TELECOMMUNICATIONS COMMITTEE

The Telecommunications Committee meets on the second Tuesday of each month at 9:00 a.m. in the West Annex Commission Meeting Room. All meetings are open to the public.

Those wishing to speak on any matter on the agenda are asked to complete a "Speaker Information" card (available at the meeting) and deposit it in the box at the podium before leaving the meeting.

All persons interested in the above matter are requested to be present at the meeting or to submit their written approval or disapproval to the Telecommunications Committee, Community Development Department, City Hall, 3031 Torrance Boulevard, Torrance, CA 90503.

Actions of the Community Development Director or the Telecommunications Committee may be appealed by the applicant, City Council, City Manager, or other interested parties by filing a written notice of appeal along with the required appeal fee with the City Clerk within 15 days of the action.

For further information, contact the PLANNING DIVISION of the Community Development Department at (310) 618-5990.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Community Development Department at (310) 618-5990. If you need a special hearing device to participate in this meeting, please contact the City Clerks office at (310) 618-2870. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. [28 CFR 35.102-35.104 ADA Title II]

HOURS OF OPERATION
Monday through Friday from
7:30 a.m. to 5:30 p.m.
Offices are closed alternate Fridays.

City Hall will be closed:

Wednesday, July 4, 2018 (Independence Day)
Friday, July 6, 2018
Friday, July 20, 2018
Friday, August 3, 2018

TELECOMMUNICATIONS COMMITTEE

WEST ANNEX COMMISSION MEETING ROOM
CITY HALL, 3031 TORRANCE BOULEVARD
TORRANCE, CALIFORNIA 90503

TUESDAY, JULY 10, 2018
9:00 A.M.

A G E N D A

1. CALL TO ORDER

2. FLAG SALUTE

3. ROLL CALL

4. REPORT ON POSTING OF AGENDA
The agenda was posted on the Public Notice Board at 3031 Torrance Boulevard on Thursday, July 5, 2018.

5. APPROVAL OF MINUTES: May 8, 2018

6. BUSINESS

A. **WTC17-00025:** Petition of **STEPHEN GARCIA (CROWN CASTLE NG WEST)** for approval of a Wireless Telecommunications Facility to allow the installation of a new wireless small cell and support equipment attached to an existing utility pole in the public right-of-way adjacent to 26111 Delos Drive within the Hillside Overlay District in the R-1 Zone. This project is Categorically Exempt from CEQA per Guidelines Section15301 – Existing Facilities.

7. ORALS

8. ADJOURNMENT

If you challenge any of the above matters in court, you may be limited to raising only those issues you or someone else raised at the public meeting described in this notice, or in written correspondence delivered to the Community Development Department or the office of the City Clerk, prior to the public meeting and further, by the terms of Resolution No. 88-19, you may be limited to ninety (90) days in which to commence such legal action pursuant to Section 1094.6 of the Code of Civil Procedure.

Members: Fulton, Megerdichian and Segovia

DATE: July 10, 2018

TO: Telecommunications Committee

FROM: Planning Division

SUBJECT: **WIRELESS TELECOM FACILITY (WTC17-00025) – STEPHEN GARCIA (CROWN CASTLE NG WEST LLC)**

A request for approval of a Wireless Telecommunications Facility to allow the installation of a new wireless small cell and support equipment attached to an existing utility pole in the public right-of-way adjacent to 26111 Delos Drive within the Hillside Overlay District of the R-1 Zone.

Applicant:	Stephen Garcia (Crown Castle NG West LLC)
Case No:	WTC17-00025
Location:	26111 Delos Drive (ROW)
Zoning:	R-1(Hillside): Single Family Residential (Hillside Overlay)

The subject request is for the installation of a wireless site in the public right-of-way adjacent to 26111 Delos Drive. Per Torrance Municipal Code 92.39.060(1), such requests within the public right-of-way adjacent to residentially zoned properties are reviewed by the Telecommunications Committee and requires notification to property owners within 300 feet of the proposed location.

The proposal involves the installation of two 2-foot antennas on cross-arms with a maximum height of 21 feet 10 inches, shroud kit, and power disconnect box below the shroud kit. If approved as proposed, some modifications to the existing utility lines would need to be made in order to accommodate the project design. For example, an existing cable line and telephone line would be raised to accommodate the antennas. The cable line would be raised from 22ft 10in to 24ft 10in and the telephone line would be raised from 20ft 10in to 23ft 10in. A new Crown Castle line is also proposed at 25ft 10in for communications backhaul to AT&Ts center.

The shroud kit measures 47.34in x 21.21in x 14.22in and would be mounted 11ft above grade. Just below the shroud kit, the power disconnect box (measuring 9.38in x 4.88in x 4in) would be installed and will provide 10ft clear to the bottom of the box.

Power to the site would be provided underground (via trench in the street) from the utility pole across the street in front of 26114 Delos Drive. Modifications to this power service pole would also be necessary, which include raising the existing cable line and two telephone lines in addition to the installation of a fuse box and disconnect box that will be mounted 10ft above grade. No additional cabinets are required as this configuration eliminates the need for above ground appurtenances.

The purpose of the proposed site, according to the applicant, is to "Increase the existing RF signal level in an existing coverage area" for AT&Ts network. The target area described in the RF Coverage maps is the surrounding residential along Delos Drive, Crest Road, Highcross Drive, and Ridgeland Road. The first antenna faces north and the second antenna faces south.

The application was reviewed by the City's telecom consultant, Telecom Law Firm PC, multiple times for technical and regulatory issues. Per the analysis and submitted documentation, an alternative site was identified which met the applicant's objectives. The alternate location identified as "ASG17 Location D" of the Alternate Locations - ASG17 is the utility pole located

within the eastern Delos Drive parkway, in front of the parking lot of Alta Loma Park and 26122 Delos Drive (Attachment #3).

As previously mentioned, the proposal falls into a location that requires a special review by the Telecommunications Committee as it is in the right-of-way adjacent to a residential district.

In order to recommend Approval of this Telecom Permit, the following findings must be made per 92.39.040(b)(3):

i. Other locations that do not require special approval under this Section 92.39.040(B) are either not available or not feasible; and
ii. Establishment of the facility at the requested location is necessary to provide service; and
iii. Lack of such a facility would result in a prohibition of service;

In the judgment of staff, the proposal meets the first finding as there are no other tall non-residential structures in the vicinity which may lend themselves to a small cell installation that are in the prioritized location per the City's code. Per the applicant's documentation and the City's consultant confirmation, there currently is AT&T service within the coverage area and as such, establishment of the facility is not necessary to provide service and lack of this facility does not result in a prohibition of service.

The applicant has submitted an RF compliance report (included as part of Attachment #2) that evaluates the proposed facility's planned compliance with FCC Guidelines. Staff notes that the City cannot impose additional requirements with respect to FCC requirements with the exception of requesting verification that the site is operating in compliance. If approved, per TMC92.39.070 a radio frequency and compliance radiation report is required to be submitted within 30 days after installation of the facility.

As Staff previously indicated, the required findings for the subject request adjacent to a residentially zoned parcel cannot be made and would therefore recommend denial of the subject request in its present location. Staff does, however, recommend that the Telecommunications Committee consider granting a modified request relocating the placement of the telecommunication facility to applicant indicated viable ASG17 Location "D", which does not require the aforementioned findings as it would be located adjacent to the PU Zoned Alta Loma Park and does not require further notice. Staff recommends the Committee approve the relocated placement with associated conditions that would implement a revised design from a utility pole mounted installation to a marbelite streetlight (with underground power service), subject to the approval of the Public Works Department and that the relocation of the new streetlight be placed south of the existing SCE wooden pole, within the parkway in front of Alta Loma Park's parking lot. Staff has been working with multiple carriers on small cell projects and is familiar with the different designs that are being proposed throughout the City of Torrance and surrounding cities that achieve pole heights that are comparable with the existing pole heights, at either 23 and 29 feet in height and shrouded back mounted antennas that extend approximately 3-feet above. Staff notes that any installation in the right-of-way cannot exceed 35-feet in height and if the relocated and redesigned facility is approved, would be reviewing the revised street light pole for consistency with existing street light pole heights in the area. All streetlight designs being proposed have been able to meet the coverage objectives within this height limit, have been able to place antennas above the light standard, and have been able to

mount all equipment to the pole. Furthermore, all power and cables can be installed within the pole to further screen the installation.

Should the request be approved with the recommended conditions, the proposed small cell facility can provide increased capacity while simultaneously providing the least visually intrusive structure away from most residences and in front of an encouraged placement from a zoning perspective. Secondly, under the narrow purview of the code, staff cannot make the findings per TMC92.39.040(b)(3) for the filed placement. Therefore, Staff recommends that the Telecommunications Committee **APPROVE** the relocated placement and redesigned installation concept to the satisfaction of the Directors of Community Development and Public Works Departments. The recommended conditions and code requirements have been attached for your review (Attachment #4).

PROJECT RECOMMENDATION: APPROVAL AS CONDITIONED

Prepared by,

Oscar Martinez
Senior Planning Associate

Recommended by,

Danny Santana
Planning Manager

Attachments:
1. Telecom Law Firm Memorandums
2. Supplemental Technical Information Report and Documentation
3. Alternate Locations - ASG 17
4. Recommended Conditions and Code Requirements, if approved
5. Plans/Photo Simulations (Limited Distribution)

This request for a Telecom Permit (WTC17-00025) is ____APPROVED ____ DENIED per Ordinance No. 3561, Section 92.39.060, Satellite Antennas, of the Torrance Municipal Code, Division 9.

DATE

Felipe Segovia
Telecommunications Committee Chair

Decisions made by the Telecommunications Committee are appealable to the Planning Commission within 15 calendar days following the above date of approval/denial.

TELECOM LAW FIRM PC

APPLICATION INCOMPLETE MEMORANDUM

TO: Mr. Oscar Martinez
FROM: Dr. Jonathan Kramer
DATE: October 26, 2017
RE: WTC 17-00025 Application Completeness Review – New Proposed Wireless Facility in the Public Right-of-Way at F/O 26111 Delos Drive

APPLICANT: Crown Castle NG West, LLC
APPLICANT'S ID: ASG17; Project No. A242727
UTILITY POLE ID: 623886H

The City of Torrance (the "**City**") requested that Telecom Law Firm, PC ("**TLF**") review the Crown Castle NG West, LLC (the "**Applicant**") application on behalf of AT&T to operate a new wireless site on an existing wood utility pole ("**Pole**") in the public right-of-way ("**ROW**") located at F/O 26111 Delos Drive. The date the Applicant submitted this project to the City was October 10, 2017.

On the Pole, the Applicant proposes to mount two 2-feet antennas center mounted at approximately 20' 10" above ground level ("**AGL**") on a double cross arm, generally called double arm support which are two arms supported and extending out from the Pole to hold the antennas. The two antennas are proposed to be separated from the Pole by approximately 3-feet which meets the requirements of the California Public Utilities Commission, General Order 95, Rule 94. The height of the Pole supporting this project is to remain at 34' 4" AGL.

On the Pole, the Applicant also proposes to install:

- A new shroud kit in which it will place two ML Ions radio units.
- A new AC to DC voltage converter box and a new WTR power disconnect box
- A power transformer
- New pole-to-pole strand with new fiber optic cable used for communications backhaul from this project site to AT&T's cell switching center.

This memorandum reviews the application and related materials to determine whether the applicant submitted a complete and responsive application. The following review may also discuss regulatory and technical issues related to wireless infrastructure. Although many technical issues implicate legal issues, the analysis and recommendations contained in this memorandum do not constitute legal advice.

A. APPLICATION COMPLETENESS REVIEW

Based on the City's Submittal Requirements for Wireless Telecommunications Facility ("**Requirements Form**"), we recommend that the City deem the Applicant's submittal

incomplete and issue an incomplete notice on or before November 9, 2017 regarding the items more fully discussed on the next pages:

REQUIREMENTS FORM

I. APPLICATION FORM

The City requires a Development Application and a Supplemental Technical Information Report ("**STIR**").

General note: The submitted application materials fail to provide the required Section references making the application difficult to reliably cross-reference various points. Each application material needs to identify the sections within the Requirements Form and STIR.

- **Development Application:**

  No deficiencies noted by TLF.

- **Supplemental Technical Information Report:**

  - Sec. 3.01 is partially left blank - Applicant must provide the required information.
  - Sec. 3.02 - Missing Attachment FCC License for AT&T
  - Sec. 3.03 – The Applicant asserts that WiFi offload may be used, but no technical details, such as RF emission data, are provided in application.
  - Sec 3.09- Missing attachment. Applicant must provide the required information.
    Additionally, TLF notes the Applicant submitted a Radio Frequency analysis and compliance report ("**RF Report**") dated September 26, 2015. The RF report contains a different set of plans with a different set of configurations and location.
  - Sec. 5.01- left blank. Applicant must provide the required information.
    Sec. 6.04 - Applicant has not provided a combined coverage map including the instant proposed nodes coverage and existing coverage on the same network.
  - Additionally for Sec. 6.02-6.04 the provided coverage maps have the Applicant's name on it and not AT&T's. All coverage map data should be provided by the FCC license holder, here AT&T.
  - Section 6.05 is not provided. Applicant must provide the required information.
  - Section 9 - Non-responsive information - Applicant needs to submit the detailed information specified in Section 9.01.

II. PROPERTY OWNERSHIP

The applicant must provide written proof that the Joint Pole Authority has granted attachment permission for this project.

III. PROJECT PLANS

- The Plans omits from the project description and call out proposed installation of conduit on the Pole. See Figure1.

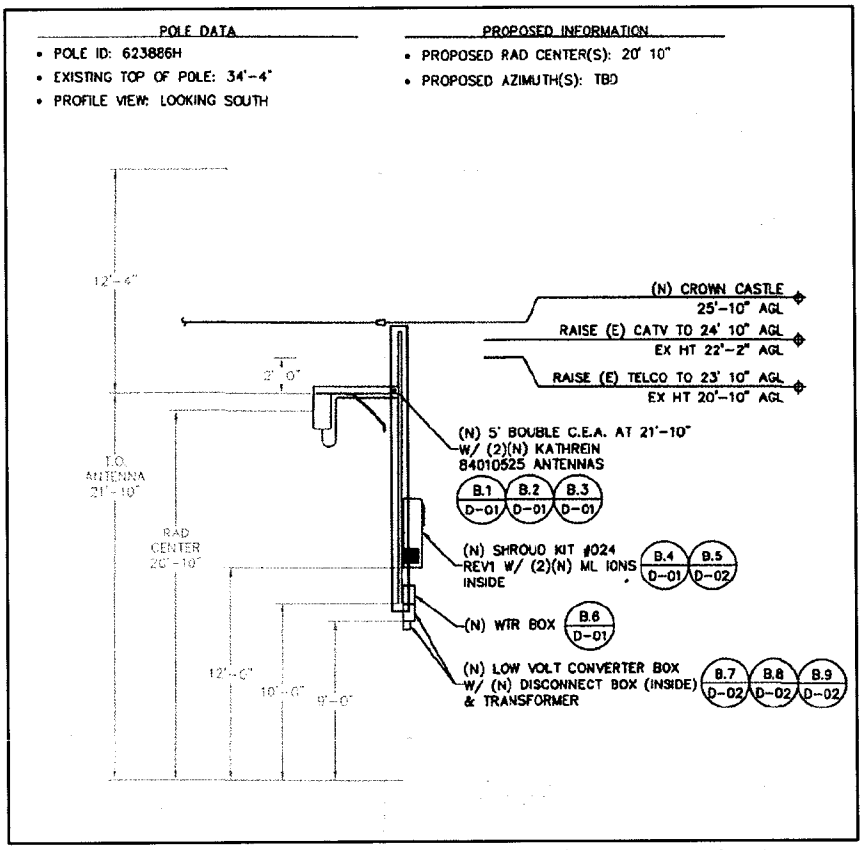

Figure 1: Proposed conduits not detailed. (Source: Plans C-02 Panel A.4; Annotated by Dr. J. Kramer).

IV. JUSTIFICATION

Section 4.01 is insufficient to justify the installation and operation of wireless equipment, especially when the Applicant holds no FCC licenses.

V. MAPS

As mentioned in the above sections, some of the maps are missing/incomplete.

VI. VISUAL SIMULATIONS

The photo simulations provided by the Applicant appear to be satisfactory.

B. OTHER PERMITS AND APPLICATIONS REQUIRED

This project is likely to require an encroachment permit as a separate set of approvals including potentially a fiber installation permit, building permit, and electrical permit.

C. CLOSING COMMENTS AND RECOMMENDATION

TLF believes that the Applicant has failed to submit a complete permit application that complies with the City's Requirements Form. The list of incomplete items in this memo contains TLF's observations. The City may have other items for the incomplete notice. Under the FCC rules, there is only one incomplete notice, so it is imperative that all items which are incomplete are listed in the first notice.

We recommend that the City deem the application incomplete and issue a timely incomplete notice to the Applicant no later than November 9, 2017 (based on the application materials tender date of October 10, 2017). TLF recommends the City send the incomplete notice by email and on the same day also sends it by First Class or Certified U.S. Mail postage prepaid.

Once a reply to the City's incomplete notice is received back from the Applicant, the City has only 10 calendar days to determine whether the reply is responsive to the incomplete notice, and each of the 10 days counts against the overall 150 day shot clock, thus immediate review upon resubmission should occur.

/JLK

TELECOM LAW FIRM PC

APPLICATION INCOMPLETE MEMORANDUM

TO: Mr. Oscar Martinez
FROM: Dr. Jonathan Kramer
DATE: January 30, 2018
RE: WTC 17-00025 Application Completeness Review – New Proposed Wireless Facility in the Public Right-of-Way at F/O 26111 Delos Drive

APPLICANT: Crown Castle NG West, LLC
APPLICANT'S ID: ASG17; Project No. A242727
UTILITY POLE ID: 623886H

On October 10, 2017, Crown Castle NG West, LLC (the "**Applicant**") submitted wireless site application materials to the City of Torrance ("**City**"). Per the City's request, on October 23, 2017, Telecom Law Firm, PC ("**TLF**" or "**We**") submitted an Application Incomplete Memorandum (the "**First Memorandum**") to the City that evaluated the Applicant's application to operate a new wireless site in the public right-of-way ("**PROW**") on an existing utility pole ("**Pole**") to be located at F/O 26111 Delos Drive near the intersection of (Coordinates N33.785036 W118.333623).

TLF's First Memorandum concluded that the Applicant failed to submit a complete permit application that fully responded to the City's publicly stated application requirements. We recommended that the City deem the Applicant's application incomplete and issue a timely notice, which it did.

On January 23, 2018 the Applicant submitted additional materials (the "**January 2018 Resubmission**") to address the deficiencies identified in our First Memorandum related to its initial submission.

This memorandum reviews the January 2018 Resubmission and provides the City further analysis on whether the Applicant submitted a complete and responsive application complying with the City's application requirements and complies with the Torrance Municipal Code ("**TMC**").

This memorandum reviews the application and related materials for technical and regulatory issues specific to wireless infrastructure. Although many technical issues implicate legal issues, the analysis and recommendations contained in this memorandum do not constitute legal advice.

Project Description

The project plans dated December 11, 2017 ("**Plans**") show that on the Pole, the Applicant proposes to mount two 2-feet antennas center mounted at approximately 20' 10" above ground level ("**AGL**") on a double cross arm, generally called double arm support, which are two arms supported and extending out from the Pole to hold the antennas. The two antennas are proposed to be separated from the Pole by approximately 3-feet that meets the requirements of the

California Public Utilities Commission, General Order 95, Rule 94. The height of the Pole supporting this project is to remain at 34' 4" AGL.

On the Pole, the Applicant also proposes to install:

- A new 2" SCH. 80 Comm riser (abbreviated as a "RSR" by the Applicant)
- A new shroud kit # 24 in which it will place two ML Ions radio units.
- A new AC to DC voltage converter box
- A new Nema (electrical) Box with a power disconnect
- A power transformer
- New pole-to-pole strand with new fiber optic cable used for communications backhaul from this project site to AT&T's cell switching center.

Figure 1: Proposed node on existing utility pole.
(Source: Applicant's Photo Simulation submitted through the January 23, 2018 submission).

For its electrical connections, the Applicant proposes to draw power form an existing utility pole (pole # 4655209E) across the street from the project site. Therefore, a 1-foot dirt trench is proposed with a 2-foot punch through, where a new 35-foot long asphalt trench will be trenched to the Pole. Figure 2 below demonstrates the electrical connections.

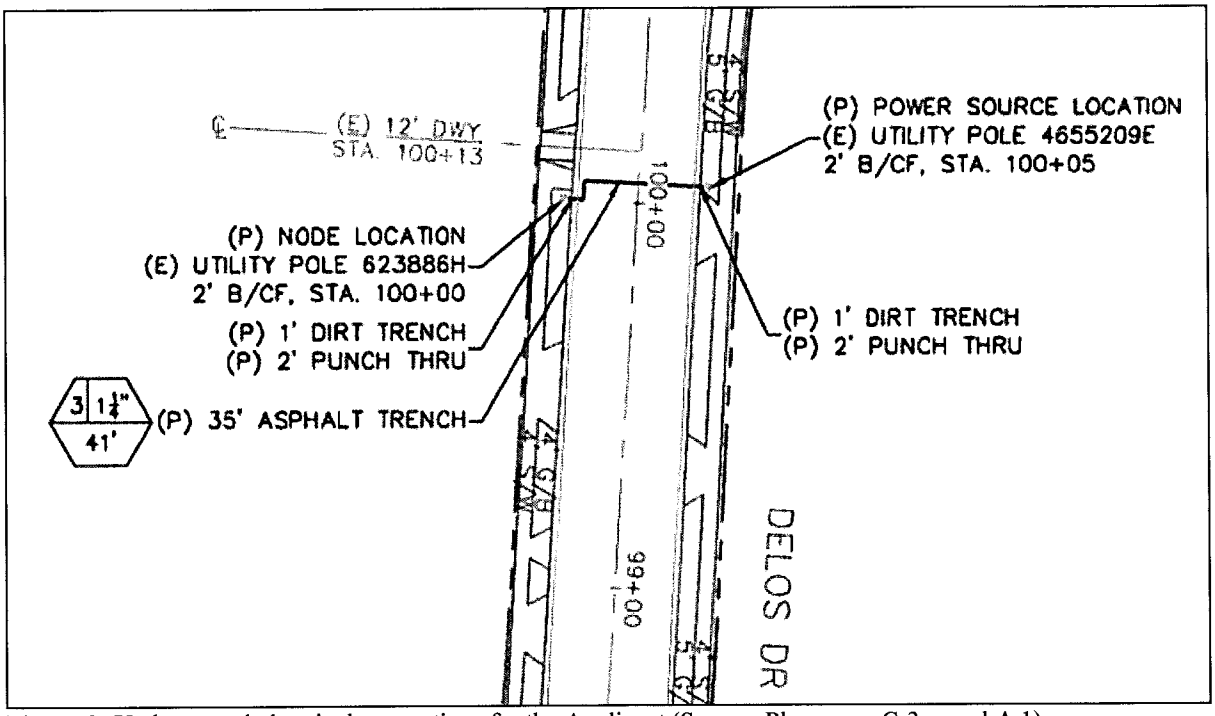

Figure 2: Underground electrical connections for the Applicant (Source: Plans page C-3, panel A.1).

A. APPLICATION COMPLETENESS REVIEW

Based on the City's Submittal Requirements for Wireless Telecommunications Facility ("**Requirements Form**"), we recommend that the City continue to deem the Applicant's submittal on January 23, 2018 **incomplete** and issue an incomplete notice on or before February 2, 2018 regarding the items more fully discussed on the next pages:

REQUIREMENTS FORM

I. APPLICATION FORM

The City requires a Development Application and a Supplemental Technical Information Report ("**STIR**").

- **Development Application:**

No deficiencies noted by TLF.

- **Supplemental Technical Information Report:**

  - **Sec. 3.03** – The Applicant checked off the box for "other" however, the Applicant did not provide any additional information regarding "other."

  - **Sec 3.09-** Applicant has a handwritten note as ("Please see Bushberg Report"). The Bushberg Report dated September 26, 2015 ("**Bushberg RF Report**") does not contain any information pertaining to this project in the City of Torrance. On the contrary, it contains a different set of plans with a different set of configurations and location fir ASG01m1 in the City of Palos Verdes Estates. The Applicant must provide the appropriate RF emissions information pertaining to this specific project within the City of Torrance.

  - **Sec. 6.04** - Applicant still has not provided a combined coverage map including the proposed node coverage and existing coverage on the same network.

  - **Sec. 6.02-6.04**-Applciant has still not provided correct coverage maps. The Applicant's name still appears on the maps instead of AT&T's. All coverage map data should be provided by the FCC license holder, here AT&T.

  - **Section 6.05** is still not provided. The Applicant has a handwritten note as ("Please see Bushberg Report"). As mentioned above, the Bushberg RF Report does not apply to this project, but rather for a project in a different city. The Applicant must provide the required appropriate information.

II. PROPERTY OWNERSHIP

The applicant must provide written proof that the Joint Pole Authority has granted attachment permission for this project, either affirmatively or by inaction.

III. PROJECT PLANS

The Plans provided by the Applicant appear to be satisfactory.

IV. JUSTIFICATION

The current answer in Section 4.01 is still insufficient to justify the installation and operation of wireless equipment at this particular project location. Holding a CPCN still make the project subject to time, place, and manner requirements. There is no demonstration that the specific project site is the only site that can

possibly work (most likely that is not the case), especially when the Applicant holds no FCC licenses.

V. MAPS

As mentioned in the above sections, some of the application-required maps are still missing/incomplete.

VI. VISUAL SIMULATIONS

The photo simulations provided by the Applicant appear to be satisfactory.

B. OTHER PERMITS AND APPLICATIONS REQUIRED

This project is likely to require an encroachment permit as a separate set of approvals including potentially a fiber installation permit, building permit, and electrical permit.

