

Staff Report

APPEARANCE REVIEW BOARD

DECEMBER 17, 2015

Case Number

ARB2015-00083

Applicant

Christopher Milnes, Proj. Mgr.
Crown Castle

Property Owners

City of Orlando, State of Florida

Property Locations

401 E Colonial Drive
250 E. South Street
458 W. Robinson Street
125 E. Livingston Street
7 Colonial Drive
111 Lake Ave.

Requested Action

Request for a Major Certificate of Appearance Approval for the installation of 6 Direct Antenna System [DAS] pole and equipment locations inside the rights-of-way in the Downtown CRA.

Recommendation

Approval based on the conditions in this staff report.

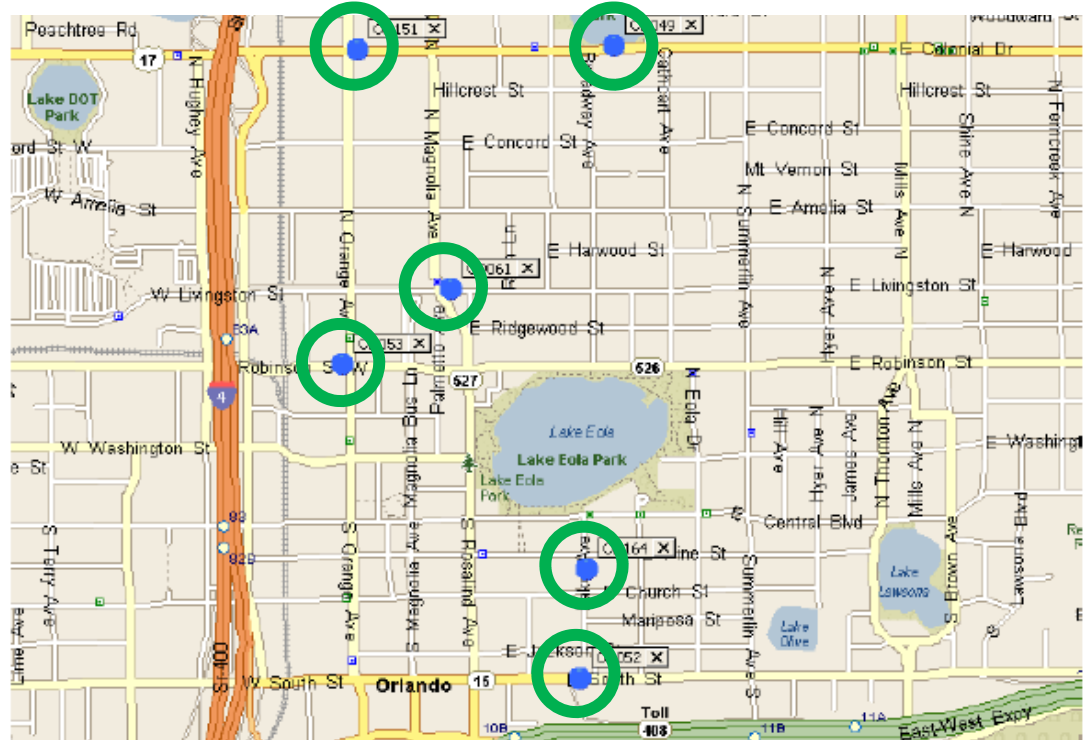
Project Planner

Jason Burton, AICP



Updated: December 11, 2015

AGENDA ITEM 3 6 DOWNTOWN CROWN CASTLE oDAS NODE LOCATIONS



Aerial Photograph

SUMMARY

Project Description

The applicant is requesting ARB approval of 6 small cell or Direct Antenna System [DAS] pole and equipment locations inside the rights-of-way in the Downtown CRA. Each installation includes a maximum 35-foot tall pole with various meters, equipment boxes, antenna and wiring installed on the pole.

Project History

The Applicant has worked patiently with City Staff for several months. There are no existing Land Development Code [LDC] regulations for this type of telecommunications installations. Therefore the applicant has had to wait while City Staff developed review criteria for small cell or DAS nodes. Those review criteria will be added to the City's LDC over the next several months.

LDC2015-00484 DAS Installations In The ROW – Planning Official Determination establishing review criteria for small cell or DAS installation location inside the City's Rights-of-way.

Public Notice

A poster was posted on site December 10th, no inquiries from the public have been received regarding this site.

PROJECT OVERVIEW

Background

The telecommunication industry is in a constant state of growth and expansion. This includes the infrastructure required to support the increased demand and capacity to receive and transmit larger and larger amounts of data and voice communications.

A new network of telecommunications infrastructure known as a DAS or “Small Cell” networks has emerged to help meet the growing capacity demands. DAS networks are comprised of a series of small individual antenna locations, or nodes, that are linked to a larger hub site, typically an existing cellular communications tower site by fiber optic cable or radio transmission.

Small cell or DAS antenna nodes have a much smaller coverage areas than taller cell towers, typically ¼-mile or less. However, DAS networks provide increased capacity and data transfer rates to existing coverage areas as well as areas with weak or limited coverage such as dense urban areas that have tall impediments and dense building materials that diminish or block network signal coverage for users.

DAS antennas are typically located inside the right-of-way on new poles or existing utility poles. Typical cellular communications towers are hundreds of feet tall. Cell towers also have large antenna arrays and extensive amounts of exposed cables and conduits. Moreover, the cell towers require at-ground equipment shelters and other support equipment in a fenced in yard area. Small cell antenna nodes, on the other hand, are typically located on utility-size poles or existing utility poles such as streetlight or traffic signal poles that are 25-feet to 100-feet tall. DSA pole equipment includes a 3 to 4-foot tall antenna at the top of the pole and an electric meter, compact transmitters, receivers and other components that are also attached to the pole. Some node locations also include a ground mounted battery back-up cabinet.

DAS nodes are typically located in rights-of-way that are already constrained and crowded by existing above and below ground utilities. DAS nodes can also be located in residential, non-residential and highly urbanized areas.

LDC2015-00484 Small Cell Distributed Antenna System Installations in the Right-of-Way Planning Official's Determination

The City has recently received a large number of applications for outdoor Distributed Antenna System installations (DAS) in the public right-of-way, including many applications for antenna and other equipment on or about various City utility structures. The locations in this ARB application are among the many permits received.

