CITY OF PIEDMONT 120 VISTA AVENUE PIEDMONT, CA 94611 TEL: (510) 420-3050

FAX: (510) 658-3167

RECEIVED BY KI
DEPOSIT PAID \$70,000
DATE FILED 7 9 19
NUMBER 19 0188
PLANNER PMP
(For staff use only)

## SUPPLEMENTAL APPLICATION FOR: WIRELESS COMMUNICATIONS FACILITIES (WCF) IN PUBLIC RIGHT-OF-WAY



Purpose: In addition to the application for an excavation permit for any work within the public right-of-way, persons applying for a wireless communication facilities ("WCF") permit under the City of Piedmont Municipal Code (the "Code") for the installation and operation of wireless communication facilities in the public right-of-way ("ROW") must also fill out this supplemental application form and submit it (with all necessary information and documentation) at the same time as their excavation permit application for work within ROW. All WCF application forms and materials must be filed and application payment submitted at a meeting that is scheduled one day in advance with the planning department staff and occurs in City Hall. The purpose of the application is to provide a mechanism for an applicant to supply necessary information to the City of Piedmont so that it can review the proposed project for conformance with all applicable regulations and guidelines.

Piedmont Municipal Code Division 17.46 applies to applications for approval of the installation of new or modified wireless communication facilities, including applications previously received by the City but not yet approved, disapproved or conditionally approved by a final city decision, including facilities on private property, public property, and within the ROW.

For additional information regarding application requirements and all other requirements, please review the Piedmont Municipal Code Division 17.46, *Wireless Communication Facilities*, at http://www.ci.piedmont.ca.us/citycode.shtml, and City of Piedmont Public Works Standard Details at http://www.ci.piedmont.ca.us/forms/index.shtml. For questions, contact the Public Works Department at (510) 420-3050. If your response to a question includes attachments, label the attachments as exhibits that reference the Part and Question numbers (e.g. for information requested in Part A, Question 5(a), label the attachment document: "Exhibit A(5)(a)").

Fees:	\$10,000 Initial Deposit (total fee will be equal to the reasonable cost to process)
- L	\$10,000 Initial Deposit, if 3 <sup>rd</sup> party review is required pursuant to 17.46.060
	(the total fee will be equal to the reasonable cost to process)
	\$870 One variance, if applicable
	\$430 Each additional variance, if applicable
	\$ 0 Request for Exception pursuant to Piedmont Code Section 17.46.080.D(2)
-	TOTAL
<b>Project Address:</b>	100 Palm Drive

#### **Application Fees:**

The reasonable cost to process the application will determine the final application fees. You will be charged for any amount not covered by the initial deposit. If the reasonable cost to process the application is less than the initial deposit, you will receive a partial refund of your deposit.

	Three (3) sets of plans drawn to scale must be submitted with this application for an initial staff review for completeness.	
	Eight (8) additional sets of plans may be requested by city staff if this application is to be heard by the Planning Commission and/or the City Council.	
	Please indicate what steps you have taken to discuss this project with City staff prior to submittal, if applicable: Crown Castle & SureSite have had multiple meetings with the City staff to discuss the project.	
Cros	Detailed Description of Proposed Project: Please provide a detailed description, including existing and proposed equipment, intended type(s) of service, transmission and receiving/uplink signal frequencies, radio power, effective radiated power, construction requirements (construction phasing, staging, construction route, equipment to be used, estimated off-haul and/or fill quantities, and duration of construction), variances, and/or exceptions required: Please attach additional pages, as needed.	
	wn Castle is proposing to install a Small Cell wireless facility on wood pole (pole ID-110112788) in the public right of wa	
_	sting 34'-0" utility pole. New pole 45' pole with top of pole of 43'-8.5". Install new 2" schedule 80 power feed riser. Install edule 80 comm riser. Install new (2) db spectra antenna manufacturer: db spectra model: db362-xd3s-m. Install (2) new 24	
-	oud kit pole mounted with (4) ericsson 2203 radios inside. Crown castle fiber at 28'-0". Install new (1) power meter at 7'-0	
	disconnect box at 8'-6". Install new standoff bracket per go95 (typ). Install (n) pr251 western utility telecom pole extension	
	ome. Install new vgr. All equipment will be painted to match pole.	
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# **PART A: Applicant Information:**

Revised April 4, 2019

The applicant shall submit and maintain current at all times basic contact information set forth below. The applicant shall notify City of any changes to the information submitted within fifteen (15) calendar days following any such change. Include the identity, including name, address, email, and telephone number of the owner of the proposed wireless facility, including official identification numbers and FCC certifications and, if different from the owner, the identity of the person or entity responsible for operating the proposed wireless facility:

ame of Commeters	/ireless Provi	ider (e.g. A'l'è	T, Sprint, T	Mobile, V	erizon,	etc.):
Company Name:	Crown Cast	le Fiber LLC				
Contact Person a	at Company:	Sharon James				_
Company Addre	ss:1 Parl	k Place, Ste 300			<u>.</u>	
<u>Ci</u>	ty Dublin			State CA	A Zip	94568
Office phone #:_	408-468-5553		Mobile Phone	#: <u>408-4</u> 2	26-6629	
Fax #:		Email A	ddress: Shar	on.James@c	rowncastle	e.com
oject Applicant (e.g. 1	the wireless p	provider's age	nt or neutral	host carr	ier):	REG
Company Name:	SureSIte					JUL
Contact Person a	it Company:	Joey Acquis	apace			F-Landing to the first
Company Addre	ss: 2033	Gateway Place 5	th floor		<u>-</u>	CHYOF
<u>Ci</u>	y San Jose			State CA	Zip	95110
Office phone #:_		I	Mobile Phone	#: <u>916-</u>	549-6646	
Fax #:		Email A	ddress: j.acq	uistapace@s	ure-site.co	m
Agent's Prof. Lic	:ense #:		Expira	tion Date		
Piedmont Busine (Please contact the	ss License # 6	of Agent:	r Piedmont Bus	Expiratio	n Date:_	ation )
perty Owner Inform						<i></i>
<b>Property Owner</b>	Name: C	City of Piedmont				
Mailing Address:						
Cit	y Piedmo	ont		State CA	Zip	95611
Office phone #:	510-420-3039	<u> </u>	Aobile Phone	#: <u></u>		
Office brone w.			ddress:			

3



# 1. Purpose of Wireless Facility:

Is the servic	proposed wireless communications facility to be used for the provision of "personal wireless es" as defined by 47 U.S.C. Section 332(c)(7)(C)(i) on a sole or comingled basis?
	No. Specify the type(s) of wireless communications services to be provided using the oposed facility:
X	Yes. Specify the type(s) of personal wireless services: Telecommunication Service
2. Ty	pe of Application:
this A	check the applicable box(es) and provide the information required below as an attachment to pplication, along with a written explanation identifying the facts relied upon to support the ed treatment.
	Eligible Facilities Requests. Applicant asserts that the application qualifies as an "eligible facilities request" (EFR) (as defined in 47 CFR § 1.6100(b)(3), or any successor provision). Applicant shall submit the information required in the Application Requirements Part C, Section I below. The applicable FCC shot clock is sixty (60) days.
X	Collocation – Small Cell Facility (Existing Structure). Applicant asserts that the application is being submitted for approval of a Collocation of a Small Wireless Facility, that is, the proposed facility both meets the definition of "small wireless facility" and is a "collocation" (both as defined by 47 C.F.R. § 1.6002). Replacements of existing structures are not "collocations". Applicant shall submit the information required in Part B and the Application Requirements Part C, Section III below. The applicable FCC shot clock is sixty (60) days if application is submitted when FCC 18-133 is in effect.
	Small Cell Facility (New Structure). Applicant asserts that the application is being submitted for approval to deploy a Small Wireless Facility (as defined by 47 C.F.R. § 1.6002(1)) involving placement of a new structure. Replacements of existing structures are considered new structures. Applicant shall submit the information required in Part B and the Application Requirements Part C, Section III below. The applicable FCC shot clock is ninety (90) days if application is submitted when FCC 18-133 is in effect.
	Other Wireless Facility Expressly Permitted by State or Federal Law to be in the ROW. Applicant asserts that the application is being submitted for approval of a type of wireless services facility that applicable state or federal laws expressly permit to be in the City's public rights-of-way. If you checked this box, please attach an explanation of the basis for your assertion, including citations to supporting law, and state what FCC shot clock you assert applies to this application, if any. Submit the information required in the Application Requirements Part C, Sections III and IV below.
	<u>Permit Renewal</u> . Applicant asserts that the application is being submitted for a renewal of an existing wireless encroachment permit or predecessor permit. If you checked this box, please submit a copy of the original permit, any prior renewals or extensions thereof, and the information required in the Application Requirements Section Part C, Section II, below.

