located.

(2) Shall not exceed 90 ft. in height.

(3) Setbacks from the base of the antenna to the property boundary shall be equal to 110% of the tower height.

5.10.11 Non-Conforming Wireless Telecommunications Facilities

See section 8.14.

SECTION 5.11: STANDARDS FOR WASTE MANAGEMENT FACILITIES

5.11.1 Solid Waste Collection Facilities Owned and Operated by A Public Agency for the Purpose of Disposal of Household Waste by Orange County Residents

(A) Standards of Evaluation

(1) The site shall consist of a parcel, or easement across a parcel, (whether owned or leased by the public agency) which has been recorded by the Orange County Register of Deeds.

(2) The parcel or easement across the parcel, (whether owned or leased by the public agency) on which the facility is located shall contain a minimum area of 40,000 square feet.

(3) The parcel or easement shall have frontage on a State maintained road.

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SECTION 8.14: 8.14 NONCONFORMING WIRELESS TELECOMMUNICATION FACILITIES

- (A) Lawfully established wireless telecommunications facilities in operation prior to April 5, 2011, that do not comply with these standards may remain and operate as nonconforming uses.
- (B) Ordinary and routine maintenance may be performed on a nonconforming wireless telecommunications facility.
- (C) Collocation of antennae, antenna-support structures, and related wireless telecommunications equipment (not including substantial modifications, is allowed, provided that the overall height of the existing nonconforming wireless support structure remains unchanged or is reduced.
- (D) In the event a nonconforming telecommunications tower is removed, it shall not be replaced with another nonconforming wireless telecommunications tower.

Rooming House

A host occupied dwelling unit where individual rooms are rented out for occupancy for weekly or longer periods. Individual rooms do not contain kitchen or cooking facilities for occupant use.

Routine Maintenance

Activities associated with regular and general upkeep of transmission equipment, including the replacement of existing wireless facilities with wireless facilities of the same size.

Rural Buffer

Designated lands in the Comprehensive Plan that are adjacent to an urban or transition area that is rural in character and which should remain rural and not require urban services.

Rural Community Activity Node Land

Land designated in the Comprehensive Plan that is focused on designated road intersections which serve as a nodal crossroads for the surrounding rural community and is an appropriate location for any of the following: church, fire station, small post office, school, or other similar institutional uses and one or more commercial uses.

Rural Designated

Property that is not located in Urban Designated areas as defined in these definitions.

Rural Heritage Museum

A facility which stores and exhibits objects of historical, agricultural, and/or cultural interest for the purpose of educating the public about the rural heritage of Orange County and surrounding areas.

Rural Industrial Activity Node

Land designated in the Comprehensive Plan that is focused on designated road intersections which serves as a nodal crossroads for the surrounding rural community and is an appropriate location for small-scale industrial uses which do not require urban type services.

Rural Neighborhood Activity Node

Land designated in the Comprehensive Plan that is focused on designated road intersections within a Rural or Agricultural Residential area that is appropriate for small-scale commercial uses.

Rural Residential Land

Land designated in the Comprehensive Plan that is in the rural areas of the County that is an appropriate location for low intensity and low density residential development which are not dependent on urban services.

Rural Special Event

A temporary or seasonal commercial activity that occurs on a bona fide farm and which is expected to attract more than 20 people at any given time.

Salvage yard

Property used for the storage, collection, and/or recycling of any type of equipment whatsoever, whether industrial or non-commercial, and including but not limited to vehicles, appliances and related machinery.

Saw Mill

A facility where off-site logs or timber are sawn, planed or otherwise processed into lumber or other wood products; not including the processing of timber for use on the same parcel of property.

School – Performing Arts, Sports and Recreation

A land use providing instruction and/or training in the arts, such as music, art, or dance, and/or athletic activities, such as martial arts but not approved by the North Carolina Department of Public Instruction.

- c) Extend public water and/or sanitary sewerage systems other than laterals to serve individual lots;
- d) Necessitate the installation of drainage improvements which would require easements through one or more lots to serve other lots; and
- e) At the option of the applicant, involve vesting of the subdivision for a period greater than one year.

Substantial damage

Damage of any origin sustained by a structure during any one year period whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred. See definition of "substantial improvement." Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25% of the market value of the structure before the damage occurred.

Substantial improvement

Any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one year period whereby the cost of which equals or exceeds 50% of the market value of the structure before the start of construction of the improvement. This term includes structures, which have incurred substantial damage, regardless of the actual repair work performed.

