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## VIA EMAIL & COURIER

January 27, 2010

Jeffrey Szymanski, Environmental Planner  
City of San Diego Development Services Center  
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Re: Negative Declaration for Amateur Radio Communication Amendments To The Land Development Code And Local Coastal Program (Proj. No. 193688)

Dear Mr. Szymanski:

As you know, this law firm represents the San Diego DX Club ("Club"), a local association formed to promote regional amateur radio operations and interests. The Club has closely monitored the City of San Diego's efforts to restrict amateur radio communications with prohibitively expensive and onerous regulations for several years. Moreover, the Club has offered extensive legal and technical expertise on the subject matter to ensure that the City not illegitimately overreach its authority and do damage to its own interests. Unfortunately, these efforts have largely been disregarded and dismissed. Therefore, on behalf of our client, we have prepared, and hereby submit, the following comment letter detailing the City's numerous violations of the California Environmental Quality Act ("CEQA")<sup>1</sup> in its preparation of the Negative Declaration ("ND") on the Amateur Radio Communication Amendments To The Land Development Code And Local Coastal Program dated December 8, 2009 (the "Project").

### I. INTRODUCTION

The Project proposes, amongst other things, to:

- (1) limit the heights of amateur radio antenna support structures on over half of the City's residential, commercial and industrial parcels to no greater than 35% over building height;

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<sup>1</sup> CEQA is found at Public Resources Code §§21000 et. seq.; and the CEQA Guidelines are found at California Code of Regulations, Title 14, Division 6, Chapter 3, §§15000-15387.

- (2) limit the heights of such support structures in the remainder of the City to no greater than 70 feet; and
- (3) require amateur radio operators to undergo a costly, onerous and overly subjective discretionary process to exceed said height limitations, if such structures are permitted at all within.

We have reviewed the proposed ND, and Initial Study on which it relies, and have found them inadequate for the purpose of informing City decisionmakers, as well as the public, about the actual environmental impacts of the Project. Neither the ND nor the Initial Study contain substantive, verifiable data and calculations rendering the conclusions dubious and unreliable. Worse, the ND fails to provide any realistic assessment regarding the Project's potentially significant impacts falling within several CEQA categories, not the least of which is a lack of analysis of the Project's cumulative impacts on public safety. No satisfactory rationale is provided for neglecting this key impact category or any other.

As we will demonstrate, there is substantial evidence in the record that the Project has the potential to create significant impacts which have neither been mitigated to insignificant levels nor studied sufficiently to determine what mitigation measures may be necessary. As a result, the City must prepare an Environmental Impact Report ("EIR") – not a negative declaration – for the Project.

## II. LEGAL STANDARDS FOR THE PREPARATION OF NEGATIVE DECLARATIONS

CEQA Guidelines Section 15070 requires a lead reviewing agency to prepare a negative declaration only when "[t]he initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment." (*Public Resources Code §§21064 and 21082.2.*)

Thus, CEQA requires that the lead agency must ensure that the administrative record, taken in its entirety, does not contain "substantial evidence" that a project *may* have a significant impact on the environment. Court decisions interpreting CEQA have further refined these basic rules, and have developed what is known as the fair argument standard, which requires that an EIR be prepared where substantial evidence in the record supports a fair argument that the project may cause a significant impact.<sup>2</sup> (*Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4<sup>th</sup> 144, 150-151.) In other words, the record need not establish

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<sup>2</sup> Parties are not required to supply "overwhelming or overpowering evidence," or to submit "quantitative environmental studies definitely establishing the existence of the claimed environmental impacts." See also *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 304-310. Nevertheless, the Club has done this very thing.

conclusively that a significant impact *will* occur; it need only provide support for arguments that such an impact *might* occur.

The fair argument standard creates a low threshold for requiring a lead agency to prepare an EIR. (*Citizens Action to Serve All Students v. Thronley* (1990) 222 Cal.App.3d 748, 754. See also *Sundstrom, supra*, 202 Cal.App.3d at 310.) This low threshold is necessary because a negative declaration represents the termination of the environmental review process, and an EIR is necessary to resolve any uncertainty created by conflicting facts and assertions. The EIR operates to replace tentative opinion and speculation with factual evidence derived through technical study. (*Citizens of Lake Murray Area Assn. v. City Council* (1982) 129 Cal.App.3d 436, 400. See also *No Oil, Inc. v. City of Los Angeles* (1975) 13 Cal.3d 68, 75.)

Note also that when determining whether a fair argument has been made by the petitioning parties, courts treat the issue as one of *law, not fact*. The courts have determined that “[u]nder this standard, deference to the agency’s determination is not appropriate and its decision not to require an EIR can be upheld only when there is no credible evidence to the contrary. (*Sierra Club v. County of Sonoma* (1992) 6 Cal.App.4<sup>th</sup> 1307, 1317-1318.)

Moreover, it does not matter whether the agency can point to contrary evidence in the record that might support a “no significant impact” finding. This interpretative rule was stated in *San Bernardino Valley Audubon Society, Inc. v. Metropolitan Water Dist.* (1999) 71 Cal.App.4<sup>th</sup> 382, 389:

Under this fair argument test, the agency must prepare an EIR whenever substantial evidence in the record supports a fair argument that a proposed project may have a significant effect on the environment. If such evidence is found, it cannot be overcome by substantial evidence to the contrary.<sup>3</sup>

Note also that the lead agency cannot avoid the effect of the fair argument standard by failing to investigate or develop evidence of potential project impacts. As was explained by *Sundstrom, supra*, at 202 Cal.App.3d at 311, “CEQA places the burden of environmental investigation on government rather than the public.” Moreover, the *Sundstrom* court said an agency “should not be allowed to hide behind its own failure to gather relevant data.” (*Id.*) The court then added:

If the local agency has failed to study an area of possible environmental impact, a fair argument may be based on the limited facts in the record. Deficiencies in the record may actually enlarge

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<sup>3</sup> Quoting *Gentry v. City of Murrieta* (1995) 36 Cal.App.4<sup>th</sup> 1359, 1399-1400.

the scope of the fair argument by lending a logical plausibility to a wider range of inferences.

Even in marginal cases, CEQA Guidelines Section 15064(g) requires that “[i]f there is disagreement among expert opinion supported by facts over the significance of an effect on the environment, the Lead Agency shall treat the effect as significant and shall prepare an EIR.”

With these basic legal parameters in mind, we now turn to the various procedural and substantive deficiencies of the instant ND.

**III. THE PROJECT DESCRIPTION IS INCONSISTENT AND INACCURATE, FAILING TO MEET THE REQUIREMENTS OF CEQA**

**A. The Negative Declaration Fails To Provide a Stable, Consistent Project Description**

CEQA demands that a project description remain consistent if an environmental review document is to serve as a vehicle for intelligent public participation and official decision-making. (*San Joaquin Raptor/Wildlife Rescue Ctr. v. County of Stanislaus* (1994) 27 CA4th 713, 730.) Only through an accurate view of the project may affected stakeholder, the public at large, and the ultimate decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, and assess the advantage of terminating the proposal.. (*County of Inyo v. City of Los Angeles* (1977) 71 CA3d 185, 192.)

The ND fails to maintain a consistent project description, as it jumps from discussions of the impacts of the Project (namely, the newly proposed *regulation and restriction* of amateur radio antenna and support structures within the City’s boundaries) to the purported impacts of the actual installation of the underlying structures themselves. Examples of this glaring inconsistency can be found throughout the ND. Several instances of these discrepancies are shown side-by-side below for illustrative purposes:

**Project = Proposed Regulation of Antennas**

1. “The proposed project would establish regulations for the use and installation of amateur radio antennas.”<sup>4</sup> (Initial Study, at p.1.)

**Project = Installation of Antennas/Structures**

1. “The purpose of this Negative Declaration is to evaluate the potential impacts associated with the installation of amateur radio antennas.” (Initial Study, at p.1.)

<sup>4</sup> It is worth noting here, as detailed below, and discussed in previous submissions made by the Club, the City cannot legally regulate the “use” of the “antennas” based upon federal pre-emption of the subject matter.

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| <p>2. “The proposed project would ensure that radio antennas would not exceed zoning height limit restrictions in special character areas including historic districts.” (Initial Study, at p. 5.)</p> <p>3. “Establishment of regulations for amateur radio communication antennas would not induce substantial population growth.” (Initial Study, at p.9.)</p> <p>4. “Implementation of the adopted regulation would not result in additional traffic and/or an increase in average daily trips.” (Initial Study, at p.11.)</p> <p>5. “The project would comply with the City of San Diego’s regulations regarding landscaping.” (Initial Study, at p.12.)</p> | <p>2. “The construction of radio antennae would not have the scope to result in the substantial erosion of soil.” (Initial Study, at p. 5.)</p> <p>3. “Antenna projects do not have the capability to significantly increase ambient noise levels.” (Initial Study, at p. 9.)</p> <p>4. “The facilities would not effect [sic] existing parking.” (Initial Study, at p.11.)</p> <p>5. “Amateur radio antenna facilities would increase the availabilityof [sic] non commercial [sic] radio communications systems and would not result in impacts to existing systems.” (Initial Study, at p.12.)</p> |
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Neither the public, nor the ultimate decisionmakers, reading this ND would be reasonably capable of discerning the City’s purpose in proposing the Project by virtue of reading the document alone – this is considerably less than what CEQA demands. Likewise, the confused and haphazard analysis of the Project fails to provide a meaningful review of impacts since it is not possible to determine whether the ND reviews a proposed *regulation* or, instead, the *construction/use* of amateur radio antenna structures. On this basis alone, the ND is fatally flawed and requires that the City prepare a thoughtful analysis of the regulations’ impacts, not the impacts of installing an amateur radio facility, since the latter does not encompass what the “Project” is.