C. CLOSING COMMENTS AND RECOMMENDATION

TLF believes that the Applicant has again failed to submit a complete permit application that complies with the City's Requirements Form. The list of incomplete items in this memo contains TLF's observations. The City may have other items for the next incomplete notice.

We recommend that the City again deem the application incomplete and issue a timely incomplete notice to the Applicant no later than February 2, 2018 (based on the application materials tender date of January 23, 2018). TLF recommends the City send the incomplete notice by email and on the same day also sends it by First Class or Certified U.S. Mail postage prepaid.

Once a reply to the City's incomplete notice is received back from the Applicant, the City has only 10 calendar days to determine whether the reply is responsive to the incomplete notice, and each of the 10 days counts against the overall 150 day shot clock, thus immediate review upon resubmission should occur.

/JLK

TELECOM
LAW FIRM PC

APPLICATION MEMORANDUM

TO: Mr. Oscar Martinez
FROM: Dr. Jonathan Kramer
DATE: March 8, 2018
RE: WTC 17-00025 Application Completeness Review – New Proposed Wireless Facility in the Public Right-of-Way at F/O 26111 Delos Drive

APPLICANT: Crown Castle NG West, LLC
APPLICANT'S ID: ASG17; Project No. A242727
UTILITY POLE ID: 623886H

On October 10, 2017, Crown Castle NG West, LLC (the "**Applicant**") submitted wireless site application materials to the City of Torrance ("**City**"). Per the City's request, on October 23, 2017, Telecom Law Firm, PC ("**TLF**" or "**We**") submitted an Application Incomplete Memorandum (the "**First Memorandum**") to the City that evaluated the Applicant's application to operate a new wireless site in the public right-of-way ("**PROW**") on an existing utility pole ("**Pole**") to be located at F/O 26111 Delos Drive near the intersection of (Coordinates N33.785036 W118.333623).

On January 23, 2018 the Applicant submitted additional materials (the "**January 2018 Resubmission**") to address the deficiencies identified in our First Memorandum related to its initial submission. Per the City's request, on January 30, 2018, TLF submitted another incomplete memorandum (the "**Second Memorandum**") to the City that evaluated the Applicant's January 2018 Resubmission.

TLF's First Memorandum and Second Memorandum concluded that the Applicant failed to submit a complete permit application that fully responded to the City's publicly stated application requirements. We recommended that the City deem the Applicant's application incomplete and issue a timely notice, which it did.

This memorandum reviews the application and related materials for technical and regulatory issues specific to wireless infrastructure. Although many technical issues implicate legal issues, the analysis and recommendations contained in this memorandum do not constitute legal advice.

This memorandum reviews the February 27, 2018 submission and provides the following analysis:

I. Project Description

The project plans dated December 11, 2017 ("**Plans**") show that on the Pole, the Applicant proposes to mount two 2-feet antennas center mounted at approximately 20' 10" above ground level ("**AGL**") on a double cross arm, generally called double arm support, which are two arms supported and extending out from the Pole to hold the antennas. The two antennas are proposed to be separated from the Pole by approximately 3-feet that meets the requirements of the California

Public Utilities Commission, General Order 95, Rule 94. The height of the Pole supporting this project is to remain at 34' 4" AGL.

On the Pole, the Applicant also proposes to install:

- A new 2" SCH. 80 Comm riser
- A new shroud kit # 24 in which it will place two ML Ions radio units.
- A new AC to DC voltage converter box
- A new Nema (electrical) Box with a power disconnect
- A power transformer
- New pole-to-pole strand with new fiber optic cable used for communications backhaul from this project site to AT&T's cell switching center.

Figure 1: Proposed node on existing utility pole.
(Source: Applicant's Photo Simulation submitted through the January 23, 2018 submission).

TLF recommends that the City review the below comments pertaining to Section 3.09 of the Supplemental Technical Information Report and to the Property Ownership and based on them make a determination on how to proceed on this instant project on or before March 9, 2018.

- **Supplemental Technical Information Report:**
  - **Sec 3.09-** the Applicant has solicited and received a letter from its radio frequency consultant, Dr. Bushberg. That letter is dated February 22, 2018.

    In this February 2018 letter, Dr. Bushberg offers that because the technical parameters have not changes his analysis of the project is valid today. Referring back to the Bushberg report from September 26, 2015, it characterizes the RF emissions from a design not proposed in the City of Torrance nor for this particular site. If the City wishes to accept the assertions made in Dr. Bushberg's February 22, 2018 letter, it is free to do so, but We think it is bad policy to allow an Applicant to bootstrap a certification of a completely different design for the specific design and location in the instant application. If the City determines that specific information for a specific site is necessary, then it should incomplete the current submission. In the alternative, should it wish to accept the premise established in the February 22, 2018 Bushberg letter, then it should consider that element to be complete.

- **Property Ownership**

  Relating to property ownership, based on information presented to the City and to this firm on March 6, 2018 during a phone call with the applicant, the applicant indicated its desire to proceed forward with the process without having first submitted a clearance letter or a 45-day waiver letter from the JPA. We support this approach subject to a condition that has been verbally accepted by Crown Castle that no actual construction permit will issue until either the JPA approval or 45-day waiver letter has been received by the City.

II. CLOSING COMMENTS

Based on the above comments, the City's determination needs to be issued and submitted to the Applicant no later than March 9, 2018 (based on the application materials tender date of February 27, 2018).

/JLK

TELECOM
LAW FIRM PC

WIRELESS PLANNING MEMORANDUM

TO: Mr. Oscar Martinez
FROM: Dr. Jonathan Kramer
DATE: June 4, 2018
RE: ASG 17 New Proposed Wireless Facility in the Public Right-of-Way adjacent to 26111 Delos Drive

APPLICANT: Crown Castle NG West LLC
APPLICANT'S ID: A242727

On October 10, 2017, Crown Castle NG West LLC (the "**Applicant**") on behalf of itself and its client AT&T, submitted wireless site application materials to the City of Torrance ("**City**").

Per the City's request, on October 26, 2017, Telecom Law Firm, PC ("**TLF**" or "**We**") submitted an Application Incomplete Memorandum (the "**October 2017 Memo**") to the City that evaluated the Applicant's application to operate a new wireless site on an existing JPA wood utility pole 623886H ("**Pole**") in the public right-of-way ("**PROW**") adjacent to 26111 Delos Drive (Coordinates N33.785036°; W118.333623°).

TLF's October 2017 Memo concluded that the Applicant failed to submit a complete permit application. We recommended that the City deem the Applicant's application incomplete and issue a timely notice, which it did.

On January 23, 2018, the Applicant submitted additional materials (the "**January 2018 Submission**") to address the deficiencies identified in our October 2017 Memo related to its initial submission. On January 30, 2018, TLF submitted another Application Incomplete Memorandum (the "**January 2018 Memo**") to the City that evaluated the Applicant's January 2018 Submission.

TLF's January 2018 Memo concluded that the Applicant yet again failed to submit a complete permit. We recommended that the City deem the Applicant's application incomplete and issue a timely notice, which it did.

On February 27, 2018, the Applicant submitted additional materials (the "**February 2018 Submission**") in an attempt to address the deficiencies identified in our January 2018 Memo. On March 8, 2018, TLF submitted another Application Incomplete Memorandum (the "**March 2018 Memo**"). TLF's March 2018 Memo concluded that the Applicant yet again failed to submit a complete permit application. We recommended that the City deem the Applicant's application incomplete and issue a timely notice, which it did.

On May 29, 2018, the Applicant submitted additional materials (the "**May 2018 Submission**") to address the deficiencies identified in our March 2018 Memo.

This memorandum now reviews (1) the May 2018 Submission and provides the City further analysis on whether the Applicant submitted a complete and responsive application complying with the City's publicly stated application requirements and complies with the Torrance Municipal Code ("**TMC**"); (2) whether Section 6409(a) applies to the Applicant's project; and (3) whether Applicant's project demonstrates planned compliance with the federal radio frequency exposure guidelines.

Upon review, now, our assessment is that the application appears to be sufficiently complete for TLF to proceed with a substantive review of the Applicant's proposal for compliance with applicable local, state and federal law.

1. Project Description

The project plans (last revision) dated December 11, 2017 ("**Plans**") show that on the Pole, the Applicant proposes to mount two 2-feet antennas center mounted at approximately 20' 10" above ground level ("**AGL**") on a double cross arm, generally called double arm support, which are two arms supported and extending out from the Pole to hold the antennas. One of the panel antennas is oriented at 0° True North ("**TN**") and the other panel antenna is oriented at 180° TN. These antennas follow Delos Drive.

The two antennas are proposed to be separated from the Pole by approximately 3-feet. This separation meets the requirements of the California Public Utilities Commission, General Order 95, Rule 94. The height of the Pole supporting this project is to remain at 34' 4" AGL.

In addition to the panel antennas already discussed, on the Pole the Applicant also proposes to install:

- A new 2" Schedule 80 communications riser conduit
- A new shroud kit # 024 in which it will place two ML Ion radio units.
- A new AC to DC voltage converter
- A new NEMA (electrical circuit breaker) enclosure with a power disconnect
- New pole-to-pole strand at 25' 10" with new fiber optic cable used for communications backhaul from this project site to AT&T's cell switching center.

For the pole configuration, see Figure 1 and Figure 2.

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Figure 1: Proposed node on existing utility pole.
(Source: Applicant's Photo Simulation provided by through its January 2018 Submission).

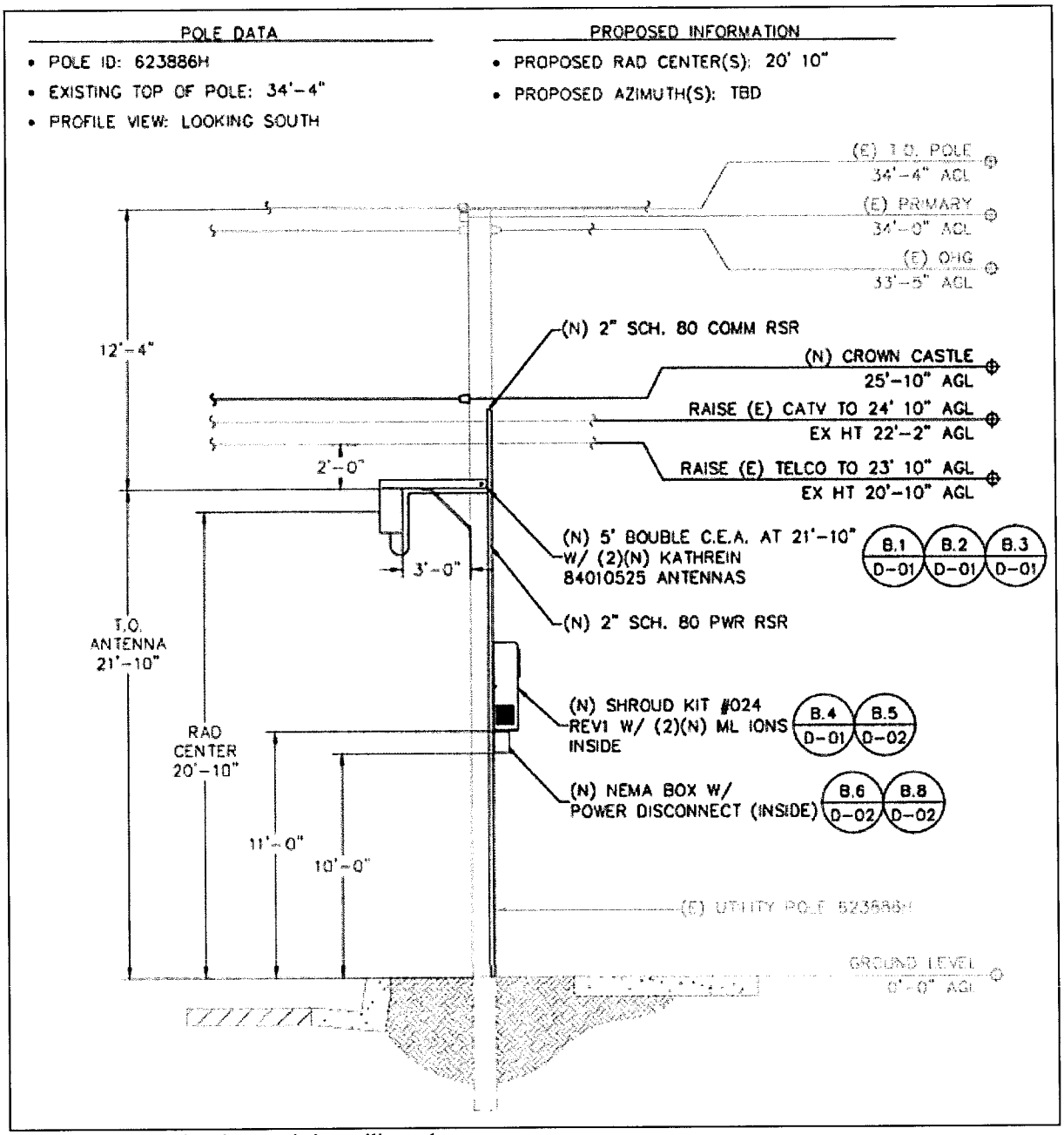

Figure 2: Proposed node on existing utility pole.
(Source: Plans).

For its electrical connections power source, the Applicant proposes a new 35-foot long asphalt trench from an existing utility pole 46550209E across the street to run an underground power to the Pole. Figure 3 below demonstrates the electrical connections.

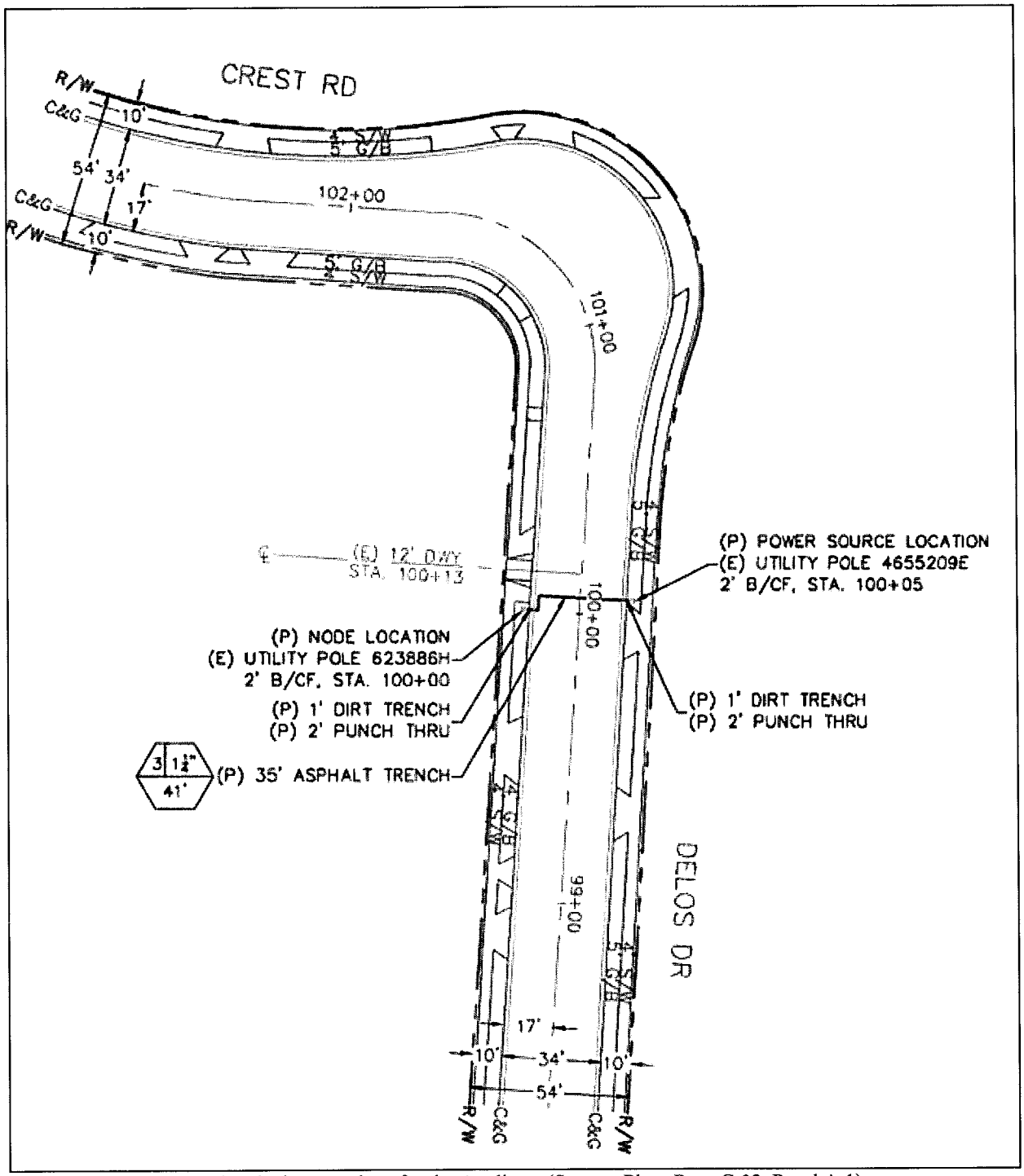

Figure3: Underground electrical connections for the Applicant (Source: Plans Page C-02, Panel A-1).

2. Section 6409(a) Analysis

As a threshold matter, the City must determine whether federal law mandates approval for this permit application. Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 requires that State and local governments "may not deny, and shall approve" any "eligible facilities request" for a wireless site collocation or modification so long as it does not cause a "substant[ial] change in [that site's] physical dimensions."[1] FCC regulations interpret key terms in this statute and impose certain substantive and procedural limitations on local review.[2] Localities must review applications submitted for approval pursuant to Section 6409(a), but the applicant bears the burden to show it qualifies for mandatory approval.

Section 6409(a)(2) defines an "eligible facilities request" as a request to collocate, remove or replace transmission equipment on an existing wireless tower or base station.[3] This definition necessarily excludes permit requests for new facilities. Thus, no matter how large or small, Section 6409(a) does not mandate approval for a permit to construct an entirely new wireless facility.

Here, the Applicant did **not** submit an eligible facilities request because rather than collocate on an existing wireless facility, the Applicant proposes to construct a new wireless facility where none currently exists.

Accordingly, given that Section 6409(a) does not apply, much less require that the City approve the Applicant's application and the City should review the Applicant's proposal for compliance with the local values expressed in the TMC subject to certain federal limitations in Section 704 of the Telecommunications Act of 1996 (the "**Telecom Act**").

3. Significant Gap and Least Intrusive Means Analysis

Under the Telecom Act, State and local governments cannot prohibit or effectively prohibit personal wireless communication services.[4] The United States Court of Appeals for the Ninth Circuit holds that a single permit denial can violate the Telecom Act when the applicant demonstrates that (1) a "significant gap" in its own service coverage exists and (2) its proposed site constitutes the "least intrusive means" to mitigate that significant gap.[5] This section discusses both issues as related to the present application.

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[1] *See* Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156. (Feb. 22, 2012) (codified as 47 U.S.C. § 1455(a)).
[2] *See* In the Matter of Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, *Report and Order*, 29 FCC Rcd. 12864 (Oct. 17, 2014) (codified as 47 C.F.R. §§ 1.40001, *et seq.*).
[3] *See* 47 U.S.C. § 1455(a)(2).
[4] *See* Section 704 of the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, *codified at* 47 U.S.C. § 332(c)(7)(B)(i)(II).
[5] *See MetroPCS, Inc. v. City and County of San Francisco*, 400 F.3d 715, 733 (9th Cir. 2005).

3.1. Significant Gap

The Ninth Circuit does not precisely define what a "significant gap" in service coverage means because this "extremely fact-specific [question] def[ies] any bright-line legal rule."[6] Although sometimes courts find that weak service coverage constitutes a significant gap, the Ninth Circuit also holds that "the [Telecom Act] does not guarantee wireless service providers coverage free of small 'dead spots' . . . ."[7] Accordingly, whether a gap rises to a legally significant gap depends on the contextual factors in each individual application.[8]

To guide the analysis, the Ninth Circuit suggests that applicants and localities should focus on "context-specific factors" such as: (1) whether the gap affects a significant commuter thoroughfare; (2) how many users the alleged gap affects; (3) whether the proposed site will fill a complete void or merely improve weak signal; (4) whether the alleged gap affects a commercial area; (5) whether the alleged gap threatens public safety; and (6) whether the applicant presented empirical or merely predictive evidence.[9] The Ninth Circuit identifies these factors as relevant but does not explicitly limit the analysis to these factors or consider any particular factor more important than the others.

Within the January 2018 Submission section 4-Project Purpose of the City's Supplemental Technical Information Report ("**STIR**") for Wireless Telecommunication Facilities , the Applicant alleges that AT&T's proposed site is intended to "Increase the existing RF signal level in an existing coverage area."

Additionally, the Applicant provided a set of LTE Justification Plots dated January 31, 2018 that purport to show the existing coverage and proposed coverage in the area. See Figure 4 and Figure 5.

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[6] *See id.*
[7] *See id.*
[8] *See Sprint PCS Assets, LLC v. City of Palos Verdes Estates*, 583 F.3d 716, 727 (9th Cir. 2009) (citing *San Francisco*, 400 F.3d at 733).
[9] *See id.* (collecting cases that examine each enumerated factor).

The propagation map reproduced in Figure 4 is a computer model of AT&T's existing signal strength within the area without the proposed site.

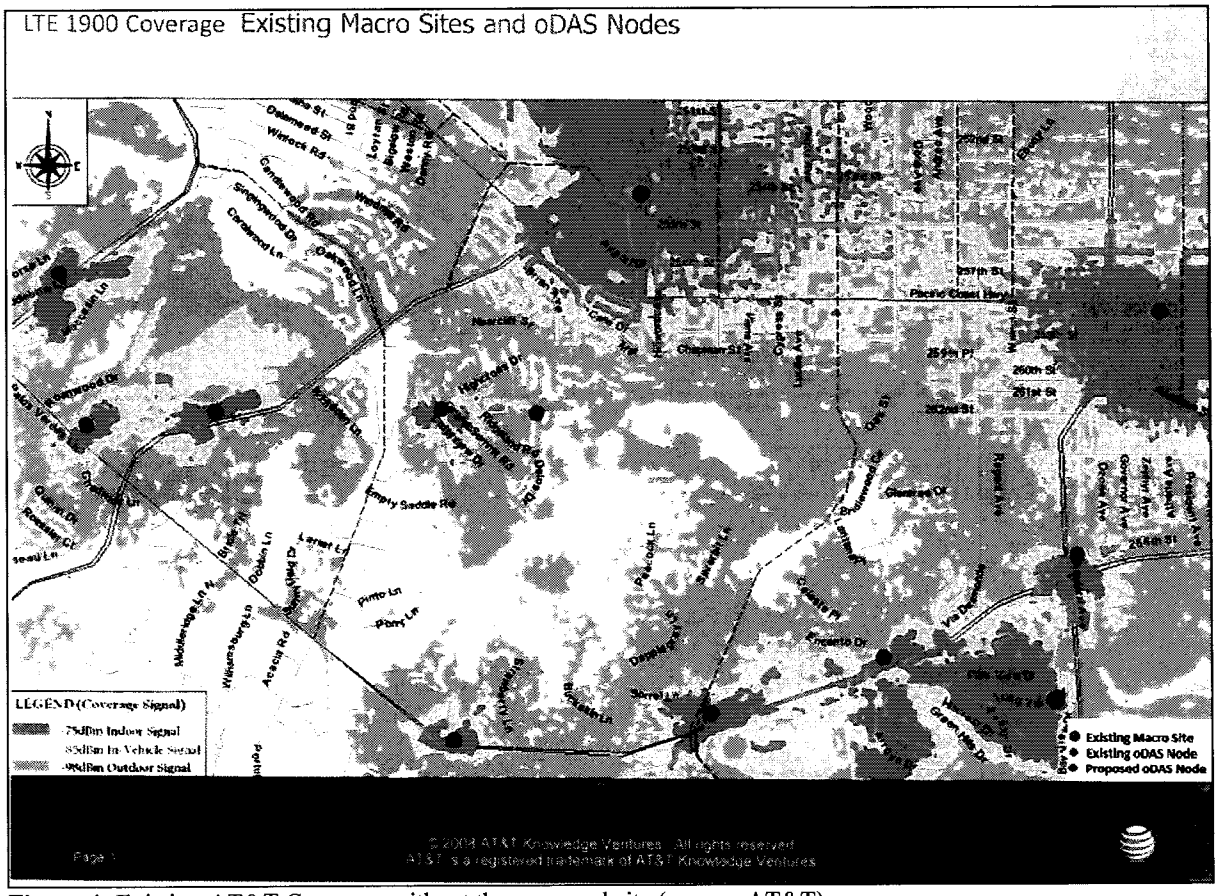

Figure 4: Existing AT&T Coverage without the proposed site (source: AT&T)

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Figure 5 shows the existing macro and outdoor distributed antenna sites on air plus the additional signal to be provided by the proposed node.

Figure 5: Proposed AT&T Coverage with the proposed site (source: AT&T).

The propagation map submitted with the application and reproduced in Figures 4 and 5 models AT&T's service coverage with the combined signals from the proposed and surrounding sites. AT&T's proposed coverage is -75 dBm in all directions immediately around the proposed site.

The combination of the data in Figures 4 and 5 do not show an existing significant gap that would be closed by the addition of the proposed node. Rather what appears to be the case is that AT&T intends to strengthen its existing signal in the area around the proposed node. This information is helpful to the City in siting location considering the City's authority regarding time, place, and manner of wireless sites in the public right of way pursuant to the Public Utilities Code, Section 7901 and 7901.1. As shown in Section 3.3, there are viable alternative sites that confirm that time, place, and manner are still issues at play with the instant project.

3.2. Least Intrusive Means

The Telecom Act does not grant the applicant the right to build whatever site in whatever location it chooses. State and local jurisdictions may require wireless applicants to adopt the "least intrusive means" to achieve their technical objectives.[10] This balances the national interest in wireless services with the local interest in planned development.

