REPORT TO PLANNING COMMISSION

Hearing Date: August 13, 2012
File Number: 2012-7417

SUBJECT: Sprint / Roman Catholic Welfare Corp Of San Jose:
Application(s) for a 2.63 acre project located at 1395 Hollenbeck Road in PF (Public Facility) Zoning District (APN: 323-06-006):

Motion 2012-7417 - Use Permit to allow the modification of an existing telecommunication facility (Sprint) at Resurrection School with the replacement of three panel antennas within a widened stealth cross and associated equipment.

REPORT IN BRIEF:

Existing Site Conditions
Church and School

Surrounding Land Uses
North Church
South Single Family Residential across Cascade Drive
East Single Family Residential across Hollenbeck Avenue
West Single Family Homes across Athletic Fields

Issues Aesthetics

Environmental Status A Class 1 Categorical Exemption relieves this project from California Environmental Quality Act provisions and City Guidelines.

Staff Recommendation Approve with Conditions
### PROJECT DATA TABLE

<table>
<thead>
<tr>
<th></th>
<th>EXISTING</th>
<th>PROPOSED</th>
<th>REQUIRED/PERMITTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Plan</td>
<td>School</td>
<td>Same</td>
<td>School</td>
</tr>
<tr>
<td>Zoning District</td>
<td>P-F</td>
<td>Same</td>
<td>P-F</td>
</tr>
<tr>
<td>Site Area (Two Parcels) (s.f.)</td>
<td>436,570</td>
<td>Same</td>
<td>No min.</td>
</tr>
<tr>
<td>Equipment Enclosure Area (s.f.)</td>
<td>264</td>
<td>Same</td>
<td>No max.</td>
</tr>
<tr>
<td>Cross Height</td>
<td>15’</td>
<td>Same</td>
<td>By Use Permit</td>
</tr>
<tr>
<td>Overall Height (ft.)</td>
<td>46’ 11”</td>
<td>Same</td>
<td>By Use Permit</td>
</tr>
</tbody>
</table>

#### Setbacks (Facing Hollenbeck Avenue)

| Setback to Hollenbeck Avenue | 150’ | Same | 20’ min. |
| Setback to residential uses to the west | 415’ | Same | 6’ min. (15’ combined) |
| Setback to Cascade Drive     | 615’ | Same | 9’ min. (15’ combined) |
| Setback to neighboring church (north) | 175’ | Same | 20’ min. |

### BACKGROUND:

#### Previous Actions on the Site

The following table summarizes previous planning application related to the project site.

<table>
<thead>
<tr>
<th>File Number</th>
<th>Brief Description</th>
<th>Hearing/Decision</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-0679</td>
<td>Use Permit for the co-location of a telecommunication facility on an approved monopine (Clearwire) (1399 Hollenbeck Ave.)</td>
<td>Planning Commission / Approved</td>
<td>7/12/10</td>
</tr>
<tr>
<td>2008-1119</td>
<td>Use Permit for the installation of a 65’ monopine for a telecommunication facility (AT&amp;T) (1399 Hollenbeck Ave.)</td>
<td>City Council / Approved</td>
<td>3/24/09</td>
</tr>
<tr>
<td>File Number</td>
<td>Brief Description</td>
<td>Hearing/Decision</td>
<td>Date</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>2004-0321</td>
<td>Use Permit for the installation of stealth cross on top of a church building for a telecommunication facility (T-Mobile)</td>
<td>Zoning Administrator / Approved</td>
<td>5/26/04</td>
</tr>
<tr>
<td>2000-0719</td>
<td>Use Permit for the installation of the stealth cross on top of the Parish Hall for a telecommunication facility (Sprint)</td>
<td>Zoning Administrator / Approved</td>
<td>11/29/00</td>
</tr>
</tbody>
</table>

The proposed permit modifies the design of the cross that was approved in 2000 (constructed in 2001). A separate stealth cross containing telecommunication antennas for T-Mobile (2004-0321) is located on the church building to the south which shares the project site (at the corner of Hollenbeck Avenue and Cascade Drive).