The discussion found in the “Purpose and Main Features” section of the Intial Study (see Initial Study at pp.2-3) is similarly indecipherable. It provides no baseline for current conditions by which a reader of the ND could determine the proposed regulations’ restrictive effect on antenna support structures. The discussion also makes several misstatements of fact, as follows:

- (1) The language asserts that the City’s Land Development Code (LDC) does not contain specific regulations related to amateur radio communications. In actuality, Section 141.0420(a)(1) of the Municipal Code specifically exempts “Amateur (HAM) radio facilities” from undergoing development review

under the wireless communications facilities regulations promulgated by the City in 2004, and mostly recently amended in 2007. By virtue of this exemption, all amateur radio facilities within the City have been permitted via ministerial review (known in the City as a Process One review) – requiring nothing more than a simple building permit.

- (2) The discussion states that a “standard tower design includes three 20-foot sections, a 10-foot rotator mast antenna, and a crank that allows for the tower to be lowered during periods of non-operation.” In truth, there is no “standard tower design,” such structures range from 30+ feet to well over 100 feet, the antenna themselves vary in size according to the requirements of the operator, and the vast majority of such structures have no ability to crank up or down. Perhaps even more importantly, for those select amateur radio operators who do have a more expensive, telescoping support structure, these assemblies are not brought down during “periods of non-operation,” but rather to reduce wind load during storms or to replace antenna elements for experimentation purposes. The mechanisms on such structures are not intended for frequent up and down travel without causing early mechanical failure, thus requiring expensive repair and maintenance efforts.

These examples of the ND’s inability to properly inform the reader of the true nature of the Project implies a deceptive effort on the part of the applicant City to obfuscate the attendant impacts of its proposed restrictive regulations. Alternatively, it implies a lack of understanding of the field. In either case, CEQA demands more, so that the public and the decisionmakers can make a reasoned and rational analysis of the benefits and costs of approving the Project.

#### **B. The Project Description Fails To Inform The Reader Of The Scope And Purpose Of The Proposed Regulations**

CEQA requires a project description to include a general description of a project’s characteristics. (*Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 CA4th 20, 28.) This requirement means that the main features of a project, rather than all of the details or particulars be listed within a project description. However, this requirement for a general description, must be balanced against the need to provide enough information so that the decision-makers and the public can understand the full scope of a project. (*Id.*)

Because the Project is so expansive as to include the entire jurisdictional boundary of the City, and then further subdivides the proposed regulations’ effects based upon location within one of several discrete regions of the City (e.g. Coastal Height Limit Overlay Zone, Clairemont Mesa Height Limit Overlay Zone, planned districts, historical districts, etc.), CEQA favors the preparation of a project description including a map. (*CEQA Guidelines §15071(b).*) Given the difficulty for the public or the Council to determine the true scope of the Project’s effects on

each area within the City, and given the specifically proposed delineation of effect on such areas, the City must prepare a map in order to properly inform the reader. As the court stated in *San Joaquin Raptor/Wildlife Rescue Ctr. v. County of Stanislaus* (1994) 27 CA4th 713 at p. 730, "an accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity."

Worse yet, because the ND fails to include the subject regulations, the public is left without the opportunity to review the underlying language which is the basis of the Project. Instead, the reader is left to rely upon a confusing, conflicted project description which at once states that strict height limitations apply in certain portions of the City, but also states that deviations may be allowed to some, but possibly not all, of the restrictions imposed by the proposed regulations. For example, in the Environmental Setting section, found at page 2 of the Initial Study, the ND states that amateur radio communications (this should be facilities, not communications, as the City is not permitted to restrict federally licensed communications in any way pursuant to the Telecommunications Act of 1996 and PRB-1), under the proposed Project, "would be permitted Citywide and in all zones," yet the very next sentence states that such "equipment would be located outside of ESL (environmentally sensitive lands) and the Multi-Habitat Planning Area (MHPA)." Since ESL and MHPA lands are located within the City, and some of the parcels labeled as such are residential (e.g. in the East Elliot Community, much the MHPA is multi-family zoned), the public and the decisionmakers would not be able to make heads or tails of how the City intends to prosecute its regulations. This is not permissible under CEQA.

Additionally, under Public Resources Code §21092.6, Cortese List information (formally known as the Hazardous Waste and/or Substance Site List and compiled pursuant to Government Code §65962.5) must be included in a negative declaration, if a project is located on a listed site. Since the Project is of a "City Wide" effect (see opening page of the ND), and the City has several locations within its boundaries detailed on the Cortese List, each of these locations must be described, or alternatively, the regulation proposed by the Project should except such sites from construction of amateur radio antenna support installations. The ND instead specifically and incorrectly states that "[t]he site is not included on any government code listings of hazardous waste sites." Since the "site" referred is the entirety of the City of San Diego, this error must be corrected to properly inform the public pursuant to CEQA.

#### **IV. THE NEGATIVE DECLARATION VIOLATES THE NOTIFICATION REQUIREMENTS OF CEQA**

##### **A. The City Failed To Submit A Copy Of The Negative Declaration To The State Clearinghouse**

CEQA requires that a lead agency submit copies of a draft negative declaration to the State Clearinghouse for distribution to state agencies if the project is of state, regional, or areawide significance. (*Pub Res C §21082.1(c)(4)*; *14 Cal Code Regs §§15073(d), 15205(b)*.) In the instant matter, the Project acknowledges that it affects the entire City (see opening page of the ND), and therefore has both a region-wide and an area-wide effect, yet the “Public Review Distribution List” shown on page 2 of the ND fails to acknowledge that the State Clearinghouse was given notice.

Further, the City has previously been put on notice of the regional and state-wide effect the proposed regulations would have in restricting emergency communications – this law firm alone has submitted evidence of such effects via letters dated January 1, 2009 (see, for example, p.2), February 18, 2009 (see, for example, p.3), April 17, 2009 (see, for example, p.3), as well as countless emails, and lengthy discussions with staff and the City Attorney’s office over the course of the last year and several months. Comments from other parties, of a similar nature, are known to have been transmitted to the City, and have been received by this office due to a California Public Records Act Request submitted to the City on February 19, 2009.

The City must also understand that given the limited federal (see 47 CFR §97.15(b) and the declaration of the FCC in the PRB-1 ruling found at 101 FCC 2d 952 (1985), and amendments thereto) and state (California Government Code §65850.3) pre-emption of regulations relating to amateur radio communications, the statewide, regional and areawide effects of this regulation resonate and therefore require circulation of the ND to the State Clearinghouse.

#### **B. The City Failed To Notify State Agencies Of The Preparation Of The Negative Declaration**

CEQA requires a lead agency to send a copy of the notice of intent to adopt a negative declaration to each responsible agency and trustee agency for a project. (*CEQA Guidelines §15072(a)*). A copy of the notice of intent along with a negative declaration and initial study must also be sent to any other public agency "with jurisdiction by law over resources affected by the project." (*CEQA Guidelines §15073(c)*.) If a project is proposed which may affect resources within the jurisdiction of a trustee agency, the lead agency must send the notice of intent, and a copy of the negative declaration and initial study, to that agency. (*Gentry v. City of Murrieta (1995) 36 CA4th 1359, 1388*.) In *Fall River Wild Trout Found. v. County of Shasta (1999) 70 CA4th 482*, the court invalidated a negative declaration because notice had not been sent to the State Department of Fish and Game. The court held that failure to provide the required notice precluded review and comment from the department, and that the error was therefore necessarily prejudicial.

In the instant matter, CEQA requires that the City give notice to the California Emergency Management Agency (a division of the State’s Disaster and Emergency Management

Department). The Emergency Management Agency operates the Auxiliary Communications Services (ACS), a program which oversees amateur radio operation within the State of California for the purpose of maintaining trained emergency communications volunteers, specifically including amateur radio operators. Failure to notify this agency, and any others which might have purview over the issues subsumed by the proposed regulations, is a violation of CEQA.

**C. The City Failed To Properly Give Notice To Parties Requesting Notification Pursuant To CEQA**

This law firm specifically requested, in a letter dated February 13, 2009, to be included in the public notice circulation of documents like this ND. The pertinent content of the subject letter has been printed below:

Please be advised that the law firm of LOUNSBERY FERGUSON ALTONA & PEAK is formally requesting that it be provided with formal notice of, and copies of public documents pertaining to, any and all public hearings relating to the City of San Diego's revision of regulations, policies and/or the San Diego Municipal Code with regard to the amateur radio (HAM) communications, as soon as such information becomes available.

Neither LOUNSBERY FERGUSON ALTONA & PEAK nor the author's name is listed as a noticed party (see pp. 6-7 of the ND). Rather, this firm learned of the ND through an informal email from Senior Planner, Amanda Lee on December 7, 2009 (10:34 AM). CEQA requires that all requesting parties be sent a notice of intent to adopt a negative declaration. (*Public Resources Code §21092(b)(3); CEQA Guidelines §15072(b).*)

While this notification issue has been resolved, to a degree, by the informal notice given to this firm, it does raise the question of whether the City failed to notify others requesting this information. For instance, this firm is in possession of well over thirty comment letters made in response to just the November 2008 draft of the subject regulations, yet few, if any, of the commenting parties appear on the Public Review Distribution List attached to the ND. If other parties have commented on the later drafts of the City's proposed regulations there may well be additional parties to whom notice is owed.