In the Ninth Circuit, the least intrusive means refers to the technically feasible and potentially available alternative design and location that most closely conforms to the local values a permit denial would otherwise serve.[11] A "technically feasible and potentially available alternative" means that the applicants can reasonably (1) meet their demonstrated service needs and (2) obtain a lease or other legal right to construct the proposed site at the proposed location.[12]

The process to determine whether a proposal constitutes the least intrusive means involves a "burden-shifting" framework. First, the applicant establishes a presumption that it proposes the least intrusive means when it submits an alternative sites analysis. Localities can rebut the presumption when it proposes other alternatives. Applicants may then rule-out proposed alternatives when it provides a "meaningful comparative analysis" for why an alternative is not technically feasible or potentially available.[13] This back-and-forth continues until either the jurisdiction fails to propose a technically feasible or potentially available alternative, or the applicant fails to rule-out a proposed alternative.[14]

Applicants cannot rule-out potential alternatives on the grounds that it believes its preferred site is subjectively "better" than the jurisdiction's preferred alternative.[15] Only the local government can decide which among several feasible and available alternatives constitutes the best option. Similarly, an applicant cannot rule-out a proposed alternative based on a bare conclusion that it is not technically feasible or potentially available—it must provide a meaningful comparative analysis that allows the jurisdiction to reach its own conclusions.[16]

3.3. Alternative Sites Analysis

Based on the February 2018 Submission, AT&T established that it proposed the least intrusive means by checking "No" within section 8.02 of the STIR Candidate Sites. This is AT&T's view.

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[10] *See, e.g., American Tower Corp. v. City of San Diego*, 763 F.3d 1035, 1056 (9th Cir. 2014).
[11] *See id.*; *see also AT&T USA, Inc. v. City of Anacortes*, 572 F.3d 987, 995 (9th Cir. 2009).
[12] *See Anacortes*, 572 F.3d at 996–999.
[13] *See American Tower Corp.*, 763 F.3d at 1056.
[14] *Compare id.* (upholding a permit denial because the applicant failed to rule-out the technical feasibility or potential availability of proposed alternatives), *with Anacortes*, 572 F.3d at 999 (invalidating a permit denial because the city insisted on an unavailable location). These cases provide a guide for planners on how to evaluate alternative site analyses. Planners should also note that a strong administrative record is essential to this analysis.
[15] *See American Tower Corp.*, 763 F.3d at 1057 (finding that the applicant "did not adduce evidence allowing for a meaningful comparison of alternative designs or sites, and the [c]ity was not required to take [the applicant]'s word that these were the best options").
[16] *See id.*

However, within the January 2018 Submission AT&T provided a sheet titled, "Alternate Locations-ASG17" See Figure 6.

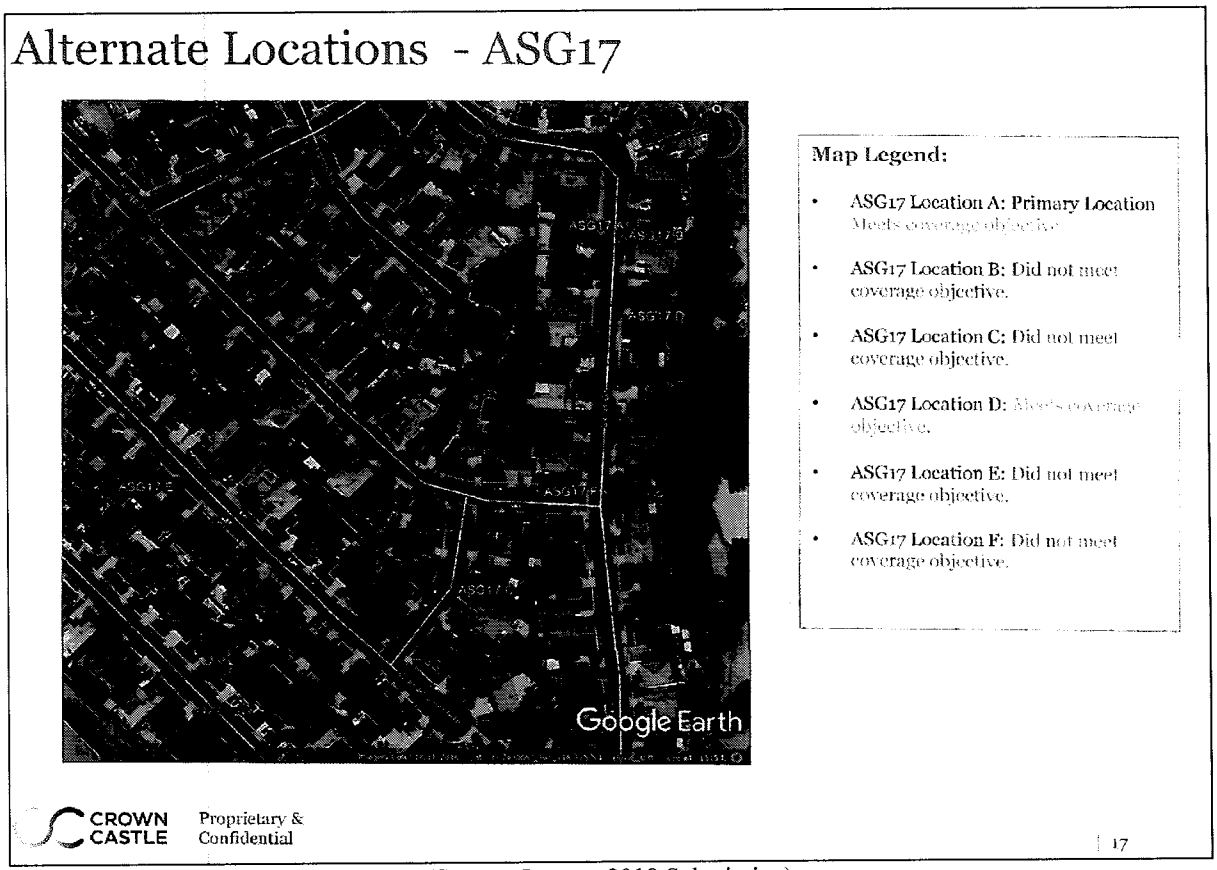

Figure 6: Alternate Candidates-ASG17 (Source: January 2018 Submission).

Therefore, whether the primary site is the least intrusive, or if any or some of the alternate candidates depicted in Figure 6 are less intrusive, is a question for the City to decide.

4. Planned Compliance with RF Exposure Regulations

Under the Telecom Act, the FCC completely occupies the field with respect to RF emissions regulation. The FCC established comprehensive rules for human exposure to RF emissions (the "**FCC Guidelines**").[17] State and local governments cannot regulate wireless facilities based on environmental effects from RF emissions to the extent that the emissions comply with the FCC Guidelines.[18]

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[17] *See* 47 U.S.C. § 332(c)(7)(B)(iv); *see also* 47 C.F.R. § 1.1307 *et seq.*; FCC Office of Engineering and Technology, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*, OET Bulletin 65, ed. 97-01 (1997).
[18] *See* 47 U.S.C. § 332(c)(7)(B)(iv).

Although localities cannot establish their own standards for RF exposure, local officials may require wireless applicants to demonstrate compliance with the FCC Guidelines.[19] Such demonstrations usually involve a predictive calculation because the site has not yet been built.

4.1. FCC Guidelines, Categorical Exclusions and Exposure Mitigation Measures

FCC Guidelines regulate *exposure* rather than *emissions*.[20] Although the FCC establishes a maximum permissible exposure ("**MPE**") limit, it does not mandate any specific limitations on power levels applicable to all antennas and requires the antenna operator to adopt exposure-mitigation measures only to the extent that certain persons might become exposed to the emissions. Thus, a relatively low-powered site in proximity to the general population might require more comprehensive mitigation measures than a relatively high-powered site in a remote location accessible only to trained personnel.

The MPE limit also differentiates between "general population" and "occupational" people. Most people fall into the general population class, which includes anyone who either does not know about potential exposure or knows about the exposure but cannot exert control over the transmitters.[21] The narrower occupational class includes persons exposed through their employment and able to exert control over their exposure.[22] The MPE limit for the general population is five times lower than the MPE limit for the occupational class.

Lastly, the FCC "categorically excludes" certain antennas from routine environmental review when either (1) the antennas create exposures in areas virtually inaccessible to humans or (2) the antennas operate at extreme low power. As a general rule, a wireless site qualified for a categorical exclusion when mounted on a structure built solely or primarily to support FCC-licensed or authorized equipment (*i.e.*, a tower) and such that the lowest point on the lowest transmitter is more than 10 meters (32.8 feet) above ground.[23]

Categorical exclusions establish a presumption that the emissions from the antennas will not significantly impact humans or the human environment. Such antennas are exempt from routine compliance evaluations but not exempt from actual compliance. Under some circumstances, such as a heavily collocated tower or when in close proximity to general population members, even a categorically excluded site will require additional analysis.

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[19] *See* In re Procedures for Reviewing Requests for Relief from State and Local Regulations Pursuant to Section 332(c)(7)(B)(iv) of the Communications Act of 1934, *Report and Order*, 15 FCC Rcd. 22821, 22828–22829 (Nov. 13, 2000) (declining to adopt rules that limit local authority to require compliance demonstrations).

[20] *See generally* Human Exposure to Radio Frequency Fields: Guidelines for Cellular and PCS Sites, *Consumer Guide*, FCC (Oct. 22, 2014), *available at* https://www.fcc.gov/guides/human-exposure-rf-fields-guidelines-cellular-and-pcs-sites (discussing in general terms how wireless sites transmit and how the FCC regulates the emissions).

[21] *See* 47 C.F.R. § 1.1310, Note 2.

[22] *See id.*

[23] *See id.* § 1.1307(b)(1).

4.2. Planned Compliance Evaluation and Recommendations

The FCC Guidelines do **not** categorically exclude the Applicant's facility from routine compliance review. This is because the Pole was originally constructed for transporting electricity and wired communications circuits and not primarily to support wireless equipment. Therefore, an additional analysis for whether the facility will comply with the FCC Guidelines is appropriate.

To demonstrate planned compliance with the FCC Guidelines, the Applicant on behalf of AT&T submitted a site-specific Radio Frequency Electromagnetic Fields Exposure Report prepared by Dtech Communications and dated May 14, 2018 (the "**Dtech Report**"). The Dtech Report, contains the basic emissions information needed by us to independently evaluate the proposed facility's planned compliance with the FCC Guidelines, concludes that: "Based on FCC Rules and Regulations, Crown Castle will be compliant provided recommendation(s) are implemented." See Figure 7 for the Dtech Report recommendations.

4.2 Recommendation(s)

For the facility to be classified as an Occupational/Controlled environment, the following action(s) are recommended in accordance with the FCC's and Crown Castle's RF Safety Guidelines (see figure 4):

1) Install NOTICE Sign(s) near the bottom of the pole.
2) Install CAUTION Sign(s) on or near the antenna(s).

Figure 7: Proposed recommendations for Occupational/Controlled environment (Source: Dtech Report).

The site is incorrectly classified as being an Occupational/Controlled environment. This is because utility workers from the power, cable, and wired telephone companies will also access this pole above the level of the proposed antennas. Accordingly, the emissions for this site are classified as Uncontrolled/General Population. That said, under CPUC General Order 95, Rule 94, the site can comply with the FCC rules if the site operator provides a power disconnect switch to deactivate the site during pole work by others. Here, the applicant has provided a pole-mounted power disconnect switch, thus planned compliance is shown.

Based on our review of the transmitter frequencies and power levels disclosed in the Dtech Report each of the transmitting antennas will create a "controlled access zone" that extends approximately 8 feet from the face of the antenna at approximately the same height as the emissions center of the antenna. The controlled access zone extends horizontally from the antennas with very little emissions that stray upwards or downwards.

The fact that a site creates a controlled access zone does not necessarily mean that it violates the FCC Guidelines. Rather, a controlled access zone means that the carrier must affirmatively restrict public access to that area so that members of the general population (including trespassers) cannot unknowingly enter and be exposed to radio emissions in excess of limits prescribed by the FCC.

Here, the controlled access zone is completely inaccessible to members of the general population.

Accordingly, the City may wish to consider the following conditions of approval before potentially issuing any permit approval for the subject facility:

1. The permittee shall install and at all times maintain in good condition an "RF Notice" sign and network operations center sign immediately below the equipment shroud, and a "RF Caution" sign on each side of the antenna arm between the Pole and each antenna.

2. The permittee shall ensure that all RF signage complies with FCC OET Bulletin 65 or ANSI C95.2 for color, symbol and content conventions. All such signage shall provide a site identifier and working local or toll-free telephone number to the network operations center that reaches a live person who can exert transmitter power-down control over this site as required by the FCC.

5. Permission to Access the Pole.

Relating to property ownership, here the Pole, based on information presented to the City and to this firm on March 6, 2018 during a phone call with the Applicant, the Applicant indicated its desire to proceed forward with the project without having first submitted a Joint Pole Association ("**JPA**") clearance letter, or a letter from the applicant indicating that the JPAs 45-day waiver has elapsed. We support this approach subject to a condition that has been verbally accepted by Crown Castle that no actual construction permit will issue until either the JPA approval or 45-day waiver letter has been received by the City.

6. Conclusion

The Applicant now has submitted what appears to us to be a complete and responsive application.

The Applicant's proposed wireless facility is a new facility that is not subject to Section 6409(a).

While the proposed location may be ultimately acceptable to the City, the City may wish to require the Applicant to provide a more meaningful comparative analysis if it finds that one or more of the alternative sites identified by the applicant as viable appear to be less intrusive to the City.

Lastly, subject to the conditions in this memorandum regarding RF emissions safety, The Applicant's proposed facility will be in planned compliance with the FCC Guidelines. If the Applicant alters the equipment, site configuration or location, the City may wish to re-evaluate planned compliance with the FCC Guidelines based on those changed circumstances.

/JLK

City of Torrance, Community Development Department Jeffery W. Gibson, Director
3031 Torrance Blvd., Torrance, CA 90503, Phone (310) 618-5990 Fax (310) 618-5829

SUPPLEMENTAL TECHNICAL INFORMATION REPORT FOR WIRELESS TELECOMMUNICATION FACILITIES

1.00: Project Address Adjacent to 26111 Delos Drive

Assessor Parcel Number N/A Public ROW

2.00: Disclose the Name and Address of all Project Owners, and attach a letter of agency appointing the Applicant as representative of the Project Owners in connection with this application. Designate the letter of agency as "Attachment 2.00".

3.00: **FCC Licensee/FAA Compliance Information**

3.01: Identify each person or legal entity that will be using the wireless site and contact information (Attach additional sheets if necessary)

Name: Crown Castle NG West, LLC

Address: 200 Spectrum Center Drive Suite 1800

City, State, Zip: Irvive, CA 92618

Phone: (866) 466-3984 Fax: _____

Email: Stephen.Garcia@crowncastle.com

3.02: Attach a complete copy of each FCC license or FCC Construction Permit for each person/legal entity that will be subject to the FCC license for the Project site. Designate the license(s)/Construction Permit(s) as "Attachment 3.02". If none of the proposed radio facilities require an FCC license so indicate on Attachment 3.02.

3.03: What is the intended use of the facility (check all that apply):

- ☐ Broadcast Radio
- ☐ Broadcast TV
- ☑ Cellular telephone
- ☐ Enhanced Specialized Mobile Radio
- ☐ Microwave
- ☑ PCS telephone
- ☐ Paging
- ☐ Specialized Mobile Radio
- ☐ Other: _____

3.04: Project latitude and longitude: N 33.785036 W -118.333623

City of Torrance, Community Development Department Jeffery W. Gibson, Director
3031 Torrance Blvd., Torrance, CA 90503, Phone (310) 618-5990 Fax (310) 618-5829

SUPPLEMENTAL TECHNICAL INFORMATION REPORT FOR WIRELESS TELECOMMUNICATION FACILITIES

3.05: Specify DATUM use above: ____ WGS84 ____NAD23 x NAD83

3.06: Project Maximum height (ft): 34'4" T.O (E) Pole

3.07: Bottom of lowest antenna (ft): 19'10"

3.08: Rad-center of the antennas (ft): 20'10"

3.09: For each licensee, and for each radio service, complete and attach the two page "Appendix A" form from "A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance" available from the following website: http://www.FCC.gov/oet/rfsafety. Designate the completed two page form as "Attachment 3.09". Additional RF safety disclosure information may be required by the government to determine compliance with FCC OET 65 requirements if the site is not "categorically excluded" under OET 65.

3.10 Are any areas adjacent to the antennas subject to RF emissions that are in excess of the "General Public/uncontrolled" standard in FCC OET 65? For this purpose, assume that all persons other than the Carrier's technical staff are considered to be members of the General Public.
____ Yes x No
(If the answer to 3.10 is NO proceed to 3.12)

3.11 Provide a detailed RF analysis for each emitter and each band showing the distance, in feet, in all directions to the boundary of the General Public/uncontrolled boundary. Designate this attachment, "Attachment 3.11".

3.12 Considering your response to 3.10, above, and any other identifiable RF emitters that OET 65 requires be evaluated in connection with this project, are all portions of this project cumulatively "categorically excluded" under FCC OET 65 requirements?
x Yes ____ No
(If the answer to 3.12 is YES proceed to 3.14.)

3.13 Describe in an attachment each and every RF emitter of the project that is not "categorically excluded" under the FCC OET 65 requirements. Designate this attachment, "Attachment 3.13".

3.14: Does this project require the Applicant to file an FAA Form 7460 or other documentation under Federal Aviation Regulation Part 77.13 et seq, or under the FCC rules?
____ Yes x No
(If the answer to 3.14 is NO proceed to 4.00.)

5.03: State by licensee all remaining build-out requirements which have yet to be met, and the known or estimated date when the remaining build-out requirements will be met. Designate this attachment "Attachment 5.03".

6.00: **Radio Frequency Coverage Maps**

6.01: Where a licensee intends to provide radio frequency geographic coverage to a defined area from the Project (including applicants in the cellular, PCS, broadcast, ESMR/SMR categories, and others as requested by the City of Torrance), the coverage maps and information requested in Section 6 are required attachments. All others proceed to 7.00.

For the coverage maps required here, the following mandatory requirements apply. Failure to adhere to these requirements may delay your application processing.

1. The size of each submitted map must be no smaller than 11" by 8.5".

2. If the FCC rules for any proposed radio service defines a minimum radio frequency signal level that level must be shown on the map in a color easily distinguishable from the base paper or transparency layer, and adequately identified by RF level and map color or gradient in the map legend. If no minimum signal level is defined by the FCC rules you must indicate that in the legend of each RF coverage map. You may show other RF signal level(s) on the map so long as they are adequately identified by objective RF level and map color or gradient in the map legend.

3. Where the City of Torrance determines that one or more submitted maps are inadequate, it reserved the right to request that one or more supplemental maps with greater or different detail be submitted.

6.02: Existing RF coverage within the City of Torrance on the same network, if any (if none, so state). This map should <u>not</u> depict any RF coverage to be provided by the Project. Designate this attachment "Attachment 6.02".

6.03: RF coverage to be provided by the Project. This map should <u>not</u> depict any RF coverage provided any other existing or proposed wireless sites. Designate this attachment "Attachment 6.03".

6.04: RF coverage to be provided by the Project and by other wireless sites on the same network should the Project site be activated. Designate this attachment "Attachment 6.04".

6.05: Provide a written certification that the facility will continuously comply with FCC OET Bulletin 65 radio frequency emissions standards, and that use of the facility will not interfere with other communication, radio, or television transmission or reception.

7.00: **Project Photographs and Photo Simulations**

7.01: Where an Applicant proposes to construct or modify a wireless site, and the wireless site is visible from other residential properties, the Applicant shall submit pre-project photographs, and photo simulations showing the project after completion of construction, all consistent with the following standards:

1. Minimum size of each photo simulation must be 11 inches by 8.5 inches (portrait or landscape orientation);

2. All elements of the project as proposed by the Applicant must be shown in one or more close-in photo simulations.

3. The overall project as proposed by the Applicant must be shown in five or more area photos and photo simulations. Photos and photo simulation views must, at a minimum, be taken from widely scattered positions separated by an angle of no greater than 72 degrees from any other photo location.

The number of site photos, and photo simulations, and the actual or simulated camera location of these photos and photo simulations is subject to City of Torrance determination. The Applicant should submit photos and photo simulations consistent with these instructions, and be prepared to provide additional photos and photo simulations should they be requested by the City of Torrance.

8.00: **Candidate Sites**

8.01: For applicants in the cellular, PCS, broadcast, ESMR/SMR categories, and others as requested by the City of Torrance, the information requested in Section 8 is required. All others proceed to 9.00.

8.02: Has the Applicant or Owner or anyone working on behalf of the Applicant or Owner secured or attempted to secure any leases or lease-options or similar formal or informal agreements in connection with this project for any sites other than the candidate site identified at 1.00?
___ Yes x No
(If the answer to 8.02 is NO, proceed to 8.05.)

8.03: Provide the physical address of each such other location, and provide an expansive technical explanation as to why each such other site was disfavored over the Project Site. Designate this attachment "Attachment 8.03".

8.04: Considering this proposed site, is it the one and only one location within or without the City of Torrance that can possibly meet the objectives of the project?
___ Yes ___ No
(If the answer to 8.04 is NO, proceed to 9.00.)

8.05: Provide a technically expansive and detailed explanation supported as required by comprehensive radio frequency data fully describing why the proposed site is the one and only one location within or without the City of Torrance that can possibly meet the radio frequency objectives of the project. Explain, in exact and expansive technical detail, all of the objectives of this project. Designate this attachment "Attachment 8.05".

9.00: **Identification of Key Persons**

9.01: Identify by name, title, company affiliation, work address, telephone number and extension, and email address the key person or persons most knowledgeable regarding:

(1) the site selection for the proposed project, including alternatives;
(2) the radio frequency engineering of the proposed project;
(3) rejection of other candidate sites evaluated, if any;
(4) approval of the selection of the proposed site identified in this project.
Designate this attachment "Attachment 9.01"

9.02 If more than one person is/was involved in any of the four functions identified in this section, attach a separate sheet providing the same information for each additional person, and identifying which function or functions are/were performed by each additional person. Designate this attachment "Attachment 9.02".

Initial here _____ to indicate that the information above is complete and there is no Attachment 9.02, or initial here _____ to indicate that Attachment 9.02 is attached hereto.

10.00: **Technical Information Report Certification**

10.01: The undersigned certifies on behalf of itself and the Applicant that the answers provided here are true and complete to the best of the undersigned's knowledge.

	Manager Government Relations
Signature	Title
Stephen Garcia	Stephen.Garcia@crowncastle.com
Print Name	Provide Email Address
Crown Castle	(949) 344-7784
Print Company Name	Provide Telephone Number

Date Signed

LTE Justification Plots

Market Name: **Los Angeles**

Location: **Torrance, CA 90505**

ATOLL Plots Completion Date: **Jan 31, 2018**

Propagation of the site plots are based on our current Atoll (Design tool) project tool that shows the preferred design of the AT&T 4G-LTE network coverage.

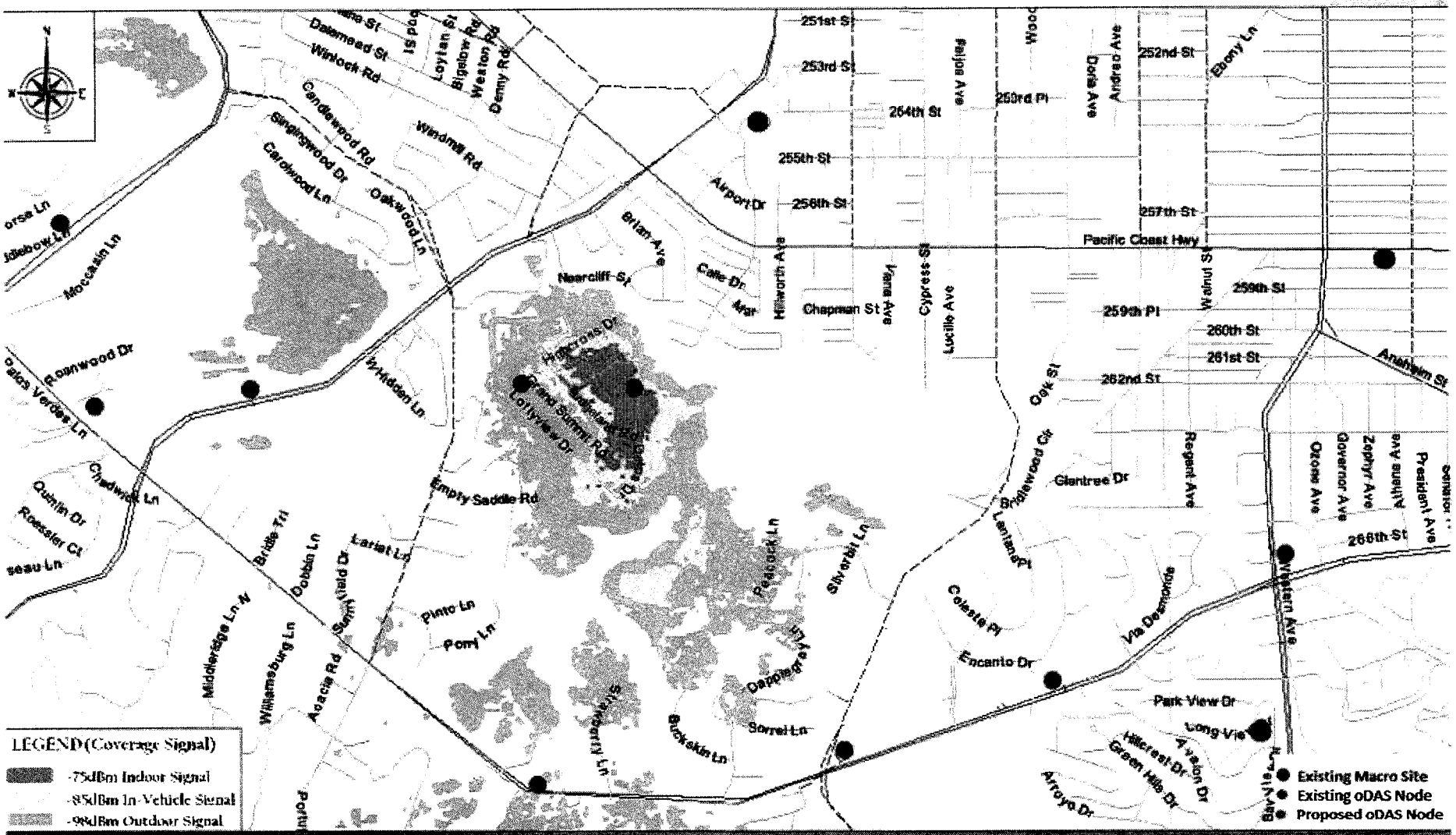
- The propagation referenced in this package is based on proposed LTE coverage of AT&T users in the surrounding buildings, in vehicles and at street level . For your reference, the scale shown ranges from good to poor coverage with gradual changes in coverage showing best coverage to marginal and finally poor signal levels.