The term does not, however, include either:

- a) Any correction of existing violations of State or Orange County health, sanitary, or safety code specifications which have been identified by the Orange County code enforcement official and which are the minimum necessary to assure safe living conditions, or
- b) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure and the alteration is approved by a variance issued pursuant to this Ordinance.

Support System

A combination of footers, piers, caps, and shims that will, when properly installed, support the mobile home. Masonry walls may be installed as a cosmetic feature.

Taxidermy

The practice of preparing and preserving the skins of animals and of stuffing and mounting them in lifelike form.

Telecommunication Facilities, Accessory Use

A use incidental to, subordinate to, and subservient to the principal use of the property. As defined in this section an accessory use is a secondary use.

Telecommunication Facilities, Antenna

~~Communications equipment that transmits, receives, or transmits and receives electromagnetic radio signals used in the provision of all types of wireless communications services.¹~~

~~A system of electrical conductor communications equipment that transmits and/or receives electromagnetic radio signals used in the provision of all types of wireless communications services.~~

Telecommunication Facilities, ANSI/TIA-222

~~Telecommunications Industry Association Standard 222- (or most recent standard) (Structural Standards for Antenna Supporting Structures and Antenna Supporting Structures") and ANSI / TIA-322 Standard ("Loading, Analysis and Design Criteria Related to the Installation, Alteration and Maintenance of Communication Structures."). Standards are accredited by the American National Standards Institute. This definition applies to the most recent standard.~~

Telecommunication Facilities, Applicable Codes

¹ G.S. 160D-931 (1)

The North Carolina State Building Code and any other uniform building, fire, electrical, plumbing, or mechanical codes adopted by a recognized national code organization together with State or County amendments to those codes enacted solely to address imminent threats of destruction of property or injury to persons. ²

Telecommunication Facilities, Applicant

Any wireless service provider or wireless support structure owner submitting an application for a wireless facility.

Telecommunication Facilities, Application

A request submitted by an applicant to Orange County for a permit to collocate wireless facilities or to approve the installation, modification or replacement of a utility pole, or a wireless support structure. ³
~~A formal request, containing all necessary and required documentation, submitted to Orange County to construct or modify a wireless support structure or a wireless facility.~~

Telecommunication Facilities, Base Station

A station at a specific site authorized to communicate with mobile stations, generally consisting of radio receivers, antennas, coaxial cables, power supplies, and other associated electronics.

Telecommunication Facilities, Building Code

The most recently adopted or amended edition of the North Carolina State Building Code.

Telecommunication Facilities, Building permit

An official Orange County administrative authorization issued prior to beginning construction consistent with the provisions of N.C.G.S. §§ 160D-403 and 160D-1110. ⁴
~~An official Orange County administrative authorization to begin construction consistent with the provisions of N.C.G.S. 160D-403.~~

Telecommunication Facilities, Collocation

The placement, installation, maintenance, modification, operation, or replacement of wireless facilities on existing structures, including utility poles, electrical transmission towers, water towers, buildings, and other structures capable of structurally supporting the attachment of wireless facilities in compliance with applicable codes. This term does not include the installation of new utility poles or wireless support structures. ⁵

~~The placement or installation of wireless facilities on existing structures, including electrical transmission towers, water towers, buildings, and other structures capable of structurally supporting the attachment of wireless facilities in compliance with applicable codes.~~

Telecommunication Facilities, Commercial Impracticability or Commercially Impracticable

The inability to perform an act on terms that are reasonable in commerce, the cause or occurrence of which could not have been reasonably anticipated or foreseen and that jeopardizes the financial efficacy of the project. The inability to achieve a particular financial return on investment or profit, standing alone, and for a single site, shall not deem a situation to be commercially impracticable and shall not render an act or the terms of an agreement commercially impractical.

Telecommunication Facilities, Communications Facility

The set of equipment and network components, including wires and cables and associated facilities used by a communications service provider to provide communications service. ⁶

² G.S. 160D-931 (2)

³ G.S. 160D-931 (3)

⁴ G.S. 160D-931 (5)

⁵ G.S. 160D-931 (8)

⁶ G.S. 160D-931 (9)

Telecommunication Facilities, Communications Service

Cable service as defined in 47 U.S.C. § 522(6), information service as defined in 47 U.S.C. § 153(24), telecommunications service as defined in 47 U.S.C. § 153(53), or wireless services.⁷

- 1) 47 USC § 522 “(6): the term “cable service” means –
(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and
(B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service.”
- 2) 47 USC § 153(24) See definition of Telecommunications Facilities, Communications Service Provider.
- 4) 47 USC § 153 (53) “The term “telecommunications service” means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.”