**IV. A NEGATIVE DECLARATION FAILS TO PROVIDE THE APPROPRIATE LEVEL OF ENVIRONMENTAL REVIEW FOR THE PROJECT**

**A. The Negative Declaration Provides No Analysis of Project Impacts On Public Safety And Public Services And Imposes No Mitigation Measures For Those Impacts**

A negative declaration is a written statement by the lead agency describing the reasons a proposed project will not have a significant effect on the environment and therefore does not require preparation of an EIR. (*Public Resources Code §21064; CEQA Guidelines §15371.*) A lead agency may not willfully fail to effect a proper forecast of a project's impacts in order to evade the preparation of an EIR. (*Sundstrom, supra*, at 202 Cal.App.3d at 311.) An agency may adopt a mitigated negative declaration when a proposed project has one or more potentially significant environmental effects where those effects can be mitigated by revisions to the project and there is no substantial evidence that the project, as revised, may have a significant environmental effect. (*Public Resources Code §§21064.5, 21080(c)(2); CEQA Guidelines §§15064(f)(2), 15070(b).*) If an agency fails to adopt mitigation measures for a project's significant effects, it must prepare an EIR, which is adequate and objective, even if the agency is the project proponent. (*CEQA Guidelines §15087(e).*) CEQA Guidelines Section 15002(g) defines a significant effect on the environment as "a substantial adverse change" in the conditions which exist in the area affected by the proposed project. In the instant Project, the area affected minimally encompasses the entire jurisdiction of the City of San Diego.<sup>5</sup>

The City's ND "determined that the proposed project will not have a significant environmental effect and the preparation of an Environmental Impact Report will not be required." (Negative Declaration, at p.1). Unfortunately, the City's determination that an EIR would not be required appears to arise from its lack of understanding and study of the true impacts of the Project.<sup>6</sup> Much of this improper review can be attributed to the haphazard nature of the analysis, flitting from the true Project (the restrictive regulation of amateur radio antenna facilities) to the phantom examination of the impacts owing to the construction of such facilities, as detailed above. The balance of the discussion in this section will relate to the actual impacts of the proposed Project.

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<sup>5</sup> In actuality, the Project's proposed restrictions on future installations of amateur radio antennas (which it may not legitimately do as elsewhere explained in this comment letter), and their support structures, to limited heights will have an effect well beyond the City's boundaries, since local hams operate in conjunction and cooperation with county, state, national and even international efforts during times of significant disasters. The 2003 and 2007 San Diego County Wildfires, the 2005 Hurricane Katrina, the 2004 Indian Ocean Tsunami, and the 2009 Haiti Earthquake all represent human safety/public safety efforts in which hams assisted in relief and recovery efforts by means of communications afforded by amateur radio antennas on their respective properties.

<sup>6</sup> Alternatively, it may be that the City is attempting to quickly rush the proposed regulations through the environmental process rather than do as it is required to under CEQA. This latter alternative jibes with the City staff's purported direction from certain members of the City Council, dating back to 2005, requiring the Development Services Division to restrict future installations amateur radio facilities within the City – as explained by the head of the Development Services Division to a room of individuals, including this author, in a meeting on January 20, 2010.

The Project proposes to “establish regulations for the *use and installation of amateur radio antennas.*”<sup>7</sup> (*Emphasis added.*) The Project description reads, in pertinent part, as follows:

Amateur radio antennas would be permitted through a staff level decision (Process 1) and would be allowed to exceed the maximum zoning height up to 70 feet above grade or within 35% of the building height, whichever is less. In areas within the City's special character areas (i.e. coastal height limit overlay zone, Clairemont Mesa height limit Overlay zone [sic], planned districts, historical districts and/or areas containing historical resources as defined in the Land Development Code) the applicable base zones and overlay zone height limits would apply. Antenna placement would be subject to setback regulations and would not be permitted in environmentally sensitive lands, designated public access ways or public view corridors.<sup>8</sup> (*Initial Study*, at p. 1).

In place of an analysis of public safety relating to the impacts created by the Project's proposed restrictive regulations on amateur radio antenna facilities, the ND improperly delves into the effects of radio frequency energy on humans. (See *Initial Study*, Human Health and Public Safety, at p.4.) This determination, while sound, would only conceivably apply to a project in which an applicant proposes to install an amateur radio antenna facility. Rather, because the Project imposes restrictions on such installations, the proper analysis of impacts would determine that public safety would actually be impeded during times of natural and man-made disasters, war, and terrorist actions, since fewer emergency communications facilities would be expected to be available under the new regulatory regime.<sup>9</sup>

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<sup>7</sup> This language is found in the opening description of the Project's Initial Study. It is worth noting here that the City cannot legally regulate either the use of amateur radio antennas, or the antennas themselves. All issues relating to the use of antennas are controlled by the Federal Communications Commission (FCC) pursuant to Part 97 of the FCC rules. The installation of the antenna itself dictates and controls its capability to communicate and is therefore beyond the purview of the City pursuant to FCC Part 97 and the Commerce Clause of the US Constitution (Art. 1, Sec. 8, Clause 3), since all radio communications are considered to be the subject matter of interstate commerce. *Pulitzer Publishing Co. v. FCC*, 94 F.2d 249, 251 (D.C.Cir.1937). We therefore demand that the City separate the definition of the antenna from its support structure in the proposed Project and modify the project description accordingly.

<sup>8</sup> It is worth noting that no definition is given for “public access ways” or “public view corridors” in either the ND or the proposed amendments to the Municipal Code, making the designation vague and unenforceable, or in the alternative, overly broad, should an expansive reading be made.

<sup>9</sup> The ND, at page 1 of the Initial Study, properly points out, previously “...antennas have been allowed to exceed the maximum height of the underlying base zones as needed for effective communication.”

Further, the imposition of costly, burdensome and subjective discretionary permitting processes<sup>10</sup> to effect an amateur radio antenna support structure taller than 35% over building height throughout the City (or alternatively, a maximum of 30 feet in over 50% of the City) would reasonably lead an objective party to predict that few such installations would be made, limiting the effectiveness of emergency communications capabilities in the region.

The City and County of San Diego operate a Community Emergency Response Team (CERT) which trains volunteers to assist governmental fire-rescue services. Many of these volunteers are FCC-licensed amateur radio operators whose expertise in the field of communications makes their efforts invaluable in the course of life and property-saving efforts. Should the proposed Project be approved, much of the communications network expected to be in place, assisting the government may not be there when called upon.

Therefore, the actual impacts of the Project relating to public safety have nothing to do with RF energy, but rather with the capacity of the City to supplement its own disaster training, rescue and recovery services currently provided on a volunteer basis by San Diego hams. Impacts may be determined on the basis of forecasted lives lost, property damaged or destroyed and additional City facilities necessary to cover the loss of volunteer efforts. Potential mitigation measures for such impacts may include, for example, the construction of additional emergency services and communications facilities, development of additional training programs for paid government employees and/or the waiver of costs for the permitting of volunteer facilities.

Moreover, the public safety impacts of restricting amateur radio facilities within the City are not solely limited to disaster efforts, but also to backup communications facilities provided by volunteer efforts for virtually all large-scale events in the region, including the Miramar Air Show, The Thunder Boat Races, The Mother Goose Parade, and many more. Mitigation for such impacts might include additional paid police, fire and emergency employees onsite for each such events, and/or the installation of additional government-owned communications facilities with trained, paid technicians operating them (including, of course, an analysis of the impacts related to the construction of such reasonably foreseeable facilities by the City).

Since the City has done little to no analysis of the actual impacts of its proposed Project, a negative declaration cannot be determined to be the appropriate environmental review document simply because scant information is made available to the public so that no significant

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<sup>10</sup> An applicant for an amateur radio facility requiring a Neighborhood Development Permit pursuant to the underlying regulations proposed by the Project would be required to: (1) submit a minimum initial deposit of \$8,000 (amongst other costs, including experts, attorneys, permit fees, etc.), (2) undergo a community review process that roughly averages a year in time, and (3) potentially be denied the permit because the City has failed to determine, and specify in its proposed regulations, the standards by which the City would be obliged to grant a permit to accommodate effective communications as required under both state and federal pre-emptive law, as detailed elsewhere in this comment letter.

effects can be quantified. In fact, the City's analysis would be laughable, if the impacts it creates were not so deadly serious.

Consider the impact analysis found at Section VIII(D) of the Initial Study, which questions whether the proposed restrictions on amateur radio antenna facilities would, "[i]mpair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?" The response again confuses the true Project with a project which entails the construction of ham facilities and reads as follows: "Future antenna projects would not interfere with any emergency response or evacuation plan. Rather, amateur radio facilities would increase potential efficiencies for emergency response." The City's analysis openly admits that such facilities are helpful and effective for obviating public safety impacts, but fails to connect the dots to explain that the Project would instead work to reduce the number of such installations and thus create, rather than reduce, these impacts.

Similarly, Sections XIV(A), (B), and (F) of the Initial Study (Public Services) either blatantly misrepresent the nature of the Project, as if it relates to the actual construction of new amateur antenna facilities, or instead dismisses the potential impacts with no analysis whatsoever. Clearly, as described above, the regulatory restrictions being proposed by the Project would negatively impact fire protection (Section XIV(A)), police protection (Section XIV(B)), and other governmental services, such as emergency care and large event public safety efforts (Section XIV(C)). Nevertheless, with a wave of the hand, the City opts to find no such impacts because it incorrectly portrays the Project, or simply disregards the analysis altogether.

CEQA demands that an EIR be prepared given the substantial evidence of potential impacts described above.

**B. The Negative Declaration Fails To Provide Any Analysis Of Inconsistencies With Both The FCC's And The State's Policies And Regulations Given Those Agency's Jurisdiction Over The Project**

CEQA demands a review of regulation, policy and plan consistency in adopting projects. (*CEQA Guidelines* §15125(d).) Whether a project is consistent with applicable regulations is a factor that may be considered to determine whether the project may result in significant impacts. Any such inconsistencies found are not environmental impacts per se, but rather legal determinations. (See *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 CA4th 1170; See also *Orinda Ass'n v. Board of Supervisors* (1986) 182 CA3d 1145). This does not mean that these inconsistencies are irrelevant to an environmental analysis, but rather that it indicates a likelihood of environmental harm, triggering the need for a careful review of any potential impacts. An inconsistency may also support the conclusion that the underlying effect directly or indirectly describes a significant physical impact.