- The plots shown are based on the following criteria:
  - **Existing**: Since LTE network modifications are not yet **On-Air**. The first slide is a snap shot of the area showing the existing site without LTE coverage in the AT&T network.
  - **The Planned LTE Coverage with the Referenced Site**: Assuming all the planned neighboring sites of the target site are approved by the jurisdiction and the referenced site is also approved and **On-Air,** the propagation is displayed with the planned legends provided.
  - **Without Target site**: Assuming all the planned neighboring sites are approved by the jurisdiction and **On-Air** and the referenced site is **Off-Air**, the propagation is displayed with the legends provided.

LTE 1900 Coverage Existing Macro Sites and oDAS Nodes

LTE 1900 Coverage Existing Macros and oDas + Proposed oDas Nodes

LTE 1900 Coverage Proposed oDAS nodes



Coverage Legend

Rethink Possible®

In-Building Service: In general, the areas shown in dark green should have the strongest signal strength and be sufficient for most in-building coverage. However, in-building coverage can and will be adversely affected by the thickness/construction type of walls, or your location in the building (i.e., in the basement, in the middle of the building with multiple walls, etc.)

In-Transit Service: The areas shown in the yellow should be sufficient for on-street or in-the-open coverage, most in-vehicle coverage and possibly some in-building coverage.

Outdoor Service: The areas shown in the purple should have sufficient signal strength for on-street or in-the-open coverage, but may not have in-vehicle coverage or in-building coverage.

JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM, FAAPM, FHPS
♦HEALTH AND MEDICAL PHYSICS CONSULTING♦

7784 Oak Bay Circle Sacramento, CA 95831
(800) 760-8414–jbushberg@hampc.com

February 22, 2018

Julio C. Garcia
Sr. RF Engineer
Crown Castle
200 Spectrum Center Suite 1900
Irvine, CA 92618

At your request I have reviewed my previous report to Apurava Barot Sr. RF Engineer for Crown Castle dated September 26, 2015 which evaluated the technical specifications and a calculation of the maximum radiofrequency, (RF), power density from the proposed Crown Castle nodes to be located in the public right-of-way of Palos Verdes Peninsula and Torrance areas, CA.

Insofar as none of the technical pararameters or health and safety standards have changed since this report was prepared, the conclusion that all Crown Castle antenna systems operating with the maximal exposure conditions characteristics as specified in that report (attached) and observing a 8 foot (public) and 4foot (occupational) exclusion zone directly in front of and at the same elevation as the antenna, will be in full compliance with FCC RF public and occupational safety exposure standards remain valid.

These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and my analysis of the technical specification as provided by Crown Castle Networks. The opinions expressed herein are based on my professional judgement and are not intended to necessarily represent the views of any other organization or institution. Please contact me if you require any additional information.

Sincerely,

Jerrold T. Bushberg Ph.D., DABMP, DABSNM, FAAPM
Diplomate, American Board of Medical Physics (DABMP)
Diplomate, American Board of Science in Nuclear Medicine (DABSNM)
Fellow, American Association of Physicists in Medicine (FAAPM)
Fellow, Health Physics Society (FHPS)

Enclosures: Attachment 1

JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM, FAAPM, FHPS
♦HEALTH AND MEDICAL PHYSICS CONSULTING♦

7784 Oak Bay Circle Sacramento, CA 95831
(800) 760-8414–jbushberg@hampc.com

Apurava Barot
Sr. RF Engineer
Crown Castle
300 Spectrum Center Suite 1200
Irvine, CA 92618

September 26, 2015

Introduction

The proposed project consists of the installation and operation of wireless equipment for Crown Castle on utility poles. This report provided a review the technical specifications and a calculation of the maximum radiofrequency, (RF), power density from the proposed Crown Castle nodes to be located in the public right-of-way. The project scope includes the installation of new wireless equipment and all associated brackets in accordance to construction specifications and governing construction guidelines as depicted in the node configuration drawing (attachment 1). These nodes will be used for wireless telecommunications transmission and reception utilizing two directional Kathrein antennae model 840-10525 mounted to a utility pole. Each of the panel (sector) antennae used in this network is designed to transmit with a maximum input power of up to 13.61 watts, with a gain of up to 8.36 dBd resulting in an effective radiated power (ERP) of 93.33 watts at approximately 700 MHz; 13.61 watts, with a gain of up to 8.86 dBd resulting in an effective radiated power (ERP) of 104.71 watts at approximately 850 MHz; 13.61 watts, with a gain of up to11.36 dBd resulting in an effective radiated power (ERP) of 186.21 watts at approximately 1,900 MHz and 13.61 watts with a gain of up to 10.66 dBd resulting in an ERP of 158.49 watts at approximately 2,100 MHz. The distance from the antenna center to the ground for all nodes will be at least 13.0 feet. The antenna specification details are depicted in attachment two. This analysis represent the worst case of any of the proposed nodes that are utilizing these transmission and antennae specifications. There will be 29 nodes of this configuration proposed for the Palos Verdes Peninsula and Torrance areas, CA (see Appendix A-0-1).

Calculation Methodology

Calculations at the level of the antenna were made in accordance with the cylindrical model recommendations for near-field analysis contained in the Federal Communications Commission, Office of Engineering and Technology Bulletin 65 (OET 65) entitled "Evaluating Compliance with FCC-Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." RF exposure calculations at ground level were made using equation 10 from the same OET document. Several assumptions were made in order to provide the most conservative or "worse case" projections of power densities. Calculations were made assuming that all channels were operating simultaneously at their maximum design ERP. Attenuation (weakening) of the signal that would result from surrounding foliage or buildings was ignored. Buildings or other structures can reduce the signal strength by a factor of 10 (i.e., 10 dB) or more depending upon the construction material. In addition, for ground level calculations, the ground or other surfaces were considered to be perfect reflectors (which they are not) and the RF energy was assumed to overlap and interact constructively at all locations (which they would not) thereby resulting in the calculation of the maximum potential exposure. In fact, the accumulations of all these very conservative assumptions, will significantly overestimate the actual exposures that would typically be expected from such a facility. However, this method is a prudent approach that errs on the side of safety.

RF Safety Standards

The two most widely recognized standards for protection against RF field exposure are those published by the American National Standards Institute (ANSI) C95.1 and the National Council on Radiation Protection and measurement (NCRP) report #86.

The NCRP is a private, congressionally chartered institution with the charge to provide expert analysis of a variety of issues (especially health and safety recommendations) on radiations of all forms. The scientific analyses of the NCRP are held in high esteem in the scientific and regulatory community both nationally and internationally. In fact, the vast majority of the radiological health regulations currently in existence can trace their origin, in some way, to the recommendations of the NCRP.

All RF exposure standards are frequency-specific, in recognition of the differential absorption of RF energy as a function of frequency. The most restrictive exposure levels in the standards are associated with those frequencies that are most readily absorbed in humans. Maximum absorption occurs at approximately 80 MHz in adults. The NCRP maximum allowable continuous occupational exposure at this frequency is 1,000 $\mu W/cm^2$. This compares to 5,000 $\mu W/cm^2$ at the most restrictive of the PCS frequencies (~1,800 MHz) that are absorbed much less efficiently than exposures in the VHF TV band.

The traditional NCRP philosophy of providing a higher standard of protection for members of the general population compared to occupationally exposed individuals, prompted a two-tiered safety standard by which levels of allowable exposure were substantially reduced for "uncontrolled " (e.g., public) and continuous exposures. This measure was taken to account for the fact that workers in an industrial environment are typically exposed no more than eight hours a day while members of the general population in proximity to a source of RF radiation may be exposed continuously. This additional protection factor also provides a greater margin of safety for children, the infirmed, aged, or others who might be more sensitive to RF exposure. After several years of evaluating the national and international scientific and biomedical literature, the members of the NCRP scientific committee selected 931 publications in the peer-reviewed scientific literature on which to base their recommendations. The current NCRP recommendations limit continuous public exposure at PCS frequencies to 1,000 $\mu W/cm^2$.

The 1992 ANSI standard was developed by Scientific Coordinating Committee 28 (SCC 28) under the auspices of the Institute of Electrical and Electronic Engineers (IEEE). This standard, entitled "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1991), was issued in April 1992 and subsequently adopted by ANSI. A complete revision of this standard (C95.1-2005) was completed in October 2005 by SCC 39 the IEEE International Committee on Electromagnetic Safety. The current version, including minor revisions, was published in March 2010. Their recommendations are similar to the NCRP recommendation for the maximum permissible exposure (MPE) to the public PCS frequencies (950 $\mu W/cm^2$ for continuous exposure at 1,900 MHz) and incorporates the convention of providing for a greater margin of safety for public as compared with occupational exposure. Higher whole body exposures are allowed for brief periods provided that no 30 minute time-weighted average exposure exceeds these aforementioned limits.

On August 9, 1996, the Federal Communications Commission (FCC) established a RF exposure standard that is a hybrid of the current ANSI and NCRP standards. The maximum permissible exposure values used to assess environmental exposures are those of the NCRP (i.e., maximum public continuous exposure at PCS frequencies of 1,000 $\mu W/cm^2$). The FCC issued these standards in order to address its responsibilities under the National Environmental Policy Act (NEPA) to consider whether its actions will "significantly affect the quality of the human environment." In as far as there was no other standard issued by a federal agency such as the

Environmental Protection Agency (EPA), the FCC utilized their rulemaking procedure to consider which standards should be adopted. The FCC received thousands of pages of comments over a three-year review period from a variety of sources including the public, academia, federal health and safety agencies (e.g., EPA & FDA) and the telecommunications industry. The FCC gave special consideration to the recommendations by the federal health agencies because of their special responsibility for protecting the public health and safety. In fact, the maximum permissible exposure (MPE) values in the FCC standard are those recommended by EPA and FDA. The FCC standard incorporates various elements of the 1992 ANSI and NCRP standards which were chosen because they are widely accepted and technically supportable. There are a variety of other exposure guidelines and standards set by other national and international organizations and governments, most of which are similar to the current ANSI/IEEE or NCRP standard, figure one.

The FCC standards "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation" (Report and Order FCC 96-326) adopted the ANSI/IEEE definitions for controlled and uncontrolled environments. In order to use the higher exposure levels associated with a controlled environment, RF exposures must be occupationally related (e.g., PCS company RF technicians) and they must be aware of and have sufficient knowledge to control their exposure. All other environmental areas are considered uncontrolled (e.g., public) for which the stricter (i.e., lower) environmental exposure limits apply. All carriers were required to be in compliance with the new FCC RF exposure standards for new telecommunications facilities by October 15, 1997. These standards applied retroactively for existing telecommunications facilities on September 1, 2000.

The task for the physical, biological, and medical scientists that evaluate health implications of the RF data base has been to identify those RF field conditions that can produce harmful biological effects. No panel of experts can guarantee safe levels of exposure because safety is a null concept, and negatives are not susceptible to proof. What a dispassionate scientific assessment can offer is the presumption of safety when RF-field conditions do not give rise to a demonstrable harmful effect.

Summary & Conclusions

All Crown Castle antenna systems operating with the maximal exposure conditions characteristics as specified above and observing a 8 foot (public) and 4foot (occupational) exclusion zone directly in front of and at the same elevation as the antenna, will be in full compliance with FCC RF public and occupational safety exposure standards (see appendix A-1). These transmitters, by design and operation, are low-power devices (see attachment 2). An RF safety caution sign, as depicted in appendix A-2 should be placed near the antenna. This sign should contain appropriate contact information and indicate that RF exposures at 4 and 8 feet or closer to the face of the antenna may exceed the FCC occupational and public exposure standards respectively. Thus only qualified RF workers may work within the 6 foot exclusion zone. The maximum RF exposure at ground level from these nodes will not be in excess of 9.5% of the FCC public safety standard, (see appendix A-3). A chart of the electromagnetic spectrum and a comparison of RF power densities from various common sources is presented in figures two and three respectively in order to place exposures from wireless telecommunications systems in perspective.

Given the low levels of radiofrequency fields that would be generated from all Crown Castle directional antenna installations of this configuration, (e.g., antenna specification and input power); where the center of the antenna is 13.0 or more feet above grade, and the 8 foot public exclusion zone directly in front and at the same elevation as the antenna is observed, there is no scientific basis to conclude that harmful effects will attend the utilization of these proposed wireless telecommunications facilities. This conclusion is supported by a large numbers of

scientists that have participated in standard-setting activities in the United States who are overwhelmingly agreed that RF radiation exposure below the FCC exposure limits has no demonstrably harmful effects on humans.

These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and my analysis of the technical specification as provided by Crown Castle Networks. The opinions expressed herein are based on my professional judgement and are not intended to necessarily represent the views of any other organization or institution. Please contact me if you require any additional information.

Sincerely,

Jerrold T. Bushberg Ph.D., DABMP, DABSNM, FAAPM
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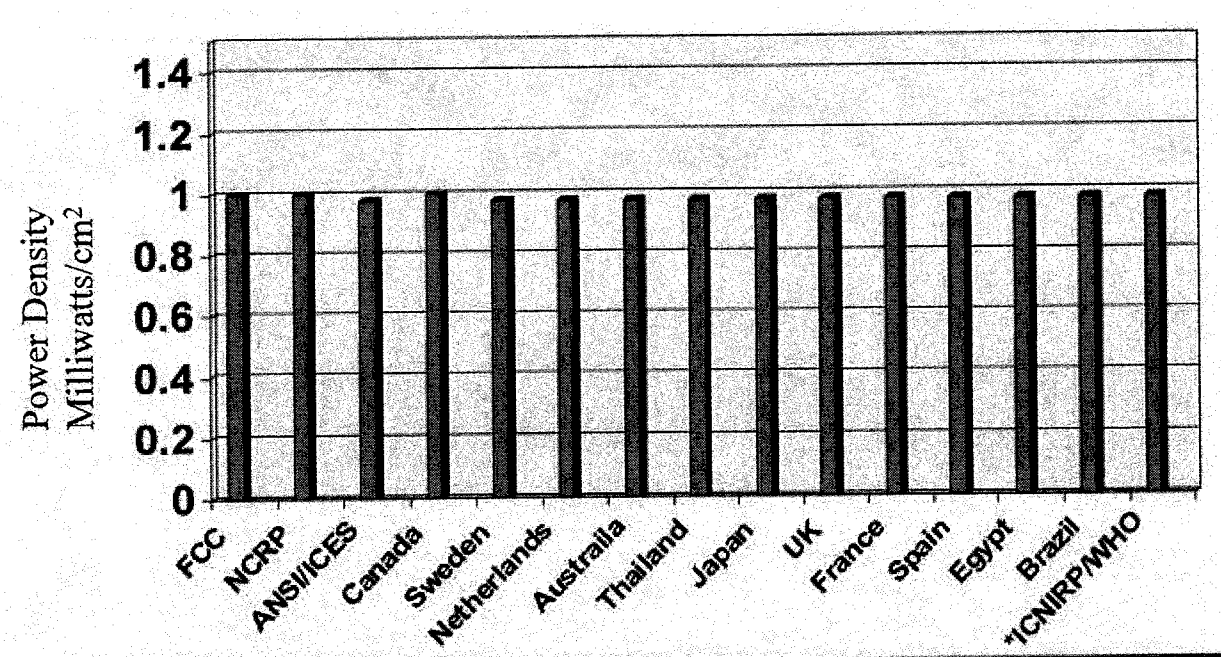
Fellow, Health Physics Society (FHPS)

Enclosures: Figures 1-3; Attachment 1,2; Appendix A-0-1, A-0-2, A-1, A-2, A-3 and Statement of Experience.

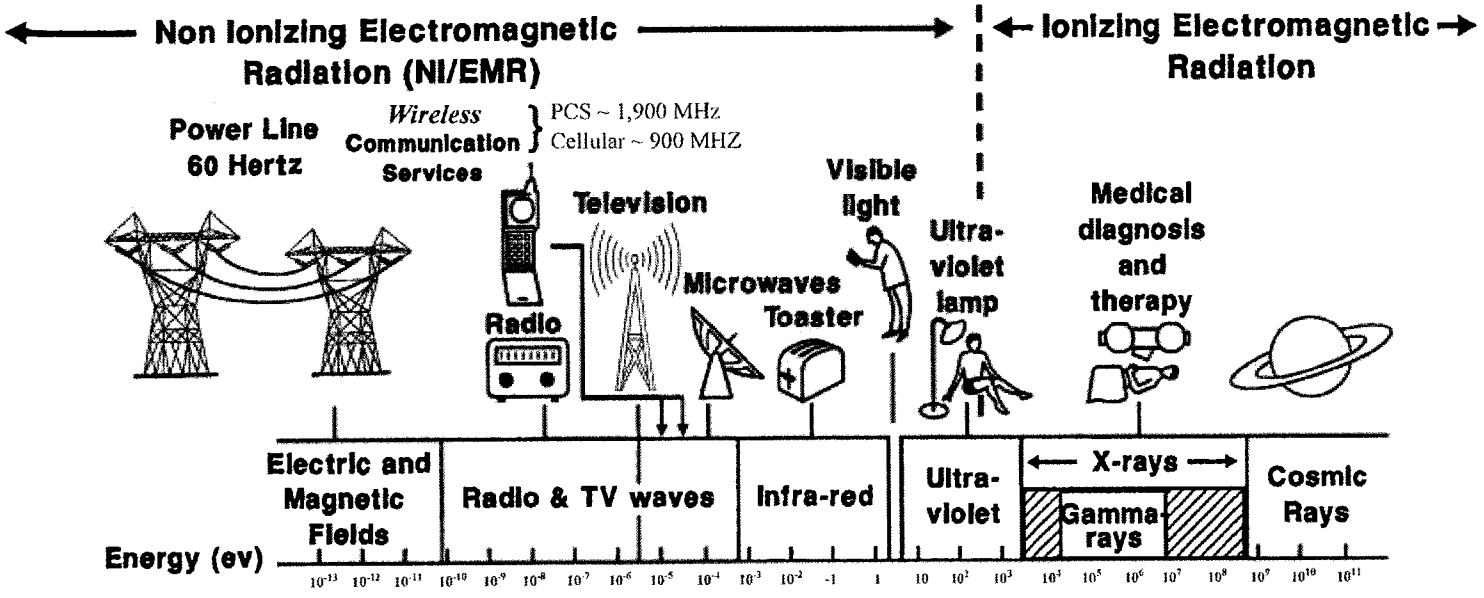
National and International Public RF Exposure Standards (DAS @ 1,950 MHz)



*International Commission on Non-Ionizing Radiation Protection (ICNIRP) Public Safety Exposure Standard. ICNIRP standard recommended by the World Health Organization (WHO). Members of the ICNIRP Scientific Committee were from:

- Australia
- Finland
- France
- Germany
- Hungary
- Italy
- Sweden
- Japan
- United Kingdom
- United States

Figure 1



The Electromagnetic Spectrum

Figure 2

Typical Exposure from Various Radio Frequency / Microwave Sources

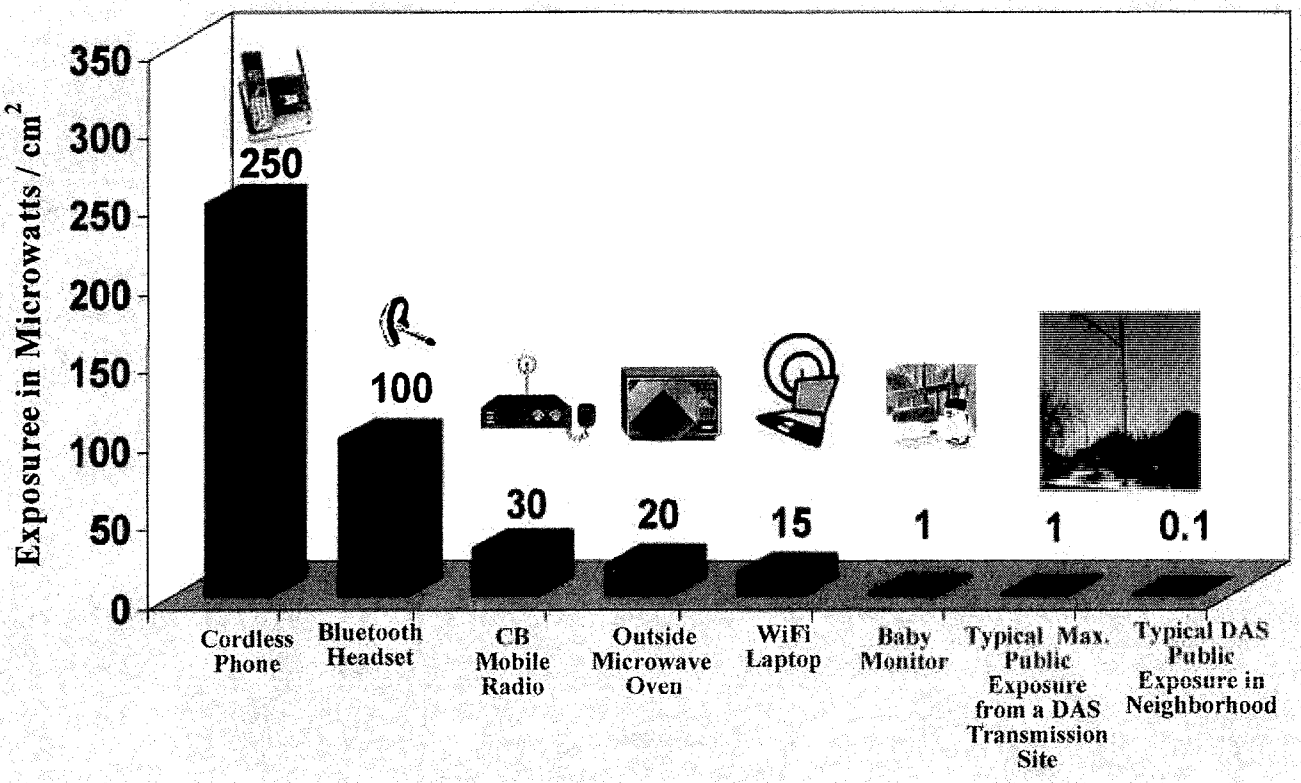
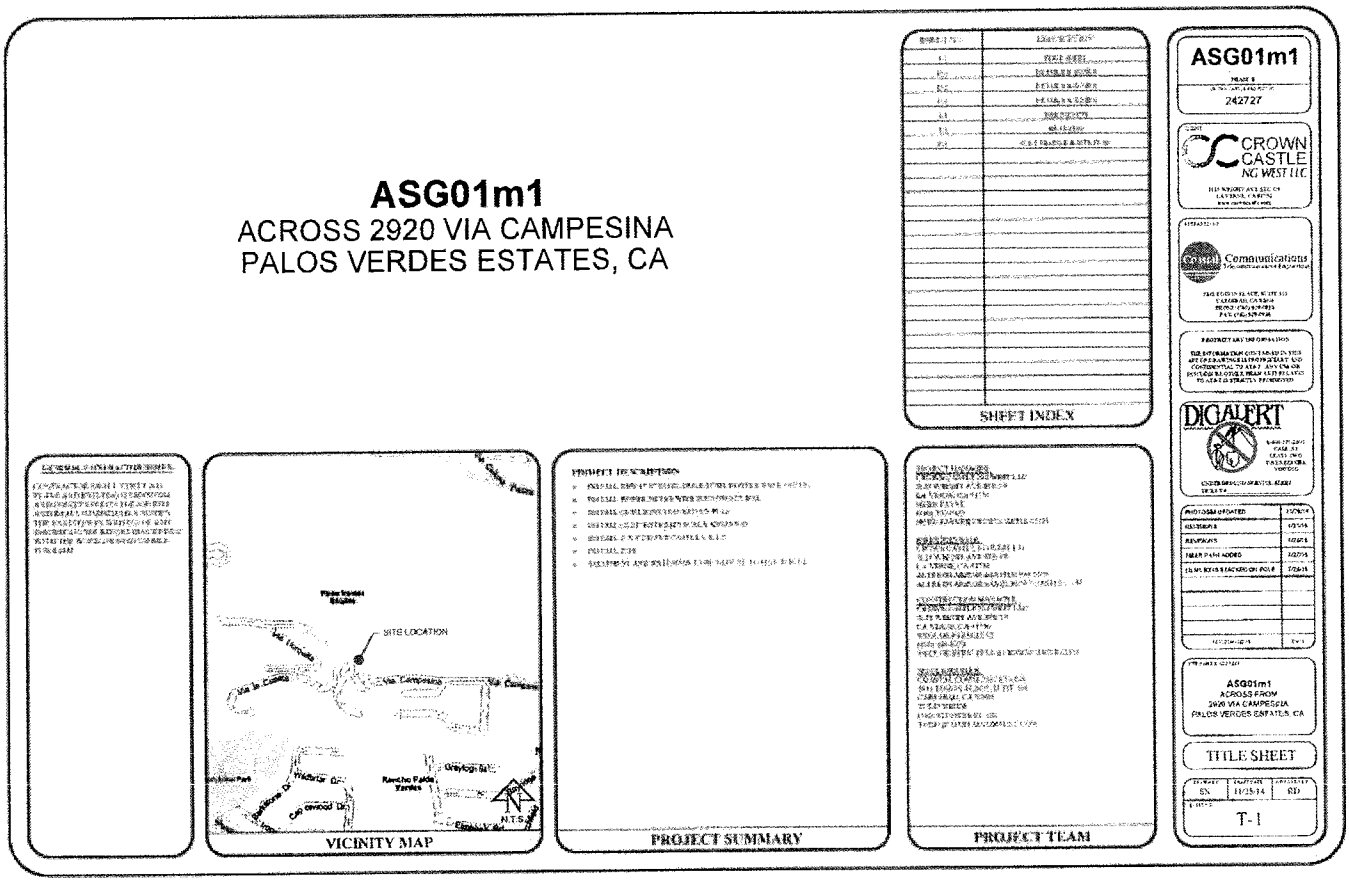