There is an existing tree pole located south of the Sprint project area which currently contains two telecommunication carriers (AT&T and Clearwire). The tree pole does not comply with the approved design, and Planning staff is currently working with these carriers to achieve compliance in an effort to improve the overall appearance of the facility. The proposed Sprint modification is unrelated to the tree pole.

**DISCUSSION:**

The three existing Sprint antennas inside the cross will be replaced with three larger panel antennas. The cross would not result in increased height; however, the diameter of the vertical and horizontal arms would be enlarged by one foot (from 1’ 10” to 2’ 10”). Six new RRUs (remote radio units) would be positioned within the existing roof screening. Associated ground cabinets would also be added to the existing equipment enclosure (264 s.f.) which is located adjacent to the building at the southwest corner.

**Requested Permit(s)**

- **Use Permit**

Due to the modified design of the facility and possible visual impact of the larger facility, it was determined that a separate Use Permit to be reviewed by the Planning Commission was required. Previous telecommunication facilities located on the monopine, within the church site, also required Planning Commission review.
ANALYSIS:

**Design**

As stated previously, the new cross structure will be larger with a slightly increased diameter for the arms. This is necessitated to enclose the larger panel antennas. The antennas increase in width from 8” to 12”. The horizontal arm span of the cross will remain the same at 9’ 10”. Although the new antennas are approximately 6’ tall, whereas the previous antennas were 4’ 10”, Sprint is able to install them without increasing the cross height of 46’ 11”.

The existing roof screen will completely shield the proposed RRU’s. New ground equipment cabinets are also planned to be positioned within the existing enclosure. Photosimulations are provided in Attachment D.

**Development Standards**

The proposed project complies with the applicable Development Standards as set forth in the Sunnyvale Municipal Code.

- **Site Layout**
  
  The current site consists of the Parish Center, church, and parking lot located along Hollenbeck Avenue. Athletic fields, rectory, and classrooms are also located on-site. No modifications to the site layout are proposed.

- **Parking/Circulation**
  
  No additional parking is required for the proposed use. Access to the antennas and equipment is provided with the existing parking lot.

- **Landscaping and Tree Preservation**
  
  The proposal does not propose any additional landscaping for the site. Existing trees and shrubs provides adequate screening of the equipment cabinets from adjacent properties.

**Radio Frequency (RF) Emissions Exposure:** The Federal Communications Commission (FCC) is the final authority on safety of telecommunications facilities. If the FCC has determined the facility to be in compliance with federal standards, the City is not permitted to make additional judgments on health and safety issues. The application can be reviewed by the City for compliance with design and location criteria only. The attached RF Emissions report (Attachment E) finds that the individual and cumulative RF emissions comply with FCC standards.
Environmental Review
A Class 1 Categorical Exemption relieves this project from California Environmental Quality Act provisions and City Guidelines. Class 1 Categorical Exemptions include minor modifications to existing facilities.

FISCAL IMPACT
No fiscal impacts other than normal fees and taxes are expected.

PUBLIC CONTACT

<table>
<thead>
<tr>
<th>Notice of Public Hearing</th>
<th>Staff Report</th>
<th>Agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Published in the Sun newspaper</td>
<td>• Posted on the City of Sunnyvale's Web site</td>
<td>• Posted on the City's official notice bulletin board</td>
</tr>
<tr>
<td>• Posted on the site</td>
<td>• Provided at the Reference Section of the City of Sunnyvale's Public Library</td>
<td>• Posted on the City of Sunnyvale's Web site</td>
</tr>
<tr>
<td>• 46 notices mailed to property owners and residents adjacent to the project site</td>
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</table>

CONCLUSION

Findings and General Plan Goals: Staff was able to make the required Findings based on the justifications for the Use Permit. Recommended Findings and General Plan Goals are located in Attachment A.

Conditions of Approval: Recommended Conditions of Approval are located in Attachment B.

ALTERNATIVES

1. Approve the Use Permit with attached conditions.
2. Approve the Use Permit with modified conditions.
3. Deny the Use Permit.
RECOMMENDATION

Recommend Alternative 1 to the Planning Commission.