Again, the ND falls far short of the necessary analysis because it reviews impacts as if the Project relates to an application to install amateur radio antenna facilities. (See *Initial Study, Section X(A)*, at p.8.). Instead, the analysis ought to have been conducted to prepare a legal determination of the proposed restrictive regulations as weighed against the FCC's PRB-1 standards and California Government Code Section 65850.3. Both of these regulations provide limited pre-emption of the field of amateur radio communications upon which this Project treads.

It has long been established that a local "statute is void to the extent that it actually conflicts with a valid federal statute" and that a conflict will be found either where compliance with both is impossible, or where the local law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress. (*Edgar v. Mite Corp.*, (1982) 457 U.S. 624, 631.) The Supremacy Clause (Art. VI, Sec. 2) of the US Constitution grants the federal government power over the laws of local and state agencies in those fields in which it explicitly enters. (*Jones v. Rath Packing Co.*, (1977) 430 U.S. 519, 525. Local land use regulation specifically relating to amateur radio operation is subject to, and preempted by, federal law found at 47 CFR §97.15(b), which states:

Except as otherwise provided herein, a station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. State and local regulation of a station antenna structure must not preclude amateur service communications. Rather, it must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose.

(See also *PRB-1*, (1985) 101 FCC 2d 952)

The express entry into the field of amateur radio operation by Congress, as dictated by 47 CFR §97.15, is further amplified by the FCC's decision found in PRB-1 Paragraph 24, which states, in pertinent part:

Similarly, we recognize here that there are certain general state and local interests which may, in their even-handed application, legitimately affect amateur radio facilities. Nonetheless, there is also a strong federal interest in promoting amateur communications.... State and local regulations that operate to preclude amateur communications in their communities are in direct conflict with federal objectives and must be preempted.

Therefore, any attempt by the City of San Diego to tread into the domain of the federal government's protection of the nation's amateur radio operators must be narrowly tailored to

meet the intent of Congress and the FCC. Failure to do so will lead to costly litigation for the City, as it has for numerous other municipalities across the United States.

Moreover, the State of California has weighed in with its own regulations found at Government Code Section 65850.3, which states, in pertinent part:

Any ordinance adopted by the legislative body of a city or county that regulates amateur radio station antenna structures *shall allow those structures to be erected at heights and dimensions sufficient to accommodate amateur radio service communications, shall not preclude amateur radio service communications, shall reasonably accommodate amateur radio service communications, and shall constitute the minimum practicable regulation to accomplish the city's or county's legitimate purpose. (Emphasis added.)*

It is our position that this codification of 47 CFR §97.15 into State law goes beyond simply enforcing the federal preemption of local regulation upon amateur radio service. Rather, the law *requires* (“shall” is a mandatory term) cities to permit antenna support structures at heights and dimensions necessary for amateur radio operation. The plain reading of this statute compels cities not to regulate on the basis of height or dimension. Therefore, notwithstanding the City’s zoning and various overlay requirements, it is expressly prohibited from making discretionary determinations based upon height, if such height is necessary to accommodate amateur radio service communications. Because each amateur radio operator’s location may include an assortment of obstructions (e.g. trees, slopes, towers, hills, buildings, etc.), and each operator is licensed by the FCC to communicate on a discrete set of frequencies, each must consequently review his/her own property condition in devising the effective antenna height and power to be used.

The FCC made its position clear in 1999, in FCC Order 99-2569, *In the Matter of Modification and Clarification of Policies and Procedures Governing Siting and Maintenance RM-8763 of Amateur Radio Antennas and Support Structures, and Amendment of Section 97.15 of the Commission's Rules Governing the Amateur Radio Service*, when it stated:

*We believe that the effectiveness of these guidelines or standards can be gauged by the fact that a local zoning authority would recognize at the outset, when crafting zoning regulations, the potential impact that high antenna towers in heavily-populated urban or suburban locales could have and, thus, would draft their regulations accordingly. In addition, we believe that PRB-1's guidelines brings to a local zoning board's awareness that the very least regulation necessary for the welfare of the community must*

*be the aim of its regulations so that such regulations will not impinge on the needs of amateur operators to engage in amateur communications. (Emphasis added.)*

The FCC's policy is clearly made – local agencies must make an appropriate analysis of the “very least regulation necessary” for the welfare of the community, while not impinging on the needs of amateur radio operators, in preparing regulations relating to zoning. Yet, no analysis is made in the ND of the consistency, or lack thereof, of these regulations with the City's proposal.

Even the Congress of the United States of America has weighed in on the issue, in Public Law 103-408 Section 1, which states in pertinent part:

Congress finds and declares that:

...(3) reasonable accommodation should be made for the effective operation of amateur radio from residences, private vehicles and public areas, and *that regulation at all levels of government should facilitate and encourage amateur radio operation as a public benefit.*  
*(Emphasis added.)*

Again, the City has failed to analyze the regulatory and policy inconsistencies in its institution of prohibitively expensive applications for reasonably effective communications in amateur radio operations and restrictive structure height limitations. Moreover, the City's purpose in preparing the Project is fully at odds with the goals of Congress to “facilitate and encourage amateur radio operation.” This must be brought to bare in the ND, or more appropriately, in an EIR, given the voluminous substantial evidence provided in this documents, and others preceding it, regarding the impacts which will be created by virtue of clamping down on amateur radio antenna facilities throughout the City.

In the City of San Diego, the average antenna support structure must reach approximately 82 feet to reasonably accommodate for the electrical ground conditions and uneven terrain necessary to effect long range communications (more on this below), with the added benefit that local, line-of-sight VHF operations are greatly enhanced at this height, particularly if remote repeater stations are disabled during disaster conditions.

The Project proposes to restrict all towers to 35% of building height<sup>11</sup> in contravention of federal and state regulation and policy. Yet no analysis is made of this inconsistency in the ND. Rather the initial study nonsensically describes the consistency of future antenna facilities with the proposed regulations found in the Project, effectively concluding that there can be no impacts because the Project, which has yet to be approved, *will be approved*. These sorts of conclusory determinations run afoul of CEQA. A lead agency's impact review must provide more than a "minimal degree of specificity or detail" and cannot be a conclusion "devoid of any reasoned analysis." (*Whitman v Board of Supervisors* (1979) 88 CA3d 397, 411. *See also Mountain Lion Coalition v Fish & Game Comm'n* (1989) 214 CA3d 1043.)

The ND for this Project falls woefully short of the City's obligation to review regulatory consistency. Rather, given the significant conflicts pointed out above, an EIR would be required to make a full review of the impacts forecast from the approval of the regulatory schema proposed by the Project.

### **C. The Negative Declaration Fails To Provide A Meaningful Analysis of Project Impacts On Communications Systems**

Section XVII(B) of the Initial Study is intended to analyze whether the Project would "result in a need for new systems, or require substantial alterations to" the City's communications systems. As described for other sections of the Initial Study above, this portion of the analysis also fails to make a distinction between the Project's proposed restrictive regulatory framework and the actual installation of amateur radio facilities. The sum total of the City's analysis of the Project's proposed restrictions is that "[a]mateur radio antenna facilities would increase the availability of [sic] non commercial [sic] radio communications systems and would not result in impacts to existing systems." Clearly, this non-responsive answer to an impact analysis question fails to describe any thoughtful analysis of the utility of future installations which will be too prohibitively expensive or burdensome to construct, and what potential effects this may have on the City's own communications capacity.

Moreover, the ND fails to analyze the technical basis for concluding that there are to be no impacts from the Project. In essence, without analyzing the true effect of the height limitations being proposed by the Project, the ND concludes there will be none. Below is a description of the actual, technical requirements for reasonably effective communications for emergency purposes based upon topography and environmental conditions, prepared by doctorate level engineers, professionals in the field, and amateur radio operators from the San Diego DX Club

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<sup>11</sup> The Project's proposed language includes a restriction of such structures to the lesser of 70 feet or 35% of building height. This is a red herring. There is no reasonable circumstance in which a ministerial permit would be granted to an individual for an amateur radio antenna structure reaching the 70 foot limit, since this would require a building on the premises of just under 52 feet in height and under the sole ownership of an FCC licensed individual. There is no such structure within the boundaries of the City.

with decades of experience in the field (specifically, this analysis was prepared with the assistance of W. Ross Stone, PhD, Editor-in-Chief of the IEEE Antennas and Propagation Magazine, Professor Ray Vincent, MSEE, Principal Investigator with Stanford Research Institute US Military HF Over The Horizon Radar Systems, and Richard LeMassena, BSEE, an antenna design expert with 50 years experience including the design of the Voyager Deep Space Satellite Antennas.). The conclusion is that the Project's proposed restrictions considerably diminish amateur radio operators' ability to effectively communicate under emergency and non-emergency conditions, thus impacting the City's ability to rely upon amateur radio communications as described in this document. This information is provided for the purpose of engaging the City's own technical staff to review these materials to make their own analysis as to the appropriate height limitations in order to minimize potential environmental impacts.<sup>12</sup>

### **Analysis Of Effective Communications Standards In San Diego And Impacts Created By The Project To Such Standards**

In layman's terms, the ground beneath an amateur radio antenna support structure is important because significant portions of a radio signal either (1) reflect off of the ground to produce a sky wave for long distance communication, (2) conduct through the ground as a ground wave for local communication, or (3) are absorbed by the ground producing waste heat (in turn, reducing communications ability). Ground conditions play such a vital role in radio communications that the Federal Communications Commission publishes a map of ground conductivity (*see <http://www.fcc.gov/mb/audio/m3/index.html>*), the American Radio Relay League (ARRL) Antenna Handbook devotes an entire chapter just to considerations of ground effects (*see American Radio Relay League Antenna Handbook, 21<sup>st</sup> Ed., Ch. 3.*), and the US Department of Defense has numerous publications on antenna ground considerations (for