Figure 3

Attachment 1

Site Configuration Examples

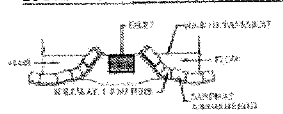

ASG01m1
ACROSS 2920 VIA CAMPESINA
PALOS VERDES ESTATES, CA
SHEET INDEX
ASG01m1
242727
CROWN CASTLE
NG WEST LLC
Comm Communications
DIGALERT
ASG01m1
ACROSS FROM
2920 VIA CAMPESINA
PALOS VERDES ESTATES, CA
TITLE SHEET
T-1
SITE LOCATION
VICINITY MAP
PROJECT SUMMARY
PROJECT TEAM

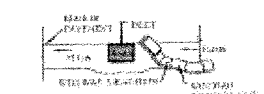
LEGEND

ABBREVIATIONS

EROSION AND SEDIMENT CONTROL NOTES:

STORMDRAIN INLET PROTECTION





NOTES:

ROW GROUND CONSTRUCTION NOTES:

NORMAL LOCATION OF UNDERGROUND UTILITIES NOTES:

CALIFORNIA STATE CODE COMPLIANCE:

ASG01m1

242727

CROWN CASTLE NG WEST LLC

Communications

DIGALERT

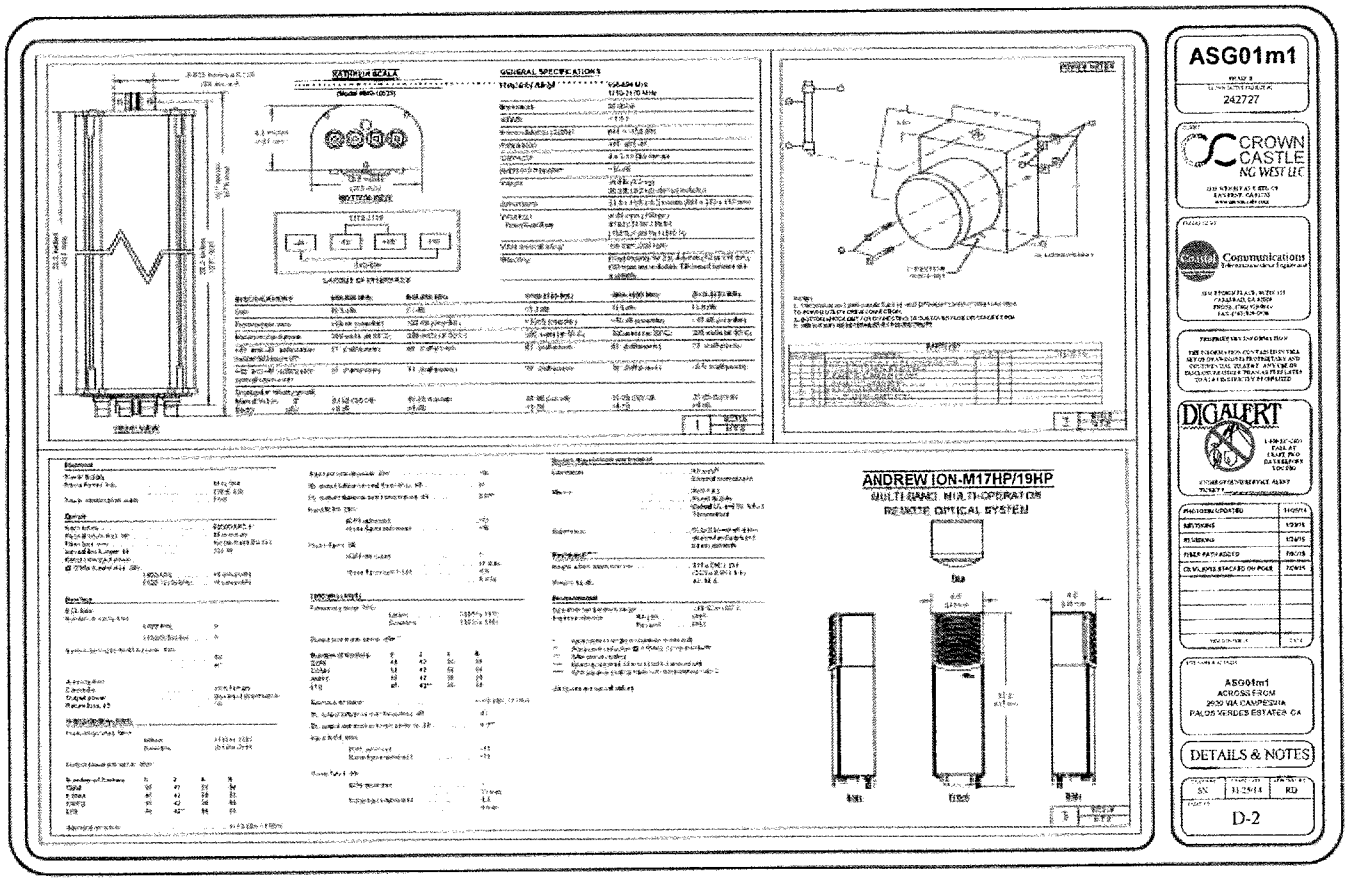
PHOTOSIM UPDATED	11/05/14
REVISIONS	1/2/15
REVISIONS	1/2/15
FIBER PATH ADDED	7/2/15
	7/2/16

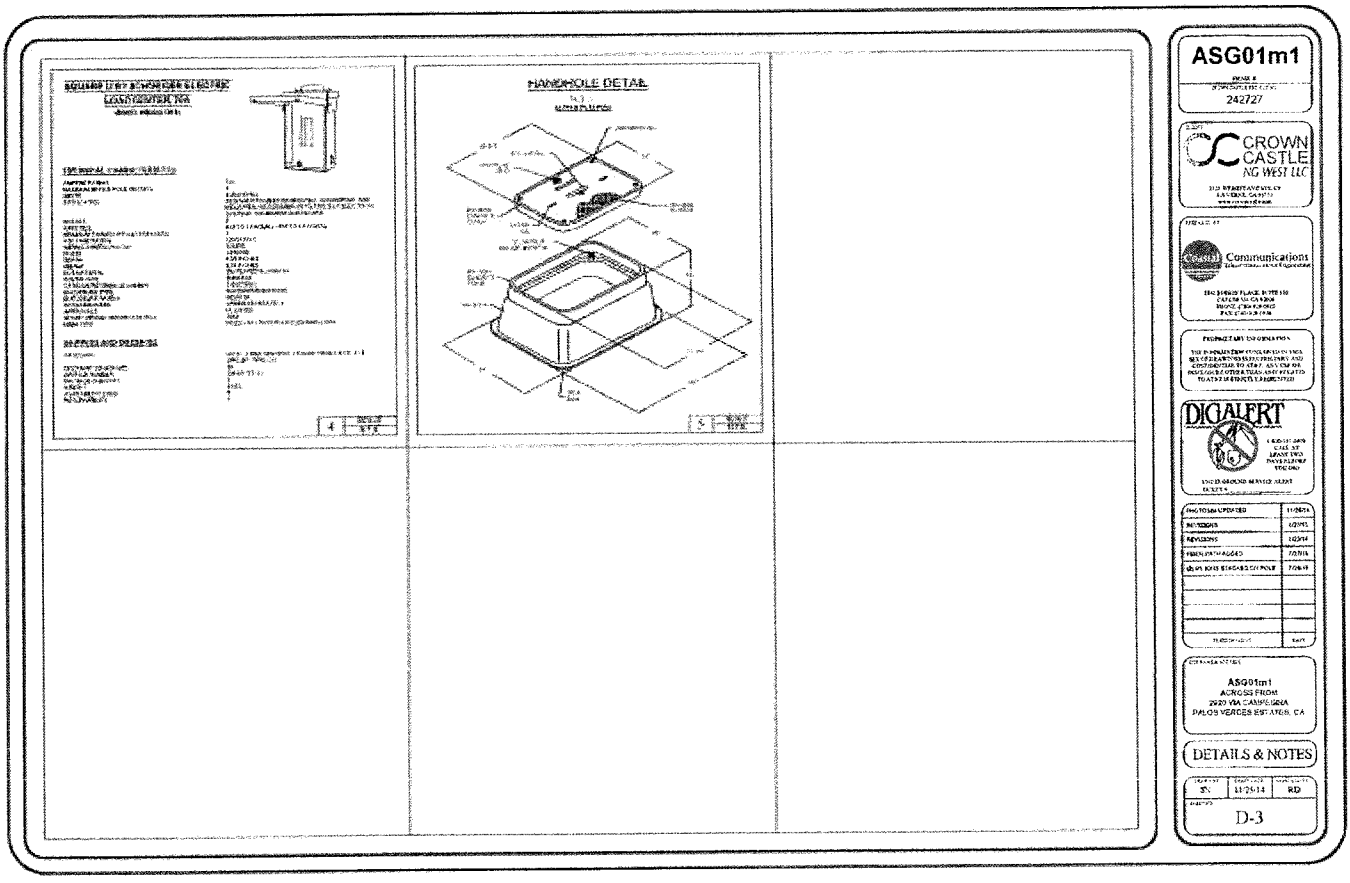
ASG01m1
ACROSS FROM
2920 VIA CAMPESINA
PALOS VERDES ESTATES CA

DETAILS & NOTES

SN | 11/05/14 | RD

D-1


ASG01m1
242727
CROWN CASTLE
NG WEST LLC
Communications
DIGALERT
ANDREW ION-M17HP/19HP
MULTI-BAND MULTI-OPERATOR
REMOTE OPTICAL SYSTEM
ASG01m1
ACROSS FROM
2650 VIA CAMPESINA
PALOS VERDES ESTATES CA
DETAILS & NOTES
D-2

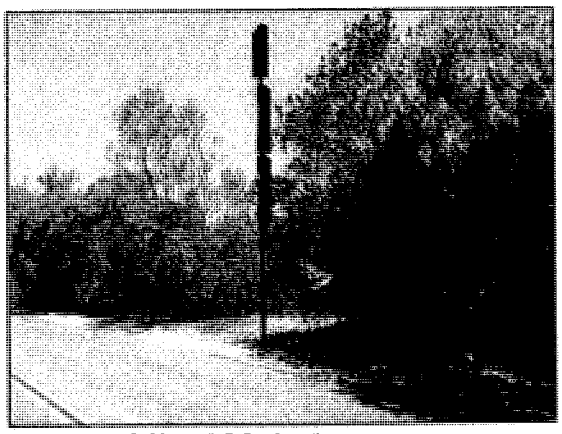

HANDHOLE DETAIL
ASG01m1
242727
CROWN CASTLE
NG WEST LLC
Communications
DIGALERT
ASG01m1
ACROSS FROM
2920 VIA CAMPESINA
PALOS VERDES ESTATES, CA
DETAILS & NOTES
SN
11/26/14
RD
D-3


ASG01m1
SITE PHOTOS
S-1

CROWN CASTLE

Existing Site

Vicinity Map



Proposed Site ASG01m1

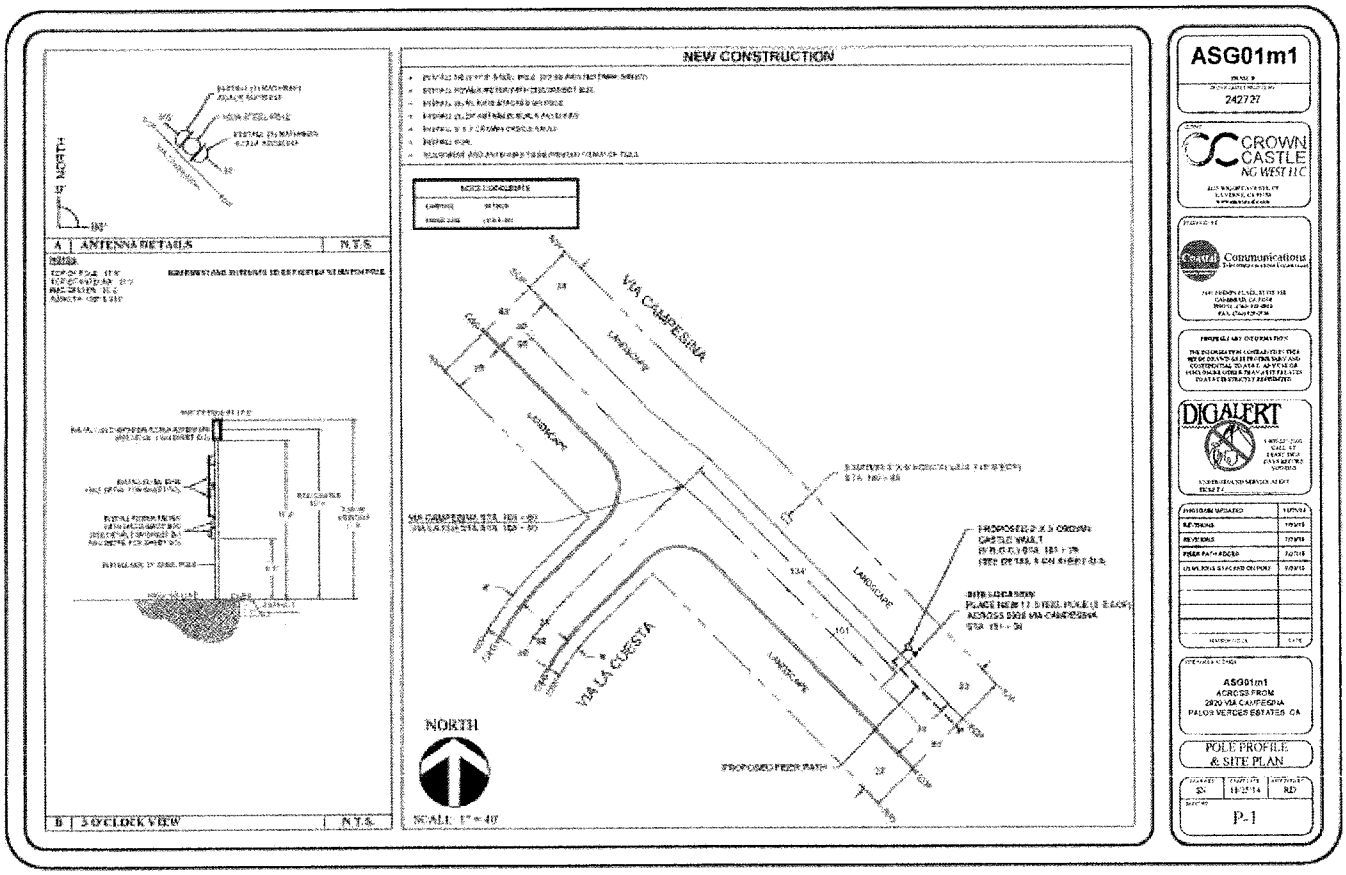
Communications
Telecommunications Engineering

ASG01m1

CROWN CASTLE
AZ WEST LLC

DIGALERT

S-2


NEW CONSTRUCTION
VIA CAMPESINA
VIA LA CUESTA
LANDSCAPE
NORTH
SCALE: 1" = 40'
A | ANTENNA DETAILS | N.T.S.
B | 3 O'CLOCK VIEW | N.T.S.
ASG01m1
247727
CROWN CASTLE NG WEST LLC
Communications
DIGALERT
ASG01m1
ACROSS FROM
2920 VIA CAMPESINA
PALOS VERDES ESTATES, CA
POLE PROFILE & SITE PLAN
P-1

Attachment 2

Antenna Specifications

KATHREIN
SCALA DIVISION

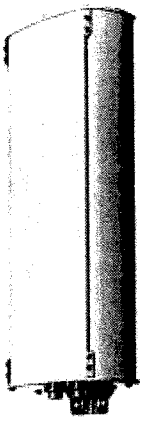
Preliminary

840 10525

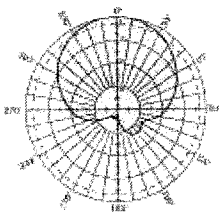
65° Dualband Directional Antenna

Kathrein's dual band antennas are ready for 3G applications, covering all existing wireless bands as well as all spectrum under consideration for future systems, LTE, PCS and 3G/UMTS. These cross-polarized antennas offer diversity operation in the same space as a conventional 700 MHz antenna, and are mountable on our compact sector brackets

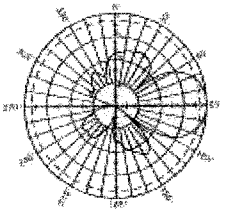
- Wide band operation.
- Exceptional intermodulation characteristics.
- Various gain, beamwidth and downtilt ranges.
- High strength pultruded fiberglass radome.



698–894 MHz

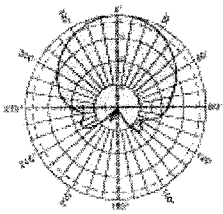


Horizontal pattern
±45°-polarization
(typical pattern)

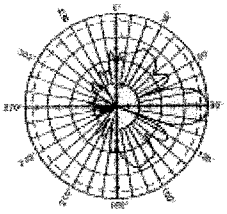


Vertical pattern
±45°-polarization
(typical pattern)

1710–2170 MHz



Horizontal pattern
±45°-polarization
(typical pattern)



Vertical pattern
±45°-polarization
(typical pattern)

General specifications:

Frequency range	698–894 MHz 1710–2170 MHz
Impedance	50 ohms
VSWR	<1.5:1
Intermodulation (2x20w)	IM3: <-150 dBc
Polarization	+45° and -45°
Connector	4 x 7-16 DIN female
Isolation intrasystem	>30 dB
Weight	15.9 lb (7.2 kg)
Dimensions	22.8 x 10.3 x 5.5 inches (579 x 262 x 139 mm)
Wind load Front/Side/Rear	at 93 mph (150kph) 23 lbf / 18 lbf / 41 lbf (100 N) / (80 N) / (180 N)
Wind survival rating*	120 mph (200 kph)
Shipping dimensions	29 x 11.9 x 7.6 inches (736 x 302 x 192 mm)
Shipping weight	19.2 lb (8.7 kg)
Mounting	Fixed and tilt mount options are available for 2 to 4.6 inch (50 to 115 mm) OD masts.

See reverse for order information.

Specifications:	**698–806 MHz**	**824–894 MHz**	**1710–1755 MHz**	**1850–1990 MHz**	**2110–2170 MHz**
Gain*	10.5 dBi	11 dBi	12.5 dBi	13.3 dBi	13.6 dBi
Front-to-back ratio	>25 dB (co-polar)	>25 dB (co-polar)	>27 dB (co-polar)	>27 dB (co-polar)	>27 dB (co-polar)
Maximum input power	250 watts (at 50°C)	250 watts (at 50°C)	200 watts (at 50°C)	200 watts (at 50°C)	200 watts (at 50°C)
+45° and -45° polarization horizontal beamwidth	72° (half-power)	66° (half-power)	64° (half-power)	64° (half-power)	60° (half-power)
+45° and -45° polarization vertical beamwidth	37° (half-power)	34° (half-power)	19° (half-power)	18.5° (half-power)	18° (half-power)
Cross polar ratio Main direction 0° Sector ±60°	 30 dB (typical) >10 dB	 25 dB (typical) >10 dB	 25 dB (typical) >8 dB	 25 dB (typical) >8 dB	 25 dB (typical) >8 dB
Integrated combiner	*The insertion loss is included in the given antenna gain values				

* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

RoHS Lead-Free

11241-FRO

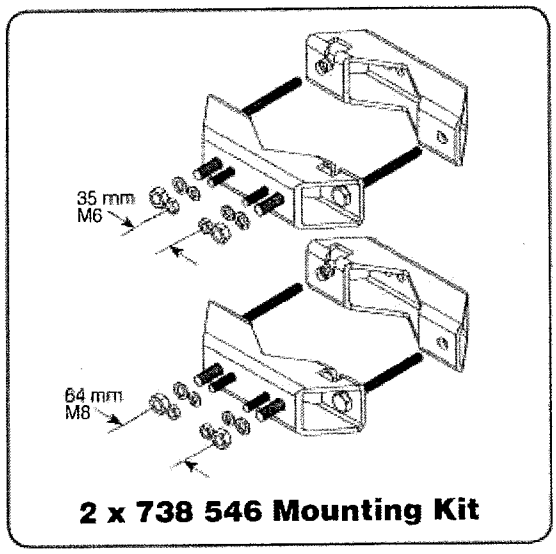
Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

KATHREIN
SCALA DIVISION

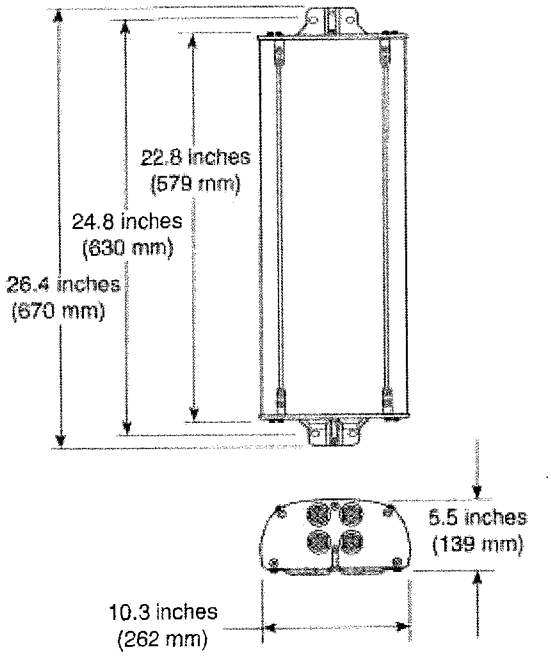
Preliminary

840 10525

65° Dualband Directional Antenna



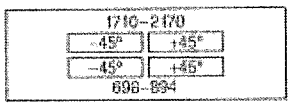
2 x 738 546 Mounting Kit



Profile PA2

Mounting Options:

Model	Description
2 x 738 546	Mounting Kit for 2 to 4.6 inch (50 to 115 mm) OD mast.
850 10013	Tilt Kit for use with the 2 x 738 546 mounting kit 0–34 degrees downtilt angle.