Also check the following Exception Request box, if applicable to your application.

	Ap the Re tin	cception Request. Applicant asserts that its application includes an exception request. Oplicant shall include a request for an exception, as set forth in Section 17.46.080.D (2) of the Piedmont City Code, and any additional information required in the Application requirements Part C, Section IV, below. A request for exception may be submitted at a later the if it is determined that the proposed facility, as originally submitted, will not meet the quirements and restrictions of the City Code.
Аp	pli	cation Fees and Deposits:
	scl	oplicant shall pay all applicable fee deposit(s) in the amounts established by the current fee hedule. In the event applicant has pre-paid all or a portion of applicable fees, please clude a copy of the receipt from that transaction.
Fr	anc	hises, Authorizations and Licenses:
	rig	have a complete application, the applicant must have: (a) authorization to use the public thts-of-way; (b) licenses to provide proposed services; and (c) authorization to use the oposed structure <sup>1</sup> .
	a)	Does applicant have an existing franchise or other authorization to place wireless facilities in the public rights-of-way?  □ No.
		If no, the application will be considered incomplete.  ☐ Yes.  ☐ UL 0 9 2019  ☐ PUBLIC WORKS
		If yes, explain source of applicant's right to use the public rights-of-way and submit related documentation.
	b)	Has applicant obtained all applicable licenses or other authorizations to provide the services proposed in connection with the application, whether required by the Federal Communications Commission, California Public Utilities Commission, or any other agency with authority over the proposed services?
		□ No. □ Yes.
		If yes, submit related documentation such as FCC licenses or authorizations, a certificate of public convenience and necessity or a wireless identification registration (WIR) from the California Public Utilities Commission.
	c)	Is proposed wireless facility to be attached to a structure owned or controlled by a third party (not the owner of the proposed wireless facility)?
		□ No. □ Yes.
		If yes, identify the owner as one of the following:  ☐ The City ☐ Other:
		If you selected <i>Other</i> in question 4(c), provide a copy of the authorization or license to use the structure.

3.

4.

	11 )	ou selected the City, select one of the following:	:		
	x	I have a master license or other agreement with a [If you check this box, provide the document.]	the Ci	ity for use of	the facility.
		I have no license or other agreement, but I am ag [If you check this box, the application must be p or proof of payment of required fees.]	applyir provid	ng/have applic ed, along wit	ed for one. h payment
		By checking this box and signing below, you wireless communication facilities permit applie or other agreement to use the City facility and any deadline for action on that application will application is submitted; and that this wireless incomplete until and unless a complete application submitted to the City <sup>1</sup>	ed for d must ll not l lless p	is not a substance begin to run begin to run permit applic	titute for a license y applied for; that until the complete ation will remain
		Agreed:	_ Date	e:	
5. Existin	g F	acilities:			
If the projecthat apply:	ct i	s an "upgrade" to an existing facility, please iden	ntify a	ny of the follo	owing descriptions
	a)	Replacement of antenna(s):	Yes	□ No	number
	b)	Addition of antenna(s):	Yes	□ No	number
1	c)	Replacement of feed line(s):	Yes		number
1	d)	Addition of feed line(s) and/or risers:	Yes		number
	e)	Replacement of ground-mounted equipment:	Yes		number
:	f)		Yes		number
;	g)	Changes to access, parking, or landscaping:	Yes		
		Increase in the height of freestanding tower:			
:			Yes [		MEGIETA
:	j)	Changes to conceal or camouflage exterior:			
Ī	k)	Changes to, or new, excavation or boring:	Yes i		JUL 09 2019
	l)	Other (describe):			PUBLIC WORKS
					CITY OF PIEDMON
6. High Fi	re-	Threat District:			
Is the	ie j	proposed wireless facility in a High Fire-Threat tent version of the California Public Utility Comr	t Distr ımissic	rict (HFTD) ( on Fire-Threa	as demarcated on the Map)?
!	X	No. Yes.			-,
]	lf y	ou answered yes to this question, please answer t	the fol	lowing:	
	Ide	entify the structure or proposed structure on which owner of the structure:	ch the	facility will b	e attached, and

<sup>&</sup>lt;sup>1</sup>We encourage informal discussions with respect to use of City-owned or City-controlled facilities prior to filing an application.

	b)	Check one of the following:
		☐ The facility is being installed on a structure that applicant contends is, or will be, under the jurisdiction of General Order 95 ("GO 95"), or GO 165, or GO 166.
		The facility is NOT being installed on a structure that applicant contends is, or will be, under the jurisdiction of General Order 95 ("GO 95"), or GO 165, or GO 166.
		i. If the facility is being installed on a GO 95, 165, or 166 structure, attach sworn statements by qualified experts attesting to: (1) the specific HFTD in which the wireless facility will be located; (2) whether the structure has been inspected by qualified experts for compliance with all applicable General Orders; (3) whether the structure, any existing facilities, and any planned structures and facilities would comply with standards for placement on structures in an HFTD; and (4) whether all required Fire Prevention Plans are in place. If existing or proposed structures or facilities are or will be non-compliant in any respect, the application shall identify steps proposed to ensure the structure and existing and proposed facilities are compliant.
		ii. If the facility is NOT being installed on a GO 95, 165, or 166 structure, submit sworn statements by qualified experts attesting to: (1) the specific HFTD in which the wireless facilities will be located, as demarcated on the current version of the California Public Utility Commission Fire-Threat Map, if applicable; (2) a description of the steps the applicant has taken to reduce hazards to public safety, including fire safety hazards, that may be caused by the proposed wireless facility; and (3) the steps applicant proposes to take to maintain the safety of the wireless facility, which steps shall be at least as rigorous as if GO 95, 165, and 166 applied.
7.	Heigh	
	antenna (	the maximum height (measured from lowest adjacent grade) of the new or replacement, pole and/or equipment? 43 feet 8.5 inches  Please be aware of the maximum height from grade for each zone in which the vireless communication facility is located, including existing structures or acilities to which the antennae are proposed to be mounted.)
8.		rnia Environmental Quality Act (CEQA):
	If yes,	
		Section 15301(b)
		JUL 09 2019

PUBLIC WORKS CITY OF PIEDMONT

# PART B: PERSONAL WIRELESS SERVICES FACILITIES

(Respond To Relevant Sections and Mark "Not Applicable" All That Do Not Apply)

1.	Is the proposed wireless communications facility part of a distributed antenna system ("DAS")?				
		wledge that all applications for wireless sing the DAS must be submitted contemporaneously.]			
	Agreed:	Date:			
2.	additional permits, approvals, or a required for any work within the box facilities which you contend must circumstances) no later than by the sapplication. It is your responsibility regulations applicable to the deploy identify every Ancillary Permission deployment. The failure to conduct Ancillary Permissions may be groun incomplete. For example, if the wire historical review would be required required for that review must be identification.	onnection with this project, identify any and all greements ("Ancillary Permissions") that will be undaries of the City in order to deploy the wireless at be issued (absent agreement or exceptional ame time the City must take action on the wireless to review Code and policies and other state or FCC ment of the wireless facility within the City and in that will be sought in conjunction with that it the investigation and to accurately identify all ands for denying the application or for declaring it eless facility would be placed on a structure where at the state, federal or local level, the applications diffied. Please check whether the work proposed will see.			
	<ul> <li>a) _x Building Permit</li> <li>b) _x Traffic Control Permit</li> </ul>	JUL 09 2019			
	c) Excavation Permit				
	d) Tree Removal Permit	PUBLIC WORKS CITY OF PIEDMONT			
	e) Other(s). Identify:				
	follows by signing below: "I agree submitted in response to Question 3 ( Permissions, any deadlines for action of those applications, and not from the	all Ancillary Permissions now, you may agree as that, except for those applications identified and below) separately for any and all required Ancillary on any Ancillary Permissions will run from the date to date of this application; and that no work may be cation be granted, or granted subject to conditions,"			
	Agreed:	Date:			
3.		ntifies that Ancillary Permission you seek now, and ion, include the following completed checklist:			
	☐ I have the required permit. [If you	check this box, attached the required permit.]			
		ng or have applied for one. [If you check this box, and all fees or proof of fee payment provided.			