Prepared by:

Ryan M. Kuchenig
Project Planner

Reviewed by:

Andrew Miner
Principal Planner

Attachments:

A. Recommended Findings
B. Recommended Conditions of Approval
C. Site and Architectural Plans
D. Photosimulations
E. RF Emissions Report
RECOMMENDED FINDINGS

Council Policy Manual: Telecommunications (7.2.16)

The City of Sunnyvale’s Council Policy Manual (CPM) is a compendium of policies established by City Council resolution or motion which provide guidelines for current or future City action. Such policies, when implemented, assist in achieving General Plan goals.

- **Policy Statement 1.A.5** - Support retention of local zoning authority for cellular towers, satellite dish antennas, and other telecommunications equipment, facilities and structures.
- **Policy Statement 2** - Promote universal access to telecommunications services for all Sunnyvale residents.

Use Permit

1. The proposed use attains the objectives and purposes of the General Plan of the City of Sunnyvale. **Staff was able to make this finding.** The project slightly modifies the existing stealth design of an cross structure while enabling improved technology to be installed. Conditions of Approval further ensure that all applicable Code standards and FCC regulations are met.

2. The proposed use ensures that the general appearance of proposed structures, or the uses to be made of the property to which the application refers, will not impair either the orderly development of, or the existing uses being made of, adjacent properties. **Staff was able to make this finding.** All new equipment will be fully screened within the stealth cross and behind an existing mechanical screen wall. The ground equipment cabinets will also be located within an existing enclosure and will not be visible from any street frontages or buildings from neighboring properties.
RECOMMENDED CONDITIONS OF APPROVAL AND STANDARD DEVELOPMENT REQUIREMENTS AUGUST 13, 2012

Planning Application 2012-7417
1395 Hollenbeck Avenue

Use Permit to allow the modification of an existing telecommunication facility (Sprint) at Resurrection School with the replacement of three panel antennas within a widened stealth cross and associated equipment.

The following Conditions of Approval [COA] and Standard Development Requirements [SDR] apply to the project referenced above. The COAs are specific conditions applicable to the proposed project. The SDRs are items which are codified or adopted by resolution and have been included for ease of reference, they may not be appealed or changed. The COAs and SDRs are grouped under specific headings that relate to the timing of required compliance. Additional language within a condition may further define the timing of required compliance. Applicable mitigation measures are noted with “Mitigation Measure” and placed in the applicable phase of the project.

In addition to complying with all applicable City, County, State and Federal Statutes, Codes, Ordinances, Resolutions and Regulations, Permittee expressly accepts and agrees to comply with the following Conditions of Approval and Standard Development Requirements of this Permit:

**GC: THE FOLLOWING GENERAL CONDITIONS AND STANDARD DEVELOPMENT REQUIREMENTS SHALL APPLY TO THE APPROVED PROJECT.**

GC-1. CONFORMANCE WITH APPROVED PLANNING APPLICATION:
All building permit drawings and subsequent construction and operation shall substantially conform with the approved planning application, including: drawings/plans, materials samples, building colors, and other items submitted as part of the approved application. Any proposed amendments to the approved plans or Conditions of Approval are subject to review and approval by the City. The Director of Community Development shall determine whether revisions are considered major or minor. Minor changes are subject to review and approval by the Director of Community Development. Major changes are subject to review at a public hearing. [COA] [PLANNING]
GC-2.  **COMPLY WITH APPLICABLE REGULATIONS:**
The facility must comply with any and all applicable regulations and
standards promulgated or imposed by any state or federal agency,
including but not limited to the Federal Communications Commission
and Federal Aviation Agency. [SDR] [PLANNING]

GC-3.  **PERMIT EXPIRATION:**
The permit shall be null and void two years from the date of approval
by the final review authority at a public hearing if the approval is not
exercised, unless a written request for an extension is received prior
to expiration date and is approved by the Director of Community
Development. [SDR] (PLANNING)

GC-4.  **TESTING WITHIN 15 DAYS:**
The applicant shall test any wireless telecommunications site installed
in the City of Sunnyvale within 15 days of operating the tower. The
test shall confirm that any Emergency 911 wireless call made through
the wireless telecommunications site shall provide Enhanced 911
capability (including phase 2 information when available from the
caller's device) and direct the call to the City of Sunnyvale Department
of Public Safety dispatcher, ensuring phase 2 information is
transferred. If the call is to be directed elsewhere pursuant to State
and Federal law the applicant shall ensure that the Enhanced 911
information transfers to that dispatch center. This capability shall be
routinely tested to ensure compliance as long as the approved
wireless telecommunications site is in service. [SDR] [PLANNING]