Order Information:

Model	Description
840 10525	Antenna with 7-16 DIN connectors

All specifications are subject to change without notice. The latest specifications are available at www.kathrein-scala.com.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

Antenna Power Detail

Antenna: Kathrein Model 840-10525				
CARRIER	ATT	ATT	ATT	ATT
Deployment Status	Planned	Planned	Planned	Planned
Technology	LTE	UMTS	UMTS	LTE
Antenna port	2 (698-806)	1 (806-960)	1 (1710-2180)	3 (1710-2180)
Frequency	700	Cellular	PCS	AWS
Node Amplifier TX MAX (dBm)	45.92	46.02	46.02	46.02
Node Amplifier TX (Watts)	33.81	39.81	39.81	39.81
Node Splitter/Combiner Loss	-3.52	-3.52	-3.52	-3.52
Node Average Coax Length (ft)	20.00	20.00	20.00	20.00
Node Average Coax Loss (-3.2 - -5.3 dB per 100 ft)	-1.06	-1.06	-1.06	-1.06
Input Power to Antenna (dBm)	41.34	41.34	41.34	41.34
Input power to antenna (Watts)	13.61	13.61	13.61	13.61
Antenna gain (dBd)	8.36	8.86	11.36	10.86
ERP (dBm)	49.70	50.20	52.70	52.20
ERP (Watts)	93.33	104.71	186.21	136.49

Appendix A-0

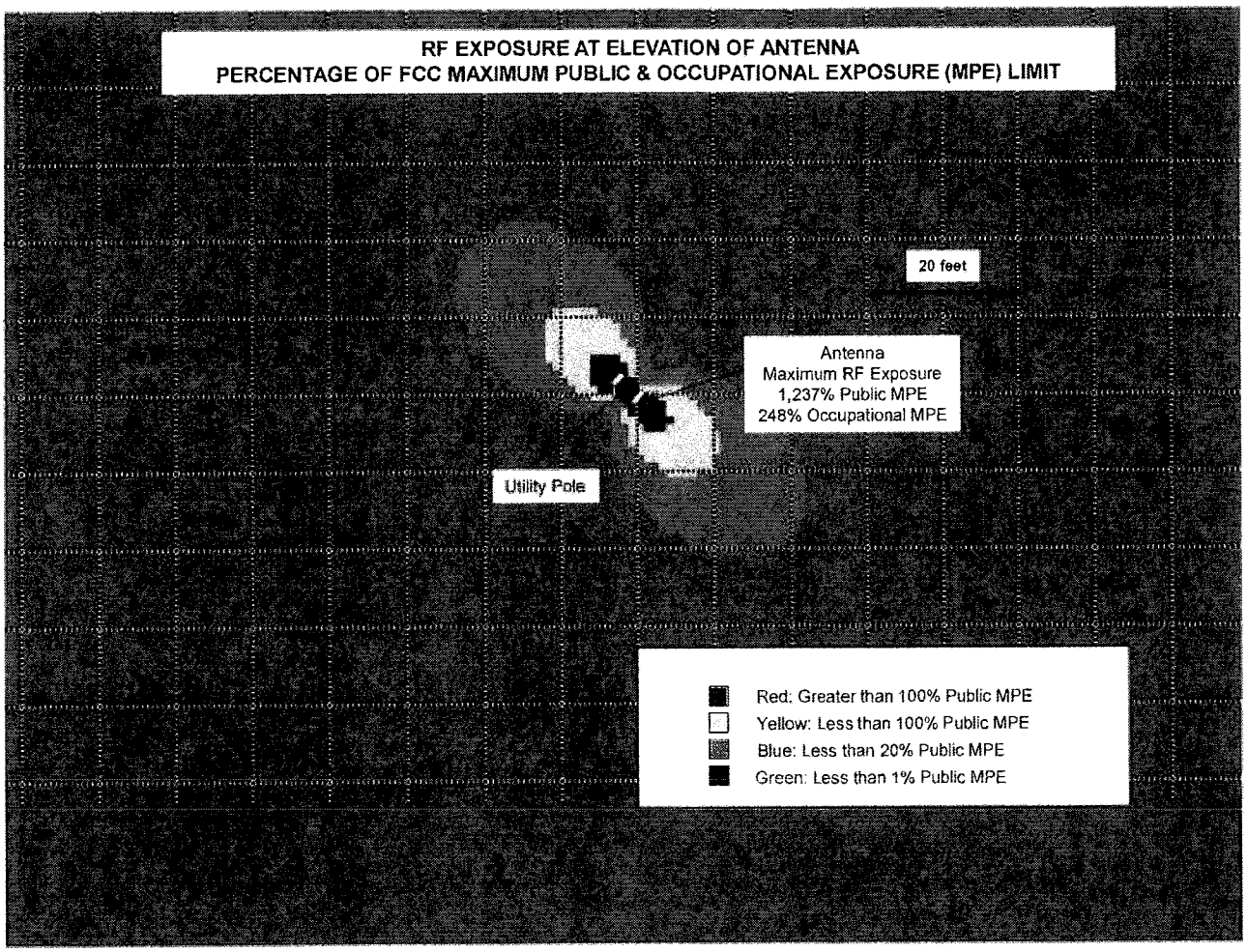
Node IDs, Configuration & Locations

Appendix A-0
Node IDs, Configuration & Locations

Configuration 5: 2 Panel											
Site ID	Antenna Config	Pole Number	Antenna Rad Center	Azimuth 1	Azimuth 2	Azimuth 3	Latitude	Longitude	Street Address	City, State	Antenna Type
ASG01	2-Panel	N/A	18'	130	315	NA	33.79520	-118.37832	across 2920 Via Campesina		KS84010525
ASG02	2-Panel	N/A	13'	120	240	NA	33.801170	-118.400678	Across 508 Paseo Del Mar	Palos Verdes Estates	KS84010525
ASG07	2-Panel	N/A	18'	45	240	NA	33.780843	-118.400609	Across from 1121 Espinosa Circle	Palos Verdes Estates	KS84010525
ASG09	2-Panel	N/A	21'3"	0	200	NA	33.756900	-118.402006	30461 Camino Porvenir	Rancho Palos Verdes	KS84010525
ASG10	2-Panel	N/A	17'	20	200	NA	33.757440	-118.396858	Across from Los Verdes Golf Club	Rancho Palos Verdes	KS84010525
ASG17	2-Panel	0	30'	160	270	NA	33.783870	-118.330650	across from 3408 Ridgeland Rd	Torrance	KS84010525
ASG19	2-Panel	0	29'	90	270	NA	33.781471	-118.367117	5217/5025 Rawls Horse Lane	Rolling Hills Estates	KS84010525
ASG22	2-Panel	1132940E	30'	95	180	NA	33.783370	-118.352215	2 Santa Bella Rd, RHE	Rolling Hills Estates	KS84010525
ASG30	2-Panel	0	29'	44	170	NA	33.750690	-118.320380	77 Eastfield	Rolling Hills	KS84010525
ASG31	2-Panel	N/A	15'	120	280	NA	33.783500	-118.387620	28000 Crestridge	Rancho Palos Verdes	KS84010525
ASG32	2-Panel	N/A	16'	330	170	NA	33.763160	-118.375282	corner of Whitley/Scotwood	Rancho Palos Verdes	KS84010525
ASG33	2-Panel	N/A	15'	130	330	NA	33.755840	-118.353482	Across 6450 Chartres Drive	Rancho Palos Verdes	KS84010525
ASG35	2-Panel	N/A	23'6"	50	270	NA	33.776680	-118.367683	4723 Abbottswood	Rancho Palos Verdes	KS84010525
ASG38	2-Panel	N/A	27'	320	170	NA	33.771320	-118.369558	Across from 28635 Crestridge	Rancho Palos Verdes	KS84010525
ASG39	2-Panel	New Pole	20'6"	0	180	NA	33.778990	-118.402718	7325 Maycroft	Rancho Palos Verdes	KS84010525
ASG40	2-Panel	N/A	18'	120	270	NA	33.786830	-118.382780	2800 Via Campesina	Palos Verdes Estates	KS84010525
ASG41	2-Panel	N/A	18'	100	300	NA	33.731990	-118.344720	Palos Verdes Drive South near Seacliff	Rancho Palos Verdes	KS84010525
ASG44	2-Panel	N/A	27'	80	260	NA	33.771370	-118.365678	Armaga Spring @ Meadow Mist	Rancho Palos Verdes	KS84010525
ASG50	2-Panel	N/A	17'	20	180	NA	33.775140	-118.411043	Across from 2325 Via Olivera	Palos Verdes Estates	KS84010525
ASG54	2-Panel	N/A	15'	30	180	NA	33.775230	-118.422320	2145 Chelsea, Palos Verdes Estates, CA	Palos Verdes Estates	KS84010525
ASG55	2-Panel	N/A	18'	0	180	NA	33.783340	-118.410884	30581 Via Rivera, Rancho Palos Verdes, CA	Palos Verdes Estates	KS84010525
ASG56	2-Panel	4428006E	18'	90	270	NA	33.804711	-118.378044	Adjacent to 497 Via Pasqual (alley)		KS84010525
ASG57	2-Panel	332690E	26'	0	180	NA	33.798320	-118.381250	464 Via Colusa	Palos Verdes Estates	KS84010525
ASG58	2-Panel	N/A	18'	60	240	NA	33.78222	-118.42325	across to 1500 Espinosa Circle on Rosa Pl		KS84010525
ASG61	2-Panel	0	18'	180	330	NA	33.798310	-118.365890	Across 2912 Palos Verdes Drive North	Palos Verdes Estates	KS84010525
ASG62	2-Panel	N/A	18'	45	200	NA	33.783590	-118.418032	504 Chelsea Rd at Chelsea	Palos Verdes Estates	KS84010525
ASG63	2-Panel	N/A	15'	0	180	NA	33.79708	[illegible]	Via Anacapa at Via Sola		KS84010525
ASG64	2-Panel	N/A	18'	0	180	NA	33.758430	-118.414422	South of 3344 Palos Verdes Drive West	Rancho Palos Verdes	KS84010525
ASG67	2-Panel	GT118919	27'	30	200	NA	33.780490	-118.414862	Across 1807 PV West at Via Coronel	Palos Verdes Estates	KS84010525

Appendix A-1

RF EXPOSURE AT THE LEVEL OF THE ANTENNA


RF EXPOSURE AT ELEVATION OF ANTENNA
PERCENTAGE OF FCC MAXIMUM PUBLIC & OCCUPATIONAL EXPOSURE (MPE) LIMIT
20 feet
Antenna
Maximum RF Exposure
1,237% Public MPE
248% Occupational MPE
Utility Pole
Red: Greater than 100% Public MPE
Yellow: Less than 100% Public MPE
Blue: Less than 20% Public MPE
Green: Less than 1% Public MPE

Appendix A-2

RF CAUTION SIGN

RF Safety Signage

CAUTION

The radio frequency (RF) emissions at this site have been evaluated for potential RF exposure to personnel who may need to work near these antennae.

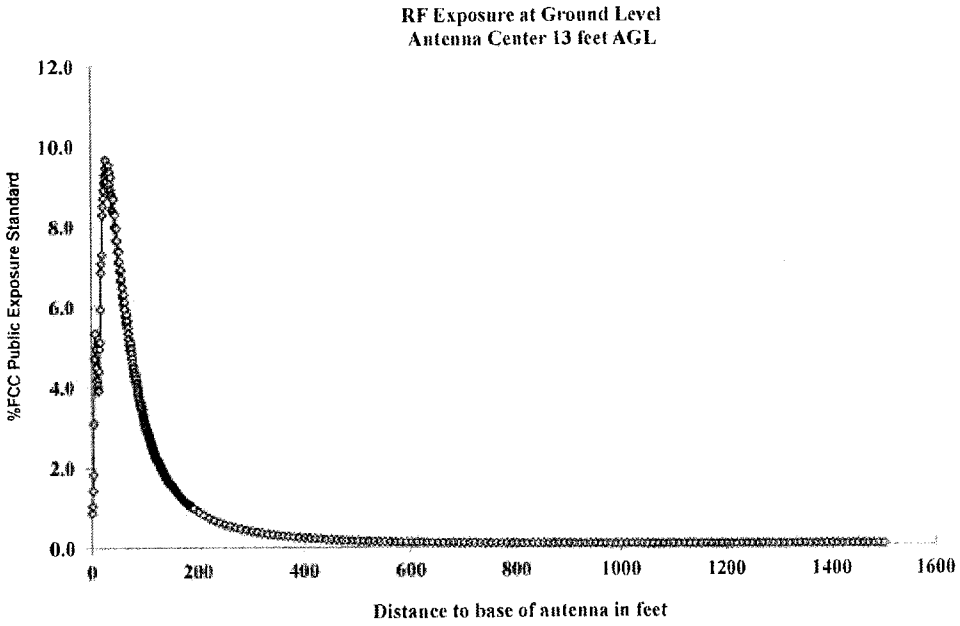
RF EXPOSURE AT 8 FEET OR CLOSER TO THE FACE OF THE ANTENNA *MAY EXCEED THE FCC PUBLIC EXPOSURE LIMITS.* RF EXPOSURE AT 4 FEET OR CLOSER TO THE FACE OF THE ANTENNA *MAY EXCEED THE FCC OCCUPATIONAL EXPOSURE LIMITS. OBEY ALL* SITE RF SAFETY GUIDELINES. ONLY QUALIFIED WORKERS THAT HAVE RF SAFETY TRAINING MAY WORK WITHIN THE PUBLIC EXCLUSION ZONE. ANYONE NEEDING TO WORK INSIDE THE EXCLUSION ZONE SHOULD CALL: _____ FOR INSTRUCTIONS PRIOR TO COMMENCING WORK.

REFER TO: SITE _____

Reference: Federal Communications Commission (FCC) Public Exposure Standard. OET Bulletin-65, Edition 97-01, August 1997.

Appendix A-3

RF Exposure At Ground Level


RF Exposure at Ground Level
Antenna Center 13 feet AGL
%FCC Public Exposure Standard
12.0
10.0
8.0
6.0
4.0
2.0
0.0
0
200
400
600
800
1000
1200
1400
1600
Distance to base of antenna in feet

Appendix A-3

STATEMENT OF EXPERIENCE
Jerrold Talmadge Bushberg, Ph.D., DABMP, DABSNM, FAAPM, FHPS

Dr. Jerrold Bushberg has performed health and safety analysis for RF & ELF transmissions systems since 1978 and is an expert in both health physics and medical physics. The scientific discipline of Health Physics is devoted to radiation protection, which, among other things, involves providing analysis of radiation exposure conditions, biological effects research, regulations and standards as well as recommendations regarding the use and safety of ionizing and non-ionizing radiation. In addition, Dr. Bushberg has extensive experience and lectures on several related topics including medical physics, radiation protection, (ionizing and non-ionizing), radiation biology, the science of risk assessment and effective risk communication in the public sector.

Dr. Bushberg's doctoral dissertation at Purdue University was on various aspects of the biological effects of microwave radiation. He has maintained a strong professional involvement in this subject and has served as consultant or appeared as an expert witness on this subject to a wide variety of organizations/institutions including, local governments, school districts, city planning departments, telecommunications companies, the California Public Utilities Commission, the California Council on Science and Technology, national and international news organizations, and the U.S. Congress. In addition, his consultation services have included detailed computer based modeling of RF exposures as well as on-site safety inspections. Dr. Bushberg has performed RF & ELF environmental field measurements and recommend appropriate mitigation measures for numerous transmission facilities in order to assure compliance with FCC and other safety regulations and standards. The consultation services provided by Dr. Bushberg are based on his professional judgement as an independent scientist, however they are not intended to necessarily represent the views of any other organization.

Dr. Bushberg is a member of the main scientific body of International Committee on Electromagnetic Safety (ICES) which reviews and evaluates the scientific literature on the biological effects of nonionizing electromagnetic radiation and establishes exposure standards. He also serves on the ICES Risk Assessment Working Group that is responsible for evaluating and characterizing the risks of nonionizing electromagnetic radiation. Dr. Bushberg was appointed and is serving as a member of the main scientific council of the National Council on Radiation Protection and Measurements (NCRP). He is also the Senior Scientific Vice-President of the NCRP and chairman of the NCRP Board of Directors. Dr. Bushberg has served as chair of the NCRP scientific committee on Radiation Protection in Medicine and he continues to serve as a member of this committee as well as the NCRP scientific advisory committee on Non-ionizing Radiation Safety. The NCRP is the nation's preeminent scientific radiation protection organization, chartered by Congress to evaluate and provide expert consultation on a wide variety of radiological health issues. The current FCC RF exposure safety standards are based, in large part, on the recommendations of the NCRP. Dr. Bushberg holds several radiation detection technology patents and was awarded the NCRP *Sinclair Medal* for "Excellence in Radiation Science" in 2014. Dr. Bushberg was elected to the International Engineering in Medicine and Biology Society Committee on Man and Radiation (COMAR) which has as its primary area of responsibility the examination and interpreting the biological effects of non-ionizing electromagnetic energy and presenting its findings in an authoritative and professional manner. Dr. Bushberg also served for several years as a member of a six person U.S. expert delegation to the international scientific community on Scientific and Technical Issues for Mobile Communication Systems established by the FCC and the FDA Center for Devices and Radiological Health.

Dr. Bushberg is a full member of the Bioelectromagnetics Society, the Health Physics Society and the Radiation Research Society. Dr. Bushberg received both a Masters of Science and Ph.D. from the Department of Bionucleonics at Purdue University. Dr. Bushberg is a fellow of the American Association of Physicists in Medicine, a fellow of the National Health Physics Society and is certified by several national professional boards with specific sub-specialty certification in radiation protection and medical physics. Prior to coming to California, Dr. Bushberg was on the faculty of Yale University School of Medicine.

ALJ/JLG/sid

Mailed 4/16/2007

Decision 07-04-045 April 12, 2007

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of NextG Networks of California, Inc. (U 6745 C) to expand its existing Certificate of Public Convenience and Necessity [A.02-09-019, D.03-01-061] to include full Facilities-based Telecommunications Services.	Application 06-05-031 (Filed May 19, 2006)

OPINION GRANTING REQUEST FOR EXPANDED AUTHORITY AND EXPEDITED ENVIRONMENTAL REVIEW AND ORDERING FURTHER ENFORCEMENT PROCEEDINGS

We grant NextG Networks of California, Inc.'s (NextG) request for full facilities-based local exchange services authority and expedited environmental review, subject to the requirements and conditions stated below. Granting this authority is consistent with prior decisions and follows no issuance in this proceeding of a stop work order. Although we grant NextG's application, we order that a separate investigation be opened to consider whether NextG violated its limited facilities-based Certificate of Public Convenience and Necessity (CPCN) issued in Decision (D.) 03-01-061, when NextG engaged in ground-disturbing activity. The investigation also should consider whether NextG violated Rule 1.1 of the Commission's Rules of Practice and Procedure in failing to disclose to the Commission that it engaged in ground-disturbing activity. Further, NextG should be ordered to show cause why a penalty should not be imposed for any violations.

1. Background

In this application, NextG seeks approval of a process for expedited environmental review of facilities construction, consistent with the authority granted to ClearLinx Network Corporation (ClearLinx), now known as ExteNet Systems, Inc. (ExteNet), in D.06-04-063 and to CA-CLEC LLC in D.06-04-067, and expansion of its CPCN to full facilities-based authority. NextG provides radiofrequency transport services for wireless carriers and constructs transport networks consisting of a central switch-like hub and a system of fiber optic cables, remote nodes, and small antennae attached to poles and other structures. ExteNet and the League of California Cities and the City and County of San Francisco (Cities) protested the application. ExteNet alleges NextG has violated its limited facilities-based authority in constructing its distributed antenna system (DAS) networks and requests a stop work order. ExteNet's request for a stop work order was referred to the Commission's Energy Division by the Administrative Law Judge (ALJ). The Cities object to allowing the expedited review process to include the construction of new utility poles in underground utility districts. NextG replied to the protests, and the ALJ granted leave to ExteNet and NextG to file additional responsive pleadings, which they did on July 28 and August 8, 2006, respectively.

A prehearing conference (PHC) was held on September 13, 2006. On September 29, 2006, an assigned Commissioner's ruling and scoping memo issued. The scoping memo stated this proceeding would address whether the Commission should (1) grant NextG's request for authority as a facilities-based telecommunications carrier and for expedited review of facilities construction, and (2) initiate an enforcement investigation to address NextG's alleged violations of its limited facilities-based authority. The scoping memo confirmed

the ratesetting categorization and that hearings were necessary on the issue of alleged violations. Hearings were held on November 6 and 8, 2006 on the enforcement issue. Opening and reply briefs were filed on December 4 and 11, 2006, respectively.

The Energy Division's stop work order investigation was limited to environmental violations. The Energy Division monitored the discovery produced, the hearings, and the filed briefs as part of its stop work order investigation.

2. Stop Work Order

The Energy Division did not request that a stop work order be issued in this proceeding. Thus, the request for a stop work order is moot, and we may proceed with NextG's request for expanded authority and expedited environmental review. The procedural schedule contemplated issuance of an interim decision on the request for expanded authority after the Energy Division's investigation of the stop work order request and a final decision on whether enforcement proceedings were necessary. No interim decision issued, and this decision will resolve both issues. We first address NextG's request for expanded authority and expedited environmental review and then address whether enforcement proceedings are necessary to resolve the alleged violations of NextG's CPCN.

3. Facilities-Based CPCN

The requirements for the expanded CPCN authority requested by NextG here are the same as those previously met by NextG for its existing CPCN (U-6754 C), except for California Environmental Quality Act (CEQA)

requirements.[1] We have previously granted the expedited review process requested by NextG to two competitors, ExteNet and CA-CLEC LLC in D.06-04-063 and D.06-04-067. Therefore, we must determine whether NextG's proposed construction and process for requesting determinations of exemption from CEQA by Commission staff meet the requirements of CEQA and similarly should be approved.

NextG seeks authority in this application to modify its existing CPCN to include full facilities-based competitive local exchange service. NextG states that the location of its projects is not known at this time but that they will be geographically dispersed. NextG states that the proposed construction activities include: (1) new pole installations, (2) small-scale trenching and underground conduit installation, and (3) micro-trenching and installation of laterals. NextG states these activities are projects which are categorically exempt from CEQA.

Both in its application and in the record in this proceeding, NextG has demonstrated that its proposed projects take place in existing rights-of-way and in utility easements. NextG will install a limited number of new poles, will engage in small-scale trenching and underground conduit installation of up to five miles, and will do micro-trenching and installation of laterals of up to 25 feet. NextG states these activities fall within the extensions, minor alternations and infill exemptions to CEQA, so neither an environmental impact report nor a Negative Declaration is required.

[1] NextG also filed financial documentation. NextG relies on managerial biographical information filed with its original application. This information demonstrates that NextG otherwise meets the requirements for a full facilities-based CPCN.

NextG proposes the following procedure for obtaining Commission approval of its claimed CEQA exemptions for proposed construction projects and for comparable activities where a CEQA exemption is likely:

- NextG will provide the Commission's CEQA staff in the Energy Division with:
  - A description of the proposed project, including the environmental setting
  - A description of the proposed construction plan
  - A list of applicable CEQA exemptions
  - Documentation and factual support necessary to support a finding of categorical exemption.
- Within 21 days from the date of the submission, the Commission's Energy Division will issue either:
  - A Notice to Proceed (NTP) and file a Notice of Exemption with the State Clearinghouse, Office of Planning and Research, or
  - A letter of denial stating the specific reasons why the claimed exemption(s) are not applicable to the proposed project

The procedure NextG proposes conforms to the procedure adopted in D.06-04-063 and D.06-04-067. We will apply that procedure here. If the Energy Division disapproves NextG's claimed CEQA exemption(s), and issues a letter of denial to NextG, NextG shall either re-design the specific project and facilities and then reapply for a finding of exemption from CEQA, or file a formal application with the Commission seeking the requisite approval and full CEQA review, before commencing any construction activities.

NextG shall not perform any full facilities-based construction activities without first obtaining an NTP from the Energy Division or authorization by the

Commission after the requisite environmental review. This procedure shall remain in place unless we adopt different requirements in Rulemaking (R.) 06-10-006.

The Cities are concerned that the expedited review process might include the installation of utility poles in underground districts. NextG states local ordinances often grant exceptions for construction in those districts by utilities for communications services. Thus, the procedure we adopt here will apply to installing utility poles in underground districts where local jurisdictions grant such exceptions.

We conclude that the application conforms to our rules for authority to provide full facilities-based local exchange services. Accordingly, we shall approve the application subject to the terms and conditions set forth herein.

4. Enforcement Proceedings

NextG's limited facilities-based CPCN permits NextG to provide radiofrequency transport services involving construction in or on existing utility poles and other existing structures. (*See* D.03-01-061, D.06-01-006, D.06-07-036.) That authority does not include ground-disturbing activity. NextG admits it has engaged in ground-disturbing activity in the construction of DAS networks, including the installation of new underground conduit in existing public rights-of-way to either pull fiber or make lateral connections between equipment on a pole and fiber or bring power to nodes. However, NextG states it engaged in these ground-disturbing activities in reliance on the authority of its wireless carrier partners, for whom it is building the networks. Wireless carriers have

that authority, and NextG states that authority is sufficient for it to engage in new underground construction on behalf of those carriers.[2]

NextG originally applied for limited facilities-based authority in 2002, because it intended to install DAS networks and did not intend to engage in ground-disturbing activity. NextG's Proponent's Environmental Assessment (PEA), filed with Application 02-02-019, and refiled in Case (C.) 05-03-010, stated that NextG would install equipment exclusively in or on existing structures and facilities and would, if new construction of facilities was necessary to provision its services, comply with applicable rules and regulations in securing any expanded authority necessary for such construction. This application requests that authority while clarifying that NextG has operated within the confines of its current authority in constructing DAS networks. Specifically, NextG states:

> [t]o date, NextG has been able to establish its network through the installation of its fiber on existing poles and in existing underground conduit in public rights-of-way and the installation of its microcells and antennas on existing poles in the public way. [footnote omitted] However, NextG now is facing difficulty in certain limited areas where existing poles and conduit in rights-of-way are not available or available only at a prohibitive cost. . . . As a result, NextG will have to engage in limited installation of new poles and underground conduit (through which it will pull fiber) in existing public rights-of-way and existing private utility easements. The installation of new poles and underground conduit is beyond the scope of NextG's existing limited facilities-based authority.

[2] NextG installs some networks using existing conduit. These networks are within NextG's existing limited facilities-based authority.

In this application, NextG's PEA details the new construction activity, which consists of installation of poles, small-scale trenching and micro-trenching. After ExteNet filed its protest, NextG admitted it engaged in ground-disturbing activity for a number of DAS projects between issuance of D.03-01-061 and the filing of its application. The amount of ground-disturbing activity between those periods was approximately one mile. During that timeframe, NextG did not affirmatively disclose to the Energy Division environmental staff that it was trenching, as NextG's Vice President of Government Relations, Robert Delsman, testified at the hearing.

NextG maintains that the ground-disturbing activity, with a few exceptions due to failure to follow its procedures, was done under the authority of its wireless carrier partners. Applications for permits authorizing trenching submitted to local jurisdictions were filed in NextG's and the wireless carriers' names.

NextG's application is silent on the wireless carrier partner arrangement. Instead, NextG states:

> In certain instances, it may be the case that the wireless carrier to whom NextG will provide service will undertake certain of the new construction activities described herein pursuant to the wireless carrier's existing commercial mobile service (CMRS) authority and subject to the terms and conditions of General Order ("GO") 159-A.

This statement that some construction activities would be undertaken by the wireless carrier differs from NextG's current position that it engaged in ground-disturbing activity under the wireless carrier's authority. There are internal NextG e-mails that discuss the arrangement, but no agreement with the

wireless carriers formally discusses the terms under which such construction would occur.

Although an informal agreement may be sufficient to establish that NextG was using the authority of the wireless carriers to engage in ground-disturbing activities, the wireless carriers did not comply with our requirements for wireless carrier construction. NextG, on behalf of the wireless carriers and in its own name on several occasions, applied for and received necessary excavation permits from local jurisdictions. Although NextG understands our notification letter requirements under GO 159-A, before the protest to this application was filed, neither the wireless carriers for which NextG engaged in ground-disturbing activity nor NextG on their behalf submitted the GO 159-A notification letters necessary when land use approvals are required for cell siting and related construction activity. The one wireless carrier who complied with GO 159-A notification did so at a later date. The wireless carriers' failure to comply with our notification requirements belies NextG's claim that its arrangement with them was consistent with our rules and regulations.

Our earlier consideration of a proposed partnership arrangement for a CLEC does not support NextG's position that it could engage in new underground construction under the authority of the wireless carriers. That decision declined to authorize a limited facilities-based CLEC, Cmetric, authority to engage in construction activities through a partnership arrangement with other certificated carriers. (D.99-11-025, 1999 Cal. PUC LEXIS 746.) NextG states that decision is distinguishable, because it did not consider the partnership arrangement presented here, that of a CLEC partnering with a wireless carrier that has the required authority to trench.