The City's existing engineering and zoning regulations were developed for traditional telecommunications towers, rather than the smaller and more discrete oDAS. Further, the Land Development Code regulates private communication equipment installation on private property outside of the right-of-way. Staff carefully reviewed the applications and met with OUC staff and industry representatives on October 29, 2015 to discuss clear, predictable and efficient rules for such installations. While the City supports the provision of private utilities in the right-of-way, it is clear the City needed to establish regulations ensuring these installations are done in an aesthetic manner respectful of the neighborhoods in which they are proposed.

The City Planning and Transportation Engineering divisions are developing regulations for DAS installations in the right-of-way to be presented to City Council as an amendment to City Code. In the meantime, LDC2015-00484 establishes review guidelines until the code amendment is adopted.

Existing Regulations

Below are the relevant Land Development Code regulations for communication towers.

Ch. 66, “Definitions” distinguishes between communication antennas and towers with Communication Antenna: An antenna designed to transmit or receive communications as authorized by the Federal Communications Commission.

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Communication Tower: A building or ground-mounted tower which (1) is greater than thirty-five (35) feet in height, as measured from the finished grade of the property, (2) does not exceed 300 feet in height (including antenna), and (3) is principally intended to support communication (transmission or receiving) equipment for radio, TV, microwave, cellular and similar communication purposes. The term communication tower shall not include amateur radio operators' equipment licensed by the Federal Communications Commission (FCC). Communication towers are generally described as either Monopole (free standing), Guyed (anchored with guy wires), or Self Supporting (square, triangular or pyramidal in plan view and constructed of steel lattice, tubular steel, reinforced concrete, or wood).

Zoning districts. Ch. 58, Part 1, Fig. 2 Land Use Tables require a Conditional Use Permit for communication towers in most zoning districts. They are permitted in the I-G and I-P districts, and prohibited in the C district.

Separation. Sec. 58.844(a) establishes separation requirements for towers from residential districts and uses. Sec. 58.844(b) establishes separation requirements for towers from other towers. A waiver from both of these separation requirements may be approved through the CUP process.

Determination

While the above regulations pertain to communication towers on private property, towers can have the same impacts regardless of which side of the ROW line the tower is installed. The location, height, pole material, color, wiring, conduit and equipment layout at a small cell antenna location has the potential to adversely impact the character of the node location and surrounding areas both visually and physically by increasing visual clutter and obstructions in the rights-of-way and for adjacent property owners. Therefore, the following design requirements shall be required for all small cell or DAS node locations.

Small Cell and oDAS Communication Tower Design Requirements

1. Regulatory Compliance

- a. All small cell and DAS equipment locations shall meet the requirements of Chapter 23 and Sec. 58.840 – Sec. 58.850 of the City Code of Ordinances as amended from time to time.
- b. All small cell and DAS equipment locations shall also comply with the requirements of the City of Orlando Engineering Standards Manual [ESM], Downtown Design Guidelines and Downtown Streetscape Design Guidelines as applicable, and as amended as from time to time.
- c. Small cell and DAS equipment locations inside a Historic District shall require review by the Historic Preservation Board [HPB].
- d. Small cell and DAS equipment locations inside the Downtown CRA and outside a Historic District shall require review by the Downtown Appearance Review Board [ARB].
- e. Small cell and DAS equipment locations inside the Traditional City [/T] Overlay Zoning District, a Special Plan [SP] Overlay Zoning District or a Planned Development [PD] Zoning District shall require Urban Design review as part of the Engineering [ENG] permit process for compliance of these design criteria.

2. Height

- a. A Conditional Use Permit [CUP] shall be required for any pole and/or antenna configuration that exceeds 35-feet in height.
- b. The maximum height of any small cell or DAS pole and antenna inside the public rights-of-way shall be 100-feet. The maximum height in a Historic District shall be 35-feet.

3. Pole and Equipment Configuration

- a. Locating small cell or DAS equipment on existing, replacement or new wood utility poles whether shared or exclusive to the provider is prohibited inside the City's public rights-of-way unless the pole location is inside a Historic District where wood poles are the predominant pole in the rights-of-way.

PROJECT OVERVIEW

- b. Generally, a small cell or DAS pole shall match or be consistent with the materials and finish of the adjacent utility poles of the surrounding area adjacent to their location.
 - c. In the Downtown CRA, Historic District, Traditional City Overlay or Special Plan Overlay, PD Zoning District where double or single acorn streetlights are the predominant fixture small cell and DAS poles shall match the style, design and color of the acorn streetlight poles.
 - d. Small cell and DAS equipment mounted to the exterior of a pole shall be a minimum of 12-feet above finished grade, excluding the electric meter and disconnect switch. Individual pole mounted equipment components shall be no more than 15-cubic feet in area. The external finish of the equipment cases shall generally match the color of the small cell or DAS pole. All mounting and banding fixtures shall also match the pole color.
 - e. Above the electric meter and disconnect switch all conduit and wiring shall be located internal to the pole; no exposed wiring or conduit is permitted. Where small cell or DAS node equipment is proposed to be installed on existing utility poles, the small cell or DAS provider shall install a replacement pole that matches the existing pole and will internalize all conduit and wiring above the electric meter and disconnect switch.
 - f. Electric meters and disconnect switches shall be located per Orlando Utilities Company height requirement. Electric meters and disconnect switches shall not be located on the side of the pole that faces the sidewalk. Conduit leading to the electric meter box and disconnect switch shall generally match the color of the small cell or DAS pole.
 - g. Unless required by the Orlando Police Department, Orlando Fire Department or other related governmental or emergency services provider small cell or DAS locations in the City's public rights-of-way shall not be permitted to install ground mounted equipment cabinets or battery back-up cabinets.
 - h. All pullboxes must be vehicle load bearing, comply with FDOT Standard specification 635 and be listed on the FDOT Approved Products List. The installer must include a concrete apron around pullboxes except when the box is located in the sidewalk. No new pull boxes may be located in pedestrian ramps.
 - i. The grounding rod may not extend above the top of sidewalk and must be placed in a pullbox. The ground wire between the pole and ground rod must be inside an underground conduit.
 - j. The contractor may not use a soil sterilizer unless approved by the City's Urban Forester.
 - k. Existing paved and unpaved surfaces disturbed during below or above ground installation activities shall be returned to their pre-existing condition or better.
 - l. The small cell or DAS provider shall provide a Traffic Control Plan that meets the FDOT 600-Series indexes and is prepared by a designer with an Advanced MOT [Management of Traffic] certification with their permit documents.
 - m. The provider shall be responsible for any and all maintenance or repair of their small cell or DAS node poles or equipment. All maintenance and repair activity shall require an engineering permit from the City of Orlando.
4. Location Requirements. Small cell or DAS nodes shall be permitted to be installed and located inside the City's public rights-of-way under the following conditions:
- a. Small cell and DAS pole locations shall meet the separation requirements of Sec. 58.844 (b) Separation Between Communication Towers in the City's Code of Ordinances. A map depicting distance separation from the proposed small cell or DAS location to any other communications tower in the vicinity shall be submitted with all permit documents.
 - b. Co-location of facilities is strongly encouraged. Where multiple providers are seeking to locate in the same geographic area every effort should be made to co-locate each provider's equipment onto a single pole. The Planning Official, through Determination or Conditional Use Permit may provide relief from these guidelines in order to accommodate a single-pole co-location of multiple provider small cell or DAS equipment.
 - c. Small cell and DAS equipment are not permitted to be installed on traffic signal poles inside the City's public-rights-of-way.
 - d. Small cell and DAS node locations shall be no closer than 25-feet to a traffic signal pole or 15-feet to a pedestrian ramp, whichever is greater.
 - e. Where available a small cell or DAS pole shall be located in the furniture zone or parkway strip. In no in-