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<sup>12</sup> This information was previously provided to the City, in full-length format, in a submission dated April 17, 2009. Subsequently, on December 14, 2009, a California Public Records Act Request was made to the City requesting documentation and communications relating to the City staff's technical review of the effective communications standards described in the April 17, 2009. A response from the City Attorney's office dated December 18, 2009, informed this author that the City was compiling the documentation from numerous City departments. On January 5, 2010, the City provided a further response, stating, in pertinent part, "...the City does not have any 'analyses, studies, reviews, calculations and similar materials which represent the City of San Diego's technical understanding of the effective communications standard sufficient to accommodate amateur radio services.'" This same conclusion was confirmed in telephonic discussions with the City Attorney's on January 12, 2010, when this author was told that the City need not prepare any such analysis – rather, that such analyses are incumbent upon individual antenna support structure applicants. This misconception fails to account for the fact that the Project is a proposed regulation of the City with potentially significant impacts which must be studied by the project proponent, not the eventual applicants, at some later date. CEQA does not permit deferral of either impact analysis or imposition of appropriate mitigation measures. (CEQA Guidelines §15126.4(a)(1)(B); See also *San Joaquin Raptor Rescue Ctr. v County of Merced* (2007) 149 CA4th 645, 669; and *Endangered Habitats League v County of Orange* (2005) 131 CA4th 777, 794.) Therefore, we are affording the City a second opportunity to correct its failure to review the technical necessities for effective communications in San Diego, so that it can arrive at an appropriately thoughtful analysis of the Project's impacts.

example, *see Design Handbook for High Frequency Radio Communications*, US Department of Defense, MIL-HDBK-413 28-MAR-86.).

Despite the importance of ground conditions, those without expertise in the field, often fail to observe the importance of these effects in their amateur radio antenna support structure height requirement determinations. Inaccurate assumptions are made that these structures will be constructed over perfect isotropic ground, reflecting 100% of incident sky wave energy, conducting 100% of ground wave energy and losing no radio energy as heat. These assumptions lead to improper calculations and potentially ineffective communications capabilities.

In order to transform ideal isotropic calculations to reflect real world conditions in San Diego it is necessary to revise amateur radio antenna support structure height calculations based on three ground mechanisms, (1) the soils conductivity effect, (2) the skin depth effect and (3) the proximity effect – all of which have considerable consequences in the region.

The ground around and under an amateur radio antenna support structure must be a consideration in determining the actual environment in which an antenna must operate. Ideal condition amateur radio antenna support structure calculations deal mainly with theoretical antennas in free space completely discounting the influence of nearby ground. A more accurate model analyzes ground interactions relative to two areas, the reactive near field and the radiating far field.

The reactive near field only exists very close to the amateur radio antenna support structure itself. In this region, the antenna acts as though it is a large lumped-constant inductor or capacitor, where energy is stored and very little of it is actually radiated. The interaction with the ground and structures in this area creates mutual impedances between the antenna and its environment and these interactions not only modify the feed-point impedance of an antenna, but also often increase losses. This is known as the “proximity effect”.

In the radiating far field, the presence of ground profoundly influences the radiation pattern of a real antenna. The interaction depends on the antenna’s polarization with respect to the ground. For horizontally polarized antennas, the shape of the radiated pattern in the elevation plane depends primarily on the antenna’s height above ground. The electrical properties of the ground may diminish far-field performance below “perfect-ground” conditions.

Over flat ground, either horizontally or vertically polarized down trending waves launched from an antenna into the far field strike the surface and are reflected by a process very similar to that by which light waves are reflected from a mirror. As is the case with light waves, the angle of reflection is the same as the angle of incidence, so a wave striking the surface at an angle of, say, 15° is reflected upward from the surface at 15°. The reflected waves combine with direct waves (those radiated at angles above the horizon) in various ways. Some of the factors

that influence this combining process are the height of the antenna, its length, the electrical characteristics of the ground, and as mentioned above, the polarization of the wave. At some elevation angles above the horizon, the direct and reflected waves are exactly in phase – that is, the maximum field strengths of both waves are reached at the same time at the same point in space, and the directions of the fields are the same. In such a case, the resultant field strength for that angle is simply the sum of the direct and reflected fields. (This represents a theoretical increase in field strength of 6 dB over the free-space pattern at these angles.)

At other elevation angles the two waves are completely out of phase – that is, the field intensities are equal at the same instant and the directions are opposite. At such angles, the fields cancel each other. At still other angles, the resultant field will have intermediate values. Thus, the effect of the ground is to increase radiation intensity at some elevation angles and to decrease it at others. When plotted, the results of an elevation pattern will show lobes and nulls.

The concept of an image antenna is often useful to show the effect of reflection. The reflected ray has the same path length that it would if it originated at a virtual second antenna with the same characteristics as the real antenna, but situated below the ground just as far as the actual antenna is above it. Now, if we look at the antenna and its image over perfect ground from a remote point on the surface of the ground, we will see that the currents in a horizontally polarized antenna and its image are flowing in opposite directions, or in other words, are 180° out of phase. But the currents in a vertically polarized antenna and its image are flowing in the same direction—they are in phase. This 180° phase difference between vertically and horizontally polarized reflections, off of ground, is what makes their combination with direct waves behave in a very different manner from non-reflected or direct waves.

As mentioned above, soils conductivity has a significant effect as well. An amateur radio antenna support structure placed over salt water (close to an ideal conductor @ over 5,000 mSiemens/m) will produce ideal results for a specific location. Yet, if that same structure is moved only a few hundred feet away over dry, poorly conductive earth, the resultant communications effectiveness will be significantly reduced.

According to FCC data, the majority of San Diego ground exhibits conductivity ranging from 1-4 mSiemens/m. This compares with 5,000 mSiemens/m in sea/salt water and 1-30 mSiemens/m typically found elsewhere in the United States. Table 1 below represents typical data from a variety of surface types.

Table 1 - Conductivities and Dielectric Constants for Common Types of Earth			
SURFACE TYPE	Dielectric Constant	Conductivity (mSiemens/m)	Relative Quality
Fresh water	80	1	Very Poor
Salt water	81	5000	Perfect
Pastoral, low hills, rich soil, typ Dallas, TX, to Lincoln, NE areas	20	30	Very good
Pastoral, low hills, rich soil typ OH and IL	14	10	Average
Flat country, marshy, densely wooded, typ LA near Mississippi River	12	7.5	Average
Pastoral, medium hills and forestation, typ MD, PA, NY, (exclusive of mountains and coastline)	13	6	Average
Pastoral, medium hills and forestation, heavy clay soil, typ central VA	13	5	Average
Rocky soil, steep hills, typ mountainous (San Diego)	12-14	2	Poor
Sandy, dry, flat, coastal (San Diego)	10	2	Poor
Cities, industrial areas (San Diego)	5	1	Very Poor
Cities, heavy industrial areas, high buildings (San Diego)	3	1	Poor

Soil conductivity is also greatly affected by the relative humidity of the soils. In San Diego, due to its dry, desert-like conditions, soils conductivity realistically approaches only 1 mSiemens/m and a dielectric constant of 3. (For methodology, see *Accurate Evaluation of Magnetic- and Electric-Field Losses in Ground Systems*, Dorado, L.A.; Trainotti, V., IEEE Antennas and Propagation Magazine, Vol. 49, Issue 6, Dec. 2007, pp. 58-70.)

The High Frequency Terrain Analysis (HFTA) software package permits the inclusion of both soils conductivity and dielectric constants as computational variable factors. (See <http://www.arrl.org/notes/9876/HFTA.pdf>.) In order to determine the absolute effect of the low conductivity, low dielectric constant, low humidity San Diego soils, an analysis was conducted based on 7.2 MHz and 14.2 MHz antennas, as follows:

1. Using salt water as an ideal ground (5000 mSiemens/m, dielectric constant of 80) HFTA was used to calculate a figure of merit, in dBi, for a 75' antenna at various locations in San Diego. On 40 M, this yields a figure of merit range of 1.1 to 3.7 dBi and on 20M a range of 7.1 to 8.6 dBi to a east-facing azimuth depending on location.
2. Using average San Diego ground (1 mSiemens/m, dielectric constant of 3), HFTA was used to calculate a figure of merit, in dBi, for a 75' antenna. On 40 M, this yields a figure of merit range of 1.1 to 3.5 dBi and on 20M a range of 7.1 to 8.6dBi to a east-facing azimuth depending on location.
3. Since the figure of merit from #2 was lower than #1, HFTA was iterated at various heights using average San Diego ground until the figure of merit matched that of #1.
4. The difference in height between #1 and #3 is the additional height required in San

Diego to compensate for poor ground conditions. These calculations yield approximately 4' – 6' in additional required height for the San Diego region.

As mentioned above, in ideal conditions 100% of sky wave energy hitting the ground is reflected back to the sky. In real world conditions, a significant portion of the sky wave energy penetrates the earth and is dissipated as heat. What determines how much energy is lost to heat is the depth to which the radio signal penetrates the earth. The soil characteristics predominately control the penetration depth and, in turn, the amount of energy consumed in heating the earth. (*Simplified Calculation of Ground Losses in Low- and Medium-Frequency Antenna Systems*, Dorado, L.A.; Trainotti, V., *IEEE Antennas and Propagation Magazine*, Vol. 48, Issue 6, Dec. 2006, pp. 70 – 81; See also *Ground Constants and their Impact on Vertical Monopole Performance*, Christman, V; *National Contest Journal*, Vol. 37, Number 2, March/April 2009, pp. 4-7.)