## PART C: DETAILED APPLICATION REQUIREMENTS

The information required to be included in your application is dependent upon whether it is an eligible facilities request, a renewal of an existing permit, or any other application type. Please reference the appropriate section below for your application type to read a detailed list of its requirements. A detailed description of the submittal requirements is provided in the Appendix.

- I. ELIGIBLE FACILITIES REQUESTS: For an application asserted to be an eligible facilities request, the application must provide the following information:
  - 1. Cover Sheet
  - 2. Location and Zoning Information
  - 3. Description of the Proposed Project
  - 4. Prior Approvals / Permits and Plans
  - 5. Existing Site Plan and Proposed Site Plan
  - 6. Elevation Drawings (preferred scale  $\frac{1}{4}$ " = 1')
  - 7. Site Photograph(s)
  - 8. Visual Impact and Sightline Analysis
  - 9. Noise Study
  - 10. FCC Radio Frequency Standards Report
  - 11. Structural Analysis Report
  - 12. Existing and Proposed Equipment Schedule (Microsoft Excel spreadsheet)
  - 13. CPUC Determination of CEQA status, if applicable
- II. RENEWAL REQUESTS: For a renewal of an existing permit, the application must provide the following information:
  - 1. Cover Sheet
  - 2. Location and Zoning Information
  - 3. Description of the Project for Renewal
  - 4. Prior Approvals/Permits and Plans
  - 5. Site Plan
  - 6. Elevation Drawings (preferred scale  $\frac{1}{4}$ " = 1')
  - 7. Facility Plan and Photograph(s)
  - 8. Noise Study
  - 9. FCC Radio Frequency Standards Report
  - 10. Structural Analysis Report



- 11. Notice and Affidavit
- 12. Equipment Schedule (Microsoft Excel spreadsheet)
- 13. CPUC Determination of CEQA status, if applicable
- III. ALL OTHER APPLICATIONS: For all other types of applications, the following must be provided:
  - 1. Location and Zoning Information
  - 2. Description of the Proposed Project
  - 3. Prior Approvals/Permits and Plans
  - 4. Existing Site Plan and Proposed Site Plan
  - 5. Elevation Drawings (preferred scale ¼" = 1')
  - 6. Landscape Plan
  - 7. Site Photograph(s)
  - 8. Visual Impact and Sightline Analysis
  - 9. Noise Study
  - 10. FCC Radio Frequency Standards Report
  - 11. Structural Analysis Report
  - 12. Notice and Affidavit
  - 13. Justification for Location/Collocation
  - 14. Existing and Proposed Equipment Schedule (Microsoft Excel spreadsheet)
  - 15. Full-scale Mock-up(s)
  - 16. CPUC Determination of CEQA status, if applicable

# IV. EXCEPTION REQUEST [if applicable]

Pursuant to Section 17.46.080.D (2) of the Piedmont City Code, an applicant may apply for an exception to the standards for wireless communication facilities. If the applicant contends that the City is required by federal or state law to approve the facility, the applicant must submit the information it relies upon to support that claim, identifying: (i) the legal standard(s) it claims applies; and (ii) the showings it relies upon for its claim(s). Applicants are cautioned that, if the City believes that applicant misapplies or relies on the wrong legal standard, the exception (and consequently the application) may be denied.



# PART D: CERTIFICATION (ALL APPLICANTS)

My signature below signifies that I:

• •		
Con	ve read and provided all applicable information per this Supplemental Ammunications Facilities, including the information listed in P. PLICATION REQUIREMENTS and the Appendix).	
and	re reviewed the legal description on the property deed and indicated deed restrictions on the submitted site plan (Please provide a dements and restrictions that were indicated on the property deed of the	lescription here of the
• bel:	ieve the information provided in this application is accurate to the best of	of my knowledge.
rea: pro rea:	aware that my initial deposits of \$10,000 (exclusive of variance fe sonable cost to process this application and that additional deposits may vide additional deposits if they are required. I am aware that the sonable costs to cover the processing of this application from the dised money remaining after action has been taken on the project, will be	y be required. I agree to c City will deduct the leposit(s), and that any
pro	aware that City staff, Planning Commissioners, and/or City Council Merty to view proposed construction. (Please note any special instruction property such as gates, alarms, etc.)	
witi con be 1	derstand that if this application is approved, a building permit and/or exhin one year from the approval date) is required for construction and the numence prior to the issuance of the building permit and/or excavation permade without City approval, and changes may require a new application TRE OF PROPERTY OWNER / LEASE HOLDER:	nat no construction may permit. No changes may n.
		JUL 09 2019
Print Name	Signature	Date OF PIEDWON
SIGNATU	RE OF WIRELESS SERVICE PROVIDER'S AUTHORIZED R	EPRESENTATIVE:
Print Name	Signature	Date
applicant is	<u>UTHORIZATION:</u> This authorization must be signed by the wireless not the wireless service provider. This authorization also permits Corvice Provider its agent, if necessary.	
I authorize	Joey Acquistapace to a	act as my agent in the

date

processing of all matters pertaining to this application.

SIGNATURE OF PROPERTY OWNER / LEASE HOLDER:\_

#### PART E. Applicant's Wireless Communications Facilities Findings:

The following information is required from all applicants.

Please describe how the proposed project meets the following summarized Wireless Communications Facilities Development Standards outlined in Section 17.46.070 of the City's Municipal Code. *Attach additional pages as necessary*. If an exception is requested pursuant to Section 17.46.080.D (2), please note the exception request in the application form below.

a)	New wireless communications facilities must be collocated with existing facilities and with other planned new facilities whenever feasible. Please note that §17.46.070.A.1 states "A new wireless tower must be designed and constructed to accommodate future collocation(s) unless collocation would be infeasible because of physical or design issues specific to the site." (Indicate whether the proposed facility will be collocated with another facility. If it will not, comment on the feasibility of collocation and indicate what measures have been taken to attempt to collocate the facility with another facility. Additionally, indicate the aesthetic benefits and drawbacks of the proposed facility.):
	Crown Castle approves this location as eligible for collocation with other carriers.
b)	No wireless communication facility may exceed 35 feet in height, measured from the ground to the highest point of the wireless communication facility, unless the zoning district in which the wireless communication facility is located expressly provides a higher height limit, or an exception pursuant to Section 17.46.080.D(2) is requested and granted. Ground mounted wireless communication equipment, base station, antenna, pole, or tower must be the minimum functional height, unless a variance or exception is granted. Roof mounted equipment and antennas must be located to minimize visibility. (Indicate the height of any ground mounted equipment, antennas, poles or towers and explain why the proposed heights are required.):
	The existing pole is 36' and after installation of antenna and equipment node the height will be 43' 8.5". All other equipment
	be mount 9' on utility pole.
	JUL 09 2019
	DIDUIC WORKS

c) Wireless communication facility(ies) must be designed to minimize visual impacts. When feasible, the facility(ies) must be concealed or camouflaged. The facility(ies) must have a non-reflective finish and be painted or otherwise treated to minimize visibility and the obstruction of views. The facility(ies) may not bear signs, other than certification, warning, emergency contacts, or other signage required by law or expressly required by the City. (Describe the materials and finishes of the equipment,