Telecommunication Facilities, Communications Service Provider

A cable operator as defined in 47 U.S.C. § 522(5); a provider of information service, as defined in 47 U.S.C. § 153(24); telecommunications carrier, as defined in 47 U.S.C. § 153(51); or a wireless provider.⁸

- 1) 47 U.S.C. § 522(5) “the term “cable operator” means any person or group of persons (A) who provides cable service over a cable system and directly or through one or more affiliates owns a significant interest in such cable system, or (B) who otherwise controls or is responsible for, through any arrangement, the management and operation of such a cable system.
- 2) 47 U.S.C. § 153 (24) “The term “information service” means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.
- 3) 47 U.S.C. § 153 (51) “The term “telecommunications carrier” means any provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in section 226 [47 USCS § 226]). A telecommunications carrier shall be treated as a common carrier under this Act [47 USCS §§ 151 et seq.] only to the extent that it is engaged in providing telecommunications services, except that the Commission shall determine whether the provision of fixed and mobile satellite service shall be treated as common carriage.”

Telecommunication Facilities, EIA-222

Electronics Industries Association Standard 222 (Structural Standards for Steel Antenna Wireless support structures and Antenna Support Structures).

Telecommunication Facilities, Eligible Facilities Request

A request for modification of an existing wireless tower or base station that involves collocation of new transmission equipment or replacement of transmission equipment but does not include a substantial modification.

Telecommunication Facilities, Equipment Compound

An area surrounding or near the base of a wireless support structure within which a wireless facility is located.

⁷ G.S. 160D-931 (10)

⁸ G.S. 160D-931 (11)

Telecommunication Facilities, Equipment enclosure

An enclosed structure, cabinet, or shelter used to contain radio or other equipment necessary for the transmission or reception of wireless communication signals.

Telecommunication Facilities, Existing Structure/Building

For purposes of this Section, any building or structure that currently exist on a parcel of land. Such structures may include, but shall not be limited to, telecommunications wireless support structures, overhead transmission line support structures, water tanks, silos, churches, schools, and utility poles.

Telecommunication Facilities, Extraordinary Conditions

Conditions subsequent to a hurricane, flood, tornado, or other natural or other disaster.

Telecommunication Facilities, FAA

The Federal Aviation Administration or its duly designated and authorized successor agency.

Telecommunication Facilities, FCC

The Federal Communications Commission or its duly designated and authorized successor agency.

Telecommunication Facilities, Fall Zone

The area in which a wireless support structure may be expected to fall in the event of a structural failure, as measured by engineering standards.

Telecommunication Facilities, Guyed Wireless support structure

A telecommunication wireless support structure that is supported, in whole or in part, by guy wires and ground anchors.

Telecommunication Facilities, Height

When referring to a wireless support structure, the distance measured from the pre-existing grade level to the highest point on the structure, including any antenna or lightening protection device.

Telecommunication Facilities, Inspections Division

A division of the Orange County Planning and Inspections Department.

Telecommunication Facilities, Master Telecommunications Plan (“Plan”)

A plan developed for Orange County by the County’s Planning Department that shows properties where owners have expressed interest in allowing the placement of telecommunications wireless support structures provided that all applicable federal, state, and local regulations are met. Information that may be shown on the plan will include existing wireless support structures, County defined Natural Areas, historic properties, scenic corridors, all major electrical lines, Voluntary Agricultural Districts, existing telecommunication wireless support structures, known bird migratory patterns through the County and all public and quasi-public properties that may allow telecommunication facilities. The Plan will be for purposes of disclosing information to telecommunication providers when they are seeking to establish their telecommunication networks in the County.

Telecommunication Facilities, Micro Wireless Facility

A small wireless facility that is no larger in dimension than 24 inches in length, 15 inches in width, and 12 inches in height and that has an exterior antenna, if any, no longer than 11 inches.

Telecommunication Facilities, Microwave dish antenna

A dish-like antenna used to link wireless service sites together by wireless transmission of voice or data.