When considering ground characteristics, the depth of RF current penetration can be calculated based upon the frequency of the wave, the soil and rock dielectric constants, and the respective conductivities of soil and rock layers being penetrated. The following equation can be used to calculate the current density at any depth:

$$e^{-pd} = \frac{\text{Current Density at Depth } d}{\text{Current Density at Surface}}$$

where

d = depth of penetration in cm

e = natural logarithm base (2.718)

$$p = \left( \frac{X \times B}{2} \times \left( \sqrt{1 + \frac{G^2 \times 10^{-4}}{B^2}} - 1 \right) \right)^{1/2}$$

X =  $0.008 \times \pi^2 \times f$

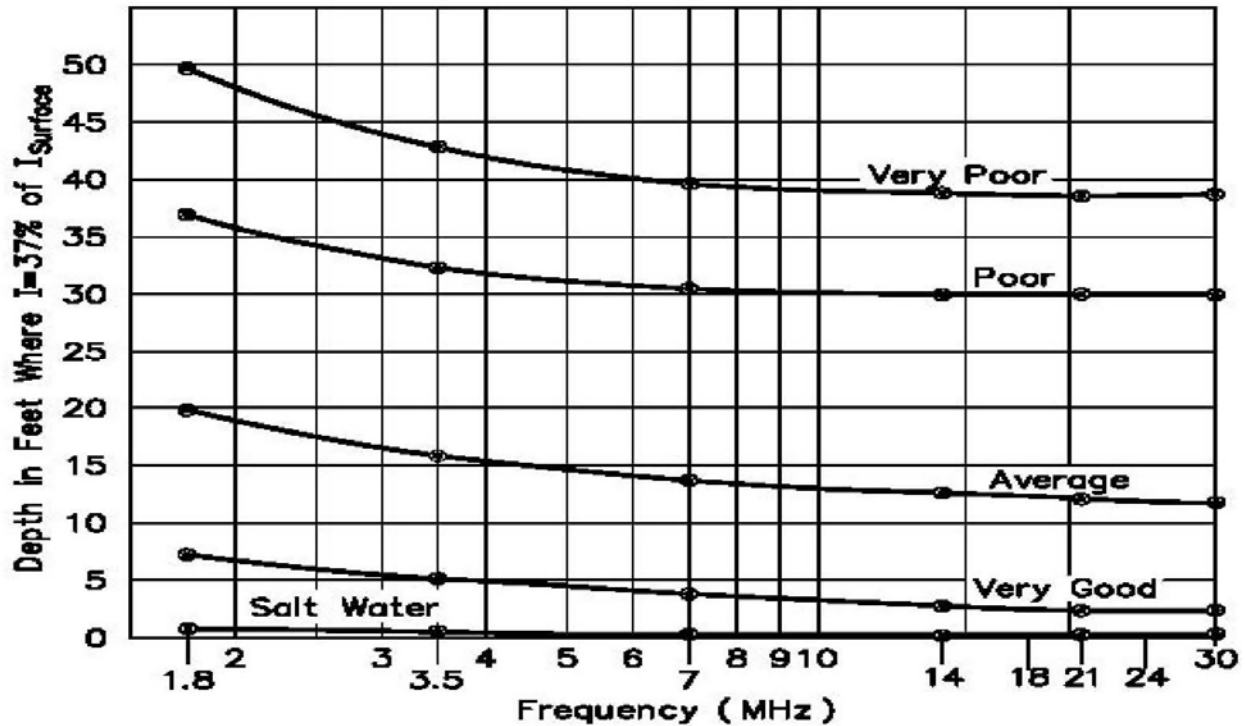
B =  $5.56 \times 10^{-7} \times k \times f$

k = dielectric constant of earth

f = frequency in MHz

G = conductivity of earth in S/m

Applying this formula yields the chart below:



For San Diego soil conditions, this yields 30' to 40' skin depth penetration. From there, the following formula was used to calculate skin depth losses (where  $k_1$  and  $k_2$  are constants,  $f$  is frequency and  $l$  is skin depth):

$$Loss = (k_1 \cdot \sqrt{f} + k_2 \cdot f) \cdot l$$

Since skin depth losses are directly proportional to the skin depth, in a worst case scenario, where 100% of a sky wave incident upon the ground (amounting to 50% of the total power) is lost due to heating, this would represent a loss of 3 dBi in a figure of merit calculation. When applying the loss formula to San Diego soils (a skin depth of 30' to 40'), using more comprehensive calculations from available literature, San Diego soils contribute a loss in the range of 0.2 to 1.1 dBi due to the skin effect, as demonstrated in Table 2 below.

TABLE 2 – ESTIMATED SKIN EFFECT LOSS		
LOCATION	20M – 7.2 MHz (dBi)	40M – 14.2 MHz (dBi)
SCRIPPS RANCH	.5	.9
SOUTH BAY	.2	.4
MIRA MESA	.6	1.1
LA JOLLA	.3	.5
MISSION GORGE	.4	.8
NORTH PARK	.3	.6
PACIFIC BEACH	.2	.4

In order to determine the absolute effect of the skin effect losses due to San Diego soil characteristics, an analysis was conducted based on 7.2 MHz and 14.2 MHz antennas, as follows:

1. HFTA was used to calculate a figure of merit, in dBi, for a 75’ antenna at various locations in San Diego. On 40 M, this yields a figure of merit range of 1.1 to 3.7 dBi and on 20M a range of 7.1 to 8.6dBi to a east-facing azimuth depending on location.
2. The figure of merit, in dBi, from #1 was reduced by Table 2 to compensate for the energy losses due to the skin effect.
3. As the figure of merit from #2 was lower than #1, HFTA was iterated at various heights using San Diego ground until the figure of merit matched that of #1.
4. The difference in height between #1 and #3 is the additional height required in San Diego to compensate for skin effect losses. These calculations typically yield 4 – 15 ft in additional required height for San Diego.

Real world conditions, unlike ideal conditions, interact with one another to create different and/or cumulative effects. As a result, terrain must be considered in concert with the above calculations to determine the interaction of these effects simultaneously. In order to determine the absolute effect of the combined soils conductivity and skin effect losses due to San Diego ground conditions, an analysis was conducted based on 7.2 MHz and 14.2 MHz antennas, as follows:

1. HFTA was used to calculate a figure of merit, in dBi, for a 75’ antenna at various locations in San Diego based on perfect soils with zero skin effect depth. On 40M, this yields a figure of merit range of 1.1 to 3.7 dBi and on 20M a range of 7.1 to 8.6 dBi to a east-facing azimuth depending on location.
2. HFTA was used to calculate a figure of merit, in dBi, for a 75’ antenna at various locations in San Diego based on average ground conditions with zero skin effect depth. On 40 M, this yields a figure of merit range of 1.1 to 3.5 dBi and on 20M a range of 7.1 to 8.6 dBi to a east-facing azimuth depending on location.
3. The ideal soils figure of merit, in dBi, from #1 was adjusted by Table 2 to compensate for

energy losses due to the skin effect to produce a target figure of merit. On 40M this yields a figure of merit range of 1.7 to 3.9 dBi and on 20M a range of 6.8 to 9.0 dBi to a east-facing azimuth depending on location.

4. As the figure of merit from #2 was lower than target figure of merit #3, HFTA #2 was iterated at various heights using San Diego ground until the figure of merit matched that of #3.
5. The difference in height between #2 and #4 is the additional height required in San Diego to compensate for skin effect losses, yielding a required height range for reasonably effective communications, on average within the City of San Diego, of 79' to 93' on 20M and 78' to 119' on 40M, with the major variable being the location of the local amateur radio antenna support structure.

Tables 3 and 4 below show the results for this combined height analysis for 7.2 MHz and 14.2 MHz, respectively.

<b>TABLE 3 – ADDITIONAL HEIGHT ANALYSIS FOR 7.2MHz</b>						
Assumptions – 40M 7.2 MHz						
<ol style="list-style-type: none"> <li>1. Dipole Antenna</li> <li>2. Antenna Height of 75 feet</li> <li>3. San Diego Soil – low soil conductivity (1mS/M), low dielectric constant</li> </ol>						
<b>Direction East – Terrain Azimuth 30 Degrees</b>						
<b>Location</b>	<b>Perfect Soil (dBi)</b>	<b>San Diego Soil (dBi)</b>	<b>Skin Effect Loss (dBi)</b>	<b>Net Ground Loss Target (dBi)</b>	<b>Required Total Height (dBi)</b>	<b>Additional Height Needed Over 70 Foot Baseline (dBi)</b>
FLAT TERRAIN	1.7	1.5	0	1.7	79	9
SCRIPPS RANCH	1.1	1.1	0.5	1.6	93	23
SOUTH BAY	2.6	2.5	0.2	2.8	79	9
MIRA MESA	1.3	1.1	0.6	1.9	87	17
LA JOLLA	1.3	1.2	0.3	1.6	90	20
MISSION GORGE	2.0	1.8	0.4	2.4	85	15
NORTH PARK	1.4	1.2	0.3	1.7	82	12
PACIFIC BEACH	3.7	3.5	0.2	3.9	85	15

<b>TABLE 4 – ADDITIONAL HEIGHT ANALYSIS FOR 14.2MHz</b>						
Assumptions – 20M 14.2 MHz						
4. 2 Element Yagi Antenna 5. Antenna Height of 75 feet 6. San Diego Soil – low soil conductivity (1mS/M), low dielectric constant						
<b>Direction East – Terrain Azimuth 30 Degrees</b>						
<b>Location</b>	<b>Perfect Soil (dBi)</b>	<b>San Diego Soil (dBi)</b>	<b>Skin Effect Loss (dBi)</b>	<b>Net Ground Loss Target (dBi)</b>	<b>Required Total Height (dBi)</b>	<b>Additional Height Needed Over 70 Foot Baseline (dBi)</b>
FLAT TERRAIN	8.3	8.3	0	8.3	75	5
SCRIPPS RANCH	5.9	5.8	0.9	6.8	78	8
SOUTH BAY	8.6	8.6	0.4	9.0	83	13
MIRA MESA	7.5	7.4	1.1	8.6	88	18
LA JOLLA	7.1	7.1	0.5	7.6	88	18
MISSION GORGE	8.2	8.1	0.8	9.0	119	49
NORTH PARK	8.1	8.1	0.6	8.7	86	16
PACIFIC BEACH	7.3	7.3	0.4	7.7	83	13

With regard to the proximity effect, any structure located within ½ wavelength of an antenna feed point will have a direct impact on the reactive near field of the antenna and will significantly impact impedance and radiation resistance. Such structures will also significantly impact the far field radiation patterns of the antenna. (See *Height Radius Effect On MF AM Transmitting Monopole Antenna,*” Trainotti, V., IEEE Transactions on Broadcasting, Vol. 36, Issue 1, (March 1990) pp. 82-88.)