PROJECT OVERVIEW

stance when a furniture zone or parkway strip is available shall a pole be located in the pedestrian clear zone. Furniture zone and parkway strip pole locations shall meet minimum FDOT and Engineering Standards Manual setback requirements from back-of-curb but shall generally be placed in the center of the furniture zone or parkway strip.

- f. Where there is no furniture zone or parkway strip the small cell or DAS pole location shall maintain either a minimum 6-foot wide pedestrian clear zone from back-of-curb to the inward edge of a small cell or DAS pole or a minimum 5-foot wide pedestrian clear zone between the outward edge of small cell or DAS pole and the back-of-sidewalk.
- g. In residential zoning districts small cell or DAS poles should be located where the shared property line between two residential parcels intersects the right-of-way.
- h. In non-residential districts small cell or DAS poles shall be located between tenant spaces or adjoining properties where their shared property lines intersect the right-of-way.

5. Definitions

- a. Streetscape Zone – that portion of the public rights-of-way between the back-of-curb or edge-of-pavement and the right-of-way line.
- b. Furniture Zone – The paved portion of the streetscape zone typically located between the back-of-curb and the sidewalk. The furniture zone typically includes street light poles and lights, utility poles, regulatory signage, traffic signal equipment and street trees. In some instances a streetscape zone may not have a furniture zone.
- c. Parkway Strip – The unpaved portion of the right-of-way between the back-of-curb and the sidewalk. The parkway strip typically includes street light poles and lights, utility poles, regulatory signage, traffic signal equipment and street trees. In some instances a streetscape zone may not have a parkway strip.
- d. Pedestrian Clear Zone – The unencumbered paved, or sidewalk portion of the streetscape zone inside the right-of-way. The pedestrian clear zone may or may not be separated from the travel lane by a furniture zone or parkway strip.

ARB STAFF OVERVIEW

Crown Castle is requesting to install 6 DAS nodes at different locations in the Downtown CRA that require an ARB Major Certificate of Appearance Approval. Crown Castle is also requesting approval of a double-acorn stealth pole, where the equipment and wiring are completely concealed inside the pole. The proposed Crown Castle DAS locations are:

Node ID	Lat	Long	Address	City	Pole Owner	Pole Type
OD049	28.55325	-81.37214	401 Colonial Dr.	Orlando	OUC	Replace Wooden Street Light
OD052	28.53845	-81.37304	250 E South St.	Orlando	OUC	Concrete Street Light
OD053	28.5458	-81.37931	458 Robinson St.	Orlando	CCI	Galv. Metal Pole
OD061	28.54757	-81.37644	125 E Livingston St.	Orlando	OUC	Concrete Street Light
OD090	TBD	TBD	TBD	Orlando	OUC	Acorn Stealth Light
OD151	28.55317	-81.37886	7 Colonial Dr.	Orlando	OUC	Concrete Street Light
OD164	28.54101	-81.37277	111 Lake Ave.	Orlando	CCI	Wooden Pole
OD190	TBD	TBD	TBD	Orlando	OUC	Acorn Stealth Light

ARB STAFF OVERVIEW [CONT.]

There is a map of all the proposed node locations in this Staff Report.

The Crown Castle DAS poles are all under 35-feet in height, so none of the locations requires a Conditional Use Permit for height. The equipment configuration for the Crown Castle nodes includes an electric meter and disconnect switch located near the bottom of the pole. Radio receiving units are mounted on the poles approximately 12-feet above grade and the approximately 3-foot tall antenna is mounted to the top of the pole. Data received and transmitted from node antenna is transferred to the hub location through fiber optic cable.

ARB CONDITIONS OF APPROVAL

ARB Staff has reviewed the Crown Castle application package and has the following conditions of approval:

1. Appearance Review Board [ARB] Approval Required

- a. DDB/CRA— This project is located in the Downtown Development Board/Community Redevelopment Area [DDB/CRA] Overlay District, which requires review by the Appearance Review Board (ARB) for any new construction, substantial improvement and any major and/or minor exterior changes visible from the public ROW.
- b. ARB Final Review— An ARB Major Certificate of Appearance Approval [CofAA], issued after an ARB Final Review, is required for this project prior to issuance of a building permit.
- c. Building Permits— Issuance of a Major CofAA does not grant permission to construct. All applicable permits shall be obtained prior to commencement of work at each location.
- d. General Code Compliance— Development of the proposed project should be consistent with the conditions in this report and all codes and ordinances of the City of Orlando, the State of Florida, and all other applicable regulatory agencies. All other applicable state or federal permits must be obtained before commencing development.
- e. Minor Modifications— Minor modifications and design changes and other minor changes, may be approved by through an ARB Minor [Staff] Review after approval of the Major CofAA without further review by the Appearance Review Board. Major changes shall require an amendment of the Major CofAA.