	Antenna node and materials and finish will be durable and non-reflective and will minimize the potential visual impacts.
	Equipment to be painted to match and to satisfaction of city engineering staff.
d)	A wireless communication receiving and transmission facility may not adversely affect the public health, peace and safety. (Indicate any measures proposed to address the public health, peace and safety.):
	Crown Castle performs an EME study that will comply with the all FCC regulations. This project will have no adversely af
	the public health, peace and safety.
e)	A wireless communication facility located in the public right-of-way may not cause: (i) physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or
e)	
	physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or (ii) inconvenience to the public's use of the right-of-way. Equipment, walls, and landscaping located above grade must be at least 18 inches from the front of the curb and not interfere with the public's use of the right-of-way (Indicate conformance to Public Works Standard Details, including standard sidewalk width requirements and ADA
Th	physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or (ii) inconvenience to the public's use of the right-of-way. Equipment, walls, and landscaping located above grade must be at least 18 inches from the front of the curb and not interfere with the public's use of the right-of-way (Indicate conformance to Public Works Standard Details, including standard sidewalk width requirements and ADA requirements).  It is site is located on an existing power utility pole. The equipment box will be located 9' mounted to utility pole. No equipment located on the public sidewalk. Pole mounted equipment will have no affect on traffic or pedestrans use of the public
Th wi	physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or (ii) inconvenience to the public's use of the right-of-way. Equipment, walls, and landscaping located above grade must be at least 18 inches from the front of the curb and not interfere with the public's use of the right-of-way (Indicate conformance to Public Works Standard Details, including standard sidewalk width requirements and ADA requirements).  ———————————————————————————————————
The wing side EM	physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or (ii) inconvenience to the public's use of the right-of-way. Equipment, walls, and landscaping located above grade must be at least 18 inches from the front of the curb and not interfere with the public's use of the right-of-way (Indicate conformance to Public Works Standard Details, including standard sidewalk width requirements and ADA requirements).  Is site is located on an existing power utility pole. The equipment box will be located 9' mounted to utility pole. No equipment be placed on the public sidewalk. Pole mounted equipment will have no affect on traffic or pedestrans use of the public ewalk. Materials and finish will be durable and non-reflective and will minimize the potential visual impacts. See attached RI
The wing side EM	physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or (ii) inconvenience to the public's use of the right-of-way. Equipment, walls, and landscaping located above grade must be at least 18 inches from the front of the curb and not interfere with the public's use of the right-of-way (Indicate conformance to Public Works Standard Details, including standard sidewalk width requirements and ADA requirements).  It is site is located on an existing power utility pole. The equipment box will be located 9' mounted to utility pole. No equipment be placed on the public sidewalk. Pole mounted equipment will have no affect on traffic or pedestrans use of the public ewalk. Materials and finish will be durable and non-reflective and will minimize the potential visual impacts. See attached RI firstudy for frequency hazard.  Indicate whether the facility will comply with all applicable federal, state, and local laws
The wing side EM	physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or  (ii) inconvenience to the public's use of the right-of-way. Equipment, walls, and landscaping located above grade must be at least 18 inches from the front of the curb and not interfere with the public's use of the right-of-way (Indicate conformance to Public Works Standard Details, including standard sidewalk width requirements and ADA requirements).  Is site is located on an existing power utility pole. The equipment box will be located 9' mounted to utility pole. No equipment be placed on the public sidewalk. Pole mounted equipment will have no affect on traffic or pedestrans use of the public ewalk. Materials and finish will be durable and non-reflective and will minimize the potential visual impacts. See attached RI fr study for frequency hazard.  Indicate whether the facility will comply with all applicable federal, state, and local laws



#### PART F: Applicant's Wireless Communications Facilities Priority for Location Findings:

The following information is required from all projects located in Zones A, B, C, D and E, projects in or on publicly-owned facilities, and projects in the public right-of-way.

Please describe how the proposed project meets the following summarized Wireless Communications Facilities Development Standards outlined in Section 17.46.040 of the City's Municipal Code. If an exception is requested pursuant to Section 17.46.080.D (2), please note the exception request in the application form below.

a)	is	his finding is pre-empted in the public right-of-way by the FCC Declaratory Ruling and Third Report and Order, sued in In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure avestment; Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, WT Docket No. 17-79, adopted on September 26, 2018.					
b)	The proposal sa above. Please co	ntisfies each of the applicable development standards in se	ction 17.46.070				
	Yes						
	•						
c)	17.46.040(A)(1) owned property	has evaluated and met the priority for location standard, because the facility will be located in the public right-of-v in Zone B, or on publicly-owned facilities in any other zon way. <i>Please comment:</i>	ay, on publicly				
	There are no viab	There are no viable options in Zone B to cover zone A because of the Piedmont topography. Therefore, the					
	equipment is plac	ed on an existing public utility infrastructure.	ECENVE III				
			<del>JUL 09 2019</del>				
		Cl	TY OF PIERMONT				

d) The proposed design is consistent with City of Piedmont Design Guidelines, including General Plan policies regarding wireless communication facilities and the Public Works Standard Details for the public right-of-way. *Please comment:* 

Yes. This project was designed using the design standards and guidelines.
reasonably feasible, and the applicant has submitted a statement of its willingness or not to allow other wireless service providers to collocate on the proposed facility. <i>Please comment:</i>
Crown Castle has agreed to allow collocation at this location.

The development standards in 17.46.070 shall be fully considered. Please make sure you have completed the Findings in Part E of this application form.



# PART G: Applicant's Variance Findings:

The following information is required from all projects that require a variance, if applicable.

In order for the Planning Commission to approve an application for a variance, required findings must be made. Please describe how the proposed project meets the variance criteria of Section 17.70 of the City's Municipal Code.

a)	The property and existing improvements present unusual physical circumstances of the property (including but not limited to size, shape, topography, location and surroundings), so that strictly applying the terms of this chapter would keep the property from being used in the same manner as other conforming properties in the zone; Describe specific, unique problems with the property, such as location, surroundings, mature trees, natural obstacles or formations, and explain why the improvements cannot be made in conformity with codes and regulations:
b)	The project is compatible with the immediately surrounding neighborhood and the public welfare; and Explain why, without the variance, the property cannot be used in the same manner as others in the same zone, and explain how the variance will not give the property an advantage over others in the same zone:
c)	Accomplishing the improvement without a variance would cause unreasonable hardship in planning, design, or construction. Unreasonable hardship" for purposes of this subsection refers to the unusual physical characteristics of the underlying lot and existing improvements on the lot which prohibit development of the lot in a manner consistent with lots conforming to City standards. "Unreasonable hardship" shall not refer to any conditions personal to the applicant. Please describe the hardship(s) inherit to this property:
	DECEUVIETO JUL 09 2019
	CITY OF PIEDWICK!



#### RE: CROWN CASTLE WIRELESS COMMUNICATIONS FACILITIES IN PUBLIC RIGHT-OF-WAY

Crown Site: CA-PHS16m

Address: 100 Palm Drive. Piedmont, CA

Applicant: Crown Castle Fiber LLC / SureSite Consulting

#### **ENGINEER:**

Mountain LTD
Mike Rivera
19 Yarmouth Dr. Ste. 301
New Gloucester, Maine 04260



#### **Project Description and Statement**

Crown Castle is proposing to install a Small Cell wireless facility on an exsiting pole in the PROW. Crown Castle is proposing to install a Small Cell wireless facility on wood pole (pole ID-110112788) in the public right of way. Top of existing 34'-0" utility pole. New pole 45' pole with top of pole of 43'-8.5". Install new 2" schedule 80 power feed riser. Install new 4" schedule 80 comm riser. Install new (2) db spectra antenna manufacturer: dbspectra model: db362-xd3s-m. Install (2) new 24" ak009a shroud kit pole mounted with (4) ericsson 2203 radios inside. Crown castle fiber at 28'-0". Install new (1) power meter at 7'-0". Install (1) new disconnect box at 8'-6". Install new standoff bracket per go95 (typ). Install (n) pr251 western utility telecom pole extension w/14 1/4" radome. Install new vgr. All equipment will be painted to match pole. This project will provide telecommunication service to the surrounding Piedmont area.

Crown Castle has agreed to allow co-locations at this facility for future carriers. The exsting pole is 30'6" and after installation of antenna and shroud the top of the pole will be 33'1". Max height is 35' so we are within height limits. The proposed Base Station is 4 feet above ground level. The equipment on the pole will be painted to match the wood and will be compatible with other poles in the area. The installation will not adversely affect abutting and surrounding neighborhoods and will have no effect on traffic.

All construction activities comply with the recommendations of the arborist report as it pertains to protection of the existing trees, shrubs, and root systems related. Construction crew to follow procedures entailed within report to ensure no damage will occur per the arborist notes. All landscaping will be restored to original condition to the satisfaction of the city inspector. The proposed facility will use existing electrical and telephone services, which are readily available to the site. No nuisances will be generated by the proposed facility, nor will the facility injure the public health, safety, morals or general welfare of the community. The technology does not interfere with any other forms of communication devices whether public or private.