Telecommunication Facilities, Modification or Modify

The addition, removal, or change of any of the physical and visually discernable components or aspects of a wireless facility or support structure, such as antennas, cabling, equipment shelters, landscaping, fencing, utility feeds, changing the color or materials or any visually discernable components, vehicular access, parking and/or an upgrade or change-out of equipment for better or more modern equipment that

~~is not a Substantial Modification. Adding a new wireless carrier or service provider to a wireless support structure as a collocation is a modification.~~

~~The addition, removal, or change of any of the—physical and visually discernable components or aspects of a wireless facility or support structure, such as antennas, cabling, equipment shelters, landscaping, fencing, utility feeds, changing the color or materials or any visually discernable components, vehicular access, parking and/or an upgrade or change-out of equipment for better or more modern equipment. Adding a new wireless carrier or service provider to a wireless support structure as a collocation is a modification.~~

Telecommunication Facilities, Monopole Wireless support structure

~~A wireless support structure consisting of a single pole or spire self-supported by a permanent foundation, constructed without guy wires and ground anchors.~~

~~A telecommunication wireless support structure consisting of a single pole or spire self supported by a permanent foundation, constructed without guy wires and ground anchors.~~

Telecommunication Facilities, Necessary

What is technologically required for the equipment to function as designed by the manufacturer and that anything less will result in prohibiting or acting in a manner that prohibits the provision of service as intended and described in the application.

Telecommunication Facilities, NIER

Non-Ionizing Electromagnetic Radiation.

Telecommunication Facilities, Panel Antenna

An inconspicuous, relatively flat, square or rectangular antenna designed to be affixed to the wall of a building or structure in order to receive and transmit signals from a telecommunication device.

Telecommunication Facilities, Personal Wireless Services (PWS) or Personal Telecommunications Service (PTS)

As defined and used in the 1996 Telecommunications Act.

Telecommunication Facilities, Repairs and maintenance

The replacement or repair of any components of a wireless facility where the replacement is identical to the component being replaced or for any matters that involve the normal repair and maintenance of a wireless facility without the addition, removal or change of any of the physical or visually discernable components or aspects of a wireless facility that will add to the visible appearance of the facility as originally permitted, but does not constitute a modification to a wireless facility or support structure.

Telecommunication Facilities, Roofline

The overall ridgeline of the structure, not including cupolas, elevator towers, clock towers or other similar features.

Telecommunication Facilities, Search ring

~~The area within which a wireless support facility or wireless facility must be located in order to meet service objectives of the wireless service provider using the wireless facility or wireless support structure.⁹~~

~~The area within which a wireless support structure must be located in order to meet service objectives of the wireless service provider using the wireless facility or wireless support structure.~~

Telecommunication Facilities, Self-Support/Lattice Wireless support structure

A tapered structure broad at the base and narrower at the top consisting of cross-members and diagonal bracing and without guyed support.

Telecommunication Facilities, Small Wireless Facility

A wireless facility that meets the following qualifications:

⁹ G.S. 160D-931 (17)

a. Each antenna is located inside an enclosure of no more than 6 cubic feet in volume or, in the case of an antenna that has exposed elements, the antenna and all of its exposed elements, if enclosed, could fit within an enclosure of no more than 6 cubic feet.

b. All other wireless equipment associated with the facility has a cumulative volume of no more than 28 cubic feet. For the purposes of this sub-subdivision, the following types of ancillary equipment are not included in the calculation of equipment volume: electric meters, concealment elements, telecommunications demarcation boxes, ground-based enclosures, grounding equipment, power transfer switches, cut-off switches, vertical cable runs for the connection of power and other services, or other support structures.¹⁰

Telecommunication Facilities, Stealth or Stealth Technology

A design or treatment that minimizes adverse aesthetic and visual impacts on the land, property, buildings, and other facilities adjacent to, surrounding, and in generally the same area as the requested location of such wireless support structures, which shall mean building the least visually and physically intrusive facility that is not technologically or commercially impracticable under the facts and circumstances. Stealth technology includes such technology as Distributed Antenna System (DAS) or its functional equivalent or camouflage where the structure is disguised to make it less visually obtrusive and not recognized to the average person as a wireless support structure.