2. General Conditions

- a. Compliance with LDC2015-00484— The design and installation of each DAS node location shall comply with the requirements and conditions of LDC2015-00484 Small Cell Distributed Antenna System Installations in the Right-of-Way Planning Official Determination.
- b. Compliance with the City Code of Ordinances— The design and installation of each DAS node shall comply with Chapter 23 and Sec. 58.840 to Sec. 58.850 of the City's Code of Ordinances as it exists at the time of permitting or if applicable as it may be amended from time to time.
- c. Downtown Orlando Streetscape Design Guidelines - All streetscape alterations or repairs shall conform to the appropriate details and requirements in the Downtown Orlando Streetscape Design Guidelines. A copy of the guidelines can be found at www.cityoforlando.net/ARB.
- d. Plan Compliance— Construction and development plans shall conform to all conditions contained in this report, or as modified by the ARB, Municipal Planning Board and City Council. When submitting plans to the Permitting Division for permitting, the applicant shall attach to each submittal a copy of this staff report, and the excerpts of the ARB meeting minutes.
- e. Maintenance and Repair - The applicant is responsible for maintaining and repairing their DAS poles and equipment. All maintenance and repair work shall require a building permit.

3. 401 E. Colonial Drive

- a. Location - is approved as submitted.
- b. Pole Material - Wood poles are not permitted at this location. The Applicant shall install a concrete pole with internal conduit at this location.

ARB CONDITIONS OF APPROVAL [CONT.]

- c. Equipment Configuration - The ground mounted cabinet at this location is not approved unless required by police or emergency services. All equipment and meters shall be mounted on the pole. Equipment cases and boxes shall match the pole color.

4. 250 E. South Street

- a. Location - is approved as submitted.
- b. Pole Material—The Applicant shall install a concrete pole with internal conduit at this location.
- c. Equipment Configuration - The equipment configuration is approved as submitted. Equipment cases and boxes shall match the pole color.

5. 458 Robinson St.

- a. Location - The proposed pole location shall be moved 15-feet west of the Robinson pedestrian crosswalk.
- b. Pole Material - The Applicant shall install a galvanized metal pole with internal conduit at this location.
- c. Equipment Configuration - The equipment configuration is approved as submitted. All equipment cases and boxes shall match the pole color.

6. 125 E. Livingston St.

- a. Location - is approved as submitted.
- b. Pole Material - The Applicant shall install a concrete pole with internal conduit at this location.
- c. Equipment Configuration - The equipment configuration is approved as submitted. All equipment cases and boxes shall match the pole color.
- d. Distance Separation— It should be noted that Telemobilitie [ARB2015-00082] also has a DAS node location proposed near this site that may not meet separation requirements. The Crown Castle building permit was submitted for this location before the Telemobilitie permit. Therefore the Crown Castle node at this location shall have the priority.

7. 7 E. Colonial Dr.

- a. Location - There is insufficient space at the proposed location because of minimal building setbacks. This pole location shall be relocated to the second double-acorn street pole on the west side of the Orange and Colonial intersection,
- b. Pole Material - The Applicant shall install a black double-acorn stealth pole with internal conduit and equipment at this location.
- c. Equipment Configuration - The equipment shall be internal to the pole.

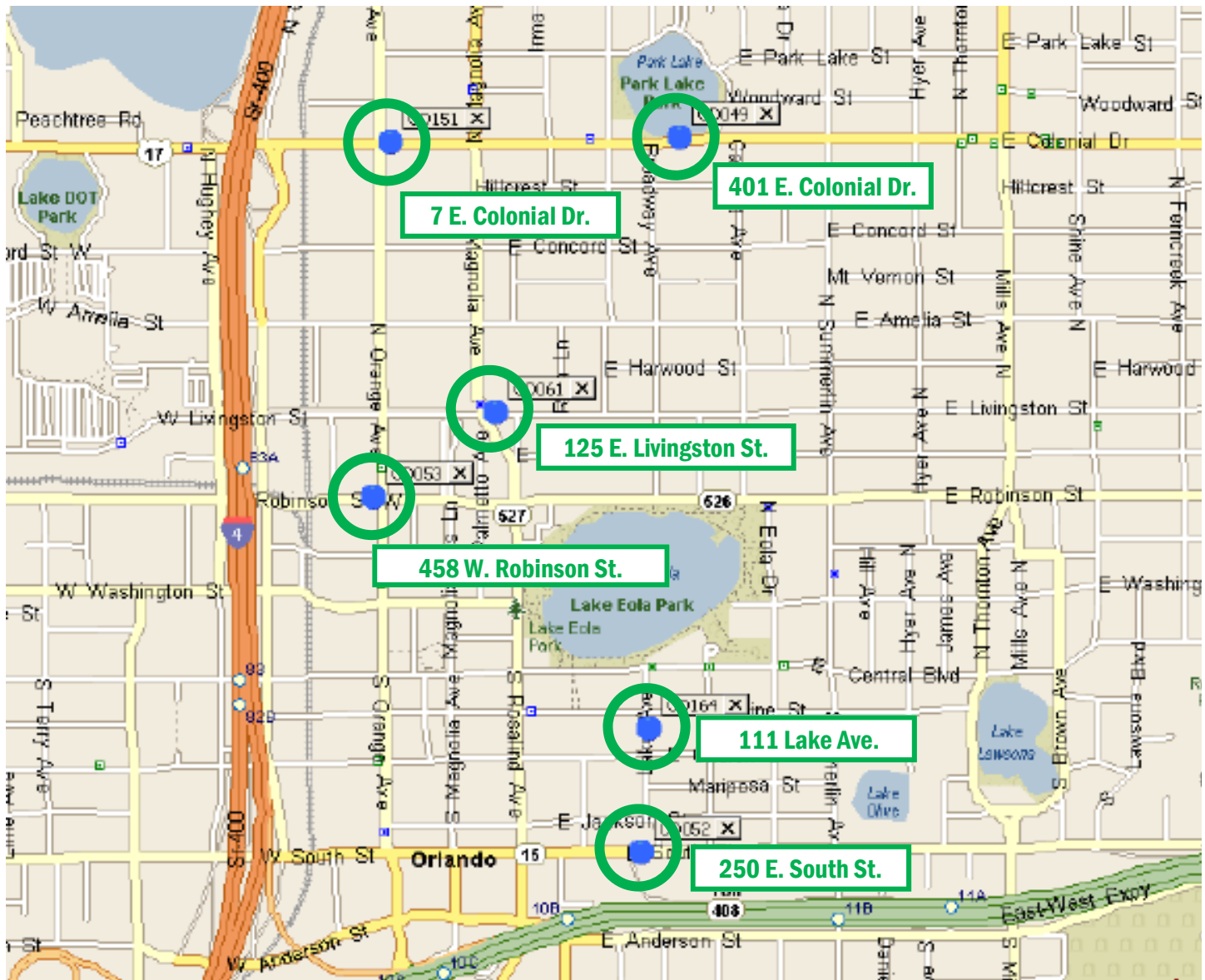
8. 111 Lake Ave.