Crown Castle is a public utility that is authorized by the FCC and the California Public Utilities Code § 7901 that grants a statewide franchise to telephone corporations to place telephone equipment in the public rights of way. Site is in compliance with FCC standards. Crown Castle performs an EME study will comply with the prevailing standards for limiting public exposure to radio frequency energy and will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. Crown Castle's finding are consistent with measurements of actual exposure conditions taken at other operating nodes. Trained authorized personnel and posting explanatory signs are proposed in compliance with occupational exposure limits.

The site of the proposed facility is located in a public right-of-way. This particular location falls within Zone A, and is not preferred by the City. As a follow up to material noted in our application, it is impossible to cover "Zone A" from "Zone B", due to the topography of the area, or without placing a number of highly visible "macro" sites (large monopoles or monopines) surrounding the area which would "send in" a signal, but these would be highly visible and not



provide the service intended. It is also important to mention, we are a 'telephone corporation' (Section D, section D.1, D.3 when applicable). We are utilizing existing utility infrastructure which is design specifically of a "minimum functional height', while placing a Macro site in Zone B would require a much larger (taller) structure with an antenna array consistent with a typical macro site seen throughout the Bay Area. These "small cell" facilities as designed are only intended to cover a small area, and this design presented to the City of Piedmont and its residents presents the least visual impact possible. The sites (also referred to as nodes) are strategically placed throughout the City to enhance cellular coverage, but moving them, or placing them in different "zones" we would jeopardize the overall network.

Crown Castle provides telecommunications services to wireless carriers. It does so via telecommunications networks installed in the public rights of way that integrate elements including fiber optic cables as well as personal wireless services facilities, such as antennas and related equipment.

Crown Castle NG West LLC ("Crown Castle") is submitting the accompanying complete application to install its telecommunications network facilities in accordance with your code, ordinances and regulations. Please be advised the Federal Communications Commission (FCC) has adopted Rules and Regulations that impact how you must process this application. In addition, state law also limits your regulation of Crown Castle's access to the public rights of way.

Pursuant to the California Public Utility Commission, Crown Castle has been granted a certificate of public convenience and necessity ("CPCN"). As a result, Crown Castle must be granted access to the public rights of way in the same manner and on the same terms applicable to other certificated telecommunications providers and utilities.

- 1. Street use permit shall be obtained by contractor prior to commencing work.
- 2. All work to be conduced in the right of way.
- 3. All disturbed landscaping shall be replaced to similar existing conditions.
- 4. Any sidewalk closure shall be coordinated with the city and proper signing will be placed.
- 5. No materials or equipment shall be stored on private property or block access to private property.
- 6. Cleanup of site will be completed each evening and the site will be returned to existing conditions at the completion of construction.

#### The Following Equipment Will Be Installed:

- INSTALL NEW 2" SCHEDULE 80 POWER FEED RISER
- INSTALL NEW 4" SCHEDULE 80 COMM RISER.
- INSTALL NEW (2) DB SPECTRA ANTENNA MANUFACTURER: DBSPECTRA
- MODEL: DB362-XD3S-M
- INSTALL (2) NEW 24" AK009A SHROUD KIT POLE MOUNTED WITH (4) ERICSSON 2203 RADIOS INSIDE.
- CROWN CASTLE FIBER AT 28'-0"
- INSTALL NEW (1) POWER METER AT 7'-0"
- INSTALL (1) NEW DISCONNECT BOX AT 8'-6".
- INSTALL NEW STANDOFF BRACKET PER GO95 (TVP)
- INSTALL (N) PR251 WESTERN UTILITY TELECOM POLE EXTENSION W/14 1/4" RADOME
- INSTALL NEW VGR.







JUL 09 2019

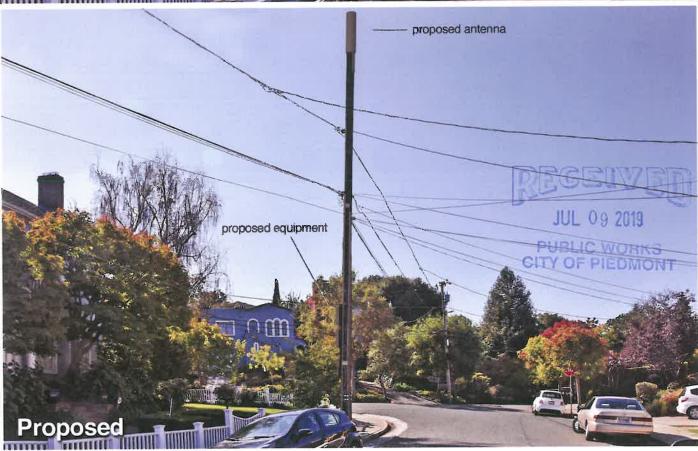




Piedmont High School Site # CA-PHS16

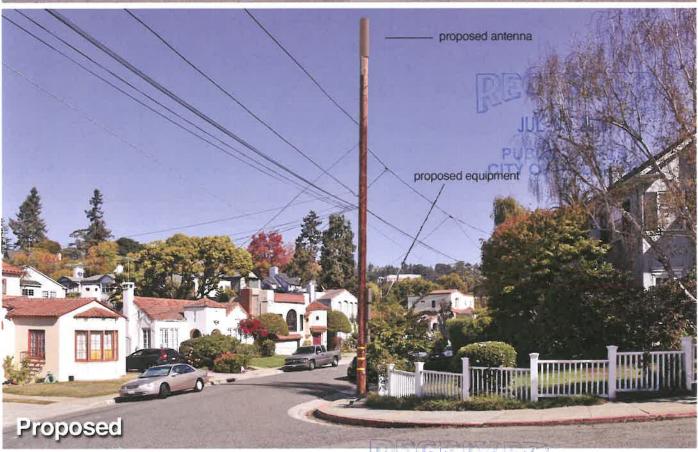
**Aerial Map** 













Piedmont High School Site # CA-PHS16 100 Palm Drive

Piedmont, CA

JUL 09 2019

View #2 Applied Imagination 510 914-0500

Looking Northeast from Palm Drive



July 3, 2019

Michael Miller Crown Castle 1 Park Place Suite 300 Dublin, CA 94568

Subject:

Arborist Report – Location CA-PHS16 Small Cell Wireless project, Piedmont CA

Dear Mr. Miller:

Crown Castle is proposing to install small cell wireless communications devices at 19 locations in Piedmont. HortScience | Bartlett Consulting (Divisions of the F. A. Bartlett Tree Expert Co.) was asked to prepare **Arborist Reports** for each of the 19 locations to meet the City of Piedmont requirements. This letter responds to that request.

#### Overview

The proposed new antenna installations would either use existing city street light poles or power poles or install new poles that will support the antenna. Some sights require installation of an underground vault that will hold equipment. Trenching between the pole/antenna and the vault, as well as between the vault and nearby utility poles, may be required where a vault is installed. At this location, the antenna measures 3' tall by 8" across.

Potential impacts to trees (including both City street trees and trees on private property) would be associated with 1) trenching between the vault and the pole, and 2) installation of new light/utility poles. Trenching may sever roots and equipment working in close proximity to trees may damage trunks and/or require pruning of tree crowns to provide clearance. New poles must be lifted from a horizontal to vertical position which may also damage tree trunks and require pruning ahead of pole installation and/or following pole installation, if branches are damaged.

#### **Description of Site and Trees**

Site CA-PHS16 is located in front of 100 Palm Dr., just east of the corner of Wildwood Avenue. An existing utility pole was located in the planting strip between the curb and sidewalk, which will be replaced and the new pole will be used to support the wireless antenna and equipment.

Tree #1 was a Japanese flowering cherry (*Prunus subhirtella*) located in the front yard of the 100 Palm Dr. property, southwest of the existing utility pole. The approximate location of tree #1 is shown on the *Tree Assessment Plan* (see attachments).