GC-5.  **HOLD HARMLESS:**
The wireless telecommunication facility provider shall defend,
indemnify, and hold harmless the city or any of its boards,
commissions, agents, officers, and employees from any claim, action
or proceeding against the city, its boards, commission, agents,
officers, or employees to attack, set aside, void, or annul, the approval
of the project when such claim or action is brought within the time
period provided for in applicable state and/or local statutes. The city
shall promptly notify the provider(s) of any such claim, action or
proceeding. The city shall have the option of coordinating in the
defense. Nothing contained in this stipulation shall prohibit the city
from participating in a defense of any claim, action, or proceeding if
the city bears its own attorney's fees and costs, and the city defends
the action in good faith. [SDR] [PLANNING]

GC-6.  **LIABILITY:**
Facility lessors shall be strictly liable for any and all sudden and
accidental pollution and gradual pollution resulting from their use
within the city. This liability shall include cleanup, intentional injury
or damage to persons or property. Additionally, lessors shall be responsible for any sanctions, fines, or other monetary costs imposed as a result of the release of pollutants from their operations. Pollutants include any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals, and waste. Waste includes materials to be recycled, reconditioned or reclaimed. [SDR] [PLANNING]

GC-7. NO THREAT TO PUBLIC HEALTH:
The facility shall not be sited or operated in such a manner that is poses, either by itself or in combination with other such facilities, a potential threat to public health. To that end, the subject facility and the combination of on-site facilities shall not produce at any time power densities in any inhabited area that exceed the FCC's Maximum Permissible Exposure (MPE) limits for electric and magnetic field strength and power density for transmitters or any more restrictive standard subsequently adopted or promulgated by the federal government. [SDR] [PLANNING]

BP: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED ON THE CONSTRUCTION PLANS SUBMITTED FOR ANY DEMOLITION PERMIT, BUILDING PERMIT, GRADING PERMIT, AND/OR ENCROACHMENT PERMIT AND SHALL BE MET PRIOR TO THE ISSUANCE OF SAID PERMIT(S).

BP-1. CONDITIONS OF APPROVAL:
Final plans shall include all Conditions of Approval included as part of the approved application starting on sheet 2 of the plans. [COA] [PLANNING]

BP-2. RESPONSE TO CONDITIONS OF APPROVAL:
A written response indicating how each condition has or will be addressed shall accompany the building permit set of plans. [COA] [PLANNING]

BP-3. NOTICE OF CONDITIONS OF APPROVAL:
A Notice of Conditions of Approval shall be filed in the official records of the County of Santa Clara and provide proof of such recordation to the City prior to issuance of any City permit, allowed use of the property, or Final Map, as applicable. The Notice of Conditions of Approval shall be prepared by the Planning Division and shall include a description of the subject property, the Planning Application number, attached conditions of approval and any accompanying subdivision or parcel map, including book and page and recorded
document number, if any, and be signed and notarized by each property owner of record.

For purposes of determining the record owner of the property, the applicant shall provide the City with evidence in the form of a report from a title insurance company indicating that the record owner(s) are the person(s) who have signed the Notice of Conditions of Approval. [COA] [PLANNING]

PF: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED ON THE CONSTRUCTION PLANS AND/OR SHALL BE MET PRIOR TO RELEASE OF UTILITIES OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

PF-1. LANDSCAPING AND IRRIGATION:
All landscaping and irrigation as contained in the approved building permit plan shall be installed prior to occupancy. [COA] [PLANNING]

PF-2. RF EMISSIONS STUDIES:
The applicant shall submit to the Director of Community Development Radio Frequency Emissions at least two reports of actual field measurements showing: 1.) The ambient level of RF emissions before construction of the facility and 2.) The actual level of emissions after the facility is in place and operating at or near full capacity. [COA] [PLANNING]

PF-3. NOISE STUDIES:
The applicant shall submit to the Director of Community Development Noise Analysis at least two reports of field measurements showing: 1.) The noise measurement before construction of the facility and 2.) The actual noise measurement after the facility is in place and operating at or near full capacity. [COA] [PLANNING]