Generally, if a building feature, such as a roof, is within ½ wavelength of the antenna feed point, the height of this feature acts as the effective ground level for amateur radio antenna support structure height calculations. In such circumstances, the feature’s height should be added to the total amateur radio antenna support structure height when performing HFTA calculations.

In conclusion, San Diego's ground conditions exemplify low soils conductivity, low dielectric constants and low humidity, requiring compensatory adjustments to ideal radio wave propagation models. Calculations based on three ground mechanisms, the soils conductivity effect, the skin effect and the proximity effect, that are predominant in San Diego, minimally require 5'- 49' be added over ideal conditions. This equates to a reasonably effective communication standard, city-wide, of 77 to 82 feet, below which there is potential for repeated inability to make steady contact – a deadly condition in the event emergency communication response is necessary. Failure to accommodate such additional heights will inevitably hamper, and in some cases, completely restrict, effective amateur radio communications within San Diego, especially where restrictions are limited to an envelope of 35% over building heights (since most structures in San Diego tend to be single story) or an absolute height of 30 feet. Even if these heights are not absolute (which is in no way clear from the ND or the underlying language of the regulation), given the difficulty and expense necessary to obtain a deviation, it would be reasonably expected that fewer, if any such installations would be made in the future, thus creating an impact on communications capacity for the City, as described above.

Under the low threshold of the “fair argument” standard, it is clear that there is potential for a significant effect on the environment should the City adopt the proposed Project. The draft regulations' restriction of antenna facility heights such that reasonably effective communications for emergency purposes would only be possible in certain portions of the City. The Project would create an expensive and onerous process which will have the effect of turning away a large number of potential amateur radio operators from contributing to the City's emergency, fire, police and large-scale event communications system. A purposeful choice to not analyze the technical necessities of amateur radio communications, on the part of the City, does not make any of the foreseeable, downstream impacts from such a decision just go away any more than an ostrich putting its head in the sand obviates impending danger. CEQA demands that when substantial evidence is provided which supports a fair argument that a project, such as the subject Project, may cause significant impacts, an EIR must be prepared. The rather low “fair argument” standard has been met several times over. Given that the City has made no attempt to analyze the effective communications standards

#### **D. The Negative Declaration Fails To Provide A Meaningful Analysis of Project's Cumulative Impacts**

The ND also fails to determine whether the proposed restrictive regulations will have any cumulative impacts, as required by CEQA. Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (*CEQA Guidelines* §15355.) These individual effects may be changes resulting from a single project or more than one project. (*CEQA Guidelines* §15355(a).) Cumulative impacts may also result from individually minor, but collectively significant projects taking place over a period of time. (*CEQA Guidelines* §15355(b).)

In the instant Project, the City's failure to analyze the potential for cumulative impacts is readily obvious, since no description is made of any such analysis, the impacts determined or the mitigation measures proposed. Examples of potentially significant cumulative impacts, include, but are not limited to:

1. The gradual decrease in the number of amateur radio antenna facilities capable of effectively communicating during emergencies leading to an eventual shortage of backup systems for the City's efforts to maintain public safety;
2. The eventual creation of a communications "black hole" effect, in those areas where the restrictions dictated by the Project are particularly intense (namely, the Coastal Height Limit Overlay Zone, the Clairemont Mesa Height Overlay Zone, and all of the City's planned and historical districts), such that those areas may eventually have little backup emergency communications capacity; or alternatively, a gradual decrease in the ability of those amateur radio operators living in the above mentioned areas to provide services to other portions of the City (or County) which may be in the midst of a disaster and therefore no longer possess their own primary or backup communications system; and
3. The effect of this Project on emergency services when considered in conjunction with the City's budgetary cuts which have lead to cutbacks and other limitations on such resources. (For example, see <http://signonsandiego.com/news/2010/jan/27/city-to-cut-services-at-13-fire-stations/>.)

It is a basic tenet of CEQA that a project not only meet the proponent's objectives, but that it also attempt to reduce or eliminate at least some of its potentially significant impacts. (*Citizens of Goleta Valley v. Board of Supervisors*, (1990) 52 Cal.3d 553, 564- 565; *Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1400; *CEQA Guidelines*, §15126.6(a)-(f).) In order to mitigate many of the potential impacts of the Project, our client has previously prepared and submitted to the City, on April 17, 2009, a proposed set of regulations which mirror the efforts of other similarly situated California jurisdictions. They have been attached for review and comment as Exhibit 1.

### III. CONCLUSION

The ND for the City's Project falls well short of the requirements of CEQA. A lackluster environmental analysis, internally conflicted, failing to forecast readily obvious Project impacts is no substitute for the informative review required by CEQA. Moreover, the analysis itself seems confused on the subject of what the Project is, so that there is no chance that the public or

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the Council might be able to discern the true nature of the impacts and the potential avenues for mitigation.

It is our client's expectation that each of the comments will receive a close and thoughtful evaluation and response from the City. In light of the data so far generated by the applicant, and disclosed to the City, the Club hereby demands that the City perform further analysis of the impacts of the Project so that an EIR be prepared.

Thank you for your consideration of these comments.

Sincerely,

Felix M. Tinkov, Esq.  
fmt@lfap.com

EXHIBIT 1 TO FOLLOW ON THE NEXT PAGE

Model San Diego Municipal Code Revisions

**§113.0103 Definitions**

...

*Antenna* means a device or system used for the transmission or reception of radio frequency signals for wireless communications. It may include an Omni-directional (whip or vertical), directional (panel or yagi [beam]), dish, wire or GPS *antenna*. It does not include the support structure.

**Comment [FMT1]:** Note that the antenna definition already found in §113.0103 expressly excludes the support structure, justifying our position that the support structure definition not include the antenna.

...

*Amateur radio antenna support structures* means the support structure for an antenna used for purposes of transmitting and receiving radio signals pursuant to 47 C.F.R. Part 97, which use shall be considered an *accessory use*.

**Comment [FMT2]:** The reference to 47 C.F.R. Part 97 provides the basis for Federal description of amateur radio service so that it does not need to be repeated in full in the SDMC.

**Comment [FMT3]:** Given the nature of the support structure as an ancillary one to the main structure on a lot, the description of its use as an accessory matches well with the City of San Diego's "accessory use" definition in §113.0103. Additionally, LA County Code at 22.52.1420 defines support structure similarly. See [http://municipalcodes.lexisnexis.com/codes/lacounty/\\_DATA/TITLE22/index.html](http://municipalcodes.lexisnexis.com/codes/lacounty/_DATA/TITLE22/index.html)

**§129.0203 Exemptions from a Building Permit**

...

(a)(13) *Antennas* supported, attached or otherwise affixed in, on or to a tree, wire, cord, or other non-permanent structure or the roof or wall of a previously permitted structure on the lot or not permanently affixed to any structure.

**Comment [FMT4]:** The current language exempts antennas from a building permit solely if they are supported on a roof. This fails to account for a number of other potential scenarios used by amateur radio operators which might otherwise be permissible pursuant to §129.0203(a)(24) and just spells them out for clarity's sake.

**§141.0421 Amateur radio antenna support structures**

(a) The City of San Diego recognizes the underlying purposes of the federal amateur radio service are to provide a reliable emergency communication system, to foster international goodwill and to encourage individual experimentation by authorized amateur radio operators pursuant to 47 C.F.R. Part 97. The purpose of this Section is to ensure that *amateur radio antenna support structures* are designed and located in a way that avoids hazards to public health and safety and minimizes adverse aesthetic effects, while promoting and reasonably accommodating effective amateur radio communications.

**Comment [FMT5]:** These three goals are the underpinning for the FCC and the mandatory State protection of amateur radio service – see 47 CFR Part 97.1(a),(b) & (e), PRB-1 (101 FCC 2d 952 (1985)) Sec. 24, and CA Gov't Code Sec. 65850.3.

**Comment [FMT6]:** A description of the legitimate interests of the local agency per PRB-1 (101 FCC 2d 952 (1985)) Sec. 25.

**Comment [FMT8]:** Mandatorily required under state law at CA Gov't Code Sec. 65850.3.

**Comment [FMT7]:** Description of the federal interest under PRB-1 (101 FCC 2d 952 (1985)) Sec. 22 and 24.

(b) An *amateur radio antenna support structure* is an attached or detached *accessory structure*, located on a lot, that supports an antenna which allows authorized parties to effectively communicate with similarly authorized parties, both locally and globally, on

**Comment [FMT9]:** The FCC recognizes that communications may be regional, national and/or international in nature, depending upon the individual radio operator's desires – See PRB-1 (101 FCC 2d 952 (1985)) Sec. 24 and 25.

those federally designated frequencies set aside for such purpose, for so long as such communications are not used for commercial purposes.

(c) *Amateur radio antenna support structures* may be permitted as a limited use in accordance with Process One, and the process described below, in the zones indicated with an “L” in the Use Regulations Tables in Chapter 13, Article 1 (Base Zones) subject to the following regulations:

(1) An applicant must obtain an amateur radio operator license from the Federal Communication Commission, or a foreign amateur radio operator license granting similar rights within the United States pursuant to a federally subscribed treaty, prior to applying for a *building permit* to install an *amateur radio antenna support structure*.