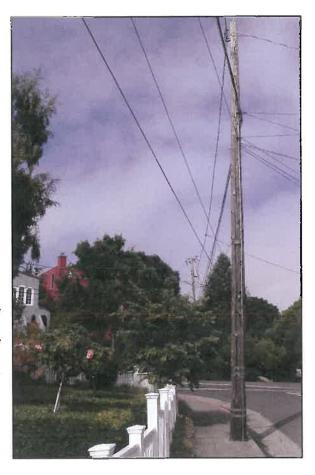


Tree #1 was a young tree, with an estimated trunk diameter of 6". It was in excellent condition (rated a 5 on a scale of 0 to 5, where 0=dead and 5=excellent), with good form (**Photo 1**).

The distance between tree #1 and the existing utility pole was measured at approximately 9'.

The crown was measured at 5' to the northeast.

Photo 1: Looking west at flowering cherry #1. The tree was located in the front yard of the 100 Palm Dr. property, approximately 9' southwest of the existing utility pole. The crown extended approximately 5' to the northeast.



#### **Evaluation of Impacts**

At this location, the existing 45' utility pole will be replaced with a new 55' pole, with 7.5' below ground and 47.5' above ground. A 3' antenna and related equipment would be mounted at approximately 48' and extend to 53' above the ground. All the other necessary equipment would be attached to the pole. No vaults or trenching are proposed at this site.

Based on my assessment of the plans, tree #1 would be outside the impacts associated with installing the new utility pole. No canopy or root pruning of tree #1 is anticipated and I recommend the tree be preserved.

#### Summary

I evaluated the possible impacts to a Japanese flowering cherry tree from installing a new 55' utility pole, 3' antenna and associated wireless telecommunications equipment at site CA-PHS16, in Piedmont CA. No vaults or trenching are proposed at this site.

In this case, tree #1 is considered outside the impacts from the proposed pole replacement and antenna installation. No canopy or root pruning of tree #1 is anticipated. Preservation of trees is predicated on adhering to the *Tree Protection Guidelines* that follow.

JUL 09 2019

PUBLIC WORKS CITY OF PIEDMONT

#### Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken, and the construction methods.

The following recommendations will help reduce impacts to trees from the proposed construction and maintain and improve their health and vitality through all phases of the process.

- 1. The demolition contractor shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.
- 2. Where fencing is not an option, protect tree trunks from incidental damage during demolition by wrapping the trunks of street trees to a height of 8' with straw wattle and orange snow fencing to provide a visual cue and protection from incidental contact. As an alternative, you can stack and secure hay bales around the trunk to a height of 8 feet.
  - The TREE PROTECTION ZONE shall be defined by the limit of the dripline in all directions.
- 3. Damage to tree(s) or unauthorized removal is subject to replacement or fine equal to the estimated value of the tree.
- 4. No materials, equipment, vehicles, spoil, waste or wash-out water may be deposited, stored, or parked within the TREE PROTECTION ZONE.
- 5. Where needed, prune trees to be preserved to clean the crown and to provide clearance. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).
- 6. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.
- 7. Demolition of existing improvement such as pavement shall use appropriate size equipment to perform the task and protect the tree from damage. Equipment shall be sited outside the TREE PROTECTION ZONE. Pull spoil and debris away from the trees. If necessary, tie back branches and wrap trunks with protective materials to protect from injury as directed by the Consulting Arborist.
- 8. Excavation shall not tear or rip tree roots 2 inches or greater in diameter. As the operator encounters tree roots, excavation should stop while the root is exposed by hand and cut cleanly at the edge of excavation.
- Demolition personnel shall not prune trees to provide clearance. If pruning is needed, a qualified arborist shall perform the task at the direction of the Consulting Arborist.



Please contact me if you have any questions regarding my observations or recommendations.

Sincerely,

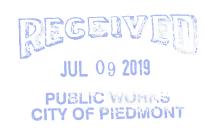
John Leffingwell

Board Certified Master Arborist WE-3966B

Registered Consulting Arborist #442

Attached:

Tree Assessment Map



Petaluma, CA



# RF EMISSIONS COMPLIANCE REPORT

**Prepared for:** 

Site:

Crown Castle 695 River Oaks Pkwy San Jose, CA 95134 CA-PHS16 (3ft Antenna, 2 panels, Radio 2203)
100 Palm Drive
Piedmont, CA 94610

# June 17, 2019 This site will be in compliance with FCC Regulations and MPE Limits:

Crown Castle Is 0.032% of General Population (GP) Limit (0.006% of Occupational (Occ) Limit)

#### Certification

I have reviewed this RF Emissions assessment report and believe it to be both true and accurate to the best of my knowledge.



Analysis completed using Waterford's NIERTool<sup>®</sup> software

Only clients and client representatives are authorized to provide input data through the Waterford web portal. In securing that authorization, clients and client representatives warrant the accuracy of all input data. Waterford Consultants, LLC attests to the accuracy of the engineering calculations. Waterford also attests that the results of those engineering calculations are correctly summarized in this report.

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#### RF EMISSIONS COMPLIANCE STATEMENT

Site: CA-PHS16 (3ft Antenna, 2 panels, Radio 2203) 100 Palm Drive Piedmont, CA 94610

#### **Compliance Statement**

Subject site COMPLIES with Radiofrequency Radiation Exposure Limits of 47 C.F.R. §§ 1.1307(b)(3) and 1.1310.

#### **Ground Level Site Summary**

Predicted cumulative RF power density at ground level as a percentage of the FCC General Population limits. This result is the sum of the maximum ground level MPE for each RF emitter by band of operation. Sites below 100% are in full compliance.

Source	Predicted Power [	Density, % of Limit (GP)
Crown 2100	MHz	< 1 %
Crown 1900 MHz		< 1 %
Sum of Listed Sou	rces	0.03%

# **Antenna Level Site Summary**

Predicted cumulative RF power density at elevated levels near the antenna(s) has been evaluated with respect to the FCC General Population limits. The mitigation measures recommended herein are necessary to achieve and maintain compliance at the site based on the following assessment:

#### **Antenna Level Assessment**

Signage directives for this report are specified in the Elevation Detail Plot which depicts predicted RF power density near the antenna as a percentage of the FCC General Population limits. Areas exceeding 100% of the General Population limits are depicted as blue. Any work required within areas exceeding 100% of the limits should be coordinated with wireless operators or performed by personnel trained in RF safety and equipped with personal protection equipment. Workers in areas depicted as green or clear will not be exposed to hazardous levels of RF energy and no action is required to maintain a safe working environment.

As shown in the Elevation Detail Plot, the following keep-back distances to the FCC limits have been determined:

Reference Level Limit(%)	Maximum Level: General Population (%)	Maximum Level: Occupational (%)
Ground Level	0.03200000	0.006
Antenna Level	117	23.4

Distance to FCC 100% MPE Limits at Antenna Level

- Vertical Stand Off Distance (General Population) 2 feet
- Vertical Stand Off Distance (Occupational) N/A
- Horizontal Stand Off Distance (General Population) 2 feet
- Horizontal Stand Off Distance (Occupational) N/A

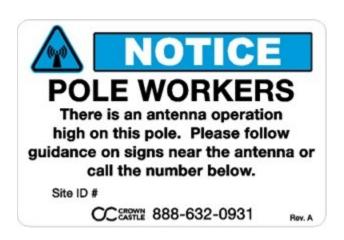
Distance to FCC 100% MPE Limits at Ground Level

- Horizontal Stand Off Distance (General Population) N/A
- Horizontal Stand Off Distance (Occupational) N/A

.

#### **RF Alerting Signage**

The "Notice" sign must be posted near the bottom of the pole or on the shroud any time there is a zone near the antenna that exceeds the General Population limit. This sign should be mounted where it is easily visible to workers on the ground as they approach the pole. Suggested locations include on the pole about 8-10' from the ground or on the front of the equipment shroud if it is mounted on the pole.



The "Caution" sign must be posted on the antenna any time there is an area that exceeds the FCC General Public exposure limit. The keep-back distance for the General Population limit must be filled in on the sign as depicted below. This sign must be mounted on or just below the radiating antenna so that it is maximally visibility to workers approaching the antenna in a lift or bucket truck. If there is more than one radiating antenna and they are less than 5' apart then the sign should be mounted on or near the lower antenna. If there are multiple radiating antennas and they are >5' apart then separate signs should be mounted on or near each antenna.