NextG's arguments in favor of its partnership arrangement permitting ground-disturbing activity are not persuasive. Cmetric presented the Commission with a proposal to enter into a partnership arrangement with certificated carriers and we rejected the proposal, because we needed to study and appropriately mitigate the impacts of any construction. NextG did not present its proposed partnership arrangement to us for our consideration, so there was no opportunity for us to fulfill our role under CEQA to review the environmental impacts of the proposed construction. Further, since no GO 159-A notification letter was submitted for any construction prior to the filing of this application, we could not have ascertained whether local land use approvals had been received.

NextG also did not act as the agent of the wireless carriers while constructing transport networks. NextG admits it has an ownership interest in components of the DAS network it installs on behalf of wireless carriers. Although the arrangements between NextG and the wireless partners are detailed, no provision in the agreements NextG entered into with the wireless carriers places ownership of new underground construction completed by NextG in the wireless carriers' names. At a minimum, NextG continues to own most of the network it constructed under contracts entered into with the wireless carrier partners.

NextG has failed to persuade us that it engaged in new underground construction under the authority of its wireless carrier partners consistent with our regulations. NextG's ground-disturbing activities are extensive; NextG had trenched approximately 64 miles before this proceeding was submitted. Therefore, a separate investigation should be opened to consider NextG's

violation of its limited facilities-based authority, and NextG should be ordered to show cause why a penalty should not be assessed.

NextG was not forthright with us in discussing its ground-disturbing activities. Neither in the complaint case concerning the extent of its CLEC authority in constructing DAS networks (C.05-03-010) nor in its application did NextG disclose it was engaged in ground-disturbing activity. Only after ExteNet protested the application, did NextG admit its activities. Thus, the investigation we order should consider whether NextG violated Rule 1.1.

Although we find that an investigation should be opened to consider NextG's past behavior, NextG could have applied for and been granted full facilities-based authority, as we are doing in this decision, at the same time as ExteNet and CA-CLEC LLC. No environmental violations have been found for the new underground construction examined in this proceeding. To the contrary, NextG has demonstrated it complied with land use requirements of local jurisdictions and disturbed the ground to the minimal extent possible with small scale and micro-trenching. There also have been no complaints alleging environmental impacts. These factors should be considered in the investigation.

5. Request to File Under Seal

NextG requests that the financial information filed as Attachment B to this application be filed under seal. The financial information consists of NextG's financial statements. We have granted similar requests in the past, and we grant NextG's request here.

6. Comments on the Proposed Decision

The proposed decision of the ALJ in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and Rule 14.2(a).

Comments were filed on March 13, 2007, and reply comments were filed on March 19, 2007.

7. Assignment of Proceeding

Rachelle B. Chong is the assigned Commissioner and Janice Grau is the assigned ALJ in this proceeding.

Findings of Fact

1. In D.03-01-061, NextG was granted authority to provide limited facilities-based local exchange services. NextG provides radiofrequency transport services for wireless carriers and constructs transport networks consisting of a central switch-like hub and a system of fiber optic cables, remote nodes, and small antennae attached to poles and other structures.

2. NextG seeks expansion of its existing CPCN to obtain authorization to provide full facilities-based local exchange services by installing and operating DAS facilities. NextG seeks expedited environmental review of its proposed construction activities and comparable activities that likely will be categorically exempt from CEQA.

3. ExteNet protested the application because it alleged NextG had violated its limited facilities-based authority in constructing its DAS networks.

4. The Cities filed a protest to object to allowing the expedited environmental review to include the construction of new utility poles in underground utility districts.

5. In D.06-04-063 and D.06-04-067, ExteNet and CA-CLEC LLC, respectively were granted full facilities-based authority and an expedited environmental review procedure. NextG did not seek comparable authority until after the issuance of those decisions.

6. The proposed construction activities, including installation of poles, small-scale trenching and micro-trenching, are projects which potentially are categorically exempt from CEQA.

7. The procedure proposed by NextG, in which NextG would notify Commission Energy Division staff of the claimed CEQA exemptions and Commission Energy Division staff would review and act upon Applicant's claimed CEQA exemptions, has been adopted for other DAS carriers in D.06-04-063 and D.06-04-067.

8. NextG has met the requirements for issuance of a CPCN authorizing the provision of full facilities-based local exchange services.

9. NextG has engaged in ground-breaking activities in the construction of DAS networks. Between the issuance of D.03-01-061 and the filing of this application, NextG trenched a total of approximately one mile.

10. Most applications for permits for the DAS networks, including new underground construction, were submitted to local jurisdictions in NextG's and the wireless carriers' names. Some applications were submitted in NextG's name only.

11. GO 159-A requires notification letters when land use approvals are required for cell siting and related construction activity. Prior to the filing of this application, no GO 159-A letters were submitted by the wireless carriers for the DAS networks subject to land use approvals or NextG on their behalf.

12. In D.99-11-025, the Commission declined to authorize a limited facilities-based CLEC to engage in construction activities through a partnership arrangement with other certificated carriers.

13. NextG did not seek Commission authorization of a proposed partnership arrangement with wireless carriers to construct DAS networks.

14. NextG received no complaints about environmental concerns for construction of its DAS networks.

Conclusions of Law

1. Except for the requirement for additional environmental (CEQA) review, the requirements for a full facilities-based CPCN are generally the same as for a limited facilities-based CPCN.

2. NextG's description of its future construction projects and proposed process for Commission review of claimed CEQA exemptions for these projects, as described above, meet the requirements of CEQA, based on the specific facts of this case.

3. If the Commission subsequently adopts different requirements for review of claimed CEQA exemptions for telecommunications carriers generally in R.06-10-006, NextG should be subject to those requirements, as applicable.

4. Public convenience and necessity require NextG's full facilities-based local exchange services to be offered to the public subject to the terms and conditions set forth herein.

5. The application should be approved.

6. Upon approval of the application, NextG should be subject to the applicable Commission rules, decisions, GOs, and statutes that pertain to California public utilities.

7. NextG should remain subject to the requirement of D.03-01-061, its licensing decision.

8. It is reasonable to apply D.99-11-025's prohibition against CLEC partnerships with other certificated carriers to NextG's arrangement with wireless carriers to engage in ground-disturbing activities.

9. It is reasonable to open an investigation to consider whether NextG violated its limited facilities-based CPCN issued in D.03-01-061. NextG should be ordered to show cause why a penalty should not be imposed for any violations

10. NextG's request to file its financial information under seal should be granted, to the extent set forth below

11. Because of the public interest in competitive local exchange services, the following order should be effective immediately.

O R D E R

IT IS ORDERED that:

1. A certificate of public convenience and necessity (CPCN) is granted to NextG Networks of California, Inc. (NextG) to operate as a full facilities-based provider of local exchange services in the service territories of Pacific Bell Telephone Company, Verizon California Inc., SureWest Telephone, and Citizens Telephone Company, subject to the terms and conditions set forth below. This authorization expands NextG's existing authority to provide limited facilities-based local exchange services in this state.

2. NextG is authorized to construct the facilities addressed in this decision only upon receiving prior Commission approval.

3. The staff of the Commission Energy Division is authorized to review, process, and act upon NextG's requests for a determination that its full facilities-based construction activities are exempt from the requirements of the California Environmental Quality Act (CEQA).

4. If NextG wishes to engage in full facilities-based construction activities and believes that these activities are exempt from CEQA, NextG shall first apply to

the Commission Energy Division staff for a determination of exemption from CEQA using the following procedure:

A. NextG will provide the Commission Energy Division with:

1. A detailed description of the proposed project, including:
   a. Customer(s) to be served;
   b. The precise location of the proposed construction project; and
   c. Regional and local site maps.
2. A description of the environmental setting, including at a minimum:
   a. Cultural, historical, and paleontologic resources;
   b. Biological resources; and
   c. Current land use and zoning
3. A construction workplan, including:
   a. Commission Preconstruction Survey Checklist – Archaeological Resources;
   b. Commission Preconstruction Survey Checklist – Biological Resources;
   c. A detailed schedule of construction activities, including site restoration activities;
   d. A description of construction/installation techniques;
   e. A list of other agencies contacted with respect to siting, land use planning, and environmental resource issues, including contact information; and
   f. A list of permits required for the proposed project.
4. A statement of the CEQA exemption(s) claimed to apply to the proposed project; and
5. Documentation supporting the finding of exemption from CEQA.

B. The Commission Energy Division will then review the submittal and notify NextG of either its approval or its denial of NextG's claim for exemption from CEQA review within 21 days from the time that NextG's submittal is complete.

C. If the Commission Energy Division approves NextG's claimed CEQA exemption(s), the staff will prepare a Notice to Proceed (NTP) and file a Notice of Exemption with the State Clearinghouse, Office of Planning and Research.

D. If the Commission Energy Division disapproves NextG's claimed CEQA exemptions, the staff will issue to NextG a letter which states the specific reasons that the claimed CEQA exemptions do not apply to the proposed project.

E. If the Commission Energy Division disapproves NextG's claimed CEQA exemption(s), NextG shall either re-design the specific project and facilities and then reapply for a finding of exemption from CEQA, or file a formal application with the Commission seeking the requisite approval and full CEQA review, before commencing any full facilities-based construction activities.

5. NextG shall not engage in any construction activity relating to a pending CEQA exemption request before receiving an NTP from Commission Energy Division staff.

6. If the Commission adopts different requirements for obtaining Commission review of proposed CEQA exemptions applicable to NextG in Rulemaking 06-10-006, NextG shall be subject to those requirements.

7. NextG remains subject to the requirements of Decision (D.) 03-01-061, which granted NextG a CPCN authorizing the provision of limited facilities-based local exchange services.

8. NextG will operate under its current tariffs. NextG shall comply with those tariffs.

9. The certificate granted and the authority to render service under the rates, charges, and rules authorized herein will expire if not exercised within 12 months after the effective date of this order.

10. The corporate identification number assigned to NextG, U 6745 C, shall be included in the caption of all original filings with this Commission, and in the titles of other pleadings filed in existing cases.

11. NextG shall comply with all applicable rules adopted in the Local Exchange Competition proceeding (Rulemaking 95-04-043/ Investigation 95-04-044), as well as all other applicable Commission rules, decisions, General Orders, and statutes that pertain to California public utilities, subject to the exemptions granted in this decision.

12. NextG shall comply with the requirements applicable to competitive local exchange carriers included in Attachments A, B, and C to this decision.

13. NextG's financial statements and information filed as Attachment B to the application shall be filed under seal and shall remain under seal for a period of two years after the date of this order. During this two-year period, the information filed as Attachment B to the application shall remain under seal and shall not be viewed by any person other than the assigned Commissioner, the assigned Administrative Law Judge (ALJ), the Assistant Chief ALJ, or the Chief ALJ, except as agreed to in writing by Applicant or as ordered by a court of competent jurisdiction. If NextG believes that it is necessary for this information to remain under seal for longer than two years, NextG shall file a new motion at least 30 days before the expiration of this limited protective order.

14. An investigation and order to show cause shall be opened to consider whether NextG violated the authority granted it in D.03-01-061 and Rule 1.1 of the Commission's Rules of Practice and Procedure.

15. Hearings were necessary in this proceeding.

16. Application 06-05-031 is closed.

This order is effective today.

Dated April 12, 2007, at San Francisco, California.

MICHAEL R. PEEVEY
President
DIAN M. GRUENEICH
JOHN A. BOHN
RACHELLE B. CHONG
TIMOTHY ALAN SIMON
Commissioners

ATTACHMENT A

REQUIREMENTS APPLICABLE TO COMPETITIVE LOCAL EXCHANGE CARRIERS

1. Applicant shall file, in this docket, a written acceptance of the certificate granted in this proceeding within 30 days of the effective date of this order.

2. Applicant is subject to the following fee and surcharges that must be regularly remitted per the instructions in Appendix E to Decision (D.) 00-10-028. The Combined California PUC Telephone Surcharge Transmittal Form must be submitted even if the amount due is zero.

a. The current 1.15% surcharge applicable to all intrastate services except or those excluded by D.94-09-065, as modified by D.95-02-050, to fund the Universal Lifeline Telephone Service Trust Administrative Committee Fund (Pub. Util. Code § 879; Resolution T-17071), dated March 1, 2007, effective April 1, 2007);

b. The current 0.37% surcharge applicable to all intrastate services except for those excluded by D.94-09-065, as modified by D.95-02-050, to fund the California Relay Service and Communications Devices Fund (Pub. Util. Code § 2881; D.98-12-073 and Resolution T-17072, dated March 1, 2007, effective April 1, 2007);

c. The user fee provided in Pub. Util. Code §§ 431-435, which is 0.11% of gross intrastate revenue (Resolution M-4816), dated March 15, 2006, effective April 1, 2006;

d. The current 0.21% surcharge applicable to all intrastate services except for those excluded by D.94-09-065, as modified by D.95-02-050, to fund the California High Cost Fund-A (Pub. Util. Code § 739.3; D.96-10-066, pp. 3-4, App. B, Rule 1.C; Resolution T-16963, dated December 1, 2005, effective January 1, 2006);

e. The current 1.30% surcharge applicable to all intrastate services except for those excluded by D.94-09-065, as modified by D.95-02-050, to fund the California High Cost Fund-B (D.96-10-066, p. 191, App. B, Rule 6.F., Resolution T-17078, dated March 1, 2007, effective April 1, 2007); and

f. The current 0.13% surcharge applicable to all intrastate services except for those excluded by D.94-09-065, as modified by D.95-02-050, to fund the California Teleconnect Fund (D.96-10-066, p. 88, App. B, Rule 8.G, Resolution T-16888, dated December 1, 2005, effective January 1, 2006).

Note: These fees change periodically. In compliance with Resolution T-16901, December 2, 2004, Applicant should check the joint tariff for surcharges and fees filed by Pacific Bell (dba SBC California) and apply the current surcharge and fee amounts in that joint tariff on end-user bills until further revised.

3. Applicant is a competitive local exchange carrier (CLC). The effectiveness of its future tariffs is subject to the schedules set forth in Appendix C, Section 4.E of D.95-12-056:

"E. CLCs shall be subject to the following tariff and contract filing, revision and service pricing standards:

"(1) Uniform rate reductions for existing tariff services shall become effective on five (5) working days' notice to the Commission. Customer notification is not required for rate decreases.

"(2) Uniform major rate increases for existing tariff services shall become effective on thirty (30) days' notice to the Commission, and shall require bill inserts, or a message on the bill itself, or first class mail notice to customers at least 30 days in advance of the pending rate increase.

"(3) Uniform minor rate increases, as defined in D.90-11-029, shall become effective on not less than five (5) working days' notice to the Commission. Customer notification is not required for such minor rate increases.

"(4) Advice letter filings for new services and for all other types of tariff revisions, except changes in text not affecting rates or relocations of text in the tariff schedules, shall become effective on forty (40) days' notice to the Commission.

"(5) Advice letter filings revising the text or location of text material which do not result in an increase in any rate or charge shall become effective on not less than five (5) days' notice to the Commission.

"(6) Contracts shall be subject to GO 96-A rules for NDIECs, except interconnection contracts.

"(7) CLCs shall file tariffs in accordance with PU Code Section 876."

4. Applicant may deviate from the following provisions of GO 96-A: (a) paragraph II.C.(1)(b), which requires consecutive sheet numbering and prohibits the reuse of sheet numbers; and (b) paragraph II.C.(4), which requires that "a separate sheet or series of sheets should be used for each rule." Tariff filings incorporating these deviations shall be subject to the approval of the Commission's Communications Division. Tariff filings shall reflect all fees and surcharges to which Applicant is subject, as reflected in 2 above.

5. Applicant shall file a service area map as part of its initial tariff.

6. Prior to initiating service, Applicant shall provide the Commission's Consumer Affairs Branch with the name and address of its designated contact

person(s) for purposes of resolving consumer complaints. This information shall be updated if the name or telephone number changes, or at least annually.

7. Applicant shall notify the Director of the Communications Division in writing of the date that local exchange service is first rendered to the public, no later than five days after service first begins.

8. Applicant shall notify the Director of the Communications Division in writing of the date interLATA service is first rendered to the public within five days after service begins, and again within five days after intraLATA service begins.[1]

9. Applicant shall keep its books and records in accordance with the Generally Accepted Accounting Principles.

10. In the event Applicant's books and records are required for inspection by the Commission or its staff, it shall either produce such records at the Commission's offices or reimburse the Commission for the reasonable costs incurred in having Commission staff travel to its office.

11. Applicant shall file an annual report with the Director of the Communications Division, in compliance with GO 104-A, on a calendar-year basis with the information contained in Attachment C to this decision.

12. Applicant shall file an affiliate transaction report with the Director of the Communications Division, in compliance with D.93-02-019, on a calendar-year basis using the form contained in Attachment D.

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[1] California is divided into ten Local Access and Transport Areas (LATAs), each containing numerous local telephone exchanges. InterLATA describes services, revenues and functions relating to telecommunications originating within one LATA and terminating in another LATA. IntraLATA describes services, revenues and functions relating to telecommunications originating within a single LATA.

13. Applicant shall ensure that its employees comply with the provisions of Pub. Util. Code § 2889.5 regarding solicitation of customers.

14. Within 60 days of the effective date of this order, Applicant shall comply with Pub. Util. Code § 708, Employee Identification Cards, and notify the Director of the Communications Division in writing of its compliance.

15. If Applicant is 90 days or more late in filing an annual report, or in remitting the surcharges and fee listed in 2 above, the Communications Division shall prepare for Commission consideration a resolution that revokes Applicant's CPCN unless it has received written permission from the Telecommunications Division to file or remit late.

16. Applicant is exempt from General Order 96-A, subsections III.G(1) and (2), and Rule 18(b) of the Commission's Rules of Practice and Procedure.

17. Applicant is exempt from Pub. Util. Code §§ 816-830.

18. Applicant is exempt from the requirements of Pub. Util. Code § 851 for the transfer or encumbrance of property whenever such transfer or encumbrance serves to secure debt.

19. If Applicant decides to discontinue service or file for bankruptcy, it shall immediately notify the Communications Division's Bankruptcy Coordinator.

20. Applicant shall send a copy of this decision to concerned local permitting agencies not later than 30 days from the date of this order.

(END OF ATTACHMENT A)

ATTACHMENT B

ANNUAL REPORT

An original and a machine readable, copy using Microsoft Word or compatible format shall be filed with the California Public Utilities Commission, 505 Van Ness Avenue, Room 3107, San Francisco, CA 94102-3298, no later than March 31st of the year following the calendar year for which the annual report is submitted.

Failure to file this information on time may result in a penalty as provided for in Sections 2107 and 2108 of the Public Utilities Code.

Required information:

1. Exact legal name and U # of the reporting utility.
2. Address
3. Name, title, address, and telephone number of the person to be contacted concerning the reported information
4. Name and title of the officer having custody of the general books of account and the address of the office where such books are kept.
5. Type of organization (e.g., corporation, partnership, sole proprietorship, etc.).

   If incorporated, specify:

   a. Date of filing articles of incorporation with the Secretary of State.
   b. State in which incorporated.
6. Number and date of the Commission decision granting the Certificate of Public Convenience and Necessity.
7. Date operations were begun
8. Description of other business activities in which the utility is engaged.
9. List of all affiliated companies and their relationship to the utility. State if affiliate is a:

   a. Regulated public utility.
   b. Publicly held corporation.
10. Balance sheet as of December 31st of the year for which information is submitted
11. Income statement for California operations for the calendar year for which information is submitted

For answers to any questions concerning this report, call (415) 703-2883.

(END OF ATTACHMENT B)

ATTACHMENT C
CALENDAR YEAR AFFILIATE TRANSACTION REPORT

1. Each utility shall list and provide the following information for each affiliated entity and regulated subsidiary that the utility had during the period covered by the annual Affiliate Transaction Report.

- Form of organization (e.g., corporation, partnership, joint venture, strategic alliance, etc.);
- Brief description of business activities engaged in;
- Relationship to the utility (e.g., controlling corporation, subsidiary, regulated subsidiary, affiliate);
- Ownership of the utility (including type and percent ownership);
- Voting rights held by the utility and percent; and
- Corporate officers.

2. The utility shall prepare and submit a corporate organization chart showing any and all corporate relationships between the utility and its affiliated entities and regulated subsidiaries in #1 above. The chart should have the controlling corporation (if any) at the top of the chart; the utility and any subsidiaries and/or affiliates of the controlling corporation in the middle levels of the chart and all secondary subsidiaries and affiliates (e.g., a subsidiary that in turn is owned by another subsidiary and/or affiliate) in the lower levels. Any regulated subsidiary should be clearly noted.

3. For a utility that has individuals who are classified as "controlling corporations" of the competitive utility, the utility must only report under the requirements of #1 and #2 above any affiliated entity that either (a) is a public utility or (b) transacts any business with the utility filing the annual report excluding the provision of tariff services.

4. Each annual report must be signed by a corporate officer of the utility stating under penalty of perjury under the laws of the State of California (CCP 2015.5) that the annual report is complete and accurate with no material omissions.

5. Any required material that a utility is unable to provide must be reasonably described and the reasons the data cannot be obtained, as well as the efforts expended to obtain the information, must be set forth in the utility's annual Affiliate Transaction Report and verified in accordance with Sections I-F of Decision 93-02-019.

6. Utilities that do not have affiliated entities must file, in lieu of the annual transaction report, an annual statement to the Commission stating that the utility had no affiliated entities during the report period. This statement must be signed by a corporate officer of the utility, stating under penalty of perjury under the laws of the State of California (CCP 2015.5) that the annual report is complete and accurate with no material omissions.

(END OF ATTACHMENT C)

RADIO FREQUENCY ELECTROMAGNETIC FIELDS EXPOSURE REPORT

Prepared for Crown Castle

Site ID: ASG17
Site Type: Utility Pole

Located at:

R/W Adjacent to 26111 Delos Drive
Torrance, CA 90505
Latitude: 33.7850 / Longitude: -118.3336

Report Date: 5/14/2018
Report By: Christopher Stollar, P.E.

Based on FCC Rules and Regulations, Crown Castle will be compliant provided recommendation(s) are implemented.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Dtech Communications, LLC ("Dtech") has been retained by Crown Castle to determine whether its wireless communications facility complies with the Federal Communications Commission ("FCC") Radio Frequency ("RF") Safety Guidelines. This report contains a computer-simulated analysis of the Electromagnetic Fields ("EMF") exposure resulting from the facility. The analysis also includes assessment of existing wireless carriers on site, where information is provided. The table below summarizes the results at a glance:

Table 1: EMF Summary

Crown Castle	Summary
Access Type	Man-Lift/Ladder
Access to antennas locked	NA
RF Sign(s) @ access point(s)	Notice (Recommended @ Base)
RF Sign(s) @ antennas	Caution (Recommended)
Barrier(s) @ sectors	NA
Max EMF level for Crown Castle on Ground	5.5% General Population (1.1% Occupational)
General Population Keep Back Distance (At Antenna Elevation)	6 Feet

2.0 SITE DESCRIPTION

The wireless telecommunication facility is located on the ground. The antenna(s) are typically grouped into sectors pointing in different direction to achieve the desired areas of coverage. Crown Castle's antenna(s) are mounted on a utility pole and connected to the equipment via cables.

2.1 Site Map

2.2 Antenna Inventory

Technical specifications in the table below are provided by our clients and/or gathered from physical field surveys where applicable and/or possible. Conservative estimates are used where information is not provided or available.