- a. Location - There is currently a 23-story building under construction at this location. The applicant shall relocate the node to the west side of Lake Ave.
- b. Pole Material - The Applicant shall install a concrete pole with internal conduit at this location.
- c. Equipment Configuration - The equipment configuration is approved as submitted. All equipment cases and boxes shall match the pole color.

9. Double Acorn Stealth Pole

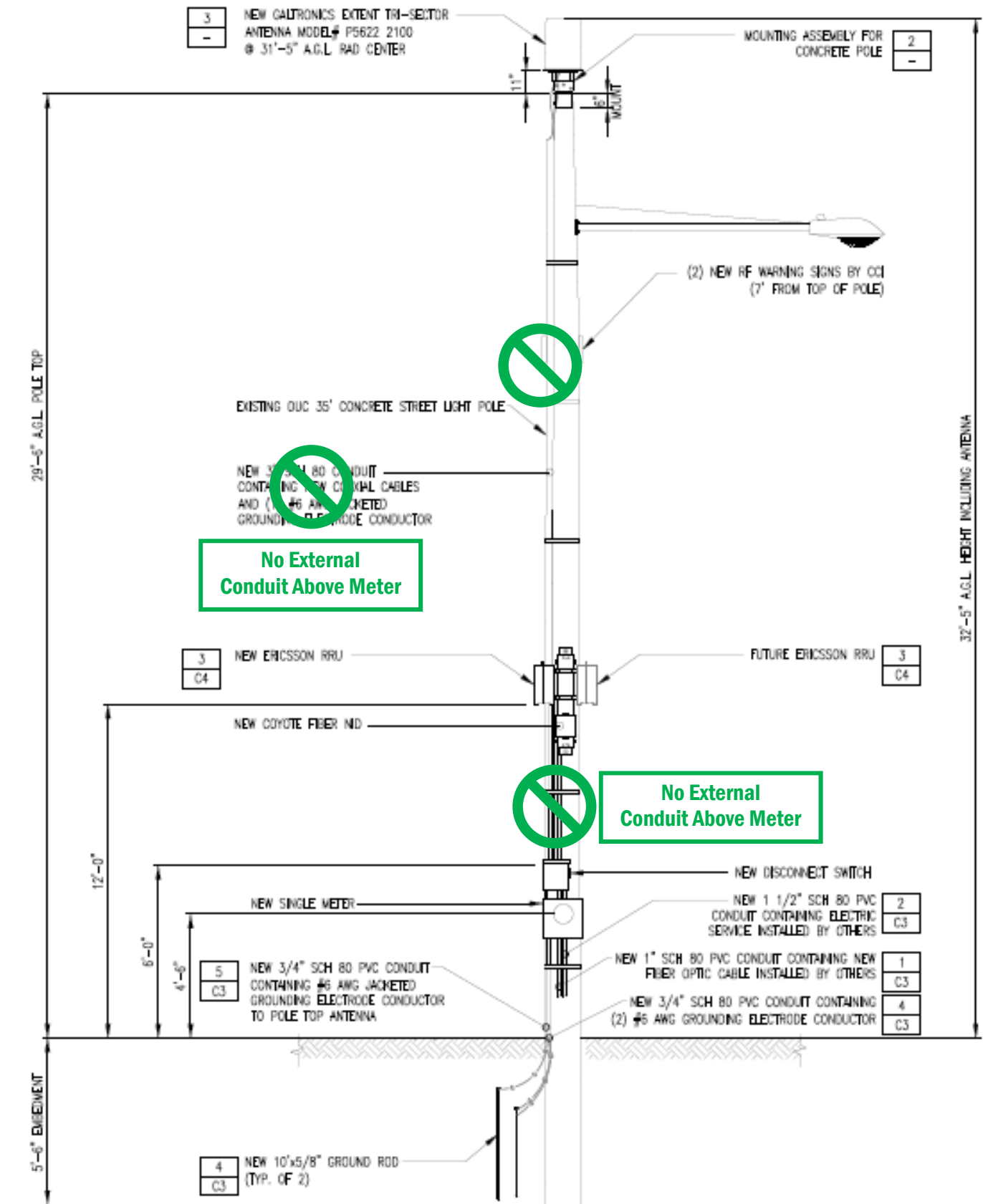
- a. Location - To be determined if needed. Each new location shall require an ARB Minor Review prior to submittal of building permits.
- b. Pole Material - The decorative pole and acorn light design is approved as submitted.
- c. Equipment Configuration - The internal equipment configuration is approved as submitted.