DC: THE FOLLOWING CONDITIONS SHALL BE COMPLIED WITH AT ALL TIMES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

DC-1. BLUEPRINT FOR A CLEAN BAY:
The project shall be in compliance with stormwater best management practices for general construction activity until the project is completed and either final occupancy has been granted. The building permit plans shall include a “Blueprint for a Clean Bay” on one full sized sheet of the plans. [SDR] [PLANNING]
AT: THE FOLLOWING CONDITIONS SHALL BE COMPLIED WITH AT ALL TIMES THAT THE USE PERMITTED BY THIS PLANNING APPLICATION OCCUPIES THE PREMISES.

AT-1. CERTIFICATION:
Before January 31 of each even numbered year following the issuance of any authorizing establishment of a wireless telecommunication facility, an authorized representative for each wireless carrier providing service in the City of Sunnyvale shall provide written certification to the City executed under penalty of perjury that (i) each facility is being operated in accordance with the approved local and federal permits and includes test results that confirm the facility meets city noise requirements and federal RF emissions standards; (ii) each facility complies with the then-current general and design standards and is in compliance with the approved plans; (iii) whether the facility is currently being used by the owner or operator; and (iv) the basic contact and site information supplied by the owner or operator is current. [SDR] [PLANNING]

AT-2. 10 YEAR RENEWAL:
Every owner or operator of a wireless telecommunication facility shall renew the facility permit at least every ten (10) years from the date of initial approval. If a permit or other entitlement for use is not renewed, it shall automatically become null and void without notice or hearing ten (10) years after it is issued, or upon cessation of use for more than a year and a day, whichever comes first. Unless a new use permit or entitlement of use is issued, within one hundred twenty (120) days after a permit becomes null and void all improvements, including foundations and appurtenant ground wires, shall be removed from the property and the site restored to its original pre-installation condition within one hundred eighty (180) days of nonrenewal or abandonment. [SDR] [PLANNING]

AT-3. MINIMIZE NOISE:
The facility shall be operated in such a manner so as to minimize any possible disruption caused by noise. Backup generators shall only be operated during periods of power outages, and shall not be tested on weekends or holidays, or between the hours of 10:00 p.m. and 7:00 a.m. on weekday nights. At no time shall equipment noise from any source exceed an exterior noise level of 60 dB at the property line. [SDR] [PLANNING]
AT-4. **RF EMISSIONS:**
Certification must be provided that the proposed facility will at all times comply with all applicable health requirements and standards pertaining to RF emissions. [SDR] [PLANNING]

AT-5. **MAINTAIN CURRENT INFORMATION:**
The owner or operator shall maintain, at all times, a sign mounted on the outside fence showing the operator name, site number and emergency contact telephone number. The owner or operator of the facility shall also submit and maintain current at all times basic contact and site information on a form to be supplied by the city. The applicant shall notify city of any changes to the information submitted within thirty (30) days of any change, including change of the name or legal status of the owner or operator. This information shall include, but is not limited to the following:

a) Identity, including name, address and telephone number, and legal status of the owner of the facility including official identification numbers and FCC certification, and if different from the owner, the identity and legal status of the person or entity responsible for operating the facility.

b) Name, address and telephone number of a local contact person for emergencies.

c) Type of service provided. [SDR] [PLANNING]

AT-6. **GOOD REPAIR:**
All facilities and related equipment, including lighting, fences, shields, cabinets, and poles, shall be maintained in good repair, free from trash, debris, litter and graffiti and other forms of vandalism, and any damage from any cause shall be repaired as soon as reasonably possible so as to minimize occurrences of dangerous conditions or visual blight. Graffiti shall be removed from any facility or equipment as soon as practicable, and in no instance more than forty-eight (48) hours from the time of notification by the city. [SDR] [PLANNING]

AT-7. **RESPONSIBILITY TO MAINTAIN:**
The owner or operator of the facility shall routinely and regularly inspect each site to ensure compliance with the standards set forth in the Telecommunications Ordinance. [SDR] [PLANNING]