#### **Technical Framerwork: Basis for Compliance Statement**

The compliance framework is derived from the Federal Communications Commission (FCC) Rules and Regulations for preventing human exposure in excess of the applicable Maximum Permissible Exposure ("MPE") limits listed in Table 1 of 47 C.F.R. § 1.1310. Calculations using input data provided to Waterford by client or client's representative numerically confirm the subject site can operate at a 100% duty cycle without exceeding the FCC MPE limits in areas of uncontrolled access.

At this site, the radio frequency (RF) power density resulting from each transmitter at any location may be expressed as a percentage of the frequency-specific limits and added to determine if 100% of the exposure limit has been exceeded. The FCC Rules define two tiers of permissible exposure differentiated by the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. General Population / Uncontrolled exposure limits apply to those situations in which persons may not be aware of the presence of electromagnetic energy, where exposure is not employment related, or where persons cannot exercise control over their exposure. Occupational / Controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment, have been made fully aware of the potential for exposure, and can exercise control over their exposure. Based on the criteria for these classifications, continuous exposure to RF power density levels below the FCC General Population limits is not hazardous. The FCC General Population limits are 5 times more restrictive than the Occupational limits..

	Popul	or General lation/ ed Exposure		Occupational/ d Exposure
Frequency (MHz)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
30-300	0.2	30	1	6
300-1500	f/1500	30	f/300	6
1500-100,000	1.0	30	5.0	6

In situations where the predicted MPE exceeds the General Population threshold in an accessible area because of emissions from multiple transmitters, FCC licensees that contribute greater than 5% of the aggregate MPE share responsibility for mitigation.

For any location where radiofrequency (RF) power densities exceed 100% MPE of the General Population limits, access controls with appropriate RF alerting signage must be available to be visible upon approach from any direction to provide notification of potential conditions within these areas. Subject to other site security requirements, occupational personnel should be trained in RF safety and equipped with personal protective equipment (e.g. RF personal monitor) designed for safe work in the vicinity of RF emitters. Waterford Consultants, LLC recommends that any work activity in these designated areas or in front of any transmitting antennas be coordinated with the wireless operators.

#### **Predictive Modeling**

Based on the computational guidelines set forth in FCC Office of Engineering and Technology, Bulletin 65 ("OET65"), Waterford Consultants, LLC has developed software to predict the overall MPE possible at any particular location given the spatial orientation and operating parameters of multiple RF sources. These theoretical results represent worst-case predictions as emitters are assumed to be operating at 100% duty cycle.

The tabular analysis in this report calculates the spatial peak power density produced at ground level from each RF emitter. The far field power density in milliWatts per square centimeter is expressed as Sff = 33.4 x ERP / R2 where ERP is the Effective Radiated Power along a specific azimuth in Watts and R is the distance from the antenna radiation center in meters. The antenna manufacturer's horizontal and vertical radiation patterns have been considered in determining the ERP in any direction. This computation is based on the maximum ERP and includes a 1.6-fold increase in field strength due to ground reflection. The result provides a conservative estimate of spatially averaged power density at ground level and may be higher than predicted MPE in the graphical plots described below.

As the limits are frequency dependent, the contribution of any RF source at a specific location may be expressed as a percentage of the FCC General Population MPE limits at the associated operating frequency. The percentage contributions from all RF sources are added to determine the overall exposure level. If this result is less than 100%, the predicted cumulative exposure level is below the General Population limits set forth in the FCC Rules. The cumulative MPE depicted on the summary page is the summation of maximum MPE values for each emitter regardless of antenna orientation.

A graphical plot of calculated spatially averaged RF power density, based on the Cylindrical Model as described in OET65, predicts spatially averaged MPE conditions at areas in near proximity to the antenna. In the vertical display, predicted MPE is depicted at the center of the 6 ft vertical zone that a person could occupy.

#### **Qualifications of Waterford**

With more than 100 team-years of experience, Waterford Consultants, LLC [Waterford] provides technical consulting services to clients in the radio communications and antenna locating industry. Waterford retains professional engineers who are placed in responsible charge of the processes for analysis.

Waterford is familiar with 47 C.F.R. § § 1.1307(b)(3) and 1.1310 along with the general Rules, Regulations and policies of the FCC. Waterford work processes incorporate all specifications of FCC Office of Engineering and Technology, Bulletin 65 ("OET65"), from the website: www.fcc.gov/oet/rfsafety and follow criteria detailed in 47 CFR § 1.1310 "Radiofrequency radiation exposure Limits".

Within the technical and regulatory framework detailed above, Waterford developed tools according to recognized and generally accepted good engineering practices. Permissible exposure limits are band specific, and the Waterford computerized modeling tools correctly calculate permissible exposure based on the band(s) specified in the input data. Only clients and client representatives are authorized to provide input data through the Waterford web portal. In securing that authorization, clients and client representatives attest to the accuracy of all input data.

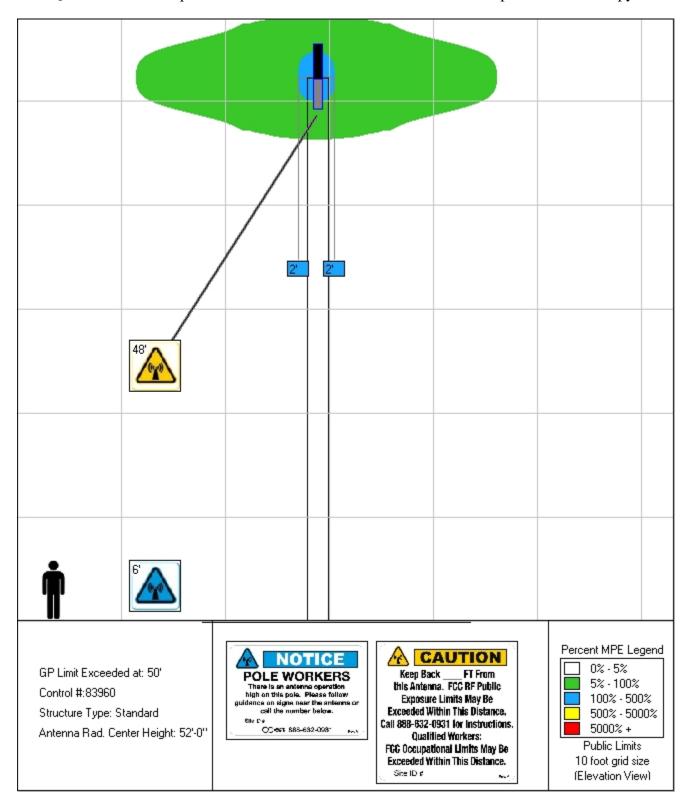
Waterford Consultants, LLC attests to the accuracy of the engineering calculations computed by those modeling tools. Furthermore, Waterford attests that the results of those engineering calculations are correctly summarized in this report.

**Antenna Inventory** 

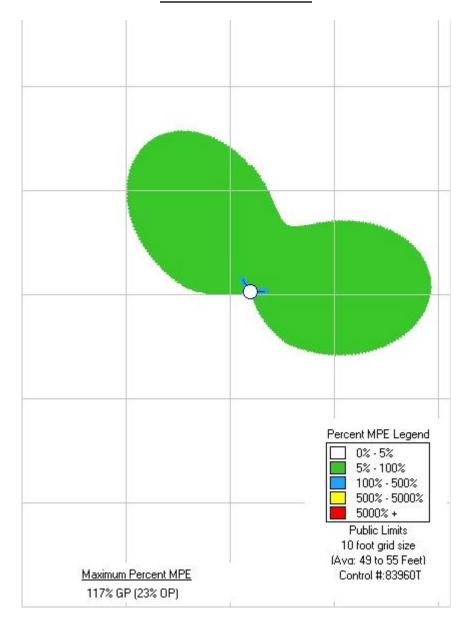
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Γ															RC
					Freq	Az	Tilt	HorBW	Ant	TPO		Loss	Ant	ERP/EIRP	AGL
	#	Operator	Make	Model	(MHz)	(deg)	(deg)	(deg)	(ft)	(w)	Paths	(db)	Gain	(W)	(ft)
	1	Crown	dbSpectra Inc.	DB362-XD3S-M 00DT 1900	1900	90	0	63	3	5	4	5	9.35dBd	89.3 EIRP	52
	2	Crown	dbSpectra Inc.	DB362-XD3S-M 00DT 1900	1900	330	0	63	3	5	4	5	9.35dBd	89.3 EIRP	52
	3	Crown	dbSpectra Inc.	DB362-XD3S-M 00DT 2100	2100	90	0	62	3	5	4	5	9.35dBd	89.3 EIRP	52
- [	4	Crown	dbSpectra Inc.	DB362-XD3S-M 00DT 2100	2100	330	0	62	3	5	4	5	9.35dBd	89.3 EIRP	52

# **ELEVATION DETAIL**

[Predicted MPE depicted at the center of the 6 ft vertical zone that a person could occupy



# TOP DOWN DETAIL



#### GROUND LEVEL MPE BY RF EMITTER

The maximum ground level MPE along the azimuth of orientation for each RF emitter by band of operation is listed below. The computational approach is described in the Predictive Modeling section. The maximum MPE by operator and band is contributive to the cumulative ground level MPE summary table presented above.