(2) The maximum *structure height* for an *amateur radio antenna support structure* shall be 82 feet above grade, unless a waiver or modification is granted pursuant to subdivision (d) of this Section below.

(3) The *amateur radio antenna support structure* shall be located on the *lot* in a manner which will minimize the extent to which the structure is visible to nearby residents and members of the general public so long as doing so does not limit the effective communications of the amateur radio operator. Antenna structures shall be considered to satisfy this criterion if the *amateur radio antenna support structure* is located within the *building envelope*, except as permitted under subdivisions (d), (f) and (g) of this Section below.

(4) The *amateur radio antenna support structure* shall be installed and maintained in compliance with applicable building standards and in good condition.

(5) A ground-mounted *amateur radio antenna support structure* shall be permanently installed.

(6) In lieu of the standard Building Permit/Process One procedures described in §129.0201 et. seq., an applicant for an *amateur radio antenna support structure* shall only be required to submit an application, on a form supplied by the Development Services Department, accompanied by the following information, maps, plans and fees:

**Comment [FMT10]:** This is a reiteration of the City’s earlier amateur radio ordinance drafts.

**Comment [FMT11]:** No rights to construct an amateur radio antenna support structure until the operator has obtained an FCC license, or an equivalent, reciprocal foreign license – the FCC permits foreign license holders to communicate within the US in reciprocity for other countries granting similar rights to US amateur radio operators.

**Comment [FMT12]:** 20M and 40M are amongst the most widely used communications bands owing to their usefulness for daytime and nighttime operations, respectively, even in unfavorable propagation conditions – this is vital during emergency communications. The physics of waveform transmission for a yagi [beam] antenna over ground minimally require a height of 70 ft. An additional 5 to 49 ft of height is required to counteract the general ground effects in the San Diego region, as shown in the attached addendum, though our analysis shows that 12 ft. would be sufficient for the majority of users. Further, all classes of amateur radio operators are permitted by the FCC to operate in these bands. For more about the 20M band see [http://en.wikipedia.org/wiki/20\\_meters](http://en.wikipedia.org/wiki/20_meters). For more about the 40M band see [http://en.wikipedia.org/wiki/40\\_meters](http://en.wikipedia.org/wiki/40_meters).

**Comment [FMT13]:** The City’s legitimate interest in aesthetics is limited against the requirement for effective communications. See PRB-1 (101 FCC 2d 952 (1985)) Sec. 24 and 25; *Order RM-8763, 15 F.C.C.R. P22151 (2000)* at p. 3; and *Pentel v. City of Mendota, 13 F.3d 1261, 1264 –“PRB-1, 101 F.C.C.2d 952 specifically requires the city to accommodate reasonably amateur communications. This distinction is important, because a standard that requires a city to accommodate amateur communications in a reasonable fashion is certainly more rigorous than one that simply requires a city to balance local and federal interest when deciding whether to permit a radio antenna.”*

**Comment [FMT14]:** Matches the requirements of LA County Code at Sec. 22.52.1430(E).

**Comment [FMT15]:** Because of the unique nature of amateur radio antenna support structures, it makes sense to develop specific requirements which differentiate these structures from others. The process described here matches most closely to LA County’s Code at Sec. 22.52.1440.

(A) Site plans drawn to scale and dimensioned, showing the proposed location of the antenna structure;

(B) Manufacturer's specifications of the *amateur radio antenna support structure* evidencing the *certification* of the structural calculations by a registered professional engineer. Special welding certificates and/or inspections will not be required for *amateur radio antenna support structure* certified by a registered professional engineer;

(C) Details of footings, guys, and braces, if any;

(D) Elevations drawn to scale and dimensions so as to fully describe the proposed structure; and

(E) An application fee sufficient to cover the cost of processing by the City but not to exceed that imposed for the plan check of an cellular/mobile phone *antenna* as an *accessory structure*. Notwithstanding this provision, in no case shall the application fee be greater than the total cost of the applicant's *amateur radio antenna support structure, antenna* and mast, as evidenced by receipts or similar proof.

(d) Upon an applicant's request, the development standards in Section 141.0421 shall be waived or modified by the Development Services Director in order to reasonably accommodate site specific needs for effective communication if:

(1) The applicant submits a statement, signed under penalty of perjury, detailing the reasons why strict conformance with the development standards specified in Section 141.0421(c) will:

**Comment [FMT16]:** DSD Info Bulletin 501 – March 2006 – lists the plan check fee for such antenna structures as \$645 on page 12 of 43. While the fees should likely be lower for an amateur structure when compared to a commercial structure, the fee described is likely reasonable and should not go up significantly. These fees are also in line with those required by LA County. See LA County Code Sec. 22.52.1440 and 22.60.100 which currently require a \$953 plan check fee for antenna structures.

**Comment [FMT17]:** In order to ensure that plan check fees are not unreasonably burdensome and therefore in contravention of the requirement for reasonable accommodation (see *Pentel* at 1264, PRB-1 (101 FCC 2d 952 (1985) Sec. 25 and CA Gov't Code Sec. 65850.3.

**Comment [FMT18]:** In an instance where an amateur radio operator's needs cannot be accomplished within the regulations above, a simplified "appeal" process to the Director of Development Services provides the "minimum practicable regulation" required under both PRB-1 (see Sec. 25) and CA Gov't Code Sec. 65850.3. The City's currently proposed alternative process requires an NUP, placing an undue burden on the applicant which chills communication because: (1) a \$5K initial deposit is required before starting the application, which amount is greater than most applicants will spend on their amateur hobby, or possibly even have available for deposit; (2) a presentation must be made to the community planning group which will ultimately have no effect on the necessity of the deviation and which will require more time and money than is minimally practicable; and (3) require additional materials to be submitted by the applicant pursuant to the standard NUP guidelines which are unnecessary for review and therefore not minimally practicable. Further, this process is in line with LA County's process which recognizes the importance of minimizing cost and burden to the applicant – see LA County Code Sec. 22.52.1440(A)(7) and 22.52.1450

**Comment [FMT19]:** This is in conformance with LA County's process – see Code Sec. 22.52.1440(A)(7).

(A) unreasonably interfere with the operator's ability to receive or transmit signals. Unreasonable interference shall be found if communication effectiveness falls below a level of 75% at any signal arrival angles used by the operator; or

**Comment [FMT20]:** This "effective communications" standard is the minimum prescribed by the *Snook* court. See *Snook v. City of Missouri City, TX* (2003 U.S. Dist. LEXIS 27256) at p. 5- 6 (Finding of Fact #9 states "To conduct effective emergency operations, Snook must be able to achieve at least a 75 to 90 percent successful signal under the changing variables that impact emergency or other amateur radio communications.")

(B) impose unreasonable costs on the operator. Costs shall be deemed unreasonable if they are 120% percent of the total cost of amateur radio antenna support structure, antenna and mast, as evidenced by receipt or similar proof of price and in no case may exceed \$2,500; or

**Comment [FMT21]:** In order to ensure that there is no undue burden in applying for an amateur radio antenna support structure, the costs must be minimized accordingly. The FCC agrees with this position as evidenced *RM 8763 (2000)*, on *Petition of the ARRL and Barry Gorodetzer* which states, in Sec. 7, in pertinent part, "an amateur operator may apprise a zoning authority that a permit fee is too high, and therefore unreasonable, or that a condition is more than minimum regulation." Again, this is also recognized by LA County at Code Section 22.52.1440(A)(7) and 22.52..1450.

(C) not be necessary to achieve the goals and objectives of this part.

(2) The applicant supplies evidence which reasonably demonstrates the veracity of the operator's statement, including, but not limited to, computer models, mathematical analyses, expert testimony, receipts or invoices.

(e) In granting the waiver or modification described in Section 141.021(d) above, the Development Services Director may impose conditions reasonably necessary to accomplish the purposes of this Section, provided those conditions do not unreasonably interfere with the ability of the applicant to effectively communicate, or impose unreasonable costs on the amateur radio operator when viewed in the light of the cost of the equipment.

**Comment [FMT22]:** This is in congruence with LA County Code Sec. 22.52.1450.

(f) An applicant may appeal a decision of the Development Services Director to the Planning Commission pursuant to Section 112.0504.

**Comment [FMT23]:** This appeal process would be required under the reasonable accommodation standard to ensure that the applicant and the City be allowed to negotiate a compromise which satisfies each party's requirements. See *Pentel* at p. 1264 and *Snook* at p. 47.

(g) Any amateur radio wire antenna or vertical HF, VHF, and/or UHF antenna affixed to an existing permitted structure, a tree, or non-permanent structure on the lot, or not otherwise permanently installed, shall not require a building permit.

**Comment [FMT24]:** The antennae described in this section refer to non-permanent structures which do not need an amateur antenna support structure and therefore do not need a building permit. The SDMC exempts antenna generally from building permit requirements at Sec. 129.0203(a)(13).

(h) An antenna may encroach into the setback on the lot.

**Comment [FMT25]:** Since the antenna itself is not a permanent structure, its encroachment into the setback, like any other non-permanent structure under the SDMC, should not be restricted. Moreover, because of the narrow width of much of the City's private lots, failing to affirmatively exempt antennas from setback requirements would not be a reasonable accommodation, because most antennas will invariably pierce setbacks in a small lot. As an example, a common halfwave 20M dipole antenna (34' in length) would necessarily encroach into setbacks on a smaller urban lot.

(i) Amateur radio antenna support structures, antennas and masts in existence as of the effective date of the ordinance codified in this Section may continue to be used without complying with the provisions of this Section and shall be considered a legal nonconforming use. Existing amateur radio antenna support structures may be enlarged, expanded or relocated only if brought into compliance with this Section.