CROWN CASTLE DAS NODE LOCATIONS

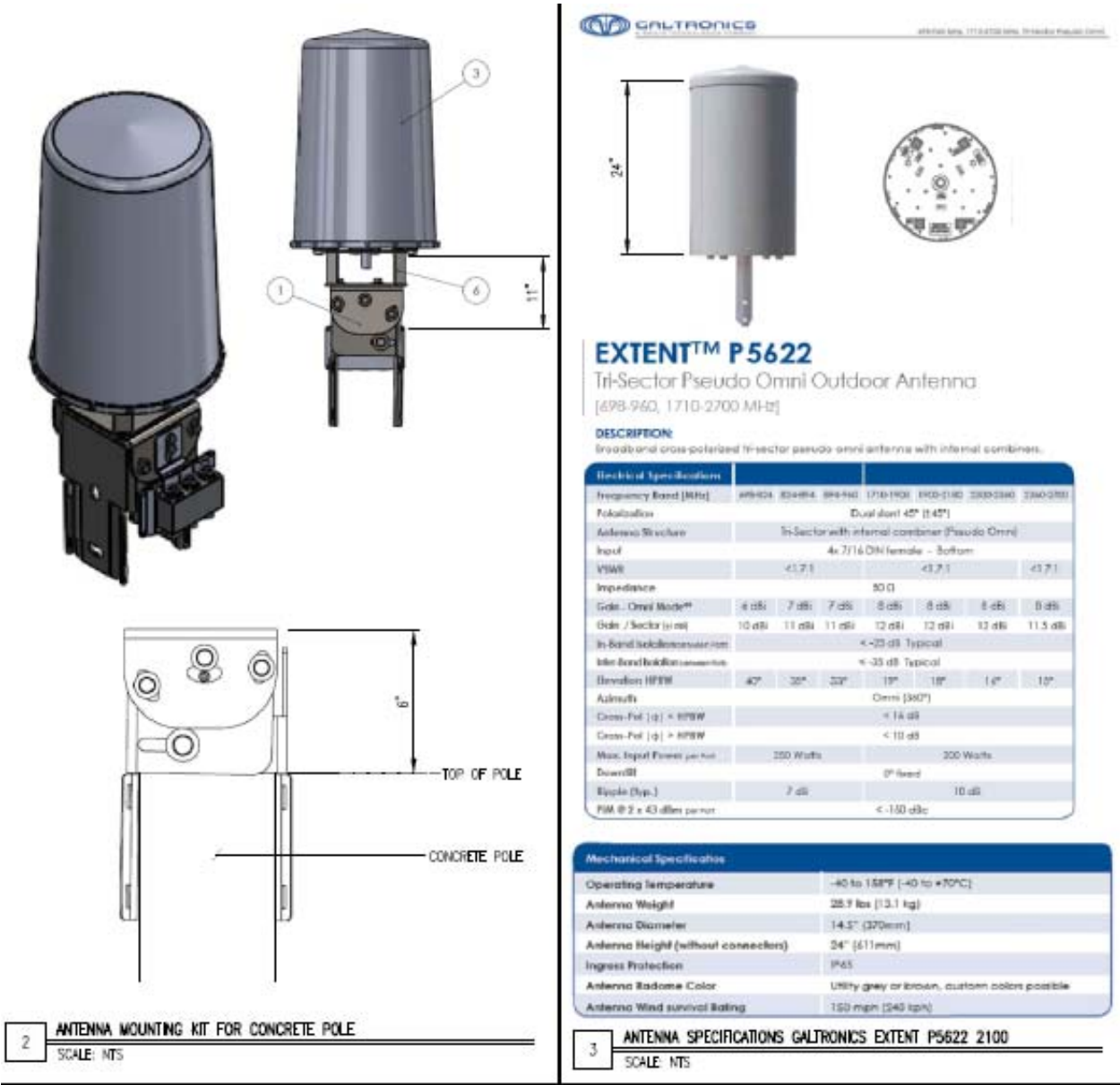


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TYPICAL DAS POLE CONFIGURATION