#### Crown

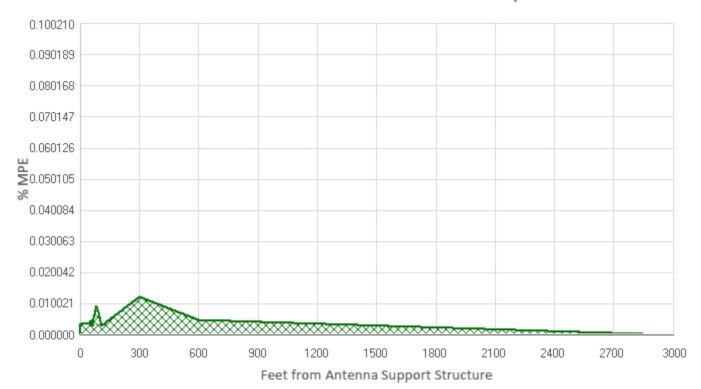
CA-PHS16 (3ft Antenna, 2 panels, Radio 2203) dbSpectra Inc. - DB362-XD3S-M 00DT 1900 90° Sector

Maximum Exposure Limit - 1900 MHz

Limit (GP):  $1000 \,\mu\text{W/cm}^2$ 

EiRP		Height		Downtilt	
(Watts)	89.3	(feet)	52	(Degrees)	0

# Ground Level MPE as Percent of FCC General Population Limits



Maximum power density at ground level:

 $0.1 \mu W/cm^2$ 

Highest percentage of Maximum Exposure Limit:

#### Crown

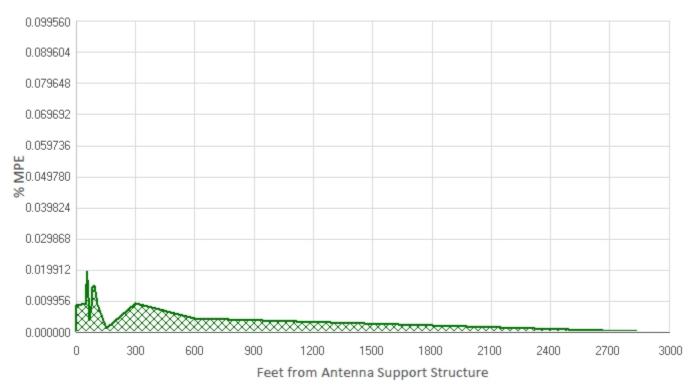
# CA-PHS16 (3ft Antenna, 2 panels, Radio 2203) dbSpectra Inc. - DB362-XD3S-M 00DT 2100 90° Sector

Maximum Exposure Limit - 2100 MHz

Limit (GP):  $1000 \mu W/cm^2$ 

EiRP		Height		Downtilt	
(Watts)	89.3	(feet)	52	(Degrees)	0

# Ground Level MPE as Percent of FCC General Population Limits



Maximum power density at ground level:

0.2 µW/cm^2

Highest percentage of Maximum Exposure Limit:

#### Crown

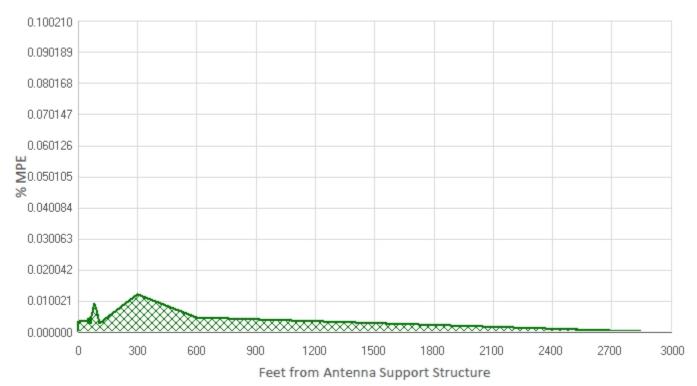
# CA-PHS16 (3ft Antenna, 2 panels, Radio 2203) dbSpectra Inc. - DB362-XD3S-M 00DT 1900 330° Sector

Maximum Exposure Limit - 1900 MHz

Limit (GP):	1000 µW/cm^2
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EiRP		Height		Downtilt	
(Watts)	89.3	(feet)	52	(Degrees)	0

# Ground Level MPE as Percent of FCC General Population Limits



Maximum power density at ground level:

0.1 µW/cm^2

Highest percentage of Maximum Exposure Limit:

#### Crown

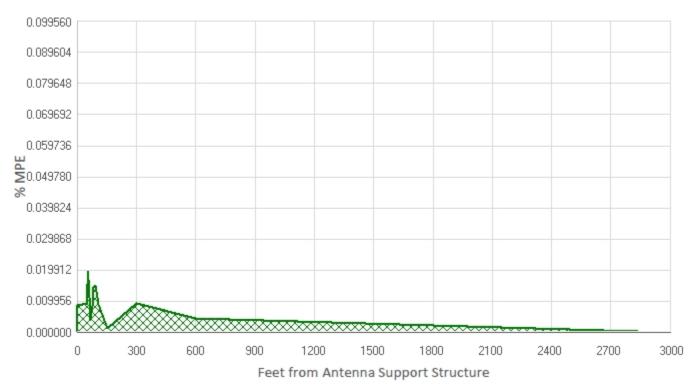
## CA-PHS16 (3ft Antenna, 2 panels, Radio 2203) dbSpectra Inc. - DB362-XD3S-M 00DT 2100 330° Sector

Maximum Exposure Limit - 2100 MHz

Limit (GP):  $1000 \mu W/cm^2$ 

EiRP		Height		Downtilt	
(Watts)	89.3	(feet)	52	(Degrees)	0

# Ground Level MPE as Percent of FCC General Population Limits



Maximum power density at ground level:

 $0.2 \mu W/cm^2$ 

Highest percentage of Maximum Exposure Limit:



Antenna Locations and Nearby Buildings

Predicted MPE for buildings within 150'

Building	Crown Max MPE (% GP)	Building	Crown Max MPE (% GP)
A		Н	
Ground Level (0')	0.0000	Ground Level (0')	0.0000
1st Floor (10')	0.0001	1st Floor (10')	0.0000
Roof (20')	0.0002	Roof (20')	0.0000
В		I	
Ground Level (0')	0.0006	Ground Level (0')	0.0001
1st Floor (10')	0.0007	1st Floor (10')	0.0002
Roof (35')	0.0064	Roof (25')	0.0008
С		J	
Ground Level (0')	0.0000	Ground Level (0')	0.0004
1st Floor (10')	0.0000	1st Floor (10')	0.0004
Roof (30')	0.0001	Roof (25')	0.0013
D		К	
Ground Level (0')	0.0000	Ground Level (0')	0.0001
1st Floor (10')	0.0000	1st Floor (10')	0.0001
Roof (25')	0.0000	Roof (15')	0.0000
E		L	
Ground Level (0')	0.0000	Ground Level (0')	0.0000
1st Floor (10')	0.0000	1st Floor (10')	0.0000
Roof (25')	0.0000	Roof (20')	0.0000
F		M	
Ground Level (0')	0.0000	Ground Level (0')	0.0000
1st Floor (10')	0.0000	1st Floor (10')	0.0000
Roof (35')	0.0001	Roof (20')	0.0000
G			
Ground Level (0')	0.0000		
1st Floor (10')	0.0000		
Roof (15')	0.0000		