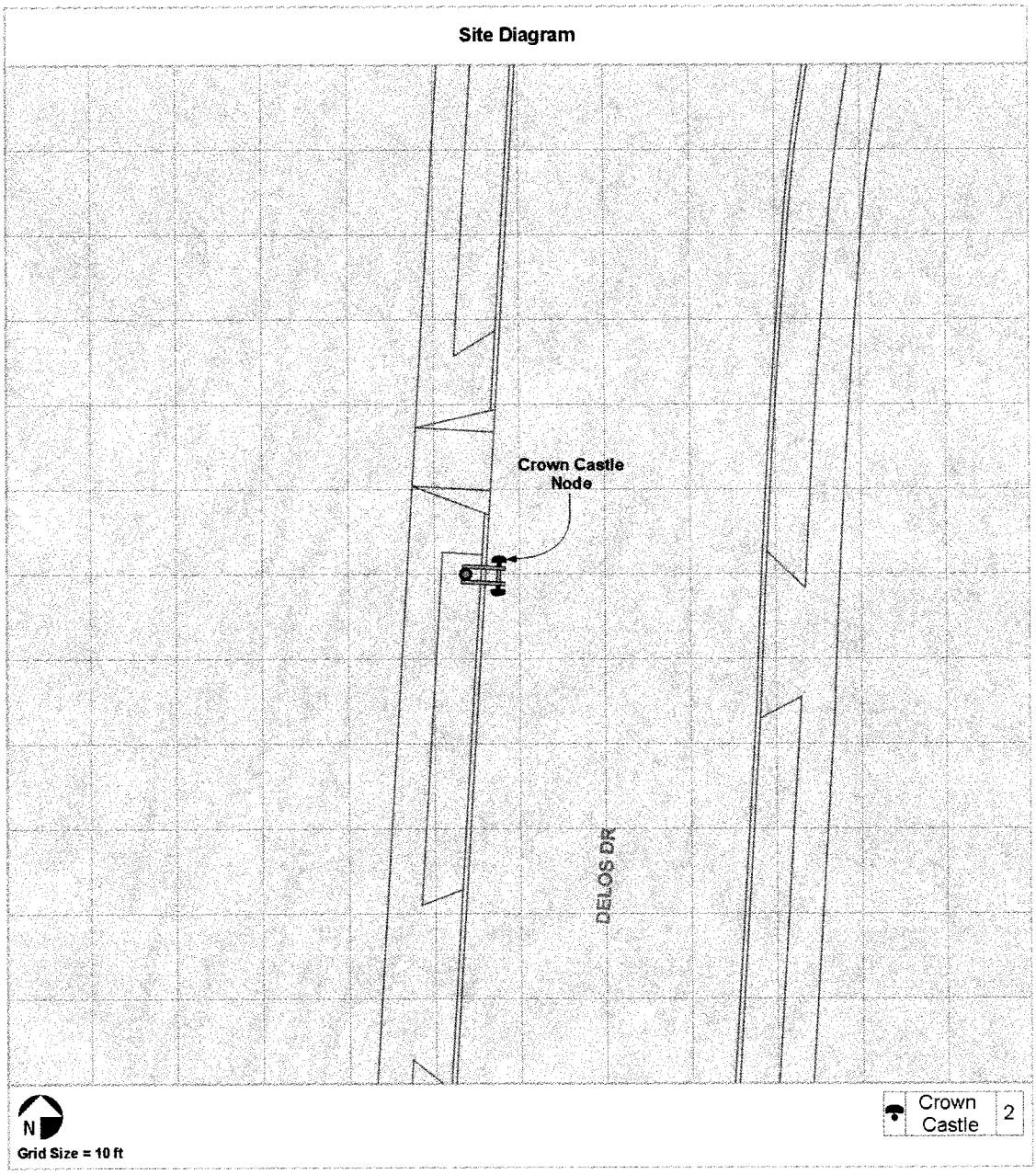
Table 2: Site Technical Specifications

Antenna ID	Operator	Carrier #	Antenna Mfg	Antenna Model	Type	Frequency (MHz)	Technology	Orientation (°T)	Horizontal BWdth (°)	Antenna Aperture (ft)	Antenna Gain (dBd)	Total ERP (Watts)	Bottom Tip Height Above Ground (Z) (ft)	Bottom Tip Height Ant Level (Z) (ft)
A1	Crown Castle	1	Kathrein	840-10525	Panel	700	LTE	0	71	1.9	8.4	102.3	19.9	0.0
A1	Crown Castle	1	Kathrein	840-10525	Panel	1900	LTE	0	63	1.9	11.4	204.2	19.9	0.0
A2	Crown Castle	1	Kathrein	840-10525	Panel	700	LTE	180	71	1.9	8.4	102.3	19.9	0.0
A2	Crown Castle	1	Kathrein	840-10525	Panel	1900	LTE	180	63	1.9	11.4	204.2	19.9	0.0

3.0 ANALYSIS

3.1 Site Diagram

Figure 1: Site Diagram - Plan (bird's eye) view map



3.2 Emission Predictions

Figure 2: Plan (bird's eye) view map of results compared to the FCC's General Population MPE (Maximum Permissible Exposure) Limits. Gray represents areas where exposure levels are calculated to be at or below 5%; Green- between 5% & 100% (below MPE limits); blue, yellow & red – greater than 100% (exceeds MPE limits). Individuals can safely occupy areas in gray and green for an indefinite amount of time; whereas areas in blue, yellow & red must be restricted to RF trained personnel who have been made fully aware of the potential for exposure, have control and know how to reduce their exposure with the use of personal protection equipment or have the ability to power down the transmitters.

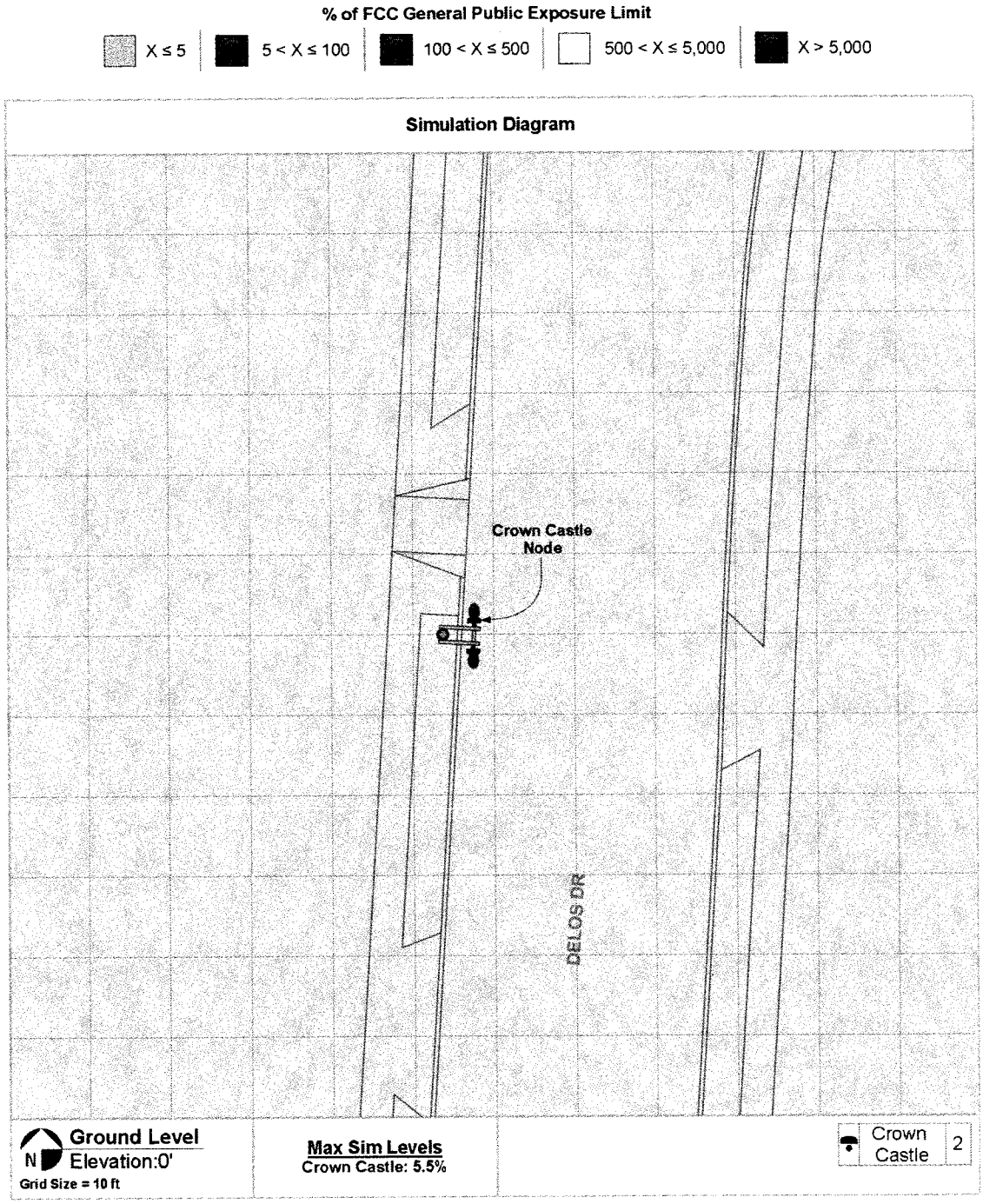
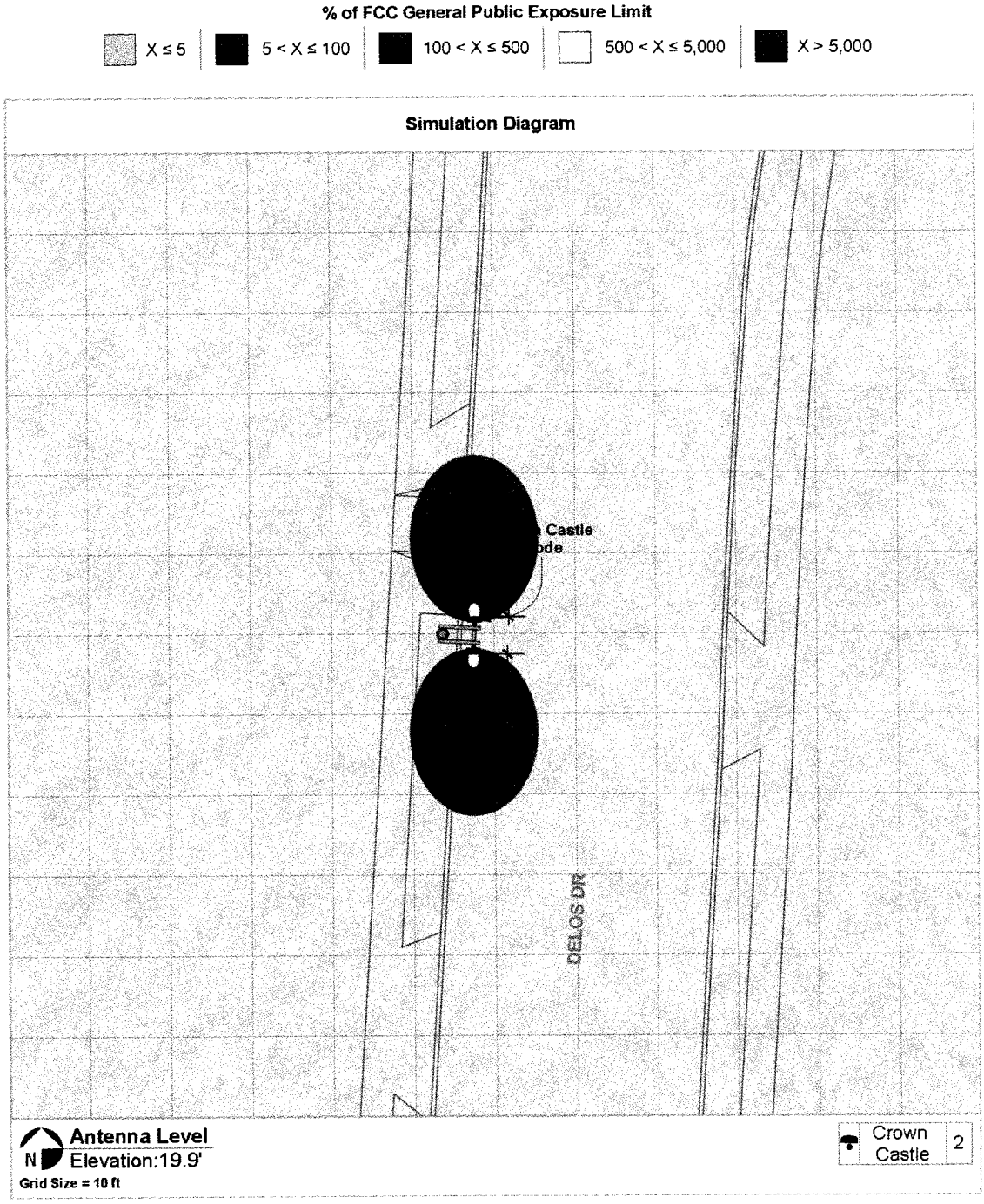


Figure 3: Plan (bird's eye) view map of results compared to the FCC's General Population MPE (Maximum Permissible Exposure) Limits. Gray represents areas where exposure levels are calculated to be at or below 5%; Green- between 5% & 100% (below MPE limits); blue, yellow & red – greater than 100% (exceeds MPE limits). Individuals can safely occupy areas in gray and green for an indefinite amount of time; whereas areas in blue, yellow & red must be restricted to RF trained personnel who have been made fully aware of the potential for exposure, have control and know how to reduce their exposure with the use of personal protection equipment or have the ability to power down the transmitters.



4.0 CONCLUSION

4.1 Results

For a person standing in accessible areas on the ground, calculations for Crown Castle's site resulted in exposure levels below the FCC's most stringent General Population MPE Limits (see figure 2).

At antenna elevation, the highest calculated exposure level is above the FCC's General Population MPE Limits near the Crown Castle antenna(s) (see figure 3). The overexposed (yellow and blue) areas extend 6-feet from the front face of the Crown Castle antenna(s). From the provided drawings, there are no other buildings or surrounding structures within 6-feet of the Crown Castle antenna(s). Beyond 6-feet, exposure levels are predicted to be below the FCC's most stringent General Population MPE Limits.

The antenna(s) are mounted on a tall pole and therefore not accessible by the general public. It is presumed that Crown Castle employees and contractors are aware of the transmitting antenna(s) and will take appropriate precautions when working near them. However, there may be situations where workers i.e. city and utility personnel, etc. may find themselves directly in front of the antenna(s). Individuals working near/in front of the antenna(s) must receive appropriate RF safety training[1] and be made aware of the HotZones (areas where RF exposure may potentially exceed FCC safety limits). In addition, contact information should be made available in the event work is required within the HotZones.

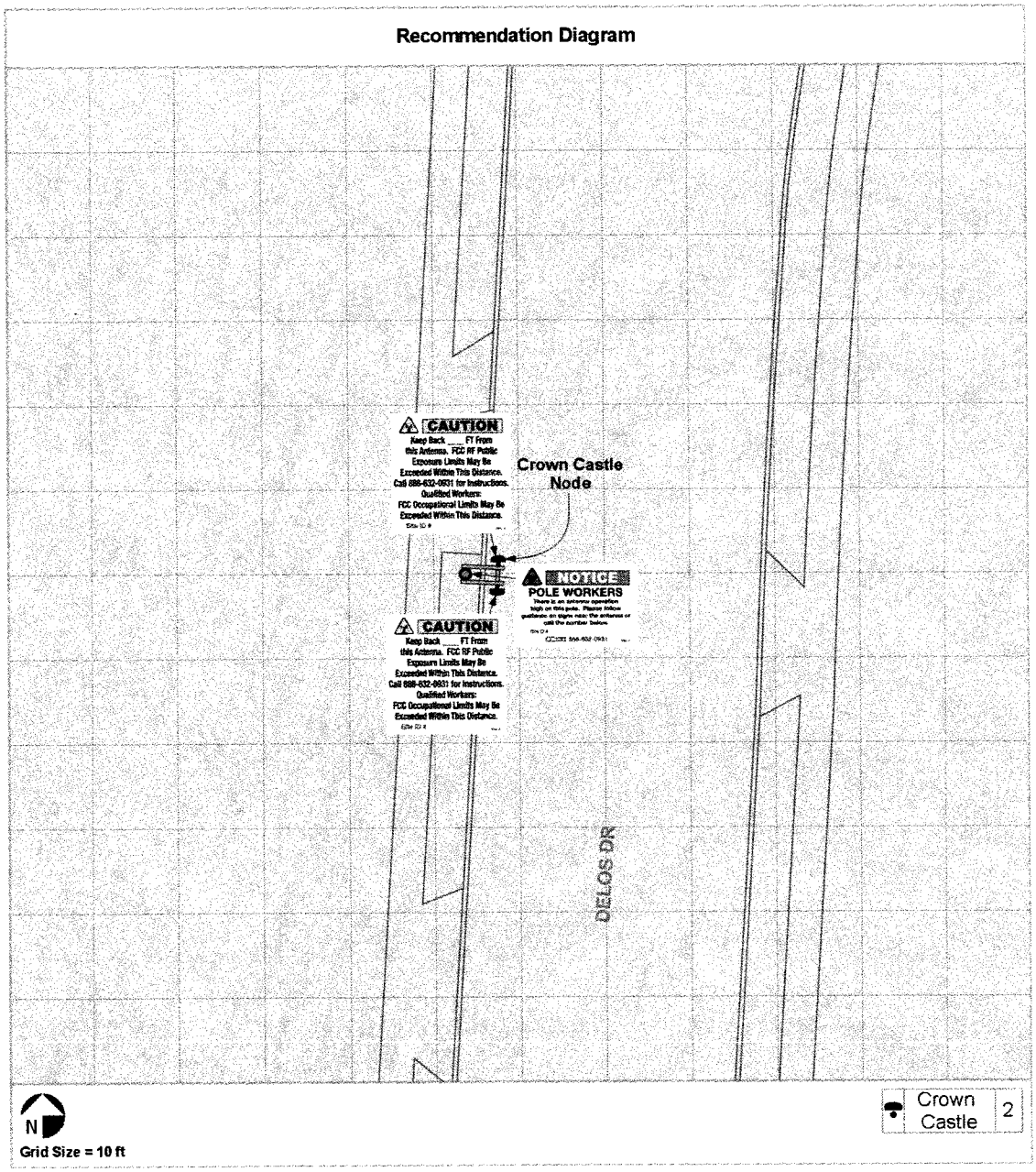
4.2 Recommendation(s)

For the facility to be classified as an Occupational/Controlled environment, the following action(s) are recommended in accordance with the FCC's and Crown Castle's RF Safety Guidelines (see figure 4):

1) Install NOTICE Sign(s) near the bottom of the pole.
2) Install CAUTION Sign(s) on or near the antenna(s).

[1] Dtech Communications' RF Safety training program - AntennaView.com®

Figure 4: Recommendation(s)



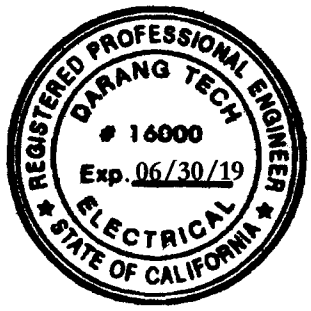
4.3 Statement of Compliance

Based on the above results, analysis and recommendation(s), it is the undersigned's professional opinion that Crown Castle's site will be compliant with the FCC's RF Safety Guidelines provided recommendation(s) are implemented.

4.4 Engineer Certification

This report has been prepared by or under the direction of the following Registered Professional Engineer: Darang Tech, holding California registration number 16000. I have reviewed this report and believe it to be both true and accurate to the best of my knowledge.

Darang Tech, P.E.



Appendix A: Background

Dtech uses the FCC's guidelines described in detail in Office of Engineering & Technology, Bulletin No. 65 ("OET-65") "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields". The table below summarizes the current Maximum Permissible Exposure ("MPE") safety limits classified into two groups: General population and Occupational.

Table 3: FCC MPE Limits (from OET-65)

Frequency (Mhz)	General Population/ Uncontrolled MPE (mW/cm^2)	Averaging Time (minutes)	Occupational/ Controlled MPE (mW/cm^2)	Averaging Time (minutes)
30 - 300	0.2	30	1.0	6
300 - 1500	Frequency (Mhz)/1500 (0.2 – 1.0)	30	Frequency (Mhz)/300 (1.0 – 5.0)	6
1500 - 100,000	1.0	30	5.0	6

General population/uncontrolled limits apply in situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment, and may not be fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment, and those persons have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

It is important to understand that the FCC guidelines specify *exposure* limits not *emission* limits. For a transmitting facility to be out of compliance with the FCC's RF safety guidelines an area or areas where levels exceed the MPE limits must, first of all, be in some way *accessible* to the public or to workers. When accessibility to an area where excessive levels is appropriately restricted, the facility or operation can certify that it complies with the FCC requirements.

Appendix B: Measurement and/or Computer Simulation Methods

Spatial averaging measurement technique is used. An area between 2 and 6 feet, approximately the size of an average human, is scanned in single passes from top to bottom in multiple planes. When possible, measurements were made at very close proximity to the antennas and inside the main beam where most of the energy is emitted. The spatial averaged values were recorded.

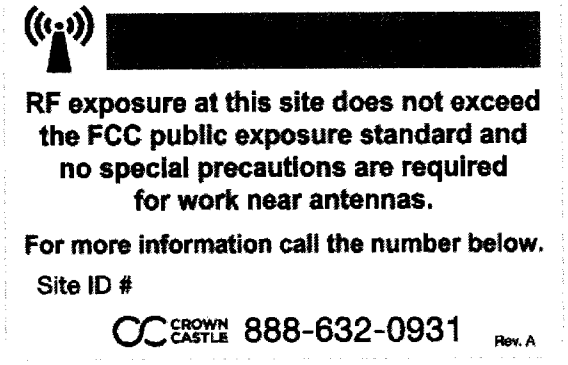
Dtech uses an industry standard power density prediction computer Model[2] to assess the worse-case, cumulative EMF impact of the surrounding areas of the subject site. The Model does not take into account losses due to buildings. Its methodologies are conservative enough to account for typical down-tilts deployed in wireless communications. In addition, the analysis is performed at 100% duty cycle-all transmitters are active at all times and transmitting at maximum power. For purposes of a cumulative study, nearby transmitters are included where possible. The result is a surrounding area map color-coded to percentages of the applicable FCC's MPE Limits. A result higher than 100% exceeds the Limits.

Appendix C: Limitations

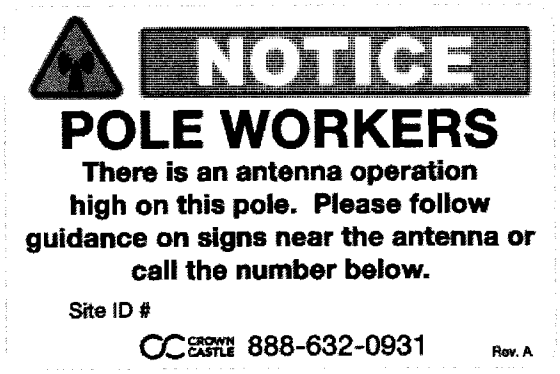
The conclusions in this document rendered by Dtech are based solely upon the information collected during the site survey and/or furnished by our Client which Dtech believes is accurate and correct. Dtech, however, has no responsibility should such Client provided information prove to be inaccurate or incorrect. Third party specification estimates used for cumulative computer simulation purposes, where applicable, are based on common industry practices and our best interpretation of available information. Data, results and conclusions in this document are valid as of its date. However, as mobile technologies continuously change, these data, results and conclusions may also be at variance with such future changes. Dtech has no responsibility to update its survey or report to account for such future technology changes. This document was prepared for the use of our Client only and cannot be utilized by any third party for any purpose without Dtech's written consent. Dtech shall have no liability for any unauthorized use of this document and any such unauthorized user shall defend, indemnify and hold Dtech and its owners, directors, officers and employees harmless from and against any liability, claim, demand, loss or expense (including reasonable attorney's fees) arising from such unauthorized use.

[2] Roofview® Version 4.15, Richard Tell Associates, Inc. © 1996-2000.

Appendix D: Crown Castle RF Advisory Signs



INFORMATION Sign



NOTICE Sign

(Please refer to Table 1 for General Population Keep Back Distance)

CAUTION Sign

Appendix E: Crown Castle Carrier MPE Contributions

Crown Castle	MPE Contribution	
	Ground	Antenna Elevation
Carrier 1 - AT&T	5.5% GP (1.1% OC)	697.0% GP (139.4% OC)

Alternate Locations - ASG17

Map Legend:

- ASG17 Location A: Primary Location Meets coverage objective
- ASG17 Location B: Did not meet coverage objective.
- ASG17 Location C: Did not meet coverage objective.
- ASG17 Location D: Meets coverage objective.
- ASG17 Location E: Did not meet coverage objective.
- ASG17 Location F: Did not meet coverage objective.

Code Requirements and Conditions, if approved:

The following Code Requirements are applicable to the project, if approved:

- A Construction and Excavation Permit (C&E Permit) is required from the Community Development Department, Engineering Permits and Records Division, for any work in the public right-of-way on Delos Drive.
- The traffic control plan(s) shall comply with the MUTCD manual.
- Must comply with TMC Section 92.39.070 regarding submission of RF compliance report.
- Must comply with TMC Section 92.39.090 regarding discontinued use or abandonment of facility.

Recommended Conditions, if Approved:

1. That the use of the subject site for a telecom facility shall be subject to all conditions imposed in SAT17-00025 and any amendments thereto or modifications thereof as may be approved from time to time pursuant to Section 92.39.070 et seq. of the Torrance Municipal Code on file in the office of the Community Development Director of the City of Torrance; and further, that the said use shall be established or constructed and shall be maintained in conformance with such maps, plans, specifications, drawings, applications or other documents presented by the applicant to the Community Development Department and upon which the Telecommunications Committee relied in granting approval;

2. That if this Approval is not implemented within one year after the approval, it shall expire and become null and void unless extended by the Community Development Director for an additional period, as provided for in Section 92.27.1 of the Torrance Municipal Code; (Planning)

3. That ASG Location D of the Alternate Locations (submitted by the applicant) be utilized instead of the proposed location along the right-of-way at 26111 Delos Drive; (Planning)

4. That the facility be revised to a marbelite streetlight design with antenna shroud to conceal the antennas, subject to the approval of the Public Works Department, and be located adjacent to the parking lot of Alta Loma Park; (Planning)

5. That no above ground mounted pedestals be permitted and that all power be fed underground; (Planning)

6. That all requirements provided under Ordinance No. 3058, Section 92.2.8, Satellite Antennas, of the Torrance Municipal Code, Division 9, shall be met prior to the issuance of building permits and/or encroachment permits; (Planning)

7. The permittee shall paint, color or finish all the pole-mounted equipment to match the color of the underlying light pole. The color, texture and material of the replacement pole shall be consistent with the surrounding similar marbelite street light poles in nearby vicinity; (Planning)

8. The permittee shall route all cables, wires, jumpers and connectors internally through the pole and/or conceal them within the antenna or equipment shrouds. In addition, the permittee acknowledges and agrees that a material consideration of the City's approval of this permit is that the pole-top antenna and shroud are approximately the same width as the pole, which creates a streamlined design and concealment element that effectively blends the antenna with the underlying pole; (Planning)

9. The permittee shall install and at all times maintain in good condition an "RF Notice" sign and network operations center sign adjacent to the bottom of the MMS shroud. The signs required

in this condition must be placed in a location where they are clearly visible to a person when he or she approaches the shroud; (Planning)

10. The permittee shall ensure that all RF signage complies with FCC OET Bulletin 65 or ANSI C95.2 for color, symbol and content conventions. All such signage shall provide a working local or toll-free telephone number to its network operations center that reaches a live person who can exert transmitter power-down control over this site as required by the FCC; (Planning)

11. That all pole mounted equipment be painted to match to the satisfaction of the Planning Manager; (Planning)

12. That all cable runs shall be internal to the pole and no exposed cable runs shall be permitted; (Planning)

13. That the antenna and all related equipment cabinets shall be removed if the telecommunications site remains inactive for more than 180 days; (Planning)

14. That at the time of plan check submittal the applicant shall provide an underground utility and infrastructure analysis to the satisfaction of the Engineering Division; (Engineering)

15. That a minimum 10' vertical clearance above public sidewalk surface for proposed antenna and equipment mounted on existing utility pole and a minimum 16' vertical clearance above sidewalk surface for proposed antenna and equipment within 2' or less horizontally of the public street shall be maintained; (Engineering)