TYPICAL DAS ANTENNA DIAGRAM



4 CONDUIT ATTACHMENT DETAIL
SCALE: 1" = 1'-0"

PROPOSED DAS NODE LOCATIONS



401 E. Colonial Drive

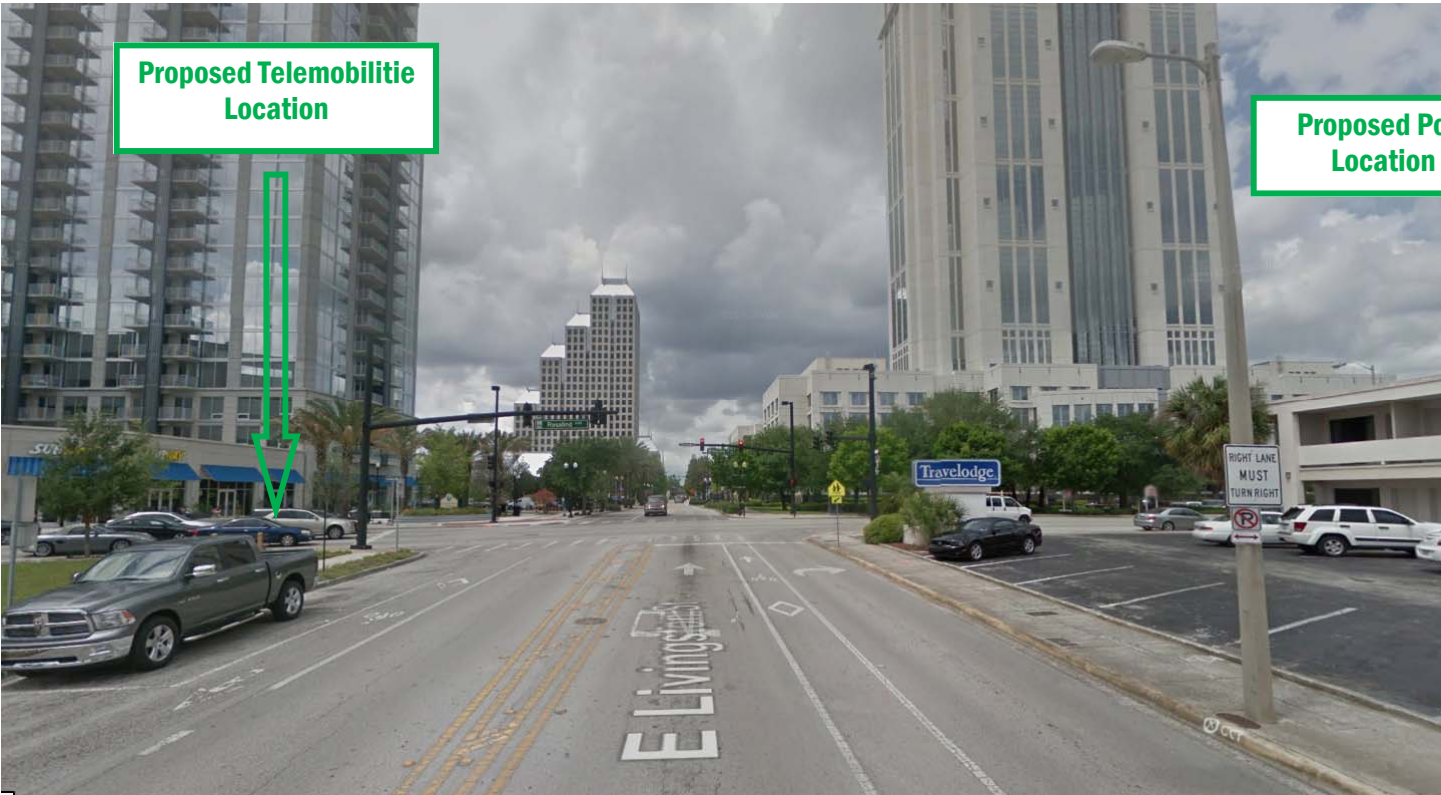


250 E. South St.

PROPOSED DAS NODE LOCATIONS

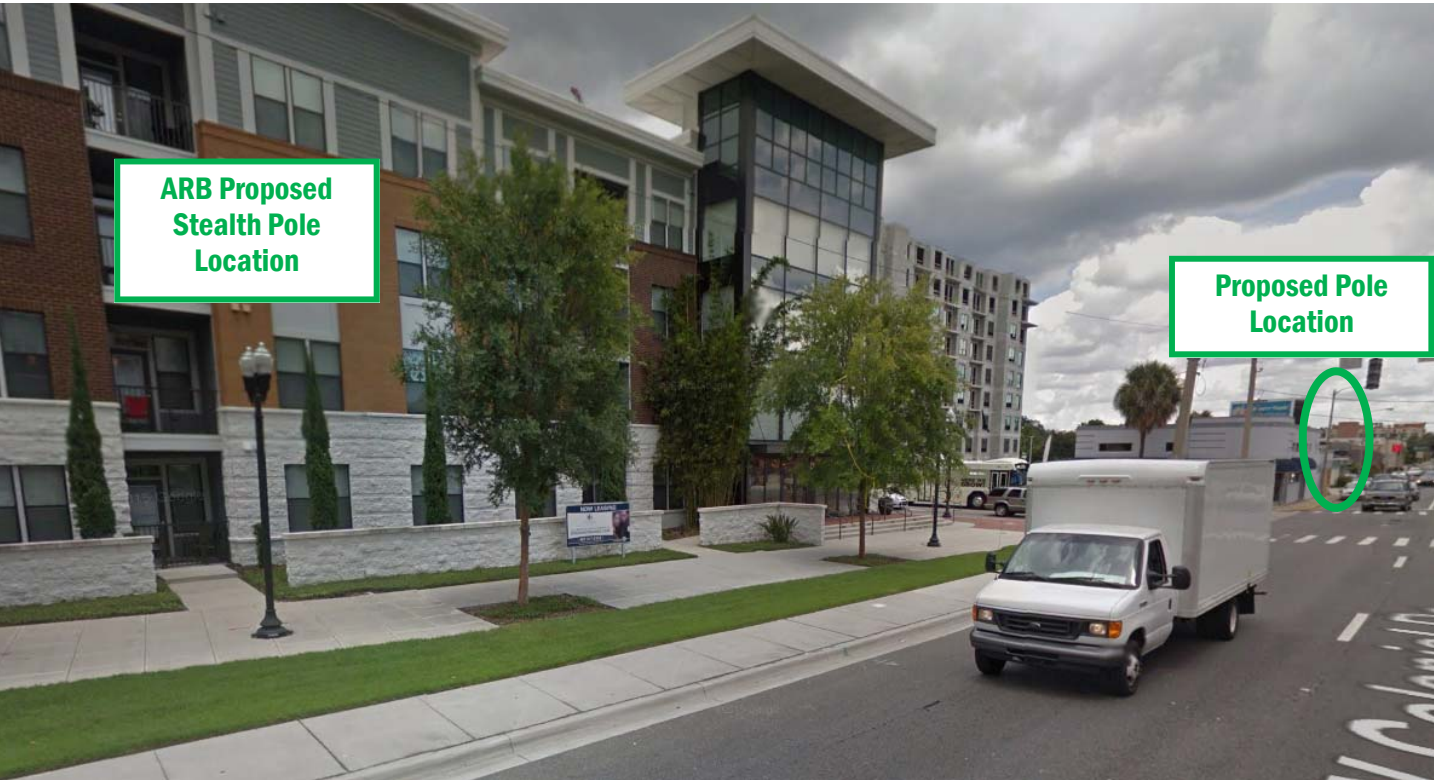