Telecommunication Facilities, Substantial Modification

The mounting of a proposed wireless facility on a wireless support structure that substantially changes the physical dimensions of the support structure. The burden is on Orange County to demonstrate that a mounting that does not meet the listed criteria constitutes a substantial change to the physical dimensions of the wireless support structure. A mounting is presumed to be a substantial modification if it meets any one or more of the following criteria:

a. Increasing the existing vertical height of the structure by the greater of (i) more than ten percent (10%) or (ii) the height of one additional antenna array with separation from the nearest existing antenna not to exceed 20 feet.

b. Except where necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable, adding an appurtenance to the body of a wireless support structure that protrudes horizontally from the edge of the wireless support structure the greater of (i) more than 20 feet or (ii) more than the width of the wireless support structure at the level of the appurtenance.

c. Increasing the square footage of the existing equipment compound by more than 2,500 square feet.¹¹
~~The mounting of a proposed wireless facility on a wireless support structure that substantially changes the physical dimensions of the support structure.~~

Telecommunication Facilities, Telecommunication Equipment

Equipment, which is located either upon a telecommunication tower or a structure and includes some form of antenna for the purpose of transmitting and receiving wireless services.

Telecommunication Facilities, Utility pole

A structure that is designed for and used to carry lines, cables, wires, lighting facilities, or small wireless facilities for telephone, cable television, electricity, lighting, or wireless services.¹²

~~A structure that is designed for and used to carry lines, cables, or wires for telephone, cable television, or electricity, or to provide lighting.~~

Telecommunication Facilities, Unforeseen Events

Condemnations of existing telecommunications wireless support structures for road projects, casualty of existing telecommunications wireless support structures, blocking of signals from new construction

¹⁰ G.S. 160D-931 (18)

¹¹ G.S. 160D-931 (19)

¹² G.S. 160D-931 (20)

necessitating a relocation of a telecommunication wireless support structure, or the need to replace an existing telecommunication wireless support structure for capacity issues, or for other reasons deemed necessary by the County Planning Director or his/her designee.

Telecommunication Facilities, Water Tower

A water storage tank, a standpipe, or an elevated tank situated on a support structure originally constructed for use as a reservoir or facility to store or deliver water.¹³

Telecommunication Facilities, Whip Antenna

A cylindrical antenna that transmits and/or receives signals in 360 degrees.

Telecommunication Facilities, Wireless facility

Equipment at a fixed location that enables wireless communications between user equipment and a communications network, including (i) equipment associated with wireless communications and (ii) radio transceivers, antennas, wires, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration. The term includes small wireless facilities. The term does not include any of the following:

a. The structure or improvements on, under, within, or adjacent to which the equipment is collocated.

b. Wireline backhaul facilities.

c. Coaxial or fiber-optic cable that is between wireless structures or utility poles or city utility poles or that is otherwise not immediately adjacent to or directly associated with a particular antenna.¹⁴

~~The set of equipment and network components, exclusive of the underlying wireless support structure or tower, including antennas, transmitters, receivers base stations, power supplies, cabling, and associated equipment necessary to provide wireless data and wireless telecommunications services to a discrete geographic area. This may also be referred to as a Personal Wireless Facility.~~

Telecommunication Facilities, Wireless facility Stealth

A wireless support structure designed using stealth technology such that its primary purpose is, or visually appears to be, something other than the support of telecommunications equipment, the apparent purpose of the wireless support structure is customarily considered as accessory to a use that is allowed in the zoning district, and the structure and its primary use comply with this Ordinance.

Telecommunication Facilities, Wireless Infrastructure Provider

Any person with a certificate to provide telecommunications service in the State who builds or installs wireless communication transmission equipment, wireless facilities, or wireless support structures for small wireless facilities but that does not provide wireless services.¹⁵

Telecommunication Facilities, Wireless Provider

A wireless infrastructure provider or a wireless services provider.¹⁶

Telecommunication Facilities, Wireless support structure

A new or existing structure, such as a monopole, lattice, or guyed tower that is designed to support or capable of supporting wireless facilities. A utility pole is not a wireless support structure.

Telecommunication Facilities, Wireless Telecommunications Facility (WTF), Includes both Telecommunications Site and Personal Wireless Facility

A structure, facility or location designed, or intended to be used as, or used to support antennas or other transmitting or receiving devices. This includes without limit wireless support structures of all types, kinds and structures, including, but not limited to buildings, church steeples, silos, water towers, signs or other structures that can be used as a support structure for antennas or the functional equivalent of such. If

¹³ G.S. 160D-931 (21)

¹⁴ G.S. 160D-931 (22)

¹⁵ G.S. 160D-931 (23)

¹⁶ G.S. 160D-931 (24)