AT-8. **NO INTERFERENCE WITH CITY COMMUNICATION SYSTEMS:**
The facility operator shall be strictly liable for interference caused by the facility with city communication systems. The operator shall be responsible for all labor and equipment costs for determining the source of the interference, all costs associated with eliminating the interference, (including but not limited to filtering, installing cavities,
installing directional antennas, powering down systems, and engineering analysis), and all costs arising from third party claims against the city attributable to the interference. [SDR] [PLANNING]
SITE NUMBER: SF33XC552
SITE NAME: HOLLENBECK

EXISTING

PROPOSED SPRINT ANTENNA

PROPOSED SOUTH ELEVATION
Radio Frequency – Electromagnetic Energy (RF-EME)
Compliance Report

Prepared for:
Sprint Nextel
c/o Black & Veatch Corporation
2999 Oak Rd. Suite 910
Walnut Creek, CA 94597

Site No. SF33XC552
Resurrection School
1395 Hollenbeck Street
Sunnyvale, California 94087
Santa Clara County
37.348497; -122.041566 NAD83
rooftop

EBI Project No. 62121157
July 5, 2012
EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Sprint Nextel to conduct radio frequency electromagnetic (RF-EME) modeling for Sprint Site SF33XC552 located at 1395 Hollenbeck Street in Sunnyvale, California to determine RF-EME exposure levels from existing and proposed Sprint wireless communications equipment at this site. As described in greater detail in Section 11.0 of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

This report contains a detailed summary of the RF EME analysis for the site.

This document addresses the compliance of Sprint's proposed transmitting facilities.
1.0 LOCATION OF ALL EXISTING ANTENNAS AND FACILITIES AND EXISTING RF LEVELS

This project involves the removal of three (3) existing antennas replaced with three (3) proposed Sprint wireless telecommunication antennas on a rooftop located at 1395 Hollenbeck Street in Sunnyvale, California. There are three Sectors (A, B, and C) proposed to be replaced at the site, with one (1) antenna that may be re-installed per sector.

Based on drawings and aerial photography review there were no collocated carriers on the rooftop. However, there is an adjacent monopine with AT&T and Clearwire antennas. These antennas were included in the modeling analysis.

2.0 LOCATION OR ALL APPROVED (BUT NOT INSTALLED) ANTENNAS AND FACILITIES AND EXPECTED RF LEVELS FROM THE APPROVED FACILITIES

There are no antennas or facilities that are approved and not installed based on information provided to EBI and Sprint at the time of this report.

3.0 NUMBER AND TYPES OF WTS WITHIN 100 FEET OF THE PROPOSED SITE AND ESTIMATES OF CUMULATIVE EMR EMISSIONS AT THE PROPOSED SITE

There are no other Wireless Telecommunication Service (WTS) sites observed within 100 feet of the proposed site.

4.0 LOCATION AND NUMBER OF THE SPRINT ANTENNAS AND BACK-UP FACILITIES PER BUILDING AND NUMBER AND LOCATION OF OTHER TELECOMMUNICATION FACILITIES ON THE PROPERTY

Sprint proposes the removal of three (3) existing antennas replaced with three (3) proposed Sprint wireless telecommunication antennas on a rooftop located at 1395 Hollenbeck Street in Sunnyvale, California. There are three Sectors (A, B, and C) proposed to be replaced at the site, with one (1) antenna that may be re-installed per sector. In each sector, there is proposed to be one antenna transmitting in the 800 MHz and the 1900 MHz frequency ranges. The Sector A antennas will be oriented 345° from true north. The Sector B antennas will be oriented 120° from true north. The Sector C antennas will be oriented 240° from true north. The bottoms of the Sector antennas will be 12 feet above the main roof level.

Based on drawings and aerial photography review there were no collocated carriers on the rooftop. However, there is an adjacent monopine with AT&T and Clearwire antennas. These antennas were included in the modeling analysis.

5.0 POWER RATING FOR ALL EXISTING AND PROPOSED BACKUP EQUIPMENT SUBJECT TO THE APPLICATION

The operating power for modeling purposes was assumed to be 20 Watts per transmitter for the 800 MHz antenna and there will be one (1) transmitter operating at this frequency. Additionally, for modeling purposes it was assumed to be 20 Watts per transmitter and six (6) transmitters operating at the 1900 MHz.
6.0 **Total Number of Watts per Installation and the Total Number of Watts for All Installations on the Building**

The effective radiated power (ERP) for the 800 MHz transmitter combined on site is 505 Watts. The ERP for the 1900 MHz transmitters combined on site is 5,270 Watts.