401 E. Colonial Drive

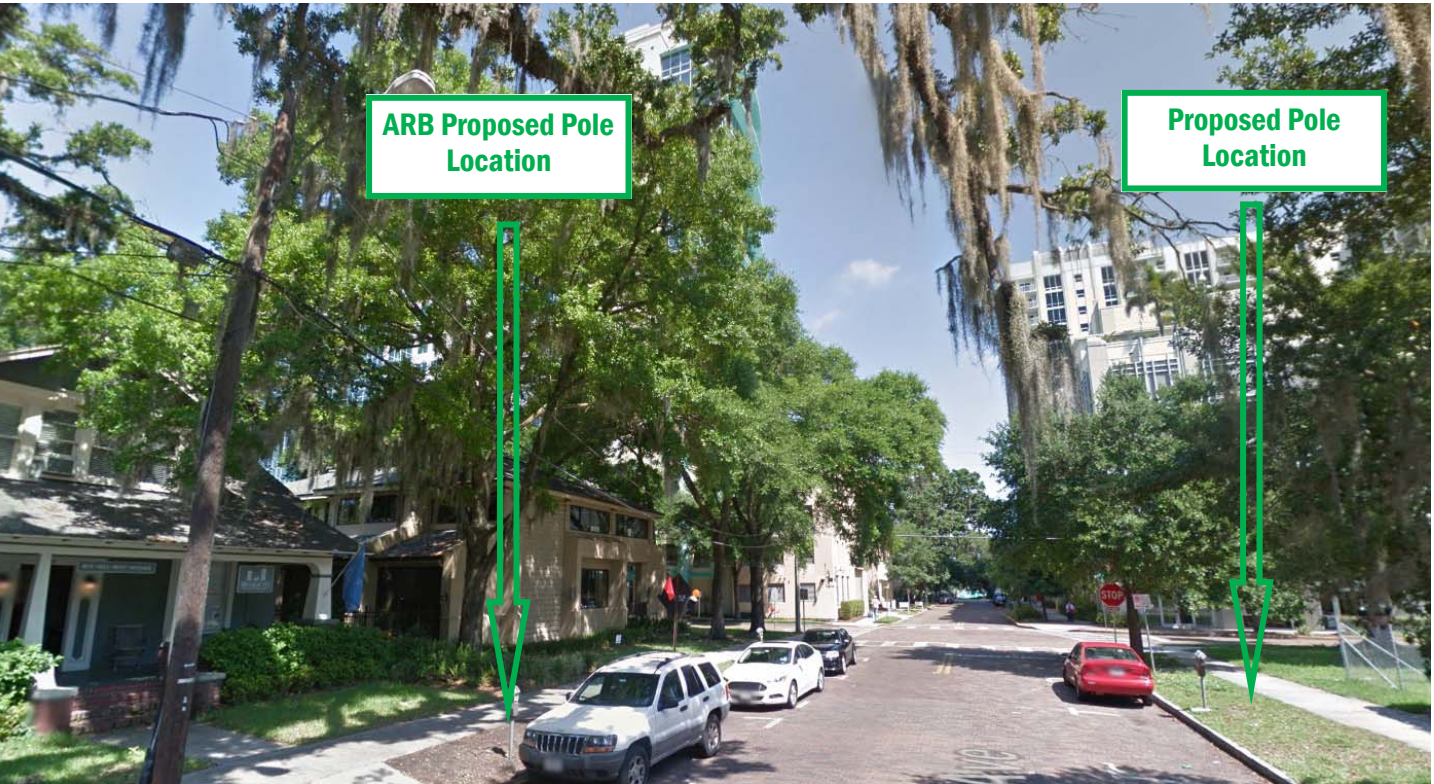


250 E. South St.

PROPOSED DAS NODE LOCATIONS

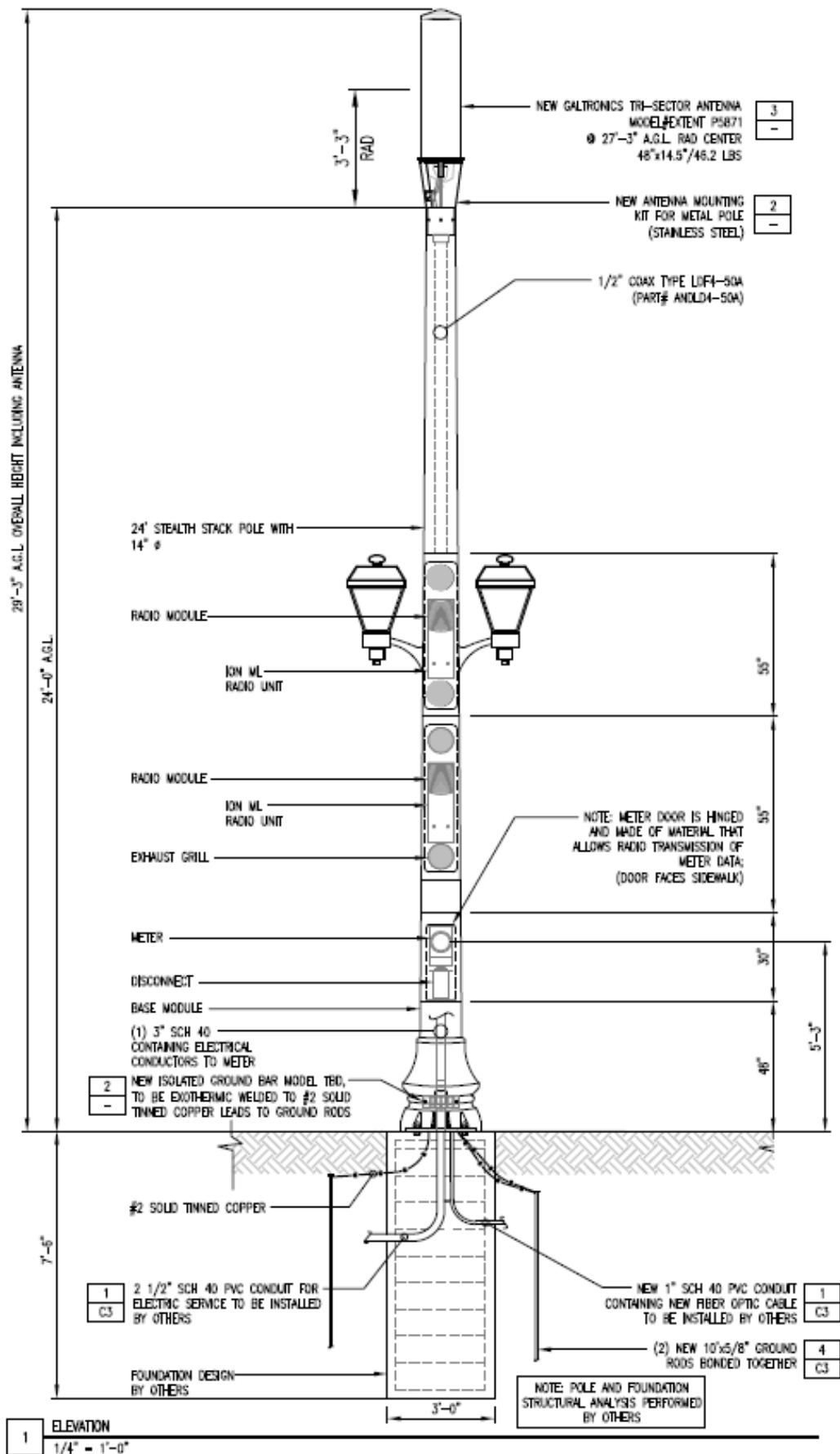


401 E. Colonial Drive



250 E. South St.

PROPOSED STEALTH POLE DESIGN



STEALTH STACK COMPONENTS