7.0 **Preferred Method of Attachment of Proposed Antenna with Plot or Roof Plan Including: Directionality of Antennas, Height of Antennas Above Nearest Walking Surface, Discuss Nearby Inhabited Buildings**

Based on the information provided to EBI, the information indicates that the proposed antennas are to be mounted on a RF cross, operating in the directions, frequencies, and heights mentioned in section 4.0 above. Surrounding properties include residential neighborhoods east of the site beyond Hollenbeck Street; residential properties south beyond Cascade Drive; residential properties to the west and campus grounds to the north, beyond which are residential properties along West Fremont Avenue.

8.0 **Estimated Ambient Radio Frequency Fields for the Proposed Site**

Based on worst-case predictive modeling, there are no predicted areas on any accessible rooftop-level walking/working surface related to the proposed Sprint antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the proposed Sprint and other carrier antennas, the maximum power density is 54.40 percent of the FCC's general public limit (10.88 percent of the FCC's occupational limit). For in-building occupants the maximum power density is 16 percent of the FCC's general public limit. Based on worst-case predictive modeling, there are no areas at ground level related to the proposed Sprint antennas and other carrier antennas that exceed the FCC's occupational or general public exposure limits at this site. At ground level, the maximum power density generated by the Sprint antennas is 11.30 percent of the FCC's general public limit (2.26 percent of the FCC's occupational limit). The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix B.

The nearest residence is a single family home approximately 230' to the east. At ground level of this building, the power density is 1.25 percent of the FCC's general public limit. At the highest level of this building, the power density is 1.27 percent of the FCC's general public limit.

9.0 **Signage at the Facility Identifying All WTS Equipment and Safety Precautions for People Nearing the Equipment as May Be Required by the Applicable FCC Adopted Standards (Discuss Signage for Those Who Speak Languages Other Than English)**

Signs are the primary means for control of access to areas where RF exposure levels may potentially exceed the MPE. It is recommended that additional signage be installed for the new antennas making people aware of the antennas locations. There are no fields in front of the proposed antennas and therefore barriers are not recommended.

Additionally, there are areas where workers elevated above the ground may be exposed to power densities greater than the general population and occupational limits. Workers and the general public should be informed about the presence and locations of antennas and their associated fields.

Additionally, access to this site is unknown. However, given the sensitive nature of this site and the slope of the roof, it is assumed that the general public is not able to access the rooftop.
10.0 Statement on Who Produced This Report and Qualifications

Please see the certifications attached in Appendix A below.

11.0 Federal Communications Commission (FCC) Requirements

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

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

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table 1 and Figure 1 (below), which are included within the FCC’s OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are “time-averaged” limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC’s MPEs are measured in terms of power (mW) over a unit surface area (cm²). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm²) and an uncontrolled MPE of 1 mW/cm² for equipment operating in the 1900 MHz frequency range. For the Sprint equipment operating at 800 MHz, the FCC’s occupational MPE is 2.66 mW/cm² and an uncontrolled MPE of 0.53 mW/cm². These limits are considered protective of these populations.

<table>
<thead>
<tr>
<th>Frequency Range (MHz)</th>
<th>Electric Field Strength (E) (V/m)</th>
<th>Magnetic Field Strength (H) (A/m)</th>
<th>Power Density (S) (mW/cm²)</th>
<th>Averaging Time ([E]^2, [H]^2), or S (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Limits for Occupational/Controlled Exposure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EBI

21 B Street • Burlington, MA 01803 • 1.800.786.2346
Table 1: Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure

<table>
<thead>
<tr>
<th>Frequency Range (MHz)</th>
<th>Electric Field Strength (E) (V/m)</th>
<th>Magnetic Field Strength (H) (A/m)</th>
<th>Power Density (S) (mW/cm²)</th>
<th>Averaging Time [E]², [H]², or S (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3-3.0</td>
<td>614</td>
<td>1.63</td>
<td>(100)²</td>
<td>6</td>
</tr>
<tr>
<td>3.0-30</td>
<td>1842/f</td>
<td>4.89/f</td>
<td>(900)f²</td>
<td>6</td>
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<tr>
<td>30-300</td>
<td>61.4</td>
<td>0.163</td>
<td>1.0</td>
<td>6</td>
</tr>
<tr>
<td>300-1,500</td>
<td>--</td>
<td>--</td>
<td>t/300</td>
<td>6</td>
</tr>
<tr>
<td>1,500-100,000</td>
<td>--</td>
<td>--</td>
<td>5</td>
<td>6</td>
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</tbody>
</table>

(B) Limits for General Public/Uncontrolled Exposure

<table>
<thead>
<tr>
<th>Frequency Range (MHz)</th>
<th>Electric Field Strength (E) (V/m)</th>
<th>Magnetic Field Strength (H) (A/m)</th>
<th>Power Density (S) (mW/cm²)</th>
<th>Averaging Time [E]², [H]², or S (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3-1.34</td>
<td>614</td>
<td>1.63</td>
<td>(100)²</td>
<td>30</td>
</tr>
<tr>
<td>1.34-30</td>
<td>824/f</td>
<td>2.19/f</td>
<td>(180)f²</td>
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<td>t/1,500</td>
<td>30</td>
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<td>1,500-100,000</td>
<td>--</td>
<td>--</td>
<td>1.0</td>
<td>30</td>
</tr>
</tbody>
</table>

f = Frequency in (MHz)

* Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)

Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

<table>
<thead>
<tr>
<th>Personal Wireless Service</th>
<th>Approximate Frequency</th>
<th>Occupational MPE</th>
<th>Public MPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Communication (PCS)</td>
<td>1,950 MHz</td>
<td>5.00 mW/cm²</td>
<td>1.00 mW/cm²</td>
</tr>
<tr>
<td>Cellular Telephone</td>
<td>870 MHz</td>
<td>2.90 mW/cm²</td>
<td>0.58 mW/cm²</td>
</tr>
<tr>
<td>Specialized Mobile Radio</td>
<td>855 MHz</td>
<td>2.85 mW/cm²</td>
<td>0.57 mW/cm²</td>
</tr>
<tr>
<td>Most Restrictive Freq, Range</td>
<td>30-300 MHz</td>
<td>1.00 mW/cm²</td>
<td>0.20 mW/cm²</td>
</tr>
</tbody>
</table>
MPE limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

Personal Communication (PCS) facilities used by Sprint in this area operate within a frequency range of 800-1900 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

**Statement of Compliance**

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

**12.0 LIMITATIONS**

This report was prepared for the use of Sprint Nextel. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

**13.0 SUMMARY AND CONCLUSIONS**

EBI has prepared this Radiofrequency Emissions Compliance Report for the proposed Sprint telecommunications equipment at the site located at 1395 Hollenbeck Street in Sunnyvale, California.

EBI has conducted theoretical modeling to estimate the worst-case power density from Sprint antennas to document potential MPE levels at this location and ensure that site control measures are adequate to meet FCC and OSHA requirements. As presented in the preceding sections, based on worst-case predictive modeling, there are no modeled exposures on any accessible rooftop-level or in building walking/working surface related to proposed equipment in the area that exceed the FCC’s occupational and general public exposure limits at this site. As such, the proposed Sprint project is in compliance with FCC rules and regulations.

Signage is recommended at the site as presented in Section 9.0. Posting of the signage brings the site into compliance with FCC rules and regulations.
Appendix A

Certifications
Reviewed and Approved by:

Herbert J. Stockinger, PE
Senior Engineer

Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the building and related structures, as well as the impact of the antennas and broadcast equipment on the structural integrity of the building, are specifically excluded from EBI's scope of work.
Preparer Certification

I, Mary Hubbard, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.

- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.

- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.

- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

M. Hubbard
Appendix B

Roofview® Export File
### ShadowMap Definition

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<th>SGT</th>
<th>Name</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>1/2 H</th>
<th>Type</th>
<th>Power</th>
<th>Min G</th>
<th>Max G</th>
<th>Model</th>
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### Standard

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